

# Lenovo. ThinkPad.Laptops PSREF Product Specifications Reference Version 564, August 2020

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### **Summary of Changes**

This section describes the technical changes made in this edition.

This edition might also include minor corrections and editorial changes which are not identified.

### August 19, 2020 - Version 564

### Additions in this update

### ► New product(s)

ThinkPad P1 Gen 3

ThinkPad P15v Gen 1

ThinkPad T15p

ThinkPad X1 Extreme Gen 3

### ► Spec updated

ThinkPad E14

ThinkPad E14 Gen 2 (AMD)

ThinkPad E15

ThinkPad E15 Gen 2 (AMD)

ThinkPad E495

ThinkPad E595

ThinkPad L13

ThinkPad L13 Yoga

ThinkPad L14 Gen 1 (AMD)

ThinkPad L14 Gen 1 (Intel)

ThinkPad L15 Gen 1 (AMD)

ThinkPad L15 Gen 1 (Intel)

ThinkPad P15s Gen 1

ThinkPad T14 Gen 1 (AMD)

ThinkPad T14s Gen 1 (AMD)

ThinkPad T14s Gen 1 (Intel)

ThinkPad T495s

ThinkPad X1 Carbon Gen 8

ThinkPad X1 Yoga Gen 5

ThinkPad X13 Gen 1 (AMD)

ThinkPad X13 Gen 1 (Intel)

ThinkPad X390 Yoga

ThinkPad X395

### Withdrawals in this update

### ► Withdrawn product(s)

ThinkPad A285

ThinkPad A485

ThinkPad L380

ThinkPad L380 Yoga

ThinkPad L480

ThinkPad L580

ThinkPad T480

ThinkPad T480s

ThinkPad T580

ThinkPad X1 Carbon (6th Gen)

ThinkPad X1 Extreme

ThinkPad X1 Yoga (3rd Gen)

ThinkPad X280

ThinkPad X380 Yoga









# ThinkPad 11e (5<sup>th</sup> Gen) Platform Specifications

Processor	7th Generation Intel Pentium®				ocessor,	Intel Cel	eron® process	or, or		Dimensions Weight	WxDxH: 11.81" x 8.27" x 0.86"; 300mm x 210mm x 21.9mm Starting at 2.99 lb / 1.36 kg
		# of Cores	# of Threads	Base	-	су	Memory Types	Grap	essor ohics	Case color Case material	Black  Display cover: PC/ABS+GF;  Bottom: PC/ABS plastic
	m3-7Y30 i5-7Y54	2		1.0 GHz 1.2 GHz			LPDDR3-1866	Inte Graph	I HD ics 615	Smart card reade Media reader	rNone MicroSD card reader
	Celeron N4100			1.1 GHz					UHD	Ports	Two USB 3.1 Gen 1, one USB 3.1 Type-C Gen 1 (with the function of Power
	Celeron N4120		4	1.1 GHz	2.6 GH:	z 4MB	4	Graph	ics 600		Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45),
	Pentium Silver N5000	4		1.1 GHz	2.7 GH	z 4MB	DDR4-2400		UHD		headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	Pentium Silver N5030			1.1 GHz			<u></u>	Graph	ics 605	Camera Audio support	HD720p camera, fixed focus HD Audio, Realtek® ALC3287 codec, stereo speakers, 2W x 2, Dolby® Audio™, mono digital microphone, combo audio/microphone jack
Graphics	Intel HD Graph supports exter supports dual	nal dig	gital mor	nitor via H displav:	İDMI or U	ISB Type	∍-C;			Keyboard Touchpad	6-row, spill-resistant, multimedia Fn keys Buttonless Mylar surface touchpad below keyboard, multi-touch
Chipset Memory	Intel SoC (Sys 4GB or 8GB /	flax resolution: 3840x2160@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)  Intel SoC (System on Chip) platform  GB or 8GB / 1866MHz LPDDR3 or 2400MHz DDR4 /  oldered to systemboard, no sockets								Security Security chip System Mgt Fingerprint reade	Power-on password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified (may be disabled in some region) None rNone
Display	Oi Blution		T (	0	)	Aspect	O	Color	Viewing	NFČ '	None
	Size Resolution		21		Brightness			Gamut	Angle	Battery Max battery life	Integrated Li-ion 42Wh battery  MobileMark® 2014: 13.9 hr
	11.6" HD (1366)				250 nits	16:9 16:9	400:1 or 500:1 800:1	45%	90°	-	* Battery life varies significantly with hardware configurations, settings, usage, & other factors
Multi-touch (opt)	Capacitive-type NOT available	e mult	i-touch,					45%   y,	170°	AC adapter	<ul> <li>45W USB-C AC adapter</li> <li>45W slim tip AC adapter</li> <li>65W USB-C AC adapter</li> </ul>
Storage	eMMC flash m										65W slim tip AC adapter
Optical	M.2 2242 SSD None	) / PCI	e NVMe	e, PCIe 3.	0 x 2					Operating system (optional)	Windows® 10 Home 64
Ethernet	Realtek RTL81	111GL	IS Gigal	bit Netwo	rk Conne	ction					<ul><li>Windows 10 Pro 64</li><li>Windows 10 Pro in S mode</li></ul>
WLAN + Bluetooth™	One of the following, configurable by model:  Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card  Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card (US only)  Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.1, M.2 card								only)	Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service
WWAN	None										MIL-STD-810G military testing
SIM card	None									Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant

Note: The specifications above may not be available in all regions.













# ThinkPad 11e Yoga Gen 6 Platform Specifications

Processor	8th Generation Intel® Core™ m / i5 Processor	Smart card reader	
	Processor Number  # of # of Base Burst Cores Threads Frequency Frequency Cache Graphics  Processor Graphics	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1, one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	M3-8100Y   2   4   1.1 GHz   3.4 GHz   4MB   LPDDR3-1866   Intel UHD   Graphics 615		HDMI1.4, headphone / microphone combo jack, microSD card reader, security keyhole *Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics	Intel UHD Graphics 615 in processor, supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 3840x2160@60Hz (USB Type-C); 3840x2160@30Hz (HDMI)	Camera Audio support	HD720p resolution, low light sensitive, fixed focus     Optional World facing camera, 5MP resolution, auto focus HD Audio, Realtek® ALC3287 codec Dolby® Advanced Audio / stereo speakers, 2W x 2 / monaural microphone,
Chipset Memory	Intel SoC (System on Chip) platform 4GB or 8GB / 1866MHz or 2133MHz LPDDR3 /		headphone / microphone combo jack
Wichiory	* System clocks down for processors with lower memory controller	Keyboard Touchpad	6-row, spill-resistant, multimedia Fn keys Buttonless Mylar surface multi-touch touchpad below keyboard
Display	Size     Resolution     Type     Surface     Brightness     Aspect Ratio     Contrast Ratio     Color Gamut     Viewing Angle       11.6"     HD (1366x768)     WVA     Glossy     250 nits     16:9     800:1     45%     170°	Security Security chip System Mgt	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified None
MultiTouch	Capacitive-type multi-touch, supports 10 fingers gesture, Corning® Gorilla® Glass	Fingerprint reader NFC	None None
Hinge Convertible mode Pen <i>(Optional)</i>	Yoga hinge, 360 degree Laptop, tent, stand and tablet • Pen upgradable (with a pen garage ready) • ThinkPad Pen Pro, pencil touch support, batteries required, on-board garage	Battery Max battery life	Integrated Li-Polymer 46Wh battery  MobileMark® 2014: 15.69 hrs  MobileMark 2018: 11.05 hrs  * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Storage Optical	M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2 None	AC adapter	45W or 65W USB-C AC adapter
Ethernet	None (support MAC pass through)	Light sensor G-sensor	None Yes
WLAN + Bluetooth™	<ul> <li>Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card</li> <li>Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card</li> </ul>	Gyroscope	None  Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WWAN SIM card	None None	<del>                                     </del>	1-year depot repair service     1-year depot with 2-year system board repair service
Dimensions Weight	WxDxH: 11.54" x 8.15" x 0.78"; 293mm x 207mm x 19.9mm	Mil-Spec test	MIL-STD-810G military testing
Weight Case color Case material	From 3.1 lb / 1.41 kg Black Display cover: PC/ABS plastic; Bottom: PC/ABS plastic	Environment	EPEAT™ Silver; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions.

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# ThinkPad Yoga 11e (5<sup>th</sup> Gen) Platform Specifications

Processor	7th Generation Intel Pentium®				cessor, Inte	el Cele	eron® process	or, or	Dimensions Weight	<i>WxDxH:</i> 11.81" x 8.27" x 0.89"; 300mm x 210mm x 22.5mm From 3.4 lb / 1.54kg
	Processor Number	# of Cores	# of Threads	Base Frequency	Burst Frequency	Cache	Memory Types	Processor Graphics	Case color Case material	Black Display cover: PC/ABS+GF; Bottom: PC/ABS plastic
	m3-7Y30 i5-7Y54	2		1.0 GHz 1.2 GHz		4MB 4MB	LPDDR3-1866	Intel HD Graphics 615	Smart card reade Media reader Ports	erNone MicroSD card reader Two USB 3.1 Gen 1,
	Celeron N4100 Celeron N4120		4	1.1 GHz 1.1 GHz		4MB 4MB		Intel UHD Graphics 600	Ports	one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), HDMI1.4, Ethernet (RJ-45), headphone / microphone combo jack,
	Pentium Silver N5000	4	·	1.1 GHz	2.7 GHz	4MB	DDR4-2400	Intel UHD	Control buttons	microSD card reader, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	Pentium Silver N5030			1.1 GHz	3.1 GHz	4MB		Graphics 605	Control buttons Camera	Power button, volume control button  One of the following, configurable by model:
Graphics	supports exter	Intel HD Graphics 615, Intel UHD Graphics 600 or 605 in processor, supports external digital monitor via HDMI or USB Type-C; supports dual independent display;  Max resolution: 3840x2160@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)								720p: HD720p resolution, low light sensitive, fixed focus World facing: Rear camera, 5MP resolution, auto focus HD Audio, Realtek® ALC3287 codec Dolby Audio™ / stereo speakers, 2W x 2 / monaural microphone, headphone / microphone combo jack
Chipset Memory	Intel SoC (Sys 4GB or 8GB /	stem or 1866N	n Chip) լ IHz LPD	platform DR3 or 24					Keyboard Touchpad	6-row, multimedia Fn keys Buttonless Mylar surface touchpad below keyboard, multi-touch
Display  MultiTouch Hinge	4GB or 8GB / 1866MHz LPDDR3 or 2400MHz DDR4 / soldered to systemboard, no sockets  11.6" (295mm) HD (1366x768), glossy, LED backlight, WVA, 250 nits, 16:9 aspect ratio, 800:1 contrast ratio, 170° viewing angle, Corning® Gorilla® GlaCapacitive-type multi-touch, supports 10 fingers Yoga hinge, 360 degree								Security Security chip System Mgt Fingerprint reade NFC	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified (may be disabled in some region) None In None None
Convertible mode Pen (Optional)		tand a able (w	nd table ith a per	n garage re		garag	e		Battery Max battery life	Integrated Li-Ion 42Wh battery  MobileMark® 2014: 12 hrs  * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Storage	eMMC flash m M.2 2242 SSD				x 2				AC adapter	<ul> <li>45W slim tip AC adapter</li> <li>65W slim tip AC adapter</li> </ul>
Optical	None Dankels DTL 0:	11101	10,00,0	Ninchit Nint		4:			-	<ul><li>45W USB-C AC adapter</li><li>65W USB-C AC adapter</li></ul>
Ethernet WLAN	Realtek RTL8111GUS-CG Gigabit Network Connection  One of the following, configurable by model:  Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card  Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card								Preload	One of the following, configurable by model:  • Windows® 10 Home 64  • Windows 10 Pro 64  • Windows 10 Pro in S mode
Bluetooth™	<ul> <li>Intel Wi-Fi 6 Bluetooth wire</li> </ul>								Limited warranty	One of the following, configurable by model:  • 1-year depot repair service
WWAN SIM card	None None									1-year depot repair service     3-year/1-yr battery depot repair service
Chivi Cara	140110								Mil-Spec test	MIL-STD-810G military testing
Note: The specific									Environment	EPEAT™ Gold; ENERGY STAR® 6.1; RoHS-compliant

Note: The specifications above may not be available in all regions.

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# ThinkPad E14 Platform Specifications

Processor	10th Conc	ration	Intol® Co	ore™ i3 / i5	/ i7 Proces	cor			Dimensions		21 1 44 2 10	
1 10003301	* i7-10710U				, ,, , 10068	301			בווופוופווסוטווס	Case Material Aluminum	Dimensions (WxDxH)  12.80" x 9.13" x 0.70": 325mm x 232mm x 17.9mm	
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Processor	1	PC/ABS	12.80" x 9.13" x 0.70"; 325mm x 232mm x 17.9mm 12.80" x 9.13" x 0.81"; 325mm x 232mm x 20.5mm	
	Number	Cores		<del></del>	Frequency		Types	Graphics		Aluminum Display cover		
	i3-10110U i5-10210U	2	8	2.1 GHz 1.6 GHz	4.1 GHz 4.2 GHz	4MB 6MB	DDB4 2666	Intol LIUD Graphica		+ PC/ABS Bottom	12.80" x 9.13" x 0.74"; 325mm x 232mm x 18.9mm	
	i7-10510U	·		1.8 GHz	4.9 GHz	8MB	DDN4-2000	Intel UHD Graphics	Weight	Case Material	Weight	
	i7-10710U	6	12	1.1 GHz	4.7 GHz	12MB				Aluminum	starting at 3.81 lb / 1.73 kg	
Graphics	Integrated (	Graphics	s		Discrete Gra	phics (N	lemory)			PC/ABS	starting at 3.90 lb / 1.77 kg	
	Intel UHD C					-				Aluminum Display cover + PC/ABS Bottom	starting at 3.74 lb / 1.69 kg	
	Intel UHD C				MD Radeon 6				Case color	Black or silver		
	Intel UHD (						s (2GB GDD	)R5)	Case material	Display cover: Aluminum	n or PC/ABS plastic;	
	supports t	hree in	depende	monitor via ent displays	3:			30Hz (HDMI)	Smart card reade	Bottom: Aluminum or PC/ABS plastic		
Chipset				ip) platform		0), 00	TOX2 100 @ (	JOI IZ (I IDIVII)	Media reader	None		
Memory	16GB max	(Jyster ( / 2666	6MHz DI	DR4, one D	DR4 SO-D	IMM so	cket		Ports	One USB 2.0, two USB 3	8.1 Gen 1 (one Always On), n 1 (with the function of Power Delivery and DisplayPort),	
Display	Size Reso	max / 2666MHz DDR4, one DDR4 SO-DIMM socket esolution Type Surface Brightness Aspect Contrast Viewing								HDMI 1.4b, Ethernet (RJ-	-45), headphone / microphone combo jack,	
						ess R	tio Rati	3 -		security keyhole	s, actual data transfer speed may be lower than theoretical speed	
	14.0" FHD			TN Anti-gl		_	3:9 400:		Monitor cable	None	s, actual data transfer opecu may be lower than theoretical opecu	
N 4	14.0" FHD	(1920X1	1080)	WVA Anti-gl	are 250 n	its   It	6:9 700:	1   170°	Bundled Accy	None		
Multi-touch	None	lub /	140.00	2D /	UDD)				Camera	HD720p camera, fixed f		
Storage	e Up to two drives (one M.2 SSD and one HDD)  • HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™								Audio support	HD720p camera with Tr HD Audio, Synaptic® CX1	hinkShutter camera privacy, fixed focus	
	<ul> <li>M.2 2280 SSD / SATA 6.0Gb/s</li> </ul>								radio support	stereo speakers, 2W x 2.	Dolby® Advanced Audio /	
				NVMe, PCI NVMe, PCI		PCIe 3	3.0 x 4				eadphone / microphone combo jack	
		tane™ l	Memory	H10 with S		Storage	<b>)</b> ,		Keyboard UltraNav™	6-row, spill-resistant, mult TrackPoint® pointing device	timedia Fn keys, optional LED backlight ce and buttonless Mylar surface multi-touch touchpad	
Optane™ memor	y• Intel Opt	tane m	emory, F	PCIe NVMe					Security	d disk password, supervisor password, security keyhole		
<i>(optional)</i> Optical	<ul> <li>Intel Opt None</li> </ul>	tane™ l	Memory	integrated	with SSD,	PCIe N	VMe 3.0 x 4	1	Security chip		rete TPM 2.0, TCG Certified vare TPM 2.0 integrated in chipset	
Ethernet		harnat	Cannaa	tion, Realte	L D01110	LIC			System Mgt	None	vare 1FW 2.0 integrated in chipset	
WLAN +						05			Fingerprint reade		gerprint reader on power button	
WLAIN + Bluetooth™				figurable by Mi-Fi 2v2 8		Rluetoo	th 5.0. M.2	card	NFČ	None		
	<ul> <li>Intel Wire</li> </ul>	eless-A	C 9560,	Wi-Fi 2x2	802.11ac +	Blueto	oth 5.0, M.2	2 card	Battery	Integrated Li-Polymer 45\	Wh battery, charge up to 80% in 1hr) with 65W AC adapter	
-	<ul> <li>Intel Wi-l</li> </ul>	Fi 6 AX	(201, Wi	-Fi 2x2 802	.11ax + Blu	uetooth	5.0, M.2 ca	rd	Max battery life	MobileMark® 2014: 12.8	hr	
WWAN SIM card	None None								AC adapter	45W or 65W USB-C AC a		
										One of the following, configu		
									(optional)	<ul><li>Windows® 10 Home 64</li><li>Windows 10 Pro 64</li></ul>		
										Windows 10 Pro in S m	node	
										• No OS		
									Limited warranty	• 1-year mail-in repair sei		
									(optional)	1-year depot repair service     1-year depot with 2-year system board repair service		
										<ul> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> </ul>		
									Mil-Spec test	MIL-STD-810G military to		
									Environment		STAR® 7.1; TCO Certified; RoHS-compliant	
Note: The specific	ations above	may n	ot ho ava	ilable in all	rogione				1	•	Lenovo	



# ThinkPad E14 Gen 2 (AMD) Platform Specifications

Processor	AMD Ryze (Ryzen 7 48			essors with		Braphics			Smart card reade Media reader	None
	Processor Number	# of Cores	# of Threads	Base Clock	Max Boost Clock	Cache	Memory Types	Processor Graphics	Ports	One USB 2.0, one USB 3.2 Gen 1 (Always On), one USB 3.2 Type-C Gen 1
	Ryzen 3 4300U	4	4	2.7 GHz	3.7 GHz	2MB L2 / 4MB L3				(with the function of Power Delivery and DisplayPort 1.2), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, security keyhole
	Ryzen 5 4500U	6	6	2.3 GHz	4.0 GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon	Monitor cable	* Depending on many factors, actual data transfer speed may be lower than theoretical speed None
	Ryzen 7 4700U	8	8	2.0 GHz	4.1 GHz	4MB L2 /	BB111 0200	Graphics	Bundled Accy Camera	None One of the following, configurable by model:
	Ryzen 7 4800U	8	16	1.8 GHz	4.2 GHz	8MB L3				<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
Graphics	AMD Rade supports up supports ex	p to 3 ir	ndepend	lent display s via HDMI	(up to 3840	)x2160@3	30Hz) or	rnal monitor		HD Audio, Realtek ALC3287 codec / stereo HARMAN-branded speakers, 2W x 2, Dolby Audio® / dual array microphone, headphone / microphone combo jack
Object	AMD 0 - 0	(0	01-1		ype-C (up t	o 3840x2	160@60Hz	)	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, optional LED backlight
Chipset Memory	AMD SoC 20GB or 24	(Systen 4GB ma	n on Chi ax / 3200	p) platform )MHz DDR	4. dual-cha	nnel capa	ıble		UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Display	4GB or 8G	iB mem	ory sold	ered to sys	temboard,	one DDR	4 SO-DIMM		Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole  • Discrete TPM 2.0, TCG Certified  Figure 7.TNR 0.0 is the password of the passw
2.00.00		Resolutio		ype Surfa	ce Bright		atio Rati			Firmware TPM 2.0 integrated in chipset None
	14.0" FHD (			TN Anti-gl /VA Anti-gl			6:9 400: 6:9 700:		Fingerprint reade	er Optional: Touch style fingerprint reader on power button  None
Multi-touch	None	(1320)10	500)   VV	VVA   Anti-gi	are   250	1113   10	700	.1   170	Battery	Integrated Li-Polymer 45Wh battery.
Storage	Up to two dr	rives							<b>⊣</b> ′	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
_	<ul><li>M.2 2242</li><li>M.2 2280</li></ul>	2 SSD /							Max battery life AC adapter	MobileMark® 2014: 13 hrs * Battery life varies significantly with hardware configurations, settings, usage, & other factors 65W USB-C AC adapter
Optical Ethernet	None Gigabit Eth	ornot C	Connocti	on Poaltok	D0111CII	<u> </u>				• Windows® 10 Home 64
WLAN +	One of the fo					3			(optional)	Windows 10 Pro 64
Bluetooth™	<ul><li>Realtek®</li><li>Intel Wi-F</li></ul>	RTL882 i 6 AX2	22CE, W 200, Wi-F	/i-Fi 2x2 80	2.11ac + B I1ax + Blue		i.0, M.2 card , M.2 card	t	Limited warranty (optional)	<ul> <li>1-year mail-in repair service</li> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> </ul>
WWAN SIM card	None None								Mil-Spec test	MIL-STD-810G military testing
Dimensions					5.		5 (1)		Environment	EPEAT™ Gold; ENERGY STAR® 8.0; ErP lot3; TCO Certified; RoHS-compliant
Diffictisions	Case Mate			10.76" v.0.6		sions (Wx		17.0000		
	Aluminum PC/ABS						x 220mm x x 220mm x			
	Aluminum PC/ABS (b						x 220mm x			
Weight	Case Mate	erial				Weight				
	Aluminum				starting a		1.64 kg			
	PC/ABS				starting a					
	Aluminum PC/ABS (b	(top) + bottom)			starting a	it 3.51 lb /	′ 1.59 kg			
Case color	Black Display cov Bottom:	Alı	uminum	or PC/ABS	plastic					
Note: The specific	ations above	may no	t be avail	lable in all re	eaions.					Lenovo



















# ThinkPad E15 Platform Specifications

Processor	10th Generation Intel® Core™ i3 / i5 / i7 Processor * i7-10710U is NOT available in EMEA	Dimensions Weight	WxDxH: 14.49" x 9.65" x 0.74"; 368mm x 245mm x 18.9mm Starting at 4.3 lb / 1.9 kg
	Processor Number     # of Cores     # of Threads     Base Frequency     Max Turbo Frequency     Cache     Memory Types     Processor Graphics       i3-10110U     2     4     2.1 GHz     4.1 GHz     4MB	Case color Case material	Black or silver  Display cover:  Bottom: PC/ABS plastic
	1.6 GHz   4.1	Smart card reader Media reader Ports	None One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
Graphics	Integrated Graphics Discrete Graphics (Memory) Intel UHD Graphics - Intel UHD Graphics AMD Radeon 625 (2GB GDDR5) Intel UHD Graphics AMD Radeon RX 640 Graphics (2GB GDDR5)	Monitor cable Bundled Accy	HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed None None
Chipset	supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 3840x2160@60Hz (USB Type-C); 3840x2160@30Hz (HDMI) Intel SoC (System on Chip) platform	Camera Audio support	<ul> <li>HD720p camera, fixed focus</li> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio /</li> </ul>
Memory	16GB max / 2666MHz DDR4, one DDR4 SO-DIMM socket	Keyboard	dual array microphone, headphone / microphone combo jack
Display	Size Resolution Type Surface Brightness Aspect Ratio Ratio Angle	UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	15.6" EHD (1920v1080) TN Anti-glara 220 nits 16:9 400:1 90°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Integrated model: discrete TPM 2.0, TCG Certified Discrete model: firmware TPM 2.0 integrated in chipset
Multi-touch	None	System Mgt	None
Storage	Up to two drives (one M.2 SSD and one HDD)  • HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™	Fingerprint reader  NFC	r <i>Optional:</i> Touch style fingerprint reader on power button None
	<ul> <li>M.2 2280 SSD / SATA 6.0Gb/s</li> <li>M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2 or PCIe 3.0 x 4</li> <li>M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4</li> <li>Intel Optane™ Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4</li> </ul>	Battery Max battery life AC adapter	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 12.2 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors 45W or 65W USB-C AC adapter
Optane™ memory (optional) Optical	<ul> <li>Intel Optane memory, PCle NVMe, PCle 3.0 x 2</li> <li>Intel Optane™ Memory integrated with SSD, PCle NVMe 3.0 x 4</li> <li>None</li> </ul>	(optional)	Windows® 10 Home 64     Windows 10 Pro 64     Windows 10 Pro in S mode
Ethernet	Gigabit Ethernet Connection, Realtek R8111GUS		1-year mail-in repair service
WLAN + Bluetooth™	One of the following, configurable by model:  Realtek® RTL8822CE, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card		<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> </ul>
WWAN	Nene	Mil-Spec test	MIL-STD-810G military testing
SIM card	None	Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions.

Lenovo August 2020





AMD

# ThinkPad E15 Gen 2 (AMD) Platform Specifications

Processor	AMD Ryzen™ Mobile Processors with Radeon™ Graphics (Ryzen 7 4800U is NOT available in EMEA)								Smart card reader Media reader	None
	Processor Number	# of Cores	# of Threads	Base Clock	Max Boost Clock	Cache	Memory Types	Processor Graphics	Ports	One USB 2.0, one USB 3.2 Gen 1 (Always On), one USB 3.2 Type-C Gen 1
	Ryzen 3 4300U	4	4	2.7 GHz	3.7 GHz	2MB L2 / 4MB L3				(with the function of Power Delivery and DisplayPort 1.2), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, security keyhole
	Ryzen 5 4500U	6	6	2.3 GHz	4.0 GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics	Monitor cable	* Depending on many factors, actual data transfer speed may be lower than theoretical speed None
	Ryzen 7 4700U	8	8	2.0 GHz	4.1 GHz	4MB L2 /	DDh4-3200		Bundled Accy Camera	None One of the following, configurable by model:
	Ryzen 7 4800U	8	16	1.8 GHz	4.2 GHz	8MB L3				HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Graphics	AMD Rade supports up supports ex	to 3 ir	ndepend	ent display	s via native	display a	nd two exte	rnal monitors;	Audio support	HD Audio, Realtek ALC3287 codec / stereo HARMAN-branded speakers, 2W x 2, Dolby Audio® / dual array microphone, headphone / microphone combo jack
				USB T	ype-C (up t	to 3840x2	160@60Hz	)	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad, optional LED backlight
Chipset Memory	AMD SoC ( 20GB or 24	Syster	n on Chi <sub>l</sub> ax / 3200	p) platform	4 dual-cha	nnel cana	ble		UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	4GB or 8GI							socket	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole  • Discrete TPM 2.0. TCG Certified
Display	Size Resc	lution	-	Type Surf	ace Brigh	tness As	pect Contratio Rati		Firmware TPM 2.0 integrated in chipset System Mgt None Fingerprint reader Optional: Touch style fingerprint reader on power button	Firmware TPM 2.0 integrated in chipset
	15.6" FHD	(1920x	1080)	TN Anti-ç	lare 220		6:9 400:	3 -		r Optional: Touch style fingerprint reader on power button
	15.6" FHD	(1920x	1080) \	۸۷۸ Anti-ر	lare 250	nits 1	6:9 700:	1 170°	NFČ '	None
Multi-touch	None								Battery	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Storage	<ul><li>Up to two dri</li><li>M.2 2242</li><li>M.2 2280</li></ul>	SSD /							Max battery life	MobileMark® 2014: 12.7 hrs * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Optical	None	70007	1 OIC IV	vivic, i Oic	0.0 X T				AC adapter	65W USB-C AC adapter
Ethernet	Gigabit Eth	ernet C	Connection	on, Realtek	R8111GU	S			Operating system (optional)	Windows® 10 Home 64     Windows 10 Pro 64
WLAN + Bluetooth™	One of the following, configurable by model:  Realtek® RTL8822CE, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card  Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0, M.2 card (Realtek RTL8822CE is NOT available in EMEA)							I	Limited warranty (optional)	1-year mail-in repair service     1-year depot repair service     1-year depot with 2-year system board repair service     1-year limited onsite service
WWAN SIM card	None None								Mil-Spec test	MIL-STD-810G military testing
Dimensions Weight Case color Case material	None  WxDxH: 14.37" x 9.45" x 0.74"; 365mm x 240mm x 18.9mm  Starting at 3.75 lb / 1.7 kg  Black Display cover: Aluminum; Bottom: PC/ABS plastic								Environment	EPEAT™ Gold; ENERGY STAR® 8.0; ErP lot3; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions.





# ThinkPad E480 Platform Specifications

Processor	7th General (i3-7130U is					r			Dimensions	Aluminum (WxDxH): 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm PC/ABS (WxDxH): 12.96" x 9.53" x 0.83"; 329mm x 242mm x 21.9mm	
		# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Weight Case color Case material	Starting at 3.87 lb / 1.75kg Black or silver Display cover: Aluminum or PC/ABS plastic;	
	i3-7020U i3-7130U	2	4	2.3 GHz 2.7 GHz	-	3MB 3MB	DDR4-2133	Intel HD Graphics		Bottom: PC/ABS plastic	
	i5-7200U			2.5 GHz	3.1 GHz	змв		620	Smart card reade Media reader	MicroSD card reader	
	8th Generation Intel Core i3 / i5 / i7 Processor								Ports	One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort),	
	Number (				Max Turbo Frequency	Cache	Memory Types	Processor Graphics		HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole	
	i3-8130U i5-8250U	2	4	2.2 GHz 1.6 GHz	3.4 GHz 3.4 GHz	4MB 6MB	DDR4-2400	Intel UHD Graphics 620		* Depending on many factors, actual data transfer speed may be lower than theoretical speed	
	i7-8550U	4	8	1.8 GHz	4.0 GHz	8MB			Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11852 codec /	
Graphics	Intel HD Gra	aphic	s 620 or	Intel UHD	Graphics 6	20 in pı	ocessor ar			stereo speakers, 1.5W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack	
	supports ex	AMD Radeon RX 550 Graphics, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; supports dual independent display;								6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad	
	Max resolut	ion: 1	1920x10	80 (HDMI)	@60Hz				Security Power-on password, hard disk password, supervisor password, security Security chip Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certification.	Power-on password, hard disk password, supervisor password, security keyhole	
Chipset Memory	Intel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM socket * System clocks down for processors with lower memory controller								System Mgt	(may be disabled in some region) None r Optional: Touch style fingerprint reader on the palm rest	
Display	Some: 14.0							,	NFC	None	
	Some: 14.0	o" (35	5mm) FH	pect ratio, 4 HD (1920x pect ratio, 4	1080), anti-	glare, L	ED backlig	jht, WVA,	with 65W AC adapter		
Multi-touch	None								Max battery life	* Battery life varies significantly with hardware configurations, settings, usage, & other factors	
Storage	Up to 2 drives Some: HDI					able. ur	ogradable.		AC adapter	45W or 65W USB Type-C AC adapter  Optional: Windows® 10 Home 64 or Windows 10 Pro 64	
	Acti Some: M.2			System™ JVMe	,	, ,	,		Limited warranty	One of the following, configurable by model:	
Optane™ memory Optical					e NVMe, P	Cle 3.0	) x 2			1-year mail-in repair service     1-year depot repair service	
Ethernet	Gigabit Ethe	ernet	Connect	ion, Realte	k R8111Gl	JS			Mil-Spec test	MIL-STD-810G military testing	
WLAN + Bluetooth™		RTL88 TL882 Band	321CE, V 22BE, W I Wireles	Wi-Fi 1x1 80 'i-Fi 2x2 80 s-AC 3165,	02.11ac + E 2.11ac + B Wi-Fi 1x1	luetootl 802.11	n 4.1, M.2 c ac + Blueto	card card ooth 4.1, M.2 card ooth 4.1, M.2 card	Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; TCO Certified; RoHS-compliant	
WWAN SIM card	None None										
Note: The specifica	ations above r	may n	ot be ava	ilable in all	regions.					Lenovo	

























# ThinkPad E490 Platform Specifications

Processor	8th Genera	tion Ir	ntel® Core	e™ i3 / i5 / i	7 Process	or				Dimensions	Aluminum (WxDxH): 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types		Processor Graphics	Weight Case color	PC/ABS (WxDxH): 12.96" x 9.53" x 0.83"; 329mm x 242mm x 21.9mm Starting at 3.87 lb / 1.75 kg Black or silver
	i3-8145U i5-8265U	2	4	2.1 GHz 1.6 GHz	3.9 GHz 3.9 GHz	4MB 6MB	DDR4-2400	0 Intel U	JHD Graphics	Case color Case material	Display cover: Aluminum or PC/ABS plastic; Bottom: PC/ABS plastic
	i5-8365U i7-8565U	4	8	1.6 GHz 1.8 GHz	4.1 GHz 4.6 GHz	6MB 8MB			· 	Smart card reade Media reader	MicroSD card reader
	* i5-8365U is	for sp	eicial bid d	only						Ports	One USB 2.0, two USB 3.1 Gen 1 (one Always On),
Graphics	Intel UHD ( Intel UHD ( AMD Rade supports e) supports di Max resolu	Graphi on RX kterna ual inc	ics in pro ( 550X G I digital n Jepender	cessor and raphics, 20 nonitor via lateral transfer in the control of the control	BB GDDR5 HDMI or U	SB Typ	e-C;	24Hz (	(HDMI)	Monitor cable Bundled Accy	one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole *Depending on many factors, actual data transfer speed may be lower than theoretical speed None None
Chipset Memory	Intel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sock * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation									Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 1.5W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack
Display	Size / Resolu		Тур		Brightness	Ratio		Angle	Multi-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	14.0" HD (13 14.0" FHD (13 14.0" FHD (13	1920x1	(080) TN	Anti-glare Anti-glare A Anti-glare	220 nits	16:9 16:9 16:9	400:1 400:1 600:1	90° 90° 170°	Non-touch Non-touch	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)
Multi-touch	None		·							System Mgt	None
Storage	Up to two dri					ctive Pr	otection S	vstem™	И	Fingerprint reader	r <i>Optional:</i> Touch style fingerprint reader on the palm rest None
	<ul> <li>HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™</li> <li>M.2 2280 SSD / SATA 6.0Gb/s</li> <li>M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2</li> <li>M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4</li> <li>Installed M.2 2280 SSD is PCIe 3x4 but run at PCIe 3x2 due to M.2 SSD adapter limitation mory Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2</li> </ul>									Battery Max battery life AC adapter	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter <i>MobileMark</i> 2014: 13 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors 45W or 65W USB-C AC adapter
Optical	None		-							Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Ethernet	Gigabit Eth	ernet	Connect	on, Realtel	k R8111Gl	JS				Limited warranty	One of the following, configurable by model:
WLAN + Bluetooth™	One of the following, configurable by model:  • Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card  • Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card										<ul> <li>1-year mail-in repair service</li> <li>1-year depot repair service</li> <li>1-year limited onsite service</li> </ul>
WWAN	None									Mil-Spec test	MIL-STD-810G military testing
SIM card	None									Environment	EPEAT™ Silver; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions.

Lenovo July 2020













# ThinkPad E495 Platform Specifications

Processor	AMD Ryze	en™ Mo	obile Pro	cessors wi	th Radeon	" Vega G	raphics			Dimensions	Aluminum (WxDxH): 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm				
	Processor		# of	Base	Max Boost	Cache	Memor		Processor	Weight	<i>PC/ABS (WxDxH):</i> 12.96" x 9.53" x 0.83"; 329mm x 242mm x 21.9mm Starting at 3.87 lb / 1.75 kg				
		Cores	Threads	Clock	Clock	4MD L 0	Controll	_	Graphics	Case color	Black				
	Ryzen 3 3200U	2	4	2.6 GHz	3.5 GHz	1MB L2 4MB L3			Radeon Vega 3 Graphics	Case material	Display cover: Aluminum or PC/ABS plastic; Bottom: PC/ABS plastic				
	Ryzen 5 3500U			2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-24	100 F	Radeon Vega 8 Graphics	Smart card reade	rNone				
	Ryzen 7 3700U	4	8	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3			adeon RX Vega 10 Graphics	Media reader Ports	MicroSD card reader One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),				
Graphics	supports of supports of Max resolu	externa dual in ution:	al digital depende 3840x2	ega 8, or Ri monitor via ent display; 160@60Hz	HDMI or USB Type	JSB Typ	e-C;		lz (HDMI)	HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theore Mone  Mone					
Chipset Memory	32GB max	SoC (System on Chip) platform B max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM socket alled memory is actually 2666MHz but run at 2400MHz due to AMD limitation								Bundled Accy Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 1.5W x 2, Dolby® Advanced Audio /				
Display	Size / Reso	olution	Ту	pe Surface	Brightnes	s Aspect Ratio	Contrast Ratio	Viewin Angle			dual array microphone, headphone / microphone combo jack				
	14.0" HD (1			N Anti-glar		16:9	400:1	90°	Non-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad				
		(1920x	(1080)   W	VA Anti-glar	e   250 nits	16:9	600:1	170°	Non-touch	Security	Power-on password, hard disk password, supervisor password, security keyhole				
Multi-touch	None									Security chip	Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified				
Storage	<ul><li>HDD / S</li></ul>	ATA 6	.0Gb/s, 2	SD and one 2.5" wide, 7	mm high, a	Active Pr	otection S	System	n™	Fingerprint reader	rNone None				
Optical	<ul> <li>M.2 228</li> </ul>			NVMe, PCI NVMe, PCI		r PCle 3	.0 x 4			Battery	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter				
	None									Max battery life	MobileMark® 2014: 11 hr				
Ethernet				ction, Realt		iUS				AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 45W or 65W USB-C AC adapter				
WLAN + Bluetooth™				nfigurable b		Bluetoo	h 4 2 M	2 card	4	<u> </u>	a Optional: Windows® 10 Home 64 or Windows 10 Pro 64				
	<ul> <li>Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card</li> <li>Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card</li> </ul>										·				
WWAN SIM card	None None										1-year depot repair service     1-year limited onsite service				
										Mil-Spec test	MIL-STD-810G military testing				
										Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant				

Note: The specifications above may not be available in all regions.

Lenovo August 2020





# ThinkPad E580 Platform Specifications

Processor									Dimensions WxDxH: 14.53" x 9.92" x 0.78"; 369mm x 252mm x 19.95mm			
		# of	# of		Max Turbo			Processor		Starting at 4.7 lb / 2.1kg Black or silver		
		Cores	Threads		Frequency		Types	Graphics	Case color Case material	Display cover: Aluminum;		
	i3-7020U i3-7130U	7020U 2.3 GHz - 3MB	Odoc material	Bottom: PC/ABS plastic								
	i5-7200U	2	4	2.7 GHz 2.5 GHz	- 3.1 GHz	3MB 3MB	DDR4-2133	620	Smart card reade			
		N							Media reader Ports	MicroSD card reader One USB 2.0, two USB 3.1 Gen 1 (one Always On),		
	Processor # of # of Page May Turbe Memory Processor							Processor	1	one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort)		
	Number C	r Cores Threads Frequency Frequency Cache Types Graphics		HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole								
	i3-8130U	2	4	2.2 GHz	3.4 GHz	4MB	DDD4 0400	Intel UHD Graphics		* Depending on many factors, actual data transfer speed may be lower than theoretical spee		
	i5-8250U i7-8550U	4	8	1.6 GHz 1.8 GHz	3.4 GHz 4.0 GHz	6MB 8MB	DDR4-2400	620	Camera	HD720p camera, fixed focus		
		* i3-7130U is NOT available in US and EMEA						Audio support	HD Audio, Synaptic® CX11852 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio /			
Graphics	Intel HD Gra	tel HD Graphics 620 or Intel UHD Graphics 620 in processor only or					rocessor on	ly or	1	dual array microphone, headphone / microphone combo jack		
·	Intel HD Graphics 620 or Intel UHD Graphics 620 in processor and AMD Radeon RX 550 Graphics, 2GB GDDR5 memory;							d	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backligt TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
	supports external digital monitor via HDMI or USB Type-C; supports dual independent display; Max resolution: 1920x1080 (HDMI)@60Hz								Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)		
Chipset	Intel SoC (S	yster	n on Chi	p) platform	le a conseil a cons	-1-1- 4	DDD4.0	O DIMM lasta	System Mgt	None		
Memory	32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM socket * System clocks down for processors with lower memory controller								Fingerprint reade	er <i>Optional:</i> Touch style fingerprint reader on the palm rest  None		
Display	Some: 15.6" (396mm) HD (1366x768), anti-glare, LED backlight,								Battery Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in			
	220 nits, 16:9 aspect ratio, 400:1 contrast ratio  Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, WVA, 250 nits, 16:9 aspect ratio, 600:1 contrast ratio							ht, WVA,	with 65W AC adapter  Max battery life MobileMark® 2014: 12.23 hr			
								, ,	* Battery life varies significantly with hardware configurations, settings, usage, & ot			
Multi-touch	None		110000		-0.				AC adapter	45W or 65W USB-Č AC adapter		
Storage	Up to 2 drives					able ur	ogradable		Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64		
	Some: HDD / SATA 6.0Gb/s, 2.5" wide, removable, upgradable, Active Protection System™								Limited warranty	One of the following, configurable by model:		
Optane™ memor	Some: M.2				a NIVMa P	Clo 3 (	) v 2			<ul><li>1-year mail-in repair service</li><li>1-year depot repair service</li></ul>		
Optical	None	itei O	plane in	erriory, r Or	e invivie, i	Ole J.C	7			MIL-STD-810G military testing		
Ethernet	Gigabit Ethe	ernet	Connect	ion, Realte	k R8111Gl	JS			Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant		
WLAN +	One of the following, configurable by model:  • Realtek® RTL8821CE, Wi-Fi 1x1 802.11ac + Bluetooth 4.1, M.2 card								]			
Bluetooth™	<ul> <li>Realtek® F</li> <li>Realtek R</li> </ul>											
	<ul> <li>Intel Dual</li> </ul>	Band	l Wireles	s-AC 3165,	Wi-Fi 1x1	802.11	ac + Blueto	oth 4.1, M.2 card				
		Band	l Wireles	s-AC 8265,	Wi-Fi 2x2	802.11	ac + Blueto	oth 4.1, M.2 card				
WWAN SIM card	None None											
Note: The specific										Long		

Note: The specifications above may not be available in all regions.

















# ThinkPad E590 Platform Specifications

Processor   H of Number   H	
September   Sept	
Intel UHD Graphics in processor only or Intel UHD Graphics in processor and AMD Radeon RX 550X Graphics, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; supports dual independent display; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@24Hz (HDMI)    Chipset Memory   Intel SoC (System on Chip) platform   32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation   Type   Surface   Rightness   Aspect   Contrast   Viewing   Multistruck   Multistruck   Multistruck   Monitor cable   Bundled Accy   Monitor cable   Bundled Accy   Camera   Audio support   HD720p camera, fixed focus   HD720p camera, fixed focus   HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone - microphone combo iack   Multistruck   Multis	
Chipset Intel SoC (System on Chip) platform  Memory 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets  * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation  Display Size / Resolution Type Surface Rightness Aspect Contrast Viewing Multi-touch  Memory 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets  * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation  Display Size / Resolution Type Surface Rightness Aspect Contrast Viewing Multi-touch  **Audio support dual array microphone, headphone / microphone combo jack	oo jack,
Display Size / Resolution Type Surface   Brightness   Aspect   Contrast   Viewing   Multi-touch   dual array microphone, headphone / microphone combo jack	
Batio   Batio   Batio   Angle	
15.6" HD (1366x768) TN Anti-glare 220 nits 16:9 400:1 90° Non-touch UltraNay™ 6-row, spill-resistant, multimedia Fn keys, numeric keypad, op	otional LED backlight it-touch touchpad
Multi-touch    15.6" FHD (1920x1080)   WVA   Anti-glare   250 nits   16:9   600:1   170°   Non-touch	d, security keyhole
Storage  Up to two drives (one M.2 SSD and one HDD)  • HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™  • M.2 2280 SSD / SATA 6.0Gb/s  • M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2  (may be disabled in some region)  System Mgt None  Fingerprint reader Optional: Touch style fingerprint reader on the palm rest NFC None	
• M.2 2280 SSD / PCle NVMe, PCle 3.0 x 4  * Installed M.2 2280 SSD is PCle 3x4 but run at PCle 3x2 due to M.2 SSD adapter limitation  Optane™ memory Optional: Intel Optane memory, PCle NVMe, PCle 3.0 x 2  Optical None  * Max battery life  Max battery life  * Battery  Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W A  * MobileMark® 2014: 11 hr  * Battery life varies significantly with hardware configurations, settings	
Ethernet Gigabit Ethernet Connection, Realtek R8111GUS AC adapter 45W or 65W USB-C AC adapter	s, usage, & other factors
WLAN + One of the following, configurable by model:  Operating system Optional: Windows® 10 Home 64 or Windows 10 Pro 64	
Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card     Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card     Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card     Imited warranty     One of the following, configurable by model:     1-year mail-in repair service	
WWAN None • 1-year depot repair service • 1-year limited onsite service	
Mil-Spec test MIL-STD-810G military testing	
Environment EPEAT™ Silver; ENERGY STAR® 7.1; TCO Certified; RoHS-co	

Note: The specifications above may not be available in all regions.

Lenovo July 2020













# ThinkPad E595 Platform Specifications

Processor	AMD Ryz	en™ Mo	obile Pro	cessors wi	th Radeon	' Vega G	raphics			Dimensions	WxDxH: 14.53" x 9.92" x 0.78"; 369mm x 252mm x 19.9mm Starting at 4.7 lb / 2.1 kg Black Display cover: Aluminum; Bottom: PC/ABS plastic	
	Processor		# of	Base	Max Boost	Cache	Memor		Processor	Weight   Case color		
		Cores	Threads	Clock	Clock	1MB L2	Control		Graphics Radeon Vega 3	Case material		
	Ryzen 3 3200U	2	4	2.6 GHz	3.5 GHz	4MB L3	'		Graphics			
	Ryzen 5 3500U	4	8	2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-24	400 F	Radeon Vega 8 Graphics	Smart card reade Media reader	MicroSD card reader	
	Ryzen 7 3700U	4	0	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3		Ra	adeon RX Vega 10 Graphics	Ports	One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack,	
Graphics	supports supports	externa dual in	al digital depende	ega 8, or R monitor via ent display; 160@60Hz	a HDMI or I	JSB Typ	e-C;			Monitor cable Bundled Accy	microSD card reader, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed None None	
Chipset Memory	32GB ma	x / 240	OMHz D	Chip) platfor DR4, dual- Ily 2666MHz	channel ca	00MHz c	lue to AME	) limita		Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack	
Display	Size / Res			pe Surface		Ratio	Contrast Ratio	Angle	e Multi-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad	
	15.6" HD (			N Anti-gla		16:9	400:1	90°	Non-touch	Security	Power-on password, hard disk password, supervisor password, security keyhole	
		15.6" FHD (1920x1080) WVA Anti-glare 250 nits 16:9 600:1 170° Non-touch							Non-touch	Security chip Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified		
Multi-touch	None			200 /						Fingerprint reader None NFC None		
Storage	• HDD / S • M.2 224	SATA 6 2 SSD	.0Gb/s, 2 ) / PCle	SSD and one 2.5" wide, 7 NVMe, PC NVMe, PC	mm high, <i>l</i> e 3.0 x 2 o	ctive Pr PCIe 3	otection S .0 x 4	Systen	n™	Battery	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter	
Optical	None	10 OOL	7 1 Ole	INVIVIC, I CI	C 0.0 X 4					Max battery life	MobileMark® 2014: 10.3 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors	
Ethernet	Gigabit E	therne	t Conne	ction, Realt	ek R81110	US				AC adapter	45W or 65W USB-C AC adapter	
WLAN +	One of th	e follo	ving, coi	nfigurable b	y model:					Operating system Optional: Windows® 10 Home 64 or Windows 10 Pro 64		
Bluetooth™				Wi-Fi 2x2 8 ), Wi-Fi 2x2						Limited warranty	1-year mail-in repair service	
WWAN SIM card	None None										1-year depot repair service     1-year limited onsite service	
										Mil-Spec test	MIL-STD-810G military testing	
										Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant	

Note: The specifications above may not be available in all regions.

Lenovo August 2020















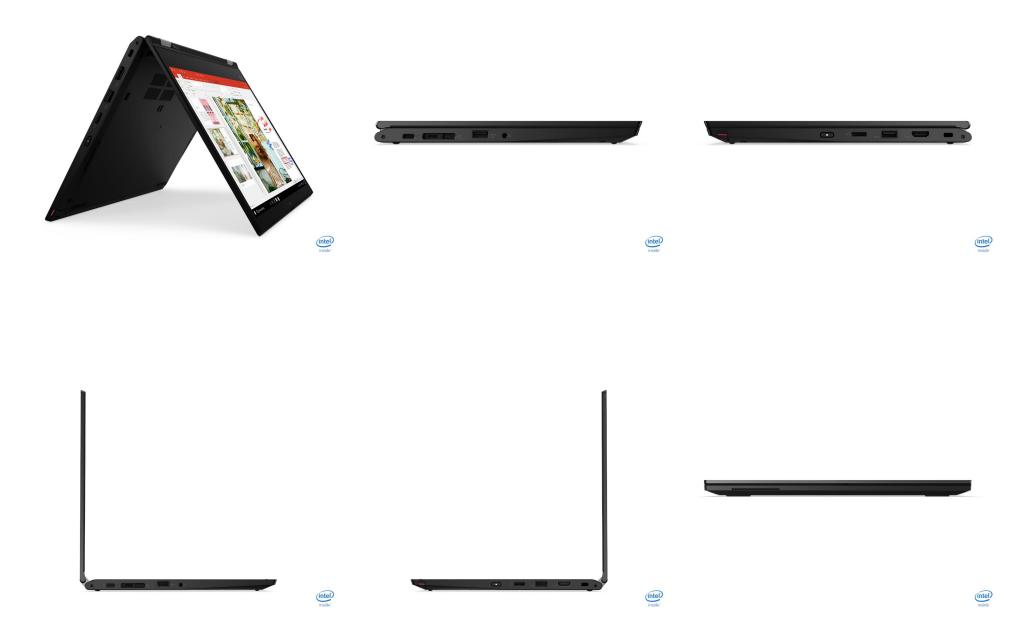




# ThinkPad L13 Platform Specifications

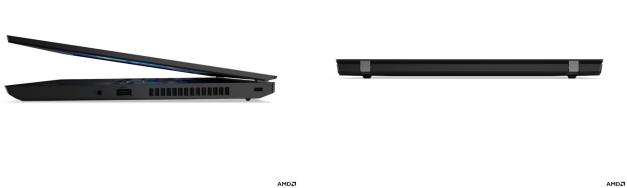
Processor	Intel® Cel	eron® F	rocess	or or 10	th Generat	on Intel	Core™	i3 / i5 /	i7 Proces	ssor		Smart card reader Optional: Smart card reader			
	Processor Number	# of Cores	# of Thread	Bas Is Freque	-	urbo Cac		emory ypes	Proce Grap		Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort) HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector.			
	Celeron 5205U	2	2	1.9 G		2N		R4-2400							
	i3-10110U		4	2.1 G					Intel UHD Graphic			security keyhole			
	i5-10210U	OU 4		1.6 G						Graphics	Monitor cable	* Depending on many factors, actual data transfer speed may be lower than theoretical speed • Lenovo USB-C to VGA Adapter			
	i5-10310U i7-10510U		8	1.7 G				R4-2666			(optional)	Lenovo USB-C to VGA Adapter     Lenovo USB-C to HDMI Adapter			
	i7-10610U			1.8 G							` '	Lenovo USB-C to DisplayPort Adapter			
Graphics	Intel UHD Graphics in processor; supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)									OMI)	Bundled Accessories (optional)	<ul> <li>Lenovo HDMI to VGA Mónitor Adapter</li> <li>Lenovo USB-C to USB-A Adapter</li> <li>Lenovo USB-C to USB-C Cable 2m</li> <li>Lenovo USB-C to Ethernet Adapter</li> <li>ThinkPad Ethernet Extension Adapter Gen 2</li> </ul>			
Chipset Memory	Intel SoC (System on Chip) platform 4GB, 8GB, or 16GB / 2666MHz DDR4 / soldered to systemboard, no sockets * System clocks down for processor with lower memory controller											One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus  IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus			
Display		solution		71		htness	Aspect Ratio		ast Ratio	Viewing Angle	Audio support	HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack			
	13.3" HD	HD (1366x768) TN		TN Ant		0 nits	16:9	50	00:1	90°	Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight			
	13.3" FHI	D (1920)	(1080)	WVA Ant	i-glare (nor	0 nits -touch) 0 nits i-touch)	16:9		non-touch) nulti-touch)	170°	UltraNav™ Security	TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch Power-on password, hard disk password, supervisor password, security keyhole			
Multi-touch (opt)											Security chip	Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)			
Storage	One of the	followin 42 SSD	g, config ) / PCle	gurable by NVMe,		2	,,				System Mgt <i>(opt)</i> Intel vPro Technology Fingerprint reader <i>Optional:</i> Touch style fingerprint reader on the palm rest NFC None	Intel vPro Technology r Optional: Touch style fingerprint reader on the palm rest			
Optical	<ul> <li>Intel Or</li> </ul>	otane™	Memoi		ith Solid S		age,				Battery Max battery life	Integrated Li-ion 46Wh battery, supports Rapid Charge (charge up to 80% in with 65W AC adapter MobileMark® 2014: 14.1 hr			
Ethernet		nector	via opti	onal Thir	n I219-V ( <i>N</i> nkPad Ethe oter					or	AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors  • 45W USB-C AC adapter  • 65W USB-C AC adapter  • 65W USB-C Slim AC adapter			
WLAN + Bluetooth™	<ul> <li>Intel Wi</li> </ul>	reless-/	AC 956	0, Wi-Fi :	<i>le by mode</i> 2x2 802.11 802.11ax	ac + Blu	etooth oth 5.0,	5.0, M.2 M.2 ca	2 card ard		Operating system (optional)	Windows® 10 Home 64     Windows 10 Pro 64     Windows 10 Pro in S mode			
WWAN SIM card	None None										(optional)	1-year depot repair service     1-year depot with 2-year system board repair service			
Dimensions Weight Case color Case material	Starting a Black or \$	NxDxH: 12.26" x 8.62" x 0.69"; 311.5mm x 219mm x 17.6mm Starting at 3.06 lb / 1.38 kg Black or Silver Display cover: Aluminum Bottom: GFRP										<ul> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year onsite repair service</li> <li>1-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>			
											Mil-Spec test	MIL-STD-810G military testing			
											Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant			

June 2020



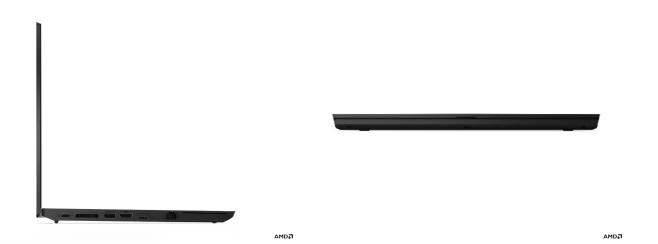
# ThinkPad L13 Yoga Platform Specifications

Processor	ocessor 10th Generation Intel® Core™ i3 / i5 / i7 Processor								Smart card reader Optional: Smart card reader			
	Processor Number									Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),	
	i3-10110U i5-10210U i5-10310U	2	4	2.1 GHz 1.6 GHz 1.7 GHz	4.1 GHz 4.2 GHz 4.4 GHz	4MB 6MB	DDR4-2666	Intel UHD (	Graphics		two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPor HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jac optional smart card reader, microSD card reader, side docking connector, security keyhole	
	i7-10510U i7-10610U	4	8	1.8 GHz 1.8 GHz	4.9 GHz 4.9 GHz	8MB 8MB			агартпоо	Monitor cable (optional)	<ul> <li>Depending on many factors, actual data transfer speed may be lower than theoretical speed</li> <li>Lenovo USB-C to VGA Adapter</li> <li>Lenovo USB-C to HDMI Adapter</li> </ul>	
Graphics	supports t	externa hree ir	al digital r ndepende	nonitor via ent displays	;	,,	e-C; 96x2160@;	30Hz (HDN	MI)	Lenovo USB-C to DisplayPort Adapter     Lenovo HDMI to VGA Monitor Adapter  Bundled     Lenovo USB-C to USB-A Adapter     Lenovo USB-C to USB-C Cable 2m		
Chipset Memory				p) platform 66MHz DDF		ed to sy	rstemboard	, no socket	ts	(optional)	<ul> <li>Lenovo USB-C to Ethernet Adapter</li> <li>ThinkPad Ethernet Extension Adapter Gen 2</li> </ul>	
Display	Size Reso								Viewing Angle	Camera	<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>World facing camera, 5MP resolution, auto focus</li> </ul>	
Multi touch	13.3" FHD	•		reflectio			800:1	72%	170°	Audio support	(selectable for fingerprint model only) HD Audio. Synaptic® CX11880 codec /	
Multi-touch	could redu	ice the	briahtne	ess by up to		gestur	e, anti-refle	ction (AH),	,		stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack	
Hinge Convert-mode Pen <i>(optional)</i>	Yoga hinge, 360 degree Laptop, tent, stand and tablet ThinkPad Pen Pro, active pen for multi-touch display, on-board rechargeable									Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch	
Storage	<ul><li>M.2 224</li><li>M.2 228</li><li>Intel Op M.2 228</li></ul>	2 SSD 0 SSD tane™	PCIe N PCIe N	rable by mod IVMe, PCI IVMe, PCI H10 with S 3.0 x 4	e 3.0 x 2 e 3.0 x 4	Storage	9,	-		Security Security chip System Mgt (opt) Fingerprint reade	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region) Intel vPro Technology r Optional: Touch style fingerprint reader on the palm rest None	
Optical Ethernet	None Notive Inte	ol Etho	rnot Con	nostion IO1	0 \/ (Non )	(Pro) o	r I219-LM (ı	(Pro)		Battery Integrated Li-ion 46Wh battery, supports Rapid Charge (charge up to 80% in with 65W AC adapter  Max battery life MobileMark® 2014: 12.23 hr		
Ethernet		nector	via optioi	nal ThinkPa			sion Adapte		r			
WLAN + Bluetooth™	<ul> <li>Intel Wire</li> </ul>	eless-A	AC 9560,	<i>figurable by</i> Wi-Fi 2x2 8 Fi 2x2 802	802.11ac +	Blueto etooth	oth 5.0, M.2 5.0, M.2 ca	2 card ard		AC adapter	<ul> <li>45W USB-C AC adapter</li> <li>65W USB-C AC adapter</li> <li>65W USB-C slim AC adapter</li> </ul>	
WWAN SIM card	None None									Light sensor G-sensor Gyroscope	None Yes None	
Dimensions Weight Case color Case material	Starting at 3.17lb / 1.43kg lor Black or Silver									<u> </u>	• Windows® 10 Home 64 • Windows 10 Pro 64 • Windows 10 Pro in S mode	
	Bottom:										<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year + 2-year depot repair service</li> <li>1-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>	
										Mil-Spec test	MIL-STD-810G military testing	
							change by re			Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant	





EDMA EDM





AMD.

# ThinkPad L14 Gen 1 (AMD) Platform Specifications

Processor	AMD Ryzer AMD Ryzer						ics or		Dimensions Weight	<i>WxDxH:</i> 13.03" x 9.25" x 0.80"; 331mm x 235mm x 20.4mm Starting at 3.56 lb / 1.61 kg
	Processor Number	# of	# of Threads	Base Clock	Max Boost Clock		Memory Controller	Processor Graphics	Case color Case material	Black Display cover: PC/ABS plastic;
	Ryzen 3 4300U	4	4	2.7 GHz	3.7 GHz	2MB L2 / 4MB L3	Controller	Слартиос	Smart card reade	Bottom: PC/ABS plastic rOptional: Smart card reader
	Ryzen 3 PRO 4450U	4	8	2.5 GHz	3.7 GHz	2MB L2 / 4MB L3			Media reader Ports	MicroSD card reader Two USB 3.2 Gen 1 (one Always On),
	Ryzen 5 4500U	6	6	2.3 GHz	4.0 GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics		one USB 3.2 Type-C Gen 1 (w) the function of Power Delivery and DP 1.2), one USB 3.2 Type-C Gen 2 (w/ the function of Power Delivery and DP 1.2), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models),
	Ryzen 5 PRO 4650U	6	12	2.1 GHz	4.0 GHz	3MB L2 / 8MB L3				headphone / microphone combo jack, optional smart card reader.
	Ryzen 7 PRO 4750U	8	16	1.7 GHz	4.1 GHz	4MB L2 / 8MB L3			Monitor cable	microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed • Lenovo HDMI to VGA Monitor Adapter
Graphics	AMD Radeo					ve display	and 3 exter	nal monitors;	(optional) Bundled Accy	<ul> <li>Lenovo USB-C to VGA Adapter</li> <li>Lenovo USB-C to DisplayPort Adapter</li> <li>None</li> </ul>
	supports ex	ternal	monitors				@24Hz) or x2160@60H	z)	l	• HD720p camera with ThinkShutter camera privacy, fixed focus
Chipset Memory	AMD SoC ( 64GB max	Systen / 3200l	n on Chi MHz DD	p) platforr R4, dual-	n channel ca	pable, tw	o DDR4 SO-	DIMM sockets	Audio support	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio / dual array far-field microphone (optional for special bid model).
Display	Size Resolu	ution	Тур	e Surface			pect Contrast atio Ratio	Color Viewing Gamut Angle	 Keyboard	headphone / microphone combo jack  6-row, spill-resistant, multimedia Fn keys with Unified Communications controls,
	14.0" HD (13			Anti-gla Anti-gla		20 nits 16	6:9 400:1 6:9 700:1	45% 90° 45% 170°	UltraNav™	ortional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	14.0" FHD (						6:9 700:1	45% 170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified
Multi-touch (opt)	-								System Mgt (opt)	DASH Management  **Optional: Touch style match on host fingerprint reader on the palm rest
Storage	<ul><li>M.2 2242</li><li>M.2 2280</li></ul>								NFC	None
Optical	None								Battery	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Ethernet	Realtek® Ri Gigabit Ethe				or RTL811	1EPV (D	ASH)		Max battery life	MobileMark® 2018: 10.7 hr
WLAN + BT (opt)					1ax + Blu	etooth™ 5	5.1		AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors  • 45W USB-C AC adapter
WWAN (optional)	<ul> <li>Integrated</li> </ul>	l Mobil	e Broadl	oand 4G I	TE-A, Fib	ocom L85	0-GL, M.2 ca	ard	<u>'</u>	65W USB-C AC adapter
SIM card (opt)	* For non-WV Gemalto eS		odel, it me	eans the m	odel is NOT	WWAN up	gradable		I	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Olivi odra (opi)	Gemalto eSIM								Limited warranty (optional)	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year onsite repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
									Mil-Spec test	MIL-STD-810G military testing
Note: The specifica									Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant  Lenow



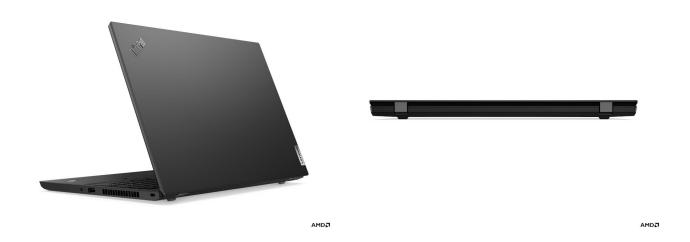






# ThinkPad L14 Gen 1 (Intel) Platform Specifications

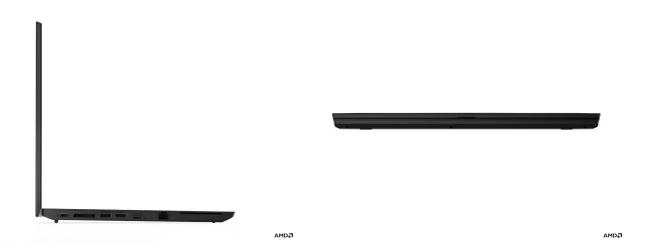
Processor	Intel® Pentiu 10th Genera (i7-10610U is	ation In	itel Core	™ i3 / i5 / i7	7 Processo	r				Dimensions Weight	Aluminum (WxDxH): 13.03" x 9.25" x 0.75"; 331mm x 235mm x 19.1mm  PC/ABS (WxDxH): 13.03" x 9.25" x 0.80"; 331mm x 235mm x 20.4mm  Aluminum: starting at 3.83 lb / 1.73 kg
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency		Memory	Types	Processor Graphics	Case color Case material	PC/ABS: starting at 3.56 lb / 1.61 kg Black Display cover: PC/ABS plastic or Aluminum (Aluminum is NOT available in EMEA)
	Pentium Gold 6405U	2	4	2.4 GHz	-	2MB	DDR4-2	400			Bottom: PC/ABS plastic
	i3-10110U	2	4	2.1 GHz	4.1 GHz	4MB			Intel UHD	Smart card reade	er <i>Optional:</i> Smart card reader MicroSD card reader
	i5-10210U			1.6 GHz	4.2 GHz	6MB	<b>│</b>		Graphics	Ports	Two USB 3.2 Gen 1 (one Always On),
	i5-10310U	4	8	1.7 GHz	4.4 GHz	6MB	DDR4-2	666	,		one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	i7-10510U			1.8 GHz	4.9 GHz	8MB	-				one USB 3.2 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models),
	Intel UHD C Intel UHD C (discrete mo supports up supports ex	1.8 GHz 4.9 GHz 8MB  el UHD Graphics in processor only or el UHD Graphics in processor and AMD Radeon 625, 2GB GDDR5 memory screte models are NOT available in EMEA); suports up to 3 independent displays via native display and two external monitors external monitors via HDMI (up to 4096x2160@24Hz) or USB Type-C (up to 4096x2304@60Hz)  el SoC (System on Chip) platform								Bundled Accy	headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter None
Chipset	Intel SoC (S	System	on Chip	) platform	onnol con	abla tu	° DDB4 6	O D	IMM applicate	Camera (optional	/)• HD720p camera with ThinkShutter camera privacy, fixed focus
Memory									IMM sockets	Audio support	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec /
Display			Ť		Dri		pect Contr		Color Viewing	d	stereo speakers, 2W x 2, Dolby® Audio /
,- ,-	Size Resolu	ution	Туре	Surface		ss R	atio Rati	o G	amut Angle		dual array microphone (for special bid model, microphone is optional),
	14.0" HD (13			Anti-glare			6:9 400:	-	45% 90°	Karda a and	headphone / microphone combo jack
	14.0" FHD (			Anti-glare		nits 1	6:9 700:	1 4	45% 170°	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, optional LED backlight
	14.0" FHD (	1920x10	080) WVA	Anti-glare	Multi- touch 300	nits 1	6:9 700:	1 4	45% 170°	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch (opt)	On-cell touc	h, sup	ports 10-	finger gest	ture	·	·			Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified
Storage	<ul> <li>Up to 2 drives</li> <li>HDD / SA (NOT avail)</li> <li>M.2 2242</li> <li>M.2 2280</li> </ul>	TÀ 6.00 ilable ir SSD /	Gb/s, 2.5 n EMEA) PCIe NV	" wide, 7mi Me, PCIe (	m high, Ac <sup>.</sup> 3.0 x 2	tive Pro	tection Sy	stem	ТМ	System Mgt (opt)	Intel vPro Technology  In Televic Touch style fingerprint reader on the palm rest, match on host  Touch style fingerprint reader on the palm rest, match on chip (special bid only)  Near Field Communication
	<ul> <li>Intel Opta M.2 2280,</li> </ul>	ne Mer	nory H10	with Solic		rage,				Battery	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Optical	None									Max battery life	<i>MobileMark</i> <sup>®</sup> 2014: 12.3 hr <i>MobileMark</i> 2018: 7.95 hr
Ethernet	Non-vPro m vPro model	: lı	ntel Ethe	rnet Conne	ection I219	-LM (Ja	acksonville	e)		AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter (NOT available in EMEA)
WLAN + Bluetooth™ (opt)	<ul> <li>Intel Wi-Fi</li> <li>* Intel AX201</li> </ul>	6 AX2 card su	00, Wi-F <i>upports B</i> 7	i 2x2 802.1 「5.1 but is lin	1ax + Blue nited to BT5	tooth 5 .0 by Wii	0.0 Indows OS			Operating system	65W USB-C AC adapter     Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WWAN (optional)	Wireless \	NAN ur	ogradable	Α						Limited warranty	• 1-year depot repair service
SIM card (opt)	• Integrated * For non-WV Gemalto eS	l Mobile <i>VAN mo</i>	e Broadb	and 4G LT	E-A, Fiboc el is NOT W	om L85 <i>WAN up</i>	0-GL, M.2 gradable	2 card	d	(optional)	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year onsite repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
										Mil-Spec test	MIL-STD-810G military testing
										Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant





AMD

AMD.





# ThinkPad L15 Gen 1 (AMD) Platform Specifications

Processor	AMD Ryzer						hics or			Dimensions Weight	WxDxH: 14.43" x 9.84" x 0.83"; 366.5mm x 250mm x 21mm Starting at 4.37 lb / 1.98 kg
	Processor Number	# of	# of Threads		Max Boost Clock		Memory Controller		ocessor raphics	Case color Case material	Black PC/ABS plastic
	Ryzen 3 4300U	4	4	2.7 GHz	3.7 GHz	2MB L2 4MB L3			•	Media reader	er <i>Optional:</i> Smart card reader MicroSD card reader
	Ryzen 3 PRO 4450U	4	8	2.5 GHz	3.7 GHz	2MB L2 4MB L3	3			Ports	Two USB 3.2 Gen 1 (one Always On), one USB 3.2 Type-C Gen 1 (w/ the function of Power Delivery and DP 1.2),
	Ryzen 5 4500U	6	6	2.3 GHz	4.0 GHz	3MB L2 8MB L3	DDR4-3200		Radeon™ raphics		one USB 3.2 Type-C Gen 2 (w/ the function of Power Delivery and DP 1.2), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,
	Ryzen 5 PRO 4650U	6	12	2.1 GHz	4.0 GHz	3MB L2 8MB L3	3				microSD card reader, side docking connector, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	Ryzen 7 PRO 4750U	8	16	1.7 GHz	4.1 GHz	4MB L2 8MB L3				Monitor cable (optional)	Lenovo HDMI to VGA Monitor Adapter     Lenovo USB-C to VGA Adapter
Graphics	AMD Rade	to 4 ir	ndepend	ent displa	, vs via nat	ive displa	ay and 3 exte	rnal mo	onitors;	Bundled Accy	Lenovo USB-C to DisplayPort Adapter     None
	supports ex	ternal	monitors	via HĎM USB	l (up to 40 Type-C (υ	096x2160 ip to 3840	0@24Hz) or 0x2160@60H	Hz)		Camera (optional)	/)• HD720p camera with ThinkShutter camera privacy, fixed focus • IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Chipset Memory	AMD SoC ( 64GB max	Systen / 3200I	n on Chi MHz DD	p) platforr R4, dual-c	n hannel ca	apable, tv	vo DDR4 SO	D-DIMM	1 sockets	Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Doĺby® Audio / dual array far-field microphone (optional for special bid model), headphone / microphone combo jack
Display	Size Resolution Type Surface Touch ness Ratio Ratio Gamut Ang					atio Ratio	Gamu	ut Angle	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad, optional LED backlight	
	15.6" HD (1366x768) TN Anti-glare - 220 nits 16:9 400:1 45%		_	UltraNav™	TrackPoint pointing device and buttonless Mylar surface multi-touch touchpad						
	NA.:Is:									Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified DASH Management
Multi-touch (opt)	On-cell touc	ch, sup	ports 10	-finger ge	sture					Fingerprint reade	r Optional: Touch style match on host fingerprint reader on the palm rest
Storage	• M.2 2242									NFČ	None
Optical	<ul> <li>M.2 2280</li> <li>None</li> </ul>	SSD /	PCIe N	/Me, PCI	3.0 x 4					Battery	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Ethernet	Realtek® R	TL8111	1HN (No	n-DASH)	or RTL81	11EPV <i>(L</i>	DASH)			Max battery life	<i>MobileMark® 2014:</i> 13.78 hr <i>MobileMark 2018:</i> 10.43 hr
WLAN + BT (opt)					1ax + Blu	etooth™	5 1			AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter
WWAN (optional)					Tax I Dia					Ao adapter	65W USB-C AC adapter
(	<ul> <li>Integrated</li> </ul>	lidoM b	e Broadk	and 4G L	TE-A, Fib	ocom L8	50-GL, M.2 c	card		Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
SIM card (opt)	* For non-WI Gemalto eS		odel, it me	ans the mo	del is NOT	™WAN u	ogradable			Limited warranty (optional)	1-year depot repair service     1-year depot with 2-year system board repair service     1-year limited onsite service     1-year + 2-year depot repair service     1-year + 2-year onsite repair service     3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service
										Mil-Spec test	MIL-STD-810G military testing
										Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant
Note: The specifica	ations above	may no	t he avail	ahla in all	ronione ar	nd might c	hange by regi	ione		•	Lenov



# ThinkPad L15 Gen 1 (Intel) Platform Specifications

Processor	Intel® Celer (i7-10610U i	ron® Pro	ocessor c available	or 10th Ger in EMEA)	neration	Intel C	ore™	i3 / i5 / i7 l	Process	or	Dimensions Weight	WxDxH: 14.43" x 9.84" x 0.83"; 366.5mm x 250mm x 21mm Starting at 4.37 lb / 1.98 kg		
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Tur Frequer		che M	lemory Type		cessor phics	Case color Case material	Black Display cover: PC/ABS plastic Bottom: PC/ABS plastic		
	Celeron 5205U	2	2	1.9 GHz	-	2N	<b>ИВ</b>	DDR4-2400	)			r Optional: Smart card reader		
	i3-10110U i5-10210U	2	4	2.1 GHz 1.6 GHz	4.1 GH				Intel	I UHD	Media reader Ports	MicroSD card reader Two USB 3.2 Gen 1 (one Always On),		
	i5-10210U i5-10310U i7-10510U i7-10610U	4	8	1.6 GHz 1.7 GHz 1.8 GHz 1.8 GHz	4.4 GH 4.9 GH 4.9 GH	dz 6N	ИВ ИВ	DDR4-2666	Gra	phics		one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.2 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,		
Graphics	Intel UHD ( Intel UHD ( (discrete m supports u	Intel UHD Graphics in processor only or Intel UHD Graphics in processor and AMD Radeon 625, 2GB GDDR5 me (discrete models are NOT available in EMEA); Supports up to 3 independent displays via native display and two external supports external monitors via HDMI (up to 4096x2160@24Hz) or USB Type-C (up to 4096x2304@60Hz) Intel SoC (System on Chip) platform 64GB max / 3200MHz DDR4, dual-channel capable, two DDR4 SO-DIMM									Bundled Accy	microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical s HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter None		
Chipset Memory	64GB max	/32001	MHz DDÉ	platform R4, dual-ch	annel ca t run at 24	apable, 400MHz	two [ or 26	DDR4 SO- 666MHz due	DIMM so	imitation	Audio support	HD720p camera with ThinkShutter camera privacy, fixed focus   IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus   HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio / stereo speakers, 2W x 2, Dolby		
Display	Size Resol	ution	Туре	Surface		Bright- ness	Aspec Ratio	ct Contrast Ratio	Color Gamut	Viewing Angle		dual array microphone (for special bid model, microphone is optional), headphone / microphone combo jack		
	15.6" HD (1366x768) TN Anti-glare - 220 nits 16:9 400:1 45% 15.6" FHD (1920x1080) WVA Anti-glare - 250 nits 16:9 700:1 45%									90° 170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad, optional LED backlight  TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
	15.6" FHD	(1920x10	080) WVA	Anti-glare	Multi- touch 3	00 nits	16:9	700:1	45%	170°	Security	Power-on password, hard disk password, supervisor password, security keyhole		
	On-cell tou										Security Power-on password, hard disk password, supervisor password, secules Security chip Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Ce System Mgt (opt) Intel vPro Technology			
Storage	<ul> <li>Up to 2 drive</li> <li>HDD / SA (NOT ava</li> <li>M.2 2242</li> </ul>	ATÀ 6.00 ilable ir	Gb/s, 2.5 n EMEA)	" wide, 7m	m high,	Active I	Prote	ction Syste	m™			r• Touch style fingerprint reader on the palm rest, match on host • Touch style fingerprint reader on the palm rest, match on chip (special bid only) Near Field Communication		
	<ul><li>M.2 2242</li><li>M.2 2280</li><li>Intel Opta</li></ul>	SSD /	PCIe NV	Me, PCle	3.0 x 4	Storage					Battery	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter		
Optical	M.2 2280 None	, PCIe	NVMe 3.	0 x 4			,				Max battery life	<i>MobileMark</i> <sup>®</sup> <i>2014:</i> 11.6 hr <i>MobileMark 2018:</i> 8.56 hr		
Ethernet	Non-vPro r vPro mode	model: I l: I	ntel Ethe ntel Ethe	rnet Conne	ection I2 ection I2	19-V (J 19-LM	lacks (Jack	onville) (sonville)			AC adapter	<ul> <li>* Battery life varies significantly with hardware configurations, settings, usage, &amp; other factors</li> <li>45W USB-C AC adapter (NOT available in EMEA)</li> <li>65W USB-C AC adapter</li> </ul>		
WLAN + Bluetooth™ (opt)	Intel Wi-F   Intel AX20											a Optional: Windows® 10 Home 64 or Windows 10 Pro 64		
	* Intel AX201 card supports BT5.1 but is limited to BT5.0 by Windows OS  • Wireless WAN upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable Gemalto eSIM										(optional)	1-year depot repair service     1-year depot with 2-year system board repair service     1-year limited onsite service     1-year + 2-year depot repair service     1-year + 2-year onsite repair service     3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service		
											Mil-Spec test	MIL-STD-810G military testing		
Note: The specifica											Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant		

















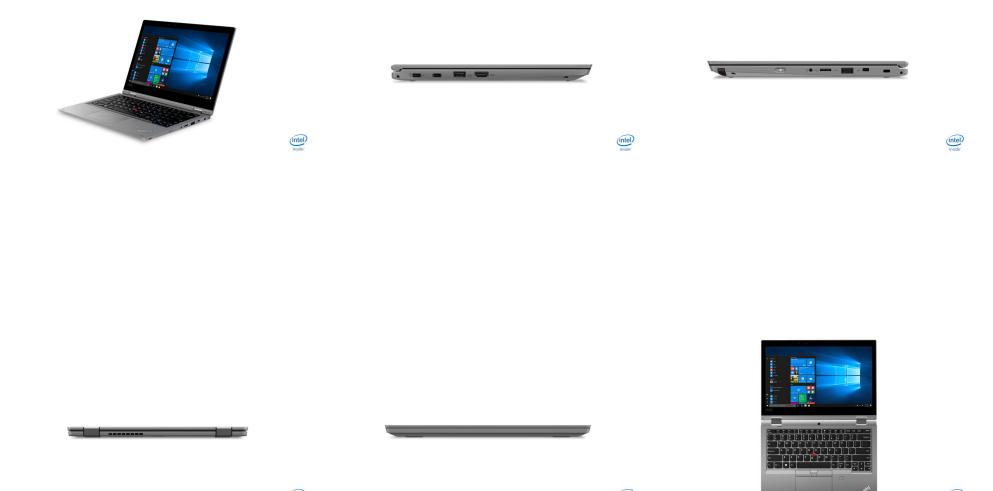




# ThinkPad L390 Platform Specifications

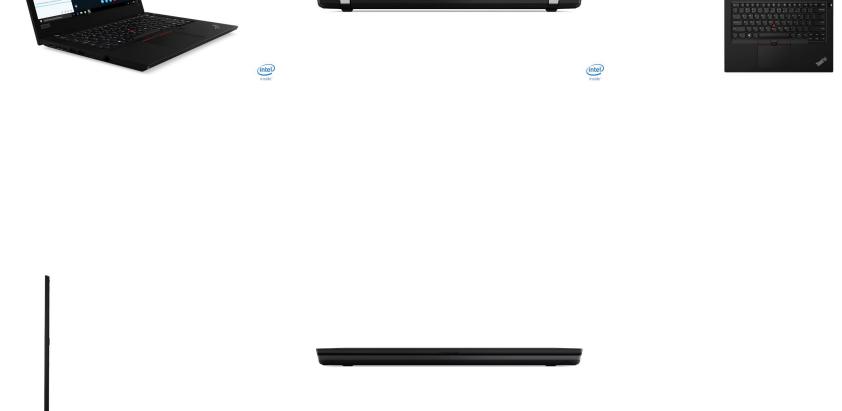
Processor	Intel® Ce	eleron® F	rocessor	or 8th Ger	eration Int	el Core	™ i3 / i5 / i	7 Processor	Smart card rea	
	Processo Number		# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	Cel 4305	U 2	2	2.2 GHz	-	2MB	DDR4-2133			HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack, microSD card reader, security keyhole
	i3-8145U i5-8265U		4 8	2.1 GHz 1.6 GHz	3.9 GHz 3.9 GHz	4MB 6MB		Intel UHD Grap	hics Monitor cable	* Depending on many factors, actual data transfer speed may be lower than theoretical speed  • Lenovo USB-C to VGA Adapter
	i5-8365U	4	8	1.6 GHz	4.1 GHz	6MB	DDR4-2400		(optional)	Lenovo USB-C to VGA plus Power Adapter     Lenovo USB-C to HDMI Adapter     Lenovo USB-C to HDMI Adapter
Graphics	i7-8565U		ics in pro	1.8 GHz	4.6 GHz	8MB				<ul> <li>Lenovo USB-C to HDMI plus Power Adapter</li> </ul>
	supports supports Max reso	externa three in olution:	al digital n ndepende 4096x230	nonitor via nt displays )4@60Hz (				30Hz (HDMI)	Bundled Accessories (optional)	<ul> <li>Lenovo USB-C to DisplayPort Adapter</li> <li>Lenovo USB-C to Ethernet Adapter</li> <li>Lenovo USB-C to USB-A Adapter</li> <li>Lenovo USB-C to USB-C Cable 2m</li> </ul>
Chipset Memory	32GB m	ax / 240	OMHz DÖ	o) platform PR4, dual-c 2666MHz b				O-DIMM sock	ets Camera Audio support	ThinkPad Ethernet Extension Cable  HD720p camera, fixed focus HD Audio, Realtek ALC3287 codec /
Display	Size Re	solution	Тур	e Surface	Brightnes	Aspec		st Ratio View		stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack
	13.3" HE	) (1366x7	'68) Ti	N Anti-glar	e 250 nits	16:9	50	0:1 90		6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch
				/A Anti-glar		16:9	700:1 (no 800:1 (mo		Security	Power-on password, hard disk password, supervisor password, security keyhole
Multi-touch (opt)				)-finger ge		only)			Security chip	Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)
Storage	<ul><li>M.2 22</li><li>M.2 22</li></ul>	280 SSD 242 SSD	/ SATA 6 / PCle N	VMe, PCIe	3.0 x 2					pt) Intel vPro Technology and of the palm rest Near Field Communication
	<ul> <li>Intel O M.2 22</li> </ul>	ptane™		VMe, PCle H10 with S 3.0 x 4		Storage	,		Battery Max battery life	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 14.61 hr
Optical Ethernet	None Native Ir	tal Etha	rnet Con	nection I21	9-\/ (Non-ı	(Pro) or	1210-l M (1	(Pro)	AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter
Linemet	via optio	nal Thin	kPad Eth	ernet Exter t Adapter			1219-LIVI (1	71 10)		65W USB-C AC adapter     65W USB-C slim AC adapter
WLAN + Bluetooth™				Wi-Fi 1x1 8 Wi-Fi 2x2 8						rem Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WWAN SIM card	None None	110033 7	<del>10 3300,</del>	VVITTEAL	302.11ac +	Diacto	Our 0.0, IVI.	2 cara	Limited warrar (optional)	<ul> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> </ul>
Dimensions Weight Case color Case material	Black or	at 3.22 I Silver	7" x 8.83" b / 1.46 k Aluminum	· ·	1.8mm x 2	24.2mr	n x 18.8mn	1		<ul> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
	Bottom:	(	SFRP						Mil-Spec test	MIL-STD-810G military testing
Note: The specific								<del>.</del>	Environment	EPEAT™ Silver; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.



# ThinkPad L390 Yoga Platform Specifications

Processor	8th Generation Intel® Cor	e™ i3 / i5 / i7	Processor					Smart card reade	
	Processor Number         # of Cores         # of Threads           i3-8145U         2         4           i5-8265U         4         8           i5-8365U         4         8           i7-8565U         4         8	Frequency F 2.1 GHz 1.6 GHz	requency 3.9 GHz 41 3.9 GHz 61 4.1 GHz 61	MB MB	Memory Types PR4-2400 In	Proces Graph	nics	Monitor cable	MicroSD card reader Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed • Lenovo USB-C to VGA Adapter
Graphics	Intel UHD Graphics in pro supports external digital r supports three independe Max resolution: 4096x23	monitor via Hi ent displays;				)Hz (HDN	ЛI)	(optional) Bundled	<ul> <li>Lenovo USB-C to VGA plus Power Adapter</li> <li>Lenovo USB-C to HDMI Adapter</li> <li>Lenovo USB-C to HDMI plus Power Adapter</li> <li>Lenovo USB-C to DisplayPort Adapter</li> <li>Lenovo USB-C to Ethernet Adapter</li> </ul>
Chipset Memory	Intel SoC (System on Chi 32GB max / 2400MHz DI * Installed memory is actually	ÒŔ4, dual-cha	annel capab run at 2400M	le, two I IHz due t	DDR4 SO to Intel limit	-DIMM s	ockets	Accessories (optional)	<ul> <li>Lenovo USB-C to USB-A Adapter</li> <li>Lenovo USB-C to USB-C Cable 2m</li> <li>ThinkPad Ethernet Extension Cable</li> </ul>
Display		vpe Surface	Brightness	Aspect Ratio	Contrast Ratio	Gamut	Viewing Angle	Camera	One of the following, configurable by model:  • HD720p camera, fixed focus  • IR camera and HD720p camera, fixed focus (black model only)
Multi-touch	13.3" FHD (1920x1080) W Capacitive-type multi-touc could reduce the brightne Yoga hinge, 360 degree	ch, supports ess by up to 1	300 nits 10-finger ge 0%	16:9 sture, a	800:1 Inti-reflecti	72% on (AR),	170°	Audio support	<ul> <li>World facing camera, 5MP resolution, auto focus (mutually exclusive with fingerprint reader)</li> <li>HD Audio, Realtek ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack</li> </ul>
Multi-mode Pen <i>(optional)</i>	Laptop, tent, stand and ta ThinkPad Pen Pro, active	pen for multi	-touch displa	ay, on-b	oard gara	.ge		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch
Storage	One of the following, configure  • M.2 2280 SSD / SATA 6  • M.2 2242 SSD / PCIe N  • M.2 2280 SSD / PCIe N  • Intel Optane™ Memory M.2 2280, PCIe NVMe None	6.0Gb/s NVMe, PCIe 3 NVMe, PCIe 3 H10 with Sol	3.0 x 2 3.0 x 4	rage,				Fingerprint reade	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region) Intel vPro Technology r Optional: Touch style fingerprint reader on the palm rest (mutually exclusive with World facing camera) Near Field Communication
Ethernet	Native Intel Ethernet Con via optional ThinkPad Eth Lenovo USB-C to Etherne	ernet Extens	V ( <i>Non-vPro</i> ion Cable or	o) or l21 r	19-LM ( <i>vP</i>	Pro)		NFC (optional) Battery Max battery life	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 12.17 hr
WLAN + Bluetooth™	<ul><li>Intel Wireless-AC 9462,</li><li>Intel Wireless-AC 9560,</li></ul>	, Wi-Fi 1x1 80						AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors  • 45W USB-C AC adapter  • 65W USB-C AC adapter
WWAN SIM card	None None								65W USB-C slim AC adapter
Dimensions Weight Case color Case material	WxDxH: 12.67" x 8.83" Starting at 3.44 lbs / 1.56 Black or Silver Display cover: Magnesiu Bottom: GFRP	kg		.2mm x	18.8mm				Optional: Windows® 10 Home 64 or Windows 10 Pro 64  1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
								Mil-Spec test	MIL-STD-810G military testing
Note: The enecific	ations above may not be ava	vilable in all re-	nione and mi	aht ohor	ago by roc	ione		Environment	EPEAT™ Silver; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant  Lenovo









# ThinkPad L490 Platform Specifications

Numbre   Cel 4:   i3-814   i5-826   i5-836   i7-866   i	mber (1981   1982   198	2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2 2 4 2 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 7 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8	equency I 2.2 GHz 2.1 GHz 6 GHz 6 GHz 8 GHz 9 GHz 9 GHz vailable in nitor via H displays; @ 60Hz (U	3.9 GHz 3.9 GHz 4.1 GHz 4.6 GHz 4.8 GHz Or AMD Rade EMEA); HDMI or US	4MB 6MB 6MB 8MB 8MB on 535 B Type	e-C;	Intel UHD	Graphics	Weight Case color Case material Smart card reader Media reader Ports  Monitor cable (optional) Bundled Accy	Starting at 3.72 lb / 1.69 kg Black PC/ABS plastic rOptional: Smart card reader MicroSD card reader Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter None				
Graphics Intel (discress supprosupprogramme)  Chipset Intel Memory 64GE * Instate Intel In	8145U 8265U 8365U 8565U 8665U el UHD G screte me pports ex pports the ax resolut el SoC (S GB max in stalled me ze Resolut .0" HD (13	2 4 4 4 4 4 6raphics odels are ternal dee inde ion: 400 System of 2400 Memory is stition 866x768)	8 1 8 1 8 1 8 1 8 1 s in proce e NOT a igital morpendent 96x2304 on Chip) IHZ DDR. actually 26	2.1 GHz 2.6 GHz 2.6 GHz 2.8 GHz 2.9 GH	3.9 GHz 3.9 GHz 4.1 GHz 4.6 GHz 4.8 GHz or AMD Rade 1 EMEA); HDMI or US	4MB 6MB 6MB 8MB 8MB on 535 B Type	DDR4-2400 5, 2GB GD	Intel UHD	nory	Smart card reader Media reader Ports  Monitor cable (optional)	rOptional: Smart card reader MicroSD card reader Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole *Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
i5-826   i5-836   i7-856   i7-866   i	8265U 8365U 8565U 8665U el UHD G screte me pports ex pports the ax resolut el SoC (S GB max y stalled me ze Resolu	d d d d d d d d d d d d d d d d d d d	8 1 8 1 8 1 8 1 8 1 s in procee e NOT arigital mon pendent 96x2304 on Chip) IHz DDR: actually 26	.6 GHz .6 GHz .8 GHz .9 GHz ssor only ssor and vailable in nitor via H displays; @ 60Hz (L platform 4, dual-ch	3.9 GHz 4.1 GHz 4.6 GHz 4.8 GHz  or AMD Rade EMEA); HDMI or US	6MB 6MB 8MB 8MB on 535 B Type	5, 2GB GD e-C;	DR5 men	nory	Ports  Monitor cable (optional)	Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole *Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
Graphics Intel Intel (discrete Suppose	8365U 8565U 8665U el UHD G screte ma pports ex pports the ax resolut el SoC (S GB max stalled me	d d d d d d d d d d d d d d d d d d d	8 1 8 1 8 1 8 1 s in proce e NOT a igital mo pendent 96x2304 on Chip) IHz DDR actually 26	.6 GHz .8 GHz .9 GHz ssor only ssor and vailable in nitor via H displays; @ 60Hz (L platform 4, dual-ch	4.1 GHz 4.6 GHz 4.8 GHz Or AMD Rade EMEA); HDMI or US	6MB 8MB 8MB on 538 B Type (c); 409	5, 2GB GD e-C;	DR5 men	nory	Monitor cable (optional)	one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole *Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
Graphics Intel Int	8565U 8665U el UHD G el UHD G screte ma pports ex pports th ax resolut el SoC (S GB max stalled me ze Resolu .0" HD (13	araphics araphics odels arternal dee inde ion: 400 system of 2400M amory is attion	8 1 8 1 s in proce in proce e NOT a igital mo pendent 96x2304 96x2304 Un Chip) IHz DDR actually 26	.8 GHz .9 GHz ssor only ssor and vailable in nitor via H displays; @ 60Hz (U platform 4, dual-ch	4.6 GHz 4.8 GHz or AMD Rade DEMEA); HDMI or US JSB Type-C	8MB 8MB on 535 B Type c); 409	5, 2GB GD e-C;	DR5 men	,	(optional)	HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
Graphics Intel   (discrete   (	el UHD Gel UHD Gel UHD Gel UHD Gel UHD Gel	araphics araphics odels ar ternal dee inde inde inde inde inde inde inde	s in proce in proce e NOT avigital moi pendent 96x2304 on Chip) IHz DDR actually 26	ssor only ssor and vailable in vitor via H displays; @ 60Hz (U platform 4, dual-ch	or AMD Rade i EMEA); HDMI or US JSB Type-C	on 535 B Type c); 409	e-C;		,	(optional)	headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA. Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
Graphics Intel Int	el UHD Gesteller und Gescheller und	araphics odels ar ternal dree inde ion: 40° System of 2400M armory is ution	in proce e NOT av igital mo ipendent 96x2304 on Chip) IHz DDR actually 26	ssor only ssor and vailable in nitor via H displays; @ 60Hz (U platform 4, dual-ch	or AMD Rade EMEA); HDMI or US JSB Type-C	on 535 B Type (); 409	e-C;		,	(optional)	microSD card reader, side docking connector, security keyhole *Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
Chipset Intel 3 Memory 64GE * Instate Display Size 14.0" 14.0" Multi-touch (opt) On-co Storage • HD • SS • M.2 • M.2	el SoC (S GB max installed me ze Resolu	System of 2400M emory is ution	on Chip) IHz DDR actually 26	platform 4, dual-ch 666MHz bu	nannel cana	ible tw	0X2100 @ 2		WILL	* Depending on many factors, actual data transfer speed may be lower than theo Monitor cable (optional)					
Memory         64GE * Insta           Display         Size 14.0" 14.0"           Multi-touch (opt)         On-cc           Storage         • HD • SS • M.2 • M.2 • M.2 • M.2	GB max installed mediate Resolution (1)	2400M emory is ution 866x768)	IHz DDR- actually 26 Type	4, dual-ch 666MHz bu	nannel capa et run at 2133	ble. tw			ivii <i>)</i>						
Multi-touch (opt) On-co Storage   HD  • HD  • M.2  • M.2  • M.2	.0" HD (1	366x768)		Surface		MHz o	vo DDR4 S r 2400MHz d	O-DIMM due to Intel	sockets limitation		• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio. Realtek ALC3287 codec /				
Multi-touch (opt)  Storage  • HD • SS • M.2 • M.2					Brightness	Aspec	Ratio	Gamut	Viewing Angle		stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone (for special bid model, microphone is optional), headphone / microphone combo jack				
Multi-touch (opt) On-co	O" ILHI /	1020-109		Anti-glare Anti-glare		16:9 16:9	+	45% 45%	90° 170°	Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight				
Storage					ture (FHD o		000.1	45/6	170	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad				
Optane™ memory Option	HDD / SA SSD / SA M.2 2280 M.2 2242 Installed M.	TA 6.0G TA 6.0G SSD / F SSD / F 2 2280 S	ab/s, 2.5" b/s, 2.5" PCIe NVI PCIe NVI	wide, 7m wide, 7m Me, PCle Me, PCle le 3x4 but r	im high, Act m high 3.0 x 4 3.0 x 2 run at PCle 3	tive Pro	to M.2 SSD		nitation	Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region) Intel vPro Technology of Optional: Touch style fingerprint reader on the palm rest Near Field Communication				
Optical None		пог Орш	2110 1110111	ory, r O10	TTT VIVIO, TO	10 0.0	X L			Battery	Integrated Li-Polymer 45Wh battery,				
	on-vPro n Pro model				ection I219- ection I219-			e)		Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 12 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors				
Bluetooth™ • Rea (optional) • NO	Realtek® I NOT avai	RTL882 lable in	2BE, Wi- EMEA)		el: 2.11ac + Bl 02.11ac + E			card			<ul> <li>45W USB-C AC adapter</li> <li>65W USB-C AC adapter</li> <li>65W USB-C slim AC adapter</li> </ul>				
• Inte	ntel Wi-Fi	6 AX20	00, Wi-Fi	2x2 802.1	11ax + Blue	tooth (	5.0			- · · · · · · · · · · · · · · · · · ·	Optional: Windows® 10 Home 64 or Windows 10 Pro 64				
• Inte • Inte * For i	Vireless \ ntegrated	VAN up Mobile Mobile VAN mod	gradable Broadba	(special I and 4G LT	ol: bid only in E E, Fibocom E-A, Fiboco el is NOT Wi	1 L830.	-EB, M.2 ca	ard (EME	A only)		One of the following, configurable by model:  1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service				
										Mil-Spec test	MIL-STD-810G military testing				
										Environment	EPEAT™ Silver; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant				











# ThinkPad L590 Platform Specifications

Processor	Intel® Cele	ron® P	rocessor	or 8th Ger	neration Int	el Core	e™ i3 / i5 / i7	Processo	r	Dimensions	WxDxH: 14.82" x 10.02" x 0.90"; 376.5mm x 254.5mm x 22.95mm				
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Proces Graph		Weight Case color Case material	Starting at 4.48 lb / 2.03 kg Black PC/ABS plastic				
	Cel 4305U	2	2	2.2 GHz	-		DDR4-2133				**Coptional: Smart card reader MicroSD card reader				
	i3-8145U	2	4	2.1 GHz	3.9 GHz	4MB				Ports	Two USB 3.1 Gen 1 (one Always On),				
	i5-8265U i5-8365U	4	8	1.6 GHz 1.6 GHz	3.9 GHz 4.1 GHz	6MB	DDR4-2400	Intel UHD G	Graphics		one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),				
	i7-8565U	4	8	1.8 GHz	4.1 GHz 4.6 GHz	8MB	DDN4-2400 				one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models),				
	i7-8665U	4	8	1.9 GHz	4.8 GHz	8MB					headphone / microphone combo jack, optional smart card reader,				
Graphics	Intel UHD Intel UHD (discrete m supports e supports th	ntel UHD Graphics in processor only or ntel UHD Graphics in processor and AMD Radeon 535, 2GB GDDR5 memo discrete models are NOT available in EMEA); supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@24Hz (HDM ntel SoC (System on Chip) platform								Monitor cable (optional) Bundled Accy	microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical sp. HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter None  al) One of the following, configurable by model:				
						C); 40	90X210U@2	4HZ (HDIVI	11)						
Memory	64GB max	/ 2400	MHz DE	DŔ4, dual-c	hannel cap	able, t	wo DDR4 S or 2400MHz d	O-DIMM so lue to Intel lii	ockets mitation		<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>HD Audio, Realtek ALC3287 codec /</li> </ul>				
	Size Reso		1 7	pe Surface		пан	o Ratio	Gamut	/iewing Angle 90°		stereo speakers, 2W x 2, Dolby® Advanced Audio / optional dual array microphone (for special bid model, microphone is optional), headphone / microphone combo jack				
	15.6" HD (1366x768) TN Anti-glare 220 nits 16:9 500:1 45% 15.6" FHD (1920x1080) WVA Anti-glare 250 nits 16:9 800:1 45%									Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight				
		•		0-finger ge:			9   000.1	45/6	170°	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad				
Storage	• HDD / SA	ATA 6.0	0Gb/s, 2. 0Gb/s, 2.	.5" wide, 7r 5" wide, 7n	nm high, Aonm high	• • •	otection Sys	stem™		Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)				
	<ul> <li>M.2 2242</li> <li>* Installed N</li> </ul>	2 SSD 1.2 2280	/ PCIe N SSD is F	IVMe, PCIe IVMe, PCIe PCIe 3x4 but	3.0 x 2 run at PCle	3x2 due	to M.2 SSD	adapter limit	tation	Fingerprint reader	Intel vPro Technology  Optional: Touch style fingerprint reader on the palm rest				
Optane™ memory Optical	Optional: I None	ntel O <sub>l</sub>	ptane me	emory, PCI	e NVMe, P	Cle 3.0	) x 2				Near Field Communication				
		modal:	Intol Eth	nernet Conr	acation 1910	) // / lo	okoopyillo)			Battery	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter				
	vPro mode						Jacksonville Jacksonville	)		Max battery life	MobileMark® 2014: 12 hr				
WLAN +	One of the f	ollowing RTL88	g, configur 322BE, V	rable by mod Vi-Fi 2x2 80	el:	,	th 4.2, M.2	,		·	<ul> <li>* Battery life varies significantly with hardware configurations, settings, usage, &amp; other factors</li> <li>45W USB-C AC adapter</li> <li>65W USB-C AC adapter</li> <li>65W USB-C slim AC adapter</li> </ul>				
				Wi-Fi 2x2 8 Fi 2x2 802.						Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64				
WWAN (optional)						CIOOIII	5.0			Limited warranty	1-year depot repair service				
	<ul><li>Wireless</li><li>Integrate</li></ul>	WAN i	upgradatile Broad	ole (special Iband 4G L	bid only in TE, Fiboco	n L830	.) 0-EB, M.2 ca 550-GL, M.2 pgradable	ard (EMEA card	only)		<ul> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> </ul>				
	Gemalto e		-,								<ul> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>				
										l	MIL-STD-810G military testing				
										Environment	EPEAT™ Silver; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant				



# ThinkPad P1 Platform Specifications

Processor	8th Generation	Intel® Core	e™ i5 / i7 Pro	ocessor or	Intel X	eon® E Pro	ocessor	Smart card reade	r Optional: Smart card reader
	Processor # of Number Core		Base Frequency	Frequency	Cache	Memory Types	Processor Graphics	ExpressCard Media reader Ports	None SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.1 Gen 1 (one Always On),
	i5-8400H 4 i7-8750H i7-8850H	8	2.5 GHz 2.2 GHz 2.6 GHz	4.2 GHz 4.1 GHz 4.3 GHz	9MB	DDR4-2666	Intel UHD Graphics 630	FOILS	two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack,
	6 E-2176M	12	2.6 GHz 2.7 GHz		12MB	DDN4-2000	Intel UHD Graphics P630	Monitor cable	optional smart card reader, SD card reader, security keyhole * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Graphics	Intel UHD Grap NVIDIA® Quadi supports exteri	ro® P1000	or P2000. '4	GB GDDR	5 mem	nory;		(optional) Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable
	Up to 4 display Max resolution	s with 3 ex	ternal moni	tors plus sy	ystem l	LCD scree	n.		<ul> <li>One of the following, configurable by model:</li> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera, fixed focus</li> </ul>
Chipset Memory	Mobile Intel CN 64GB max / 26 Xeon processo	66MHz DE	R4, ECC o				upported only on ckets	Audio support	HD Audio, Realtek® ALC3286 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone
Display	Some: 15.6" (300 nit	s, 16:9 asp	ect ratio, 70	00:1 contra	glare, L st ratio	ED backlig	ght, WVA,	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	Some: 15.6" (3 400 nit	396mm) UI s, 16:9 asp	viewing and HD (3840x2) ect ratio, 12 of viewing a	2160), anti- 200:1 contr	ast rati		acklight, WVA,	Security Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Multi-touch (opt) Pen (optional)	Capacitive-type Lenovo Pen Pr		ch, supports	3 10-finger	gesture	e (4K only)		Color calibration	rTouch style match on chip fingerprint reader on the keyboard bezel None None
Storage RAID (optional) Optical	Up to two M.2 SS M.2 SSD / PCI RAID 0/1 supp None	e NVMe, P ort	Cle 3.0 x 4,	, 32Gb/s		-		Battery Max battery life (MobileMark 2014) AC adapter	Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  Discrete mode: 7.36 hr; Hybrid mode: 13.87 hr  * Battery life varies significantly with hardware configurations, settings, usage, & other factors 135W slim tip AC adapter
Ethernet	Native Intel Eth via bundled or	optional Th	inkPad Eth	ernet Exter	nsión C	Cable		Operating system	One of the following, configurable by model:  • Windows® 10 Home 64
WLAN Bluetooth™	Intel Wireless-A Bluetooth 5.0 v								<ul><li>Windows 10 Pro 64</li><li>Windows 10 Pro 64 for Workstations</li></ul>
WWAN SIM card	None None							Limited warranty	One of the following, configurable by model:  1-year depot repair service
Dimensions	WxDxH (non-to WxDxH (multi-	touch): 14		" x 0.74";			7mm x 18.4mm 7mm x 18.7mm		<ul> <li>1-year depot with 2-year system board repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
Weight	Non-touch mod Multi-touch mo							Mil-Spec test	MIL-STD-810G military testing
Case color Case material	Black Display cover: Bottom:	CFRP/GF Aluminum						Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant

Note: The specifications above may not be available in all regions.

Lenovo November 2019













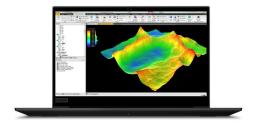
# ThinkPad P1 (2nd Gen) Platform Specifications

Processor		ation I		re™ i5 / i7	7 / i9 Pr	ocessor or	ntel Xe	eon® E P	rocesso	r	Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm
	Processor Number	# of Cores	# of Threads	Base Freque		Cach		emory ypes	Proce Grapl		Weight	WxDxH (multi-touch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm Non-touch model: starting at 3.75 lb / 1.7 kg;
	i5-9400H i7-9750H i7-9850H	4 6 6	8 12 12	2.5 GH 2.6 GH 2.6 GH	Hz 4.3 Hz 4.5 Hz 4.6	8 GHz 8 8ME 5 GHz 12M 6 GHz 12M	B B DDB	In	ntel UHD 63		Case color Case material	Multi-touch model: starting at 4.0 lb / 1.81 kg Black paint (FHD model) or black weave (UHD model) Display cover: CFRP/GFRP hybrid; Bottom: Aluminum alloy
	i9-9880H E-2276M	6	16 12	2.3 GH 2.8 GH		GHz 16M GHz 12M	В	_	ntel UHD P63		Smart card reade Media reader Ports	er <i>Optional:</i> Smart card reader SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3
Graphics	supports of Up to 4 dis	Graph Quadro externa splays	iics 630 ® T1000 al digital with 3 ex	or P630 or T200 monitor kternal n	in proce 0, 4GB via HDN nonitors	y or essor and GDDR5 me MI or Thund plus systen ); 4K@60H	erboĺt <sup>™</sup> n LCD	; screen.			Monitor cable (optional)	(with the function of Power Delivery and DisplayPort), HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole *Power Delivery only supports power-out for charging peripherals *Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter
Chipset Memory	Mobile Into	x / 266	6MHz D	DR4, EC	C or no	on-ECC (EC two DDR4	CC fund	ction sup	ported o	only on	Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable  I) One of the following, configurable by model:
Display	Size Reso				urface	Brightness	_	Contrast Ratio	Color Gamut	Viewing Angle	Audio support	HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec /
								700:1	72% NTSC	170°	Audio Support	stereo speakers, 2W x 2, Dolby® Audio™ Premium /
	EHD (1020v1090)							1200:1	72% NTSC	170°		optional dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system
		(3840x Vision		WVA Ar	nti-glare	500 nits	16:9	1200:1	100% Adobe	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	15.6" Dolby	(3840x y Vision -touch		OLED re	Anti- flection / Anti- mudge	SDR 400nit, HDR 500nit (peak)	16:9	100000:1	100% DCI-P3	170°	Security Security chip System Mgt (opt)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Multi-touch (opt) Pen (optional)	Capacitive AR (anti-re Lenovo Pe	eflectio	n) / AS	anti-smi	udge) c	-finger gest oating	ure (Ul	HD OLEI	D only),		Color calibration NFC	er Touch style match on chip fingerprint reader on the keyboard bezel  Optional: X-Rite Pantone factory color calibration (UHD model only)  None
Storage RAID (optional) Optical		<i>1.2 SSD</i> SSD /	), support PCIe N\	s single s	ided M.2	2280 drives	only				Battery Max battery life AC adapter	Integrated Li- Polymer 80Wh battery, supports Rapid Charge (charge up to 80% i 1hr)  MobileMark® 2014: 13.8 hr  * Battery life varies significantly with hardware configurations, settings, usage, & other factor. 135W slim tip AC adapter
Ethernet	Native Inte	el Ethe ed or op	rnet Cor otional T	nection hinkPad	I219-V Ethern	( <i>Non-vPro</i> ) et Extension	or I219 n Cable	9-LM ( <i>vF</i> e	Pro))		Operating system	One of the following, configurable by model:  • Windows® 10 Home 64
WLAN (optional) Bluetooth™ (opt)						+ Bluetooth i + Bluetoo		ibo adap	ter			<ul><li>Windows 10 Pro 64</li><li>Windows 10 Pro 64 for Workstations</li></ul>
WWAN SIM card	None None										Limited warranty	One of the following, configurable by model:  1-year depot repair service  1-year depot with 2-year system board repair service  3-year/1-yr battery depot repair service  3-year/1-yr battery limited onsite service
											Mil-Spec test	MIL-STD-810G military testing
Note: The specifica	-4:		-41	.0.1.1. 1	-11 1						Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant  Leno







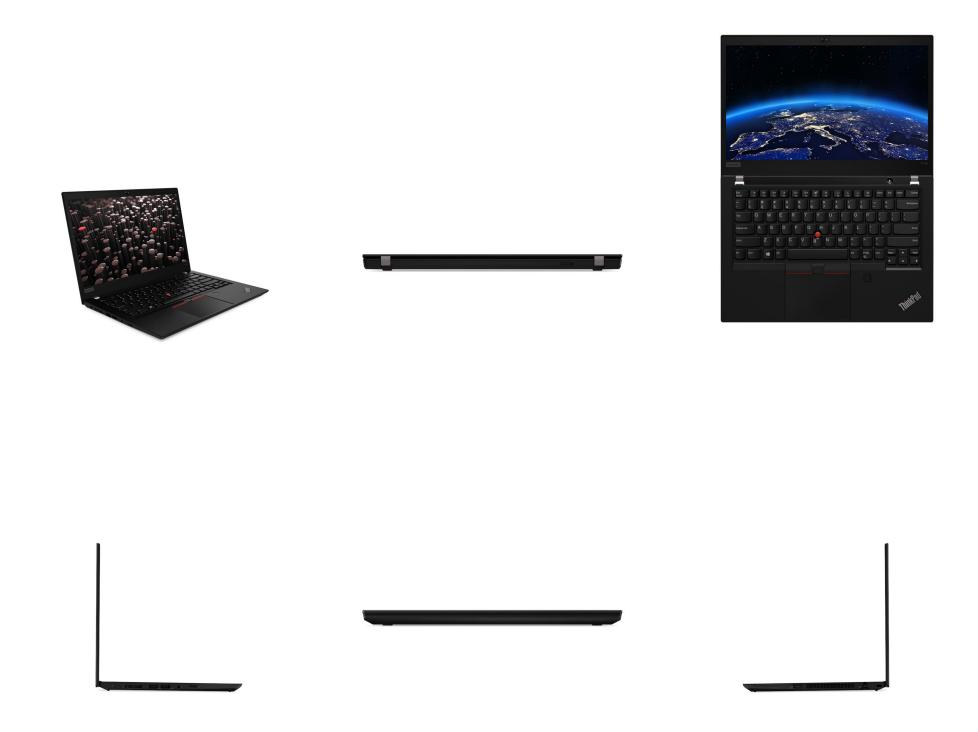






## ThinkPad P1 Gen 3 Platform Specifications

	Supports one 10t	h Xeon W	, Core i9,	i7, or i5	processo	or as fo	llowing:			Case color	Woven Carbon Fiber Finish (standard on OLED models, optional on UHD WVA
	Dun a a a a a a a Maranhara	# of	# of B	ase	Max Turbo	0	Memory	Pro	cessor	Case color	models) or black
	Processor Number		reads Fred	uency	Frequency		Types	Gra	aphics el UHD	Case material	Display cover: Carbon Fiber (Black or woven pattern) + PC + PPS Hybrid Bottom: Aluminum + PC / ABS
	Xeon W-10855M	6	12 2.8	GHz	5.1GHz	12MB	DDR4-293		aphics	Media reader	SD card reader
Processor	Core i9-10885H	8	16 2.4	GHz	5.3GHz	16MB	DDR4-293	Inte	UHD aphics	Standard Ports	2x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP), 2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / micro- phone combo jack, 1x SD card reader, 1x security keyhole
	0 :7 4007511		40 00	<b>011</b>	5 4011-	40140	DDD4 000	Inte	i UHD	Optional Ports	One optional Nano-SIM card slot on right
	Core i7-10875H	8	16 2.3	GHz	5.1GHz	IONB	DDR4-293	Gra	aphics		Up to 4 displays with 3 external monitors plus system LCD screen. External
	Core i7-10850H	6	12 2.7	GHz	5.1GHz	12MB	DDR4-293	Gra	el UHD aphics	Monitor support	monitors supported via 2x Thunderbolt and 1x HDMI. HDMI supports up to 4K@60Hz. Two Thunderbolt support up to 5K@60Hz each
	Core i7-10750H	6	12 2.6	GHz	5.0GHz	12MB	DDR4-293		el UHD aphics	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
Chipset	Intal MM400 Chin							uit	артноз	Bundled Accy	None
Chipset	Intel WM490 Chip SO-DIMM. DDR4		non ECC	חחח	2022 for	ECC.				-	Supports one optional camera as following:
Memory Type	Both ECC and no	n-FCC m	emory one	erate a	+ DDR4-29	933				Camera	HD720p camera with ThinkShutter camera privacy, fixed focus
momory type	8GB/16GB/32GB	available	for both E	CC an	d non-EC	C .				A continuo de los	Hybrid IR camera with ThinkShutter camera privacy, fixed focus
Memory Sockets	2 DIMM sockets									Audio chip	Realtek ALC3286 codec
Memory Protection	ECC on models w	ith ECC	DIMMs an	d Xeor	processo	or				Speaker	Stereo speakers, Dolby ATMOS Speaker System
Max Memory	64GB									Microphone	Optional dual far-field microphone  6-row, spill-resistant, LED backlight, multimedia Fn keys with Unified Communi-
,	Intel UHD Graphic							hics:		Keyboard	cations controls.
Graphics	<ul> <li>NVIDIA Quadro</li> <li>NVIDIA Quadro</li> </ul>									UltraNav	3-button TrackPoint pointing device and 2-button glass surface multi-touch touchpad
						Aspec	t Contrast	Color	Viewina	Password	Power-on password, hard disk password, supervisor password
	Size Resolution	Тур	Surface	louch	Brightness	Ratio	Ratio	Gamut	Angle	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
										System mgmt	Optional Intel vPro Technology supported on vPro enable models
	15.6" FHD (1920x1)	080) WV	Anti-glare	-	300 nits	16:9	700:1	72% NTSC	170°	Security locks	Security keyhole for optional Kensington lock
								NISC		Smart card reader	None
Diamlari	15 6" FHD (1920x1)	080) ,,,,,	A 4:		500 it-	10.0	000.4	72%	1700	Fingerprint reader	Touch style match on chip fingerprint reader on the palm rest
Display	Dolby Vision F	IDR VVV	Anti-glare		500 nits	16:9		NTSC 100%	170°	Battery	Integrated Li-Polymer 80Wh battery. Supports Rapid Charge (charge up to 80% in 1hr) with 135W AC adapter
	15.6" UHD (3840x2 Dolby Vision F	IDR WV	Anti-glare	-	600 nits	16:9		Adobe	178°	NA Is - 44 126 -	MobileMark 2014: 15.9 hr.
	UHD (3840x2	160)	Anti-	multi	400 nits,			100%		Max battery life	MobileMark 2018: 12 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
	15.6" Dolby Vision,	HDŔ OLE	/ Anti-	touch	540 nits	16:9	100000:1	DCI-	170°		One of the following:
	500 True Blac	k	smudge	lodon	(peak)			P3		Power Adapter	• 135W slim AC adapter
Color Calibration	Factory Color Cal	ibration c	n UHD pa	nels						· '	• 170W slim AC adapter
Touchscreen	Touch enable on				els. suppo	rts 10-	finaer aest	ure			Supports one optional preloaded operating system as following:
Pen	Optional Lenovo I				-,		3 - 3			1	• Windows 10 Home 64
Storage	Up to two M.2 228	30 SSD. I	Cle NVM	e. 2560	GB / 512G	B / 1T	B / 2TB ea	ch		Operating system	Windows 10 Pro 64     Windows 10 Pro 64 for Workstations
RAID	RAID 0 / 1 suppor			-,						Operating system	Windows 10 Pro 64 for Workstations     Windows 10 Government Edition 64
Optical	None									1	Ubuntu Linux LTS (available later)
Ethernet	Lenovo USB-C to	Ethornot	Adapter								• Fedora Linux (available later)
NFC	None	Luienie	Auaptei							-	Optional warranty plans as following:
	Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.									-	Non-warranty (special bids only)
WLAN + Bluetooth	Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or at										1-year depot repair service
	One of the followi					0 (101	0.011 200 1	01 450	10)	Dogo Warranti	• 3-year depot repair service
WWAN	<ul> <li>No WWAN card</li> </ul>	and non	upgradabl	Э						Base Warranty	1-year + 2-year depot repair service     1-year limited onsite service
011.4	<ul> <li>Integrated Mobil</li> </ul>	<u>e Broadb</u>	and 4G LT	E-A, F	ibocom L8	360-GL	<u>., MIMO 2&gt;</u>	(2, M.2	2 card	1	• 3-year limited onsite service
SIM card	Optional Nano-SI Width: 361.8 mm	vi card sl	JC \ Donth: C	157-	om (0.67 i	n)				-	• 1-year + 2-year limited onsite service
Dimensions	Thickness for non	(14.24 lf	). Deptil: 2	:40./ [[ l mm /	1111 (9.07 11 0.72 in)	11).				N4". 0	1-year depot with 2-year system board repair service
פווטוטווסוווים	Thickness for tou	ch model	3: 18.7 mm	(0.74	in)					Mil-Spec test	MIL-STD-810G military testing
Weight	Starting at 1.7 kg					.97 lb.	OLED tou	ch)		Environment	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
								.,		ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>



## ThinkPad P14s Gen 1 Platform Specifications

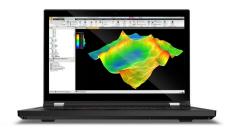
Supports one 10th Core   2" and is -0" surface processor as following:		Supr	orts o	ne 10t	h Core	i7 a	and i5 -U	suffix	orocessor	as follo	wina.			Weight	Starting at 3.24 lb (1.47kg)
Number   Cores   Treads   Fraguery   Fragu						, 1, 0						_			0 \ 0
Processor   Proces						1_									
Processor   1/1-1010   4   8   1.581*2   4.981*2   1.981*2   0.9		_				_			ncy					Case material	
Profession   4 8   1.86 Hz   4.96 Hz   8 MB   DoRA-2866   Inst UHD Craphics   5-10310U   4 8   1.66 Hz   4.46 Hz   8 MB   DoRA-2866   Inst UHD Craphics   5-10310U   4 8   1.66 Hz   4.46 Hz   8 MB   DoRA-2866   Inst UHD Craphics   5-10310U   4 8   1.66 Hz   4.46 Hz   8 MB   DoRA-2866   Inst UHD Craphics   1.56 Hz	Processor	i7-10	610U	4	8	'	1.8GHz	4.9GF	lz 8MB	DDR4-2	2666 Inte	el UHD G	araphics	Media reader	
School   1   18   1.76   1.7	1 10000001	i7-10	510U	4	8		1.8GHz	4.9GF	lz 8MB	DDR4-2	2666 Inte	el UHD G	araphics	IVICUIA ICAGCI	
Single   S		-		4		_									
Chippest   Intel SQC (System on Chip) platform   DDR4-3260, operates at DDR4-2666, operat		15-10	3100	4	8		1./GHZ	4.4GF	1Z GIVIB	DDR4-2	2000 11116	el OHD G	arapnics	Standard Ports	
Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   SGP 166B DDR4-3290 non-ECC fo		i5-10	210U	4	8	'	1.6GHz	4.2GF	lz 6MB	DDR4-2	2666 Inte	el UHD G	araphics		
DDR4-3200, operates at DDR4-3200 son-ECC for DIMM socket, 8GB/16GB/26GB DDR4-3200 non-ECC for Soldered DIMM Memory Sockets 1 DIMM socket plus 1 soldered DIMM, dual-for beta non- Memory Protection None Memor	Chipset	Intel	SoC (	Svsten	n on C	hip)	platform							1	On right: 1x security keyhole, 1x RJ-45, 1x USB-A 3.2 Gen 1 (Always On)
Memory Type   SGR1/GBG/32GB DDR4-3200 SO-DIMM non-ECC for DIMM socket,   SGR1/GBG DDR4-3200 non-ECC for soldered DIMM   Memory Protection   Non-   No	•							).						Optional Ports	
Memory Protection   Name   N	Memory Type									r DIMM	socket,				
Memory Poscets Max Memory Memory Protection None Max Memory AgeB with ner 32GB SO-DIMM plus one 16GB soldered DIMM Montor Protection None Max Memory AgeB with ner 32GB SO-DIMM plus one 16GB soldered DIMM Montor Cable Bundled Accy Montor State Montor Cable Montor Montor Montor Cable Montor Cable Montor Montor Montor Cable Montor	,	8GB/	16GB	DDR4	-3200	non	-ECC for	solde	ed DIMM					Monitor cupport	
Memory Protection None Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM Max Memory 48GB wit	Memory Sockets	1 DIN	ИM so	cket pl	us 1 s	olde	red DIMN	/I, dual	-channel d	apable				INIOTHOL Support	
Max Memory 46gB with one 32gB SC-DIMM piles one 18dB soldered DIMS Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains in processor) and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphi	Memory Protection	None	)											Monitor cable	
Intel UHD Graphics in processor and NVIDIA Quadro PS20, 2GB GDDF5 memory	Max Memory	48GE	3 with	one 32	2GB S	O-D	IMM plus	one 1	6GB solde	red DII	MM				
Size Resolution Type Surface Touch Srightness Aspect Golor (Sewing Gamut Angle)  14.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA MID (1920x1	Graphics											DDR5 m	nemory		
## Reactive Angle   Audio chip   Facetive Angle   Audio chip   Fac	·	<u>.</u>			Í.	.	<u> </u>		<b>5</b>	Aspect	Contrast	Color	Viewing	Camera	HD720p camera with ThinkShutter camera privacy, fixed focus
14.0   FHD (1920x1080)   WVA   Anti-glare   250 nits   16.9   700.1   45%   170*   140*   FHD (1920x1080)   WVA   Anti-glare   14.0   FHD (1920x1080)															• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Display    14.0" FHD (1920x1080)   WVA Anti-glare   multi-touch   14.0" FHD (1920x1080)   WVA Anti-glare   400 nits   16.9   700.1   45%   170°   170°   14.0"   FHD (1920x1080)   WVA Anti-glare   400 nits   16.9   800.1   72%   170°   170°   14.0"   FHD (1920x1080)   WVA Anti-glare   400 nits   16.9   800.1   72%   170°   170°   14.0"   14.														Audio chip	Realtek ALC3287 codec
Display    14.0° FHD (1920x1080)   WVA Anti-glare   Multi-loudh   16.9°   700.1°   45%   170°   170°   14.0°   FHD (1920x1080)   WVA Anti-glare   400 nits   16.9°   800.1°   72%   170°   170°   14.0		14.0" FHD (1920x1080) WVA Anti-glare - 250 nits 16:9 700·1 45% 15										45%	170°	Speaker	Stereo speakers, 2W x 2, Dolby Audio Speaker System
Display    14.0"   FHD (1920x1080)   WVA Anti-glare   multi touch touch touch pad   LED backlight is for special bids   LeD backlight is f			(	.020%		,	, ii.ii giaio		200 10	. 0.0		1070	''		
Display    Table   Filth (1920x1080)   WVA Anti-glare   touch   South							multi						Koyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls.	
14.0   CHD (1920x1080)   WVA   Anti-glare   400 nits   16:9   800:1   72%   170°   Power-on password   PHD (1920x1080)   14.0   ThinkPad Privacy   Guard   UHD (3940x180)   14.0   Dobby Vision   PDR 400   HDR 400		14.0"	FHD (	1920x1	080) V	VVA	Anti-glare		300 nits	16:9	700:1	45%	170°		
Low Fibrower   Fibro (1920/1806)   Helb (1920/180	Display		FHD (	1920x1	080) .										
14.0° ThinkPap Privacy Guard Guard Guard Government Ethernet One on board GbE port via integrated gigabit ethernet, Intel i219LM for vPro models Government Ethernet One of the following, configurable by model:   WUAN + Bluetooth S   Tequires the latest version of Windows 10 (version 2004 or above) One of the following, configurable by model:   WWAN   14.0° Dollomal   14.0° Dollomal   16.9° Dollomal   16.9°   1500:11   100%   170°		14.0"	Low P	ower	۱ (۵۵۵	VVA	Anti-glare	-	400 nits	16:9	800:1	72%	170°		
Color Calibration   Color Calibration   Color Calibration on UHD panels   Color Calibration   Color Cali			FHD (	1920x10	080)			Iti							
Guard   HDR (400   Policy Vision   HDR 400		14.0"			/acý\	VVA	Anti-glare		500 nits	16:9	1000:1	72%	170°		Optional Intel vPro Technology supported on vPro enable models
14.0°   Dolby Vision,   HDR 400   MVA   Glossy   - 500 nits   16:9   1500:1   Adobe   170°   A					>									Security locks	Security keyhole for optional Kensington lock
HDR 400		14 0"	UHD (	3840x2		١٨/٨	Closev		E00 pito	16:0	1500:1		1700		
Touchscreen   Optional on-cell touch on selected FHD models, supports 10-finger gesture		14.0	HDR 4	VISIOII, 100	١,	VVA	Glossy	-	300 Hills	10.9	1500.1	Adobe	170	Fingerprint reader	Optional
Touchscreen Optional on-cell touch on selected FHD models, supports 10-finger gesture  Pen None  Storage	Color Calibration	Facto			libratio	n on	LIHD na	nels						Battery	
Pen None  Up to one M.2 SSD as following, 2TB max:  *M.2 2280 PCle NVMe, PCle 3.0 x4, 256GB / 512GB / 1TB / 2TB  *M.2 2280 PCle NVMe, PCle 3.0 x2, 128GB, for special bids  *M.2 2280 F12GB SSD + 32 GB Optane, PCle NVMe 3.0 x 4, for special bids  Optical None  Cherring One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC Optional Nano-Pro models  WLAN + Bluetooth Dottonal Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  *No WWAN card and non upgradable integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot  Width: 329 mm (12.95 in), Depth: 227 mm (8.94 in).  Max battery life MobileMark 2018: 10.96 hr. MobileM									dale eunr	orte 10	-finger (	naetura		Battory	,
Up to one M.2 SSD as following, 2TB max:  * M.2 2280 PCle NVMe, PCle 3.0 x4, 256GB / 512GB / 1TB / 2TB  * M.2 2280 PCle NVMe, PCle 3.0 x4, 256GB / 512GB / 1TB / 2TB  * M.2 2280 S12GB SSD + 32 GB Optane, PCle NVMe 3.0 x 4, for special bids  Optical None  Che on onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC Optional  NLAN + Bluetooth Dono of the following, configurable by model:  * No WWAN card and non upgradable  * No WWAN card and Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  * Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  * Up to one M.2 SSD as following, 2TB max:  * M.2 2280 PCle NVMe, PCle 3.0 x4, 256GB / 512GB / 1TB / 2TB  * M.2 2280 S12GB SSD + 32 GB Optane, PCle NVMe 3.0 x 4, for special bids  Supports one optional preloaded operating system as following:  * Windows 10 Pro 64  * Windows 10 Government Edition 64 for special bids  * Ubuntu Linux LTS  Optional warranty plans as following:  * 1-year depot repair service  * 1-year depot repair service  * 1-year depot repair service  * 1-year + 2-year depot repair service  * 1-year + 2-year limited onsite service  * 1-year + 2-year limited onsite service  * 1-year + 2-year limited onsite service  * 1-year 4-2-year limited onsite service  * 1-year 1-year 4-2-year limited onsite service  * 1-year 1-year 4-2-year limited onsite service  * 1-yea				i cen te	Judii C	11 30	iccica i i	חוו טוו	ucio, oupp	0113 10	illiger g	jostaro		May battary life	
Storage  • M.2 2280 PCle NVMe, PCle 3.0 x4, 256GB / 512GB / 1TB / 2TB • M.2 2242 PCle NVMe, PCle 3.0 x2, 128GB, for special bids • M.2 2280 S12GB SSD + 32 GB Optane, PCle NVMe 3.0 x 4, for special bids  Optical  None  Che none onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model: • No WWAN card and non upgradable entegrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  SIM card  Optional Nano-SIM card slot  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).	FEII			11255	SD ac f	ollov	vina 2TE	3 may						liviax battery life	MobileMark 2018: 10.96 hr.
* M.2 2242 PCIe NVMe, PCIe 3.0 x2, 128GB, for special bids     * M.2 2280 512GB SSD + 32 GB Optane, PCIe NVMe 3.0 x 4, for special bids     * M.2 2280 512GB SSD + 32 GB Optane, PCIe NVMe 3.0 x 4, for special bids     * Mone     * Mone     * Mone     * Mone onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models     * Optional     * MINC Optional     * Windows 10 Pro 64     * Windows 10 Pro 64     * Windows 10 Government Edition 64 for special bids     * Ubuntu Linux LTS     * Optional warranty plans as following:     * 1-year depot repair service     * 3-year depot repair service     * 1-year + 2-year depot repair service     * 1-year + 2-year depot repair service     * 3-year limited onsite service     * 1-year + 2-year imited	٥.	• M 2	2280	PCIe I	NVMe	PC	Milig, 212 le 3 0 v4	256G	B / 512GF	8 / 1TR	/ 2TB			Power Adapter	
• M.2 2280 512GB SSD + 32 GB Optane, PCIe NVMe 3.0 x 4, for special bids  Optical  None  Ethernet  One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC  Optional  WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  NowWAN card and non upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Vidth: 329 mm (12.95 in), Depth: 227 mm (8.94 in).  Now Modes 10 Home 64  Windows	Storage	• M.2	2242	PCle i	NVMe	PČ	le 3.0 x2	. 128G	B. for spe	cial bids	, 21D			- ovor raaptor	
Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC Optional  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Optional Nano-SIM card slot  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Operating system  Windows 10 Pro 64  Windows 10 Government Edition 64 for special bids  Ubuntu Linux LTS  Optional warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year 1 imited onsite service  1-year limited onsite service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot repair service  1-year 1 plans as following:  1-year depot repair service  1-year 2-year depot repair service  1-year 2-year limited onsite service  1-year depot with 2-year system board repair service  1-year limited onsite service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year limited onsite service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year limited onsite service  1-year limited												ecial bi	ds		• Windows 10 Home 64
Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC Optional  WLAN + Bluetooth Done of the following, configurable by model:  Nowwan entegrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card lntegrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  SIM card Optional Nano-SIM card slot  Windows 10 Government Edition 64 for special bids  Ubuntu Linux LTS  Optional warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year limited onsite service  1-year limited onsite service  1-year lyear limited onsite service  1-year lemited onsite service  1-year depot repair service  1-year lemited onsite service  1-year lemited onsite service  1-year lemited onsite service  1-year depot with 2-year limited onsite service  1-year lemited on	Optical	None	)												• Windows 10 Pro 64
or i219V for non-vPro models  NFC Optional Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) One of the following, configurable by model:  No WWAN card and non upgradable No WWAN elarged Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Warranty plans as following:  1-year depot repair service 3-year depot repair service 1-year + 2-year depot repair service 3-year limited onsite service 1-year + 2-year limited onsite service 1-year + 2-year limited onsite service 1-year elapot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year depot with 2-year system board repair service	•	One	onboa	rd GbE	E port	via i	ntegrated	digab	it etherne	t. Intel i	219LM f	for vPro	models	1	
WLAN + Bluetooth  WLAN + Bluetooth  Ditional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Optional Nano-SIM card slot  Dimonsions  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Integrated Mobile Broadband 4G LTE-A (Bottom L860-GL)  No WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Mil-Spec test  Environment  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	Ethernet							3 3		,					
WLAN + Bluetooth    Dilutional filter Wi-Fl 6 AX201 of filoses, Wi-Fl 2X 2 802. Tax + Bidefooth 5.1.   Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)   One of the following, configurable by model:   No WWAN card and non upgradable     Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only     Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card     Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card     Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card     Optional Nano-SIM card slot     Dimonsions     Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).     3-year depot repair service     1-year + 2-year depot repair service     1-year     1-yea	NFC	Optio	nal												
One of the following, configurable by model:  No WWAN card and non upgradable  WWAN Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot  Dimensions  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Base Warranty  Integrated Windows 10 (version 2004 or above)  Integrated Mobile Broadband or upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).	MLAN - Bluetooth	Optio	nal In	tel Wi-l	Fi 6 A	(201	on most	mode	ls, Wi-Fi 2	x2 802.	11ax + I	Bluetoo	th 5.1.		
WWAN - No WWAN card and non upgradable - Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only - Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fib	WLAIN + Didelootii	Bluet	ooth 5	5.1 req	<u>uires t</u>	he la	atest vers	ion of	Windows 1	10 (vers	sion 200	4 or abo	ove)		
WWAN  • Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  SIM card  Optional Nano-SIM card slot  Dimonsions  • 3-year limited onsite service • 1-year 42-year limited onsite service • 1-year depot with 2-year system board repair service  Mil-Spec test  Mil-STD-810G military testing  Environment  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		One	of the	followi	ng, co	nfigu	ırable by	model	:					Base Warranty	
* Integrated Mobile Broadband Upgradable, No wwAn Card, WWAn Antenna Only  * Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  * Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  * Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  * Optional Nano-SIM card slot  * Optional Nano-SIM card slot  * Dimensions  * Mil-Spec test  * Mil-Spec test  * Environment  * EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	\A/\A/A N I	• No	vv vvA	N card	and n	on u	pgradabl	e doble	NIO \A/\A/A	N Card	\^/\^/^	I Anton	no Onle		
• Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  SIM card  Optional Nano-SIM card slot  Dimonsions  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Optional Nano-SIM card slot  Environment  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	VVVVAIN	• Inte	grate	INODIN IdoM E	le Bro	dha	ind Opgra		ihooom I	IN Caru	, VV VVAI	n Anteni	na Only		
SIM card Optional Nano-SIM card slot   Mil-Spec test   Mil-Spe													2 card		
Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).	SIM card							<u>- ^, 1</u>	.DOUDIN L	JJU GL	, 14111410	177, IVI	<u> oara</u>	Mil-Spec test	MIL-STD-810G military testing
								7 mm (	8.94 in).						
	Dimensions													ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>













## ThinkPad P15 Gen 1 Platform Specifications

	Supp	orts one 10th	1 Xeor	ı W, C	ore i9, i	7, or i	5 process	or as fo	ollowing:			S
	Proce	essor Number	# of Cores	# of	f Ba	ase uencv	Max Turbo Frequency	Cache	Memory Types		ocessor raphics	D
	Xeor	n W-10885M	8	16		GHz		16MB	DDR4-29	33 Int	el UHD aphics	۷
	Xeor	n W-10855M	6	12	2.8	GHz	5.1GHz	12MB	DDR4-29		el UHD aphics	C
	Core	i9-10980HK	8	16	2.4	GHz	5.3GHz	16MB	DDR4-29		el UHD aphics	N
Processor	Core	e i9-10885H	8	16	2.4	GHz	5.3GHz	16MB	DDR4-29	Gr Gr	el UHD aphics	S
	Core	e i7-10875H	8	16	2.3	GHz	5.1GHz	16MB	DDR4-29	Gr	el UHD aphics	0
	Core	e i7-10850H	6	12	2.7	GHz	5.1GHz	12MB	DDR4-29	Gr Gr	el UHD aphics	
	Core	e i7-10750H	6	12	2.6	GHz	5.0GHz	12MB	DDR4-29	Gr	el UHD aphics	N
		i5-10400H	4	8	2.6	GHz	4.6GHz	8MB	DDR4-29		el UHD aphics	M
Chipset		WM490 Chip										В
Memory Type	8GB/	DIMM. DDR4- /16GB/32GB	3200 availa	or nor ble for	n-ECC, both E	CC a	1-2933 for nd non-EC	C C	Operates a	it DDF	14-2933.	С
Memory Sockets		MM sockets	=0	0 01								A
Memory Protection		on models w	ith EC	C DIN	/IIVIS and	xeo	n processo	or				s
Max Memory	1280		. falla.	:	:							N
Craphica	• NV	oort one of the IDIA Quadro IDIA Quadro	T1000	, 4ĞB	GDDR	6 mer	mory					K
Graphics	<ul><li>NV</li></ul>	IDIA Quadro	RTX 3	000, 6	GB GD	DR6	memory					∥υ
		IDIA Quadro										P
	• NV	IDIA Quadro	HIX 5	000 w	ith Max	-Q De	esign, 16G	T	1		l	S
	Size	Resolution	1	ype s	Surface	Touch	Brightness	Aspec	t Contrast Ratio	Color Gamut	Viewing Angle	S
	15.6"	FHD (1920x10	(080) V	VVA A	nti-glare	-	300 nits	16:9	700:1	72% NTSC	160°	S
Dioploy	15.6"	FHD (1920x10 Dolby Vision, HDR 400	)80) V	VVA A	nti-glare	-	500 nits	16:9	1200:1	72% NTSC	160°	В
Display	15.6"	UHD (3840x2 Dolby Vision, HDR 400		VVA A	nti-glare	-	600 nits	16:9	1400:1	100% Adobe	178°	М
		UHD (3840x2 <sup>-</sup> Dolby Vision, HDR 400	0	5	Anti- eflection / Anti- smudge	multi- touch		16:9	100000:1	100% DCI- P3	170°	P
Color Calibration		ory Color Cali										Ю
Touchscreen		h enable on s			D OLED	) mod	els, suppo	rts 10-	tinger ges	ture		
Pen	- 1	onal Lenovo F					/					
Storage	Up to	two M.2 228	O SSE	D, PCI	e NVMe	, 256	GB / 5120	3B / 1T	B / 2TB ea	ach		
RAID		0 / 1 suppor	t									1
Optical	None											
Ethernet		onboard GbE 19V for non-v			egrated	gigat	oit etherne	t, Intel	i219LM fo	r vPro	models	В
NFC	None											1
WLAN + Bluetooth	Bluet	onal Intel Wi-F tooth 5.1 requ	iires th	ne late	est versi	on of	Windows 1					M
WWAN	One • No • Inte	of the following WWAN card egrated Mobile www. Card words with the www. Cannot be with the with the words with the with the with the with the words with the wo	ng, cor and no e Broa e Broa	nfigura on upg Idbano Idbano	able by i gradable d Upgra d 4G LT	mode dable E-A, I	l: , No WWA =ibocom L	N Card	d, WWAN .	Anteni	na Only	E

	SIM card	Optional Nano-SIM card slot
-	L	Width: 375.4 mm (14.78 in). Depth: 252.3 mm (9.93 in).
	Dimensions	Thickness for non-touch models: 24.5 ~ 31.45 mm (0.96 ~ 1.24 in)
5	\\/a:a.b.t	Thickness for touch models: 25.25 ~ 32.2mm (0.99 ~ 1.27 in)
;	Weight	Starting at 2.74 kg (6.05 lb, FHD)
5	Case color	Black Display cover: GFRP 50% (PPS695 + GF 50%).
;	Case material	Bottom: PPS + GF
5	Media reader	SD card reader
; ∥	IVIOUIU TOUUGI	1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt
5	Chamaland Danta	3, USB 3.2 Gen 2, PD, DP), 2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI
;	Standard Ports	2.0, 1x headphone / microphone combo jack, 1x SD card reader,
5		1x security keyhole, 1x RJ-45
;	Optional Ports	One optional smart card reader on right, one optional Nano-SIM card slot on
5		left
;		Up to 5 displays with 4 external monitors plus system LCD screen. External
5		monitors supported via 1x USB-C, 2x Thunderbolt, and 1x HDMI. USB-C and HDMI support up to 4K@60Hz.
;	Monitor support	With Thunderbolt, one supports up to 5K@60Hz and one supports up to
5		4K@60Hz
	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
4	Bundled Accy	None
3.		Supports one optional camera as following:
٥.	Camera	HD720p camera with ThinkShutter camera privacy, fixed focus
$\dashv$		Hybrid IR camera with ThinkShutter camera privacy, fixed focus
$\dashv$		Realtek ALC3286 codec
$\dashv$	Speaker	Stereo speakers, Dolby Atmos sound system
$\dashv$	Microphone	Optional dual array far-field microphone
	Keyboard	6-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with
	*	Unified Communications controls.
	UltraNav	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch
	Password	touchpad Power-on password, hard disk password, supervisor password
	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
g	System mgmt	Optional Intel vPro Technology supported on vPro enable models
;	Security locks	
- [		Security keyhole for optional Kensington lock
╝	Smart card reader	Optional Touch style match on chip fingerprint reader on the palm rest
7	r ingerprint reader	
	Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80% in 1hr) with 230W AC adapter
-	Max battery life	MobileMark 2014: 16.4 hr.
- [	IVIAN DALLETY IIIC	MobileMark 2018: 10.3 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
$\dashv$		One of the following:
- [	Power Adapter	230W slim AC adapter
- [		170W slim AC adapter
- [		Supports one optional preloaded operating system as following:
4		Windows 10 Home 64  Windows 10 Pro 64
$\dashv$	Operating system	Windows 10 Pro 64     Windows 10 Pro 64 for Workstations
$\dashv$		Ubuntu Linux LTS
$\dashv$		• Fedora Linux
		Optional warranty plans as following:
		1-year depot repair service
		3-year depot repair service
s	Base Warranty	1-year + 2-year depot repair service
	,	1-year limited onsite service     3-year limited onsite service
		• 3-year limited onsite service • 1-year + 2-year limited onsite service
		1-year + 2-year liftlied offsite service     1-year depot with 2-year system board repair service
Ц	Mil-Spec test	MIL-STD-810G military testing
		EPEAT Silver. ENERGY STAR 8.0. RoHS-compliant
,		Please visit www.thinkworkstations.com/isv-certifications/
У		- Comment of the Comm
- 1		



## ThinkPad P15s Gen 1 Platform Specifications

Supports one 10th Core 7 and 5 - U suffix processor as following:  Processor of every frequency		Supr	orts one 10	Oth Cor	e i7	and i5 -U	suffix	processo	r as fol	lowina:				Display cover: PPS / 50% GF;
Number Cores Threads Prequency Frequency Annual Processor								<u>'</u>			Drasas		Case material	Bottom: PA / 50% GF
Processor    Processor													Media reader	MicroSD card reader
Project Out   A   B   1,36Hz   4,96Hz   MB   D0R4-2866   Intel LHD Camphote	Processor													Thunderbolt 3. USB 3.2 Gen 2. PD. DP). 1x side docking connector. 1x USB-A
Section of the content of the cont		i7-10	510U 4	8		1.8GHz	4.9G	Hz 8MB	DDR4	-2666 Inte	el UHD (	Graphics	Standard Ports	3.2 Gen 1, 1x HDMI 1.4b, 1x headphone / microphone combo jack,
Ginget   Intel SeC (System on Chip) platform   DDR4-3200, operates at DDR4-3260   DDR4-3200   Operates at DDR4-3260   Operat		i5-10	310U 4	8		1.7GHz	4.4G	Hz 6MB	DDR4	-2666 Inte	el UHD (	araphics		
Chipset   Intel SoC (System on Chip) platform   OPR4-2200, operates at DPA4-2200 SO-DIMM non-ECC for DIMM sockets   SBGP166B 0PR4-2200 non-CCC for soldered DIMM   OPR4-2200 SO-DIMM non-ECC for DIMM sockets   SBGP166B 0PR4-2200 non-CCC for soldered DIMM   OPR4-2200 non-CCC for soldered DIMM   OPR		i5-10	210U 4	8		1.6GHz	4.2G	Hz 6MB	DDR4	-2666 Inte	el UHD (	Graphics	Ontional Ports	
DPR4-3200, operates at DDR4-2506. Memory Type  Memory Sockets  Memory Sockets  Memory Protection None  Memory Protection None  Max Memory  A8GB with one 32GB SO-DIMM plus one 16GB soldered DIMM  Max Memory  Max	Chinset	Intel	SoC (Syste	em on (	Chin)	nlatform						<u> </u>	Optional Forts	
Memory Potection None Max Memory AgB with one 32GB SO-DIMM plus one 16GB soldered DIMM, description of the processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID G	·	DDR 8GB/	4-3200, op 16GB/32G	erates B DDR	at Di 4-32	DR4-2666 200 SO-D	3. IMM n	on-ECC f	or DIMI	VI sockets	5,			monitors supported via USB-C, Thunderbolt, and HDMI. 4096x2304@60Hz on USB-C and Thunderbolt, 4096x2160 @24Hz on HDMI
Max Memory   AsGB with one 32GB SO-DIMM plus one 16GB soldered DIMM   Max Memory   AsGB with one 32GB SO-DIMM plus one 16GB soldered DIMM   Max Memory   AsGB with one 32GB SO-DIMM plus one 16GB soldered DIMM   Max Memory   AsGB with one 32GB SO-DIMM plus one 16GB soldered DIMM   AsgB with one 32GB SO-DIMM plus one 16GB Soldered DIMM   AsgB with one 32GB SO-DIMM plus one 16GB Soldered DIMM   AsgB with one 32GB S	Memory Sockets									e				
Max Memory   49GB with one 32GB SO-DIMM plus one 16GB soldered DIMM   Graphics in processor and NUIDIA Cuadro PSe2, 2GB GDPR5 memory   Size   Resolution   Type   Surface   Touch   Brightness   Aspect   Contrast   Color   Vewing   Ratio	Memory Protection	None	)				,			-			Bundled Accy	
Size   Resolution   Type   Surface   Touch   Brightness   Agreed   Size   Resolution   Type   Surface   Touch   Brightness   Size   Resolution   Type   Surface   Touch   Brightness   Sasect   Sasect   Stereo speakers, 2W x 2, Dolby Audio Speaker   Stereo spe				32GB S	SO-D	IMM plus	one 1	I6GB solo	lered D	IMM			Camera	HD720n camera with ThinkShutter camera privacy fixed focus
Size   Resolution   Type   Surface   Touch   Brightness   Ratio   Gamut   Angle   Microphone	Graphics	Intel	UHD Graph	nics in	proc	essor and	I NVID	IA Quadr	o P520	, 2GB GE	DDR5 n	nemory	Jamoia	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Display    15.6   FHD (1920x1080)   W/A   Anti-glare   - 250 nits   16:9   800:1   45%   170°		Cina	Decelution	1.	Tuna	Curfoso	Tauah	Driabtass	Aspec	Contrast	Color	Viewing		
Display    Tack   FHD (1920x1080)   WVA   Anti-glare   250 nits   16:9   800:1   45%   170°   170°   15:6°   FHD (1920x1080)   WVA   Anti-glare   multi-touch   16:9   800:1   45%   170°   170°   15:6°   FHD (1920x1080)   WVA   Anti-glare   multi-touch   16:9   800:1   45%   170°		Size	Resolution		туре	Surface	Touch	brightness	Ratio	Ratio	Gamut	Angle		
Display    Display   Displ													Microphone	Optional dual array near-field microphone
UHD (3840x2180)   WA   Anti-glare   Loch   Strilling   Loch   Loch   Strilling   Loch   Loch   Strilling   Loch	Display	15.6"	FHD (1920x	(1080)	WVA	Anti-glare		250 nits	16:9	800:1	45%	170°	Keyboard	numeric keypad. LED backlight on most models, non LED backlight is for special bids
UHD (3840x2160)   156 m   167 m   168 m   169 m   1400:1 m   100 m   169 m   1400:1 m   100 m   170 m   100 m   169 m   1400:1 m		15.6"	FHD (1920x	1080)	WVA	Anti-glare		300 nits	16:9	800:1	45%	170°		
Security Clip   System mgmt			LIHD (3840)	(2160)			todon							
Color Calibration Color Calibration on UHD models Touchscreen Optional on-cell touch on selected FHD models, supports 10-finger gesture Pen None Up to one M.2 SSD as following, 2TB max:  * M.2 2280 PCle NVMe, PCle 3.0 x 4, 256GB / 512GB / 1TB / 2TB * M.2 2280 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids * M.2 2280 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids Optical None Optical One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC Optional WLAN + Bluetooth Up to one drift ethicle is a special bids One of the following, configurable by model: * Now WANN * Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card ethicles in the process of the integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-		15.6"	Dolby Vision	1,	WVA	Anti-glare	-	600 nits	16:9	1400:1		170°	· · · · · · · · · · · · · · · · · · ·	
Touchscreen Optional on-cell touch on selected FHD models, supports 10-finger gesture Pen None Storage N.2 2280 PCle NVMe, PCle 3.0 x 4, 256GB / 512GB / 1TB / 2TB N.2 2242 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids N.2 2242 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids N.2 2245 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids None Optical None Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC Optional Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) One of the following, configurable by model: NNAN AND NOWAN card and non upgradable will integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L86											Adobe		, ,	
Pen None    None   Up to one M.2 SSD as following, 2TB max:   Max 2 2280 PCle NVMe, PCle 3.0 x 4, 256GB / 512GB / 1TB / 2TB   Max 2 2280 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids   M.2 2242 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids   M.2 2280 512GB SSD + 32 GB Optane, PCle NVMe 3.0 x 4, for special bids   Mone   Optional None   One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models   Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.   Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1   Now MVAN card and non upgradable   No WWAN card and non upgradable   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x													· · · · · · · · · · · · · · · · · · ·	, , , , ,
Up to one M.2 SSD as following, 2TB max:  Integrated Li-Polymer 57Wh battery, supports Rapid Charge up to 80% in 1hr) with 65W AC adapter  Max 2242 PCIe NVMe, PCIe 3.0 x 4, 256GB / 512GB / 1TB / 2TB  Max 2242 PCIe NVMe, PCIe 3.0 x 2, 128GB, for special bids  M.2 2248 DCIe NVMe, PCIe 3.0 x 2, 128GB, for special bids  Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC Optional  WLAN + Bluetooth Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  NOWWAN end and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter  Max battery life MobileMark 2014: 16.5 hr. MobileMark 2018: 10.48 hr. *Battery life Waxes significantly with hardware configurations, settings, usage, & other factors  Supports one optional preloaded operating system as following:  Windows 10 Home 64  Windows 10 Pro 64  Windows 10 Pro 64  Windows 10 Pro 64  Windows 10 Government Edition 64 for special bids  Ubuntu Linux LTS  Optional warranty plans as following:  1-year depot repair service  1-year depot repair service  1-year lepot repair service  1-year lepot repair service  1-year lepot repair service  1-year lepot repair service  1-year elpot trepair service  1-year elpot with 2-year system board repair service  1-year a depot with 2-year system board repair service  1-year depot with 2-year system board				touch	on se	elected F	HD mo	odels, sup	ports 1	0-finger o	gesture			
Storage  M. 2 2280 PCle NVMe, PCle 3.0 x 4, 256GB / 512GB / 1TB / 2TB  M. 2 2242 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids  Optical  None  Che on board GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC  Optional  WLAN + Bluetooth  One of the following, configurable by model:  None of the following, configurable by model:  Now WAN  Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, ML2 card  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Dimensions  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  Trickness: 19.1 mm (0.75 inches)  Weight  Starting at 3.86 ib (1.75kg)  Solution  Optional Nano-SiM card point of the following of the fo	Pen												ringerprint reader	
• M.2 2242 PCIe NVMe, PCIe 3.0 x 2, 128GB, for special bids • M.2 2280 512GB SSD + 32 GB Optane, PCIe NVMe 3.0 x 4, for special bids  Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC Optional  WLAN + Bluetooth One of the following, configurable by model: • No WWAN card and non upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Optional Nano-SIM card slot  Weight Starting at 3.86 lb (1.75kg)  Wax battery life Max battery life MobileMark 2018: 10.48 hr. MobileMark 2018: 10.48 hr	Storage	• M.2	2280 PCI6	NVMe	e, PC	Cle 3.0 x 4	4, 2560	GB / 5120	B / 1T	B / 2TB			Battery	in 1hr) with 65W AC adapter
Description   None		• M.2	2280 5120	B NVM6	e, PC D + 3	3.0 x 2 32 GB Op	2, 1280 tane, l	GB, for sp PCIe NVI	ecial bi	ds 4, for sp	ecial bi	ds	Max battery life	MobileMark 2018: 10.48 hr.
Ethernet One onboard GDE port via integrated gigabit ethernet, intel i219LM for VPro models or i219V for non-vPro models  NFC Optional  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  No WWAN card and non upgradable  Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Optional Nano-SIM card slot  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 models  Windows 10 Home 64  Windows 10 Government Edition 64 for special bids  Ubuntu Linux LTS  Optional warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year 4-2-year depot repair service  1-year 4-2-year depot repair service  1-year electronic onsit service  1-year limited onsite service  1-year limited onsite service  1-year planting do not service  1-year depot with 2-year system board repair service  1-year depot with 3-year limited onsite service  1-year electronic onsite service  1-year electronic onsite service  1-year electronic onsite service  1-year depot with 3-year service  1-year electronic onsite service  1-year electronic onsite service  1-year depot repair service  1-year electronic onsite service  1-year limited onsite service  1-year electronic onsite service  1-year depot with 3-year service  1-year electronic onsite service  1-year depot repair service  1-year electronic onsite service  1-year electronic	Optical												Power Adapter	
NFC Optional  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN ard and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  Weight Starting at 3.86 lb (1.75kg)  Operating system  Windows 10 Pro 64  Windows 10 Government Edition 64 for special bids  Ubuntu Linux LTS  Optional warranty plans as following:  1-year depot repair service  1-year depot repair service  1-year leptot repair service  1-year leptot repair service  1-year - 2-year limited onsite service  1-year - 2-year limited	Ethernet						d gigal	oit ethern	et, Intel	i219LM f	or vPro	models	•	Supports one optional preloaded operating system as following:
WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in). Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  Optional Nano-SIM card slot integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L86	NEC	_		-VF101	Houe	315								
WLAN + Bluetooth Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot  Dimensions Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in). Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color Black  No WWAN Card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fib				i-Fi 6 A	X20	1 on most	t mode	els Wi-Fi	2x2 802	2 11ax + I	Bluetoo	th 5 1	Operating system	
One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot  Optional Nano-SIM card slot  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in). Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color  Optional warranty plans as following:  1-year depot repair service 3-year depot repair service 1-year + 2-year depot repair service 1-year + 2-year limited onsite service 1-year + 2-year limited onsite service 1-year - 2-year depot with 2-year system board repair service 1-year depot repair service 1-year - 2-year depot repair service 1-year by a depot repair service 1-year depot repair service 1-year - 2-year depot repair service 1-year - 2-year depot repair service 1-year - 2-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot repair service	WLAN + Bluetooth	Bluet	ooth 5.1 re	quires	the I	atest vers	sion of	Windows	10 (ve	rsion 200	4 or ab	ove)		
• No WWAN card and non upgradable • Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot  Dimensions  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in). Thickness: 19.1 mm (0.75 inches)  Weight  Starting at 3.86 lb (1.75kg)  Case color  Black  • 1-year depot repair service • 3-year depot repair service • 1-year + 2-year limited onsite service • 1-year + 2-year limited onsite service • 1-year depot with 2-year system board repair service  • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year limited onsite service • 1-year depot with 2-year system board repair service • 1-year depot repair service • 1-year + 2-year limited onsite service • 1-year depot repair service • 1-year + 2-year limited onsite service • 1-year depot repair service • 1-year + 2-year limited onsite service • 1-year +		One	of the follow	vina co	วทfia	urable by	mode	d·						
Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card	1404/41	• No	WWAN car	d and r	าดทู เ	upgradabl	le					0 1		• 1-year depot repair service
• Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  SIM card  Optional Nano-SIM card slot  Dimensions  Weight  Starting at 3.86 lb (1.75kg)  Case color  Optional Nano-SIM card slot  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  Thickness: 19.1 mm (0.75 inches)  Mil-Spec test Environment  Sase Warranty  1-year limited onsite service  1-year limited onsite service  1-year limited onsite service  1-year limited onsite service  Mil-Spec test Environment  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	WWAN	• Inte	grated Mol	oile Bro	adba	and Upgra	adable	, No WW.	AN Car	d, WWAN	N Anten	na Only		
SIM card Optional Nano-SIM card slot  Dimensions Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color Black  Optional Nano-SIM card slot  1-year limited onsite service  1-year 4-year limited onsite service  1-year 4-year limited onsite service  1-year 4-year system board repair service  Mil-Spec test MIL-STD-810G military testing  Environment EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		• Inte	grated Mot	oile Bro	adba	and 4G L	ΙΕ-Α, Ι ΓΕ-Δ	Fibocom	-850-G	L, IVI.2 ca	ıra ⊿v⊿ M	2 card	Base Warranty	
Dimensions Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color Black  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  1-year + 2-year limited onsite service  1-year depot with 2-year system board repair service  Mil-Spec test MIL-STD-810G military testing  Environment EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	SIM card						I L A,	I IDOCOIII	<u>_000                                  </u>	L, IVIIIVIO	TAT, IVI	.z cara	╣ ′	
Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color Black  O 1-year depot with 2-year system board repair service  MIL-STD-810G military testing  Environment EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		Width	n: 365.8 mr	n (14.4	in).	Depth: 24	l8 mm	(9.76 in).						
Case color Black Environment EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant						nches)								1-year depot with 2-year system board repair service
Environment Et EAT doid. ENERGY STAN 6.0. Not 13-compliant				lb (1.7	5kg)									
ISV certifications Please visit <u>www.thinkworkstations.com/isv-certifications/</u>	Case color	Biack	(											
													ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>













## ThinkPad P15v Gen 1 Platform Specifications

Processor Number of a fine place of processor Number of cores Thread Figuratory Processor (2014) Processor (		Supports one 10th	n Xeon	W. Core	i7. or i5 p	rocessor	as follo	wina:			Case color	Black
Name			1		, ,			0	Dro	20000r		
Nemony Processor   So-DiffM Societs   Society   Societ		Processor Number			Frequency	Frequency	Cache	Types			Case material	
Name			00163	Tilleaus	requericy	rrequericy		Турез			Media reader	
Processor  Core 17-10875H 8 1 6 2.3GHz 5.1GHz 16MB DDR4-2933 Graphics Core 17-10850H 6 12 2.7GHz 5.1GHz 12MB DDR4-2933 Graphics Core 17-10850H 6 12 2.7GHz 5.1GHz 12MB DDR4-2933 Linte UHD Core 17-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10850H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 ECC.		Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-293				1x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP),
Processor   Core   17-108/50h   6   12   2.7GHz   5.1GHz   12MB   DDR4-2833   Intell   Giraphics   Core   17-10750h   6   12   2.6GHz   5.0GHz   12MB   DDR4-2833   Intell   Giraphics   Core   17-10750h   6   12   2.6GHz   5.0GHz   12MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   4.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   4.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   4.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   4.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   MB   DDR4-2833   Intell   Core   MB   DDR4-2833   Inte											Standard Ports	2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / micro-
Core i7-10850H   6   12   2.7 GHz   5.1 GHz   12MB   DDR4-2933   Intel UHD   Core i7-10750H   6   12   2.6 GHz   5.0 GHz   12MB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   5.0 GHz   12MB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   4.5 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   4.5 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   4.5 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   5.0 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   5.0 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   5.0 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   DDR4-2933	Processor	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293				
Core I7-10750H   6   12   2.6GHz   5.1GHz   2.8GHz   2.	FIOCESSOI										Optional Ports	
Core   17-10750H   6   12   2.6GHz   5.0GHz   12MB   DPR4-2933   Intel Windows   17-10750H   6   12   2.6GHz   4.5GHz   8MB   DPR4-2933   Intel Windows   17-10750H   6   12   2.6GHz   4.5GHz   8MB   DPR4-2933   Intel Windows   17-10750Hz		Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293	2.2			Up to 3 displays with 2 external monitors plus system LCD screen. External
Core i7-10750H   6   12   2.6GHz   12MB   DDR4-2933   Titled UPID			-						_		Monitor support	
Core i5-10300H   4   8   2.5GHz   4.5GHz   8MB   DR4-2933   Graphics   Grap		Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293			and	HDMI supports up to 4K@60Hz.
Core is-10300H   4   8   2.5GHz   4.5GHz   MB   DDR4-293   Graphics			_						Gra		Manathan a shila	
Chipset Intel WM490 Chipset  Memory Type  SO-DIMM. DDR4-2900 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933.  BGB/16GB/32GB available for both ECC and non-ECC  Memory Sockets  Memory Sockets  Memory Protection ECC or models with ECC DIMMs and Xeon processor  Max Memory  6GGB  Graphics  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5  memory  Size Resolution  Type Surface  Type		Core i5-10300H	4	8	2 5GHz	4 5GHz	8MB	DDR4-293				
Socion   Societa   Societ		0010101000011	<u> </u>		2.00112	1.00112	OWID	BB111 200	Gra	aphics	Bundled Accy	
Memory Type   SigGr1/6SB/32GB available for both ECC and non-ECC	Chipset										Comoro	Supports one optional camera as following:
Memory Sockets   2 DIMM sockets   2 DI	Momory Typo	SO-DIMM. DDR4-	3200 r	non-ECC	or DDR4-	2933 EC	C. Oper	rates at DD	R4-29	933.	Camera	Hybrid ID comera with ThinkShutter comera privacy, fixed focus
Memory Protection   ECC on models with ECC DIMMs and Xeon processor   Max Memory   64GB   Me	, ,,	8GB/16GB/32GB	availat	ole for bot	th ECC ar	nd non-EC	C				Audio chip	
Max Memory Protections with ECC Diffinition and National Processor Plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plu	Memory Sockets	2 DIMM sockets									·	
Max Memory   G4GB   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Anti-glare   Power Adapter   Intel UHD Graphics in processor plus optional NVIDIA Anti-glare   Power Adapter   Intel UHD Graphics in processor plus in processo	Memory Protection	ECC on models w	ith EC	C DIMMs	and Xeo	n process	or				I	
Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDHS   Memory	Max Memory	64GB									Micropriorie	
Size   Resolution   Type   Surface   Touch   Brightness   Aspect   Contrast   Ratio   Gamu   Margle   15.6"   FHD (1920x1080)   WVA   Anti-glare   - 250 nits   16.9   700:1   M75C   170°   NTSC   170°   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip	Cranbias	Intel UHD Graphic	s in pr	ocessorı	olus optio	nal NVIDI	A Quad	dro P620, 4	GB G	DDR5	Keyboard	munications controls, ontional LED backlight
Size   Resolution   Type   Surface   Touch   Brightness   Aspect   Color   View   Ratio   Ra	Graphics							,			l	
Display  Display  The first of		Oine Decelution			Tb	Duialete	Aspec	ct Contrast	Color	Viewina	UltraNav	
Display    15.6°   FHD (1920x1080)   WVA   Anti-glare   - 250 nits   16.9   700.1   45%   NTSC   170°   NTSC   170		Size Resolution	17	ype Sun	ace   loucr	Brightnes	Ratio	Ratio (	Gamut	Angle		
Display    15.6   FHD (1920x1080)   WVA   Anti-glare   16.9   MVA   MVA   Anti-glare   16.9   MVA   MVA   MVA   Anti-glare   16.9   MVA   MVA   Anti-glare   16.9   MVA									45%			
15.6°   FHD (1920x1080)   WVA   Anti-glare   Multi-louch   300 nits   16:9   800:1   45%   170°   170°   170°   18.6°     UHD (3840x2160)   15.6°   UHD (3840x2160)   10.6°   10.0°   1400:1   10.0°   178°   170°   170°   10.0°   178°   170°   10.0°   178°   170°   178°   170°   10.0°   178°   170°   178°   170°   170°   178°   170°   1		15.6" FHD (1920x10	)80)   W	/VA   Anti-g	glare -	250 nits	16:9	/00:1	NTSC	1/0°		
Smart card reader   Optional   Flags   Optional   Flags   Optional   Option	Display	45 01 5115 (4000 46			. multi-		100	2001	45%	4=00		1 07 11
UHD (3840x2160   NA		15.6" FHD (1920X10	)80)   W	/VA  Anti-g		300 nits	16:9	800:1	NTSC	170°		, -,
15.6"   Diby Vision, HDR 400   HOR									1000/			
In the Autor   Color Calibration   Factory Color Calibration on UHD panels			W	/VA  Anti-g	glare -	600 nits	16:9			178°		
Color Calibration Factory Color Calibration on UHD panels Touch enable on selected FHD models, supports 10-finger gesture  Pen None  Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each  RAID RAID 0 / 1 support  Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC None  WLAN + Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  WWAN Now WAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Width: 366.5 mm (14.43 in), Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Max battery life MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 201											Battery	
Touch enable on selected FHD models, supports 10-finger gesture  None  None  None  RAID												,
Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each  RAID RAID 0 / 1 support  Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN and and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card SIM card Optional Nano-SIM card slot  Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Power Adapter  135W slim AC adapter  Supports one optional preloaded operating system as following:  Windows 10 Pro 64  Windows 10 Pro 64 for Workstations  Optional warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year 42-year limited onsite service  1-year depot repair service	Touchscreen		selecte	d FHD m	odels, su	ports 10-	finger (	gesture			Max battery life	MobileMark 2018: 6.63 hr
RAID RAID 0 / 1 support Optical None Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC None WLAN + Bluetooth One of the following, configurable by model:  WWAN Now WWAN card and non upgradable in Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot Dimensions Weight Starting at 2.07 kg (4.57 lb, UHD)  Supports one optional preloaded operating system as following:  Windows 10 Pro 64 Windows 10 Pro 64 Windows 10 Pro 64 or Workstations Ubuntu Linux LTS Optional warranty plans as following:  1-year depot repair service 3-year depot repair service 3-year limited onsite service 1-year limited onsite service 1-year depot with 2-year system of the following service 1-year depot with 2-year system of the following service 1-year depot one optional preloaded operating system as following:  Windows 10 Pro 64 Windows 10 Pro											<u></u>	
Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models or i219V for non-vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  WWAN Now Now WAN card and non upgradable  Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot  Dimensions Windows 10 Home 64  Windows 10 Homes 10  Potenting In Holling In Ho	Storage	Up to two M.2 228	30 SSE	), PCIe N	VMe, 256	GB / 5120	3B / 1T	B / 2TB ea	.ch		Power Adapter	
Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  NWAN Now Now WWAN card and non upgradable integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot  Dimensions Windows 10 Pro 64  Windows 10 Potes (Palical Scales)  Index 1 Port 1 Polical Scales (Palical Scales)  Index 2 Polical S	RAID	RAID 0 / 1 suppor	t								1	
Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  WWAN Now WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot  Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Windows 10 Pro 64 for Workstations  Windows 10 Pro 64 for Workstations  Windows 10 Pro 64 for Workstations  Ubuntu Linux LTS  Optional warranty plans as following:  1-year depot repair service  1-year depot repair service  1-year depot repair service  1-year limited onsite service  3-year limited onsite service  1-year + 2-year depot repair service  1-year lepot repair service  1-year depot repair service  1-year dep		None									Operating eyetem	
Sim card   Optional Nano-SiM card slot		One onboard GbF	port v	ia integra	ated gigat	it etherne	t. Intel	i219l M for	vPro	models	Operating system	
NFC None  WLAN + Bluetooth Diuetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  WWAN One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Optional Warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year limited onsite service  3-year limited onsite service  1-year + 2-year limited onsite service  1-year depot warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year limited onsite service  1-year + 2-year limited onsite service  1-year depot repair service	Ethernet	or i219V for non-v	Pro mo	odels	arou gigun		.,					
WLAN + Bluetooth Deprive the latest version of Windows 10 (version 2004 or above)  WWAN One of the following, configurable by model:  WWAN Now WAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1.  Pi-year depot repair service  3-year depot repair service  1-year 4-2-year depot repair service  1-year + 2-year limited onsite service  1-year depot wirb 2-year depot repair service  1-year + 2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year + 2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year 4-2-year system board repair service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite ser	NFC	None										
WLAN + Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Dimensions Weight  One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight  Starting at 2.07 kg (4.57 lb, UHD)  *3-year depot repair service  1-year + 2-year limited onsite service  3-year depot repair service  1-year + 2-year limited onsite service  1-year depot with 2-year depot repair service  1-year limited onsite service  1-year depot with 2-year bysem board repair service  1-year depot repair service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year depot with 2-year bysem board repair service  1-year depot repair service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year depot repair service  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year depot repair service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year lepothers  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year Hollowing, configurable by model:  1-year Hollowing, configurable by model:  1-year Hollowing, configurable by m		Optional Intel Wi-F	i 6 AX	201 on m	ost mode	ls. Wi-Fi 2	x2 802	.11ax + Blu	uetooth	h 5.1.	1	
One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Dimensions Weight One of the following, configurable by model:  No WWAN card and non upgradable I-year + 2-year depot repair service I-year limited onsite service I-year limited onsite service I-year depot with 2-year limited onsite service I-year + 2-year depot repair service I-year limited onsite service I-year + 2-year limited onsite service I-year + 2-year limited onsite service I-year + 2-year depot repair service I-year limited onsite service I-year + 2-year depot repair service I-year limited onsite service I-year + 2-year li	WLAN + Bluetooth											3-year depot repair service
WWAN end and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  SIM card Optional Nano-SIM card slot  Dimensions Weight Optional Nano-SIM card slot  Dimensions Weight Optional Nano-SIM card slot  Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in) Weight Otherwise  1-year limited onsite service  3-year limited onsite service  1-year depot with 2-year system board repair service  Mil-Spec test MIL-STD-810G military testing  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		One of the following	ng, cor	figurable	by mode	:					Rasa Warranty	
SIM card Optional Nano-SIM card slot  Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  - 1-year + 2-year limited onsite service - 1-year depot with 2-year system board repair service - Mil-Spec test MIL-STD-810G military testing - Environment EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	WWAN	<ul> <li>No WWAN card</li> </ul>	and no	n upgrad	lable						Dasc Warranty	
Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in) Weight Starting at 2.07 kg (4.57 lb, UHD)  *1-year depót with 2-year system board repair service Mil-Spec test MIL-STD-810G military testing EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant					<u>3 LTE-A, F</u>	Fibocom L	850-GI	L, MIMO 2>	<2, M.2	2 card		
Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Mil-Spec test Mil-STD-810G military testing  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	SIM card	Optional Nano-SII	<u> </u>	slot_								
Weight Starting at 2.07 kg (4.57 lb, UHD) ENVIRONMENT EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	Dimensions	Width: 366.5 mm	(14.43	ın). Deptl	n: 250 mm	າ (9.84 in).					Mil-Spec test	
		Starting at 2.07 kg	<u>iin (0.9</u>	IP LIND/ D IU)							<del>                                     </del>	
134 Certifications   Frease visit <u>www.trifickworkstations.com/isv-certifications/</u>	vveigni	Joian ling at 2.07 Kg	J (4.57	iu, UHD)								
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## ThinkPad P17 Gen 1 Platform Specifications

Supports one 10th Xeon W, Core i9, 17, or i5 processor as following:   Processor Number   # of   #		Sunn	orte one 10th	Xeor	W Cor	iQ i	or i	5 process	or ac f	llowing:			7
Processor Number   Cores   Threads   Frequency   Frequency   Cache   Types   Graphics   Intel UHD   Graphics   Xeon W-10885M   8   16   2.4GHz   5.3GHz   16MB   DR4-2933   Intel UHD   Graphics   Graphics   Core i9-10980HK   8   16   2.4GHz   5.3GHz   16MB   DR4-2933   Intel UHD   Graphics   Graphics   Core i9-10885H   8   16   2.4GHz   5.3GHz   16MB   DR4-2933   Intel UHD   Graphics   Graphics   Core i7-10875H   8   16   2.4GHz   5.3GHz   16MB   DR4-2933   Intel UHD   Graphics   Core i7-10875H   8   16   2.3GHz   5.1GHz   16MB   DR4-2933   Intel UHD   Graphics   Core i7-10850H   6   12   2.7GHz   5.1GHz   12MB   DR4-2933   Intel UHD   Graphics   Core i7-10750H   6   12   2.6GHz   5.0GHz   12MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4   4   4   4   4   4   4   4   4		Supp	orts one roth					·	UI d5 10		-		D
Xeon W-10855M   8   16		Proce	essor Number						Cache		G	raphics	W C
Processor		Xeor	n W-10885M	8	16	2.40	ЗНz	5.3GHz	16MB	DDR4-29			C
Core i9-10885H 8 16 2.4GHz 5.3GHz 16MB DDR4-2933 Graphics   Core i9-10885H 8 16 2.4GHz 5.3GHz 16MB DDR4-2933 Intel UHD Graphics   Core i7-10875H 8 16 2.3GHz 5.1GHz 16MB DDR4-2933 Intel UHD Graphics   Core i7-10850H 6 12 2.7GHz 5.1GHz 12MB DDR4-2933 Intel UHD Graphics   Core i7-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Intel UHD Graphics   Core i5-10400H 4 8 2.6GHz 4.6GHz 8MB DDR4-2933 Intel UHD Graphics   Intel WM490 Chipset   Intel WM490 Chipset   Intel WM490 Chipset   So-DiMM. DDR4-3200 for non-ECC, DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at D		Xeor	n W-10855M	6	12	2.80	ЗНz	5.1GHz	12MB	DDR4-29			М
Core i9-10885H		Core	i9-10980HK	8	16	2.40	àНz	5.3GHz	16MB	DDR4-29			S
Core i7-108/5H 8   16   2.3GHZ   5.1GHZ   16MB   DDR4-2933   Graphics	Processor	Core	i9-10885H	8	16	2.40	àНz	5.3GHz	16MB	DDR4-29			0
Core i7-1080/H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Graphics Core i5-10400H 4 8 2.6GHz 4.6GHz 8MB DDR4-2933 Intel UHD Graphics Chipset Intel WM490 Chipset Memory Type SO-DIMM. DDR4-3200 for non-ECC, DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available DDR4-2933. 8GB/16GB/32GB available DDR4-2933. 8GB/16GB/32GB/16GB/		Core	i7-10875H	8	16	2.30	àНz	5.1GHz	16MB	DDR4-29			
Core i5-10400H		Core	i7-10850H	6	12	2.70	ЗНz	5.1GHz	12MB	DDR4-29			М
Chipset Intel WM490 Chipset SO-DIMM. DDR4-3200 for non-ECC, DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2936. 8GB/91GB/32GB available for both ECC and non-ECC operate at DDR4-2936. 8GB/91GB/32GB/32GB/32GB/32GB/32GB/32GB/32GB/32		Core	i7-10750H	6	12	2.60	ìНz	5.0GHz	12MB	DDR4-29			M
Memory Type  SO-DIMM. DDR4-3200 for non-ECC, DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC  Memory Sockets  Memory Protection  ECC on models with ECC DIMMs and Xeon processor  Max Memory  128GB  Support one of the following discrete graphics:  NVIDIA Quadro T1000, 4GB GDDR6 memory  NVIDIA Quadro T2000, 4GB GDDR6 memory  NVIDIA Quadro RTX 3000, 6GB GDDR6 memory  NVIDIA Quadro RTX 4000 with Max-Q Design, 8GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NTSC TOOL TAIL TAIL TAIL TAIL TAIL TAIL TAIL TAI		Core	i5-10400H	4	8	2.60	ЗНz	4.6GHz	8MB	DDR4-29			B C
Memory Sockets   A DIMM sockets	Chipset	Intel	WM490 Chip	set									Α
Memory Protection   ECC on models with ECC DIMMs and Xeon processor	Memory Type												S
Max Memory   128GB   Support one of the following discrete graphics:													K
Support one of the following discrete graphics:  NVIDIA Quadro T1000, 4GB GDDR6 memory  NVIDIA Quadro T2000, 4GB GDDR6 memory  NVIDIA Quadro T2000, 4GB GDDR6 memory  NVIDIA Quadro RTX 3000, 6GB GDDR6 memory  NVIDIA Quadro RTX 4000 with Max-Q Design, 8GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  Size Resolution Type Surface Touch Brightness Ratio Contrast Color Ratio Gamut Angle  17.3° FHD (1920x1080) WVA Anti-glare - 300 nits 16:9 700:1 72% NTSC 160°  17.3° Dolby Vision, HDR 400 WVA Anti-glare - 500 nits 16:9 1500:1 100% Adobb 178°  Color Calibration Factory Color Calibration on UHD panels  Touchscreen None  Pen None  Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each  RAID None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Diudous Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only				ith EC	C DIMN	1s and	Xeo	n processo	or				
e NVIDIA Quadro T1000, 4ĞB GDDR6 memory  NVIDIA Quadro T2000, 4GB GDDR6 memory  NVIDIA Quadro RTX 3000, 6GB GDDR6 memory  NVIDIA Quadro RTX 4000 with Max-Q Design, 8GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  Nole Ratio Gamut Viewing Ratio  None UHD (1920x1080) WVA Anti-glare - 300 nits 16:9 700:1 72% NTSC 160°  NTSC 160°  NONE None None  None None None Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each  RAID RAID 0 / 1 support  Optical None  One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth S.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  NOWAN card and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, MIMO 4x4, M.2 card	Max Memory		·-										IJŲ
Display    17.3"   FHD (1920x1080)   WVA   Anti-glare   -       300 nits     16:9     700:1       72%       160°	Graphics	• NVI • NVI • NVI	DIA Quadro DIA Quadro DIA Quadro DIA Quadro	T1000 T2000 RTX 3 RTX 4	, 4GB G , 4GB G 000, 6G 000 with	DDR6 DDR6 B GD Max-	mer mer DR6 Q De	nory nory memory esign, 8GE					Pi Si Si Si Si
Display    17.3   THE (1920/1000)   WVA   Anti-glare   -		Size	Resolution	Т	ype Su	rface	Touch	Brightness					Fi
17.3"   Dolby Vision, HDR 400   WVA   Anti-glare   -   500 nits   16:9   1500:1   No0e   178°	Display	17.3"	FHD (1920x10	980) V	VVA Ant	i-glare	-	300 nits	16:9	700:1	72% NTSC	160°	B M
Touchscreen None Pen None Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each RAID RAID O / 1 support Optical None Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC None WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) One of the following, configurable by model: NO WWAN card and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card		17.3"	Dolby Vision,	(160) V	VVA Ant	i-glare	-	500 nits	16:9	1500:1		178°	Po
Pen None Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each RAID RAID 0 / 1 support Optical None Cheering One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC None WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) One of the following, configurable by model: No WWAN card and non upgradable Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	Color Calibration	Facto	ory Color Cali	bratio	n on UH	D pan	els						╟
Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each  RAID RAID 0 / 1 support  Optical None  Che onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	Touchscreen	None	)										]
RAID  RAID 0 / 1 support  Optical  Ethernet  One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC  None  WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card													10
Optical  Ethernet  One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC  None  WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	Storage	Up to	two M.2 228	O SSE	), PCIe	NVMe	, 256	GB / 5120	3B / 1T	B / 2TB ea	ach		
Ethernet  One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC  None  WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	RAID	RAID	0 / 1 suppor	t									] -
WLAN + Bluetooth  WWAN  Or i219V for non-vPro models  NFC  WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	Optical												]
WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	Ethernet	or i21	19V for non-v			rated	gigat	oit etherne	t, Intel	i219LM fo	r vPro	models	Ba
WWAN  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	NFC												
No WWAN card and non upgradable     Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only     Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	WLAN + Bluetooth	Bluet	ooth 5.1 requ	iires th	ne latest	version	n of	Windows					
		<ul><li>No</li><li>Inte</li></ul>	WWAN card a grated Mobile	and no	on upgra dband l	idable Jpgrad	lable	, No WWA	N Card 860-GI	d, WWAN . _, MIMO 4	Anteni x4, M.	na Only 2 card	M Ei
SIM card Optional Nano-SIM card slot	SIM card												_ار

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	Dimensions	Width: 415.44 mm (16.36 in). Depth: 280.81 mm (11.06 in).
	Weight	Thickness: 25.11~ 33.25 mm (0.99 ~ 1.31 in) Starting at 3.5 kg (7.7 lb, FHD)
Ш	Case color	Black
	Case material	Display cover: GFRP 50% (PPS695 + GF 50%).  Bottom: PPS + GF
	Media reader	SD card reader
	Standard Ports	1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP), 3x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / microphone combo jack, 1x SD card reader, 1x security keyhole, 1x RJ-45
$\ $	Optional Ports	One optional smart card reader on right, one optional Nano-SIM card slot on left
	Monitor support	Up to 5 displays with 4 external monitors plus system LCD screen. External monitors supported via 1x USB-C, 2x Thunderbolt, and 1x HDMI. USB-C and HDMI support up to 4K@60Hz. With Thunderbolt, one supports up to 5K@60Hz and one supports up to 4K@60Hz
الـ	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
	Bundled Accy	None
4	Camera	Optional Hybrid IR camera with ThinkShutter camera privacy, fixed focus
	Audio chip	Realtek ALC3286 codec
	Speaker	Stereo speakers, Dolby Atmos sound system
4	Microphone	Optional dual array far-field microphone
	Keyboard	6-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with Unified Communications controls
4	UltraNav	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch touchpad
	Password	Power-on password, hard disk password, supervisor password
	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
	System mgmt	Optional Intel vPro Technology supported on vPro enable models
	Security locks	Security keyhole for optional Kensington lock
	Smart card reader	
4	Fingerprint reader Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80%
	Max battery life	in 1hr) with 230W AC adapter  MobileMark 2014: 14.6 hr.  MobileMark 2018: 9.75 hr.  *Battery life varies significantly with hardware configurations, settings, usage, & other factors
	Power Adapter	One of the following: • 230W slim AC adapter • 170W slim AC adapter
	Operating system	Supports one optional preloaded operating system as following:  • Windows 10 Home 64  • Windows 10 Pro 64  • Windows 10 Pro 64 for Workstations  • Ubuntu Linux LTS
+		Optional warranty plans as following:
6	Base Warranty	<ul> <li>1-year depot repair service</li> <li>3-year depot repair service</li> <li>1-year + 2-year depot repair service</li> <li>1-year limited onsite service</li> <li>3-year limited onsite service</li> <li>1-year + 2-year limited onsite service</li> </ul>
	<b>,</b>	<ul> <li>1-year depot repair service</li> <li>3-year depot repair service</li> <li>1-year + 2-year depot repair service</li> <li>1-year limited onsite service</li> <li>3-year limited onsite service</li> <li>1-year + 2-year limited onsite service</li> <li>1-year depot with 2-year system board repair service</li> </ul>
	Mil-Spec test	1-year depot repair service     3-year depot repair service     1-year + 2-year depot repair service     1-year limited onsite service     3-year limited onsite service     1-year + 2-year limited onsite service     1-year depot with 2-year system board repair service  MIL-STD-810G military testing
	<b>,</b>	<ul> <li>1-year depot repair service</li> <li>3-year depot repair service</li> <li>1-year + 2-year depot repair service</li> <li>1-year limited onsite service</li> <li>3-year limited onsite service</li> <li>1-year + 2-year limited onsite service</li> <li>1-year depot with 2-year system board repair service</li> </ul>



# ThinkPad P43s Platform Specifications

Processor	8th G	eneratio	n Intel® (	Core™	i7 Proces	sor					Dimensions	WxDxH:	12.95" x 8.94" x 0.	70"; 329mm x 227	mm x 17.9mm		
	Proce					Max Turbo Ca	ache	Memory	Proce		Weight	Models	FHD	FHD Low Power	WQHD		
	Numb i5-836		res Threa	-		requency	MB	Types	Grap	hics	Case color	Weight Black	3.43 lb / 1.55 kg	3.28 lb / 1.49 kg	3.24 lb / 1.47 kg		
	i7-856	5U 4	8	1	.8 GHz	4.6 GHz 8		DR4-2400 In	ntel UHD	Graphics	Case material	Display co Bottom:	over: PPS / 50% GF PA / 50% GF	<del>-</del> ;			
Graphics	NVIDI suppo Up to	A Quad orts exte 3 displa	ro® P520 rnal digit ys with 2	o, 2GB tal mor 2 exter	nal monito	nemory; DMI or USB ors plus syst SB-C); 384	em LC	CD screen.	IDMI)		Smart card reade Media reader Ports	MicroSD card reader MicroSD card reader Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and Di one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD an- HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models),					
ChWVAet Memory	Intel SoC (System on Chip) platform 48GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM socket  * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation    Application											bo jack, optional smacking connector, secular data transfer speed to VGA Monitor Ad	art card reader, urity keyhole <i>may be lower than theore</i>	etical speed			
Display	Size	Resolutio	n	Туре	Surface	Brightness	Aspec Ratio	t Contrast Ratio		Viewing Angle	(орионат)	USB-C to	HDMI: Lenovo USB DP: Lenovo USB	-C to HDMI Adapter	anter		
	4.4.0	EUD (400	)O4 OOO\	140.44	A 41 1	250 nits (non-touch)	40.0	700.4	450/	1700	Bundled Accy	None		, ,	apter		
	14.0"	FHD (192	(0x1080)	VVVA	Anti-glare	300 nits (multi-touch)	16:9	700:1	45%	170°	Camera (optional	One of the	following, configurable	by model:	and the area		
1	14.0"	FHD (192 Low Powe	0x1080) er	WVA	Anti-glare	,	16:9	800:1	72%	170°	Audio support	<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>HD Audio, Realtek® ALC3287 codec /</li> </ul>					
	14.0"	FHD (192 ThinkPad Guard		WVA	Anti-glare	400 nits	16:9	1000:1	72%	170°		stereo spo optional d	eakers, 2W x 2, Dolb lual array far-field mi	y® Audio™ Premium crophone, headphon	/ e / microphone combo	o jack	
	14.0"	WQHD (2	2560x1440 ion™ HDF	0) R WVA	Glossy	500 nits	16:9	1500:1	100% Adobe	170°	Keyboard UltraNav™		urface multi-touch touc				
Multi-touch (opt) Pen	On-ce None		support	ts 10-fi	nger gesti	ure (FHD or	ıly)				Security Power-on password, hard disk password, supervisor password, secur Discrete TPM 2.0, TCG Certified System Mgt (opt) Intel vPro Technology					keyhole	
Storage	• M.2	2280 S	SD / SAT	TA 6.00							Fingerprint reade NFC (optional)	r Optional:	Touch style match of Communication	on chip fingerprint rea	ader on the palm rest		
	• M.2	2242 S	SD / PC	le NVN	1e, PCle 3 1e, PCle 3 0 with Sol		rane				Battery Max battery life	1hr)	•	oattery, supports Rap	oid Charge (charge up	to 80% in	
Optical			Cle NVI			id Oldio Old	rugo,				AC adapter	* Battery li	ark® <i>2014:</i> 14.7 hr ife varies significantly w 5W slim USB Type-C	ith hardware configurat	ions, settings, usage, & o	ther factors	
Ethernet			del: Intel Intel	Ether	net Conne	ection I219-\ ection I219-l	/ (Jacl _M (Ja	ksonville) icksonville)				Windows	10 Home 64 or Win	dows 10 Pro 64			
WLAN Bluetooth™	vPro model: Intel Ethernet Connection I219-LM (Jacksonville) Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0 Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter										Limited warranty	• 1-year o	following, configurable depot repair service I-yr battery depot rep	•			
WWAN (optional)	One of	f the follo	wing, con	figurable	e by model	id only in F	ΔΕΛ\					• 3-year/1	1-yr battery limited o	nsite service			
	<ul> <li>Interest</li> </ul>	grated N	1obile Br	roadba	nd 4G LTE	id only in El	_830-E	EB, M.2 card	d (EME	(only	Mil-Spec test	MIL-STD-	810G military testing	9			
SIM card (opt)	• Inte	grated Non-WWA	lobile Br N model,	roadba it mear	nd 4G LTE as the mode	E-A, Fibocor el is NOT WW TE (US) SIN	n L850 AN upg	0-GL, M.2 c gradable	ard	3 /	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant						
Note: The specific:						• •	vi caru									Lenov	

Note: The specifications above may not be available in all regions.













# ThinkPad P51 Platform Specifications

Processor	6th or 7th G Intel Xeon®					or			Dimensions	WxDxH: 14.86" x 9.93" x 0.96-1.16"; 377.4mm x 252.3mm x 24.5-29.4 WxDxH(Touch): 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7						
	Processor	# of	# of	Base	Max Turbo	Casha	Memory	Processor	Weight	Models	4-cell	6-cell				
	Number	Cores	Threads	Frequency	Frequency	Cache	Types	Graphics		Non-touch	5.6 lb / 2.55kg	5.9 lb / 2.67kg				
	i7-6820HQ			2.7 GHz	3.6 GHz			Intel HD Graphics	II	Multi-touch	6.2 lb / 2.82kg	6.4 lb / 2.90kg				
	E3-1505M v5	-		2.8 GHz	3.7 GHz	8MB	DDR4-2133	530 Intel HD Graphics P530	Case color Case material		Glass-Fiber Reinforced Magnesium/Aluminum	Plastic;				
	i7-7700HQ	4	8	2.8 GHz	3.8 GHz 6MB	6MB		Intel HD Graphics	Smart card reade	der Optional: Smart card reader						
	i7-7820HQ			2.9 GHz	3.9 GHz		DDR4-2400	630	ExpressCard	One slot (Expr	essCard/34)					
	E3-1505M v6	-		3.0 GHz	4.0 GHz	8MB	DDN4-2400	Intel HD Graphics	Media reader	4-in-1 reader (	MMC, SD, SDHC, SDX	C), supports UHS-II S	SD card			
	E3-1535M v6			3.1 GHz	4.2 GHz			P630	Ports	Four USB 3.1	Gen 1 (USB 3.0, one A ort 1.2a, HDMI 1.4b, Eth	lways On), USB Type	-C / Thunderbolt 3,			
Graphics	Intel HD Gra						r and		1	* Depending on	many factors, actual data t	ransfer speed may be lo	wer than theoretical speed			
	NVIDIA Quadro® M1200 or M2200, 4GB memory; supports external digital monitor via HDMI, Mini DisplayPort, or Thunderbolt™; Up to 4 displays with 3 external monitors plus system LCD screen.									HD Audio, Rea	ution, fixed focus altek® ALC3268 codec / rophone, combo audio/		x 2 /			
	Max resoluti	ioń: 38	40x2160	@60Hz (D	isplayPort	via Mir	ni DisplayPo	ort cable);	Karda a and			. ,	antional LED backlight			
				`	hunderbolt	); 4096	6x2160@24	4Hz (HDMI)	Keyboard UltraNav™		sistant, multimedia Fn ke Point®pointing device a		optional LED backlight			
Chipset Memory	Chipset Mobile Intel CM238 Chipset Memory 64GB max / 2400MHz DDR4, ECC or non-ECC (ECC function supported only on								0.1.1.1.1	3-button Mylar surface multi-touch touchpad						
Memory	Xeon proces	ssor), d	ual-chan	nel capable	e, four DDÌ	34 SO	-DIMM soc		Security Security chip	Discrete TPM	sword, hard disk passwo 2.0, TCG Certified	ord, supervisor passw	ord, security keyhole			
Display								nt, WVA, 250 nits	vPro (optional)	Intel vPro Tech	nnology atch on chip fingerprint	rooder on the nalm re	ot			
	Some: 15.6	5" (396r	nm) 4K (	00:1 contra 3840x2160	)), anti-glar	e, LEC	backlight,	WVA, 300 nits, viewing angle	Color calibration				ion sensor in palm rest			
Multi-touch (opt)	Capacitive-t								Battery	Lithium Polym	II (90Wh)					
Pen (optional)	ThinkPad Pe	en Pro,	active pe	en for multi	-touch disp	lay	•	3,	Max battery life <sup>10</sup>	Model	4-cell	6-cell				
Storage	Up to 3 drives								(MobileMark® 2014)	Discrete Graphi	<i>cs</i> 4.5 hr	6.1 hr				
_	Some: HDE						ve Protection	on System™		Hybrid Graphics		8.9 hr				
RAID (optional) Optical	Some: M.2 RAID 0/1 su None		PCIe NV	Me, PCIe 3	3.0 x 4, 320	3D/S			AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 170W slim tip AC adapter						
Ethernet	Non-vPro m	odal· Ir	tal Etha	net Conno	ction 1210	V ( lac	keonville)		Operating system	One of the follow	ving, configurable by mode	l:				
Linernei	vPro model:						acksonville)				Professional 64	to in Mindows 10 Dro	64			
WLAN	One of the fol					(50			†	Windows® 10	hrough downgrade righ ) Home 64	is in windows 10 Pro	04			
* * L. / 11 V	Intel Dual I					)2.11a	c + BT4.1,	M.2 card		<ul> <li>Windows 10</li> </ul>	Pro 64					
DI	<ul> <li>Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + BT4.1, M.2 card Bluetooth 4.1 wireless, integrated in Wi-Fi + Bluetooth combo adapter</li> </ul>							M.2 card			Pro 64 for Workstations					
Bluetooth™	Bluetooth 4. * Intel 8260ac	1 wirele 2 / 82658	ess, integ ac card su	grated in W pport BT4.2	I-Fi + Blue but is limited	tooth c I to BT4	ombo adap 1.1 by Windo	oter ws OS	Limited warranty	One of the follow  1-year depot	ving, configurable by mode. t repair service	<u></u>				
WWAN (optional)										<ul> <li>3-year/1-yr b</li> </ul>	attery depot repair serv					
	Wireless V				- ^						pattery limited onsite se	rvice				
	<ul> <li>Integrated Qualcomm</li> </ul>					ireless	EM7455)	M.2 card	Mil-Spec test	Mil-Spec test MIL-STD-810G military testing						
SIM card (opt)								MEA) SIM card	Environment	EDEATM Cold	(US only); ENERGY S	TA D® 0.4. D-110	- P 4			













# ThinkPad P52 Platform Specifications

Processor	8th Generation	on In	tel® Core	e™ i7 / i9 Pr	ocessor or	Intel X	eon® E Pro	ocessor	Dimensions	WxDxH: 14.86" x 9.93" x 0.96-1.16"; 377.4mm x 252.3mm x 24.5-29.4mn
	Number Co	# of ores	# of Threads		Max Turbo Frequency	Cacrie	Memory Types	Processor Graphics	Weight	WxDxH(Touch): 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7mn Non-touch model: starting at 5.4 lb / 2.45kg; Multi-touch model: starting at 6.4 lb / 2.9kg
	i7-8750H i7-8850H i9-8950HK	6	12	2.2 GHz 2.6 GHz 2.9 GHz	4.1 GHz 4.3 GHz 4.8 GHz	9MB 9MB 12MB	DDR4-2400		Case color Case material	Black  Display cover: Glass-Fiber Reinforced Plastic;  Bottom: Magnesium/Aluminum
	E-2176M			2.7 GHz	4.4 GHz	12MB		Intel UHD Graphics P630	Smart card reade ExpressCard	er <i>Optional:</i> Smart card reader None
Graphics	Intel UHD Gr NVIDIA Quad P3200 (6GB supports exte Up to 4 displ Max resolution	dro® mem memernal lays von: 3	P1000 (4 nory, VR digital n vith 3 ex 840X21 120X28	4GB memo ready); nonitor via I ternal moni 60@60Hz ( 80@30Hz (	ry), P2000 HDMI, Min tors plus s DisplayPo	i (4GB) ii Displa system ort via M	yPort, or T LCD scree lini Display	hunderbolt™; n.	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Three USB 3.1 Gen 1 (one Always On), two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), Mini DisplayPort 1.4, HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole  * Power Delivery only supports power-out for charging peripherals
Chipset Memory	Mobile Intel ( 128GB non-li only on Xeor * Installed DIM * 128GB non-li	ECC n prod 1Ms a	or 64ĠE cessor), <i>re actuall</i> j	B ECC max dual-chann y 2666MHz b	el capable out run at 24	e, four D	DR4 SO-E	ction supported DIMM sockets imitation	Camera (optional,	* Depending on many factors, actual data transfer speed may be lower than theoretical speed I) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus • IR camera and HD720p camera, fixed focus HD Audio, Realtek® ALC3286 codec /
Display		nits, gam	16:9 asp ut. 160°	ect ratio, 70	00:1 contra ale	ast ratio	,		- Audio Support	and Addio, Healtek* ALC3266 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / optional dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone
Multi-touch (opt)	400 r 100% Capacitive-ty	nits, % gar ype n	16:9 asp nut, 170 nulti-touc	ect ratio, 10 oviewing a h, supports	000:1 cont ngle, multi s 10-finger	rast rat -touch gestur	io, e (4K only)		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad
Pen Storage  Optane™ memory RAID (optional)	Some: M.	(two loop) OD / S .2 SS tel Op	M.2 SSD SATA 6.0 D / PCle otane me	and one HDL OGb/s, 2.5" NVMe, PC	D), supports wide, 7mn Die 3.0 x 4	s single s n high, , 32Gb	ided M.2 22 Active Prot		Security Security chip vPro (optional) Fingerprint reader Color calibration NFC (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology er Touch style match on chip fingerprint reader on the palm rest None Near Field Communication
Optical	None	ррогі							Battery	Swappable Li-ion 90Wh battery
	Non-vPro mo vPro model:		Intel Eth	ernet Conr	ection I21	9-LM (	Jacksonvill	e)	Max battery life ( <i>MobileMark</i> ® 2014) AC adapter	Discrete mode: 6.1 hr; Hybrid mode: 8.9 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors 170W slim tip AC adapter
WLAN Bluetooth™	Intel Wireless Bluetooth 5.0								<u> </u>	One of the following, configurable by model:
(-,	One of the followard Wireless Working Integrated	/AN ι	ipgradat	ole						<ul> <li>Windows® 10 Home 64</li> <li>Windows 10 Pro 64</li> <li>Windows 10 Pro 64 for Workstations</li> </ul>
SIM card (opt)	• Integrated Intel XMM™ Nano-SIM ca	™ 736	0 (Fiboo	com L850-G	àL), M.2 ca		rd		Limited warranty (optional)	<ul> <li>1-year depot repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
									Mil-Spec test	MIL-STD-810G military testing
Note: The specifica									Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant

Note: The specifications above may not be available in all regions.



## ThinkPad P52s Platform Specifications

Processor   # of   # of   # of   Base   Max Turbo   Frequency	nd DisplayPort), D and DP), ombo jack,
Graphics    Intel UHD Graphics 620 in processor and NVIDIA Quadro® P500, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; Up to 3 displays with 2 external monitors plus system LCD screen. Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)   Intel Soc (System on Chip) platform   32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets * System clocks down for processors with lower memory controller   Signal cover: Bottom: Display cover: Bottom: GFRP + PPS; Bottom:	D and DP), ombo jack,
Graphics  Intel UHD Graphics 620 in processor and NVIDIA Quadro® P500, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; Up to 3 displays with 2 external monitors plus system LCD screen. Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)  Chipset Memory  Intel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets * System clocks down for processors with lower memory controller  Media reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of P HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone oc optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDX side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower that HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter	D and DP), ombo jack,
Memory System on Chip) platform  32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets  * System clocks down for processors with lower memory controller  Monitor cable  Intel SoC (System on Chip) platform  * Depending connector, security keyhole  * Depending on many factors, actual data transfer speed may be lower than the processors with lower memory controller  Monitor cable	
Dieplay Sama: 15 6" (306mm) EHD (1020v1080) anti-diara LED hacklight WWA 250 nite 100000000 LLSB-C to DP: Langua LSB-C to DieplayPort Adapter	,,
16:9 aspect ratio, 700:1 contrast ratio, 45% gamut, 170° viewing angle  Some: 15.6" (396mm) UHD (3840x2160), anti-glare, LED backlight, WVA, 300 nits,	
Multi-touch (opt) Pen On-cell touch, supports 10-finger gesture (FHD only)  None  N	
Storage  System has one HDD slot or one M.2 2280 slot exclusively for storage, and supports single sided M.2 2280 drives only  Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System <sup>TM</sup> Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System <sup>TM</sup> UltraNav <sup>TM</sup> UltraNav <sup>TM</sup> TrackPoint® pointing device and buttonless Mylar surface multi-tou	al LED backlight
Some: SSD / SAIA 6.0Gb/s, 2.5" wide, /mm high (e.g. xxxGB SSD)  Some: M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s Some: 128GB M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s, in WWAN slot as 2nd Storage, mutually exclusive with WWAN Optane™ memory Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2  Security Power-on password, hard disk password, supervisor password, so Security chip VPro (optional) Intel vPro Technology Fingerprint reader Optional: Touch style match on chip fingerprint reader on the pale	ecurity keyhole
Optical None  Ethernet Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville)  Anti-spoofing technology NFC (optional) Near Field Communication	
vPro model: Intel Ethernet Connection I219-LM (Jacksonville)  Battery Optional integrated Li-ion 32Wh battery and	
WLAN + Intel Dual Barid Wireless-AC 6265, Wi-F1 2X2 802.11aC + Bluetootif 4.1, W.2 Card  Bluetooth™ * Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS    Max battery life   Models   48Wh   72Wh   32Wh + 24Wh   32Wh + 48Wh   (MobileMark® 2014)   Max battery life   13.2 br   13.5 br   20.1 br	h 32Wh + 72Wh 26.3 hr
• Wireless WAN upgradable • Integrated Mobile Broadband 4G LTE,  AC adapter  * Battery life varies significantly with hardware configurations, settings, usa 65W USB Type-C AC adapter	
Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)  • Integrated Mobile Broadband 4G LTE-A,  Operating system Windows® 10 Home 64 or Windows 10 Pro 64	
Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card  * For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card  Limited warranty  One of the following, configurable by model:  1-year depot repair service  1-year depot with 2-year system board repair service  3-year/1-yr battery depot repair service  3-year/1-yr battery limited onsite service  3-year (including battery) limited onsite service	
Mil-Spec test MIL-STD-810G military testing	
Environment   EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant   Note: The specifications above may not be available in all regions.	

Note: The specifications above may not be available in all regions.

Lenovo













### ThinkPad P53 Platform Specifications

Processor	9th Gener	ation I	ntel® Cor	e™ i5 / i7 /	i9 Proces	sor or Ir	itel Xe	on® E P	rocesso	r	Dimensions	WxDxH (non-touch): 14.86" x 9.93" x 0.96-1.16";
	Processor Number	# of Cores	# of Threads	Base Frequence	Max Turb			mory pes	Proces Graph			377.4mm x 252.3mm x 24.5-29.4mm WxDxH (multi-touch): 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7mm
	i5-9400H i7-9750H	6	8 12	2.5 GHz 2.6 GHz			_	le.	ntel UHD	- - -	Weight	Non-touch model: starting at 5.51 lb / 2.5 kg;
	i7-9750H	6	12	2.6 GHz	+		_	İ	630		Case color	Multi-touch model: starting at 6.4 lb / 2.9 kg Black
	i9-9880H	8	16	2.3 GHz	4.8 GHz	16MB	- DDR2	4-2666			Case material	Display cover: Glass-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum
	E-2276M	6	12	2.8 GHz	4.7 GHz	12MB	1	In	ntel UHD ( P63		Smart card reade	er Optional: Smart card reader
Graphics	Intel UHD NVIDIA® C RTX 3000 RTX 5000 supports of Up to 5 dia Max resol	Quadro ) (6GB ) (16GE externa splays	T1000 GDDR6 GDDR6 GDDR6 al digital i with 4 ex	(4GB GD VR ready 5, VR ready monitor victernal mo	DR5), T20 ), RTX 40 ly); a HDMI or nitors plus	00 (4GE 00 (8GE Thunde system	3 GDD rbolt™; 1 LCD	R6, VR ; screen.	3,,,	or	ExpressCard Media reader Ports	None 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole
Chipset Memory										essor),	Monitor cable	* Power Delivery only supports power-out for charging peripherals * USB-C Dock is not supported in right-side USB-C port * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Display	Size Resolution Type Surface Brightness Ratio Ratio									Viewing Angle	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	15.6" FHD (1920x1080) WVA Anti-glare 300 nits 16:9 700:1 72							700:1	72%	160°	Bundled Accy	None
		(1920x y Vision		WVA Anti-	glare 500	nits	16:9	1200:1	72%	160°	Camera (optional)	) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
	15.6" UHD Dolby	(3840x y Vision	2160) HDR	WVA Anti-	glare 500	nits	16:9	1200:1	100%	170°	Audio support	IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2 /
	15.6" Dolby	(3840x y Vision -touch	2160) HDR, C	OLED Ar refle / A smu	nti-	400nit, 500nit eak)	16:9	100000:1	100% DCI-P3	170°	Keyboard	optional dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system  6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight
Multi-touch (opt)	Capacitive anti-reflec	e-type	multi-tou R), anti-s	ch, suppo	ts 10-fing	er gestu	ire (UF	HD only)	,	<u> </u>	UltraNav™	3-button Mylar surface multi-touch touchpad
Pen (optional)	Lenovo Pe	en Pro	(special	bid only)							Security	Power-on password, hard disk password, supervisor password, security keyhole
	Up to 3 driv supports si. • HDD / S • M.2 228 * HDD is or	inglè sia SATA 6. 30 SSD nly avail	led M.2 22 .0Gb/s, 2 ) / PCIe N lable for T	280 drives of .5" wide, NVMe, PC 1000 and T	<i>nly</i> 7mm high, le 3.0 x 4 2000 graphi	Active F	,	tion Syst	em™			Discrete TPM 2.0, TCG Certified Intel vPro Technology retrouch style match on chip fingerprint reader on the palm rest Optional: X-Rite Pantone factory color calibration (UHD model only) Near Field Communication
Optane™ memory RAID <i>(optional)</i> Optical	RAID 0/1/ None	5 supp	ort	,							Battery Max battery life (MobileMark® 2014)	Integrated Li- Polymer 90Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  Discrete mode: 8 hr; Hybrid mode: 13 hr
Ethernet	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) vPro model: Intel Ethernet Connection I219-LM (Jacksonville)										AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 170W or 230W slim tip AC adapter
Bluetooth™ (opt)	al) Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.1										Operating system	<ul> <li>One of the following, configurable by model:</li> <li>Windows® 10 Home 64</li> <li>Windows 10 Pro 64</li> </ul>
( ) /	Wireless WAN upgradable (special bid only in EMEA)     Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card										Limited warranty	<ul> <li>1-year depot repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
											Mil-Spec test	MIL-STD-810G military testing
·											Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant



### ThinkPad P53s Platform Specifications

Processor	8th G	eneration I	Intel® Co	re™ i	i7 Proces	sor					Dimensions	<i>WxDxH:</i> 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm				
	Proce Numb	er Cores	# of Thread	s Fre	quency F	requency	ache 6MB	Memory Types	Proce Grapl		Weight Case color Case material	starting at 3.87 lb / 1.75 kg Black Display cover: PPS / 50% GF; Bottom: PA / 50% GF				
	i7-856		8				8MB 8MB	DDR4-2400 lı	ntel UHD	Graphics	Smart card reade Media reader	er Optional: Smart card reader MicroSD card reader				
Graphics	NVID suppo suppo	orts 3 indep	® P520, 2 al digital pendent	2GB mon displ	GDDR5 r itor via H ays with	DMI or ÚSI 2 external r	nonito	e-C; ors plus syste 60@30Hz (H		screen.	Ports	Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader.				
Chipset Memory	48GB	or 16GB m	00MHz E emory s	DÁ4 older	, dual-ch		one D	DR4 SO-DII ue to Intel limit		æt	Monitor cable (optional)	microSD card reader, side docking connector, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
Display	Size	Resolution		Туре	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Bundled Accy	None  I) One of the following, configurable by model:				
	15.6" FHD (1920x1080) WVA Anti-glare 250 nits 16:9 700:1 4:										Camera (optional)	HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus				
	15.6"	UHD (3840x Dolby Vision	k2160) n™ HDR	WVA	Anti-glare	500 nits	16:9	1200:1	100% Adobe	170°	Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /				
Multi-touch (opt) Pen	On-ce None		upports	10-fir	nger gest	ure (FHD o	nly)				Keyboard	optional dual array far-field microphone, headphone / microphone combo jack				
Storage	Suppo	orts single si	ded M.2 2	2280 c	drives only	,					UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad				
	<ul><li>M.2</li><li>M.2</li><li>Inte</li></ul>	2280 SSD 2280 SSD 2242 SSD I Optane™ 2280, PCI	) / PCIe ) / PCIe Memory	NVM NVM / H10	le, PCle ( le, PCle ( ) with Sol	3.0 x 4 3.0 x 2 id State St	orage,				Fingerprint reade	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology r Optional: Touch style match on chip fingerprint reader on the palm rest				
Optical	None										NFČ <i>(optional)</i> Battery	Near Field Communication  Integrated Li- Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in				
Ethernet		vPro model model:	I: Intel E Intel E	thern thern	et Conne et Conne	ection I219- ection I219-	V (Jac LM (Ja	cksonville) acksonville)			Max battery life	1hr)  MobileMark® 2014: 15 hr (FHD model) / 10 hr (UHD model)				
WLAN Bluetooth™						.11ac + Blu /i-Fi + Blue		n 5.0 combo adapt	er		AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 65W USB Type-C AC adapter				
WWAN (optional)		f the followin					- N A I					n Windows® 10 Home 64 or Windows 10 Pro 64				
SIM card (opt)	<ul> <li>Wireless WAN upgradable (special bid only in EMEA)</li> <li>Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EN Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card</li> <li>* For non-WWAN model, it means the model is NOT WWAN upgradable</li> <li>Nano-SIM card slot, optional Verizon LTE (US) SIM card</li> </ul>										Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service				
( ) 7			, -			(/					Mil-Spec test	MIL-STD-810G military testing				
											Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant				
											•					













## ThinkPad P72 Platform Specifications

Processor	8th Generation I	ntel® Cor	e™ i7 Processor o	or Intel Xeor	® E Proces	ssor	Dimensions	<i>WxDxH:</i> 16.38" x 11.06" x 0.96-1.16"; 416mm x 281mm x 24.5-29.4mm
		# of Threads		ency	Memory Types	Processor Graphics	Weight Case color Case material	Starting at 7.5 lb / 3.4kg Black Display cover: GFRP + PPS;
	i7-8750H i7-8850H		2.2 GHz 4.1 ( 2.6 GHz 4.3 (			Intel UHD Graphics 630		Bottom: Magnesium/Aluminum
	E-2176M E-2186M	12	2.7 GHz 4.4 ( 2.9 GHz 4.8 (	GHz 12MB	DDR4-2400	Intel UHD Graphics P630	Smart card reade ExpressCard Media reader	r <i>Optional:</i> Smart card reader None 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card
Graphics	Max resolution:	P600 (4 mory), Pal digital recently sendent co 3840X21	GB memory), P2 1200 (8GB memon nonitor via HDMI isplays with 3 ex	000 (4GB m ory), or P52 , Mini Displa ternal monit ayPort via N	00 (16GB n ayPort, or T ors plus sy ⁄lini Display	hunderbolt™; stem LCD screen. Port cable);	Ports  Monitor cable	Four USB 3.1 Gen 1 (one Always On), two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), Mini DisplayPort 1.4, HDMI 2.0, Ethernet (RJ-45), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole *Power Delivery only supports power-out for charging peripherals *Depending on many factors, actual data transfer speed may be lower than theoretical speed Optional: Lenovo Mini-DisplayPort to DisplayPort Monitor Cable
Chipset Memory	Mobile Intel CM2 128GB non-ECC only on Xeon pro * Installed DIMMs	C or 64ĠE ocessor), <i>are actuall</i>	B ECC max / 240 dual-channel ca y 2666MHz but run	pable, four [ at 2400MHz	DDR4 SO-D due to Intel I	DIMM sockets imitation	Camera (optional) Audio support	)IR camera and HD720p camera, fixed focus HD Audio, Realtek® ALC3286 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / optional dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone
Display	16:9 asp Some: 17.3" (43	ect ratio, 39mm) UI	800:1 contrast ra	ntio, 72% ga anti-glare, l	mut, 170° \ LED backlid	ght, WVA, 400 nits,	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad
Multi-touch Pen	None None						Security Security chip vPro <i>(optional)</i>	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Storage	Up to 3 drives (two Some: HDD / Some: M.2 SS	SATA 6.0	Gb/s, 2.5" wide,	7mm high, <i>i</i>	Active Prote		Fingerprint reader Color calibration NFC <i>(optional)</i>	rTouch style match on chip fingerprint reader on the palm rest None Near Field Communication
Optane™ memory RAID (optional) Optical		optane m					Battery Max battery life	Li-ion 99Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  MobileMark® 2014: 16 hr  * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Ethernet	Non-vPro model	l: Intel Eth	ernet Connectio	n I219-V (Ja n I219-LM (	cksonville) Jacksonville	e)	AC adapter Operating system	230W slim tip AC adapter  One of the following, configurable by model:
WLAN Bluetooth™	Intel Wireless-A0 Bluetooth 5.0 wi	C 9560, V	/i-Fi 2x2 802.11a	c + Bluetoo	th 5.0, M.2	card	(optional)	<ul> <li>Windows® 10 Home 64</li> <li>Windows 10 Pro 64</li> <li>Windows 10 Pro 64 for Workstations</li> </ul>
WWAN SIM card	None None						Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
							Mil-Spec test	MIL-STD-810G military testing
							Environment	EPEAT™ Gold (US only); ENERGY STAR® 7.0; RoHS-compliant

November 2019







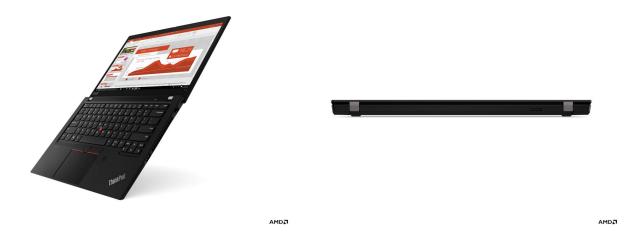






## ThinkPad P73 Platform Specifications

Processor				e™ i5 / i7 / i9				1		Dimensions	WxDxH: 16.38" x 11.06" x 1.02-1.22"; 416mm x 281mm x 25.9-31mm
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types	Process Graphic		Weight Case color	Starting at 7.5 lb (3.4kg) Black
	i5-9400H	4	8	2.5 GHz	4.3 GHz	8MB	турез	Стартії	<i></i>	Case material	Display cover: GFRP + PPS;
	i7-9750H	6	12	2.6 GHz	4.5 GHz	12MB		Intel UHD G	raphics	Consult as and uses de	Bottom: Magnesium/Aluminum
	i7-9850H	6	12	2.6 GHz	4.6 GHz	12MB	DDR4-2666	630	•	ExpressCard	r <i>Optional:</i> Smart card reader None
	i9-9880H	8	16	2.3 GHz	4.8 GHz	16MB	DD111 2000			Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card
	E-2276M	6	12	2.8 GHz	4.7 GHz	12MB		Intel UHD G P630		Ports	Three USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
Graphics	NVIDIA Qu RTX 3000 or RTX 50 Up to 5 dis tors suppo	uadro® (6GB 00 Ma: splays orted vi	P620 (40 GDDR6, x-Q (16G with 4 ex ia USB-C	B GDDR6.	i), T2000 ( RTX 4000 VR ready) tors plus s olt, and HI	4GB GI ) Max-C ); system OMI	Q (8GB GD LCD scree	DR6, VR reans DR6, VR reans DR1, VR reans DR2, VR reans DR3, VR reans DR3, VR reans DR4, VR reans DR5, VR reans DR		Monitor cable (optional)	two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 2.0, Ethernet (RJ-45), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole  * Power Delivery only supports power-out for charging peripherals  * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter  USB-C to VGA: Lenovo USB-C to VGA Adapter
Chipset	Mobile Inte	el CM2	246 Chips	set	,		`	,			USB-C to DP: Lenovo USB-C to DisplayPort Adapter
Memory	128GB ma	ax / 260	66MHz D	DR4 (ECC	function s	upporte	ed only on 2	Xeon proces	ssor),	Bundled Accy	None
Disales	dual-chan	nei cap	pable, fou	ır DDR4 SC	)-DIMINI SO				/iewina	Camera (optional) Audio support	IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2 /
Display	Size Resolution Type Surface Brightness Aspect Contrast Ratio Gam  17.3" FHD (1920x1080) WVA Anti-glare 300 nits 16:9 700:1 729									Addio Support	dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system
				VVA Anti-gla		its 1	6:9 700:1	72%	160°	Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight
	17.3" UHD Dolby	(3640X) Vision	<sup>2160)</sup>   V ™ HDR	VVA Anti-gla	are 400 n	its 1	6:9   1000:	1   100%	170°	UltraNav™	3-button TrackPoint® pointing device and
Multi-touch	None		·		,						3-button Mylar surface multi-touch touchpad
Pen	None									Security	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified
Storage				<i>and one HDI</i> .5" wide, 7n				80 drives only	/	Security chip vPro <i>(optional)</i>	Intel vPro Technology
				IVMe, PCIe		cuve F	olection by	Stelli		Fingerprint reade	Touch style match on chip fingerprint reader on the palm rest
Optane™ memory	y Optional:	Intel C	Optane m			PCIe 3.	0 x 2			Color calibration	Optional: X-Rite Pantone factory color calibration (UHD model only) Near Field Communication
RAID (optional) Optical	RAID 0/1 s None	suppor	t							NFC (optional)	
Ethernet		model	· Intal Eth	ernet Conr	notion IO1	0.1/ / lo	okoopyillo)			Battery Max battery life	Integrated Li- Polymer 99Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Ethernet	vPro mode			ernet Coni				e)		1	MobileMark® 2014: 17.2 hr
WLAN (optional)	Intel Wi-Fi	6 AX2						,		AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 170W or 230W slim tip AC adapter
Bluetooth <sup>™</sup> (opt)	Bluetooth	5.1 wir	eless, int	tegrated in	Wi-Fi + Blu	uetooth	combo ada	apter		Onerating system	One of the following, configurable by model:
WWAN	None									Operating system	Windows® 10 Home 64
SIM card	None										• Windows 10 Pro 64
											Windows 10 Pro 64 for Workstations
										Limited warranty	One of the following, configurable by model:  1-year depot repair service
											3-year/1-yr battery depot repair service
											3-year/1-yr battery limited onsite service
										Mil-Spec test	MIL-STD-810G military testing
										Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant





**™**DMA



## ThinkPad T14 Gen 1 (AMD) Platform Specifications

Processor	AMD Ryz	en <sup>™</sup> PR	O 4000 S	Series Mob	ile Proce	essors					Smart card reade	or Optional: Smart card reader
	Processor		# of	Base	Max Boo		_ N	lemory	Proc	essor	Media reader	MicroSD card reader
	Number	Cores	Threads	Clock	Clock		00	ontroller	Grap	phics	Ports	Two USB 3.2 Gen 1 (one Always On), two USB 3.2 Type-C Gen 2 (w/ the function of Power Delivery and DisplayPort 1.4).
	Ryzen 5 PRO 4650	U 6	12	2.1 GHz	4.0 GHz	OIVID	_3	R4-3200		Radeon™		HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,
	Ryzen 7 PRO 4750	U 8	16	1.7 GHz	4.1 GHz	4MB L 8MB L	2/		Grap	phics		microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics	AMD Rad supports of supports of	up to 4	independ	lent displa s via HDM	ýs via na I (up to 4	tive displ K@60Hz	z) or		nal mor	nitors;	Monitor cable (optional)  Bundled Accy	<ul> <li>Lenovo HDMI to VGA Monitor Adapter</li> <li>Lenovo USB-C to VGA Adapter</li> <li>Lenovo USB-C to DisplayPort Adapter</li> <li>None</li> </ul>
Chipset	AMD SoC	\(\int\)	m on Ch		, ,	up to SK	@ 001 12	۷)			Camera (optional	()• HD720p camera with ThinkShutter camera privacy, fixed focus
Memory	AMD SoC (System on Chip) platform 32GB max / 3200MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM									ĸet	Audio support	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 2W x 2 / optional dual array far-field microphone, headphone / microphone combo jack
Display	Size Resolution Type Surface Touch Bright-ness Ratio Ratio (14.0" HD (1366x768) TN Anti-place - 220 nits 16:9 400:1										Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, optional LED backlight
	110 112 (1000m 00) 111 11m g.m. 0										UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	14.0" FHD	(1920x1	080) W	VA Anti-gla	_	250 nits	16:9	700:1	45%	170°	Security	Power-on password, hard disk password, supervisor password, security keyhol
	14.0" FHD	`		VA Anti-gla	re Multi- touch	300 nits	16:9	700:1	45%	170°	Security chip System Mgt	Discrete TPM 2.0 TCG Certified DASH Management
	Low	(1920x1 Power	, VV	VA Anti-gla	re -	400 nits	16:9	800:1	72%	170°	Fingerprint reade	r <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest None
	14.0" FHD Thin Gua		vacy W	VA Anti-gla	re Multi- touch	500 nits	16:9	1000:1	72%	170°	Battery	Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Multi-touch (opt)	On-cell to		pports 1	)-finger ge	sture			!			Max battery life	MobileMark® 2014: 14 hr
Storage	• M.2 224 • M.2 228	12 SSD	/ PCIe N	VMe, PCI	e 3.0 x 2						AC adapter	MobileMark 2018: 11.5 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter
Optical	None	,	, , 0,0 ,	11110, 1 01	3 0.0 X 1						/ Co adapter	65W USB-C AC adapter
Ethernet	Realtek® I	RTL811	1EPV G	igabit Ethe	rnet con	nection					1	65W USB-C slim AC adapter
WLAN + BT	Intel Wi-Fi	i 6 AX20	00, Wi-F	2x2 802.1	1ax + Bl	uetooth™	5.1					Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WWAN (optional)	<ul> <li>Integrate</li> <li>* For non-V</li> </ul>	ed Mobi	ile Broad	band 4G L	TE-A, Fi	bocom L8	350-Gl upgrada	L, M.2 ca	ard		Limited warranty (optional)	<ul> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> </ul>
SIM card (opt)	Gemalto e											<ul> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> </ul>
Dimensions	WxDxH:		12.95" x 8.94" x 0.70"; 329mm x 227mm x 17.9mm									3-year/1-yr battery depot repair service
Weight	Models HD / FHD / FHD Touch FHD Low Power / Privacy Guard Weight 3.42 lb / 1.55 kg 3.22 lb / 1.46 kg											3-year/1-yr battery limited onsite service
Coop polor	Weight Black	3.4	2 lb / 1.55	kg	3.22	2 lb / 1.46 l	kg				Mil-Spec test	MIL-STD-810G military testing
Case color Case material	Top cover Keyboard Bottom:	cover:	PPS / 50 PC / AB PA / 50%	S / Talc15	+ Magne	sium allo	y;				Environment	EPEAT™ Gold; ENERGY STAR® 8.0; RoHS-compliant
	with optio				nti-micro	bial surfa	ace tre	atment				
Note: The specifica	ations above	e may no	ot be ava	lable in all	regions a	nd might	change	by region	ns.			Lenovo

Note: The specifications above may not be available in all regions and might change by regions.

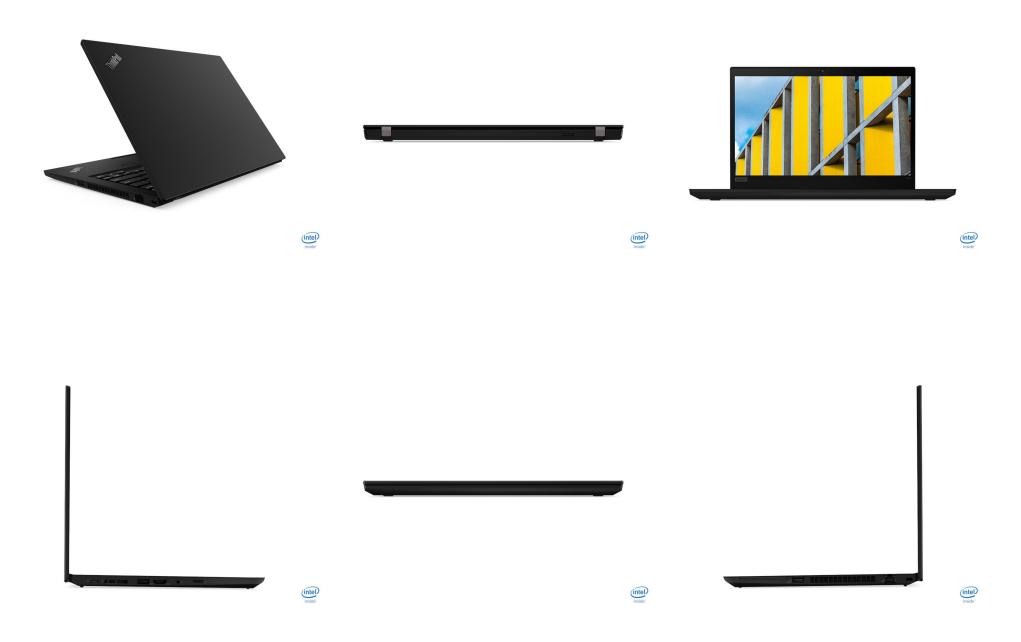






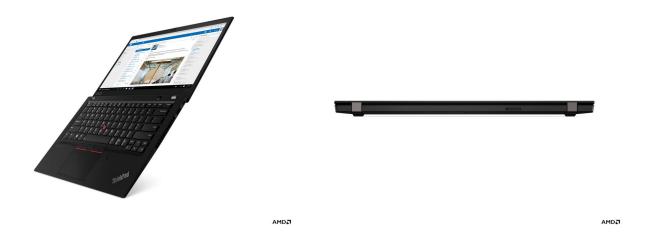
## ThinkPad T14 Gen 1 (Intel) Platform Specifications

Processor	10th Generation	n Intel® (	Core⊤	™ i5 / i7 Pı	rocess	or					Dimensions	WxDxH:	12.95"	x 8.94" x 0	).70"; 329r	nm x 227mm x 1	7.9mm	
	Processor # of	# of			/lax Turl		Memor	ry Types	Proce		Weight	Models	HD	FHD		FHD Low Power	UHD	Privacy Guard
		Thread	$\rightarrow$		requen	су	ivienio	iy iypes	Grap	hics		Weight	3.37 lb /	3.41 lb /	3.41 lb /	3.28 lb / 1.49 kg	3.28 lb /	3.56 lb /
	i5-10210U				4.2 GH 4.4 GH	_	-				Case color	Black	1.53 kg	1.55 kg	1.55 kg	9	1.49 kg	1.61 kg
	i5-10310U 4	8	_		4.4 GH 4.9 GH		DDR	4-2666	Intel U Grap	-	Case material	Top cove	er: P	PS / 50%	GF			
	i7-10610U				4.9 GH		1		апар	11100		Keyboar	d cover: P	C / ABS /	Talc15 + Ma	gnesium alloy		
Graphics	Intel UHD Grap	hice in r					<u>'</u>				<u>'</u>	Bottom:		A / 50% G		nicrobial surface	treatment	
Graphics	Intel UHD Grap				OI .										lay, and disp		ii caii ii ciii	
	NVIDIA® GeFor										Smart card reade	r Optional	: Smart ca	ard reader		· ·		
	supports up to 3 supports extern								ernai m	onitors	INICUIA ICAUCI		card read		0-1			
	USB-C (up to 40								960Hz)		Ports	one USE	3 3.2 Gen 3 3 2 Type.	1 (one Alw	ays On), with the fun	ction of Power De	elivery and	I DisplayPort)
Chipset	Intel SoC (Syste	em on C	hip) p	platform					,			one USE	3.2 Type-	-C Gen 2 /	Thunderbol	t 3 (with the func	tion of PD	and DP),
Memory	40GB or 48GB	max / 20	366M	Hz DDR4	, dual-	channel	capable	e,								card slot (WWAN		
	8GB or 16GB m * Installed memor									et		microSD	ne / micro card read	pnone con der, side do	nbo jack, op ocking conne	tional smart card ector, security ke	i reader, vhole	
Display	Included memor	y 10 dolar	iny 02	1	I			Contrast		Viewine	Manitan aabla	* Depend	ing on many	y factors, act	tual data tran:	sfer speed may be l	lower than t	heoretical speed
Бюріцу	Size Resolution		Туре	Surface	Touch	Bright- ness	Ratio	Ratio	Gamut	Angle	Monitor cable (optional)			VGA Moni o VGA Ada	tor Adapter			
	14.0" HD (1366x7	'68)	TN	Anti-glare	-	220 nits	16:9	400:1	45%	90°					ort Adapter			
	14.0" FHD (1920)	(1080)	WVA	Anti-glare	_	250 nits	16:9	700:1	45%	170°	Bundled Accy	None						
	14.0" FHD (1920)	(1080)	WVA	Anti-glare	Multi- touch	300 nits	16:9	700:1	45%	170°	Camera (optional					nera privacy, fixed hinkShutter came		fixed focus
	14.0" FHD (1920) Low Power	(1080)	WVA	Anti-glare		400 nits	16:9	800:1	72%	170°	Audio support	HD Audi	o, Realtek	® ALC3287	codec / Do	olby® Audio speal headphone / mic	ker system	i, 2W x 2 /
	FHD (1920)				Multi-	500 '	40.0	40004	700/	4700	Keyboard	'_				with Unified Cor		
	14.0" ThinkPad P Guard	rivacy	WVA	Anti-glare	touch	500 nits	16:9	1000:1	72%	178°		optional	LED back	light	,			ŕ
	UHD (3840)	x2160)									UltraNav™					ss Mylar surface i		
	14.0" HDR400, Dolby Vision	ı™	WVA	Glossy	-	500 nits	16:9	1500:1	100%	178°	Security Security chip				k password ed in chipse	, supervisor pass	sword, sec	urity keyhole
Multi-touch (opt)			10-fi	nger gest	ure			ı			1 ''	<ul> <li>Discre</li> </ul>	te TPM 2.0	0 TCG Cer	tified	•		
Storage	• M.2 2242 SSI	D / PCIe	NVN	/le, PCle 3	3.0 x 2						System Mgt (opt) Fingerprint reade	Intel vPro	o lechnolo <sup>1.</sup> Touch et	ogy We match	on chin fina	arnrint raadar on	the nalm	rost
· ·	• M.2 2280 SSI					0.					NFC (optional)	Near Fie	ld Commu	unication	on only mig	cipiliti reader on	tric pairi	1031
	<ul> <li>Intel Optane™</li> <li>M.2 2280, PC</li> </ul>				lid Stat	e Storag	e,				Battery	Integrate	ed Li-Polvn	ner 50Wh I	battery,			
Optical	None	10 14 7 171	0.0	ХТ											ge up to 80	% in 1hr) with 65	W AC ada	ıpter
Ethernet	Non-vPro mode										Max battery life		lark® 2014 lark 2018:	: 16.5 hr 11.45 hr				
	vPro model:	Intel I	Etheri	net Conne	ection I	219-LM	(Jacksc	nville)				* Battery	life varies s	significantly v		configurations, set	tings, usag	e, & other factors
WLAN +	Intel Wi-Fi 6 AX							. 00			AC adapter		ISB-C AC ISB-C AC					
Bluetooth™	* Intel AX201 card			o. I Dut IS IIII	iilea lo	515.0 by 1	viriaows	303			_			adaptei i AC adapt	er			
WWAN (optional)	<ul><li>Wireless WAN</li><li>Integrated Mo</li></ul>			nd 4G I Ti	=-A Fi	bocom I	850-GI	M 2 ca	rd		Operating system	Optional	: Windows	s <sup>®</sup> 10 Hom	e 64 or Win	dows 10 Pro 64		
	<ul> <li>Integrated Mo</li> </ul>	bile Bro	adba	nd 4G LTE	∃-A, Fi	bocom L	860-GL	, MIMO		2 card			depot repa					
SIM card (opt)	* For non-WWAN Gemalto eSIM	model, it	mean	ns the mode	el is NO	T WWAN	upgrada	ble			(optional)	• 1-year	depot with	2-year sys		repair service		
Cilvi cara (opi)	Gernano estivi													site service				
												<ul> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year onsite repair service</li> </ul>						
												• 3-year/	1-yr batter	y depot rep	pair service			
															nsite servic	e		
											Mil-Spec test			litary testin				
											Environment	EPEAT™	<sup>1</sup> Gold; EN	IERGY STA	AR® 8.0; Ro	HS-compliant		



### ThinkPad T14 Secure Access / Healthcare Edition Gen 1 Platform Specifications

Processor	10th Generation Intel	® Core	e™ i5 / i7 l	Proces	sor					Smart card reade				
	Processor # of # of Number Cores Three	eads F	1.7 GHz	Max Tu Freque 4.4 G	ency Caci	В	nory Types R4-2666	Gra <sub>l</sub> Intel	essor phics UHD	RFID reader Media reader Ports	RFID reader supporting RFID / NFC MicroSD card reader Two USB 3.2 Gen 1 (one Always On), one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),			
	i7-10610U	<u> </u>	1.8 GHz	4.9 G	Hz 8M	в   В	114-2000	Gra	phics		one USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP).			
Graphics	Intel UHD Graphics in Intel UHD Graphics in NVIDIA® GeForce® M supports up to 3 inde supports external mo USB-C (up to 4096x2	n proce IX330, pende nitors	essor and , 2GB GD ent display via HDMI	i DR5 m s via r (up to	native dis 4096x2	160@2	4Hz),			Monitor cable (optional)	HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, microSD card reader, side docking connector, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed  • Lenovo HDMI to VGA Monitor Adapter  • Lenovo USB-C to VGA Adapter  • Lenovo USB-C to DisplayPort Adapter			
Chipset Memory	Intel SoC (System on 40GB or 48GB max /	Chip)	) platform	24 dua	l channa	Loopak	alo.			Bundled Accy	None			
Memory	8GB or 16GB memor	y sold	lered to sy	ystemb	oard, on	e DDR	4 SO-DIN	MM soci	ĸet	Camera (optional)	() • HD720p camera with ThinkShutter camera privacy, fixed focus • IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus			
Display	* Installed memory is act	1			Dright		Contrast		Viewing		HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 2W x 2 / optional dual array far-field microphone, headphone / microphone combo jack			
	Size Resolution 14.0" FHD (1920x1080)	Туре			ness 250 nits	Ratio 16:9	Ratio 700:1	Gamut 45%	Angle 170°	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls,			
	14.0" FHD (1920x1080)			B. 4 . 11.	300 nits	16:9	700:1	45%	170°	∐ UltraNav™	LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
			Anti-giare	touch	300 Hits	10.9	700.1	45%	170	Security Power-on password, hard disk password, supervisor password, secu				
	FHD (1920x1080) 14.0" ThinkPad Privacy Guard	WVA	Anti-glare	Multi- touch	500 nits	16:9	1000:1	72%	178°	Security chip  • Firmware TPM 2.0 integrated in chipset  • Discrete TPM 2.0 TCG Certified  System Mqt (opt) Intel vPro Technology				
Multi-touch (opt)	On-cell touch, suppor	rts 10-	finger ge:	sture						Fingerprint reade	r FWVA 201 fingerprint reader on palm rest			
Storage	• M.2 2280 SSD / PC									NFC	NFC support via RFID reader			
	<ul> <li>M.2 2242 SSD / PC</li> <li>Intel Optane™ Mem M.2 2280, PCIe NV</li> </ul>	nory H	I10 with S			ıge,				Battery  Max battery life	Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 16.5 hr			
Optical	None									Max battery ine	MobileMark 2018: 10.5 hr			
Ethernet	Non-vPro model: Inte vPro model: Inte		ernet Con							AC adapter	<ul> <li>* Battery life varies significantly with hardware configurations, settings, usage, &amp; other factors</li> <li>45W USB-C AC adapter</li> <li>65W USB-C AC adapter</li> </ul>			
WLAN + Bluetooth™	Intel Wi-Fi 6 AX201, V * Intel AX201 card support						ws OS				65W USB-C slim AC adapter			
	Wireless WAN upgra			iiiiieu t	0 013.0 0	vviiidol	W3 00				Optional: Windows® 10 Pro 64			
SIM card (opt)	Integrated Mobile B     * For non-WWAN model, Gemalto eSIM	roadb	and 4G L					ard		Limited warranty (optional)	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> </ul>			
Dimensions	<i>WxDxH:</i> 12.95" x 8	3.94" x	c 0.70":	329mn	n x 227m	m x 17	.9mm			1	1-year + 2-year depot repair service     1-year + 2-year onsite repair service			
Weight	Models FHD / FH Weight 3.41 lb /	HD Tou	ıch	Priva	acy Guard						• 1-year + 2-year onsite repair service • 3-year/1-yr battery limited onsite service			
Case color	Black				,					Mil-Spec test	MIL-STD-810G military testing			
Case material	Keyboard cover: PC	50%	/Talc15 - GF	Ū		•				Environment	EPEAT™ Gold; ENERGY STAR® 8.0; RoHS-compliant			
Note: The specific	ations above may not be						no by rogi	one		1	Lenovo			





AMD.

AMD.



## ThinkPad T14s Gen 1 (AMD) Platform Specifications

Processor	AMD Ryzen™ PRO 4000 Series Mobile Processors			Smart card reade	or Optional: Smart card reader			
	Processor # of # of Base Max Boost Cache	Memory	Processor	Media reader Ports	MicroSD card reader Two USB 3.2 Gen 1 (one Always On),			
	Number         Cores         Threads         Clock         Clock         Clock           Ryzen 5 PRO 4650U         6         12         2.1 GHz         4.0 GHz         3MB L/ 8MB L	2 /	Graphics  AMD Radeon™	T Orts	two USB 3.2 Type-C Gen 2 (w/ the function of Power Delivery and DisplayPort 1.4), HDMI 2.0, Ethernet extension connector,			
	Ryzen 7 PRO 4750U 8 16 1.7 GHz 4.1 GHz 8MB L2 8MB L	DDR4-3200	Graphics		combo slot of nano-SIM card (WWAN models) and microSD card reader, headphone / microphone combo jack, optional smart card reader, side docking connector, security keyhole			
Graphics	AMD Radeon Graphics in processor; supports up to 4 independent displays via native display supports external monitors via HDMI (up to 4K@60Hz USB Type-C (up to 5K@	) or	nal monitors;	Monitor cable (optional)  Bundled Accy	* Depending on many factors, actual data transfer speed may be lower than theoretical speed • Lenovo HDMI to VGA Monitor Adapter • Lenovo USB-C to VGA Adapter • Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2			
Chipset Memory	AMD SoC (System on Chip) platform 8GB, 16GB, or 32GB / 3200MHz DDR4 / soldered to s	systemboard, n	o sockets	Camera	HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus			
Display	Size Resolution Type Sunace Touch Brightness		Gamut Angle	Audio support	HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 1W x 2 / optional dual array far-field microphone, headphone / microphone combo jack			
	14.0" FHD (1920x1080)     WVA Anti-glare     -     250 nits       14.0" FHD (1920x1080)     WVA Anti-glare     Multi-touch     300 nits	16:9 700:1 16:9 700:1	45% 170° 45% 170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, optional LED backlight			
	14.0" FHD (1920x1080) WVA Anti-glare - 400 nits	16:9 800:1	72% 170°	Security	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpace  Power-on password, hard disk password, supervisor password, security keyho			
	14.0" FHD (1920x1080) ThinkPad Privacy Guard WVA Anti-glare Multi-touch 500 nits	16:9 1000:1	72% 170°	Security chip System Mgt Fingerprint reader NFC	Discrete TPM 2.0 TCG Certified DASH Management r Optional: Touch style match on chip fingerprint reader on the palm rest			
Multi-touch (opt)	On-cell touch, supports 10-finger gesture	·		Battery	None Integrated Li-Polymer 57Wh battery,			
Storage	<ul> <li>M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2</li> <li>M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4</li> </ul>			Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 15.9 hr			
Optical Ethernet	None Native Realtek® RTL8111EPV Gigabit Ethernet connevia optional ThinkPad Ethernet Extension Adapter Ger	ction		AC adapter	MobileMark 2018: 13.6 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter			
WLAN + BT	Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth™			† '	65W USB-C AC adapter     65W USB-C slim AC adapter			
WWAN (optional)	Wireless WAN upgradable			Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64			
SIM card (opt)	<ul> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L8</li> <li>* For non-WWAN model, it means the model is NOT WWAN a Gemalto eSIM</li> </ul>	350-GL, M.2 ca upgradable	rd	- · · · · · · · · · · · · · · · · · ·	1-year depot repair service     1-year depot with 2-year system board repair service			
Dimensions	WxDxH (FHD / FHD Touch / Privacy Guard):	000 15 1/	0.7	1	<ul> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> </ul>			
	12.95" x 8.90" x 0.66"; 329.0mm x 3 WxDxH (FHD Low Power): 12.94" x 8.89" x 0.63"; 328.8mm x 3				<ul> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>			
Weight	Models FHD / FHD Touch FHD Low Power		acy Guard	Mil-Spec test	MIL-STD-810G military testing			
Case color	Weight   2.98 lb / 1.35 kg   2.81 lb / 1.27 kg   Black	2.81 lb	/ 1.27 kg	Environment	EPEAT™ Gold; ENERGY STAR® 8.0; RoHS-compliant			
Case material	Display cover: CFRP Hybrid; Bottom: Magnesium							
Note: The specifica	tions above may not be available in all regions and might of	change by regio	ns.		Lenovo			



### ThinkPad T14s Gen 1 (Intel) Platform Specifications

Processor	10th Generation I	ntel® Co	re™ i5 / i7 P	rocesso	or					Dimensions	WxDxH (	black with FHD / FHD Touch	/ Privacy Guard):	10 7:	
		# of Threads	Frequency F	Max Turb	cache	Memoi	ry Types	Proce Grap			WxDxH (	black with FHD Low Power	.66"; 329.0mm x 226.15m (/ UHD): .63"; 328.8mm x 225.8mr		
	i5-10210U i5-10310U i7-10510U 4	8	1.7 GHz	4.2 GHz 4.4 GHz 4.9 GHz	z 6MB	DDR	4-2666	Intel I Grap		Weight	WxDxH (	(silver): 12.96" x 8.92" x 0  Black with FHD / FHD Touch / Privacy Guard		mm x 17.2mm Silver	
	i7-10610U		1.8 GHz	4.9 GHz	z 8MB						Weight	2.98 lb / 1.35 kg	2.81 lb / 1.27 kg	3.29 lb / 1.49 kg	
Graphics	Intel UHD Graphic supports up to 3 i supports external USB-C (up to 409	ndepen monito	dent displays rs via HDMI (	up to 4	096x216	60´@24F	Hz),		onitors;		Bottom:	Silver cover: CFRP Hybrid (black) Magnesium : Smart card reader	) or Aluminum (silver);		
Chipset Memory	Intel SoC (System 8GB, 16GB or 320 * Installed memory in	n on Chi GB / 26	ip) platform 66MHz DDR	4 / sold	ered to s	systemb	ooard, n	o socke	ts	Media reader Ports	MicroSD Two USB one USB	card reader 3 3.2 Gen 1 (one Always Or 3 3.2 Type-C Gen 1 (with the	function of Power Deliver	y and DisplayPort)	
Display	Size Resolution		Type Surface	Touch	ness	Ratio	Contrast Ratio	Gamut	Viewing Angle		HDMI 1.4 combo sl	3.2 Type-C Gen 2 / Thund 4b, Ethernet extension conr lot of nano-SIM card (WWA	nector, .N models) and microSD c	ard reader,	
	14.0" FHD (1920x1)	- 1	VVA Anti-glare VVA Anti-glare	N 41+:	250 nits 300 nits	16:9 16:9	700:1 700:1	45% 45%	170° 170°	<u>.</u>	headpho side dock	ne / microphone combo jac king connector, security key ng on many factors, actual data	ck, optional smart card read Thole That transfer speed may be lower	der, than theoretical spee	
	14.0" FHD (1920x1) Low Power		VVA Anti-glare	-	400 nits	16:9	800:1	72%	170°	Monitor cable (optional)	<ul> <li>Lenovo HDMI to VGA Monitor Adapter</li> <li>Lenovo USB-C to VGA Adapter</li> </ul>				
	FHD (1920x1) 14.0" ThinkPad Priv Guard		VVA Anti-glare	Multi- touch	500 nits	16:9	1000:1	72%	170°	Bundled Accy	Lenovo USB-C to DisplayPort Adapter     Optional: ThinkPad Ethernet Extension Adapter Gen 2      HD720p camera with ThinkShutter camera privacy, fixed focus				
	UHD (3840x2 14.0" HDR400, Dolby Vision™	ĺ	VVA Glossy	-	500 nits	16:9	1500:1	100% DCI-P3	170°	Audio support	<ul> <li>* IB camera with I ninkshutter camera privacy, fixed focus</li> <li>* IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>* HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 1W x 2 / optional dual array far-field microphone, headphone / microphone combo jack</li> </ul>				
Multi-touch (opt)	On-cell touch, sup	oports 1	0-finger gest	ure						Keyboard	optional dual array far-field microphone, headphone / microphone combo jack 6-row, spill-resistant, multimedia Fn keys with Unified Communications contro				
Storage	<ul> <li>M.2 2242 SSD</li> <li>M.2 2280 SSD</li> </ul>	/ PCIe N	VMe, PCle	3.0 x 4	_					UltraNav™	optional l	LED backlight nt®pointing device and butt	,	•	
Optical	<ul> <li>Intel Optane™ M M.2 2280, PCIe None</li> </ul>			lid Stat	e Storag	e,				Security Security chip	<ul> <li>Firmwa</li> </ul>	n password, hard disk pass are TPM 2.0 integrated in cl te TPM 2.0 TCG Certified	word, supervisor password nipset	l, security keyhole	
Ethernet	Native Intel Ether via optional Think	Pad Eth	ernet Extens	sion Ad	apter Ĝe	n 2	LM ( <i>vPr</i>	·o)			Intel vPro er Optional:	Technology Touch style match on chip	fingerprint reader on the	palm rest	
WLAN + Bluetooth™	Intel Wi-Fi 6 AX20 * Intel AX201 card s	1, Wi-F	i 2x2 802.11	ax + Blu	uetooth 5	5.0 Nindows	. 06			NFC (optional) Battery		ld Communication d Li-Polymer 57Wh battery			
WWAN (optional)		ipgrada le Broad	ble dband 4G LT	E-A, Fil	oocom L	850-GL	., M.2 ca		2 card	Max battery life	supports MobileMa MobileMa	Rapid Ćharge (charge up´i <i>ark® 2014:</i> 21 hr <i>ark 2018:</i> 14.28 hr	to 80% in 1hr) with 65W A	·	
SIM card (opt)	* For non-WWAN m Gemalto eSIM	odel, it m	neans the mod	el is NO	T WWAN	upgrada	ble	ZXZ, IVI.	z cara	AC adapter	<ul><li>45W U</li><li>65W U</li></ul>	life varies significantly with ham SB-C AC adapter SB-C AC adapter SB-C slim AC adapter	dware configurations, settings,	usage, & other factor	
										Operating system	n Optional:	: Windows® 10 Home 64 or	Windows 10 Pro 64		
										Limited warranty (optional)	• 1-year o • 1-year l • 3-year/1 • 1-year - • 1-year -	depot repair service depot with 2-year system be imited onsite service 1-yr battery depot repair ser + 2-year/1-yr battery depot + 2-year/1-yr battery limited 1-yr battery limited onsite se	rvice repair service I onsite service		
										Mil-Spec test		-810G military testing			
										Environment	EPEAT™	Gold; ENERGY STAR® 8.0	); RoHS-compliant		













## ThinkPad T15 Gen 1 Platform Specifications

Processor	10th (	Generation	on Intel®	Core™	<sup>™</sup> i5 / i7 P	rocess	or					Dimensions	<i>WxDxH</i> : 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm		
	Proce: Numb					Max Turk Frequen		Memo	ry Types	Proce Grap		Weight Case color	FHD model: 3.99 lb / 1.81 kg; UHD model: 3.84 lb / 1.74 kg Black		
	i5-102 i5-103 i7-105 i7-106	10U 10U 4	8	1.	7 GHz 8 GHz	4.2 GH: 4.4 GH: 4.9 GH: 4.9 GH:	z 6MB z 8MB	- DDR	4-2666	Intel Grap		Case material	Display cover: PPS / 50% GF  Keyboard cover: PC / ABS / Talc15 + Magnesium alloy  Bottom: PA / 50% GF  with optional ISO 22196 compliant anti-microbial surface treatment (not including keyboard, display, and display bezel)		
	Intel UNVIDION Supposes	JHD Gra A® GeFo orts up to orts exter	phics in porce® MX 3 independenting the second of the seco	oroces 330, 2 enden tors vi	ssor only ssor and 2GB GDE t displays ia HDMI ( 0Hz) or T	OR5 me s via na (up to 4	tive displ	0´@24H	Hz),			Smart card reade Media reader Ports	r Optional: Smart card reader MicroSD card reader Two USB 3.2 Gen 1 (one Always On), one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models),		
Chipset Memory	40GB 8GB	or 48GE or 16GB	memory	666Ml soldei	olatform Hz DDR4 red to sys 00MHz bu	stembo	ard, one	DDR4	SO-DIM	M sock	æt	Monitor cable	headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed • Lenovo HDMI to VGA Monitor Adapter		
Display											Viewing Angle	(optional)  Bundled Accy	<ul> <li>Lenovo USB-C to VGA Adapter</li> <li>Lenovo USB-C to DisplayPort Adapter</li> <li>None</li> </ul>		
	, , ,									45%	170°	I	• HD720p camera with ThinkShutter camera privacy, fixed focus		
	Multi								800:1	45%	170°	Audio support	<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 2W x 2 / optional dual array far-field microphone, headphone / microphone combo jack</li> </ul>		
	15.6"	HDR400, Dolby Visi	,	WVA	Anti-glare	-	500 nits	16:9	1400:1	100%	170°	Keyboard 6-row, spill-resistant, multimedia Fn keys with Unified Communication numeric keypad, optional LED backlight			
					nger gest							UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
J	<ul><li>M.2</li><li>Inte</li></ul>	2242 SS I Optane	SD / PCIe	NVIV ry H10	le, PCle : le, PCle : 0 with So	3.0 x 2	e Storage	э,				Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole • Firmware TPM 2.0 integrated in chipset • Discrete TPM 2.0 TCG Certified Intel vPro Technology		
Optical	None	2200, F	CIE INVIV	e 3.0								Fingerprint reader	r Optional: Touch style match on chip fingerprint reader on the palm rest		
Ethernet		Pro mod model:			net Conn							NFC <i>(optional)</i> Battery	Near Field Communication Integrated Li-Polymer 57Wh battery.		
WLAN + Bluetooth™	Intel V	Vi-Fi 6 A	X201, Wi	-Fi 2x	2 802.11	ax + Bl	uetooth 5	5.0				Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 15.26 hr MobileMark 2018: 10.81 hr		
	* Intel AX201 card supports BT5.1 but is limited to BT5.0 by Windows OS  II) • Wireless WAN upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2 • For non-WWAN model. it means the model is NOT WWAN upgradable											AC adapter	<ul> <li>*Battery life varies significantly with hardware configurations, settings, usage, &amp; other factors</li> <li>45W USB-C AC adapter</li> <li>65W USB-C AC adapter</li> <li>65W USB-C Slim AC adapter</li> </ul>		
SIM card (opt)	Gema	ılto eSIM										Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64		
												,	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>		
													MIL-STD-810G military testing		
					le in all re							Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant		





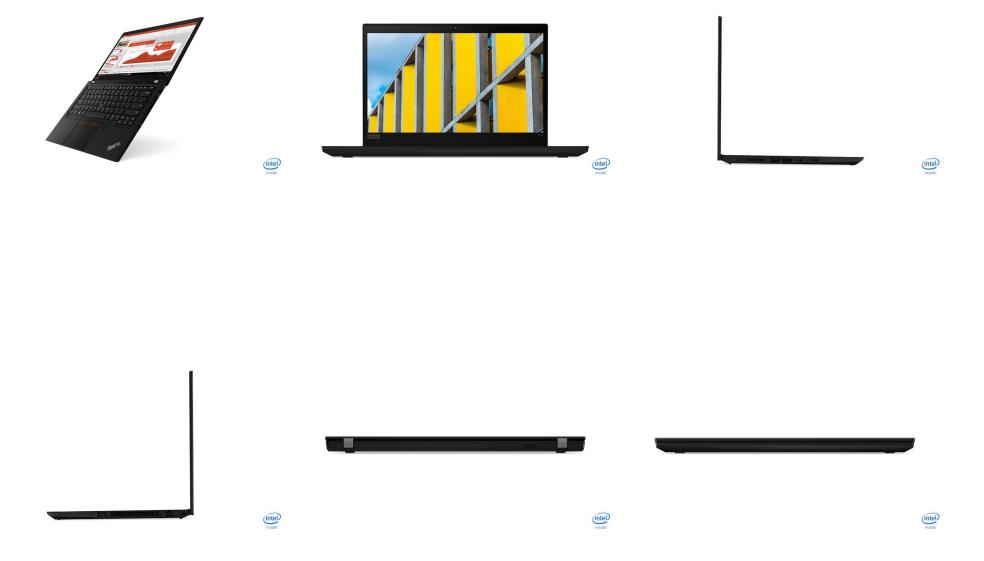




### ThinkPad T15p Gen 1 Platform Specifications

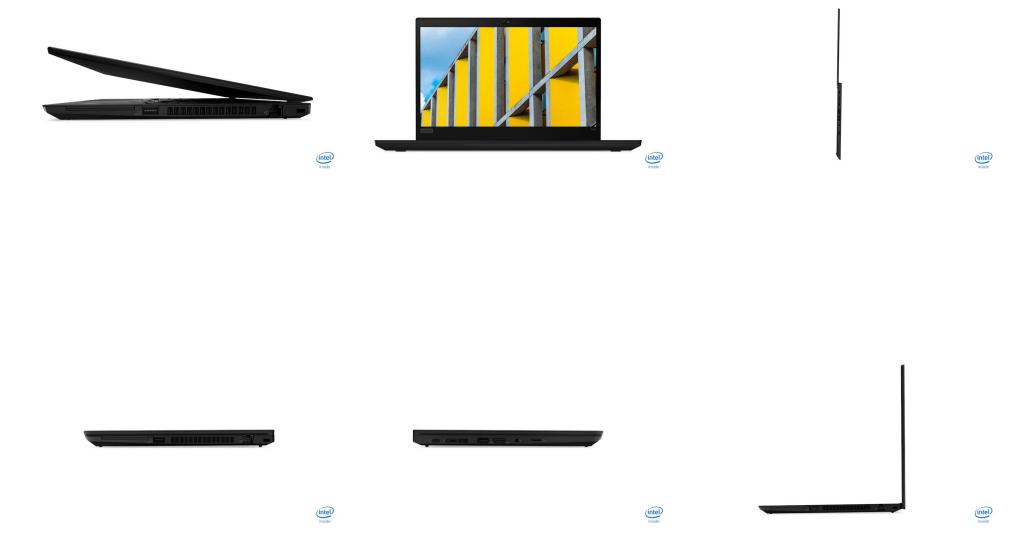
Processor	10th	Generation	Intel® Co	ore™	i5 / i7 P	rocess	or					Dimensions	<i>WxDxH:</i> 14.43" x 9.84" x 0.89"; 366.5mm x 250mm x 22.7mm			
	Proce Numb		# of Threads			Max Turi requen		Memor	ry Types	Proce Grap		Weight Case color Case material	Starting at 4.57 lb / 2.07 kg Black Display cover: PC/ABS plastic			
	i5-10	4	00H						l-4-l	LILID		Bottom: PC/ABS plastic				
	i7-108	350H 6	12	2.	7 GHz	5.0 GH 5.1 GH	z 12MB		4-2933	Grap	-	Media reader Ports	Optional: Smart card reader SD card reader, supports UHS-II SD card Two USB 3.2 Gen 1 (one Always On),			
Graphics	i7-108		ics in nr			5.1 GH	z 16MB					-	one USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort 1.2), HDMI 2.0, Ethernet (RJ-45),			
	Supports external monitors via HDMI (up to 4K@60Hz) or Thunderbolt (up to 5K@60Hz)										nonitors;	(optional)	nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed  Lenovo HDMI to VGA Monitor Adapter  Lenovo USB-C to VGA Adapter  Lenovo USB-C to DisplayPort Adapter			
Chipset Memory	Intel WM490 Chipset 64GB max / 2933MHz DDR4, dual-channel capable, two DDR4 SO-DIMM socket * Installed memory is actually 3200MHz but run at 2933MHz due to Intel limitation											Bundled Accy Camera (optional)	None  • HD720p camera with ThinkShutter camera privacy, fixed focus			
Display		Resolution		Гуре		Touch			Contrast Ratio	Color	Viewing Angle	Audio support	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 2W x 2 / optional dual array microphone, headphone / microphone combo jack			
	15.6"	FHD (1920x1	1080) V	ΝVA	Anti-glare	-	250 nits	16:9	700:1	45%	170°	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad, optional LED backlight			
	15.6"	FHD (1920x1	1080) V	NVA	Anti-glare	Multi- touch	300 nits	16:9	800:1	45%	170°	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
	15.6"	UHD (3840x2 HDR400, Dolby Vision <sup>1</sup>	´  \	NVA	Anti-glare	-	600 nits	16:9	1400:1	100%	178°	Security Security chip System Mgt (opt)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0 TCG Certified Intel vPro Technology			
Multi-touch (opt)	On-c	ell touch, su	pports 1	0-fir	nger gest	ure						Fingerprint reader	rTouch style match on chip fingerprint reader on the palm rest None			
Storage  RAID (optional) Optical	M.2 2	two M.2 SSD 2280 SSD / I 0/1 suppor	PCIe NV	/Me,	PCIe 3.0	0 x 4						Battery Max battery life	Integrated Li-Polymer 68Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 135W AC adapter MobileMark® 2014: 12.1 hr MobileMark 2018: 7.9 hr			
Ethernet		vPro model: model:					219-V (Ja  219-LM (					AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 135W slim tip AC adapter			
WLAN + BT	Intel \	Ni-Fi 6 AX2	01, Wi-F	i 2x2	2 802.11	ax + Bl	uetooth™	5.1				Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64			
WWAN (optional) SIM card	otional) • Wireless WAN upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable None											Limited warranty (optional)	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>			
												Mil-Spec test	MIL-STD-810G military testing			
		ahaya may n										Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant			

Note: The specifications above may not be available in all regions and might change by regions.



### ThinkPad T490 Platform Specifications

Processor	8th Generation	Intel® Co	ore™ i5	5 / i7 Proc	essor					Dimensions	WxDxH:	+		m x 227mm x 17.9mm			
	Processor # of				ax Turbo Cac		emory	Proce		Weight	Models	HD	FHD	FHD Low Power / WQHD			
	Number Core	s Thread	_		equency Cac .9 GHz 6M		ypes	Grap	nics	Coop color	Weight	3.37 lb / 1.53 kg	3.41 lb / 1.55 kg	3.23 lb / 1.46 kg	3.56 lb / 1.61 kg		
	i5-8365H				.1 GHz 6M					Case color Case material	Black Display cover: PPS / 50% GF; Bottom: PA / 50% GF						
	i7-8565U 4	8			.6 GHz 8M		R4-2400 li	ntel UHD	Graphics								
	i7-8665U		1.9	GHz 4	.8 GHz 8M	В					er Optional: Smart card reader						
	or 10th Genera		_,		cessor (NO	T availa	able in E	MEA)		Media reader Ports	Two USF	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),					
	Processor # of Number Core				ax Turbo equency Cac		emory ypes	Proce Grap			one USE	3 3.1 Type-C`Gen	1 (with the funct	ion of Power Delivery ar 3 (with the function of PI			
	i5-10210U 4	8			.2 GHz 6M									ard slot (WWAN models)	),		
	i7-10510U 6	12	_		.9 GHz 8M .7 GHz 12M		R4-2400 I	ntel UHD	Graphics	5	microSD	card reader, side	e docking connec	onal smart card reader, ctor, security keyhole er speed may be lower than			
Graphics	Intel UHD Graphics in processor only or Intel UHD Graphics in processor and									Monitor cable (optional)	HDMI to	ling on many tactors VGA: Lenovo to VGA: Lenovo	HDMI to VGA Mo	onitor Adapter	theoretical speed		
	NVIDIA® GeFo	rce® MX2	250, 20	B GDDF	R5 memory;						USB-C to	to HDMI: Lenovo	USB-C to HDMI	Adapter			
	supports extern supports three	independ	dent di	splays;						Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter None						
Discolar.	Max resolution	4096x2	304@	60HZ (IN	underbolt);					Camera (optional				we will be a confirmed for a con-			
Display	Size Resolution		Туре	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle		<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed</li> </ul>				cy, fixed focus		
	14.0" HD (1366x	768)	TN	Anti-glare	220 nits	16:9	400:1	45%	90°	Audio support	HD Audio, Realtek® ALC3287 codec /		,				
					250 nits						stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone (for special bid model, microphone is opt		is optional),				
	14.0" FHD (1920	x1080)	WVA	Anti-glare	(non-touch) 300 nits	16:9	700:1	45%	170°		headphone / microphone combo jack						
	14 0" FHD (1920	v1000\			(multi-touch)					Keyboard UltraNav™				optional LED backlight			
	14.0" Low Power	X 1060)	WVA	Anti-glare	400 nits	16:9	800:1	72%	170°					Mylar surface multi-tou			
	FHD (1920 14.0" ThinkPad F Guard	x1080) Privacy	WVA	Anti-glare	400 nits	16:9	1000:1	72%	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security ke Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)						
	14 0" WQHD (25	WOLD (2500:1440)					170°	Fingerprint reade	htel vPro Technology or <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest Near Field Communication				n rest				
Multi-touch (opt)	On-cell touch,		10-fin	ger gestu	re (FHD only	<u>')</u>			,	NFC (optional)							
Chipset	Intel SoC (Syst					,				Battery Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter					lapter		
Memory	40GB or 48GB 8GB or 16GB r							11111	lkot	Max battery life	Max battery life MobileMark® 2014: 16.11 hr * Battery life varies significantly with hardware configurations, settings, usage, &						
	* Installed memo								, Kei	AC adapter • 45W USB-C AC adapter					ge, & other lactors		
Storage	• M.2 2280 SS	D / SATA	6.0GI	s (NOT	available in I	EMEA)	ı			1		JSB-C AC adapte JSB-C slim AC ac					
-	<ul><li>M.2 2280 SS</li><li>M.2 2242 SS</li></ul>					,				Operating system			iapiei				
	<ul> <li>Intel Optane<sup>™</sup></li> </ul>	<sup>™</sup> Memor	y H10	with Solid		ige,				(optional)	<ul> <li>Windov</li> </ul>	ws 10 Pro 64					
Ontinal	M.2 2280, PC	Cle NVM	é 3.0 x	4		0 /						ws 10 Pro in S mo					
Optical	None	-/- l-t-l =	*Ala aa	10	#:a.m. 1040 \/	/ la alva				Limited warranty		depot repair servi depot with 2-year		anoir corrido			
Ethernet	Non-vPro model:				tion 1219-v			)		(optional)		limited onsite ser		epair service			
WLAN +	Intel Wireless	-AC 9560	), Wi-F	i 2x2 802	.11ac + Blue	etooth	5.0			-		+ 2-year depot re					
Bluetooth™	• Intel Wi-Fi 6				ax + Bluetoc	th 5.0						+ 2-year onsite re					
(optional)	(AX201 for 10										• 3-year/	1-yr battery limite	ed onsite service				
WWAN (optional)	Wireless WAI				only in FM	EA)				Mil-Spec test	MIL-STD	0-810G military te	esting				
	<ul><li>Integrated Mo</li><li>Integrated Mo</li><li>Integrated Mo</li></ul>	bile Broa bile Broa bile Broa	adban adban adban	4G LTE 4G LTE 4G LTE	, Fibócom L8 -A, Fibocom -A, Fibocom	30-EB L850-( L860-(	GL, M.2 ( GL, MIM	card	• ,	Environment	EPEAT™	<sup>™</sup> Gold; ENERGY	STAR® 7.1; TCO	Certified; RoHS-complia	ant		
SIM card (opt)	<ul> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card</li> <li>For non-WWAN model, it means the model is NOT WWAN upgradable</li> <li>Verizon LTE (US) SIM card</li> <li>Gemalto eSIM</li> </ul>																



## ThinkPad T490 Secure Access / Healthcare Edition Platform Specifications

Processor	8th Ge	neration	Intel® C	ore™	⁴ i5 / i7 Pr	ocessor					Dimensions	WxDxH:	12.95" x 8.94" x 0.70"			
	Process					Max Turbo	Cache	Memory	Proce		Weight	Models	FHD	Privacy Guard		
	Numbe		es   Threa	_		riequency		Types	Graph	nics		Weight	3.41 lb / 1.55 kg	3.56 lb / 1.61 kg		
	i5-8265				1.6 GHz 1.6 GHz		6MB 6MB				Case color Case material	Black Display cover: PPS / 50% GF:				
	i7-8565	4	8		1.8 GHz		8MB	DDR4-2400 Int	el UHD	Graphics	Sase material		cover: PC/ABS + Magn	nesium alloy		
	i7-8665				1.9 GHz		8MB					-	(with ISO 22196	compliant anti-microbial surface treatment);		
Graphics			obico in		essor only						╡	Bottom:	PA / 50% GF			
Graphics											Smart card reade RFID reader		der supporting RFID / N	EC.		
	NVIDIA® GeForce® MX250, 2GB GDDR5 memory;									Media reader		card reader	FC			
						HDMI or Thu	ınderb	oolt;			Ports	Two USB	3.1 Gen 1 (one Always	On),		
					displays;		· 409	96x2160@24H	Hz (HDI	MI)		one USB	3.1 Type-C Gen 1 (with	the function of Power Delivery and DisplayPor		
Chipset					platform	manacibon	), 400	70X2 100 @ 2-11	12 (1101	VII.)	-	ONE USB	3.1 Type-C Gen 2 / Thur b Ethernet (B.I-45) nan	nderbolt 3 (with the function of PD and DP), no-SIM card slot (WWAN model),		
Memory	40GB	or 48GB	max / 2	400N	/iHz DDR	4, dual-char	nnel ca	apable,				headphor	ne / microphòne combo j	ack, microSD card reader,		
·	8GB or	r 16GB i	nemory	solde	ered to sy	stemboard,	one D	DDR4 SO-DIM	1M sock	ĸet		side dock	ing connector, security k	keyhole		
	* Install	ed memo	ry is actu	ally 2	666MHz bu	ıt run at 2400	MHz d	ue to Intel limita			Monitor cable	HDMI to \	ig on many factors, actual d /GA:    Lenovo HDMI to	lata transfer speed may be lower than theoretical spe VGA Monitor Adapter		
Display	Size R	esolution		Туре	Surface	Brightness	Aspe		Color	Viewing	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to HDMI: Lenovo USB-C to HDMI Adapter		o VGA Adapter		
				7.		250 nits	Ratio	Ratio	Gamut	Angle	1					
	14 0" F	HD (1920	)x1080)	WVA	Anti-glare	(non-touch)	16:9	700:1	45%	170°	Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter None		o DisplayFort Adapter		
		(	,,,,,,,,,		, and gland	300 nits (multi-touch)		7 00	1.070		Camera (optional	I) One of the	following, configurable by n	nodel:		
	F	HD (1920	)x1080)			(mail: todom)						HD720p camera with ThinkShutter camera privacy, fixed focus				
	14.0" T	hinkPad	Privacy	WVA	Anti-glare	400 nits	16:9	1000:1	72%	170°	Audio support	<ul> <li>IR camera and HD720p camera with ThinkShutter camera priv HD Audio, Realtek® ALC3287 codec /</li> </ul>				
		iuard		40.6	<u> </u> ,,	, (ELID	L.,				Addio Support	stereo speakers, 2W x 2, Dolby® Audio™ Premium /				
						ture (FHD c	nly)				_	optional d	lual array far-field microp	phone, headphone / microphone combo jack		
Storage		2280 SS			Gb/s Me, PCle	3 0 v 1					Keyboard					
					Me, PCle						UltraNav™ TrackPoint® pointing device and buttonless Mylar surface multi-touch touch					
	• Intel	Optane	Memo	ry H	10 with So	olid State St	orage	,			Security Power-on password, hard disk password, supervisor password, security keyl Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)  System Mgt (opt) Intel vPro Technology Fingerprint reader FWVA 201 fingerprint reader on palm rest NFC NFC Support via RFID reader					
Optical	M.2 2 None	2280, P	JIE NVN	/le 3.0	) x 4											
Ethernet		Pro moo	al: Intal	Ethou	rnot Conn	ection I219	V ( la	okeopyillo)								
Lineinei	vPro n							lacksonville)								
WLAN (optional)	Intel W	ireless-	AC 9560	. Wi-I	Fi 2x2 802	2.11ac + Blu	retoot	h 5.0			NFC					
Bluetooth™ (opt)								combo adapte	er		Battery	Integrated	l Li-Polymer 50Wh batte	ery, p to 80% in 1hr) with 65W AC adapter		
WWAN (optional)											Max battery life	MobileMa	<i>rk</i> <sup>®</sup> <i>2014:</i> 16.11 hr	•		
					(special			50 OL MO	1		AC adaptar			ardware configurations, settings, usage, & other fact		
						E-A, FIDOCO del is NOT WI		50-GL, M.2 ca	ard		AC adapter		SB-C AC adapter SB-C AC adapter			
SIM card (opt)		to eSIM		· moa	110 1110 11100	.0.10.110.1	, t u <sub>l</sub>	ogradabio					SB-C slim AC adapter			
											Operating system	Optional:	Windows® 10 Pro 64			
											Limited warranty		epot repair service			
											(optional)	<ul> <li>1-year d</li> </ul>	epot with 2-year system	board repair service		
													mited onsite service -yr battery depot repair s	convice		
													2-year/1-yr battery dep			
												• 1-year +	2-year/1-yr battery limit	ed onsite service		
													-yr battery limited onsite	e service		
											Mil-Spec test		810G military testing			
											Environment	EPEAT™	Silver; ENERGY STAR®	7.1; RoHS-compliant		
Note: The specifica	tions ab	ove may	not he	clicve	hle in all re	onione and n	niaht c	hange by regio	ne					Ler		



## ThinkPad T490s Platform Specifications

Processor	8th Generation In	ntal® Car	roTM i5 / i7 Dr	occcor					Dimensions	WxDxH (black with FHD / Privacy Guard):			
FIOCESSOI	Processor # of	# of	Base	Max Turbo Frequency Cac 3.9 GHz 6N	ne T	emory ypes	Proce Grapl		Dimensions	WxDxH (black with FHD Low Power / WQHD):  12.95" x 8.90" x 0.66"; 329.0mm x 226.15mm x 16.7mm  WxDxH (black with FHD Low Power / WQHD):  12.94" x 8.89" x 0.63"; 328.8mm x 225.8mm x 16.1mm  WxDxH (silver): 12.96" x 8.92" x 0.68"; 329.15mm x 226.45mm x 17.2mm			
	i5-8365U i7-8565U i7-8665U	8	1.6 GHz 1.8 GHz 1.9 GHz	4.1 GHz 6N 4.6 GHz 8N 4.8 GHz 8N	IB DDI	R4-2400 In	tel UHD	Graphics	Weight	Models   Black with FHD / Privacy Guard   WQHD   Silver			
Graphics	Intel UHD Graphi supports external supports three in Max resolution: 4	l digital depend	monitor via I ent displays;		,	2160@24	Hz (HDN	MI)	Case color Case material	Black or Silver  Display cover: CFRP Hybrid (black) or Aluminum (silver);  Bottom: Magnesium  ar Optional: Smart card reader			
Chipset Memory	Intel SoC (Syster 8GB, 16GB or 32 * Installed memory	n on Ch	ip) platform 00MHz DDR	4 / soldered t	o systei	mboard, r	o socke		Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),			
Display	Size Resolution	-	Type Surface		Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle		one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet extension connector, combo slot of nano-SIM card (WWAN models) and microSD card reader,			
	14.0" FHD (1920x1	080)	WVA Anti-glar	250 nits (non-touch) 300 nits (multi-touch)	16:9	700:1	45%	170°	Monitor cable	headphone / microphone combo jack, optional smart card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed			
	14.0" FHD (1920x1 Low Power	080)	NVA Anti-glar	e 400 nits	16:9	800:1	72%	170°	(optional)	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter			
	FHD (1920x1 14.0" ThinkPad Priv Guard	080) vacy	NVA Anti-glar	e 400 nits	16:9	1000:1	72%	170°	Bundled Accy	Optional: ThinkPad Ethernet Extension Adapter Gen 2  )• HD720p camera with ThinkShutter camera privacy, fixed focus			
	14.0" WQHD (2560 HDR, Dolby V		NVA Glossy	500 nits	16:9	1500:1	100% Adobe	170°	Audio support	IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec /			
	On-cell touch, su	pports 1		ture (FHD onl	y)		1		-	stereo speakers, 1W x 2, Dolby® Audio™ Premium / dual array far-field microphone (for special bid model, microphone is optional),			
Storage	<ul> <li>M.2 2280 SSD</li> <li>M.2 2280 SSD</li> <li>M.2 2242 SSD</li> <li>Intel Optane<sup>TM</sup> I</li> </ul>	/ PCle I / PCle I	NVMe, PCIe NVMe, PCIe	3.0 x 2	ana				Keyboard UltraNav™	headphone / microphone combo jack 6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
Optical	M.2 2280, PCI	e NVMe	3.0 x 4	ma Otate Otor	ago,				Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified			
Ethernet	Native Intel Ether via optional Think	kPad Eth	nernet Exten	sion Adapter		9-LM ( <i>vP</i>	ro)		Fingerprint reader	(may be disabled in some region) Intel vPro Technology r Optional: Touch style match on chip fingerprint reader on the palm rest			
WLAN + Bluetooth™ (optional)	<ul><li>One of the following</li><li>Intel Wireless-A</li><li>Intel Wi-Fi 6 AX</li></ul>	C 9560	Wi-Fi 2x2 8	02.11ac + Blu		5.0			NFČ (optional) Battery	Near Field Communication Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter			
WWAN (optional)	One of the following  • Wireless WAN to	upgrada	ble						Max battery life	MobileMark® 2014: 20 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factor.			
	<ul> <li>Integrated Mobil</li> <li>Integrated Mobil</li> <li>* For non-WWAN m</li> </ul>	ile Broa	dband 4G LT	E-A, Fibocom	L850-0	GL, M.2 ca		A only)	AC adapter  • 45W USB-C AC adapter  • 65W USB-C AC adapter  • 65W USB-C slim AC adapter				
SIM card (opt)	<ul> <li>Verizon LTE (US)</li> </ul>			0.10.110.1	r upgru	aabio			Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64			
	Gemalto eSIM									• 1-year depot repair service • 1-year depot with 2-year system board repair service • 1-year limited onsite service • 3-year/1-yr battery depot repair service • 1-year + 2-year/1-yr battery depot repair service • 1-year + 2-year/1-yr battery limited onsite service • 3-year/1-yr battery limited onsite service			
									Mil-Spec test	MIL-STD-810G military testing			
	ations above may no								Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant			



### ThinkPad T495 Platform Specifications

Processor	AMD Ryzer	ı™ PRO I	Mobile F	Processor	s with Rade	eon™ Veg	a Graphics			Dimensions	WxDxH:	12.95" x 8.94" >	c 0.70"; 329mm;	x 227mm x 17.9mm
	Processor	# of	# of	Base	Max Boost	Cache	Memory		essor	Weight	Models	HD	FHD	FHD Low Power
	Number Ryzen 3	Cores		Clock	Clock	2MB L2	Controller		phics n Vega 6	Case color	Weight Black	3.46 lb / 1.57 kg	3.46 lb / 1.57 kg	3.39 lb / 1.54 kg
	PRO 3300U	4	4	2.1 GHz	3.5 GHz	4MB L3		Gra	phics	Case material	Display cover: PPS / 50% GF;			
	Ryzen 5 PRO 3500U	4	8	2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-2400		n Vega 8 phics		Bottom: PA / 50% GF			
	Ryzen 7	4		0.0.011	4.0.011	2MB L2 /	-		Vega 10	Smart card reade Media reader	Optional: Smart card reader MicroSD card reader			
	PRO 3700U	4	8	2.3 GHz	4.0 GHz	4MB L3		Gra	phics	Ports	One USB 3	3.1 Gen 1 (Alway	/s On), one USB 3	3.1 Gen 2,
Graphics	AMD Raded supports ex supports for Max resolut	ternal d	iaital mo	onitor via l	JSB-C or H	IDMI: ˈ	•	DMI)			two USB 3.1 Type-C Gen 2 (w/ the function of Power Delivery and DisplayPort 1.4 HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical spee			
Chipset	AMD SoC (	System	on Chip	) platform						Monitor cable	HDMI to V	<i>GA:</i> Lenovo H	DMI to VGA Monit	tor Adapter
Memory	32GB max 7 8GB or 16G	/ 2400M 3B mem	ORV SOLD	(4, dual-c ered to sy	nannei capa Astemboard	able, . one DF	DR4 SO-DIM	M sock	cet	(optional)	USB-C to I USB-C to I	<i>VGA:</i> Lenovo U DP: Lenovo II	SB-C to VGA Ada SB-C to DisplayPo	pter ort Adapter
	* Installed me	emory is a	actually 2	2666MHz b	ut run at 240	OMHz due	to AMD limit	ation		Bundled Accy	None	Dr. Lonovo o	OB O to Biopiayi t	orradpier
Display	Size Resolu	tion	Туре	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Camera (optional)	) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus			
	14.0" HD (13	66x768)	TN	Anti-glare	220 nits	16:9	400:1	45%	90°	Audio oupport	• IR camer	a and HD720p o	camera with Think	Shutter camera privacy, fixed focus
	14.0" FHD (1		´	Anti-glare	250 nits (non-touch) 300 nits (multi-touch	16.9	700:1	45%	170°	Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone (for special bid model, microphone is optional), headphone / microphone combo jack			mium / d model, microphone is optional),
	14.0" FHD (1 Low Po	Wei		Anti-glare		16:9	800:1	72%	170°	Keyboard UltraNav™	6-row, spill TrackPoint	resistant, multin	nedia Fn keys, opt and buttonless M	tional LED backlight ylar surface multi-touch touchpad
	On-cell touc				ture (FHD	only)				Security	ity Power-on password, hard disk password, supervisor password, security keyh		pervisor password, security keyhole	
	<ul><li>M.2 2280</li><li>M.2 2280</li></ul>	SSD / F	Cle NV	Me, PCle						' '	Security chip Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)  System Mgt DASH Management  Fingerprint reader Optional: Touch style match on chip fingerprint reader on the palm rest			screte TPM 2.0 TCG Certified
Optical	<ul> <li>M.2 2242</li> <li>None</li> </ul>	SSD / F	Cle NV	Me, PCIe	3.0 x 2					System Mgt				int reader on the palm rest
Ethernet	Realtek® R1	ΓL8111 (	Gigabit I	Ethernet of	connection					NFC				in roador on the pain root
WLAN	One of the fo									Battery		Li-Polymer 50W		Albah with OFIN AO adamtan
	<ul> <li>Realtek® F</li> <li>Intel Wirel</li> </ul>	RTL8822	2BE, Wi-	-Fi 2x2 80	2.11ac + B	luetooth	4.2, M.2 ca	rd		Max battery life		rapid Charge (ch rk® <i>2014:</i> 13.4 h		1 1hr) with 65W AC adapter
Bluetooth™	Bluetooth 4							adapte	r	AC adapter		e varies significantl W USB-C AC ad		figurations, settings, usage, & other factors
WWAN (optional)	One of the for				el:					<u> </u>			me 64 or Window	s 10 Pro 64
	Wireless WAN upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card For non-WWAN model, it means the model is NOT WWAN upgradable Verizon LTE (US) SIM card Gemalto eSIM										<ul> <li>1-year de</li> <li>1-year de</li> <li>1-year lir</li> <li>1-year +</li> <li>1-year +</li> <li>3-year/1-</li> </ul>	epot repair servic	ce system board repartice sair service ssite service repair service	
										Mil-Spec test		310G military tes		
										Environment	EPEAT™ C	Gold; ENERGY S	STAR® 7.1; TCO C	ertified; RoHS-compliant
Note: The specifica	tions above r	nay not l	ho availa	blo in all r	ogione and	might ch	ango by rogic	nne						Lenovo



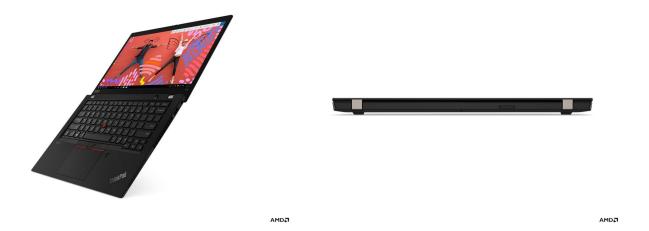
## ThinkPad T495s Platform Specifications

Processor   # of   #	Processor	AMD Rvzer	n™ PRC	) Mobile	e Processo	rs with Radeo	on™ Ved	a Graphics			Dimensions WxDxH (FHD / Privacy Guard):					
PRO 3500U   4   8   2.1 GHz   3.7 of the   448 H 3   3   7 km/s		Processor	# of	# of	Base	Max Boost	· ·	Memory	Proc			12.95" x 8.90" x 0.66"; 329.0mm x 226.15mm x 16.7mm WxDxH (Low Power):				
Graphics AMD Radeon Vega 8 or Vega 10 Graphics in processor; supports external digital monitor via USB-C or HOMI; separate processor and control of the processor of the process			4	8	2.1 GHz	3.7 GHZ	IMB L3	DDB4-2400	Gra		Weight	Models FHD FHD Low Power FHD Privacy Guard				
Sign of the Control o			4	8	2.3 GHz			DDI 14-2400	Radeor			Black				
Cripset Memory SelB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no systemboard, no sockets GB or 166B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 167B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 167B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 167B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 167B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 167B / 2400MHz Dip Half soldered to systemboard, no sockets GB or 167B / 2400MHz Dip Half sol	Graphics	supports external digital monitor via USB-C or HDMI; supports three independent displays; Max resolution: 4096x2304@60Hz (USB-C); 4096x2160@24Hz (HDMI)										Bottom: Magnesium/Aluminum  Smart card reader Optional: Smart card reader  Media reader MicroSD card reader				
Display   Size   Resolution   Type   Surface   Brightness   Ratio   Color   Viewing   Fall (Sand   Angle   Ratio   Color   Viewing   Fall (Sand   Angle   Ratio   Color   Viewing   Fall (Sand   Color   Viewing   View   Vi	Chipset Memory	8GB or 160	B / 24	00MHz	DDR4/sc	Idered to sys	temboa MHz du	ard, no sock e to AMD limi	ets tation		Ports	two USB 3.1 Type-C Gen 2 (w/ the function of Power Delivery and DisplayPort 1.4). HDMI 2.0, Ethernet extension connector, combo slot of nano-SIM card (WWAN models) and microSD card reader,				
14.0 FHD (1920x1080)   WVA   Anti-glare   (non-fouch)   16.9   700.1   45%   1701   (100)	Display	Size Resolu	ution	1	ype Surfac	e Brightness	Aspec Ratio		Color Gamut	Viewing Angle		headphone / microphone combo jack, optional smart card reader, side docking connector, security keyhole				
Camera   Filt (1920x1080)   1.0				, l	VVA Anti-gla	re (non-touch) 300 nits	16.9	700:1	45%	170°	(optional)	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
FHD (1920x1080)   14.0 ThinkPad Privacy   WA Anti-glare   400 nits   16:9   1000:1   72%   170°   Audio support   14.0 ThinkPad Privacy   Guard   WA Anti-glare   400 nits   16:9   1000:1   72%   170°   Audio support   14.0 ThinkPad Privacy   Guard   WA Anti-glare   400 nits   16:9   1000:1   72%   170°   Audio support   400 nits   16:9   1000:1   72%   170°   Audio support   400 nits   400 n		14.0" FHD (	1920x10	<sup>080)</sup> v	VVA Anti-gla	re 400 nits	16:9	800:1	72%	170°						
Storage Optional M.2 2280 SSD / PCle NVMe, PCle 3.0 x 4 None  M.2 2280 SSD / PCle NVMe, PCle 3.0 x 4 None  M.2 2280 SSD / PCle NVMe, PCle 3.0 x 4 None  M.2 2280 SSD / PCle NVMe, PCle 3.0 x 4 None  M.3 which is a standard optional optional optional Mone  M.3 which is a standard optional optional ThinkPad Ethernet Extension Adapter Gen 2  M.3 which is a standard optional optional ThinkPad Ethernet Extension Adapter Gen 2  M.4 Noptional) Intel Wireless-AC 9260, Nri-Fi 2x2 802.11ac + Bluetooth 5.0 bluetooth 5.0 wireless, integrated in Wi-Fi ≥ 2x 802.11ac + Bluetooth combo adapter  M.4 Noptional) Intel Wireless-AC 9260, Nri-Fi 2x2 802.11ac + Bluetooth combo adapter  M.5 which is wireless with a standard optional optional to the following, configurable by model:  M.6 wireless WAN upgradable  Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card optional optional with a standard optional optional optional with a standard optional optional with a standard optional optional with a standard optional optional with a standard optional optional with a standard optional optional with a standard optional optional with a standard optional optional with a standard optional optional with a standard optional optional with a standard optional optional with a standard optional optional with a standard optional optional optional optional optional optional optional with a standard optional optional optional optional optional optional optional optional optional optional optional optional optional optional optional optional optional optional with a standard optional optional with a standard optional optional optional optional with a standard optional opt		FHD ( <sup>1</sup> ThinkF Guard	1920x10 Pad Priva	acy V				1000:1	72%	170°		<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>HD Audio, Realtek® ALC3287 codec /</li> </ul>				
Storm of the None of		-		•		•	nly)				-	stereo speakers, 1W x 2, Dolby® Audio™ Premium / optional dual array far-field microphone, headphone / microphone combo jack				
Native reacter. In TEPF dispatch termet Extension Adapter Gen 2  WLAN (optional) Bluetooth™ WWAN (optional) Bluetooth™ One of the following, configurable by model: • Wireless WAN upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • For non-WWAN model, it means the model is NOT WWAN upgradable • Verizon LTE (US) SIM card • Gemalto eSIM  Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region) DASH Management Fingerprint reader on the palm rest NPC None  Battery Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter  MobileMark® 2014: 16.4 hr Battery life varies significantly with hardware configurations, settings, usage, & other factors  AC adapter  Operating system Optional:  1-year depot repair service • 1-year 42-year depot repair	Optical	None										6-row, spill-resistant, multimedia Fn keys, optional LED backlight				
WILAN (optional)  Bluetooth 5.0 wireless AC 202. Har + Sluetooth combo adapter  WWAN (optional)  WWAN (optional)  WWAN (optional)  One of the following, configurable by model:  • Wireless WAN upgradable  • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  * For non-WWAN model, it means the model is NOT WWAN upgradable  • Gemalto eSIM  • Gemalto eSIM   (may be disabled in some region)  DASH Management  Fingerprint reader Optional: Touch style match on chip fingerprint reader on the palm rest  NFC  Battery  Integrated Li-Polymer 57Wh battery,  supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter  MobileMark* 2014: 16.4 hr  * Battery life varies significantly with hardware configurations, settings, usage, & other factors  AC adapter  Operating system Optional: Windows* 10 Home 64 or Windows* 10 Pro 64  Limited warranty (optional)  • 1-year depot repair service  • 1-year depot repair servic		via optional	l Think	Pad Eth	ernet Exte	nsion Adapte	r Gen 2	2				Power-on password, hard disk password, supervisor password, security keyhole				
WWAN (optional) One of the following, configurable by model:  • Wireless WAN upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card *For non-WWAN model, it means the model is NOT WWAN upgradable • Verizon LTE (US) SIM card • Gemalto eSIM  • Gemalto eSIM  Fingerprint reader Optional: Touch style match on chip fingerprint reader on the palm rest NFC None  Battery Integrated Li-Polymer 57Wh battery, supports Rapid Charge up to 80% in 1hr) with 65W AC adapter  Max battery life  AC adapter  AS adapter  Operating system Optional: Windows® 10 Home 64 or Windows 10 Pro 64  Limited warranty (optional)  • 1-year depot repair service • 1-year ilmited onsite service • 1-year Poptor tepair service • 1-year + 2-year depot repair service • 1-year + 2-year depot repair service • 1-year + 2-year limited onsite service • 1-year ry battery depot repair service • 3-year/1-yr battery depot repair service									er		' '	(may be disabled in some region)				
*For non-WWAN model, it means the model is NOT WWAN upgradable  • Verizon LTE (US) SIM card  • Verizon LTE (US) SIM card  • Gemalto eSIM  *For non-WWAN model, it means the model is NOT WWAN upgradable  • Verizon LTE (US) SIM card  • Gemalto eSIM  *Ac adapter  Operating system  System Sol 4 hr  *Sattery life varies significantly with hardware configurations, settings, usage, & other factors  45W or 65W USB-C AC adapter  *Sattery life varies significantly with hardware configurations, settings, usage, & other factors  *Sattery life varies significantly with hardware configurations, settings, usage, & other factors  *Sattery life varies significantly with hardware configurations, settings, usage, & other factors  *Sattery life varies significantly with hardware configurations,	WWAN (optional)	<ul> <li>Wireless</li> </ul>	WAN u	pgrada	ble						Fingerprint reade	or Optional: Touch style match on chip fingerprint reader on the palm rest				
* Battery life varies significantly with hardware configurations, settings, usage, & other factors 45W or 65W USB-C AC adapter  Operating system Optional: Windows® 10 Home 64 or Windows 10 Pro 64  Limited warranty (optional)  • 1-year depot repair service • 1-year lepot with 2-year system board repair service • 1-year lepot repair service • 1-year epot repair service • 1-year battery depot repair service • 1-year 2-year limited onsite service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service  Mil-Spec test MIL-STD-810G military testing  Environment EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant	SIM card (opt)	* For non-WI	WAN mo	odel, it m	eans the mo				ard		,	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter				
Operating system Optional: Windows® 10 Home 64 or Windows 10 Pro 64  Limited warranty (optional)  1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service 1-year + 2-year limited onsite service 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery depot repair service Mil-Spec test MIL-STD-810G military testing  Environment EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant		Gemalto	eSIM	,							,	* Battery life varies significantly with hardware configurations, settings, usage, & other factors				
Limited warranty (optional)  • 1-year depot repair service • 1-year depot with 2-year system board repair service • 1-year   1-year depot repair service • 1-year + 2-year limited onsite service • 1-year + 2-year limited onsite service • 1-year year   1-year depot repair service • 1-year + 2-year limited onsite service • 1-year year   1																
Environment EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant											Limited warranty	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> </ul>				
											<u>-</u>					
											Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant  Lenovo				



## ThinkPad T590 Platform Specifications

Processor	8th G	enera	ation I	ntel® Co	re™ i	5 / i7 Pr	ocesso	r					Dimensions	WxDxH: 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm
	Proces Number i5-826	er	# of Cores	# of Thread	s Fred		Max Turk Frequence 3.9 GHz	cy Cac		Memory Types		essor ohics	Weight Case color Case material	FHD model: 3.87 lb / 1.75 kg; UHD model: 3.86 lb / 1.75 kg Black Display cover: PPS / 50% GF; Bottom: PA / 50% GF
	i5-836 i7-856 i7-866	5U	4	8	1.8	GHz GHz GHz	4.1 GHz 4.6 GHz 4.8 GHz	z 8M	IB L	DR4-2400	Intel UHD	Graphic:	Smart card reade Media reader Ports	er Optional: Smart card reader MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
Graphics	Intel UNVIDI suppo suppo	JHD A® G rts e rts th	Graph GeFord Aterna Gree in	al digital	rocess 250, 20 monif dent di	sor and GB GDI tor via I isplavs:	DR5 me HDMI or	Thund		olt; 6x2160@24	4Hz (HD	PMI)	- Monitor cable	one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Chipset Memory	40GB 8GB c	ntel SoC (System on Chip) platform 0GB or 48GB max / 2400MHz DDR4, dual-channel capable, GB or 16GB memory soldered to systemboard, one DDR4 SO-DII Installed memory is actually 2666MHz but run at 2400MHz due to Intel limit										ket	(optional) Bundled Accy	USB-C to VGA: Lenovo USB-C to VGA Adapter (NOT available in EMEA) USB-C to DP: Lenovo USB-C to DisplayPort Adapter (NOT available in EMEA) None
Display	Size				Ť		Bright	As	spect Ratio	r	Color	Viewing Angle		One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus  IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
	15.6"	15.6" FHD (1920x1080) WVA Anti-glare 250 nits 16:9 700:1									45% 100%		Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone (for special bid model, microphone is optional),
Multi-touch (opt)		חטוו,	DOIDY	V 151011			sture (FF			.200	Adobe	9	Keyboard	headphone / microphone combo jack 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight
<b>g</b> -	<ul><li>M.2</li><li>M.2</li><li>Intel</li></ul>	2280 2242 Opt	0 SSD 2 SSD ane™	/ SATA / PCIe / PCIe Memor e NVMe	NVMe NVMe y H10	e, PCIe e, PCIe with So		e Stor	age,				UltraNav™ Security Security chip System Mgt (opt)	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad  Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region) Intel vPro Technology  r Optional: Touch style match on chip fingerprint reader on the palm rest
Ethernet	Non-v												NFČ (optional)	Near Field Communication
Bluetooth™ WWAN (optional)	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) vPro model: Intel Ethernet Connection I219-LM (Jacksonville) Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0 Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter One of the following, configurable by model:  • Wireless WAN upgradable (special bid only in EMEA) • Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (E										oter .rd (EME	A only)	Max battery life AC adapter	Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 14.98 hr (9.5 hr for UHD model with discrete graphics)  * Battery life varies significantly with hardware configurations, settings, usage, & other factors  • 45W USB-C AC adapter  • 65W USB-C AC adapter  • 65W USB-C slim AC adapter
	<ul><li>For n</li><li>Verize</li></ul>	Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable • Verizon LTE (US) SIM card • Gemalto eSIM											<del></del>	Optional: Windows® 10 Home 64 or Windows 10 Pro 64  1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
													Mil-Spec test	MIL-STD-810G military testing
Note: The specifica													Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant





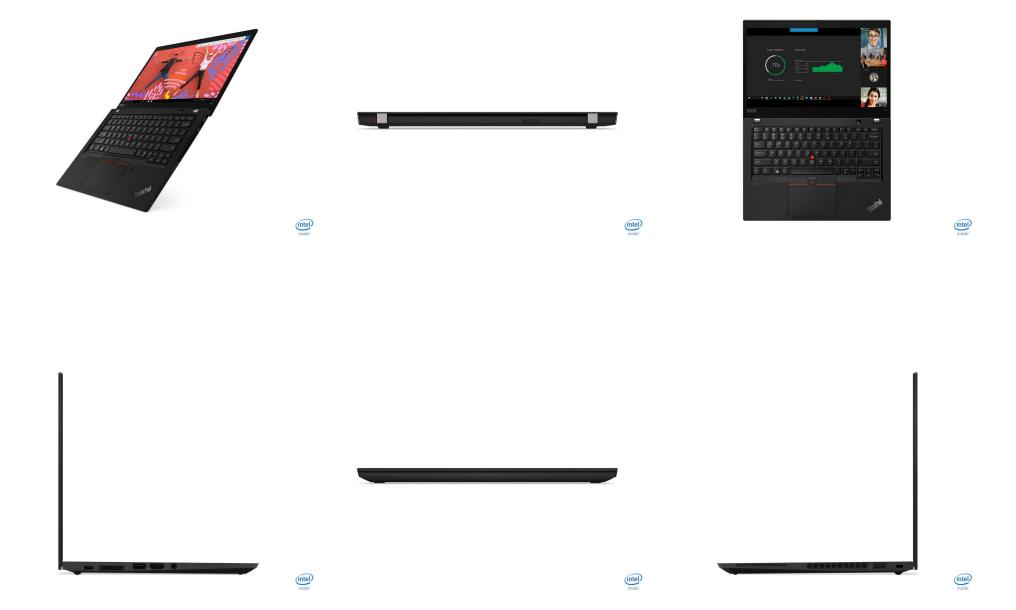
AMD



## ThinkPad X13 Gen 1 (AMD) Platform Specifications

Processor	AMD	Rvzen	™ PRO	4000 S	eries Mob	ile Proces	ssors					Smart card reade	er Optional: Smart card reader			
	Proces	ssor	# of	# of	Base Clock	Max Boos Clock	1		mory troller	Proce		Media reader Ports	MicroSD card reader, in the combo slot with nano-SIM card Two USB 3.2 Gen 1 (Always On),			
	Ryzen PRO 4		4	8	2.5 GHz	3.7 GHz	2MB L2 4MB L3	3					two USB 3.2 Type-C Gen 2 (w/ the function of Power Delivery and DisplayPort 1.4), HDMI 2.0, Ethernet extension connector, combo slot of nano-SIM card (WWAN models) and microSD card reader,			
	Ryzen PRO 4	1650U	6	12	2.1 GHz	4.0 GHz	3MB L2 8MB L3	] DDR	4-3200	AMD R Grap			headphone / microphone combo jack, optional smart card reader.			
	Ryzen PRO 4		8	16	1.7 GHz	4.1 GHz	4MB L2 8MB L3					Monitor cable	side docking connector, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed  • Lenovo HDMI to VGA Monitor Adapter			
Graphics	oggus	rts up	to 4 in	depend	s via HDM	r; ys via nat I (up to 4I Type-C (u	(@60Hz)	or	3 exterr	nal mon	itors;	(optional)   Bundled Accy   Camera (optional	Lenovo USB-C to VGA Adapter     Lenovo USB-C to DisplayPort Adapter     Optional: ThinkPad Ethernet Extension Adapter Gen 2   ) HD720p camera with ThinkShutter camera privacy, fixed focus			
Chipset Memory	AMD 8	SoC ( 16GB,	System , or 320	on Chi GB / 320	p) platforr 00MHz DE	n DR4 / sold		·				Audio support	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 1W x 2 / optional dual array far-field microphone, headphone / microphone combo jack			
Display	Size	Resolu	tion	Туре	Surface	Touch Bri	ghtness A	spect C Ratio	ontrast Ratio	Color Gamut	Viewing Angle	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, optional LED backlight			
			66x768		Anti-glare				300:1	45%	90°	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
	13.3"	FHD (1	920x10	80) WVA	Anti-glare		00 nits	16:9	800:1	72%	170°	Security	Power-on password, hard disk password, supervisor password, security keyhole			
		•			Anti-glare	Multi- touch 3	00 nits	16:9	700:1	72%	170°	Security chip System Mgt	Discrete TPM 2.0 TCG Certified DASH Management			
	13.3"	FHD (1 ThinkP Guard	920x10 ad Priva	80) acy WVA	Anti-glare	- 5	00 nits	16:9	1000:1	72%	170°	NFČ .	er <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest None			
Multi-touch (opt)	On-ce	ell touc	h, sup	ports 10	-finger ge	sture						Battery	Integrated Li-Polymer 48Wh battery,			
Storage					/Me, PCI							Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 12.8 hr MobileMark 2018: 10.35 hr			
Optical	None				*							]	* Battery life varies significantly with hardware configurations, settings, usage, & other factors			
Ethernet						oit Etherne nsion Ada						AC adapter	<ul> <li>45W USB-C AC adapter</li> <li>65W USB-C AC adapter</li> <li>65W USB-C slim AC adapter</li> </ul>			
WLAN + BT	Intel V	Vi-Fi 6	AX200	), Wi-Fi	2x2 802.1	1ax + Blu	etooth™ 5	5.1				Operating system				
WWAN (optional) SIM card (opt)	<ul> <li>Integ</li> </ul>	grated on-WV	Mobile VAN mo	Broadb	and 4G L	TE-A, Fib				rd	Operating system Optional: Windows® 10 Home 64 or Windows 10 Pro 64  Limited warranty (optional)  1-year depot with 2-year system board repair service 1-year limited onsite service 1-year depot repair service 1-year + 2-year depot repair service					
Dimensions Weight	WxDx Model:	s	Н	D	FHD N	311.9mm on-touch	FHD	Touch	FHD	) Privacy			<ul> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>			
Case color	Weigh Black	ι   2	∠.85 ID /	1.29 kg	2.85 ID	/ 1.29 kg	2.84 lb /	1.28 Kg	j   2.8	85 lb / 1.	∠9 Kg	Mil-Spec test	MIL-STD-810G military testing			
Case material			er: PF Ma	PS/GF;	m/Aluminı	ım						Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant			
Note: The enecified												1	Longue			

Note: The specifications above may not be available in all regions and might change by regions.



## ThinkPad X13 Gen 1 (Intel) Platform Specifications

Processor	10th Ge	eneratio	n Intel®	<sup>®</sup> Core	™ i3 / i5 /	/ i7 Proc	essor					Smart card reade	er Optional: Smart card reader
	Process Number	Core	es Threa	ads F	Base	Max Turi Frequen	icy Cach		mory Type		ocessor raphics	Media reader Ports	MicroSD card reader, in the combo slot with nano-SIM card Two USB 3.2 Gen 1 (one Always On), one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	i3-10110 i5-10210 i5-10310 i7-10510 i7-10610	0U 0U 0U 4	8		2.1 GHz 1.6 GHz 1.7 GHz 1.8 GHz 1.8 GHz	4.1 GH 4.2 GH 4.4 GH 4.9 GH	z 6ME z 6ME z 8ME	DE	)R4-2666	· 1	tel UHD raphics		one USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet extension connector, combo slot of nano-SIM card (WWAN models) and microSD card reader, headphone / microphone combo jack, optional smart card reader, side docking connector, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics	support	ts up to ts exter	3 indep nal mor	pende nitors	essor; nt display via HDMI 60Hz) or	l (up to 4	4096x21	60@2	24Hz),		monitors	Bundled Accy	<ul> <li>Lenovo HDMI to VGA Monitor Adapter</li> <li>Lenovo USB-C to VGA Adapter</li> <li>Lenovo USB-C to DisplayPort Adapter</li> <li>Optional: ThinkPad Ethernet Extension Adapter Gen 2</li> </ul>
Chipset Memory	8GB, 16	GB or	32GB /	2666	platform MHz DDI 200MHz b	R4 / solo					kets	Camera (optional	<ul> <li>I)• HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 1W x 2 / optional dual array far-field microphone, headphone / microphone combo jack</li> </ul>
Display	Size Re	D (1366)	(768)		Anti-glare		ness 250 nits	Ratio 16:9	300:1	Gamut 45%	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	13.3" FH	HD (1920 HD (1920	0x1080)		Anti-glare Anti-glare	N.A. JA	300 nits 300 nits	16:9 16:9	700:1	72% 72%	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole  • Firmware TPM 2.0 integrated in chipset  • Discrete TPM 2.0 TCG Certified
Multi-touch (opt)	13.3" Th	uard	Privacy		Anti-glare		500 nits	16:9	1000:1	72%	170°		Intel vPro Technology Intel vPro Technology
Storage	• M.2 2 • M.2 2 • Intel (	242 SS 280 SS	D / PC D / PC Mem	le NV le NV ory H	Me, PCle Me, PCle 10 with S	3.0 x 2 3.0 x 4		ge,				Battery  Max battery life	Integrated Li-Polymer 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 15.9 hr MobileMark 2018: 10.45 hr
Optical Ethernet					ection I21 net Exter				9-LM ( <i>vi</i>	Pro)		AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors  • 45W USB-C AC adapter  • 65W USB-C AC adapter  • 65W USB-C slim AC adapter
WLAN + Bluetooth™ (opt)	Intel Wi	-Fi 6 Αλ Χ201 ca	(201, W	Vi-Fi 2	x2 802.1 5.1 but is l	1ax + Bl	uetooth	5.0 Winda	ws OS			· · · · ·	n Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WWAN (optional) SIM card (opt)	<ul><li>Wirele</li><li>Integr</li><li>Integr</li><li>Integr</li></ul>	ess WA rated Mo rated Mo rated Mo n-WWAN	N upgra obile Brobile Brobile Brobile Brobile Brobile Brobile Brobile Brobel,	adable oadba roadba roadba	and 4G Li and 4G Li	TE, Que TE-A, Fi TE-A, Fi	ctel EMO	05CEF -850-0	FC, M.2 o GL, M.2 o GL, MIM	card	M.2 card		<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
Dimensions	Models											Mil-Spec test	MIL-STD-810G military testing
	Carbon	rbon Fiber 311.9mm x 217.0mm x 16.5mm 12.28" x 8.54" x 0.65" - 312.0mm x 217.2mm x 16.9mm 311.9mm x 217.2mm x										Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant
	PPS				217.2mm x x 8.55" x 0		31		n x 217.2r 28" x 8.55		-		
Weight	Models		FHD N	Non-to	uch	HD	F	HD M	ulti-touch	/ Privac	y Guard		
	Carbon	Fiber		b / 1.22					<u> </u>	-			
Case color Case material	PPS Black Display Bottom		Carbo		er (FHD i JAluminu			or PP	2.84 lb / S;	′ 1.28 kg			
Note: The specifica	tions abo	ove may	not be	availa	ble in all r	regions a	and migh	t chan	ae by rea	aions.		•	Lenovo



















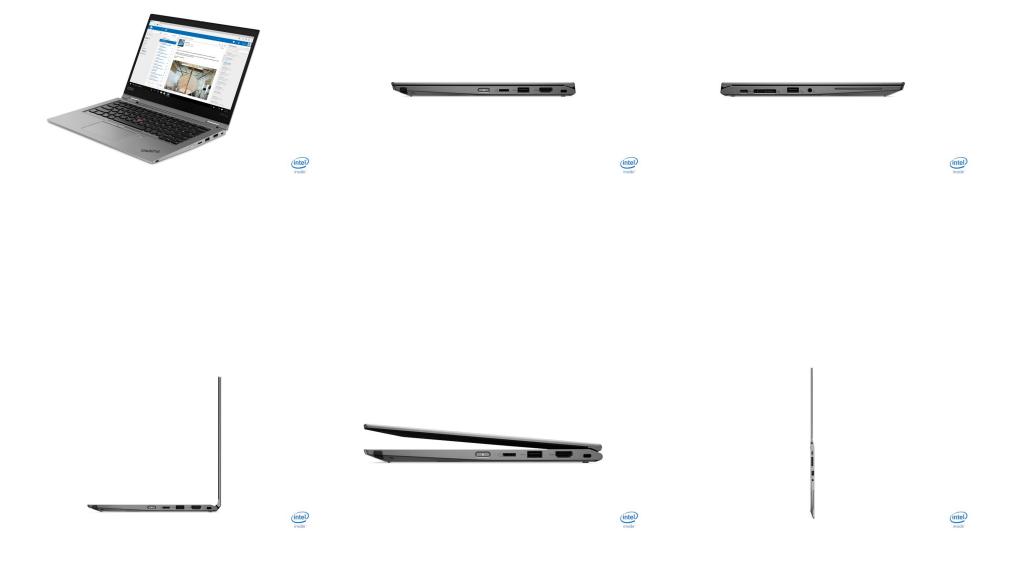
## ThinkPad X13 Yoga Gen 1 Platform Specifications

Processor	10th	Generation I	Intel® Co	re™ i5 / i7 Pro	ocesso	r					Dimensions	WxDxH: 12.22" x 8.62" x 0.63"; 310.4mm x 219mm x 15.95mm
	Proce Numb i5-102	er Cores	# of Threads	Frequency From 1.6 GHz 4	ax Turbo equency 2 GHz	6MB	Memo	ory Types	Proces Graph	nics	Weight Case color Case material	Starting at 2.76 lb /1.25 kg Black Display cover: CF Hybrid PA + 55% GF Bottom: CF Hybrid PA + 55% GF
	i5-103 i7-105 i7-106	510U 4	8	1.8 GHz 4	.4 GHz .9 GHz .9 GHz	6MB 8MB 8MB	DDR	4-2666	Intel U Graph		Smart card reade Media reader Ports	r <i>Optional:</i> Smart card reader MicroSD card reader, in the combo slot with nano-SIM card Two USB 3.2 Gen 1 (one Always On),
Graphics	suppo	orts external	independ I monitor	cessor; dent displays s via HDMI (u @60Hz) or Th	p to 40	96x216	0@24	Hz),		onitors		one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet extension connector, combo slot of nano-SIM card (WWAN models) and microSD card reader, headphone / microphone combo jack, optional smart card reader,
Chipset Memory	8GB		666MHz	p) platform DDR4 / solde 3200MHz but i							Monitor cable	side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed • Lenovo HDMI to VGA Monitor Adapter
Display	Size	Resolution	Тур		Touch	Bright- ness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	(optional) Bundled Accy	<ul> <li>Lenovo USB-C to VGA Adapter</li> <li>Lenovo USB-C to DisplayPort Adapter</li> <li>Optional: ThinkPad Ethernet Extension Adapter Gen 2</li> </ul>
	13.3"	FHD (1920x1	080) WV	Anti-reflection Anti-smudge	n Multi- touch	300 nits	16:9	800:1	72%	170°	l	• HD720p camera with ThinkShutter camera privacy, fixed focus
	13.3"	FHD (1920x1 Low Power	<sup>080)</sup> wv	Anti-reflection Anti-smudge	Multi- touch	400 nits	16:9	1500:1	72%	170°	Audio support	<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 2W x 2 / dual array far-field microphone, headphone / microphone combo jack</li> </ul>
	13.3"	FHD (1920x1) ThinkPad Priv Guard	080) vacy WV	Anti-reflection Anti-smudge	Multi- touch	500 nits	16:9	1000:1	72%	170°	Keyboard -UltraNav™	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
		UHD (3840x2160)	OLE	Anti-reflection		400 nits	16:9	100000:1	100% DCI-P3	170°	Security	Power-on password, hard disk password, supervisor password, security keyhole
Multi-touch	Capa	citive-type n	nulti-tou	ch, supports 1 educe the bri	0-finge	r gestur	e, anti	-reflectio	n (AR),		Security chip	<ul> <li>Firmware TPM 2.0 integrated in chipset</li> <li>Discrete TPM 2.0 TCG Certified</li> </ul>
	Yoga Lapto	hinge, 360 op, tent, stan	degree nd and ta						rgeable.		Fingerprint reader	Intel vPro Technology rTouch style match on chip fingerprint reader on the palm rest Near Field Communication
J	<ul><li>M.2</li><li>Inte</li></ul>	2280 SSD	/ PCIe N Memory	IVMe, PCIe 3. IVMe, PCIe 3. IVMe, PCIe 3. H10 with Soli	.0 x 4	Storage	э,		<u> </u>		Battery Max battery life	Integrated Li-ion 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter  *MobileMark** 2014: 18.2 hr  *MobileMark 2018: 12.05 hr
Optical Ethernet	None			nection I219-\	√ (Non-	-vPro) o	r I219-	·LM ( <i>vPr</i>	0)		AC adapter	<ul> <li>* Battery life varies significantly with hardware configurations, settings, usage, &amp; other factors</li> <li>45W USB-C AC adapter</li> <li>65W USB-C AC adapter</li> </ul>
NAME AND	via op	otional Think	Pad Eth	ernet Extensi	on Ada	pter Ge	n 2					65W USB-C slim AC adapter
WLAN + Bluetooth™ (opt)	* Intel	NI-FI 6 AX20 1 AX201 card s	supports l	2x2 802.11a: 3T5.1 but is limi	ted to B	T5.0 by V	Vindows	s OS			· · · · · · · · · · · · · · · · · · ·	Optional: Windows® 10 Home 64 or Windows 10 Pro 64  • 1-year depot repair service
WWAN (optional) SIM card (opt)	* Intel AX201 card supports BT5.1 but is limited to BT5.0 by Windows OS  • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 20  * For non-WWAN model, it means the model is NOT WWAN upgradable  Gemalto eSIM									2 card	(optional)	<ul> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
											Mil-Spec test	MIL-STD-810G military testing
Note: The specifica				9-1-1- to -11							Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant



## ThinkPad X390 Platform Specifications

Processor	8th Gen	eration I	ntel® Cor	e™ i3 / i5 /	i7 Processo	r				Dimensions	Models	FHD Non-touc	ch	HD/	FHD Multi-touch
	Processo Number	r # of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Proce Grap			Carbon Fiber	311.9mm x 217.0mm : 12.28" x 8.54" x (			-
	i3-8145U i5-8265U	2	4	2.1 GHz 1.6 GHz		4MB 6MB					PPS	312.0mm x 217.2mm : 12.28" x 8.55" x 0			x 217.2mm x 16.9mm 3" x 8.55" x 0.67"
	i5-8365U	╡.		1.6 GHz		_	DDR4-2400	Intel UHD	Graphics	Weight	Models	FHD Non-touch	HD	12.2	FHD Multi-touch
	i7-8565U	4	8	1.8 GHz		8MB			•		Carbon Fiber	2.70 lb / 1.22 kg	-		-
	i7-8665U	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		1.9 GHz		8MB	and the last of the	1 4 T A \			PPS	2.85 lb / 1.29 kg	2.93 lb / 1.3	3 kg	2.84 lb / 1.28 kg
	Processo	_	on Intel (	Base	Processor (I	NOI a	Memory	MEA) Proce	ccor	Case color Case material	Black Display cover:	Carbon Fiber (FHD r	non-touch only	) or PPS	:
	Number	Cores		Frequency	Frequency	Cache	Types	Grap			Bottom:	Magnesium/Aluminu			,
	i5-10210	- 4	8	1.6 GHz		6MB	DDD4 0400 I	latal IIIID	Cranbias	Smart card reade Media reader		art card reader reader, in the combo s	lot with nano-S	SIM card	
	i7-10510	_	12	1.8 GHz 1.1 GHz		8MB 12MB	DDR4-2400 I	intel UHD	Grapnics	Ports	Two USB 3.1 (	Gen 1 (one Always On)	),		
Graphics	Intel UH supports supports Max rese	ntel UHD Graphics in processor; supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 4096x2304@60Hz (Thunderbolt); 4096x2160@24Hz (Intel SoC (System on Chip) platform GB, 8GB, 16GB or 32GB / 2400MHz DDR4 / soldered to systemboard,									one USB 3.1 T HDMI 1.4b, Et combo slot of headphone / n side docking c	ype-C Gen 1 (with the ype-C Gen 2 / Thunde hernet extension conn anno-SIM card (WWA) nicrophone combo jack onnector, security keyl	rbolt 3 (with the ector, N models) and c, optional sma nole	e function microSI art card r	on of PD and DP),  O card reader,  eader,
Chipset Memory	4GB, 8G * 32GB m	Bì, 16GE emory is	3 or 32Gl NOT avail	B / 2400M⊦ lable for mod		Gen pr	ocessor	itation		(optional)	* Depending on HDMI to VGA: USB-C to VGA USB-C to DP:	many factors, actuál daťa Lenovo HDMI to VG I: Lenovo USB-C to V Lenovo USB-C to D	transfer speed n A Monitor Ada GA Adapter DisplayPort Ada	apter apter	ver than theoretical speed
Display	Size Re	solution	T	ype Surfac	e Brightness	Aspec Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Bundled Accy Camera (optional		kPad Ethernet Extensinera with ThinkShutter	· ·		ocus
	13.3" HD	(1366x7	68)	ΓN Anti-gla	re 250 nits	16:9		45%	90°	\ ' '	🏻 • IR camera a	nd HD720p camera wit	th ThinkShutte		
	13.3" FH	`		/VA Anti-gla	re 300 nits	16:9	800:1 (non-touch 700:1 (multi-touch	1270	170°	Audio support	stereo speake dual array far-l	altek® ALC3287 codec rs, 1W x 2, Dolby® Aud field microphone (for sp nicrophone combo jack	lio™ Premium / pecial bid mod		phone is optional),
	13.3" FH Gu			/VA Anti-gla	re 400 nits	16:9	1000:1	72%	178°	Keyboard UltraNav™		sistant, multimedia Fn k inting device and butto			
Multi-touch (opt)	On-cell t	ouch, sı	upports 1	0-finger ge	sture (FHD	only)				Security		sword, hard disk passw			
Storage	<ul> <li>M.2 22</li> <li>M.2 22</li> </ul>			6.0Gb/s NVMe. PCI	3 0 v 2					Security chip	(may be disab	1 2.0 integrated in chips led in some region)	set of discrete	TPIVI Z.C	red certilled
	<ul><li>M.2 22</li><li>Intel O</li></ul>	80 SSD ptane™	/ PCle N	NVMe, PCI H10 with S		torage	,			System Mgt (opt) Fingerprint reade NFC (optional)	Intel vPro Tech r <i>Optional:</i> Touc Near Field Co	ch style match on chip	fingerprint rea	der on th	ne palm rest
Optical	None									Battery		Polymer 48Wh battery, d Charge (charge up to	90°/ in 1hr\ u	vith 65\A	AC adapter
Ethernet					9-V ( <i>Non-vl</i> nsion Adapt			Pro)		Max battery life	MobileMark® 2		,		·
(-1	<ul> <li>via optional ThinkPad Ethernet Extension Adapter Gen 2</li> <li>Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0</li> <li>Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0</li> <li>Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter</li> </ul>									AC adapter	<ul> <li>45W USB-C</li> <li>65W USB-C</li> </ul>	AC adapter	ware coringuranc	Jiis, seilii	ys, usage, a other lactors
WWAN (optional)										Operating system	Optional: Win	dows® 10 Home 64 or	Windows 10 P	ro 64	
SIM card (opt)	<ul> <li>Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EM</li> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card</li> <li>For non-WWAN model, it means the model is NOT WWAN upgradable</li> <li>Verizon LTE (US) SIM card</li> <li>Gemalto eSIM</li> </ul>									Limited warranty (optional)	<ul> <li>1-year depot</li> <li>1-year limite</li> <li>1-year + 2-ye</li> <li>1-year + 2-ye</li> <li>3-year/1-yr b</li> </ul>	t repair service t with 2-year system bo d onsite service ear depot repair service ear limited onsite servi pattery depot repair ser pattery limited onsite se	e ce vice	vice	
										Mil-Spec test		G military testing			
										Environment	EPEAT™ Gold	; ENERGY STAR® 7.1;	TCO Certified	l; RoHS-	compliant



## ThinkPad X390 Yoga Platform Specifications

Processor	8th Gen	eratio	n Inte	el® Core	™ i5 / i7 P	rocessor					Smart card reade	er Optional: Smart card reader
	Processo Number i5-8265U i5-8365U	Co <sub>1</sub>	res T	# of Threads	Base Frequency 1.6 GHz 1.6 GHz	Max Turbo Frequency 3.9 GHz 4.1 GHz	Cache 6MB 6MB	Memory Types	Proce Grap	hics	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models),
	i7-8565L	)			1.8 GHz 1.9 GHz	4.6 GHz 4.8 GHz	8MB 8MB	DDN4-2400   1	niter OHD	Graphics	=	headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics	supports	s exte	rnal o	digital m epender	ionitor via nt displavs	HDMI or US ; Thunderbo	,,	e-C; 96x2160@24	Hz (HD	MI)	Monitor cable (optional) Bundled Accy	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2
Chipset Memory	Intel So 8GB or	C (Sys 16GB	stem / 240	on Chip 00MHz I	) platform DDR4 / so	ldered to sy	stemb	oard, no soch lue to Intel limit	kets	,	Audio support	I) One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus  IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus  HD Audio, Realtek ALC3287 codec /
Display	Size Re	solutio	n	Тур	oe Surface	Brightness	Aspec	ct Contrast Ratio		Viewing Angle		stereo speakers, 1W x 2, Dolby® Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack
	13.3" FH	ID (192	20x10	080) W\	/A Anti- reflection	n 300 nits	16:9	800:1	72%	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch Hinge Convert-mode Pen	AS (anti Yoga hir Laptop, ThinkPa	i-smud nge, 3 tent, s id Pen	dge), 60 de stanc Pro	could regree d and tab , active p	educe the olet oen for mu	brightness	by up t	e, anti-reflect o 10% n-board rech	, ,			Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region) Intel vPro Technology Trouch style match on chip fingerprint reader on the palm rest Near Field Communication
Storage	<ul><li>M.2 22</li><li>Intel C</li></ul>	242 S 280 S Optane	SD / SD / e™ M	PCIe N'	VMe, PCle VMe, PCle 110 with S		Storage	),			Battery  Max battery life  AC adapter	Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 14.5 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter
Ethernet						9-V ( <i>Non-v</i> nsion Adap		1219-LM ( <i>vF</i> n 2	Pro)			<ul><li>65W USB-C AC adapter</li><li>65W USB-C slim AC adapter</li></ul>
WLAN (optional)	<ul> <li>Intel W</li> </ul>	/ireles	s-AC	C 9560, \							Light sensor G-sensor Gyroscope	None 3D accelerometer 3D gyrometer
Bluetooth™ (opt)							etooth	combo adapt	ter			n Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WWAN (optional) SIM card (opt)	<ul><li>Integra</li><li>Integra</li><li>* For non</li><li>Verizo</li></ul>	ated M ated M <i>-WWA</i> n LTE	lobile lobile N ma (US	e Broadl e Broadl odel, it me	pand 4G L pand 4G L pans the mo	TE, Fibocoi	om L8	)-EB, M.2 car 50-GL, M.2 c pgradable		A only)	(optional)	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year/3-yr battery depot repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> </ul>
Dimensions Weight Case color Case material	Starting Black or Display	: 12 at 2.8 silver	.22" : 35 lb (silv	/1.29 kg /er is NC F Hybrid	l DT availabl I PA + 50%	e in EMEA) 6 GF	219mr	m x 15.95mm	l			<ul> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/3-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> <li>3-year/3-yr battery limited onsite service</li> </ul>
	Bottom:		C	F Hybrid	I PA + 50%	6 GF					Mil-Spec test	MIL-STD-810G military testing
Note: The specifica	ations at	N/O ~~	v no	t ha ave:	abla is all	rogions or d	miaht -	hanga bu ra-	ione		Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant  Lenove



## ThinkPad X395 Platform Specifications

Processor	AMD	Ryzen™ PRO Mob	ile P	rocessors	with Rade	eon™ Ve	ga Graphics			Dimensions	WxDxH: 12.28" x 8.55" x 0.67"; 311.9mm x 217.2mm x 16.9mm
	Proce	ssor # of # of		Base N	Max Boost	Cache	Memory		essor	Weight	Models HD / FHD Touch FHD Non-touch FHD Privacy Guard
	Numb Ryzer	13		Clock	Clock	2MB L2 /	Controller		phics n Vega 6		Weight 2.91 lb / 1.32 kg 2.82 lb / 1.28 kg 3.01 lb / 1.37 kg
	PRO :		2	2.1 GHz	3.5 GHZ	4MB L3			phics	Case color Case material	Black Display cover: PPS/GF;
	Ryzer	1 5 3500U 4 8	2	2.1 GHz		MB L2 / 4MB L3	DDR4-2400		n Vega 8 phics		Bottom: Magnesium/Aluminum
	Ryzer PRO	17 4 8	2	2.3 GHz	4000-2	MB L2 / 4MB L3	-	Radeon	Vega 10 phics	Smart card reade Media reader Ports	er Optional: Smart card reader MicroSD card reader, in the combo slot with nano-SIM card One USB 3.1 Gen 1 (Always On), one USB 3.1 Gen 2,
	suppo suppo Max r	Radeon Vega 6, Vorts external digita orts three indepensesolution: 4096x2	I moi dent 2304	nitor via U displays; @60Hz (U	JSB-C or F	IDMI;		DMI)			two USB 3.1 Type-C Gen 2 (w/ the function of Power Delivery and DisplayPort 1.4). HDMI 2.0, Ethernet extension connector, combo slot of nano-SIM card (WWAN models) and microSD card reader, headphone / microphone combo jack, optional smart card reader, side docking connector, security keyhole
Chipset Memory	AMD SoC (System on Chip) platform 8GB or 16GB / 2400MHz DDR4 / soldered to systemboard, no sockets * Installed memory is actually 2666MHz but run at 2400MHz due to AMD limitation							ets ation		Monitor cable (optional)	* Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter
Display	Size	Size Resolution Tupe Surface Brightness Aspect Contrast Col						Color	Viewing	Bundled Accy	Optional: ThinkPad Ethernet Extension Adapter Gen 2
						nalio		Gamut 45%	Angle 90°	Camera (optional	) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
	13.3" HD (1366x768) TN Anti-glare 250 nits 16:9 300:1 45% 800:1 (non-touch) 700:1 (multi-touch)					800:1 (non-touch) 700:1	72%	170°	Audio support	<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek ALC3287 codec / stereo speakers, 1W x 2, Dolby® Audio™ Premium / optional dual array far-field microphone, headphone / microphone combo jack</li> </ul>	
	13.3"	FHD (1920x1080) ThinkPad Privacy Guard	WVA	Anti-glare	400 nits	16:9	1000:1	72%	178°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch (opt)	On-ce	ell touch, supports	10-f	inger ges	ture (FHD	only)				Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified
		2280 SSD / SATA 22242 SSD / PCIe			20 v 2					, '	(may be disabled in some region)
	• M.2	2280 SSD / PCIe								System Mgt Fingerprint reade	DASH Management roptional: Touch style match on chip fingerprint reader on the palm rest
Optical	None		1150	V/ O:====:	. <b>-</b>					NFČ .	None
Ethernet		e Realtek® RTL81 <sup>.</sup> otional ThinkPad E								Battery	Integrated Li-Polymer 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
WLAN (optional) Bluetooth™		Wireless-AC 9260, both 5.0 wireless,						er		Max battery life	MobileMark® 2014: 14.5 hr *Battery life varies significantly with hardware configurations, settings, usage, & other factors
WWAN (optional)	nal) One of the following, configurable by model:									AC adapter	45W or 65W USB-Č AC adapter
	<ul> <li>Wireless WAN upgradable</li> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card</li> </ul>							ard			n Optional: Windows® 10 Home 64 or Windows 10 Pro 64
	Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable  Verizon LTE (US) SIM card  Gemalto eSIM							ai U		(optional)	<ul> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
										Mil-Spec test	MIL-STD-810G military testing
		phoyo may not be a								Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant

















## ThinkPad X1 Carbon (7<sup>th</sup> Gen) Platform Specifications

_			<u>-</u>						I=	
Processor	8th Generation Intel® C								Dimensions	WxDxH (Privacy Guard): 12.72" x 8.54" x 0.61"; 323mm x 217mm x 15.4mm WxDxH (other model): 12.72" x 8.54" x 0.59"; 323mm x 217mm x 14.95mm
	Processor # of # of Number Cores Thread		Base M guency Fi	lax Turbo requency Ca	che M	emory Types	Proce Grap		Weight	Privacy Guard model: starting at 2.66 lb / 1.21 kg;
	i5-8265U	_			ИΒ				Case color	Other model: starting at 2.4 lb / 1.09 kg Black paint or black weave
	i5-8365U 4 8				MB LF	PDDR3-2133	Intel		Case material	Display cover: Carbon Fiber;
	i7-8565U				MB L'		Grap	ohics	I	Bottom: magnesium alloy
	or 10th Generation Inte					ilahla in EM	EA)		Smart card reade Media reader	rNone None
	Processor # of # of			lov Turbo				essor	Ports	Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3
	Number Cores Thread			requency Ca	iche M	emory Types		ohics		(with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models).
	i5-10210U 4 8				MB LI	PDDR3-2133	Intel			headphone / microphone combo jack, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	i7-10510U	1.	8 GHz	4.9 GHz   8	MB   L		Grap	ohics	Monitor cable	* Depending on many factors, actual data transfer speed may be lower than theoretical speed Optional: Lenovo HDMI to VGA Monitor Adapter
Graphics	Intel UHD Graphics in p supports external digital	oroces	ssor;	DMI or LISB	Typo	C / Thundor	holt:		Bundled Accy	Optional: ThinkPad Ethernet Extension Adapter Gen 2
	supports three indepen	ident (	displays;				DOIL,		Camera (optional)	One of the following, configurable by model:
	Max resolution: 5K@6			olt); 4K@24	Hz (H	DMI)				HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Chipset	Intel SoC (System on C 8GB or 16GB / 2133MH	Chip) p	olatform	aldered to a	rotomi	acard no oc	okoto		Audio support	HD Audio, Realtek® ALC3286 codec /
Memory Display	0GB 01 10GB / 2133WIF	12 LF	א / פחטט	oldered to s				lv	1	Dolby® Atmos™ speaker system, 2W x 2, 0.8 x 2 / four 360° far-field microphones, headphone / microphone combo jack
Display	Size Resolution	Туре	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Keyboard	6-row, spill-resistant, multimedia Fn keys, LED backlight
	FUD (1000 1000)		Anti-						UltraNav™	TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	14.0" FHD (1920x1080) Multi-touch	WVA	reflection Anti-	300 nits	16:9	700:1	72%	170°	Security	Power-on password, hard disk password, supervisor password, security keyhole
	FUD (1000 1000)		smudge						Security chip	<ul> <li>Firmware TPM 2.0 integrated in chipset</li> <li>Discrete TPM 2.0 TCG Certified</li> </ul>
	14.0" FHD (1920x1080) Low Power	WVA	Anti-glare	400 nits	16:9	800:1	72%	170°		Discrete TPM 2.0 with L3 Security Support (special bid only)
	FHD (1920x1080)	140.44	A 17 1	400 ''	400	10001	700/	1700	System Mat (ont)	* May be disabled in some region Intel vPro Technology
	14.0" ThinkPad Privacy Guard	WVA	Anti-glare	400 nits	16:9	1000:1	72%	170°	Fingerprint reade	rTouch style match on chip fingerprint reader on the palm rest
	14.0" WQHD (2560x1440)	) WVA	Anti-glare	300 nits	16:9	700:1	72%	170°	NFC (optional)	Near Field Communication
	UHD (3840x2160) 14.0" HDR 400,	\//\Δ	Glossy	500 nits	16:9	1400:1	90%	170°	Battery	Integrated Li-Polymer 51Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
	Dolby Vision™	****	Cioosy	300 1113	10.5	1400.1	3070	170	Max battery life	<i>MobileMark</i> <sup>®</sup> <i>2014:</i> 18.3 hr
Multi-touch (opt)	Capacitive-type multi-to				sture (	(FHD only),			AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter
01	anti-reflection (AR) / an		<u> </u>						- Ao adapter	65W USB-C AC adapter
Storage	<ul><li>One of the following, config</li><li>M.2 2280 SSD / SATA</li></ul>									65W USB-C slim AC adapter
	<ul> <li>M.2 2280 SSD / PCIe</li> </ul>	NVN	le 3.0 x 4							Optional: Windows® 10 Home 64 or Windows 10 Pro 64
	<ul> <li>Intel Optane Memory M.2 2280, PCIe NVM</li> </ul>			State Stora	ge,				Limited warranty	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> </ul>
Optical	None	0.0	^ 7							1-year limited onsite service
Ethernet	Native Intel Ethernet Co						70)			1-year + 2-year depot repair service
	via optional ThinkPad E									<ul> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> </ul>
WLAN + BT	Intel Wireless-AC 9560				etooth	™ 5.0				3-year/1-yr battery limited onsite service
WWAN (optional)	<ul><li>Wireless WAN upgrad</li><li>Integrated Mobile Bro</li></ul>	dable adba	(special b	id only) 5-A Fibocor	n I 850	n-GLM2ca	ard		Mil-Spec test	MIL-STD-810G military testing
	<ul> <li>Integrated Mobile Bro</li> </ul>	adbaı	nd 4G LTE	E-A, Fibocor	n L860	D-GL, MIMO	2x2, M	.2 card	Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant
SIM card (opt)	* For non-WWAN model, it • Verizon LTE (US) SIM	t mean I card	s the mode	el is NOT WW	'AN upg	radable				
Onvi Cara (Opt)	Gemalto eSIM	ı caru								
Note: The enecified	ations above may not be a	wailah	ام الم ما دما	niono and mi	abt ab	ango bu rogi	200			Lenow









## ThinkPad X1 Carbon Gen 8 Platform Specifications

Processor	10th Generation I	Intel® C	ore™ i5 / i7 F	rocess	or					Dimensions	WxDxH (Privacy Guard model):12.72" x 8.54" x 0.61"; 323mm x 217mm x 15.4mm
	Processor # of Number Cores	# of Threads		Max Turk Frequen		e Memo	ory Types	Proce Grap		Weight	WxDxH (other model): 12.72" x 8.54" x 0.59"; 323mm x 217mm x 14.9mm Privacy Guard model: starting at 2.66 lb / 1.21 kg;
	i5-10210U i5-10310U i7-10510U	8	1.6 GHz 1.7 GHz 1.8 GHz	4.2 GH: 4.4 GH: 4.9 GH:	z 6MB z 8MB	LPDD	P3-2133	Intel Grap	-	Case color Case material	Other model: starting at 2.4 lb / 1.09 kg Black paint or black weave Display cover: Carbon Fiber; Bottom: magnesium alloy
	i7-10610U		1.8 GHz	4.9 GH	Z   8IVIB					Smart card reade Media reader	rNone None
Graphics	Intel UHD Graphi supports up to 3 i supports external	indeper	dent display	s via na (up to 4	tive disp K@24H	olay and	d two ext hunderbo	ernal m	onitors 960Hz)	Ports	Two USB 3.2 Gen 1 (one Always On), two USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models),
Chipset Memory	Intel SoC (System 8GB or 16GB / 2	n on Ch 133MHz	ip) platform LPDDR3/s	soldered	d to syst	emboa	rd, no so	ckets			headphone / microphone combo jack, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Display	Size Resolution		Type Surface	Touch	Bright- ness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Monitor cable Bundled Accy	Optional: Lenovo HDMI to VGA Monitor Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2
	14.0" FHD (1920x1	080)	WVA Anti-glar	e -	400 nits	16:9	800:1	72%	170°		<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
	14.0" FHD (1920x1		WVA Anti-glar	Multi- touch	400 nits	16:9	700:1	72%	170°	Audio support	HD Audio, USI 4551-513711-00 codec / Dolby® Atmos™ speaker system, 2W x 2, 0.8 x 2 / four 360° far-field microphones, headphone / microphone combo jack
	FHD (1920x1 14.0" ThinkPad Priv Guard		NVA Anti-glar	Multi- touch	500 nits	16:9	1000:1	72%	170°	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, LED backlight
	14.0" WQHD (2560		NVA Anti-glar	е -	300 nits	16:9	1000:1	72%	170°	UltraNav™	TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	14.0" UHD (3840x2 HDR 400, Dolby Vision	м	WVA Glossy	-	500 nits	16:9	1500:1	90% DCI-P3	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole  • Firmware TPM 2.0 integrated in chipset  • Discrete TPM 2.0 TCG Certified
Multi-touch (opt)	* WQHD is NOT av Capacitive-type n anti-reflection (AF	nulti-tou	ch, supports			ıre,				Fingerprint readéi	Intel vPro Technology rTouch style match on chip fingerprint reader on the palm rest Near Field Communication
Storage	<ul> <li>M.2 2280 SSD</li> <li>Intel Optane Me</li> </ul>	emory F	110 with Solid		Storage	,				Battery	Integrated Li-Polymer 51Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Optical	M.2 2280, PCIe None	HIVIVIE	3.0 X 4							Max battery life	<i>MobileMark® 2014:</i> 19.5 hr
Ethernet	Native Intel Ether via optional Think	net Cor Pad Etl	nection I219 nernet Exten	-V ( <i>Noi</i> sion Ad	n-vPro) o apter Ge	or I219 en 2	-LM ( <i>vPr</i>	70)		AC adapter	MobileMark 2018: 13.8 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter
WLAN + Bluetooth™	Intel Wi-Fi 6 AX20 * Intel AX201 card s						s OS				65W USB-C AC adapter     65W USB-C slim AC adapter
WWAN (optional)	Wireless WAN u     Integrated Mobi			E. Que	ctel EM0	5CEFC	C, M.2 ca	ırd		Operating system	• Windows® 10 Home 64 • Windows 10 Pro 64
SIM card (opt)	Integrated Mobi     Integrated Mobi     *For non-WWAN m     Gemalto eSIM     Nano-SIM card	ile Broa ile Broa nodel, it r	dband 4G LT dband 4G LT neans the mod	E-A, Fi E-A, Fi lel is NO	bocom L bocom L T WWAN	.850-G .860-G	L, M.2 ca L, MIMO	ard	.2 card	(optional)	1-year depot repair service     1-year depot with 2-year system board repair service     1-year limited onsite service     1-year + 2-year depot repair service     1-year + 2-year limited onsite service     3-year/1-yr battery depot repair service
											3-year/1-yr battery limited onsite service
										Mil-Spec test	MIL-STD-810G military testing
Note: The second	ations above may no		dala in el	l - :	التائما امما	alac:-	a lave'			Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant













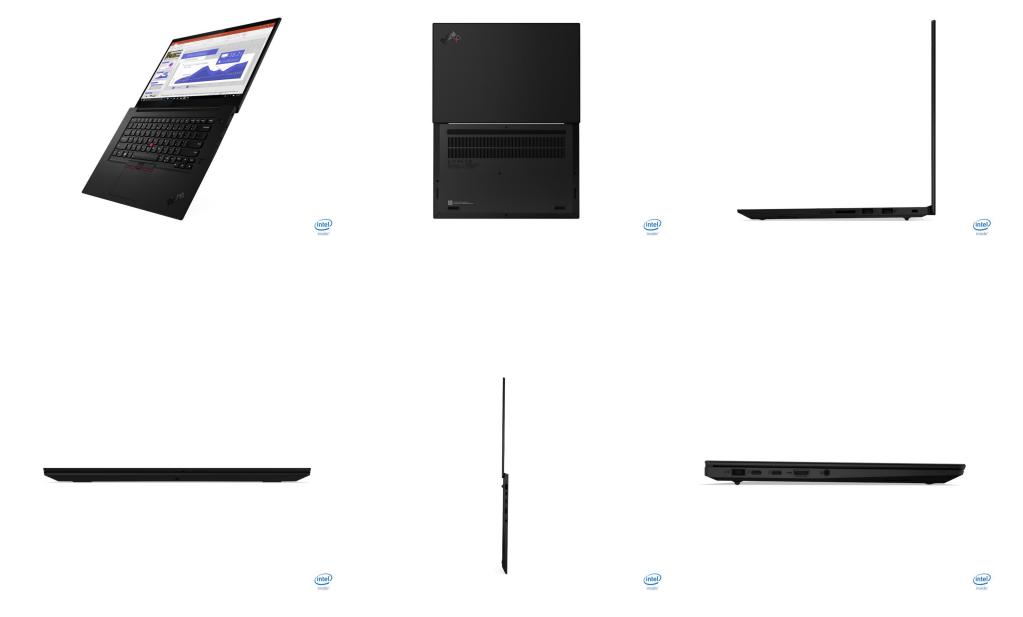






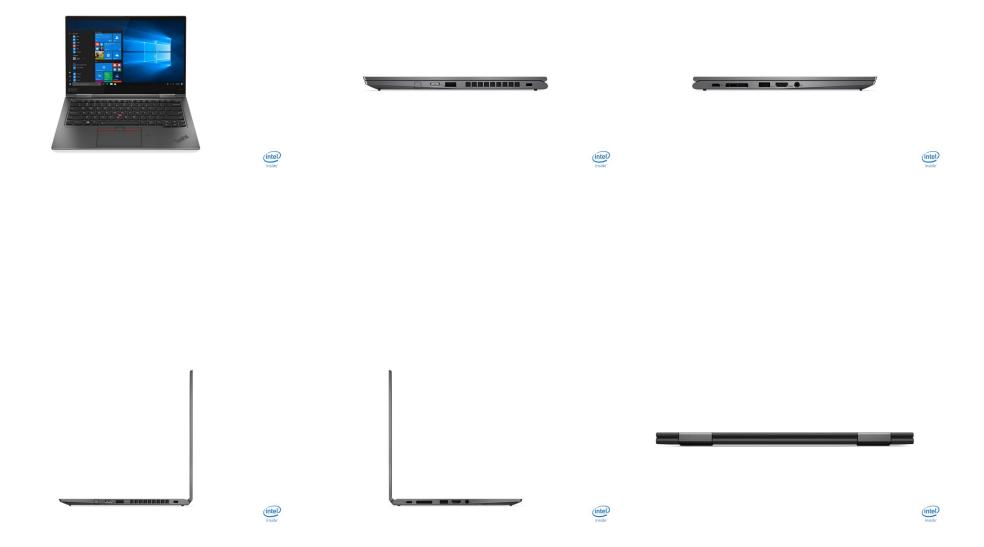
## ThinkPad X1 Extreme (2nd Gen) Platform Specifications

Processor	9th Generation Intel® Co	ore™ i5	/ i7 / i9 Pr	ocessor					Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm
	Processor # of # of Number Cores Thread	s Freq	uency Fre	c Turbo quency Cach	ie Ty	mory pes	Proce Grapl		Weight	WxDxH (multi-touch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm Non-touch model: starting at 3.75 lb / 1.7 kg; Multi-touch model: starting at 3.97 lb / 1.8 kg
	i5-9300H     4     8       i5-9400H     4     8       i7-9750H     6     12	2.5 2.6	GHz 4.3 GHz 4.5		B DDR	4-2666 In	tel UHD 63	Graphics 0	Case color Case material	Black paint (FHD model) or black weave (UHD model)  Display cover: CFRP/GFRP hybrid;  Bottom: Aluminum alloy
	i7-9850H         6         12           i9-9880H         8         16			GHz 12M GHz 16M	_				Media reader	er Optional: Smart card reader SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card
Graphics	Intel UHD Graphics 630 NVIDIA® GeForce® GTX supports external digital supports four independe Max resolution: 5K@60	1650 monito ent disp	Max-Q, 40 or via HDN olays;	GB GDDR5 MI or Thund	erbolt™	;			Ports	Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole, slim tip AC adapter *Power Delivery only supports power-out for charging peripherals *Depending on many factors, actual data transfer speed may be lower than theoretical speed
Chipset Memory	Mobile Intel CM246 Chip 64GB max / 2666MHz D		dual-chan	nel capable	, two D				Monitor cable (optional)	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
Display	Size Resolution	Туре	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle		Optional: ThinkPad Ethernet Extension Cable
	15.6" FHD (1920x1080)	WVA	Anti-glare	300 nits	16:9	700:1	72% NTSC	170°	Camera (optional	) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
	15.6" FHD (1920x1080) Dolby Vision™ HDR	WVA	Anti-glare	500 nits	16:9	1200:1	72% NTSC	170°	Audio support	<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /</li> </ul>
	15.6" UHD (3840x2160) Dolby Vision HDR	WVA	Anti-glare	500 nits	16:9	1200:1	100% Adobe	170°		optional dual 360° far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system
	UHD (3840x2160) Dolby Vision HDR, Multi-touch	OLED	Anti- reflection Anti- smudge	SDR 400nit, HDR 500nit (peak)	16:9	100000:1	100% DCI-P3	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
Multi-touch (opt) Pen (optional)	Capacitive-type multi-toranti-reflection (AR), anti- Lenovo Pen Pro (specia	-smudg	ipports 10 ge (AS) co	-finger gest pating	ure (UI	HD OLEI	only),	1	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region) Intel vPro Technology
Storage RAID (optional)	Up to two M.2 SSD M.2 2280 SSD / PCIe N RAID 0/1 support								Fingerprint reade Color calibration NFC	Trouch style match on chip fingerprint reader on the keyboard bezel  Optional: X-Rite Pantone factory color calibration (UHD model only)  None
Optical Ethernet	None Native Intel Ethernet Co	nnectio	on I219-V	(Non-vPro)	or I219	9-LM ( <i>vP</i>	'ro))		Battery	Integrated Li-Polymer 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
	via optional ThinkPad Et Intel Wi-Fi 6 AX200, Wi-	Fi 2x2	802.11ax	+ Bluetooth					Max battery life  AC adapter	MobileMark® 2014: 14 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors 135W slim tip AC adapter
Bluetooth™ (opt) WWAN	Bluetooth 5.0 wireless, i	ntegra	ted in Wi-l	-ı + Bluetoo	th com	bo adapt	er		<u> </u>	n Optional: Windows® 10 Home 64 or Windows 10 Pro 64
SIM card	None None								I	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
									Mil-Spec test	MIL-STD-810G military testing
	ations above may not be av								Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant



## ThinkPad X1 Extreme Gen 3 Platform Specifications

Processor		_	_		e™ i5 / i7 /	/ i9 Pro	cessor					Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm
	Processo Number	Core	s Thre	ads F		Max Tu Freque	ncy Cache	Memor	ry Types	Proce Grap		Weight	WxDxH (multi-touch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm Non-touch model: starting at 3.75 lb / 1.7 kg; Multi-touch model: starting at 4.0 lb / 1.81 kg
	i5-10400 i7-10750 i7-10850	H H 6	12	2	2.6 GHz 2.6 GHz 2.7 GHz	4.6 G 5.0 G 5.1 G 5.3 G	Hz 12MB Hz 12MB	DDR4	4-2933	Intel I Grap		Case color Case material	Black paint or black weave  Display cover: CFRP/GFRP hybrid; Bottom: Aluminum alloy
Graphics	Intel UH NVIDIA® supports supports	D Grap D Grap GeFor s up to s exterr	hics in ce® G7 4 inder al mor	proce proce FX 16 pende nitors	nt display via HDMI	y or d x-Q, 40 ys via r I (up to	HZ 16MB GB GDDR6 lative displ 4K@60Hz odel / 4K@	ay and :) or	3 extern			Smart card reade Media reader Ports	rNone SD Card reader, supports UHS-II SD card (mutually exclusive with WWAN card) Two USB 3.2 Gen 1 (one Always On), two USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort 1.4 for discrete graphics / DisplayPort 1.2 for integrated graphics) HDMI 2.0, nano-SIM card slot (WWAN models), headphone / microphone combo jack, SD card reader, security keyhole, slim tip AC adapter *Depending on many factors, actual data transfer speed may be lower than theoretical speed
Chipset Memory		ax / 29	33MHz	. DDF	R4, dual-c		capable, t t 2933MHz (				ockets		<ul> <li>Lenovo HDMI to VGA Monitor Adapter</li> <li>Lenovo USB-C to VGA Adapter</li> <li>Lenovo USB-C to DisplayPort Adapter</li> </ul>
Display	Size Re	solution		Type	Surface	Touch	Brightness		Contrast	Color	Viewing	Bundled Accy	Optional: Lenovo USB-C to Ethernet Adapter
	15.6" FH		x1080)		Anti-glare		300 nits	Ratio 16:9	700:1	Gamut 72% NTSC	Angle 170°	Audio support	<ul> <li>)• HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>HD Audio, Realtek® ALC3286 codec /</li> </ul>
	15.6" PH HD			WVA	Anti-glare	-	500 nits	16:9	800:1	72% NTSC	170°		Dolby® Atmos™ sound system with 3-magnet speakers, 2W x 2 / optional dual array microphone, headphone / microphone combo jack
	15.6" UH Do	ID (3840 Iby Visio			Anti-glare		600 nits	16:9	1400:1	100% Adobe	178°	- Keyboard - UltraNav™	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	15.6" UH Do	ID (3840 Iby Visio	x2160) n HDR	OLED	AR, AS	Multi- touch	SDR 400nit, HDR 540nit (peak)	16:9	100000:1	100% I DCI- P3	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole • Firmware TPM 2.0 integrated in chipset
Multi-touch (opt)  Pen (optional)  Storage		ection (A Pen Pro	AR), ai		, supports ludge (AS		iger gestur ng	e,				Fingerprint readé	Discrete TPM 2.0 TCG Certified Intel vPro Technology rTouch style match on chip fingerprint reader on the keyboard bezel Optional: X-Rite Pantone factory color calibration (UHD model only)      Description (UHD model only)
RAID (optional)	M.2 228 RAID 0/	0 SSD	/ PCIe	NVM	e 3.0 x 4							NFC Battery	None Integrated Li-Polymer 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 135W AC adapter
Optical Ethernet	None	Ethorno	ot oonn	ootior	a via antia	onal La	novo USB-	C to E	thornot	A donto	,	Max battery life	<i>MobileMark® 2014:</i> 15.6 hr
WLAN + BT							Bluetooth™		uieiiiei i	Auaptei		-	MobileMark 2018: 11.8 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
WWAN (optional)									MIMO 2	x2, M.2	card	AC adapter	135W or 170W slim tip AC adapter (170W for i9-10885H model only)
SIM card	* For non-WWAN model, it means the model is NOT WWAN upgradable None									,	<b></b>	Limited warranty	
												(optional)	<ul> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
													MIL-STD-810G military testing
Note: The specific												Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant



## ThinkPad X1 Yoga (4<sup>th</sup> Gen) Platform Specifications

Processor	8th Genera	tion Ir	ntel® Core	™ i5 / i7 Proce	essor					WWAN (optional)	One of the following, configurable by model:
		# of Cores	# of Threads   F	Frequency Fre	x Turbo quency Cach		ory Types	Proce Grap		SIM card (opt)	<ul> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card</li> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card</li> <li>For non-WWAN model, it means the model is NOT WWAN upgradable</li> <li>Verizon LTE (US) SIM card</li> </ul>
	i5-8365U i7-8565U	4	Ω –		1 GHz 6ME 6 GHz 8ME		DR3-2133	Intel Grap		Dimensions	• Gemalto eSIM  WxDxH (Privacy Guard): 12.71" x 8.58" x 0.63"; 323mm x 218mm x 15.95mm
	i7-8665U or 10th Ger	neratio		1.9 GHz   4.8 ore i5 / i7 Prod	B GHz 8ME cessor (NOT		ble in EM	IEA)		Weight	WxDxH (other model): 12.71" x 8.58" x 0.61"; 323mm x 218mm x 15.5mm Privacy Guard model: starting at 3.24 lb / 1.47 kg;
	Processor	# of Cores	# of	Base Ma	v Turbo		nory Types	Proce	essor ohics	Case color Case material	Other model: starting at 2.99 lb / 1.36 kg Iron Grey Display cover: Aluminium;
	i5-10210U i7-10510U i7-10710U	4 6	8 -	1.8 GHz 4.	2 GHz 6ME 9 GHz 8ME 7 GHz 12M	LPD	DR3-2133	Intel Grap	UHD	Smart card reade	Bottom: Magnesium erNone
Graphics	Intel UHD Graphics in processor; supports external digital monitor via HDMI or USB Type-C / Thunderl supports three independent displays; Max resolution: 5K@60Hz (Thunderbolt); 4K@24Hz (HDMI)  Intel SoC (System on Chip) platform 8GB or 16GB / 2133MHz LPDDR3 / soldered to systemboard, no so									Media reader   Ports	None Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models), headphone / microphone combo jack, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Chipset Memory					dered to sys					Monitor cable Bundled Accy	Optional: Lenovo HDMI to VGA Monitor Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2
Display	Size Resolu		Туре		Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Camera (optional	) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
	14.0" FHD (1 Low Po	ower	, VV VA	Anti-Sinuage	400 fills	16:9	800:1	72%	170°	Audio support	<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3286 codec / Dolby® Atmos™ speaker system, 2W x 2, 0.8 x 2 /</li> </ul>
	14.0" ThinkP Guard	ad Pri	vacy WVA	Anti-reflection Anti-smudge	400 nits	16:9	1000:1	72%	170°	 Keyboard	four 360° far-field microphones, headphone / microphone combo jack  6-row, spill-resistant, multimedia Fn keys, LED backlight
	14.0" WQHD (2560x	(1440)		Anti-reflection Anti-smudge	300 nits	16:9	800:1	72%	170°	UltraNav™	TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	14.0" UHD (3 Dolby \	.00,	´ WVA	Anti-reflection Anti-smudge	500 nits	16:9	1400:1	90%	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)
Multi-touch	AR (anti-ref	flectio	n) / AS (a	n, supports 10 nti-smudge) os s by up to 10	oating,	ure,				System Mgt (opt) Fingerprint reade NFC (optional)	htel vPro Technology Touch style match on chip fingerprint reader on the palm rest Near Field Communication
Hinge Convert-mode Pen	Yoga hinge, Laptop, tent	, 360 ( t, stan	degree nd and tab	olet .		on-bo	ard rech	argeable	<u>a</u>	Battery Max battery life	Integrated Li-Polymer 51Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 18.1 hr
Storage	ThinkPad Pen Pro, active pen for multi-touch display, on-board recharge  One of the following, configurable by model:  • M.2 2280 SSD / SATA 6.0Gb/s  • M.2 2280 SSD / PCIe NVMe 3.0 x 4  • Intel Optane Memory H10 with Solid State Storage,									AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter • 65W USB-C AC adapter • 65W USB-C slim AC adapter
Optical	M.2 2280, None				naic Olorage	<b>,</b>					n Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Ethernet	Native Intel Ethernet Connection I219-V ( <i>Non-vPro</i> ) or I219-LM ( <i>vPro</i> ) via optional ThinkPad Ethernet Extension Adapter Gen 2									Limited warranty (optional)	<ul> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> </ul>
WLAN Bluetooth™	Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0 Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter										<ul> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
										Mil-Spec test	MIL-STD-810G military testing
Note: The specific				-1-1- (1) 1		A -l				Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant  Lenovi









## ThinkPad X1 Yoga Gen 5 Platform Specifications

Number   Cores   Threads   Frequency   Cache   Memory Types   Graphics   15-10210U   16-10310U   16-	rocessor 1	10th Generation Intel® Core™ i5 / i7 Processor									Dimensions	WxDxH (Privacy Guard): 12.71" x 8.58" x 0.63"; 323mm x 218mm x 15.95mm
Case color   Cas					uency Freque	ncy Cacr	ne Mem	nory Types			Weight	Privacy Guard model: starting at 3.24 lb / 1.47 kg;
Intel UHD Graphics in processor; supports up to 3 independent display and two external monitors supports up to 3 independent display with the function of Power Delivery and DisplayPort. With the function of Power Delivery and DisplayPort. The function of Power Delivery and DisplayPort. The function of Power Delivery and DisplayPort. The function of Power Delivery and DisplayPort. The function of Po	i	i5-10310U i7-10510U 4	8	1.7	GHz 4.4 GI GHz 4.9 GI	Hz 6ME	B LPD	DR3-2133			Case material	Iron Grey  Display cover: Aluminium;  Bottom: Magnesium
Size Resolution Type Surface and Policy Standard display and two external monitors: supports external monitors with the function of Power Delivery and DisplayPort). Ethernet extension connector, nano-Slaw and supports external monitors with the function of Power Delivery and DisplayPort). Ethernet extension connector, nano-Slaw and supports external monitors with the function of Power Delivery and DisplayPort). Ethernet extension connector, nano-Slaw and supports external monitors with the function of Power Delivery and DisplayPort). Ethernet extension connector, nano-Slaw and supports external monitors with the function of Power Delivery and DisplayPort). Ethernet extension connector, nano-Slaw and supports external monitors with the function of Power Delivery and DisplayPort). Ethernet extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw, and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw, and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw, and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector, nano-Slaw and supports extension connector. Scalable and supports extension con						HZ   8IVII	В					
Chipset Memory Nemory Intel SoC (System on Chip) platform Memory Display    Size   Resolution   Type   Surface   Bright   Ratio   Contrast   Color   Viewing   Gamut   Angle   Surface   Bright   Ratio   Contrast   Color   Viewing   Gamut   Angle   Surface   Bright   Ratio   Contrast   Color   Viewing   Gamut   Angle   Surface   Contrast   Color   Viewing   Gamut   Angle   Color   Viewing   Gamut   Angle   Contrast   Color   Viewing   Gamut   Angle   Color   Viewing   Gamut   Viewing	· .	supports up to 3 independent displays via native display and two external monitors:						nd two ex Thunderb	ternal n	nonitors @60Hz)	_ ·	Two USB 3.2 Gen 1 (one Always On), two USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 1.4b,
Size   Resolution   Type   Surface   Engine   Ratio   Gamut   Manyle   Gamut   Gamut   Manyle   Gamut   Gamut   Manyle   Gamut	hipset I lemory 8	Intel SoC (Syster 8GB or 16GB / 2	n on Ch 133MH:	nip) pl z LPD	atform DR3 / soldere	ed to sys	tembo	ard, no s	ockets			headphone / microphone combo jack, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Filth (1920x108)   Number	isplay	Size Resolution		Туре	Surface							Optional: Lenovo HDMI to VGA Monitor Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2
14.0"   ThinkPad Privacy Guard   WVA   Anti-reflection   Guard   14.0"   WOHD (2560x1440)   WVA   Anti-reflection   14.0"   WOHD (2560x1440)   WVA   Anti-reflection   300 nits   16:9   1000:1   72%   170°   170		Low Power	·	WVA		400 nits	16:9	700:1	72%	170°		<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
LED backlight   LED backligh		14.0" Think Pad Priv	(080) vacy	WVA		500 nits	16:9	1000:1	72%	170°	Audio support	
UHD (3840x2160)   HOR 400   Dolby Vision™   VMCH   Dis NOT available in EMEA	[	,	- 1	WVA	Anti-reflection Anti-smudge	300 nits	16:9	1000:1	72%	170°	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls,
Multi-touch Capacitive-type multi-fouch, supports 10-finger gesture, anti-reflection (AR) / anti-smudge (AS) coating Yoga hinge, 360 degree Convert-mode Pen Convert-mode Nacrefied Communication Near Field Communicat		14.0" HDR 400,	′	WVA	Anti-reflection Anti-smudge	500 nits	16:9	1500:1	90% DCI-P3	170°		TrackPoint® pointing device and buttonless glass surface multi-touch touchpad Power-on password, hard disk password, supervisor password, security keyhole
Storage  • M.2 2280 SSD / PCle NVMe 3.0 x 4 • Intel Optane Memory H10 with Solid State Storage, M.2 2280, PCle NVMe 3.0 x 4 None  Ethernet  Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro) via optional ThinkPad Ethernet Extension Adapter Gen 2  WLAN + Bluetooth™  Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0 * Intel AX201 card supports BT5.1 but is limited to BT5.0 by Windows OS  WWAN (optional)  * Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated SIM • Nano-SIM card, Lenovo Connect 4 month, 4G LTE  Mil-Spec test  MIL-STD-810G military testing	fulti-touch ( a linge \ Convert-mode L	* WQHD is NOT available in EMEA Capacitive-type multi-touch, supports 10-finger gesture, anti-reflection (AR) / anti-smudge (AS) coating Yoga hinge, 360 degree						1	l	l	Security chip  System Mgt (opt) Fingerprint reade	<ul> <li>Firmware TPM 2.0 integrated in chipset</li> <li>Discrete TPM 2.0 TCG Certified</li> <li>Intel vPro Technology</li> <li>Touch style match on chip fingerprint reader on the palm rest</li> </ul>
* Intel Optane Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4  Optical None  Ethernet Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro) via optional ThinkPad Ethernet Extension Adapter Gen 2  WLAN + Bluetooth™ Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0 * Intel AX201 card supports BT5.1 but is limited to BT5.0 by Windows OS  WWAN (optional) * Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable  SIM card (opt) * Nano-SIM card, Lenovo Connect 4 month, 4G LTE  **Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0 * USB-C AC adapter * 65W USB-C AC adapter * 65W USB-C AC adapter * 65W USB-C AC adapter * 65W USB-C Slim AC adapter * 65W USB-C Slim AC adapter * 65W USB-C Slim AC adapter * Windows 10 Home 64 * Windows 10 Pro 64 * Windows 10 Pro 64 * Windows 10 Pro 64 * Umited warranty (optional) * 1-year depot repair service * 1-year depot with 2-year system board repair service * 1-year depot with 2-year system board repair service * 1-year depot with 2-year limited onsite service * 1-year 1-year limited onsite service * 3-year/1-yr battery depot repair service * 3-year/1-yr battery depot re		ThinkPad Pen Pro, rechargeable active pen, on-board garage						age			Battery	
Optical None  Ethernet Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro) via optional ThinkPad Ethernet Extension Adapter Gen 2  WLAN + Bluetooth™ Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0 * Intel AX201 card supports BT5.1 but is limited to BT5.0 by Windows OS  WWAN (optional) • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable  SIM card (opt) • Gemalto eSIM • Nano-SIM card, Lenovo Connect 4 month, 4G LTE  Mil-Spec test MIL-STD-810G military testing		<ul> <li>Intel Optane Memory H10 with Solid State Storage,</li> </ul>									Max battery life	<i>MobileMark® 2014:</i> 19.3 hr
Ethernet  Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro) via optional ThinkPad Ethernet Extension Adapter Gen 2  WLAN + Bluetooth™  Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0 Bluetooth™  Native Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0 Bluetooth™  * Intel AX201 card supports BT5.1 but is limited to BT5.0 by Windows OS  WWAN (optional)  • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Gemalto eSIM • Gemalto eSIM • Nano-SIM card, Lenovo Connect 4 month, 4G LTE  Mil-Spec test  Mil-Spec test  MIL-STD-810G military testing	ptical N		, IN VIVIC	0.0 A	<b>-</b>						AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors
Bluetooth™ * Intel AX201 card supports BT5.1 but is limited to BT5.0 by Windows OS  WWAN (optional)  • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • For non-WWAN model, it means the model is NOT WWAN upgradable • Gemalto eSIM • Nano-SIM card, Lenovo Connect 4 month, 4G LTE • 1-year depot verbair service • 1-year depot with 2-year system board repair service • 1-year   1-year depot with 2-year depot with 2-year depot verbair service • 1-year + 2-year limited onsite service • 1-year + 2-year limited onsite service • 3-year/1-yr battery limited onsite service • 3-year/1-yr battery limited onsite service  Mil-Spec test  MIL-STD-810G military testing		Native Intel Ethernet Connection I219-V ( <i>Non-vPro</i> ) or I219-LM ( <i>vPro</i> ) via optional ThinkPad Ethernet Extension Adapter Gen 2						9-LM ( <i>vP</i>	ro)			65W USB-C AC adapter
• Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card  *For non-WWAN model, it means the model is NOT WWAN upgradable  • Gemalto eSIM • Nano-SIM card, Lenovo Connect 4 month, 4G LTE   1-year depot with 2-year system board repair service  1-year limited onsite service  1-year + 2-year depot repair service  1-year + 2-year limited onsite service  3-year/1-yr battery limited onsite service  3-year/1-yr battery limited onsite service  Mil-Spec test  MIL-STD-810G military testing											Operating system	n • Windows® 10 Home 64 • Windows 10 Pro 64
	ilM card (opt)	<ul> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card</li> <li>* For non-WWAN model, it means the model is NOT WWAN upgradable</li> <li>• Gemalto eSIM</li> </ul>						al, MIMC	ard ) 2x2, M	1.2 card		<ul> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> </ul>
											Mil-Spec test	
Environment EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; F											Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant

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If Lenovo determines your product problem is covered by the product warranty and cannot be resolved over the telephone, a technician will be dispatched to arrive onsite, typically the next day.

International Warranty Service (IWS): PC repair coverage for customers who require a critical warranty repair while travelling internationally. Visit www.lenovo.com/internationalwarranty for details. Visit www.lenovo.com/warranty for Lenovo Warranty Services terms and conditions for complete details and restrictions.

**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

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## **Summary of Changes**

This section describes the technical changes made in this edition.

This edition might also include minor corrections and editorial changes which are not identified.

### October 30, 2019 - Version 550

### Additions in this update

► New product(s)

None

► New model(s)

None

**▶** Others

ThinkPad X1 Tablet (3rd Gen) - Spec updated

### Withdrawals in this update

► Withdrawn product(s)

None





# ThinkPad X1 Tablet (3<sup>rd</sup> Gen) Platform Specifications

Processor	8th Generation Intel® Core™ i5 / i7 Processor	Control buttons	Power button, volume control button, reset switch
	Processor # of # of Base Max Turbo Cache Memory Types Processor	Dock (Optional)	Thin Keyboard (Magnetic Detachable)
	Number Cores Inreads Frequency Frequency Graphics	Monitor cable	USB-C Dock Gen 2  None
	1.6 GHz 3.4 GHz 6MB	Bundled Accy	USB-C to RJ45: Lenovo USB-C to Ethernet Adapter
	1.7 GHz   3.6 GHz   6MB   LPDDR3-2133   Intel UHD   Graphics 620	(optional)	USB-C to VGA: Lenovo USB C to VGA Plus Power Adapter
	i7-8650U 1.9 GHz 4.2 GHz 8MB		USB-C to HDMI: Lenovo USB-C to HDMI Plus Power Adapter
Cranhina	Intel UHD Graphics 620 in processor,	Camera	Front camera: 2.0-megapixel, fixed focus Rear camera: 8.0-megapixel, auto focus
Graphics	supports external digital monitor via USB Type-C	IR Camera Audio support	Optional: IR camera, fixed focus (mutually exclusive with NFC) Realtek® ALC3278 codec / stereo speakers, 1W x 2 / dual array microphones, combo audio/microphone jack
Chipset	Intel SoC (System on Chip) platform		
Memory	8GB or 16GB / 2133MHz LPDDR3, soldered to systemboard, no sockets		
Display	13.0" (330mm) QHD+ (3000x2000), glossy, LED backlight, IPS,	Pogo keyboard	Magnetic attached thin keyboard, with TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch, backlit
	anti-figerprint display with Corning® Gorilla® Glass, WideView (160° viewing),	Keyboard color	Black
Multi-touch	400 nits, 3:2 aspect ratio, 1200:1 contrast ratio Capacitive touch panel, supports ten-finger gesture	Security	Kensington lock slot
Pen (optional)	Lenovo Pen Pro or Lenovo Active Pen (ThinkPad Pen Pro)	Security chip System Mgt <i>(opt)</i> Fingerprint reader	Discrete TPM 2.0 TCG Certified
Kick stand	Opening angle up to 170 degrees		Intel vPro Technology r <i>Optional:</i> Touch style Fingerprint reader
Storage	One of the following, configurable by model:		Near Field Communication (mutually exclusive with IR camera)
	<ul> <li>M.2 2280 SSD / SATA 6.0Gb/s</li> <li>M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s</li> </ul>		Integrated Li-lon 42Wh battery
Optical	None	Max battery life	MobileMark® 2014: 9.5 hrs
Storage extension	nOne MicroSD card reader, in the combo slot with nano-SIM card, support USH-I, microSDHC, microSDXC	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
Ethernet	None	Light sensor	Ambient Light Sensor
WLAN		G-sensor	3D accelerometer
WLAIN Bluetooth™	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card Bluetooth 4.2 wireless, integrated in Wi-Fi + Bluetooth combo adapter	Gyroscope	3D gyrometer
	Integrated Mobile Broadband 4G LTE-A, Qualcomm® Snapdragon™ X7 LTE-A	GPS (optional)	GPS function is integrated into WWAN module
, , ,	(Sierra Wireless EM7455)	Preload	One of the following, configurable by model:  • Windows® 10 Pro 64
SIM card (opt)	Nano-SIM card slot, in the combo slot with microSD card reader		• Windows 10 Home 64
Dimensions	Tablet only: 11.97" x 8.9" x 0.35"; 304.1mm x 226mm x 8.9mm	Limited warranty	One of the following, configurable by model:
Weight	Tablet + keyboard: 11.97" x 8.9" x 0.57"; 304.1mm x 226mm x 14.4mm  Tablet only: starting at 1.96 lb / 0.89kg	·	1-year depot repair service
· ·	Tablet+ keyboard: starting at 2.8 lb / 1.27kg		<ul> <li>1-year depot with 2-year system board service</li> <li>3-year/1-yr battery depot repair service</li> </ul>
Case color	Black		3-year/1-yr battery limited onsite service
Case material	Magnesium/Aluminum	Mil-Spec test	MIL-STD-810G military testing
Ports	Two USB 3.1 Type-C Gen 1 ((with the function of Power Delivery and DisplayPort), one Pogo keyboard connector, one Pen holder slot,	Environment	EPEAT™ Silver, GREENGUARD, Low Halogen, RoHS
	headphone / microphone combo jack,		
	combo slot of nano-SIM card (WWAN models) and microSD card reader		
	* Depending on many factors, actual data transfer speed may be lower than theoretical speed		

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**Expedited Depot:** Parts and labor coverage with expedited turnaround. Shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

Onsite / In-home Service: Parts and labor repair coverage where labor is provided onsite at your place of business.

If Lenovo determines your product problem is covered by the product warranty and cannot be resolved over the telephone, a technician will be dispatched to arrive onsite, typically the next day.

International Warranty Service (IWS): PC repair coverage for customers who require a critical warranty repair while travelling internationally. Visit www.lenovo.com/internationalwarranty for details. Visit www.lenovo.com/warranty for Lenovo Warranty Services terms and conditions for complete details and restrictions.

**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

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# **Summary of Changes**

This section describes the technical changes made in this edition.

This edition might also include minor corrections and editorial changes which are not identified.

#### June 2020 - Version 561

#### Additions in this update

#### ► New product(s)

ThinkCntre Tiny-In-One 22 Gen 4

ThinkCntre M90a

ThinkCntre M90s

ThinkCntre M90t

ThinkCntre M90q

#### ► New model(s)

None

#### **▶** Others

None

#### Withdrawals in this update

► Withdrawn product(s)

None

► Withdrawn model(s)

None

















## ThinkCentre M70a Platform Specifications

Processor	Intel® Celeron®, Intel I	Pentium®	, or 10th Gen Inte	el Core <sup>⊤</sup>	<sup>™</sup> i3 / i5 / i7 / i9 Pi	rocessor			s, M.2 Card, Intel Wi-Fi 6 AX201 (dual band),			
	Processor	Cores / Threads	\ /	Cache	Memory Support (Up to)	Integrated Graphics	Bluetooth™ Ethernet	Some: Bluetooth 5.0	ooth 5.1 combo adapter, 2x2 (Available on 2020/9/29) /5.1 wireless, integrated in Wi-Fi + BT combo adapter lltek RTL8111K, Wake on LAN®			
	Celeron G5900 Celeron G5920	2/2	3.4G 3.5G	2 MB 2 MB	DDR4-2666 DDR4-2666	UHD 610 UHD 610	Manageability	None	iller III LOTTIN, Ware OII LAN			
	Pentium Gold G6400	2/4	4.0G	4 MB	DDR4-2666	UHD 610	Security chip	Discrete TPM 2.0, TC	G Certified			
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630	1 '	Security slot (for Ke				
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630		<ul> <li>Optional Chassis in</li> </ul>	trusion switch • Individual USB port disablement			
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630		Power-on, admin, hard disk password     Smart USB protection, allows keep the second particular and the second partic				
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630		Boot sequence con	<i>y</i> .			
	Core i3-10320	4/8	3.8G / 4.6G	8 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, I				
	Core i5-10400	6/12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630	Mouse					
	Core i5-10500	6/12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630						
	Core i5-10600	6/12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630	Mechanical	Business black color				
	Core i7-10700	8/16	2.9G / 4.8G	16 MB	DDR4-2933	UHD 630	ļ	<ul> <li>Toolless back cover</li> </ul>				
	Core i9-10900	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	UHD 630	ļ	Support VESA mou	int (100mm)			
Memory	64GB max (32GB SO two 260-pin SO-DIMN				bid models), DDF	R4-3200*,		Discoursians (MA-Dall)	Without stand (with camera): w/ ODD: 19.3" x 2.3" x 11.7" / 490.14 x 57.8 x 297.75 (mm)			
	* System automatically c	locks dow	for the processors		ver memory controll	ler		Dimensions (WxDxH)	w/o ODD: 19.3" x 1.8" x 11.7" / 490.14 x 46 x 297.75 (mm) w/ ODD: (Non-touch) 11.3 / 5.12 (Touch) 10.8 / 4.88			
Storage	Support up to 1x 2.5" Some: Hard Drive / S	HDD and SATA 6.00	d 1x M2.SSD, 3b/s, 2.5" or 3.5".	7200 r	pm			Approx weight (lb / kg)	w/o ODD: (Non-touch) 10.7 / 4.86 (Touch) 10.2 / 4.62			
	Some: M.2 SSD (224	12 / 2280	) / PCIe NVMe. F	Cle 3.0	x2 or PCle 3.0 x	(4		W	ith Full Function Monitor stand (with camera):			
Optical	Some: Intel Optane™ Some: DVD-ROM SA	Memory ATA 1.5G	M10, M.2 2280, b/s Drive, slim (9	PCle 3 .0mm)	.0 x2			Dimensions (WxDxH)	19.3" x 7.9" x 15.2" to 18.3" / 490.14 x 199.82 x 386.05 to 466.04 (mm)			
Media reader	Some: DVD Burner ( Optional 3-in-1 media	DVD±RV	/), SATA 1.5Gb∕s		slim (9.0mm)			Approx weight (lb / kg)	w/ ODD: (Non-touch) 16.2 / 7.33 (Touch) 15.6 / 7.09 w/o ODD: (Non-touch) 15.6 / 7.07 (Touch) 15.1 / 6.83			
Graphics	Intel HD Graphics 61			main m	emory DirectX®	12.		Adjustments	Tilt: 30° back, -5° forward; Lift: 80mm			
•	external monitor supp	ort via D	isplayPort™(up to	4096x	2304@60Hz)	,			With UltraFlex IV stand (with camera):			
Monitor Cable	Optional DP to VGA d								Lowest in flat mode: 19.3" x 11.3" x 7.8" / 490.17 x 288.17 x 197.04 (mm)			
Display	or DP to HDMI 1.4 do <b>21.5</b> " (546.1mm) <b>Full</b>	ngle   <b>HD 108</b> (	Op (1920x1080),	In-Plan	e Switching tech	nology (may		Dimensions (WxDxH)	Highest in vertical mode: 19.3" x 9.2" x 17.3" / 490.17 x 232.75 x 439.28 (mm)			
	refer to IPS, PLS, ADS light, 250 nits, 16:9 as (88% Screen to Body	spect ratio	o, 1000:1 contras	t ratio, a	anti-glare, border	less design		Approx weight (lb / kg)	w/ ODD: (Non-touch) 17.4 / 7.88 (Touch) 16.9 / 7.65 w/o ODD: (Non-touch) 16.8 / 7.62 (Touch) 16.3 / 7.38			
Multi-touch Camera	Optional multi-touch, some: 1080p camera	supports	10-point, AIT (Ad	dvanced	I In-cell Touch) te	chnology		Adjustments	Tilt: 70° back, -5° forward; Lift: up to 115mm (vertical mode) / 164mm (flat mode)			
Carriera	Some: RGBIR came							Note	e: Camera adds 14.5mm in height (Vertical mode)			
0	(physical swite	ch on/off)	, support Windov	vs Hello	)		Power supply	Some: 135 watts ad	apter, autosensing, 89% PSU			
Controls	Physical buttons on si	ide for mi	cropnone mute a	nd pow	er on/off		. owor cappiy		apter, autosensing, 89% PSU			
Chipset	Intel H470 Chipset		sta Compart Dougas	On) 14	athernat (D I 45)		Limited warranty <sup>3</sup>	Some: 1-year, depo	t repair service / service upgrades available			
Rear ports*	4x USB 3.2 Gen 1 (or 1x DisplayPort, 1x opt	ie suppoi	ial (9-nin)	On), IX	emerrier (hJ-45)	,			rear, limited onsite service / service upgrades available			
Side ports*	1x USB 3.2 Gen 2, 1x 1x optional card reade	( USB 3.2	Gen 1, 1x USB				Preload	Some: Windows® 10 Some: Windows 10	Home 64-bit			
M.2 card slot	Two M.2 Card slots (o	ne for W	LÁN, one for SŚ[	D/Optan	ie)	,	Environment		IoT Enterprise (only available via special bid model)  f, EPEAT™ Silver rating*, ErP Lot 3, TCO 8.0, TCO Edge			
A	* Depending on many fac						LIMIOIIIIEIIL		Eye comfort certified (for Full Function Monitor Stand only),			
Audio support	High Definition (HD) A Dolby® Atmos® certified		aitek ALC233 / tv	wo inter	nai speakers (2vi	/ x 2),		TUV Low Blue Light of RoHS-compliant	ertified, TUV Ultra Low Noise certified (on some models),			
WLAN	Some: 11ac wireless				(dual band),			* Only available for M				
	Some: 11ac wireless Wi-Fi + Blueto	, M.2 Car both 5.0 c	combo adapter, 1	-AC 946 x1 (spe	cial bid only)		MIL-SPEC test	MIL-STD-810H military certification (Low Pressure [Altitude], High Temperature Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Sho Fungus, Solar Radiation)				
	Some: 11ac wireless	, M.2 Ca	rd, Intel Wireless combo adapter, 2	-AC 956	60 (dual band),		Accessories		sories, please go to http://smartfind.lenovo.com			
Note: The enecific	eations above may not be	ovoiloblo	in all regions						Lenovo June 2020			

























#### **ThinkCentre M820z Platform Specifications**

Processor	Intel® Celeron®, Intel	Pentium®	, or 8th / 9th Ger	Intel Co	ore™ i3 / i5 / i7 / i9	9 series	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),			
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics		Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band),			
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,			
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 1x1			
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,			
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 2x2			
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610	Bluetooth™ Ethernet	Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Realtek RTL8111G, Wake on LAN®			
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610					
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	Manageability Security chip	None Discrete TPM 2.0, TCG Certified			
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	, ,	Security slot (in rear for attachment of     Power-on, admin, hard disk passwor			
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	Security leatures	optional Kensington® MicroSaver® cable; • Boot sequence control			
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630		Kensington lock also locks chassis)   • Boot without keyboard and mouse			
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630		<ul> <li>Smart USB protection, allows keyboard/</li> <li>Individual USB port disablement</li> </ul>			
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices • Optional Chassis intrusion switch			
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630		Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Calliope Wireless Reyboard (2.44Hz via USB receiver), black			
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello suppo			
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630	Mechanical	Business black color			
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		Toolless back cover, stand, memory removal			
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630		Support VESA mount (100mm)			
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630		Dimensions (WxDxH) Max weight (lb / kg) Adjustments			
	Core i9-9900	8/16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		Without stand (No camera):			
Memory	32GB max (16GB SC two 260-pin SO-DIM				bid models), DDR	4-2666*,		19.3 X 1.9 X 12.6 (inch) (Touch) 11.6 / 5.25 (Non-touch) 11.1 / 5.05			
	* System clocks dowr		·		mory controller			With Full Function Monitor stand (No camera):  Tilt: 45° back, -5° forward:			
Storage	Some: Hard Drive / Some: Solid State D	SATA 6.00	Gb/s, 2.5", 5400	rpm or 7				19.3 X 9.9 X 14.8 to 19.1 (inch) 491 X 252 X 377 to 486 (mm) (Non-touch) 15.8 / 7.18   Till. 45 back, -5 lotward, 491 X 252 X 377 to 486 (mm) (Non-touch) 15.8 / 7.18   Swivel: +/-45°			
	Some: M.2 SSD (224	100 (33L 42 / 2280	) / PCIe NVMe. F	s, ∠.5 PCle 3.0	x2 or PCle 3.0 x4	4		With UltraFlex III stand (No camera):			
	Some: Intel Optane™	<sup>₄</sup> Memor	/ (not support Ce	leron / F	Pentium Processo	r), M.2		Tilt: 70° back, -5° forward;			
Optical	Some: DVD-ROM S	ATA 1.5G	b/s Drive, slim (9	.0mm)	" (O.O. )			19.3 X 9.9 X 13.2 to 16.4 (inch) (Touch) 17.3 / 7.85 Lift: up to 136mm (flat mode)			
Media reader	Some: DVD Burner ( Optional 3-in-1 media	DVD±RV	V), SAIA 1.5Gb/s	Drive, s	slim (9.0mm)			491 X 252 X 335 to 417 (mm) (Non-touch) 16.9 / 7.65 up to 82mm (vertical mode); Swivel: +/-45°			
•					Div+V® 1	0		Note: Camera adds 22mm in height (Vertical)			
Graphics	Intel HD Graphics 6 external monitor supp	ort via D	processor, uses isplayPort™·	main m	emory, DirectA i	۷,	Power cumply				
	Max resolution: 4096			(1080 (F	Panel)@60Hz		Power supply	150 watts, autosensing, 90% PSU			
Display	<b>21.5</b> " (546.1mm) <b>Ful</b> TFT-LCD, In-Plane Sv	vitching t	echnology (In-Pla	ane Swi	tching may refer to	o IPS.	Limited warranty <sup>3</sup>	Some: 1-year or 3-year, depot repair service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available			
	PLS, ADS, AHVA, an	d AA), wi	de viewing angle	$(+/-89^{\circ}$	), LED backlight,	250 nits,	Preload	Preloaded operating system			
Multi-touch	16:9 aspect ratio, 100 Optional multi-touch,	0:1 conti	ast ratio, anti-gla	re, supp	ort Low Blue Ligh	nt Mode		Some: Windows 10 Pro 64-bit			
Camera	Optional 1080p came	ra with c	lual microphone	I FD inc	in-ceil louch) tec licator physical s	witch on/		Some: Windows 10 Home 64-bit Preloaded applications (only some listed)			
<b>G</b> 4111.014	off, supports multi-de							Lenovo Vantage			
Controls	Physical buttons on s	ide for m	icrophone mute a	and pow	er on/off	,		Microsoft Office preloaded; purchase a product key to activate			
Chipset	Intel B360 Chipset							<ul> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> <li>Cyberlink Power2GO (only for models with DVD±RW)</li> </ul>			
Rear ports*	Four USB 3.1 Gen1 (	one supp	orts Smart Powe	r On), o	ne ethernet (RJ-4	l5),		LinkedIn			
O:- +-*	one DisplayPort, one	optional	serial (9-pin),	-l \	LICD 0 4 T	- 0 0 1	Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models), ErP Lot 3			
Side ports*	one USB 3.1 Gen2 (cone optional card rea						,	TCO AIO Computer certified, GREENGUARD® certified, TUV Eye comfort certifie			
	*Depending on many fa							(for Full Function Monitor Stand only), TUV Low Blue Light certified,			
M.2 card slot	Two M.2 Card slots (c	ne for W	LAN, one for SS	D/Optan	e)	5,000		TUV Ultra Low Noise certified (on some models), RoHS-compliant			
Audio support	High Definition (HD) A		altek ALC233 / t	wo inter	nal speakers (2W	x 2),	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus)			
	Dolby Audio'™ Premi	uIII					Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			

















#### ThinkCentre M90a Platform Specifications

Processor	Intel® Celeron®, Intel I	1		el Core <sup>⊤</sup>			Bluetooth™	Some: Bluetooth 5.0/5.1 wireless, integrated in Wi-Fi + BT combo adapter					
	Processor	Cores / Threads	Frequency Base/Max*(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM (Jacksonville), Wake on LAN®					
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610	Manageability	Intel Active Management Technology 14.0 (Intel AMT 14.0); Intel vPro technology on some models (require choosing a vPro-support Wi-Fi					
	Celeron G5920	2/2	3.5G	2 MB	DDR4-2666	UHD 610	ĺ	adapter to enable vPro function through wireless connection)					
	Pentium Gold G6400	2/4	4.0G	4 MB	DDR4-2666	UHD 610	Security chip	Discrete TPM 2.0, TCG Certified					
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630	Security features						
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630	1	<ul> <li>Optional Chassis intrusion switch</li> <li>Self-Healing BIOS</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> </ul>					
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630		Optional PrivacyGuard screen     Smart USB protection, allows keyboard/					
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630		Power-on, admin, hard disk password mouse only, blocks all storage devices					
	Core i3-10320	4/8	3.8G / 4.6G	8 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black					
	Core i5-10400	6/12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630	l., '	Some: Lenovo Traditional Keyboard (USB connector), black					
	Core i5-10500	6/12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black					
	Core i5-10600	6/12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black					
	Core i7-10700	8/16	2.9G / 4.8G	16 MB	DDR4-2933	UHD 630	Mechanical	Business black color					
	Core i9-10900	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	UHD 630	]	<ul> <li>Toolless back cover, stand removal</li> <li>Support VESA mount (100mm)</li> </ul>					
Memory	64GB max (32GB SO	-DIMM o	nlv available via	special	bid models). DDF	34-3200*.		, ,					
,	two 260-pin SO-DIMM				,,	,		Privacy Gaurd ODD Dimensions (WxDxH) Approx weight (lb / kg)					
	* System automatically c	locks dowr	n for the processors	with lov	ver memory control	er		Gaurd   Gaurd   Without stand (with camera):					
Storage	Support up to 2x 2.5"	HDD (2n	d HDD occupy C	DD bay	() and 1x M2.SSI	)		21.3" x 1.8" x 13.4" / 541 x 46 x 340.5 (mm) 11.6 / 5.25					
J	Some: Hard Drive / S	6.00 ATA	3b/s, 2.5", 5400 ı	pm or 7	'200 rpm			√ 21.3" x 2.3" x 13.4" / 541 x 57.8 x 340.5 (mm) 12.3 / 5.57					
	Some: M.2 SSD (224	12 / 2280)	/ PCIe NVMe, F	Cle 3.0	x2 or PCle 3.0 x	4		21.3" x 1.9" x 13.4" / 541 x 49.5 x 340.5 (mm) 13.5 / 6.13					
Ontical	Some: Intel Optane™				.0 x2			√ √ 21.3" x 2.4" x 13.4" / 541 x 61.3 x 340.5 (mm) 14.2 / 6.45					
Optical	Some: DVD-ROM SA Some: DVD Burner (				elim (9 0mm)			With Full Function Monitor stand (with camera):					
Media reader	Optional 3-in-1 media	card rea	der	Diive,	31111 (3.011111)			16.6 / 7.51					
Graphics	Some: Intel HD Gra			or use	s main memory I	DirectX® 12		√ 21.3" x 7.9" x 16.3" to 19.5" / 17.3 / 7.84					
Стартноз	Some: AMD Radeo					JIIECIX 12,		√ 541 x 200 x 414.2 to 494.2 (mm) 18.5 / 8.39					
	external monitor supp							√ √ 19.2 / 8.71					
Monitor Cable	Optional DP to VGA d	longle, DI	P to DVI-D dongl	e, DP to	2 DP dongle (M	ST mode),		With UltraFlex IV stand (with camera):					
Dianlay	or DP to HDMI 1.4 do		· (1000v1000)	In Dian	a Curitabina taab			Lowest in flat mode: 21.3" x 12.3" x 9.0" / 541 x 312.8 x 227.4 (mm)					
Display	23.8" (604.5mm) Full							Highest in vertical mode:					
	refer to IPS, PLS, ADS, AHVA, AAS), wide viewing angle (H/V 178°), LED backlight, 250 nits (350 nits for the models with PrivacyGaurd), 16:9 aspect ratio, 1000					light, 250 nits (350 nits for the models with PrivacyGaurd), 16:9 aspect ratio, 1000:1				light, 250 nits (350 nits for the models with PrivacyGaurd), 16:9 aspect ratio, 1000:1			21.3" x 9.2" x 18.4" / 541 x 232.7 x 467.7 (mm)
	contrast ratio, anti-gla							Lowest in flat mode:					
Marile America	PrivacyGaurd		40		l le e e il <b>T</b> errele VA e			21.3" X 12.3" X 9.1" / 541 X 312.8 X 230.5 (mm)					
Multi-touch Camera	Optional multi-touch, some: 1080p camera	supports with due	TU-point, ATT (At	JVanced hinkShi	i in-ceil Touch) te itter (physical swi	tch on/off)		Highest in vertical mode: 21.3" x 9.2" x 18.4" / 541 x 232.7 x 467.7 (mm)					
Carriera	Some: RGBIR came						Stand	Note: Camera adds 14.5mm in height (Vertical mode)					
	(physical swite	ch on/off)	, support Windov	vs Hello	)	ttoi		Some: Full Function Monitor stand, Tilt: 30° back, -5° forward; Lift: 80mm					
Controls	(physical swite Microphone mute and bottom (only for the m	l power ó nodels wit	n/off buttons on s h PrivacyGaurd)	side, Pri	vacyGaurd on/of	f botton on		Some: UltraFlex IV stand, Tilt: 70° back, -5° forward; Lift: up to 115mm (vertical mode) / 164mm (flat mode)					
Chipset	Intel Q470 Chipset						Power supply	Some: 150 watts adapter, autosensing, 89% PSU					
Rear ports*	4x USB 3.2 Gen 1 (or 1x DisplayPort, 1x opt			On), 1x	ethernet (RJ-45)	,		Some: 170 watts adapter, autosensing, 89% PSU					
Side ports*	2x USB 3.2 Gen 2, 1x 1x optional card reade	USB 3.2	? Type-C Gen 1(5	V/3A ch	narging), ombo jack (3.5mr	n)	Limited warranty	3 1-year or 3-year, limited onsite service / service upgrades available  Some: Windows® 10 Pro 64-bit					
M.2 card slot	Two M.2 Card slots (o	ne for WI ctors, actua	_AN, one for SSI al data transfer spe	D/Optan ed may b	ne) be lower than theore	etical speed		Some: Windows 10 Home 64-bit Some: Windows 10 IoT Enterprise (only available via special bid model)					
Audio support	High Definition (HD) A	ed				/ x 2),	Environment	ENERGY STAR® 8.0*, EPEAT™ Silver rating*, ErP Lot 3, TCO 8.0, TCO Edge, TUV Eye comfort certified, TUV Low Blue Light certified, TUV Ultra Low Noise certified (on some models), RoHS-compliant					
WLAN	Some: 11ac wireless				(dual band),			* Only available for MT 11CD/11CE					
	Some: 11ac wireless	, M.2 Car ooth 5.0 c	ombo adapter, 2	-AC 956 x2			MIL-SPEC test	MIL-STD-810H military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar Radiation)					
					o technology sup	port, 2x2	Accessories For compatible accessories, please go to http://smartfind.lenovo.com						
Nister The second of	ations above may not be			-	- 37 3-4			Lenovo May 2020					



















#### **ThinkCentre M920z Platform Specifications**

Processor	Intel® Celeron®, Intel	Pentium®	or 8th / 9th Ger	n Intel Co	ore™ i3 / i5 / i7 / i9	series	Audio support	High Definition (HD) Audio, Realtek ALC233 / two internal speakers (3W x 2),		
		Cores /	Frequency	Cache	Memory Support		'''	Dolby® Audio™ Premium		
	Processor	Threads	Base/Max(GHz)	Cache	(Úp to)	Graphics	WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1		
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2		
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1		
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 8265,, 2x2 Some: 11ac Wi-Fi + BT 5.0, M.2 Card, Intel Wireless-AC 9560 (dual band),		
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		Intel vPro technology support, 2x2		
	Pentium Gold G5400	2/4	3.7G 3.8G	4 MB 4 MB	DDR4-2400	UHD 610	Bluetooth™	Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter		
	Pentium Gold G5420 Pentium Gold G5500	2/4	3.8G 3.8G	4 MB	DDR4-2400 DDR4-2400	UHD 610 UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM (Jacksonville), Wake on LAN®		
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Manageability	Intel Active Management Technology 12.0 (Intel AMT 12.0); Intel vPro technology on some models (require choosing a vPro-support Wi-Fi		
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630		adapter to enable vPro function through wireless connection)		
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified		
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Security features	• Security slot (in rear for attachment of • Power-on, admin, hard disk password		
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630		optional Kensington® MicroSaver® cable; ● Boot sequence control Kensington lock also locks chassis) ● Boot without keyboard and mouse		
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630		Smart USB protection, allows keyboard/     Individual USB port disablement		
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices • Optional Chassis intrusion switch		
	Core i7-8700	6 / 12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black		
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Some: Lenovo Traditional Keyboard (USB connector), black		
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black		
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630	Wiodoc	Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black		
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black		
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Mechanical	Business black color		
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630		Toolless back cover, stand, disk, memory removal		
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		Support VESA mount (100mm)		
Memory	32GB max (16GB SC two 260-pin SO-DIMM * System clocks down fo	<b>M</b> sockets	, dual-channel c	apable	,,	4-2666*,		Dimensions (WxDxH) Max weight (lb / kg) Adjustments Without stand (No camera)  21.3 X 1.8 X 13.7 (inch) (Touch) 14.0 / 6.34		
Storage	Some: Hard Drive / S				200 rpm, supports			542 X 46 X 349 (mm) (Non-touch) 13.5 / 6.13   With Full Function Monitor stand (No camera):		
	available via			AIDU/ I	support (HAID pr	eset offig		04.0 V 0.0 V 45.0 to 00.0 (in ab)		
	Some: Solid State D	rive (SSD	) / SATÁ 6.0Gb/s	5, 2.5"	0 001 00			542 X 252 X 405 to 514 (mm) (NOTI-TOUCH) 16.2 / 8.26 Lift: 110mm; Swivel: +/-45°		
	Some: M.2 SSD (224 Some: Intel Optane <sup>TI</sup>							With UltraFlex III stand (No camera): Tilt: 70° back, -5° forward;		
Optical	Some: DVD-ROM S				Citiani i 1000330	1), IVI.Z		21.3 X 9.9 X 14.3 to 17.5 (inch) (Touch) 19.7 / 8.94 Lift: up to 136mm (flat mode) / up to		
·	Some: DVD Burner	(DVD±RV	/), SATA 1.5Gb/s		lim (9.0mm)			542 X 252 X 363 to 444 (mm) (Non-touch) 19.2 / 8.73 81mm (vertical mode);		
Media reader	Optional 3-in-1 media							Swivel: +/-45°		
Graphics	Intel HD Graphics 6			main me	emory, DirectX <sup>®</sup> 1	2,		Note: Camera adds 22mm in height (Vertical)		
	external monitor supp Max resolution: 4096			x1080 (P	anel)@60Hz		Power supply	150 watts, autosensing, 90% PSU		
Display	23.8" (604.5mm) Ful In-Plane Switching te	I HD 1080	)p (1920x1080)	TFT cold	or, Borderless des	sign, S, ADS,	Limited warranty <sup>3</sup>	Some: 1-year or 3-year, depot repair service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available		
	AHVA, and AA), wide	viewing a	angle (+/- 89°), L	.ED back	light, 250 nits, 16	:9 aspect	Preload	Preloaded operating system		
	ratio, 1000:1 contrast	ratio, ant	i-glare, support l	_ow Blue	Light Mode, worl	k as stand-		Some: Windows 10 Pro 64-bit		
Multi-touch	alone monitor via Dis Optional multi-touch,				In-cell Touch) tec	hnology		Some: Windows 10 Home 64-bit		
Camera	Some: 1080p camer	<ul> <li>a. with du</li> </ul>	al microphone. I	_ED indid	cator, physical sw	itch on/off.		Preloaded applications (only some listed)  • Lenovo Vantage		
					180°, vertical -25°			Microsoft Office preloaded;purchase a product key to activate		
	Some: RGBIR came supports mult	ra, 1080p ti-degree	, with dual micro	phone, p	hysical switch on 180° vertical -25°	1/0ff, ° to 25°)		<ul> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> </ul>		
	Windows Hel	lo suppor	t, only available	via speci	al bid models	10 20 )		Cyberlink Power2GO (only for models with DVD±RW)     Linkedin		
Controls	Physical buttons on s						For the contract	• LinkedIn		
Chipset	Intel Q370 Chipset						Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models), ErP Lot 3, TCO AIO Computer certified, GREENGUARD® certified,		
Rear ports*	Four USB 3.1 Gen1 ( one DisplayPort in/ou	one supp	orts Smart Powe	er On), or	ne ethernet (RJ-4	5),		TUV Ultra Low Noise certified (on some models). RoHS-compliant		
Side ports*	one USB 3.1 Gen2 (c USB 3.1 Type-C Gen	one is Alw	ays On and fast	charge),	one USB 3.1 Ge	n1, one ophone	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus)		
	combo jack (3.5mm)						Accessories	For compatible accessories, please go to http://smartfind.lenovo.com		
M.2 card slot	* Depending on many fa Two M.2 Card slots (c					tical speed	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , ,		







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## ThinkCentre M75n Platform Specifications

Processor	AMD Ryzen 3 / 5 PF	RO serie	s processor				Security features	• Security slot (in re			
	Processor	Cores / Threads	Frequency Base/Max	L2 / L3 Cache	Memory Support (Up to)	Integrated Graphics		<ul><li>Kensington® Micro</li><li>Chassis intrusion</li><li>Power-on passwo</li></ul>	switch Individual US	keyboard and mouse B port disablement rotection, allows keyboard/	
	Ryzen 3 PRO 3300U	4/4	2.1 / 3.5 GHz	2 MB / 4MB	DDR4-2400	Radeon Vega 6		Administrator pass		blocks all storage devices	
	Ryzen 5 PRO 3500U	4/8	2.1 / 3.7 GHz	2 MB / 4MB	DDR4-2400	Radeon Vega 8	IZ a colla a a coll	Hard disk passwo		1.	
Memory	8GB / DDR4-2400* non-ECC * System automatica		•	•	•	•	Keyboard Mouse	Some: Lenovo Trac Some: Lenovo Call	iope Keyboard (USB connector), bla litional Keyboard (USB connector), l iope Wireless Keyboard (2.4GHz via iope Mouse (USB connector), black	black a USB receiver), black	
Storage	Support up to two M Some: M.2 2280 SS Some: M.2 2242 SS	SD / PCI	lè NVMe, PC	le 3.0 x 4*	e x2)			Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello suppor Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
RAID Optical	* M.2 SSD in PCle 3 None None				Cle 3.0 x2		Mechanical		Gray top cover / Black mid bezel / Ro o for M.2 SSD (one PCIe 3.0 x4 and	one PCle 3.0 x2) and one	
Graphics	AMD Radeon™ Veg	ga 6/8 G	raphics in p	rocessor, us	ses main me	mory, DirectX® 12,	]		Dimensions (WxDxH)	Weight (Approx.)	
•	one DisplayPort™, o independent display	ne USB ⁄s;	3.2 Type-C	Gen2 with d	lisplay functi	on, up to 2		M75n (with fan, 0.35L)	7.05" X 3.46" X 0.87" 179mm X 88mm X 22mm	1.11 lb (0.505 kg), vary by config	
Monitor cable	Max resolution: 3840 Optional DP to VGA HDMI dongle, Type-	dongle,	`DP´ to HDMÍ	3840x2160 dongle, Typ	(Type-C)@( be-C to VGA	60Hz dongle, Type-C to	Mounting	Some: VESA mour Some: VESA mour Some: DIN rail mou			
Chipset	AMD SoC (System	on Chip	o) platform				Floor Stand	None			
Front ports (Std.)	1x USB 2.0, 1x USE microphone combo	3 3.2 Ge	n 2, 1x USB	3.2 Type-C	Gen 2, one l	headphone /	Power supply	65 watts adapter, autosensing, 89% PSU (Not for TIO models)			
Rear ports (Std.)*	1x USB 2.0, 1x USE support power-in [20	3.2 Ge 0V and >	n2, 1x USB 3 -45W]), 1x et	thernet (RJ-	45), 1x Disp	layPort	Limited warranty		ited onsite service / service upgra ited onsite service / service upgra		
	* Depending on many				ay be lower th	an theoretical speed	Preload	Preloaded operating			
Audio support	Realtek ALC233 / in		`	,			-	Some: Windows® 1	10 Pro 64-bit 0 Home 64-bit		
WLAN	Some: 11ac wireles Wi-Fi + Blue				E (dual ban	d),			0 IoT Enterprise (only available via	special bid model)	
	Some: 11ac wireles Wi-Fi + Blue	ss, M.2 ( etooth 4.	Card, Qualco 2 combo ada	mm Atheros apter, 2x2		, , , , , ,	Environment	ENERGY STAR® 8.0 TUV ultra low noise	0, EPEAT™ Silver rating, ErP Lot 3, verified (on some models), RoHS, \	TCO 8.0 (coming soon), WEEE, REACH	
Divisional	Wi-Fi + Blue	ome: 11ac wireless, M.2 Card, Intel Wireless-AC 9260 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 ome: Bluetooth 4.2 / 5.0 wireless, integrated in Wi-Fi + BT combo adapter							ary certification (Low Pressure [Altitemperature Shock, Humidity, Sand		
Bluetooth Ethernet	Gigabit ethernet, Realtek RTL8111FP-CG, Wake on LAN®							Fungus, Solar Radia	ation)		
Manageability Security chip	Dash 1.1/1.2 Discrete TPM 2.0, T			-,			Accessories	For compatible acce	essories, please go to http://smartfi	ind.lenovo.com	

Note: The specifications above may not be available in all regions.







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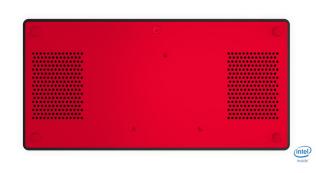
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## ThinkCentre M75n IoT Platform Specifications

Processor	AMD Athlon process	sor					Security features	Security slot (in re		Boot sequence		
	Processor	Cores / Threads	Frequency Base/Max	L2 / L3 Cache	Memory Support (Up to)	Integrated Graphics		<ul> <li>Kensington® MicroSaver® cable)</li> <li>Chassis intrusion switch</li> <li>Power-on password</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> </ul>				
	AMD Athlon Silver 3050e	2/4	1.4 / 2.8 GHz	1 MB / 4MB	DDR4-2400	Radeon Graphics		<ul><li>Administrator pass</li><li>Hard disk password</li></ul>				
Memory	4GB / DDR4-2400*  * System automatically						Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black				
Storage	Support one M.2 SS Some: M.2 2280 SS Some: M.2 2242 SS None	SD / PC					Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receive Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello s Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver),				
Optical	None						Mechanical	Nano (fanless 0.55L Two M.2 slots: one	), Iron Gray top cove	er / Black mid bez	el / Black bottom cover	
Graphics	AMD Radeon™ Gra DisplayPort™, one U	iphics in	n processor, i	uses main r with displa	nemory, Dire	ectX <sup>®</sup> 12, one in to 2 independent		TWO IVI.2 SIOUS: OTHE	Dimensions		Weight (Approx.)	
	displays;  Max resolution: 384 Optional DP to VGA	0x2160 (	(DP)@60Hz;	3840x2160	(Type-C)@	60Hz		M75 IoT (fanless, 0.55L)	7.05" X 3.4 179mm X 88m	6" X 1.36"	1.58 lb (0.72 kg), vary by config	
Monitor cable	HDMI dongle, Type-	C to DP	dongle	dorigio, Typ		uongie, type o to	_	With I/O box	7.05" X 3.4 179mm X 88m		2.65 lb (1.2 kg), vary by config	
Chipset	AMD SoC (System		<i>,</i> .				Mounting	Como: VECA moun	1		vary by coming	
Front ports (Std.)	* 1x USB 2.0, 1x USE microphone combo					headphone /	Wounting	Some: VESA mount bracket kit, supports VESA 75mm Some: VESA mount bracket kit with adaper holder, supports VESA 75mm				
, ,	1x USB 3.2 Gen 2, in [20V, > 45W]), 1x	1x USB : etherne	3.2 Type-C G t (RJ-45), 1x	en`2 (with ô DisplayPor	display funct t		Floor Stand	Some: DIN rail mount bracket kit None				
I/O box*	Optional I/O box, co 2x serial, 2x etherne ethernet), 1x DI (Dig * Depending on many	et (RJ-45 gital Inpu	5, I/O box is e it) connector,	equipped wi 1x DO (Dig	th Realtek R gital Output)	TL8153B, gigabit connector	Power supply	Some: 65 watts AC/DC adapter*, autosensing, 89% PSU Some: 65 watts AC/DC adapter (wide temperature)*, autosensing, 88% PSU for Machine Type 11GW/11GX)  * Not for the models with I/O box				
Audio support	Realtek ALC233 / in		,	,			Limited warranty	Some: 1-year, limi				
WLAN	Some: 11ac wireles Wi-Fi + Blue	etooth 5. ss, M.2 ( etooth 4.	0 combo ada Card, Qualco 2 combo ada	pter, 2x2 mm Atheros pter, 2x2	s QCA6174	A (dual band),	Preload	Some: 3-year, limit Preloaded operation Some: Windows 10 Some: Windows 10	n <b>g system</b> 10 Pro 64-bit	13		
Bluetooth WWAN	Some: 11ac wireles Wi-Fi + Blue Some: Bluetooth 4. None	tooth 5.	0 combo ada	pter, 2x2	`	,,	Environment	ENERGY STAR® 8.0*, EPEAT™ Silver rating*, ErP Lot 3, TCO 8.0* (coming soc TUV ultra low noise verified (on some models), RoHS, WEEE, REACH * Not for the models with I/O box or 65w adapter (wide temperature)			EEE, REACH	
Ethernet Manageability Security chip	Gigabit ethernet, Re Dash 1.1/1.2 Discrete TPM 2.0, T			G, Wake on	LAN®		MIL-SPEC test				de], High Temperature, nd Dust, Vibration, Shock,	
occurry crip	DISCIPLE IT WIZ.U, I	00 0611	inicu				Accessories	- 3, ,				
N Ti :c												



















## ThinkCentre M90n-1 Nano Platform Specifications

Processor	Intel® 8th Generation			cessor			Manageability	Intel vPro technology	on some models	(require choosing a	a vPro-support Wi-Fi
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Security chip	adapter to enable vP Discrete TPM 2.0, TO	CG Certified	n wireless connecti	on)
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2400	UHD 620	Security features	• Security slot (in rea	ar for optional	Boot sequence	
	Core i5-8265U	4/8	1.6G / 3.9G	6 MB	DDR4-2400	UHD 620		Kensington® MicroSaver® cable)  • Boot without keyboard and mo			
	Core i5-8365U	4/8	1.6G / 4.1G	6 MB	DDR4-2400	UHD 620		<ul> <li>Chassis intrusion switch</li> <li>Power-on password</li> <li>Individual USB port disablement</li> <li>Smart USB protection, allows leading to the companient of the c</li></ul>			
	Core i7-8665U	4/8	1.9G / 4.8G	8 MB	DDR4-2400	UHD 620		Administrator pass			cks all storage devices
Memory	8GB or 16GB / DDR4 * System automatical						Keyboard	Hard disk passwor     Some: Lenovo Callie		B connector), black	(
Storage	Support up to two M.2 Some: M.2 2280 SSI Some: M.2 2242 SSI Some: Intel Optane <sup>TM</sup> PCIe NVMe 3	D / PCIe I D / PCIe I <sup>1</sup> Memory	NVMe, PCIe 3.0	x 2** State St	orage, M.2 2280,	•	Mouse	Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
RAID Optical	* M.2 SSD / Optane with ** 128G M.2 2242 SSD r RAID 0/1 support (RA None	SSD in`P0 not suppor	Cle 3.0 x 2 M.2 slot ted on Machine Typ	can only e 11AM	/11AS/11AK/11A		Mechanical	Nano (0.35L), Iron G Three M.2 slots: two for WLAN			bottom cover ne PCle 3.0 x2) and one
Graphics	Intel UHD Graphics	620 in nr	ooccor ucoc ma	in mom	ory DiroctV® 12	ono	-		Dimension	s (WxDxH)	Weight (Approx.)
Graphics	DisplayPort™, one US displays;							M90n-1 Nano (with fan, 0.35L)	7.05" X 3.4 179mm X 88	46" X 0.87" 3mm X 22mm	1.11 lb (0.505 kg), vary by config
Monitor cable	Max resolution: 4096x Optional DP to VGA of HDMI dongle, Type-C	longle,`DI	P <sup>'</sup> to HDMİ dongle			, Type-C to	Mounting	Some: VESA mount bracket kit, supports VESA 75mm Some: VESA mount bracket kit with adaper holder, supports VESA 75mm Some: DIN rail mount bracket kit			
Chipset	Intel SoC (System of	n Chip) p	latform				Floor Stand	None			
Front ports (Std.)	*2x USB 3.1 Gen2, 1x	USB 3.1	Type-C Gen 2, o	ne head	dphone / microph	one combo	Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (Not for TIO models)			
Rear ports (Std.)	jack (3.5mm) * 2x USB 3.1 Gen2, 1x power-in [20V and >4					oort	Limited warranty	Some: 1-year, limit			
	* Depending on many fa					etical speed	Preload	Preloaded operatin	· ,		
Audio support	Realtek ALC233VB /	internal s	peaker (1watt)				]	Some: Windows® 1 Some: Windows 10			
WLAN	Some: 11ac wireless Wi-Fi + Blueto Some: 11ac wireless	oth 5.0 c	ombo adapter, 1	x1	, , ,		Environment	ENERGY STAR® 7.1 TUV ultra low noise			ca), ErP Lot 3, TCO 8.0, EEE, REACH
	Wi-Fi + Blueto	oth 5.0 c	ombo adapter, 2	x2	(ddai baild),		MIL-SPEC test	MIL-STD-810H (Lov	v Pressure [Altitude	e], High Temperatu	re, Low Temperature,
		oth 5.0 c	ombo adapter, 1	x1	, ,,						Shock, Fungus, Solar
	Some: 11ac wireless Wi-Fi + Blueto		d, Intel Wireless ombo adapter, 2		0 (dual band),		Accessories	For compatible acces	ssories, please go	to http://smartfind	d.lenovo.com
	Some: 11ac wireless Wi-Fi + Blueto	, M.2 Car ooth 5.0 c	d, Intel Wireless ombo adapter, Ir	-AC 956 ntel vPro	tèchnology supp	port, 2x2					
Bluetooth Ethernet	Some: Bluetooth 5.0 Gigabit ethernet, Intel Connection I219-V (Ja	wireless,	integrated in Wi-	-Fi + BT 9-I M (.):	combo adapter						
Note: The specifica	ations above may not be	available	in all regions.					<u> </u>			Lenovo, March 2020



















## ThinkCentre M90n-1 Nano IoT Platform Specifications

Processor	Intel® Celeron® or 8th	Generati	ion Intel Core™ i	3 / i5 Pro	ocessor		Manageability	Intel vPro technology	on some models	(require choosing	a vPro-support Wi-Fi																		
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Security chip	adapter to enable vP Discrete TPM 2.0, TO	ro function through																				
	Celeron 4205U	2/2	1.8G	2 MB	DDR4-2133	UHD 610	Security features	Security slot (in real	ar for optional	Boot sequence	control																		
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2400	UHD		Kensington® Micro	Saver® cable)	<ul> <li>Boot without keep</li> </ul>	eyboard and mouse																		
	Core i3-8145UE	2/4	2.2G / 3.9G	4 MB	DDR4-2400	UHD 620		Chassis intrusion s     Power on passwers		<ul> <li>Individual USB</li> </ul>	port disablement																		
	Core i5-8365U	4/8	1.6G / 4.1G	6 MB	DDR4-2400	UHD 620		<ul><li>Power-on passwore</li><li>Administrator pass</li></ul>	word																				
Memory	4GB or 8GB / DDR4-	·2666* / so	oldered to systen	nboard,	no sockets, non-	ECC		<ul> <li>Hard disk passwore</li> </ul>	d																				
	(Celeron 4205U / Core ic Core i5-8365U models e * System automatically c	3-8145U m equipped w clocks dow	iodels equipped wit ith 8GB memory)	h 4GB m	emory, and Core i3	-8145UE /	Keyboard Mouse	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receive			ack																		
Storage	Support up to two M.2 Some: M.2 2280 SSI Some: M.2 2242 SSI	D / PCle   D / PCle	NVMe, PCIe 3.0	x 2**			Wouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Window Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB r																					
	Some: Intel Optane <sup>TI</sup> PCIe NVMe 3 * M.2 SSD / Optane with ** 128G M.2 2242 SSD	3.0 x 4 (nd h <i>SSD in P</i>	ot support Celero Cle 3.0 x 2 M.2 slot	n) can only	run at PCle 3.0 x2		Mechanical	Nano (fanless 0.55L), Iron Gray top cover / Black mid bezel / Black Four M.2 slots: two for M.2 SSD (one PCIe 3.0 x4 and one PCIe 3 WLAN, and one for WWAN		zel / Black bottom cover ne PCle 3.0 x2), one for																			
RAID	RAID 0/1 support (RA					/1L			Dimension	ns (WxDxH)	Weight (Approx.)																		
Optical Graphics	None Intel UHD Graphics	610/620 i	in processor, use	s main i	memory, DirectX <sup>©</sup>	12, one	_	M90n-1 Nano IoT (fanless, 0.55L)		46" X 1.36" mm X 34.5mm	1.58 lb (0.72 kg), vary by config																		
	DisplayPort™ or HDM display function, up to	o 2 indepe	endent displays; Î	, .	7.	Gen2 with		With I/O box		46" X 2.41" mm X 61.3mm	2.65 lb (1.2 kg), vary by config																		
Monitor cable	40969 Optional DP to VGA	lax resolution: 4096x2304 (DP)@60Hz; 4096x2160 (HDMI)@24Hz; 4096x2304 (Type-C)@60Hz ptional DP to VGA dongle, DP to HDMI dongle, Type-C to VGA dongle, Type-C DMI dongle, Type-C to DP dongle					Mounting	Some: VESA mount bracket kit, supports VESA 75mm Some: VESA mount bracket kit with adaper holder, supports VESA 75r Some: DIN rail mount bracket kit																					
Chipset	Intel SoC (System o	n Chip) p	olatform				Floor Stand	None																					
Front ports (Std.)	* 2x USB 3.1 Gen2, 1x jack (3.5mm), 2x seria			ne head	dphone / microph	one combo	Power supply	Some: 65 watts AC/DC adapter*, autosensing, 88% PSU Some: 65 watts AC/DC adapter (wide temperature)*, autosensing, 88% for Machine Type 11AS)																					
Rear ports (Std.)*	)* With Celeron: 1x USB 2.0, 1x USB 3.1 Type-C Gen 2 (with display function, suppower-in [20V, > 45W]), 1x ethernet (RJ-45), 1x DisplayPort						* With Celeron: 1x USB 2.0, 1x USB 3.1 Type-C Gen 2 (with display function, suppower-in [20V, > 45W]), 1x ethernet (RJ-45), 1x DisplayPort						* With Celeron: 1x USB 2.0, 1x USB 3.1 Type-C Gen 2 (with display function, supp power-in [20V, > 45W]), 1x ethernet (RJ-45), 1x DisplayPort						power-in [20V, > 45W]), 1x ethernet (RJ-45), 1x DisplayPort							* Not for the models with	h i/O box		
	suppor	rt power-i	n [20V, > 45W]), <sup>°</sup>	2x ethe	ien 2 (with displa rnet (RJ-45), 1x [		Limited warranty	ty Some: 1-year, limited onsite service / service upgrades available Some: 3-year, limited onsite service / service upgrades available  Preloaded operating system Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit Some: Windows 10 IoT Enterprise (only available via special bid model)																					
I/O box*	Optional I/O box, con extends 2x serial, 2x gigabit ethernet), 1x I * Depending on many fa	nect to th ethernet DI (Digital	(RJ-45, I/O box is I Input) connecto	Ć Gen 2 s equipp r, 1x DO	ed with Realtek   (Digital Output)	RTL8153B, connector	Preload																						
Audio support	Realtek ALC233VB /		<u>.</u>	eu may	be lower triair trieor	elicai speeu	Environment	ENERGY STAR® 7.1			rica)*, ErP Lot 3, , RoHS, WEEE, REACH																		
WLAN	Some: 11ac wireless	s, M.2 Car	d, Realtek RTL8	322CE (	(dual band),			* Not for the models with		(* * * * * * * * * * * * * * * * * * *	,, , -																		
	Some: 11ac wireless Wi-Fi + Blueto	s, M.2 Car ooth 5.0 c	combo adapter, 2	822CE x2	,,,		MIL-SPEC test	MIL-STD-810H* (Low Temperature Shock, Radiation) * Not for the	Humidity, Sand an	nd Dust, Vibration,	ure, Low Temperature, Shock, Fungus, Solar																		
		ooth 5.0 c	combo adapter, 1	x1	,		Accessories	For compatible acces			d.lenovo.com																		
	Some: 11ac wireless	ooth 5.0 c s, M.2 Ca	combo adapter, 2 rd, Intel Wireless	x2 -AC 956	60 (dual band),	acut Occo																							
Bluetooth WWAN Ethernet	Some: Bluetooth 5.0 Some: Integrated Mc With Celeron: Gigabi With Core i3: Two gi Wake	) wireless, obile Broa it etherne igabit ethe on LAN	, integrated in Wi adband 4G LTE-A t, Realtek RTL81 ernet, Realtek RT	Fi + BT , Fiboco 11K, 1x L8111k	om L850-GL, M.2 RJ-45, Wake on Cand RTL8111H	card LAN® , 2x RJ-45																							
N. T. C	With Core i5: Two gig and Re		L8111H, 2x RJ-4			Jacksofiviile)																							



















## ThinkCentre M720 SFF Platform Specifications

							h.,,	
Processor	Intel® Celeron®, Intel I			Intel Co			WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1
	Processor		Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Graphics		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 8265, 2x2
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	Bluetooth™	Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4*, gigabit ethernet, 4x RJ-45, PCIe x4
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		Some: Bitland BN8E88*, gigabit ethernet, PCle x1 (only available via special bid)
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630		* Choose either I350-T4 or BN8E88
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Manageability	None
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified  • Security slot (in rear for optional  • Power-on password
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Cooding loaderes	<ul> <li>Security slot (in rear for optional Kensington® MicroSaver® cable)</li> <li>Power-on password</li> <li>Administrator password</li> </ul>
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630		Padlock loop     Hard disk password
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630		Optional cable lock to physically lock    Boot sequence control
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630		both keyboard and mouse  • Boot without keyboard and mouse
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		<ul> <li>Optional chassis intrusion switch</li> <li>Optional chassis E-Lock (special bid)</li> <li>Individual USB port disablement</li> <li>Smart USB protection, allows keyboard/</li> </ul>
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		mouse only, blocks all storage devices
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630	litoyboara	Some: Lenovo Traditional Keyboard (USB connector), black
	Core i5-9400F	6/6	2.9G / 4.1G	9 MB	DDR4-2666 DDR4-2666	None UHD 630		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black
	Core i5-9500	6/6 6/6	3.0G / 4.4G	9 MB 9 MB			Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)
	Core i5-9500F	6/6	3.0G / 4.4G	9 MB	DDR4-2666 DDR4-2666	None UHD 630	Iviouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black
	Core i5-9600 Core i7-9700	8/8	3.1G / 4.6G 3.0G / 4.7G	12 MB	DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)
Memory	64GB max, UDIMM, I dual-channel capable * System automatical	DDR4-26	66, four 288-pin	DIMM so	ckets, non-ECC,	<u> </u>	Mechanical	<ul> <li>SFF (8.4L), black color; metal case</li> <li>(WxDxH) 3.64" X 11.44" X 13.52"; 92.5mm X 290.5mm X 343.5mm</li> <li>Approx. 13.24 lb (6.0 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, and extension card removal</li> </ul>
Optical Onboard SATA Media reader Graphics	Some: Hard Drive / Some: Solid State Dr Some: M.2 Solid State Dr Some: M.2 Solid State * M.2 SSD (2242) PC Some: Intel Optane <sup>TM</sup> Some: DVD-ROM S/ Some: DVD Burner ( Three onboard SATA Optional 7-in-1 media	rive (SSD te Drive ( le NVMe Memory ATA 1.5G DVD±RV 6.0Gb/s o reader	) / SATA 6.0Gb/s SSD) / PCIe NVI only supports Po (not support Ce b/s Drive, slim (9 V), SATA 1.5Gb/s connectors	, 2.5" Me, PCle Cle 3.0 x leron / P .0mm) Drive, s	2 3.0 x 4*, 32Gb/s 2, 16Gb/s entium Processo lim (9.0mm)	or), M.2	Floor Stand	Optional dust filter Bay 1: Slim external ODD bay Bay 2: 3.5", 1" high, internal, HDD/SSD Bay 3: 2.5", internal, HDD/SSD (optional bay) Slot 1: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x16 Slot 2: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x1 Slot 3: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x1 Slot 4: no slot, only bracket for optional port extension M.2 card slots: Two (one for WLAN, one for SSD/Optane) Optional system floor stand for vertical orientation
·	one VGA (up to 2048) supports 3 independe Some: NVIDIA Gefor	ent display ce® GT 7	ys, more displays 30 (End Of Life)	support DirectX	via discrete grap 12, 2GB GDDR	phics 5,	Power supply	Some: 180 watts, autosensing, 85% PSU 210 watts, autosensing, 85% PSU 260 watts, autosensing, 92% PSU (only available via special bid)
	Some: AMD Radeon	™ <b>520</b> , D	irectX 12, 2GB 6 1096x2160@60H	iDDR5, I	840x2160@60Hz PCle 3.0 x8, 30 v	vatts,	Limited warranty <sup>3</sup>	<ul> <li>Some: 1-year or 3-year, depot service / service upgrades available</li> <li>Some: 1-year or 3-year, limited onsite service / service upgrades available</li> </ul>
Monitor cable	Optional DP to VGA of Display with intel integ	longie, Di	P to DVI-D dongl	e, DP to	dual DP dongle ( 4 dongle	(for Collage	Preload	Preloaded operating system Some: Windows® 10 Pro 64-bit
Chipset	Intel B360 Chipset				-		1	Some: Windows 10 Home 64-bit
	)2x USB 3.1 Gen2, 2x	IISB 3 1	Gen1 1vIISR 3	1 Type-	C. Gen1 (15W ch	arging)	1	Preloaded applications (only some listed)
Front ports* (Opt. Rear ports* (Std.	1x microphone (3.5mi) Optional: 1x media re) 4x USB 2.0, 1x serial 1x line-out (3.5mm) Optional: 2x USB 3.1	m), 1x he ader (9-pin), 1 Gen1 via	adphone / micro x ethernet (RJ-4 PCI2 x1** 2x IJ	phone co 5), 1x V0 SB 3 1 T	ombo jack (3.5mr GA, 2x DisplayPo vvpe-C Gen2 via I	n) rt, PCIe x4**		<ul> <li>Lenovo Vantage</li> <li>Microsoft Office preloaded; purchase a product key to activate</li> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> <li>Cyberlink Power2GO (only for models with DVD±RW)</li> <li>LinkedIn</li> </ul>
	(special bid only), 1x 2 pin), 2x PS/2 ports (ke optional graphics or e	eyboard/r	nouse), addition	ii (9-pin) al RJ-45	via PCIe x1, 1x p and video ports	oarallel (25- available on	Environment	ENERGY STAR® 7.0, EPEAT™ Silver rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant
	* Depending on many fac ** Choose either 2x USB	ctors, actua	al data transfer spe		e lower than theore	tical speed	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com
Audio support	High Definition (HD) A	Audio, Re	altek ALC233VB	2 / interr	nal speaker (1 wa	itt)		













#### ThinkCentre M710e SFF Platform Specifications

Processor	Intel® Celeron®, Int			eration Ir	T		Security features	Security slot (in rear for optional	Power-on password				
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics		Kensington® MicroSaver® cable)  • Padlock loop	<ul><li>Administrator password</li><li>Hard disk password</li></ul>				
	Celeron G3900	2/2	2.8G	2 MB	DDR4-2133	HD 510		Smart USB protection, allows keyboard/	Boot sequence control				
	Celeron G3930	2/2	2.9G	3 MB	DDR4-2133	HD 610		<ul> <li>mouse only, blocks all storage devices</li> <li>Optional smart cable clip to physically</li> </ul>	<ul><li>Boot without keyboard and mouse</li><li>Individual USB port disablement</li></ul>				
	Pentium G4400	2/2	3.3G	3 MB	DDR4-2133	HD 510		lock both keyboard and mouse	Optional chassis intrusion switch				
	Pentium G4500	2/2	3.5G	3 MB	DDR4-2133	HD 530	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black					
	Pentium G4560	2/4	3.5G	3 MB	DDR4-2400	HD 610	Some: Lenovo Traditional Keyboard (USB connector), black						
	Pentium G4600	2/4	3.6G	3 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Mouse (USB con					
	Core i3-6100	2/4	3.7G	3 MB	DDR4-2133	HD 530		Some: Lenovo Fingerprint Mouse (USB c	onnector), windows Helio support, blac				
	Core i5-6400	4/4	2.7G / 3.3G	6 MB	DDR4-2133	HD 530	Mechanical	• SFF (7.4L), black color, metal case	. 000 F V 070 F				
	Core i5-6500	4/4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530		<ul> <li>(WxDxH) 3.9" X 11.9" X 10.8"; 100mm X</li> <li>Approx. 9.37 lb (4.25 kg), weight may va</li> </ul>					
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530		Bay 1: Slim external ODD bay	ry by configuration				
	Core i3-7100	2/4	3.9G	3 MB	DDR4-2400	HD 630		Bay 2: 3.5", 1" high, internal, supports 2.5"	or 3.5" HDD/SSD (2.5 to 3.5 bracket				
	Core i3-7300	2/4	4.0G	4 MB	DDR4-2400	HD 630		comes with disk)	04				
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630		Slot 1: low-profile (length < 152mm, height Slot 2: low-profile (length < 152mm, height	< 64mm), PCIe 3.0 x16" < 64mm) PCIe 3.0 x1*				
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630		M.2 card slots: one for SSD	( 04mm), 1 010 0.0 X1				
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630		*Optional rear 2x USB2.0 / parallel occupie	es one expansion slot				
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630	Floor Stand	Optional system floor stand for vertical orie					
Memory	dual-channel capal	32GB max, UDIMM, DDR4-2400*, two 288-pin DIMM sockets, non-ECC, dual-channel capable						<ul> <li>(WxDxH) 7.7" X 15.4" X 19.7"; 195mm X 390mm X 500mm</li> <li>Cross weight (approx.) 14.22 lb (6.45 kg)</li> </ul>					
<u> </u>	*System automatic						Power supply	Some: 180 watts, autosensing, 85% PS	U				
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S	Drive (S	SD) / SATA 6.0G	b/s. 2.5"	r		Limited warranty <sup>3</sup>	Some: 1-year or 3-year, depot service / Some: 1-year or 3-year, limited onsite s					
Optical	Some: DVD-ROM					5	Preload	Preloaded operating system					
· - · · · - · - ·	Some: DVD Burne			b)s Drive	é, slim (9.0mm)			Some: Windows® 10 Pro 64-bit					
Onboard SATA Media reader	Two onboard SATA Optional 7-in-1 me							Some: Windows 10 Home 64-bit Some: Windows 7 Professional 32/64 preinstalled through downgra					
	<b>.</b>					D:===4V@ 10	_	in Windows 10 Pro 64-hit/not avai	lable with 7th Gen Intel processor)				
Graphics	Intel HD Graphics one VGA, one Disp	5 <b>5 10/530</b> NavPort™	n proce	essor, us mandant	ses main memory, displays, works a	Iona with		Preloaded applications (only some listed)					
	discrete graphics to	o support	more displays;	рспаст	. dispidys, works d	iong with		<ul> <li>Microsoft Office preloaded;</li> </ul>					
	Max resolution: 409	96x2160	(DP)@60Hz; 192					purchase a product key to activate					
	Some: NVIDIA Ge			2, 2GB, F	PCIe 2.0 x8 adapt	er,		<ul> <li>Cyberlink PowerDVD (DVD, DVD±RW)</li> <li>Cyberlink PowerDVD Create (DVD±RW)</li> </ul>					
	two Display	tion: 3840	watts; )x2160 (DisplayP	ort)@60	Hz·			- Only for Window 10					
Monitor cable	Optional DP to VG					HDMI 1.4		Lenovo Companion					
Chipset	Intel B250 Chipse	t	, -				1	<ul><li>Only for Window 7</li><li>Lenovo Solution Center</li></ul>					
Front ports*	Two USB 3.1 Gen1	micronh	none (3.5mm) or	ne headr	phone / microphon	e combo iack	-	Lenovo System Update					
	(3.5mm)	, moropi	15.16 (5.511111), 01	io riodup	Alono / Iniorophon	o oombo jaar	]	Create Récovery Media					
Rear ports*	Two USB 3.1 Gen1	I, two US	B 2.0, optional tv	vo USB 2	2.0, serial (9-pin),	optional 2nd		Adobe® Reader®					
	serial (9-pin), optio	nal parall	el (25-pin), ether	net (RJ-	45), one VGA, one	DisplayPort	Environment	ENERGY STAR® 6.1, EPEAT™ Silver ratin	g (North America), ErP Lot 3,				
	optional external U additional DisplayF					,		RoHS-compliant, WEEE					
Rear audio ports*	Line-out jack (3.5m		acriai grapinos o	551116			Accessories	For compatible accessories, please go to ${\bf I}$	nttp://www.lenovoquickpick.com				
IEEE 1394*	None	,											
	* Depending on many	factors, a	ctual data transfer s	speed may	y be lower than theo	retical speed							
Audio support	High Definition (HD	) Audio,	Realtek ALC233	/ interna	l speaker (1 watt )	)	]						
WLAN <sup>13</sup>	None												
	None		EL Oddalliki Mali		1/9								
Bluetooth™		1 H - I - D7		Aniak	· ·								
Bluetooth™ Ethernet	Gigabit ethernet, R	Realtek R	IL8111HN, Wake	OIILAIN	•								
Bluetooth™ Ethernet Modem	Gigabit ethernet, R None	Realtek R	IL8111HIN, Wake	OIILAN			_						
Bluetooth™ Ethernet	Gigabit ethernet, R												













## ThinkCentre M720 SFF Platform Specifications

							h.,,	
Processor	Intel® Celeron®, Intel I			Intel Co			WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1
	Processor		Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Graphics		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 8265, 2x2
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	Bluetooth™	Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4*, gigabit ethernet, 4x RJ-45, PCIe x4
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		Some: Bitland BN8E88*, gigabit ethernet, PCle x1 (only available via special bid)
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630		* Choose either I350-T4 or BN8E88
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Manageability	None
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified  • Security slot (in rear for optional  • Power-on password
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Cooding loaderes	<ul> <li>Security slot (in rear for optional Kensington® MicroSaver® cable)</li> <li>Power-on password</li> <li>Administrator password</li> </ul>
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630		Padlock loop     Hard disk password
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630		Optional cable lock to physically lock    Boot sequence control
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630		both keyboard and mouse  • Boot without keyboard and mouse
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		<ul> <li>Optional chassis intrusion switch</li> <li>Optional chassis E-Lock (special bid)</li> <li>Individual USB port disablement</li> <li>Smart USB protection, allows keyboard/</li> </ul>
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		mouse only, blocks all storage devices
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630	litoyboara	Some: Lenovo Traditional Keyboard (USB connector), black
	Core i5-9400F	6/6	2.9G / 4.1G	9 MB	DDR4-2666 DDR4-2666	None UHD 630		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black
	Core i5-9500	6/6 6/6	3.0G / 4.4G	9 MB 9 MB			Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)
	Core i5-9500F	6/6	3.0G / 4.4G	9 MB	DDR4-2666 DDR4-2666	None UHD 630	Iviouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black
	Core i5-9600 Core i7-9700	8/8	3.1G / 4.6G 3.0G / 4.7G	12 MB	DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)
Memory	64GB max, UDIMM, I dual-channel capable * System automatical	DDR4-26	66, four 288-pin	DIMM so	ckets, non-ECC,	<u> </u>	Mechanical	<ul> <li>SFF (8.4L), black color; metal case</li> <li>(WxDxH) 3.64" X 11.44" X 13.52"; 92.5mm X 290.5mm X 343.5mm</li> <li>Approx. 13.24 lb (6.0 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, and extension card removal</li> </ul>
Optical Onboard SATA Media reader Graphics	Some: Hard Drive / Some: Solid State Dr Some: M.2 Solid State Dr Some: M.2 Solid State * M.2 SSD (2242) PC Some: Intel Optane <sup>TM</sup> Some: DVD-ROM S/ Some: DVD Burner ( Three onboard SATA Optional 7-in-1 media	rive (SSD te Drive ( le NVMe Memory ATA 1.5G DVD±RV 6.0Gb/s o reader	) / SATA 6.0Gb/s SSD) / PCIe NVI only supports Po (not support Ce b/s Drive, slim (9 V), SATA 1.5Gb/s connectors	, 2.5" Me, PCle Cle 3.0 x leron / P .0mm) Drive, s	2 3.0 x 4*, 32Gb/s 2, 16Gb/s entium Processo lim (9.0mm)	or), M.2	Floor Stand	Optional dust filter Bay 1: Slim external ODD bay Bay 2: 3.5", 1" high, internal, HDD/SSD Bay 3: 2.5", internal, HDD/SSD (optional bay) Slot 1: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x16 Slot 2: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x1 Slot 3: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x1 Slot 4: no slot, only bracket for optional port extension M.2 card slots: Two (one for WLAN, one for SSD/Optane) Optional system floor stand for vertical orientation
·	one VGA (up to 2048) supports 3 independe Some: NVIDIA Gefor	ent display ce® GT 7	ys, more displays 30 (End Of Life)	support DirectX	via discrete grap 12, 2GB GDDR	phics 5,	Power supply	Some: 180 watts, autosensing, 85% PSU 210 watts, autosensing, 85% PSU 260 watts, autosensing, 92% PSU (only available via special bid)
	Some: AMD Radeon	™ <b>520</b> , D	irectX 12, 2GB 6 1096x2160@60H	iDDR5, I	840x2160@60Hz PCle 3.0 x8, 30 v	vatts,	Limited warranty <sup>3</sup>	<ul> <li>Some: 1-year or 3-year, depot service / service upgrades available</li> <li>Some: 1-year or 3-year, limited onsite service / service upgrades available</li> </ul>
Monitor cable	Optional DP to VGA of Display with intel integ	longie, Di	P to DVI-D dongl	e, DP to	dual DP dongle ( 4 dongle	(for Collage	Preload	Preloaded operating system Some: Windows® 10 Pro 64-bit
Chipset	Intel B360 Chipset				-		1	Some: Windows 10 Home 64-bit
	)2x USB 3.1 Gen2, 2x	IISB 3 1	Gen1 1vIISR 3	1 Type-	C. Gen1 (15W ch	arging)	1	Preloaded applications (only some listed)
Front ports* (Opt. Rear ports* (Std.	1x microphone (3.5mi) Optional: 1x media re) 4x USB 2.0, 1x serial 1x line-out (3.5mm) Optional: 2x USB 3.1	m), 1x he ader (9-pin), 1 Gen1 via	adphone / micro x ethernet (RJ-4 PCI2 x1** 2x IJ	phone co 5), 1x V0 SB 3 1 T	ombo jack (3.5mr GA, 2x DisplayPo vvpe-C Gen2 via I	n) rt, PCIe x4**		<ul> <li>Lenovo Vantage</li> <li>Microsoft Office preloaded; purchase a product key to activate</li> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> <li>Cyberlink Power2GO (only for models with DVD±RW)</li> <li>LinkedIn</li> </ul>
	(special bid only), 1x 2 pin), 2x PS/2 ports (ke optional graphics or e	eyboard/r	nouse), addition	ii (9-pin) al RJ-45	via PCIe x1, 1x p and video ports	oarallel (25- available on	Environment	ENERGY STAR® 7.0, EPEAT™ Silver rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant
	* Depending on many fac ** Choose either 2x USB	ctors, actua	al data transfer spe		e lower than theore	tical speed	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com
Audio support	High Definition (HD) A	Audio, Re	altek ALC233VB	2 / interr	nal speaker (1 wa	itt)		













# ThinkCentre M720e SFF Platform Specifications

Drococor	Intol® Coloron® Intol	Dontium®	or 9th / 9th Con	Intol Co	roTM i2 / iE / i7 / i0	Droopoor	Managoobility	Nana
Processor	Intel® Celeron®, Intel			inter Co	· · · · · · · · · · · · · · · · · · ·		Security chip	None Discrete TPM 2.0, TCG Certified
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Graphics		s • Security slot (in rear for optional • Power-on password
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	Coccurity locatores	Kensington® MicroSaver® cable) • Administrator password
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Padlock loop
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Smart USB protection, allows keyboard/     Boot sequence control     Boot without keyboard and mouse
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		mouse only, blocks all storage devices  Optional smart cable clip to physically  Boot without keyboard and mouse Individual USB port disablement
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		lock both keyboard and mouse  Optional chassis intrusion switch
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610		Some: Lenovo Traditional Keyboard (USB connector), black
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Mechanical	SFF (7.4L), black color, metal case
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630		• (WxDxH) 3.9" X 11.9" X 10.8"; 100mm X 303.5mm X 274.8mm
	Core i7-8700	6 / 12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630		<ul> <li>Approx. 9.37 lb (4.25 kg), weight may vary by configuration</li> <li>Bay 1: Slim ODD bay</li> </ul>
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Bay 2: 3.5" disk bay, supports 2.5" HDD (2.5 to 3.5 bracket comes with 2.5" disk)
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		Slot 1: low-profile (length < 152mm, height < 64mm), PCle 3.0 x16*
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		Slot 2: low-profile (length < 152mm, height < 64mm), PCle 3.0 x1*
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		M.2 card slot: one for SSD *Optional rear 2x USB2.0 / parallel occupies one expansion slot
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Floor Stand	Optional system floor stand for vertical orientation
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	Packaging	• (WxDxH) 7.7" X 15.4" X 19.7"; 195mm X 390mm X 500mm
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	l ackaging	• Cross weight (approx.) 14.48 lb (6.57 kg)
Memory	32GB max, UDIMM, I	DDR4-26	66*. two 288-pin	DIMM so	ockets, non-ECC.		Power supply	180 watts, autosensing, 85% PSU
	dual-channel capable		, <u></u>				,	
	* Memory may be und processor	derclocke	d to DDR4-2400	for the Id	ower memory con	itroller in	Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available
Storage	Some: Hard Drive / S	SATA 6.00	Gb/s. 2.5" or 3.5"	5400 rp	m or 7200 rpm		Preload	Preloaded operating system
	Some: M.2 SSD (224	42 / 2280	) / PCIe NVMe, F	Cle 3.0	x2 or PCle 3.0 x4	ļ		Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit
Optane memory	Some: Intel Optane	Memory	/, M.2 2280, PCI6	NVMe,	PCle 3.0 x 2			Some: Linux Ubuntu
Optical	Some: DVD-ROM Some: DVD Burner (				lim (9 0mm)		Environment	ENERGY STAR® 7, EPEAT™ Silver rating (North America), ErP Lot 3,
Onboard SATA	Two onboard SATA 6.	0Gb/s co	nnectors	D1110, 0			Livilorinent	RoHS-compliant, WEEE
Media reader	Optional 7-in-1 media	reader					Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com
Graphics	Intel HD Graphics 6						7.10000001100	9 to 111 pm, 111 to 4 4 10 10 10 10 10 10 10 10 10 10 10 10 10
	one VGA, one Display			ndent dis	splays, works alo	ng with		
	discrete graphics to s Max resolution: 4096	upport m x2304 (D	ore displays; )P)@60Hz: 2048;	(1536 (V	GA)@50Hz			
	Some: AMD Radeon	™ <b>520</b> , D	irectX 12, 2GB G	DDR5, F	PCIe 3.0 x8 adap	ter,		
	one VGA, one	HDMI, 3	0 watts (Max);		·			
Monitor cable	Max resolution Optional DP to VGA,	n: 3840x2	2160 (HDMI)@30	Hz; 2048	3x1536 (VGA)@8	5HZ		
Chipset	·	DF 10 DV	1-D (Sirigle lirik),	JF IO UU	aldr, oldr to li	DIVII 1.4	-	
	Intel B365 Chipset		(5.5.)					
Front ports* (Std.	)2x USB 3.1 Gen1, 1x	micropho	one (3.5mm), 1x	neadpho	ne / microphone	combo jack	(	
Front ports* (Opt	(3.5mm) ) <i>Optional:</i> 1x media re	ader						
	2x USB 3.1 Gen1, 2x		, 1x serial (9-pin)	, 1x ethe	ernet (RJ-45), 1x \	VGA,		
	1x DisplayPort, 1x Lir	ne-out jac	k (3.5mm)					
Rear ports* (Opt.	) Optional: 2x USB 2.0			parallel (	(25-pin), 1x exteri	nal USB to		
	PS/2 ports cable (for additional video ports			hics / etl	hernet card on so	me models		
	* Depending on many fa						1	
Audio support	High Definition (HD)					p-===	1	
WLAN <sup>13</sup>	None	, 110					†	
Bluetooth™	None							
Ethernet	Gigabit ethernet, Rea							
Ethernet (Opt.)	Some: Bitland BN8E	88*, gigal	bit ethernet, PCI	2 x1				
Modem	None							













# ThinkCentre M725 SFF Platform Specifications

Processor	AMD A6 / A8 / A10 / A12 and Ryzen 3 / 5 / 7 series processor						Ethernet	Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN®			
		Cores /	Frequency	L2/L3	Memory	Integrated	Ethernet (Opt.)	Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)			
	Processor Threads (Base/Max) Cache Support (Up to)		Graphics	Manageability Security chip	DASH 10/1.1 Discrete TPM 2.0, TCG Certified						
	PRO A6-9500	2/2	3.5 / 3.8	1MB/-	DDR4-2400	Radeon R5	Security features	·			
	PRO A8-9600	4/4	3.1 / 3.4	2MB / -	DDR4-2400	Radeon R7		<ul> <li>Security slot (in rear for optional Kensington® MicroSaver® cable)</li> <li>Power-on password</li> <li>Administrator password</li> </ul>			
	PRO A10-9700	4/4	3.5 / 3.8	2MB / -	DDR4-2400	Radeon R7		Padlock loop     Hard disk password			
	PRO A12-9800	4/4	3.8 / 4.2	2MB / -	DDR4-2400	Radeon R7		<ul> <li>Smart USB protection, allows keyboard/</li> <li>■ Boot sequence control</li> </ul>			
	Ryzen 3 2300X	4/4	3.5 / 4.0	2MB / 8MB	DDR4-2933	None		mouse only, blocks all storage devices   • Boot without keyboard and mouse			
	Ryzen 5 2500X	4/8	3.6 / 4.0	2MB / 8MB	DDR4-2933	None		<ul> <li>Optional cable lock to physically lock both keyboard and mouse</li> <li>Individual USB port disablement</li> <li>Optional chassis intrusion switch</li> </ul>			
	Ryzen 3 PRO 2200G	4/4	3.5 / 3.6	2MB / 4MB	DDR4-2933	Radeon Vega 8					
		Ryzen 5 PRO 2600 6 / 12 3.4 / 3.9 3MB / 16MB DDR4-2933 None		Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black						
	Ryzen 5 PRO 2600 Ryzen 7 PRO 2700				Some: Lenovo Traditional Reyboard (05B conflector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black						
	· ·	8 / 16	3.2 / 4.1			None		Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)			
Memory	64GB max, UDIMM, DDR4-2666*, four 288-pin DIMM sockets, non-ECC, dual-channel capable  * Systemboard supports up to DDR4-2666, memory frequency may automatically				frequency r	nay automatically	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, bl. Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
<del></del>	clocks down for the							Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)			
Storage	Some: Hard Drive / Some: Solid State   Some: M.2 SSD / F * 128GB SSD M.2 (	Drive (SS PCIe NVN 2242) PC	SD) / SATA 6 Me, PCIe 3.0 Cle NVMe ar	5.0Gb/s, 2.5 ) x 4*, 32Gb	n/s		Mechanical	<ul> <li>SFF (8.4L), black color; metal case</li> <li>(WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm</li> <li>Approx. 13.2 lb (6.0 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical removal</li> </ul>			
Optical	supports PCIe 3.0 x 2, 16Gb/s Some: DVD-ROM SATA 1.5Gb/s Drive, slim (9.0mm) Some: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (9.0mm) Three onboard SATA 6.0Gb/s connectors, RAID 0/1 support (RAID preset only available via special bid model)							Optional dust filter Bay 1: Slim external ODD bay Bay 2: 3.5", nternal, HDD/SSD			
Onboard SATA								Bay 3: 2.5", internal, HDD/SSD (bay only comes with 2.5" 2nd disk) Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16			
Media reader	Optional 7-in-1 med	lia reader	· ′					Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1			
Graphics	AMD Radeon™ Graphics in processor (only for some processors), uses main memory, DirectX® 12, one VGA (up to 1920x1200@60Hz), two DisplayPort™ (up to 4096x2160@60Hz, onboard VGA and DP ports are only available on the models with integrated graphics), supports 3 independent displays, works along with AMD						Floor Stand	Slot 3: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1 Slot 4: low-profile (length < 150mm, height < 68mm), PCI 3.0 M.2 card slots: two (one for WLAN, one for SSD) Optional system floor stand for vertical orientation			
	discrete graphics to support more displays;  Some: NVIDIA Geforce® GT 730, DirectX 12, 2GB GDDR5, PCIe 2.0 x16 (x8 elec. adapter, 35 watts, two DisplayPort (up to 3840x2160@60Hz)  Some: AMD Radeon™ 520, DirectX 12, 2GB GDDR5, PCIe 3.0 x8, 30 watts,					)Hz)	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU Some: 260 watts, autosensing, 92% PSU (only available via special bid)			
Mandanialia	two DisplayF						Limited warranty	1-year or 3-year, limited onsite service / service upgrades available			
Monitor cable	Optional DP to VGA or DP to HDMI 1.4 or	dongle, dongle	DP to DVI-D	) dongle, DF	o to dual DP	dongle,	Preload	Preloaded operating system Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit Preloaded applications (only some listed) Lenovo Vantage Microsoft Office preloaded;			
Chipset	AMD B450 Chipset	t									
Front ports* (Std.)	2x USB 3.1 Gen2, 2	2x USB 3	.1 Gen1. 1x	microphone	e (3.5mm). 1	x headphone	1				
• • •	(3.5mm) Optional: 1x media i		·	·	, , ,	•					
Rear ports* (Std.)	2x USB 3.1 Gen1, 2 2x DisplayPort**, 2x	2x USB 2 x PS/2 po	.0, 1x serial rts (keyboar	(9-pin), 1x e	ethernet (RJ	-45), 1x VGA**,		<ul> <li>purchase a product key to activate</li> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> <li>Cyberlink Power2GO (only for models with DVD±RW)</li> </ul>			
Rear ports* (Opt.)	(3.5mm), 1x micropl Optional: 2x USB 2 and video ports ava	.0, 1x 2n	d serial (9-p	in), 1x para phics or eth	llel (25-pin), ernet card	additional RJ-45	Environment	LinkedIn  ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models);			
	* Depending on many ** only available on the					an theoretical speed	Accessories	ErP Lot 3; RoHS-compliant For compatible accessories, please go to http://smartfind.lenovo.com			
Audio support	High Definition (HD)	) Audio, F	Realtek ALC	662 / option	al internal s	peaker (1 watt )	1				
WLAN	Some: 11ac wireles Wi-Fi + Blue	ss, M.2 C etooth 4.2	ard, Realtek	RTL8821C	E (dual ban	d),	-				
	Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377A (dual band), Wi-Fi + Bluetooth 4.2* combo adapter, 1x1										
	Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), Wi-Fi + Bluetooth 4.2* combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band),					,,					
Discount TV	Wi-Fi + Blue	etooth 4.2	2* cómbo ad	apter, 2x2		, ,,					
Bluetooth™	Some: Bluetooth 4. * Hardware support										













## ThinkCentre M75s-1 SFF Platform Specifications

Processor	AMD Athlon, Athlon	PRO, R	Ryzen 3 / 5, c	r Ryzen 3 /	5 PRO serie	es processor	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band),		
	Processor	essor Cores / Threads (Base/Max) Cache Cache Graphics Integrated Graphics			Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2					
	Athlon PRO 200GE	2/4	3.2 GHz	1 MB / 4MB	DDR4-2666	Radeon Vega 3	Divista etle IM	Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9260 (dual band),		
	Athlon PRO 300GE	2/4	3.4 / 3.4 GHz	1MB / 4MB	DDR4-2666	Radeon Vega 3		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2		
	Ryzen 3 PRO 2200G			Radeon Vega 8	Bluetooth™	Some: Bluetooth 4.2 / 5.0 wireless, integrated in Wi-Fi + BT combo adapter				
	Ryzen 5 PRO 2400G	4/8	3.6 / 3.9 GHz	2MB / 4MB	DDR4-2933	Radeon Vega 11	Ethernet	Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN®		
	Ryzen 3 PRO 3200G	4/4	3.6 / 4.0 GHz	2MB / 4MB	DDR4-2933	Radeon Vega 8	Ethernet (Opt.)	None		
	Ryzen 5 PRO 3350G	4/8	3.6 / 4.0 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 11	Manageability Security chip	DASH 10/1.1		
	Ryzen 5 PRO 3400G	4/8	3.7 / 4.2 GHz	2MB / 4MB	DDR4-2933	Radeon Vega 11	Security teatures	Discrete TPM 2.0, TCG Certified  • Security slot (in rear for optional  • Power-on password		
	Ryzen 5 PRO 3600	6 / 12	3.6 / 4.2 GHz	3MB / 32MB	DDR4-3200	None		<ul> <li>Security slot (in rear for optional Kensington® MicroSaver® cable)</li> <li>Power-on password</li> <li>Administrator password</li> </ul>		
	Ryzen 7 PRO 3700	8 / 16	3.6 / 4.4 GHz	4MB / 32MB	DDR4-3200	None		Padlock loop		
	Ryzen 9 PRO 3900	12 / 24	3.1 / 4.3 GHz	6MB / 64MB	DDR4-3200	None		<ul> <li>Smart USB protection, allows keyboard/</li> <li>■ Boot sequence control</li> </ul>		
	Athlon 300GE	2/4	3.4 / 3.4 GHz	1MB / 4MB	DDR4-2666	Radeon Vega 3		mouse only, blocks all storage devices   • Boot without keyboard and mouse		
	Ryzen 3 3200G	4/4	3.6 / 4.0 GHz	2MB / 4MB	DDR4-2933	Radeon Vega 8		<ul> <li>Optional smart cable clip to physically lock both keyboard and mouse</li> <li>Individual USB port disablement</li> <li>Optional chassis intrusion switch</li> </ul>		
	Ryzen 5 3350G	4/8	3.6 / 4.0 GHz	2 MB / 4MB	DDR4-2933	Radeon RX Vega 11	16 1			
	Ryzen 5 3400G	4/8	3.7 / 4.2 GHz	2MB / 4MB	DDR4-2933	Radeon RX Vega 11	Keyboard	Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black		
	Ryzen 5 3600	6 / 12	3.6 / 4.2 GHz	3MB / 32MB	DDR4-3200	None		Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)		
Memory	64GB max, UDIMM	DDR4-	2666*, four 2	88-pin DIMI	M sockets, r	ion-FCC.	Mouse	Some: Lenovo Calliope Mouse (USB connector), black		
	dual-channel capab			p	000	= 0 0,		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, blac		
	* System board suppo							Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)		
	DDR4-1866, DDR4-2133 or DDR-2400 for lower capacity of memory controller in processor									
Storage	Some: Hard Drive						Mechanical	• SFF (8.4L), black color; metal case		
Ontical	Some: M.2 SSD (2242 / 2280) / PCIe NVMe, PCIe 3.0 x2 or PCIe 3.0 x4 Some: DVD-ROM SATA 1.5Gb/s Drive, slim (9.0mm)							<ul> <li>(WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm</li> <li>Approx. 13.2 lb (6.0 kg), weight may vary by configuration</li> </ul>		
Optical	Some: DVD-ROW Some: DVD Burne					nm)		Toolless cover, disk, optical, and extension card removal		
Onboard SATA	Three onboard SAT							Optional dust filter     Bay 1: Slim external ODD bay		
	available via specia	I bid mod	del)	•		, ,				
Media reader	Optional 7-in-1 med							Bay 2: 3.5", internal, HDD/SSD		
Graphics	AMD Radeon™ Gra	aphics i	n processor	(only for so	me process	ors), uses main		Bay 3: 2.5", internal, HDD/SSD (bay only comes with 2.5" 2nd disk) Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16		
	memory, DirectX® 1	2, one V	GA, two Disp	olayPort™ (C	nboard VG	A and DP ports		Slot 2: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1		
	are only available of	n the mo	aeis with inte MD discrete	egrated grap	nics), suppi	orts 3 independent		Slot 3: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1		
	displays, works along with AMD discrete graphics to support more displays;  Max resolution: 4096x2160 (DP)@60Hz;  Some: AMD Radeon™ 520, DirectX 12, 2GB GDDR5, PCIe 3.0 x8 adapter,					ie dispiays,		Slot 4: low-profile (length < 150mm, height < 68mm), PCI 3.0		
						x8 adapter,	Floor Stand	M.2 card slots: two (one for WLAN, one for SSD) Optional system floor stand for vertical orientation		
	two DisplayF			0.0011				<u>, '                                     </u>		
Monitor cable	Max resoluti Optional DP to VGA		6x2160 (DP)		dual DP or	DD to UDMI 1 4	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU		
			DVI-D (Sirigle	illik), DF to	dual DF, OI	DE TO FIDIVIT 1.4		Some: 260 watts, autosensing, 92% PSU (only available via special bid)		
Chipset  Front ports* (Std.	AMD PRO 560 FCF .) 2x USB 3.1 Gen2, 2		3 1 Gan1 1v	microphono	(3.5mm) 1	v headnhone	Limited warranty			
FIGHT POLIS (Stu	(3.5mm)	2X USD 3	o. i Geiii, ix	microphone	(3.511111), 1	x rieaupriorie	Preload	Preloaded operating system		
Front ports* (Opt	.) <i>Òptionál:</i> 1x media i	reader						Some: Windows 10 Pro 64-bit		
Rear ports* (Std.	Rear ports* (Std.) 2x USB 3.1 Gen1 (one support Smart Power-On), 2x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA**, 2x DisplayPort**, 2x PS/2 ports (keyboard / mouse); 1x line-in (3.5mm), 1x line-out (3.5mm), 1x microphone (3.5mm)							Some: Windows 10 Home 64-bit		
								Some: Windows 10 IoT Enterprise		
Bear porte* (Ont						available on	Environment	Some: Linux Ubuntu		
ricai porto (Opt	Rear ports* (Opt.) Optional: 2x USB 2.0, 1x parallel (25-pin), additional video ports available on optional graphics card							ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models);		
			ctual data trans	sfer speed ma	y be lower tha	an theoretical speed		ErP Lot 3; RoHS-compliant, WEEE		
	* Depending on many factors, actual data transfer speed may be lower than theoretical speed ** only available on the models with integrated graphics		·	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com					
Audio support	High Definition (HD)	) Audio,	Realtek ALC	662 / option	al internal s	peaker (1 watt )				
Note: The enecific	ations above may not b	o ovoilal	blo in all rogio	200				Lenovo July 202		



















## ThinkCentre M80s Platform Specifications

Processor	Intel® Celeron®, Intel	Pentium®,	or 10th Gen Int	el Core™	' i3 / i5 / i7 / i9 Pro	ocessor	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band),		
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),		
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2		
	Celeron G5920	2/2	3.5G	2 MB	DDR4-2666	UHD 610		Some: 11ax wireless, M.2 Card, Intel Wi-Fi 6 AX201 (dual band),		
	Pentium Gold G6400	2/4	4.0G	4 MB	DDR4-2666	UHD 610	Bluetooth	Wi-Fi + Bluetooth 5.1 combo adapter, Intel vPro technology support, 2x2 Some: Bluetooth 5.0/5.1 wireless, integrated in Wi-Fi + BT combo adapter		
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®		
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCle x4		
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630		Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCle x1		
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630	Manageability	Intel Active Management Technology 14 (Intel AMT 14);		
	Core i3-10320	4/8	3.8G / 4.6G	8 MB	DDR4-2666	UHD 630		Intel vPro technology on some models (require choosing a vPro-support Wi-Fi		
	Core i5-10400F	6 / 12	2.9G / 4.3G	12 MB	DDR4-2666	None	O its to its	adapter to enable vPro function through wireless connection)		
	Core i5-10400	6 / 12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified		
	Core i5-10500	6 / 12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630	Security features	Security slot (for Kensington® lock)     Power-on password		
	Core i5-10600	6 / 12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630		<ul> <li>Padlock loop</li> <li>Optional Smart Cable Clip to</li> <li>Administrator password</li> <li>Hard disk password</li> </ul>		
	Core i7-10700F	8 / 16	2.9G / 4.8G	16 MB	DDR4-2933	None		physically lock keyboard and mouse  • Boot sequence control		
	Core i7-10700	8 / 16	2.9G / 4.8G	16 MB	DDR4-2933	UHD 630		Optional chassis intrusion switch     Boot without keyboard and mouse		
	Core i9-10900F	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	None		Optional chassis E-Lock     Individual USB port disablement		
	Core i9-10900	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	UHD 630		<ul> <li>Smart USB protection, allows keyboard/</li> </ul>		
	* Max freguency may ref Technology 3.0 / Intel Th					lax	Keyboard	mouse only, blocks all storage devices  Some: Lenovo Calliope Keyboard (USB connector), black		
Memory	128GB max, DDR4-3			<u> </u>		ahle	10,000.0	Some: Lenovo Traditional Keyboard (USB connector), black		
ivicitioi y	* System automatical						Marra	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black		
Storage	Support up to 2x HDI	,					Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black		
Otorage	support for HDD (RAI					TIAID 0/ I		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black		
	Some: Hard Drive / SATA 6.0Gb/s, 2.5" or 3.5", 7200 rpm Some: M.2 SSD (2242 / 2280) / PCIe NVMe, PCIe 3.0 x2 or PCIe 3.0 x4						Marshaufaal			
					x2 or PCIe 3.0 x4	1	Mechanical	• SFF (8.2L), black color, metal case		
Ontinal	Some: Intel Optane™ Memory M10, M.2 2280, PCIe 3.0 x2							<ul> <li>Dimensins with bezel &amp; PCI holder &amp; rubber foot: (WxDxH) 3.6" X 11.7" X 13.4"; 93mm X 298mm X 340mm</li> </ul>		
Optical	Some: DVD-ROM, SATA 1.5Gb/s Drive, slim (9.0mm) Some: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (9.0mm)							Weight (approx.): 11.7 lb (5.3 kg), weight may vary by configuration		
Onboard SATA	Three onboard SATA			Diive, s	iiiii (3.0iiiiii)		Bays	Bay 1: Slim ODD bay		
Media reader	Optional 3-in-1 media			C, and S	SDXC)			Bay 2: 3.5" HDD bay		
Graphics	Intel UHD Graphics 610/630 in some processors, uses main memory, DirectX® 12,							Bay 3: 2.5" HDD bay (optional bay, or bay comes with disk)		
G., ap.,	two DisplayPort™, on						Slots	Slot 1: low-profile (length < 155mm, height < 68mm), PCle 3.0 x16 Slot 2: low-profile (length < 155mm, height < 68mm), PCle 3.0 x1		
	support via discrete g	raphics						Slot 3: no slot, only bracket for optional port extension		
	Max resolution: 4096	×2304 (DI	P)@60Hz; 1920)	k1080 (H	DMI)@60Hz			Slot 4: no slot, only bracket for optional port extension		
	Some: AMD Radeon		irectx 12, 2GB ( 1096x2160@60F		PCIe 3.0 x8, 30 w	/aπs,		M.2 card slots: two (one for WLAN, one for SSD/Optane)		
Monitor cable	Optional DP to VGA	In (up to 2 Innale DI	1096x2160@60F	12) le DP to	dual DP donale	for Collage	Floor Stand	Optional system floor stand for vertical orientation		
	Display with intel inte	grated gra	aphics), or DP to	HDMI 1.	.4 dongle	ioi conago	EOU design	Toolless cover, disk, optical, extension card removal		
Chipset	Intel Q470 Chipset	0 0	1 //		<u> </u>		Power supply	Some: 180 watts, autosensing, 85% PSU		
			O 1 1:: UCD	0.0 T	O O == 1 /15\W =	la a varia av	_	Some: 260 watts, autosensing, 85% PSU		
Front ports" (Std.	) 2x USB 3.2 Gen 2, 2x 1x microphone (3.5m							Some: 310 watts, autosensing, 92% PSU Some: 380 watts, autosensing, 92% PSU		
Front ports* (Opt.	Optional: 3-iin-1 med		aupitoric / filloro	prioric co	orribo jack (o.orri	'')		* Discrete graphics card / 10-core processors need > 180w power supply		
Rear ports* (Std.)	) 4x USB 3.2 Gen 1. 1	serial (9	-pin). 1x etherne	et (RJ-45)	). 2x DP**. 1x HD	MI**.	Limited warranty	Some: 1-year, depot service / service upgrades available		
	lear ports* (Std.) 4x USB 3.2 Gen 1, 1x serial (9-pin), 1x ethernet (RJ-45), 2x DP**, 1x HDMI**, 1x line-out (3.5mm)							Some: 1-year or 3-year, limited onsite service / service upgrades available		
Rear ports* (Opt.)	) Optional: 2x USB 2.0	2x USB	3.2 Gen 1 via P(	Cle x1, 2:	x USB 3.2 Type-C	C Gen 2 via	Preload	Some: Windows® 10 Pro 64-bit		
	PCle x4, 1x 2nd seria						Ticload	Some: Windows 10 Home 64-bit		
	1x parallel (25-pin), 2 ports available on opt				uullional MJ-45 al	iu viueo		Some: Windows 10 IoT Enterprise (only available via special bid model)		
	* Depending on many fa				e lower than theore	tical speed	Environment	ENERGY STAR® 8.0*, EPEAT™ Silver rating*, ErP Lot 3, TCO (coming soon),		
	** Only available for the							TUV low noise verified (on some models), RoHS-compliant		
Audio support	, , , , , , , , , , , , , , , , , , , ,				nal speaker (1 wa	tt )	<u> </u>	* Only available for MT 11CU/11CV		
	3	,				,	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com		

















## ThinkCentre M90s Platform Specifications

Processor	Intel® Celeron®, Intel	Pentium®	or 10th Gen Int	el Core™	' i3 / i5 / i7 / i9 Pro	ocessor	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band),		
	Processor Cores / Frequency Cache Memory Support Integrated Graphics				Memory Support	Integrated		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),		
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2		
	Celeron G5920	2/2	3.5G	2 MB	DDR4-2666	UHD 610		Some: 11ax wireless, M.2 Card, Intel Wi-Fi 6 AX201 (dual band),		
	Pentium Gold G6400	2/4	4.0G	4 MB	DDR4-2666	UHD 610	Bluetooth	Wi-Fi + Bluetooth 5.1 combo adapter, Intel vPro technology support, 2x2 Some: Bluetooth 5.0/5.1 wireless, integrated in Wi-Fi + BT combo adapter		
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®		
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4		
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630		Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCle x1		
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630	Manageability	Intel Active Management Technology 14 (Intel AMT 14);		
	Core i3-10320	4/8	3.8G / 4.6G	8 MB	DDR4-2666	UHD 630		Intel vPro technology on some models (require choosing a vPro-support Wi-Fi		
	Core i5-10400F	6 / 12	2.9G / 4.3G	12 MB	DDR4-2666	None	Coourity obio	adapter to enable vPro function through wireless connection)		
	Core i5-10400	6 / 12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified		
	Core i5-10500	6 / 12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630	Security features	Security slot (for Kensington® lock)     Hard disk password     Paglack loop		
	Core i5-10600	6 / 12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630		<ul> <li>Padlock loop</li> <li>Optional Smart Cable Clip to</li> <li>Boot sequence control</li> <li>Boot without keyboard and mouse</li> </ul>		
	Core i7-10700F	8 / 16	2.9G / 4.8G	16 MB	DDR4-2933	None		physically lock keyboard and mouse  • Individual USB port disablement		
	Core i7-10700	8 / 16	2.9G / 4.8G	16 MB	DDR4-2933	UHD 630		<ul> <li>Optional chassis intrusion switch</li> <li>Smart USB protection, allows keyboard/</li> </ul>		
	Core i9-10900F	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	None		Optional chassis E-Lock     mouse only, blocks all storage devices		
	Core i9-10900	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	UHD 630		<ul> <li>Power-on password</li> <li>Administrator password</li> </ul> Self-Healing BIOS		
	* Max freguency may ref Technology 3.0 / Intel Th					1ax	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black		
Memory	128GB max, DDR4-3						]	Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black		
<u> </u>	* System automatical	,				•	Mouse	Some: Lenovo Calliope Mouse (USB connector), black		
Storage	Support up to 3x HDD ([2.5" + dual 3.5"] or [dual 2.5" + 3.5"]) and up to 2x M2.SSD. RAID 0/1 support (RAID preset only available via special bid)							Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, b Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black		
	Some: Hard Drive / SATA 6.0Gb/s, 2.5" or 3.5", 7200 rpm					4	Mechanical	SFF (8.2L), black color, metal case		
	Some: M.2 SSD (2242 / 2280) / PCIe NVMe, PCIe 3.0 x2 or PCIe 3.0 x4 Some: Intel Optane™ Memory M10, M.2 2280, PCIe 3.0 x2 Some: DVD-ROM, SATA 1.5Gb/s Drive, slim (9.0mm)					+	Mooriariloar	Dimensins with bezel & PCI holder & rubber foot:		
Optical								(WxDxH) 3.6" X 11.7" X 13.4"; 93mm X 298mm X 340mm		
	Some: DVD Burner	(DVD±RV	/), SATA 1.5Gb/s		lim (9.0mm)			<ul> <li>Weight (approx.): 11.7 lb (5.3 kg), weight may vary by configuration</li> </ul>		
Onboard SATA	Four onboard SATA 6				2010)			Bay 1: Slim ODD bay Bay 2: 3.5" HDD bay		
Media reader	Optional 3-in-1 media						_	Bay 3: 2.5" HDD bay (optional bay, or bay comes with disk)		
Graphics	Intel UHD Graphics							Slot 1: low-profile (length < 155mm, height < 68mm), PCIe 3.0 x16		
	two DisplayPort™, on							Slot 2: low-profile (length < 155mm, height < 68mm), PCIe 3.0 x1		
	supports up to 3 independent displays, more displays support via discrete graphics Max resolution: 4096x2304 (DP / Type-C)@60Hz; 4096x2160 (HDMI)@24Hz					e grapriics 24Hz		Slot 3: low-profile (length < 155mm, height < 68mm), PCle 3.0 x4		
	Some: AMD Radeon	າ™ <b>520</b> , D	irectX 12, 2GB 0	3DDR5, 1	PCIe 3.0 x8, 30 w	atts,		Slot 4: no slot, only bracket for optional port extension M.2 card slots: three (one for WLAN, two for SSD/Optane) Optional system floor stand for vertical orientation Toolless cover, disk, optical, extension card removal		
	two DisplayPo	ort (up to 4	1096x2160@60H	Hz)			Floor Stand EOU design			
Monitor cable	Optional DP to VGA	dongle, Di	P to DVI-D dong	e, DP to	dual DP dongle (	for Collage				
	Display with intel inte	grated gra	apnics), or DP to	HUIVII I	.4 dongle		Power supply	Some: 180 watts, autosensing, 85% PSU		
Chipset	Intel Q470 Chipset	v LICD o c	Con 1 1v LICD	2 0 Time	. C Con 1 (15W a	horaina)	-	Some: 260 watts, autosensing, 85% PSU Some: 310 watts, autosensing, 92% PSU		
. ,	) 2x USB 3.2 Gen 2, 2: 1x microphone (3.5m	ım), 1x he						Some: 380 watts, autosensing, 92% PSU		
Front ports* (Opt Rear ports* (Std.	.) <i>Optional:</i> 3-iin-1 med ) 4x USB 3.2 Gen 1, 1:	dia reader x serial (9	-pin), 1x etherne	t (RJ-45	), 2x DisplayPort*	Limited warranty	* Discrete graphics card / 10-core processors need > 180w power supply  1-year or 3-year, limited onsite service / service upgrades available			
	1x line-out (3.5mm)						Preload	Some: Windows® 10 Pro 64-bit		
Hear ports" (Opt.	) Optional: 1x optional Gen 1 with DP function	on), 2x US	SB 2.0, 2x USB 3	3.2 Gen <sup>-</sup>	1 via PCle x1, 2x	rolodd	Some: Windows 10 Home 64-bit Some: Windows 10 IoT Enterprise (only available via special bid model)			
	Type-C Gen 2 via PC	ie x4, 1x	2nd serial (9-pin	), 4x seri	al (9-pin) via PCI	e x1,	Environment	, , , , , , , , , , , , , , , , , , , ,		
	1x parallel (25-pin), 2 ports available on opt				uuitionai KJ-45 Ai	ia viaeo	Environment	ENERGY STAR® 8.0*, EPEAT™ Silver rating*, ErP Lot 3, TCO (coming soon), TUV low noise verified (on some models), RoHS-compliant * Only available for MT 11D1/11D2		
	* Depending on many fa				e lower than theore	tical speed				
	** Only available for the						Accessories	For compatible accessories, please go to http://smartfind.lenovo.com		
Audio support	High Definition (HD)				nal speaker (1 wa	,	i or compandio accoccino, picaco go to intp.//oniartimanenovo.com			
	ations above may not be				Langua May 2020					



















## ThinkCentre M920 SFF Platform Specifications

D========	Intel® Colours ® Intel	D	Oth / Oth O	Jakel C	TM :0 /:= /:= /:3	D =======	.I	du parellal (OF min) Ou DO(O parte (lea de control) de Thomata de alt o (		
Processor	Intel® Celeron®, Intel	Pentium® Cores /	, or 8th / 9th Ger Frequency		Memory Support	Processor Integrated		1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), 1x Thunderbolt 3 (combo USB3.1 Type-C Gen 2 / DisplayPort) via PCIe x4 (available on 09/30/2018),		
	Processor	Threads	Base/Max(GHz)	Cache	(Up to)	Graphics		additional RJ-45 and video ports available on optional graphics or ethernet card		
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		* Depending on many factors, actual data transfer speed may be lower than theoretical speed		
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610	Audio support	High Definition (HD) Audio, Realtek ALC233VB2 / internal speaker (1 watt )		
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610	WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1		
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1		
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1X1 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 8265, 2x2		
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		Some: 11ac Wi-Fi + BT 5.0, M.2 Card, Intel Wireless-AC 9560 (dual band),		
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630		Intel vPro technology support, 2x2		
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	Bluetooth Ethernet	Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®		
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4		
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Zuiomot (opt.)	Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)		
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Manageability	Intel Active Management Technology 12 (Intel AMT 12);		
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630		Intel vPro technology on some models (require choosing a vPro-support Wi-Fi		
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	0	adapter to enable vPro function through wireless connection)		
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified		
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Security features	Security slot (in rear for optional		
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Kensington® MicroSaver® cable)  • Padlock loop  • Administrator password  • Hard disk password		
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		Optional cable lock to physically lock     Boot sequence control		
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630 UHD 630		both keyboard and mouse  • Boot without keyboard and mouse		
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666			<ul> <li>Optional chassis intrusion switch</li> <li>Optional chassis E-Lock (special bid)</li> <li>Smart USB protection, allows keyboard/</li> </ul>		
	Core i5-9400F	6/6	2.9G / 4.1G	9 MB 9 MB	DDR4-2666 DDR4-2666	None UHD 630		mouse only, blocks all storage devices		
	Core i5-9500 Core i5-9500F	6/6	3.0G / 4.4G 3.0G / 4.4G	9 MB	DDR4-2666	None	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black		
	Core i5-9500F	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	reyboard	Some: Lenovo Traditional Keyboard (USB connector), black		
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black		
	Core i9-9900	8/16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)		
							- Iviouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black		
Memory	64GB max, DDR4-26 * System automatical	lly clocks	down for the pro	cessors	with lower memor	bie y controlle	_	Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)		
Storage	Some: Hard Drive / Some: Solid State D	SATA 6.00	Gb/s, 2.5" or 3.5"	, 5400 rp	om or 7200 rpm		Mechanical	• SFF (8.4L), black color, metal case		
	Some: M.2 Solid Sta * 128GB SSD M.2 (2)	ate Drive ( 242) PCI	SSD) / PCIe NV NVMe only sup	Me, PCI ports PC	Cle 3.0 x 2, 16Gb	's		<ul> <li>(WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm</li> <li>Approx. 13.23 lb (6 kg), weight may vary by configuration</li> </ul>		
	Some: Intel Optane				entium Processo	r), M.2		<ul> <li>Toolless cover, disk, optical, extension card removal</li> <li>Optional dust filter</li> <li>Bay 1: Slim external ODD bay</li> </ul>		
Optical	Some: DVD-ROM, S Some: DVD Burner				lim (0.0mm)					
Onboard SATA	Four onboard SATA 6					only		Bay 2: 3.5", 1" high, internal, HDD/SSD		
	available via special l			o, . oapp	70.1 ( 2 p. 0001	o,		Bay 3: 2.5", internal, HDD/SSD (optional bay)		
Media reader	Optional 7-in-1 media	a reader					]	Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16 Slot 2: low-profile (length < 150mm, height < 68mm), PCle 3.0 x1		
Graphics	Intel UHD Graphics							Slot 3: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16 (x4 signal)		
	one VGA (up to 2048 supports 3 independent							Slot 4: no slot, only bracket for optional port extension		
	Some: NVIDIA Gefor	rce® GT 7	'30 (Fnd Of Life)	Suppor DirectX	1 via discrete graf 12 2GB GDDB	incs	Floor Ctond	M.2 card slots: Two (one for WLAN, one for SSD/Optane)		
	PCIe 2.0 x16,	35 watts	two DisplayPort	(up to 3	840x2160@60Hz	2)	Floor Stand	Optional system floor stand for vertical orientation		
	Some: AMD Radeon				PCIe 3.0 x8, 30 w	atts,	Power supply	Some: 180 watts, autosensing, 85% PSU		
Monitor cable	two DisplayPo	ort (up to	4096x2160@60h	dz) o DB to	dual DP danala	for Collago		Some: 210 watts, autosensing, 85% PSU Some: 260 watts, autosensing, 92% PSU (only available via special bid)		
World Cabic	Display with intel inte	arated ar	aphics), or DP to	HDMI 1	4 donale	ioi Collage				
Chipset	Intel Q370 Chipset	gratea gr	<u> </u>				Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available		
Front ports* (Std.	) 2x USB 3.1 Gen2, 2x 1x microphone (3.5m					Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit			
Front ports* (Opt Rear ports* (Std.	·) <i>Optional:</i> 1x media re ) 4x USB 3.1 Gen1, 1x	eader	•		, ,	Environment	ENERGY STAR® 7.0, EPEAT™ Silver rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant			
Rear ports* (Opt.	1x line-out (3.5mm) ) Optional: 2x USB 2.0	, 2x USB	3.1 Gen1 via PC	le x1, 2x	USB 3.1 Type-C	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
	PCIe x4 (special bid	oniy), 1x 2	zna seriai (9-pin)	, 4x seria	ai (9-pin) via PCI6					























#### ThinkCentre M625 Tiny Platform Specifications

Processor	AMD A9 series	APU					Keyboard	Some: Fullsize USB Keyboard (USB connector), black, Lenovo logo
	ADII	0	Frequency	L2	Memory	Integrated	Mouse	Some: USB Optical Wheel Mouse, black, Lenovo logo
	APU	Cores	Base/Max	Cache	Support (Up to)	Graphics	Mechanical	Tiny (1L), black color; metal case  • Toolless chassis open (for models with optional toolless chassis screw)
	A9-9420e	2	1.8 / 2.7 GHz	1 MB	DDR4-1866	Radeon R5 Series		Toolless HDD, SSD, memory, Wi-Fi removal
Memory	8GB max, DDR4 * System frequer controller in proc	ncy autor	ne 260-pin SO- natically clocks	DIMM so down fo	ocket r the lower cap	pability of memory		<ul> <li>Optional dust filter</li> <li>M625 Tiny only:</li> <li>7.05" W X 7.20" D X 1.36" H</li> <li>179mm W X 182.9mm D X 34.5mm H</li> </ul>
Disk	Some: SATA 6.0 Some: 128GB N Some: 256GB N	1.2 Solid	State Drive (SS	SD) / PC	le NVMe interl	face face	VESA mount Floor Stand	2.9 lb (1.3 kg), weight may vary by configuration Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation
Optical Onboard SATA Media reader	None one SATA 6.0Gb/ None	/s conne	ctor on planar				Power supply	Some: 65 watts adapter, autosensing, 88% PSU (not included for TIO models) Some: 135 watts adapter, autosensing, 89% PSU
Graphics	AMD Radeon™ (					rectX <sup>®</sup> 12, two DisplayPort Alternate	Limited warranty <sup>3</sup>	Some: 1-year, depot service / service upgrades available Some: 1-year, limited onsite service / service upgrades available
Monitor cable	Mode), supports Max resolution: 3	up to 2 i 8840x216 8840x216	ndependent dis 60 (DP)@60Hz; 60 (USB 2.0 Typ	plays; 2048x12 e-C)@6	280 (VGA)@6 0Hz	0Hz;	Preload	Preloaded operating system  Some: Windows® 10 Pro 64-bit  Some: Windows 7 Professional 64 preinstalled through downgrade  Preloaded applications (only some listed)  - Windows 10 only  Lenovo Vantage
Chipset	AMD SoC platfo		O DVI D (Sirigic	, iii ik), Oi	DI TOTIDIVII	1.4 dongle		rights in Windows 10 Pro 64-bit   LinkedIn
Front ports*			is Always On ar	nd fast ch	narge), one mi	crophone (3.5mm),		<ul> <li>Microsoft Office preloaded; purchase a product key to activate</li> </ul>
Rear ports*	one headphone / One USB 3.1 Ge two optional port Alternate Mode),	/ microph n1, three s (Port 1 Port 2 fo	none combo jack e USB 2.0, ethe for VGA / serial or serial)	k (3.5mn rnet (RJ I / USB 2	n) -45), two Disp 2.0 Type-C (wit	layPort,		<ul> <li>Windows 7 only</li> <li>Lenovo Solution Center</li> <li>Lenovo System Update</li> <li>Factory Recovery</li> <li>User Guide Viewer</li> </ul>
I/O box	None					·		Microsoft Office preloaded;  purphase a preduct key to activate.
Audio support						speaker (1.5 watt)		purchase a product key to activate  • Adobe® Reader®
WLAN <sup>13</sup>	Some: 11ac wire	Bluetooth eless, M.	4.2* combo ad 2 Card, Qualco	apter, 2x mm Athe	(2 eros QCA6174	,,	Environment	ENERGY STAR® 7.0 <sup>⋆</sup> , EPEAT™ Gold rating (with 135W adapter) or EPEAT™ Silver rating (with 65W), ErP Lot 3, RoHS-compliant, WEEE, TCO
Bluetooth™	Some: Bluetooth * Win 10 RS3 and	า 4.2* wi d Win10	earlier version	ed in Wi-l only sup	Fi + BT combo port Bluetooth	adapter 4.1	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar Radiation)
Ethernet Modem	Gigabit ethernet, None	неапек	RIL8111HN, V	vake on	LAN®		Accessories	For compatible accessories, please go to http://smartfind.lenovo.com
Manageability Security chip Security features	None Discrete TPM 2.0 Security slot (in Kensington® M Smart USB promouse only, bloen Power-on pass	rear for icroSave otection, ocks all s	optional r® cable) allows keyboard	<ul> <li>Har</li> <li>Boo</li> <li>Boo</li> <li>Indi</li> </ul>		ord ontrol ooard and mouse ort disablement		























# ThinkCentre M625 Tiny Thin Client Platform Specifications

Processor	AMD E2 series A	ŀPU					Keyboard	Some: Fullsize USB Keyboard (USB connector), black, Lenovo logo
	APU	Carra	Frequency	L2	Memory	Integrated	Mouse	Some: USB Optical Wheel Mouse, black, Lenovo logo
	APU	Cores	Base/Max	Cache	Support (Up to)	Graphics	Mechanical	Tiny (1L), fan-less design, black color, metal case  Toolless chassis open (for models with optional toolless chassis screw)
	E2-9000e	2	1.5 / 2.0 GHz	1 MB	DDR4-1866	Radeon R2 Series		Toolless SSD, memory, Wi-Fi removal
	E2-9120e	2	1.5 / 2.2 GHz	1 MB	DDR4-1866	Radeon R3 Series	_	M625 Tiny Thin Client only: 7.05" W X 7.20" D X 1.36" H
Memory	controller in proce	ncy autor essor	natically clocks	down fo	r the lower cap	pability of memory	VESA mount	179mm W X 182.9mm D X 34.5mm H 2.9 lb (1.3 kg), weight may vary by configuration Optional VESA mount bracket kit, supports VESA 75mm and 100mm
Disk	Some: 32GB M.: Some: 128GB M					face	Floor Stand Power supply	Optional system floor stand for vertical orientation  65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)
Optical Onboard SATA Media reader	None one SATA 6.0Gb/ None		`	,,,,,	ie ivvivie iiiteri	acc	Limited warranty <sup>3</sup>	,
Graphics	AMD Radeon™ ( DisplayPort™, on Mode), supports Max resolution: 3	e option up to 2 i 840x216	al port (VGA or ndependent dis 30 (DP)@60Hz;	USB 2.0 plays; 2048x1;	) Type-C with [ 280 (VGA)@6	DisplayPort Alternate	Preload	Preloaded operating system  Some: Windows Embedded Standard 7 V2 (WES 7 V2)  Some: Windows 10 IoT Enterprise  Some: LeTOS V2 (Lenovo Terminal Operating System, Linux-based)
Monitor cable	Optional DP to V	GA, DP	60 (USB 2.0 Typ to DVI-D (single			I.4 dongle	Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*Not for non-OS models), ErP Lot 3, RoHS-compliant, WEEE, TCO
Chipset	AMD SoC platfo						MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock,
Front ports*	Two USB 3.1 Ger one headphone /	n1 (one	is Always On ar	nd fast cl k (3 5mn	narge), one mi	crophone (3.5mm),		Fungus, Solar Radiation)
Rear ports*	One USB 3.1 Getwo optional ports Alternate Mode),	n1, three s (Port 1 Port 2 fo	e USB 2.0, ethe for VGA / seria or serial)	rnet (RJ I / USB 2	-45), two Disp 2.0 Type-C (wit	th DisplayPort	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com
I/O box	None None	ny factors	, actual data trans	ster speed	may be lower t	han theoretical speed		
Audio support	High Definition (F	HD) Audi	o, Realtek ALC	233-VB2	2-CG / internal	speaker (1.5 watt)		
WLAN <sup>13</sup>	Some: 11ac wire Wi-Fi + B Some: 11ac wire Wi-Fi + B Some: 11ac wire Wi-Fi + B Some: 11ac wire Wi-Fi + B	Bluetooth eless, M. Bluetooth eless, M. Bluetooth eless, M. Bluetooth	4.2* combo ad 2 Card, Qualco 4.2* combo ad 2 Card, Realtel 4.2* combo ad 2 Card, Qualco 4.2* combo ad 2 Card, Intel W 5.0 combo ada	apter, 1) mm Athe apter, 1) c RTL882 apter, 2) mm Athe apter, 2) ireless-A	c1 eros QCA9377 c1 22BE (dual ba c2 eros QCA6174 c2 cC 9260 (dual	7 (dual band), nd), IA (dual band), band),		
Bluetooth™	Some: Bluetooth * Win 10 RS3 and	า 4.2/5.0 d Win10	* wireless, integ earlier version	rated in only sup	Wi-Fi + BT co port Bluetooth	mbo adapter 4.1		
Ethernet Modem	Gigabit ethernet, None	Realtek	RTL8111HN, V	Vake on	LAN®			
Manageability Security chip Security features	None Discrete TPM 2.0  Security slot (in Kensington® Mi Smart USB pro mouse only, blo Power-on passo	rear for icroSave tection, ocks all s	optional r® cable) allows keyboard	<ul> <li>Har</li> <li>Boo</li> <li>Boo</li> <li>Indi</li> </ul>	ministrator pas d disk passwo ot sequence co ot without keyb vidual USB po assis intrusion	ord ontrol ooard and mouse ort disablement		

















#### ThinkCentre M630e Tiny Platform Specifications

Processor	Intel® Pentium®, or 8th	n Generat	tion Intel Core™ i	i3 / i5 Pı	ocessor		Security chip	None				
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	Security features		•	•	•	
	Pentium Gold 5405U	Threads 2 / 4	Base/Max(GHz) 2.3G	2 MB	(Up to) DDR4-2133	Graphics UHD 610				ar for optional Saver® cable)	<ul><li>Boot sequence cont</li><li>Boot without keyboa</li></ul>	
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2100	UHD 620			sis intrusion s		Individual USB port	
	Core i5-8265U	4/8	1.6G / 3.9G	6 MB	DDR4-2400	UHD 620			r-on password		<ul> <li>Smart USB protection</li> </ul>	on, allows keyboard/
				<u> </u>		0110 020	<u> </u>	Admir	nistrator pass disk passwor	word	mouse only, blocks a	all storage devices
Memory	16GB max, DDR4-26 * System automatical	66*, one 2 ly clocks (	260-pin SO-DIMI down for the prod	M socke cessors	ts, non-ECC with lower memo	ory controlle	Kevboard		<u> </u>		(USB connector), black	
Storage	Some: Hard Drive / S						Mouse	Some: Lenovo Calliope Mouse (USB connector), black				
Onboard SATA	Some: Solid State Di Some: M.2 SSD (228 Some: M.2 SSD (224 One onboard SATA 6.	30) /`PCle 12) / PCle	NVMe, PCIe 3.0 NVMe, PCIe 3.0	Ó x 4, 32			Mechanical	<ul> <li>Óptio</li> </ul>	_), black color nal dust filter 2.5" bay for Hl	•	M.2 slots (one for WLAN, or	ne for M.2 SSD)
Graphics	Intel HD Graphics 61			main m	omory DiroctY® :	12 000	1			Dime	ensions (WxDxH)	Weight (Approx.)
Graphics	DisplayPort™, one HE					12, 0116		Tiny on	lv	7.0" X 7.2" X	1.4" (1.5" with rubber feet)	2.91 lb (1.32 kg),
Monitor cable	Max resolution: 4096x Optional DP to VGA	(2304 DF	P)@60Hz; 4096x	2304 (H			\/F0 A					vary by config
Chipset	Intel SoC (System of	n Chip) p	latform				VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation				
Front ports* (Std.	) One USB 3.1 Gen1, c	ne USB :	3.1 Type-C Gen	1, one n	nicrophone (3.5m	nm),	1	Optiona 4 1	ıl system flooi	r stand for vert	ical orientation	
	one headphone / mici					,	Power supply	Some:	65 watts adap	oter, autosensi	ing, 88% PSU	
Rear ports* (Std. Rear ports* (Opt.	) Two USB 3.1 Gen1, tv ) None	WO USB 2	2.0, one etnernet	(HJ-45)	, one DisplayPor	t, one HDIVII	Limited warranty		1-year, depo	ot service / se	ervice upgrades available	
	* Depending on many fac	ctors, actua	al data transfer spe	ed may b	e lower than theore	etical speed		Some: 1-year, limited onsite service / service upgrades available				
Audio support	Realtek ALC233VB /	internal s	peaker (1.5 watt)	)			Preload		ded operating			
WLAN	Some: 11ac wireless				dual band),				Windows® 10	0 Pro 64-bit Home 64-bit		
			ombo adapter, 1		(al a l la a . a al)					ons (only son	ne listed)	
	Some: 11ac wireless Wi-Fi + Blueto		ombo adapter, 2		(duai band),				vo Vantage			
	Some: 11ac wireless				ess-AC 3165,				soft Office produc		to	
	Wi-Fi + Blueto	oth 4.2 c	ombo adapter, 1	x1			purchase a product key to activate  LinkedIn					
	Some: 11ac wireless		d, Intel Dual Bar ombo adapter, 2		ess-AC 8265,		Environment				RoHS-compliant	
Bluetooth	Some: Bluetooth 4.2				combo adapter		Liviloriiiion		REACH	, Li Li II Oliv	-c. ramig, Err Lot 6, 100, 1	torio compilarit,
Ethernet	Gigabit ethernet, Rea						MIL-SPEC test MIL-STD-810G (Low Pressure [Altitude], High Temperature, Low Temperature			ow Temperature,		
Ethernet (Opt.)	None						1	Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar				k, Fungus, Solar
Manageability	None							Radiation)				
							Accessories	For con	npatible acces	ssories, please	go to http://smartfind.len	ovo.com
ALL TILL CO		91.1.1										Lamarra Amril 0000















### ThinkCentre M70q Platform Specifications

Processor Celeron G5900T	Cores / Threads	Frequency			ocessor	Tale and a s				nbo adapter
Coloron CE000T	Tilleaus	Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Ethernet (Opt.)	None	el Ethernet Conne	ction I219-V(Jacksonville	e), Wake on LAN®
	2/2	3.2G	2 MB	DDR4-2666	UHD 610	Manageability	None			
Pentium Gold G6400T	2/4	3.4G	4 MB	DDR4-2666	UHD 610	Security chip	Discrete TPM 2.0, TO	CG Certified		
Pentium Gold G6500T	2/4	3.5G	4 MB	DDR4-2666	UHD 630	Security features	Security slot (in real	ar for optional	Boot sequence cont	
Core i3-10100T	4/8	3.0G / 3.8G	6 MB	DDR4-2666	UHD 630		<ul> <li>Kensington® Micro</li> <li>Chassis intrusion s</li> </ul>		<ul><li>Boot without keyboa</li><li>Individual USB port</li></ul>	
Core i3-10300T	4/8	3.0G / 3.9G	8 MB	DDR4-2666	UHD 630		Power-on passwor		Smart USB protection	
Core i5-10400T	6/12	2.0G / 3.6G	12 MB	DDR4-2666	UHD 630		<ul> <li>Administrator pass</li> </ul>	word	mouse only, blocks a	
Core i5-10500T	6/12	2.3G / 3.8G	12 MB	DDR4-2666	UHD 630		<ul> <li>Hard disk passwor</li> </ul>	d		
Core i5-10600T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calli	ope Keyboard (US	B connector), black	
Core i7-10700T	8/16	2.0G / 4.5G	16 MB	DDR4-2933	UHD 630		Some: Lenovo Tradi	tional Keyboard (L	JSB connector), black	un na i va vi
Core i9-10900T	10 / 20	1.9G / 4.6G	20 MB	DDR4-2933	UHD 630	Mouse	Some: Lenovo Calli Some: Lenovo Calli	ope Wireless Keyb	ooard (2.4GHz via USB	receiver), black
* Max freguency may refe Technology 3.0 / Intel The	ermal Velo	city Boost, and add	opt the ma	ax one of them		Modoo	Some: Lenovo Fina	erprint Mouse (US	BB connector), Windows se (2.4GHz via USB rec	Hello support, black eiver), black
64GB max, DDR4-320 * System automatical	y clocks o	down for the pro-				Mechanical	Tiny (1L), black color	r; metal case	ne for WLAN, one for M.	
Support up to 1x 2.5"	HDD + 1:	x M.2 SSD	w 100 100					,	ions (WxDxH)	· · · · · · · · · · · · · · · · · · ·
Some: Hard Drive / S Some: M.2 SSD (224	AIA 6.00 2 / 2280)	1D/S, 2.5", 7200   PCIe NVMe F	rpm PCIe 3.0	x2 or PCIe 3.0 x	4		Tiny only		' (1.5" with rubber feet)	Weight (Approx.)
Some: Intel Optane™ Some: DVD-ROM, sli	Memorý m (9.0mr	M10, M.2 2280 n), via USB exte	, PCIe 3. ernal OD	0 x2 D box			Tiny only	179mm X 183m	nm X 34.5mm (37mm rubber feet)	2.76 lb (1.25 kg), vary by config
Some: DVD Burner (I One onboard SATA 6.			via USE	3 external ODD b	ox		With VESA mount & ODD box	8.04" X	7.35" X 2.52" 186.6mm X 64mm	3.84 lb (1.74 kg), vary by config
Intel HD Graphics 61 DisplayPort™, one HD independent displays; Max resolution: 4096x 4096x Optional DP to VGA d HDMI 1.4 dongle	MI, more 2304 (DF 2160 (HE	video ports ava P)@60Hz; 4096x DMI)@24Hz; 204	iilable vii (2304 (T 18x1536	a optional ports, ( ype-C)@60Hz; (VGA)@50Hz	up to 3	VESA mount Floor Stand Dust filter EOU design	Optional system floo Optional dust filter Toolless chassis ope and memory assemb	ess chassis open (need optional toolless chassis screw), toolless F nemory assembly / removal		
Intel H470 Chipset						Power supply	Some: 90 watts AC/	DC adapter, autos	ensing, 89% PSU (spec	cial bid only)
one USB 3.2 Gen 2 (A	Alwavs Or	and fast charge	e). one l	JSB 3.2 Type-C (	Gen 1.	1	Some: 135 watts AC	C/DC adapter, auto	sensing, 89% PSU	
one headphone / micr 1x USB 3.2 Gen 2, 3x	ophone o	ombo jack (3.5n	nm)	•		Limited warranty	Some: 1-year, dep Some: 1-year or 3-	ot service / service year, limited onsi	ce upgrades available ite service / service upg	grades available
Iwo optional ports:						Preload				
Position VGA / 2nd	d DP / 2n	d HDMI / USB	Port 2				Some: Windows 10 Windows 10	0 Pro 64-bit Home 64-bit		
parts 3.2 Type-C	/ Seria	al		(Available at	end of July)	Environment	TCO 8.0 (coming so			
					encai speed	MIL SDEC toot	·	ary cortification /	Droccure [Altitude]	ligh Tomporatura
Some: 11ac wireless	, M.2 Car	d, Realtek RTL8	822CE	<i>'</i>		MIL-SPEC lest	Low Temperature, Te	mperature Shock,		
Some: 11ac wireless. Wi-Fi + Blueto Some: 11ac wireless. Wi-Fi + Blueto Some: 11ax wireless.	, M.2 Car ooth 5.0 c , M.2 Car ooth 5.0 c . M.2 Car	d, Intel Wireless ombo adapter, 1 d, Intel Wireless ombo adapter, 2 d. Intel Wi-Fi 6 <i>A</i>	-AC 946 x1 (spec -AC 956 x2 X201 (c	cial bid only) (0 (dual band),		Accessories			to http://smartfind.len	ovo.com
	ritel H470 Chipset  In Element Some:    Note	ritel H470 Chipset  In Element Salant Street  In Element Stre	Intel H470 Chipset  Inne USB 3.2 Gen 2 (Always On and fast chargone headphone / microphone combo jack (3.5r 1x USB 3.2 Gen 2, 3x USB 3.2 Gen 1, 1x ether five optional ports:    Position	Intel H470 Chipset  Intel H470 Chipset  Inne USB 3.2 Gen 2 (Always On and fast charge), one Use headphone / microphone combo jack (3.5mm)  Ix USB 3.2 Gen 2, 3x USB 3.2 Gen 1, 1x ethernet (RJ-Two optional ports:    Position	Intel H470 Chipset  Intel	Intel H470 Chipset  Intel	Intel H470 Chipset  Intel Warranty  Intel H470 Chipset  Intel H470	Intel H470 Chipset  Intel	Intel H470 Chipset  Intel	Intel H470 Chipset  Intel













## ThinkCentre M715 Tiny (2<sup>nd</sup> Gen) Platform Specifications

Processor	AMD Athlon, A6, A1	0, A12,	or Ryzen pro	cessor			Security features	Security slot (in real		Administrator pas	ssword	
	Processor	Cores / Threads	Frequency Base/Max	L2 / L3 Cache	Memory Support (Up to)	Integrated Graphics			tion, allows keyboard/		ontrol board and mouse	
	Athlon 200GE	2/4	3.2 GHz	1 MB / 4MB	DDR4-2666	Radeon Vega 3			all storage devices	Individual USB p		
	Athlon PRO 200GE	2/4	3.2 GHz	1 MB / 4MB	DDR4-2666	Radeon Vega 3		Power-on passwor		Chassis intrusion	1 SWITCH	
	PRO A6-8570E	2/2	3.0 / 3.4 GHz	1 MB / -	DDR4-2400	Radeon R5	Keyboard		ope Keyboard (USB o itional Keyboard (USE			
	PRO A10-8770E	4/4	2.8 / 3.5 GHz	2 MB / -	DDR4-2400	Radeon R7		Some: Lenovo Tradi	ope Wireless Keyboai	rd (2.4GHz via USB)	receiver), black	
	PRO A6-9500E	2/2	3.0 / 3.4 GHz	1 MB / -	DDR4-2400	Radeon R5	Mouse	Some: Lenovo Calli	ope Mouse (USB con	nector), black	,	
	PRO A10-9700E	4/4	3.0 / 3.5 GHz	2 MB / -	DDR4-2400	Radeon R7		Some: Lenovo Fina	erprint Mouse (USB o	connector). Windows	Hello support, black	
	PRO A12-9800E	4/4	3.1 / 3.8 GHz	2 MB / -	DDR4-2400	Radeon R7		Some: Lenovo Calli	ope Wireless Mouse (	(2.4GHz via USB red	eiver), black	
	Ryzen 3 2200GE	4/4	3.2 / 3.6 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 8	Mechanical	Tiny (1L), black color; metal case  Toolless chassis open (need optional toolless chassis screw)				
	Ryzen 3 PRO 2200GE	4/4	3.2 / 3.6 GHz		DDR4-2933	Radeon Vega 8		<ul> <li>Toolless chassis open (need optional toolless chassis screw)</li> <li>Optional dust filter</li> </ul>				
	Ryzen 5 2400GE	4/8	3.2 / 3.8 GHz		DDR4-2933	Radeon RX Vega 11						
	Ryzen 5 PRO 2400GE	4/8	3.2 / 3.8 GHz	2 MB / 4MB	DDR4-2933	Radeon RX Vega 11	1 Dimensions (WxDxH)				Weight (Approx.)	
Memory	32GB max, DDR4 2 * System automatics	ally cloc	ks down for th	ne lower me	emory contro	oller		Tiny only	7.0" X 7.2" X 1.4" (1. 179mm X 183mm ) with rubb	X 34.5mm (37mm )	2.91 lb (1.32 kg), vary by config	
Disk	Some: Hard Drive / Some: Solid State   Some: M.2 SSD / F	Drive (S	SD) / SATA 6	.0Gb/s, 2.5'	'			With VESA mount & ODD box	7.42" X 7.3 188.4mm X 185.		3.66 lb (1.66 kg), vary by config	
Optical	* 128GB SSD M.2 (X Some: DVD-ROM.	2242) P 9.0mm l	Cle NVMe on nigh, via USB	lly supports external O	PCle 3.0 x DD box	2, 16Gb/s	VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation				
Onboard SATA	Some: DVD±RW, 9 One SATA cable (1-	drop to	gn, via USB ( device), one S	external OL SATA 6.0Gb	סס טוע s connectol/s	or on planar	Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models				
Graphics	AMD Radeon™ Gra						Limited warranty	1-year or 3-year, limi	ear, limited onsite service / service upgrades available			
Monitor cable	DisplayPort™, one of displays (supports in port or DP to DVI/HI Max resolution: 4090 Optional DP to VGA	naximun DMI don 6x2160 0x1200	n of 2 concurr gles, and Ath (DP)@60Hz; (VGA)@60Hz	rent HDMI/I Ilon / Athlor 4096x2160 z	OVI displays PRO only (HDMI)@3	when using HDMI support 2 displays); 0Hz;	Preload		) Pro 64-bit I Home 64-bit Professional 64 hrough downgrade	Preloaded applicati listed) - WIndows 10 only • Lenovo Vantage • Microsoft Office pr	eloaded;	
Chipset	AMD B300 Chipset		2. 10 2 1. 2	acrigic, cr	2. 10.1.2	uog.o	1	rights in wind	dows 10 Pro 64-bit	<ul><li>purchase a product</li><li>Cyberlink PowerD\</li></ul>	/D (only for models	
	.) Two USB 3.1 Gen1	(one is /	Always On an	nd fast char	ge), one mic	crophone (stereo,				<ul><li>with DVD / DVD±R</li><li>Cyberlink Power20</li></ul>	(W)	
Rear ports* (Std.	3.5mm), one headphone / microphone combo jack (stereo, 3.5mm)  One USB 3.1 Gen1 and three USB 2.0, ethernet (RJ-45), two DisplayPort, one headphoneone									with DVD±RW)  ■ LinkedIn		
Rear ports* (Opt.	) One optional port (V * Depending on many ** Not support VGA, 3r	actors, a d DP, HD	ctual data trans MI for the mode	sfer speed ma els with Athlo	ay be lower th n / Athlon PR	an theoretical speed				<ul> <li>Windows 7 only</li> <li>Lenovo Solution C</li> <li>ThinkVantage Syst</li> <li>Create Recovery N</li> </ul>	tem Update Media	
Audio support	High Definition (HD)	Audio,	Realtek ALC	233-VB2 / ir	nternal spea	ıker (1.5 watt)			•	Microsoft Office produced to the second control of the second		
WLAN	Some: 11ac wireles Wi-Fi + Blue	tooth 4.	2* combo ada	apter, 1x1	`	•				<ul> <li>purchase a produc</li> <li>Adobe® Reader®</li> </ul>		
	Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377 (dual band), Wi-Fi + Bluetooth 4.2* combo adapter, 1x1						Environment	ENERGY STAR® 7.0 ErP Lot 3; ; RoHS-co	)*, EPEAT™ Silver rati ompliant	ing* (*Not for non-OS	S models);	
	Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), Wi-Fi + Bluetooth 4.2* combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band),						MIL-SPEC test	MIL-STD-810G milita Low Temperature, Te	ary certification (Low emperature Shock, Hu	Pressure [Altitude], Fundation in the property of the property	High Temperature, st, Vibration, Shock)	
Bluetooth Ethernet	Wi-Fi + Bluetooth 4.2* combo adapter, 2x2  Some: Bluetooth 4.2* wireless, integrated in Wi-Fi + BT combo adapter  * Hardware supports BT 4.2, but Win10 RS3 and earlier only supports BT 4.1  Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN®						Accessories		ssories, please go to			
Manageability Security chip	DASH 1.0/1.1 Discrete TPM 2.0, TCG Certified											
	•											













### ThinkCentre M715 Tiny Thin Client (2<sup>nd</sup> Gen) Platform Specifications

Processor	AMD Athlon, A6, A10	0, or Ryz	en processoi	•			Keyboard	Some: Lenovo Calli	iope Keyboard (USB connector), black			
	APU	Cores / Threads	Frequency Base/Max	L2 / L3 Cache	Memory Sup- port (Up to)	Integrated Graphics	Mouse	Some: Lenovo Calli	itional Keyboard (USB connector), black iope Wireless Keyboard (2.4GHz via USB iope Mouse (USB connector), black	receiver), black		
	Athlon PRO 200GE	2/4	3.2 GHz	1 MB / 4MB	DDR4-2666	Radeon Vega 3		Some: Lenovo Fina	erprint Mouse (USB connector), Windows ope Wireless Mouse (2.4GHz via USB red	Hello support, black		
	PRO A6-8570E	2/2	3.0 / 3.4 GHz	1 MB / -	DDR4-2400	Radeon R5	Manhaniani	1	· · · · · · · · · · · · · · · · · · ·	eivei), black		
	PRO A10-8770E Ryzen 3 PRO 2200GE	4/4	2.8 / 3.5 GHz 3.2 / 3.6 GHz	2 MB / -	DDR4-2400 DDR4-2933	Radeon R7 Radeon Vega 8	Mechanical	Tiny (1L), black colo • Toolless chassis o	r; metal case pen (need optional toolless chassis screw	)		
Memory	8GB max, DDR4 266				<u> </u>			<ul> <li>Optional dust filter</li> </ul>		•		
Memory	* System automatica								Dimensions (WxDxH)	Weight (Approx.)		
Disk Optical	Some: 32GB M.2 Some: 128GB M.2 Some: None					.0 x 2		Tiny only	7.0" X 7.2" X 1.4" (1.5" with rubber feet) 179mm X 183mm X 34.5mm (37mm with rubber feet)	2.91 lb (1.32 kg), vary by config		
Onboard SATA	One SATA cable (1-c		,,				VESA mount Floor Stand		nt bracket kit, supports VESA 75mm and 1	I00mm		
Graphics	AMD Radeon™ Gra DisplayPort™, one on	<b>pnics</b> in otional po	processor, u ort (HDMI, VC	ses maın m 3A. or 3rd D	emory, Direc P). supports	ctX° 12, two s 3 independent				I for TIO madala)		
	displays (supports m	aximum	of 2 concurre	ent HDMI/D'	VI displays v	vhen using HDMI	Power supply		opter, autosensing, 88% PSU (not included	,		
	port or DP to DVI/HD Max resolution: 4096						Limited warranty Preload		ited onsite service / service upgrades avai	lable		
Monitor cable		)x1200 (\	/GA)@60Hz		,	,	Fieldau	Preloaded operating system  Some: Windows Embedded Standard 7 V2 (WES 7 V2)  Some: Windows 10 IoT Enterprise				
Chipset	AMD B300 Chipset			<u> </u>					Lenovo Terminal Operating System, Linux-	-based)		
Front ports* (Std.)	Two USB 3.1 Gen1 ( 3.5mm), one headph						Environment	ENERGY STAR® 7.0 ErP Lot 3; RoHS-cor	D*, EPEAT™ Silver rating* (*not for non-OS mpliant	models);		
. , ,	One USB 3.1 Gen1 a one headphoneone	and three	e USB 2.0, et	hernet (RJ-	45), two Dis	playPort,	MIL-SPEC test	MIL-STD-810G milita Low Temperature, Te	ary certification (Low Pressure [Altitude], Femperature Shock, Humidity, Sand and Du	High Temperature, ist. Vibration. Shock)		
Rear ports* (Opt.)	) One optional port (Vo * Depending on many fa ** Not support VGA, 3rd	actors, act	ual data transf	er speed may	be lower than	theoretical speed	Accessories	·	ssories, please go to http://smartfind.len	· · · · · · · · · · · · · · · · · · ·		
Audio support	High Definition (HD)	Audio, R	ealtek ALC2	33-VB2 / int	ernal speak	er (1.5 watt)						
WLAN  Bluetooth Ethernet	Some: 11ac wireless Wi-Fi + Bluer Some: 11ac wireles Wi-Fi + Bluer Some: 11ac wireles Wi-Fi + Bluer Some: 11ac wireles Wi-Fi + Bluer Some: Bluetooth 4.2 * Hardware supports Gigabit ethernet, Res	tooth 4.2 s, M.2 Ca tooth 4.2 s, M.2 Ca tooth 4.2 s, M.2 Ca tooth 4.2 2* wireles	* combo ada ard, Qualcom * combo ada ard, Realtek * combo ada ard, Qualcom * combo ada ss, integrated but Win10 R	pter, 1x1 nm Atheros pter, 1x1 RTL8822BE pter, 2x2 nm Atheros pter, 2x2 i in Wi-Fi + I S3 and earl	QCA9377 (c E (dual band QCA6174A BT combo a ier only supp	dual band), ), (dual band),						
Manageability Security chip	DASH 1.0/1.1 Discrete TPM 2.0, TO	CG Certif	fied									
Security features	Security slot (in reakensington® Micros     Padlock loop     Smart USB protect mouse only, blocks     Power-on passwor	Saver® cation, allow all stora	able) ws keyboard/ ge devices	<ul><li>Hard dis</li><li>Boot see</li><li>Boot wit</li><li>Individue</li><li>Chassis</li></ul>		rol Ird and mouse disablement				Langua Andil 2000		













#### ThinkCentre M720 Tiny Platform Specifications

Processor	Intel® Celeron®, Intel F	Pentium®	or 8th / 9th Gen	Intel Co	re™ i3 / i5 / i7 /	i9 Processor	Manageability	None			
1 10003301		Cores /	Frequency		Memory Support		Security chip	Discrete TPM 2.0, TO	G Certified		
	Processor	Threads	Base/Max(GHz)	Cache	(Up to)	Graphics	Security features	• Security slot (in rea	r for optional	Boot sequence cont	rol
	Celeron G4900T	2/2	2.9G	2 MB	DDR4-2400	UHD 610		Kensington® Micro	Saver® cable)	<ul> <li>Boot without keyboa</li> </ul>	
	Pentium Gold G5400T	2/4	3.1G	4 MB	DDR4-2400	UHD 610		Chassis intrusion s		<ul><li>Individual USB port</li><li>Smart USB protection</li></ul>	
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400	UHD 630		<ul><li>Power-on password</li><li>Administrator password</li></ul>		mouse only, blocks a	
	Core i3-8100T	4/4	3.1G	6 MB	DDR4-2400	UHD 630		Hard disk password		modeo omy, biooko e	an otorago aovicoo
	Core i3-8300T	4/4	3.2G	8 MB	DDR4-2400	UHD 630	Keyboard	Some: Lenovo Callic	ppe Keyboard (U	SB connector), black	
	Core i5-8400T	6/6	1.7G / 3.3G	9 MB	DDR4-2666	UHD 630		Some: Lenovo Tradit	ional Kevboard (	USB connector), black	
	Core i5-8500T	6/6	2.1G / 3.5G	9 MB	DDR4-2666	UHD 630	Mauaa	Some: Lenovo Callio	pe Wireless Key	board (2.4GHz via USB	receiver), black
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Callid	pe Mouse (USB	connector), black SB connector), Windows	Hollo support black
	Core i7-8700T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630		Some: Lenovo Callic	ope Wireless Mou	use (2.4GHz via USB red	ceiver). black
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB	DDR4-2400	UHD 630			·	200 (2.1.0.1.2 1.0.002 1.0.0	,,
	Core i3-9300T	4/4	3.2G / 3.8G	8 MB	DDR4-2400	UHD 630	INECHANICAL	Tiny (1L), black color  Toolless chassis on	, metal case en (need option:	al toolless chassis screw	)
	Core i5-9400T	6/6	1.8G / 3.4G	9 MB	DDR4-2666	UHD 630		Toolless HDD, SSD	, memory remov	al	,
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630		<ul> <li>Optional dust filter</li> </ul>			
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630		one 2.5" bay for HDD	/SSD, one PCIe	3.0 x8 slot (low-profile), i D/SSD and PCIe card ar	two M.2 slots (one
	Core i7-9700T	8/8	2.0G / 4.3G	12 MB	DDR4-2666	UHD 630		IOI VVLAIN, OHE IOI IVI.	2 33D), 2.5 ND	D/33D and Pole card at	e mulually exclusive
	Core i9-9900T	8 / 16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630				sions (WxDxH)	Weight (Approx.)
Memory	32GB max, DDR4-26dual-channel capable * System automaticall	•	·			ory controller		Tiny only	179mm X 183r	I" (1.5" with rubber feet) mm X 34.5mm (37mm rubber feet)	2.91 lb (1.32 kg), vary by config
Storage	Some: Hard Drive / S Some: Solid State Dr	rive (SSD	) / SATA 6.0Gb/s	, 2.5"	200 rpm	•		With VESA mount & ODD box		( 7.30" X 2.48" 185.38mm X 63mm	3.66 lb (1.66 kg), vary by config
	Some: M.2 SSD / PC * 128GB SSD M.2 (22 Some: Intel Optane™	242) PCIe	NVMe only sup	ports PC			VESA mount Floor Stand	Optional VESA moun Optional system floor	t bracket kit, sup	ports VESA 75mm and 1	I00mm
Optical	Some: DVD-ROM, sli	im (9.0mr	n). via USB exte	rnal ODI	D box	01), 101.2	Power supply	Some: 65 watts AC/I			
Onboard SATA	Some: DVD Burner (One onboard SATA 6.	0Gb/s co	nnector					Some: 90 watts AC/L Some: 135 watts AC/L	DC adapter, auto	sensing, 88% PSU	
Graphics	Intel HD Graphics 61 DisplayPort™, one HD	OMI, one o	optional video po	ort (2nd F	HDMI, VGA, 2nd	I DP,	Limited warranty	Some: 1-year or 3-y Some: 1-year or 3-y	/ear, depot serv /ear, limited ons	rice / service upgrades a site service / service up	vailable grades available
	or USB 3.1 Type-C Ge Max resolution: 4096x 4096x	(2304 (DF		2304 (Ty	/pe-C)@60Hz;		Preload	Preloaded operating Some: Windows® 10	Pro 64-bit		
Monitor cable	Optional DP to VGA d Display with intel integ	longle,`DF	P to DVI-D dongl	e, DP to	dual DP dongle			Some: Windows 10 Preloaded application • Lenovo Vantage	Home 64-bit ons (only some	listed)	
Chipset	Intel B360 Chipset						]	<ul> <li>Microsoft Office pre</li> </ul>	eloaded:		
Rear ports* (Std.)	one USB 3.1 Gen1 (A one microphone (3.5n 2x USB 3.1 Gen2, 2x Two optional ports (m	nm), one USB 3.1 utually ex	headphone / mid Gen1, 1x ethern clusive with PCI	crophone et (RJ-4 e card):	e combo jack (3. 5), 1x DisplayPo Port 1 for VGA	5mm) ort, 1x HDMI / 2nd DP /		purchase a produc  Cyberlink PowerDV  Cyberlink Power2G  LinkedIn	t key to activate /D (only for mode GO (only for mode	, 	
	2nd HDMI / serial / US Optional ports via PC PCle x1	le card: 2	x USB 3.1 Gen1	via PCI	e x1, 4x serial (9	9-pin) via	Environment	ENERGY STAR® 7.0 rating (with 65W/90W some models), RoHS	/ adapter), ErP L	rating (with 135W adapte ot 3, TCO, TUV ultra low	r) or EPEAT™ Silvei noise verified (on
	* Depending on many fac					etical speed	MIL-SPEC test	MIL-STD-810G milita	ry certification (L	ow Pressure [Altitude], I	High Temperature,
Audio support	Realtek ALC233VB2	optional	internal speaker	(1.5 wa	tt or 2 watt)					k, Humidity, Sand and Du	st, Vibration, Shock
WLAN	Some: 11ac wireless Wi-Fi + Blueto Some: 11ac wireless Wi-Fi + Blueto Some: 11ac wireless	ooth 4.2 c , M.2 Car ooth 4.2 c , M.2 Car ooth 4.2 c , M.2 Car	ombo adapter, 1 d, Realtek RTL8 ombo adapter, 2 d, Intel Dual Bar ombo adapter, 1 d, Intel Dual Bar	x1 822BE ( x2 nd Wirele x1 nd Wirele	dual band), ess-AC 3165,		Accessories	Fungus, Solar Radiat For compatible acces		o to <b>http://smartfind.len</b>	ovo.com
Bluetooth Ethernet Ethernet (Opt.)	WI-FI + Blueto Some: Bluetooth 4.2 Gigabit ethernet, Intel Some: Intel Ethernet	wireless, Ethernet Server Ac	Connection I21 dapter I350-T4, g	-Fi + BT 9-V (Jacl	ksonville), Wake	on LAN® 5, PCIe x4					Longvo May 202













#### ThinkCentre M75q-1 Tiny Platform Specifications

Processor	AMD Athlon, Athlon	PRO, P	yzen 3 / 5, c	r Ryzen 3 /	5 PRO serie	es processor	Manageability	DASH 1.0/1.1				
	Processor	Cores / Threads	Frequency Base/Max	L2 / L3 Cache	Memory Support (Up to)	Integrated Graphics	Security chip Security features	Security slot (in re	ar for optional • Hard disk passw			
	Athlon PRO 200GE	2/4	3.2 GHz	1 MB / 4MB	DDR4-2666	Radeon Vega 3		Kensington® Micro	Saver® cable) • Boot sequence extion, allows keyboard/ • Boot without key			
	Athlon PRO 300GE	2/4	3.4 GHz	1 MB / 4MB	DDR4-2666	Radeon Vega 3			s all storage devices • Individual USB p			
	Ryzen 3 PRO 2200GE	4/4	3.2 / 3.6 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 8		<ul> <li>Power-on passwor</li> </ul>	rd • Chassis intrusio	n switch		
	Ryzen 5 PRO 2400GE	4/8	3.2 / 3.8 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 11		<ul> <li>Administrator pass</li> </ul>				
	Ryzen 3 PRO 3200GE	4/4	3.3 / 3.8 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 8	Keyboard	Some: Lenovo Trad	itional Keyboard (USB connector), black			
	Ryzen 5 PRO 3350GE	4/8	3.3 / 3.9 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 11	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, (only available via special bid models)				
	Ryzen 5 PRO 3400GE	4/8	3.3 / 4.0 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 11	Wiodasc					
	Athlon 300GE	2/4	3.4 GHz	1 MB / 4MB	DDR4-2666	Radeon Vega 3						
	Ryzen 3 3200GE	4/4	3.3 / 3.8 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 8		Some: Lenovo Calli	iope Wireless Mouse (2.4GHz via USB re	ceiver), black		
	Ryzen 5 3350GE	4/8	3.3 / 3.9 GHz	2 MB / 4MB	DDR4-2933	Radeon RX Vega 11	Mechanical	Tiny (1L), black colo	r; metal case			
	Ryzen 5 3400GE	4/8	3.3 / 4.0 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 11		Toolless chassis open (need optional toolless chassis screw)     Toolless HDD, SSD, memory removal				
Memory	32GB max, DDR4-2 * System board suppor							<ul><li>Toolless HDD, SSI</li><li>Optional dust filter</li></ul>	D, memory removal			
	DDR4-1866, DDR4-213								Dimensions (WxDxH)	Weight (Approx.)		
Disk	Some: Hard Drive / Some: M.2 SSD (22	SATA 6 242 / 22	.0Gb/s, 2.5", 80) / PCIe N	5400 rpm c	or 7200 rpm 3.0 x2 or PC			Tiny only	7.0" X 7.2" X 1.4" (1.5" with rubber feet) 179mm X 183mm X 34.5mm (37mm	2.91 lb (1.32 kg), vary by config		
Optical	Some: DVD-ROM,								with rubber feet)			
Onboard SATA	Some: DVD±RW, 9 One SATA 6.0Gb/s of	connect	or on system	board				With VESA mount & ODD box	7.42" X 7.30" X 2.48" 188.4mm X 185.38mm X 63mm	3.66 lb (1.66 kg), vary by config		
Graphics	AMD Radeon™ Gra DisplayPort™, one H 3 independent displa	IDMI, or	ne optional po	ort (VGA, 2r	nd DP, or 2nd	d HDMI), supports	VESA mount Floor Stand		nt bracket kit, supports VESA 75mm and or stand for vertical orientation	100mm		
	when using HDMI po support 2 displays);	ort or D	P to DVI/HDN	/II dongles,	and Athlon /	Athlon PRO only	Power supply	Some: 65 watts ada Some: 135 watts ad	pter, autosensing, 88% PSU (not included lapter, autosensing, 88% PSU (not include	d for TIO models) ed for TIO models)		
	Max resolution: 4096				(HDMI)@30	OHz;	Limited warranty	1-year or 3-year, lim	ited onsite service / service upgrades ava	ilable		
Monitor cable	Optional DP to VGA HDMI 1.4 dongle	dongle,	(VGA)@60H DP to DVI-D	z ) dongle, DF	to dual DP	dongle, or DP to	Preload	Preloaded operation Some: Windows® 10	0 Pro 64-bit			
Chipset	AMD B300 Chipset						-	Some: Windows 10				
	one USB 3.1 Gen1 (		On and fact	oborgo) on	LICE 2 1 To	ma C Can 1	-	Some: Windows 10 Some: Linux Ubuntu				
Rear ports* (Std.)	one microphone (3.5 1x USB 3.1 Gen1, 3 Two optional ports: F * Depending on many f	5mm), o x USB 2 Port 1 fo	ne headphor 2.0, 1x etherr or VGA / 2nd I	ne / microph net (RJ-45), DP / 2nd HD	one combo 1x DisplayP 0MI / serial;	jack (3.5mm) ort, 1x HDMI Port 2 for serial;	Environment	ENERGY STAR® 7.1	1*, EPEAT™ Gold rating* (with 135W adap lapter); ErP Lot 3; RoHS-compliant; TUV l			
A !!				· ·		· · · · · · · · · · · · · · · · · · ·	MIL-SPEC test	MIL-STD-810H milita	ary certification (Low Pressure [Altitude],	High Temperature,		
Audio support	High Definition (HD)				· · · · · · · · · · · · · · · · · · ·	, ,	_	Low Temperature, Te	emperature Shock, Humidity, Sand and Di	ust, Vibration, Shock		
WLAN	Some: 11ac wireles Wi-Fi + Blue Some: 11ac wireles	tooth 5. ss, M.2 ( tooth 4. ss, M.2 (	0 combo ada Card, Qualco 2 combo ada Card, Intel W	opter, 2x2 mm Atheros opter, 2x2 ireless-AC 9	QCA6174	A (dual band),	Accessories	Fungus, Solar Radia For compatible acce	ation) essories, please go to <b>http://smartfind.le</b> r	novo.com		
Bluetooth Ethernet	Some: Bluetooth 4 Gigabit ethernet, Re	2 / 5.0 v altek R	0 combo ada vireless, integ TL8111EPV-0	grated in Wi CG, Wake o	-Fi + BT con n LAN®	nbo adapter				Lenovo July 202		















## ThinkCentre M80q Platform Specifications

Processor	Intel® Celeron®, Intel I			el Core™			Manageability	Intel Active Manager			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	O a a comita de la lec	adapter to enable vP	ro function through	(require choosing a vPi h wireless connection)	ro-support Wi-Fi		
	Celeron G5900T	2/2	3.2G	2 MB	DDR4-2666	UHD 610	Security chip	Discrete TPM 2.0, TO		<b>.</b>			
	Pentium Gold G6400T	2/4	3.4G	4 MB	DDR4-2666	UHD 610	Security leatures	<ul> <li>Security slot (in real Kensington® Micros</li> </ul>	ar for optional	<ul><li>Boot sequence cont</li><li>Boot without keyboa</li></ul>			
	Pentium Gold G6500T	2/4	3.5G	4 MB	DDR4-2666	UHD 630		Chassis intrusion s		Individual USB port			
	Core i3-10100T	4/8	3.0G / 3.8G	6 MB	DDR4-2666	UHD 630		Power-on passwore		Smart USB protection			
	Core i3-10300T	4/8	3.0G / 3.9G	8 MB	DDR4-2666	UHD 630		<ul> <li>Administrator pass</li> </ul>		mouse only, blocks a	all storage devices		
	Core i5-10400T	6 / 12	2.0G / 3.6G	12 MB	DDR4-2666	UHD 630		<ul> <li>Hard disk passwor</li> </ul>					
	Core i5-10500T	6 / 12	2.3G / 3.8G	12 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Callie	ope Keyboard (US	B connector), black			
	Core i5-10600T	6 / 12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630		Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), l					
	Core i7-10700T	8 / 16	2.0G / 4.5G	16 MB	DDR4-2933	UHD 630	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black					
	Core i9-10900T	10 / 20	1.9G / 4.6G	20 MB	DDR4-2933	UHD 630		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support					
	* Max freguency may ref Technology 3.0 / Intel Th					Max	- Mechanical	Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Tiny (1L), black color; metal case					
Memory	64GB max, DDR4-32 * System automatical									ne for WLAN, one for M	.2 SSD)		
Storage	Some: Hard Drive / S	SATA 6.00	ab/s. 2.5". 7200 i	mg			1		Dimensi	ons (WxDxH)	Weight (Approx.)		
Optical	Some: M.2 SSD (224 Some: Intel Optane™ Some: DVD-ROM, sl	12 / 2280) <sup>4</sup> Memory	/ PCle NVMe, F M10, M.2 2280,	Cle 3.0 PCle 3.	.0 x2	4		Tiny only	179mm X 183m	(1.5" with rubber feet) nm X 34.5mm (37mm ubber feet)	2.76 lb (1.25 kg), vary by config		
op.iou.	Some: DVD Burner (	DVD±RW	), slim (9.0mm),	via USE	3 external ODD b	ox		With VESA mount &	8 04" X	7.35" X 2.52"	3.84 lb (1.74 kg),		
Onboard SATA	One onboard SATA 6.	.0Gb/s co	nnector					ODD box		186.6mm X 64mm	vary by config		
Graphics  Monitor cable	Intel HD Graphics 61 DisplayPort™, one HE independent displays; Max resolution: 4096 4096 Optional DP to VGA	OMI, more ; <2304 (DF <2160 (HE	video ports ava P)@60Hz; 4096x DMI)@24Hz; 204	ilable vi 2304 (T 8x1536	a optional ports, ype-C)@60Hz; (VGA)@50Hz	up to 3	VESA mount Floor Stand Dust filter EOU design	Optional system floo Optional dust filter	r stand for vertical n (need optional to	orts VESA 75mm and 1 orientation colless chassis screw),			
	HDMI 1.4 dongle						Power supply	Some: 65 watts AC/			sial bid amb A		
Chipset	Intel Q470 Chipset							Some: 90 watts AC/ Some: 135 watts AC		ensing, 89% PSU (spec sensing, 89% PSU	ciai bid only)		
, , ,	* one USB 3.2 Gen 2 (/ one headphone / micr * 2x USB 3.2 Gen 2, 2x	rophone c	combo jack (3.5n	nm)	• •		Limited warranty			e upgrades available	grades available		
	* Two optional ports:	000 0.2	den i, ix eniei	1101 (110	45), IX DI , IX II	DIVII	Preload	Preloaded operating	a system				
	Position	Port 1		Port 2			]	Some: Windows® 1 Some: Windows 10	0 Pro 64-bit				
	Optional parts 3.2 Type-C	GDP / 2n Gen 1 w / Seria	d HDMI / USB ith DP function) al	Seria	Dual USB poi (Available at	rts	Environment	TCO 8.0 (coming so		Silver rating (on some ne / ultra low noise verifie			
	* Depending on many fa	ctors, actu	al data transfer spe	eed may	be lower than theor	etical speed		RoHS-compliant					
Audio support	Realtek ALC233VB /	optional ir	nternal speaker	(1.5 wat	t)		MIL-SPEC test	MIL-STD-810H milita	ary certification (Lo	ow Pressure [Altitude], F Humidity, Sand and Du	High Temperature,		
WLAN	Some: 11ac wireless				(dual band),			Fungus, Solar Radia		Humidity, Sand and Du	ist, vibration, Snock		
	Some: 11ac wireless Wi-Fi + Blueto	, M.2 Car ooth 5.0 c	ombo adapter, 2	-AC 956 x2	, , , , , , , , , , , , , , , , , , , ,		Accessories			to http://smartfind.len	ovo.com		
Bluetooth	Some: Bluetooth 5.0/	ooth 5.1 c 5.1 wirele	ombo adapter, li ess, integrated in	ntel vPro Wi-Fi +	technology sup BT combo adap	ter							
Ethernet (Opt.)	Gigabit ethernet, Intel None ations above may not be			9-LM(Ja	cksonville), Wake	e on LAN®					Lenovo, May 202		



















#### ThinkCentre M90q Platform Specifications

Processor	Intel® Celeron®, Intel F	Pentium®	or 10th Gen Inte	el Core⊺	M i3 / i5 / i7 / i9 Pr	rocessor	WLAN	Some: 11ac wireles	s, M.2 Card, Realtek RTL8822CE (dual b	and)		
1 10000001		Cores /	Frequency		Memory Support	Integrated			tooth 5.0 combo adapter, 2x2	aria),		
	Processor		Base/Max*(GHz)	Cache	(Up to)	Graphics			s, M.2 Card, Intel Wireless-AC 9560 (dua	ıl band),		
	Celeron G5900T	2/2	3.2G	2 MB	DDR4-2666	UHD 610			tooth 5.0 combo adapter, 2x2 s, M.2 Card, Intel Wi-Fi 6 AX201 (dual ba	and)		
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610			tooth 5.1 combo adapter, Intel vPro techn			
	Celeron G5920	2/2	3.5G	2 MB	DDR4-2666	UHD 610	Bluetooth	Some: Bluetooth 5.0	0/5.1 wireless, integrated in Wi-Fi + BT co	mbo adapter		
	Pentium Gold G6400T	2/4	3.4G	4 MB	DDR4-2666	UHD 610	Ethernet		el Ethernet Connection I219-LM(Jackson)	ville), Wake on LAN®		
	Pentium Gold G6500T	2/4	3.5G	4 MB	DDR4-2666	UHD 630	Ethernet (Opt.)	None				
	Pentium Gold G6400	2/4	4.0G	4 MB	DDR4-2666	UHD 610	Manageability		ment Technology 14 (Intel AMT 14);	Ora aummort M/i Fi		
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630			y on some models (require choosing a vP Pro function through wireless connection)	ro-support vvi-Fi		
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TO				
	Core i3-10100T	4/8	3.0G / 3.8G	6 MB	DDR4-2666	UHD 630	Security features	• Security slot (in rea	ar for optional    Boot sequence confi	trol		
	Core i3-10300T	4/8	3.0G / 3.9G	8 MB	DDR4-2666	UHD 630		Kensington® Micro	Saver® cable) • Boot without keyboa	ard and mouse		
	Core i5-10400T	6 / 12	2.0G / 3.6G	12 MB	DDR4-2666	UHD 630		<ul> <li>Chassis intrusion s</li> </ul>				
	Core i5-10500T	6 / 12	2.3G / 3.8G	12 MB	DDR4-2666	UHD 630		<ul><li>Power-on passwor</li><li>Administrator pass</li></ul>				
	Core i5-10600T	6 / 12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630		Hard disk passwor		all storage devices		
	Core i7-10700T	8 / 16	2.0G / 4.5G	16 MB	DDR4-2933	UHD 630	Keyboard	<u> </u>	ope Keyboard (USB connector), black			
	Core i9-10900T	10 / 20	1.9G / 4.6G	20 MB	DDR4-2933	UHD 630	Royboard		itional Keyboard (USB connector), black			
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630		Some: Lenovo Calli	ope Wireless Keyboard (2.4GHz via USB	receiver), black		
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Calli	ope Mouse (USB connector), black			
	Core i3-10320	4/8	3.8G / 4.6G	8 MB	DDR4-2666	UHD 630		Some: Lenovo Fing	me: Lenovo Fingerprint Mouse (USB connector), Windows Hello sur me: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), bla			
	Core i5-10400	6/12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), Tiny (1L), black color; metal case				
	Core i5-10500	6/12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630	Mechanical	Tiny (1L), black color	r; metal case D, three M.2 slots (one for WLAN, two for l	M 2 SSD)		
	Core i5-10600	6/12	3.3G / 4.8G	12 MB	DDR4-2666 DDR4-2933	UHD 630		One 2.5 bay for FIDE	5, three W.2 Slots (one for WEAN, two for	,		
	Core i7-10700 Core i9-10900	8 / 16 10 / 20	2.9G / 4.8G 2.8G / 5.2G	16 MB 20 MB	DDR4-2933 DDR4-2933	UHD 630 UHD 630			Dimensions (WxDxH)	Weight (Approx.)		
								Tiny only	7.0" X 7.2" X 1.4" (1.5" with rubber feet)	2.76 lb (1.25 kg),		
	* Max freguency may refe Technology 3.0 / Intel The					viax			179mm X 183mm X 34.5mm (37mm with rubber feet)	vary by config		
Memory	64GB max, DDR4-320 * System automaticall							With VESA mount & ODD box	8.04" X 7.35" X 2.52" 204.2mm X 186.6mm X 64mm	3.84 lb (1.74 kg), vary by config		
Storage	Support up to 1x 2.5" preset only available v Some: Hard Drive / S Some: M.2 SSD (224 Some: Intel Optane™ Some: DVD-ROM, sli	via specia SATA 6.00 22 / 2280) Memory	al bid model) Gb/s, 2.5", 7200 r ) / PCIe NVMe, F v M10, M.2 2280,	pm Cle 3.0 PCle 3	x2 or PCle 3.0 x .0 x2	,	VESA mount Floor Stand Dust filter EOU design	Optional system floo Optional dust filter	en (need optional toolless chassis screw),			
Optical	Some: DVD Burner (I	DVϱRW	/), slim (9.0mm),			ох	Power supply		DC adapter, autosensing, 89% PSU			
Onboard SATA Graphics	One onboard SATA 6.  Intel HD Graphics 61  DisplayPort™, one HD	<b>0/630</b> in	processor, uses				_	Some: 90 watts AC/DC adapter, autosensing, 89% PSU (special Some: 135 watts AC/DC adapter, autosensing, 89% PSU Some: 230 watts AC/DC adapter, autosensing, 89% PSU				
	independent displays;		video porto ava	iiabic vi	a optional ports,	ap to o	Limited warranty		nited onsite service / service upgrades a	available		
	Max resolution: 4096x						Preload					
Monitor cable	4096x Optional DP to VGA d HDMI 1.4 dongle	2160 (HI ongle, DI	DMI)@24Hz; 204 P to DVI-D dongl	8x1536 e, DP to	(VGA)@50Hz dual DP dongle,	or DP to	O a mana Mina da mana ® 40 Dua 04 bit					
Chipset	Intel Q470 Chipset						Environment	ENERGY STAR® 8.0	), EPEAT™ Gold / Silver rating (on some r	models), ErP Lot 3,		
	* one USB 3.2 Gen 2 (A	Alwavs O	n and fast charge	e). one l	JSB 3.2 Type-C (	Gen 1.	-	TCO 8.0 (coming soo RoHS-compliant	on), TUV low noise / ultra low noise verifie	ed (on some models)		
Rear ports (Std.)	one headphone / micr * 2x USB 3.2 Gen 2, 2x * Two optional ports:	ophone o	combo jack (3.5n	nm)			MIL-SPEC test	MIL-STD-810H milita	ary certification (Low Pressure [Altitude], I emperature Shock, Humidity, Sand and Di tion)			
	Position	Port 1	1	Port :	2 Port	1&2	Accessories		ssories, please go to http://smartfind.ler	novo com		
			d HDMI / USB ith DP function) al	Seria	Dual USB por (Available at	rts		Tor compatible acce.	ssories, please go to <b>nup.//smartimu.ie</b> r	1000.00111		
	* Depending on many fa	ctors, actu	al data transfer spe	eed may	be lower than theor	etical speed						
Audio support	Realtek ALC233VB / c	optional i	nternal speaker (	(1.5 wat	t)		1					
	ations above may not be	<u> </u>			,		1			Langua May 2020		





















#### ThinkCentre M920 Tiny Platform Specifications

Processor	Intel® Celeron®, Intel I	Pentium®	or 8th / 9th Gen	Intel C	ore™ i3 / i5 / i7 / i	9 Processor	Bluetooth	Some: Bluetooth 4.2	2/5.0 wireless, integrated	d in Wi-Fi + BT cor	nbo adapter	
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Ethernet Ethernet (Opt.)		el Ethernet Connection I Server Adapter I350-T4			
	Celeron G4900T	2/2	2.9G	2 MB	DDR4-2400	UHD 610	Manageability	Intel Active Managen	nent Technology 12 (Inte	el AMT 12);		
	Celeron G4930T	2/2	3.0G	2 MB	DDR4-2400	UHD 610		Intel vPro technology	on some models (requ	ire choosing a vPi	o-support Wi-Fi	
	Pentium Gold G5400T	2/4	3.1G	4 MB	DDR4-2400	UHD 610	Security chip	Discrete TPM 2.0, TO	ro function through wire	eless connection)		
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400	UHD 630	Security features	• Security slot (in rea	or for optional • Po	oot sequence cont	rol	
	Pentium Gold G5600T	2/4	3.3G	4 MB	DDR4-2400	UHD 630		Kensington® Micros	Saver® cable) • Bo	oot without keyboa		
	Pentium Gold G5420T	2/4	3.2G	4 MB	DDR4-2400	UHD 610		<ul> <li>Chassis intrusion s</li> </ul>	switch • Inc	dividual USB port	disablement	
	Core i3-8100T	4/4	3.1G	6 MB	DDR4-2400	UHD 630		Power-on passwore	d • Sn	nart USB protection	on, allows keyboard/	
	Core i3-8300T	4/4	3.2G	8 MB	DDR4-2400	UHD 630		<ul><li>Administrator pass</li><li>Hard disk passwore</li></ul>		ouse only, blocks a	all storage devices	
	Core i5-8400T	6/6	1.7G / 3.3G	9 MB	DDR4-2666	UHD 630	Kovhoard	·		noctor) black		
	Core i5-8500T	6/6	2.1G / 3.5G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black				
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630						
	Core i7-8700T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, b Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Tiny (1L), black color; metal case				
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB	DDR4-2400	UHD 630						
	Core i3-9300T	4/4	3.2G / 3.8G	8 MB	DDR4-2400	UHD 630	L	Tiny (1L), black color; metal case  • Toolless chassis open (need optional toolless chassis screw)				
	Core i5-9400T	6/6	1.8G / 3.4G	9 MB	DDR4-2666	UHD 630	Mechanical	<ul><li>Toolless chassis open (need optional toolless chassis screw)</li><li>Toolless HDD, SSD, memory removal</li></ul>				
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630				)		
	Core i5-9600T Core i7-9700T	6/6 8/8	2.3G / 3.9G 2.0G / 4.3G	9 MB 12 MB	DDR4-2666 DDR4-2666	UHD 630 UHD 630		<ul> <li>Optional dust filter</li> </ul>	•			
	Core i9-9900T	8/16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630			0/SSD, one PCIe 3.0 x8 .2 SSD), 2.5" HDD/SSD			
Mamari							<u>'</u>	IOI WEAN, ONE IOI WI.	,,			
Memory	32GB max, DDR4-26 * System automaticall						_		Dimensions (V		Weight (Approx.)	
Storage	Some: Hard Drive / S Some: Solid State Dr	SATA 6.00 rive (SSD	Gb/s, 2.5", 5400 r ) / SATA 6.0Gb/s	pm or 7 s, 2.5"		ny controller		Tiny only	7.0" X 7.2" X 1.4" (1.5" 179mm X 183mm X 3 with rubber	34.5mm (37mm ´	2.91 lb (1.32 kg), vary by config	
	Some: M.2 SSD / PC * 128GB SSD M.2 (22 Some: Intel Optane™	242) PCIe	NVMe only sup	ports Po	Cle 3.0 x 2, 16Gb	)/s or) M 2		With VESA mount & ODD box		X 2.48"	3.66 lb (1.66 kg), vary by config	
Optical	Some: DVD-ROM, sli Some: DVD Burner (	im (9.0mí DVD±RW	m), via USB exte /), slim (9.0mm),	rnal OD	D box	, .	VESA mount Floor Stand		nt bracket kit, supports V r stand for vertical orient		00mm	
Onboard SATA	One onboard SATA 6.	0Gb/s co	nnector				Power supply	Some: 65 watts AC/DC adapter, autosensing, 88% PSU				
Graphics	Intel HD Graphics 61 DisplayPort™, one HD or USB 3.1 Type-C Ge	OMI, one	optional video po	rt (2nd	HDMİ, VGA, 2nd	DP,	I ower supply	Some: 90 watts AC/I	DC adapter, autosensing C/DC adapter, autosensing	g, 88% PSU		
	Max resolution: 4096x	(2304 (DI	P)@60Hz; 4096x	2304 (T	ype-C)@60Hz;		Limited warranty	Some: 1-year or 3-	year, depot service / se	ervice upgrades a	vailable	
Monitor cable	Optional DP to VGA d	longle, DI	P to DVI-D dongl	e, DP to	í48x1536 (VGÁ)@ dual DP dongle	೨50Hz (for Collage	Preload	Preloaded operating	year, limited onsite sei g system	rvice / service up	grades available	
<u> </u>	Display with intel integ	grated gra	aphics), or DP to	HDMI 1	.4 dongle			Some: Windows® 1	0 Pro 64-bit			
Chipset	Intel Q370 Chipset							Some: Windows 10 Preloaded applicati	ons (only some listed)	1		
Front ports (Std.)	* one USB 3.1 Gen1 (A	llways Or	and fast charge	), one L	ISB 3.1 Type-C G	<u>i</u> en 1,		Lenovo Vantage	one (omy come notou)			
Poor porto (Ctd.)	one microphone (3.5n 2x USB 3.1 Gen2, 2x	nm), one	headphone / mid	crophon	e combo jack (3.	5mm)		Microsoft Office pr	eloaded;			
Rear ports (Opt.)	* Two optional ports (m	utually ex	clusive with PCI	e card):	Port 1 for VGA /	2nd DP /		purchase a produc	t key to activate	DVD / DVD DW		
	2nd HDMI / serial / US	SB 3.1 Ty	pe-C Gen 1 with	DP fund	ction); Port 2 for s	serial;			JD (only for models with GO (only for models with			
	Optional ports via PC							LinkedIn	do (only for frieders with	I DVD±I (VV)		
	PCIe x1, 1x Thunderb  * Depending on many face								ne Type 10V8 models on	nly)		
Audio support	Realtek ALC233VB2		•			elicai speeu	Environment		, EPEAT™ Gold rating (v			
WLAN	Some: 11ac wireless,	, M.2 Car	d, Realtek RTL8	821CE			1	rating (with 65W/90V some models), RoHS	V adapter), ErP Lot 3, T0 S-compliant	CO, TUV ultra low	noise verified (on	
	Some: 11ac wireless	, M.2 Cai		822BE	(dual band),		MIL-SPEC test	MIL-STD-810G milita	ary certification (Low Premperature Shock, Humi	essure [Altitude], F	High Temperature,	
	Wi-Fi + Blueto Some: 11ac wireless	ooth 4.2 c , M.2 Cai	combo adapter, 2 d, Intel Dual Bar	x2 nd Wirel	· //		A	Fungus, Solar Radia	tion)			
	Some: 11ac wireless	, M.2 Cai		nd Wirel	ess-AC 8265,		Accessories	ror compatible acces	ssories, please go to <b>htt</b>	p://smartfind.len	ovo.com	
	Some: 11ac wireless	, M.2 Cai		-AC 956	60 (dual band), o technology supp	nort 2x2						



















## ThinkCentre M920x Tiny Platform Specifications

Processor	Intel® Celeron®, Intel Pen	tium®, or 8	th / 9th Gen Intel C	Core™ i3 /	/ i5 / i7 / i9 Processo	or		4x Mini DisplayPort, up to 4 independent displays, works along with			
	,	Cores /	Frequency		Memory Support	Integrated	1	onboard DP and HDMI to support up to 6 independent displays;			
	Processor	Threads	Base/Max(GHz)	Cache	(Up to)	Graphics		Max resolution: 5120x2880@60Hz ((up to 2 Mini DisplayPort); 4096x2160@60Hz ((up to 4 Mini DisplayPort)			
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		Optional DP to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle (for Collage Displa			
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610	Monitor cable	with intel integrated graphics), or DP to HDMI 1.4 dongle, Mini DP to DP			
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610	Chipset	Intel Q370 Chipset			
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610	Front ports (Std.)*	one USB 3.1 Gen1 (Always On and fast charge), one USB 3.1 Type-C Gen 1,			
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610	Rear ports (Std.)*	one microphone (3.5mm), one headphone / microphone combo jack (3.5mm) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (RJ-45), 1x DP, 1x HDMI			
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	Rear ports (Opt.)*	Two optional ports (mutually exclusive with PCIe card): Port 1 for VGA / 2nd DP / 2nd HDI			
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630		serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial;			
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	1	Optional ports via PCle card: 2x USB 3.1 Gen1 via PCle x1, 4x serial (9-pin) via PCle x1, Thunderbolt 3 (combo USB3.1 Type-C Gen 2 / DP) via PCle x4			
	Pentium Gold G5620 Core i3-8100	2/4	4.0G 3.6G	4 MB 6 MB	DDR4-2400 DDR4-2400	UHD 630 UHD 630		* Depending on many factors, actual data transfer speed may be lower than theoretical spe			
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400 DDR4-2400	UHD 630	Audio support	Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)			
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2400 DDR4-2666	UHD 630	WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1			
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2			
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 8265, 2x2			
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630		Some: 11ac Wi-Fi + BT 5.0, M.2 Card, Intel Wireless-AC 9560 (dual band),			
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630	Bluetooth	Intel vPro technology support, 2x2  Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter			
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®			
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4			
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630	Manageability	Intel Active Management Technology 12 (Intel AMT 12);			
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		Intel vPro technology on some models (require choosing a vPro-support Wi-Fi adapter to enable vPro function through wireless connection)			
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified			
	Celeron G4900T	2/2	2.9G	2 MB	DDR4-2400	UHD 610	Security features	Security slot (in rear for optional     Boot sequence control			
	Celeron G4930T	2/2	3.0G	2 MB	DDR4-2400	UHD 610		Kensington® MicroSaver® cable)   • Boot without keyboard and mouse			
	Pentium Gold G5400T	2/4	3.1G	4 MB	DDR4-2400	UHD 610		<ul> <li>Chassis intrusion switch</li> <li>Power-on password</li> <li>Individual USB port disablement</li> <li>Smart USB protection, allows keyboard/</li> </ul>			
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400	UHD 630		Administrator password mouse only, blocks all storage devices			
	Pentium Gold G5600T	2/4	3.3G	4 MB	DDR4-2400	UHD 630		Hard disk password			
	Pentium Gold G5420T	2/4	3.2G	4 MB	DDR4-2400	UHD 610	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	Core i3-8100T	4/4	3.1G	6 MB	DDR4-2400	UHD 630		Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
	Core i3-8300T	4/4	3.2G	8 MB	DDR4-2400	UHD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black			
	Core i5-8400T	6/6	1.7G / 3.3G	9 MB	DDR4-2666	UHD 630		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
	Core i5-8500T	6/6	2.1G / 3.5G	9 MB	DDR4-2666	UHD 630	<u> </u>	, , ,			
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630	Mechanical	Tiny (1L), black color; metal case  • Toolless chassis open (need optional toolless chassis screw)			
	Core i7-8700T	6 / 12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630		Toolless HDD, SSD, memory removal			
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB	DDR4-2400	UHD 630		Optional dust filter  One of Fill have for LIDD/CCD, and DCIa 2 0 v2 plat (law profile), three M.S. clate (one for MI).			
	Core i3-9300T	4/4	3.2G / 3.8G	8 MB	DDR4-2400	UHD 630		one 2.5" bay for HDD/SSD, one PCIe 3.0 x8 slot (low-profile), three M.2 slots (one for WLA two for M.2 SSD), 2.5" HDD/SSD and PCIe card are mutually exclusive			
	Core i5-9400T	6/6	1.8G / 3.4G	9 MB	DDR4-2666	UHD 630					
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630		Dimensions (WxDxH) Weight (Approx.			
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630		Tiny only 7.0" X 7.2" X 1.4" (1.5" with rubber feet) 2.91 lb (1.32 kg) vary by config			
	Core i7-9700T	8/8	2.0G / 4.3G	12 MB	DDR4-2666	UHD 630		with rubber feet)			
	Core i9-9900T	8 / 16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630		With VESA mount & 7.42" X 7.30" X 2.48" 3.66 lb (1.66 kg			
Memory	32GB max, DDR4-2666*, * System automatically cl					or		ODD box 188.4mm X 185.38mm X 63mm vary by config			
Storage	Some: Hard Drive / SAT	ΓA 6.0Gb/s	, 2.5", 5400 rpm o			51	VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation			
	Some: Solid State Drive Some: M.2 SSD (suppo	ort up to tw	SATA 6.0Gb/s, 2.5" to M.2 SSD) / PCIe	NVMe. F	PCIe 3.0 x 4*, 32Gb	)/s.	Power supply	135 watts AC/DC adapter, autosensing, 88% PSU			
	DAID 0/1 cuppo	rt (DAID n	racat anly available	via cnac	vial hid madal)						
	* 128GB SSD M.2 (2242) Some: Intel Optane™ M Some: DVD-ROM, slim	PCIE NVI Iemory (no	vie only supports F of support Celeron	'Cle 3.0 x / Pentium	(2, 16Gb/s Processor) M.2		Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available			
Optical	Some: DVD-ROM, slim	(9.0mm),	via USB external C	DD box	11 10000001), W.L		Preload				
Onboard SATA	Some: DVD Burner (DV One onboard SATA 6.0Gb	'D±RVV), S	iim (9.0mm), via U	SB exterr	nal ODD box		Troibad	Some: Windows 10 Home 64-bit			
Graphics	Intel HD Graphics 610/6	30 in proc	essor, uses main n	nd DP		splayPort™,	-Environment	ENERGY STAR® 7.0, EPEAT™ Gold rating (North America), ErP Lot 3, TCO, TUV ultra low noise verified (coming soon, on some models), RoHS-compliant			
	or USB 3.1 Type-C Gen1 Max resolution:c4096x23 4096x2	with Displ 04 (DP)@ 2160 (onbo	ayPort function), u 60Hz; 4096x2304 ( ard HDMI)@24Hz	o to 3 ind (Type-C) ( ; 2048x15	@60Hz; 536 (VGA)@50Hz		MIL-SPEC test	est MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus Solar Radiation)			
	Some: AMD Radeon™	<b>RX 560</b> , D	irectX 12, 4GB GD	DR5, PC	le 3.0 x8 adapter,		Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			

















#### ThinkSmart Edition Tiny M920q for Zoom Rooms Platform Specifications

Processor	Intel® 9th Gen Core™ i7 Processor					Keyboard	Lenovo Traditional Keyboard (USB connector), black				
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	Mouse	· · · · · · · · · · · · · · · · · · ·	use (USB connector), black		
	Core i7-9700T	Threads 8 / 8	Base/Max(GHz)	12 MB	(Up to) DDR4-2666	Graphics UHD 630	Mechanical	Tiny (1L), black color	r; metal case		
							1		Dimensions (WxDxH)	Weight (Approx.)	
Memory	16GB (8GB x 2) DDI					<u> </u>	_	Tiny only	7.0" X 7.2" X 1.4" (1.5" with rubber feet)	2.91 lb (1.32 kg),	
Storage Optical	128GB SSD M.2 (22 None	(42) PCIe r	vvivie only supp	orts PC	ie 3.0 x 2, 16Gb/	S			179mm X 183mm X 34.5mm (37mm with rubber feet)	vary by config	
Onboard SATA	One onboard SATA 6	6.0Gb/s co	nnector				VESA mount	\( \( \)			
Graphics	Intel HD Graphics 630 in processor, uses main memory, DirectX <sup>®</sup> 12, one DisplayPort™, one HDMI (onboard), one 2nd HDMI (internal DP to HDMI dongle),						VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation				
	up to 3 independent displays;						Power supply	135 watts AC/DC ad	apter, autosensing, 88% PSU		
Monitor cable	Max resolution: 4096x2304 (DP) @60Hz; 4096x2160 (onboard HDMI) @24Hz None				24Hz	Limited warranty	3-year, limited onsite service with premier support / service upgrades availab				
Chipset	Intel Q370 Chipset				Preload	Preloaded operating system Windows® 10 IoT Enterprise with Zoom Rooms preload					
Front ports (Std.)	Front ports (Std.)* one USB 3.1 Gen1 (Always On and fast charge), one USB 3.1 Type-C Gen 1, one microphone (3.5mm), one headphone / microphone combo jack (3.5mm)				Environment	ENERGY STAR® 7.0, EPEAT™ Silver rating, ErP Lot 3, TCO, TUV ultra low					
Rear ports (Std.)	one microphone (3.5 2x USB 3.1 Gen2, 2:	x USB 3.1	Gen1. 1x etherr	cropnon et (RJ-4	e combo jack (3. 45). 1x DisplavPo	omm) ort. 2x HDMI		verified (on some models), RoHS-compliant			
	* Depending on many fa	actors, actua	al data transfer spe	ed may b	oe lower than theor	etical speed	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Tempera Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Fungus, Solar Radiation)			
Audio support	Realtek ALC233VB2	2 / optional	internal speake	1.5 wa	att or 2 watt)						
WLAN	11ac wireless, M.2 C combo adapter, Intel				band), Wi-Fi + B	luetooth 5.0	Accessories		ssories, please go to http://smartfind.ler	novo.com	
Bluetooth Ethernet	Bluetooth 5.0 wireles Gigabit ethernet, Inte	ss, integrat el Ethernet	ed in Wi-Fi + BT Connection I21	combo 9-LM(Ja	adapter acksonville), Wak	e on LAN®					
Manageability Security chip	Intel Active Manager Intel vPro technology adapter to enable vP Discrete TPM 2.0, TO	y on some Pro function	models (require through wireles	choosir	ng a vPro-suppor	t Wi-Fi					
Security features	<ul> <li>Security slot (in reactions)</li> <li>Chassis intrusion sons</li> <li>Power-on passwon</li> <li>Administrator pass</li> <li>Hard disk passwor</li> </ul>	Saver® <sup>'</sup> cab switch d sword	ole) • Boot • Indiv • Sma	without dual US t USB p	ce control keyboard and me BB port disableme protection, allows blocks all storage	ent keyboard/					

Note: The specifications above may not be available in all regions.













# ThinkCentre Tiny-in-One (TIO) 22 Gen3

Model	Non-touch model: Touch model:	10R1PAR1++/10R1P 10R0PAR1++/10R0P							
Form factor	Tiny-in-One, offers		ience when optional Tiny slots into						
		ean cabling and effortle	•						
Compatible Tiny:		` '	/ M710 / M900(x) / M700 / M630e /						
			83 / M73* / M53 /Chromebox Tiny pressing power button of TIO						
Panel			*, White LED backlight						
Viewahla imaga siza			A, PLS, and IPS panels						
Viewable image size Max view area (W x H)	21.5" (546.1mm) diagonal 18.74" x 10.54" / 476.1mm x 267.8mm								
Bezel Width		op / Side: 2mm, Bottom: 22.1mm							
Native resolution	1920x1080	10.1	, ,						
Multi-touch Aspect ratio	Optional 10-point n	nulti-touch, supports W	ake on louch						
Pixel pitch (mm)	0.24795mm								
Dot/Pixel per Inch	102.4 dpi								
Brightness	250 nits or cd/m <sup>2</sup> (t	ypical)							
Contrast ratio Pixel response time	1000:1 (typical)	er drive to 4ms, 6ms							
Color gamut	72%	or drive to 4mo, eme							
Anti-reflective	Anti-glare								
Viewing angle at 10:1 CR178° (+/- 89°) horizontal, 178° (+/- 89°) vertical									
Preset resolutions	640x350 @ 70Hz	CCLI- 70LI- 75LI-							
	640x480 @ 60Hz, 720x400 @ 70Hz	66HZ, /2HZ, /5HZ							
800x600 @ 60Hz, 72Hz, 75Hz									
1024x768 @ 60Hz, 70Hz, 75Hz									
	1152x864 @75Hz								
	1280x800 @ 60Hz 1280x1024 @ 60H								
	1366x768 @ 60Hz								
	1440x900 @ 60Hz								
	1600x1200 @ 60H 1680x1050 @ 60H								
	1920x1080 @ 60H								
Presets / user settings	Presets: 25; user s								
On screen display		with digital user contro							
Control features	Ftont: Exit button	n, Left / Mode-switchin	g button (TIO / monitor mode),						
		o button, Volume down	Menu button, Power button						
Tiny-in-One Power On			Power button positioned on TIO						
. (=10)	can turn on both TI	O and Tiny (only some	Tiny support, see compatible list)						
Side ports (TIO)			3 or M53 installed or USB 2.0						
	connected via USE Notes: The USB p		nen a Tiny is istalled or a PC is						
	connected	via USB upstream por	t						
Side ports (Tiny)	Side ports offered	by installed Tiny (optio	nal)						
Rear ports 3-in-1 Cable			am port, one power connector cter, USB [supports USB 3.1 Gen1]						
O III I Oabic			ing to Tiny installed (optional)						
Camera		dual microphone for V							
Internal Speaker	2 watt x2								
Security			al cable lock (Kensington® lock						
	offered by Tiny inst		together, more security features						
Mechanical	Dimensions	TIO without stand	TIO with stand						
	W x D x H (inch)	19.26 x 2.85 x 13.35	19.26 x 10.76 x 14.59 - 18.93						
	W x D x H (mm)	489.3 x 72.5 x 339	489.3 x 273.3 x 370.7 - 480.7						
	Weight (Approx.)	7.01 lb / 3.19 kg	11.77 lb / 5.34 kg						

	Mounting features	Wall or desk mounting using the extend arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)
0	Adjustable stand	Tilt: 30° back, -5° forward; lift: 4.3" (110mm);
: /		swivel: +/-45°; Pivot: clockwise 0° to 90°
/	Power supply Power consumption	90 watts AC/DC adapter, 88% PSU, universal 19 watts typical, 32 watts maximum, <0.5 watts standby / suspend
	Limited warranty	3-years, Customer Carry-In or Mail-In via Rapid Replacement Service
	VESA-compliant Ergonomics Emission standards	VESA DDC2B/CI, VESA DPMS-compliant ISO 9241-307, TUV Eye Comfort certified FCC Class B
	Environmental Windows certifications	TCO 7.0, TCO Edge 2.0, WEEE, RoHS, ENERGY STAR® 7.0, EPEAT™ Silver rating, ULE Gold, TUV, VOC Windows 7 and Windows 10 certified
	Ship group	TIO (Monitor), detachable stand, AC/DC power adapter, power cord, user's guide and driver CD, quick start and safety poster
	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com
		·

	ThinkCentre Tiny-in-One 22 Gen3 Compatible list							
Model	P330 / P320 / M920(x) / M720 / M910(x) / M710 / M900(x) / M700 / M630e / M625 /	M93/p Tiny, M73 Tiny	Chromebox					
	M600 / M75q / M715 / M83 / M53 Tiny							
Turn on TIO and								
Tiny together via	All models	All models	Not support					
Alt + P on USB KB								
Turn on TIO and								
Tiny together via	All models	TIO models	All models					
TIO Power Button								

















# ThinkCentre Tiny-In-One 22 Gen 4 Platform Specifications

Form factor			ience when optional Tiny slots into	Мо				
Compatible Tiny:	P340 / P330 / P320 M910(x) / M710 / N	the back of TIO, clean cabling and effortless setup P340 / P330 / P320 / M90q / M80q / M70q / M75q / M920(x) / M720 / M910(x) / M710 / M715 / M900(x) / M700 / M630e / M625 / M600 Tiny M90n / M75n Nano (with TIO kit)						
Panel		FT-LCD, In-Plane Switching technology**, White LED backlight Notes: In-Plane Switching may refer to IPS, PLS, ADS, AHVA, AAS panels						
Viewable image size	21.5" (546.1mm) d	iagonaľ	o, i Lo, Abo, Aliva, Ado pallelo	Pov				
Max view area (W x H) Bezel Width	18.74" X 10.54" / 4 Top / Side: 2mm, B	76.1mm x 267.8mm sottom: 22.1mm		En				
Native resolution	1920x1080 @60H							
Presets / user settings Multi-touch	25 Optional 10-point n	ntional 10-point multi-touch AIT technology						
Aspect ratio	16:9							
Pixel pitch (mm) Dot/Pixel per Inch	0.24795mm 102.4 dpi							
Brightness	250 nits or cd/m² (typical)							
Contrast ratio	1000:1 (typical)							
Pixel response time Color gamut	14ms (default), over drive to 4ms, 6ms 72% NTSC (CIE 1931)							
Anti-reflective	Anti-glare							
	R178° (+/- 89°) horizontal, 178° (+/- 89°) vertical							
On screen display Control features	On screen display with digital user controls (8 languages)  Ftont: Exit button, Up / Mode-switching button (TIO / monitor mode							
Control leatures			lay and side USB port),					
	Down / Br	Down / Brightness button, Enter / Menu button, Power button						
TIO Power On features		p button, Volume down	button button (on TIO) can turn on both					
TIO I OWEI OII ICAIUICS			support, see compatible list)					
Side ports (on TIO)			d version depends on the Tiny					
Side ports (on Tiny)		connected via USB ups by installed Tiny (front						
Rear ports	One DisplayPort in	port, one USB upstrea	am port, one power connector	اا				
3-in-1 Cable			cter, USB [supports USB 3.1 Gen1 ing to Tiny installed (optional)					
Camera		dual microphone and T						
Internal Speaker	2 watt x2							
Security			al cable lock (Kensington® lock					
	offered by Tiny inst		together, more security features					
Mechanical	Dimensions	TIO without stand	TIO with stand					
	W x D x H (inch)	19.26 x 2.57 x 13.35	19.26 x 8.68 x 16.46 - 22.37.93					
	W x D x H (mm)	489.3 x 65.3 x 339	489.3 x 220.4 x 418.2 - 568.2					
	Weight (Approx.)	7.52 lb / 3.41 kg	14.51 lb / 6.58 kg					

Mounting features Adjustable stand	Wall or desk mounting using the extend arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)  Tilt: 30° back, -5° forward;  lift: 5.9" (150mm);  swivel: +/-45°;  Pivot: clockwise -5° to 90°
Power supply Power consumption	90 watts AC/DC adapter, 88% PSU, universal 25 watts max, 14 watts typical, <0.5 watts standby / suspend
Limited warranty	3-years, Carry-In or Courier service
Environmental Windows certifications	TCO 8.0, TCO edge 2.0, ENERGY STAR® 8.0, EPEAT™ Silver rating, UL GREENGUARD Certified, Erp lot5, WEEE, RoHS, TUV Eye comfort Windows 7 and Windows 10 certified
Ship group	TIO (Monitor), detachable stand, power adapter, power cord, information flyer, user's guide, and driver CD
Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com

	ThinkCentre Tiny-In-One 22 Gen 4 Compatible list								
Model	P340 / P330 / P320	M93/p / M83 /	Chromebox						
	M90q / M80q / M70q / M75q / M920(x) /	M73 / M53							
	M720 / M910(x) / M710 / M715 / M900(x) /	Tiny							
	M90n / M75n (with TIO kit)								
Turn on TIO and									
Tiny together via	All models	All models	Not support						
Alt + P on USB KB									
Turn on TIO and									
Tiny together via	All models	Not support	All models						
TIO Power Button									













# ThinkCentre Tiny-in-One (TIO) 24 Gen3

Model	Non-touch model: Touch model:	10QYPAR1++/10QYPA 10QXPAR1++/10QXPA	_ ′				
Form factor			ence when optional Tiny slots into				
Compatible Tiny:	P330 / P320 / M92 M625 / M600 / M75	5q / M715 / M93/p* / M8	s setup M710 / M900(x) / M700 / M630e / 3 / M73* / M53 /Chromebox Tiny essing power button of TIO				
Panel	TFT-LCD, In-Plane	Switching technology**, witching may refer to VA	, White LED backlight				
Viewable image size Max view area (W x H) Bezel Width Native resolution Multi-touch	23.8" (604.7mm) diagonal 20.75" x 11.67" / 527.0mm x 296.5mm Topology / Side: 2mm, Bottom: 22.1mm 1920x1080 Optional 10-point multi-touch, supports Wake on Touch						
Aspect ratio Pixel pitch (mm)	16:9 0.2745mm						
Dot/Pixel per Inch Brightness	92.6 dpi 250 nits or cd/m² (t	ypical)					
Contrast ratio Pixel response time		er drive to 4ms, 6ms					
Color gamut Anti-reflective Viewing angle at 10:1 Cl	72% Anti-glare CR178° (+/- 89°) horizontal, 178° (+/- 89°) vertical						
Preset resolutions 640x350 @ 70Hz 640x480 @ 60Hz, 67Hz, 72Hz, 75Hz							
	720x400 @ 70Hz 800x600 @ 60Hz, 72Hz, 75Hz 1024x768 @ 60Hz, 70Hz, 75Hz						
	1152x864 @75Hz 1280x800 @ 60Hz						
	1280x1024 @ 60H 1366x768 @ 60Hz	,					
	1440x900 @ 60Hz 1600x1200 @ 60H:						
	1680x1050 @ 60H 1920x1080 @ 60H						
Presets / user settings	Presets: 25; user so		(2.1				
On screen display Control features	Ftont: Exit butto Right / Bi	rightness button, Enter /	button (TIO / monitor mode), Menu button, Power button				
Tiny-in-One Power On	Pressing Alt + P or		button Power button positioned on TIO Finy support, see compatible list)				
Side ports (TIO)	One USB 3.1 Gen1 connected via USB	I / USB 2.0 (when M73 o	or M53 installed or USB 2.0				
		ort is only availáble whe via USB upstream port	n a Tiny is istalled or a PC is				
Side ports (Tiny) Rear ports		by installed Tiny (optiona port, one USB upstrear	al) n port, one power connector				
3-in-1 Cable	Undetachable 3-in-	·1 cable (Power connect	er, USB [supports USB 3.1 Gen1 g to Tiny installed (optional)				
Camera Internal Speaker	1080p camera with 2 watt x2	dual microphone for VC	DIP, LED indicator				
Security		optional Tiny with TIO to	cable lock (Kensington® lock gether, more security features				
Mechanical	Dimensions	TIO without stand	TIO with stand				
	W x D x H (inch)	21.25 x 2.85 x 14.47	21.25 x 11.11 x 15.72 - 20.06				
	W x D x H (mm)	539.8 x 72.5 x 367.6	539.8 x 282.3 x 399.4 - 509.4				
	Weight (Approx.)	7.96 lb /3.61 kg	12.92 lb /5.86 kg				

Mounting features  Adjustable stand	Wall or desk mounting using the extend arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)  Tilt: 30° back, -5° forward;  lift: 4.3" (110mm);  swivel: +/-45°;  Pivot: clockwise 0° to 90°
Power supply Power consumption	90 watts AC/DC adapter, 88% PSU, universal 19 watts typical, 32 watts maximum, <0.5 watts standby / suspend
Limited warranty	3-years, Customer Carry-In or Mail-In via Rapid Replacement Service
VESA-compliant Ergonomics Emission standards Environmental	VESA DDC2B/CI, VESA DPMS-compliant ISO 9241-307, TUV Eye Comfort certified FCC Class B TCO 7.0, TCO Edge 2.0, WEEE, RoHS, ENERGY STAR® 7.0, EPEAT™ Silver rating, ULE Gold, TUV, VOC
Windows certifications	Windows 7 and Windows 10 certified
Ship group	TIO 24 (Monitor), detachable stand, AC/DC power adapter, power cord, user's guide and driver CD, quick start and safety poster
Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com

	ThinkCentre Tiny-in-One 24 Gen3 Compatible list								
Model	P330 / P320 / M920(x) / M720 / M910(x) / M710 / M900(x) / M700 / M630e / M625 / M600 / M75q / M715 / M83 / M53 Tiny M90n Nano (with TIO kit)	1 21	Chromebox						
Turn on TIO and Tiny together via Alt + P on USB KB	All models	All models	Not support						
Turn on TIO and Tiny together via TIO Power Button	All models	TIO models	All models						

















## ThinkCentre Tiny-In-One 24 Gen 4 Platform Specifications

Form factor			ence when optional Tiny slots into	М	lounting features		/all or desk mounting using the exter		y accessories		
Compatible Tiny:	the back of TIO, clean cabling and effortless setup P340 / P330 / P320 / M90q / M80q / M70q / M75q / M920(x) / M720 / M910(x) / M710 / M715 / M900(x) / M700 / M630e / M625 / M600 Tiny		A	djustable stand	T	ilt: 30° back, -5° forward;	mount)				
			,				lift: 5.9" (150mm); swivel: +/-45°;				
	M90n / M75n Nano (with TIO kit)						wiver: +/-45°; Vivot: clockwise -5° to 90°				
Panel	TFT-LCD, In-Plane Switching technology**, White LED backlight <i>Notes:</i> In-Plane Switching may refer to IPS, PLS, ADS, AHVA, AAS panels				ower supply		0 watts AC/DC adapter, 88% PSU, u				
Viewable image size	23.8" (604.7mm) d	iagonaľ	5, FLS, ADS, ALIVA, AAS pariers	_	ower consumption		7 watts max, 15 watts typical, <0.5 w	atts standby / susp	pend		
Max view area (W x H)		27.0mm x 296.5mm		Li	imited warranty		-years, Carry-In or Courier service				
Bezel Width Native resolution	Top / Side: 2mm, E 1920x1080 @60H;			E	nvironmental	T	CO 8.0, TCO edge 2.0, ENERGY ST	TAR® 8.0, EPEAT™	Silver rating,		
Presets / user settings	25	2		1,,,	/indows certification		L GREENGUARD Certified, Erp lot5 /indows 7 and Windows 10 certified	, WEEE, ROHS, IL	JV Eye comfort		
Multi-touch		nulti-touch, AIT technolo	ogy	1	hip group		IO (Monitor), detachable stand, power	ar adaptor nower o	ord information		
Aspect ratio	16:9 0.2745mm			ادا	riip group		ver, user's guide, and driver CD	er adapter, power d	oru, imormation		
Pixel pitch (mm) Dot/Pixel per Inch	0.2745mm 92.6 dpi			Δ,	ccessories	,	or compatible accessories, please go	n to httn://smartfin	nd lenovo com		
Brightness	250 nits or cd/m <sup>2</sup> (1	typical)			0000001100	- ' '	or companion accessories, piease go	o to mup.//omartin	14.1011040.00111		
Contrast ratio	1000:1 (typical)			_ ا							
Pixel response time Color gamut	14ms (default), ove 72% NTSC (CIE 19	er drive to 4ms, 6ms		ThinkCentre Tiny-In-One 24 Gen 4 Compatible list							
Anti-reflective	Anti-glare	331)			Model		P340 / P330 / P320	M93/p / M83 /	Chromebox		
Viewing angle at 10:1 CF	at 10:1 CR178° (+/- 89°) horizontal, 178° (+/- 89°) vertical					q / M80q / M70q / M75q / M920(x) /	M73 / M53 Tiny	53 Tiny			
On screen display	On screen display with digital user controls (8 languages)		(8 languages)	]			//1720 / M910(x) / M710 / M715 / M900(x)				
Control features	Ftont: Exit butto	n, Up / Mode-switching I	outton (TIO / monitor mode,			/ N	M700 / M630e / M625 / M600 Tiny				
	SWITCHS TH Down / Bu	ne sources of both displa	Menu button, Power button		Turn on TIO and		M90n / M75n (with TIO kit)				
	Bottom: Volume u	p button. Volume down b	outton		Tiny together via		All models	All models	Not support		
TIO Power On features	Pressing Alt + P (o	n kevboard) or Power b	utton (on TIO) can turn on both		Alt + P on USB KB	3	All models		Not Support		
Side ports (on TIO)	One LISE Type A n	ie old Tiny cannot fully s	upport, see compatible list) version depends on the Tiny		Turn on TIO and	1					
Side ports (on 110)	istalled or the PC	connected via USB upsti	ream port)		Tiny together via		All models Not s		All models		
Side ports (on Tiny)	Side ports offered	by installed Tiny (front p	orts) ´		TIO Power Button		7 III Modele	Not support	7 til Modelo		
Rear ports	One DisplayPort in	port, one USB upstream	n port, one power connector er, USB [supports USB 3.1 Gen1	L							
3-in-1 Cable	/ USB 2 01 Display	Port) only for connecting	er, USB (supports USB 3.1 Genting to Tiny installed (optional)								
Camera	Some: 1080p cam	nera with dual microphor	ne and Think Shutter								
Internal Occupies		mera with dual micropho	ne, support Think Shutter								
Internal Speaker	2 watt x2			-							
Security			cable lock (Kensington® lock								
	compatible), locks optional Tiny with TIO together, more security features offered by Tiny installed (optional)										
Mechanical	Dimensions	TIO without stand	TIO with stand								
	W x D x H (inch)	21.25 x 2.57 x 14.47	21.25 x 9.07 x 17.59 - 23.5								
	W x D x H (mm)	539.8 x 65.3 x 367.6	539.8 x 230.4 x 446.9 - 596.9								
	Weight (Approx.)	7.96 lb /3.61 kg	12.92 lb /6.66 kg								
									Lenovo May 2020		













# ThinkCentre Tiny-in-One (TIO) 27

Form factor	Tiny-in-One, offers a full All-In-One experience when optional Tiny slots into the back of TIO, clean cabling and effortless setup	Mechanical		TIO without stand	TIO	with stand
Compatible Tiny:	ThinkCentre Tiny, ThinkCentre Nano, and ThinkStaion Tiny		Dimensions (W x D x H	614.0 x 73.89 x 413.1	614.0 x 329.0	) x 444.25 - 554.25
Panel	TFT-LCD, In-Plane Switching technology**, White LED backlight  **Notes: In-Plane Switching may refer to IPS, PLS, ADS, AHVA, and AA		mm / inch)	/ 24.17 x 2.91 x 16.26	/ 24.17 x 12.	95 x 17.49 - 21.82
Viewable image size Max view area (W x H)	27" (685.8mm) diagonal 23.49" x 13.22" / 596.7mm x 335.7mm		Weight (Approx.)	4.91 kg / 10.82 lb	7.95 k	g / 17.53 lb
Bezel Width Native resolution Multi-touch Aspect ratio Pixel pitch (mm) Dot/Pixel per Inch	Top / Side: 2mm, Bottom: 23.3mm 2560x1440 None 16:9 0.2331mm 109 dpi	Mounting features Adjustable stand	Wall or desk mour meeting the VESA Tilt: 35° back, - lift: 4.3" (110m swivel: +/-45°; Pivot: clockwise	nm);	arm or third-par ount)	ty accessories
Brightness Contrast ratio	350 nits or cd/m² (typical) 1000:1 (typical)	Power supply	170 watts adapter	, 88% PSU, universal		
Pixel response time Color gamut	14ms (default), over drive to 4ms, 6ms 99% sRGB	Power consumption Limited warranty		7 watts maximum, <0.5 Exchange Service (US		
Anti-glare	Yes (25%)	Limited warranty	Service (EMEA)	exchange Service (US	and EIVIEA) or	Customer Carry-in
Viewing angle at 10:1 C	R178° (+/- 89°) horizontal, 178° (+/- 89°) vertical  640x350 @ 70Hz 640x480 @ 60Hz, 66Hz, 72Hz, 75Hz 720x400 @ 70Hz 800x600 @ 60Hz, 72Hz, 75Hz 1024x768 @ 60Hz, 70Hz, 75Hz 1152x864 @75Hz 1280x768 @ 60Hz 1280x800 @ 60Hz 1280x800 @ 60Hz 1280x800 @ 60Hz 1440x900 @ 60Hz, 72Hz, 75Hz 1366x768 @ 60Hz 1440x900 @ 60Hz, 75Hz 1680x1050 @ 60Hz 1920x1080 @ 60Hz	VESA-compliant Ergonomics Emission standards Environmental Windows certification Ship group Accessories Model	ISO 9241-307, TU FCC Class B TCO 8.0, TCO Edi EPEAT™ Silver rat Windows 7 and W TIO 27 (Monitor), and driver CD For compatible acc  ThinkCentre Tiny P330 / P320 / M920(x)	\ /	ENERGY STAFOC  er adapter, power http://smartfinde.  Matrix M93/p Tiny,	er cord, reference
Presets / user settings On screen display	2560x1440 @ 60Hz Presets: 27; user settings: 25 On screen display with digital user controls (8 languages)		M710 / M900(x) / M70 M600 / M75q / M715 M90n Nano (w	/ M83 / M53 Tiny	M73 Tiny	
Control features	Ftont: Exit button, Left / Mode-switching button (TIO / monitor mode), Right / Brightness button, Enter / Menu button, Power button Bottom: Volume up button, Volume down button	Turn on TIO and Tiny together via Alt + P on USB KB	All mod	dels	All models	Not support
Tiny-in-One Power On Side ports (TIO)	Pressing Alt + P on keyboard or pressing Power button positioned on TIO can turn on both TIO and Tiny (only some support, see Compatible Matrix) Two USB 3.1 Gen1 (downgrade to USB 2.0 when installing M73 or M53 or connecting USB 2.0 via USB upstream port), one headphone / microphone	Turn on TIO and Tiny together via TIO Power Button	All mod	dels	TIO models	All models
Side ports (Tiny) Rear ports 3-in-1 Cable Camera Internal Speaker Security	combo jack  Notes: The USB ports are enabled by installing a Tiny or connecting USB upstream port; the audio port is enabled by installing a Tiny or connecting USB upstream, DisplayPort(in), or HDMI(in) port Side ports offered by the installed Tiny (optional) One DisplayPort(in) port, one HDMI(in) port, one USB (Type-B) upstream port, one power connector Undetachable 3-in-1 cable, connecting to the power connecter, one USB, and one DisplayPort of the installed Tiny (optional) RGBIR camera with dual microphone, supports Window Hello and Facial Recognition, Think Shutter for Privacy Security, LED indicator 2 watt x2  Security keyhole for attachment of optional cable lock (Kensington® lock compatible), locks optional Tiny with TIO together, more security features offered by Tiny installed (optional)					















#### ThinkCentre M70t Platform Specifications

Processor	Intel® Celeron®, Intel	Pentium®	or 10th Gen Int	el Core™	' i3 / i5 / i7 / i9 Pro	ocessor	Audio support	High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (2 watt )
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610		Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9462 (dual band),
	Celeron G5920	2/2	3.5G	2 MB	DDR4-2666	UHD 610		Wi-Fi + Bluetooth 5.0 combo adapter, 1x1 (special bid only)
	Pentium Gold G6400	2/4	4.0G	4 MB	DDR4-2666	UHD 610		Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ax wireless, M.2 Card, Intel Wi-Fi 6 AX201 (dual band),
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630		Wi-Fi + Bluetooth 5.1 combo adapter, 2x2
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630	Bluetooth™	Some: Bluetooth 5.0/5.1 wireless, integrated in Wi-Fi + BT combo adapter
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-V(Jacksonville), Wake on LAN®
	Core i3-10320	4/8	3.8G / 4.6G	8 MB	DDR4-2666	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4
	Core i5-10400F	6 / 12	2.9G / 4.3G	12 MB	DDR4-2666	None		Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCle x1
	Core i5-10400	6 / 12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630	Manageability	None
	Core i5-10500	6 / 12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified
	Core i5-10600	6 / 12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630	Security features	s • Security slot (for Kensington® lock) • Power-on password
	Core i7-10700F	8 / 16	2.9G / 4.8G	16 MB	DDR4-2933	None		<ul> <li>Padlock loop</li> <li>Optional Smart Cable Clip to</li> <li>Administrator password</li> <li>Hard disk password</li> </ul>
	Core i7-10700	8 / 16	2.9G / 4.8G	16 MB	DDR4-2933	UHD 630		physically lock keyboard and mouse • Boot sequence control
	Core i9-10900F	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	None		<ul> <li>Optional chassis intrusion switch</li> <li>Boot without keyboard and mouse</li> </ul>
	Core i9-10900	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	UHD 630		Optional chassis E-Lock     Individual USB port disablement
	* Max freguency may ref Technology 3.0 / Intel Th					/lax		<ul> <li>Smart USB protection, allows keyboard/ mouse only, blocks all storage devices</li> </ul>
Memory	128GB max, DDR4-3 * System automatical						Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black
Storage	Support up to 2x HDI Some: Hard Drive / Some: M.2 SSD (22- Some: Intel Optane	SATA 6.00 42 / 2280	ab/s, 2.5" or 3.5' / PCIe NVMe, I	', 7200 rp PCle 3.0	om x2 or PCle 3.0 x4	4	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
Optical	Some: DVD-ROM, S Some: DVD Burner	SATA 1.5Ğ	b/s Drive, slim (	9.0mm)			Mechanical	Tower (13.6L), black color, metal case Dimensins with bezel & PCI holder & rubber foot:
Onboard SATA Media reader	Four onboard SATA 6 Optional 3-in-1 media	3.0Gb/s co	nnectors					(WxDxH) 5.7" X 11.7" X 13.6; 145mm X 296mm X 346mm  • Weight (approx.): 10.6 lb (4.8 kg), weight may vary by configuration
Graphics	Intel UHD Graphics two DisplayPort™, on support via discrete of	<b>610/630</b> in the HDMI, s	n some process	ors, uses	main memory, D	DirectX® 12, ore displays	Bays	Bay 1: Slim ODD bay Bay 2: 3.5" HDD bay Bay 3: 2.5" HDD bay (optional bay, or bay comes with disk)
	Max resolution: 4096 Some: AMD Radeon two DisplayPo	×2304 (Dl n™ <b>520</b> , D ort (up to 4	irectX 12, 2GB ( 1096x2160@60I	GDDR5, F Hz)	PCIé 3.0 x8, 30 w		Slots	Slot 1: full-height (length < 215mm), PCIe 3.0 x16 Slot 2: full-height (length < 215mm), PCIe 3.0 x1 Slot 3: no slot, only bracket for optional port extension Slot 4: no slot, only bracket for optional port extension
	Some: AMD Radeon					0 watts,		M.2 card slots: Two (one for WLAN, one for SSD/Optane)
	4096x2160@	60Hz) on	3840x2160@60 Le VGA (up to 20	148*1536	@85Hz), occupie	e two slots	EOU design	None
Monitor Cable	Optional DP to VGA of Display with intel inte	dongle, Di	P to DVI-D dong	le, DP to	dual DP dongle (	for Collage	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 260 watts, autosensing, 85% PSU
Chipset	Intel H470 Chipset	<u> </u>	1 7, 10				1	Some: 310 watts, autosensing, 92% PSU
Front ports* (Std	.) 2x USB 3.2 Gen 2, 2						1	Some: 380 watts, autosensing, 92% PSU * Discrete graphics card / 10-core processors need > 180w power supply
Front ports* (Opt Rear ports* (Std.	1x microphone (3.5m a.) Optional: 3-iin-1 med (3.5    ) 4x USB 2.0, 1x serial	dia reader	·		, ,	,	Limited warranty	Some: 1-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available
	1x line-out (3.5mm) ·) Optional: 2x USB 3.2 2nd serial (9-pin), 4x	Gen 1 via	a PCle x1, 2x US pin) via PCle x1,	SB 3.2 Ty	pe-C Gen 2 via F	Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit Some: Windows 10 IoT Enterprise (only available via special bid model)	
	1x parallel (25-pin), 2 ports available on opi * Depending on many fa ** Only available for the	ex PS/2 po tional grap actors, actua	orts (keyboard/m ohics or etherne al data transfer spe	ouse), ac t card eed may be			Environment	ENERGY STAR® 8.0*, EPEAT™ Silver rating*, ErP Lot 3, TCO (coming soon), TUV low noise verified (on some models), RoHS-compliant * Only available for MT 11D9/11DA
	Only available for the	models Wil	ii iiilegialeu grapri	100			Accessories	For compatible accessories, please go to http://smartfind.lenovo.com
Nister The second of the	ations above may not be	!! - !- ! -	to all manifests			•	Lenovo May 202	













## ThinkCentre M720 Tower Platform Specifications

Processor	Intel® Celeron®, Intel	Pentium®	, or 8th / 9th Ger	n Intel Co	re™ i3 / i5 / i7 / i9	Processor	Audio support	High Definition (HD) Audio, Realtek ALC233VB2 / internal speaker (2 watt )					
	Processor	Cores /	Frequency	Cache	Memory Support		WLAN <sup>13</sup>	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1					
			Base/Max(GHz)		(Up to)	Graphics		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2					
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 8265, 2x2					
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610 UHD 610	Bluetooth™	Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter					
	Pentium Gold G5400 Pentium Gold G5500	2/4	3.7G 3.8G	4 MB 4 MB	DDR4-2400 DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®					
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400 DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4*, gigabit ethernet, 4x RJ-45, PCle x4					
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	,	Some: Bitland BN8E88*, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)					
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630		* Choose either I350-T4 or BN8E88					
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Manageability	None					
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified					
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	Security leatures	Security slot (in rear for optional Kensington® MicroSaver® cable)     Administrator password					
	Core i7-8700	6 / 12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630		Padlock loop     Administrator password     Hard disk password					
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Optional cable lock to physically lock    Boot sequence control					
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		both keyboard and mouse  • Boot without keyboard and mouse					
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630		Optional chassis intrusion switch     Optional chassis intrusion switch     Optional chassis F Lock (proping bird)    Smort LISP protection allows keyboard/					
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		Optional chassis E-Lock (special bid)     Smart USB protection, allows keyboard/mouse only, blocks all storage devices					
	Core i5-9400F	6/6	2.9G / 4.1G	9 MB	DDR4-2666	None	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black					
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630	Reyboard	Some: Lenovo Traditional Keyboard (USB connector), black					
	Core i5-9500F	6/6	3.0G / 4.4G	9 MB	DDR4-2666	None		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black					
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)					
	Core i7-9700	8/8	3.0G / 4.7G 3.1G / 5.0G	12 MB 16 MB	DDR4-2666	UHD 630	IVIOUSE	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black					
	Core i9-9900	8/16			DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black					
Memory	64GB max, UDIMM,		66*, four 288-pin	DIMM s	ockets, non-ECC	,		Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)					
	dual-channel capable * System automatical	i Iv clocke	down for the pro	caceare i	with lower memor	v controlle	Mechanical	Tower (15L), black color, metal case					
Storage	Some: Hard Drive / S					y controller		• (WxDxH) 5.91" X 10.65" X 14.17"; 150mm X 270.5mm X 360mm					
Sidiage	Some: Solid State D				111 01 7200 Ipili			Approx. 15.21 lb (6.9 kg), weight may vary by configuration     Optional dust filter.					
	Some: M.2 SSD (22-	42 / 2280	/ PCIe NVMe, I	Cle 3.0	x2 or PCle 3.0 x4	1		Optional dust filter Bay 1: Slim external ODD bay					
0 11 1	Some: Intel Optane <sup>™</sup>	Memory	(not support Ce	eleron / P	entium Processo	r), M.2		Bay 2: 3.5", 1" high, internal, HDD/SSD					
Optical	Some: DVD-ROM S. Some: DVD Burner	AIA 1.5G	D/S Drive, Slim (S	J.Umm)	lim (0 0mm)			Bay 3: 3.5", 1" high, internal, HDD/SSD (optional bay)					
Onboard SATA	Three onboard SATA	6.0Gb/s	connectors	Dilve, S	IIII (9.0IIIII)			Slot 1: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x16					
Media reader	Optional 7-in-1 media		301.11001010					Slot 2: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x1 Slot 3: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x1					
Graphics	Intel UHD Graphics	610/630	n some process	ors. uses	main memory. D	irectX® 12.		Slot 4: no slot, only bracket for optional port extension					
	one VGA (up to 2048	x1536@5	60Hz), two Displa	ayPort™ (	up to 4096x2304	@60Hz),		M.2 card slots: Two (one for WLAN, one for SSD/Optane)					
	supports 3 independe						Power supply	Some: 180 watts, autosensing, 85% PSU					
	Some: NVIDIA Gefor	r <b>ce</b> ° G I / DisplayPr	ort (up to 3840x2	, Directx	12, 2GB, PCIe 2 Hz)	.0 X16,		Some: 210 watts, autosensing, 85% PSU					
	Some: AMD Radeon	™ <b>520</b> , D	irectX 12, 2GB (	DDR5, I	PCIe 3.0 x8, 30 w	atts,		Some: 260 watts, autosensing, 92% PSU (only available via special bid)					
	two DisplayPo	rt (up to	4096x2160@60l	Hz)			Limited warranty <sup>3</sup>	<sup>3</sup> Some: 1-year or 3-year, depot service / service upgrades available					
	Some: AMD Radeon		(, DirectX 12, 46 3840x2160@60l			00 watts,		Some: 1-year or 3-year, limited onsite service / service upgrades available					
			e VGA (up to 20				Preload	Preloaded operating system					
Monitor Cable	Optional DP to VGA	dongle, D	P to DVI-D dong	le, DP to	dual DP dongle (	for Collage		Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit					
	Display with intel inte	grated gra	aphics), or DP to	HDMI 1.	4 dongle	•		Preloaded applications (only some listed)					
Chipset	Intel B360 Chipset							Lenovo Vantage					
Front ports* (Std.)	2x USB 3.1 Gen2, 2x	USB 3.1	Gen1, 1x USB 3	3.1 Type-0	C Gen1 (15W cha	arging),		Microsoft Office preloaded;					
	1x microphone (3.5m	m), 1x he	adphone / micro	phone co	ombo jack (3.5mr	n)		<ul> <li>purchase a product key to activate</li> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> </ul>					
Front ports* (Opt. Rear ports* (Std.)	) <i>Optional:</i> 1x media re 0 4x USB 2.0, 1x serial	ader (9-pin), 1	x ethernet (RJ-4	5), 1x V0	GA, 2x DisplayPo	rt,		Cyberlink Power2GO (only for models with DVD±RW)     LinkedIn					
	1x line-out (3.5mm)						Environment	ENERGY STAR® 7.0, EPEAT™ Silver rating (North America), ErP Lot 3, TCO,					
Hear ports (Opt.,	) <i>Optional:</i> 2x USB 3.1 (special bid only), 1x	Gen1 via	l PCIe X1^^, 2X U I (0-pip)	SB 3.1 I	ype-C Gen2 via i via PCIa v1	Cle x4^^	Environment	TUV low noise verified (coming soon, on some models), RoHS-compliant					
	1x parallel (25-pin), 2	x PS/2 pc	orts (keyboard/m	ouse). ac	dditional RJ-45 ar	nd video	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com					
	ports available on op	ional gra	phics or ethernet	card			Accessories	i oi compande accessories, piease go to intp.//sinartimu.ienovo.com					
	* Depending on many fa	ctors, actu	al data transfer spe	ed may be		tical speed							
	** Choose either 2x USE	3.1 Gen1	or 2x USB 3.1 Typ	e-C Gen2									

















#### ThinkCentre M80t Platform Specifications

Processor	Intel® Celeron®, Intel	Pentium®	or 10th Gen Int	el Core™	i3 / i5 / i7 / i9 Pro	ocessor	Audio support	High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (2 watt )
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610		Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),
	Celeron G5920	2/2	3.5G	2 MB	DDR4-2666	UHD 610		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2
	Pentium Gold G6400	2/4	4.0G	4 MB	DDR4-2666	UHD 610		Some: 11ax wireless, M.2 Card, Intel Wi-Fi 6 AX201 (dual band),
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630	Divisto ath	Wi-Fi + Bluetooth 5.1 combo adapter, Intel vPro technology support, 2x2
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630	Bluetooth™ Ethernet	Some: Bluetooth 5.0/5.1 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630		Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCle x1
	Core i3-10320	4/8	3.8G / 4.6G	8 MB	DDR4-2666	UHD 630	Manageability	Intel Active Management Technology 14 (Intel AMT 14);
	Core i5-10400F	6 / 12	2.9G / 4.3G	12 MB	DDR4-2666	None	a.iagoaoy	Intel vPro technology on some models (require choosing a vPro-support Wi-Fi
	Core i5-10400	6 / 12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630		adapter to enable vPro function through wireless connection)
	Core i5-10500	6 / 12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified
	Core i5-10600	6 / 12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630	Security features	<ul> <li>Security slot (for Kensington® lock)</li> <li>Power-on password</li> </ul>
	Core i7-10700F	8 / 16	2.9G / 4.8G	16 MB	DDR4-2933	None		Padlock loop     Administrator password
	Core i7-10700	8 / 16	2.9G / 4.8G	16 MB	DDR4-2933	UHD 630		Optional Smart Cable Clip to     Hard disk password      Plact acqueres control
	Core i9-10900F	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	None		<ul> <li>physically lock keyboard and mouse</li> <li>Optional chassis intrusion switch</li> <li>Boot sequence control</li> <li>Boot without keyboard and mouse</li> </ul>
	Core i9-10900	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	UHD 630		Optional chassis E-Lock     Individual USB port disablement
	* Max freguency may ref Technology 3.0 / Intel Th					lax		<ul> <li>Smart USB protection, allows keyboard/ mouse only, blocks all storage devices</li> </ul>
Memory	128GB max, DDR4-3 * System automatical						Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black
Storage	Support up to 2x HDI support for HDD (RA Some: Hard Drive / Some: M.2 SSD (22-	D ([2.5" + ID preset SATA 6.00	3.5"] or [dual 2.5 only available vi Bb/s, 2.5" or 3.5'	5"]) and u a special ', 7200 rp	p to 1x M2.SSD, bid) om	RAID 0/1	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
Optical	Some: Intel Optane Some: DVD-ROM, S	Memory SATA 1.5G	M10, M.2 2280 b/s Drive, slim (	, PCIe 3.0 9.0mm)	0 x2		Mechanical	Tower (13.6L), black color, metal case Dimensins with bezel & PCI holder & rubber foot:
Onboard SATA Media reader	Some: DVD Burner Four onboard SATA 6 Optional 3-in-1 media	0.0Gb/s co	nnectors	-	, ,		Dove	(WxDxH) 5.7" X 11.7" X 13.6; 145mm X 296mm X 346mm  ■ Weight (approx.): 10.6 lb (4.8 kg), weight may vary by configuration
Graphics	Intel UHD Graphics	<b>610/630</b> i	n some process	ors, uses	main memory, D		Bays	Bay 1: Slim ODD bay Bay 2: 3.5" HDD bay Bay 3: 2.5" HDD bay (optional bay, or bay comes with disk)
	two DisplayPort™, on support via discrete of Max resolution: 4096 Some: AMD Radeon two DisplayPo	graphics ×2304 (DI o™ <b>520</b> , D	P)@60Hz; 1920:	x1080 (H GDDR5, I	DMI)@60Hz	. ,	Slots	Slot 1: full-height (length < 215mm), PCIe 3.0 x16 Slot 2: full-height (length < 215mm), PCIe 3.0 x1 Slot 3: full-height (length < 215mm), PCIe 3.0 x4 Slot 4: no slot, only bracket for optional port extension
	Some: AMD Radeon one DisplayPo	RX 550X ort (up to	., DirectX 12, 4G 3840x2160@60	iB GDDR Hz), one	HDMI (up to	· ·	EOU design	M.2 card slots: Two (one for WLAN, one for SSD/Optane) None
Monitor Cable	4096x2160@ Optional DP to VGA of Display with intel inte	dongle, Di	o DVI-D dong	ie, DP to		es two slots (for Collage	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 260 watts, autosensing, 85% PSU Some: 310 watts, autosensing, 92% PSU
Chipset	Intel Q470 Chipset						]	Some: 380 watts, autosensing, 92% PSU
Front ports* (Std	.) 2x USB 3.2 Gen 2, 2:	x USB 3.2	Gen 1 1v IISR	3 2 Type	-C Gen 1 (15W c	harging)		* Discrete graphics card / 10-core processors need > 180w power supply
, ,	1x microphone (3.5m 1y) Optional: 3-iin-1 med	m), 1x he	adphone / micro			Limited warranty	Some: 1-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available	
Rear ports* (Std.	) 4x USB 3.2 Gen 1, 1: 1x line-out (3.5mm)	x serial (9	-pin), 1x etherne			Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit	
Rear ports* (Opt	.) Optional: 2x USB 2.0	, 2x USB	3.2 Gen 1 via P	Cle x1, 2	k USB 3.2 Type-C	Gen 2 via		Some: Windows 10 IoT Enterprise (only available via special bid model)
	PCle x4, 1x 2nd seria 1x parallel (25-pin), 2 ports available on opi * Depending on many fa	al (9-pin), x PS/2 po tional grap	4x serial (9-pin) orts (keyboard/m ohics or etherne	via PCIe ouse), ao t card	x1, Iditional RJ-45 ar	nd video	Environment	ENERGY STAR® 8.0*, EPEAT™ Silver rating*, ErP Lot 3, TCO (coming soon), TUV low noise verified (on some models), RoHS-compliant * Only available for MT 11CS/11CT
	** Only available for the				s lower man meore	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com	
Nata The second	ations above may not be			-			ı	Lenovo May 2020

















## ThinkCentre M90t Platform Specifications

Processor	Intel® Celeron®, Intel	Pentium®	or 10th Gen Inte	el Core™	i3 / i5 / i7 / i9 Pro	ocessor		1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video					
		Cores /	Frequency		Memory Support	Integrated		ports available on optional graphics or ethernet card					
	Processor	Threads		Cache	(Up to)	Graphics		* Depending on many factors, actual data transfer speed may be lower than theoretical speed					
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610		** Only available for the models with integrated graphics					
	Celeron G5920	2/2	3.5G	2 MB	DDR4-2666	UHD 610	Audio support	High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (2 watt )					
	Pentium Gold G6400	2/4	4.0G	4 MB	DDR4-2666	UHD 610	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band),					
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2					
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630		Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2					
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630		Some: 11ax wireless, M.2 Card, Intel Wi-Fi 6 AX201 (dual band),					
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630		Wi-Fi + Bluetooth 5.1 combo adapter, Intel vPro technology support, 2x2					
	Core i3-10320	4/8	3.8G / 4.6G	8 MB	DDR4-2666	UHD 630	Bluetooth™	Some: Bluetooth 5.0/5.1 wireless, integrated in Wi-Fi + BT combo adapter					
	Core i5-10400F	6/12	2.9G / 4.3G	12 MB	DDR4-2666	None	Ethernet (Ont )	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®					
	Core i5-10400	6/12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4 Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1					
	Core i5-10500	6/12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630	Managoobility						
	Core i5-10600 Core i7-10700F	6 / 12 8 / 16	3.3G / 4.8G 2.9G / 4.8G	12 MB 16 MB	DDR4-2666 DDR4-2933	UHD 630 None	Manageability	Intel Active Management Technology 14 (Intel AMT 14); Intel vPro technology on some models (require choosing a vPro-support Wi-Fi					
	Core i7-10700F	8/16	2.9G / 4.8G	16 MB	DDR4-2933 DDR4-2933	UHD 630		adapter to enable vPro function through wireless connection)					
	Core i9-10900F	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	None	Security chip	Discrete TPM 2.0, TCG Certified					
	Core i9-10900F	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933 DDR4-2933	UHD 630	Security features	s   ■ Security slot (for Kensington® lock)   ■ Power-on password					
	* Max frequency may re						,	Padlock loop     Administrator password					
	Technology 3.0 / Intel Th					lax		<ul> <li>Optional Smart Cable Clip to</li> <li>Hard disk password</li> <li>Boot sequence control</li> </ul>					
Memory	128GB max, DDR4-3	3200*, fou	r 288-pin DIMM :	sockets.	dual-channel cap	able	1	Optional chassis intrusion switch     Boot without keyboard and mouse					
,	* System automatical						er e	Optional chassis E-Lock     Individual USB port disablement					
Storage	Support up to 3x HDI	D ([2.5" +	dual 3.5"] or [dual	al 2.5" +	3.5"]) and up to 2	x M2.SSD,	]	Self-Healing BIOS     Smart USB protection, allows keyboard/					
	RAID 0/1 support (RAID preset only available via special bid)							mouse only, blocks all storage devices					
	Some: Hard Drive / S					4	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black					
	Some: M.2 SSD (22 Some: Intel Optane <sup>T</sup>					+		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black					
Optical	Some: DVD-ROM, S				0 XZ		Mouse	Some: Lenovo Calliope Mouse (USB connector), black					
	Some: DVD Burner	(DVD±RV	<li>/), SATA 1.5Gb/s</li>		lim (9.0mm)			Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black					
Onboard SATA	Four onboard SATA 6				,			Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black					
Media reader	Optional 3-in-1 media				· · · · · · · · · · · · · · · · · · ·		Mechanical	Tower (17L), black color, metal case					
Graphics	Intel UHD Graphics	610/630 i	n some processo	ors, uses	main memory, D	oirectX® 12,		Dimensins with bezel & PCI holder & rubber foot:					
	two DisplayPort™, on supports up to 3 inde	ie optiona	i video port (cno	ose one	rom HDMI / DP /	Type-C),	Davis	(WxDxH) 6.7" X 11.7" X 14.8"; 170mm X 298mm X 376mm					
	Max resolution: 4096	×2304 (D	nsplays, more di P / Type-C) @ 60H	3piays si 1z: 4096:	x2160 (HDMI)@2	e grapriics 94Hz	Bays	<ul> <li>Weight (approx.): 14.33 lb (6.5 kg), weight may vary by configuration</li> <li>Bay 1: Slim ODD bay</li> </ul>					
	Some: AMD Radeon	n™ <b>520</b> , D	irectX 12, 2GB C	3DDR5, I	PCIe 3.0 x8, 30 w	atts,		Bay 2: 3.5" HDD bay					
	two DisplayPo	ort (up to	1096x2160@60H	lz)				Bay 3: 3.5" HDD bay (optional bay, or bay comes with disk)					
	Some: AMD Radeon	RX 550X	, DirectX 12, 4G	B GDDR	5, PCle 3.0 x8, 5	0 watts,	Slots	Bay 4: 2.5" HDD (bay comes with 2.5" disk)					
			3840x2160@60l		@85Hz), occupie	e two elote		Slót 1: full-height (length < 245mm), PCle 3.0 x16 Slot 2: full-height (length < 245mm), PCle 3.0 x1					
	Some: NVIDIA Gefor					3 two 510t5		Slot 3: full-height (length < 245mm), PCle 3.0 x4					
					600@60Hz), 1x	HDMI (up		Slot 4: no slot, only bracket for optional port extension					
			1x DP (up to 76	80x4320	@60Hz with DS0	C),		M.2 card slots: Three (one for WLAN, two for SSD/Optane)					
	occupies two		OCO DirectV 10	CCD CI	DDC DCIe 2 0 .	.16	EOU design	Toolless cover, disk, optical, extension card removal					
	Some: NVIDIA Gefor				260Hz with DSC)		Power supply	Some: 180 watts, autosensing, 85% PSU					
			2160@60Hz), o			,		Some: 300 watts, autosensing, 85% PSU					
Monitor Cable	onitor Cable Optional DP to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle (for Colla							Some: 300 watts, autosensing, 90% PSU					
	Display with intel inte	grated gra	aphics), or DP to	HDMI 1.	.4 dongle			Some: 500 watts, autosensing, 92% PSU  * Discrete graphics card / 10-core processors need > 180w power supply					
Chipset	Intel Q470 Chipset						Limited warranty	1-year or 3-year, limited onsite service / service upgrades available					
Front ports* (Std.)	2x USB 3.2 Gen 2, 2:						Preload	, ,					
1x microphone (3.5mm), 1x headphone / microphone combo jack (3.5mm) Front ports* (Opt.) Optional: 3-iin-1 media reader						n)		Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit					
Rear ports* (Std.) 4x USB 3.2 Gen 1, 1x serial (9-pin), 1x ethernet (RJ-45), 2x DisplayPort**,						*		Some: Windows 10 IoT Enterprise (only available via special bid model)					
1x line-out (3.5mm)							Environment	ENERGY STAR® 8.0*, EPEAT™ Silver rating*, ErP Lot 3, TCO (coming soon),					
Rear ports* (Opt.) Optional: 1x optional video port** (choose one from HDMI / DP / USB 3.2 Type-C						2 Type-C		TUV low noise verified (on some models), RoHS-compliant					
Gen 1 with DP function), 2x USB 2.0, 2x USB 3.2 Gen 1 via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x 2nd serial (9-pin), 4x serial (9-pin) via PCle x1,								* Only available for MT 11D0/11CY					
	Type-C Gen 2 via PC	ле x4, 1x	∠nd serial (9-pin	), 4x seri	ai (9-pin) via PCI	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com						





















## ThinkCentre M920 Tower Platform Specifications

Processor	Intel® Celeron®, Intel	Pentium®	or 8th /9th Gen	Intel Co	re™ i3 / i5 / i7 / i9	Processor		1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), 1x Thunderbolt 3 (combo
0000001	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)			USB3.1 Type-C Gen 2 / DisplayPort) via PCIe x4 (available on 09/30/2018), additional RJ-45 and video ports available on optional graphics or ethernet card
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		* Depending on many factors, actual data transfer speed may be lower than theoretical speed
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610	Audio support	High Definition (HD) Audio, Realtek ALC233VB2 / internal speaker (2 watt )
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610	WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610	VVLAIV	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 8265, 2x2
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630		Some: 11ac Wi-Fi + BT 5.0, M.2 Card, Intel Wireless-AC 9560 (dual band),
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	Bluetooth™	Intel vPro technology support, 2x2  Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	\ \ \ \ \	Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Manageability	Intel Active Management Technology 12 (Intel AMT 12);
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	,	Intel vPro technology on some models (require choosing a vPro-support Wi-Fi
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630		adapter to enable vPro function through wireless connection)
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630	Security features	<ul> <li>Security slot (in rear for optional</li> <li>Power-on password</li> </ul>
	Core i3-9300	4/4	3.7G / 4.3G 3.7G / 4.4G	8 MB 8 MB	DDR4-2400 DDR4-2400	UHD 630 UHD 630		Kensington® MicroSaver® cable) • Administrator password
	Core i3-9320 Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2400 DDR4-2666	UHD 630		<ul> <li>Padlock loop</li> <li>Optional cable lock to physically lock</li> <li>Boot sequence control</li> </ul>
	Core i5-9400F	6/6	2.9G / 4.1G	9 MB	DDR4-2666	None		both keyboard and mouse  • Boot without keyboard and mouse
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630	I	Optional chassis intrusion switch     Individual USB port disablement
	Core i5-9500F	6/6	3.0G / 4.4G	9 MB	DDR4-2666	None		• Optional chassis E-Lock (special bid) • Smart USB protection, allows keyboard/
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i9-9900	8/16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		Some: Lenovo Traditional Keyboard (USB connector), black
Memory								Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)
•							r Mouse	Some: Lenovo Calliope Mouse (USB connector), black
Storage	Some: Hard Drive /	SATA 6.00	3b/s, 2.5" or 3.5'	, 5400 rp	om or 7200 rpm			Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black
Ü	Some: Solid State D	rive (SSD	) / SATA 6.0Gb/s	s, 2.5"				Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
	Some: M.2 SSD (22							Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)
Ontinal	Some: Intel Optane						Mechanical	• Tower (18L), black color, metal case
Optical Onboard SATA	Optional DVD-ROM of Four onboard SATA 6							(WxDxH) 6.5" X 12.65" X 16.15"; 165mm X 321.35mm X 410.25mm     Approx. 15.45 lb (7 lcs) weight may your by configuration.
Oliboald SAIA	available via special l			U/ I Supp	ort (naib preset	Offig		<ul> <li>Approx. 15.45 lb (7 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, extension card removal</li> </ul>
Media reader	Optional 7-in-1 media		,					Optional carry handle, dust filter
Graphics	Intel UHD Graphics		n some process	ors lises	main memory Γ	irectX® 12		Bay 1: Slim external ODD bay
Grapinos	one VGA (up to 2048							Bay 2: 5.25", 1.6" high, external, ODD / optional front access HDD
	supports 3 independe	ent displa	vs. more display	s suppor	t via discrete gran	ohics		Bay 3: 3.5", 1" high, internal, HDD/SSD
	Some: NVIDIA Gefo							Bay 4: 3.5", 1" high, internal, HDD/SSD (optional bay, bay comes with disk)
					840x2160@60Hz			Bay 5: 2.5", internal, HDD/SSD (optional bay)  Notes: M920 Tower supports up to 3 SATA devices (ODD/HDD/SSD) and
	Some: AMD Radeor		irectX 12, 2GB ( 4096x2160@60F		ruie 3.0 x8, 30 w	alls,		1 eSATA device (front access HDD)
	Some: AMD Radeor				35. PCle 3.0 x8. F	50 watts		Slot 1: full-length (< 268mm) full-height (< 112mm), PCle 3.0 x16
			3840x2160@60			o mano,		Slot 2: full-length (< 268mm) full-height (< 112mm), PCIe 3.0 x1
	4096x2160@	60Ĥz), on	e VGA (up to 20	48*1536	@85Hz)			Slot 3: full-length (< 268mm) full-height (< 112mm), PCle 3.0 x16 (x4 signal)
	Some: NVIDIA Gefo							Slot 4: no slot, only bracket for optional port extension M.2 card slots: Two (one for WLAN, one for SSD/Optane)
	PCIe 3.0 x16,	120 watt	s, 1x DVI-D (up t	0 2560x	1600@60Hz), 1x	HDMI (up		
Monitor Cable	Optional DP to VGA	wouMZ),	OX DM (UP to 51) P to DVI-D dong	∠UXJZUU Ia DP t≏	@60Hz), occupie	s two stots for College	Power supply	Some: 180 watts, autosensing, 85% PSU
ormor odbio	Display with intel inte					ioi oollaye		Some: 250 watts, autosensing, 85% PSU Some: 400 watts, autosensing, 92% PSU (only available via special bid)
Chipset	Intel Q370 Chipset	5. a.oa git			- : #0.1g.0		Limited warranty	
	.) 2x USB 3.1 Gen2, 2x						wananty	Some: 1-year or 3-year, depot service / service upgrades available  Some: 1-year or 3-year, limited onsite service / service upgrades available
Eront norto* (Ont	1x microphone (3.5m		adphone / micro	phone c	ombo jack (3.5mr	n)	Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit
Rear ports* (Opt	·) <i>Optional:</i> 1x media re ) 4x USB 3.1 Gen1, 1x	eader	nin) 1v etherne	t (R I_15)	1v VGA 2v Dier	olavPort		
	1x line-out (3.5mm)					Environment	ENERGY STAR® 7.0, EPEAT™ Silver rating (North America), ErP Lot 3, TCO,	
Rear ports* (Opt	·) Optional: 2x USB 2.0	, 2x USB	3.1 Gen1 via PC	le x1, 2x	USB 3.1 Type-C	Gen2 via	A 000000 =====	TUV low noise verified (coming soon, on some models), RoHS-compliant
	PCle x4 (special bid	oniy), 1x 2	znd serial (9-pin)	, 4x seria	ai (9-pin) via PCI6	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com	

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If Lenovo determines your product problem is covered by the product warranty and cannot be resolved over the telephone, a technician will be dispatched to arrive onsite, typically the next day.

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**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

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# Product Specifications Reference for ThinkStation and ThinkPad P Series

Version 564 Last updated: August 2020

Yufeng Hou houyf@lenovo.com

#### **Summary of Changes**

August 19, 2020 - Version 564

- Add new product: ThinkPad P1 Gen 3, ThinkPad P15v Gen 1
- Update EPEAT Gold on ThinkStation P340 Tiny Platform Specifications
- Add UHD panel on ThinkPad P15s Gen 1 Platform specifications
- Combine ThinkPad P series and ThinkStation PSREF

July 29, 2020 - Version 563

Add new processors for ThinkStation P340 Tower / SFF

June 17, 2020 - Version 561

- New ThinkStation P340 Tower / SFF annouced on June 9, 2020
- Add 625W / 1000W PSU, RTX 2070 Super, RTX 2080 Super, NVlink support

May 27, 2020 - Version 560

• New ThinkStation P340 Tiny annouced on May 21, 2020

May 6, 2020 - Version 559

• Update vPro information on ThinkStation P330 Tower Gen 2 / SFF Gen 2

April 15, 2020 - Version 558

- Update weight data on ThinkStation P330 Tower Gen 2
- Add new product ThinkStation P920 Rack

March 25, 2020 - Version 557

 Add Core i5-8700K, Geforce GTX 1660 Ti, RTX 2070, RTX 2080 on ThinkStation P330 Tower Gen 2

March 4, 2020 - Version 556

Add Core i5-9400F on ThinkStation P330 Tower Gen 2 and ThinkStation P330 SFF Gen 2

December 31, 2019 - Version 553

 Add Xeon W-2200 series Processor and DDR4-2933 memory on ThinkStation P520c and P520

December 11, 2019 - Version 552

Add Xeon Gold 6226 and 6244 on ThinkStation P920 and P720

August 7, 2019 - Version 546

• Update processor information on Thinktation P330 Tiny

July 17, 2019 - Version 545

• Update EPEAT rating to Silver on most ThinkStation

June 26, 2019 - Version 544

• Add ThinkStation P330 Tower Gen 2/P330 SFF Gen 2 CPU Async update

May 15, 2019 - Version 542

- New ThinkStation P330 Tower Gen 2/P330 SFF Gen 2 announced on April 2019
- Update ThinkStation P920/P720/P520 specifications, add Quadro RTX 8000, DDR4-2933, Xeon Scalable Gen 2

March 13, 2019 - Version 539

Add Intel vPro information on ThinkStation P330 Tower/P330 SFF/P520c/P520/P720/P920

February 20, 2019 - Version 538

- New ThinkStation P330 Tower models announced on February 2019
- Update ThinkStation P920/P720/P520/P520c specifications, add Quadro RTX4000/5000/6000

August 22, 2018 - Version 529

- New ThinkStation P330 Tower/SFF/Tiny models announced on August 2018
- Update ThinkStation P920/P720 specifications, update flex bay and graphics adapter section

August 1, 2018 - Version 528

- New product ThinkStation P330 Tower/SFF/Tiny announced on July 2018
- Update ThinkStation P920/P720/P520/P520c, add Refresh 2.0 information
- Remove all MTM PNs from PDF version

June 20, 2018 - Version 526

- New ThinkStation P320 Tower models announced on June 2018
- Update ThinkStation P720 and P920 models, remove EOL models for US
- Update Windows 10 Pro 64 for Workstations for some ThinkStation P720/P920 models

May 30, 2018 - Version 525

Added ThinkStation P720/P920 EMEA May 2018 models

April 18, 2018 - Version 523

 New ThinkStation P320 Tower/ P320 SFF/P520c/P520/P720/P920 models announced on April 2018

March 28, 2018 - Version 522

New ThinkStation P320 Tower/ P320 SFF/P520c/P520/P920 announced on March 2018

March 7, 2018 - Version 521

New ThinkStation P320 Tower/ P320 SFF/P720/P920 announced on February 2018

January 30, 2018 - Version 519

- New ThinkStation P520c and P520 announced on January 2018
- New ThinkStation P320 Tower/P320 SFF announced on January 2018

December 20, 2017 - Version 517

- New ThinkStation P920 models announced on December 2017
- Add Optional Ports on ThinkStation P320 Tiny

September 29, 2017 - Version 513

• New ThinkStation P920 and P720 announced on September 2017

 New ThinkStation P320 Tower/P320 SFF/P410/P510/P710/P910 announced on September 2017

September 12, 2017 - Version 512

New ThinkStation P320 Tower and P320 SFF models announced on August 2017

August 23, 2017 - Version 511

New ThinkStation P320 Tiny models announced on August 2017

August 2, 2017 - Version 510

 New ThinkStation P320 Tiny/P320 Tower/ P320 SFF/P410/P510 models announced on July 2017

June 21, 2017 - Version 508

New ThinkStation P320 Tiny announced on June 2017

May 26, 2017 - Version 507

 Add ThinkStation P410/P510/P710/P910 Refresh 3.0 Wave 1 models and update platform specifications

April 19, 2017 - Version 505

- New ThinkStation P320 Tower announced on April 2017
- New ThinkStation P320 SFF announced on April 2017

March 29, 2017 - Version 504

- Added ThinkStation P310 Tower and SFF models announced on March 2017
- Added ThinkStation P410 models announced on March 2017

January 25, 2017 - Version 501

Update quantity of PCIe SSD adapter in ThinkStation P510/P910

January 4, 2017 - Version 500

Added ThinkStation P310 models announced on December 2016

December 14, 2016 - Version 499

- Added ThinkStation P410/P510/P710/P910 EMEA models
- Added 1TB M.2 PCIe SSD, Quadro P5000, Quadro P6000 support on ThinkStation P510/P710/P910
- Added Quadro P5000 support on ThinkStation P410
- Added 6TB 7.2K SATA6Gbs HDD support on ThinkStation P410/P510/P710/P910
- Added ThinkStation P410/P510/P710/P910 models announced on December 2016

November 23, 2016 - Version 498

- Removed ThinkStation P500/P900 due to EOL
- Added ThinkStation P310 Tower and SFF models announced on November 2016

October 12, 2016 - Version 496

- Removed flash option on ThinkStation P510/P710/P910
- Added ThinkStation P310/P410/P510/P710/P910 models announced on September 2016

August 3, 2016 - Version 493

- Removed ThinkStation P500/P700/P900 Windows 7 DG from Win8.1 U.S. models
- Added keyboard and mouse features on all ThinkStation

July 13, 2016 - Version 492

- Added ThinkStation P500, P700, and P900 Windows 10 downgrade to Windows 7 models
- Updated Maximum configuration weight of ThinkStation P410
- Added ThinkStation P710 and P910 models announced on on July 2016
- Added "Maximum drives in 3.5" bay" feature on ThinkStation P500/P510/P700/P710/P900/P910

June 22, 2016 - Version 491

- Added new product ThinkStation P410/P510
- Added NVIDIA Quadro M2000 on ThinkStation P310 Tower
- Added keyboard and mouse information on ThinkStation P710/P910
- Added internal USB information on ThinkStation P710/P910

June 2, 2016 - Version 490

- Added ThinkStation P710/P910 US models
- Updated ThinkStation P710/P910 processor information

May 19, 2016 - Version 489

- Added NVIDIA Quadro M2000 on compatible product
- Updated maximum weight on ThinkStation P710
- Removed 30AT000BUS

April 27, 2016 - Version 488

- Added ThinkStation P710 and P910 models for EMEA, announced on April 2016
- Updated Energy star information on ThinkStation P500/P700/P710/P900/P910

April 6, 2016 - Version 487

• New ThinkStation P710 and P910, announced April 5, 2016 (specification only)

March 23, 2016 - Version 486

Added processors specifications for P310/P500/P700/P900

February 24, 2016 - Version 485

- Added ThinkStation P310 and P700 models for US, announced on February 2016
- Added ThinkStation P700 and P900 models for EMEA, announced on February 2016

December 9, 2015 - Version 482

New ThinkStation P310 Tower and SFF, announced November 24, 2015

November 18, 2015 - Version 481

- Combines ThinkStation PSREF United States version and Western Europe version.
- Extends the supported GEO into Europe, Middle East and Africa.
- Covers all TopSeller and Relationship models for US and all focus models for EMEA









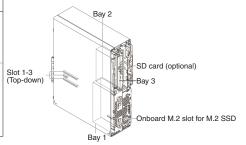


#### ThinkStation P330 SFF Gen 2 (30D1 and 30D2) Platform Specifications

Components	Specification											
Form factor	8.4L mini-tower											
Dimensions	Height: 343.5 mm (13	S.5 in) Width:	92 5 mm (3	6 in) Denth:	305 6 mm	(12 in)						
Weight			,	o iii). Doptiii.	000.0 111111	(12 111)						
vveigiit	Maximum configuration Supports one of the form											
	Xeon E-2278G	8C/16T/3.4GF			*	J needed)						
	Xeon E-2276G	6C/12T/3.8GF										
	Xeon E-2274G	4C/8T/4.0GHz										
	Xeon E-2246G	6C/12T/3.6GF										
	Xeon E-2244G	4C/8T/3.8GHz										
	Xeon E-2236	6C/12T/3.4GF										
	Xeon E-2234	4C/8T/3.6GHz 6C/6T/3.4GHz										
	Xeon E-2226G Xeon E-2224G	4C/4T/3.5GHz										
	Xeon E-2224	4C/4T/3.4GHz										
	Xeon E-2174G	4C/8T/3.8GHz										
Processor	Core i9-9900	8C/16T/3.1GF										
	Core i7-9700	8C/8T/3.0GHz										
	Core i7-8700	6C/12T/3.2GF										
	Core i5-9600	6C/6T/3.1GHz										
	Core i5-9500	6C/6T/3.0GHz										
	Core i5-9400F	6C/6T/2.9GHz										
	Core i5-9400	6C/6T/2.9GHz										
	Core i5-8500	6C/6T/3.0GHz										
	Core i3-9300	4C/4T/3.7GHz										
	Core i3-9100	4C/4T/3.6GHz	/6MB/65W/D	DR4-2400								
	Core i3-8300	4C/4T/3.7GHz	/8MB/62W/D	DR4-2400								
	Core i3-8100	4C/4T/3.6GHz										
	Pentium Gold G5620	2C/4T/4.0GHz	<u>/4MB/54W/</u> [	DR4-2400								
Chipset	Intel C246 Chipset											
Memory Sockets	4 DIMM sockets with 2	channels										
Memory Types	8GB/16GB DDR4-2660 4GB/8GB/16GB/32GB			CC								
Memory Capacity	64GB with 4 x 16GB fo				UDIMM non	-FCC						
Memory Protection												
omony i rotoonon	ECC on models with UDIMM ECC memeory  Three PCIe 3.0 slots as following:											
	Slot 1 PCIe 3.0 x16. I	ow profile, lini	s to CPU									
Expansion slots	Slot 1 PCIe 3.0 x16, low profile, links to CPU Slot 2 PCIe 3.0 x1, low profile, links to PCH											
	Slot 3 PCIe 3.0 x16 (negotiable link width x4), low profile, links to PCH											
	, , , , , , , , , , , , , , , , , , ,											
	Integrated Intel UHD Graphics P630 in -G suffix Xeon processors, or Intel UHD Graphics 630 in Core i5 or i3 processors.											
Processor graphics	Surapnics 630 in Core is or is processors.  Works along with discrete graphics to support multi-display, enables three rear											
	display connectors (2	DP standard	1 DP or HE	OMI optional)								
	Up to two PCle 3.0 x				Slot 1 and 3	3). Supports						
	the following graphics	adapters:	3.04.	(		-,						
Discrete graphics	Adapter Core	s Memory	Power	Connectors	Max qty							
card	Quadro P400 256			3x miniDP	2							
	Quadro P620 512			4x miniDP	2							
	Quadro P1000         640         4GB GDDR5         47W         4x miniDP         2											
	Storage Controller	Тур	e Interface	e Disk	Туре	RAID						
Chamana Caraturalli	Onboard Intel RST SA				or SSD	0/1						
Storage Controller	Onboard Intel RST PC		DI PCIe NVI		Cle SSD	0/1						
	Notes: M.2 SSD support is li	mited, please see	Storage bay sed	ction for more info	ormation							
						Otv						
		erface RPM 6Gb/s 7.2K	Offer			C Qty						
		6Gb/s 7.2K	1TB/2T 500GB			2						
Storage Support		6Gb/s 7.2K	256GB/51			2						
	Optane Memory PCIe		320			n HDD/SSD						
		NVMe	256GB/51			3						
	2 . 5.5 565  1 616					-						

	Components	Specification									
	Components	Up to 3 bays with two disk bays and one slim optical bay:									
		Bay 1 Primary 3.5" SATA bay									
	Ctawa na hay	Bay 2 2.5" SATA bay (Optional)									
	Storage bay	Bay 3 9mm Slim ODD bay									
		M.2 SSD (1 onboard, 2 via PCle to M,2 adapter) Notes: Support 1x M.2 SSD at present, 3x M.2 SSD support is pending availability									
	M.2 slot for Wi-Fi and Bluetooth	One dedicated onboard M.2 slot for optional Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps									
	Media reader	Optional 7-in-1 card reader on most models									
	Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-on-LAN. Optional PCIe ethernet adapters are available									
	Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Optional chassis intrusion switch, E-lock, cable lock, Kensington lock, and pad lock									
	Intel vPro	Supports Intel vPro on Xeon and selected Core i7 or i5 models. vPro also requires Wireless-AC 9560 if Wi-Fi is needed									
	Intel AMT	Intel Active Management Technology 12 on Xeon and selected Core i7 or i5 models. Intel Standard Manageability on other models									
	Base warranty	US models comes with 3-year limited onsite service with 9x5/NBD.  1 or 3-year limited onsite service with 9x5/NBD in EMEA or other GEOs									
	HD Audio	Intel HD Audio interface with Realtek ALC233 Codec									
	Front ports	2x USB 3.1 Gen 1 Type A. 2x USB 3.1 Gen 2 Type A. 1x USB 3.1 Gen 1 Type-C. 1x Mic-in. 1x Combo jack									
	Rear ports	2x USB 3.1 Gen 1 Type A. 2x USB 2.0 Type-A. 1x RJ-45. 1x COM. 2x DP. 1x Audio line-out Notes: DP needs Core, Pentium, or -G suffix Xeon processor									
	Optional rear ports	Supports the following via cable: 1x COM. 1x Parallel. 2x PS/2. 1x DP or 1x HDMI. 2x USB 2.0									
	Optional real ports	Supports the following via PCIe adapter: 4x COM. 2x USB 3.1 Type-C. 2x USB 3.1 Gen 1.1x Thunderbolt. Notes: DP or HDMI needs Core, Pentium, or -G suffix Xeon processor									
	Temperature	Operating: 50 °F to 95 °F (10 °C to 35 °C)  Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C)  Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)									
	Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)									
_	Humidity	Operating: 30%~90%, non-condensing Storage (with package): 20%~90%, non-condensing									
	Environmental certification	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 7 qualified									
	Power supply	Supports one 210W or 260W power supply. 210W is 100V - 240V, 85% PSU, Climate Savers Computing Bronze and 80 PLUS Bronze qualified. 260W is 100V - 240V, 92% PSU, Climate Savers Computing Platinum and 80 PLUS Platinum qualified									
	ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>									
	Note:	ors actual data transfer speed mentioned on this page may be lower than theoretical speed									

1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed.
2. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer















#### ThinkStation P330 Tiny Platform Specifications - I of II

Components	Specification											
Form factor	1L. Optional VE Optional floor s Optional tool-le Optional dust fi	tand fo	or vertica	I orientation		ESA	75mm and 1	00mm.				
Dimensions	Height: 179 mn		n). Width	: 37 mm (1.	5 in). D	epth	: 183 mm (7.	2 in)	1			
Weight	Maximum confi	guratio	n: 2.9 lb	(1.3kg)	,		,	· · · · · · · · · · · · · · · · · · ·	7			
Recommended monitors	Lenovo recommend productivity		ThinkVis	ion P series	s monit	ors fo	or best displa	y performance				
	Supports one of the following:											
	Processor Number	Cores	Threads	Base Frequency	Cache	TDP	Memory Types	Processor Graphics				
	Core i9-9900T	8	16	2.1GHz	16MB	35W	DDR4-2666	Intel UHD Graphics 630				
	Core i7-9700T	8	8	2.0GHz	12MB	35W	DDR4-2666	Intel UHD Graphics 630				
	Core i7-9700	8	8	3.0GHz	12MB	65W	DDR4-2666	Intel UHD Graphics 630				
	Core i5-9600T	6	6	2.3GHz	9MB	35W	DDR4-2666	Intel UHD Graphics 630	1			
	Core i5-9600	6	6	3.1GHz	9MB	65W	DDR4-2666	Intel UHD Graphics 630	ı			
	Core i5-9500T	6	6	2.2GHz	9MB	35W	DDR4-2666	Intel UHD Graphics 630	ı			
	Core i5-9500	6	6	3.0GHz	9MB	65W	DDR4-2666	Intel UHD Graphics 630				
	Core i5-9400T	6	6	1.8GHz	9MB	35W	DDR4-2666	Intel UHD Graphics 630				
	Core i5-9400	6	6	2.9GHz	9MB	65W	DDR4-2666	Intel UHD Graphics 630	ı			
	Core i3-9320	4	4	3.7GHz	8MB	62W	DDR4-2400	Intel UHD Graphics 630	í			
	Core i3-9300T	4	4	3.2GHz	8MB	35W	DDR4-2400	Intel UHD Graphics 630				
Broomer	Core i3-9300	4	4	3.7GHz	8MB	62W	DDR4-2400	Intel UHD Graphics 630	\			
Processor	Core i3-9100T	4	4	3.1GHz	6MB	35W	DDR4-2400	Intel UHD Graphics 630	1			
	Core i3-9100	4	4	3.6GHz	6MB	65W	DDR4-2400	Intel UHD Graphics 630				
	Core i7-8700T	6	12	2.4GHz	12MB	35W	DDR4-2666	Intel UHD Graphics 630				
	Core i7-8700	6	12	3.2GHz	12MB	65W	DDR4-2666	Intel UHD Graphics 630				
	Core i5-8600T	6	6	2.3GHz	9MB	35W	DDR4-2666	Intel UHD Graphics 630				
	Core i5-8600	6	6	3.1GHz	9MB	65W	DDR4-2666	Intel UHD Graphics 630				
	Core i5-8500T	6	6	2.1GHz	9MB	35W	DDR4-2666	Intel UHD Graphics 630	r E			
	Core i5-8500	6	6	3.0GHz	9MB	65W	DDR4-2666	Intel UHD Graphics 630	H			
	Core i5-8400T	6	6	1.7GHz	9MB	35W	DDR4-2666	Intel UHD Graphics 630	F			
	Core i5-8400	6	6	2.8GHz	9MB	65W	DDR4-2666	Intel UHD Graphics 630				
	Core i3-8300T	4	4	3.2GHz	8MB	35W	DDR4-2400	Intel UHD Graphics 630				
	Core i3-8300	4	4	3.7GHz	8MB	62W	DDR4-2400	Intel UHD Graphics 630				
	Core i3-8100T	4	4	3.1GHz	6MB	35W	DDR4-2400	Intel UHD Graphics 630				
	Core i3-8100	4	4	3.6GHz	6MB	65W	DDR4-2400	Intel UHD Graphics 630	ַ   '			
Chipset	Intel Q370 Chip							-	$\parallel$			
Memory	2 DIMM socket		34-2666.	SoDIMM. N	lon-EC	С			_ _			
Memory Capacity	64GB (2x 32GE	3)										

	Components	Specification										
		One PCIe slot via	a spec	rific riser card:	2\ d	laur anafila fan dia anata anandaian						
	Expansion slots	card;			,	low profile for discrete graphics pter and quad COM ports adapter						
	Graphics	65W or 62W pro	cessor	r models suppo	orts pr	ocessor graphics only.						
$\dashv$		adapter										
	Graphics - Processor graphics	ntegrated Intel UHD Graphics 630. Works along with discrete graphics to support multi-display										
ıl		One of the following discrete graphics cards on 35W processor models:										
	Graphics - Discrete graphics card	Adapter	Connectors									
	9	Quadro P620 Quadro P1000		2GB GDDR5 4GB GDDR5		4x miniDP 4x miniDP						
	Storage controllers	Integrated Intel S SATA port for 2.5			in chi	pset, 6Gbps SATA, one onboard						
11	Internal storage bay	Up to one 2.5" H	DD on	models witho	ut disc	crete graphics card						
$\  \ $	Disks					, 5.4K; or 1TB SATA 6Gbps, 7.2K						
	M.2 slot for SSD	or 2242 SSD				r M.2 2280 SSD, one for M.2 2280						
	M.2 SSD	M.2 2280 SSD s M.2 2242 SSD s	upport	ts up to 512GE	each	•						
	Optane memory	a 2.5" HDD				m. Optane memory must work with						
	M.2 slot for Wi-Fi and Bluetooth	One dedicated M.2 2230 slot for optional Wi-Fi card, supports one of the following: Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps. Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to 867Mbps.										
H	Wi-Fi antenna	Optional Tiny 2.4				not be supported in some countries kit						
	Optical	Optional one 9.0 VESA mount is r			optica	Il drive kit, DVD-ROM or DVD±RW.						
H	Media reader	None. Using USE	3 adap	oter								
	Network interfaces	One onboard Gb Wake-on-LAN. O	E port	t via integrated Il Intel i350-T4	gigab for 4x	oit ethernet Intel i219LM, supports GbE ports, using PCIe slot						
	Security features	Power-on and ac Chassis intrusion				tform Module, TCG 2.0 compliant. on lock						
	Intel vPro Technology	Supports vPro or i7-8700, Core i5- vPro also require	8600T	, Core i5-8600	), Core	processors: Core i7-8700T, Core i5-8500T, Core i5-8500. Fi is needed						
	Systems management	Intel Active Mana Intel Standard M	ageme anage	ent Technology ability on othe	12 on r mode	vPro models, els						
	Base warranty					e service with 9x5/NBD. NBD in EMEA or other GEOs						
$\ $	HD Audio	Intel HD Audio in	terface	e with Realtek	ALC2	33 Codec						
-	Front standard ports	1x USB 3.1 Gen Combo jack	1 Туре	e A (charging).	1x US	SB 3.1 Gen 1 Type-C. 1x Mic-in. 1x						
	Rear standard ports	2x USB 3.1 Gen 2 Type A. 2x USB 3.1 Gen 1 Type-A. 1x RJ-45. 1x DP. 1x HDMI										
	Optional rear ports - via punch out cable	Up to two options Port 1 supports of 1x USB 3.1 Gen 1x COM. 1x VGA. 1x DP. 1x HDMI.	ne of 1 Type	the following: e-C, also supp								
$\dashv$		Port 2 supports of	ne CC	)M								
$\dashv$												

#### ThinkStation P330 Tiny Platform Specifications - II of II

Components	Specification
Optional rear ports - via PCIe adapter	Supports one of the following: 4x miniDP with Quadro P620 or P1000, 35W processor models only 2x USB 3.1 Gen 1. 4x RJ-45 GbE with Intel I350-T4. 4x COM Note: Punch out cable and PCIe adapter are mutually exclusive
Temperature	Operating: 50 °F to 95 °F (10 °C to 35 °C) Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)
Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)
Humidity	Operating: 20%~80%, non-condensing Storage (with package): 20%~90%, non-condensing
MIL-SPEC	Certified
Environmental certification	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 7 qualified
Power supply	Supports one 135W power adaper, 100V - 240V, 88% PSU
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/













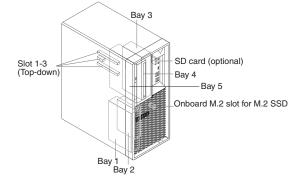
#### ThinkStation P330 Tower Gen 2 (30CY and 30D0) Platform Specifications - I of II

Components	Specification			Components	Specif	ication						
Form factor	18L Tower									raphics card (S	ot 1 and 3)	
Dimensions	Height: 376 mm (14	.8 in). Width: 165 mm (6.5 in). Depth: 328	3 mm (12.9 in)		Suppo	rts the fol	lowing	graphics ad	apters:			
Weight		tion: 23.37 lb (10.6kg)	( - /	-		Graphics		Memory	Power	Connector	Max Q	ty
vvoigni		following processors:		1	Quadro		2	2GB wGDDF	30W	3x miniDP	2	
					Quadro		_	2GB GDDR		4x miniDP	2	
	Xeon E-2286G	6C/12T/4.0GHz/12MB/95W/DDR4-2666		Discrete Graphics		P1000		4GB GDDR		4x miniDP	2	_
	Xeon E-2278G	8C/16T/3.4GHz/16MB/80W/DDR4-2666	400W PSU needed	Offering		P2000		5GB GDDR		4x DP	2	_
	Xeon E-2276G	6C/12T/3.8GHz/12MB/80W/DDR4-2666				P2200		5GB GDDR5		4x DP	2	_
	Xeon E-2274G Xeon E-2246G	4C/8T/4.0GHz/8MB/83W/DDR4-2666 6C/12T/3.6GHz/12MB/80W/DDR4-2666				P4000		8GB GDDR			1 1	- I
	Xeon E-2246G Xeon E-2244G	4C/8T/3.8GHz/8MB/71W/DDR4-2666			Quadro	P5000	1	6GB GDDR	X 180W	DVI-D DL + 4x	DP 1	-
	Xeon E-2236	6C/12T/3.4GHz/12MB/80W/DDR4-2666			Quadro	RTX 400	00	8GB GDDR	6 160W	3x DP, 1x VirtualLin	<sub>ν</sub> 1	
	Xeon E-2234	4C/8T/3.4GHz/8MB/71W/DDR4-2666			Mata. Ou	Ouedra DOO	00 0	dra D4000 Oue	dua DECCO	or Quadro RTX 4000		DCU
	Xeon E-2226G	6C/6T/3.4GHz/12MB/80W/DDR4-2666							_			
	Xeon E-2224G	4C/4T/3.5GHz/8MB/71W/DDR4-2666		Ctavana Cantuallar	Storage Controller Type Interface Disk Type RA r Onboard Intel RST SATA RAID Std SATA 6Gb/s HDD or SSD 0/1/1							
	Xeon E-2224	4C/4T/3.4GHz/8MB/71W/DDR4-2666		Storage Controller								0/1/10/5
	Xeon E-2186G	6C/12T/3.8GHz/12MB/95W/DDR4-2666	400W PSU needed		Onboa	ra intel HS	ST PCI	e RAID   Std	PCIE	NVIVIE   IVI.2 P	Cle SSD	0/1
	Xeon E-2174G	4C/8T/3.8GHz/8MB/71W/DDR4-2666			Disk Ty			face RPM	0	ffering	Max C	Qty
Processor	Core i9-9900K	8C/16T/3.6GHz/16MB/95W/DDR4-2666	400W PSU needed		3.5" SA	TA HDD	SATA 6	6Gb/s 7.2K	1TB	/2TB/4TB	3	
FIOCESSOI	Core i9-9900	8C/16T/3.1GHz/16MB/65W/DDR4-2666						6Gb/s 7.2K	500	GB FIPS	4	
	Core i7-9700K	8C/8T/3.6GHz/12MB/95W/DDR4-2666	400W PSU needed	Storage Support	2.5" SA	ATA SSD	SATA 6	6Gb/s	256GB	/512GB/1TB	4	
	Core i7-9700	8C/8T/3.0GHz/12MB/65W/DDR4-2666			Ontane	Memory	PCIe N	VVMe	:	32GB	1,.	
	Core i7-8700K	6C/12T/3.7GHz/12MB/95W/DDR4-2666									used with H	DD/SSD
	Core i7-8700	6C/12T/3.2GHz/12MB/65W/DDR4-2666			M.2 PC	Cle SSD	PCIe	NVIME	256GB	/512GB/1TB	3	
	Core i5-9600K	6C/6T/3.7GHz/9MB/95W/DDR4-2666	400W PSU needed		Up to f	ive bays v	with fou	ır disk bays	plus one	slim optical ba	y, supports	up to 3x
	Core i5-9600	6C/6T/3.1GHz/9MB/65W/DDR4-2666			3.5" HI	DD plus 1	x 2.5"	SSD, or 4x 2	2.5" HDE	D/SSD		
	Core i5-9500	6C/6T/3.0GHz/9MB/65W/DDR4-2666			Bav 1	Primary of	disk ba	y, 3.5" or 2.5	5"			
	Core i5-9400F	6C/6T/2.9GHz/9MB/65W/DDR4-2666								when 2nd Quad	lro P2000 i	sused
	Core i5-9400	6C/6T/2.9GHz/9MB/65W/DDR4-2666								WHOTI ZITO QUAC	101 2000 1	3 4304
	Core i5-8500	6C/6T/3.0GHz/9MB/65W/DDR4-2666			Bay 3 Secondary disk bay, 3.5" or 2.5"  Bay 4 5.25" Flex bay, supports one of the following:  Flex module for optional front eSATA/Thunderbolt/IEEE1394							
	Core i3-9300	4C/4T/3.7GHz/8MB/62W/DDR4-2400										
	Core i3-9100	4C/4T/3.6GHz/6MB/65W/DDR4-2400										
	Core i3-8300	4C/4T/3.7GHz/8MB/62W/DDR4-2400 4C/4T/3.6GHz/6MB/65W/DDR4-2400				<ul> <li>3rd disk bay, 3.5" or 2.5", removable, via Front Access Storage</li> </ul>						
01:	Core i3-8100	4C/41/3.0GHZ/0WID/03W/DDH4-2400			Enclosure, using SATA 4 connector as eSATA mode  • 3rd disk bay, 3.5" or 2.5", via 5.25" to 3.5" HDD Kit							
Chipset	Intel C246 Chipset								via 5.25'	' to 3.5" HDD K	it	
Memory Sockets	4 DIMM sockets with				Bay 5	9mm Slin	n ODD	bay				
Memory Types	8GB/16GB DDR4-26				M.2	3x M.2 SS	SD (1 o	nboard. 2 via	PCIe to	M.2 adapter)		
Memory Capacity		B DDR4-2666 UDIMM non-ECC for UDIMM ECC or 128GB with 4 x 32GB U	IDIMM non-ECC	Media reader				ader on mos				
Memory Protection		UDIMM ECC memeory	DIMINITION-LOG	Network	One or	nboard Gl	oE port	t via integrat	ed gigal	oit ethernet Inte	I i219LM, s	upports
Memory i Totection	Three PCIe 3.0 slots	,		interfaces						pters are availa		
				WLAN + Bluetooth	One de	edicated o	onboar	d M.2 slot fo	r option	al Intel Wireless	-AC 9560,	2x2,
Expansion slots		, full height, half length, links to CPU								ac, Bluetooth 5		
Expandion dioto		full height, full length, links to PCH		0	Power-	on and a	dmin p	assword. Tru	isted Pla	atform Module,	TCG 2.0 cc	ompliant.
	Slot 3 PCIe 3.0 x16	(negotiable link width x4), full height, hal	f length, links to PCH	Security features	lock	ai chassis	sintrus	sion switch, i	=-lock, c	able lock, Kens	ington lock	, and pad
	Integrated Intel UHD	Graphics P630 in -G suffix Xeon proces	ssors, or Intel UHD	l <u>-</u>		rts Intel v	Pro on	Xeon and s	elected	Core i7 or i5 m	ndels	
Processor graphics	Graphics 630 in Co	re i7, i5, i3, or Pentium processors.		Intel vPro	vPro a	lso requir	es Wire	eless-AC 95	60 if Wi-	Fi is needed	Judio.	
1 10003301 grapinos	Works along with di	screte graphics to support multi-display, e	enables three rear							Xeon and sele	cted Core	i7 or i5
	display connectors (	(2 DP standard, 1 DP or HDMI optional)		Intel AMT	models	s. Intel Sta	andard	Manageabi	lity on ot	her models	oted core	17 01 10
				Danaaumaut :						e service with 9	x5/NBD.	
				Base warranty	1 or 3-	year limite	ed onsi	ite service w	ith 9x5/l	NBD in EMEA	or other GE	Os
				HD Audio	Intel H	D Audio ir	nterfac	e with Realt	ek ALC2	33 Codec		

#### ThinkStation P330 Tower Gen 2 (30CY and 30D0) Platform Specifications - II of II

Front ports  2x USB 3.1 Gen 1 Type A. 2x USB 3.1 Gen 2 Type A. 1x USB 3.1 Gen 1 Type-C. 1x Mic-in. 1x Combo jack  2x USB 3.1 Gen 1 Type A. 2x USB 2.0 Type-A. 1x RJ-45. 1x COM. 2x Df 1x Audio line-out Notes: DP needs Core, Pentium, or -G suffix Xeon processor  Optional front ports (on flex module)  Optional rear ports  Optional rear ports  Optional rear ports  Optional rear ports  Optional rear ports  Optional rear ports  Optional rear ports  At COM. 1x Parallel. 2x PS/2. 1x DP or 1x HDMI. 2x USB 2.0 Supports the following via PCIe adapter: 4x COM. 1x Parallel. 2x PS/2. 1x DP or 1x HDMI. 2x USB 2.0 Supports the following via PCIe adapter: 4x COM. 2x USB 3.1 Type-C. 2x USB 3.1 Gen 1. 1x Thunderbolt. Notes: DP or HDMI needs Core, Pentium, or -G suffix Xeon processor  Operating: 50 °F to 95 °F (10 °C to 35 °C)  Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C)  Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)  Altitude  Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft).  Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)  Operating: 30%~90%, non-condensing  Environmental  RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY ST	
Rear ports	
Con flex module   1x eSATA. 1x IEEE1394	?
Optional rear ports  1x COM. 1x Parallel. Žx PS/2. 1x DP or 1x HDMI. 2x USB 2.0 Supports the following via PCle adapter: 4x COM. 2x USB 3.1 Type-C. 2x USB 3.1 Gen 1. 1x Thunderbolt. Notes: DP or HDMI needs Core, Pentium, or -G suffix Xeon processor  Operating: 50 ° F to 95 ° F (10 ° C to 35 ° C) Non operating (no package): 14 ° F to 140 ° F (-10 ° C to 60 ° C) Non operating (with package): -40 ° F to 140 ° F (-40 ° C to 60 ° C)  Altitude  Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)  Operating: 30%~90%, non-condensing Storage (with package): 20%~90%, non-condensing  Environmental  RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY ST	
Temperature  Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C)  Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)  Altitude  Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft).  Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)  Operating: 30%~90%, non-condensing  Storage (with package): 20%~90%, non-condensing  Environmental  RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY ST	
Altitude Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft).  Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)  Operating: 30%~90%, non-condensing Storage (with package): 20%~90%, non-condensing  Environmental RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY ST	
Environmental Storage (with package): 20%~90%, non-condensing  Environmental RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY ST	
certification qualified	AR 7
Supports one 250W or 400W power supply, 100V - 240V, 92% PSU.  Power supply Climate Savers Computing Platinum and 80 PLUS Platinum qualified. 400W PSU supports one 6+2-pin aux power connector.	
ISV certifications Please visit <u>www.thinkworkstations.com/isv-certifications/</u>	

Note:
1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed.
2. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer















#### ThinkStation P340 SFF Platform Specifications

Components	Specification									
Form factor	8.2L									
Dimensions	Height: 339.5 m	m (13	4 in) W	/idth: 92	5 mm (3	3 6 in)	Depth: 309	9 7 m	m (9.3 in)	
Weight	Maximum confic				,	,.o,	. Бории со	J.,	(0.0)	
Processor Sockets		juralio	1. 12.0	ID (5.7 K	9)					
		0	:0 :7 :	r:0						
Processor Support		, Core	19, 17, 1		rocesso	r		1		
	Processor Number	Cores	hreads	Base Frequenc	Cache	TDP	Memory Types	ECC	Processor Graphics	vPro
	Xeon W-1290	10	20	3.2GHz		80W	DDR4-2933	Yes	UHD P630	Yes
	Xeon W-1270	8	16	3.4GHz			DDR4-2933		UHD P630	Yes
	Xeon W-1250	6	12	3.3GHz			DDR4-2666		UHD P630	Yes
_	Core i9-10900	10	20	2.8GHz			DDR4-2933		UHD 630	Yes
Processor	Core i7-10700	8	16 12	2.9GHz			DDR4-2933		UHD 630	Yes
	Core i5-10600 Core i5-10500	6	12	3.3GHz 3.1GHz			DDR4-2666 DDR4-2666		UHD 630 UHD 630	Yes Yes
	Core i5-10400	6	12	2.9GHz			DDR4-2666		UHD 630	No
	Core i3-10320	4	8	3.8GHz			DDR4-2666		UHD 630	No
	Core i3-10300	4	8	3.7GHz			DDR4-2666		UHD 630	No
	Core i3-10100	4	8	3.6GHz			DDR4-2666		UHD 630	No
Chipset	Intel W480 Chip	set								
Memory Sockets	4 DIMM sockets		chanr	nels						
,	8GB/16GB/32G				/ FCC					
Memory Types	or 4GB/8GB/160					l non-	ECC			
Memory Capacity	128GB									
Memory Protection	ECC. ECC mem	ory ar	id ECC	-enable	CPU are	need	led			
	Three PCIe 3.0	slots a	s follow	ving:						
	Slot 1 PCle 3.0	x16. lc	w profi	le. links	to CPU					
Expansion slots	Slot 2 PCIe 3.0									
	Slot 3 PCIe 3.0					low r	rofile. links	to P	CH	
	Integrated Intel									20 630
	in Core process		παριτίο	3 1 000 1	II Veoli k	JI OCC 3	55015, 01 1111	ei Oi	ib Grapino	3 000
Processor graphics			ete ara	aphics to	support	multi	-display, en	ables	s three real	r
3 4	display connecte	ors (2	DP stai	ndard, 1	video po	ort opt	ional (Vide	o por	t can be D	Ρ,
	HDMI, or USB-C						`			
	Graphics		Me	mory	Power		Conne	ector		Max
Discrete Graphics	'			<u> </u>						Qty
Offering	Quadro P400		2GB	GDDR5	30W		3x mir	<u>niDP</u>		2
Onoring	Quadro P620			GDDR5	40W		4x mir			2
	Quadro P1000		4GB	GDDR5	50W		4x mir	<u>niDP</u>		2
Ctorogo	Storage Control	ler		Тур	e Inter	face	Disk Ty	/ре	RAID	
Storage Controller	Onboard Intel R	ST SA	TA RA	ID Sto	SATA	6Gb/s	HDD or	SSD	0/1	
Controller	Onboard Intel P	ST PO	Cle RAI	D Sto	PCIe I	<b>NVMe</b>	M.2 PCIe	SSE	0/1	
	Disk Type	Int	erface	RPM		Offer	ina		Max Qty	
	3.5" SATA HDD			s 7.2K	1TB/		TB/6TB		1	7
Storage Support	2.5" SATA HDD			s 7.2K		1TB F			2	7
0 11	2.5" SATA SSD		A 6Gb/			12GB			2	7
	M.2 PCIe SSD		e NVM				B/1TB/2TB		4	7
	Bay 1 First 3.5"	disk b	av							
	Bay 2 First 2.5"									
Storage Bays	Bay 3 9mm Slin									
	- a, o pinni Olli	000	~wy							1
	Bay 4 Madia ro	ader								
	Bay 4 Media rea M.2 4x M.2 S		onhos	d Ovic	DCIa ta I	M 2 a	dontor)			

Components	Specification
Media reader	Optional SD reader on most models
Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-on-LAN. Optional PCIe ethernet adapters are available
WLAN + Bluetooth	Optional Intel Wi-Fi 6 AX201, 2x2, 2.4GHz/5GHz (160MHz channels), WiFi 6, Bluetooth 5
Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Optional chassis intrusion switch, E-lock, cable lock, Kensington lock, and pad lock
Intel vPro	Supports Intel vPro on models with vPro-enable processor. vPro also requires AX201 if Wi-Fi function is needed
Intel AMT	Intel Active Management Technology 14 on vPro models, Intel Standard Manageability on other models
Base warranty	Most models comes with 3-year limited onsite service with 9x5/NBD.  Other models may have 1 or 2-year limited onsite service
HD Audio	Intel HD Audio interface with Realtek ALC623 Codec
Front ports	2x USB-A 3.2 Gen 1. 2x USB-A 3.2 Gen 2. 1x USB-C 3.2 Gen 1. 1x Mic-in. 1x Combo jack
Rear ports	2x USB-A 3.2 Gen 1. 2x USB-A 2.0. 1x RJ-45. 1x COM. 2x DP. 1x Audio line-out
Optional rear ports	Supports the following via cable: 1x COM. 1x Parallel. 2x PS/2. 1x video (DP, HDMI, or USB-C). 2x USB 2.0. Supports the following via PCle adapter: 4x COM*. 1x USB-C 3.2 Gen 2. 2x USB-A 3.2 Gen 1*. 1x Thunderbolt Notes: 4x COM and 2x USB-A 3.2 Gen 1 are special bids only.
Temperature	Operating: 50 °F to 95 °F (10 °C to 35 °C)  Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C)  Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)
Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)
Humidity	Operating: 30%~90%, non-condensing Storage (with package): 20%~90%, non-condensing
Environmental certification	RoHS-compliant, EPEAT Silver rating, and ENERGY STAR 8 qualified
Power supply	Supports one of the following:  310W, 92% PSU, 100V - 240V, 80 PLUS Platinum qualified  380W, 92% PSU, 100V - 240V, 80 PLUS Platinum qualified
ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>
Note:	factors, actual data transfer aread mentioned on this page may be lower than theoretical aread

Note.

1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed.

2. Any questions or advice on ThinkStation PSREF, please contact Lenovo workstation PSREF developer













#### ThinkStation P340 Tiny Platform Specifications

Components	Specificatio	n												
Form factor	1L. Optional VES Optional floo Optional tool	Optional VESA mount bracket kit, supports VESA 75mm and 100mm. Optional floor stand for vertical orientation. Optional tool-less chassis open. Optional dust filter												
Dimensions	Height: 179 r	Height: 179 mm (7.0 in). Width: 37 mm (1.5 in). Depth: 182.9 mm (7.2 in)												
Weight	Maximum co	nfigura	tion: 3 lb	(1.4kg)										
	Processor Number	Cores	Threads	Base Frequency	Cache		Memory Types	vP						
	19-109001	10	20	1.9GHZ	20MB		DDŘ4-2933		es					
	i9-10900	10	20	2.8GHz			DDR4-2933		es					
	i7-10700T	8	16	2.0GHz			DDR4-2933		es					
	i7-10700	8	16	2.9GHz			DDR4-2933		es					
	i5-10600T	6	12	2.4GHz			DDR4-2666		es					
_	i5-10600	6	12	3.3GHz	12MB	65W	DDR4-2666	S Ye	es					
Processor	i5-10500T	6	12	2.3GHz	12MB	35W	DDR4-2666	S Ye	es					
	i5-10500	6	12	3.1GHz			DDR4-2666		es					
	i5-10400T	6	12	2.0GHz			DDR4-2666		0					
	i5-10400	6	12	2.9GHz			DDR4-2666		0					
	i3-10320	4	8	3.8GHz			DDR4-2666		0					
	i3-10300T	4	8	3.0GHz 3.7GHz			DDR4-2666 DDR4-2666							
	i3-10300 i3-10100T	4	<u>8</u> 8	3.7GHz 3.0GHz			DDR4-2666							
	i3-101001	4	8	3.6GHz			DDR4-2666							
Chipset	Intel Q470 C		0	3.0GHZ	OIVID	10344	DDI 14-2000	<u> </u>	0					
<u> </u>														
Memory Sockets	2 DIMM sock													
Memory Types	4GB/8GB/16		GB DDR	4-2933 Sol	DIMM r	ion-E	C							
Memory Capacity	64GB (2x 32	GB)												
Memory Protection	None													
Expansion slots	One PCIe slo PCIe 3.0 x16 PCIe 3.0 x4	(nego and lov	tiable lin v profile t	k width x8) for etherne	t adapte	er and	Thunderbo	lt adapter						
Processor graphics	Integrated In multi-display	tel UH	D Graphi	cs 630. Wo	rks alo	ng wit	h discrete g	raphics to	support					
Diagrata Oranbias	Graphic	cs	Men	nory Pov	ver		Connector		Max Qt					
Discrete Graphics	Quadro P620	)	2GB G	DDR5 40'	W		4x miniDP		1					
Offering	Quadro P100	0	4GB G	DDR5 50'	W		4x miniDP		1					
Storage Controller	Supports M.2	2 SSD	RAID 0 /	1, for spec	ial bids	only								
Storage Support	Disk Type M.2 PCIe SS		nterface De NVMe	RPM - 2560	Offer 3B/5120			Max Qty 2						
Storage Bays	Two M.2 slots													
Media reader	None													
Network interfaces	One onboard	GbE	port via i	ntegrated g	igabit e	thern	et Intel i219	LM, suppo	rts Wak					

	Components	Specification
	WLAN + Bluetooth	One dedicated M.2 slot for optional Wi-Fi card, supports one of the following:  Intel Wi-Fi 6 AX201, 2x2, 2.4GHz/5GHz (160MHz channels), WiFi 6, Bluetooth 5  Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5
		<ul> <li>Realtek 8822CE, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 5</li> </ul>
_	Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Chassis intrusion switch. Kensington slot
	Intel vPro	Supports vPro on models with the vPro enable processors vPro also requires Wi-Fi 6 AX201 if WiFi is needed
	Systems management	Intel Active Management Technology 14 on vPro models, Intel Standard Manageability on other models
7	Base warranty	Most models comes with 3-year limited onsite service with 9x5/NBD. Other models may have 1 or 2-year limited onsite service
	HD Audio	Intel HD Audio interface with Realtek ALC233 Codec
4	Optical	Optional one 9.0mm optical drive via optical drive kit, DVD-ROM or DVD±RW.
4	Front standard ports	1x USB-A 3.2 Gen 2 (charging). 1x USB-C 3.2 Gen 1. 1x Combo jack
4	Rear standard ports	2x USB-A 3.2 Gen 2. 2x USB-A 3.2 Gen 1 (one supports smart power-on). 1x RJ-45. 1x DP. 1x HDMI. 1x security-lock slot
	Optional rear ports	Reserved area for two optional ports.  Ports 1 supports one of the following:  1x USB-C, also supports DP function  1x COM  1x VGA  1x DP  1x HDMI  Port 2 supports 2nd COM.  Also supports optional Thunderbolt via PCIe adpater and Wi-Fi antenna slot
	Temperature	Operating: 50 °F to 95 °F (10 °C to 35 °C) Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C) Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)
	Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)
	Humidity	Operating: 20%~80%, non-condensing Storage (with package): 20%~90%, non-condensing
4	MIL-SPEC	Certified
_	Environmental certification	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 8 qualified
_	Power supply	<ul> <li>170W power adaper, 100V - 240V, 89% PSU</li> <li>230W power adaper, 100V - 240V, 89% PSU</li> </ul>
_	ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>













#### ThinkStation P340 Tower Platform Specifications

Components	Specification									Components	Specification
Form factor	17L Tower										Disk Type Interface RPM Offering Max Qty
Dimensions	Height: 376 mm	(14.8 in) Wid	lth: 170 n	nm (6.7	in) D	enth: 315	35 mr	n (12 4 in)		1	3.5" SATA HDD SATA 6Gb/s 7.2K 1TB/2TB/4TB/6TB 2
Weight		,		,	111). D	срии. ото.	00 1111	11 (12.7 111)		Storage Support	2.5" SATA HDD SATA 6Gb/s 7.2K 1TB FIPS 4
	Maximum config	uration: 20.7	ID (9.4 KÇ	3)						-	2.5" SATA SSD SATA 6Gb/s - 512GB/1TB 4
Processor Sockets		0 :0 :- ::	- '0							-	M.2 PCIe SSD PCIe NVMe - 256GB/512GB/1TB/2TB 4
Processor Support		Core 19, 17, 1		rocesso	r			Γ-	1		Bay 1 First 3.5" disk bay
	Processor Number	Cores Threads	Base Frequency	Cache	TDP	Memory Types	ECC	Processor Graphics	vPro		Bay 2 First 2.5" SATA bay
		10 20	3.7GHz		125W	DDR4-2933	3 Yes		Yes	1	Bay 3 Secondary 3.5" disk bay
	Xeon W-1290	10 20	3.2GHz			DDR4-2933				Storage Bays	Bay 4 Secondary 2.5" disk bay
	Xeon W-1270P	8 16	3.8GHz	16MB	125W	DDR4-2933	3 Yes	UHD P630	Yes	Storage Days	Bay 5 9mm Slim ODD bay
	Xeon W-1270	8 16	3.4GHz			DDR4-2933				1	,
	Xeon W-1250P	6 12	4.1GHz			DDR4-2666				4	Bay 6 Media reader
	Xeon W-1250         6         12         3.3GHz         12MB         80W         DDR4-2666         Yes         UHD P630         Yes           Core i9-10900K         10         20         3.7GHz         20MB         125W         DDR4-2933         No         UHD 630         Yes									-	M.2 4x M.2 SSD (2 onboard. 2 via PCIe to M.2 adapter)
Dragger	Core i9-10900K	10 20	3.7GHz						Yes	Media reader	Optional SD reader on most models
Processor	Core i9-10900         10         20         2.8GHz         20MB         65W         DDR4-2933         No         UHD 630         Yes           Core i7-10700K         8         16         3.8GHz         16MB         125W         DDR4-2933         No         UHD 630         Yes								Yes	Network	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports
	Core i7-107001	8 16	2.9GHz			DDR4-2933			Yes	interfaces	Wake-on-LAN. Optional PCIe ethernet adapters are available
	Core i5-10600K	6 12	4.1GHz			DDR4-2666			Yes	WLAN +	Optional Intel Wi-Fi 6 AX201, 2x2, 2.4GHz/5GHz (160MHz channels), WiFi 6,
	Core i5-10600	6 12	3.3GHz			DDR4-2666			Yes	Bluetooth	Bluetooth 5
	Core i5-10500	6 12	3.1GHz			DDR4-2666			Yes	Coourity footures	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant.
	Core i5-10400	6 12	2.9GHz			DDR4-2666			No	Security features	Optional chassis intrusion switch, E-lock, cable lock, Kensington lock, and pad lock
	Core i3-10320 Core i3-10300	4 8	3.8GHz 3.7GHz			DDR4-2666 DDR4-2666			No No	+	Supports Intel vPro on Xeon and selected Core i7 or i5 models.
	Core i3-10300	4 8	3.6GHz			DDR4-2666				Intel vPro	vPro also requires AX201 if Wi-Fi function is needed
Chipset	Intel W480 Chips		0.00112	OND	0011	DD114 2000	0 110	0110 000	140	Late LANAT	Intel Active Management Technology 14 on vPro models,
Memory Sockets	4 DIMM sockets		els							Intel AMT	Intel Standard Manageability on other models
Memory Types	8GB/16GB/32GE or 4GB/8GB/16G	B DDR4-2933	BUDIMM		non-	ECC				Base warranty	Most models comes with 3-year limited onsite service with 9x5/NBD. Other models may have 1 or 2-year limited onsite service
Memory Capacity	128GB									HD Audio	Intel HD Audio interface with Realtek ALC623 Codec
Memory Protection	ECC. ECC mem	orv and ECC	-enable (	CPU are	need	ded				Front ports	2x USB-A 3.2 Gen 1. 2x USB-A 3.2 Gen 2. 1x USB-C 3.2 Gen 1. 1x Mic-in. 1x
, , , , , , , , , , , , , , , , , , , ,	Three PCIe 3.0 s									- I I I I I I I I I I I I I I I I I I I	Combo jack 2x USB-A 3.2 Gen 1. 2x USB-A 2.0. 1x RJ-45. 1x COM. 2x DP.
	Slot 1 PCle 3.0 x	x16 full heigh	nt full len	ath link	s to C	:PH				Rear ports	1x Audio line-out
Expansion slots	Slot 2 PCIe 3.0 x										Supports the following via cable:
	Slot 3 PCle 3.0 x						onath	links to B	СП	0-4:	1x COM. 1x Parallel. 2x PS/2. 1x video (DP. HDMI. or USB-C). 2x USB 2.0.
										Optional rear ports	Supports the following via PCIe adapter:
	Integrated Intel Usin Core processor		s P630 in	ı Xeon p	roces	ssors, or in	itel UF	HD Graphi	cs 630	ports	4x COM*. 1x USB-C 3.2 Gen 2. 2x USB-A 3.2 Gen 1*. 1x Thunderbolt
Processor graphics			nhics to	sunnort	multi	-display er	nahles	s three rea	ır		Notes: 4x COM and 2x USB-A 3.2 Gen 1 are special bids only.
i roocooor grapinoo	display connecto	ors (2 DP star	ndard. 1 v	video po	rt opt	ional (Vide	eo por	rt can be D	)P.		Operating: 50 °F to 95 °F (10 °C to 35 °C)
	HDMI, or USB-C					(1141			,	Temperature	Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C) Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)
	Graphics	Mei	mory	Power		Conn	ector		Max		Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft).
	·		-						Qty	Altitude	Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)
	Quadro P400		GDDR5	30W			iniDP		2	I I	Operating: 30%~90%, non-condensing
Discrete Graphics	Quadro P620		GDDR5	40W			<u>iniDP</u>		2	Humidity	Storage (with package): 20%~90%, non-condensing
Offering	Quadro P1000		GDDR5	50W		4x mi	<u>iniDP</u>		2	Environmental	RoHS-compliant, EPEAT Silver rating, and ENERGY STAR 8 gualified
	Quadro P2200 Quadro RTX 400		DDR5X DDR6					II inle	1	certification	<u> </u>
	Quadro RTX 400					3x DP, 1x \			1	Daa.	Supports one of the following:
								ILIIIN		Power supply	<ul> <li>300W, 90% PSU, 100V - 240V, 80 PLUS Gold qualified</li> <li>500W, 92% PSU, 100V - 240V, 80 PLUS Platinum qualified</li> </ul>
	Notes: RTX 4000/RTX 5000/2x P2200 needs 500W PSU.  Storage Controller Type Interface Disk Type RAID							DAID		ICV cortifications	300vv, 32 /61 80, 100 v - 240 v, 60 1 200 1 latinum qualified
0.	Storage Control		Type			Disk T		RAID	_	Note:	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>
Storage Controller	Onboard Intel R Onboard Intel R			SATA (		HDD or			ວ	1. Depending on many	factors, actual data transfer speed mentioned on this page may be lower than theoretical speed. rice on ThinkStation PSREF, please contact Lenovo workstation PSREF developer
Controller					N V IVIE	I IVI.Z FUI	e JJL	J   U/ I		2. Any questions or adv	rice on ThinkStation PSREF, please contact Lenovo workstation PSREF developer
	Notes: RAID 5 and 10	are available on	2.5" HDD/S	SD.							



#### ThinkStation P520 Platform Specifications - I of II

Form factor	33L Tower								
Dimensions	165mm/6.5" W x				n/17.3"	H (with feet	)		
Weight	Maximum configu		i						
	Processor	# of	# of .	_ Bas		Cache	TDP	Memo	
			Threads					Туре	
	Xeon W-2295	18	36	3.0G		24.75MB	165W	DDR4-2	
	Xeon W-2275	14	28	3.3G		19.25MB	165W	DDR4-2	
	Xeon W-2265	12	24	3.5G		19.25MB	165W	DDR4-2	
	Xeon W-2255 Xeon W-2245	10	20	3.7G		19.25MB	165W	DDR4-2	
	Xeon W-2235	<u>8</u> 6	16 12	3.9G 3.8G		16.5MB 8.25MB	155W 130W	DDR4-2	
	Xeon W-2225	4	8	4.1G		8.25MB	105W	DDR4-2	
	Voon W/ 2222	4	8	3.6G		8.25MB	120W	DDR4-2	
Processor Support	Xeon W-2195	18	36	2.3G		24.75MB	140W	DDR4-2	
	Xeon W-2175	14	28	2.5G		19MB	140W	DDR4-2	
	Xeon W-2175	10	20	3.3G		13.75MB	140W	DDR4-2	
	Xeon W-2145	8	16	3.7G		11MB	140W	DDR4-2	
	Xeon W-2135	6	12	3.7G		8.25MB	140W	DDR4-2	
	Xeon W-2133	6	12	3.6G		8.25MB	140W	DDR4-2	
	Xeon W-2125	4	8	4.0G		8.25MB	120W	DDR4-2	
	Xeon W-2123	4	8	3.6G		8.25MB	120W	DDR4-2	
	Xeon W-2104	4	4	3.2G		8.25MB	120W	DDR4-2	
	Xeon W-2102	4	4	2.9G		8.25MB	120W	DDR4-2	
Processor Sockets									
Chipset	Intel C422 Chips	ot							
Memory Sockets	8 DIMM sockets		annole						
				22 DDIM	N /				
Memory Types	DDR4-2666 RDI								
Memory Capacity	512GB with 8 x 6	34GB DL	1H4-293	3 KDIMIN	/IS				
Memory Protection	ECC								
	Slot 1 (CPU) F	PCIe 3.0	x8, full h	eight, fu	II lengtl	h, 25W, ope	n ended		
	Slot 2 (CPU) F	PCIe 3.0	x16, full	height, f	ull lend	th, 75W, do	uble-wid	lth	
						, th, 25W, ope			
Expansion slots						th, 75W, do			
		PCI, full h				juii, 70 v v, ao	abic wid		
						th, 25W, ope	n ondo	4	
		CIE 3.0	-	eigiii, iid		111, 23 VV, Ope	ended	J	
	Graphics		1 1/0						
	araprilos		iviei	nory	Pow-	Connec	tor	SLI /	Max
					Pow- er			SLI / NVlink	Qty
	NVS 810		4GB	DDR3	Pow- er 68W	8xmini	DP		Qty 2
	NVS 810 Quadro P400		4GB 2GB 0	DDR3 GDDR5	Pow- er 68W 30W	8xmini 3xmini[	DP DP		Qty 2 2
	NVS 810 Quadro P400 Quadro P600		4GB 2GB ( 2GB (	DDR3 SDDR5 SDDR5	Pow- er 68W 30W 45W	8xmini 3xmini[ 4xmini[	DP OP OP		Qty 2 2 2
	NVS 810 Quadro P400 Quadro P600 Quadro P620		4GB 2GB ( 2GB ( 2GB (	DDR3 GDDR5 GDDR5 GDDR5	Pow- er 68W 30W 45W 40W	8xmini 3xminiI 4xminiI 4xminiI	DP OP OP		Qty 2 2 2 2
	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000		4GB 2GB ( 2GB ( 2GB ( 4GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5	Pow- er 68W 30W 45W 40W 50W	8xmini 3xminiI 4xminiI 4xminiI 4xminiI	DP DP DP DP DP		Qty 2 2 2 2 2
Discrete Graphics	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000		4GB 2GB ( 2GB ( 2GB ( 4GB ( 5GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5	Pow- er 68W 30W 45W 40W 50W 75W	8xmini 3xminil 4xminil 4xminil 4xminil 4xDF	DP OP OP OP OP		Qty 2 2 2 2 2 2 2
Discrete Graphics Offering	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P4000		4GB 2GB ( 2GB ( 2GB ( 4GB ( 5GB ( 8GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5	Pow- er 68W 30W 45W 40W 50W 75W 120W	8xmini 3xminil 4xminil 4xminil 4xminil 4xDF	DP DP DP DP DP	NVlink	Qty 2 2 2 2 2 2 2 2 2 2
	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P4000 Quadro P5000		4GB 2GB ( 2GB ( 2GB ( 4GB ( 5GB ( 8GB ( 16GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5	Pow- er 68W 30W 45W 40W 50W 75W 120W	8xmini 3xminil 4xminil 4xminil 4xminil 4xDF 4xDF DVI-D DL+	DP DP DP DP DP DP DP		Qty 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P4000 Quadro P5000 Quadro P6000	20	4GB 2GB ( 2GB ( 2GB ( 4GB ( 5GB ( 8GB ( 16GB ( 24GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5X	Pow- er 68W 30W 45W 40W 50W 75W 120W 180W 250W	8xmini 3xminiI 4xminiI 4xminiI 4xDF 4xDF DVI-D DL+ DVI-D DL+	DP DP DP DP DP DP DP DP DP DP DP DP DP D	NVlink	2 2 2 2 2 2 2 2 2
	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P4000 Quadro P5000 Quadro P6000 Quadro RTX 400	00	4GB 2GB (2 2GB (2 4GB (2 5GB (3 8GB (3 16GB (3 24GB (3 8GB (3	DDR3 BDDR5 BDDR5 BDDR5 BDDR5 BDDR5 BDDR5 BDDR5 BDDR5 BDDR5 BDDR5 BDDR5X BDDR5X	Pow- er 68W 30W 45W 40W 50W 75W 120W 180W 250W	8xmini 3xminil 4xminil 4xminil 4xminil 4xDF 4xDF DVI-D DL+ DVI-D DL+ 3xDP, 1xVirl	DP DP DP DP DP DP DP DP DP DP DP DP DP D	NVlink	2 2 2 2 2 2 2 2 2 2 2 2
	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P4000 Quadro P5000 Quadro P6000 Quadro RTX 400 Quadro RTX 500	00	4GB 2GB ( 2GB ( 2GB ( 4GB ( 5GB ( 8GB ( 24GB ( 8GB ( 16GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR6 GDDR6	Pow- er 68W 30W 45W 40W 50W 75W 120W 180W 250W 160W	8xmini 3xminiI 4xminiI 4xminiI 4xminiI 4xDF 4xDF DVI-D DL+ DVI-D DL+ DVI-D DL+ 3xDP, 1xVird	DP DP DP DP DP DP DP DP DP DP DP DP DP D	NVIink  SLI  NVLink	Qty 2 2 2 2 2 2 1 1 2 2 2
	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P4000 Quadro P5000 Quadro P5000 Quadro RTX 400 Quadro RTX 500 Quadro RTX 600	00	4GB 2GB ( 2GB ( 2GB ( 4GB ( 5GB ( 8GB ( 24GB ( 16GB ( 16GB ( 16GB ( 24GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR6 GDDR6 GDDR6 GDDR6	Pow- er 68W 30W 45W 40W 50W 75W 120W 180W 250W 160W 265W 295W	8xmini 3xminiI 4xminiI 4xminiI 4xminiI 4xDF 4xDF DVI-D DL+ 3xDP, 1xViri 4xDP, 1xViri 4xDP, 1xViri	DP DP DP DP DP DP DP DP DP DP DP DP DP D	NVIink  SLI  NVLink	Qty 2 2 2 2 2 2 2 1 1 2 2 2 2 2 2 2 2 2 2
	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P4000 Quadro P5000 Quadro P5000 Quadro RTX 400 Quadro RTX 500 Quadro RTX 600 Quadro RTX 800 Quadro RTX 800	00	4GB 2GB (2GB (2GB (2GB (2GB (2GB (2GB (2GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR6 GDDR6 GDDR6 GDDR6	Pow- er 68W 30W 45W 40W 50W 75W 120W 180W 250W 160W 265W 295W	8xmini 3xminil 4xminil 4xminil 4xminil 4xDF 4xDF DVI-D DL+ DVI-D DL+ 3xDP, 1xViri 4xDP, 1xViri 4xDP, 1xViri	DP DP DP DP DP DP DP -4xDP -4xDP -tualLink tualLink tualLink	SLI NVLink NVLink	Qty 2 2 2 2 2 2 1 1 2 2 1
	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P5000 Quadro P5000 Quadro P5000 Quadro P7000 Quadro P7000 Quadro P7000 Quadro P7X 500 Quadro P7X 800 Quadro P7X 800 Quadro P7X 800 Quadro P7X 800 Quadro P7000	00	4GB 2GB ( 2GB ( 2GB ( 4GB ( 5GB ( 5GB ( 8GB ( 24GB ( 8GB ( 48GB ( 48GB ( 48GB ( 48GB ( 48GB ( 48GB ( 48GB ( 48GB ( 48GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 HBM2	Pow- er 68W 30W 45W 40W 50W 75W 120W 180W 250W 160W 265W 295W 295W 295W	8xmini 3xminil 4xminil 4xminil 4xminil 4xDF 4xDF DVI-D DL+ 3xDP, 1xViri 4xDP, 1xViri 4xDP, 1xViri 4xDP, 1xViri	DP DP DP DP DP DP DP DP DP DP DP DP DP D	NVIink  SLI  NVLink	Qty 2 2 2 2 2 2 2 1 1 2 2 2 1 1 2 2 2 1 2 2 1 2 2 1 1 2 2 2 2 1 1 2 2 2 2 1 1 2 2 2 2 2 1 1 2
	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P5000 Quadro P5000 Quadro P6000 Quadro P75000 Quadro P75000 Quadro P75000 Quadro P75000 Quadro P7X 800 Quadro P7X 800 Quadro P7X 800 Quadro GP100 Quadro GV100	00 00 00	4GB 2GB (2GB (2GB (2GB (2GB (2GB (2GB (2GB (	GDDR6 GDDR6 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 HBM2 HBM2	Pow- er 68W 30W 45W 40W 50W 75W 120W 180W 250W 265W 295W 295W 235W 250W	8xmini 3xminil 4xminil 4xminil 4xminil 4xDF 4xDF DVI-D DL+ DVI-D DL+ 3xDP, 1xViri 4xDP, 1xViri 4xDP, 1xViri 1xDVI-D DL 4xDF	DP DP DP DP DP DP DP DP DP DP DP DP DP D	SLI  NVLink  NVLink  NVLink	Qty 2 2 2 2 2 2 1 1 2 2 1
	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P5000 Quadro P5000 Quadro P5000 Quadro P7000 Quadro P7000 Quadro P7000 Quadro P7000 Quadro P7X 500 Quadro P7X 600 Quadro P7X 800 Quadro P7100 Quadro GV100 Storage Controll	00 00 00 er  Type	4GB 2GB ( 2GB ( 2GB ( 4GB ( 5GB ( 8GB ( 16GB ( 24GB ( 48GB ( 48GB ( 48GB ( 32GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 HBM2 Interface	Pow- er 68W 30W 45W 40W 50W 120W 180W 250W 160W 265W 295W 295W 295W 250W	8xmini 3xminil 4xminil 4xminil 4xminil 4xDF 4xDF DVI-D DL+ DVI-D DL+ 3xDP, 1xVirt 4xDP, 1xVirt 4xDP, 1xVirt 1xDVI-D DL 4xDF	DP DP DP DP DP DP DP DP DP DP DP DP DP D	SLI NVLink NVLink	Qty 2 2 2 2 2 2 2 1 1 2 2 2 1 1 2 2 2 1 2 2 1 2 2 1 1 2 2 2 2 1 1 2 2 2 2 1 1 2 2 2 2 2 1 1 2
	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P5000 Quadro P5000 Quadro P6000 Quadro P75000 Quadro P75000 Quadro P75000 Quadro P75000 Quadro P7X 800 Quadro P7X 800 Quadro P7X 800 Quadro GP100 Quadro GV100	00 00 00 er  Type	4GB 2GB (2GB (2GB (2GB (2GB (2GB (2GB (2GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 HBM2 HBM2 Interface	Pow- er 68W 30W 45W 45W 50W 75W 120W 180W 250W 265W 295W 295W 295W 235W 250W	8xmini 3xminil 4xminil 4xminil 4xminil 4xDF 4xDF DVI-D DL+ DVI-D DL+ 3xDP, 1xViri 4xDP, 1xViri 4xDP, 1xViri 1xDVI-D DL 4xDF	DP DP DP DP DP DP DP DP DP DP DP DP DP D	SLI  NVLink  NVLink  NVLink	Qty 2 2 2 2 2 2 2 1 1 2 2 2 1 1 2 2 2 1 2 2 1 2 2 1 1 2 2 2 2 1 1 2 2 2 2 1 1 2 2 2 2 2 1 1 2
	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P5000 Quadro P5000 Quadro P5000 Quadro P7000 Quadro P7000 Quadro P7000 Quadro P7000 Quadro P7X 500 Quadro P7X 600 Quadro P7X 800 Quadro P7100 Quadro GV100 Storage Controll	oo oo er Type STe Std	4GB 2GB (2GB (2GB (2GB (2GB (2GB (2GB (2GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 HBM2 HBM2 HBM2 Interface	Pow- er 68W 30W 45W 45W 50W 75W 120W 180W 250W 265W 295W 295W 295W 235W 250W	8xmini 3xminil 4xminil 4xminil 4xminil 4xDF 4xDF DVI-D DL+ DVI-D DL+ 3xDP, 1xVirt 4xDP, 1xVirt 4xDP, 1xVirt 4xDP, 1xVirt 1xDVI-D DL 4xDF RAID 0/1/10/5	DP DP DP DP DP DP DP DP DP DP DP DP DP D	SLI  NVLink  NVLink  NVLink	Qty 2 2 2 2 2 2 2 1 1 2 2 2 1 1 2 2 2 1 2 2 1 2 2 1 1 2 2 2 2 1 1 2 2 2 2 1 1 2 2 2 2 2 1 1 2
Offering	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P5000 Quadro P6000 Quadro P6000 Quadro P75000 Quadro P75000 Quadro P75000 Quadro P75000 Quadro P7X 500 Quadro P7X 600 Quadro P7X 800 Quadro P7X 800 Quadro GP100 Storage Controll Onboard Intel Ri	00 00 00 er  Type	4GB 2GB (2GB (2GB (2GB (2GB (2GB (2GB (2GB (	DORA DORA DODAS GDDR5 GDDR5 GDDR5 GDDR5 GDDR6 GD	Pow- er 68W 30W 45W 45W 150W 75W 120W 180W 250W 250W 295W 295W 295W 250W	8xmini 3xminil 4xminil 4xminil 4xminil 4xDF 4xDF DVI-D DL+ DVI-D DL+ 3xDP, 1xVirt 4xDP, 1xVirt 4xDP, 1xVirt 1xDVI-D DL 4xDF	DP DP DP DP DP DP DP DP DP DP DP DP DP D	SLI  NVLink  NVLink  NVLink	Qty 2 2 2 2 2 2 2 1 1 2 2 2 1 1 2 2 2 1 2 2 1 2 2 1 1 2 2 2 2 1 1 2 2 2 2 1 1 2 2 2 2 2 1 1 2
Offering	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P2000 Quadro P5000 Quadro P6000 Quadro RTX 400 Quadro RTX 500 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 RTX 8	or Type STe Std Opt	4GB 2GB (2GB (2GB (2GB (2GB (2GB (2GB (2GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR6 HBM2 HBM2 HBM2 HBM2 HBM2 HBGDR6 HBM2 HBGDR6 HBM2 HBM2 HBGDR6 HBM3 HZGb/s 12Gb/s 12Gb/s	Pow- er 68W 30W 45W 45W 150W 75W 120W 180W 250W 250W 295W 295W 295W 250W	8xmini 3xmini 4xmini 4xmini 4xmini 4xmini 4xDF 4xDF 4xDF DVI-D DL+ DVI-D DL+ 3xDP, 1xVirt 4xDP, 1xVirt 4xDP, 1xVirt 1xDVI-D DL 4xDF RAID 0/1/10/5	DP DP DP DP DP DP DP DP DP DP DP DP DP D	SLI  NVLink  NVLink  NVLink	Qty 2 2 2 2 2 2 2 1 2 2 1 2 1 1 2 1 1
	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P5000 Quadro P5000 Quadro P5000 Quadro RTX 400 Quadro RTX 500 Quadro RTX 600 Quadro RTX 800 Quadro GP100 Quadro GV100 Storage Controll Onboard Intel Ri 9440-8i PCle	on on one of the original of t	4GB 2GB (2GB (2GB (2GB (2GB (2GB (2GB (2GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR6 GDR6 G	Pow- er 68W 30W 45W 45W 50W 75W 120W 180W 250W 265W 295W 295W 295W 250W 250W	8xmini 3xminil 4xminil 4xminil 4xminil 4xDF 4xDF DVI-D DL+ DVI-D DL+ 3xDP, 1xVirt 4xDP, 1xVirt 4xDP, 1xVirt 1xDVI-D DL 4xDF RAID 0/1/10/5 0/1/10/5/6	DP DP DP DP DP DP DP DP DP DP DP DP DP D	SLI  NVLink  NVLink  NVLink  Cache	Qty 2 2 2 2 2 2 2 1 2 2 1 2 1 1 2 1 1
Offering	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P2000 Quadro P5000 Quadro P5000 Quadro P5000 Quadro RTX 400 Quadro RTX 500 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTX 800 Quadro RTY00 Storage Controll Onboard Intel R: 9440-8i PCle 9460-16i PCle NVMe Basic	er Type STe Std Opt Opt	4GB 2GB (2 2GB (2 2GB (2 4GB (2 5GB (2 8GB (2 16GB (2 24GB (3 48GB (3 16GB (3 24GB (3 48GB (3 32GB (3 32GB (3 5)SAS	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 GDDR6 HBM2 Interface ATA 6Gb 12Gb/s 6Gb/s 12Gb/s 6Gb/s	Pow- er 68W 30W 45W 45W 50W 75W 120W 120W 160W 295W 295W 295W 295W 285W 285W 285W 285W 285W 285W 285W 28	8xmini 3xminil 4xminil 4xminil 4xminil 4xminil 4xDF 4xDF DVI-D DL+ DVI-D DL+ 3xDP, 1xVirt 4xDP, 1xVirt 4xDP, 1xVirt 1xDVI-D DL 4xDF RAID 0/1/10/5 0/1/10/5/6 0/1/10	DP DP DP DP DP DP DP DP DP DP DP DP DP D	SLI  NVLink  NVLink  NVLink  Cache	Qty 2 2 2 2 2 2 2 1 2 2 1 2 1 1 2 1 1
Offering	NVS 810 Quadro P400 Quadro P600 Quadro P620 Quadro P1000 Quadro P2000 Quadro P5000 Quadro P5000 Quadro P5000 Quadro RTX 400 Quadro RTX 500 Quadro RTX 600 Quadro RTX 800 Quadro GP100 Quadro GV100 Storage Controll Onboard Intel Ri 9440-8i PCle	er Type STe Std Opt Opt Opt Opt	4GB 2GB (2GB (2GB (2GB (2GB (2GB (2GB (2GB (	DDR3 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR5 GDDR6 GDR6 G	Pow- er 68W 30W 45W 50W 75W 120W 180W 250W 250W 255W 295W 255W 255W 255W 255W 255W 255	8xmini 3xminil 4xminil 4xminil 4xminil 4xDF 4xDF DVI-D DL+ DVI-D DL+ 3xDP, 1xVirt 4xDP, 1xVirt 4xDP, 1xVirt 1xDVI-D DL 4xDF RAID 0/1/10/5 0/1/10/5/6	DP DP DP DP DP DP DP DP DP DP DP DP DP D	SLI  NVLink  NVLink  NVLink  Cache	Qty 2 2 2 2 2 2 2 1 2 2 1 2 1 1 2 1 1

	Disk Type	Interface	RPM	Offering	Max Qty					
	3.5" SÁTA HDD	SATA 6Gb/s	7.2K	1TB/2TB/4TB/6TB	6					
Storage Sup-	2.5" SATA HDD	SATA 6Gb/s	7.2K	500GB/500GB FIPS	6					
port	2.5" SATA SSD	SATA 6Gb/s		256GB/512GB/1TB/2TB	6					
	M.2 PCle S	INVIVIE		256GB/512GB/1TB/2TB	9					
	PCIe AIC S	SSD PCIe NVMe		480GB	2 (1 when quad M.2 adapter used)					
	Bay Type			Maximum Drives Qty						
		M.2 SSD (2 or	board	I, 7 via PCIe to M.2 adapt	er)					
2 flex bays. Supports the following:  2 x half-height optical drives  2 x 5.25" 9.0mm optical drives  1 x 5.25" 9.0mm optical drives  1 x 5.25" 9.0mm optical drives  1 x 5.25" SATA SSD/HDD  1 x 3.5"/2.5" SATA SSD/HDD with Front Access Storage Enclosure  1 x flex module for the following options:  1										
	Disk bay or		.5" dis	sks with 4 disk bays (2 bay	ys standard, 2 bays					
Max Storage	Supports up to 9x M.2 SSD + 6x 3.5" HDD/6x 2.5" SATA disks/4x 2.5" SAS HDD +									
Power supply	<ul><li>One fixed</li><li>One fixed</li></ul>	900W, autosen 1000W, autose	sing, s nsing,	92%, 80 PLUS Platinum o 92%, 80 PLUS Platinum o 92%, 80 PLUS Platinum	jualified qualified					
Media reader	reader on fl	ex module		<u>'</u>	S-II 15-in-1 USB 3.1 Gen 1					
Network interfaces	ethernet or	wireless adapte	ers are	available '	ake-on-LAN. Optional PCIe					
WLAN + Bluetooth	Optional Int 867Mbps	el Wireless-AC	8265,	2x2, 2.4GHz/5GHz, 802.	11ac, Bluetooth 4.2, up to					
Security features				rusted Platform Module, access panel lock, Kensir	TCG 2.0 compliant, switch					
Intel vPro	Intel vPro te	echnology supp	orted.	vPro requires Wireless-A	C 8265 if Wi-Fi is needed					
Intel AMT	Intel Active	Management To	echno	logy 11						
Diagnostic	with Lenovo display on f	PC Diag-nosti lex module	cs for	Android and iOS. Optiona	ndows. Photo-audio transfer Il front 4-digit diagnostic					
		limited onsite se	ervice	with 9x5/NBD						
HD Audio		C662 codec		AANA ah amala A. A	Control - Contro					
Front ports	(3.5mm)	`		11W charging), 1x combo	. ,					
Rear ports	mic-in), 2x F		en 1, 1	Ix RJ-45, 3x analog audic	ports (line-in, line-out,					
Optional ports	supports  1x eSATA  1x USB Ti Rear:  1x COM p  2x USB Ti	video-out on flex module ype-C on flex m	odule	e-C) on flex module, one USB 3.1 Gen 1 adapter, USB 3.1 gen 2.0	·					
	Internal:  1x interna	I USB 3.1 Gen	1 port							

#### ThinkStation P520 Platform Specifications - II of II

	Temperature - operating	50 °F to 95 °F (10 °C to 35 °C)
Environmental specification	Temperature - storage (no package)	14 °F to 140 °F (-10 °C to 60 °C)
	Temperature - storage (with package)	-40 °F to 140 °F (-40 °C to 60 °C)
	Altitude - operating	(Unpressurized): -50ft-10000ft (-15.2m-3048m)
	Humidity - operating	10%~80%, non-condensing
	Humidity - storage (with package)	10%~90%, non-condensing
Environmental Certifications	RoHS-compliant. GREENGUARD. E qualified on model 30BE0008US and	PEAT Silver rating. ENERGY STAR 6.1 d 30BE0009US
ISV certifications	Please visit www.thinkworkstations.c	com/isv-certifications/

- Note:
  1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed.
  2. To support the maximum expandability, 900W power supply may be needed.
  3. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer





#### **ThinkStation P520c Platform Specifications**

Form factor	25L Tower										
Dimensions	175mm/6.89" W	/ x 426n	nm/16.	77" D	x 376	mm/1	4.8" l	I (with fee	et)		
Weight	Maximum config	guration	: 31.97	lb (1	4.5kg)						
	Виссельни	# of	# of		Base	Э	0-		TDD	Memor	·V
	Processor	Cores	Threa	ds l	Freque	ncy	Ca	iche .	TDP	Types	
	Xeon W-2245	8	16		3.9GF	·lz	16.	5MB 1	55W	DDR4-29	933
	Xeon W-2235	6	12		3.8GF	Ιz	8.2	5MB 1	30W	DDR4-29	933
	Xeon W-2225	4	8		4.1GF	Ηz	8.2	5MB 1	05W	DDR4-29	933
	Xeon W-2223	4	8		3.6GH	Ιz	8.2	5MB 1	20W	DDR4-26	666
	Xeon W-2195	18	36		2.3GH	Ηz	24.7	75MB 1	40W	DDR4-26	666
Processor Support	Xeon W-2175	14	28		2.5GH				40W	DDR4-26	
roccooor capport	Xeon W-2155	10	20		3.3GF				40W	DDR4-26	
	Xeon W-2145	8	16		3.7GF				40W	DDR4-26	
	Xeon W-2135	6	12		3.7GF				40W	DDR4-26	
	Xeon W-2133	6	12		3.6GF				40W	DDR4-26	
	Xeon W-2125	4	8		4.0GF					DDR4-26	
	Xeon W-2123	4	8		3.6GF				20W	DDR4-26	
	Xeon W-2104	4	4		3.2GI				20W	DDR4-24	
	Xeon W-2102	4	4		2.9GF	lz	8.2	5MB   1	20W	DDR4-24	100
Processor Sockets	1x FCLGA2066										
Chipset	Intel C422 Chip	set									
Memory Sockets	4 DIMM sockets	with 4	channe	els							
Memory Types	DDR4-2666 RD	IMM or	DDR4	-2933	<b>RDIM</b>	М					
Memory Capacity	256GB with 4 x	64GB F	RDIMM	S							
Memory Protection	ECC										
, , , , , , , , , , , , , , , , , , , ,	Slot 1 (CPU)	PCIe 3.	0 v16	full h	aiaht f	عما الب	nath '	75\M			
	Slot 2 (CPU)							5W, open	andad		
Expansion slots	Slot 3 (CPU)	PCle 3.							enueu		
	·										
	Slot 4 (PCH)	PCIE 3.	.U X4, 11				_	25W, oper			
	Graphics			Me	mory	Po	wer	Conn	ector	SLI /	Max
	NIV (0 0 1 0			400	DDDO		2147			NVlink	
	NVS 810				DDR3		3W	8xmir		-	1
	Quadro P400				GDDR:		DW	3xmir		-	2
Diagrata Cranbias	Quadro P600				GDDR		5W	4xmir		-	2
Discrete Graphics	Quadro P620				GDDR		WC	4x mi		-	2
Offering	Quadro P1000				GDDR:		WC	4xmir		-	2
	Quadro P2000				GDDR:		5W	4xE 4xE		-	2
	Quadro P4000 Quadro P5000				GDDR: GDDR:		WO	DVI-D DI			1
	Quadro RTX 40	200			GDDR			BxDP, 1xV			1
	Quadro RTX 50							xDP, 1xV			1
			_	ООВ				, IXV			
	Storage Contro		Type Std			Interfa			RAIL		che
	On the second that at F		Stall			ATA 6		COh/a	0/1/10		-
Ctorogo Controllor	Onboard Intel F	15 Ie		0						)/:D	-
Storage Controller	9440-8i PCle	15 Ie	Opt	SA	AS 120			000/3	0/1/10		
Storage Controller	9440-8i PCIe NVMe Basic		Opt Opt	SA	P	Cle N	VMe	000/3	0/1/1	0	-
Storage Controller	9440-8i PCle		Opt	SA	P		VMe	000/3		0	-
Storage Controller	9440-8i PCle NVMe Basic NVMe for Intel Disk Type	SSD	Opt Opt		P	Cle N	VMe VMe	ering	0/1/1	0	-
-	9440-8i PCIe NVMe Basic NVMe for Intel Disk Type 3.5" SATA HDD	SSD	Opt Opt Opt Interfa	ce 3b/s	RPM 7.2K	Cle N Cle N	VMe VMe Off 3/2TE	ering B/4TB/6TE	0/1/1 0/1/10 3	0 0/5 Max Q <sup>1</sup> 4	-
Storage Controller Storage Support	9440-8i PCIe NVMe Basic NVMe for Intel Disk Type 3.5" SATA HDD 2.5" SATA HDD	SSD S	Opt Opt Opt Interfa SATA 60	ce Gb/s	PO PO RPM 7.2K 7.2K	Cle N Cle N 1TE 5000	VMe VMe Off B/2TE GB/50	ering 8/4TB/6TE 00GB FIP	0/1/1 0/1/10 3 S	0 0/5 Max Q: 4 4	-
-	9440-8i PCIe NVMe Basic NVMe for Intel Disk Type 3.5" SATA HDD 2.5" SATA SSD	SSD S	Opt Opt Opt Interfa SATA 60 SATA 60	ce Gb/s Gb/s	P( P( RPM 7.2K 7.2K	1TE 5000 256GE	VMe VMe Off B/2TE GB/50 B/512	ering 8/4TB/6TE 00GB FIP GB/1TB/2	0/1/1 0/1/10 3 S 2TB	0 0/5 Max Q1 4 4 4	-
-	9440-8i PCIe NVMe Basic NVMe for Intel Disk Type 3.5" SATA HDD 2.5" SATA HDD	SSD S	Opt Opt Opt Interfa SATA 60	ce Gb/s Gb/s	P( P( RPM 7.2K 7.2K	1TE 5000 256GE	VMe VMe Off B/2TE GB/50 B/512	ering 8/4TB/6TE 00GB FIP	0/1/1 0/1/10 3 S 2TB	0 0/5 Max Q: 4 4	-

	Bay		Maximum Drives Qty
	Type M.2 clot	Ev M 2 CCD (2 ophcard 2	via PCIo to M.2 adaptor\
	IVI.∠ SIOT	5x M.2 SSD (2 onboard, 3 2 flex bays. Supports the fo	via roie to ivi.∠ adapter)
		<ul> <li>2x half-height optical dri</li> </ul>	ves
		<ul> <li>2x 5.25" 9.0mm optical of</li> </ul>	
		• 1x 5.25" 9.0mm optical	drive + 2x 3.5"/2.5" SATA SSD/HDD
Storage Bays		<ul> <li>1x 3.5"/2.5" SATA SSD/I</li> </ul>	HDD with Front Access Storage Enclosure
	Flex Bay		
		Tray 1: 9.0mm optical	
			Gen 1 reader, 2x Thunderbolt, or 4-digit diag-
		nostic display	2.1 Can 1 Time C ar aCATA
			3.1 Gen 1 Type-C or eSATA nt Removable Drive Enclosures
	Disk hav	Up to 2x 3.5"/2.5" disks wi	
		•	IT Z diok bayo
Power supply	One of the	e following:	92%, 80 PLUS Platinum qualified
li ower suppry	• One	fixed 625W, autosensing,	92%, 80 PLUS Platinum qualified
			models. Optional UHS-II 15-in-1 USB 3.1 Gen
Media reader		on flex module	models. Optional one ii 10 iii 1 00B 0.1 den
Network			el i219LM), supports Wake-on-LAN. Optional
interfaces	PCIe ethe	ernet or wireless adapters	are available
WLAN +	Optional	Intel Wireless-AC 8265, 2x	2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up
Bluetooth	to 867Mb		•
	Power-on	and admin password. Trus	sted Platform Module, TCG 2.0 compliant,
Security features		1.2 via UEFI setting. Optio	nal access panel lock, Kensington lock, and
	pad lock	tooknology supported vD	re requires Wireless AC 8065 if Wi Fi is
Intel vPro	needed	technology supported. ve	ro requires Wireless-AC 8265 if Wi-Fi is
Intel AMT		ve Management Technolog	v 11
			ws. Optional front 4-digit diagnostic display on
Diagnostic	flex modu		vo. Optional front 4 digit diagnostic display on
Base warranty	1 or 3-year	ar limited onsite service wi	th 9x5/NBD
HD Audio		LC662 codec	
Front ports		s.1 Gen 1, microphone (3.5	
Rear ports			RJ-45, 3x analog audio ports (line-in, line-out,
	mic-in), 2		
	Front:	the following optional ports	S:
		nderbolt ports (USB Type-C	c) on flex module, one of two ports
		s video-out	, on not module, one of the porte
		TA on flex module	
Optional ports		Type-C on flex module, U	SB 3.1 Gen 1
	Rear:	Amend	
	<ul> <li>1x CON</li> <li>2x USB</li> </ul>		apter, USB 3.1 gen 2. One 15W, one 5W
	Internal:	Type-C ports via PCIe au	apter, 03B 3.1 gen 2. One 15vv, one 5vv
		nal USB 3.1 Gen 1 port	
	Tempera	ture - operating	50 °F to 95 °F (10 °C to 35 °C)
	Tempera	ture - storage (no pack-	14 °F to 140 °F (-10 °C to 60 °C)
	age)		14 * F 10 140 * F (-10 * C 10 60 * C)
Environmental		ture - storage (with pack-	-40 °F to 140 °F (-40 °C to 60 °C)
Environmental specification	age)		(Unpressurized): -50ft-10000ft (-15.2m-
Specification	Altitude -	operating	(Onpressurized): -5011-1000011 (-15.211-
	Humidity	- operating	10%~80%, non-condensing
	Humidity	- storage (with package)	10%~90%, non-condensing
Environmental	BoHS-00	mnliant GREENGLIADD D	EPEAT Silver rating. ENERGY STAR 6.1
Certifications	qualified	on model 30BX0008US ar	nd 30BX0009US
ISV certifications	Please vi	sit <u>www.thinkworkstations.</u>	com/isv-certifications/

Note:

1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed.

2. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer

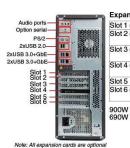












Expansion slots

Slot 1 (CPU2) PCle 3.0 x16, full height, full length, 75W
Slot 2 (CPU1) PCle 3.0 x16, full height, full length, 75W, double-width

Slot 3 (CPU1) PCle 3.0 x8, full height, full length, 25W, open ended

Slot 4 (CPU1) PCle 3.0 x16, full height, full length, 75W, double-width

Slot 5 PCl, full height, full length, 25W
Slot 6 (PCH) PCle 3.0 x4, full height, half length, 25W, open ended

900W PSU supports two 6+2-pin aux power connectors. 690W PSU supports one 6+2-pin aux power connector.

#### ThinkStation P720 Platform Specifications

Form factor	36L Tower								
Dimensions	175mm/6.89" W x 48				/17.6	" H (with fe	eet)		
Weight	Maximum configurat	ion: 52.2	5 lb (23.7	'kg)					
Processor Sockets		4 0	01.1.1						0.1
Processor Support	Up to two 165 W Ge ver, Gold, or Platinus		en 2 Intel	Xeon	Scala	able family	processo	ors, Bronze,	Sil
	Processor	# of	# of	Bas	se	Cache	TDP	Memory Typ	nas
			Threads					, ,,	<u> </u>
	Xeon Gold 6246	12	24	3.3C		24.75MB	165W	DDR4-293	
	Xeon Gold 6244	8	16	3.6G		25MB	150W	DDR4-293	
	Xeon Gold 6242	16	32	2.8G		22MB	150W	DDR4-293	
	Xeon Gold 6238T	22	44	1.9G		30MB	125W	DDR4-293	
	Xeon Gold 6234	8	16	3.3G		25MB	130W	DDR4-293	
	Xeon Gold 6230 Xeon Gold 6226	20 12	40 24	2.1G 2.7G		28MB 19MB	125W 125W	DDR4-293 DDR4-293	
	Xeon Gold 5222	4	8	3.8G		16.5MB	105W	DDR4-293	
	Xeon Gold 5218	16	32	2.3G		22MB	125W	DDR4-266	
	Xeon Gold 5217	8	16	3.0G		11MB	115W	DDR4-266	
	Xeon Gold 5215	10	20	2.5G		13.75MB	85W	DDR4-266	
	Xeon Silver 4216	16	32	2.1G		22MB	100W	DDR4-240	
	Xeon Silver 4215	8	16	2.5G		11MB	85W	DDR4-240	
	Xeon Silver 4214	12	24	2.2G		17MB	85W	DDR4-240	
	Xeon Silver 4210	10	20	2.2G	ìΗz	14MB	85W	DDR4-240	00
	Xeon Silver 4209T	8	16	2.2G		11MB	70W	DDR4-240	
Processor Offering	Xeon Silver 4208	8	16	2.1G		11MB	85W	DDR4-240	
	Xeon Bronze 3204	6	6	1.9G		8.25MB	85W	DDR4-213	
	Xeon Platinum 8160		48	2.1G		33MB	150W	DDR4-266	
	Xeon Gold 6146	12	24	3.2G		24.75MB	165W	DDR4-266	
	Xeon Gold 6142	16	32	2.6G	iHZ	22MB	150W	DDR4-266	
	Xeon Gold 6136 Xeon Gold 6134	12	24	3.0G		24.75MB	150W 130W	DDR4-266	
	Xeon Gold 6128	8	16 12	3.2G 3.4G		24.75MB 19.25MB	115W	DDR4-266	
	Xeon Gold 5122	4	8	3.4C		16.5MB	105W	DDR4-266 DDR4-266	
	Xeon Gold 5120T	14	28	2.2G		19.25MB	105W	DDR4-240	
	Xeon Gold 5118	12	24	2.3G		16.5MB	105W	DDR4-240	
	Xeon Gold 5115	10	20	2.4G		13.75MB	85W	DDR4-240	
	Xeon Silver 4116	12	24	2.1G		16.5MB	85W	DDR4-240	
	Xeon Silver 4114T	10	20	2.2G	ìΗz	13.75MB	85W	DDR4-240	00
	Xeon Silver 4114	10	20	2.2G	ìΗz	13.75MB	85W	DDR4-240	
	Xeon Silver 4112	4	8	2.6G		8.25MB	85W	DDR4-240	
	Xeon Silver 4110	8	16	2.1G		11MB	85W	DDR4-240	
	Xeon Silver 4109T	8	16	2.0G		11MB	70W	DDR4-240	
	Xeon Silver 4108	8	16	1.8G	iHZ	11MB	85W	DDR4-240	<u> </u>
Chipset	Intel C621 Chipset			DIN 43.4					
Memory Sockets	12 DIMM sockets wi		nnels. 6	DIMM	sock	ets with 6	channels	per process	or
Memory Types	DDR4-2666 RDIMM			_ /					
Memory Capacity	768GB (DDR4-2933	RDIMM)	or 384G	iB (DD	R4-2	2666 RDIM	M)		
Memory Protection									
	Slot 1 (CPU2) PCI	e 3.0 x16	, full heig	iht, full	leng	th, 75W			
						th, 75W, do			
Expansion slots	Slot 3 (CPU1) PCI	e 3.0 x8, f	full heigh	ıt, full le	ength	n, 25W, ope	en ended		
Expansion sides	Slot 4 (CPU1) PCI6	e 3.0 x16	, full heig	ht, full	leng	th, 75W, do	ouble-wic	lth	
		full heigh							
						h, 25W, op	en ende	d	
	Graphics	Memo		ow-		nnector	SLI /		1
	·		. (	er			NVlin	k Qty	
	NVS 810	4GB DI		8W		mini DP		2	1
	Quadro P400	2GB GD		WO	<u>3x</u>	miniDP		3	1
Discrete Graphics	Quadro P600	2GB GD		5W		miniDP		3	-
Offering	Quadro P620	2GB GD	DH5 4	OW		miniDP		3	-
	Quadro P1000	4GB GD		OW		miniDP		3	-
	Quadro P2000	5GB GD	DR5 7	5W	4	4xDP		3	
			DDE 40			4×DD	1		1
	Quadro P4000	8GB GD 16GB GD		20W	4	4xDP DL+4xDP	SLI	2	

	Graphics	l N	Memory			Connector			SLI /	Max		
-	Quadro RTX 4000	) 8GF	3 GF	DR6	er 160W3	3xDP	1xVirtu:	alLink	NVlink	Qty 2		
Discrete Graphics	Quadro RTX 5000	16G	B GI	DDR6	265W	4xDP,	1xVirtua	alLink	NVlink	2		
Offering	Quadro RTX 6000	24G	B GI	DDR6	295W	4xDP,	1xVirtua	alLink	NVlink	2		
	Quadro RTX 8000 Quadro GP100	16G	48GB GDDR6 16GB HBM2		295W	4xDP, 1xVii		<u>alLink</u>	NVlink	2		
	Quadro GV100			BM2	250W	4xDP		+	NVlink	2		
	Storage Controlle		Type Interf			ace RAID			Cache			
	Onboard Intel RSTe	Std	5		6Gb/s	0/1	/10/5					
	9440-8i PCle	Opt	S	SATA (	2Gb/s, 6Gb/s	0/1	/10/5					
Storage Controller	9460-161 PCIE	Opt	8	SATA (	2Gb/s, 6Gb/s		10/5/6	4GE	3 DDR4, 9	SuperCap		
	NVMe Basic NVMe Premium	Opt Opt			NVMe NVMe		1/10 /10/5					
	NVMe for Intel	Opt			VVMe		/10/5					
		Interfac	20	RPM		Offeri	ina		May	Qtv		
	Disk Type	шена	)e	LIL IVI		Ollen	irig		(Blind co	nnection used)		
									6 (Also s	supports		
	3.5" SATA HDD S	ATA 6G	TA 6Gb/s 7.2K			1TB/2TB/4TB/6			additional 4x 2.5" SATA			
Storage Support									SSD/HDD)			
configuration	2.5" SATA HDD S				500G	B/500	GB FIP	S	1	0		
	2.5" SAS HDD SA	AS 120	ab/s	10K			00GB			3		
	2.5" SATA SSD S. 2.5" PCIe SSD P				256GB/	<u>/512G</u> 1.5T		21B		0		
	M.2 PCIe SSD P	Cle NV	'Me		256GB/			2TB		9		
	PCIe AIC SSD P					4800			2	2		
	Bay Type				Maximu	ım Dri	ves Qty	'				
	M.2 slot 9x M.2 S						M.2 ada	pter)				
	2 flex ba					g:						
	• 2x hali				rives drives							
	• 1x 5.2	5" 9.0n	nm c	ptical	drive +	1x 3.5	5"/2.5" 5	SATA	SSD/HDE	)		
	Elay Bay • 1x 3.5	"/2.5" \$	Sata	\ SSD	/HDD w	ith Fro	nt Acce	ess St	torage En	closure		
	- IX IICX	modul 9.0mr			ollowing	optio	ns:					
Storage Bays					Gen 1	reade	r or 2x <sup>-</sup>	Thund	derbolt			
1	Port 1	and 2:	Fro	nt US	B 3.1 G	en 1 T	ype-C o	r eSA	ATA			
					ont Rem					-f 4l f-1		
	lowing co				iard, 2 b	ays of	otionai).	Supp	orts one	of the fol-		
	• 4x 3.5"											
		SATA	HDD	) + 4x	2.5" SA	TA SS	D/HDD	(Blin	d connec	tion		
	, needed)	CATA	220	/HDD	or 8v 2	5" Q A	S HDD	(Blin	d connect	tion		
	needed)	OAIA	OOD	71100	OI OX Z	.5 0/-	OTIDD	(DIIII)	a connec	11011		
	• 2x 2.5 <sup>°</sup>	PCIe S	SSD	+ 2x	3.5"/2.5	" disks	(Blind	conn	ection nee	eded)		
	Supports one of the						- · · ·					
Power supply	<ul><li>One fixed 690W,</li><li>One fixed 900W,</li></ul>	autos	ensir	ng, 92	2%, 80 P	LUS	latinun	n qua	lified			
11	<ul> <li>One fixed 900VV,</li> <li>One fixed 1000V</li> </ul>	autos∈ √. auto:	sens	iy, 92 sina. 9	. /∘, 60 P 92%, 80	PLUS	Platinu	ı qua m alı	alified			
	3	,			, 00			94				

#### **ThinkStation P720 Platform Specifications**

Media reader	1 reader on flex module	nodels. Optional UHS-II 15-in-1 USB 3.1 Gen							
Network interfaces	Integrated two-port gigabit ethernet (II LAN on both two ports. Optional PCIe	ntel i219LM and i210AT), supports Wake-on- ethernet are available							
WLAN + Bluetooth	Optional Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to 867Mbps								
Security features	switch to 1.2 via UEFİ setting. Chassis lock, Kensington lock, and pad lock	ed Platform Module, TCG 2.0 compliant, sintrusion switch. Optional access panel							
Intel vPro	Intel vPro technology supported. vPro requires Wireless-AC 8265 if Wi-Fi is needed								
Intel AMT	Intel Active Management Technology	11							
Diagnostic	Front panel warning LED. ThinkSta-tio transfer with Lenovo PC Diag-nostics diagnostic display on flex module	n Diagnostics for Windows. Photo-audio for Android and iOS. Optional front 4-digit							
Base warranty	1 or 3-year limited onsite service with	9x5/NBD							
HD Audio	Realtek ALC662 codec								
Front ports	(3.5mm)	charging), 1x combo audio/microphone jack							
Rear ports	2x USB 2.0, 4x USB 3.1 Gen 1, 2x RJ mic-in), 2x PS/2	-45, 3x analog audio ports (line-in, line-out,							
Optional ports	Internal:  1x internal USB 3.1 Gen 1 port	3 3.1 Gen 1 ter, USB 3.1 gen 2. One 15W, one 5W							
Environmental specification	Temperature - operating 50 °F to 95 °F (10 °C to 35 °C)  Temperature - storage (no package) 14 °F to 140 °F (-10 °C to 60 °C)  Temperature - storage (with package) -40 °F to 140 °F (-40 °C to 60 °C)  Altitude - operating (Unpressurized): 0-10000ft (0-3048m)  Humidity - operating 10%~80%, non-condensing  Humidity - storage (with package) 10%~90%, non-condensing								
Environmental Certifications	RoHS-compliant. GREENGUARD. EP fied on model 30BA0007US and 30BA	EAT Silver rating. ENERGY STAR 6.1 quali-							
ISV certifications	Please visit www.thinkworkstations.co	m/isv-certifications/							

Note:
1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed.
2. To support the maximum expandability, 900W power supply may be needed.
3. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer













#### ThinkStation P920 Platform Specifications

55L Tower

Form factor

Form factor	55L lower						
Dimensions	200mm/7.87" W x 620	mm/24.4	" D x 446	3mm/17.56" I	H (with feet	t)	
Weight	Maximum configuration				`		
Processor Sockets			(==:=::3/				
	Up to two 205 W Gen	1 or Gen	2 Intel X	eon Scalable	family nro	ncessors	Bronze Sil-
Processor Support	ver, Gold, or Platinum	i oi acii	1 Z IIIICI X	con ocalabic	lailing pro	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Bronze, on-
		# of	# of	Base			Memory
	Processor	Cores	Threads		Cache	TDP	Types
	Xeon Platinum 8280	28	56	2.7GHz	39MB	205W	DDR4-2933
	Xeon Gold 6254	18	36	3.1GHz	25MB	200W	DDR4-2933
	Xeon Gold 6244	8	16	3.6GHz	25MB	150W	DDR4-2933
	Xeon Gold 6242	16	32	2.8GHz	22MB	150W	DDR4-2933
	Xeon Gold 6238T	22	44	1.9GHz	30MB	125W	DDR4-2933
	Xeon Gold 6234	8	16	3.3GHz	25MB	130W	DDR4-2933
	Xeon Gold 6230	20	40	2.1GHz	28MB	125W	DDR4-2933
			24				
	Xeon Gold 6226	12		2.7GHz	19MB	125W	DDR4-2933
	Xeon Gold 5222	4	8	3.8GHz	16.5MB	105W	DDR4-2933
	Xeon Gold 5218	16	32	2.3GHz	22MB	125W	DDR4-2666
	Xeon Gold 5217	8	16	3.0GHz	11MB	115W	DDR4-2666
	Xeon Gold 5215	10	20	2.5GHz	13.75MB	85W	DDR4-2666
	Xeon Silver 4216	16	32	2.1GHz	22MB	100W	DDR4-2400
	Xeon Silver 4215	8	16	2.5GHz	11MB	85W	DDR4-2400
	Xeon Silver 4214	12	24	2.2GHz	17MB	85W	DDR4-2400
	Xeon Silver 4210	10	20	2.2GHz	14MB	85W	DDR4-2400
Processor Offering	Xeon Silver 4209T	8	16	2.2GHz	11MB	70W	DDR4-2400
1 Toccssor Officining	Xeon Silver 4208	8	16	2.1GHz	11MB	85W	DDR4-2400
	Xeon Bronze 3204	6	6	1.9GHz	8.25MB	85W	DDR4-2133
	Xeon Platinum 8160T	24	48	2.1GHz	33MB	150W	DDR4-2666
	Xeon Gold 6154	18	36	3.0GHz	24.75MB	200W	DDR4-2666
	Xeon Gold 6142	16	32	2.6GHz	22MB	150W	DDR4-2666
	Xeon Gold 6136	12	24	3.0GHz	24.75MB	150W	DDR4-2666
	Xeon Gold 6134	8	16	3.2GHz	24.75MB	130W	DDR4-2666
	Xeon Gold 6128	6	12	3.4GHz	19.25MB	115W	DDR4-2666
	Xeon Gold 5122	4	8	3.6GHz	16.5MB	105W	DDR4-2666
	Xeon Gold 5120T	14	28	2.2GHz	19.25MB	105W	DDR4-2400
	Xeon Gold 5118	12	24	2.3GHz	16.5MB	105W	DDR4-2400
	Xeon Gold 5115	10	20	2.4GHz	13.75MB	85W	DDR4-2400
	Xeon Silver 4116	12	24	2.1GHz	16.5MB	85W	DDR4-2400
	Xeon Silver 4114T	10	20	2.2GHz	13.75MB	85W	DDR4-2400
	Xeon Silver 4114	10	20	2.2GHz	13.75MB	85W	DDR4-2400
	Xeon Silver 4112	4	8	2.6GHz	8.25MB	85W	DDR4-2400
	Xeon Silver 4110	8	16	2.1GHz	11MB	85W	DDR4-2400
	Xeon Silver 4109T	8	16	2.1GHz	11MB	70W	DDR4-2400
	Xeon Silver 4108	8	16	1.8GHz	11MB	85W	DDR4-2400
Chipset	Intel C621 Chipset		10	1.00112	THVID	0344	DDI 14-2400
		10 aban	nolo 0 DI	IMM applicate	with C aba	nnala na	× n×000000×
Memory Sockets	16 DIMM sockets with						r processor
Memory Types	DDR4-2666 RDIMM, D						
Memory Capacity	1TB (DDR4-2666 LRD	IMM or I	DDR4-29	33 RDIMM) (	or 512GB (	DDR4-26	666 RDIMM)
Memory Protection	ECC						
Expansion slots	Slot 3 (CPU1) PCIe 3 Slot 4 (CPU1) PCIe 3 Slot 5 (PCH) PCIe 3 Slot 6 (CPU2) PCIe 3 Slot 7 (CPU2) PCIe 3	3.0 x16, f 3.0 x4, fu 3.0 x4, fu 3.0 x16, f 3.0 x16, f	ull height, Il height, Il height, ull height ull height	, full length, full length, 2, full length, 5, full length, 2, half length, 2, half length, full length, full length, full length,	75W, doub 5W, open 6 25W, open 75W 75W, doub	le-width ended ended	

	Graphics		N	lemo	ry	Power	Conne	ector	SLI / NVlink	Max Qty
	NVS 810		4G	B DI	)B3	68W	8xmin	i DP	INVIIIK	2
	Quadro P400				DR5	30W	3xmir			5
	Quadro P600				DR5	45W	4xmir			4
	Quadro P620				DR5	40W	4xminiDP			4
	Quadro P1000				DR5	50W				4
	Quadra Banco				DR5	75W	4xD			4
Discrete Graphics	Quadro P4000				DR5	120W	4xD			4
Offering	Quadro P5000	1				180W			SLI	3
	Quadro P6000					250W			SLI	3
	Quadro RTX 40				DR6	160W	3xDP, 1xV	irtuall ink	OL:	3
	Quadro RTX 50				DDR6	265W	4xDP. 1xV	irtuall ink	NVLink	3
	Quadro RTX 60				DDR6		4xDP, 1xV			2
	Quadro RTX 80				DDR6	295W	4xDP, 1xV	irtuall ink	NVLink	2
	Quadro GP100				BM2		1xDVI-D D		NVLink	3
	Quadro GV100				BM2	250W			NVLink	3
	Storage Contro		Type					RAID		che
	Onboard Intel F		Štd			<u>Interfac</u> ATA 6G		0/1/10/5		CHE
	9440-8i PCle	1316					ATA 6Gb/s	0/1/10/5		
Storage									1CB	DDR4,
Controller	9460-16i PCIe		Opt	i   S	AS 120	ab/s, SA	ATA 6Gb/s	0/1/10/5/		erCap
00111101101	NVMe Basic		Opt	+	P	Cle NV	Me	0/1/10	Сирс	лоцр
	NVMe Premiun	n	Opt			Cle NV		0/1/10/5	5	
	NVMe for Intel		Opt	_		Cle NV		0/1/10/5		
<u> </u>										
	Disk Type	Interfa	ice F	(PIVI		Offeri	ng	Max Qty (9460 used)		
	3.5" SATA	CAT	^							
	HDD	SATA 6Gb/		'.2K	1TE	3/2TB/4	TB/6TB		upports ac SATA SSE	
	2.5" SATA	SATA	۸					48 2.5		(טטוו/ונ
	HDD	6Gb/		'.2K	5000	3B/500	GB FIPS		10	
		SAS	2							
Ct C	2.5" SAS HDD	12Gb		10K	30	00GB/6	00GB		8	
Storage Support	2.5" SATA	SATA	Ą		05005	VE 4 0 0 1	2/4 TD /0TD		10	
	SSD	6Gb/	/s		256GE	5/5 IZGI	3/1TB/2TB		10	
	2.5" PCIe SSD	PCI				1.5T	D		4	
	2.5 FOIE 33D	IVIVIVI			1.516			4		
	M.2 PCIe SSD	PCI			256GF	3/512GI	3/1TB/2TB	9		
	W.E.T. 010 00B	NVM			20001	701201	5/115/215			
	PCIe AIC SSD	PCI				4800	iΒ		2	
		NVM	ie							
	Bay				M	laximur	n Drives Qt	ty		
	Type	000	/0							
	M.2 slot 9x M.2	2 SSD	(20	nboa	ard, / v	ia PCIE	to M.2 ad	apter)		
	2X 3.5	or 2.	5" (1)	SKS.	Suppo al drive	rts tne	following:			
					tical dr					
							x 3.5"/2.5"	C VIV CCI	<b>7/</b> ⊔DD	
	a 1v 9						Front Acc			uro
						owing o		coo Otora	ge Enclos	uic
Storage Bays		1: 9.0				9	F			
						en 1 re	ader or 2x	Thunderb	olt	
							1 Type-C		-	
	• 3x N	<b>M.2 SS</b>	SD w	ith 3	x Front	Remo	<u>vablé Drive</u>	Enclosur		
							andard, 2 b	oays optio	nal). Supp	oorts
					onfigu	rations:		•		
]	Disk bay • 4x 3	.5" SA	ΙΑΗ	DD			005 " := =			
	• 4x 3	.5" SA	ΙΑΗ	DD :	+ 4x 2.	b" SAT/	SSD/HDE	)		
	• 8x 2	.5" SA	ia S	SD/l	JUU or	8x 2.5	" SAS HDD	)		

#### ThinkStation P920 Platform Specifications

	Supports up to 9x M.2 SSD + 6x 3.5" AIC SSD.	HDD/10x 2.5" SSD/10x 2.5" HDD + 2x PCle						
Max Storage	All HDD: 36TB using 6x 3.5" HDD							
		SSD, 9x M.2 SSD, and 2x PCIe AIC SSD						
	One fixed 1400 watts, autosensing, 92							
Power supply	Countries with input voltage under 115	5V, output power limited to 1125 watts						
Media reader	USB 2.0 9-in-1 card reader on most m 1 reader on flex module	odels. Optional UHS-II 15-in-1 USB 3.1 Gen						
Network interfaces	Integrated two-port gigabit ethernet (Intel i219LM and i210AT), supports Wake-or LAN on both two ports. Optional PCIe ethernet are available							
WLAN + Bluetooth	Optional Intel Wireless-AC 8265, 2x2, to 867Mbps	2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up						
Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant, switch to 1.2 via UEFI setting. Chassis intrusion switch. Optional access panel lock, Kensington lock, and pad lock							
Intel vPro	Intel vPro technology supported. vPro needed	requires Wireless-AC 8265 if Wi-Fi is						
Intel AMT	Intel Active Management Technology							
Diagnostic	Front 4-digit diagnostic display. ThinkS transfer with Lenovo PC Diagnostics for	station Diagnostics for Windows. Photo-audio or Android and iOS						
Base warranty	1 or 3-year limited onsite service with	9x5/NBD						
HD Audio	Realtek ALC662 codec							
Front ports	4x USB 3.1 Gen 1 (includes one 11W charging), 1x combo audio/microphone jack (3.5mm)							
Rear ports	2x USB 2.0, 4x USB 3.1 Gen 1, 2x RJ mic-in), 2x PS/2	-45, 3x analog audio ports (line-in, line-out,						
	Supports the following optional ports: Front:							
	<ul> <li>2x Thunderbolt ports (USB Type-C) supports video-out</li> </ul>	on flex module, one of two ports						
	1x eSATA on flex module							
Optional ports	• 1x USB Type-C on flex module, USB	3 3.1 Gen 1						
	Rear:							
	<ul><li>1x COM port</li><li>2x USB Type-C ports via PCIe adap</li></ul>	tor LISB 2.1 gap 2. One 15W one 5W						
	Internal:	ter, USD 3.1 gen 2. One 15vv, one 5vv						
	1x internal USB 3.1 Gen 1 port							
	Temperature - operating	50 °F to 95 °F (10 °C to 35 °C)						
	Temperature - storage (no package)	14 °F to 140 °F (-10 °C to 60 °C)						
Environmental	Temperature - storage (with package)							
specification	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)						
- F - 2	Humidity - operating	10%~80%, non-condensing						
	Humidity - storage (with package)	10%~90%, non-condensing						
Environmental Certifications	RoHS-compliant. GREENGUARD. EP fied on model 30BC0008US and 30BC	EAT Silver rating. ENERGY STAR 6.1 quali-						
	Please visit www.thinkworkstations.co							

Note:

1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed.

2. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer (houyt@lenovo.com)













Form factor	2U rack											
Dimensions	Height: 87 mm (3.4 ir	a) Midth:	115 mm	(17 5 in) [	)onth: 720 m	m /29 2	in\					
					лерит. 720 п	1111 (20.3	111)					
Weight	Maximum configurati	on: 70.54	ID (32 KC	)								
Processor Sockets	2x FCLGA3647	1.1/		.,		0:1						
Processor Support	Up to two Gen 2 Inte				ssors, Bronz	e, Silver						
	Processor		# of Threads	Base Frequenc		TDP	Ty	mory pes				
	Xeon Gold 6252	24	48	2.1GHz	35.75MB			4-2933				
	Xeon Gold 6234	8	16	3.3GHz	25MB	130W		4-293 <u>3</u>				
	Xeon Gold 6230	20	40	2.1GHz	28MB	125W		4-2933				
Processor Offering	Xeon Gold 5218	16	32	2.3GHz	22MB	125W		4-2666				
	Xeon Gold 5215	10	20	2.5GHz	13.75MB			4-2666				
	Xeon Silver 4215	8	16	2.5GHz	11MB	85W		4-2400				
	Xeon Silver 4214	12	24	2.2GHz	17MB	85W		4-2400				
	Xeon Silver 4210	10	20	2.2GHz	14MB	85W		4-2400				
	Xeon Silver 4208	8	16	2.1GHz		85W		4-2400				
	Xeon Bronze 3204	6	6	1.9GHz	8.25MB	85W	DDR	4-21 <u>33</u>				
Chipset	Intel C624 Platform (											
Memory Sockets	24 DIMM sockets wit	h 12 cha	nnels. 12	DIMM soc	kets with 6 c	hannels	per pro	cessor				
Memory Types	DDR4-2933 RDIMM,	8GB/160	GB/32GB	available								
Memory Capacity	768GB with 24x 32G	B DDR4-	2933 RD	IMM								
Memory protection	ECC, memory mirror											
momory protoction					alo veido							
	Slot 1 (riser card 1) Full height, half length, double-wide Slot 2 Not present, for double-wide card in slot 1											
		NOL pres	<u>enii, ioi u</u>	ouble-wide	l baight balf	lonath						
Evacacion elete	Slot 3 (riser card 1)	PCIe 3.0	0 X 10 (X8	<u>rafila</u>	l height, half	iengin						
Expansion slots	Slot 4 (onboard) Slot 5 (riser card 2)		x8, low p		length, requ	iraa Ond	CDLI					
	Slot 6 (riser card 2)				length, requ							
	Slot 7 (onboard)				internal stor							
Integrated Craphica					internal stor	age com	ioner)					
integrated Graphics	Integrated Matrox G2				_							
	Graphics		mory	Power	Connec		SLI / NVlink	Max Qty				
Discrete Graphics	Quadro P620		GDDR5	40W	4xminiE			3				
Offering	Quadro RTX 4000		GDDR6		3xDP, 1xVirt			3				
	Quadro RTX 5000		GDDR6		4xDP, 1xVirt	ualLink		2				
	T4		GDDR6	70W	-			5				
	V100	16GB/32	<u>2GB HBM</u>	2 250W	-			2				
Storage Controller	Storage Controller	Type	Interfa		RAID		Cad	che				
Otorage Controller	530-8i	<u>Optional</u>	12Gbps	SAS	0/1/10/5/5	0	-					
	Disk Type Int	terface	RPM		Offering		M	ax Qty				
C4 = = = = = = = = = = = = = = = = = = =	3.5" SATA HDD SAT			B/4TB/6TI		12TB/14		8				
Storage Support	3.5" SATA SSD SAT	A 6Gb/s	7.2K 240	GB/480G	3/960GB/1.9	2TB/3.8	4TB	8				
	M.2 SATA SSD SAT				480GB			2				
	Bay Type			Mavimum	Drives Qtv							
Storage Bays		SATA SS	SD non-ho		DIIVOS QLY							
ototago zajo		SATA/SA	AS hot-sw	ap disk ba	vs							
	Up to two redundant	hot-swar	1100\\/	or 1600W	RO PLUS PL	tinum aı	ıalifiad	ΔC:				
Power supply	power supplies. 100\	/ - 240V	, 1100 ** (	10000	001 2001 10	unium qu	adillica	70				
Media reader	None	Z-10 V										
IVICUIA I CAUCI	One dedicated mana	aomont r	ort One	LOM alat	or austomiz	241014	with un	to four				
Network interfaces	RJ-45 10GbE ports.							to loui				
<del></del>	None				, ,							
WLAN + Bluetooth												
WLAN + Bluetooth	Power-on and admin	passwor	d. Trusted	l Platform	Module, TCC	3 1.2 cor	npliant,					
Security features	Power-on and admin upgrade to 2.0 via UI	<u>ĖFI settin</u>	g. Option	al lockable	security be:	zel						
	Power-on and admin	<u>ĖFI settin</u> tandard. l	g. Option Energy M	<u>al lockable</u> anager, X0	security be:	zel		Capac				

			Product Specifications Reference (PSREF)								
	Diagnostic	Light Path Diagnostics									
┪	Base warranty	3-year limited onsite service with 9x5/NBD									
┪		5WS7A72784 Foundation Service - 3Yr Next	t Business Day Resnonse								
┪		5WS7A72785 Foundation Service - 4Yr Next	t Business Day Response								
$\exists$	Warranty	5WS7A72786 Foundation Service - 5Yr Next	t Business Day Response								
┪	upgrades	5PS7A72787 Essential Service - 3Yr 24x7 4l	Hr Response + YourDrive YourData								
		5PS7A72788 Essential Service - 4Yr 24x7 4I									
1		5PS7A72789 Essential Service - 5Yr 24x7 4l	Hr Response + YourDrive YourData								
1	HD Audio	None									
1	Front ports	One XClarity Controller USB connector, one	USB 3.0, one optional VGA								
]	Rear ports	One VGA, two USB 3.0, one XClarity Contro									
	Operating system	Microsoft Windows Server 2016 and 2019. F and 8. SUSE Linux Enterprise Server (SLES 6.5 and 6.7.									
41		Supports ASHRAE A4 with limitations.									
		Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)								
		Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)								
╛											
╛		Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)								
4	Environmental specification	Humidity - operating, non-condensing	A4: 8%~90%. A3:8%~85%. A2:8%~80%								
1	Specification	Humidity - storage (with package), non- condensing	8%~90%								
┨		Models should meet the following requirements to support A3 and A4:									
٦		NVMe drives not installed	nie te capportrie ana ren								
		PCle flash adapter not installed									
		<ul> <li>Graphic processing unit (GPU) not installed</li> </ul>	d								
		Must have redundant PSU									
(	Environmental	<ul> <li>Processors with TDP more than or equal to Energy Star Server 2.1 certified. More environ</li> </ul>	0 150-watt not installed								
Ц	Certifications	www.lenovo.com/social_responsibility/us/en									
4	ISV certifications	Certifications from NVIDIA Quadro ISV Cert									
$\dashv$	IOV CEI IIIICAIIONS										
$\dashv$		4XB7A62801   Intel S4510 3.5" 240G 4XB7A62802   Intel S4510 3.5" 480G	SSD OPT								
┨		4XB7A62802   Intel S4510 3.5" 480G   4XB7A62803   Intel S4510 3.5" 960G									
┪		4XB7A62804 Intel S4510 3.5 960G									
H		4XB7A62805 Intel S4510 3.5" 3.84T	SSD OPT								
╣		4XB7A62806 4TB7.2K 6GSATA 3.5G									
-		4XB7A62807 6TB7.2K 6GSATA512e	3.5G4HS OPT								
╣	Options	4XB7A62808 8TB7.2K 6GSATA512e									
$\dashv$		4XB7A62809 10T7.2K 6GSATA512e									
Ħ		4XB7A62810 3.5" 12TB 7.2K SATA 5									
1		4XB7A62811 14T 3.5" 7.2 SATA HDE 4ZC7A62797 8GB 1RX8 PC4-2933F									
1		4ZC7A62797 8GB 1RX8 PC4-2933F 4ZC7A62798 16GB 1RX4 PC4-2933									
4		4ZC7A62796 16GB 1RX4 PC4-2933 4ZC7A62799 16GB 2RX8 PC4-2933	R 8Gh 1 2V								
		4ZC7A62800 32GB 2RX4 PC4-2933									
┪		DEGI 211/41 04-2300	110GD 1.2V								



# ThinkPad P1 Platform Specifications

Processor	8th Generation	Intel® Core	e™ i5 / i7 Pro	ocessor or	Intel X	eon® E Pro	ocessor	Smart card reade	r Optional: Smart card reader
	Processor # of Number Core		Base Frequency	Frequency	Cache	Memory Types	Processor Graphics	ExpressCard Media reader Ports	None SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.1 Gen 1 (one Always On),
	i5-8400H 4 i7-8750H i7-8850H	8	2.5 GHz 2.2 GHz 2.6 GHz	4.2 GHz 4.1 GHz 4.3 GHz	9MB	DDR4-2666	Intel UHD Graphics 630	FOILS	two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack,
	6 E-2176M	12	2.6 GHz 2.7 GHz		12MB	DDN4-2000	Intel UHD Graphics P630	Monitor cable	optional smart card reader, SD card reader, security keyhole * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Graphics	Intel UHD Grap NVIDIA® Quadi	ro® P1000	or P2000. '4	GB GDDR	5 mem	nory;		(optional) Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable
	Up to 4 display	ternal digital monitor via HDMI or Thunderbolt™; plays with 3 external monitors plus system LCD screen. ion: 5K@60Hz (Thunderbolt); 4K@60Hz (HDMI) CM246 Chipset					n.		<ul> <li>One of the following, configurable by model:</li> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera, fixed focus</li> </ul>
Chipset Memory		66MHz DE	R4, ECC o				upported only on ckets	Audio support	HD Audio, Realtek® ALC3286 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone
Display	Some: 15.6" (300 nit	s, 16:9 asp	ect ratio, 70	00:1 contra	glare, L st ratio	ED backlig	ght, WVA,	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	Some: 15.6" (3	72% gamut, 170° viewing angle e: 15.6" (396mm) UHD (3840x2160), anti-reflection, LED backlight, WV 400 nits, 16:9 aspect ratio, 1200:1 contrast ratio, 100% gamut, 170° viewing angle, multi-touch						Security Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Multi-touch (opt) Pen (optional)	Capacitive-type Lenovo Pen Pr		ch, supports	3 10-finger	gesture	e (4K only)		Color calibration	rTouch style match on chip fingerprint reader on the keyboard bezel  None  None
Storage RAID (optional) Optical	Up to two M.2 SS M.2 SSD / PCI RAID 0/1 supp None	e NVMe, P ort	Cle 3.0 x 4,	, 32Gb/s		-		Battery Max battery life (MobileMark 2014) AC adapter	Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  Discrete mode: 7.36 hr; Hybrid mode: 13.87 hr  * Battery life varies significantly with hardware configurations, settings, usage, & other factors 135W slim tip AC adapter
Ethernet	Native Intel Eth via bundled or	optional Th	inkPad Eth	ernet Exter	nsión C	Cable		Operating system	One of the following, configurable by model:  • Windows® 10 Home 64
WLAN Bluetooth™		tel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card luetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter							<ul><li>Windows 10 Pro 64</li><li>Windows 10 Pro 64 for Workstations</li></ul>
WWAN SIM card	None None							Limited warranty	One of the following, configurable by model:  1-year depot repair service
Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4m WxDxH (multi-touch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7m				<ul> <li>1-year depot with 2-year system board repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>				
Weight	Non-touch model: starting at 3.76 lb / 1.7 kg; Multi-touch model: starting at 4.06 lb / 1.8 kg				Mil-Spec test	MIL-STD-810G military testing			
Case color Case material	Black rial <i>Display cover:</i> CFRP/GFRP hybrid; <i>Bottom:</i> Aluminum alloy							Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant

Note: The specifications above may not be available in all regions.

Lenovo November 2019













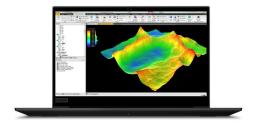
# ThinkPad P1 (2nd Gen) Platform Specifications

Processor		ation I		re™ i5 / i7	7 / i9 Pr	ocessor or	ntel Xe	eon® E P	rocesso	r	Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm				
	Processor Number	# of Cores	# of Threads	Base Freque		Cach		emory ypes	Proce Grapl		Weight	WxDxH (multi-touch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm Non-touch model: starting at 3.75 lb / 1.7 kg;				
	i5-9400H i7-9750H i7-9850H	4 6 6	8 12 12	2.5 GH 2.6 GH 2.6 GH	Hz 4.3 Hz 4.5 Hz 4.6	8 GHz 8 8ME 5 GHz 12M 6 GHz 12M	B B DDB	In	ntel UHD 63		Case color Case material	Multi-touch model: starting at 4.0 lb / 1.81 kg Black paint (FHD model) or black weave (UHD model) Display cover: CFRP/GFRP hybrid; Bottom: Aluminum alloy				
	i9-9880H E-2276M	6	16 12	2.3 GH 2.8 GH		GHz 16M GHz 12M	В	_	ntel UHD P63		Smart card reade Media reader Ports	er <i>Optional:</i> Smart card reader SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3				
Graphics	supports of Up to 4 dis	Graph Quadro externa splays	iics 630 ® T1000 al digital with 3 ex	or P630 or T200 monitor kternal n	in proce 0, 4GB via HDN nonitors	y or essor and GDDR5 me MI or Thund plus systen ); 4K@60H	erboĺt <sup>™</sup> n LCD	; screen.			(with the function of Power Delivery and DisplayPort), HDMI 2.0, Ethernet extension connector, headphone / microphone control of the potential smart card reader, SD card reader, security keyhole *Power Delivery only supports power-out for charging peripherals *Depending on many factors, actual data transfer speed may be lower than the HDMI to VGA:  Lenovo HDMI to VGA Monitor Adapter  USB-C to VGA: Lenovo USB-C to VGA Adapter					
Chipset Memory	Mobile Intel CM246 Chipset 64GB max / 2666MHz DDR4, ECC or non-ECC (ECC function supported only on Xeon processor), dual-channel capable, two DDR4 SO-DIMM sockets  USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable Camera (optional) One of the following, configurable by model:															
Display	Size Reso				urface	Brightness	_	Contrast Ratio	Color Gamut	Viewing Angle	Audio support	HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec /				
	15.6" FHD	*	,	WVA Ar	nti-glare	300 nits	16:9	700:1	72% NTSC	170°	Audio Support	stereo speakers, 2W x 2, Dolby® Audio™ Premium /				
	15.6" FHD Dolby	(1920x) Vision	1080) ™ HDR	WVA Ar	nti-glare	500 nits	16:9	1200:1	72% NTSC	170°		optional dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system				
		(3840x Vision		WVA Ar	nti-glare	500 nits	16:9	1200:1	100% Adobe	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad				
	15.6" Dolby	(3840x y Vision -touch		OLED re	Anti- flection / Anti- mudge	SDR 400nit, HDR 500nit (peak)	16:9	100000:1	100% DCI-P3	170°	Security Security chip System Mgt (opt)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology				
Multi-touch (opt) Pen (optional)	AR (anti-re	eflectio	n) / AS	anti-smi	udge) c	-finger gest oating	ure (Ul	HD OLEI	D only),		Color calibration NFC	er Touch style match on chip fingerprint reader on the keyboard bezel  Optional: X-Rite Pantone factory color calibration (UHD model only)  None				
Storage RAID (optional) Optical	Al) Lenovo Pen Pro (special bid only)  Up to two M.2 SSD, supports single sided M.2 2280 drives only M.2 2280 SSD / PCle NVMe 3.0 x 4										Battery Max battery life AC adapter	Integrated Li- Polymer 80Wh battery, supports Rapid Charge (charge up to 80% i 1hr)  MobileMark® 2014: 13.8 hr  * Battery life varies significantly with hardware configurations, settings, usage, & other factor. 135W slim tip AC adapter				
Ethernet	Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro)) via bundled or optional ThinkPad Ethernet Extension Cable										Operating system	One of the following, configurable by model:  • Windows® 10 Home 64				
WLAN (optional) Bluetooth™ (opt)	(opt) Bluetooth 5.1 wireless, integrated in Wi-Fi + Bluetooth combo adapter								ter			<ul><li>Windows 10 Pro 64</li><li>Windows 10 Pro 64 for Workstations</li></ul>				
WWAN SIM card	None None										Limited warranty	One of the following, configurable by model:  1-year depot repair service  1-year depot with 2-year system board repair service  3-year/1-yr battery depot repair service  3-year/1-yr battery limited onsite service				
											Mil-Spec test	MIL-STD-810G military testing				
Note: The specifica	-4:		-41	.0.1.1. 1	-11 1						Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant  Leno				







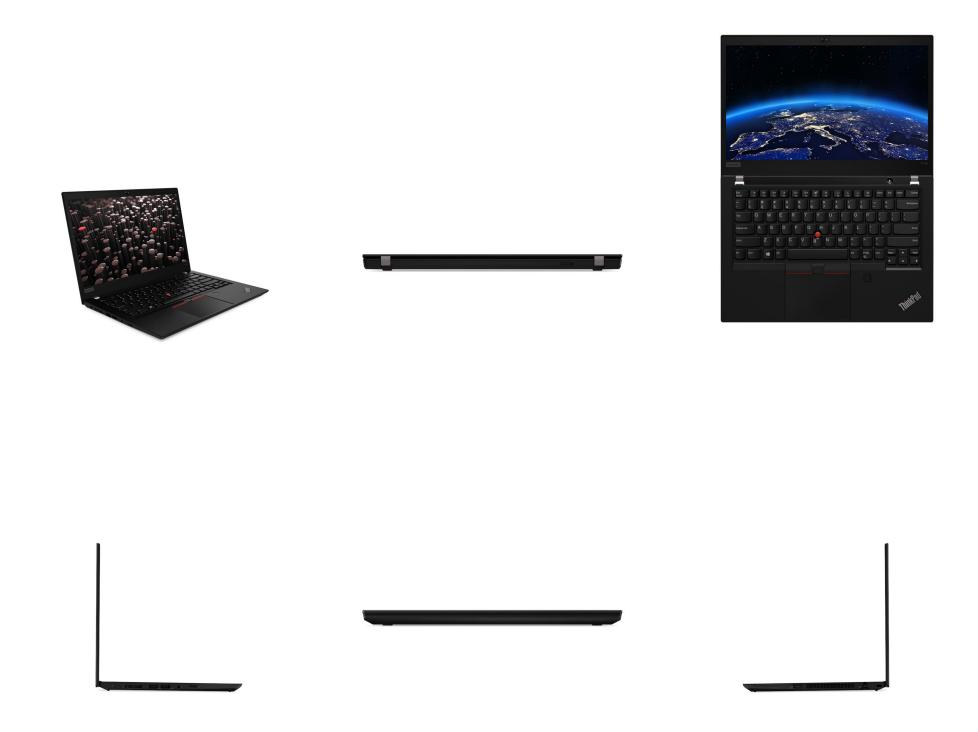






## ThinkPad P1 Gen 3 Platform Specifications

	Supports one 10t	h Xeon W	, Core i9,	i7, or i5	processo	or as fo	llowing:			Case color	Woven Carbon Fiber Finish (standard on OLED models, optional on UHD WVA
	Dun a a a a a a a Maranhara	# of	# of B	ase	Max Turbo	0	Memory	Pro	cessor	Case color	models) or black
	Processor Number		reads Fred	uency	Frequency		Types	Gra	aphics el UHD	Case material	Display cover: Carbon Fiber (Black or woven pattern) + PC + PPS Hybrid Bottom: Aluminum + PC / ABS
	Xeon W-10855M	6	12 2.8	GHz	5.1GHz	12MB	DDR4-293		aphics	Media reader	SD card reader
Processor	Core i9-10885H	8	16 2.4	GHz	5.3GHz	16MB	DDR4-293	Inte	UHD aphics	Standard Ports	2x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP), 2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / micro- phone combo jack, 1x SD card reader, 1x security keyhole
	0 :7 4007511		40 00	<b>011</b>	5 4011-	40140	DDD4 000	Inte	i UHD	Optional Ports	One optional Nano-SIM card slot on right
	Core i7-10875H	8	16 2.3	GHz	5.1GHz	IONB	DDR4-293	Gra	aphics		Up to 4 displays with 3 external monitors plus system LCD screen. External
	Core i7-10850H	6	12 2.7	GHz	5.1GHz	12MB	DDR4-293	Gra	el UHD aphics	Monitor support	monitors supported via 2x Thunderbolt and 1x HDMI. HDMI supports up to 4K@60Hz. Two Thunderbolt support up to 5K@60Hz each
	Core i7-10750H	6	12 2.6	GHz	5.0GHz	12MB	DDR4-293		el UHD aphics	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
Chipset	Intal MM400 Chin							uit	артноз	Bundled Accy	None
Chipset	Intel WM490 Chip SO-DIMM. DDR4		non ECC	חחח	2022 for	ECC				-	Supports one optional camera as following:
Memory Type	Both ECC and no	n-FCC m	emory one	erate a	+ DDR4-29	933				Camera	HD720p camera with ThinkShutter camera privacy, fixed focus
momory type	8GB/16GB/32GB	available	for both E	CC an	d non-EC	C .				A continuo de los	Hybrid IR camera with ThinkShutter camera privacy, fixed focus
Memory Sockets	2 DIMM sockets									Audio chip	Realtek ALC3286 codec
Memory Protection	ECC on models w	ith ECC	DIMMs an	d Xeor	processo	or				Speaker	Stereo speakers, Dolby ATMOS Speaker System
Max Memory	64GB									Microphone	Optional dual far-field microphone  6-row, spill-resistant, LED backlight, multimedia Fn keys with Unified Communi-
,	Intel UHD Graphic							hics:		Keyboard	cations controls.
Graphics	<ul> <li>NVIDIA Quadro</li> <li>NVIDIA Quadro</li> </ul>									UltraNav	3-button TrackPoint pointing device and 2-button glass surface multi-touch touchpad
						Aspec	t Contrast	Color	Viewina	Password	Power-on password, hard disk password, supervisor password
	Size Resolution	Тур	Surface	louch	Brightness	Ratio	Ratio	Gamut	Angle	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
						400				System mgmt	Optional Intel vPro Technology supported on vPro enable models
	15.6" FHD (1920x10	1920x1080) WVA	Anti-glare	-	300 nits	16:9	700:1	72% NTSC	6 170°	Security locks	Security keyhole for optional Kensington lock
								NISC		Smart card reader	None
Diamlari	15 6" FHD (1920x1)	080) ,,,,,	A 4:		500 it-	10.0	000.4	72%	1700	Fingerprint reader	Touch style match on chip fingerprint reader on the palm rest
Display	Dolby Vision F	IDR VVV	Anti-glare		500 nits	16:9		NTSC 100%	170°	Battery	Integrated Li-Polymer 80Wh battery. Supports Rapid Charge (charge up to 80% in 1hr) with 135W AC adapter
	15.6" UHD (3840x2 Dolby Vision F	IDR WV	Anti-glare	-	600 nits	16:9		Adobe	178°	NA Is - 44 126 -	MobileMark 2014: 15.9 hr.
	UHD (3840x2	160)	Anti-	multi	400 nits,			100%		Max battery life	MobileMark 2018: 12 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
	15.6" Dolby Vision,	HDŔ OLE	/ Anti-	touch	540 nits	16:9	100000:1	DCI-	170°		One of the following:
	500 True Blac	k	smudge	lodon	(peak)			P3		Power Adapter	• 135W slim AC adapter
Color Calibration	Factory Color Cal	ibration c	n UHD pa	nels						· '	• 170W slim AC adapter
Touchscreen	Touch enable on				els. suppo	rts 10-	finaer aest	ure			Supports one optional preloaded operating system as following:
Pen	Optional Lenovo I				-,		3 - 3			1	• Windows 10 Home 64
Storage	Up to two M.2 228	30 SSD. I	Cle NVM	e. 2560	GB / 512G	B / 1T	B / 2TB ea	ch		Operating system	Windows 10 Pro 64     Windows 10 Pro 64 for Workstations
RAID	RAID 0 / 1 suppor			-,						Operating system	Windows 10 Pro 64 for Workstations     Windows 10 Government Edition 64
Optical	None									1	Ubuntu Linux LTS (available later)
Ethernet	Lenovo USB-C to Ethernet Adapter										• Fedora Linux (available later)
NFC	None									-	Optional warranty plans as following:
	Intel Wi-Fi 6 AX20	11 on mor	t modals	Mi Ei c	0v2 902 11	0V . E	Uuotooth 5	1		-	Non-warranty (special bids only)
WLAN + Bluetooth	Bluetooth 5.1 reg								ve)		1-year depot repair service
	One of the followi					0 (101	0.011 200 1	01 450	10)	Dogo Warranti	• 3-year depot repair service
WWAN	<ul> <li>No WWAN card</li> </ul>	and non	upgradabl	Э						Base Warranty	1-year + 2-year depot repair service     1-year limited onsite service
011.4	<ul> <li>Integrated Mobil</li> </ul>	<u>e Broadb</u>	and 4G LT	E-A, F	ibocom L8	360-GL	<u>., MIMO 2&gt;</u>	(2, M.2	2 card	1	• 3-year limited onsite service
SIM card	Optional Nano-SI	vi card sl	JC \ Donth: C	157-	om (0.67 :	n)				-	• 1-year + 2-year limited onsite service
Dimensions	Width: 361.8 mm (14.24 in). Depth: 245.7 mm (9.67 in). Thickness for non-touch models: 18.4 mm (0.72 in)								N4". 0	1-year depot with 2-year system board repair service	
פווטוטווסוווים	Thickness for touch models: 18.7 mm (0.74 in)							Mil-Spec test	MIL-STD-810G military testing		
Weight	Starting at 1.7 kg					.97 lb.	OLED tou	ch)		Environment	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
								-,		ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>



## ThinkPad P14s Gen 1 Platform Specifications

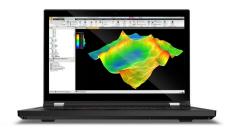
Supports one 10th Core   2" and is -0" surface processor as following:		Supr	orts o	ne 10t	h Core	i7 a	and i5 -U	suffix	orocessor	as follo	wina.			Weight	Starting at 3.24 lb (1.47kg)
Number   Cores   Treads   Fraguery   Fragu						, 1, 0						_			0 \ 0
Processor   Proces						1_									
Processor   1/1-1010   4   8   1.581*2   4.981*2   1.981*2   0.9		_				_			ncy					Case material	
Profession   4 8   1.86 Hz   4.96 Hz   8 MB   DoRA-2866   Inst UHD Craphics   5-10310U   4 8   1.66 Hz   4.46 Hz   8 MB   DoRA-2866   Inst UHD Craphics   5-10310U   4 8   1.66 Hz   4.46 Hz   8 MB   DoRA-2866   Inst UHD Craphics   5-10310U   4 8   1.66 Hz   4.46 Hz   8 MB   DoRA-2866   Inst UHD Craphics   1.56 Hz	Processor	i7-10	610U	4	8	'	1.8GHz	4.9GF	lz 8MB	DDR4-2	2666 Inte	el UHD G	araphics	Media reader	
School   1   18   1.76   1.7	1 10000001	i7-10	510U	4	8		1.8GHz	4.9GF	lz 8MB	DDR4-2	2666 Inte	el UHD G	araphics	IVICUIA ICAGCI	
Single   S		-		4		_									
Chippest   Intel SQC (System on Chip) platform   DDR4-3260, operates at DDR4-2666, operat		15-10	3100	4	8		1./GHZ	4.4GF	1Z GIVIB	DDR4-2	2000 11116	el OHD G	arapnics	Standard Ports	
Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   Memory Spocks   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   SGP 166B DDR4-3290 non-ECC for Soldered DIMM   SGP 166B DDR4-3290 non-ECC fo		i5-10	210U	4	8	'	1.6GHz	4.2GF	lz 6MB	DDR4-2	2666 Inte	el UHD G	araphics		
DDR4-3200, operates at DDR4-3200 son-ECC for DIMM socket, 8GB/16GB/26GB DDR4-3200 non-ECC for Soldered DIMM Memory Sockets 1 DIMM socket plus 1 soldered DIMM, dual-for beta non- Memory Protection None Memor	Chipset	Intel	SoC (	Svsten	n on C	hip)	platform							1	On right: 1x security keyhole, 1x RJ-45, 1x USB-A 3.2 Gen 1 (Always On)
Memory Type   SGR1/GBG/32GB DDR4-3200 SO-DIMM non-ECC for DIMM socket,   SGR1/GBG DDR4-3200 non-ECC for soldered DIMM   Memory Protection   Non-   Non-   No	•							).						Optional Ports	
Memory Protection   Name   N	Memory Type									r DIMM	socket,				
Memory Poscets Max Memory Memory Protection None Max Memory AgeB with ner 32GB SO-DIMM plus one 16GB soldered DIMM Montor Protection None Max Memory AgeB with ner 32GB SO-DIMM plus one 16GB soldered DIMM Montor Cable Bundled Accy Montor State Montor Cable Montor Montor Montor Cable Montor Cable Montor Montor Montor Cable Montor	,	8GB/	16GB	DDR4	-3200	non	-ECC for	solde	ed DIMM					Monitor cupport	
Memory Protection None Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM plus one 16GB soldered DIMM Max Memory 48GB with one 32GB SO-DIMM Max Memory 48GB wit	Memory Sockets	1 DIN	ИM so	cket pl	us 1 s	olde	red DIMN	/I, dual	-channel d	apable				INIOTHOL Support	
Max Memory 46gB with one 32gB SC-DIMM piles one 18dB soldered DIMS Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains in processor) and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDBR5 memory (argains) intel UHD Graphi	Memory Protection	None	)											Monitor cable	
Intel UHD Graphics in processor and NVIDIA Quadro PS20, 2GB GDDF5 memory	Max Memory														
Size Resolution Type Surface Touch Srightness Aspect Golor (Sewing Gamut Angle)  14.0° FHD (1920x1080) WVA Anti-glare 14.0° FHD (1920x1080) WVA Anti-glare 14.0° FHD (1920x1080) WVA Anti-glare 14.0° FHD (1920x1080) WVA Anti-glare 14.0° FHD (1920x1080) WVA Anti-glare 14.0° FHD (1920x1080) WVA Anti-glare 14.0° FHD (1920x1080) WVA Anti-glare 14.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA Anti-glare 15.0° FHD (1920x1080) WVA MID (1920x1	Graphics											DDR5 m	nemory		
## Reactive Angle   Audio chip   Facetive Angle   Audio chip   Fac	·	Aspect Contrast Color								Aspect	Contrast	Color	Viewing	Camera	HD720p camera with ThinkShutter camera privacy, fixed focus
14.0   FHD (1920x1080)   WVA   Anti-glare   250 nits   16.9   700.1   45%   170*   140*   FHD (1920x1080)   WVA   Anti-glare   14.0   FHD (1920x1080)		Size	Resolu	ution		ype	Surface	Iouch	Brightness						• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Display    14.0" FHD (1920x1080)   WVA Anti-glare   multi-touch   14.0" FHD (1920x1080)   WVA Anti-glare   400 nits   16.9   700.1   45%   170°   170°   14.0"   FHD (1920x1080)   WVA Anti-glare   400 nits   16.9   800.1   72%   170°   170°   14.0"   FHD (1920x1080)   WVA Anti-glare   400 nits   16.9   800.1   72%   170°   170°   14.0"   14.														Audio chip	Realtek ALC3287 codec
Display    14.0° FHD (1920x1080)   WVA Anti-glare   Multi-touch   16.9°   700.1°   45%   170°   170°   14.0°   FHD (1920x1080)   WVA Anti-glare   400 nits   16.9°   800.1°   72%   170°   170°   170°   14.0°		14 0"	FHD (	1920x10	080) \	VVA	Anti-glare	_	250 nits	16:9	700:1	45%	170°	Speaker	Stereo speakers, 2W x 2, Dolby Audio Speaker System
Display    14.0"   FHD (1920x1080)   WVA Anti-glare   multi touch touch touch pad   LED backlight is for special bids   LeD backlight is f			(	.020%		,	, ii.ii giaio		200 10	. 0.0		1070	''		
Display    Table   Filth (1920x1080)   WVA Anti-glare   touch   South								multi						Koyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls.
14.0   CHD (1920x1080)   WVA   Anti-glare   400 nits   16:9   800:1   72%   170°   Power-on password   PHD (1920x1080)   14.0   ThinkPad Privacy   Guard   UHD (3940x180)   14.0   Dobby Vision   PDR 400   HDR 400		14.0"	FHD (	1920x1	080) V	VVA	Anti-glare		300 nits	16:9	700:1	45%	170°		
Low Fibrower   Fibro (1920/1806)   Helb (1920/180	Display 14.0		FHD (	1920x1	080) .										
14.0° ThinkPap Privacy Guard Guard Guard Government Ethernet One on board GbE port via integrated gigabit ethernet, Intel i219LM for vPro models Government Ethernet One of the following, configurable by model:   WUAN + Bluetooth S   16.9   100:1   16.9   1500:1   170°   17		14.0"	Low P	ower	۱ (۵۵۵	VVA	Anti-glare	-	400 nits	16:9	800:1	72%	170°		
Color Calibration   Colo			FHD (192		080)			Iti							
Guard   HDR (400   Policy Vision   HDR 400		14.0"			/acý ∖	VVA	Anti-glare		500 nits	16:9	1000:1	72%	170°		Optional Intel vPro Technology supported on vPro enable models
14.0°   Dolby Vision,   HDR 400   MVA   Glossy   - 500 nits   16:9   1500:1   Adobe   170°   A					>									Security locks	Security keyhole for optional Kensington lock
HDR 400		14 0"	UHD (	3840x2		۱۸,/۸	Closev		E00 pito	16:0	1500:1		1700		
Touchscreen   Optional on-cell touch on selected FHD models, supports 10-finger gesture		14.0	HDR 4	VISIOII, 100	١,	VVA	Glossy	-	300 Hills	10.9	1500.1	Adobe	170	Fingerprint reader	Optional
Touchscreen Optional on-cell touch on selected FHD models, supports 10-finger gesture  Pen None  Storage	Color Calibration	Facto			libratio	n on	LIHD na	nels						Battery	
Pen None  Up to one M.2 SSD as following, 2TB max:  *M.2 2280 PCle NVMe, PCle 3.0 x4, 256GB / 512GB / 1TB / 2TB  *M.2 2280 PCle NVMe, PCle 3.0 x2, 128GB, for special bids  *M.2 2280 F12GB SSD + 32 GB Optane, PCle NVMe 3.0 x 4, for special bids  Optical None  Cherring One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC Optional Nano-Pro models  WLAN + Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  *No WWAN card and non upgradable integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Wild-329 mm (12.95 in), Depth: 227 mm (8.94 in).  Max battery life MobileMark 2018: 15.1 ff. MobileMark 2018: 10.96 fn. MobileMark 2018: 10.96 following: 5.28 date of 50 word and portation protected operating system as following: 5.29 mark 2018: 10.96 fn. MobileMark									dale eunr	orte 10	-finger (	naetura		Battory	,
Up to one M.2 SSD as following, 2TB max:  * M.2 2280 PCle NVMe, PCle 3.0 x4, 256GB / 512GB / 1TB / 2TB  * M.2 2280 PCle NVMe, PCle 3.0 x4, 256GB / 512GB / 1TB / 2TB  * M.2 2280 S12GB SSD + 32 GB Optane, PCle NVMe 3.0 x 4, for special bids  Optical None  Che on onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC Optional  NLAN + Bluetooth Description of the following, configurable by model:  * No WWAN card and non upgradable  * No WWAN card and hon upgradable or integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card or integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card optional Nano-SIM card slot  Nicological State vales significantly with hardware configurations, settings, usage, & other factors  * Battery life varies significantly with hardware configurations, settings, usage, & other factors  * Battery life varies significantly with hardware configurations, settings, usage, & other factors  * Battery life varies significantly with hardware configurations, settings, usage, & other factors  * Battery life varies significantly with hardware configurations, settings, usage, & other factors  * Battery life varies significantly with hardware configurations, settings, usage, & other factors  * Battery life varies significantly with hardware configurations, settings, usage, & other factors  * Supports one optional preloaded operating system as following:  * Windows 10 Pro 64  * Windows 10 Fro 64  * Windows 10 Government Edition 64 for special bids  * Ubuntu Linux LTS  * 1-year depot repair service  * 1-year elept repair service  * 1-year elept repair service  * 1-year elept repair service  * 1-year elept repair service  * 1-year elept repair service  * 1-year elept repair service  * 1-year elept repair service  * 1-year elept repair service  * 1-year elept repair service  * 1-year elept repair service  * 1-year elept repair service  * 1-year elept with ardware configurations, settings of windows 10 (low of the vindows 10 Pro				i cen te	Judii C	11 30	iccica i i	חוו טוו	ucio, oupp	0113 10	illiger g	jostaro		May battary life	
Storage  • M.2 2280 PCle NVMe, PCle 3.0 x4, 256GB / 512GB / 1TB / 2TB • M.2 2242 PCle NVMe, PCle 3.0 x2, 128GB, for special bids • M.2 2280 S12GB SSD + 32 GB Optane, PCle NVMe 3.0 x 4, for special bids  Optical  None  Che none onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model: • No WWAN card and non upgradable entegrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  SIM card  Optional Nano-SIM card slot  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).	FEII			11255	SD ac f	ollov	vina 2TE	3 may						liviax battery life	MobileMark 2018: 10.96 hr.
* M.2 2242 PCIe NVMe, PCIe 3.0 x2, 128GB, for special bids     * M.2 2280 512GB SSD + 32 GB Optane, PCIe NVMe 3.0 x 4, for special bids     * M.2 2280 512GB SSD + 32 GB Optane, PCIe NVMe 3.0 x 4, for special bids     * Mone     * Mone     * Mone     * Mone onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models     * Optional     * MINC Optional     * Windows 10 Pro 64     * Windows 10 Pro 64     * Windows 10 Government Edition 64 for special bids     * Ubuntu Linux LTS     * Optional warranty plans as following:     * 1-year depot repair service     * 3-year depot repair service     * 1-year + 2-year depot repair service     * 1-year + 2-year depot repair service     * 3-year limited onsite service     * 3-year limited onsite service     * 3-year limited onsite service     * 3-year limited onsite service     * 1-year + 2-year imited	٥.	• M 2	2280	PCIe I	NVMe	PC	Milig, 212 le 3 0 v4	256G	B / 512GF	8 / 1TR	/ 2TB			Power Adapter	
• M.2 2280 512GB SSD + 32 GB Optane, PCIe NVMe 3.0 x 4, for special bids  Optical  None  Ethernet  One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC  Optional  WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  NowWAN card and non upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Vidth: 329 mm (12.95 in), Depth: 227 mm (8.94 in).  *Windows 10 Home 64  *Windows 10	Storage	• M.2	2242	PCle i	NVMe	PČ	le 3.0 x2	. 128G	B. for spe	cial bids	, 21D			- ovor raaptor	
Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC Optional  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Optional Nano-SIM card slot  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Operating system  Windows 10 Pro 64  Windows 10 Government Edition 64 for special bids  Ubuntu Linux LTS  Optional warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year 1 imited onsite service  1-year limited onsite service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot repair service  1-year 1 plant donsite service  1-year depot with 2-year system board repair service  1-year depot repair service  1-year 1 plant donsite service  1-year depot with 2-year limited onsite service  1-year limited onsite service  1-year depot with 2-year system board repair service  1-year depot with 2-year limited onsite service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year limited onsite service  1-year limited onsite service  1-year limited onsite service  1-year depot with 2-year system board repair service  1-year limited onsite service  1-year limited onsite service  1-year depot with 2-year system board repair service  1-year limited onsite service  1-year limited onsite service  1-year limited on												ecial bi	ds		• Windows 10 Home 64
Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC Optional  WLAN + Bluetooth Done of the following, configurable by model:  Nowwan entegrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card lntegrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  SIM card Optional Nano-SIM card slot  Windows 10 Government Edition 64 for special bids  Ubuntu Linux LTS  Optional warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year limited onsite service  1-year limited onsite service  1-year lyear limited onsite service  1-year lemited onsite service  1-year depot repair service  1-year lemited onsite service  1-year lemited onsite service  1-year lemited onsite service  1-year depot with 2-year limited onsite service  1-year lemited onsite service  1-year lemited onsite service  1-year depot with 2-year limited onsite service  1-year lemited onsite service  1-year depot with 2-year limited onsite service  1-year lemited onsite service	Optical	None	)												• Windows 10 Pro 64
or i219V for non-vPro models  NFC Optional Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) One of the following, configurable by model:  No WWAN card and non upgradable No WWAN elarged Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Warranty plans as following:  1-year depot repair service 3-year depot repair service 1-year + 2-year depot repair service 3-year limited onsite service 1-year + 2-year limited onsite service 1-year + 2-year limited onsite service 1-year elapot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service	•	One	onboa	rd GbE	E port	via i	ntegrated	digab	it etherne	t. Intel i	219LM f	for vPro	models	1	
WLAN + Bluetooth  WLAN + Bluetooth  Ditional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Optional Nano-SIM card slot  Dimonsions  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Integrated Mobile Broadband 4G LTE-A (Bottom L860-GL)  No WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Mil-Spec test  Environment  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	Ethernet							3 3		,					
WLAN + Bluetooth    Dilutional fillet Wi-Fl 6 AX201 of filoses, Wi-Fl 2X 2 802. Tax + Bidefooth 5.1.   Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)   One of the following, configurable by model:   No WWAN card and non upgradable     No WWAN card and non upgradable     Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card     Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card     Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card     Optional Mano-SIM card slot     Dimensions     Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).     3-year depot repair service     1-year + 2-year depot repair service     1-year     1	NFC	Optio	nal												
One of the following, configurable by model:  No WWAN card and non upgradable  WWAN Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot  Dimensions  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Base Warranty  Integrated Windows 10 (version 2004 or above)  Integrated Mobile Broadband or upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).	MLAN - Bluetooth	Optio	nal In	tel Wi-l	Fi 6 A	(201	on most	mode	ls, Wi-Fi 2	x2 802.	11ax + I	Bluetoo	th 5.1.		
WWAN - No WWAN card and non upgradable - Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only - Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card - Integrated Mobile Broadband 4G LTE-A, Fib	WLAIN + Didelootii	Bluet	ooth 5	5.1 req	<u>uires t</u>	he la	atest vers	ion of	Windows 1	10 (vers	sion 200	4 or abo	ove)		
WWAN  • Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  SIM card  Optional Nano-SIM card slot  Dimonsions  • 3-year limited onsite service • 1-year 42-year limited onsite service • 1-year depot with 2-year system board repair service  Mil-Spec test  Mil-STD-810G military testing  Environment  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		One	of the	followi	ng, co	nfigu	urable by	model	:					Base Warranty	
* Integrated Mobile Broadband Upgradable, No wwAn Card, WWAn Antenna Only  * Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  * Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  * Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  * Optional Nano-SIM card slot  * Optional Nano-SIM card slot  * Dimensions  * Mil-Spec test  * Mil-Spec test  * Environment  * EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	\A/\A/A N I	• No	vv vvA	N card	and n	on u	pgradabl	e doble	NIO \A/\A/A	N Card	\^/\^/^	I Anton	no Onle		
• Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  SIM card  Optional Nano-SIM card slot  Dimonsions  Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).  Optional Nano-SIM card slot  Environment  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	VVVVAIN	• Inte	grate	INODIN IdoM E	le Bro	dha	ind Opgra		ihooom I	IN Caru	, VV VVAI	n Anteni	na Only		
SIM card Optional Nano-SIM card slot   Mil-Spec test   Mil-Spe													2 card		
Width: 329 mm (12.95 in). Depth: 227 mm (8.94 in).	SIM card							<u>- ^, 1</u>	.DOUDIN L	JJU GL	, 14111410	177, IVI.	<u> oara</u>	Mil-Spec test	MIL-STD-810G military testing
	Dimensions													ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/













## ThinkPad P15 Gen 1 Platform Specifications

	Supp	orts one 10th	1 Xeor	ı W, C	ore i9, i	7, or i	5 process	or as fo	ollowing:			S
	Proce	essor Number	# of Cores	# of	f Ba	ase uencv	Max Turbo Frequency	Cache	Memory Types		ocessor raphics	D
	Xeor	n W-10885M	8	16		GHz		16MB	DDR4-29	33 Int	el UHD aphics	۷
	Xeor	n W-10855M	6	12	2.8	GHz	5.1GHz	12MB	DDR4-29		el UHD aphics	C
	Core	i9-10980HK	8	16	2.4	GHz	5.3GHz	16MB	DDR4-29		el UHD aphics	N
Processor	Core	i9-10885H	8	16	2.4	GHz	5.3GHz	16MB	DDR4-29	Gr Gr	el UHD aphics	S
	Core	i7-10875H	8	16	2.3	GHz	5.1GHz	16MB	DDR4-29	Gr	el UHD aphics	0
	Core	i7-10850H	6	12	2.7	GHz	5.1GHz	12MB	DDR4-29	Gr Gr	el UHD aphics	
	Core	i7-10750H	6	12	2.6	GHz	5.0GHz	12MB	DDR4-29	Gr	el UHD aphics	N
		i5-10400H	2.6	4.6GHz	8MB	DDR4-29		el UHD aphics	M			
Chipset		WM490 Chip										В
Memory Type	8GB/	DIMM. DDR4- /16GB/32GB	3200 availa	or nor ble for	n-ECC, both E	CC a	1-2933 for nd non-EC	C C	Operates a	it DDF	14-2933.	С
Memory Sockets		MM sockets	=0	0 01								A
Memory Protection		on models w	ith EC	C DIN	/IIVIS and	xeo	n processo	or				s
Max Memory	1280		. falla.	:	:							N
Craphica	• NV	ort one of the IDIA Quadro IDIA Quadro	T1000	, 4ĞB	GDDR	6 mer	mory					K
Graphics	<ul><li>NV</li></ul>	DIA Quadro	RTX 3	000, 6	GB GD	DR6	memory					∥υ
		DIA Quadro										P
	• NV	DIA Quadro	HIX 5	000 w	ith Max	-Q De	esign, 16G	T			l	S
	Size	Resolution	1	ype s	Surface	Touch	Brightness	Aspec	t Contrast Ratio	Color Gamut	Viewing Angle	S
	15.6"	FHD (1920x10	(080) V	VVA A	nti-glare	-	300 nits	16:9	700:1	72% NTSC	160°	S
Dioploy	15.6"	FHD (1920x10 Dolby Vision, HDR 400	)80) V	VVA A	nti-glare	-	500 nits	16:9	1200:1	72% NTSC	160°	В
Display	15.6"	UHD (3840x21 Dolby Vision, HDR 400		VVA A	nti-glare	-	600 nits	16:9	1400:1	100% Adobe	178°	N
		UHD (3840x21 Dolby Vision, HDR 400	0	5	Anti- eflection / Anti- smudge	multi- touch		16:9	100000:1	100% DCI- P3	170°	P
Color Calibration		ory Color Cali										Ю
Touchscreen		h enable on s			D OLED	) mod	els, suppo	rts 10-	tinger ges	ture		
Pen	Optional Lenovo Pen Pro											
Storage	Up to	two M.2 228	O SSE	D, PCI	e NVMe	, 256	GB / 5120	3B / 1T	B / 2TB ea	ach		
RAID		0 / 1 suppor	t									1
Optical	None											
Ethernet	One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models											
NFC	None	-										
WLAN + Bluetooth		nal Intel Wi-F tooth 5.1 requ										M
WWAN	One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card											

	SIM card	Optional Nano-SIM card slot										
-		Width: 375.4 mm (14.78 in). Depth: 252.3 mm (9.93 in).										
	Dimensions	Thickness for non-touch models: 24.5 ~ 31.45 mm (0.96 ~ 1.24 in)										
5	VA/a : a-la-t	Thickness for touch models: 25.25 ~ 32.2mm (0.99 ~ 1.27 in)										
;	Weight	Starting at 2.74 kg (6.05 lb, FHD)										
5	Case color	Black Display cover: GFRP 50% (PPS695 + GF 50%).										
;	Case material	Bottom: PPS + GF										
5	Media reader	SD card reader										
;	IVIOUIU TOUUGI	1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt										
5	Ctandard Darta	3, USB 3.2 Gen 2, PD, DP), 2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI										
;	Standard Ports	2.0, 1x headphone / microphone combo jack, 1x SD card reader,										
5		1x security keyhole, 1x RJ-45										
	Optional Ports	One optional smart card reader on right, one optional Nano-SIM card slot on										
5	- p	left										
:		Up to 5 displays with 4 external monitors plus system LCD screen. External monitors supported via 1x USB-C, 2x Thunderbolt, and 1x HDMI.										
)	Monitor support	USB-C and HDMI support up to 4K@60Hz.										
;	INIOTHIOI Support	With Thunderbolt, one supports up to 5K@60Hz and one supports up to										
5		4K@60Hz										
;	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters										
7	Bundled Accy	None										
3.	,	Supports one optional camera as following:										
۱.	Camera	HD720p camera with ThinkShutter camera privacy, fixed focus										
$\exists$		Hybrid IR camera with ThinkShutter camera privacy, fixed focus										
$\dashv$		Realtek ALC3286 codec										
$\dashv$	Speaker	Stereo speakers, Dolby Atmos sound system										
$\dashv$	Microphone	Optional dual array far-field microphone										
	Keyboard	6-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with										
	*	Unified Communications controls.										
	UltraNav	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch touchpad										
	Password											
╛		Power-on password, hard disk password, supervisor password Discrete TPM 2.0, TCG Certified, may be disabled in some regions										
g	Security chip											
)	System mgmt	Optional Intel vPro Technology supported on vPro enable models										
	Security locks	Security keyhole for optional Kensington lock										
	Smart card reader											
7	ringerprint reader	Touch style match on chip fingerprint reader on the palm rest										
	Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80% in 1hr) with 230W AC adapter										
	Max battery life	MobileMark 2014: 16.4 hr.										
	IVIAN DALLETY IIIE	MobileMark 2018: 10.3 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors										
$\dashv$		One of the following:										
	Power Adapter	230W slim AC adapter										
		170W slim AC adapter										
		Supports one optional preloaded operating system as following:										
4		• Windows 10 Home 64										
4	Operating system	Windows 10 Pro 64     Windows 10 Pro 64 for Workstations										
4		Windows To Pro 64 for Workstations     Ubuntu Linux LTS										
_		• Fedora Linux										
		Optional warranty plans as following:										
		1-year depot repair service										
$\exists$		3-year depot repair service										
s	Base Warranty	1-year + 2-year depot repair service										
		1-year limited onsite service										
$\exists$		3-year limited onsite service										
$\dashv$		1-year + 2-year limited onsite service     1-year denot with 2-year evetom beard repair convice										
	Mil-Spec test	1-year depot with 2-year system board repair service MIL-STD-810G military testing										
٦		EPEAT Silver. ENERGY STAR 8.0. RoHS-compliant										
		Please visit www.thinkworkstations.com/isv-certifications/										
У	10 v Certilications	I ICASC VISIT WWW.tillinwoinstations.com/15V-CCTUIICAtions/										



## ThinkPad P15s Gen 1 Platform Specifications

Supports one 10th Core 7 and 5 - U suffix processor as following:  Processor of every frequency		Supr	orts one 10	Oth Cor	e i7	and i5 -U	suffix	processo	r as fol	lowina:				Display cover: PPS / 50% GF;
Number Cores Threads Prequency Frequency Annual Processor								<u>'</u>			Drasas		Case material	Bottom: PA / 50% GF
Processor    Processor													Media reader	MicroSD card reader
Project Out   A   B   1,36Hz   4,96Hz   MB   D0R4-2866   Intel LHD Camphote	Processor													Thunderbolt 3. USB 3.2 Gen 2. PD. DP). 1x side docking connector. 1x USB-A
Section of the content of the cont		i7-10	510U 4	8		1.8GHz	4.9G	Hz 8MB	DDR4	-2666 Inte	el UHD (	Graphics	Standard Ports	3.2 Gen 1, 1x HDMI 1.4b, 1x headphone / microphone combo jack,
Ginget   Intel SeC (System on Chip) platform   DDR4-3200, operates at DDR4-3260   DDR4-3200   Operates at DDR4-3260   Operat		i5-10	310U 4	8		1.7GHz	4.4G	Hz 6MB	DDR4	-2666 Inte	el UHD (	araphics		
Chipset   Intel SoC (System on Chip) platform   OPR4-2200, operates at DPA4-2200 SO-DIMM non-ECC for DIMM sockets   SBGP166B 0PR4-2200 non-CCC for soldered DIMM   OPR4-2200 SO-DIMM non-ECC for DIMM sockets   SBGP166B 0PR4-2200 non-CCC for soldered DIMM   OPR4-2200 non-CCC for soldered DIMM   OPR		i5-10	210U 4	8		1.6GHz	4.2G	Hz 6MB	DDR4	-2666 Inte	el UHD (	Graphics	Ontional Ports	
DPR4-3200, operates at DDR4-2506. Memory Type  Memory Sockets  Memory Sockets  Memory Protection None  Memory Protection None  Max Memory  A8GB with one 32GB SO-DIMM plus one 16GB soldered DIMM  Max Memory  Max	Chinset	Intel	SoC (Syste	em on (	Chin)	nlatform						<u> </u>	Optional Forts	
Memory Potection None Max Memory AgB with one 32GB SO-DIMM plus one 16GB soldered DIMM, description of the processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID Graphics in processor and NVIDIA Quadro P520, 2GB GDDRS memory. Intel UFID G	·	DDR 8GB/	4-3200, op 16GB/32G	erates B DDR	at Di 4-32	DR4-2666 200 SO-D	3. IMM n	on-ECC f	or DIMI	VI sockets	5,		''	monitors supported via USB-C, Thunderbolt, and HDMI. 4096x2304@60Hz on USB-C and Thunderbolt, 4096x2160 @24Hz on HDMI
Max Memory   AsGB with one 32GB SO-DIMM plus one 16GB soldered DIMM   Max Memory   AsGB with one 32GB SO-DIMM plus one 16GB soldered DIMM   Max Memory   AsGB with one 32GB SO-DIMM plus one 16GB soldered DIMM   Max Memory   AsGB with one 32GB SO-DIMM plus one 16GB soldered DIMM   AsgB with one 32GB SO-DIMM plus one 16GB Soldered DIMM   AsgB with one 32GB SO-DIMM plus one 16GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB Soldered DIMM   AsgB with one 32GB S	Memory Sockets									e				
Max Memory   49GB with one 32GB SO-DIMM plus one 16GB soldered DIMM   Graphics in processor and NUIDIA Cuadro PSe2, 2GB GDPR5 memory   Size   Resolution   Type   Surface   Touch   Brightness   Aspect   Contrast   Color   Viewing   Ratio	Memory Protection	None	)				,			-			Bundled Accy	
Size   Resolution   Type   Surface   Touch   Brightness   Agreed   Size   Resolution   Type   Surface   Touch   Brightness   Size   Resolution   Type   Surface   Touch   Brightness   Sasect   Sasect   Stereo speakers, 2W x 2, Dolby Audio Speaker   Stereo spe				32GB S	SO-D	IMM plus	one 1	I6GB solo	lered D	IMM			Camera	HD720n camera with ThinkShutter camera privacy fixed focus
Size   Resolution   Type   Surface   Touch   Brightness   Ratio   Gamut   Angle   Microphone	Graphics	Intel	UHD Graph	nics in	proc	essor and	I NVID	IA Quadr	o P520	, 2GB GE	DDR5 n	nemory	Jamoia	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Display    15.6   FHD (1920x1080)   W/A   Anti-glare   - 250 nits   16:9   800:1   45%   170°		Cina	Decelution	1.	Ti un n	Curfoso	Tauch	Driabtass	Aspec	Contrast	Color	Viewing		
Display    Tack   FHD (1920x1080)   WVA   Anti-glare   250 nits   16:9   800:1   45%   170°   170°   15:6°   FHD (1920x1080)   WVA   Anti-glare   multi-touch   16:9   800:1   45%   170°   170°   15:6°   FHD (1920x1080)   WVA   Anti-glare   multi-touch   16:9   800:1   45%   170°		Size	Resolution		туре	Surface	Touch	brightness	Ratio	Ratio	Gamut	Angle		
Display    Display   Displ													Microphone	Optional dual array near-field microphone
UHD (3840x2180)   WA   Anti-glare   Loch   Strilling   Loch   Loch   Strilling   Loch   Loch   Strilling   Loch   Loch   Strilling   Loch   L	Display	15.6"	FHD (1920x	(1080)	WVA	Anti-glare		250 nits	16:9	800:1	45%	170°	Keyboard	numeric keypad. LED backlight on most models, non LED backlight is for special bids
UHD (3840x2160)   156 m   167 m   168 m   169 m   1400:1 m   100 m   169 m   1400:1 m   100 m   170 m   100 m   169 m   1400:1 m		15.6"	FHD (1920x	1080)	WVA	Anti-glare		300 nits	16:9	800:1	45%	170°		
Security Clip   System mgmt			LIHD (3840)	(2160)			todon							
Color Calibration Color Calibration on UHD models Touchscreen Optional on-cell touch on selected FHD models, supports 10-finger gesture Pen None Up to one M.2 SSD as following, 2TB max:  * M.2 2280 PCle NVMe, PCle 3.0 x 4, 256GB / 512GB / 1TB / 2TB * M.2 2280 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids * M.2 2280 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids Optical None Optical One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC Optional WLAN + Bluetooth Up to one drift ethicle is a special bids One of the following, configurable by model: * Now WANN * Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card ethicles in the process of the integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-		15.6"	Dolby Vision	1,	WVA	Anti-glare	-	600 nits	16:9	1400:1		170°	· · · · · · · · · · · · · · · · · · ·	
Touchscreen Optional on-cell touch on selected FHD models, supports 10-finger gesture Pen None Storage N.2 2280 PCle NVMe, PCle 3.0 x 4, 256GB / 512GB / 1TB / 2TB N.2 2242 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids N.2 2242 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids N.2 2245 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids None Optical None Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC Optional Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) One of the following, configurable by model: NNAN AND NOWAN card and non upgradable will integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L86											Adobe		, ,	
Pen None    None   Up to one M.2 SSD as following, 2TB max:   Max 2 2280 PCle NVMe, PCle 3.0 x 4, 256GB / 512GB / 1TB / 2TB   Max 2 2280 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids   M.2 2242 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids   M.2 2280 512GB SSD + 32 GB Optane, PCle NVMe 3.0 x 4, for special bids   Mone   Optional None   One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models   Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.   Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1   Now MVAN card and non upgradable   No WWAN card and non upgradable   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card   Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x													· · · · · · · · · · · · · · · · · · ·	, , , , ,
Up to one M.2 SSD as following, 2TB max:  Integrated Li-Polymer 57Wh battery, supports Rapid Charge up to 80% in 1hr) with 65W AC adapter  Max 2242 PCIe NVMe, PCIe 3.0 x 4, 256GB / 512GB / 1TB / 2TB  Max 2242 PCIe NVMe, PCIe 3.0 x 2, 128GB, for special bids  M.2 2248 DCIe NVMe, PCIe 3.0 x 2, 128GB, for special bids  Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC Optional  WLAN + Bluetooth Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  NOWWAN end and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter  Max battery life MobileMark 2014: 16.5 hr. MobileMark 2018: 10.48 hr. *Battery life Waxes significantly with hardware configurations, settings, usage, & other factors  Supports one optional preloaded operating system as following:  Windows 10 Home 64  Windows 10 Pro 64  Windows 10 Pro 64  Windows 10 Pro 64  Windows 10 Government Edition 64 for special bids  Ubuntu Linux LTS  Optional warranty plans as following:  1-year depot repair service  1-year depot repair service  1-year lepot repair service  1-year lepot repair service  1-year lepot repair service  1-year lepot repair service  1-year elpot trepair service  1-year elpot with 2-year system board repair service  1-year a depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board				touch	on se	elected F	HD mo	odels, sup	ports 1	0-finger o	gesture			
Storage  M. 2 2280 PCle NVMe, PCle 3.0 x 4, 256GB / 512GB / 1TB / 2TB  M. 2 2242 PCle NVMe, PCle 3.0 x 2, 128GB, for special bids  Optical  None  Che on board GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC  Optional  WLAN + Bluetooth  One of the following, configurable by model:  None of the following, configurable by model:  Now WAN  Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, ML2 card  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Dimensions  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  Trickness: 19.1 mm (0.75 inches)  Weight  Starting at 3.86 ib (1.75kg)  Solution  Optional Nano-SiM card point of the following of the fo	Pen												ringerprint reader	
• M.2 2242 PCIe NVMe, PCIe 3.0 x 2, 128GB, for special bids • M.2 2280 512GB SSD + 32 GB Optane, PCIe NVMe 3.0 x 4, for special bids  Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC Optional  WLAN + Bluetooth One of the following, configurable by model: • No WWAN card and non upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Optional Nano-SIM card slot  Weight Starting at 3.86 lb (1.75kg)  Wax battery life Max battery life MobileMark 2018: 10.48 hr. MobileMark 2018: 10.48 hr	Storage	• M.2	2280 PCI6	NVMe	e, PC	Cle 3.0 x 4	4, 2560	GB / 5120	B / 1T	B / 2TB			Battery	in 1hr) with 65W AC adapter
Description   None		• M.2	2280 5120	B NVM	e, PC D + 3	3.0 x 2 32 GB Op	2, 1280 tane, l	GB, for sp PCIe NVI	ecial bi	ds 4, for sp	ecial bi	ds	Max battery life	MobileMark 2018: 10.48 hr.
Ethernet One onboard GDE port via integrated gigabit ethernet, intel i219LM for vPro models or i219V for non-vPro models  NFC Optional  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  No WWAN card and non upgradable  Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  Optional Nano-SIM card slot  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color  SIM card Optional Nano-SIM card slot  Weight Starting at 3.86 lb (1.75kg)  Supports one optional preloaded operating system as following:  Windows 10 Home 64  Windows 10 Government Edition 64 for special bids  Ubuntu Linux LTS  Optional warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year depot repair service  1-year at epot repair service  1-year limited onsite service  1-year limited onsite service  1-year limited onsite service  1-year depot with 2-year system board repair service  1-year epot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year epot metal onsite service  1-year epot of pair service  1-year epot of pair service  1-year depot with 2-year system board repair service  1-year epot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot with 2-year system board repair service  1-year depot metal onsite service  1-year depot metal onsite service  1-year depot metal onsite service  1-year depot metal onsite service  1-year depot metal onsite service  1-year depot metal onsite service  1-year depot metal onsite service  1-year depot metal onsite service  1-year depot metal onsite service	Optical												Power Adapter	
NFC Optional  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN ard and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  Weight Starting at 3.86 lb (1.75kg)  Operating system  Windows 10 Pro 64  Windows 10 Government Edition 64 for special bids  Ubuntu Linux LTS  Optional warranty plans as following:  1-year depot repair service  1-year depot repair service  1-year leptot repair service  1-year leptot repair service  1-year - 2-year limited onsite service  1-year - 2-year limited	Ethernet						d gigal	oit ethern	et, Intel	i219LM f	or vPro	models	•	Supports one optional preloaded operating system as following:
WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in). Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  Optional Nano-SIM card slot integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L86	NEC	_		-VF101	Houe	315								
WLAN + Bluetooth Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot  Dimensions Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in). Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color Black  No WWAN Card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 4x4, M.2 card Integrated Mobile Broadband 4G LTE-A, Fib				i-Fi 6 A	X20	1 on most	t mode	els Wi-Fi	2x2 802	2 11ax + I	Bluetoo	th 5 1	Operating system	
One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot  Optional Nano-SIM card slot  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in). Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color  Optional warranty plans as following:  1-year depot repair service 3-year depot repair service 1-year + 2-year depot repair service 1-year + 2-year limited onsite service 1-year + 2-year limited onsite service 1-year - 2-year depot with 2-year system board repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year - 2-year depot repair service 1-year by a depot repair service 1-year depot repair service 1-year - 2-year depot repair service 1-year - 2-year depot repair service 1-year - 2-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service	WLAN + Bluetooth	Bluet	ooth 5.1 re	quires	the I	atest vers	sion of	Windows	10 (ve	rsion 200	4 or ab	ove)		
• No WWAN card and non upgradable • Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot  Dimensions  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in). Thickness: 19.1 mm (0.75 inches)  Weight  Starting at 3.86 lb (1.75kg)  Case color  Black  • 1-year depot repair service • 3-year depot repair service • 1-year + 2-year limited onsite service • 1-year + 2-year limited onsite service • 1-year depot with 2-year system board repair service  • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year limited onsite service • 1-year depot with 2-year system board repair service • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year per lepot repair service • 1-year depot repair service • 1-year depot repair service • 1-year per lepot	One	of the follow	vina co	วทfia	urable by	mode	d·							
Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card	1404/41	• No	WWAN car	d and r	าดทู เ	upgradabl	le					0 1		• 1-year depot repair service
• Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card  SIM card  Optional Nano-SIM card slot  Dimensions  Weight  Starting at 3.86 lb (1.75kg)  Case color  Optional Nano-SIM card slot  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  Thickness: 19.1 mm (0.75 inches)  Mil-Spec test Environment  Sase Warranty  1-year limited onsite service  1-year limited onsite service  1-year limited onsite service  1-year limited onsite service  Mil-Spec test Environment  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	WWAN	• Inte	grated Mol	oile Bro	adba	and Upgra	adable	, No WW.	AN Car	d, WWAN	N Anten	na Only		
SIM card Optional Nano-SIM card slot  Dimensions Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color Black  Optional Nano-SIM card slot  1-year limited onsite service  1-year 4-year limited onsite service  1-year 4-year limited onsite service  1-year 4-year system board repair service  Mil-Spec test MIL-STD-810G military testing  Environment EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		• Inte	grated Mot	oile Bro	adba	and 4G L	ΙΕ-Α, Ι ΓΕ-Δ	Fibocom	-850-G	L, IVI.2 ca	ıra ⊿v⊿ M	2 card	Base Warranty	
Dimensions Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color Black  Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).  1-year + 2-year limited onsite service  1-year depot with 2-year system board repair service  Mil-Spec test MIL-STD-810G military testing  Environment EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	SIM card						I L A,	I IDOCOIII	<u>_000                                  </u>	L, IVIIIVIO	TAT, IVI	.z cara	╣ ′	
Thickness: 19.1 mm (0.75 inches)  Weight Starting at 3.86 lb (1.75kg)  Case color Black  O 1-year depot with 2-year system board repair service  MIL-STD-810G military testing  Environment EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		Width	n: 365.8 mr	n (14.4	in).	Depth: 24	l8 mm	(9.76 in).						
Case color Black Environment EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant						nches)								1-year depot with 2-year system board repair service
Environment Et EAT doid. ENERGY STAN 6.0. Not 13-compliant				lb (1.7	5kg)									
ISV certifications Please visit <u>www.thinkworkstations.com/isv-certifications/</u>	Case color	Biack	(											
													ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>













## ThinkPad P15v Gen 1 Platform Specifications

Processor Number of a fine place of processor Number of cores Thread Figuratory Processor (2014) Processor (		Supports one 10th	n Xeon	W. Core	i7. or i5 p	rocessor	as follo	wina:			Case color	Black
Name			1		, ,			0	Dro	200000r		
Nemony Processor   So-DiffM Societs   Society   Societ		Processor Number			Frequency	Frequency	Cache	Types			Case material	
Name			00163	Tilleaus	requericy	rrequericy		Турез			Media reader	
Processor  Core 17-10875H 8 1 6 2.3GHz 5.1GHz 16MB DDR4-2933 Graphics Core 17-10850H 6 12 2.7GHz 5.1GHz 12MB DDR4-2933 Graphics Core 17-10850H 6 12 2.7GHz 5.1GHz 12MB DDR4-2933 Linte UHD Core 17-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10850H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 ECC.		Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-293				1x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP),
Processor   Core   17-108/50h   6   12   2.7GHz   5.1GHz   12MB   DDR4-2833   Intell   Giraphics   Core   17-10750h   6   12   2.6GHz   5.0GHz   12MB   DDR4-2833   Intell   Giraphics   Core   17-10750h   6   12   2.6GHz   5.0GHz   12MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   4.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   4.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   4.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   4.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   MB   DDR4-2833   Intell   Core   MB   DDR4-2833   Inte											Standard Ports	2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / micro-
Core i7-10850H   6   12   2.7 GHz   5.1 GHz   12MB   DDR4-2933   Intel UHD   Core i7-10750H   6   12   2.6 GHz   5.0 GHz   12MB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   5.0 GHz   12MB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   4.5 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   4.5 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   4.5 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   5.0 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   5.0 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   5.0 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   DDR4-2933	Processor	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293				
Core I7-10750H   6   12   2.6GHz   5.1GHz   2.8GHz   2.	FIOCESSOI										Optional Ports	
Core   17-10750H   6   12   2.6GHz   5.0GHz   12MB   DPR4-2933   Intel Windows   17-10750H   6   12   2.6GHz   4.5GHz   8MB   DPR4-2933   Intel Windows   17-10750H   6   12   2.6GHz   4.5GHz   8MB   DPR4-2933   Intel Windows   17-10750Hz		Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293	2.2			Up to 3 displays with 2 external monitors plus system LCD screen. External
Core i7-10750H   6   12   2.6GHz   12MB   DDR4-2933   Titled UPID			-						_		Monitor support	
Core i5-10300H   4   8   2.5GHz   4.5GHz   8MB   DR4-2933   Graphics   Grap		Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293			monitor capport	HDMI supports up to 4K@60Hz.
Core is-10300H   4   8   2.5GHz   4.5GHz   MB   DDR4-293   Graphics			_						Gra		Manathan a shila	
Chipset Intel WM490 Chipset  Memory Type  SO-DIMM. DDR4-2900 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933.  BGB/16GB/32GB available for both ECC and non-ECC  Memory Sockets  Memory Sockets  Memory Protection ECC or models with ECC DIMMs and Xeon processor  Max Memory  6GGB  Graphics  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5  memory  15.6° PHD (1920x1080) WVA  Anti-glare  15.6° PHD (1920x1080) WVA  Anti-gla		Core i5-10300H	4	8	2 5GHz	4 5GHz	8MB	DDR4-293				
Socion   Societa   Socion   Societa   Socion   Societa   Socion   Societa   Socion   Societa   Socion   Societa   Socion   Societa   Societ		0010101000011	<u> </u>		2.00112	1.00112	OWID	BB111 200	Gra	aphics	Bundled Accy	
Memory Type   SigGr1/6SB/32GB available for both ECC and non-ECC	Chipset										Comoro	Supports one optional camera as following:
Memory Sockets   2 DIMM sockets   2 DI	Momory Typo	SO-DIMM. DDR4-	3200 r	non-ECC	or DDR4-	2933 EC	C. Oper	rates at DD	R4-29	933.	Camera	Hybrid ID comera with ThinkShutter comera privacy, fixed focus
Memory Protection   ECC on models with ECC DIMMs and Xeon processor   Max Memory   64GB   Me	, ,,	8GB/16GB/32GB	availat	ole for bot	th ECC ar	nd non-EC	C				Audio chip	
Max Memory Protections with ECC Diffinition and National Processor Plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plu	Memory Sockets	2 DIMM sockets									·	
Max Memory   G4GB   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Anti-glare   Power Adapter   Intel UHD Graphics in processor plus optional NVIDIA Anti-glare   Power Adapter   Intel UHD Graphics in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processo	Memory Protection	ECC on models w	ith EC	C DIMMs	and Xeo	n process	or				I	
Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDHS   Memory	Max Memory	64GB									Microphone	
Size   Resolution   Type   Surface   Touch   Brightness   Aspect   Contrast   Ratio   Gamu   Margle   15.6"   FHD (1920x1080)   WVA   Anti-glare   - 250 nits   16.9   700:1   M75C   170°   NTSC   170°   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip	Cranbias	Intel UHD Graphic	s in pr	ocessorı	olus optio	nal NVIDI	A Quad	dro P620, 4	GB G	DDR5	Keyboard	munications controls, ontional LED backlight
Size   Resolution   Type   Surface   Touch   Brightness   Aspect   Color   View   Ratio   Ra	Graphics							,			l	
Display  Display  The first of the first of		Oine Decelution			Tb	Duiadata	Aspec	ct Contrast	Color	Viewina	UltraNav	
Display    15.6°   FHD (1920x1080)   WVA   Anti-glare   - 250 nits   16.9   700.1   45%   NTSC   170°   NTSC   170		Size Resolution	17	ype Sun	ace   loucr	Brightnes	Ratio	Ratio (	Gamut	Angle		
Display    15.6   FHD (1920x1080)   WVA   Anti-glare   16.9   MVA   MVA   Anti-glare   16.9   MVA   MVA   MVA   Anti-glare   16.9   MVA   MVA   MVA   Anti-glare   16.9   MVA   MVA   MVA   Anti-glare   16.9   MVA   MVA   MVA   Anti-glare   16.9   MVA   MV									45%			
15.6°   FHD (1920x1080)   WVA   Anti-glare   Multi-louch   300 nits   16:9   800:1   45%   170°   170°   170°   18.6°     UHD (3840x2160)   15.6°   UHD (3840x2160)   10.6°   10.0°   1400:1   10.0°   178°   170°   170°   10.0°   178°   170°   10.0°   178°   170°   10.0°   178°   170°   10.0°   178°   170°   170°   10.0°   178°   170°		15.6" FHD (1920x10	)80)   W	/VA   Anti-g	glare -	250 nits	16:9	/00:1	NTSC	1/0°		
Smart card reader   Optional   Flags   Optional   Flags   Optional   Option	Display	45 01 5115 (4000 46			. multi-		100	2001	45%	4=00		1 07 11
UHD (3840x2160   NA		15.6" FHD (1920X10	)80)   W	/VA  Anti-g		300 nits	16:9	800:1	NTSC	170°		, -,
15.6"   Diby Vision, HDR 400   HOR									1000/			
In the Autor   Color Calibration   Factory Color Calibration on UHD panels			W	/VA  Anti-g	glare -	600 nits	16:9			178°		
Color Calibration Factory Color Calibration on UHD panels Touch enable on selected FHD models, supports 10-finger gesture  Pen None  Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each  RAID RAID 0 / 1 support  Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC None  WLAN + Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  WWAN Now WAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Width: 366.5 mm (14.43 in), Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Max battery life MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 201											Battery	
Touch enable on selected FHD models, supports 10-finger gesture  None  None  None  RAID												,
Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each  RAID RAID 0 / 1 support  Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN and and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card SIM card Optional Nano-SIM card slot  Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Power Adapter  135W slim AC adapter  Supports one optional preloaded operating system as following:  9 Windows 10 Pro 64  9 Windows 10 Pro 64 for Workstations  9 Ubuntu Linux LTS  Optional warranty plans as following:  1 -1-year depot repair service  3 -1-year depot repair service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year depot repair service  1 -1-year depot repair service  1 -1-year depot repair service  1 -1-year depot repair service  1 -1-year depot repa	Touchscreen		selecte	d FHD m	odels, su	ports 10-	finger (	gesture			Max battery life	MobileMark 2018: 6.63 hr
RAID RAID 0 / 1 support Optical None Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC None WLAN + Bluetooth One of the following, configurable by model:  WWAN Now WWAN card and non upgradable in Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot Dimensions Weight Starting at 2.07 kg (4.57 lb, UHD)  Supports one optional preloaded operating system as following:  Windows 10 Pro 64 Windows 10 Pro 64 Windows 10 Pro 64 or Workstations Ubuntu Linux LTS Optional warranty plans as following:  1-year depot repair service 3-year depot repair service 3-year limited onsite service 1-year limited onsite service 1-year depot with 2-year system of the following service 1-year depot with 2-year system of the following service 1-year depot one optional preloaded operating system as following:  Windows 10 Pro 64 Windows 10 Pro											<u></u>	
Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models or i219V for non-vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  WWAN Now Now WAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot  Dimensions Windows 10 Home 64  Windows 10 Homes 10  Potenting In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Hol	Storage	Up to two M.2 228	30 SSE	), PCIe N	VMe, 256	GB / 5120	3B / 1T	B / 2TB ea	.ch		Power Adapter	
Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  NWAN Now Now WWAN card and non upgradable integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot  Dimensions Windows 10 Pro 64  Windows 10 Potes (Palical Scales)  Index 1 Port 1 Polical Scales (Palical Scales)  Index 2 Polical Scales (Palical Scales)  Index 2 Polical Scales (Palical Scales)  Index 2 Polical Scales (Palical Scales)  Index 2 Polical Scales (Palical Scales)  Index 2 Polical Scales (Palical Scales)  Index 2 Polical Scales (Palical Scales)  Index 2 Polical S	RAID	RAID 0 / 1 suppor	t								1	
Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  WWAN Now WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot  Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Windows 10 Pro 64 for Workstations  Windows 10 Pro 64 for Workstations  Windows 10 Pro 64 for Workstations  Ubuntu Linux LTS  Optional warranty plans as following:  1-year depot repair service  1-year depot repair service  1-year depot repair service  1-year limited onsite service  3-year limited onsite service  1-year + 2-year depot repair service  1-year lepot repair service  1-year depot	None									Operating eyetem		
Sim card   Optional Nano-SiM card slot		One onboard GbF	port v	ia integra	ated gigat	it etherne	t. Intel	i219l M for	vPro	models	Operating system	
NFC None  WLAN + Bluetooth Diuetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  WWAN One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Optional warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year limited onsite service  3-year limited onsite service  1-year + 2-year limited onsite service  1-year depot warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year limited onsite service  1-year + 2-year limited onsite service  1-year depot repair service	Ethernet	or i219V for non-v	Pro mo	odels	arou gigun		.,					
WLAN + Bluetooth Deprive the latest version of Windows 10 (version 2004 or above)  WWAN One of the following, configurable by model:  WWAN Now WAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1.  Pi-year depot repair service  3-year depot repair service  1-year 4-2-year depot repair service  1-year + 2-year limited onsite service  1-year depot wirb 2-year depot repair service  1-year + 2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year + 2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year 4-2-year system board repair service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite ser	NFC	None										
WLAN + Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Dimensions Weight  One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight  Starting at 2.07 kg (4.57 lb, UHD)  *3-year depot repair service  1-year + 2-year limited onsite service  3-year depot repair service  1-year + 2-year limited onsite service  1-year depot with 2-year depot repair service  1-year limited onsite service  1-year depot with 2-year bysem board repair service  1-year depot repair service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year depot with 2-year bysem board repair service  1-year depot repair service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year depot repair service  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year depot repair service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year lepothers  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year Hollowing, configurable by model:  1-year Hollowing, configurable by model:  1-year Hollowing, configurable by m		Optional Intel Wi-F	i 6 AX	201 on m	ost mode	ls. Wi-Fi 2	x2 802	.11ax + Blu	uetooth	h 5.1.	1	
One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Dimensions Weight One of the following, configurable by model:  No WWAN card and non upgradable I-year + 2-year depot repair service I-year limited onsite service I-year limited onsite service I-year depot with 2-year limited onsite service I-year + 2-year limited onsite service I-year + 2-year limited onsite service I-year + 2-year limited onsite service I-year + 2-year limited onsite service I-year + 2-year depot repair service I-year limited onsite service I-year + 2-year limited onsite service I-year + 2-year limited onsite service I-year + 2-year depot repair service I-year limited onsite service I-year + 2-year depot repair service I-year limited onsite service I-year + 2-year li	WLAN + Bluetooth											3-year depot repair service
WWAN end and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  SIM card Optional Nano-SIM card slot  Dimensions Weight Optional Nano-SIM card slot  Vidth: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in)  Weight Other in the service  1-year limited onsite service  3-year limited onsite service  1-year depot with 2-year system board repair service  Mil-Spec test MIL-STD-810G military testing  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		One of the following	ng, cor	figurable	by mode	:					Rasa Warranty	
SIM card Optional Nano-SIM card slot  Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  - 1-year + 2-year limited onsite service - 1-year depot with 2-year system board repair service - Mil-Spec test MIL-STD-810G military testing - Environment EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	WWAN	<ul> <li>No WWAN card</li> </ul>	and no	n upgrad	lable						Dasc Warranty	
Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in) Weight Starting at 2.07 kg (4.57 lb, UHD)  *1-year depót with 2-year system board repair service Mil-Spec test MIL-STD-810G military testing EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant					<u>3 LTE-A, F</u>	Fibocom L	850-GI	L, MIMO 2>	<2, M.2	2 card		
Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Mil-Spec test Mil-STD-810G military testing  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	SIM card	Optional Nano-SII	<u> </u>	slot_								
Weight Starting at 2.07 kg (4.57 lb, UHD) ENVIRONMENT EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	Dimensions	Width: 366.5 mm	(14.43	ın). Deptl	n: 250 mm	າ (9.84 in).					Mil-Spec test	
		Starting at 2.07 kg	<u>iin (0.9</u>	IP LIND/ D IU)							<del>                                     </del>	
134 Certifications   Frease visit <u>www.trifickworkstations.com/isv-certifications/</u>	vveigni	Joian ling at 2.07 Kg	J (4.57	iu, UHD)								
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## ThinkPad P15v Gen 1 Platform Specifications

Processor Number of a fine place of processor Number of cores Thread Figuratory Processor (2014) Processor (		Supports one 10th	n Xeon	W. Core	i7. or i5 p	rocessor	as follo	wina:			Case color	Black
Name			1		, ,			0	Dro	200000r		
Nemony Processor   So-DiffM Societs   Society   Societ		Processor Number			Frequency	Frequency	Cache	Types			Case material	
Name			00163	Tilleaus	requericy	rrequericy		Турез			Media reader	
Processor  Core 17-10875H 8 1 6 2.3GHz 5.1GHz 16MB DDR4-2933 Graphics Core 17-10850H 6 12 2.7GHz 5.1GHz 12MB DDR4-2933 Graphics Core 17-10850H 6 12 2.7GHz 5.1GHz 12MB DDR4-2933 Linte UHD Core 17-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10850H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 Linte UHD Core 17-10750Hz 12MB DDR4-2930 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933 ECC.		Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-293				1x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP),
Processor   Core   17-108/50h   6   12   2.7GHz   5.1GHz   12MB   DDR4-2833   Intell   Giraphics   Core   17-10750h   6   12   2.6GHz   5.0GHz   12MB   DDR4-2833   Intell   Giraphics   Core   17-10750h   6   12   2.6GHz   5.0GHz   12MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   4.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   4.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   4.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   4.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   MB   DDR4-2833   Intell   Core   18-10300h   4   8   2.5GHz   MB   DDR4-2833   Intell   Core   MB   DDR4-2833   Inte											Standard Ports	2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / micro-
Core i7-10850H   6   12   2.7 GHz   5.1 GHz   12MB   DDR4-2933   Intel UHD   Core i7-10750H   6   12   2.6 GHz   5.0 GHz   12MB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   5.0 GHz   12MB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   4.5 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   4.5 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   4.5 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   5.0 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   5.0 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   5.0 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   4   8   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   SMB   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   DDR4-2933   Intel UHD   Core i5-10300H   2.6 GHz   DDR4-2933	Processor	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293				
Core I7-10750H   6   12   2.6GHz   5.1GHz   2.8GHz   2.	FIOCESSOI										Optional Ports	
Core   17-10750H   6   12   2.6GHz   5.0GHz   12MB   DPR4-2933   Intel Windows   17-10750H   6   12   2.6GHz   4.5GHz   8MB   DPR4-2933   Intel Windows   17-10750H   6   12   2.6GHz   4.5GHz   8MB   DPR4-2933   Intel Windows   17-10750Hz		Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293	2.2			Up to 3 displays with 2 external monitors plus system LCD screen. External
Core i7-10750H   6   12   2.6GHz   12MB   DDR4-2933   Titled UPID			-						_		Monitor support	
Core i5-10300H   4   8   2.5GHz   4.5GHz   8MB   DR4-2933   Graphics   Grap		Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293			and and and and and and and and and and	HDMI supports up to 4K@60Hz.
Core is-10300H   4   8   2.5GHz   4.5GHz   MB   DDR4-293   Graphics			_						Gra		Manathan a shila	
Chipset Intel WM490 Chipset  Memory Type  SO-DIMM. DDR4-2900 non-ECC or DDR4-2933 ECC. Operates at DDR4-2933.  BGB/16GB/32GB available for both ECC and non-ECC  Memory Sockets  Memory Sockets  Memory Protection ECC or models with ECC DIMMs and Xeon processor  Max Memory  6GGB  Graphics  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5  memory  15.6° PHD (1920x1080) WVA  Anti-glare  15.6° PHD (1920x1080) WVA  Anti-gla		Core i5-10300H	4	8	2 5GHz	4 5GHz	8MB	DDR4-293				
Socion   Societa   Socion   Societa   Socion   Societa   Socion   Societa   Socion   Societa   Socion   Societa   Socion   Societa   Societ		0010101000011	<u> </u>		2.00112	1.00112	OWID	BB111 200	Gra	aphics	Bundled Accy	
Memory Type   SigGr1/6SB/32GB available for both ECC and non-ECC	Chipset										Comoro	Supports one optional camera as following:
Memory Sockets   2 DIMM sockets   2 DI	Momory Typo	SO-DIMM. DDR4-	3200 r	non-ECC	or DDR4-	2933 EC	C. Oper	rates at DD	R4-29	933.	Camera	Hybrid ID comera with ThinkShutter comera privacy, fixed focus
Memory Protection   ECC on models with ECC DIMMs and Xeon processor   Max Memory   64GB   Me	, ,,	8GB/16GB/32GB	availat	ole for bot	th ECC ar	nd non-EC	C				Audio chip	
Max Memory Protections with ECC Diffinition and National Processor Plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDR5  Intel UHD Graphics in processor plu	Memory Sockets	2 DIMM sockets									·	
Max Memory   G4GB   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5   Intel UHD Graphics in processor plus optional NVIDIA Anti-glare   Power Adapter   Intel UHD Graphics in processor plus optional NVIDIA Anti-glare   Power Adapter   Intel UHD Graphics in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processor plus in processo	Memory Protection	ECC on models w	ith EC	C DIMMs	and Xeo	n process	or				I	
Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDHS   Memory	Max Memory	64GB									Micropriorie	
Size   Resolution   Type   Surface   Touch   Brightness   Aspect   Contrast   Ratio   Gamu   Margle   15.6"   FHD (1920x1080)   WVA   Anti-glare   - 250 nits   16.9   700:1   M75C   170°   NTSC   170°   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions   Security chip	Cranbias	Intel UHD Graphic	s in pr	ocessorı	olus optio	nal NVIDI	A Quad	dro P620, 4	GB G	DDR5	Keyboard	munications controls, ontional LED backlight
Size   Resolution   Type   Surface   Touch   Brightness   Aspect   Color   View   Ratio   Ra	Graphics							,			l	
Display  Display  The first of the first of		Oi DIti			Tb	Duialete	Aspec	ct Contrast	Color	Viewina	UltraNav	
Display    15.6°   FHD (1920x1080)   WVA   Anti-glare   - 250 nits   16.9   700.1   45%   NTSC   170°   NTSC   170		Size Resolution	17	ype Sun	ace   loucr	Brightnes	Ratio	Ratio (	Gamut	Angle		
Display    15.6   FHD (1920x1080)   WVA   Anti-glare   16.9   MVA   MVA   Anti-glare   16.9   MVA   MVA   MVA   Anti-glare   16.9   MVA   MVA   MVA   Anti-glare   16.9   MVA   MVA   MVA   Anti-glare   16.9   MVA   MVA   MVA   Anti-glare   16.9   MVA   MV									45%			
15.6°   FHD (1920x1080)   WVA   Anti-glare   Multi-louch   300 nits   16:9   800:1   45%   170°   170°   170°   18.6°     UHD (3840x2160)   15.6°   UHD (3840x2160)   10.6°   10.0°   1400:1   10.0°   178°   170°   170°   10.0°   178°   170°   10.0°   178°   170°   10.0°   178°   170°   10.0°   178°   170°   170°   10.0°   178°   170°		15.6" FHD (1920x10	)80)   W	/VA   Anti-g	glare -	250 nits	16:9	/00:1	NTSC	1/0°		
Smart card reader   Optional   Flags   Optional   Flags   Optional   Option	Display	45 01 5115 (4000 40			. multi-		100	2001	45%	4=00		1 07 11
UHD (3840x2160   NA		15.6" FHD (1920X10	)80)   W	/VA  Anti-g		300 nits	16:9	800:1	NTSC	170°		, -,
15.6"   Diby Vision, HDR 400   HOR									1000/			
In the Autor   Color Calibration   Factory Color Calibration on UHD panels			W	/VA  Anti-g	glare -	600 nits	16:9			178°		
Color Calibration Factory Color Calibration on UHD panels Touch enable on selected FHD models, supports 10-finger gesture  Pen None  Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each  RAID RAID 0 / 1 support  Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC None  WLAN + Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  WWAN Now WAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Width: 366.5 mm (14.43 in), Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Max battery life MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 2018: 6.63 hr MobileMark 2014: 10 hr. MobileMark 201											Battery	
Touch enable on selected FHD models, supports 10-finger gesture  None  None  None  RAID												,
Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each  RAID RAID 0 / 1 support  Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN and and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card SIM card Optional Nano-SIM card slot  Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Power Adapter  135W slim AC adapter  Supports one optional preloaded operating system as following:  9 Windows 10 Pro 64  9 Windows 10 Pro 64 for Workstations  9 Ubuntu Linux LTS  Optional warranty plans as following:  1 -1-year depot repair service  3 -1-year depot repair service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year 42-year limited onsite service  1 -1-year depot repair service  1 -1-year depot repair service  1 -1-year depot repair service  1 -1-year depot repair service  1 -1-year depot repa	Touchscreen		selecte	d FHD m	odels, su	ports 10-	finger (	gesture			Max battery life	MobileMark 2018: 6.63 hr
RAID RAID 0 / 1 support Optical None Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC None WLAN + Bluetooth One of the following, configurable by model:  WWAN Now WWAN card and non upgradable in Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot Dimensions Weight Starting at 2.07 kg (4.57 lb, UHD)  Supports one optional preloaded operating system as following:  Windows 10 Pro 64 Windows 10 Pro 64 Windows 10 Pro 64 or Workstations Ubuntu Linux LTS Optional warranty plans as following:  1-year depot repair service 3-year depot repair service 3-year limited onsite service 1-year limited onsite service 1-year depot with 2-year system of the following service 1-year depot with 2-year system of the following service 1-year depot one optional preloaded operating system as following:  Windows 10 Pro 64 Windows 10 Pro											<u></u>	
Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models or i219V for non-vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  WWAN Now Now WAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot  Dimensions Windows 10 Home 64  Windows 10 Homes 10  Potenting In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Holling In Hol	Storage	Up to two M.2 228	30 SSE	), PCIe N	VMe, 256	GB / 5120	3B / 1T	B / 2TB ea	.ch		Power Adapter	
Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  NWAN Now Now WWAN card and non upgradable integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot  Dimensions Windows 10 Pro 64  Windows 10 Potes (Palical Scales)  Index 1 Port 1 Polical Scales (Palical Scales)  Index 2 Polical Scales (Palical Scales)  Index 2 Polical Scales (Palical Scales)  Index 2 Polical Scales (Palical Scales)  Index 2 Polical Scales (Palical Scales)  Index 2 Polical Scales (Palical Scales)  Index 2 Polical Scales (Palical Scales)  Index 2 Polical S	RAID	RAID 0 / 1 suppor	t								1	
Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  WWAN Now WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot  Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Windows 10 Pro 64 for Workstations  Windows 10 Pro 64 for Workstations  Windows 10 Pro 64 for Workstations  Ubuntu Linux LTS  Optional warranty plans as following:  1-year depot repair service  1-year depot repair service  1-year depot repair service  1-year limited onsite service  3-year limited onsite service  1-year + 2-year depot repair service  1-year lepot repair service  1-year depot	None									Operating eyetem		
Sim card   Optional Nano-SiM card slot		One onboard GbF	port v	ia integra	ated gigat	it etherne	t. Intel	i219l M for	vPro	models	Operating system	
NFC None  WLAN + Bluetooth Diuetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  WWAN One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Optional warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year limited onsite service  3-year limited onsite service  1-year + 2-year limited onsite service  1-year depot warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year limited onsite service  1-year + 2-year limited onsite service  1-year depot repair service	Ethernet	or i219V for non-v	Pro mo	odels	arou gigun		.,					
WLAN + Bluetooth Deprive the latest version of Windows 10 (version 2004 or above)  WWAN One of the following, configurable by model:  WWAN Now WAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1.  Pi-year depot repair service  3-year depot repair service  1-year 4-2-year depot repair service  1-year + 2-year limited onsite service  1-year depot wirb 2-year depot repair service  1-year + 2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year + 2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year 4-2-year system board repair service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year depot repair service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite service  1-year 4-2-year limited onsite ser	NFC	None										
WLAN + Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Dimensions Weight  One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).  Thickness: 24.2 mm (0.95 in)  Weight  Starting at 2.07 kg (4.57 lb, UHD)  *3-year depot repair service  1-year + 2-year limited onsite service  3-year depot repair service  1-year + 2-year limited onsite service  1-year depot with 2-year depot repair service  1-year limited onsite service  1-year depot with 2-year bysem board repair service  1-year depot repair service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year depot with 2-year bysem board repair service  1-year depot repair service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year depot repair service  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year depot repair service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year lepothers  1-year Hollowing, configurable by model:  1-year + 2-year limited onsite service  1-year Hollowing, configurable by model:  1-year Hollowing, configurable by model:  1-year Hollowing, configurable by model:  1-year Hollowing, configurable by m		Optional Intel Wi-F	i 6 AX	201 on m	ost mode	ls. Wi-Fi 2	x2 802	.11ax + Blu	uetooth	h 5.1.	1	
One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  Optional Nano-SIM card slot  Dimensions Weight One of the following, configurable by model:  No WWAN card and non upgradable I-year + 2-year depot repair service I-year limited onsite service I-year + 2-year depot repair service I-year limited onsite service I-year + 2-year limited onsite service I-year + 2-year limited onsite service I-year + 2-year depot repair service I-year limited onsite service I-year + 2-year depot repair service I-year limited onsite service I-year + 2-year li	WLAN + Bluetooth											3-year depot repair service
WWAN end and non upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card  SIM card Optional Nano-SIM card slot  Dimensions Weight Optional Nano-SIM card slot  Vidth: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in)  Weight Other in the service  1-year limited onsite service  3-year limited onsite service  1-year depot with 2-year system board repair service  Mil-Spec test MIL-STD-810G military testing  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		One of the following	ng, cor	figurable	by mode	:					Rasa Warranty	
SIM card Optional Nano-SIM card slot  Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  - 1-year + 2-year limited onsite service - 1-year depot with 2-year system board repair service - Mil-Spec test MIL-STD-810G military testing - Environment EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	WWAN	<ul> <li>No WWAN card</li> </ul>	and no	n upgrad	lable						Dasc Warranty	
Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in) Weight Starting at 2.07 kg (4.57 lb, UHD)  *1-year depót with 2-year system board repair service Mil-Spec test MIL-STD-810G military testing EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant					<u>3 LTE-A, F</u>	Fibocom L	850-GI	L, MIMO 2>	<2, M.2	2 card		
Thickness: 24.2 mm (0.95 in)  Weight Starting at 2.07 kg (4.57 lb, UHD)  Mil-Spec test Mil-STD-810G military testing  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	SIM card	Optional Nano-SII	<u> </u>	slot_								
Weight Starting at 2.07 kg (4.57 lb, UHD) ENVIRONMENT EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	Dimensions	Width: 366.5 mm	(14.43	ın). Deptl	n: 250 mm	າ (9.84 in).					Mil-Spec test	
		Starting at 2.07 kg	<u>iin (0.9</u>	IP LIND/ D IU)							<del>                                     </del>	
134 Certifications   Frease visit <u>www.trifickworkstations.com/isv-certifications/</u>	vveigni	Joian ling at 2.07 Kg	J (4.57	iu, UHD)								
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## ThinkPad P17 Gen 1 Platform Specifications

Supports one 10th Xeon W, Core i9, 17, or i5 processor as following:   Processor Number   # of   #		Sunn	orte one 10th	Xeor	W Cor	iQ i	or i	5 process	or ac f	llowing:			7		
Processor Number   Cores   Threads   Frequency   Frequency   Cache   Types   Graphics   Intel UHD   Graphics   Xeon W-10885M   8   16   2.4GHz   5.3GHz   16MB   DR4-2933   Intel UHD   Graphics   Graphics   Core i9-10980HK   8   16   2.4GHz   5.3GHz   16MB   DR4-2933   Intel UHD   Graphics   Graphics   Core i9-10885H   8   16   2.4GHz   5.3GHz   16MB   DR4-2933   Intel UHD   Graphics   Graphics   Core i7-10875H   8   16   2.4GHz   5.3GHz   16MB   DR4-2933   Intel UHD   Graphics   Core i7-10875H   8   16   2.3GHz   5.1GHz   16MB   DR4-2933   Intel UHD   Graphics   Core i7-10850H   6   12   2.7GHz   5.1GHz   12MB   DR4-2933   Intel UHD   Graphics   Core i7-10750H   6   12   2.6GHz   5.0GHz   12MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4.6GHz   8MB   DR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   2.6GHz   4   4   4   4   4   4   4   4   4		Supp	orts one roth					·	UI d5 10		-		D		
Xeon W-10855M   8   16		Proce	essor Number						Cache		G	raphics	W C		
Processor		Xeor	n W-10885M	8	16	2.40	ЗНz	5.3GHz	16MB	DDR4-29			C		
Core i9-10885H 8 16 2.4GHz 5.3GHz 16MB DDR4-2933 Graphics   Core i9-10885H 8 16 2.4GHz 5.3GHz 16MB DDR4-2933 Intel UHD Graphics   Core i7-10875H 8 16 2.3GHz 5.1GHz 16MB DDR4-2933 Intel UHD Graphics   Core i7-10850H 6 12 2.7GHz 5.1GHz 12MB DDR4-2933 Intel UHD Graphics   Core i7-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Intel UHD Graphics   Core i5-10400H 4 8 2.6GHz 4.6GHz 8MB DDR4-2933 Intel UHD Graphics   Intel WM490 Chipset   Intel WM490 Chipset   Intel WM490 Chipset   So-DiMM. DDR4-3200 for non-ECC, DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933, 8GB/16GB/32GB available for both ECC and non-ECC operate at D		Xeor	n W-10855M	6	12	2.80	ЗНz	5.1GHz	12MB	DDR4-29			М		
Core i9-10885H		Core	i9-10980HK	8	16	2.40	àНz	5.3GHz	16MB	DDR4-29			S		
Core i7-108/5H 8   16   2.3GHZ   5.1GHZ   16MB   DDR4-2933   Graphics	Processor	Core	i9-10885H	8	16	2.40	àНz	5.3GHz	16MB	DDR4-29			0		
Core i7-1080/H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Graphics Core i5-10400H 4 8 2.6GHz 4.6GHz 8MB DDR4-2933 Intel UHD Graphics Chipset Intel WM490 Chipset Memory Type SO-DIMM. DDR4-3200 for non-ECC, DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available available available por obth ECC and non-ECC operate available av		Core	i7-10875H	8	16	2.30	àНz	5.1GHz	16MB	DDR4-29					
Core i5-10400H		Core	i7-10850H	6	12	2.70	ЗНz	5.1GHz	12MB	DDR4-29			М		
Chipset Intel WM490 Chipset SO-DIMM. DDR4-3200 for non-ECC, DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2936. 8GB/91GB/32GB available for both ECC and non-ECC operate at DDR4-2936. 8GB/91GB/32GB/32GB/32GB/32GB/32GB/32GB/32GB/32		Core	i7-10750H	6	12	2.60	ìНz	5.0GHz	12MB	DDR4-29			M		
Memory Type  SO-DIMM. DDR4-3200 for non-ECC, DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC  Memory Sockets  Memory Protection  ECC on models with ECC DIMMs and Xeon processor  Max Memory  128GB  Support one of the following discrete graphics:  NVIDIA Quadro T1000, 4GB GDDR6 memory  NVIDIA Quadro T2000, 4GB GDDR6 memory  NVIDIA Quadro RTX 3000, 6GB GDDR6 memory  NVIDIA Quadro RTX 4000 with Max-Q Design, 8GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NTSC TOOL TAIL TAIL TAIL TAIL TAIL TAIL TAIL TAI		Core	i5-10400H	4	8	2.60	ЗНz	4.6GHz	8MB	DDR4-29			B C		
Memory Sockets   A DIMM sockets	Chipset	Intel													
Memory Protection   ECC on models with ECC DIMMs and Xeon processor	Memory Type	SO-DIMM. DDR4-3200 for non-ECC, DDR4-2933 for ECC. ECC and non-ECC													
Max Memory   128GB   Support one of the following discrete graphics:		4 DIMM sockets													
Support one of the following discrete graphics:  NVIDIA Quadro T1000, 4GB GDDR6 memory  NVIDIA Quadro T2000, 4GB GDDR6 memory  NVIDIA Quadro T2000, 4GB GDDR6 memory  NVIDIA Quadro RTX 3000, 6GB GDDR6 memory  NVIDIA Quadro RTX 4000 with Max-Q Design, 8GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  Size Resolution Type Surface Touch Brightness Ratio Contrast Color Ratio Gamut Angle  17.3° FHD (1920x1080) WVA Anti-glare - 300 nits 16:9 700:1 72% NTSC 160°  17.3° Dolby Vision, HDR 400  17.3° Dolby Vision, HDR 400  Color Calibration Factory Color Calibration on UHD panels  Touchscreen None  Pen None  Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each  RAID O/1 support  Optical None  Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth S.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only		ECC on models with ECC DIMMs and Xeon processor													
e NVIDIA Quadro T1000, 4ĞB GDDR6 memory  NVIDIA Quadro T2000, 4GB GDDR6 memory  NVIDIA Quadro RTX 3000, 6GB GDDR6 memory  NVIDIA Quadro RTX 4000 with Max-Q Design, 8GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  Nole Ratio Gamut Viewing Ratio  None UHD (1920x1080) WVA Anti-glare - 300 nits 16:9 700:1 72% NTSC 160°  NTSC 160°  NONE None None  None None None Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each  RAID RAID 0 / 1 support  Optical None  One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth S.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  NOWAN card and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, MIMO 4x4, M.2 card	Max Memory	128GB													
Display    17.3"   FHD (1920x1080)   WVA   Anti-glare   -       300 nits     16:9     700:1       72%       160°	Graphics	• NVI • NVI • NVI	DIA Quadro DIA Quadro DIA Quadro DIA Quadro	T1000 T2000 RTX 3 RTX 4	, 4GB G , 4GB G 000, 6G 000 with	DDR6 DDR6 B GD Max-	mer mer DR6 Q De	nory nory memory esign, 8GE					Pi Si Si Si Si		
Display    17.3   THE (1920/1000)   WVA   Anti-glare   -		Size	Resolution	Т	ype Su	rface	Touch	Brightness					Fi		
17.3"   Dolby Vision, HDR 400   WVA   Anti-glare   -   500 nits   16:9   1500:1   No0e   178°	Display	17.3"	FHD (1920x10	980) V	VVA Ant	i-glare	-	300 nits	16:9	700:1	72% NTSC	160°	B M		
Touchscreen None Pen None Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each RAID RAID 0 / 1 support Optical None Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC None WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) One of the following, configurable by model: NO WWAN card and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card		17.3"   Dolby Vision,   WVA   Anti-glare   -   500 nits   16:9   1500:1   100%   178°     Dolby Vision,   178°   Dolby Vision,   178°   Dolby Vision,   178°   Dolby Vision,   178°   Dolby Vision,   178°   Dolby Vision,   178°   Dolby Vision,   178°   178°   Dolby Vision,													
Pen None Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each RAID RAID 0 / 1 support Optical None Cheering One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models NFC None WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) One of the following, configurable by model: No WWAN card and non upgradable Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	Color Calibration														
Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each  RAID RAID 0 / 1 support  Optical None  Che onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC None  WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	Touchscreen														
RAID  RAID 0 / 1 support  Optical  Ethernet  One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC  None  WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card		None													
Optical  Ethernet  One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC  None  WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	Storage														
Ethernet  One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC  None  WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	RAID														
WLAN + Bluetooth  WWAN  Or i219V for non-vPro models  NFC  WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	Optical												]		
WLAN + Bluetooth  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	Ethernet	or i21	19V for non-v			rated	gigat	oit etherne	t, Intel	i219LM fo	r vPro	models	Ba		
WWAN  Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	NFC														
No WWAN card and non upgradable     Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only     Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	WLAN + Bluetooth	Bluet	ooth 5.1 requ	iires th	ne latest	version	n of	Windows							
		<ul><li>No</li><li>Inte</li></ul>	WWAN card a grated Mobile	and no	on upgra dband l	idable Jpgrad	lable	, No WWA	N Card 860-GI	d, WWAN . _, MIMO 4	Anteni x4, M.	na Only 2 card	M Ei		
טוויו כמוע טאוויסיסוויו כמוע אויסיסוויו כמוע אויסיסוויו כמוע אויסיסוויו כמוע	SIM card	Optional Nano-SIM card slot													

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	Dimensions	Width: 415.44 mm (16.36 in). Depth: 280.81 mm (11.06 in).
	Weight	Thickness: 25.11~ 33.25 mm (0.99 ~ 1.31 in) Starting at 3.5 kg (7.7 lb, FHD)
Ш	Case color	Black
	Case material	Display cover: GFRP 50% (PPS695 + GF 50%).  Bottom: PPS + GF
	Media reader	SD card reader
	Standard Ports	1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP), 3x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / microphone combo jack, 1x SD card reader, 1x security keyhole, 1x RJ-45
$\ $	Optional Ports	One optional smart card reader on right, one optional Nano-SIM card slot on left
	Monitor support	Up to 5 displays with 4 external monitors plus system LCD screen. External monitors supported via 1x USB-C, 2x Thunderbolt, and 1x HDMI. USB-C and HDMI support up to 4K@60Hz. With Thunderbolt, one supports up to 5K@60Hz and one supports up to 4K@60Hz
الـ	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
	Bundled Accy	None
4	Camera	Optional Hybrid IR camera with ThinkShutter camera privacy, fixed focus
	Audio chip	Realtek ALC3286 codec
	Speaker	Stereo speakers, Dolby Atmos sound system
4	Microphone	Optional dual array far-field microphone
	Keyboard	6-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with Unified Communications controls
4	UltraNav	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch touchpad
	Password	Power-on password, hard disk password, supervisor password
	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
	System mgmt	Optional Intel vPro Technology supported on vPro enable models
	Security locks	Security keyhole for optional Kensington lock
	Smart card reader	
4	Fingerprint reader Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80%
	Max battery life	in 1hr) with 230W AC adapter  MobileMark 2014: 14.6 hr.  MobileMark 2018: 9.75 hr.  *Battery life varies significantly with hardware configurations, settings, usage, & other factors
	Power Adapter	One of the following: • 230W slim AC adapter • 170W slim AC adapter
	Operating system	Supports one optional preloaded operating system as following:  • Windows 10 Home 64  • Windows 10 Pro 64  • Windows 10 Pro 64 for Workstations  • Ubuntu Linux LTS
+		Optional warranty plans as following:
6	Base Warranty	<ul> <li>1-year depot repair service</li> <li>3-year depot repair service</li> <li>1-year + 2-year depot repair service</li> <li>1-year limited onsite service</li> <li>3-year limited onsite service</li> <li>1-year + 2-year limited onsite service</li> </ul>
	,	<ul> <li>1-year depot repair service</li> <li>3-year depot repair service</li> <li>1-year + 2-year depot repair service</li> <li>1-year limited onsite service</li> <li>3-year limited onsite service</li> <li>1-year + 2-year limited onsite service</li> <li>1-year depot with 2-year system board repair service</li> </ul>
	Mil-Spec test	1-year depot repair service     3-year depot repair service     1-year + 2-year depot repair service     1-year limited onsite service     3-year limited onsite service     1-year + 2-year limited onsite service     1-year depot with 2-year system board repair service  MIL-STD-810G military testing
	,	<ul> <li>1-year depot repair service</li> <li>3-year depot repair service</li> <li>1-year + 2-year depot repair service</li> <li>1-year limited onsite service</li> <li>3-year limited onsite service</li> <li>1-year + 2-year limited onsite service</li> <li>1-year depot with 2-year system board repair service</li> </ul>



# ThinkPad P43s Platform Specifications

Processor	8th G	eneratio	n Intel® (	Core™	i7 Proces	sor					Dimensions	WxDxH:	12.95" x 8.94" x 0.	70"; 329mm x 227	mm x 17.9mm	
	Proce					Max Turbo Ca	ache	Memory	Proce		Weight	Models	FHD	FHD Low Power	WQHD	
	Numb i5-836		res Threa			requency	MB	Types	Grap	hics	Case color	Weight Black	3.43 lb / 1.55 kg	3.28 lb / 1.49 kg	3.24 lb / 1.47 kg	
	i7-856	5U 4	8	1	.8 GHz	4.6 GHz 8		DR4-2400 In	ntel UHD	Graphics	Case material	Display co Bottom:	over: PPS / 50% GF PA / 50% GF	<del>-</del> ;		
Graphics	NVIDI suppo Up to	A Quad orts exte 3 displa	ro® P520 rnal digit ys with 2	o, 2GB tal mor 2 exter	nal monito	nemory; DMI or USB ors plus syst SB-C); 384	em LC	CD screen.	IDMI)		Smart card reade Media reader Ports	MicroSD one USB one USB	Smart card reader card reader 3.1 Gen 1 (one Alwa 3.1 Type-C Gen 1 (w 3.1 Type-C Gen 2 / T b, Ethernet (RJ-45),	vith the function of Po Thunderbolt 3 (with the	ower Delivery and Disp ne function of PD and	playPort), DP),
ChWVAet Memory	48GB	max / 2 or 16GB	memory	z DDŔ <sup>2</sup> v solde	l, dual-cha red to svs	annel capab temboard, c run at 2400N	ne DE	DR4 SO-DINe to Intel limit	MM socl	æt	Monitor cable	headphor microSD ( * Depending HDMI to \	ne / microphone com card reader, side doo ng on many factors, actu VGA: Lenovo HDN	bo jack, optional smacking connector, secular data transfer speed to VGA Monitor Ad	art card reader, urity keyhole <i>may be lower than theore</i>	etical speed
Display	Size	Resolutio	n	Туре	Surface	Brightness	Aspec Ratio	t Contrast Ratio		Viewing Angle	(optional)	USB-C to	VGA: Lenovo USB HDMI: Lenovo USB DP: Lenovo USB	-C to HDMI Adapter	anter	
	4.4.0	EUD (400		140.44	A 41 1	250 nits (non-touch)	40.0	700.4	450/	1700	Bundled Accy	None		, ,	apter	
	14.0"	FHD (192	(0x1080)	VVVA	Anti-glare	300 nits (multi-touch)	16:9	700:1	45%	170°	Camera (optional	One of the	following, configurable	by model:	and the area	
	14.0"	FHD (192 Low Powe	0x1080) er	WVA	Anti-glare	,	16:9	800:1	72%	170°	Audio support	• IR came	o camera with ThinkS era and HD720p cam . Realtek® ALC3287	nera with ThinkShutte	er camera privacy, fixe	d focus
	14.0"	FHD (192 ThinkPad Guard		WVA	Anti-glare	400 nits	16:9	1000:1	72%	170°		stereo spo optional d	eakers, 2W x 2, Dolb lual array far-field mi	y® Audio™ Premium crophone, headphon	/ e / microphone combo	o jack
	14.0"	WQHD (2	2560x1440 ion™ HDF	0) R WVA	Glossy	500 nits	16:9	1500:1	100% Adobe	170°	Keyboard UltraNav™	TrackPoin	· · ·	d buttonless Mylar s	urface multi-touch touc	
Multi-touch (opt) Pen	On-ce None		support	ts 10-fi	nger gesti	ure (FHD or	ıly)				Security Security chip System Mgt (opt)	Discrete 7	TPM 2.0, TCG Certifi	a password, supervis ed	or password, security	keyhole
Storage	• M.2	2280 S	SD / SAT	TA 6.00							Fingerprint reade NFC (optional)	r Optional:	Touch style match of Communication	on chip fingerprint rea	ader on the palm rest	
	• M.2	2242 S	SD / PC	le NVN	1e, PCle 3 1e, PCle 3 0 with Sol		rane				Battery Max battery life	1hr)	•	oattery, supports Rap	oid Charge (charge up	to 80% in
Optical			Cle NVI			id Oldio Old	rago,				AC adapter	* Batterv li	ark® <i>2014:</i> 14.7 hr ife varies significantly w 5W slim USB Type-C	ith hardware configurat	ions, settings, usage, & o	ther factors
Ethernet		Pro mo	del: Intel Intel	Ether	net Conne	ection I219-\ ection I219-l	/ (Jacl _M (Ja	ksonville) icksonville)				Windows	10 Home 64 or Win	dows 10 Pro 64		
WLAN Bluetooth™			AC 9560	0, Wi-F	i 2x2 802	.11ac + Blue /i-Fi + Blueto	tooth	5.0	er		Limited warranty	• 1-year o	following, configurable depot repair service I-yr battery depot rep	•		
WWAN (optional)	One of	f the follo	wing, con	figurable	e by model	id only in F	ΔΕΛ\					• 3-year/1	1-yr battery limited o	nsite service		
	<ul> <li>Interest</li> </ul>	grated N	1obile Br	roadba	nd 4G LTE	id only in El	_830-E	EB, M.2 card	d (EME	(only	Mil-Spec test	MIL-STD-	810G military testing	9		
SIM card (opt)	• Inte	grated Non-WWA	lobile Br N model,	roadba it mear	nd 4G LTE as the mode	E-A, Fibocor el is NOT WW TE (US) SIN	n L850 AN upg	0-GL, M.2 c gradable	ard	3 /	Environment	EPEAT™	Silver; ENERGY STA	AR® 7.1; RoHS-comp	oliant	
Note: The specific:						• •	vi caru									Lenov

Note: The specifications above may not be available in all regions.













# ThinkPad P51 Platform Specifications

Processor	6th or 7th G Intel Xeon®					or			Dimensions	WxDxH: WxDxH(Touch			52.3mm x 24.5-29.4mm 52.3mm x 25.8-30.7mm
	Processor	# of	# of	Base	Max Turbo	Casha	Memory	Processor	Weight	Models	4-cell	6-cell	
	Number	Cores	Threads	Frequency	Frequency	Cache	Types	Graphics		Non-touch	5.6 lb / 2.55kg	5.9 lb / 2.67kg	
	i7-6820HQ			2.7 GHz	3.6 GHz			Intel HD Graphics	II	Multi-touch	6.2 lb / 2.82kg	6.4 lb / 2.90kg	
	E3-1505M v5	-		2.8 GHz	3.7 GHz	8MB	DDR4-2133	530 Intel HD Graphics P530	Case color Case material		Glass-Fiber Reinforced Magnesium/Aluminum	Plastic;	
	i7-7700HQ	4	8	2.8 GHz	3.8 GHz	6MB		Intel HD Graphics	Smart card reade				
	i7-7820HQ			2.9 GHz	3.9 GHz		DDR4-2400	630	ExpressCard	One slot (Expr	essCard/34)		
	E3-1505M v6	-		3.0 GHz	4.0 GHz	8MB	DDN4-2400	Intel HD Graphics	Media reader	4-in-1 reader (	MMC, SD, SDHC, SDX	C), supports UHS-II S	SD card
	E3-1535M v6			3.1 GHz	4.2 GHz			P630	Ports	Four USB 3.1	Gen 1 (USB 3.0, one A ort 1.2a, HDMI 1.4b, Eth	lways On), USB Type	-C / Thunderbolt 3,
Graphics	Intel HD Gra						r and		1	* Depending on	many factors, actual data t	ransfer speed may be lo	wer than theoretical speed
	NVIDIA Qua supports ext Up to 4 disp	ternal d lavs wi	ligital mo th 3 exte	nitor vía Hl rnal monito	DMI, Mini ĺ prs plus sys	Display stem Lo	CD screen.		Camera (optional) Audio support	HD Audio, Rea	ution, fixed focus altek® ALC3268 codec / rophone, combo audio/		x 2 /
	Max resoluti	ioń: 38	40x2160	@60Hz (D	isplayPort	via Mir	ni DisplayPo	ort cable);	Karda a and			. ,	antional LED backlight
				`	hunderbolt	); 4096	6x2160@24	4Hz (HDMI)	Keyboard UltraNav™		sistant, multimedia Fn ke Point®pointing device a		optional LED backlight
Chipset Memory	Mobile Intel				non FCC /	TCC 4	unation our	ported only on	0.1.1.1.1		surface multi-touch tou		
Memory	Xeon proces	ssor), d	ual-chan	nel capable	e, four DDÌ	34 SO	-DIMM soc		Security Security chip	Discrete TPM	sword, hard disk passwo 2.0, TCG Certified	ord, supervisor passw	ord, security keyhole
Display								nt, WVA, 250 nits	vPro (optional)	Intel vPro Tech	nnology atch on chip fingerprint	rooder on the nalm re	ot
	Some: 15.6	5" (396r	nm) 4K (	00:1 contra 3840x2160	)), anti-glar	e, LEC	backlight,	WVA, 300 nits, viewing angle	Color calibration				ion sensor in palm rest
Multi-touch (opt)	Capacitive-t								Battery	Lithium Polym	er 4-cell <i>(66Wh)</i> or 6-ce	II (90Wh)	
Pen (optional)	ThinkPad Pe	en Pro,	active pe	en for multi	-touch disp	lay	•	3,	Max battery life <sup>10</sup>	Model	4-cell	6-cell	
Storage	Up to 3 drives								(MobileMark® 2014)	Discrete Graphi	<i>cs</i> 4.5 hr	6.1 hr	
_	Some: HDE						ve Protection	on System™		Hybrid Graphics		8.9 hr	
RAID (optional) Optical	Some: M.2 RAID 0/1 su None		PCIe NV	Me, PCIe 3	3.0 x 4, 320	3D/S			AC adapter	170W slim tip			ngs, usage, & other factors
Ethernet	Non-vPro m	odal· Ir	tal Etha	net Conno	ction 1210	V ( lac	keonville)		Operating system	One of the follow	ving, configurable by mode	l:	
Linernei	vPro model:						acksonville)				Professional 64	to in Mindows 10 Dro	64
WLAN	One of the fol					(50			†	Windows® 10	hrough downgrade righ ) Home 64	is in windows 10 Pro	04
* * L. / 11 V	Intel Dual I					)2.11a	c + BT4.1,	M.2 card		<ul> <li>Windows 10</li> </ul>	Pro 64		
DI	<ul> <li>Intel Dual I</li> </ul>	Band W	/ireless-/	AC 8265, W	/i-Fi 2x2 80	)2.11a	c + BT4.1,	M.2 card			Pro 64 for Workstations		
Bluetooth™	Bluetooth 4. * Intel 8260ac	1 wirele 2 / 82658	ess, integ ac card su	grated in W pport BT4.2	I-Fi + Blue but is limited	tooth c I to BT4	ombo adap 1.1 by Windo	oter ws OS	Limited warranty	One of the follow  1-year depot	ving, configurable by mode. t repair service	<u></u>	
WWAN (optional)										<ul> <li>3-year/1-yr b</li> </ul>	attery depot repair serv		
	Wireless V				- ^						pattery limited onsite se	rvice	
	<ul> <li>Integrated Qualcomm</li> </ul>					ireless	EM7455)	M.2 card	Mil-Spec test	MIL-STD-8100	G military testing		
SIM card (opt)								MEA) SIM card	Environment	EDEATM Cold	(US only); ENERGY S	TA D® 0.4. D-110	- P 4













# ThinkPad P52 Platform Specifications

Processor	8th Generation	on In	tel® Core	e™ i7 / i9 Pr	ocessor or	Intel X	eon® E Pro	ocessor	Dimensions	WxDxH: 14.86" x 9.93" x 0.96-1.16"; 377.4mm x 252.3mm x 24.5-29.4mn
	Number Co	# of ores	# of Threads		Max Turbo Frequency	Cacrie	Memory Types	Processor Graphics	Weight	WxDxH(Touch): 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7mn Non-touch model: starting at 5.4 lb / 2.45kg; Multi-touch model: starting at 6.4 lb / 2.9kg
	i7-8750H i7-8850H i9-8950HK	6	12	2.2 GHz 2.6 GHz 2.9 GHz	4.1 GHz 4.3 GHz 4.8 GHz	9MB 9MB 12MB	DDR4-2400		Case color Case material	Black  Display cover: Glass-Fiber Reinforced Plastic;  Bottom: Magnesium/Aluminum
	E-2176M			2.7 GHz	4.4 GHz	12MB		Intel UHD Graphics P630	Smart card reade ExpressCard	er <i>Optional:</i> Smart card reader None
	Intel UHD Gr NVIDIA Quad P3200 (6GB supports exte Up to 4 displ Max resolution	dro® mem memernal lays von: 3	P1000 (4 nory, VR digital n vith 3 ex 840X21 120X28	4GB memo ready); nonitor via I ternal moni 60@60Hz ( 80@30Hz (	ry), P2000 HDMI, Min tors plus s DisplayPo	i (4GB) ii Displa system ort via M	ayPort, or T LCD scree lini Display	hunderbolt™; n.	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Three USB 3.1 Gen 1 (one Always On), two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), Mini DisplayPort 1.4, HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole  * Power Delivery only supports power-out for charging peripherals
Chipset Memory	Mobile Intel ( 128GB non-li only on Xeor * Installed DIM * 128GB non-li	ECC n prod 1Ms a	or 64ĠE cessor), <i>re actuall</i> j	B ECC max dual-chann y 2666MHz b	el capable out run at 24	e, four D	DR4 SO-E	oction supported DIMM sockets limitation	Camera (optional,	* Depending on many factors, actual data transfer speed may be lower than theoretical speed I) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus  • IR camera and HD720p camera, fixed focus  HD Audio, Realtek® ALC3286 codec /
Display		nits, gam	16:9 asp ut. 160°	ect ratio, 70	00:1 contra ale	ast ratio	),		- Audio Support	attribution, Healter ALC3266 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / optional dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone
Multi-touch (opt)	400 r 100% Capacitive-ty	nits, % gar ype n	16:9 asp nut, 170 nulti-touc	ect ratio, 10 oviewing a h, supports	000:1 cont ngle, multi s 10-finger	rast rat -touch gestur	io, e (4K only)		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad
Storage  Optane™ memory	Some: HE Some: M.	(two loop) OD / S .2 SS tel Op	M.2 SSD SATA 6.0 D / PCle otane me	and one HDL OGb/s, 2.5" NVMe, PC	D), supports wide, 7mn Die 3.0 x 4	s single s n high, , 32Gb	sided M.2 22 Active Prot	for details 280 drives only ection System™	Security Security chip vPro (optional) Fingerprint reader Color calibration NFC (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology or Touch style match on chip fingerprint reader on the palm rest None Near Field Communication
Optical	None	ррогі							Battery	Swappable Li-ion 90Wh battery
	Non-vPro mo vPro model:		Intel Eth	ernet Conr	ection I21	9-LM (	Jacksonvill	e)	Max battery life ( <i>MobileMark</i> ® 2014) AC adapter	Discrete mode: 6.1 hr; Hybrid mode: 8.9 hr  **Battery life varies significantly with hardware configurations, settings, usage, & other factors  170W slim tip AC adapter
WLAN Bluetooth™	Intel Wireless Bluetooth 5.0								<u> </u>	One of the following, configurable by model:
(-,,	One of the followard Wireless Working Integrated	/AN ι	ipgradat	ole						<ul> <li>Windows® 10 Home 64</li> <li>Windows 10 Pro 64</li> <li>Windows 10 Pro 64 for Workstations</li> </ul>
	• Integrated Intel XMM™ Nano-SIM ca	™ 736	0 (Fiboo	com L850-G	àL), M.2 ca		rd		Limited warranty (optional)	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
									Mil-Spec test	MIL-STD-810G military testing
Note: The specifica									Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant

Note: The specifications above may not be available in all regions.



# ThinkPad P52s Platform Specifications

Processor   Fed   Fed   Base   Max Tutho   Cache   Memory   Processor	D	Oth O	Division 144 D.44
Session   1.7 GHz   3.6 GHz   MB   1.7 GHz   3.6 GHz   MB   DBR4-2400	Processor		Case color Black
Graphics Intel UHG Graphics 620 in processor and NVIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 28B GDDRs memory. WIDIA Quardor P500, 2		1.7 GHz   3.6 GHz   6MB   1.8 GHz   4.0 GHz   8MB   DDR4-2400   Intel UHD Graphic   620	Bottom: GFRP Smart card reader Optional: Smart card reader
Memory  32GB max / 2400MHz DDF43, dual-channel capable, two DDR4 SO-DIMM sockets System closes down for processors with lower memory controller  Display  Some: 15.6* (396mm) FHD (1920x1080), anti-glare, LED backlight, WVA, 250 nlts, 16.9 aspect ratio, 700+ contrast ratio, 45% gamut, 170* viewing angle Some: 15.6* (396mm) UHD (3840x2160), anti-glare, LED backlight, WVA, 300 nlts, 16.9 aspect ratio, 1000+ contrast ratio, 72% gamut, 170* viewing angle None  Multi-touch (ppt) None  Multi-touch (ppt) None  Storage  System has one HDD sol or one M 2 2280 site exclusively for storage, and supports single sided M 2 2280 dives only Some: M2 SSD / STA 6.0Gb/s, 2.5* wide, 7mm high (e.g. xxxGB SSD) Some: M2 SSD / STA 6.0Gb/s, 2.5* wide, 7mm high (e.g. xxxGB SSD) Some: M2 SSD / STA 6.0Gb/s, 2.5* wide, 7mm high (e.g. xxxGB SSD) Some: M3 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s, None  Ethernet  WLAN + Intel Dual Band Wireless AC 2856, Wire F122 802.11ac + Bluetooth 4.1, M.2 card 'ninel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS  WWAN (optional)  Intel Dual Band Wireless AC 2856, Wireless AC 2856, Wireless AC 2856, Wireless Capable Supports State and	Graphics	Intel UHD Graphics 620 in processor and NVIDIA Quadro® P500, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; Up to 3 displays with 2 external monitors plus system LCD screen. Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	Ports Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack,
16:9 aspect ratio, 700:1 contrast ratio, 45% gamut, 170° viewing angle Some: 15:6° (396mm) URD (3840x2160), anti-glare, LED backlight, WVA, 300 nts. 16:9 aspect ratio, 1000:1 contrast ratio, 72% gamut, 170° viewing angle None  Multi-touch (opt) On-cell touch, supports 10-finger gesture (FHD only) Pen On None  Storage System has one HDD slot or one M.2 2280 slot exclusively for storage, and supports single sided M.2 2280 drives only Some: HDD / SATA 6.0Gb/s, 2.5° wide, 7mm high (e.g. xxxGB SSD) Some: SSD / SATA 6.0Gb/s, 2.5° wide, 7mm high (e.g. xxxGB SSD) Some: 128GB M.2 SSD / PCIc NVMe, PCIe 3.0 x 2, 16Gb/s, 100 None  Optical None  Optical None  Chemnet Memory Optional: Intel Optiane memory, PCIe NVMe, PCIe 3.0 x 2, 16Gb/s, 100 None  Ethernet Non-VPro model: Intel Ethernet Connection 1219-V (Jacksonville) VPro model: Intel Ethernet Connection 1219-V (Jacksonville) VPro model: Intel Ethernet Connection 1219-V (Jacksonville) WIAN + Intel Dual Band Wireless-AC 8365, W-F. 12x 802.11ac + Bluetooth*  WIAN (optional)  One of the following, configurable by model:  **HD 2010 password, hard disk password, security keyhole security chip vibro (potional)  WWAN (optional)  One of the following, configurable by model:  **Intel 2021 Band Wireless-AC 8365, W-F. 12x 802.11ac + Bluetooth 4.1, M.2 card 167 yror/WWAN upgradable  **Wireless WAN upgradable*  **Wireless WAN upgradable*  **Wireless WAN upgradable*  **Wireless WAN upgradable*  **Wireless WAN upgradable*  **Vireled Additional of the following, configurable by model:  **Intel XMM*** 7260 (Fibocom L830-EB), M.2 card (EMEA only)  **Intel XMM**** 7260 (Fibocom L830-EB), M.2 card (EMEA only)  **Intel XMM**** 7260 (Fibocom L830-EB), M.2 card (EMEA only)  **Intel XMM**** 7260 (Fibocom L830-EB), M.2 card (EMEA only)  **Intel XMM**** 7260 (Fibocom L830-EB), M.2 card (EMEA only)  **Intel XMM**** 7260 (Fibocom L830-EB), M.2 card (EMEA only)  **Intel XMM**** 7260 (Fibocom L830-EB), M.2 card (EMEA only)  **Intel XMM**** 7260 (Fibocom L830-EB), M.2 card (EMEA only)  **Intel XMM****	Memory	32GB max / 2400MHz DDA4, dual-channel capable, two DDR4 SO-DIMM sockets * System clocks down for processors with lower memory controller	* Depending on many factors, actual data transfer speed may be lower than theoretical speed Monitor cable  * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: I enovo HDMI to VGA Monitor Adapter
Multi-touch (opt) On-cell touch, supports 10-finger gesture (FHD only) None  Storage  System has one HDD stor one M.2 2280 stot exclusively for storage, and supports single sided M.2 2280 drives only Some: 1DD / SATA 6.0Gb/s, 2.5* wide, 7mm high, Active Protection System™ Some: 1DD / SATA 6.0Gb/s, 2.5* wide, 7mm high (e.g. xxxGB SSD) Some: 128GB M.2 SSD / PCle NVMe, PCle 3.0 x 2, 16Gb/s Some: 128GB M.2 SSD / PCle NVMe, PCle 3.0 x 2, 16Gb/s None  Ethernet  Non-vPro model: Intel Optane memory, PCle NVMe, PCle 3.0 x 2, 16Gb/s None  Ethernet  Non-vPro model: Intel Ethernet Connection I219-IV (Jacksonville) WLAN + Intel Dual Band Wireless-AC 826S, W.F. Fi 2x8 802.11ac + Bluetooth 4.1, M.2 card Intel Suffix →	Display	16:9 aspect ratio, 700:1 contrast ratio, 45% gamut, 170° viewing angle Some: 15.6" (396mm) UHD (3840x2160), anti-glare, LED backlight, WVA, 300 nits	Camera (optional) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
supports single sided M.2 280 drives only Some: HDD / SATA 6, OGb/s, 2.5° wide, 7mm high, Active Protection System™ Some: SSD / SATA 6, OGb/s, 2.5° wide, 7mm high (e.g. xxxGB SSD) Some: 128GB M.2 SSD / PCle NVMe, PCle 3.0 x 2, 16Gb/s, in WWAN slot as 2nd Storage, mutually exclusive with WWAN Optional None  Ethernet Non-vPro model: Intel Ethernet Connection 1219-V (Jacksonville) WLAN + Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card shilletoothm* * Intel Besões card supports BT4.2 but is limited to BT4.1 by Windows OS  WWAN (optional) WWAN (optional) WWAN (optional) One of the following, configurable by model: Intel Strated Mobile Broadband 4G LTE-, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (Fibocom L850-GL), M.2 car	Multi-touch (opt) Pen	On-cell touch, supports 10-finger gesture (FHD only) None	Audio support HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /
Some: M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s Some: 128GB M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s in WWAN slot as 2nd Storage, mutually exclusive with WWAN Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2 Optical None  Ethernet Non-vPro model: Intel Ethernet Connection 1219-V (Jacksonville) VPro model: Intel Ethernet Connection 1219-LM (Jacksonville) VPro model: Intel Ethernet Connection 1219-LM (Jacksonville) VPro model: Intel Bethernet Connection 1219-LM (Jacksonville) WLAN + Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac. Bluetooth 4.1, M.2 card Bluetooth™ /* Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS  WWAN (optional) One of the following, configurable by model: Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only) Intel SMM™ 7262 (Fibocom L850-GL), M.2 card SIM card (opt) SIM card (opt)  Nav Sattery life  Nav Sattery life (Mobile Marx Sattery life varies significantly with hardware configurations, settings, usage, & other factors  **For non-wWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card  **For non-wWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card  **Jear (including battery) limited onsite service  **J-year depot with 2-year system board repair service  **J-year (including battery) limited onsite service  **J-year (including battery) limited onsite service  **J-year (including battery) limited onsite service  **J-year (including battery) limited onsite service  **J-year (including battery) limited onsite service  **J-year (including battery) limited onsite service  **J-year (including battery) limited onsite service  **J-year (including battery) limited onsite service  **J-year (including battery) limited onsite service  **J-year (including battery) limited onsite service  **J-year (including battery) limited onsite service	Storage	súpports single sided M.2 2280 drives only Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™	Keyboard 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight
Ac adapter  SIM card (opt)  None  N	Optane™ memor	Some: M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s Some: 128GB M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s, in WWAN slot as 2nd Storage, mutually exclusive with WWAN	Security chip Discrete TPM 2.0, TCG Certified vPro (optional) Intel vPro Technology
WLAN + Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card Bluetooth 1/2 fluel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS  WWAN (optional)  WWAN (optional)  WEAN + Bluetooth 1/2 fluel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS  WWAN (optional)  WWAN (optional)  Wireless WAN upgradable - Integrated Mobile Broadband 4G LTE, Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)  Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M.2 card (EMEA only)  Intel XMM™ 7360 (Fibocom L850-GL), M	Optical	None	
Max battery life   Max battery life   Models   48Wh   72Wh   32Wh + 24Wh   32Wh + 72Wh   Max battery life   Models   48Wh   72Wh   32Wh + 24Wh   32Wh + 72Wh   Max battery life   Models   48Wh   72Wh   32Wh + 24Wh   32Wh + 72Wh   Max battery life   Models   48Wh   72Wh   32Wh + 24Wh   32Wh + 72Wh   Max battery life   Models   48Wh   72Wh   32Wh + 24Wh   32Wh + 72Wh   Max battery life   Models   48Wh   72Wh   32Wh + 24Wh   32Wh + 72Wh   Max battery life   Models   48Wh   72Wh   Max battery life   Max battery life   Models   48Wh   72Wh   Max battery life   Models   48Wh   72Wh   Max battery life   Models   48Wh   72Wh   Max battery life   Max battery life   Models   48Wh   72Wh   Max battery life   Max battery life   Models   48Wh   72Wh   Max battery life   Models   48Wh   72Wh   Max battery life   Max battery life   Models   48Wh   72Wh   Max battery life   Max battery life   Max battery life   Max battery life   Max battery life   Max bat	Etnernet		Battery Optional integrated Li-ion 32Wh battery and
• Wireless WAN upgradable • Integrated Mobile Broadband 4G LTE, Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only) • Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card  * Jeastery life varies significantly with hardware configurations, settings, usage, & other factors 65W USB Type-C AC adapter  Operating system Windows® 10 Home 64 or Windows 10 Pro 64  Limited warranty  * Done of the following, configurable by model: 1-year depot repair service 1-year depot with 2-year system board repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 3-year (including battery) limited onsite service Mil-Spec test Mil-Spec test Mil-STD-810G military testing  Environment  EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant	WLAN + Bluetooth™	* Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS	Max battery life   Models   48Wh   72Wh   32Wh + 24Wh   32Wh + 48Wh   32Wh + 72Wh
• Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card  * For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card  * Honder of the following, configurable by model: 1-year depot repair service 1-year depot with 2-year system board repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 3-year (including battery) limited onsite service  Mil-Spec test  Mil-Spec test  Mil-STD-810G military testing  Environment  EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant	WWAN (optional)	<ul> <li>Wireless WAN upgradable</li> <li>Integrated Mobile Broadband 4G LTE,</li> </ul>	* Battery life varies significantly with hardware configurations, settings, usage, & other factors AC adapter 65W USB Type-C AC adapter
* For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card  * For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card  * 1-year depot repair service 1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 3-year (including battery) limited onsite service Mil-Spec test Mil-STD-810G military testing Environment  * EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant			
Environment EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant	SIM card (opt)	* For non-WWAN model, it means the model is NOT WWAN upgradable	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
			7 0

Note: The specifications above may not be available in all regions.

Lenovo













## ThinkPad P53 Platform Specifications

Processor	9th Gener	ation I	ntel® Cor	e™ i5 / i7 /	i9 Proces	sor or Ir	itel Xe	on® E P	rocesso	r	Dimensions	WxDxH (non-touch): 14.86" x 9.93" x 0.96-1.16";
	Processor Number	# of Cores	# of Threads	Base Frequence	Max Turb			mory pes	Proces Graph			377.4mm x 252.3mm x 24.5-29.4mm WxDxH (multi-touch): 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7mm
	i5-9400H i7-9750H	6	8 12	2.5 GHz 2.6 GHz			_	l m	ntel UHD	Orombias	Weight	Non-touch model: starting at 5.51 lb / 2.5 kg;
	i7-9750H	6	12	2.6 GHz	+		_	İ	630		Case color	Multi-touch model: starting at 6.4 lb / 2.9 kg Black
	i9-9880H	8	16	2.3 GHz	4.8 GHz	16MB	- DDR2	4-2666			Case material	Display cover: Glass-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum
	E-2276M	6	12	2.8 GHz	4.7 GHz	12MB	1	In	ntel UHD ( P63		Smart card reade	er Optional: Smart card reader
Graphics	Intel UHD NVIDIA® C RTX 3000 RTX 5000 supports of Up to 5 dia Max resol	Quadro ) (6GB ) (16GE externa splays	T1000 GDDR6 GDDR6 GDDR6 al digital i with 4 ex	(4GB GD VR ready 5, VR ready monitor victernal mo	DR5), T20 ), RTX 40 ly); a HDMI or nitors plus	00 (4GE 00 (8GE Thunde system	3 GDD rbolt™; 1 LCD	R6, VR ; screen.	3,,,	or	ExpressCard Media reader Ports	None 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole
Chipset Memory	Mobile Int 128GB ma dual-chan	ax / 26	66MHz [	DR4 (EC			ted on	ıly on Xe	on proc	essor),	Monitor cable	* Power Delivery only supports power-out for charging peripherals * USB-C Dock is not supported in right-side USB-C port * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Display	Size Reso	lution	-	Type Sur	ace Brigi	itness A	spect Ratio	Contrast Ratio	Color	Viewing Angle	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	15.6" FHD	(1920x	1080) \	VVA Anti-	glare 300	nits	16:9	700:1	72%	160°	Bundled Accy	None
		(1920x y Vision		WVA Anti-	glare 500	nits	16:9	1200:1	72%	160°	Camera (optional)	) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
	15.6" UHD Dolby	(3840x y Vision	2160) HDR	WVA Anti-	glare 500	nits	16:9	1200:1	100%	170°	Audio support	IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2 /
	15.6" Dolby	(3840x y Vision -touch	2160) HDR, C	OLED Ar refle / A smu	nti-	400nit, 500nit eak)	16:9	100000:1	100% DCI-P3	170°	Keyboard	optional dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system  6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight
Multi-touch (opt)	Capacitive anti-reflec	e-type	multi-tou R), anti-s	ch, suppo	ts 10-fing	er gestu	re (UF	HD only)	,	<u> </u>	UltraNav™	3-button Mylar surface multi-touch touchpad
Pen (optional)	Lenovo Pe	en Prò	(special	bid only)							Security	Power-on password, hard disk password, supervisor password, security keyhole
	Up to 3 driv supports si. • HDD / S • M.2 228 * HDD is or	inglè sia SATA 6. 30 SSD nly avail	led M.2 22 .0Gb/s, 2 ) / PCIe N lable for T	280 drives of .5" wide, NVMe, PC 1000 and T	<i>nly</i> 7mm high, le 3.0 x 4 2000 graphi	Active F	,	tion Syst	em™			Discrete TPM 2.0, TCG Certified Intel vPro Technology retrouch style match on chip fingerprint reader on the palm rest Optional: X-Rite Pantone factory color calibration (UHD model only) Near Field Communication
Optane™ memory RAID <i>(optional)</i> Optical	RAID 0/1/ None	5 supp	ort	,							Battery Max battery life (MobileMark® 2014)	Integrated Li- Polymer 90Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  Discrete mode: 8 hr; Hybrid mode: 13 hr
Ethernet	Non-vPro vPro mod	model 'el:	Intel Etl: Intel Etl	nernet Co nernet Co	nnection I nnection I	219-V (J 219-LM	ackso (Jacks	nville) sonville)			AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 170W or 230W slim tip AC adapter
Bluetooth™ (opt)	Intel Wi-Fi Bluetooth	5.1 wi	reléss, in	tegrated i	n Wi-Fi + E			bo adap	ter		Operating system	<ul> <li>One of the following, configurable by model:</li> <li>Windows® 10 Home 64</li> <li>Windows 10 Pro 64</li> </ul>
WWAN (optional) SIM card (opt)	<ul> <li>Wireless</li> <li>Integrate</li> <li>* For non-V</li> <li>Nano-SIM</li> </ul>	s WAN ed Mob <i>VWAN r</i>	upgrada oile Broad model, it n	ble (speci dband 4G neans the n	al bid only LTE-A, Fil odel is NO	ocom L WWAN	.850-G upgrad	GL, M.2 o dable	card		Limited warranty	<ul> <li>1-year depot repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
											Mil-Spec test	MIL-STD-810G military testing
·											Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant



## ThinkPad P53s Platform Specifications

supports external digital monitor via HDMI or USB Type-C; supports 3 independent displays with 2 external monitors plus system LCD screen. Max resolution: 3840x2160@ 60Hz (USB-C); 3840x2160@ 30Hz (HDMI)  Chipset Intel SoC (System on Chip) platform  Memory 48GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM socket * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation  Display 58GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM socket * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation  Display 68GB memory soldered to systemboard, one DDR4 SO-DIMM socket * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation  Display 78GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM socket * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation  Display 81GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM socket * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation  Display 81GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM socket * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation  Display 81GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to Systembag one and PDP memory USA Color VGA. Lenovo USB-C to DisplayPort Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter USB-C to DP: Lenovo USB-C to DP: Lenovo USB-C to DP: Lenovo USB-C to DP: Lenovo USB-C to DP: Lenovo USB-C to DP: Lenovo USB-C to DP: Lenovo USB-C to DP: Len	Processor	8th G	eneration	Intel® C	ore™	i7 Proces	ssor					Dimensions	WxDxH: 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm
Intel UHD Graphics   Intel UHD Graphics in processor and monitor via HDMI or USB Type-C; supports external digital monitor via HDMI or USB Type-C; supports external digital monitor via HDMI or USB Type-C; supports external digital monitor via HDMI or USB Type-C; supports external digital monitor via HDMI or USB Type-C and the following configurable by model: Intel SoC (System or Chip) platform   Hold (System or Chip) platfo		Numb	er Core		ds Fre	equency F	requency C					Case color	Black Display cover: PPS / 50% GF;
Intel Box Cape Cape Cape Cape Cape Cape Cape Cape				8					DDR4-2400 lı	ntel UHD	Graphics	Smart card reade	er Optional: Smart card reader
Memory  8GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory solicited to systemboard, one DDR4 SO-DIMM socket  *Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation  Display    Size	Graphics	NVID suppo suppo	IA Quadro orts exterr orts 3 inde	o® P520, nal digita ependen	2GB Il mor t disp	GDDR5 initor via Hays with	IDMI or ÚS 2 external i	monito	rs plus syste		screen.	Ports	Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader.
Carmera (optional) One of the following, configurable by model:  15.6° FHD (1920x1080) WVA Anti-glare 250 nits 16:9 700:1 45% 170° 15.6° UhID (3840x2160) bolty Vision** HDR WVA Anti-glare 500 nits 16:9 1200:1 100% Adobe 170° None  Multi-touch (opt) Pen None  Storage Supports single sided M.2 2280 drives only • M.2 2280 SSD / PCIe NVMe, PCle 3.0 x 2 • Intel Optane** Memory H10 with Solid State Storage, Intel Optane** Memory H10 with Solid State Storage, M.2 2280, PCle NVMe, PCle 3.0 x 2 • Intel Optane** Memory H10 with Solid State Storage, M.2 2280, PCle NVMe 3.0 x 4  WLAN Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth 5.0 Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth 5.0 bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth 5.0 wireless, integrated Mobile Broadband 4G LTE-A, Fibocom L830-EB, M.2 card (EMEA only) integrated Mobile Broadband 4G LTE-F, Fibocom L830-EB, M.2 card (EMEA only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only) integrated Mobile Broadband 4G	Memory	48GE 8GB	3 max / 24 or 16GB n	00MHz nemory	DDŔ4 solde	t, dual-ch red to sys	stemboard,	one D			æt	(optional)	* Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter
15.6° FHD (1920x1080)   WVA   Anti-glare   250 nits   16.9   700:1   45%   170°     15.6°   UHD (3840x2160)   Dioby Vision™ HDR   WVA   Anti-glare   500 nits   16.9   1200:1   100%   170°     Multi-touch (opt)   On-cell touch, supports 10-finger gesture (FHD only)   None     Storage   Supports single sided M.2 2280 drives only   M.2 2280 SSD / SATA 6.0Gb/s   M.2 2280 SSD / PCle NVMe, PCle 3.0 x 4   Security   Security chip   System Mgt (opt)   None     Multi-touch (opt)   On-vPro model: Intel Ethernet Connection I219-V (Jacksonville)   WLAN   Intel Wireless-AC 9580, Wi-F1 2x2 80 S2D / Wireless, integrated in Wi-F1 & Bluetooth 5.0   Bluetooth 5.0   Wireless-AC 9580, Wi-F1 2x2 80 S2D / Wireless WAN upgradable (special bid only in EMEA)   Integrated Mobile Broadband 4G LTE, Fibocom L850-GL, M.2 card (EMEA only)   Integrated Mobile Broadband 4G LTE, Fibocom L850-GL, M.2 card (For non-WWAN model, it means the model is NOT WWAN upgradable   Sepecial Wild only in Emercial Management of the following, configurable by model:   Integrated Mobile Broadband 4G LTE, Fibocom L850-GL, M.2 card (For non-WWAN model, it means the model is NOT WWAN upgradable   Sepecial bid only in EMEA)   Integrated Mobile Broadband 4G LTE, Fibocom L850-GL, M.2 card (For non-WWAN model, it means the model is NOT WWAN upgradable   Sepecial bid only in EMEA)   Integrated Mobile Broadband 4G LTE, Fibocom L850-GL, M.2 card (For non-WWAN model, it means the model is NOT WWAN upgradable   Sepecial bid only in EMEA)   Integrated Mobile Broadband 4G LTE, Fibocom L850-GL, M.2 card (For non-WWAN model, it means the model is NOT WWAN upgradable   Sepecial bid only in EMEA)   Integrated Mobile Broadband 4G LTE, Fibocom L850-GL, M.2 card (For non-WWAN model, it means the model is NOT WWAN upgradable   Sepcial bid only in EMEA)   Integrated Mobile Broadband 4G LTE, Fibocom L850-GL, M.2 card (For non-WWAN model, it means the model is NOT WWAN upgradable   Sepcial bid only in EMEA)   Integrated Mobile Broadband 4G LTE, Fibocom L850-GL, M.2 card (For non-WWAN	Display	Size	Resolution		Туре	Surface	Brightness	Aspec		Color Gamut			
Multi-touch (opt) Doncell touch, supports 10-finger gesture (FHD only) None  Storage  Supports single sided M.2 2280 drives only  M.2 2280 SSD / SATA 6.0Gb/s  M.2 2280 SSD / PCIe NVMe, PCle 3.0 x 4  M.2 2280 SSD / PCle NVMe, PCle 3.0 x 4  M.2 2280 SSD / PCle NVMe, PCle 3.0 x 4  M.2 2280, PCle NVMe, PCle 3.0 x 4  Optical  None  Ethernet  Non-WPro model: Intel Ethernet Connection I219-V (Jacksonville)  WLAN Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0  Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter  WWAN (optional)  One of the following, configurable by model:  Nano-SIM card (opt)  Nano-SIM card solt, optional Verizon LTE (US) SIM card  Multi-touch (pt) John keys, numeric keypad, optional LED backligh TrackPoints* pointing device and buttonless Mylar surface multi-touch touchpad Security Securi		15.6"	FHD (1920	)x1080)	WVA	Anti-glare	250 nits	16:9	700:1	45%		Camera (optional)	HD720p camera with ThinkShutter camera privacy, fixed focus
Multi-louch (opt)   On-cell touch, supports 10-finger gesture (FHD only)   None   Storage   Supports single sided M.2 2280 drives only   M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4   N.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 2   Security   None   None   None   None   Supports single Ethernet   Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville)   None   Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0 Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter   None   Non		15.6"	UHD (3840 Dolby Visio	0x2160) on™ HDR	WVA	Anti-glare	500 nits	16:9	1200:1		170°	Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /
Storage  Storage  Storage  Supports single sided M.2 2280 drives only  • M.2 2280 SSD / SATA 6.0Gb/s  • M.2 2280 SSD / PCle NVMe, PCle 3.0 x 4  • M.2 2280 SSD / PCle NVMe, PCle 3.0 x 2  • Intel Optane™ Memory H10 with Solid State Storage, M.2 2280, PCle NVMe 3.0 x 4  Optical  None  Ethernet  Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) wPro model: Intel Ethernet Connection I219-LM (Jacksonville) wPro model: Intel Ethernet Connection I219-LM (Jacksonville)  Bluetooth™ Bluetooth™ Bluetooth 5.0 wireless, Integrated in Wi-Fi + Bluetooth 5.0 Bluetooth™ Bluetooth™ Bluetooth™ Bluetooth™ Bluetooth™ Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter  WWAN (optional)  WWAN (optional)  Socurity Security chip System Mgt (opt) System Mgt (opt)  Socurity Socurity Coptional: Touch style match on chip fingerprint reader Optional: Touch style match on chip				supports	10-fi	nger gest	ture (FHD c	nly)				Karda a val	optional dual array far-field microphone, headphone / microphone combo jack
• M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4 • M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2 • Intel Optane™ Memory H10 with Solid State Storage,		Suppo	orts single s	sided M.2	2280	drives only	,						TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Optical None  Ethernet Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville)  WLAN Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0 Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter  WWAN (optional) One of the following, configurable by model:  • Wireless WAN upgradable (special bid only in EMEA) • Integrated Mobile Broadband 4G LTE-A, Fibocom L830-EB, M.2 card (EMEA only) • Integrated Mobile Broadband 4G LTE-A, Fibocom L830-CBL, M.2 card (EMEA only) • Integrated Mobile Broadband Verizon LTE (US) SIM card  SIM card (opt) Sim card slot, optional Verizon LTE (US) SIM card  Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville)  Battery Integrated Li- Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr (PHD model) / 10 hr (UHD model)  **Battery life varies significantly with hardware configurations, settings, usage, & other factor 65W USB Type-C AC adapter  Operating system Windows® 10 Home 64 or Windows 10 Pro 64  Limited warranty One of the following, configurable by model: • 1-year depot repair service • 3-year/1-yr battery limited onsite service  **Sor non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card  Mil-Spec test MIL-STD-810G military testing		<ul><li>M.2</li><li>M.2</li><li>Inte</li></ul>	2 2280 SS 2 2242 SS I Optane <sup>TI</sup>	D / PCle D / PCle M Memoi	NVN NVN ry H10	Me, PCle : Me, PCle : 0 with So	3.0 x 2	orage,				Security chip System Mgt (opt) Fingerprint reade	Discrete TPM 2.0, TCG Certified Intel vPro Technology r Optional: Touch style match on chip fingerprint reader on the palm rest
WLAN   Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0   Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter   Max battery life   Max battery life   MobileMark® 2014: 15 hr (FHD model) / 10 hr (UHD model)   AC adapter   AC	Optical			710 144141								I————	
MLAN Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0 Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter  WWAN (optional)  Wireless WAN upgradable (special bid only in EMEA)  Integrated Mobile Broadband 4G LTE-A, Fibocom L830-EB, M.2 card (EMEA only)  Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only)  Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card (EMEA only)  Nano-SIM card slot, optional Verizon LTE (US) SIM card  Mil-Spec test  AC adapter  * Battery life varies significantly with hardware configurations, settings, usage, & other factor 65W USB Type-C AC adapter  Operating system Windows 10 Home 64 or Windows 10 Pro 64  Limited warranty  One of the following, configurable by model:  1-year depot repair service  3-year/1-yr battery limited onsite service  3-year/1-yr battery limited onsite service  Mil-Spec test  MIL-STD-810G military testing				el: Intel E Intel E	Etherr Etherr	net Conne net Conne	ection I219- ection I219-	-V (Jac -LM (J	cksonville) acksonville)			Max battery life	1hr) MobileMark® 2014: 15 hr (FHD model) / 10 hr (UHD model)
Wireless WAN upgradable (special bid only in EMEA)     Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA only)     Integrated Mobile Broadband 4G LTE, Fibocom L850-GL, M.2 card     For non-WWAN model, it means the model is NOT WWAN upgradable     Nano-SIM card slot, optional Verizon LTE (US) SIM card      Wireless WAN upgradable (special bid only in EMEA)     Integrated Mobile Broadband 4G LTE, Fibocom L850-GL, M.2 card     For non-WWAN model, it means the model is NOT WWAN upgradable     Nano-SIM card slot, optional Verizon LTE (US) SIM card      Wireless WAN upgradable (special bid only in EMEA)     Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA only)     Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA only)     Simple of the following, configurable by model:     1-year depot repair service     3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service     Mil-Spec test										ter			* Battery life varies significantly with hardware configurations, settings, usage, & other factors 65W USB Type-C AC adapter
• Integrated Mobile Broadband 4G LTE, Fibócom L830-EB, M.2 card (EMEA only) • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • 7 or non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card  • 1-year depot repair service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service  Mil-Spec test  MIL-STD-810G military testing	WWAN (optional)							- N A I - A \					
Mil-Spec test MIL-STD-810G military testing		<ul><li>Inte</li><li>Inte</li><li>* For it</li></ul>	grated Mograted bile Bro obile Bro I model, it	adba adba	nd 4G LT nd 4G LT as the mode	E, Fibocom E-A, Fiboco el is NOT WI	1 L830 om L85 <i>WAN up</i>	-EB, M.2 car 50-GL, M.2 c ogradable		A only)	Limited warranty	<ul><li>1-year depot repair service</li><li>3-year/1-yr battery depot repair service</li></ul>	
Environment	, , ,			, - -			(/						
												Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant













#### ThinkPad P72 Platform Specifications

Processor	8th Generation Intel® Core™ i7 Processor or Intel Xeon® E Processor						Dimensions	<i>WxDxH:</i> 16.38" x 11.06" x 0.96-1.16"; 416mm x 281mm x 24.5-29.4mm	
		# of Threads		ency	Memory Types	Processor Graphics	Weight Case color Case material	Starting at 7.5 lb / 3.4kg Black Display cover: GFRP + PPS;	
	i7-8750H i7-8850H		2.2 GHz 4.1 ( 2.6 GHz 4.3 (			Intel UHD Graphics 630		Bottom: Magnesium/Aluminum	
	E-2176M E-2186M	12	2.7 GHz 4.4 ( 2.9 GHz 4.8 (	GHz 12MB	DDR4-2400	Intel UHD Graphics P630	Smart card reade ExpressCard Media reader	r <i>Optional:</i> Smart card reader None 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card	
Graphics	Max resolution:	P600 (4 mory), Pal digital recently sendent co 3840X21	GB memory), P2 1200 (8GB memon nonitor via HDMI isplays with 3 ex	000 (4GB m ory), or P52 , Mini Displa ternal monit ayPort via N	00 (16GB n ayPort, or T ors plus sy ⁄lini Display	hunderbolt™; stem LCD screen. Port cable);	Ports  Monitor cable	Four USB 3.1 Gen 1 (one Always On), two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), Mini DisplayPort 1.4, HDMI 2.0, Ethernet (RJ-45), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole *Power Delivery only supports power-out for charging peripherals *Depending on many factors, actual data transfer speed may be lower than theoretical speed Optional: Lenovo Mini-DisplayPort to DisplayPort Monitor Cable	
Chipset Memory	Mobile Intel CM246 Chipset 128GB non-ECC or 64GB ECC max / 2400MHz DDR4 (ECC function supported only on Xeon processor), dual-channel capable, four DDR4 SO-DIMM sockets * Installed DIMMs are actually 2666MHz but run at 2400MHz due to Intel limitation			DIMM sockets imitation	Camera (optional) Audio support	)IR camera and HD720p camera, fixed focus HD Audio, Realtek® ALC3286 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / optional dual array micro- phone, headphone / microphone combo jack, Dolby Atmos® headphone			
Display	16:9 asp Some: 17.3" (43	me: 17.3" (439mm) FHD (1920x1080), anti-glare, LED backlight, WVA, 300 nits, 16:9 aspect ratio, 800:1 contrast ratio, 72% gamut, 170° viewing angle me: 17.3" (439mm) UHD (3840x2160), anti-glare, LED backlight, WVA, 400 nits 16:9 aspect ratio, 1000:1 contrast ratio, 100% Adobe gamut,		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad				
Multi-touch Pen	None None						Security Security chip vPro <i>(optional)</i>	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology	
Storage	Up to 3 drives (two M.2 SSD and one HDD), supports single sided M.2 2280 drives only Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ Some: M.2 SSD / PCle NVMe, PCle 3.0 x 4, 32Gb/s				Color calibration	rTouch style match on chip fingerprint reader on the palm rest None Near Field Communication			
Optane™ memory RAID (optional) Optical	ory Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2		Battery Max battery life	Li-ion 99Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  MobileMark® 2014: 16 hr  * Battery life varies significantly with hardware configurations, settings, usage, & other factors					
Ethernet	Non-vPro model	l: Intel Eth	ernet Connectio	n I219-V (Ja n I219-LM (	cksonville) Jacksonville	e)	AC adapter Operating system	230W slim tip AC adapter  One of the following, configurable by model:	
WLAN Bluetooth™	Intel Wireless-A0 Bluetooth 5.0 wi	C 9560, V	/i-Fi 2x2 802.11a	c + Bluetoo	th 5.0, M.2	card	(optional)	<ul> <li>Windows® 10 Home 64</li> <li>Windows 10 Pro 64</li> <li>Windows 10 Pro 64 for Workstations</li> </ul>	
WWAN SIM card	None None						Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service	
							Mil-Spec test	MIL-STD-810G military testing	
							Environment	EPEAT™ Gold (US only); ENERGY STAR® 7.0; RoHS-compliant	

November 2019













#### ThinkPad P73 Platform Specifications

Processor	9th Generation Intel® Core™ i5 / i7 / i9 Processor or Intel Xeon® E Processor							1		Dimensions	WxDxH: 16.38" x 11.06" x 1.02-1.22"; 416mm x 281mm x 25.9-31mm		
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types	Process Graphic		Weight Case color	Starting at 7.5 lb (3.4kg) Black		
	i5-9400H	4	8	2.5 GHz	4.3 GHz	8MB	турез	Стартії	<i></i>	Case material	Display cover: GFRP + PPS;		
	i7-9750H	6	12	2.6 GHz	4.5 GHz	12MB		Intel UHD G	raphics	Consult as and uses de	Bottom: Magnesium/Aluminum		
	i7-9850H	6	12	2.6 GHz	4.6 GHz	12MB	DDR4-2666	630	•	ExpressCard	r <i>Optional:</i> Smart card reader None		
	i9-9880H	8	16	2.3 GHz	4.8 GHz	16MB	DD111 2000			Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card		
	E-2276M	6	12	2.8 GHz	4.7 GHz	12MB		Intel UHD G P630		Ports	Three USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),		
Graphics	NVIDIA Qu RTX 3000 or RTX 50 Up to 5 dis tors suppo	uadro® (6GB 00 Ma: splays orted vi	P620 (40 GDDR6, x-Q (16G with 4 ex ia USB-C	B GDDR6.	i), T2000 ( RTX 4000 VR ready) tors plus s olt, and HI	4GB GI ) Max-C ); system OMI	Q (8GB GD LCD scree	DR6, VR reans DR6, VR reans DR1, VR reans DR1, VR reans DR1, VR reans DR1, VR reans DR1, VR reans DR1, VR reans DR1, VR reans DR2, VR reans DR3, VR reans DR3, VR reans DR4, VR reans DR5, VR reans DR		Monitor cable (optional)	two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 2.0, Ethernet (RJ-45), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole  * Power Delivery only supports power-out for charging peripherals  * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter  USB-C to VGA: Lenovo USB-C to VGA Adapter		
Chipset	Mobile Inte	el CM2	246 Chips	set	,		`	,			USB-C to DP: Lenovo USB-C to DisplayPort Adapter		
Memory	128GB ma	ax / 260	66MHz D	DR4 (ECC	function s	upporte	ed only on 2	Xeon proces	ssor),	Bundled Accy	None		
Disales	dual-chan	nei cap	pable, fou	ır DDR4 SC	)-DIMINI SO					Camera (optional) Audio support	IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2 /		
Display	Size Reso			ype Surfac		IESS R	spect Contra latio Ratio	Gamut	/iewing Angle	Addio Support	dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system		
	17.3" FHD			VVA Anti-gla		its 1	6:9 700:1	72%	160°	Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight		
	17.3" UHD Dolby	(3640X) Vision	<sup>2160)</sup>   V ™ HDR	VVA Anti-gla	are 400 n	its 1	6:9   1000:	1   100%	170°	UltraNav™	3-button TrackPoint® pointing device and		
Multi-touch	None		·		,						3-button Mylar surface multi-touch touchpad		
Pen	None									Security	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified		
Storage				<i>and one HDI</i> .5" wide, 7n				80 drives only	/	Security chip vPro <i>(optional)</i>	Intel vPro Technology		
				IVMe, PCIe		cuve F	olection by	Stelli		Fingerprint reader	er Touch style match on chip fingerprint reader on the palm rest		
Optane™ memory	y Optional:	Intel C	Optane m			PCIe 3.	0 x 2			Color calibration			
RAID (optional) Optical	RAID 0/1 s None	suppor	t							NFC (optional)			
Ethernet		model	· Intal Eth	ernet Conr	notion IO1	0.1/ / lo	okoopyillo)			Battery Max battery life	Integrated Li- Polymer 99Wh battery, supports Rapid Charge (charge up to 80% in 1hr)		
Ethernet	vPro mode			ernet Coni				e)		1	MobileMark® 2014: 17.2 hr		
WLAN (optional)	Intel Wi-Fi	6 AX2						,		AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 170W or 230W slim tip AC adapter		
Bluetooth <sup>™</sup> (opt)	Bluetooth	5.1 wir	eless, int	tegrated in	Wi-Fi + Blu	uetooth	combo ada	apter		Onerating system	One of the following, configurable by model:		
WWAN	None									Operating system	Windows® 10 Home 64		
SIM card	None										• Windows 10 Pro 64		
											Windows 10 Pro 64 for Workstations		
										Limited warranty	One of the following, configurable by model:  1-year depot repair service		
											3-year/1-yr battery depot repair service		
											3-year/1-yr battery limited onsite service		
										Mil-Spec test	MIL-STD-810G military testing		
										Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant		

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**Depot or Courier Service:** Parts and labor repair coverage where shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

**Expedited Depot:** Parts and labor coverage with expedited turnaround. Shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

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If Lenovo determines your product problem is covered by the product warranty and cannot be resolved over the telephone, a technician will be dispatched to arrive onsite, typically the next day.

International Warranty Service (IWS): PC repair coverage for customers who require a critical warranty repair while travelling internationally. Visit www.lenovo.com/internationalwarranty for details. Visit www.lenovo.com/warranty for Lenovo Warranty Services terms and conditions for complete details and restrictions.

**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

Visit http://psref.lenovo.com/ for the latest version of Product Specifications Reference.

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# Lenovo ThinkVision PSREF Product Specifications Reference Version 564, Aug 2020

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## **Summary of Changes**

This section describes the technical changes made in this edition.

This edition might also include minor corrections and editorial changes which are not identified.

# Aug, 2020 - Version 564 Additions in this update

► New product(s)
ThinkVision M14t

► New model(s)

None

► Others None

#### Withdrawals in this update

► Withdrawn product(s)

None



#### ThinkVision E2054 Monitor

#### **SPECIFICATIONS**

DISPLAY		MECHANICAL	
Panel Size Panel Type Backlight Viewable Area (Diagonal) Screen Dimensions (W x H) (mm) Resolution Aspect Ratio Viewing Angle (H/V at CR 10:1) Maximum Brightness (Typical) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) Number of Colors Response Time Extreme Mode Normal Mode Off-Mode Anti-Glare	19.5" IPS WLED 19.5" 418.61 (H) x 262.35 (V) 1440 x 900 16:10 178°/178° 250 cd/m² 1000:1 3M:1 0.0969 x 0.2915 87.3 72% 16.7 Million <5 ms 7 ms 14 ms Yes	Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift (mm) Pivot VESA Mount (mm) Kensington Lock Slot Cable Management Ambient Light Sensor Control Buttons Bezel Color Bezel Width Sides (mm / inches) Top (mm / inches) Bottom (mm / inches)	-5° - 22° No No No 100 x 100 Yes No No Yes Raven Black 17.9 / 0.7" 18 / 0.71" 26 / 1.02"
	res		
SIGNAL INPUT		SIGNAL INTERFACE / PERF	FORMANCE
Video Input Signals Video Cables Supplied Video Cable Length USB Hub USB Cable Supplied	VGA VGA 1.8 m No No	Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed / Bandwidth Default Color Temperature Preset Display Modes User-defined Display Modes OSD Buttons OSD Languages	30 kHz - 83 kHz 50 Hz - 75 Hz 1440 x 900 VGA : 205 MHz 7200K 18 10 5
POWER CONSUMPTION		ENVIRONMENTAL	
Power Consumption Typical Maximum Sleep-Mode Off-Mode Heat Dissipation Typical Maximum Power Supply Power Voltage Voltage Dynamic Frequency	16 W 20 W 0.5 W 0.5 W 54.56 Btu/h 68.2 Btu/h Internal 100 VAC - 240 VAC, 0.75 A - 0.3 A 47 Hz - 63 Hz	Temperature Operating Non-operating Humidity Operating Non-operating Altitude Operating Non-operating	0°C - 45°C (non-condensing -20°C - 60°C (non-condensing) 8% - 80% (non-condensing) 5% - 95% (non-condensing) 5,000 m 40,000 ft
DIMENSIONS (W x D x H)		COMPLIANCE	
Size Packed (mm) (inches) Size Unpacked with Stand (mm) (inches) Size Unpacked without Stand (Monitor Head Only) (mm) (inches) Distance from Table to Panel (mm / inches) Lowest Pixel at Bottom of Screen Highest Pixel at Top of Screen	513 × 388 × 124 20.2" × 15.27" × 4.88" 456 × 188.3 × 372 17.95" × 7.41" × 14.65" 456 × 44.5 × 308 17.95" × 1.75" × 12.13" 90 / 3.54" 354 / 13.94"	Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins EPEAT ENERGY STAR Rating TCO TCO Edge TUV RoHS (EU 2002/95/EC) China Energy Efficiency Standard Windows Certification	Yes Yes Yes 85% Silver 8.0 6.0 No No Yes Tier 1 Windows 7, Windows 8, Windows 8.1, Windows 10
Stand Base Footprint Area	00 7 / 10.07	WARRANTY AND AVAILAB	BILITY
(mm / inches) Weight	162.3 × 200.8 / 6.39" × 7.91"	Warranty Geography Availability	3 Years World Wide



Packed

Unpacked



Monitor Head

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Starting at 8.7 lbs (3.96 kg)

Starting at 6.2 lbs (2.8 kg)

Starting at 5.4 lbs (2.45 kg)

Geography Availability

ThinkVision Logo

Global Model

World Wide

Yes

No













#### Think Vision F22-20

#### **DISPLAY**

Panel Size

21.5-inch

**Screen Dimensions** 

476.06 mm x 267.79 mm

Panel Type

In-Plane Switching

Backlight

WLED

Aspect Ratio

16:9

Resolution

1920 x 1080

Pixel Pitch

0.2480 x 0.2480 mm

Dot/Pixel Per Inch (DPI/PPI)

102

Viewing angle (H x V @ CR 10:1)

178° / 178°

Response Time

14ms

Refresh Rate

60 Hz

**Brightness (typical)** 

250 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M·1

Color Gamut

72% NTSC (CIE 1931)

Color Support (typical)

16.7 Million

Color Depth

8-bit

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x HDMI 1.4 1 x DP 1.2

1 x VGA

MULTI-MEDIA

**Integrated Speakers** 

Yes (2 x 1.5W)

**POWFR** 

Power Consumption (typ./max)

18W / 24W

**Power Consumption** 

Sleep/Off Mode

< 0.5W

**Power Consumption** Switch Off-Mode

< 0.5W

**ENERGY STAR Power** 

Consumption

(P<sub>on</sub>/E<sub>TEC</sub>) 11.24W / 35.64kWh

**Power Supply** 

Internal

Voltage Required

AC 90 to 264 V (47-63 Hz)

MECHANICAL

Tilt Angle (front/back)

-5° / 22°

Lift (max range)

155 mm

Pivot

-90° / 90°

**VESA Mount Capability** 

Yes (100 x 100 mm)

**Kensington Lock Slot** 

Yes

**Bezel Color** 

Raven Black

Bezel Width (side)

15 mm

Bezel Width (top/bottom)

17.25 / 21.15 mm

**DIMENSION** 

Size Packed

(D x H x W, mm/inch)

131.0 x 405.0 x 610.0 mm 5.16 x 15.94 x 24.02 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

178.6 x 301.6 x 508.0 mm 7.03 x 11.87 x 20.00 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position)

178.6 x 443.4 x 508.0 mm 7.03 x 17.46 x 20.00 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch)

43.4 x 307.9 x 508.0 mm 1.71 x 12.12 x 20.00 inches

Weight Packed (kg/lbs.) 5.40 kg / 11.90 lbs.

Weight Unpacked (kg/lbs.)

3.90 kg / 8.60 lbs.

Weight (Monitor Head Only) (ka/lbs.)

2.20 kg / 4.85 lbs.

WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x HDMI cable (1.8 m) Quick setup guide

**CERTIFICATION** 

**ENERGY STAR Certification** 

Yes

CCC Yes

TCO 8.0

TCO Edge 2.0

**EPEAT** 

Silver

RoHS (2011/65/EU)

Yes

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

**TÜV Rheinland Eve Comfort** 















Depends on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments.

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#### Think Vision S22e-19

**DISPLAY** 

Panel Size

21.5-inch

Screen Dimensions (W x H) (mm)

476.06 mm × 267.79 mm

**Panel Type** 

3-side NearEdgelss, VA

Backlight

WLED

**Aspect Ratio** 

16:9

Resolution

1920 x 1080 mm

Pixel Pitch (H x V) (mm)

0.2480 × 0.2480 mm

Dot/Pixel Per Inch (DPI/PPI)

102

Viewing Angle (H x V)

178°/178°

Response Time (gray to gray)

4 ms (extreme mode) 6 ms (normal mode)

Contrast Ratio (typical)

3000:1

Dynamic Contrast Ratio (typical)

3M:1

Color Gamut NTSC (CIE 1931)

72% NTSC

Color Support (typical)

16.7M

Refresh rate

60 Hz

Brightness (typical)

250 cd/m<sup>2</sup>

CONNECTIVITY

**Video Input Signals** 

1 x VGA 1 x HDMI 1.4

**Audio Out** 

Yes (3.5 mm)

**MULTI-MEDIA** 

**Optional Soundbar Support** 

Yes

SPECIAL FEATURES

Anti-Glare

Yes

Thin Client Support (Tiny)

Yes (by VESA mount PN:4XF0N03161)

Sync Technology

FreeSync™

**POWFR** 

Power Consumption (Typ./Max)

18W / 22W

**MECHANICAL** 

Tilt Angle (front / back)

-5°/ 22°

**VESA Mount** 

Yes (100 x 100 mm)

Kensington Lock Slot

Yes

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (side)

2.0 mm

Bezel Width (top / bottom)

2.0 mm / 21.2 mm

**DIMENSIONS** 

Size Packed (D x H x W) (mm/inch)

120 x 350 x 582 mm / 4.7 x 13.7 x 22.9 inch

Size Unpacked w/stand (D x H x W) (mm/inch)

(Lowest Position)

200.0 x 373.8 x 489.3 mm / 7.87 x 14.71 x 19.26 inch

Size Unpacked w/stand (D x H x W) (mm/inch)

(Highest Position)

200.0 x 373.8 x 489.3 mm / 7.87 x 14.71 x 19.26 inch

Size Unpacked w/o stand (D x H x W) (mm/inch)

(Head Only)

41.5 x 296.8 x 489.3 mm / 1.63 x 11.68 x 19.26 inch

Weight Packed (kg/lbs.)

4.07kg / 8.97 lbs.

Weight Unpacked (kg/lbs.)

2.75kg / 6.06 lbs.

Weight (Monitor Head Only) (kg/lbs.)

2.46kg / 5.42 lbs.

WHAT'S IN THE BOX

Monitor with stand 1x HDMI Cable

1x Power Cable

Quick setup guide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

8.0

CCC

Yes

TCO

TCO 7.0/TCO Edge 2.0

**EPEAT** 

Silver

ULE

Gold

RoHS

Yes

Windows Certification

Windows 7. Windows 10

China Energy Efficiency Standard

Tier 2

**Ambient Operating Temperature** 

0°C to 40°C

Low Blue Light

Yes



























#### ThinkVision T2054p Monitor

#### **SPECIFICATIONS**

DISPLAY		MECHANICAL	
Panel Size Panel Type Backlit Viewable Area (Diagonal) Screen Dimensions (W x H) (mm) Resolution Aspect Ratio Viewing Angle (H/V at CR 10:1) Maximum Brightness (Typical) Contrast Ratio (Typical) Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DP / PPI) Color Gamut (CIE 1931) Number of Colors Response Time Anti-Glare	19.5" IPS WLED 19.5" 262.35 x 418.61 1440 x 900 16:10 178° / 178° 250 cd/m² 1000:1 0.0969 x 0.2915 87.3 72% 16.7 M 7 ms Yes	Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift (mm) Pivot VESA Mount (mm) Kensington Lock Slot Cable Management Ambient Light Sensor Control Buttons Bezel Color Bezel Width (Side) (mm / inches) Bezel Width (Top / Bottom) (mm / inches)	-5° ~ 22° -45° - 45° 110 No 100 x 100 Yes Yes No Yes Raven Black 17 / 0.67" 17 / 0.67"
SIGNAL INPUT		SIGNAL INTERFACE / PERFO	ORMANCE
Video Input Signals Video Cables Supplied Video Cable Length USB Hub USB Cable Supplied	VGA, HDMI, DisplayPort VGA 1.8 m No No	Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed / Bandwidth  Default Color Temperature Preset Display Modes User-defined Display Modes OSD Buttons OSD Languages	30 kHz - 81 kHz 50 Hz - 75 Hz 1440 x 900 VGA : 150 MHz HDMI : 150 MHz DisplayPort: 150 MHz 7200K 22 16 5 8
POWER CONSUMPTION		COMPLIANCE	
Power Consumption Typical Max. without USB Hub Max. with USB Hub Sleep-Mode Off-Mode Heat Dissipation Typical Max. Power Supply Power Voltage Voltage Dynamic Frequency	14.5 W 21 W N/A 0.3 W 0.3 W 49.45 Btu/h 71.61 Btu/h Internal 90 - 264 VAC, 1.5 A 47 - 63 Hz	EPEAT ENERGY STAR Rating ULE TCO TCO Edge TUV GREENGUARD ROHS (EU 2002/95/EC) Windows Certification China Energy Efficiency Standard	Silver 8.0 Gold 6.0 2.0 Yes No Yes Windows 7, Windows 8, Windows 8.1, Windows 10 Tier 1
DIMENSIONS (W X D X H)		ENVIRONMENTAL	
Size Packed (mm) (inches)  Size Unpacked with Stand (mm) (inches)  Size Unpacked without Stand (Head Only) (mm) (inches)  Distance from Table to Panel Lowest Pixel at Bottom of Screen Highest Pixel at Top of Screen Stand Base Footprint Area (mm / inches)	509 x 176 x 368 20.04" x 6.93" x 14.49" 454.2 x 242.6 x 345.9 ~ 455.9 17.88" x 9.55" x 13.62" ~ 17.95" 454.2 x 53 x 297.9 17.88" x 2.09" x 11.73" (mm / inches) 65.8 / 2.59" 328.2 / 12.92" Diameter 240 / 9.45"	Temperature Operating Non-operating Humidity Operating Non-operating Altitude Operating Non-operating Arsenic-free Glass PVC Free Mercury Free PCC % of Plastic Resins Low Halogen WARRANTY AND AVAILABI	0 °C - 45 °C -20 °C - 60 °C (non-condensing) 10% - 80% 5% - 95% (non-condensing) 8,000 ft 40,000 ft Yes Yes Yes Yes No
Weight	Starting at 10.0 lbc (4.0 lcc)		
Packed Unpacked Monitor Head	Starting at 10.8 lbs (4.9 kg) Starting at 8.15 lbs (3.7 kg) Starting at 4.85 lbs (2.2 kg)	Warranty Geography Availability ThinkVision Logo	3 Years World Wide Yes





. Monitor Head ThinkVision Logo

Global Model

Yes

Yes

Starting at 4.85 lbs (2.2 kg)













# ThinkVision T2224d MONITOR

#### **SPECIFICATIONS**

- 10-11 AV				
DISPLAY		MECHANICAL		
Panel Size Panel Type Backlight Screen Dimensions (W x H) (mm) Resolution Aspect Ratio Viewing Angle (H/V at CR 10:1) Maximum Brightness (Typical) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) NTSC Number of Colors Response Time Anti-Glare	21.5" IPS WLED 476.064 (H) x 267.786 (V) 1920 x 1080 16:9 (Wide) 178°/178° 250 cd/m² 1000:1 3000000:1 0.248 102 72% 16.7 Million 4 ms (extreme mode) Yes	Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift Range Pivot VESA Mount (mm) Kensington Lock Slot Cable Management Ambient Light Sensor Control Buttons Bezel Color Bezel Width Bottom (mm / inches) Top (mm / inches) Sides (mm / inches)	-5° / 22° No No No No 100 x 100 Yes Yes No Yes Raven Black 25.6 / 1.01" 17.6 / 0.69" 17.6 / 0.69"	
SIGNAL INPUT		POWER CONSUMPTION		
Video Input Signals Video Cables Supplied Video Cable Length USB Hub USB Cable Supplied	VGA + DisplayPort VGA + DisplayPort 1.8 m No No	Typical Maximum Sleep-Mode Switch-Off Mode Power Supply Power Voltage Voltage Dynamic Frequency	20 W 25 W <0.5 W <0.5 W Internal 90 VAC - 264 VAC 47 Hz - 63 Hz	
SIGNAL INTERFACE / PERFOR	MANCE	DIMENSIONS (W x D x H)		
Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed Bandwidth VGA DisplayPort Default Color Temperature Plug 'n' Play Preset Display Modes User-defined Display Modes OSD Buttons OSD Languages Lockable Controls	30 kHz ~ 83 kHz 50 Hz ~ 75 Hz 1920 x 1080 205 MHz 165 MHz 7200K Yes 22 22 5 8 No	Size Unpacked with Stand (mm) (inches) Size Unpacked without Stand (Head Only) (mm) (inches) Distance from Table to Panel (mm / inches) Lowest Pixel at Bottom of Screen Highest Pixel at Top of Screen Stand Base Footprint Area (mm / inches) Weight Packed Unpacked Monitor Head Only	512.9 × 204.9 × 381.4 20.19" × 8.07" × 15.01" 512.9 × 51 × 312.6 20.19" × 2.01" × 12.31" 94.4 / 3.72" 363.9 / 14.33" 180 × 180 / 7.09" × 7.09" Starting at 9.19 lbs (4.17 kg) Starting at 6.48 lbs (2.94 kg) Starting at 5.93 lbs (2.69 kg)	
ENVIRONMENTAL		COMPLIANCE		
Temperature Operating Non-operating Humidity Operating Non-operating Altitude Operating Non-operating	0°C - 45°C -20°C - 60°C 10% - 80% 5% - 95% 5000 m 0 ft - 40,000 ft	EPEAT ENERGY STAR Rating TCO ROHS (EU 2002/95/EC) Windows Certification Image Quality Capability China Energy Efficiency Standard	Silver 8.0 Display 7.0 / Edge 2.0 Yes Windows 7, Windows 10 ISO 9241-307 Tier 1	
Arsenic-free Glass PVC-free	Yes Yes	WARRANTY AND AVAILABILIT	ГҮ	
Mercury-free PCC % of Plastic Resins Low Halogen	Yes >85% No	Warranty Geography Availability Global Model	3 Years World Wide Yes	





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#### **SPECIFICATIONS**

#### **DISPLAY**

Panel Size 22" Wide Panel Type TN Backlight WIED 22" (558.8 mm) Viewable Area (Diagonal) Screen Dimensions (W x H) 473.76 mm x 296.1 mm

Resolution 1680 x 1050 Aspect Ratio 16:10 Viewing Angle (H/V at CR 10:1) 170°/160°

Maximum Brightness (Typical) 250 cd/m<sup>2</sup> Contrast Ratio (Typical) 1000:1 Dynamic Contrast Ratio 3M:1

Dot/Pixel Per Inch (DP/PPI) ٩n Color Gamut (CIE 1931) 72% Number of Colors 16.7 M 5 ms (On/Off) Response Time

0.282 (H) x 0.282 (W)

Anti-Glare

#### **MECHANICAL**

Tilt Angle (Front / Back) -5° to 30° Swivel Angle (left/right) NΑ Lift 110 mm Pivnt NΔ VESA® Mount 100 x 100 mm Kensington® Lock Slot Yes

Cable Management Yes Ambient Light sensor Nο Bezel Color Raven Black Bezel Width (Side) 17 mm Bezel Width (Top / Bottom) 17 mm

#### SIGNAL INPUT

Pixel Pitch (mm)

VGA, DVI Video Input Signals VGA, DVI Video Cables Supplied Video Cable Length 1 8 m USB Hub None USB Cable Supplied None

#### **POWER CONSUMPTION**

Power 16 W Typical Max 22 W Sleep Mode 0.5 W 0.5 W Off Mode

Heat Dissipation Typical

54.56 Btu/h 75.02 Btu/h Max. Power Supply Internal Power Voltage

90-264 VAC, 0.75-0.3 A

Voltage Dynamic Frequency 47-63 Hz

#### SIGNAL INTERFACE / PERFORMANCE

30 kHz to 83 kHz Horizontal Frequency Vertical Frequency 50 kHz to 75 Hz Native Resolution 1680 x 1050 Maximum Pixel Clock Speed / 146.25 MHz

Randwidth

Default Color Temperature 7200 K Preset Display Modes 28 User-defined Display Modes 20 OSD Buttons 5 OSD Languages 8

#### DIMENSIONS (W x D x H)

Size Packed 22.44" x 7.52" x 16.57" (570 mm x 191 mm x 421 mm) Size Unpacked with stand 20.05" x 9.61" x 14.97"

(509.3 mm x 244.2 mm x 380.2 mm)

Size Unpacked without stand 20.05" x 1.73" x 13.06"

(Head Only) (509.3 mm x 44 mm x 331.7 mm)

Min. Distance from Table to Panel 2.58" (65.5 mm) (lowest pixel at bottom of screen)

Max. Distance from Table to Panel 14.30" (363.2 mm)

(highest pixel at top of screen) Stand Base Footprint Area 8.31" (211 mm) (diameter)

Weight Packed 6.98 kg (15.38 lbs) 4.71 kg (10.38 lbs) Weight Unpacked 3.09 kg (6.81 lbs) Weight (Monitor Head Only)

#### **COMPLIANCE**

**FPEAT®** GOLD **ENERGY STAR Rating** 6.0 ULE Gold TCO® Display 6.0 TCO® Edge 2 U TUV Yes GREENGUARD® Nο RoHS (EU 2002/95/EC) Yes Windows 7. Windows 8.0. Windows Certification

Windows 8.1

China Energy Efficiency Standard Tier 1

#### **ENVIRONMENTAL**

Low Halogen

Temperature - Operating 0 °C to 45 °C -20 °C to 60 °C (non-condensing) Temperature - Non-operating Humidity - Operating 10% to 80% Humidity - Non-operating 5% to 95% (non-condensing) 5.000 m Altitude – Operating Altitude - Non-operating 40,000 ft Arsenic-free Glass Yes PVC free Yes Mercury free Yes PCC % of plastic resins 85%

#### WARRANTY AND AVAILABILITY

Warranty 3 Years

Geography Availability EMEA, ASEAN, Japan



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# Think Vision T22i-10 MONITOR



#### **SPECIFICATIONS**

ICDI	ΔV

Panel Size 21.5" Wide Panel Type **IPS** Backlight WLED Resolution (H x V) 1920 x 1080 Aspect Ratio 16:9 Anti-Glare Yes Borderless Screen Yes Screen Dimensions (W x H) (mm) 476.064 x 267.786

(inches) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm)

Color Support (Typical)

Color Gamut NTSC (CIE 1931) Response Time

#### DIMENSIONS (W x D x H)

Size Packed (mm) 577 x 378 x 191 22.7" x 14.9" x 7.5" (inches) Size Unpacked with Stand

(mm) (inches)

Size Monitor Head Only

(mm) (inches)

Stand Base Footprint Area

(mm) (inches) Weight Packed

Unpacked Monitor Head Only

489.7 x 251.9 x 357.6 19.28" x 9.92" x 14.08"

489.7 x 43.5 x 297 19.28" x 1.71" x 11.69"

240 x 240 9.45" x 9.45"

Starting at 16.36 lbs (7.42 kg) Starting at 10.85 lbs (4.92 kg) Starting at 6.94 lbs (3.15 kg)

#### CONNECTIVITY

Video Input Signals VGA + HDMI 1.4 + DisplayPort 1.2 18 m Video Cables Supplied (Length) Audio-Out Audio English, French, German, OSD Languages

Spanish, Italian, Japanese, Simplified Chinese, Russian

18.74" x 10.54"

0.248 x 0.248

16.7 Million

4/6/14 ms

21.4 / 0.84"

2 / 0.08"

250 cd/m<sup>2</sup>

178°/178°

1000:1

3M:1

72%

#### POWER CONSUMPTION

Typical 20 W Maximum 55 W Sleep-Mode <0.5 W Switch Off-Mode <0.5 W Power Supply Internal 100 VAC - 240 VAC Power Voltage

#### **MECHANICAL**

Tilt Angle (Front / Back) -5°/30° Swivel Angle (Left / Right) +/-45° 110 / 4.33" Lift (mm / inches) Pivot -90° / 90° Cable Management Yes Kensington Lock Yes VESA Mounting Yes (100 mm) Bezel Color Raven Black Bezel Width Top (mm / inches) 2 / 0.08"

#### COMPLIANCE

Windows Certification

Arsenic-Free Glass Yes ULF Gold **PVC-Free** Yes; Without Cable Mercury-Free Yes **EPEAT** Silver **ENERGY STAR Rating** 8.0 TCO 7.0 TCO Edge 20 RoHS (EU 2002/95/EC) Yes China Energy Efficiency Standard Tier 2

Windows 7 / Windows 10





Bottom (mm / inches)

Sides (mm / inches)

#### WWW.LENOVO.COM













#### Think Vision T22i-20

#### **DISPLAY**

Panel Size

21.5-inch

Screen Dimensions

476.06 mm x 267.79 mm

Panel Type

3-side NearEdgeless In-Plane Switching

Backlight

WLED

Aspect Ratio

16:9

Resolution

1920 x 1080

Pixel Pitch

0.2479 x 0.2479 mm

Dot/Pixel Per Inch (DPI/PPI)

Viewing Angle (H x V @ CR 10:1)

178°/178°

**Response Time** 

4ms (extreme mode)

Refresh Rate

60 Hz

**Brightness (typical)** 

250 cd/m<sup>2</sup>

Brightness (peak)

250 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical) Power Consumption

3M:1

**Color Gamut** 

72% NTSC (CIE 1931)

Color Support (typical)

16.7 Million

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x HDMI 1.4 1 x DP 1.2 1 x VGA

**Audio Signal** 

1x Audio Out (3.5 mm)

**USB Hub** 

Yes

**USB** Upstream

1 x USB 3.2 Gen1

**USB** Downstream

4 x USB 3.2 Gen1 (1 x BC 1.2)

**MULTI-MEDIA** 

**Optional Soundbar Support** 

Yes (PN: 0A36190)

**POWER** 

**Power Consumption** 

(typ./max.)

12W / 43W

**Power Consumption** Sleep/Off Mode

<0.3W

Switch Off-Mode

< 0.3 W

**ENERGY STAR Power** Consumption  $(P_{on}/E_{TEC})$ 

10.4W / 32.97kWh

**Power Supply** 

Internal

Voltage Required

AC 100 to 240 V (50-60 Hz)

**MECHANICAL** 

Tilt Angle (front/back)

-5° / 35°

Swivel Angle (left/right)

+45° / -45°

Lift (max range)

150 mm

Pivot

-90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

**Tiny Bracket Support** 

Yes (sold separately)

**Kensington Lock Slot** 

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (side)

18 mm

Bezel Width (top/bottom)

1.8 / 22 mm

**DIMENSION** 

Size Packed (D x H x W, mm/inch)

390.0 x 187.0 x 577.0 mm 15.35 x 7.36 x 22.72 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

205.0 x 396.0 x 489.3 mm 8.07 x 15.59 x 19.26 inches

Size Unpacked w/ Stand (D x H x W. mm/inch) (highest position)

205.0 x 546.0 x 489.3 mm 8.07 x 21.50 x 19.26 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch)

48.5 x 297.4 x 489.3 mm 1.91 x 11.71 x 19.26 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm)

121.6 mm

Max. Distance from Table to Panel (highest pixel at bottom of screen, mm)

539.4 mm

Weight Packed (kg/lbs.)

7.20 kg / 15.87 lbs.

Weight Unpacked (kg/lbs.) 5.47 kg / 12.06 lbs.

Weight (monitor head only) (kg/lbs.)

3.01 kg / 6.66 lbs.

**Full Container Load** (40' STD / 20' STD) 1188 / 550 units

WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) 1 x USB Type-A to B cable (1.8 m) Quick setup guide

#### **CERTIFICATION**

**ENERGY STAR Rating** 8.0

CCC

Yes

TCO 80

TCO Edge 2.0

**EPEAT** Silver

RoHS (EU 2002/95/EC)

Windows Certification

China Energy Efficiency Standard Tier 1

TÜV Rheinland Eye Comfort Yes















Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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# ThinkVision T22V-10 MONITOR

#### **SPECIFICATIONS**

DISPLAY		El
Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) Response Time (Extreme/Typical/Off)	21.5" In-Plane Switching WLED 1920 x 1080 16:9 Yes 476.06 x 267.79 250 cd/m² 178°/178° 1000:1 3M:1 0.25 x 0.25 102 72% sRGB 4/6/14 ms (G-to-G)	Tei C N Hu C N Alt C N Ar PV Me
POWER CONSUMPTION		D
Typical	18 W	Siz

Typical	18 W
Maximum	43 W
Sleep-Mode	<0.5 W
Switch Off-Mode	<0.3 W
Power Supply	Internal
Power Voltage	90 VAC - 264 VAC
Voltage Dynamic Frequency	47 Hz - 63 Hz

#### SIGNAL INPUT

Video Input Signals	HDMI 1.4 + DisplayPort 1.2 + VGA
Video Cables Supplied	HDMI (ROW) + DisplayPort + VGA + USB 3.01
Video Cable Length	1.8 m
USB Hub	Yes
USB Cable Supplied	Yes
Audio-Out	Yes (3.5 mm)

#### SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed/ Bandwidth	al Frequency Resolution um Pixel Clock Speed/
Default Color Temperature Preset/User Modes	· ·

Default Color Temperature
Preset/User Modes
OSD Buttons
OSD Languages

30 kHz - 81 kHz
50 Hz - 75 Hz
1920 x 1080

24/20

2 / 0.08"

VGA	: 205 MHz
HDMI	: 165 MHz
DisplayPort	: 165 MHz
6500K	

5+2 Buttons
English, French, German,
Spanish, Italian, Japanese,
Simplified Chinese, Russian

#### NVIRONMENTAL

Temperature Operating Non-Operating	0°C - 40°C -20°C - 60°C
Humidity Operating Non-Operating	10% - 80% 5% - 95%
Altitude Operating Non-Operating	0 m - 8000 m 0 ft - 40,000 ft
Arsenic-Free Glass PVC-Free	Yes Yes
Mercury-Free PCC % of Plastic Resins	Yes >85%

#### IMENSIONS (W x D x H)

Size Packed	
(mm)	554 x 365 x 187
(inches)	21.81" x 14.37" x 7.36"
Size Unpacked with Stand	

Size	Unpa	аскеа	with
Lo	west	Positi	on

(mm)	489.7 x 251.9 x 375.8
(inches)	19.28" x 9.92" x 14.79"
Highest Position	
(mm)	489.7 x 251.9 x 485.8

19.28" x 9.92" x 19.13"

(inches)		
Size Unpacked	without	Stand

Monitor Head Only)	
(mm)	489.7 x 43.5 x 315.1
(inches)	19.28" x 1.71" x 12.41"

#### Distance from Table to Panel

Lowest Pixel at Bottom of Screen	
(mm / inches)	82.1 / 3.23"
Highest Pixel at Top of Screen	
(mm / inches)	192.1 / 7.56"

#### Stand Base Footprint Area

(mm / inches) 232 x 3	203.6 /	9.13"	x 8.02
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#### Weight

Packed	Starting at 14.46 lbs (6.56 kg)
Unpacked	Starting at 10.16 lbs (4.61 kg)
Monitor Head Only	Starting at 6.48 lbs (2.94 kg)

#### **MECHANICAL**

Tilt Angle (Front / Back)	-5° / 30°
Swivel Angle (Left / Right)	+/-45°
Lift (mm)	Yes (110)
Pivot	+/-90°
VESA Mount (mm)	Yes (100 x 100)
Kensington Lock Slot	Yes
Cable Management	Yes
Bezel Color	Raven Black
Bezel Width	
Top (mm / inches)	2 / 0.08"
Bottom (mm / inches)	21.4 / 0.84"

#### COMPLIANCE

EPEAT ENERGY STAR Rating ULE TCO RoHS (EU 2002/95/EC) Windows Certification China Energy Efficiency Standard TÜV Eye Comfort	Silver 8.0 Gold TCO Display 7.0 / TCO Edge 2.0 Yes Windows 7 / Windows 10 Grade 2 Yas
TÜV Eye Comfort	Yes

#### WARRANTY AND AVAILABILITY

Warranty ROW PRC

3 Years 18 Months WW Geography Availability





Sides (mm / inches)

#### WWW.LENOVO.COM

Depending on many factors such as the processing capability of peripheral devices, file attributes. and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1. Gen 2 & 20 Gbit/s for USB 3.2.













#### Think Vision T22v-20

#### **DISPLAY**

**Panel Size** 

21.5-inch

**Screen Dimensions** 

476.06 mm x 267.79 mm

Panel Type

3-side NearEdgeless In-Plane Switching

Backlight

WLED

**Aspect Ratio** 

16:9

Resolution

1920 x 1080

Pixel Pitch

0.2479 x 0.2479 mm

Dot/Pixel Per Inch (DPI/PPI)

102

Viewing Angle (H x V @ CR 10:1)

178° / 178°

**Response Time** 

4ms (extreme mode)

Refresh Rate

60 Hz

**Brightness (typical)** 

250 cd/m<sup>2</sup>

Brightness (peak)

250 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000.1

**Dynamic Contrast Ratio (typical)** 

3M·1

Colour Gamut

72% NTSC (CIE 1931)

Color Support (typical)

16.7 Million

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x HDMI 1.4 1 x DP 1.2

1 x VGA

**Audio Signal** 

1 x Audio Combo (3.5 mm; in/out)

**USB Hub** 

Yes

**USB** Upstream

1 x USB 3.2 Gen1

**USB** Downstream

2 x USB 3.2 Gen1 (1 x BC 1.2)

MULTI-MEDIA

Integrated Webcam

Yes

**Integrated Microphone** 

**Integrated Speakers** 

Yes (2 x 3W)

**POWFR** 

**Power Consumption** (typ./max.)

13W / 43W

**Power Consumption** Sleep/Off Mode

< 0.5W

**Power Consumption** Switch-off Mode

< 0.3W

**ENERGY STAR Power** Consumption  $(P_{on}/E_{TEC})$ 

10.75W / 33.81kWh

**Power Supply** Internal

Voltage Required

AC 100 to 240 V (50-60 Hz)

**MECHANICAL** 

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right)

+45° / -45°

Lift (max. range)

150 mm

Pivot

-90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

**Tiny Bracket Support** 

Yes (sold separately)

**Kensington Lock Slot** Yes

Cable Management

Yes

**Bezel Color** Raven Black

Bezel Width (side)

1.8 mm

Bezel Width (top/bottom)

1.8 / 22.0 mm

**DIMENSION** 

Size Packed (D x H x W. mm/inch)

390.0 x 187.0 x 577.0 mm 15.35 x 7.36 x 22.72 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

205.0 x 413.0 x 489.3 mm 8.07 x 16.26 x 19.26 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position)

205.0 x 563.0 x 489.3 mm 8.07 x 22.17 x 19.26 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch)

48.3 x 314.4 x 489.3 mm 1.90 x 12.38 x 19.26 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 121.7 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 539.4 mm

Weight Packed (kg/lbs.)

7.22 kg/15.92 lbs.

Weight Unpacked (kg/lbs.) 5.49 kg/12.10 lbs.

Weight (monitor head only) (kg/lbs.)

3.03 kg/6.68 lbs.

Full Container Load (40' STD/20' STD) 1188/550 units

RoHS (EU 2002/95/EC)

Windows Certification

China Energy Efficiency Standard

TÜV Rheinland Eye Comfort

WHAT'S IN THE BOX

1 x USB Type-A to Type-B cable

Monitor with stand

1 x DP cable (1.8 m)

Quick setup guide

**CERTIFICATION** 

**ENERGY STAR Rating** 

(1.8 m)

8.0

CCC Yes

TCO

TCO Edge

80

20

**EPEAT** 

Silver

Tier 1

Yes

1 x Power cable (1.8 m)









Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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#### Think Vision T23d-10

**DISPLAY** 

Panel Size 22.5 inch

Screen Dimensions (H x V) (mm)

496.2 x 313.9

Panel Type

In-Plane Switching

Backlight

WLED

Aspect Ratio

16:10

Resolution

1920 x 1200

Pixel Pitch (H x V) (mm)

0.25 x 0.25

Viewing Angle (H x V)

178°/178°

Response Time (gray to gray)

4 ms (extreme mode) 6 ms (normal mode)

Contrast Ratio (typical)

1000:1

**Dynamic Contrast Ratio (typical)** 

3M:1

Color Gamut NTSC (CIE 1931)

72%

Color Support

16.7M

CONNECTIVITY

Video Input Signals

VGA + HDMI 1.4 + DP 1.2

Video Cable Length

1.8 m

**MULTI-MEDIA** 

**Optional Soundbar Support** 

Yes

**DIMENSIONS** 

Size Packed (D x H x W) (mm/inch)

655 x 422 x 160 mm / 25.78 x 16.61 x 6.30 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Lowest Position)

251.9 x 381.9 x 501.2 mm / 9.9 x 15.04 x 19.73 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Highest Position)

251.9 x 491.9 x 501.2 mm / 9.9 x 19.37 x 19.73 inch

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only)

43.4 x 326.5 x 501.2 mm / 1.71 x 13.54 x 19.73 inch

Weight Packed (kg/lbs.)

6.84 kg / 15.05 lbs.

Weight Unpacked (kg/lbs.)

4.85 kg / 10.67 lbs.

Weight (Monitor Head Only) (kg/lbs.)

2.87 kg / 6.31 lbs.

SPECIAL FEATURES

Anti-Glare

Yes

Thin Client Support (Tiny)

Yes (by Tiny Clamp Bracket Kit+VESA mount PN:4XF0N82412+PN:4XF0N03161)

**MECHANICAL** 

Tilt Angle (front/back)

-5°/30°

Swivel Angle (left/right)

-45°/+45°

Lift (Max range)

110 mm

Pivot

-90°/+90°

**VESA Mount** 

Yes (100 mm)

**Kensington Lock Slot** 

Yes

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (Side)

2.3 mm

WHAT'S IN THE BOX

Monitor with stand

1 x Power cable

1x DP-DP cable

1 x VGA cable

Quick setup guide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

8.0

CCC

Yes

TCO

TCO 7.0/TCO Edge 2.0

**EPEAT** 

Silver

ULE

Gold

Windows Certification

Windows 7. Windows 10

China Energy Efficiency Standard

Tier 2

**Ambient Operating Temperature** 

0°C to 50°C

Eye Comfort Certification

Yes

















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# Think Vision t23i-10 monitor



#### **SPECIFICATIONS**

#### **DISPLAY**

23 Wide Panel Size Panel Type IPS Backlight WIFD Resolution (H x V) 1920 x 1080 Aspect Ratio 16:9 Anti-Glare Yes Borderless Screen Yes Screen Dimensions (W x H) (mm) 517.2 x 302.8 (inches) 20.36" x 11.92"

Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Color Gamut NTSC (CIE 1931)

Color Support (Typical) Response Time

#### DIMENSIONS (W x D x H)

Size Packed 590 x 187 x 422 (mm) (inches) Size Unpacked with Stand

(mm) (inches)

Size Monitor Head Only

(mm) (inches)

Stand Base Footprint Area (mm)

(inches) Weight Packed

Unpacked Monitor Head Only 23.23" x 7.36" x 16.61"

522.2 x 264.2 x 337.7 20.56" x 10.4" x 13.3"

522 2 x 42 7 x 317 6 20.56" x 1.68" x 12.5"

218.7 x 218.7 8.61" x 8.61"

Starting at 16.36 lbs (7.42 kg) Starting at 10.85 lbs (4.92 kg) Starting at 6.94 lbs (3.15 kg)

#### CONNECTIVITY Video Input Signals

Video Cables Supplied (Length) Audio

OSD Languages

VGA + HDMI 1.4 + DisplayPort 1.2 Audio-Out

250 cd/m<sup>2</sup>

0.265 x 0.265

16.7 Million 4/6/14 ms

178°/178°

1000:1

3M:1

72%

English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian

#### POWER CONSUMPTION

Typical Maximum 45 W Sleep-Mode <0.5 W Switch Off-Mode <0.5 W Power Supply Internal Power Voltage 100 VAC - 240 VAC

#### **MECHANICAL**

-5°/ 30° Tilt Angle (Front / Back) Swivel Angle (Left / Right) +/-45° 110 / 4.33" Lift (mm / inches) -90° / 90° Pivot Cable Management Yes Kensington Lock Yes **VESA Mounting** Yes (100 mm) Bezel Color Raven Black Bezel Width

Top (mm / inches) 2 / 0.08" 237/093" Bottom (mm / inches) Sides (mm / inches) 2 / 0.08"

#### COMPLIANCE

Arsenic-Free Glass Yes Yes; Without Cable PVC-Free

Mercury-Free Yes **EPEAT** Silver **ENERGY STAR Rating** 8.0 TCO 7.0 TCO Edge 2.0 RoHS (EU 2002/95/EC) Yes China Energy Efficiency Standard Tier 2

Windows Certification Windows 7 / Windows 10





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#### ThinkVision T23i-20

#### **DISPLAY**

Panel Size

23-inch

Screen Dimensions

509.19 mm × 286.42 mm

Panel Type

3-side NearEdgeless In-Plane Switching

Backlight

WLED

**Aspect Ratio** 

16:9

Resolution

1920 x 1080

Pixel Pitch

0.2652 × 0.2652 mm

Dot/Pixel Per Inch (DPI/PPI)

95.78

Viewing Angle (H x V @ CR 10:1)

178°/178°

**Response Time** 

4ms (extreme mode) 6ms (normal mode)

Refresh Rate

60 Hz

Brightness (typical)

250 cd/m<sup>2</sup>

**Contrast Ratio (typical)** 

1000:1

Dynamic Contrast Ratio (typical)

3M:1

Color Gamut

75% NTSC (CIE 1931)

Color Support (typical)

16.7 Million

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x HDMI 1.4 1 x DP 1.2

1x VGA

**Audio Signal** 

1 x Audio Out (3.5 mm)

**USB Hub** 

Yes

**USB** Upstream

1 x USB 3.2 Gen 1 Type-B

USB Downstream

4 x USB 3.2 Gen 1 (1 x BC1.2)

POWFR

Power Consumption (typ./max.)

14.5W / 52W

Power Consumption Sleep/Off Mode

< 0.5 W

Power Consumption Switch-off Mode

< 0.3 W

Energystar Power Consumption  $(P_{xx}/E_{TEC})$ 

10.52W / 33.73kWh

Power Supply Internal

Voltage Required

AC 100 to 240 V (47-63 Hz)

**MECHANICAL** 

Tilt Angle (front/back)

-5° / 35°

Swivel Angle (left/right)

+45° / -45°

Lift (max. range)

150 mm

Pivot

-90°/90°

VESA Mount Capability

Yes (100 x 100 mm)

**Tiny Bracket Support** Yes (sold separately)

Nano Bracket Support Yes (sold separately)

Kensington Lock Slot

Yes

**Cable Management** 

Yes

**Bezel Color** 

Raven Black

Bezel Width (side)

2.0 mm

Bezel Width (top/bottom)

2.0 / 22.0 mm

**DIMENSION** 

Size Packed (D x H x W, mm/inch)

175 x 387 x 599 mm 6.89 x 15.24 x 23.58 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

200 x 404.34 x 521.8 mm 7.87 x 15.92 x 20.54 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position)

200 x 554.34 x 521.8 mm 7.87 x 21.82 x 20.54 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch)

44.82 x 316.31 x 521.8 mm 1.76 x 12.45 x 20.54 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm)

111.62 mm

Max. Distance from Table to Panel (highest pixel at bottom of screen, mm)

398.04 mm

Weight Packed (kg/lbs.)

7.5 kg / 16.53 lbs.

Weight Unpacked (kg/lbs.) 5.59 kg / 12.32 lbs.

Weight (monitor head only) (kg/lbs.)

3.32 kg / 7.32 lbs.

Full Container Load (40' STD / 20' STD)

1260 / 600 units

WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) Quick setup guide

**CERTIFICATION** 

**ENERGY STAR Rating** 

ccc

Yes

**TCO** 

TCO Edge

**EPEAT** Silver

RoHS (EU 2002/95/EC)

Yes

Windows Certification
Windows 7. Windows 10

China Energy Efficiency Standard Tier 1

TÜV Rheinland Eye Comfort Yes















Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2.

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# ThinkVision E24-10 MONITOR

#### **SPECIFICATIONS**

#### **DISPLAY**

Panel Size 23.8" Panel Type In-Panel Switching Backlight WLED Screen Dimensions (H x V) 527.04 x 296.46 Resolution 1920 x 1080 Anti-Glare Yes Aspect Ratio 16:9 Viewing Angle (H/V at CR 10:1) 178°/178° Maximum Brightness (Typical) 250 cd/m<sup>2</sup>

1000:1 Contrast Ratio (Typical) Dynamic Contrast Ratio 3M:1 0.2745 x 0.2745 Pixel Pitch (H x V) (mm) Dot/Pixel Per Inch (DP/PPI) 92.5 PPI Color Gamut NTSC (CIE 1931) 72% sRGB

Response Time (Extreme/Default/Off) 4/6/14 ms (G to G)

#### **ENVIRONMENTAL**

Temperature Operating 0°C - 40°C Non-Operating -20°C - 60°C

Humidity Operating 10% - 80% Non-Operating 5% - 95%

Altitude Operating 5.000 m Non-Operating 0 ft - 40,000 ft

Arsenic-Free Glass Yes PVC-Free Yes (without cable)

Mercury-Free Yes PCC % of Plastic Resins >85%

#### POWER CONSUMPTION

18W Typical Maximum 23W Sleep-Mode <0.3W Switch Off-Mode <0.3W Power Supply Internal

Power Voltage 90 VAC - 264 VAC 47 Hz - 63 Hz Voltage Dynamic Frequency

#### DIMENSIONS (W x D x H)

Size Packed 617 x 399 x 140 (mm) (inches) 24.3" x 15.7" x 5.51"

Size Unpacked with Stand 554 x 204.9 x 403.8 (mm) (inches) 21.8" x 8.07" x 15.9"

Size Unpacked without Stand (mm)

336.7 x 554 x 49.2 (inches) 13.3" x 21.8" x 1.9"

Distance from Table to Panel Lowest Pixel at Bottom of Screen

934/37" (mm / inches) Highest Pixel at Top of Screen (mm / inches) 390.8 / 15.4"

Stand Base Footprint Area 200 x 200 / 7.9" x 7.9" (mm / inches)

Weight Starting at 11.7 lbs (5.3 kg) Packed Unpacked Starting at 8.2 lbs (3.7 kg) Monitor Head Only Starting at 7.7 lbs (3.5 kg)

#### SIGNAL INPUT

Video Cable Length

USB Cable Supplied

USB Hub

Audio-Out

VGA + DisplayPort 1.2 Video Input Signals Analog Cable DisplayPort to DisplayPort Video Cables Supplied

Cable (for RoW)

No No

No

205 MHz

#### SIGNAL INTERFACE / PERFORMANCE

30 kHz - 81 kHz Horizontal Frequency Vertical Frequency 50 Hz - 75 Hz 1920 x 1080 Native Resolution (H x V)

Maximum Pixel Clock Speed/ Bandwidth VGA

165 MHz DisplayPort Default Color Temperature 6500 K Preset/User Modes 24/20 OSD Buttons 5 Buttons

English, French, German, **OSD** Languages Spanish, Italian, Japanese, Simplified Chinese, Russian

#### **MECHANICAL**

-5° / 22° Tilt Angle (Front / Back) Swivel Angle (Left / Right) No Lift Pivot Nο

Yes (100 x 100) VESA Mount (mm x mm) Kensington Lock Slot Yes Yes

Cable Management Raven Black Bezel Color

Bezel Width

13 / 0.51" Sides (mm / inches) 13 / 0.51" Top (mm / inches) 26.3 / 1.03" Bottom (mm / inches)

#### **COMPLIANCE**

EPEAT Silver **ENERGY STAR Rating** 8.0 Gold ULE TCO Edge 2.0 RoHS (EU 2002/95/EC) Yes

Windows Certification Windows 7 / Windows 10

China Energy Efficiency Standard

#### WARRANTY AND AVAILABILITY

3 Years Warranty Geography Availability ww





#### WWW.LENOVO.COM













### Think Vision F24-20

#### **DISPLAY**

Panel Size

23.8-inch

**Screen Dimensions** 

527.04 mm x 296.46 mm

Panel Type

3-side NearEdgeless In-Plane Switching

Backlight

WLED

Aspect Ratio

16:9

Resolution

1920 x 1080

Pixel Pitch

0.2745 x 0.2745 mm

Dot/Pixel Per Inch (DPI/PPI)

92

Viewing angle (H x V @ CR 10:1)

178°/178°

Response Time

14ms

Refresh Rate

60 Hz

Brightness (typical)

250 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M·1

Color Gamut

72% NTSC (CIE 1931)

Color Support (typical)

16.7 Million

Color Depth

8-bit

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x HDMI 1.4 1 x DP 1.2

1 x VGA

MULTI-MEDIA

**Integrated Speakers** 

Yes (2 x 1.5W)

**POWFR** 

Power Consumption (typ./max)

18W / 24W

**Power Consumption** 

Sleep/Off Mode

< 0.5W

**Power Consumption** Switch Off-Mode

< 0.5W

**ENERGY STAR Power** Consumption

 $(P_{on}/E_{TEC})$ 

12.98W / 40.98kWh

**Power Supply** 

Internal

Voltage Required

AC 90 to 264 V (47-63 Hz)

MECHANICAL

Tilt Angle (front/back)

-5° / 22°

Lift (max range)

155 mm

Pivot

-90° / 90°

**VESA Mount Capability** 

Yes (100 x 100 mm)

**Kensington Lock Slot** 

Yes

**Bezel Color** 

Raven Black

Bezel Width (side)

3.1 mm

Bezel Width (top/bottom)

3.1 / 20.9 mm

**DIMENSION** 

Size Packed

(D x H x W, mm/inch)

145.0 x 397.0 x 638.0 mm 5.71 x 15.63 x 25.12 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

178.6 x 317.1 x 541.8 mm 7.03 x 12.48 x 21.33 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position)

178.6 x 462.5 x 541.8 mm 7.03 x 18.21 x 21.33 inches

Size Unpacked w/o Stand (head only)(D x H x W, mm/inch)

41.7 x 326.4 x 541.8 mm 1.64 x 12.85 x 21.33 inches

Weight Packed (kg/lbs.) 5.70 kg / 12.57 lbs.

Weight Unpacked (kg/lbs.) 4.80 kg / 10.58 lbs.

Weight (Monitor Head Only) (ka/lbs.)

3.10 kg / 6.83 lbs.

WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x HDMI cable (1.8 m) Quick setup guide

**CERTIFICATION** 

**ENERGY STAR Certification** 

Yes

CCC

Yes

TCO 8.0

TCO Edge

2.0

**EPEAT** Silver

RoHS (2011/65/EU)

Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard

TÜV Rheinland Eve Comfort















Depends on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments.

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# ThinkVision P24h-10 MONITOR



## **SPECIFICATIONS**

DISPLAY		DIMENSIONS (W x D x H)	
Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Borderless Screen Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Color Gamut (CIE 1931) Display Colors (Typical) Response Time	23.8" Wide IPS WLED 2560 x 1440 16:9 Yes Yes 526.848 (H) x 296.352 (V) 300 cd/m² 178°/178° 1000:1 3M:1 0.2058 99% sRGB 16.7 Million 4/6/14 ms (G-to-G)	Size Packed (mm) (inches) Size Unpacked with Stand (mm) (inches) Size Unpacked without Stand (Monitor Head Only) (mm) (inches) Stand Base Footprint Area (mm / inches) Weight Packed Unpacked Monitor Head Only	635 x 188 x 422 25" x 7.4" x 16.61" 540.2 x 261.75 x 373.4 21.26" x 10.3" x 14.7" 540.2 x 46.45 x 325.98 21.26" x 1.82" x 12.83" 250 x 250 / 9.84" x 9.84" Starting at 19.73 lbs (8.95 kg) Starting at 12.54 lbs (5.69 kg) Starting at 8.42 lbs (3.82 kg)
SIGNAL INPUT		POWER CONSUMPTION	
Video Input Signals  Video Cables Supplied (Length)	2 x HDMI 1.4 + USB-C + DisplayPort 1.2 + DisplayPort-Out USB-C - USB-C Cable (1.8 m)	Typical Maximum Sleep-Mode Off-Mode	24 W 120 W <0.5 W <0.5 W
SIGNAL INTERFACE / PERFORMANCE		Power Supply Power Voltage	Internal 90 VAC - 264 VAC
A 11	Audio Out		

#### Audio-Out Audio

English, French, Italian, OSD Languages German, Spanish, Japanese, Chinese, Russian

-5°/ 30°

#### **MECHANICAL**

Tilt Angle (Front / Back)

Cable Management	165
Kensington Lock	Yes
VESA Mounting	Yes (100 mm)
Bezel Color	Raven Black
Bezel Width	
Top (mm / inches)	2 / 0.08"
Bottom (mm / inches)	22 / 0.87"
Sides (mm / inches)	2 / 0.08"

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.

### COMPLIANCE

Arsenic-Free Glass	Yes
PVC-Free	Yes
Mercury-Free	Yes
EPEAT	Silver
ENERGY STAR Rating	8.0
ULE	Gold
TCO	7.0
TCO Edge	2.0
TÜV Eye Comfort Certification.	Yes
RoHS (EU 2002/95/EC)	Yes
China Energy Efficiency Standard	Tier 2
Windows Certification	Windows 7 / Windows 10

















#### Think Vision P24h-20

#### **DISPLAY**

Panel Size 23.8-inch

**Screen Dimensions** 526.85 mm x 296.35 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

**Aspect Ratio** 16.9

Resolution 2560 x 1440

Pixel Pitch 0.2058 x 0.2058 mm

Dot/Pixel Per Inch (DPI/PPI) 123

Viewing Angle (H x V @ CR 10:1) 178° / 178°

Response Time 4ms (extreme mode)

6ms (normal mode) Refresh Rate

60 Hz Brightness (typical)

300 cd/m<sup>2</sup>

Contrast Ratio (typical) 1000:1

**Dynamic Contrast Ratio (typical)** 3M·1

**Color Gamut** 99% sRGB, 99% BT.709, 84% DCI-P3

Color Support (typical)

16.7 Million

Processor LUT 8-bit

Anti-glare Yes

CONNECTIVITY

Video Signal 1 x USB Type-C Gen1 (DP1.2 Alt Mode) 1 x HDMI 1.4 1 x DP 1.2 1 x DP 1.2 (Out)

**Audio Signal** 1x Audio Out (3.5 mm)

**USB Hub** Yes

Ethernet Yes (10M/100M/1000M)

USB Upstream 1 x USB 3.1 Gen1 (by USB Type-C Gen1)

USB Downstream 4 x USB 3.1 Gen1 (1 x BC1.2)

MULTI-MEDIA

Integrated Speakers Yes (2 x 1W)

**Optional Soundbar Support** Yes (PN 0A36190)

SPECIAL FEATURES

**Factory Calibration** Yes (Avg. ∆E<2)

**POWFR** 

Power Consumption (tvp./max.) 23W / 132W

**Power Consumption** Sleep/Off Mode <0.5W

Power Consumption Switch-off Mode ≤0.3W

**ENERGY STAR Power** Consumption  $(P_{-}/E_{TEC})$ 18.49W / 60.11kWh

**Power Supply** Internal

**USB Type-C Power** Delivery (W) up to 75 W\*

**Smart Power** 

Voltage Required AC 100 to 240 V (47-63 Hz)

**MECHANICAL** 

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45° / -45°

Lift (max. range) 150 mm

Pivot -90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

**Kensington Lock Slot** Yes

Cable Management Yes

**Bezel Color** Raven Black

Bezel Width (side) 2 mm

Bezel Width (top/bottom) 2 / 21.4 mm

DIMENSION

Size Packed (D x H x W. mm/inch)

620 x 149 x 423 mm 24.4 x 5.9 x 16.7 inches

Size Unpacked w/ Stand (D x H x W. mm/inch) (lowest position) 205 x 420 x 539.8 mm 8.07 x 16.5 x 21.3 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 205 x 570 x 539.8 mm 8.07 x 22.4 x 21.3 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch) 44.6 x 325.7 x 539.8 mm 1.8 x 12.8 x 21.3 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen. mm)

1179 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm)

415 mm

Weight Packed (kg/lbs.) 8.1 kg / 17.86 lbs.

Weight Unpacked (kg/lbs.) 6.18 kg / 13.6 lbs.

Weight (monitor head only) (kg/lbs.)

3.85 kg / 7.89 lbs.

Full Container Load (40' STD/20' STD) 1395 / 645 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) (NA only) 1 x USB Type-C to Type-C cable 1 x USB Type-C to Type-A cable (1.8 m) (NA only) Factory calibration report Quick setup guide

#### CERTIFICATION

**ENERGY STAR Rating** 8.0

CCC Yes

> TCO 80

TCO Edge 2.0

**EPEAT** Silver

RoHS (EU 2002/95/EC)

Windows Certification Windows 7. Windows 10

China Energy Efficiency Standard Tier 1

TÜV Rheinland Eye Comfort















Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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<sup>\*</sup>up to 75 W power delivery to compatible devices by USB Type-C













## ThinkVision P24q-10 MONITOR

SPECIFICATIONS			
DISPLAY		MECHANICAL	
Panel Size Panel Type Backlight Resolution Aspect Ratio Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Minimum Brightness (Typical) Viewable Area (Diagonal) (mm / inches) Viewing Angle (H/V at CR 10:1) Viewing Angle (H/V at CR 5:1) Contrast Ratio (Typical) Dynamic Contrast Ratio (Typical) Pixel Pitch (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) Color Support (Typical)	23.8" In-Plane Switching WLED 2560 x 1440, QHD 16:9 526.848 (H) x 296.352 (V) 300 cd/m² 240 cd/m² 604.5 / 23.8" 178°/178° 178°/178° 1000:1 3M:1 0.2058 123.6 99% sRGB 16.7 Million	Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift (mm) Pivot VESA Mount Kensington Lock Slot Pivot Auto Rotation Cable Management Bezel Color Bezel Width Sides (mm / inches) Top (mm / inches) Bottom (mm / inches) SPECIAL FEATURES Anti-Glare	-5° / 30° +/-45° 110 CW/CCW 90° Yes (100 mm) Yes No Yes Raven Black 2 / 0.08" 2 / 0.08" 22 / 0.87"
Response Time (Typical) 4/6/14 ms (G to G) Processor LUT 8-bit (6-bit + 2-bit FRC)	Thin Client Support (Tiny) Others	Yes Daisy Chain	
DIMENSIONS (W x D x H)		ENVIRONMENTAL	
Size Packed (mm) (inches) Size Unpacked with Stand (mm) (inches) Size Unpacked without Stand (Monitor Head Only) (mm) (inches) Distance from Table to Panel (mm / inches) Lowest Pixel at Bottom of Screen Highest Pixel at Top of Screen Stand Base Footprint Area (mm / inches) Weight Packed Unpacked Monitor Head Only Full Container Load (40' STD / 20' STD)	635 x 188 x 422 25" x 7.4" x 16.61" 540.2 x 261.75 x 373.4 21.26" x 10.3" x 14.7" 540.2 x 42 x 325.98 21.26" x 1.65" x 12.83" 70.64 / 2.78" 366.99 / 14.45" 250 x 250 / 9.84" x 9.84" Starting at 19.69 lbs (8.93 kg) Starting at 12.35 lbs (5.6 kg) Starting at 8.22 lbs (3.73 kg) 1050 Units / 500 Units	Temperature Operating Non-operating Humidity Operating Non-operating Altitude Operating Non-operating Ambient Operating Temperature Heat Dissipation Typical Maximum Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins	0 °C - 40 °C -20 °C - 60 °C 10% - 80% 5% - 95% 0 m - 5000 m 0 ft - 40,000 ft 0 °C - 40 °C 75.02 Btu/h 228.47 Btu/h Yes Yes (Without Cable) Yes >85%
SIGNAL INPUT		SIGNAL INTERFACE / PERFO	RMANCE
Video Input Cianala	2 v UDMI 1 4	Harizantal Fraguency	EO U- 76 U-

Video Input Signals	2 x HDMI 1.4 DisplayPort 1.2 Mini DisplayPort DisplayPort-Out
Video Cables Supplied	Mini DisplayPort - DisplayPort Cable
Video Cable Length	1.8 m
Daisy Chain Support	Yes
USB Hub	USB 3.01 (1 x Up,
	4 x Down (1 x BC 1.2)
USB Cable Supplied	Yes
USB Cable Length	1.8 m
Audio-Out	Yes (3.5 mm)

Horizontal Frequency	50 Hz - 76 Hz
Vertical Frequency	30 kHz - 99 KHz
Native Resolution	2560 x 1440
Maximum Pixel Clock Speed /	
Bandwidth	
HDMI	300 MHz
DisplayPort	5.4 GHz
Default Color Temperature	6500K
Preset/User Modes	20/24
On Screen Display (OSD) Controls	
Buttons	5 Buttons
Languages	English, French, German, Spanish, Italian, Japanese,
	Spariisti, Italiati, Japanese,

#### **POWER CONSUMPTION**

24 W 67 W Typical Maximum <0.5 W Sleep-Mode <0.5 W Off-Mode Power Supply Internal Power Voltage 90 VAC - 264 VAC 47 Hz - 63 Hz Voltage Dynamic Frequency

## **CERTIFICATIONS**

TCO TCO 7.0 / TCO Edge 2.0 GREENGUARD VOC RoHS (EU 2002/95/EC) Yes Windows 7 / Windows 10 Windows Certification Image Quality Capability ISO 9241-307 Reduction of Hazardous Substances Arsenic-Free / Mercury-Free China Energy Efficiency Standard

Tier 2

Simplified Chinese, Russian

#### WARRANTY AND AVAILABILITY

Geography Availability ThinkVision Logo Global Model Warranty

Worldwide Yes Yes





Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.

## ThinkVision P24a-20

#### **DISPLAY**

Panel Size

23.8-inch

Screen Dimensions

526.85 mm x 296.35 mm

Panel Type

3-side NearEdgeless In-Plane Switching

Backlight

WIFD

Aspect Ratio

16:9

Resolution

2560 x 1440

Pixel Pitch

0.2058 x 0.2058 mm

Dot/Pixel Per Inch (DPI/PPI)

123

Viewing Angle (H x V @ CR 10:1)

178° / 178°

**Response Time** 

4ms (extreme mode) 6ms (normal mode)

Refresh Rate

60 Hz

Brightness (typical)

300 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M:1

Color Gamut

99% sRGB, 99% BT.709, 84 % DCI-P3

Color Support (typical)

16.7 Million

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x HDMI 1.4 1 x DP 1.2 1 x DP 1.2 (out)

**Audio Signal** 

1 x Audio Out (3.5 mm)

USB Hub

Yes

**USB Upstream** 

1 x USB3.1 Gen1 Type-B

USB Downstream

4 x USB3.1 Gen1 (1 x BC1.2)

SPECIAL FEATURES

**Factory Calibration** 

Yes (Avg. Delta E<2)

**POWER** 

Power Consumption (typical/max)

20W / 61W

Power Consumption Sleep/Off Mode

≤ 0.5W

Power Consumption Switch-off Mode

≤ 0.3W

ENERGY STAR Power Consumption

 $(P_{op}/E_{TEC})$ 

16.04W / 51.61kWh

**Power Supply** 

Internal

Voltage Required

AC 100 to 240 V (47-63 Hz)

**MECHANICAL** 

Tilt Angle (front/back)

-5° / 35°

Swivel Angle (left/right)

+45° / -45°

Lift (Max range)

150 mm

Pivot

-90° / 90°

**VESA Mount Capability** 

Yes (100 X 100 mm)

**Kensington Lock Slot** 

Yes

Cable Management

Yes

Bezel Color

Raven Black

Bezel Width (side)

2.0 mm

Bezel Width (top/bottom)

2.0 / 21.4 mm

DIMENSION

Size Packed (D x H x W, mm/inch)

620 x 149 x 423 mm / 24.4 x 5.9 x 16.7 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

205 x 420 x 539.8 mm / 8.07 x 16.5 x 21.3 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position)

 $205 \times 570 \times 539.8 \text{ mm} / 8.07 \times 22.4 \times 21.3 \text{ inches}$ 

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch)

44.6 x 325.7 x 539.8 mm / 1.8 x 12.8 x 21.3 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 117.9 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 415 mm

Weight Packed (kg/lbs.) 8.1 kg / 17.86 lbs. Weight Unpacked (kg/lbs.) 6.18 kg / 13.6 lbs. Weight (monitor head only) (kg/lbs.)

3.85 kg / 7.89 lbs.

Full Container Load (40' STD / 20' STD)

1395 / 645 units

WHAT'S IN THE BOX

MONITOR WITH STAND

1 X POWER CABLE (1.8 M) 1 X DP CABLE (1.8 M)

1 X USB TYPE-A TO TYPE-B CABLE (1.8 M)

FACTORY CALIBRATION REPORT

QUICK SETUP GUIDE

**CERTIFICATION** 

**ENERGY STAR Rating** 

8.0

CCC Yes

TCO

8.0

TCO Edge

2.0

**EPEAT** Silver

Yes

Windows Certification

RoHS (EU 2002/95/EC)

Windows 7. Windows 10

China Energy Efficiency Standard

Tier 1

TÜV Rheinland Eye Comfort

/es











Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Genl; 10 Gbit/s for USB 3.1 Genl; 20 Gbit/s for USB 3.2.

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#### Think Vision S24e-10

**DISPLAY** 

Panel Size

23.8-inch

Screen Dimensions (H x V)

527.04 x 296.46 mm

**Panel Type** 

3-side NearEdgelss, VA

Backlight

WLED

Aspect Ratio

16:9

Resolution

1920 x 1080

Pixel Pitch (H x V)

0.2745 x 0.2745 mm

Dot/Pixel Per Inch (DPI/PPI)

92

Viewing Angle (H x V @ CR 10:1)

178°/178°

Response Time (gray to gray)

4 ms (Extreme Mode) 6 ms (Normal Mode)

Refresh Rate

60 Hz

Brightness (typical)

250 cd/m<sup>2</sup>

Contrast Ratio (typical)

3000:1

Dynamic Contrast Ratio (typical)

3M:1

Color Gamut NTSC (CIE 1931)

72% NTSC

Color Support

16.7 Million

CONNECTIVITY

Video Signal

1 x VGA 1 x HDMI 1.4

Video Cable Length

1.8 m

**Audio Signal** 

1 x Audio Out (3.5 mm)

**MULTI-MEDIA** 

**Optional Speakers Support** 

Yes

SPECIAL FEATURES

Sync Technology

FreeSvnc™

Thin Client Support (Tiny)

Yes (by VESA mount PN:4XF0N03161)

Anti-glare

Yes

**POWFR** 

Power Consumption (Typ./Max)

24W / 31W

Power Consumption Sleep/Off Mode

< 0.3W

**Power Consumption Switch-Off Mode** 

< 0.3W

**Power Supply** 

Internal

Voltage Required

AC 100 to 240 V (47/63 Hz)

MECHANICAL

Tilt Angle (front/back)

-5° / 22°

**VESA Mount** 

Yes (100 mm)

**Kensington Lock Slot** 

Yes

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (Side)

2.0 mm

Bezel Width (top / bottom)

2.0 / 22 mm

**DIMENSION** 

Size Packed (D x H x W)

(mm/inch)

122 x 405 x 639 mm / 4.80 x 15.94 x 25.16 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Lowest Position)

200.0 x 402.7 x 539.5 mm / 7.87 x 15.85 x 21.24 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Highest Position)

200.0 x 402.7 x 539.5 mm / 7.87 x 15.85 x 21.24 inch

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only)

41.5 x 325.7 x 539.5 mm / 1.63 x 12.82 x 21.24 inch

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 99.0 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm)

399.9 mm

Weight Packed (kg/lbs.)

4.84kg / 10.67 lbs.

Weight Unpacked (kg/lbs.)

3.36kg / 7.41 lbs.

Weight (Monitor Head Only) (kg/lbs.)

3.07kg / 6.77 lbs.

Full Container Load (40' STD / 20' STD)

1660 / 800 Units

WHAT'S IN THE BOX

Monitor with stand interchange

Quick setup guide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

8.0

CCC Yes

EPEAT

Silver

ULE

Gold

RoHS (EU 2002/95/EC)

Yes (2011/65/EU)

Windows Certification

Windows 7 Windows 10

China Energy Efficiency Standard

Tier 2

Low Blue Light

Yes











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## ThinkVision S24q-10

**DISPLAY** 

Panel Size

23.8-inch

Screen Dimensions

526.85 mm x 296.35 mm

Panel Type

3-side NearEdgeless In-Plane Switching

Backlight

WLED

Aspect Ratio

16:9

Resolution

2560 x 1440

Pixel Pitch

0.2058 x 0.2058 mm

Dot/Pixel Per Inch (DPI/PPI)

124

Viewing Angle (H x V @ CR 10:1)

178° / 178°

**Response Time** 

4ms (extreme mode)

Refresh Rate

60 Hz

**Brightness (typical)** 

240 cd/m<sup>2</sup>

Brightness (peak)

300 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M:1

**Color Gamut** 

> 99% sRGB

Color Support (typical)

16.7 Million

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x HDMI 1.4 1 x DP 1.2

**Audio Signal** 

1 x Audio Out (3.5 mm)

SPECIAL FEATURES

**Tiny Support** 

Yes

**POWER** 

Power Consumption (typical/max)

20W / 31W

Power Consumption Sleep/Off Mode

< 0.5W

**Power Consumption Switch-off Mode** 

< 0.3W

Power Supply

Internal

Energystar Power Consumption  $(P_{on}/E_{TEC})$ 

16.76 W / 52.75 kWh

Voltage Required

AC 100 to 240 V (47/63 Hz)

MECHANICAL

Tilt Angle (front/back)

-5° / 22°

**VESA Mount Capability** 

Yes (100 x 100 mm)

Kensington™ Lock Slot

Yes

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (side)

2 mm

Bezel Width (top/bottom)

2 / 21.4 mm

**DIMENSION** 

Size Packed (D x H x W, mm/inch)

122 x 405 x 639 mm / 4.80 x 15.94 x 25.16 inches

Size Unpacked w/stand (D x H x W, mm/inch) (lowest position)

200 x 402.7 x 539.8 mm / 7.87 x 15.85 x 21.25 inches

Size Unpacked w/stand (D x H x W, mm/inch) (highest position)

200 x 402.7 x 539.8 mm / 7.87 x 15.85 x 21.25 inches

Size Unpacked w/o Stand (D x H x W, mm/inch) (head only)

42 x 325.7 x 539.8 mm / 1.65 x 12.82 x 21.25 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 98.4 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 399.9 mm

Weight Packed (kg/lb) 5.10 kg / 11.24 lbs.

Weight Unpacked (kg/lb) 3.50 kg / 7.72 lbs.

Weight (monitor head only) (kg/lb) 3.21 kg / 7.08 lbs.

Full Container Load (40' STD / 20' STD) 1660 / 800 units

WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x HDMI cable (1.8 m) Quick setup guide

**CERTIFICATION** 

**ENERGY STAR® Rating** 

8.0

CCC

Yes

**TCO** 

TCO Edge

2.0

EPEAT™

Silver

RoHS (EU 2002/95/EC)

Yes

Tier 1

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

TÜV Eye Comfort

Yes















Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2 Gen2 & 20 Gbit/s for USB 3.2.

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## ThinkVision T24d-10 MONITOR

## **SPECIFICATIONS**

DISPLAY		DIMENSIONS (W x D x H)	
Panel Size Panel Type Resolution Backlight Aspect Ratio Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DPI/PPI) Anti-Glare Screen Dimensions (W x H) (mm) (inches) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Color Gamut (CIE 1931) Display Colors (Typical) Response Time Extreme Typical Off	24" In-Plane Switching 1920 x 1200 WLED 16:10 0.27 x 0.27 94 PPI Yes  518.4 x 324 20.41" x 12.75" 300 cd/m² 178°/178° 1000:1 3M:1 99% sRGB 16.7 Million  4 ms 7 ms 15 ms	Size Packed (mm) (inches) Size Unpacked with Stand (mm) (inches) Size Monitor Head Only (mm) (inches) Distance from Table to Panel Lowest Pixel at Bottom of Screen (mm / inches) Highest Pixel at Top of Screen (mm / inches) Stand Base Footprint Area (mm) (inches) Weight Packed Unpacked Monitor Head Only	160 x 655 x 422 6.3" x 25.79" x 16.61" 533.2 x 260.4 x 497.4 20.99" x 10.25" x 19.58" 533.2 x 42.3 x 355.1 20.99" x 1.67" x 13.98" 56 / 2.2" 490 / 19.29" 250 x 250 9.84" x 9.84" Starting at 19.18 lbs (8.7 kg) Starting at 12.41 lbs (5.63 kg) Starting at 8.77 lbs (3.98 kg)
CICNIAL INDUIT		DOWED CONCUMPTION	

Video Input Signals	VGA + DisplayPort 1.2 + HDMI 1.4
Video Cables Supplied	VGA + DisplayPort + HDMI
Video Cable Length	1.8 m
USB Hub	USB 3.01
USB Cable Supplied	Yes
Audio-Out	Yes (3.5 mm)

## SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency	30 kHz - 83 KHz 50 Hz - 75 Hz
Native Resolution	1920 x 1200
Maximum Pixel Clock Speed/ Bandwidth	
VGA	205 MHz
HDMI™	165 MHz
DisplayPort™	165 MHz
Default Color Temperature	6500 K
Preset Display Modes	20
OSD Buttons	5
OSD Languages	English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian

#### **MECHANICAL**

Tilt Angle (Front / Back)	-5°/ 30°
Swivel Angle (Left / Right)	+/-45°
Lift (mm)	110
Pivot	+/-90°
VESA® Mount (mm x mm)	100 x 100
Cable Management	Yes
Kensington® Lock	Yes
Bezel Color	Business Black
Bezel Width	
Top (mm / inches)	2 / 0.08"
Bottom (mm / inches)	22.7 / 0.89"
Sides (mm / inches)	2 / 0.08"

<sup>\*</sup> NA only.

## POWER CONSUMPTION

Typical	22 W
Maximum	64 W
Sleep-Mode	<0.3 W
Switch Off-Mode	<0.3 W
Power Supply	Internal
Power Voltage	100 VAC - 240 VAC
Voltage Dynamic Frequency	50 Hz - 60 Hz

#### **ENVIRONMENTAL**

Temperature Operating	0°C - 40°C
Non-Operating	-20°C - 60°C
Humidity	20 C 00 C
Operating	10% - 80%
Non-Operating	5% - 95%
Altitude	
Operating	0 m - 5000 m
Non-Operating	0 ft - 40,000 ft
Arsenic-Free Glass	Yes
PVC-Free	Yes
Mercury-Free	Yes
PCC % of Plastic Resins	>85%

#### **COMPLIANCE**

EPEAT	Silver
ENERGY STAR Rating	8.0
ULE	Gold
TCO	TCO Display 7.0 / TCO Edge 2.0
RoHS (EU 2002/95/EC)	Yes
China Energy Efficiency Standard	Tier 2
Windows Certification	Windows 7 / Windows 10

#### WARRANTY AND AVAILABILITY

Warranty 3 Years Geography Availability WW





Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.













#### Think Vision T24h-20

#### **DISPLAY**

Panel Size

23.8-inch

Screen Dimensions

526 85 mm x 296 35 mm

Panel Type

3-side NearEdgeless In-Plane Switching

Backlight

WLED

Aspect Ratio

16.9

Resolution

2560 x 1440

Pixel Pitch

0.2058 x 0.2058 mm

Dot/Pixel Per Inch (DPI/PPI)

Viewing Angle (H x V @ CR 10:1)

178° / 178°

Response Time

4ms (extreme mode) 6ms (normal mode)

Refresh Rate

60 Hz

Brightness (typical)

300 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000:1

**Dynamic Contrast Ratio** (typical)

3M:1

Color Gamut

99% sRGB

Color Support (typical)

16.7 Million

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x USB Type-C Gen1 (DP 1.2 Alt Mode) 1 x HDMI 1.4 1 x DP 1.2

**Audio Signal** 

1 x Audio Out (3.5 mm)

**USB Hub** 

Yes

**USB** Upstream

1 x USB 3.1 Gen1 (by USB Type-C)

**USB** Downstream

4 x USB 3.1 Gen1 (1 BC)

**POWER** 

**Power Consumption** (tvp./max.)

23W / 120W

**Power Consumption** Sleep/Off Mode

< 0.5W

**Power Consumption** Switch-off Mode

< 0.3W

**ENERGY STAR Power** Consumption (Pon/ETEC)

16.36W / 53.37kWh

**Power Supply** 

Internal

USB Type-C Power Delivery (W)

up to 75W\*

**Smart Power** 

Yes

Voltage Required

AC 100 to 240 V (47-63 Hz)

**MECHANICAL** 

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45°/ -45°

Lift (max range) 150 mm

Pivot -90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

Kensington Lock Slot

Yes

Cable Management

Bezel Color

Raven Black

Bezel Width (side)

2.0 mm

Bezel Width (top/bottom) 2.0 / 24.1 mm

**DIMENSIONS** 

Size Packed (D x H x W. mm/inch)

620 x 149 x 423 mm 24 4 x 5 9 x 16 7 inches

Size Unpacked w/ Stand (D x H x W. mm/inch) (lowest position)

205 x 420 x 539.8 mm 8.07 x 16.5 x 21.3 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 205 x 570 x 539.8 mm

8.07 x 22.4 x 21.3 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch)

44.6 x 325.7 x 539.8 mm 1.8 x 12.8 x 21.3 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 117.9 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm)

Weight Packed (kg/lbs.) 8.1 kg / 17.86 lbs.

415 mm

Weight Unpacked (kg/lbs.) 6.18 kg / 13.6 lbs.

Weight (monitor head only) (kg/lbs.)

3.85 kg / 7.89 lbs.

**Full Container Load** (40' STD / 20' STD) 1395 / 645 units

WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m)

1 x DP cable (1.8 m) (NA only) 1 x USB Type-C to Type-C cable (1.8 m) 1 x USB Type-C to Type-A cable (1.8 m)

(NA only) Quick setup guide

CERTIFICATIONS

**ENERGY STAR Rating** 

CCC

Yes

TCO 8.0

TCO Edge 2.0

**EPEAT** Silver

RoHS (EU 2002/95/EC)

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

TÜV Rheinland Eye Comfort













\*Listed as maximum capacity of power delivery. Actual capacity of power delivery may vary depending upon devices connected or monitor configuration, and may decline with downstream USB ports connected or higher

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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## Think Visinn t24i-10 MONITOR



## **SPECIFICATIONS**

#### **DISPLAY**

Panel Size Panel Type Backlight Resolution (H x V) Aspect Ratio Anti-Glare Near Edgeless Screen Screen Dimensions (W x H) (mm) (inches)

Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Color Gamut (CIE 1931) Color Support (Typical)

Response Time (gray to gray) OSD Controls Buttons Languages

23.8" Wide In-Plane Switchng

WIFD 1920 x 1080 16:9 Yes Yes

527.04 x 296.46 20 75" x 11 67' 250 cd/m<sup>2</sup> 178°/178° 1000:1 3M:1 0.2745 x 0.2745

72% NTSC 16.7 Million 4 ms (Extreme mode) 6 ms (Normal mode)

English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian

#### DIMENSIONS (W x D x H)

Size Packed (mm) 422 x 622 x 190 (inches) 16 61" x 24 48" x 7 48" Size Unpacked with Stand Lowest Position

540.2 x 261.75 x 373.4 (mm) (inches) 21.26" x 10.3" x 14.7" Highest Position

540.2 x 261.75 x 483.4 (mm) 21.26" x 10.3" x 19" (inches) Size Unpacked without Stand

(Monitor Head Only) (mm) 540 2 x 46 45 x 325 98 (inches) 21.26" x 1.82" x 12.83"

Stand Base Footprint Area (mm) 250 x 250 (inches) 9.84" x 9.84"

Weight Packed Starting at 16.39 lbs (7.45 kg) Unpacked Starting at 11.33 lbs (5.15 kg) Monitor Head Only Starting at 7.26 lbs (3.3 kg) Full Container Load

1140 / 540 Units

#### CONNECTIVITY

VGA + HDMI 1.4 + Video Input Signals DisplayPort 1.2 Video Cables Supplied (Length) 1.8 m

USB Hub

Audio Out

1 x USB 3.01 (Upstream) 4 x USB 3.01

(Downstream, Incl. 1 BC)

. Yes (3.5 mm)

Raven Black

### POWER CONSUMPTION

(40' STD / 20' STD)

16.5 W Typical Maximum 55 W <0.5 W Sleep-Mode Switch Off-Mode <0.3 W Power Supply Internal

Power Voltage 90 VAC - 264 VAC

#### **MECHANICAL**

-5°/ 30° Tilt Angle (Front / Back) Swivel Angle (Left / Right) +/-45° Lift Range (mm) 110 +/-90° Pivot Cable Management Yes Kensington Lock Yes Yes (100 X 100)

VESA Mount (mm x mm) Bezel Color

Bezel Width

Top (mm / inches) 2 / 0.08" Sides (mm / inches) 2 / 0.08"

#### WHAT'S IN THE BOX

Monitor with Stand 1 x Power Cable 1 x VGA Cable 1 x DisplayPort - DisplayPort Cable 1 x HDMI Cable (NA Only) Quick Setup Guide

#### **CERTIFICATIONS**

EPEAT Silver **ENERGY STAR Rating** 8.0 TCO 7.0 TCO Edge 2.0 Gold ULE Yes RoHS (EU 2002/95/EC) China Energy Efficiency Standard Tier 2

Windows 7 / Windows 10 Windows Certification

TüV Eye Comfort Certification Yes

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.

















## Think Vision T24i-19 MONITOR



## SPECIFICATIONS

#### **DISPLAY**

Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Near Edgeless Screen

Screen Dimensions (W x H) (mm)

(inches) Brightness

Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio

Speakers Pixel Pitch (mm) Color Gamut (CIE 1931) Color Depth

Color Support (Typical) Response Time (GtG) Extreme / Normal **OSD Controls** 

Buttons Languages

23.8" Wide In-Plane-Switching

WLED FHD (1920 x 1080)

16:9

Yes Yes

527.04 x 296.46 20.75" x 11.67" 250 nits 178°/178° 1000:1 3M:1 2 x 2W 0.2745 x 0.2745 72% NTSC 8 hit 16.7 Million

4 ms / 6 ms

5

English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian

#### DIMENSIONS (W x D

Size Packed (mm) 422 x 622 x 190 (inches) 16.61" x 24.48" x 7.48"

Size Unpacked with Stand Lowest Position

(mm) (inches) **Highest Position** 

(mm)

(inches) Size Unpacked without Stand

(Monitor Head Only) (mm) (inches)

Stand Base Footprint Area

(mm) (inches) Weiaht Packed Unpacked Monitor Head Only

Full Container Load (40' STD / 20' STD)

540.2 x 261.75 x 373.4 21.26" x 10.3" x 14.7"

540.2 x 261.75 x 483.4 21.26" x 10.3" x 19"

540 2 x 46 45 x 325 98 21.26" x 1.82" x 12.83"

250 x 250 9.84" x 9.84"

Starting at 16.39 lbs (7.45 kg) Starting at 11.33 lbs (5.15 kg) Starting at 7.26 lbs (3.3 kg) 1140 / 540 Units

#### CONNECTIVITY

Video Input Signals VGA + HDMI + DisplayPort Video Cables Supplied VGA, DisplayPort, USB, Power, HDMI (for NA only) USB Hub USB 3.01 (4 x down, 1 x BC) Audio Out Yes (3.5 mm) Internal Power Soundbar Support\* Yes

#### **MECHANICAL**

Tilt Angle (Front / Back) -5°/ 30° Swivel Angle (Left / Right) +/-45° 110 Lift Range (mm) +/-90° Pivot LTPS Stand Cable Management Yes Kensington Lock Yes VESA Mount (mm x mm) Yes (100 X 100) Bezel Color Raven Black Bezel Width 2 / 0.08" Top (mm / inches) Sides (mm / inches) 2 / 0.08"

#### Optional.

### POWER CONSUMPTION

Typical 16.5 W Maximum 59 W <0.5 W Sleep-Mode Switch Off-Mode <0.3 W Power Supply Internal Power Voltage

90 VAC - 264 VAC ENERGY STAR (Pon) 13.67 W

ENERGY STAR (E<sub>TEC</sub>) 43.51 kWh

#### WHAT'S IN THE BOX

Monitor with Stand 1 x Power Cable 1 x VGA Cable 1 x DisplayPort - DisplayPort Cable 1 x HDMI Cable (NA Only) Quick Setup Guide

## **CERTIFICATIONS**

**EPEAT** Silver **ENERGY STAR Rating** 8.0 TCO 7.0 TCO Edge 2.0 ULF Gold RoHS (EU 2002/95/EC) Yes China Energy Efficiency Standard Tier 2 Windows Certification Windows 7 / Windows 10

TüV Eye Comfort Certification Yes TINY Support Yes





Depending on many factors such as the processing capability of peripheral devices, file attributes and other factors related to system configuration and operating environments, the actual transferate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.













#### Think Vision T24i-20

#### **DISPLAY**

Panel Size

23.8-inch

Screen Dimensions

527.04 mm x 296.46 mm

Panel Type

3-side NearEdgeless In-Plane Switching

Backlight

WLED

**Aspect Ratio** 

16:9

Resolution

1920 x 1080

**Pixel Pitch** 

0.2745 x 0.2745 mm

Dot/Pixel Per Inch (DPI/PPI)

Viewing Angle (H x V @ CR 10:1)

178° / 178°

**Response Time** 

4ms (extreme mode)

Refresh Rate

60 Hz

**Brightness (typical)** 

250 cd/m<sup>2</sup>

Brightness (peak)

250 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical) Power Consumption

3M:1

**Color Gamut** 

72% NTSC (CIE 1931)

Color Support (typical)

16.7 Million

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x HDMI 1.4 1 x DP 1.2 1 x VGA

**Audio Signal** 

1 x Audio Out (3.5 mm)

**USB Hub** 

Yes

**USB** Upstream

1 x USB 3.2 Gen1

**USB** Downstream

4 x USB 3.2 Gen1 (1 x BC 1.2)

**MULTI-MEDIA** 

**Optional Soundbar Support** 

Yes (PN 0A36190)

**POWFR** 

**Power Consumption** (typ./max.)

14W / 55W

**Power Consumption** Sleep/Off Mode

< 0.5W

Switch-off Mode

< 0.3W

**ENERGY STAR Power** Consumption  $(P_{op}/E_{TEC})$ 

12.35W / 38.83kWh

**Power Supply** 

Internal

Voltage Required

AC 100 to 240 V (50-60 Hz)

**MECHANICAL** 

Tilt Angle (front/back)

-5° / 35°

Swivel Angle (left/right)

+45° / -45°

Lift (max. range)

150 mm

Pivot

-90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

**Kensington Lock Slot** 

Yes

**Tiny Bracket Support** 

Yes (sold separately)

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (side)

2.0 mm

Bezel Width (top/bottom)

2.0 mm / 22.2 mm

**DIMENSION** 

Size Packed (D x H x W, mm/inch)

422.0 x 187.0 x 622.0 mm 16.61 x 7.36 x 24.49 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

205.0 x 409.3 x 539.8 mm 8.07 x 16.11 x 21.25 inches

Size Unpacked w/ Stand (D x H x W. mm/inch) (highest position)

205.0 x 559.3 x 539.8 mm 8.07 x 22.02 x 21.25 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch)

46.8 x 326.5 x 539.8 mm 1.84 x 12.85 x 21.25 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm)

106.62 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm)

557.0 mm

Weight Packed (kg/lbs.)

8.17 kg/18.01 lbs

Weight Unpacked (kg/lbs.) 5.90 kg/13.01 lbs.

Weight (monitor head only) (kg/lbs.)

3.30 kg/7.28 lbs.

**Full Container Load** (40' STD/20' STD)

1140/540 units

WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) 1 x USB Type-A to B cable (1.8 m)

CERTIFICATION

Quick setup guide

**ENERGY STAR Rating** 

CCC Yes

TCO 8.0

TCO Edge 2.0

**EPEAT** Silver

RoHS (EU 2002/95/EC)

Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard

TÜV Rheinland Eye Comfort













Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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## Think Visinn T24m-10 MONITOR

## **SPECIFICATIONS**

ח	ISDI	ΙΔΥ

Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare

Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio (Typical)

Pixel Pitch (mm) Dot/Pixel Per Inch (DPI/PPI) Color Gamut (CIE 1931)

Response Time (gray to gray)

### DIMENSIONS (W x D x H)

Size Packed 422 x 622 x 190 (mm) 16.61" x 24.48" x 7.48" (inches)

Size Unpacked with Stand **Lowest Position** 

540.2 x 261.75 x 373.4 (mm) 21.26" x 10.3" x 14.7" (inches)

**Highest Position** 

540.2 x 261.75 x 483.4 (mm) 21.26" x 10.3" x 19" (inches)

Size Unpacked without Stand (Monitor Head Only)

(mm) 540.2 x 46.45 x 325.98 (inches) 21.26" x 1.82" x 12.83"

Distance from Table to Panel Lowest Pixel at Bottom of Screen (mm / inches)

Highest Pixel at Top of Screen

(mm / inches) 476.8 / 18.77"

Stand Base Footprint Area

(mm / inches)

Weight

Packed Unpacked Monitor Head Only Full Container Load

250 x 250 / 9.84" x 9.84"

70.37 / 2.77"

Starting at 16.39 lbs (7.45 kg) Starting at 11.33 lbs (5.15 kg) Starting at 7.26 lbs (3.3 kg)

1140 / 540 Units (40' STD / 20' STD)

### **POWER CONSUMPTION**

Typical Maximum Sleep-Mode Switch Off-Mode **Power Supply** Power Voltage Voltage Dynamic Frequency 19 W 116 W <0.5 W <0.5 W Internal 90 VAC - 264 VAC 47 Hz - 63 Hz

23.8"

WLED

16:9

Yes

1920 x 1080

250 cd/m<sup>2</sup>

72% NTSC

178°/178°

1000:1

3M:1

92

In-Plane Switching

527.04 (H) x 296.46 (V)

0.2745 (H) x 0.2745 (V)

4 ms (Extreme mode) 6 ms (Normal mode)

## CONNECTIVITY

Video Input Signals Video Cables Supplied Video Cable Length

**USB Hub** 

HDMI 1.4 + DisplayPort 1.2a + USB Type-C USB Type-C to Type-C Cable

1.8 m

Yes

-5° / 30°

+/-45°

+/-90°

Yes (100 x 100)

110

1 x USB 3.01 (Upstream, by USB Type-C)

4 x USB 3.01 (Downstream, incl. 1BC) Yes (3.5 mm)

Audio-Out

#### SPECIAL FEATURES

Thin Client Support (Tiny)

(by Tiny Clamp Bracket Kit + VESA Mount)

## WHAT'S IN THE BOX

Monitor with Stand 1 x Power Cable

1 x USB Type-C<sup>™</sup> to Type-C<sup>™</sup> Cable

Quick Setup Guide

#### **MECHANICAL**

Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift Range (mm) VESA Mount (mm x mm) Kensington Lock Slot

Bezel Width

Yes Cable Management Yes Bezel Color Raven Black 2 / 0.08" Top (mm / inches) Sides (mm / inches) 2 / 0.08"

#### **CERTIFICATIONS**

**EPEAT** Silver **ENERGY STAR Rating** 8.0 ULE Gold

TCO 7.0 / TCO Edge 2.0 RoHS (EU 2002/95/EC) Yes

Windows Certification Windows 7 / Windows 10

China Energy Efficiency Standard Tier 2 TüV Eye Comfort Certification Yes

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.

















# ThinkVision T24v-10 MONITOR

## **SPECIFICATIONS**

DISPLAY		ENVIRONMENTAL	
Panel Size Panel Type Backlight Resolution	23.8" In-Plane Switching WLED 1920 x 1080	Temperature Operating Non-Operating	0°C - 40°C -20°C - 60°C
Aspect Ratio Anti-Glare Screen Dimensions (W x H) (mm) Maximum Brightness (Typical)	16:9 Yes 527.04 x 296.46 250 cd/m <sup>2</sup>	Humidity Operating Non-Operating Altitude	10% - 80% 5% - 95%
Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical)	178°/178° 1000:1	Operating Non-Operating	0 m - 8000 m 0 ft - 40,000 ft
Dynamic Contrast Ratio Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) Response Time (Extreme/Typical/Off)	3M:1 0.25 x 0.25 102 72% sRGB 4/6/14 ms (G-to-G)	Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins	Yes Yes Yes >85%
POWER CONSUMPTION	,, 6, (8	DIMENSIONS (W x D x H)	
Typical Maximum Sleep-Mode Switch Off-Mode Power Supply Power Voltage	20 W 45 W <0.5 W <0.3 W Internal 90 VAC - 264 VAC 47 Hz - 63 Hz	Size Packed (mm) (inches) Size Unpacked with Stand Lowest Position (mm)	608 × 395 × 187 23.94" × 15.55" × 7.36" 540.2 × 261.9 × 390.5
Voltage Dynamic Frequency  SIGNAL INPUT	4/ nz - 03 nz	(inches) Highest Position	21.28" x 10.32" x 15.39"
Video Input Signals	HDMI 1.4 + DisplayPort 1.2 + VGA	(mm) (inches)	540.2 x 261.9 x 500.5 21.28" x 10.32" x 19.72"
Video Cables Supplied  Video Cable Length USB Hub USB Cable Supplied Audio-Out	HDMI (ROW) + DisplayPort + VGA + USB 3.0 <sup>1</sup> 1.8 m Yes Yes Yes (3.5 mm)	Size Unpacked without Stand (Monitor Head Only) (mm) (inches) Distance from Table to Panel	540.2 x 43.8 x 343.7 21.27" x 1.72" x 13.53"
SIGNAL INTERFACE / PERFO	DRMANCE	Lowest Pixel at Bottom of Screen (mm / inches)	69.6 / 2.74"
Horizontal Frequency Vertical Frequency	30 kHz - 81 kHz 50 Hz - 75 Hz	Highest Pixel at Top of Screen (mm / inches)	69.6 / 2.74"
Native Resolution Maximum Pixel Clock Speed/ Bandwidth	1920 x 1080 VGA : 205 MHz HDMI : 165 MHz DisplayPort : 165 MHz	Stand Base Footprint Area (mm / inches) Weight	242.5 x 212.8 / 9.55" x 8.38"
Default Color Temperature Preset/User Modes OSD Buttons OSD Languages	6500K 27/21 5+2 Buttons English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian	Packed Unpacked Monitor Head Only	Starting at 15.78 lbs (7.16 kg) Starting at 11.18 lbs (5.07 kg) Starting at 7.3 lbs (3.31 kg)

#### **MECHANICAL**

Swivel Angle (Left / Right) +/-45°	
Swiver Angle (Left / Right) -/ 45	
Lift (mm) Yes (110)	
Pivot +/-90°	
VESA Mount (mm) Yes (100 x 100)	
Kensington Lock Slot Yes	
Cable Management Yes	
Bezel Color Raven Black	
Bezel Width	
Top (mm / inches) 2 / 0.08"	
Bottom (mm / inches) 22 / 0.87"	
Sides (mm / inches) 2 / 0.08"	

### COMPLIANCE

## WARRANTY AND AVAILABILITY

Warranty ROW

3 Years PRC 18 Months WW Geography Availability





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Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the darates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.













#### ThinkVision T24v-20

#### **DISPLAY**

Panel Size 23.8-inch

Screen Dimensions 527.04 x 296.46 mm

Panel Type
3-side NearEdgeless
In-Plane Switching

Backlight WLFD

Aspect Ratio

Resolution 1920 x 1080

**Pixel Pitch** 0.2745 x 0.2745 mm

Dot/Pixel Per Inch (DPI/PPI)

Viewing Angle (H x V @ CR 10:1) 178° / 178°

Response Time 4ms (extreme mode)

Refresh Rate 60 Hz

Brightness (typical) 250 cd/m<sup>2</sup>

Brightness (peak) 250 cd/m<sup>2</sup>

Contrast Ratio (typical)

**Dynamic Contrast Ratio (typical)** 3M:1

Color Gamut 72% NTSC (CIE 1931)

Color Support (typical) 16.7 Million

Anti-glare Yes

#### CONNECTIVITY

Video Signal 1 x HDMI 1.4 1 x DP 1.2 1 x VGA

Audio Signal

1 x Audio combo (3.5 mm; in/out)

USB Hub Yes

**USB Upstream** 1 X USB 3.2 Gen1

USB Downstream 2 x USB 3.2 Gen1 (1 x BC 1.2)

#### **MULTI-MEDIA**

Integrated Webcam

Integrated Microphone

Integrated Speakers  $Yes (2 \times 3W)$ 

**POWER** 

Power Consumption (typical/max) 13W / 44W

Power Consumption Sleep/Off Mode < 0.5W Power Consumption Switch-off Mode < 0.3W

ENERGY STAR Power Consumption (P<sub>on</sub>/E<sub>TEC</sub>) 11.36W / 35.68kWh

Power Supply Internal

Voltage Required AC 100 to 240 V (50-60 Hz) Size Unpacked w/ Stand

#### **MECHANICAL**

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45° / -45°

**Lift (max range)** 150 mm

**Pivot** -90° / 90°

VESA Mount Capability Yes (100 x 100 mm)

**Tiny Bracket Support** Yes (sold separately)

Kensington Lock Slot Yes

Cable Management

**Bezel Color** Raven Black

Bezel Width (side) 1.8 mm

Bezel Width (top/bottom)

1.8 / 22.0 mm

#### DIMENSION

**Size Packed (D x H x W, mm/inch)** 418.0 x 187.0 x 644.0 mm 16.46 x 7.36 x 25.35 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position) 205.0 x 434.0 x 539.8 mm 8.07 x 17.0 x 21.2 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position)

205.0 x 584.0 x 539.8 mm 8.07 x 23.0 x 21.2 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch) 48.35 x 344.3 x 539.8 mm 1.9 x 13.55 x 21.25 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 114.1 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 560.56 mm

Weight Packed (kg/lbs.) 7.86 kg/17.33 lbs.

Weight Unpacked (kg/lbs.) 5.94 kg/13.10 lbs.

Weight (monitor head only) (kg/lbs.) 3.48kg/7.67 lbs.

Full Container Load (40' STD / 20' STD) 1012/440 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) 1 x USB Type-A to Type-B cable (1.8 m) Quick setup quide

#### **CERTIFICATION**

**ENERGY STAR Rating** 8.0

**CCC** Yes

**TCO** 8.0

TCO Edge 2.0

**EPEAT** Silver

**RoHS (EU 2002/95/EC)** Yes

Windows Certification Windows 7, Windows 10

**China Energy Efficiency Standard** Tier 1

TÜV Rheinland Eye Comfort















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#### ThinkVision T25d-10

**DISPLAY** 

Panel Size

25.0 inches

Screen Dimensions (H x V)

533.45 x 338.76mm

Panel Type

In-Plane Switching

Backlight

WLED

Aspect Ratio

16:10

Resolution

1920 x 1200 pixels

Refresh Rate

60Hz

Pixel Pitch (H x V)

0.2789 x 0.2823mm

Viewing Angle (H x V)

178°/178°

Response Time (gray to gray)

4ms (extreme mode)

6ms (normal mode)

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M:1

**Brightness** (typical)

300 cd/m<sup>2</sup>

Color Gamut sRGB (CIE 1931)

99%

Color Support

16.7M

CONNECTIVITY

**Video Input Signals** HDMI 1.4 + DP 1.2 + VGA

Video Cables Supplied

DP + HDMI\*

Video Cable Length

18m

**USB Hub** 

Yes

**USB** Upstream

1 x USB 3.1 Gen1

**USB** Downstream

4 x USB 3.1 Gen1 (with 1 BC

**Audio Out** 

Yes (3.5mm)

**POWER** 

**Power Consumption** (Typical/Max)

25W/66W

**Power Consumption** Sleep/Off Mode

<0.5W

**Power Consumption** Switch Off-Mode

<0.3W

**Power Supply** 

Internal

ENERGY STAR (Pon)

16.54W

ENERGY STAR (E...)

52.06kWh

Voltage Required

100-240VAC (50/60Hz)

**DIMENSIONS** 

Size Packed (D x H x W)

706 x 450 x 160mm/ 27.79 x 17.72 x 6.30 inches

Size Unpacked w/stand  $(D \times H \times W)(mm/inch)$ (Lowest position)

260.4 x 399.5 x 548.7mm/ 10 25 x 15 73 x 21 60 inches

Size Unpacked w/stand  $(D \times H \times W)(mm/inch)$ (Highest position)

260.4 x 509.5 x 548.7mm/ 10.25 x 20.06 x 21.60 inches

Size Unpacked w/o stand  $(D \times H \times W)(mm/inch)$ (Head Only)

43.0 x 369.1 x 548.7mm/ 1.69 x 14.53 x 21.60 inches

Weight Packed

7.8ka/17.20lbs.

Weight Unpacked

5.5kg/12.13lbs.

Weight (Monitor Head Only)

3.58kg/7.89lbs.

SPECIAL FEATURES

Anti-glare

Yes

**Optional Soundbar Support** 

ThinkCentre Tiny Support

**MECHANICAL** 

Tilt Angle (front/back)

-5°/30°

Swivel Angle (left/right)

+/-45°

Lift Yes (110mm)

Pivot

+/-90°

**VESA Mount Capability** 

Yes (100 x 100mm)

**Kensington Lock Slot** 

Bezel Width (Side)

2.0mm

Bezel Width (top/bottom)

2.0/22.2mm

WHAT'S IN THE BOX

Monitor with stand

1 × Power Cable

1 × USB 3.1 Gen1 Cable

1 × HDMI Cable\*

1 × DP Cable

Quick Setup Guide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

8.0

**EU RoHS** 

Yes

CCC Yes

TCO

TCO 8.0/TCO Edge 2.0

**EPEAT** 

Silver

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

**TÜV Eye Comfort** 

Yes















\*For NA and LA only

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1: 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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#### Think Vision T25m-10

**DISPLAY** 

Panel Size

25.0 inches

Screen Dimensions (H x V)

535 45 x 338 76mm

Panel Type

In-Plane Switching

Backlight

WIFD

Aspect Ratio

16:10

Resolution

1920 x 1200 pixels

Pixel Pitch (H x V)

0.2789 x 0.2823mm

Viewing Angle (H x V)

178°/178°

Response Time (gray to gray)

4ms (extreme mode) 6ms (normal mode)

Contrast Ratio (typical)

1000:1

**Dynamic Contrast Ratio (typical)** 

3M:1

**Brightness** (typical)

300 cd/m<sup>2</sup>

Color Gamut sRGB (CIE 1931)

99%

Color Support

16 7M

CONNECTIVITY

**Video Input Signals** 

HDMI 1.4 + DP 1.2 + USB 3.1 Type-C (DP 1.2 Alt Mode)

Video Cables Supplied

USB 3.1 Type-C

Video Cable Length

1.8m

**USB Hub** 

Yes

**USB** Upstream

1 x USB 3.1 Gen1 (by USB Type-C)

**USB** Downstream

4 x USB 3.1 Gen1 (with 1 BC)

Audio Out

Yes (3.5mm)

**POWFR** 

Power Consumption (Typical/Max)

30W/150W

Power Consumption Sleep/Off Mode

<0.5W

Power Consumption Switch Off-Mode

< 0.3 W

Power Supply

Internal

ENERGY STAR (Pan)

17.05W

ENERGY STAR (ETEC)

63.12kWh

**Power Voltage** 

100-240VAC (50/60Hz)

DIMENSIONS

Size Packed (D x H x W)

706 x 450 x 160mm/ 27.79 x 17.72 x 6.30 inches

Size Unpacked w/stand (D x H x W) (mm/inch) (Lowest position)

260.4 x 399.5 x 548.7mm/ 10.25 x 15.73 x 21.60 inches

Size Unpacked w/stand (D x H x W) (mm/inch) (Highest position)

260.4 x 509.5 x 548.7mm/ 10.25 x 20.06 x 21.60 inches

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only)

43.0 x 369.1 x 548.7mm/ 1.69 x 14.53 x 21.60 inches

Weight Packed

7.8kg/17.20lbs.

Weight Unpacked

5.5kg/12.13lbs.

Weight (Monitor Head Only)

3.58kg/7.89lbs.

SPECIAL FEATURES

Anti-glare

Yes

Smart Power\*

Yes

**ThinkCentre Tiny Support** 

**Optional Soundbar Support** 

**Internal Speakers** 

Yes  $(3W \times 2)$ 

**MECHANICAL** 

Tilt Angle (front/back)

-5°/30°

Swivel Angle (left/right)

+/-45°

Lift

Yes (110mm)

Pivot

+/-90°

**VESA Mount Capability** Yes (100 x 100mm)

Kensington™ Lock Slot

2.0mm

Bezel Width (Side)

Bezel Width (top/bottom)

2.0/22.2mm

WHAT'S IN THE BOX

Monitor with stand 1 × Power Cable

1 × USB Type-C to Type-C cable

Quick Setup Guide

CERTIFICATIONS

**ENERGY STAR Rating** 

8.0

**EU RoHS** 

Yes

CCC

Yes

TCO

TCO 8.0/TCO Edge 2.0

**EPEAT** 

Silver

Windows Certification

Windows 7. Windows 10

China Energy Efficiency Standard

Tier 2

**TÜV Eye Comfort** 

Yes













\*The Smart Power function intelligently detects overall power consumption and dynamically manages the power delivery to other devices. 75W power delivery by USB Type-C can be achieved when downstream USB ports are not connected and OSD brightness setting is <31.

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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# ThinkVision P27h-10 MONITOR



## **SPECIFICATIONS**

_		_	_	
D	ıs	D	Δ	V

 Panel Size
 27" Wide

 Panel Type
 IPS

 Backlight
 WLED

 Resolution
 2560 x 1440

 Aspect Ratio
 16:9

 Anti-Glare
 Yes

 Borderless Screen
 Yes

 $\begin{array}{ll} \text{Screen Dimensions (W x H) (mm)} & 596.74 \text{ (H) x } 335.66 \text{ (V)} \\ \text{Maximum Brightness (Typical)} & 350 \text{ cd/m}^2 \\ \end{array}$ 

 Viewing Angle (H/V at CR 10:1)
 178°/178°

 Contrast Ratio (Typical)
 1000:1

 Dynamic Contrast Ratio
 3M:1

 Pixel Pitch (mm)
 0.233

 Color Gamut (CIE 1931)
 99% sRGB

 Display Colors (Typical)
 16.7 Million

 Response Time
 4/6/15 ms (G-to-G)

#### SIGNAL INPUT

Video Input Signals 2 x HDMI 1.4 + USB-C + DisplayPort 1.2 +

Video Cables Supplied (Length)

DisplayPort-Out

USB-C - USB-C Cable
(NA only: HDMI,

DisplayPort - DisplayPort, USB-C - USB-C) (1.8 m)

#### SIGNAL INTERFACE / PERFORMANCE

Audio Audio-Out

OSD Languages English, French, Italian, German, Spanish, Japanese, Chinese, Russian

#### POWER CONSUMPTION

 Typical
 38 W

 Maximum
 140 W

 Sleep-Mode
 <0.5 W</td>

 Off-Mode
 <0.5 W</td>

 Power Supply
 Internal

 Power Voltage
 100 VAC - 240 VAC

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.

#### DIMENSIONS (W x D x H)

(inches) 24.08" x 10.62" x 20.2"

Size Unpacked without Stand (Monitor Head Only)

(mm) 611.6 x 45.5 x 368.4 (inches) 24.08" x 1.79" x 14.5"

Stand Base Footprint Area

(mm / inches)

Weight

Packed Starting at 24.25 lbs (11 kg)
Unpacked Starting at 15.43 lbs (7 kg)
Monitor Head Only Starting at 11.02 lbs (5 kg)

260 x 260 / 10.24" x 10.24"

#### **MECHANICAL**

Tilt Angle (Front / Back) -5°/30°
Cable Management Yes
Kensington Lock Yes

VESA Mounting Yes (100 mm)
Bezel Color Rayen Black

Bezel Width

 Top (mm / inches)
 2 / 0.08"

 Bottom (mm / inches)
 22.9 / 0.9"

 Sides (mm / inches)
 2 / 0.08"

#### COMPLIANCE

Arsenic-Free Glass Yes PVC-Free Yes Mercury-Free Yes EPEAT Silver **ENERGY STAR Rating** 8.0 TCO 7.0 TCO Edge 2.0 TÜV Eye Comfort Certification Yes RoHS (EU 2002/95/EC) Yes China Energy Efficiency Standard

Windows Certification Windows 7 / Windows 10

















# ThinkVision P27h-20 Monitor

# **Specifications**

#### **DISPLAY**

**Panel Size** 27-inch

**Screen Dimensions** 596.74 mm x 335.66 mm

Panel Type

4-side NearEdgeless In-Plane Switching

**Backlight WLED** 

**Aspect Ratio** 

16:9

Resolution 2560 x 1440

**Pixel Pitch** 0.2331 x 0.2331 mm

Dot/Pixel Per Inch (DPI/PPI)

Viewing Angle (H x V @ CR 10:1)

178° / 178°

**Response Time** 

4ms (extreme mode) 6ms (normal mode)

Refresh Rate

60 Hz

**Brightness (typical)** 350 cd/m<sup>2</sup>

**Contrast Ratio (typical)** 

**Dynamic Contrast Ratio (typical)** 

3M:1

**Color Gamut** 

99% sRGB, 99% BT.709, 85% DCI-P3

**Color Support (typical)** 

16.7 Million

**Processor LUT** 8-bit

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x USB Type-C Gen1 (DP1.2 Alt Mode) 1 x HDMI 1.4

1x DP 12

1 x DP 1.2 (Out)

**Audio Signal** 

1x Audio Out (3.5 mm)

**USB Hub** Yes

**Ethernet** 

Yes (10M/100M/1000M)

**USB** Upstream

1 x USB 3.1 Gen1 (by USB Type-C Gen1)

**USB** Downstream

4 x USB 3.1 Gen1 (1 x BC1.2)

**MULTI-MEDIA** 

**Integrated Speakers** 

Yes (2 x 1W)

**Optional Soundbar Support** 

Yes (PN 0A36190)

**SPECIAL FEATURES** 

**Factory Calibration** 

Yes (Avg. Delta E<2)

**POWER** 

Power Consumption (typ./max.)

27W / 150W

Power Consumption Sleep/Off Mode

< 0.5W

**Power Consumption Switch-off Mode** 

< 0.3W

**ENERGY STAR Power Consumption** 

19W / 61kWh

**Power Supply** 

Internal

**USB Type-C Power Delivery (W)** 

up to 90 W\*

**Smart Power\*\*** 

Yes

**Voltage Required** 

AC 100 to 240 V (50-60 Hz)

**MECHANICAL** 

Tilt Angle (front/back)

-5° / 35°

Swivel Angle (left/right)

+45°/ -45°

Lift (max range)

135 mm

Pivot

-90° / 90°

**VESA Mount Capability** 

Yes (100 x 100 mm)

**Kensington Lock Slot** 

Cable Management

**Bezel Color** 

Raven Black

Bezel Width (side)

2.0 mm

Bezel Width (top/bottom)

2.0 / 2.0 mm

**DIMENSION** 

Size Packed (D x H x W, mm/inch)

182 x 463 x 722 mm 7.17 x 18.23 x 28.43 inches Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

208 x 441.5 x 613.8 mm 8.19 x 17.38 x 27.17 inches

Size Unpacked w/ Stand

(D x H x W, mm/inch) (highest position)

208 x 576.5 x 613.8 mm 8.19 x 22.70 x 27.17 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch)

46.9 x 353.8 x 613.8 mm 1.85 x 13.92 x 27.17 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm)

Max. Distance from Table to Panel (highest pixel at top of screen, mm)

Weight Packed (kg/lbs.)

9.55 kg / 21.01 lbs.

Weight Unpacked (kg/lbs.)

7.35 kg / 16.17 lbs.

Weight (monitor head only) (kg/lbs.)

4.87 kg / 10.71 lbs.

Full Container Load (40' STD / 20' STD)

792 / 352 units

WHAT'S IN THE BOX

Monitor with stand

1 x Power cable (1.8 m) 1 x DP cable (1.8 m) (NA only)

1 x USB Type-C to Type-C cable (1.8 m)

1 x USB Type-C to Type-A cable (1.8 m) (NA only)

Factory calibration report Quick setup guide

CERTIFICATION

**ENERGY STAR Rating** 

CCC

Yes

TCO 8.0

TCO Edge 2.0

**EPEAT** 

Silver

RoHS (EU 2002/95/EC) Yes

**Windows Certification** 

Windows 7, Windows 10

China Energy Efficiency Standard

**TÜV Rheinland Eye Comfort** 













<sup>\*</sup>Listed as maximum capacity of power delivery. Actual capacity may vary depending upon devices connected or monitor configuration, and may decline with downstream USB ports connected or higher brightness setting













# ThinkVision P27q-10 MONITOR

SPECIFICATIONS			
DISPLAY		MECHANICAL	
Panel Size Panel Type Backlight Resolution Aspect Ratio Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Minimum Brightness (Typical) Viewable Area (Diagonal) (mm / inches) Viewing Angle (H/V at CR 10:1) Viewing Angle (H/V at CR 5:1) Contrast Ratio (Typical)	27" Wide In-Plane Switching WLED 2560 x 1440, QHD 16:9 596.74 (H) x 335.66 (V) 350 cd/m² 300 cd/m² 685.8 / 27" 178°/178° 178°/178° 1000:1	Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift (mm) Pivot VESA Mount Kensington Lock Slot Cable Management Bezel Color Bezel Width Sides (mm / inches) Top (mm / inches) Bottom (mm / inches)	-5° / 30° +/-45° 110 CW/CCW 90° Yes (100 mm) Yes Yes Raven Black 2 / 0.08" 2 / 0.08" 22.9 / 0.9"
Dynamic Contrast Ratio (Typical) Pixel Pitch (mm)	3M:1 0.2331	SPECIAL FEATURES	
Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) Color Support (Typical) Response Time (Typical) Processor LUT	109 99% sRGB 16.7 Million 4/6/15 ms (G to G) True 8-bit	Anti-Glare Thin Client Support (Tiny) Others	Yes Yes Daisy Chain
DIMENSIONS (W x D x H)		ENVIRONMENTAL	
Size Packed (mm) (inches) Size Unpacked with Stand (mm) (inches) Size Unpacked without Stand (Monitor Head Only) (mm) (inches) Distance from Table to Panel (mm / inches) Lowest Pixel at Bottom of Screen Highest Pixel at Top of Screen Stand Base Footprint Area (mm / inches) Weight Packed Unpacked Monitor Head Only Full Container Load (40' STD / 20' STD)	453 x 732 X 210 17.83" x 28.82" X 8.27" 614 x 269.8 X 513 24.17" x 10.62" X 20.2" 540.2 x 42 x 325.98 21.26" x 1.65" x 12.83" 58.8 / 2.31" 504.4 / 19.86" 260 x 260 / 10.24" x 10.24" Starting at 23.8 lbs (10.8 kg) Starting at 15.43 lbs (7 kg) Starting at 10.58 lbs (4.8 kg) 800 Units / 350 Units	Temperature Operating Non-operating Humidity Operating Non-operating Altitude Operating Non-operating Ambient Operating Temperature Heat Dissipation Typical Maximum Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins	0 °C - 40 °C -20 °C - 60 °C 8% - 80% 5% - 95% 0 m - 5000 m 0 ft - 40,000 ft 0 °C - 40 °C 129.68 Btu/h 255.75 Btu/h Yes Yes Yes >85%

SIGNAL	INPUT
Video Inpu	t Signals

	DisplayPort-Out
Video Cables Supplied	Mini DisplayPort - DisplayPort Cable
Video Cable Length	1.8 m
Daisy Chain Support	Yes
USB Hub	USB 3.01 (1 x Up,
	4 x Down (1 x BC 1.2))
USB Cable Supplied	Yes
USB Cable Length	1.8 m
Audio-Out	Yes (3.5 mm)

2 x HDMI 14

DisplayPort 1.2 Mini DisplayPort

#### SIGNAL INTERFACE / PERFORMANCE

50 Hz - 76 Hz
30 kHz - 99 KHz
60 Hz (2560 x 1440)
300 MHz
5.4 GHz
6500K
20/24
5 Buttons
English, French, Italian, German, Spanish, Japanese,

#### **POWER CONSUMPTION**

38 W Typical 75 W Maximum <0.5 W Sleep-Mode Off-Mode <0.5 W **Power Supply** Internal Power Voltage 100 VAC - 240 VAC Voltage Dynamic Frequency 50 Hz - 60 Hz

#### **CERTIFICATIONS**

TCO TCO 7.0 / TCO Edge 2.0 ULE Gold VOC GREENGUARD RoHS (EU 2002/95/EC) Yes Windows Certification Windows 7 / Windows 10 Image Quality Capability ISO 9241-307 Reduction of Hazardous Substances Arsenic-Free / Mercury-Free China Energy Efficiency Standard

Chinese, Russian

#### WARRANTY AND AVAILABILITY

Geography Availability Worldwide ThinkVision Logo Yes Global Model Warranty 3 Years





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Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.













# Lenovo P27q-20

#### **DISPLAY**

Panel Size

27-inch

Screen Dimensions

596.74 mm x 335.66 mm

Panel Type

4-side NearEdgeless In-Plane Switching

Backlight

WLED

Aspect Ratio

Resolution

2560 x 1440

Pixel Pitch

0.2331 x 0.2331 mm

Dot/Pixel Per Inch (DPI/PPI) 109

Viewing Angle (H x V @ CR 10:1)

178° / 178°

Response Time

4ms (extreme mode) 6ms (normal mode)

Refresh Rate

60 Hz

**Brightness (typical)** 

350 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

Color Gamut

99% sRGB

Color Support (typical)

16.7 Million

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x HDMI 1.4 1 x DP 1.2 1 x DP 1.2 (out)

**Audio Signal** 

1 x Audio Out (3.5 mm)

**USB Hub** 

Yes

**USB Upstream** 

1 x USB3.1 Gen1 (by USB Type-B)

**USB** Downstream

4 x USB3.1 Gen1 (1 BC)

**POWER** 

Power Consumption (typical/max)

22W / 57W

Power Consumption Sleep/Off Mode

< 0.5W

Power Consumption Switch-off Mode

**ENERGY STAR Power Consumption**  $(P_{on}/E_{TEC})$ 

18W / 57kWh

**Power Supply** 

Internal

Voltage Required

AC 100 to 240 V (50-60 Hz)

**MECHANICAL** 

Tilt Angle (front/back)

-5° / 35°

Swivel Angle (left/right)

+45° / -45°

Lift (Max range)

135 mm

Pivot

-90° / 90°

**VESA Mount Capability** 

Yes (100 X 100 mm)

**Kensington Lock Slot** 

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (side)

2.0 mm

Bezel Width (top/bottom)

2.0 / 2.0 mm

DIMENSION

Size Packed (D x H x W, mm/inch)

182.0 x 463.0 x 722.0 mm /

7.17 x 18.23 x 28.43 inches

Size Unpacked w/ Stand (D x H x W. mm/inch) (lowest position)

208.0 x 441.5 x 613.8 mm / 8.19 x 17.38 x 27.17 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position)

208.0 x 576.5 x 613.8 mm / 8.19 x 22.70 x 27.17 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch)

46.9 x 353.8 x 613.8 mm / 1.85 x 13.92 x 27.17 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 97.3 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm)

Weight Packed (kg/lbs.) 9.26 kg / 20.37 lbs.

Weight Unpacked (kg/lbs.)

7.12 kg / 15.7 lbs.

567.9 mm

Weight (monitor head only) (kg/lbs.)

4.64 kg / 10.23 lbs.

Full Container Load (40' STD / 20' STD)

792 / 352 units

WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m)

1 x DP cable (1.8 m)

1 x USB Type-B to Type-A cable (1.8 m)

Quick setup guide

**CERTIFICATION** 

**ENERGY STAR Rating** 

8.0

CCC Yes

TCO 8.0

TCO Edge

2.0

**FPFAT** 

Silver

RoHS (EU 2002/95/EC)

Windows Certification

Windows 7. Windows 10

China Energy **Efficiency Standard** 

Tier 1

TÜV Rheinland Eye Comfort

Yes













Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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Cable)

Starting at 11.02 lbs (5 kg)

# ThinkVision P27u-10 MONITOR

### **SPECIFICATIONS**

of LCII ICATIONS			
DISPLAY		ENVIRONMENTAL	
Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) Color Support (Typical) Color Depth Response Time	27" In-Panel Switching WLED 3840 x 2160 16:9 Yes 596.74 (H) x 335.66 (V) 350 cd/m² 178°/178° 1000:1 3M:1 0.1554 (H) x 0.1554 (V) 163 99.5% Adobe RGB 1.07 Billion 10-bit (8+ FRC) 4/6/14 ms (G-to-G)	Temperature Operating Non-Operating Humidity Operating Non-Operating Altitude Operating Non-Operating Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins	0°C - 45°C -20°C - 60°C 10% - 80% 5% - 95% 0 ft - 5000 ft 0 ft - 40,000 ft Yes Yes (without Cab Yes 0.85
POWER CONSUMPTION		DIMENSIONS (W x D x H)	
Typical Maximum Sleep-Mode	50 W 160 W <0.5 W	Size Packed (mm) (inches)	453 x 732 x 210 17.83" x 28.82" x

Switch Off-Mode
Power Supply
Power Voltage

SIGNAL INPUT

Voltage Dynamic Frequency

Video Input Signals	2 HDMI + DisplayPort + USB Type-C
Video Cables Supplied	HDMI*, DisplayPort, USB Type-C
Video Cable Length	1.8 m
USB Hub	Yes
USB Cable Supplied	Yes (USB Type-C to Type-A Cable)
Audio-Out	Yes

<0.3 W

Internal

100 VAC - 240 VAC

50 Hz - 60 Hz

#### SIGNAL INTERFACE / PERFORMANCE

30 kHz - 160 kHz
23 Hz - 80 Hz
3840 (H) x 2160 (V)
HDMI : 600 MHz
DisplayPort: 5.4 Gbps
USB Type-C: 5.4 Gbps/Lane
6500K
27/20
5 Buttons
English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian

453 x 732 x 210
17.83" x 28.82" x 8.27"
611.6 x 269.8 x 403.3
24.08" x 10.62" x 15.88"
611.6 x 269.8 x 513.3
24.08" x 10.62" x 20.21"
611.6 x 45.5 x 368.4
24.08" x 1.79" x 14.5"
60.2 / 2.37"
505.8 / 19.91"
260 x 260 / 10.24" x 10.24"
Starting at 24.25 lbs (11 kg)
Starting at 15.32 lbs (6.95 kg)

#### **MECHANICAL**

Tilt Angle (Front / Back) Swivel Angle (Left / Right)	-5° / 30° +/-45°
Lift (mm)	Yes (110)
Pivot	+/-90°
VESA Mount (mm x mm)	Yes (100 x 100)
Kensington Lock Slot	Yes
Cable Management	Yes
Bezel Color	Raven Black
Bezel Width	
Top (mm / inches)	2 / 0.08"
Bottom (mm / inches)	24.5 / 0.96"

#### **COMPLIANCE**

Monitor Head Only

TCO	TCO Edge 2.0
RoHS (EU 2002/95/EC)	Yes
Windows Certification	Windows 7 / Windows 10
China Energy Efficiency Standard	Tier 2

#### WARRANTY AND AVAILABILITY

Warranty	3 Years
Geography Availability	WW

<sup>\*</sup> NA only.





Sides (mm / inches)

#### WWW.LENOVO.COM

2 / 0.08"

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications. - 5 Gbit/s for USB 3.1 Gen 1: 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.













#### Think Vision S27i-10

#### DISPLAY

Panel Size

27-inch

Screen Dimensions (W x H mm)

597.89 mm × 336.31 mm

Panel Type

3-side NearEdgelss, In-Plane Switching

Backlight

WLED

**Aspect Ratio** 

16:9

Resolution

1920 x 1080

Pixel Pitch (H x V) (mm)

 $0.3110 \times 0.3110$ 

Dot/Pixel Per Inch(DPI/PPI)

81

Viewing angle (H x V)

178°/178°

Response Time (gray to gray)

4 ms (extreme mode) 6 ms (normal mode)

Refresh rate

60 Hz

**Brightness (typical)** 

250 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M:1

Color Gamut NTSC (CIE 1931)

72% NTSC

Color Support

16.7M

#### CONNECTIVITY

Video Input Signals

1 x VGA 1 x HDMI 1.4

**Audio Out** 

1 x Audio Out (3.5 mm)

**Optional Speaker Support** 

Yes

MULTI-MEDIA

**Optional Soundbar Support** 

Yes

SPECIAL FEATURES

Sync technology

FreeSync

Thin Client Support (Tiny)

Yes

(by Tiny Clamp Bracket Kit+VESA mount PN:4XF0N82412+PN:4XF0N03161)

Anti-glare

Yes

**POWER** 

Power Consumption (Typ. / Max)

24W / 28W

**MECHANICAL** 

Tilt Angle (front/back)

-5° / 22°

**VESA Mount** 

Yes (100 x 100 mm)

Kensington Lock Slot

Yes

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (Side)

2.0 mm

Bezel Width(top/bottom)

2.0 / 21.7 mm

**DIMENSIONS** 

Size Packed (D x H x W) (mm/inch)

132 x 455 x 715 mm 5.20 x 17.91 x 28.15 inch

Size Unpacked w/stand (D x H x W) (mm/inch)

(IIIII) IIICII)

(Lowest Position)

220.0 x 443.5 x 611.9 mm 8.66 x 17.46 x 24.10 inch

Size Unpacked w/stand (D x H x W) (mm/inch)

(Highest Position)

269.8 x 513.3 x 611.9 mm / 10.62 x 20.21 x 24.09 inch

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only)

46.2 x 366.5 x 611.9 mm 1.82 x 14.43 x 24.10 inch

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm)

98.7 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm)

440.7 mm

Weight Packed (kg/lbs.)

6.80kg / 14.99 lbs.

Weight Unpacked (kg/lbs.)

4.76kg / 10.49 lbs.

Weight (Monitor Head Only) (kg/lbs.)

4.22kg / 9.30 lbs.

Full Container Load (40' STD / 20'STD)

1088 / 544 Units

WHAT'S IN THE BOX

Monitor with stand

1 x Power cable (1.8 m)

1 x HDMI cable (1.8 m)

Quick setup guide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

8.0

CCC

Yes

TCO

7.0

TCO Edge

2.0

**EPEAT** 

Silver

**ULE** Gold

RoHS (EU 2002/95/EC)

Yes( 2011/65/EU)

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

**TÜV Eye Comfort** 

Yes

















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# ThinkVision S27q-10

DISPLAY

Panel Size

27-inch

Screen Dimensions

596.74 mm x 335.66 mm

Panel Type

3-side NearEdgeless In-Plane Switching

Backlight

WLED

Aspect Ratio

16:9

Resolution

2560 x 1440

Pixel Pitch

0.2331 x 0.2331 mm

Dot/Pixel Per Inch (DPI/PPI)

109

Viewing Angle (H x V @ CR 10:1)

178° / 178°

**Response Time** 

4ms (extreme mode)

Refresh Rate

60 Hz

Brightness (typical)

280 cd/m<sup>2</sup>

Brightness (peak)

350 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M:1

**Color Gamut** 

> 99% sRGB

Color Support (typical)

1.07 Billion

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x HDMI 1.4 1 x DP 1.2

**Audio Signal** 

1x Audio Port (3.5 mm)

SPECIAL FEATURES

**Tiny Support** 

Yes

**POWER** 

Power Consumption (typical/max)

35W / 45W

Power Consumption Sleep/Off Mode

< 0.5W

Power Consumption Switch-off Mode

< 0.3W

**Power Supply** 

Internal

Energystar Power Consumption (Pon/ETEC)

19 W / 59.6 kWh

Voltage Required

AC 100 to 240 VAC (50/60 Hz)

**MECHANICAL** 

Tilt Angle (front/back)

-5° / 22°

**VESA Mount Capability** 

Yes (100 x 100 mm)

Kensington™ Lock Slot

Yes

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (side)

2 mm

Bezel Width (top/bottom)

2 / 22 mm

**DIMENSION** 

Size Packed (D x H x W, mm/inch)

132 x 455 x 715 mm / 5.20 x 17.91 x 28.15 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

220 x 444.6 x 613.6 mm / 8.66 x 17.50 x 24.15 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position)

220 x 444.6 x 613.6 mm / 8.66 x 17.50 x 24.15 inches

Size Unpacked w/o Stand (D x H x W, mm/inch) (head only)

42 x 367.6 x 613.6 mm / 1.65 x 14.47 x 24.15 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 99 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 4422 mm

Weight Packed (kg/lb) 6.36 kg / 14.02 lbs. Weight Unpacked (kg/lb)

 $4.65\ kg\ /\ 10.25\ lbs.$ 

Weight (monitor head only) (kg/lb)

4.10 kg / 9.04 lbs.

Full Container Load (40' STD / 20' STD)

1088 / 544 units

WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m)

1 x HDMI cable (1.8 m) Quick setup guide

CERTIFICATION

**ENERGY STAR® Rating** 

8.0

CCC

Yes

**TCO** 8.0

EPEAT™

Silver

RoHS (EU 2002/95/EC)

Yes

Windows Certification

Window 7, Window 10

China Energy Efficiency Standard

Tier 1

**TÜV Eve Comfort** 

Yes











Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2 Gen2 & 20 Gbit/s for USB 3.2.

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# ThinkVision S28u-10

**DISPLAY** 

Panel Size

28-inch

Screen Dimensions

631 928 mm x 359 78 mm

Panel Type

3-side NearEdgeless, In-Plane Switching

Backlight

WLED

Aspect Ratio

16:9

Resolution

3840 x 2160

Refresh Rate

60 Hz

Pixel Pitch (H x V)

0.16 x 0.16

Dot/Pixel Per Inch (DPI/PPI)

157.35

Viewing Angle (H x V @ CR 10:1)

178° / 178°

**Response Time** 

4ms (Extreme Mode) 6ms (Normal Mode)

**Brightness** (typical)

300 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M:1

**Color Gamut** 

99% sRGB, 90% DCI-P3 Color Support (typical)

1.07 Billion

CONNECTIVITY

**Video Input Signals** 

HDMI 2.0 + DP 1.2

**Audio Signal** 

1 x Audio Out (3.5mm)

**POWER** 

Power Consumption (Typical/Max)

31W / 48W

Power Consumption Sleep/Off Mode

<0.3W

Power Consumption Switch Off-Mode

<0.3W

**Power Supply** 

Internal

Energystar Power Consumption

 $(P_{on}/E_{TEC})$ 

24.28W / 75.41kWh

Voltage Required

AC 90 to 264 V (50/60 Hz)

DIMENSIONS

Size Packed (D x H x W) (mm/inch)

127 x 723 x 452 mm /

5 x 28.46 x 17.80 inches

Size Unpacked w/stand (D x H x W) (mm/inch) (Lowest position)

229.99 x 450.82 x 636.94 mm / 9.05 x 17.72 x 25.08 inches

Size Unpacked w/o stand (D x H x W) (mm/inch) (Highest position)

229.99 x 450.82 x 636.94 mm / 9.05 x 17.72 x 25.08 inches

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only)

49.2 x 373.68 x 636.94 mm / 1.94 x 14.71 x 25.08 inches

Weight Packed

7.0 kg / 15.43 lbs.

Weight Unpacked

5.24 kg / 11.55 lbs.

Weight (Monitor Head Only)

4.58 kg / 10.10 lbs.

SPECIAL FEATURES

Anti-glare

Yes

**ThinkCentre Tiny Support** 

Yes

**MECHANICAL** 

Tilt Angle (front/back)

-5° / 22°

**VESA Mount Capability** 

Yes (100 x 100 mm)

Kensington Lock Slot

Yes

**Bezel Color** 

Raven Black

Bezel Width (side)

2.0 mm

Bezel Width (top/bottom)

2.0 / 22.8 mm

WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x HDMI cable (1.8 m)

Quick setup guide

CERTIFICATIONS

**ENERGY STAR Rating** 8.0

ccc

Yes

**TCO** 

TCO Edge

2.0

**EPEAT** 

Silver

RoHS (EU 2002/95/EC)

Yes

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier

**TÜV Rheinland Eye Comfort** 

Yes

















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#### ThinkVision T27h-20

#### **DISPLAY**

Panel Size 27-inch

**Screen Dimensions** 596.74 mm x 335.66 mm

Panel Type 3-side NearEdgeless In-Plane Switching

**Backlight** WLED

Aspect Ratio 16:9

**Resolution** 2560 x 1440

**Pixel Pitch** 0.2331 x 0.2331 mm

**Dot/Pixel Per Inch (DPI/PPI)** 109

Viewing Angle (H x V @ CR 10:1) 178° / 178°

Response Time 4ms (extreme mode) 6ms (normal mode)

Refresh Rate 60 Hz

Brightness (typical) 350 cd/m<sup>2</sup>

Contrast Ratio (typical)

**Dynamic Contrast Ratio (typical)** 3M:1

**Color Gamut** 99% sRGB **Color Support (typical)** 16.7 Million

**Anti-glare** Yes

CONNECTIVITY

Video Signal 1 x USB Type-C Gen1 (DP 1.2 Alt Mode) 1 x HDMI 1.4 1 x DP 1.2

Audio Signal 1 x Audio Out (3.5 mm)

**USB Hub** Yes

USB Upstream 1 x USB 3.1 Gen1 (by USB Type-C)

**USB Downstream** 4 x USB 3.1 Gen1 (1 BC)

**POWER** 

Power Consumption (typ./max.) 23W / 122W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

ENERGY STAR Power Consumption (P<sub>on</sub>/E<sub>TEC</sub>) 18.1W / 57.6kWh

Power Supply Internal

USB Type-C Power Delivery (W)
up to 75W\*

Smart Power Yes

**Voltage Required**AC 100 to 240 V (50-60 Hz)

**MECHANICAL** 

Tilt Angle (front/back)  $-5^{\circ}/35^{\circ}$ 

Swivel Angle (left/right) +45° / -45°

**Lift (max range)** 135 mm

**Pivot** -90° / 90°

VESA Mount Capability Yes (100 x 100 mm)

Kensington Lock Slot

Cable Management

Bezel Color Raven Black

Bezel Width (side) 2 mm

Bezel Width (top/bottom) 2 / 23.87 mm

DIMENSION

Size Packed (D x H x W, mm/inch) 694.0 x 163.0 x 480.0 mm 27.32 x 6.42 x 18.90 inches Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)
614.0 x 429.4 x 208.0 mm
24.17 x 16.9 x 8.19 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 614.0 x 564.4 x 208.0 mm 24.17 x 22.22 x 8.19 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch) 614.0 x 369.1 x 46.7 mm 24.17 x 14.53 x 1.84 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 85.2 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 564.4 mm

Weight Packed (kg/lbs.) 9.75 kg / 21.50 lbs.

Weight Unpacked (kg/lbs.) 7.6 kg / 16.76 lbs.

Weight (monitor head only) (kg/lbs.) 5.09 kg / 11.22 lbs.

**Full Container Load (40' STD / 20' STD)** 952 / 448 units

WHAT'S IN THE BOX

Monitor with stand
1 x Power cable (1.8 m)
1 x DP cable (1.8 m) (NA only)
1 x USB Type-C to Type-C cable (1.8 m)
1 x USB Type-C to Type-A cable
(1.8 m) (NA only)
Quick setup guide

**CERTIFICATION** 

**ENERGY STAR Rating** 8.0

CCC Yes

**TCO** 8.0

**TCO Edge** 2.0

**EPEAT** Silver

**RoHS (EU 2002/95/EC)** Yes

Windows Certification
Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

TÜV Rheinland Eye Comfort Yes















\*Listed as maximum capacity of power delivery. Actual capacity of power delivery may vary depending upon devices connected or monitor configuration, and may decline with downstream USB ports connected or higher

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2 Gen2 & 20 Gbit/s for USB 3.2.

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#### Think Vision T27i-10

DISPLAY

Panel Size

27 inch

Screen Dimensions (H x V) (mm)

597.89 (H) × 336.31 (V)

Panel Type

In-Plane Switching

Backlight

WLFD

Aspect Ratio

16:9

Resolution

1920 x 1080

Pixel Pitch (H x V) (mm)

 $0.3110 \times 0.3110$ 

Viewing angle (H x V)

178°/178°

Response Time (gray to gray)

4 ms (extreme mode)

6 ms (normal mode)

Contrast Ratio (typical)

1000:1

**Dynamic Contrast Ratio (typical)** 

3M:1

Color Gamut NTSC (CIE 1931)

Color Support

16.7M

CONNECTIVITY

Video Input Signals

VGA + HDMI 1.4 + DP 1.2

**USB Hub** 

Yes

1 x USB 3.0 (Upstream)

4 x USB 3.0 (Downstream, incl. 1BC)

Cable Length

1.8 m

**Audio Out** 

Yes (3.5 mm)

**Power Consumption** 

22W (Typical) / 58W (max) at On mode: < 0.5W at Sleep mode; < 0.3W at Switch off mode

MULTI-MEDIA

Optional Soundbar Support

Yes

**DIMENSIONS** 

Size Packed (D x H x W) (mm/inch)

187 x 455 x 715 mm / 7.362 x 17.913 x 28.15 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Lowest Position)

269.8 x 403.3 x 611.9 mm / 10.62 x 15.88 x 24.09 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Highest Position)

269.8 x 513.3 x 611.9 mm / 10.62 x 20.21 x 24.09 inch

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only)

49.9 x 366.5 x 611.9 mm / 1.96 x 14.43 x 24.09 inch

Weight Packed (kg/lbs.)

9.32kg / 20.55 lbs.

Weight Unpacked (kg/lbs.)

6.55kg / 14.44 lbs.

Weight (Monitor Head Only) (kg/lbs.)

4.60kg / 10.14 lbs.

SPECIAL FEATURES

Anti-Glare

Yes

Thin Client Support (Tinv)

(by Tiny Clamp Bracket Kit+VESA mount PN:4XF0N82412+

PN:4XF0N03161)

MECHANICAL

Tilt Angle (front/back)

-5°/30°

Swivel Angle (left/right)

-45°/+45°

Lift (Max range)

110 mm

Pivot

-90°/90°

**VESA Mount** 

Yes (100 mm)

**Kensington Lock Slot** 

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (Side)

2.0 mm

WHAT'S IN THE BOX

Monitor with stand

1 x Power cable

1 x VGA cable

1 x DP-DP cable

1 x HDMI cable (NA only)

1 x USB 3.0 cable

Quick setup guide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

8.0

CCC

Yes

TCO 7.0

**EPEAT** 

Silver

ULE

Gold

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

**Ambient Operating Temperature** 

0°C to 40°C

**Eye Comfort Certification** 

Yes













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#### ThinkVision T27p-10

**DISPLAY** 

Panel Size

27.0 inches

Screen Dimensions (H x V)

596.74 x 335.66mm

Panel Type

In-Plane Switching

Backlight WLED

Aspect Ratio

16.9

Resolution

3840 x 2160 pixels

Pixel Pitch (H x V)

0.1554 x 0.1554mm

Viewing Angle (H x V)

178°/178°

Response Time (gray to gray)

4ms (extreme mode) 6ms (normal mode)

Refresh Rate

60Hz

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M:1

Brightness (typical)

350 cd/m<sup>2</sup>

Color Gamut sRGB (CIE 1931)

99%

**Color Support** 

1.07 Billion

**POWER** 

Power Consumption (Typical/Max)

50W/140W

Power Consumption Sleep/Off Mode

<0.5W

Power Consumption Switch Off-Mode

<0.3W

**Power Supply** 

Internal

ENERGY STAR (Pon)

23.40W

ENERGY STAR  $(E_{TEC})$ 

101.94kWh

Voltage Required

100-240VAC (50/60Hz)

CONNECTIVITY

**Video Input Signals** 

HDMI 2.0 + DP 1.2 + USB 3.1 Type-C (DP 1.2 Alt Mode)

Video Cables Supplied

USB 3.1 Type-C + HDMI

Video Cable Length

1.8m

USB Hub

Yes

**USB Upstream** 

1 x USB 3.1 Gen1 (by USB Type-C)

**USB** Downstream

4 x USB 3.1 Gen1 (with 1 BC)

**Audio Out** 

Yes (3.5mm)

**DIMENSIONS** 

Size Packed (D x H x W)

732 x 210 x 453mm/ 28.82 x 8.27 x 17.83 inches

Size Unpacked w/stand (D x H x W) (mm/inch)

269.8 x 403.3 x 611.6mm/ 10.62 x 15.88 x 24.08 inches

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only)

45.5 x 368.4 x 611.6mm/ 1.79 x 14.5 x 24.08 inches

Weight Packed

11.00kg/24.25lbs.

Weight Unpacked

6.95kg/15.32lbs.

Weight (Monitor Head Only)

5.0kg/11.02lbs.

SPECIAL FEATURES

Smart Power\*

Yes

Anti-glare

Yes

**ThinkCentre Tiny Support** 

Yes

**Optional Soundbar Support** 

Yes

**MECHANICAL** 

Tilt Angle (front/back)

-5°/30°

Swivel Angle (left/right)

+/-45°

Lift

Yes (110mm)

Pivot +/-90°

**VESA Mount Capability** 

Yes (100 x 100mm)

**Kensington Lock Slot** 

Yes

Bezel Width (Side)

2.0mm

Bezel Width (top/bottom)

2.0/24.5mm

WHAT'S IN THE BOX

Monitor with stand

1 x Power Cable 1 x HDMI Cable

1 x USB Type-C to Type-C cable

Quick Setup Guide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

8.0

**EU RoHS** 

Yes

CCC Yes

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

TÜV Eye Comfort

Yes

TCO

TCO 8.0/TCO Edge 2.0

**EPEAT** 

Silver













\*The Smart Power function intelligently detects overall power consumption and dynamically manages the power delivery to each device. 75W power delivery can be achieved when downstream USB ports are not connected and OSD brightness setting is <61.

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## ThinkVision T27q-20

#### **DISPLAY**

Panel Size 27-inch

**Screen Dimensions** 596.74 mm x 335.66 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

**Aspect Ratio** 16:9

**Resolution** 2560 x 1440

**Pixel Pitch** 0.2331 x 0.2331 mm

**Dot/Pixel Per Inch (DPI/PPI)** 109

Viewing angle (H x V @ CR 10:1)  $178^{\circ}/178^{\circ}$ 

Response Time 4ms (extreme mode) 6ms (normal mode)

Refresh Rate 60 Hz

**Brightness (typical)** 350 cd/m<sup>2</sup>

Contrast Ratio (typical) 1000:1

Dynamic Contrast Ratio (typical) 3M:1

Color Gamut 99% sRGB **Color Support (typical)** 

16.7 Million

**Anti-glare** Yes

CONNECTIVITY

Video Signal 1 x HDMI 1.4 1 x DP 1.2

**Audio Signal** 1 x Audio Out (3.5 mm)

USB Hub Yes

USB Upstream 1 x USB 3.1 Gen1 (by USB Type-B)

**USB Downstream** 4 x USB 3.1 Gen1 (1 BC)

**POWER** 

Power Consumption (typical/max) 23W/65W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

Energystar Power Consumption  $(P_{on}/E_{TEC})$ 17.4W / 54.4kWh

Power Supply Internal

**Voltage Required**AC 100 to 240 V (50/60 Hz)

**MECHANICAL** 

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45° / -45°

**Lift (max range)** 135 mm

**Pivot** -90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

Kensington Lock Slot Yes

Cable Management

**Bezel Color** Raven Black

Bezel Width (side) 2 mm

**Bezel Width (top/bottom)** 2 / 23.87 mm

**DIMENSION** 

**Size Packed** (D x H x W, mm/inch) 694 x 163 x 480 mm 27.32 x 6.42 x 18.9 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

614 x 429.4 x 208 mm 24.17 x 16.9 x 8.19 inches Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position)

614 x 564.4 x 208 mm 24.17 x 22.22 x 8.19 inches

Size Unpacked w/o Stand (head only)(D x H x W, mm/inch)  $614 \times 369.1 \times 46.7$  mm

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm)

2417 x 14 53 x 184 inches

85.2 mm

Max. Distance from Table to Panel (highest pixel at bottom of screen, mm) 564.4 mm

**Weight Packed (kg/lbs.)** 9.59 kg / 21.14 lbs.

Weight Unpacked (kg/lbs.) 7.44 kg / 16.4 lbs.

Weight (Monitor Head Only) (kg/lbs.)
4.93 kg / 10.87 lbs.

Full Container Load (40' STD / 20' STD) 952 / 448 units

WHAT'S IN THE BOX

Monitor with stand 1 x Power Cable (1.8 m) 1 x DP cable (1.8 m) 1 x USB Type-B to Type-A cable (1.8 m) Quick setup guide **CERTIFICATION** 

**ENERGY STAR Rating** 8.0

**CCC** Yes

**TCO** 8.0

TCO Edge 2.0

**EPEAT** Silver

RoHS (EU 2002/95/EC)

Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

TÜV Rheinland Eye Comfort













Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2 Gen2 & 20 Gbit/s for USB 3.2.

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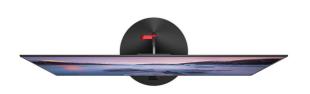






















# ThinkVision X1 (2nd GEN) MONITOR



#### SPECIFICATIONS

_		_		_	
D	ıcı	ם		Λ	v
$\mathbf{L}$		_	_/	-	

Panel Size 27' Panel Type IPS WIFD Backlight

Resolution 3840 (H) x 2160 (V)

Aspect Ratio Anti-Glare Yes

596.7 (H) x 335.7 (V) Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) 350 cd/m<sup>2</sup> 178°/178° Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) 1000:1 Dynamic Contrast Ratio 3M:1

Pixel Pitch (W x H) (mm) 0.1554 x 0.1554

Dot/Pixel Per Inch (DP/PPI) 163 99% sRGB Color Gamut (CIE 1931)

Response Time (Extreme/Typical/Off) 4/6/14 ms (G-to-G)

#### POWER CONSUMPTION

40 W Typical Maximum 150 W 0.5 W Sleep-Mode Switch Off-Mode 0.5 W Power Supply External Power Voltage 10 VAC - 240 VAC Voltage Dynamic Frequency 50 Hz - 60 Hz

#### SIGNAL INPUT

Video Input Signals DisplayPort 1.2 + HDMI 2.0 + Thunderbolt™ 3

Video Cables Supplied HDMI + Thunderbolt™ 3 Video Cable Length 18 m

Yes (4 x USB 3.01) USB Hub

**USB** Cable Supplied N/A Audio-Jack

#### SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed/

Bandwidth

Default Color Temperature

Preset Modes **OSD Buttons** 

OSD Languages

30 KHz - 136 KHz 30 Hz - 60 Hz 3840 x 2160

20 Gbps 6500K 24

2 Buttons + Tracking Point English, French, Italian,

German, Spanish, Japanese, Chinese, Russian

#### **MECHANICAL**

-5° / 30° Tilt Angle (Front / Back) N/A Swivel Angle (Left / Right) N/A Lift (mm) N/A Pivot N/A VESA Mount (mm) Kensington Lock Slot Yes Cable Management Yes Bezel Color N/A Bezel Width

1.2 / 0.04" Top (mm / inches) Bottom (mm / inches) 1.2 / 0.04" Sides (mm / inches) 1.2 / 0.04"

#### **ENVIRONMENTAL**

Temperature 0°C - 45°C Operating -20°C - 60°C Non-Operating

Humidity

8% - 80% Operating Non-Operating 5% - 95%

Altitude

16 000 ft Operating Non-Operating 40,000 ft

Arsenic-Free Glass Yes

PVC-Free Yes (W/O cable)

Mercury-Free Yes PCC % of Plastic Resins 25%

#### DIMENSIONS (W x D x H)

Size Packed (mm)

718 x 140 x 470 28.27" x 5.51" x 18.5" (inches)

Size Unpacked with Stand (mm)

609.74 x 234.81 x 474.76 24" x 9.24" x 18.69" (inches)

Size Unpacked without Stand Monitor Head Only

609 74 x 32 7 x 351 71 (mm) 24" x 1.29" x 13.85" (inches)

Distance from Table to Panel Lowest Pixel at Bottom of Screen

134 / 5.276" (mm / inches)

Highest Pixel at Top of Screen

(mm / inches) 450 / 17.717"

Stand Base Footprint Area

234.81 x 234.81 (mm) (inches) 9.24" x 9.24"

Weight

Starting at 18.45 lbs (8.37 kg) Packed Starting at 12.21 lbs (5.54 kg) Unpacked Monitor Head Only Starting at 9.46 lbs (4.29 kg)

#### COMPLIANCE

ULE Gold TCO 7.0 RoHS Yes Windows Certification Windows 10 Grade 2 China Energy Lahel

#### WARRANTY AND AVAILABILITY

3 Years Geography Availability ww





#### WWW.LENOVO.COM

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.













#### ThinkVision P32p-20

#### **DISPLAY**

Panel Size 31.5-inch

**Screen Dimensions** 697.31 mm x 392.23 mm

Panel Type
3-side NearEdgeless
In-Plane Switching

Backlight WLFD

Aspect Ratio

Resolution 3840 x 2160

**Pixel Pitch** 0.1816 x 0.1816 mm

**Dot/Pixel Per Inch (DPI/PPI)** 140

Viewing Angle (H x V @ CR 10:1)  $178^{\circ} / 178^{\circ}$ 

Response Time

4ms (extreme mode) 6ms (normal mode)

Refresh Rate

**Brightness (typical)** 350 cd/m<sup>2</sup>

Contrast Ratio (typical) 1000:1

Dynamic Contrast Ratio (typical) 3M:1

**Color Gamut** 99% sRGB 99% BT.709 90% DCI-P3

Color Support (typical)

1.07 Billion

Color Depth 10-bit

Processor LUT 14-bit

Anti-glare Yes

CONNECTIVITY

Video Signal
1 x USB Type-C Gen1
(DP1.2 Alt Mode)
1 x HDMI 2.0
1 x DP 1.2

Audio Signal 1 x Audio Out (3.5 mm)

USB Hub Yes

Ethernet
Yes (10M/100M/1000M)

USB Upstream 2 x USB 3.2 Gen1 (1 by USB Type-C, 1 by USB Type-B)

USB Downstream 3 x USB 3.2 Gen1 (1 x BC1.2)

MUITI-MEDIA

**Optional Soundbar Support** Yes (PN:0A36190)

SPECIAL FEATURES

Factory Calibration Yes (Avg. Delta E<2)

KVM Switch Yes

**POWER** 

Power Consumption (typ./max.) 36W / 186W

Power Consumption Sleep/Off Mode

< 0.5W

Power Consumption Switch-off Mode < 0.3W

ENERGY STAR Power Consumption ( $P_{on}/E_{TEC}$ ) 27W / 84kWh

Power Supply Internal

USB Type-C Power Delivery (W) up to 90 W

Voltage Required AC 100 to 240 V (50-60 Hz)

**MECHANICAL** 

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45° / -45°

Lift (max. range)

**Pivot** -90° / 90°

VESA Mount Capability Yes (100 x 100 mm)

ThinkCentre M Series Tiny support

Yes, by Tiny/Nano monitor clamp II (PN: 4XH0Z42451) & Tiny VESA mount II (PN: 4XF0N03161)\*

ThinkCentre M Series Nano support

Yes, by Tiny/Nano monitor clamp II (PN: 4XH0Z42451) & Nano VESA mount (PN: 4XF0V81630)\* Kensington Lock Slot

'es

Cable Management

**Bezel Color** Raven Black

Bezel Width (side) 2.0 mm

Bezel Width (top/bottom) 2.0 / 24.1 mm

DIMENSION

Size Packed (D x H x W, mm/inch)

528 x 190 x 845 mm 20.79 x 7.48 x 32.27 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

235.0 x 469.4 x 714.6 mm 9.25 x 18.48 x 28.13 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 235.0 × 604.4 × 714.6 mm

235.0 x 604.4 x 714.6 mm 9.25 x 23.79 x 28.13 inches Size Unpacked w/o Stand

(head only) (D x H x W, mm/inch) 714.6 x 426.0 x 51.0 mm 28.13 x 16.77 x 2.01 inches

Weight Packed (kg/lbs.) 13.30 kg/29.32 lbs.

Weight Unpacked (kg/lbs.) 10.21 kg/22.51 lbs.

Weight (monitor head only) (kg/lbs.) 6.96 kg/l5.34 lbs. WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) (for US and Canada only) 1 x USB Type-C to Type-C cable (1.8 m) 1 x USB Type-A to Type-B cable (1.8 m) Factory calibration report Quick setup guide

#### **CERTIFICATION**

**ENERGY STAR** Yes

**CCC** Yes

**TCO** 

TCO Edge 2.0

**EPEAT** Silver

RoHS (EU 2002/95/EC) Yes

Windows Certification
Windows 7. Windows 10

China Energy Efficiency Standard Tier 1

TÜV Rheinland Eye Comfort ∨⇔s















Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2 Gen2 & 20 Gbit/s for USB 3.2.

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<sup>\*</sup>Accessories sold separately













# ThinkVision P32u-10 SPECIFICATIONS

## **DISPLAY**

Panel Size 32 inches

Screen Dimensions (H x V) 708.48 x 398.52mm

Panel Type In-Plane Switching

**Backlight** WLED

**Aspect Ratio** 16:9

**Resolution** 3840 x 2160 pixels

**Pixel Pitch (H x V)** 0.1845 x 0.1845mm

Viewing Angle (H x V) 178°/178°

Response Time (gray to gray) 4ms (extreme mode) 6ms (normal mode)

Contrast Ratio (typical) 1000:1

**Dynamic Contrast Ratio (typical)** 3M:1

**Color Gamut** 99.5% Adobe RGB, 100% sRGB, 100% BT.709, 98.2% DCI-P3, 79.3% BT.2020

Color Support 1.07 Billion

## CONNECTIVITY

Video Input Signals 2 HDMI 2.0 + DP 1.2 + Thunderbolt™ 3 In + Thunderbolt™ 3 Out

Video Cable Length 2m for Thunderbolt™ 1.8m for HDMI & DP

Audio Out Yes (3.5mm)

USB Hub
Yes
2 x USB 3.0 (Upstream,
1 by Thunderbolt™ 3)
4 x USB 3.0 (Downstream,
incl. 1BC)

Power Consumption <57W (Typical) / <190W (Max) at On mode <0.5W at Sleep mode <0.3W at Switch off mode

# **DIMENSIONS**

**Size Packed (D x H x W)** 844 x 228 x 528mm / 33.23 x 8.98 x 20.79 inches

Size Unpacked w/stand (D  $\times$  H  $\times$  W) (Lowest Position)

350.0 x 497.85 x 726.7mm/13.78 x 19.6 x 28.61 inches

Size Unpacked w/stand (D x H x W) (Highest Position)

350.0 x 607.85 x 726.7mm/13.78 x 23.93 x 28.61 inches

Size Unpacked w/o stand (D x H x W) (Head Only)

58.95 x 431.5 x 726.7mm/2.32 x 16.99 x 28.61 inches

# **WEIGHT**

Weight Packed 14.30kg/31.32lbs.

Weight Unpacked 10.97kg/24.18lbs.

Weight (Monitor Head Only) 6.97kg/15.37lbs.

# SPECIAL FEATURES

Factory Calibration Yes

Anti-Glare

PIP/PBP Yes

KVM switch Yes

Software

Yes (ThinkColor)

# **MECHANICAL**

Tilt Angle (front/back) -5°/22°

Swivel Angle (left/right) -45°/+45°

**Lift (Max range)** 110mm

**Pivot** -90°/90°

**VESA Mount Capability** Yes (100 x 100mm)

Kensington Lock Slot

Yes

**Cable Management** 

Yes

Bezel Color Raven Black

Bezel Width (side) 2mm

Bezel Width (top/bottom) 2.0/23.8mm

# WHAT'S IN THE BOX

Monitor with stand

1 x Power cable 1 x DP-DP cable

1 x HDMI cable 1 x USB 3.0 cable

 $1 \times \text{Thunderbolt}^{TM} 3 \text{ cable (20Gbps)}$ 

1 x CD (ThinkColor)
Factory calibration report
Quick setup guide

# **CERTIFICATIONS**

**CCC** Yes

RoHS Yes

**TCO** 7.0

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard
Tier 2

**TÜV Eye Comfort** Yes









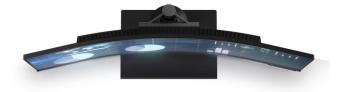












# Specifications

#### DISPLAY

**Panel Size** 43.4 inches

Screen Dimensions (H x V) 1052.3 x 328.8mm 41.4 x 12.9 inches

Panel Type VA NearEdgeless, anti-glare

Curvature 1800R

Backlight **WLED** 

**Aspect Ratio** 32:10

Resolution 3840 x 1200

**HDR** VESA Certified DisplayHDR™ 400

Pixel Pitch (H x V) 0.2740 x 0.2740mm

Viewing Angle (H x V) 178°/178°

Response Time (gray to gray) 4/6ms (extreme/typical)

Refresh Rate Max. 144Hz

**Contrast Ratio (typical)** 3000:1

**Dynamic Contrast Ratio (typical)** 

Color Support (typical) 16.7M

**Color Gamut** sRGB: 99.5% BT.709: 99.5% DCI-P3: 90%

**Brightness** 380 nits (typical) 450 nits (peak)

# CONNECTIVITY

**Video Input Signals** 2 x HDMI 2.0 1 x DP1.4 1 x USB Type-C Gen1 (DP1.2 Alt Mode) 1 x USB Type-C Gen2 (DP1.4 Alt Mode)

Video Cable Length 1.5m for USB Type-C Gen2 1.8m for others

**Audio Out** Yes (3.5mm)

**USB Hub** Yes

**USB Upstream** 2 x USB 3.1 (1 x USB Type-C Gen1, 1 x USB Type-C Gen2)

**USB Downstream** 4 x USB 3.1 Gen1 (1 BC)

**Power** Internal

**Power Consumption** Typical/Max: 70W/250W Switch-off Mode: < 0.5W Sleep/Off Mode: <0.5W Energy Star (P<sub>op</sub>) - 42.18W Energy Star (E TEC) - 138.17kWh

# **DIMENSIONS**

Size Packed (D x H x W) 1219 x 500 x 376mm 47.99 x 19.68 x 14.80 inches

Size Unpacked w/stand (D x H x W) (Lowest Position) 269.8 x 461.1 x 1058.3mm 10.62 x 18.15 x 41.67 inches

Size Unpacked w/stand (D x H x W) (Highest Position)

269.8 x 591.1 x 1058.3mm 10.62 x 23.27 x 41.67 inches

Size Unpacked w/o stand  $(D \times H \times W)$  (Head Only) 137.2 x 366.1 x 1058.3mm 5.40 x 14.21 x 41.67 inches

Weight Packed 18.59kg/40.98lbs.

Weight Unpacked 13.45kg/29.65lbs.

Weight (Monitor Head Only) 9.35kg/20.61lbs.

# SPECIAL FEATURES

**Anti-Glare** Yes

PIP/PBP Yes

Software Yes (ThinkColor)

Speaker Supports optional Harman Kardon certified speaker

## **MECHANICAL**

Tilt Angle (front/back)

Swivel Angle (left/right)

Lift (Max. range) Yes (130mm)

**VESA Mount Capability** Yes (100 x 100mm)

**Kensington Lock Slot** 

**Cable Management** 

**Bezel Color** Raven Black

**Bezel Width (side)** 2.4mm

Bezel Width (top/bottom) 2.4/25.6mm

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable 1 x HDMI cable 1 x DP cable 1 x USB Type-C Gen2 cable 1 x USB Type-C to Type-A cable Quick setup guide

#### **CERTIFICATIONS**

**ENERGY STAR Rating** 

CCC Yes

**RoHS** Yes **TCO** 

8.0 **EPEAT** 

Silver

**Windows Certification** Windows 7, Windows 10

**China Energy Efficiency** Standard

**TÜV Eye Comfort** Yes



Windows









\*with FreeSync support graphic cards













#### ThinkVision T32h-20 Monitor

#### **DISPLAY**

Panel Size 31.5-inch

Screen Dimensions 698.11 mm x 392.69 mm

Panel Type

3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio

Resolution 2560 x 1440

**Pixel Pitch** 0.2727 x 0.2727 mm

**Dot/Pixel Per Inch (DPI/PPI)** 94

Viewing Angle (H x V @ CR 10:1) 178° / 178°

Response Time

4ms (extreme mode) 6ms (normal mode)

Refresh Rate

60 Hz

Brightness (typical) 350 cd/m<sup>2</sup>

Contrast Ratio (typical)

Dynamic Contrast Ratio (typical) スM·1

Color Gamut 99% sRGB Color Support (typical) 1.07 Billion

**Anti-glare** 

Yes

#### CONNECTIVITY

Video Signal

1 x USB Type-C Gen1
(DP 1.2 Alt Mode)

1 x HDMI 1.4

1 x DP 12

**Audio Signal** 

1 x Audio out (3.5 mm)

USB Hub

USB Upstream 1 x USB 3.1 Gen1 (by USB Type-C)

USB Downstream 4 x USB 3.1 Gen1 (1 BC)

#### **POWFR**

Power Consumption (typ./max.) 28W / 138W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

ENERGY STAR Power Consumption (P<sub>on</sub>/E<sub>TEC</sub>) 21.6W / 69.2kWh

Power Supply Internal USB Type-C Power Delivery (W)

up to 75 W\*

Smart Power

Yes

Voltage Required

AC 100 to 240 V (50-60 Hz)

#### MECHANICAL

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) -45° / 45°

Lift (max range) 135 mm

**Pivot** -90° / 90°

VESA Mount Capability
Yes (100 x 100 mm)

Kensington Lock Slot Yes

Cable Management

Bezel Color Raven Black

Bezel Width (side) 2.0 mm

**Bezel Width (top/bottom)** 2.0 / 24.12 mm

#### **DIMENSION**

Size Packed (D x H x W, mm/inch) 528.0 x 190.0 x 845.0 mm / 20.79 x 7.48 x 32.27 inches Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

235.0 x 469.4 x 714.6 mm / 9.25 x 18.48 x 28.13 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 235.0 x 604.4 x 714.6 mm / 9.25 x 23.79 x 28.13 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch)

714.6 x 426.0 x 51.0 mm / 28.13 x 16.77 x 2.01 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 69.2 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 461.8 mm

**Weight Packed (kg/lbs.)** 12.96 kg / 28.57 lbs.

Weight Unpacked (kg/lbs.) 9.85 kg / 21.72 lbs.

Weight (monitor head only) (kg/lbs.) 6.78 kg / 14.95 lbs.

Full Container Load (40' STD / 20' STD) 672 / 320 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) (NA only) 1 x USB Type-C to Type-A cable (1.8 m) (NA only) 1 x USB Type-C to Type-C cable (1.8 m) Quick setup guide

#### **CERTIFICATION**

**ENERGY STAR Rating** 8.0

**CCC** Yes

**TCO** 8.0

TCO Edge 2.0

**EPEAT** Silver

RoHS (EU 2002/95/EC)

Windows Certification
Windows 7. Windows 10

China Energy Efficiency Standard Tier 1

TÜV Rheinland Eye Comfort















\*Listed as maximum capacity of power delivery. Actual capacity of power delivery may vary depending upon devices connected or monitor configuration, and may decline with downstream USB ports connected or higher brightness setting.

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2 Gen2 & 20 Gbit/s for USB 3.2.

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#### ThinkVision T32p-20

#### **DISPLAY**

Panel Size 31.5-inch

Screen Dimensions 697.31 mm x 392.23 mm

**Panel Type** 

3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

Resolution 3840 x 2160

**Pixel Pitch** 0.1816 x 0.1816 mm

**Dot/Pixel Per Inch (DPI/PPI)** 14()

Viewing Angle (H x V @ CR 10:1) 178° / 178°

Response Time

6ms (normal mode) 4ms (extreme mode)

Refresh Rate 60 Hz

Brightness (typical) 350 cd/m<sup>2</sup>

Contrast Ratio (typical)

Dynamic Contrast Ratio (typical) 3M:1

Color Gamut 99% sRGB

Color Support (typical)

1.07 Billion

**Anti-glare** Yes

#### CONNECTIVITY

Video Signal
1 x USB Type-C Gen1 (DP1.2 Alt Mode)\*\*
1 x HDMI 2.0
1 x DP 1.2

**Audio Signal** 

1 x Audio Out (3.5 mm)

USB Hub Yes

**USB Upstream** 

1 x USB 3.1 Gen1 (by USB Type-C)

USB Downstream 4 x USB 3.1 Gen1 (1 BC)

#### **POWER**

Power Consumption (typ./max.) 39W / 135W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

26.9W / 84.9kWh

ENERGY STAR Power Consumption  $(P_{oo}/E_{TEC})$ 

Power Supply Internal

USB Type-C power delivery (W) up to 75W\*

Smart Power Yes

Voltage Required AC 100 to 240 V (50-60 Hz)

#### **MECHANICAL**

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45°/-45°

Lift (max range) 135 mm

**Pivot** -90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

Kensington Lock Slot Yes

 $\begin{array}{c} \textbf{Cable Management} \\ \forall \texttt{es} \end{array}$ 

Bezel Color Raven Black

Bezel Width (side) 2.0 mm

Bezel Width (top/bottom) 2.0 / 24.12 mm

#### **DIMENSION**

Size Packed (D x H x W, mm/inch) 190 x 528 x 845 mm 7.48 x 20.79 x 32.27 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position) 235.0 x 469.4 x 714.6 mm 9.25 x 18.48 x 28.13 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 235.0 x 604.4 x 714.6 mm 9.25 x 23.79 x 28.13 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch) 51.0 x 426.0 x 714.6 mm 2.01 x 16.77 x 28.13 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 69.2 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 461.8 mm

**Weight Packed (kg/lbs.)** 12.96 kg / 28.57 lbs.

Weight Unpacked (kg/lbs.) 9.85 kg / 21.72 lbs.

Weight (monitor head only) (kg/lbs.)
6.78 kg / 14.95 lbs.

Full Container Load (40' STD / 20' STD)
672 / 320 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) (NA only) 1 x USB Type-C to Type-C cable (1.8 m) 1 x USB Type-C to Type-A cable (1.8 m) (NA only) Quick setup guide

#### **CERTIFICATION**

ENERGY STAR Rating

CCC Yes

**TCO** 8.0

**TCO Edge** 2.0

**EPEAT** Silver

**RoHS (EU 2002/95/EC)** Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

TÜV Rheinland Eye Comfort Yes

















<sup>\*</sup>Listed as the maximum capacity of power delivery. The actual capacity of power delivery may vary depending upon devices connected or monitor configuration and may decline with downstream USB ports connected or higher brightness settings.

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2 Gen2 & 20 Gbit/s for USB 3.2.

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Specifications may vary depending upon region.

<sup>\*\*</sup>When connecting one cable USB Type-C at 4K 60Hz, the USB downstream will be USB2.0 by default due to technical limitations. Users can still use USB 3.0 by selecting in OSD and as a result, the display will be adjusted to 4K 30Hz.













# **Specifications**

#### **DISPLAY**

Panel Size

34-inch

**Screen Dimensions** 

797.20 mm x 333.70 mm

Panel Type

3-side NearEdgeless VA

Curvature

1500R

Backlight

**WLED** 

**Aspect Ratio** 

21:9

Resolution

3440 x 1440

Pixel Pitch

0.2317 x 0.2317 mm

Dot/Pixel Per Inch (DPI/PPI)

109

Viewing Angle (H x V @ CR 10:1)

178° / 178°

**Response Time** 

4ms (extreme mode) 6ms (normal mode)

**Refresh Rate** 

60 Hz

**Brightness (typical)** 

350 cd/m<sup>2</sup>

**Contrast Ratio (typical)** 

3000:1

**Dynamic Contrast Ratio (typical)** 

3M:1

**Colour Gamut** 

99% sRGB

**Color Support (typical)** 

16.7 Million

Anti-glare

Yes

## CONNECTIVITY

Video Signal

1 x USB Type-C Gen1 (DP1.2 Alt Mode) 1 x HDMI 2.0 1 x DP 1.2

Audio Signal

1 x Audio Out (3.5 mm)

**USB Upstream** 

1 x USB 3.1 Gen1 (by USB Type-C)

**USB** Downstream

4 x USB 3.1 Gen1 (1 BC)

#### POWER

Power Consumption (typ./max.)

46W / 140W

Power Consumption Sleep/Off Mode

< 0.5W

Power Consumption Switch-off Mode

< 0.5W

ENERGY STAR Power Consumption ( $P_{on}/E_{TEC}$ )

34W / 107kWh

USB Type-C Power Delivery (W)

Up to 75W\*

**Smart Power** 

Yes

**Voltage Required** 

AC 100 to 240 V (50-60 Hz)

#### **MECHANICAL**

Tilt Angle (front/back)

-5°/35°

Swivel Angle (left/right)

+45°/ -45°

Lift (max range)

135 mm

**VESA Mount Capability** 

Yes (100 x 100 mm)

Kensington Lock Slot

res

Cable Management

Yes

**Bezel Color** Raven Black

Bezel Width (side)

2.2 mm

Bezel Width (top/bottom)

2.2 / 27.8 mm

# DIMENSION

Size Packed (D x H x W, mm/inch)

523.0 x 250.0 x 980.0 mm / 20.59 x 9.84 x 38.58 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

245.0 x 462.4 x 808.6 mm / 9.65 x 18.21 x 31.84 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position)

245.0 x 597.4 x 808.6 mm / 9.65 x 23.52 x 31.84 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch)

106.1 x 372.6 x 808.6 mm / 4.18 x 14.67 x 31.84 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm)

119.1 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm)

587.9 mm

Weight Packed (kg/lbs.)

13.85 kg / 30.53 lbs.

Weight Unpacked (kg/lbs.) 9.91 kg / 21.85 lbs.

Weight (monitor head only)

(kg/lbs.) 6.91 kg / 15.23 lbs.

Full Container Load

(40' STD / 20' STD) 432 / 216 units

#### WHAT'S IN THE BOX

Monitor with stand
1 x Power cable (1.8 m)
1 x DP cable (1.8 m) (NA only)
1 x USB Type-C to Type-A cable
(1.8 m) (NA only)
1 x USB Type-C to
Type-C cable (1.8 m)
Quick setup guide

## **CERTIFICATION**

**ENERGY STAR Rating** 8.0

ССС

Yes

**TCO** 

TCO Edge

2.0

**EPEAT** Silver

....

**RoHS (EU 2002/95/EC)** Yes

Windows Certification
Windows 7, Windows 10

China Energy

Efficiency Standard
Tier 2

TÜV Rheinland Eye Comfort















<sup>\*</sup>Listed as maximum capacity of power delivery. Actual capacity of power delivery may vary depending upon devices connected or monitor configuration, and may decline with downstream USB ports connected or higher brightness setting.

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.













# Lenovo ThinkVision LT1913p Monitor

#### **SPECIFICATIONS**

D	15	D	П.	Δ	V

Panel Size

Panel Type In Plane Switching

Aspect Ratio 5.4

1280 x 1024 Resolution Viewable Area (mm) 479.958

Screen Dimensions (W x H) (mm) 374.7 x 299.8 0.0976 x 0.2928

Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DP / PPI) 86 78

Brightness (Typical) 250 nits Contrast Ratio (Typical) 1000:1 Viewing Angle (H/V at CR 10:1) 178°/178°

Response Time (Typical) 7 ms Color Gamut 72%

Number of Colors 16.7 Million

#### SIGNAL INPUT

Video Input Signals VGA, DVI Cables Supplied VGA, DVI Sync on Green No Plug 'n' Play DDC/CI Preset Display Modes

User-defined Display Modes 20 OSD Buttons Yes OSD Languages 8 Lockable Controls Yes

#### **DIMENSIONS (W x D x H)**

Size Unpacked

411 x 264 2 x 371 5 (mm) (inches) 16.18" x 10.4" x 14.63"

Weight Unpacked Starting at 10.69 lbs (4.85 kg)

#### WARRANTY

Warranty 3 Years

#### **MECHANICAL**

Tilt Angle (Front / Back) -5° ~ 30° Swivel Angle (Left / Right) 45° / 45°

Lift (mm) 110

0° ~ 90° (Clockwise) Pivot

VESA® Mount Yes Kensington® Lock Slot Yes

USB Hub No

Multimedia Optional USB Sound Bar

Bezel Color Black

Bezel Width

Sides (mm / inches) 17.4 / 0.68" Top (mm / inches) 17.4 / 0.68" 17.4 / 0.68" Bottom (mm / inches)

#### **POWER CONSUMPTION**

Power Consumption

24 W Typical 27 W Maximum <0.5 W Sleep-Mode Off-Mode <0.5 W

Heat Dissipation

Typical 81.84 Btu/h Maximum 92.07 Btu/h Power Supply Internal

#### COMPLIANCE

TCO TCO Edge **EPEAT** 

Silver **ENERGY STAR Rating** 8.0 TÜV Green Mark Yes

Windows 10 / Windows 8.1 / Windows 8 / Windows 7 Windows Certification

Display 7.0

China Energy Label Tier 1 (New Standard Tier 2) PCC

85%







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# **TECH SPECS**

# LCD PANEL

Panel Size 14-inch

Screen Dimensions (W x H, mm) 309.31 x 173.99 mm

Panel Type In-Plane Switching

**Backlight** WLED

**Aspect Ratio** 16:9

Resolution

1920 x 1080

**Pixel Pitch (H x V, mm)** 0.1611 x 0.1611 mm

**Dot/Pixel Per Inch (DPI/PPI)**157

Viewing angle (H x V @ CR 10:1)  $178^{\circ}$  /  $178^{\circ}$ 

Response Time (typical)
6ms with OD

Refresh Rate 60 Hz

Brightness (typical) 300 cd/m<sup>2</sup>

**Contrast Ratio (typical)** 700:1

**Dynamic Contrast Ratio (typical)** 3M:1

Colour Gamut NTSC (CIE 1931) 72%

Color Support (typical) 16.7 Million

Color Depth 8bit (6bit + FRC)

**Anti-Glare** Yes

# CONNECTIVITY

Video Input Signals 2 x USB 3.1 Type-C (DP1.2 Alt Mode)

# POWER

Power Consumption (Typ./Max) 6 W / 7.5 W (Without USB Type-C output)

ENERGY STAR Power Consumption (Pon) 4.88 W

ENERGY STAR Power Consumption (E<sub>TEC</sub>)
15.53 kWh

Power Consumption Sleep/Off Mode < 0.3 W Power Consumption Switch-Off Mode < 0.3 W

**USB Type-C/Power Delivery** Up to 65 W

Power Supply External (no adapter bundle)

**Voltage Required** DC 5 V to 20 V

# **MECHANICAL**

Tilt Angle (front/back) -5° / 90°

Mounting Support Yes (100 mm)

**Kensington Lock Slot** Yes

Cable Management Yes

**Bezel Color** Raven Black

Bezel Width (Side) 5.48mm

Bezel Width (top / bottom) 5.47 mm / 23.87 mm

# DIMENSIONS

Size Packed (D x H x W) (mm / inch) 276 x 61 x 402 mm / 10.87 x 2.40 x 15.83 inches

Size Unpacked w/stand (D x H x W) (mm / inch) (Lowest position) 96.54 x 209.03 x 323.37 mm / 3.8 x 8.23 x 12.73 inches

Size Unpacked w/stand (D x H x W) (mm / inch) (Highest position) 96.54 x 220.03 x 323.37 mm / 3.8 x 8.66 x 12.73 inches

**Stand base footprint area (mm²)** 260.87 x 69.55 mm / 10.27 x 2.74 inches

Weight Packed (kg / lbs.) 1.67 kg / 3.67 lbs.

Weight Unpacked (kg / lbs.) 0.598 kg / 1.31 lbs.\*

# WHATS IN THE BOX

1 x Monitor with stand 1 x ThinkVision M14 sleeve 1 x USB Type-C cable (1 m) 1 x QSG 1 x Pair of clips

# ENVIRONMENTAL

**Temperature - Operating** 0° to 40°C

**Temperature - Non-operating** -20° to 60°C

Humidity - Operating 30 to 80%

**Humidity - Non-operating** 30 to 90%

**Altitude - Operating** 0 to 5000 m

**Altitude - Non-operating** 0 to 40,000 ft

Arsenic-free Glass Yes

PVC free Yes

Mercury free

Yes

PCC % of plastic resins 85%

# WARRANTY

Geography Availability WW

Warranty 3 Years

# CERTIFICATIONS

**ENERGY STAR Rating** 8.0

CCC Yes

**EPEAT** Silver

RoHS (EU 2002/95/EC)
Yes (Arsenic free / Pb free /
Mercury free)

Windows Certification Windows 7 / 10

Image Quality Capability ISO 9241-307

**China Energy Efficiency Standard** Tier 2

Low Blue Light / Eye Comfort Yes (Low Bluelight)







\*Actual weight may vary due to components, manufacturing process and options.

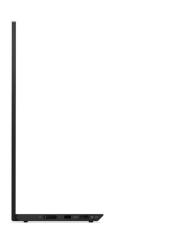
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# **Specifications**

#### **DISPLAY**

Panel Size

14-inch

**Screen Dimensions** 

309.31 mm x 173.09 mm

Panel Type

In-Plane Switching

Backlight

WLED

**Aspect Ratio** 

16.9

Resolution

1920 x 1080

Pixel Pitch

0.1611 x 0.1611 mm

Dot/Pixel Per Inch (DPI/PPI)

Viewing Angle (H x V @ CR 10:1)

178°/178°

Response Time

6ms (extreme mode)

8ms (normal mode)

Refresh Rate

60 Hz

**Brightness (typical)** 

300 cd/m<sup>2</sup>

Contrast Ratio (typical)

**Dynamic Contrast Ratio (typical)** 

**Color Gamut** 

72% NTSC (CIE 1931)

Color Support (typical)

16.7 Million

Color Depth

8-bit (6-bit + FRC)

Yes (10-point touch)

CONNECTIVITY

Video Signal

2 x USB 3.2 Type-C (DP1.2 Alt Mode)

**USB Upstream** 

2 x USB 3.2 Type-C

**USB** Downstream

2 x USB 3.2 Type-C

**SPECIAL FEATURES** 

Pen/Digitizer

**POWER** 

Power Consumption (typ./max)

Power Consumption Sleep/Off Mode

**Power Consumption Switch-off Mode** 

< 0.3W

**ENERGY STAR Power Consumption** 

(P<sub>on</sub>/E<sub>TEC</sub>) 7.22W / 25.5kWH

**Power Supply** 

External\*\*

USB Type-C Power Delivery (W)

Up to 65 W

Voltage Required

DC 5 / 9 / 15 / 20 V

**MECHANICAL** 

Tilt Angle (front/back)

Lift (max range)

11 mm

Pivot

-90° / 90°

**Mounting Support** 

Yes (2 screws holes, 100 mm)

**Kensington Lock Slot** 

Cable Management

**Bezel Color** Raven Black

Bezel Width (side)

5.43 mm

Bezel Width (top/bottom)

5.42 / 30.38 mm

**DIMENSIONS** 

Size Packed (D x H x W, mm/inch)

377.0 x 68.0 x 267.0 mm 148.43 x 26.77 x 105.12 inches Size Unpacked w/ Stand (D x H x W, mm/ inch) (lowest position)

14.0 x 214.3 x 323.4 mm 0.55 x 8.44 x 12.73 inches

Size Unpacked w/ Stand (D x H x W, mm/ inch) (highest position)

14.0 x 226.5 x 323.4 mm 0.55 x 8.92 x 12.73 inches

Weight Packed (kg/lbs.)

1.87 kg / 4.12 lbs.

Weight Unpacked\* (kg/lbs.)

0.698 kg\* / 1.54 lbs.

WHAT'S IN THE BOX

1 x M14t Monitor

1 x USB Type-C to Type-C cable (1.0m)

1 x Active Pen with battery\*

1 x Sleeve

1 x L-shaped dongle

1x Pair of clips

Quick setup guide

**CERTIFICATION** 

**ENERGY STAR Rating** 

CCC Yes

**EPEAT** Silver

RoHS (EU 2002/95/EC)

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

TÜV Rheinland Low Blue Light

Yes











<sup>\*\*</sup>not bundled
\*\*\*For selected regions and countries only.













# ThinkVision T1714 Essential Monitor

#### **SPECIFICATIONS**

DISPLAY		MECHANICAL		
Panel Size Panel Type Backlight Viewable Area (Diagonal) Screen Dimensions (W x H) (mm) Resolution Aspect Ratio Viewing Angle (H/V at CR 10:1) Maximum Brightness (Typical) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DPI / PPI) Color Gamut (CIE 1931) Number of Colors Response Time Anti-Glare	17" TN WLED 17" 270.34 x 337.92 1280 x 1024 5:4 170°/160° 250 cd/m² 1000:1 NA 0.26 x 0.26 96.21 72% 16.7 Million 5 ms (On / Off) Yes	Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift Pivot VESA Mount (mm) Kensington Lock Slot Cable Management Ambient Light Sensor Control Buttons Bezel Color Bezel Width Sides (mm / inches) Top (mm / inches) Bottom (mm / inches)	-5° - 22° No No No 100 x 100 Yes Yes No Yes Raven Black 17.5 / 0.69" 17.5 / 0.69"	
POWER CONSUMPTION		SIGNAL INPUT		
Power Consumption Typical Maximum Sleep-Mode Off-Mode Heat Dissipation Typical Maximum Power Supply Power Voltage Voltage Dynamic Frequency	14 W 18 W 0.5 W 0.3 W 47.74 Btu/h 61.38 Btu/h Internal 90 VAC - 264 VAC, 1.5 A 50 Hz - 60 Hz	Video Input Signals Video Cables Supplied Video Cable Length USB Hub USB Cable Supplied	VGA, DVI VGA, DVI 1.8 m No No	
COMPLIANCE		SIGNAL INTERFACE / PERFORMANCE		
EPEAT ENERGY STAR Rating ULE TCO TCO Edge TUV RoHS (EU 2002/95/EC) Windows Certification China Energy Efficiency Standard	Silver 8.0 Gold 7.0 2.0 Yes Yes Windows 10 / Windows 8.1 / Windows 8 / Windows 7 Tier 1 (New Standard Tier 2)	Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed / Bandwidth Default Color Temperature Preset Display Modes User-defined Display Modes OSD Buttons OSD Languages	30 kHz - 83 kHz 50 Hz - 75 Hz 1280 x 1024 VGA : 205 MHz DVI : 165 MHz 7200K 17 17 5	
ENVIRONMENTAL		DIMENSIONS (W x D x H)		
Temperature Operating Non-operating Humidity Operating Non-operating Altitude Operating	0°C - 45°C -20°C - 60°C (non-condensing) 10% - 80% 5% - 95% (non-condensing) 8,000 ft	Size Packed (mm) (inches) Size Unpacked with Stand (mm) (inches) Size Unpacked without Stand	432 × 428 × 140 17.01" × 16.85" × 5.51" 374.5 × 200 × 373.9 14.74" × 7.87" × 14.72"	
Operating Non-operating Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins Low Halogen	40,000 ft Yes Yes Yes No	(Monitor Head Only) (mm) (inches) Distance from Table to Panel (mm / inches) Lowest Pixel at Bottom of Screen Highest Pixel at Top of Screen	374.5 × 53 × 306.9 14.74" × 2.09" × 12.08" 84.5 / 3.33" 356.4 / 14.03"	
WARRANTY AND AVAILA	BILITY	Stand Base Footprint Area (mm / inches)	200 × 200 / 7.87" × 7.87"	
Warranty Geography Availability ThinkVision Logo	3 Years PRC + AP Yes	Weight Packed (EPS) Unpacked Monitor Hood Only	Starting at 8.6 lbs (3.9 kg) Starting at 5.75 lbs (2.61 kg) Starting at 5.11 lbs (2.73 kg)	





Global Model

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Monitor Head Only

Starting at 5.11 lbs (2.32 kg)













# Lenovo ThinkVision T1714p Essential Monitor

#### **SPECIFICATIONS**

DISPLAY	
	ı
	7

Panel Size Panel Type TN WLED Backlight Viewable Area (Diagonal) 17" Screen Dimensions (W x H) (mm) 270.34 x 337.92 Resolution 1280 x 1024 Aspect Ratio Viewing Angle (H/V at CR 10:1) 170°/160° Maximum Brightness (Typical) 250 cd/m<sup>2</sup> 1000:1 Contrast Ratio (Typical) Dynamic Contrast Ratio ΝΑ Pixel Pitch (W x H) (mm) 0.26 x 0.26 Dot/Pixel Per Inch (DPI / PPI) 96.21 Color Gamut (CIF 1931) 72% 16.7 Million Number of Colors Response Time 5 ms (On / Off) Anti-Glare

#### **MECHANICAL**

Tilt Angle (Front / Back) -5° ~ 22° Swivel Angle (Left / Right) No Lift 110 Pivot No VESA Mount (mm) 100 x 100 Kensington Lock Slot Yes Cable Management Yes Ambient Light Sensor No Control Buttons Yes Raven Black Bezel Color

Bezel Width Sides (mm / inches) 17.5 / 0.69"

17.5 / 0.69" Top (mm / inches) Bottom (mm / inches) 17.5 / 0.69"

#### SIGNAL INPUT

Video Input Signals VGA, DVI, DisplayPort VGA, DVI Video Cables Supplied Video Cable Length 1.8 m USB Hub No USB Cable Supplied No

#### SIGNAL INTERFACE / PERFORMANCE

30 kHz - 83 kHz Horizontal Frequency 50 Hz - 75 Hz Vertical Frequency Native Resolution 1280 x 1024 VGA

Maximum Pixel Clock Speed / 205 MHz Bandwidth DVI 165 MHz DisplayPort : 165 MHz

Default Color Temperature 7200K Preset Display Modes 22 User-defined Display Modes 22 OSD Buttons 5 8 OSD Languages

#### **POWER CONSUMPTION**

Power Consumption 14 W Typical 18 W Maximum 0.5 W Sleen-Mode Off-Mode 0.3 W Heat Dissipation

47.74 Btu/h Typical 61.38 Btu/h Maximum Power Supply Internal

90 VAC - 264 VAC, 1.5 A Power Voltage

Voltage Dynamic Frequency 50 Hz - 60 Hz

#### COMPLIANCE

EPEAT Silver **ENERGY STAR Rating** ULE Gold TCO 70 TCO Edge 20 TUV Yes RoHS (EU 2002/95/EC)

Windows Certification Windows 10 / Windows 8.1 / Windows 8 / Windows 7 China Energy Efficiency Standard Tier 1 (New Standard Tier 2)

#### **DIMENSIONS (W x D x H)**

Size Packed 454 x 406 x 191 (mm) (inches) 17.87" x 15.98" x 7.52" Size Unpacked with Stand

374.5 x 244.2 x 337.9~447.9 14.74" × 9.61" × 13.3"~17.63" (inches)

Size Unpacked without Stand (Head Only)

(mm) 374.5 x 53 x 306.9 14.74" x 2.09" x 12.08" (inches)

Distance from Table to Panel

(mm / inches)

Lowest Pixel at Bottom of Screen 66 / 2.6" Highest Pixel at Top of Screen 337.9 / 13.3"

Stand Base Footprint Area (mm / inches)

With Cable Cover Without Cable Cover

Weight Packed (EPS) Starting at 12.57 lbs (5.7 kg) Unpacked Starting at 8.71 lbs (3.95 kg) Monitor Head Only Starting at 5.14 lbs (2.33 kg)

244.2 x 240 / 9.61" x 9.45"

240 × 240 / 9.45" × 9.45"

#### **ENVIRONMENTAL**

Temperature Operating 0°C - 45°C

Non-operating -20°C - 60°C (non-condensing)

Humidity

Operating 10% - 80%

Non-operating 5% - 95% (non-condensing)

Altitude

Operating 8,000 ft Non-operating 40,000 ft Arsenic-Free Glass Yes PVC-Free Yes Mercury-Free Yes PCC % of Plastic Resins 85% Low Halogen Νo

#### WARRANTY AND AVAILABILITY

3 Years Warranty Geography Availability World Wide ThinkVision Logo Yes Global Model Yes





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**Depot or Courier Service:** Parts and labor repair coverage where shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

**Expedited Depot:** Parts and labor coverage with expedited turnaround. Shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

Onsite / In-home Service: Parts and labor repair coverage where labor is provided onsite at your place of business.

If Lenovo determines your product problem is covered by the product warranty and cannot be resolved over the telephone, a technician will be dispatched to arrive onsite, typically the next day.

International Warranty Service (IWS): PC repair coverage for customers who require a critical warranty repair while travelling internationally. Visit www.lenovo.com/internationalwarranty for details. Visit www.lenovo.com/warranty for Lenovo Warranty Services terms and conditions for complete details and restrictions.

**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

Visit http://psref.lenovo.com/ for the latest version of Product Specifications Reference.

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