

# Lenovo ThinkPad.Laptops PSREF Product Specifications Reference Version 550, October 2019

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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)

ThinkPad L13 models announced October 2019
ThinkPad L13 Yoga models announced October 2019

### **▶** Others

ThinkPad L490 - Spec updated ThinkPad L590 - Spec updated ThinkPad X1 Carbon (7th Gen) - Spec updated ThinkPad X1 Yoga (4th Gen) - Spec updated

### Withdrawals in this update

### ► Withdrawn product(s)

None



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

Processor	7th General Intel Pentiur				rocessor,	Intel Ce	eleron® proces	sor, 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
	Processor Number	# of Cores	# of Threads		Burst Frequency		Memory Types	Proce Grap	hics	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	2.6 GHz 3.2 GHz	4MB 4MB	LPDDR3-1866	Intel Graphic		Smart card reade Media reader	
	Celeron N4100		4	1.1 GHz	2.4 GHz	4MB	DDR4-2400	Intel I Graphic		Ports	Two USB 3.1 Gen 1, one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45),
	Pentium Silver N5000	-		1.1 GHz	2.7 GHz	4MB	DD114-2400	Intel I Graphic			headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics	supports ex	ternal o al inde	digital m penden	onitor via t display:	HDMI or U	JSB Typ				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
Chipset						e-C); 4	096x2160@30	Hz (HD	MI)	Keyboard Touchpad	6-row, spill-resistant, multimedia Fn keys Buttonless Mylar surface touchpad below keyboard, multi-touch
Memory	Intel SoC (System on Chip) platform 4GB or 8GB / 1866MHz LPDDR3 or 2400MHz DDR4 / soldered to systemboard, no sockets									Security Security chip	Power-on password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified
Display	Size Resolu		7.			Aspect Ratio	Contrast Ratio	Gamut	Viewing Angle	System Mgt Fingerprint reade NFC	None rNone
	11.6" HD (13			Anti-glare Anti-glare	250 nits 250 nits	16:9 16:9	400:1 or 500:1 800:1	45% 45%	90° 170°	Battery	Integrated Li-ion 42Wh battery
Multi-touch (opt)							re (HD IPS onl		170	Max battery life	MobileMark® 2014: 13.9 hr * Battery life varies significantly with settings, usage, & other factors
Storage	eMMC flash									AC adapter	45W or 65W slim tip AC adapter, 45W or 65W USB Type-C AC adapter
Optical	M.2 SSD / F None	PCIe N	VMe, P	Cle 3.0 x 2	2, 16Gb/s					Operating system (optional)	on One of the following, configurable by model:  • Windows® 10 Home 64
Ethernet	Realtek RTI	_81110	GUS Gig	gabit Netw	ork Conne	ction					Windows 10 Pro 64     Windows 10 Pro in C roads
WLAN + Bluetooth™	One of the following, configurable by model:  • Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card										Windows 10 Pro in S mode     No OS
	<ul> <li>Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card (US c</li> </ul>								only)	Limited warranty	One of the following, configurable by model:  • 1-year depot repair service
WWAN	None										3-year/1-yr battery depot repair 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.







# ThinkPad A275 Platform Specifications

Processor	AMD PRO A-Se	eries A	PUs							er Optional: Smart card reader
	Processor	# of	_ # of	Base	Max Turbo	Cache	Memory	Processor	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.1 Gen 1 (USB 3.0, one Always On),
	Number	Cores	Threads	Frequency	Frequency	0000	Types	Graphics AMD	I orts	USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	PRO A10-8730B			2.4 GHz	3.3 GHz			Radeon™		HDMI 1.4b, Ethernet (RJ-45)  * Depending on many factors, actual data transfer speed may be lower than theoretical speed
		4	4			2MB	DDR4-1866	R5 Graphics	Monitor cable	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
	PRO A12-8830B PRO A10-9700B	4	-	2.5 GHz 2.5 GHz	3.4 GHz 3.4 GHz	211110	DD114 1000	AMD Radeon	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter
	PRO A10-9700B	4		2.5 GHz 2.7 GHz	3.4 GHz			R7 Graphics	Company (ambigues)	USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	* Windows 7 is or		oorted by			D A12-8	830B	· · ·		)HD720p resolution, fixed focus HD Audio, Realtek ALC3268 codec / stereo speakers, 1.5W x 2 /
Graphics	AMD Radeon F									dual array microphone, combo audio/microphone jack
	supports extern supports three Max resolution:	indepe	endent di	splays;			160@30Hz	(HDMI)	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Chipset	AMD SoC (Syster 16GB max / 186	tem or	n Chip) p	latform			100 @ 001 12	(FIDIVII)	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole dTPM 1.2: discrete TPM 1.2, TCG Certified dTPM 2.0: discrete TPM 2.0. TCG Certified
Memory Display	Some: 12.5" (3						acklight		   Fingerprint reade	
Display	220 nits	s, 16:9	aspect r	atio, 500:1	contrast ra	tio	•		NFČ '	None
		s, 16:9	aspect r	àtio, 700:1	contrast ra	tio, 170	° viewing a		Internal battery External battery	Optional: Integrated Li-ion or Li-Polymer 3-cell (23Wh) Li-ion 3-cell (23Wh) or 6-cell (48Wh)
Multi-touch (opt)	On-cell touch, s				•		ly)		Max battery life	Models
Storage	System has one I Some: HDD / S						Oratastian C	voto m <sup>TM</sup>	(MobileMark® 2014)	Max battery life   5.05 fil   10.1 fil   15.0 fil
	Some: SSD/S Some: M.2 SS	SATA 6	3.0Gb/s,	2.5" wide, 7	'mm high (e	e.g. xxx		ystem	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W slim tip AC adapter or 45W USB Type-C AC adapter
Optical	None	<i>,</i> D / I C	JIC INVIVI	c, i Oic 0.0	X 2, 100b/	3			Operating system	One of the following, configurable by model:
Ethernet	Realtek® RTL8	111EP	V Gigab	it Ethernet	connection					<ul> <li>Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64</li> </ul>
WLAN Bluetooth™	Realtek RTL882 Bluetooth 4.1 w									Windows 10 Home 64     Windows 10 Pro 64
WWAN (optional)				by model:					Limited warranty	One of the following, configurable by model:
	<ul><li>Wireless WAN</li><li>Integrated Mo</li></ul>			1 1G ITE-A						<ul> <li>1-year depot repair service</li> <li>3-year/1-yr battery depot repair service</li> </ul>
	Qualcomm® S	Snapdr	agon™ )	X7 LTE-A (S	Sierra Wirel	ess EN	17455)			3-year/1-yr battery limited onsite service
SIM card (opt)	* For non-WWAN Micro-SIM card	<i>model,</i> slot, c	odel, it means the model is NOT WWAN upgradable ot, opt Verizon LTE (US) SIM card						Mil-Spec test	MIL-STD-810G military testing
Dimensions		03" x 8.21" x 0.80"; 305.5mm x 208.5mm x 20.3mm							Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
Weight	Models		3-cell							
0		2.79 lb /	1.27 kg	2.98 lb	/ 1.36 kg	3.33	lb / 1.52 kg			
Case color Case material	Black Glass-Fiber Re	inforce	ed Plastic	<b>:</b>						
Note: The enecific:	ationa about mou	not ho	ملط ملئ ميره	in all region						Lenovo

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







# ThinkPad A285 Platform Specifications

Processor	AMD Ryzen	™ PRC	) Mobile F	Processors	with Rade	on™ Vega	Graphics			er Optional: Smart card reader
	Processor Number	# of	# of Threads		Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Media reader Ports	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,
	Ryzen 3 PRO 2300U	00163	4	2.0 GHz	3.4 GHz		турез	Radeon Vega 6 Graphics		two USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 2.0, Ethernet extension connector, combo slot of nano-SIM card (WWAN models) and microSD card reader,
	Ryzen 5 PRO 2500U	4	8	2.0 GHz	3.6 GHz	2MB L2 / 4MB L3	DDR4-2400	Radeon Vega 8 Graphics		headphone / microphone combo jack, optional smart card reader, side docking connector, security keyhole
	Ryzen 7 PRO 2700U		8	2.2 GHz	3.8 GHz			Radeon Vega 10 Graphics	Monitor cable	* Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Graphics	AMD Raded supports ex supports for	ternaľ ur inde	digital mo	onitor via F displays;	IDMI or ÜS	B Type-C;			(optional) Bundled Accy	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2
	Max resolut	ion: 5	120x2880	)@'60Hz'(l	JSB Type-C	C); 4096x2	2160@60H	z (HDMI)	Camera (optional,	() One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
Chipset Memory	AMD SoC (\$8GB or 16G	Syster iB / 24	n on Chip 00MHz D	) platform DR4, sold	ered to sys	temboard	, no sockets	S	Audio support	IR camera and HD720p camera, fixed focus     HD Audio, Realtek ALC3287 codec /
Display		nits, 1	l6:9 aśpe	ct ratio, 40	0:1 contras	st ratio	•			stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack
Multi-touch (opt)	Some: 12.5 300 On-cell touc	nits, 1	I6:9 aśpe	ct ràtio, 80	0:1 contras	st ratio, 17	D backlight 0° viewing a		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Storage	One of the fol		•		`	Jilly)			Security	Power-on password, hard disk password, supervisor password, security keyhole
Storage	• M.2 SSD /	SATA	6.0Gb/s	•					Security chip System Mgt	Discrete TPM 2.0, TCG Certified DASH Management
Optical	M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s None								Fingerprint reade	DASH Management r Optional: Touch style match on chip fingerprint reader on the palm rest None
Ethernet	Gigabit Ethe				ernet Exten	sion Adap	ter Gen 2		Battery	Integrated Li-ion 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
WLAN Bluetooth™	Realtek® RT Bluetooth 4.								Max battery life	MobileMark® 2014: 10.55 hr * Battery life varies significantly with settings, usage, & other factors
WWAN (optional)	Integrated N	/lobile	Broadbar	nd 4G LTE	-A,				AC adapter	45W or 65W USB Type-C AC adapter
, , ,	Intel XMM™ * For non-WV	7360	(Fibocom	L850-GL)	, M.2 card	14/44/	dabla			Windows® 10 Home 64 or Windows 10 Pro 64
SIM card (opt)	Nano-SIM coptional Ver	ard slo	ot, in the	combo slo	t with micro	SD card r	eader,		Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service
Dimensions	WxDxH (HE 12.				mm x 209.8	3mm x 17.	4mm			3-ýear/1-ýr batterý limited onsite service  MIL-STD-810G military testing
	12.11" x 8.26" x 0.69"; 307.7mm x 209.8mm x 17.4mm WxDxH (FHD non-touch): 12.11" x 8.26" x 0.70"; 307.7mm x 209.8mm x 17.8mm								Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
Weight	FHD non-touch model: 2.49 lb / 1.13 kg; HD non-touch model: 2.78 lb / 1.26 kg; FHD multi-touch model: 2.79 lb / 1.27 kg									
Case color	Black	oucii i	1100 <del>0</del> 1. 2.1	13 IU / 1.2/	NY					
Case material	Display cover: Carbon Fiber (FHD non-touch model) or PPS (HD & FHD multi-touch model); Bottom: Magnesium/Aluminum									
Note: The specifica										Lenovo







# ThinkPad A475 Platform Specifications

Processor	AMD PRO A-Se	eries A	PUs						Dimensions	<i>WxDxH:</i> 13.25" x 9.15" x 0.79"; 336.6mm x 232.5mm x 19.95mm			
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Processor	Weight	Models 3-cell or 3 + 3-cell 6-cell or 3 + 6-cell			
	Number	Cores	Threads	Frequency	Frequency	Oddile	Types	Graphics		Magnesium 3.49 lb / 1.58 kg 3.92 lb / 1.78 kg			
	PRO A10-8730B			2.4 GHz	3.3 GHz			AMD Radeon™	0	PPS 3.63 lb / 1.65 kg 4.35 lb / 1.85 kg			
	1 110 A10-0730D			2.4 0112	3.5 GHZ			R5 Graphics	Case color Case material	Black Display cover: Magnesium Hybrid or PPS (Magnesium Hybrid for US only);			
	PRO A12-8830B	4	4	2.5 GHz	3.4 GHz	2MB	DDR4-1866	AMD	Case material	Bottom: Glass-Fiber Reinforced Plastic			
	PRO A10-9700B	]		2.5 GHz	3.4 GHz			Radeon	Smart card reade	r Optional: Smart card reader			
	PRO A12-9800B			2.7 GHz	3.6 GHz			R7 Graphics	Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports SD 3.0, UHS-I			
	* Windows 7 is on	nly supp	orted by	PRO A10-87	30B and PRO	O A12-8	830B		Ports	Three USB 3.1 Gen 1 (USB 3.0, one Always On), USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort),			
Graphics	AMD Radeon R					_				HDMI 1.4b, Ethernet (RJ-45), Dock connector			
	supports extern supports three i				I or USB IS	/pe-C;				* Depending on many factors, actual data transfer speed may be lower than theoretical speed			
	Max resolution:				Type-C); 4	096x2	160@30Hz	(HDMI)	Monitor cable	Optional: Lenovo USB-C to VGA Adapter			
Chipset	AMD SoC (Syst	tem or	n Chip) p	latform	,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,			,	Camera (optional) Audio support	)HD720p resolution, fixed focus HD Audio, Realtek ALC3268 codec / stereo speakers, 2W x 2 /			
Memory	32GB max / 186	66MHz	DDR4,	dual-chann	el capable,	two DI	DR4 SO-DI	MM sockets	Audio Support	dual array microphone, combo audio/microphone jack			
Display	Some: 14.0" (3	355mm	n) HD (13	366x768), a	nti-glare, Ll	ED bac	klight,		Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight			
	220 nits Some: 14.0" (3			atio, 350:1			ooklight ID	ie.	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
				atio, 700:1					Security	Power-on password, hard disk password, supervisor password, security keyhole			
Multi-touch (opt)	On-cell touch, s								Security chip	dTPM 1.2: discrete TPM 1.2, TCG Certified			
Storage	System has one h								dTPM 2.0: discrete TPM 2.0, TCG Certified Fingerprint reader Optional: Touch style match on chip fingerprint reader on the keyboard NFC None				
_	Some: HDD / S							ystem™					
	Some: SSD / S Some: M.2 SS						GB 55D)		Internal battery	Optional: Integrated Li-Polymer 3-cell (24Wh)			
	* Installed M.2 SS	SD is P	Cle 3.0 x 4	4 but run at P	Cle 3.0 x 2 d	due to M	.2 SSD adap	ter limitation	External battery Li-Polymer 3-cell (24Wh) or Li-ion 6-cell (48Wh)				
Optical	None								Max battery life (MobileMark® 2014)	Models 3-cell 3 + 3-cell 6-cell 48Wh 3 + 6-cell 48Wh			
Ethernet	Realtek® RTL81	111EP	V Gigabi	it Ethernet o	connection				(WobileWark* 2014)	Max ballery life   5.13 III   10.26 III   15.4 III			
WLAN Bluetooth™	Realtek RTL882 Bluetooth 4.1 w								AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W slim tip AC adapter, 45W or 65W USB Type-C AC adapter			
WWAN (optional)			<u>,                                     </u>						Operating system	One of the following, configurable by model:			
WWW. Copularian	<ul> <li>Wireless WAN</li> </ul>	l upgra	adable	•						Windows® 7 Professional 64 preinstalled			
	Integrated Mo						\			through downgrade rights in Windows 10 Pro 64  • Windows 10 Home 64			
		Qualcomm® Snapdragon™ X7 LTE-A (Sierra Wireless EM7455) * For non-WWAN model, it means the model is NOT WWAN upgradable								Windows 10 Pro 64			
SIM card (opt)	Micro-SIM card slot, opt Verizon LTE (US) SIM card								Limited warranty	One of the following, configurable by model:			
									1	1-year depot repair service			
										3-year/1-yr battery depot repair service     3-year/1 yr battery limited engits convice			
									Mil Coop toot	3-year/1-yr battery limited onsite service  MIL STD 9100 military testing			
									Mil-Spec test	, ,			
									Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant			







# ThinkPad A485 Platform Specifications

Processor	AMD Ryzer	າ™ PR0	) Mobile	Processors	s with Rade	eon™ Vega	Graphics		Smart card reade	r Optional: Smart card reader			
	Processor	# of	_ # of		Max Turbo	Cache	Memory	Processor	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC), supports SD 3.0, UHS-I One USB 3.1 Gen 1 (Always On), one USB 3.1 Gen 2,			
	Number	Cores	Threads	Frequency	Frequency	Odono	Types	Graphics	1 0113	two USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort),			
	Ryzen 3 PRO 2300U		4	2.0 GHz	3.4 GHz			Radeon Vega 6 Graphics		HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,			
	Ryzen 5 PRO 2500U	4	8	2.0 GHz	3.6 GHz	2MB L2 / 4MB L3	DDR4-2400	Radeon Vega 8 Graphics		4-in-1 media reader (MMC, SD, SDHC, SDXC), side docking connector, security keyhole			
	Ryzen 7 PRO 2700U		8	2.2 GHz	3.8 GHz			Radeon Vega 10 Graphics	Monitor cable(opt	* Depending on many factors, actual data transfer speed may be lower than theoretical speed ) HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter			
Graphics	supports ex	AMD Radeon Vega 6, Vega 8, or Vega 10 Graphics in processor only; supports external digital monitor via HDMI or USB Type-C; supports four independent displays;								USB-C to DP: Lenovo USB-C to DisplayPort Adapter None  One of the following, configurable by model:			
	Max resolut				JSB Type-0	C); 4096x2	2160@60H	z (HDMI)		HD720p camera with ThinkShutter camera privacy, fixed focus			
Chipset Memory	32GB max	AMD SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sock * Installed DIMMs are actually 2666MHz but run at 2400MHz due to AMD limitation								<ul> <li>IR camera and HD720p camera, fixed focus</li> <li>HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack</li> </ul>			
Display	220	4.0" (355mm) HD (1366x768), anti-glare, LED backlight, 20 nits, 16:9 aspect ratio, 400:1 contrast ratio 4.0" (355mm) FHD (1920x1080), anti-glare, LED backlight, IPS,							 Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
	Some: 14.0 250	บ" (355 ) nits. 1	mm) FHI 16:9 aspe	D (1920X10 ect ratio, 70	080), anti-g 0:1 contras	lare, LED st ratio, 17	bаскііgnt, і 0° viewing а	PS, angle	Security Power-on password, hard disk password, supervisor password, security				
Multi-touch (opt)	On-cell touc	ch, sup	ports 10	-finger ges	ture (FHD	only)		ag.o	Security chip	Discrete TPM 2.0, TCG Certified			
Storage	System has a Some: HD Some: SS	D/SA	TA 6.0Gb	/s, 2.5" wid	de, 7mm hi	gh, Active		System™	System Mgt Fingerprint reader NFC	DASH Management r Optional: Touch style match on chip fingerprint reader on the keyboard bezel None			
	Some: M.2 Some: 128	SSD SGB M	/ PCIe N' .2 SSD /	VMe, PCIe PCIe NVM	3.0 x 4 le, PCle 3.0	) x 2,			Battery	Integrated Li-ion 24Wh battery and external Li-ion 24Wh, 48Wh, or 72Wh battery			
	in V * Installed M.	VWAN <i>2 SSD</i>	slot as 2 is PCle 3.0	nd Storage 0 x 4 but run	e, mutually 1 <i>at PCle 3.0</i>	exclusive v	with WWAN M.2 SSD ada	l apter limitation	Max battery life (MobileMark® 2014)	Models 24Wh 48Wh 72Wh 24Wh 24Wh 24Wh 48Wh 24Wh + 72Wh			
Optical	None									Max battery life   5.37 hr   10.76 hr   16.4 hr   10.76 hr   16.4 hr   22.15 hr * Battery life varies significantly with settings, usage, & other factors			
Ethernet	Realtek® R			•					AC adapter	45W or 65W USB Type-C AC adapter			
WLAN Bluetooth™	Realtek RT								Operating system	Windows® 10 Home 64 or Windows 10 Pro 64			
	Bluetooth 4					elooth con	ibo adapter		Limited warranty	One of the following, configurable by model:			
WWAN (optional)	Intel XMM™ * For non-WI	ntegrated Mobile Broadband 4G LTE-A, ntel XMM™ 7360 (Fibocom L850-GL), M.2 card <i>For non-WWAN model, it means the model is NOT WWAN upgradable</i> lano-SIM card slot, optional Verizon LTE (US) SIM card								<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>			
SIM card (opt) Dimensions					• •		10 05		Mil-Spec test	MIL-STD-810G military testing			
Weight	Models						x 19.95mm Vh + 48Wh /		Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant			
3 1	Magnesium			/ 1.58 kg	1 400011, 72	3.92 lb /		724411					
	PPS			/ 1.65 kg		4.08 lb /							
Case color Case material	Black												
Case material	Display cover: Magnesium Hybrid or PPS; Bottom: Glass-Fiber Reinforced Plastic												
Note: The specifica	ations ahove	may no	t he avail	ahla in all re	agione				•	Lenovo			













# ThinkPad E14 Platform Specifications

Processor	10th Gene	eration	Intel® Co	ore™ i3 / i5	/ i7 Proces	sor			Dimensions	Case Material	Dimensions (WxDxH)			
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Processor	1	Aluminum	12.80" x 9.13" x 0.70"; 325mm x 232mm x 17.9mm			
	Number	Cores	+		Frequency		Types	Graphics		PC/ABS	12.80" x 9.13" x 0.81"; 325mm x 232mm x 20.5mm			
	i3-10110U i5-10210U i7-10510U	4	8	2.1 GHz 1.6 GHz 1.8 GHz	4.1 GHz 4.2 GHz 4.9 GHz	4MB 6MB 8MB	DDR4-2666	Intel UHD Graphics		Aluminum Display cover + PC/ABS Bottom	12.80" x 9.13" x 0.74"; 325mm x 232mm x 18.9mm			
	i7-10510U	6	12	1.8 GHz	4.9 GHz	12MB			Weight	Case Material	Weight			
Cropbics				cessor onl		, IZIVID		<u> </u>	-	Aluminum	starting at 3.81 lb / 1.73 kg			
Graphics	Intel UHD	Graph	nics in pro	cessor on	y or 1					PC/ABS	starting at 3.90 lb / 1.77 kg			
	AMD Rade supports 6	eon R) externa	X 640 Gra al digital r	aphics, 2GI nonitor via ent displays	3 GDDR5 HDMI or L					Aluminum Display cover + PC/ABS Bottom	starting at 3.74 lb / 1.69 kg			
	Max resolu	ution:	3840x21	60@60Hz	, (USB Type	-C); 38	40x2160@	30Hz (HDMI)	Case color Case material	Black or silver  Display cover: Aluminum or PC/ABS plastic;				
Chipset Memory	Intel SoC 16GB max	(Syste x / 266	m on Chi 6MHz DI	p) platform DR4, one D	DR4 SO-E	DIMM so	cket		Smart card reade	Bottom: Aluminum	n or PC/ABS plastic			
Display	Size Beso	Jution	Т	ype Surface	Brightne	Aspe	ct Contras		Media reader	None				
		Size         Resolution         Type         Surface         Brightness         Aspect Ratio         Contrast         Viewing Angle           14.0°         FHD (1920x1080)         TN         Anti-glare         220 nits         16:9         400:1         90°           14.0°         FHD (1920x1080)         IPS         Anti-glare         250 nits         16:9         700:1         170°           None							Ports		<ul> <li>3.1 Gen 1 (one Always On),</li> <li>1 (with the function of Power Delivery and DisplayPort).</li> </ul>			
										HDMI 1.4b, Ethernet (RJ-	-45), headphone / microphone combo jack,			
Multi-touch										security keyhole  * Depending on many factors	s, actual data transfer speed may be lower than theoretical speed			
Storage		Irivae (a	no M 2 S	SD and one I	-{DD)				Monitor cable	None	s, actual data transfer speed may be lower than theoretical speed			
Storage	• HDD / S	SATA 6	.0Gb/s, 2	.5" wide, 71	nm high, A	Active Pr	otection Sy	stem™	Bundled Accy	None				
	• M.2 228	O SSD	) / SATA 6	S.0Gb/s		. DOI- 0	0 4		Camera		ional ThinkShutter camera privacy, fixed focus			
				IVMe, PCI IVMe, PCI		r POIe 3	.U X 4		Audio support	HD Audio, Synaptic® CX1	1880 codec / Dolby® Advanced Audio /			
	<ul> <li>Intel Op</li> </ul>	tane™	Memory	H10 with S		Storage	),				eadphone / microphone combo jack			
Optical	None		le NVMé						Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad				
Ethernet				ion, Realte		US			Security	Power-on password, hard	d disk password, supervisor password, security keyhole			
WLAN + Bluetooth™				figurable by		Diverse	L		Security chip	hip Integrated model: discrete TPM 2.0, TCG Certified				
Dideloom							th 5.0, M.2 5.0. M.2 ca		System Mgt	Discrete model: firmv	vare TPM 2.0 integrated in chipset			
WWAN SIM card	None None		1201, 111	TTEXE GOL	. Trax i Di	40100111	0.0, W.L 00		Fingerprint reade		tch on chip fingerprint reader on power button			
									Battery	Integrated Li-ion 45Wh bawith 65W AC adapter	attery, supports Rapid Charge (charge up to 80% in 1hr)			
									Max battery life	MobileMark® 2014: 12.8	hr			
											ntly with settings, usage, & other factors			
									AC adapter	45W or 65W USB Type-C	·			
									Operating system	One of the following, configure  • Windows® 10 Home 64				
									(optional)	Windows 10 Pro 64				
										Windows 10 Pro in S m	node			
									Lineite et comment	• No OS				
									Limited warranty (optional)	<ul> <li>1-year mail-in repair ser</li> <li>1-year depot repair ser</li> </ul>				
									(opaona)		ar system board repair service			
									Mil-Spec test	MIL-STD-810G military te	esting (by the end of Dec. 2019)			
									Environment		Y STAR® 7.1; RoHS-compliant			
Note: The speci	finations observe		act he eve	ilabla in all	ragiona				ı		Lenov			



















# ThinkPad E15 Platform Specifications

Processor	10th Generation Intel® Core™ i3 / i5 / i7 Processor	Dimensions WxDxH: 14.49" x 9.65" x 0.74"; 368mm x 245mm x 18.9mm
	Processor     # of Number     # of Cores     Base Threads     Max Turbo Frequency     Cache Frequency     Memory Types     Processor Graphics	Weight Starting at 4.3 lb / 1.9 kg Case color Black or silver Case material Display cover: Aluminum;
	i3-10110U   2   4   2.1 GHz   4.1 GHz   4MB   15-10210U   4   8   1.6 GHz   4.2 GHz   6MB   DDR4-2666   Intel UHD Graphics	Bottom: PC/ABS plastic Smart card readerNone
	i7-10710U 6 12 1.1 GHz 4.7 GHz 12MB	Media reader Ports None One USB 2.0, two USB 3.1 Gen 1 (one Always On),
Graphics	Intel UHD Graphics in processor only or Intel UHD Graphics in processor and AMD Radeon RX 640 Graphics, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 3840x2160@60Hz (USB Type-C); 3840x2160@30Hz (HDMI)	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, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed None None None
Chipset Memory	Intel SoC (System on Chip) platform 16GB max / 2666MHz DDR4, one DDR4 SO-DIMM socket	Camera Audio support HD720p camera with optional ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio /
Display	Size Resolution Type Surface Brightness Aspect Ratio Viewing Angle	dual array microphone, headphone / microphone combo jack  Keyboard 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight
	15.6" FHD (1920x1080) TN Anti-glare 220 nits 16:9 400:1 90°	UltraNav™ TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch	15.6" FHD (1920x1080)   IPS   Anti-glare   250 nits   16:9   700:1   170°   None	Security Power-on password, hard disk password, supervisor password, security keyhole Integrated model: discrete TPM 2.0, TCG Certified
Storage	<ul> <li>Up to two drives (one M.2 SSD and one HDD)</li> <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 or PCIe 3.0 x 4</li> </ul>	Discrete model: firmware TPM 2.0 integrated in chipset System Mgt None Fingerprint reader Optional: Touch style match on chip fingerprint reader on the palm rest NFC None
•	<ul> <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 Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter  Max battery life MobileMark® 2014: 12.2 hr
Optical Ethernet	None Gigabit Ethernet Connection, Realtek R8111GUS	* Battery life varies significantly with settings, usage, & other factors  AC adapter 45W or 65W USB Type-C AC adapter
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 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0, M.2 card	Operating system One of the following, configurable by model: (optional)  • Windows® 10 Home 64 • Windows 10 Pro 64 • Windows 10 Pro in S mode
WWAN SIM card	None None	• No OS
C.III Gara		<ul> <li>Limited warranty (optional)</li> <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> </ul>
		Mil-Spec test MIL-STD-810G military testing (by the end of Jan. 2020)
		Environment EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant

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

Lenovo October 2019





# ThinkPad E480 Platform Specifications

Processor				e™ i3 / i5 F ele in US an	Processor ad EMEA) o	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			
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Types Graphics		Weight Case color	Starting at 3.87 lb / 1.75kg Black or silver				
	i3-7020U i3-7130U	2	4	2.3 GHz 2.7 GHz	-	3MB 3MB	DDR4-2133	Intel HD Graphics	Case material	Display cover: Aluminum or PC/ABS plastic; Bottom: PC/ABS plastic			
	i5-7200U		4	2.7 GHZ 2.5 GHz	3.1 GHz	3MB	DDR4-2133	620	Smart card reade Media reader	rNone 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),			
	Processor Number	# of Cores	# of Threads	· · · ·	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		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			
	i3-8130U i5-8250U	2 4	8	2.2 GHz 1.6 GHz	3.4 GHz 3.4 GHz	4MB 6MB	DDR4-2400	Intel UHD Graphics 620	Camera	*Depending on many factors, actual data transfer speed may be lower than theoretical speed HD720p camera, fixed focus			
Graphics	i7-8550U Intel HD G	Graphics 620 or Intel UHD Graphics 620 in processor only or							Audio support	HD Audio, Synaptic® CX11852 codec / stereo speakers, 1.5W x 2, Dolby® Advanced Audio /			
		raphic	s 620 or	Intel UHD	Graphics 6	20 in p	rocessor ar			dual array microphone, headphone / microphone combo jack			
	supports e	xterna	ıl digital r	nonitor via					Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
	supports d Max resolu	ution:	1920x10	80 (HDMÍ)					Security Power-on password, hard disk password, supervisor password, security Security chip (opt)Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certification.				
Chipset Memory	Intel SoC ( 32GB max * System clo	2400	OMHz DE	ÒŔ4, dual-d	ı channel cap o <i>lower mem</i>	oable, t	wo DDR4 S roller	SO-DIMM sockets	vPro	None  None  Touch style fingerprint reader on the palm rest  None			
Display					68), anti-gla		D backlight,	,		Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)			
	Some: 14	.0" (35	55mm) Fİ	HD (1920x)	1080), anti- 00:1 contra	glare, I	_ED backlig	ght, IPS,	Max battery life	with 65W AC adapter  MobileMark® 2014: 13.51 hr  * Battery life varies significantly with settings, usage, & other factors			
Multi-touch	None		·						AC adapter	45W or 65W USB Type-C AC adapter			
Storage				and one HE	<i>DD)</i> ride, remov	ahle ur	naradable		Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64			
	Some: M.	tive Pr 2 SSD	otection : O / PCIe N	System™ VVMe					Limited warranty	1-year mail-in repair service			
Optane™ memor Optical	y <i>Optional:</i> None	Intel O	ptane m	emory, PCI	le NVMe, F	Cle 3.0	) x 2		Mil-Spec test	1-year depot repair service  MIL-STD-810G military testing			
Ethernet		hernet	Connect	tion, Realte	k R8111G	US			Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant			
WLAN + Bluetooth™	One of the following, configurable by model:  Realtek® RTL8821CE, Wi-Fi 1x1 802.11ac + Bluetooth 4.1, M.2 card  Realtek RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card  Intel Dual Band Wireless-AC 3165, 1x1, Wi-Fi + Bluetooth 4.1, M.2 Card  Intel 3165ac card supports BT4.2 but is limited to BT4.1 by Windows OS								Liviloriillent	El EAT GOIA (GG GHIY), ENERTAT GTALL G.1, FIGURE COMPILATE			
WWAN SIM card	None None												
	None	may n	ot be ava	ilable in all	regions.								

























# ThinkPad E490 Platform Specifications

Processor	8th Generation Intel®	Core™ i3 / i5 / i	7 Processor			Dimensions	Aluminum (WxDxH): 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm		
	Processor # of # of Number Cores Thre	ads Frequency	Max Turbo Frequency Cache	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 2 4 i5-8265U 4 8	1.6 GHz	3.9 GHz 4MB 3.9 GHz 6MB 4.6 GHz 8MB	DDR4-2400	Intel UHD Graphics 620	Case material	Display cover: Aluminum or PC/ABS plastic; Bottom: PC/ABS plastic		
Graphics	Intel UHD Graphics 6					Smart card readerNone Media reader MicroSD card reader			
·	Intel UHD Graphics 6: AMD Radeon RX 550 supports external digi supports dual indeper Max resolution: 4096:	20 in processor X Graphics, 2G ital monitor via I ndent display;	and B GDDR5 mem IDMI or USB Ty	pe-C;	224Hz (HDMI)	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 DisplayPo 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.		
Chipset Memory	Intel SoC (System on 32GB max / 2400MHz	z DDŔ4, dual-cł	nannel capable,	two DDR4 S	SO-DIMM sockets	Monitor cable Bundled Accy	None None		
Display	* Installed memory is act Size / Resolution	tually 2666MHz bu	ıt run at 2400MHz	due to Intel li	imitation	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 iack		
		Anti-glare TN	220 nits 16:9	400:1	90° Non-touch	 Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight		
	14.0" FHD (1920x1080)	Anti-glare   IPS	250 nits   16:9	600:1	170° Non-touch	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
	None  Up to two drives (one M.)  HDD / SATA 6.06/.  M.2 2280 SSD / SA  M.2 2280 SSD / PC  M.2 2242 SSD / PC	/s, 2.5" wide, 7m TA 6.0Gb/s De NVMe, PCIe De NVMe, PCIe	nm <sup>*</sup> high, Active F 3.0 x 4 3.0 x 2	•	•	Security Security chip System Mgt Fingerprint reade	Power-on password, hard disk password, supervisor password, security keyhole Integrated model: discrete TPM 2.0, TCG Certified firmware TPM 2.0 integrated in chipset None  Optional: Touch style fingerprint reader on the palm rest None		
	* Installed M.2 2280 SSE y Optional: Intel Optano None				) adapter ilmitation	Battery  Max battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 13 hr		
Ethernet	Gigabit Ethernet Con	nection, Realtek	R8111GUS			iviax battery life	* Battery life varies significantly with settings, usage, & other factors		
WLAN +	One of the following, of					AC adapter	45W or 65W USB Type-C AC adapter		
Bluetooth™	Realtek® RTL8822B     Intel Wireless AC 000						Optional: Windows® 10 Home 64 or Windows 10 Pro 64		
WWAN SIM card	• Intel Wireless-AC 92 None None	20U, VVI-FI ZXZ 8	uz. i iac + Bluet	00tii 5.U, M.	.z caru	Limited warranty	One of the following, configurable by model:  1-year mail-in repair service  1-year depot repair service		
						Mil-Spec test	MIL-STD-810G military testing		
						Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant		

August 2019

























# ThinkPad E490s Platform Specifications

Processor	8th Generation Intel®	Core™ i5 / i7 P	rocessor					Dimensions	WxDxH: 12.96" x 9.13" x 0.70"; 329mm x 232mm x 17.9mm		
	Processor # of # of Number Cores Three		Max Turbo Frequency	Cache	Memory Types		Processor Graphics	Weight   Case color   Case material	Starting at 3.68 lb / 1.67 kg Black or silver Aluminum		
	i5-8265U i7-8565U 4 8	1.6 GHz 1.8 GHz		6MB 8MB	DDR4-240	00 Intel	UHD Graphics 620	Smart card reader			
Graphics	Intel UHD Graphics 62 AMD Radeon RX 540 supports external digi supports three indepe Max resolution: 4096	UHD Graphics 620 in processor only or UHD Graphics 620 in processor and ORAdeon RX 540X Graphics, 2GB GDDR5 memory; orts external digital monitor via HDMI or USB Type-C; orts three independent display; resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@24Hz (HDMI)  SoC (System on Chip) platform  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 Delive HDMI 1.4b, Ethernet (RJ-45), headphone / microsho card reader, security keyhole *Depending on many factors, actual data transfer speed may be lower None None None									
Chipset Memory	Intel SoC (System on 32GB max / 2400MHz * Installed memory is act	z DDŔ4, dual-c	hannel capa ut run at 2400	ble, tw	o DDR4 ue to Intel i	SO-DI limitatio	MM sockets	Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec /		
Display	Size / Resolution	Surface Type		Aspect Ratio	Contrast \	/iewing Angle	Multi-touch		stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack		
	14.0" FHD (1920x1080) 14.0" FHD (1920x1080)		220 nits	16:9 16:9	400:1	90° 170°	Non-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
Multi-touch	None	Anti-giale  IFS	250 11115	10.9	600.1	170	Non-touch	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Integrated model: discrete TPM 2.0, TCG Certified		
Storage	One of the following, con • M.2 2280 SSD / SAI • M.2 2280 SSD / PCI • M.2 2242 SSD / PCI	TĂ 6.0Gb/s de NVMe, PCIe de NVMe, PCIe	3.0 x 4 3.0 x 2					System Mgt	None Address of the palm rest None None		
Optical	* Installed M.2 2280 SSE None	D is PCIe 3x4 but	run at PCIe 3	x2 due	to M.2 SSI	D adapi	ter limitation	Battery	Integrated Li-ion 42Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter		
Ethernet	Gigabit Ethernet Conr	nection, Realtel	k R8111GUS	S				Max battery life	MobileMark® 2014: 11.5 hr		
WLAN + Bluetooth™	One of the following, con • Realtek® RTL8822B • Intel Wireless-AC 92	3E, Wi-Fi 2x2 80	2.11ac + Blu				d	AC adapter Operating system	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter  Optional: Windows® 10 Home 64 or Windows 10 Pro 64		
WWAN	None							· · · · ·	1-year depot repair service		
SIM card	None							Mil-Spec test	MIL-STD-810G military testing		
								Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant		

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

Lenovo September 2019













# ThinkPad E495 Platform Specifications

Processor AMD Ryzen™ Mobile Processors with Radeon™ Vega Graph									Dimensions	Aluminum (WxDxH): 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm
	Processor Number		# of Threads		ncy Frequency Cache Controller Graphics Weight	- Cooo 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			
	Ryzen 3 3200U	2	4	2.6 GHz	3.5 GHz	1MB L2 / 4MB L3		Radeon Vega 3 Graphics	Case material	Biack Display cover: Aluminum or PC/ABS plastic; Bottom: PC/ABS plastic
	Ryzen 5 3500U	4	8	2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-2400	Radeon Vega 8 Graphics	Smart card reade	
	Ryzen 7 3700U		0	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3		Radeon RX Veg 10 Graphics	Media reader Ports	One USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
Graphics	supports e supports o Max resolu	externa dual in ution:	al digital depende 3840x2		HDMI or I USB Type	JSB Type	e-C;	or; 80Hz (HDMI)	Monitor cable Bundled Accy	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	32GB max	κ / 240	OMHz D	Chip) platfori DDR4, dual- <i>lly 2666MHz</i>	channel ca			O-DIMM socket mitation	Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 1.5W x 2, Dolby® Advanced Audio /
Display	Size / Resolution Surface				Brightnes	s Aspect Ratio	Contrast Vice	ewing ngle Multi-toucl		dual array microphone, headphone / microphone combo jack
		D (1366x768) Anti-glare TN 220 nits 16:9 400:1 90° Non-tou				400:1	90° Non-touch	–⊩Uitrainav'™	6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad	
Multi-touch	None	(1920X	.1080) AI	nu-giare   123	250 nits	16:9	600:1	70°   Non-touci	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Storage	• HDD / S	ata 6.	.0Gb/s, 2	SSD and one 2.5" wide, 7	mm high, <i>i</i>			stem™	Fingerprint reade	None
Optical	• M.2 2242 None	2 55L	7/ PCIE	NVMe, PCI	9 3.0 X 2 0	r PCIe 3.	U X 4		Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Ethernet	Gigabit Etl	herne	t Conne	ction, Realte	ek R81110	iUS			Max battery life	MobileMark® 2014: 11 hr
WLAN + Bluetooth™	<ul> <li>Realtek®</li> </ul>	RTL	822BE,	nfigurable b Wi-Fi 2x2 8	02.11ac +	Bluetoot	h 4.2, M.2	card	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
		eless-	AC 9260	), Wi-Fi 2x2	802.11ac	+ Bluetoo	oth 5.0, M.2	card card	Operating system	
WWAN SIM card	None None								Limited warranty	
Olivi caru	INOTIC								Mil-Spec test	Work in progress
									Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant

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





# ThinkPad E580 Platform Specifications

Processor	7th Genera	ation In	itel® Core	e™ i3 / i5 P	rocessor o	r			WLAN +	One of the following, configurable by model:
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Bluetooth™	Realtek® RTL8821CE, Wi-Fi 1x1 802.11ac + Bluetooth 4.1, M.2 card     Realtek RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card
	i3-7020U		4	2.3 GHz	-	3MB	DDD4 0400	Intel HD Graphics		<ul> <li>Intel Dual Band Wireless-AC 3165, 1x1, Wi-Fi + Bluetooth 4.1, M.2 Card</li> <li>Intel 3165ac card supports BT4.2 but is limited to BT4.1 by Windows OS</li> </ul>
	i3-7130U i5-7200U	2	4	2.7 GHz 2.5 GHz	- 3.1 GHz	3MB 3MB	DDR4-2133	620	WWAN SIM card	None None
	8th Generation Intel Core i3 / i5 / i7 Processor								Dimensions	WxDxH: 14.53" x 9.92" x 0.78"; 369mm x 252mm x 19.95mm
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency Cach	Cache	Memory Types	Processor Graphics	Weight Case color	Starting at 4.7 lb / 2.1kg Black or silver
	i3-8130U i5-8250U	2	8	2.2 GHz 1.6 GHz	3.4 GHz 3.4 GHz	4MB 6MB	DDR4-2400	Intel UHD Graphics 620	Case material	Display cover: Aluminum; Bottom: PC/ABS plastic
	i7-8550U * i3-7130U is	s NOT a	available ii	1.8 GHz	4.0 GHz 1FA	8MB			Smart card reader Media reader	MicroSD card reader
	* i3-7130U is NOT available in US and EMEA  Intel HD Graphics 620 or Intel UHD Graphics 620 in processor only or Intel HD Graphics 620 or Intel UHD Graphics 620 in processor and AMD Radeon RX 550 Graphics, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C;								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), 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.
	supports d Max resolu Intel SoC (	ıtion: 1	1920x108	30 (HDMÍ) €	260Hz				Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11852 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio /
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							O-DIMM sockets		dual array microphone, headphone / microphone combo jack
Display	Some: 15	.6" (39	6mm) H	D (1366x76	88), anti-gla	are, LE	D backlight,		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	220 nits, 16:9 aspect ratio, 400:1 contrast ratio  Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 250 nits, 16:9 aspect ratio, 600:1 contrast ratio							ht, IPS,	Security chip <i>(opt)</i> Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certifi	
	None								vPro Fingerprint reader	None or Optional: Touch style fingerprint reader on the palm rest None
Storage	Up to 2 drive Some: HD					able. ur	ogradable.		NFČ .	
		tive Pro	otection S	System™	,	,	granaura,		Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Optane™ memory	Optional: 1				e NVMe, P	Cle 3.0	) x 2		Max battery life	MobileMark® 2014: 12.23 hr *Battery life varies significantly with settings, usage, & other factors
									AC adapter	45W or 65W USB Type-C AC adapter
Ememer	Gigabit Eti	iemet	Connect	ion, Realte	KHOIIIGU	15			Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
										One of the following, configurable by model:  1-year mail-in repair service  1-year depot repair service
										MIL-STD-810G military testing
									Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant

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

















# ThinkPad E590 Platform Specifications

Processor	8th Generation Intel®	<sup>®</sup> Core™	™ i3 / i5 / i	7 Processo	r				Dimensions	WxDxH: 14.53" x 9.94" x 0.78"; 369mm x 252.5mm x 19.9mm Starting at 4.68 lb / 2.12 kg Black or silver Display cover: Aluminum;		
	Number Cores Three		Frequency	Frequency	Cache	Memory Types		Processor Graphics	Weight   Case color   Case material			
	i3-8145U 2 4 i5-8265U 4 8		2.1 GHz 1.6 GHz 1.8 GHz	3.9 GHz	4MB 6MB 8MB	DDR4-240	00 Intel	Intel UHD Graphics 620	Smart card reade Media reader	Bottom: PC/ABS plastic rNone MicroSD card reader		
Graphics	Intel UHD Graphics 6 Intel UHD Graphics 6 AMD Radeon RX 55 supports external dig supports dual indepe Max resolution: 4096	620 in p 0X Gra gital mo endent 6x2304	processor aphics, 2G onitor via F display; 1@60Hz (l	and B GDDR5 HDMI or US	SB Typ	e-C;	@24Hz	(HDMI)	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 DisplayPo 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 sy Monitor cable Bundled Accy None			
Chipset Memory	Intel SoC (System or 32GB max / 2400MH * Installed memory is ac	Iz DDÁ	R4, dual-ch						Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio /		
Display	Size / Resolution	Surfa	ace Type	Brightness	Aspect Ratio	Contrast Ratio	Viewing Angle	Multi-touch		dual array microphone, headphone / microphone combo jack		
	15.6" HD (1366x768)	Anti-g		220 nits	16:9	400:1	90°	Non-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
Multi-touch	15.6" FHD (1920x1080) None	) Anti-g	lare   IPS	250 nits	16:9	600:1	170°	Non-touch	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Integrated model: discrete TPM 2.0. TCG Certified		
Storage	Up to two drives (one M • HDD / SATA 6.0Gb, • M.2 2280 SSD / SA • M.2 2280 SSD / PO	/s, 2.5" ATA 6.0	" wide, 7m )Gb/s	m high, Ac	tive Pr	otection S	System™	тм	Discrete model: firmware TPM 2.0 integrated in chipset System Mgt None Fingerprint reader Optional: Touch style fingerprint reader on the palm rest NFC None			
Optane™ memor	M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2     * Installed M.2 2280 SSD is PCIe 3x4 but run at PCIe 3x2 due to M.2 SSD adapter limitation nory Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2     None								Battery Max battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter  MobileMark® 2014: 11 hr  * Battery life varies significantly with settings, usage, & other factors		
Ethernet	Gigabit Ethernet Con	nectio	n, Realtek	R8111GL	JS				AC adapter	45W or 65W USB Type-C AC adapter		
WLAN +	One of the following, con								Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64		
Bluetooth™	<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>								Limited warranty	One of the following, configurable by model:  1-year mail-in repair service		
WWAN	None									1-year depot repair service		
SIM card	None								Mil-Spec test	MIL-STD-810G military testing		
									Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant		

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













### ThinkPad E595 Platform Specifications

Processor	AMD Ryz	en™ Mo	obile Pro	cessors wi	th Radeon	<sup>™</sup> 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		
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Controller		rocessor Graphics	Weight Case color			
	Ryzen 3 3200U	2	4	2.6 GHz	3.5 GHz	1MB L2 / 4MB L3			eon Vega 3 Graphics	Case material	Display cover: Aluminum; Bottom: PC/ABS plastic		
	Ryzen 5 3500U	4	8	2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-240		Radeon Vega 8 Graphics	Smart card reader Media reader	MicroSD card reader		
	Ryzen 7 3700U	4		2.3 GHz	4.0 GHz	2MB L2 / 4MB L3		Rade 10	eon RX Vega 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 of	externa dual in	al digital depende	ega 8, or R) monitor via ent display; 160@60Hz	HDMI or I	JSB Type	e-C;		HDMI)	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	AMD 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 AMD limitation									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 / Reso				e Brightnes	S Ratio		Angle	Multi-touch	 Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
	15.6" HD (			nti-glare TN nti-glare IPS					Non-touch	Security	Power-on password, hard disk password, supervisor password, security keyhole		
Multi-touch	None									Security chip Fingerprint reader	Discrete TPM 2.0, TCG Certified er None		
Storage				SSD and one		–				NFC	None		
	<ul> <li>HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™</li> <li>M.2 2242 SSD / PCle NVMe, PCle 3.0 x 2 or PCle 3.0 x 4</li> </ul>									Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter		
Optical	M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4 None									Max battery life	MobileMark® 2014: 10.3 hr * Battery life varies significantly with settings, usage, & other factors		
Ethernet	Gigabit Et	thernet	t Conne	ction, Realt	ek R81110	GUS				AC adapter	45W or 65W USB Type-C AC adapter		
WLAN +	One of the	e follov	ving, coi	nfigurable b	y model:					Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64		
Bluetooth™	<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>									Limited warranty	One of the following, configurable by model:  1-year mail-in repair service		
WWAN SIM card	None									1.0	1-year depot repair service		
SIN Caru	None									Mil-Spec test	Work in progress		
										Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant		

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



















# ThinkPad L13 Platform Specifications

Processor	10th Generation Intel®	Core™ i3	/ i5 / i7	7 Processor					er Optional: Smart card reader	
	Processor # of # of Number Cores Threa	ads Freque	ency Fr	requency	cne		essor phics	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)	
	i3-10110U 2 4 i5-10210U i7-10510U 4 8	2.1 G 1.6 G 1.8 G	iHz 4	1.2 GHz 6	MB DE	DR4-2666 Intel UHD	) Graphics		HDMI 1.4b, 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	
Graphics	Intel UHD Graphics in supports external digit supports three indepe Max resolution: 4096x	al monitor	r via HE olays;		,,	•	OMI)	(optional)	Lenovo USB-C to VGA Adapter Lenovo USB-C to HDMI Adapter Lenovo USB-C to DisplayPort Adapter Lenovo HDMI to VGA Monitor Adapter Lenovo USB-C to Ethernet Adapter  Lenovo USB-C to Ethernet Adapter	
Chipset Memory	Intel SoC (System on 4GB, 8GB, or 16GB / 2			/ soldered t	o syste	emboard, no socke	ets	Accessories (optional)	Lenovo USB-C to USB-A Adapter     Lenovo USB-C to USB-C Cable 2m	
Display	Size Resolution	Surface	7'	Brightness	Aspect Ratio	Contrast Ratio	Viewing Angle	Camera	One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus	
	13.3" HD (1366x768) 13.3" FHD (1920x1080)	Anti-glare Anti-glare	IPS	250 nits 250 nits (non-touch) 300 nits	16:9	500:1 800:1 (non-touch) 700:1 (multi-touch)	90° 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 / dual array microphone, headphone / microphone combo jack</li> </ul>	
Multi-touch (opt)	On-cell touch, support	 s 10-finge		(multi-touch)  ure (FHD on	ly)			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, com  • M.2 2242 SSD / PCI  • M.2 2280 SSD / PCI  • Intel Optane™ Memor M.2 2280, PCIe NVN	e NVMe, le NVMe, ory H10 w	PCle 3 PCle 3 rith Soli	.0 x 2 .0 x 4	rage,				Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology or Optional: Touch style fingerprint reader on the palm rest None	
Optical	None	Name	- 1040.1	V / N D	-\ 10	40 LM (- D)		Battery	Integrated Li-ion 46Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter	
Ethernet	Native Intel Ethernet C	SB-C to E	thernet	Adapter	o) or 12	19-LM ( <i>VPro</i> )		Max battery life	MobileMark® 2014: 14.1 hr * Battery life varies significantly with settings, usage, & other factors	
WLAN + Bluetooth™	<ul><li>One of the following, c</li><li>Intel Wireless-AC 95</li><li>Intel Wi-Fi 6 AX201,</li></ul>	60, Wi-Fi <i>i</i>	2x2 <sup>*</sup> 802	2.11ac + Blu				AC adapter Operating system	45W, 65W, or 65W slim USB-C AC adapter on Optional: Windows® 10 Home 64 or Windows 10 Pro 64	
WWAN SIM card	None None	VVI-I 1 ZXZ	002.11	iax + bluett	JOHI 3.0	o, ivi.2 caru		Limited warranty  One of the following, configurable by model:  1-year depot repair service 1-year depot with 2-year system board repair service		
Dimensions Weight Case color Case material	WxDxH: 12.26" x 8. Starting at 3.06 lb / 1.3 Black or Silver Display cover: Alumin	38 kg	)"; 311.	5mm x 219	mm x 1	7.6mm			<ul> <li>1-year dept with 2-year system board repair service</li> <li>1-year battery 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 malend	Bottom: GFRP	iuiII						Mil-Spec test	MIL-STD-810G military testing	
								Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant	

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

Lenovo October 2019





# ThinkPad L380 Platform Specifications

Processor	Intel® Cele	ron® F	rocessor	, 7th Gene	ration Intel	Core™	i3 / i5 Proc	essor or	Dimensions	<i>WxDxH:</i> 12.67" x 8.83" x 0.74"; 321.8mm x 224.2mm x 18.8mm
	Processor Number	# of	# of	Base Frequency	Max Turbo	Cache	Memory Types	Processor Graphics	Weight Case color	Starting at 3.22 lb / 1.46 kg Black or Silver
		Cores					rypes	Intel HD Graphics	Case material	Display cover: Aluminum
	Cel 3965U		2	2.2 GHz	-	2MB		610	Smart card reade	Bottom: GFRP
	i3-7020U	2		2.3 GHz	-		DDR4-2133	Intel HD Graphics	Media reader	MicroSD card reader
	i3-7130U i5-7200U		4	2.7 GHz 2.5 GHz	- 3.1 GHz	3MB 3MB		620	Ports	Two USB 3.1 Gen 1 (one Always On),
	8th Genera	ation I	ntel Core					l.		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,
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Monitor cable	microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	i3-8130U	2	4	2.2 GHz	3.4 GHz	4MB	,	·	(optional)	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter
	i5-8250U	-8250U							, ,	USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	i7-8550U								Bundled Accy Camera	Optional: ThinkPad Ethernet Extension Cable  HD720p camera, fixed focus
Graphics	Intel HD G supports e supports the	externa	ıl digital n	nonitor via	HDMI or U	ics 620 SB Typ	in process e-C;	or;	Audio support	HD Audio, Realtek ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ / dual array microphone, headphone / microphone combo jack
	Max resolu	ution:	4096x23	04@60Hź	ÚSB Type-	C); 40	96x2160@3	30Hz (HDMI)	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchoad, multi-touch
Chipset Memory	Intel SoC ( 32GB max * System clo	240 أ	OMHz DE	DŔ4, dual-c		able, to	wo DDR4 S	O-DIMM sockets	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Display	Some: 13 25 Some: 13	3.3" (3: 50 nits 3.3" (3:	38mm) H , 16:9 ası 38mm) F	D (1366x7 pect ratio, 5 HD (1920x	68), anti-gl 500:1 contr 1080), anti	are, LE ast ratio -glare,	D backlight D LED backlig	jht, IPS,	vPro <i>(optional)</i> Fingerprint reade	Intel vPro Technology or Optional: Touch style fingerprint reader on the keyboard bezel, anti-spoofing technology Near Field Communication
Multi-touch (opt)	on-cell tou					ast ratio	o, 170° view	ring angle	NFC (optional) Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Storage	One of the f		<u> </u>							with 65W AC adapter
o .	• M.2 SSE	) / SAT	A 6.0Gb/	s (e.g. xxx	GB SSD M	.2)	OD 00D	M O DOLE NIVAA	Max battery life	MobileMark® 2014: 16.1 hr * Battery life varies significantly with settings, usage, & other factors
Optical	<ul> <li>M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (é.g. xxxGB SSD M.2 F None</li> </ul>								AC adapter	45W or 65W USB Type-C AC adapter
Ethernet	Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro)							rPro)	Operating system	
		via optional ThinkPad Ethernet Extension Cable Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1							Limited warranty	One of the following, configurable by model:  • 1-vear depot repair service
WLAN + Bluetooth™	* Intel 8265				Vi-Fi 2x2 80 limited to B1			h 4.1, M.2 card		3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service
WWAN SIM card	None None								Mil-Spec test	MIL-STD-810G military testing
Chivi Cara	140110								Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant

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





















# ThinkPad L390 Platform Specifications

Processor	8th Genera	ation Ir	ntel® Core	e™ i3 / i5	/ i7 Proces	sor				Smart card reade	
	Processor Number	# of Cores	# of Threads	Base Frequence	Max Turb		Memory Types		cessor phics	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),
	i3-8145U i5-8265U i5-8365U i7-8565U	4	8	2.1 GH: 1.6 GH: 1.6 GH: 1.8 GH:	z 3.9 GHz z 4.1 GHz	6MB 6MB	DDR4-2400		O Graphics 320	Monitor cable	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 USB-C to VGA Adapter:  Lenovo USB-C to VGA Adapter:
Graphics	Intel UHD supports e supports the Max resolu	externa hree in	al digital n ndepende	nonitor v ent displa	ia ĤDMI or	,,	•	30Hz (HI	OMI)	(optional) Bundled	USB-C to VGA (plus Power) Adapter: USB-C to HDMI Adapter: USB-C to HDMI (plus Power) Adapter: Lenovo USB-C to HDMI plus Power Adapter: Lenovo USB-C to HDMI plus Power Adapter Lenovo USB-C to DisplayPort Adapter: USB-C to Ethernet Adapter: Lenovo USB-C to Ethernet Adapter
Chipset Memory	Intel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-E * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitate  Aspect								sockets	Accessories (optional) Camera	USB-C to USB-A Adapter: USB-C to USB-C Cable 2m:  Lenovo USB-C to USB-A Adapter Lenovo USB-C to USB-C Cable 2m  HD720p camera, fixed focus
Display	Size Resolution Surface Type Brightness Aspect Ratio  13.3" HD (1366x768) Anti-glare TN 250 nits 16:9 500:1							st Ratio	Viewing Angle	Audio support	HD Audio, Realtek ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headbhone / microphone combo jack
						700:1 (n	on-touch)	90° 170°	 Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch	
Multi-touch (opt)	On-cell tou	uch, su	upports 1	0-finger	gesture (FF	D only)	1 000.1 (111	iditi todonj		Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified
Storage	One of the f • M.2 2280 • M.2 2242	0 SSD 2 SSD	) / SATA 6 ) / PCle N	6.0Gb/s IVMe, P0	Cle 3.0 x 2					System Mgt (opt)	Intel vPro Technology  or <i>Optional:</i> Touch style fingerprint reader on the palm rest  Near Field Communication
Optical	<ul><li>M.2 2280</li><li>Intel Opt M.2 2280</li><li>None</li></ul>	tane™	Memory e NVMe	H10 with	ole 3.0 x 4 Solid Stat	Storage	<del>)</del> ,			Battery Max battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter  MobileMark® 2014: 14.61 hr  * Battery life varies significantly with settings, usage, & other factors
Ethernet	Native Inte	el Ethe	rnet Con	nection I	219-V ( <i>Nor</i>	- <i>vPro</i> ) o	1219-LM (	(vPro)		AC adapter	45W or 65W USB Type-C AC adapter
	Lenovo US	SB-C to	o Etherne	et Adapte	er	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				Operating system Limited warranty	n Optional: Windows® 10 Home 64 or Windows 10 Pro 64  One of the following, configurable by model:
WLAN Bluetooth™	Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter									Limited warranty	1-year depot repair service     1-year depot with 2-year system board repair service
WWAN SIM card	None None										3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service
Dimensions					321.8mm x	224.2m	m x 18.8mr	m		Mil-Spec test	MIL-STD-810G military testing
Weight Case color Case material	Starting at 3.22 lb / 1.46 kg Black or Silver  Display cover: Aluminum Bottom: GFRP									Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant



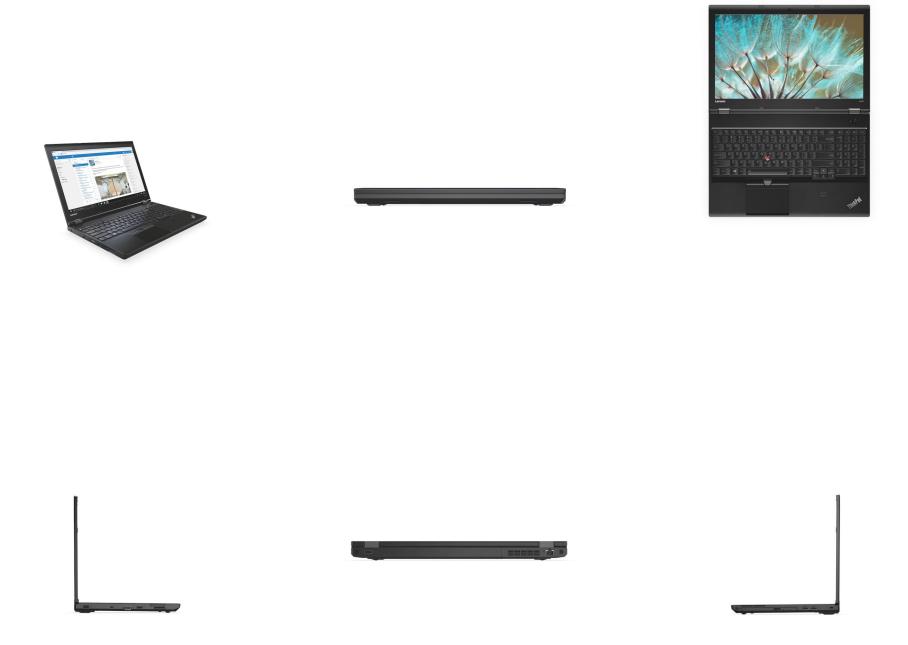
# ThinkPad L480 Platform Specifications

Processor	7th Gener	ation I	ntel® Cor	e™ i3 / i5 P	rocessor o	r			WWAN (optional)	One of the following, configurable by model:
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types	Processor Graphics		<ul> <li>Integrated Mobile Broadband 4G LTE, Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)</li> <li>Integrated Mobile Broadband 4G LTE-A,</li> </ul>
	i3-7020U i3-7130U i5-7200U	2	4	2.3 GHz 2.7 GHz 2.5 GHz	- - 3.1 GHz	3MB 3MB 3MB	DDR4-2133	Intel HD Graphics 620	SIM card (opt)	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
	i5-7300U	l		2.6 GHz	3.5 GHz	ЗМВ			Dimensions	WxDxH: 13.19" x 9.25" x 0.89"; 335mm x 235mm x 22.5mm
	Processor		ntel Core	i3 / i5 / i7 l	1		Managani	D	Weight Case color	Starting at 3.71 lb / 1.68 kg Black
	Number	# of Cores		Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Case material	PC/ABS plastic
	i3-8130U i5-8250U i5-8350U	4	8	2.2 GHz 1.6 GHz 1.7 GHz	3.4 GHz 3.4 GHz 3.6 GHz	4MB 6MB 6MB	DDR4-2400	Intel UHD Graphics 620	Smart card reade Media reader Ports	r Optional: Smart card reader 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),
	i7-8550U	io NOT	available i	1.8 GHz in US and El	4.0 GHz	8MB			_	HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader.
Graphics	Intel HD G Intel HD G AMD Rad (discrete r	araphic Araphic eon 53 nodels	es 620 or es 620 or 60, 2GB ( are NOT	Intel UHD Intel UHD GDDR5 me available	Graphics 6. Graphics 6. mory in EMEA);	20 in p	rocessor on rocessor an		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
	supports t	hree in	ndepende	ent displays	HDMI or Û ;; (USB Type-	•		30Hz (HDMI)	Camera (optional, - Audio support	of the following, configurable by model: D720p camera, fixed focus camera and HD720p camera, fixed focus Audio, Realtek ALC3287 codec /
Chipset Memory	32GB max	x / 240	OMHz DE	p) platform DR4, dual-cocessors with	channel cap o lower memo	able, to	wo DDR4 S roller	O-DIMM sockets		stereo speakers, 2W x 2, Dolby® Audio™ / dual array microphone, headphone / microphone combo jack
Display	22	20 nits,	16:9 asp	ect ratio, 5	00:1 contra	st ratio			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)	25	50 nits,	16:9 asp	ect ratio, 8		ist ratio	LED backlig b, 170° view			Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Storage	Some: H	DD/S	ATA 6.00	3b/s, 2.5" w		nigh, Ad		ion System™	Fingerprint reader	r <i>Optional:</i> Touch style match on chip fingerprint reader on the keyboard bezel, anti-spoofing technology Near Field Communication
	Some: M Some: 12	1.2 SSE 28GB N	) / PCIe I M.2 SSD	NVMe, PCI / PCIe NVI	e 3.0 x 2, 1 Me, PCle 3	6Gb/s .0 x 2,	16Gb/s,		Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Optical	in None	Some: 128GB M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s, in WWAN slot as 2nd Storage, mutually exclusive with WWAN						VAN	Max battery life	MobileMark® 2014: 12.2 hr * Battery life varies significantly with settings, usage, & other factors
Ethernet		Ion-vPro model: Intel Ethernet Connection I219-V (Jacksonville)							AC adapter	45W or 65W USB Type-C AC adapter
		vPro model: Intel Ethernet Connection I219-LM (Jacksonville)								Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WLAN + Bluetooth™ (optional)	One of the following, configurable by model:  • Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card (US  • Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS							card (US only) oth 4.1, M.2 card		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™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant



# ThinkPad L490 Platform Specifications

Processor	Intel® Cele	eron® F	rocesso	r or 8th Ger	eration Int	el Core	e™ i3 / i5 / i7	7 Proce	ssor	Dimensions	<i>WxDxH:</i> 13.19" x 9.25" x 0.89"; 335mm x 235mm x 22.5mm
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types		ocessor raphics	Weight Case color Case material	Starting at 3.72 lb / 1.69 kg Black PC/ABS plastic
	Cel 4305U	2	2	2.2 GHz	-	2MB	DDR4-2133		HD Graphics 610	Smart card reade	r <i>Optional:</i> Smart card reader
	i3-8145U i5-8265U	2	4 8	2.1 GHz 1.6 GHz	3.9 GHz 3.9 GHz	4MB 6MB				Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
	i5-8365U	4	8	1.6 GHz	4.1 GHz	6MB	DDR4-2400		HD Graphics 620		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),
	i7-8565U i7-8665U	4	8	1.8 GHz 1.9 GHz	4.6 GHz 4.8 GHz	8MB 8MB					HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,
Graphics	Intel UHD Graphics 610 or 620 in processor only or Intel UHD Graphics 620 in processor and AMD Radeon 535, 2GB GDI (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 Intel SoC (System on Chip) platform								·	(optional) Bundled Accy	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  USB-C to DP: None  One of the following, configurable by model:
Chipset Memory	64GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-I * Installed memory is actually 2666MHz but run at 2133MHz or 2400MHz due									1 ' '	<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>
Display	Size Resolution Type Surface Brightness Aspect Contrast Co							Color Gamu			stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack
	14.0" HD ( 14.0" FHD			N Anti-glare S Anti-glare		16:		45% 45%		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
			<u> </u>	0-finger ges	,					Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Storage	<ul><li>SSD / S</li><li>M.2 228</li></ul>	ATA 6. 0 SSD	0Gb/s, 2. / PCle N	.5" wide, 7n 5" wide, 7n IVMe, PCIe IVMe. PCIe	nm high 3.0 x 4	ctive P	rotection Sy	stem™		System Mgt (opt) Fingerprint reader	Intel vPro Technology r Optional: Touch style fingerprint reader on the palm rest Near Field Communication
Optane™ memory Optical	* Installed I	N.2 228	0 SSD is I	Cle 3x4 but	run at PCIe	<i>3x2 due</i> Cle 3.0	e to M.2 SSD ) x 2	adapter	limitation	Battery Max battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 12 hr
Ethernet	Non-vPro			nernet Conr				.\		AC adapter	**Battery life varies significantly with settings, usage, & other factors 45W, 65W, or 65W slim USB-C AC adapter
WLAN +	vPro model: Intel Ethernet Connection I219-LM (Jacksonville)  One of the following, configurable by model:									Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Bluetooth™ (optional)	<ul> <li>Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card (NOT available in EMEA)</li> <li>Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0</li> <li>Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0</li> </ul>										One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service
NADALANI (			,			etooth	5.0			Mil-Spec test	MIL-STD-810G military testing
WWAN (optional)	Wireless WAN upgradable     Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (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 None									Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant
SIM card Note: The specifica		mayn	not be ava	ilablo in all r	ogione						Lenov



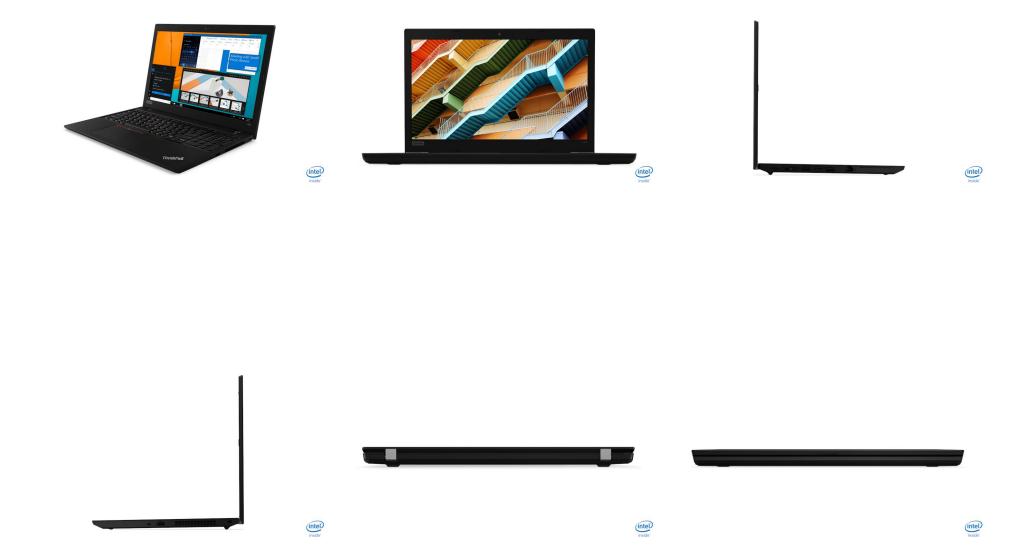
# ThinkPad L570 Platform Specifications

Processor	6th Gener	ation Ir	ntel® Cor	e™ i3 / i5 /	i7 Processo	or or			WWAN (optional)	One of the following, configurable by model:
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Processor		Wireless WAN upgradable     Integrated Mobile Broadband 4G LTE-A,
	Number i3-6006U	Cores	Threads	Frequency 2.0 GHz	Frequency -	3MB	Types	Graphics		Qualcomm <sup>®</sup> Snapdragon™ X7 LTE-A (Sierra Wireless EM7455), M.2 card
	i3-6100U			2.3 GHz	-	3MB				<ul> <li>Integrated Mobile Broadband 4G LTE, Intel XMM™ 7160 (Fibocom L831-EAU), M.2 card (EMEA only)</li> </ul>
	i5-6200U			2.3 GHz	2.8 GHz	3MB	DDD4 0400	Intel HD Graphics	SIM card (opt)	Micro-SIM card slot, opt Verizon LTE (US) or Lenovo® Connect (EMEA) SIM card
	i5-6300U	2	4	2.4 GHz	3.0 GHz	3MB	DDR4-2133	520	Dimensions	WxDxH: 14.84" x 10.04" x 1.08-1.21"; 377mm x 255mm x 27.6-30.85mm
	i7-6500U			2.5 GHz	3.1 GHz	4MB			Weight	Starting at 5.25 lb / 2.38 kg
	i7-6600U			2.6 GHz	3.4 GHz	4MB			Case color Case material	Black PC/ABS plastic
						I Core	i3 / i5 / i7 P			t)One slot (ExpressCard/34)
	Processor Number	# of	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Smart card reade	er Optional: Smart card reader
		00163				21.15	Турез	Intel HD Graphics	Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC)
	Cel 3965U		2	2.2 GHz	-	2MB		610	Ports	Four USB 3.1 Gen 1 (USB 3.0, one Always On), VGA, Mini DisplayPort, Ethernet (RJ-45), Dock connector
	i3-7100U			2.4 GHz	-	3MB				* Depending on many factors, actual data transfer speed may be lower than theoretical speed
	i5-7200U	2	4	2.5 GHz	3.1 GHz	3MB 3MB	DDR4-2133	Intel HD Graphics	Monitor cable	Optional: Lenovo Mini-DisplayPort to DisplayPort Monitor Cable (MiniDP to DP)
	i5-7300U i7-7500U		4	2.6 GHz 2.7 GHz	3.5 GHz 3.5 GHz	4MB		620		/)HD720p resolution, fixed focus
	i7-7600U			2.8 GHz	3.9 GHz	4MB			Audio support	HD Audio, Realtek® ALC3245 codec / stereo speakers, 1.5W x 2 / dual array microphone, combo audio/microphone jack
	* i7 process	or is NO	OT availab	le in EMEA				<u> </u>	Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad
Graphics	Intel HD G	iraphic	s 520, 61	10, o <u>r</u> 620 i	n processo	r only;			UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	supports t					digital r	nonitor via	Mini DisplayPort;	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
						P cable	e); 1920x12	200@60Hz (VGA)	vPro (optional)	Intel vPro Technology
Chipset	Intel SoC	(Syster	m on Chi	p) platform	<u> </u>		,,	,	Fingerprint reade	r Optional: Swipe style fingerprint reader on the palm rest
Memory					hannel cap			O-DIMM sockets	NFČ '	None
Display							D backlight,		Battery Max battery life	Li-ion 6-cell (48Wh) MobileMark® 2014: 14.8 hr
Display					50:1 contra			,	1	* Battery life varies significantly with settings, usage, & other factors
	Some: 15	.6" (39	6mm) Fi	HD (1920x1	1080), anti-	glare, L	ED backlig	jht,	AC adapter	45W slim tip AC adapter
	Some: 15	'U nits, 5 6" <i>(</i> 39	16:9 asp 6mm) Fl	ect ratio, 4 HD (1920x1	00:1 or 500 (080) anti-	):1 con glare l	trast ratio _ED backlig	tht IPS	Operating system	one of the following, configurable by model:  • Windows® 7 Professional 64 preinstalled
	25	0 nits,	16:9 asp	ect ratio, 6	00:1 contra	st ratio	, 160° view	ring angle		through downgrade rights in Windows 10 Pro 64
Multi-touch	None									Windows 10 Home 64
Storage	Some: HI	DD / S	ATA 6.0G	ib/s, 2.5" w	ide, 7mm h	igh, Ac	tive Protect	tion System™		• Windows 10 Pro 64
	Some: M	של / של 2 SSE.	) / PCle <b>1</b>	NVMe. PCI	e 3.0 x 2, 1	igii (e.( 6Gb/s	g. xxxGB S	5D)	Limited warranty	One of the following, configurable by model:  • 1-year depot repair service
	Some: 12	28GB N	1.2 SSD	/ SATA 6.0	Gb/s, in WV	VAN sl	ot as 2nd S	Storage,		3-year/1-yr battery depot repair service
Optical (optional)	DVD-BOV	utually Lor DV	exclusive	e with WWA	AN n fixed not	romov	able trav-ir	,		3-year/1-yr battery limited onsite service
Ethernet					nection I21				Mil-Spec test	MIL-STD-810G military testing
Lincinot	vPro mode						Jacksonville	e)	Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
WLAN	One of the	following	g, configui	able by mod	lel:					
	Realtek®	RTL8	822BE, V	Vi-Fi 2x2 80	02.11ac + E	3T4.1, I	M.2 card (U	IS only)		
							ac + BT4.1, ac + BT4.1,			
Bluetooth™	Bluetooth	4.1 wir	eless, int	tegrated in	Wi-Fi + Blu	etooth	combo ada	opter		
N . TI						ed to B1	74.1 by Windo	ows US		<u> </u>
Note: The specific	ations above	may n	ot be ava	ııable ın all ı	regions.					Lenovo



# ThinkPad L580 Platform Specifications

Processor	Intel® Celero	on® P	rocessor	, 7th Gene	ration Intel	Core™	i3 / i5 Proc	essor or	WWAN (optional)	One of the following, configurable by model:
		# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		<ul> <li>Integrated Mobile Broadband 4G LTE, Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)</li> <li>Integrated Mobile Broadband 4G LTE-A,</li> </ul>
	Cel 3965U		2	2.2 GHz	-	2MB		Intel HD Graphics 610		<ul> <li>Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card</li> <li>* For non-WWAN model, it means the model is NOT WWAN upgradable</li> </ul>
	i3-7020U	2		2.3 GHz	-	3MB	DDR4-2133		SIM card (opt)	Nano-SIM card slot, optional Verizon LTE (US) SIM card
	i3-7130U	_	4	2.7 GHz	- 0.4 011-	3MB	221112100	Intel HD Graphics 620	Dimensions	<i>WxDxH</i> : 14.82" x 10.02" x 0.90"; 376.5mm x 254.5mm x 22.95mm
	i5-7200U i5-7300U			2.5 GHz 2.6 GHz	3.1 GHz 3.5 GHz	3MB 3MB		620	Weight Case color	Starting at 4.46 lb / 2.0 kg Black
	8th Generat	tion Ir	ntel Core	i3 / i5 / i7 l	Processor				Case material	PC/ABS plastic
		# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		None or <i>Optional:</i> Smart card reader
	i3-8130U	2	4	2.2 GHz	3.4 GHz	4MB	.,,,,,,	Grapinos	Media reader	MicroSD card reader
	i5-8250U i5-8350U i7-8550U	4	8	1.6 GHz 1.7 GHz 1.8 GHz	3.4 GHz 3.6 GHz 4.0 GHz	6MB 6MB 8MB	DDR4-2400	Intel UHD Graphics 620	Ports	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 (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader.
	* i3-7130U is	NOT	available i			02		I.		microSD card reader, side docking connector, security keyhole
Graphics	Intel HD Gra Intel HD Gra AMD Radeo	aphic aphic	s 610, 62 s 620 or	20 or Intel Untel UHD	JHD Graph Graphics 6	ics 620 20 in p	in process ocessor an	or only or d	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
	(discrete mo supports ex supports thr	odels terna ree in	are NOT I digital n depende	available inonitor via ent displays	in EMEA); HDMI or U ;;	•		30Hz (HDMI)		)HD720p camera, fixed focus HD Audio, Realtek ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ / dual array microphone, headphone / microphone combo jack
Chipset Memory	Intel SoC (S	Syster / 2400	m on Chi DMHz DE	p) platform	channel car	able, t	wo DDR4 S	O-DIMM sockets	Keyboard UltraNav™ Security	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad Power-on password, hard disk password, supervisor password, security keyhole
Display	Some: 15.6 220 Some: 15.6	5" (39 nits, 5" (39	6mm) HI 16:9 asp 6mm) Fl	D (1366x76 ect ratio, 5 HD (1920x	58), anti-gla 00:1 contra 1080), anti-	re, LEI st ratio glare, I	D backlight,	ht, IPS,	Security chip vPro <i>(optional)</i> Fingerprint reader	Discrete TPM 2.0, TCG Certified Intel vPro Technology r Optional: Touch style match on chip fingerprint reader on the palm rest, anti-spoofing technology
Multi-touch	None		<u> </u>						NFC (optional)	Near Field Communication
Storage	System has one HDD slot or one M.2 2280 slot exclusively for storage  Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection Sys  Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm 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,								Battery Max battery life AC adapter	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter  *MobileMark* 2014: 12 hr  *Battery life varies significantly with settings, usage, & other factors  45W or 65W USB Type-C AC adapter
Optical		in WWAN slot as 2nd Storage, mutually exclusive with WWAN None								Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Ethernet	Non-vPro m	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) vPro model: Intel Ethernet Connection I219-LM (Jacksonville) One of the following, configurable by model:							Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service
WLAN +										3-year/1-yr battery limited onsite service
Bluetooth™ <i>(optional)</i>	<ul> <li>Realtek® F</li> <li>Intel Dual</li> <li>* Intel 8265a</li> </ul>	Band	l Wireless	s-AC 8265,	Wi-Fi 2x2	802.11	ac + Blueto	card (US only) oth 4.1, M.2 card	Mil-Spec test Environment	MIL-STD-810G military testing  EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
Note: The specific						-т. 1 <i>Dy</i> V	viiluuwa U3			Lenow



# ThinkPad L590 Platform Specifications

Processor	Intel® Cele	eron® F	Processo	r or 8th Ger	neration Int	el Core	e™ i3 / i5 / i7	7 Process	sor	Dimensions	<i>WxDxH:</i> 14.82" x 10.02" x 0.90"; 376.5mm x 254.5mm x 22.95mm
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types		essor phics	Weight Case color Case material	Starting at 4.48 lb / 2.0 kg Black PC/ABS plastic
	Cel 4305U	2	2	2.2 GHz	-	2MB	DDR4-2133		Graphics	Smart card reade	r Optional: Smart card reader
	i3-8145U i5-8265U	2	8	2.1 GHz 1.6 GHz	3.9 GHz 3.9 GHz	4MB 6MB				Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
	i5-8365U	4	8	1.6 GHz	4.1 GHz	6MB	DDR4-2400	1	Graphics 20	;	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),
	i7-8565U i7-8665U	4	8	1.8 GHz 1.9 GHz	4.6 GHz 4.8 GHz	8MB 8MB					HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,
Graphics	Intel UHD Graphics 610 or 620 in processor only or Intel UHD Graphics 620 in processor and AMD Radeon 535, 2GB GD (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 Intel SoC (System on Chip) platform									(optional) Bundled Accy	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  One of the following, configurable by model:
Chipset Memory	Intel SoC 64GB max * Installed r	(Syste x / 240 memory	m on Chi 0MHz DI is actually	p) platform DR4, dual-c / 2666MHz b	hannel cap ut run at 213	able, t	wo DDR4 S or 2400MHz d	O-DIMM due to Inte	sockets I limitation	1 ''	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 Resolution Type Surface Brightness Aspect Ratio Ga							Color Gamut	Viewing Angle		stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack
	15.6" HD ( 15.6" FHD			N Anti-glare S Anti-glare		16:		45% 45%	90° 170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch	None								•	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Storage	<ul><li>SSD / S</li><li>M.2 228</li></ul>	ATA 6. 0 SSD	0Gb/s, 2 7 PCle N	.5" wide, 7r .5" wide, 7n IVMe, PCIe IVMe. PCIe	nm high 3.0 x 4	ctive P	rotection Sy	stem™		System Mgt (opt)	Intel vPro Technology r <i>Optional:</i> Touch style fingerprint reader on the palm rest Near Field Communication
Optane™ memor	* Installed I	M.2 228	80 SSD is I	PCIe 3x4 but	run at PCIe	<i>3x2 due</i> Cle 3.0	e to M.2 SSD ) x 2	adapter lii	mitation	Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Optical	None									Max battery life	MobileMark® 2014: 12 hr * Battery life varies significantly with settings, usage, & other factors
Ethernet	vPro mod			nernet Conr nernet Conr			icksonville) Jacksonville	·)		AC adapter	45W, 65W, or 65W slim USB-C AC adapter
WLAN + Bluetooth™	One of the following, configurable by model:  • Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card										Optional: Windows® 10 Home 64 or Windows 10 Pro 64  One of the following, configurable by model:
(optional)	(NOT available in EMEA)  Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0  Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0									Limited warranty	1-year depot repair service     3-year/1-yr battery depot repair service
\M\M\AN\ (antional)			,			etooth	5.0			Mil-Spec test	MIL-STD-810G military testing
WWAN (optional) SIM card	<ul><li>Wireless</li><li>Integrate</li><li>Integrate</li><li>* For non-V</li></ul>	WAN ed Mob	upgrada	ble Iband 4G L	ΓΕ, Fiboco	m L83( com L8 VWAN ເ	0-EB, M.2 ca 350-GL, M.2 ppgradable	ard (EME card	A only)	Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant
Note: The specific	None	may r	not he ava	ilahla in all r	agione					!	Lenov



# ThinkPad P1 Platform Specifications

Processor	8th Generation Intel® Cor	e™ i5 / i7 Processor or Intel Xeo	on® E Processor	Smart card reade	er Optional: Smart card reader
	Processor # of # of Number Cores Threads	Frequency Frequency Cache	Memory Processor Types 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 8 i7-8750H i7-8850H 6 12	2.5 GHz	Intel UHD Graphic 630		two USB 3.1 Gen 1 (One Always Cit), two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole
	E-2176M	2.7 GHz 4.4 GHz 12MB	Intel UHD Graphic P630	Monitor cable	*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		or P630 in processor and or P2000, 4GB GDDR5 memor monitor via HDMI or Thunderbo		(optional) Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable
	supports four independen		•	Camera (optional	One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus  IR camera and HD720p camera, fixed focus
Chipset Memory		set DR4, ECC or non-ECC (ECC fu annel capable, two DDR4 SO-[		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	300 nits, 16:9 asp	HD (1920x1080), anti-glare, LE pect ratio, 700:1 contrast ratio,	D backlight, IPS,	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	400 nits, 16:9 asp 100% gamut, 170	HD (3840x2160), LED backligh bect ratio, 1200:1 contrast ratio, )° viewing angle, multi-touch, ar	nti-reflection (AR)	Security Security chip vPro (optional) Fingerprint reade	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 keyboard bezel
Multi-touch (opt) Pen	Supports pen accessory,	ch, supports 10-finger gesture ( please see the accessory com	(4K only) patibility for details	Color calibration  NFC	
Storage RAID (optional) Optical	Up to 2 drives (two M.2 SSD, M.2 SSD / PCIe NVMe, P RAID 0/1 support None			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 settings, usage, & other factors  135W slim tip AC adapter
Ethernet		nection I219-V ( <i>Non-vPro</i> ) or I2 ninkPad Ethernet Extension Ca			n One of the following, configurable by model:  • Windows® 10 Home 64
WLAN Bluetooth™		Vi-Fi 2x2 802.11ac + Bluetooth tegrated in Wi-Fi + Bluetooth co			<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 (multi-touch): 14	(non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4r (multi-touch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7r (ch model: starting at 3.76 lb / 1.7 kg;			<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	Multi-touch model: start			Mil-Spec test	MIL-STD-810G military testing
Case color Case material	Black Display cover: CFRP/GF Bottom: Aluminum			Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant

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













# ThinkPad P1 (2nd Gen) Platform Specifications

Processor	9th Gener	ation I	ntel® Cor	e <sup>™</sup> i5 / i7 /	i9 Process	or or In	itel Xe	on® 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 Frequenc	Max Turbo			mory pes	Proces Graph		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 GHz 2.6 GHz 2.6 GHz	4.3 GHz 4.5 GHz 4.6 GHz	12MB 12MB		Ir 4-2666	ntel UHD (		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 GHz 2.8 GHz	4.8 GHz 4.7 GHz		4	- · · · L	ntel UHD ( P63		Smart card reade Media reader Ports	r Optional: 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	Intel UHD Intel UHD NVIDIA® C supports e supports f Max resol	Graph Quadro externa our inc	nics 630 c ® T1000 al digital r dependen	or P630 in or T2000, nonitor via nt displays	processor 4GB GDD HDMI or	R5 mer Thunde	rboĺt <sup>™</sup> ;				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 DŒ	DR4, ECC	or non-EC	C (ECC	C func	tion sup	ported o	nly on	Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable				
Display	Size Reso		<i>,</i>			tnoss /		Contrast Ratio		Viewing Angle		One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus  Reamera and HD720p camera with ThinkShutter camera privacy, fixed focus				
	15.6" FHD	`	,	IPS Anti-	glare 300	nits	16:9	700:1	72% NTSC	170°	Audio support	HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack,				
	Dolby		™ HĎR	IPS Anti-	glare 500	nits	16:9	1200:1	72% NTSC	170°		Dolby Atmos® sound system				
	15.6" UHD Dolby	(3840x Vision	2160) HDR	IPS Anti-	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		A GOLD	ction HDR	400nit, 500nit eak)	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	Capacitive anti-reflec Supports	tion (A	R), anti-s	smudge (A	S) coating	J	`		• • • • • • • • • • • • • • • • • • • •		Color calibration NFC	None				
Storage RAID (optional) Optical	Up to two M M.2 2280 RAID 0/1 None	<i>1.2 SSD</i> /	PCIe NV			3301 y C	οπραι	ubility 10	r details		Battery Max battery life AC adapter	Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr) MobileMark® 2014: 13.8 hr * Battery life varies significantly with settings, usage, & other factors 135W slim tip AC adapter				
Ethernet	Native Inte								Pro))		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>				
WLAN Bluetooth™	Intel Wi-Fi Bluetooth							bo adap	ter		Limited warranty	Windows 10 Pro 64 for Workstations				
WWAN SIM card	None None			-				•				<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>				
											Mil-Spec test	MIL-STD-810G military testing				
Note: The specifica											Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant  Lenove				



# ThinkPad P43s Platform Specifications

Processor	8th G	enerat	ion Intel®	Core	™ i7 Proce	ssor					Dimensions	WxDxH:	12.95" x 8.94" x 0	.70": 329mm x 227r	mm x 17.9mm	
	Proce			of		May Turka		Memory	Proces	ssor	Weight	Models	FHD	FHD Low Power	WQHD	
	Numb					Frequency	Cache	Types	Graph			Weight	3.43 lb / 1.55 kg	3.28 lb / 1.49 kg	3.24 lb / 1.47 kg	
	i5-836				1.6 GHz		6MB	In	tel UHD (	Granhics	Case color	Black		_		
	i7-856		4	8	1.8 GHz		_	DR4-2400  '''	620		Case material	Display co Bottom:	over: PPS / 50% GI PA / 50% GF	-;		
					1.9 GHz		8MB				Smart card reade		Smart card reader			
Graphics	Intel		raphics 6	620 in	processor B GDDR5	and					Media reader	MicroSD (	card reader			
	supp	orts ex	ernal dig	gital m	onitor via l	HDMI or US	B Type	·C;			Ports	Two USB	3.1 Gen 1 (one Alw	ays On), vith the function of Po	war Dalivary and Dia	volov (Do #t)
	supp	orts the	ee indep	ender	nt displays:				DA4I)			one USB	3.1 Type-C Gen 1 (v 3.1 Type-C Gen 2 /	Thunderbolt 3 (with the	ne function of PD and	i DP).
Ohional						JSB-C); 38	40X216	60@30Hz (H	DIVII)		-	HDMI 1.4	b, Ethernet (RJ-45),	nano-SIM card slot (	WWAN models),	/,
Chipset Memory	Intel 3	SoC (S 3 max /	ystem or 2400MH	n Chip Iz DDI	) platform B4_dual-c	nannel capa	ble					headphor	ne / microphone com	nbo jack, optional sm	art card reader,	
wichiory	8GB	or 16G	B memoi	ry solo	dered to sy	stemboard,	one DI	DR4 SO-DIN e to Intel limita	1M sock	et		* Dependin	ng on many factors, act	cking connector, secu ual data transfer speed i	may be lower than theor	etical speed
<u></u>	* Insta	alled me	mory is ac	ctually .	2666MHz bi	ıt run at 2400	MHz du	e to Intel limita			Monitor cable (optional)	HDMI to \	<i>/GA:</i> Lenovo HDN <i>VGA:</i> Lenovo USE	II to VGA Monitor Ad	apter	
Display	Size Resolution Type Surface Brightness Ratio Ratio Gami							Viewing		USB-C to	HDMI: Lenovo USE	3-C to HDMI Adapter				
	250 nits (non-touch) 16:0 700:1					Garrier	Aligic	Bundled Accy		DP: Lenovo USE	B-C to DisplayPort Ad	apter				
	14.0"	FHD (1	920x1080)	) IP	S Anti-glare	(non-touch) 300 nits	16:9	700:1	45%	170°	l	d Accy None a (optional) One of the following, configurable by model:				
						(multi-touch)	)				Camera (optional	• HD720r	camera with Thinks	Shutter camera privac	cv. fixed focus	
	14.0"	FHD (1	920x1080)	) IP	S Anti-glare	400 nits	16:9	800:1	72%	170°	Audia augaset	<ul> <li>IR came</li> </ul>	era and HD720p can	nera with ThinkShutte	er camera privacy, fixe	ed focus
		Low Po	wer 920x1080)	)	+ -						Audio support	stereo speakers. 2W x 2. Dolby® Audio™ Premium /				
	14.0"	Think	ad Privacy	/ IP	S Anti-glare	400 nits	16:9	1000:1	72%	170°	dual array far-field microphone, headphone / microphone combo jack					
		Guard	(2560v14	40)					100%		Keyboard	6-row, spi	II-resistant, multime	dia Fn keys, LED bac	klight	
	14.0"	Dolby \	(2560x14 ision™ HD	DR IP	S Glossy	500 nits	16:9	1500:1	Adobe	170°	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpa Power-on password, hard disk password, supervisor password, security keyl				•
Multi-touch (opt)			h, suppo	rts 10	-finger ges	ture (FHD c	nly)				Security Security chip		password, hard disl FPM 2.0, TCG Certif		or password, security	keyhole
Pen	None										Svstem Mat (opt)	Intel vPro	Technology			
Storage			SSD/SA		0Gb/s /Me, PCle	30 v 4					Fingerprint reade NFC (optional)	r Optional:	Touch style match of Communication	on chip fingerprint rea	ader on the palm rest	
					/Me, PCle						Batterv			y, supports Rapid Ch	orgo (oborgo un to 90	70/ in 1hr\
						olid State St	orage,				Max battery life	MobileMa	rk® 2014: 14.7 hr		0 ( 0 1	J /0 III IIII <i>)</i>
Optical	None		PCIe N\	vivie 3	.U X 4						AC adapter			vith settings, usage, & ot	her factors	
Ethernet			odel: Inte	el Ethe	ernet Conr	ection I219	-V (Jac	ksonville)			AC adapter		5W slim USB Type-0 3 10 Home 64 or Wi	<u> </u>		
		model				ection I219							following, configurable			
WLAN						2.11ac + Blu					Limited warranty		depot repair service	by model.		
Bluetooth™							tooth c	ombo adapte	er		-	<ul> <li>3-year/1</li> </ul>	l-yr battery depot re	pair service		
WWAN (optional)			lowing, co. VAN upqı		ble by mode	91:							I-yr battery limited o			
	<ul> <li>Inte</li> </ul>	grated	Mobile E	Broadb	and 4G L	E, Fibocom	L830-l	EB, M.2 card	(EMEA	only)	Mil-Spec test		810G military testin	<u> </u>		
	<ul> <li>Inte</li> </ul>	grated	Mobile E	3roadb	and 4G L	E-A, Fiboco del is NOT W	m L85	0-GL, M.2 ca	ard	- /	Environment	EPEAT™	Silver; ENERGY ST	AR® 7.1; RoHS-comp	liant	
SIM card (opt)						LTE (US) S										
Nata. The execition				_	سالمصان ملطم						-					













# ThinkPad P51 Platform Specifications

Processor	6th or 7th G							Dimensions				252.3mm x 24.5-29.4mm 252.3mm x 25.8-30.7mm		
	Processor	# of	# of	Base	Max Turbo	Cache Memory	/ Processor	Weight	Models	4-cell	6-cell			
	Number	Cores	Threads	Frequency	Frequency	Types	<del></del>	1	Non-touch	5.6 lb / 2.55kg	5.9 lb / 2.67kg			
	i7-6820HQ			2.7 GHz	3.6 GHz		Intel HD Graphics 530	Case color	Multi-touch	6.2 lb / 2.82kg	6.4 lb / 2.90kg			
	E3-1505M v5			2.8 GHz	3.7 GHz	8MB DDR4-21	Intel HD Graphics P530	Case material		ass-Fiber Reinforced	Plastic;			
	i7-7700HQ	4	8	2.8 GHz	3.8 GHz	6MB	Intel HD Graphics	Smart card reade	er Optional: Smart	<u> </u>				
	i7-7820HQ	ļ		2.9 GHz	3.9 GHz	DDR4-24	00 630	ExpressCard	One slot (Expres					
	E3-1505M v6 E3-1535M v6	4		3.0 GHz 3.1 GHz	4.0 GHz 4.2 GHz	8MB	Intel HD Graphics P630	Media reader Ports		MC, SD, SDHC, SDX( n 1 (USB 3.0, one Al				
<u> </u>							1 000	1 0110	Mini DisplayPort	1.2a. HDMI 1.4b. Eth	ernet (RJ-45), Dock	connector		
Graphics	Intel HD Gra					essor and					ansfer speed may be lo	wer than theoretical speed		
	supports ext	ernal d ir indep	ligital mo endent o	nitor via HE lisplays;	MI, Mini Ďi	splayPort, or ī a Mini Display	Thunderbolt™;	Audio support		on, fixed focus ek® ALC3268 codec / ohone, combo audio/r		'x2/		
	Max resoluti	38	40x2160 40x2160	@60Hz (Th	iunderbolt);	4096x2160@	24Hz (HDMI)	Keyboard				optional LED backlight		
Chipset	Mobile Intel							UltraNav™	3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad					
Memory						CC function s 4 SO-DIMM s	upported only on	Security	Power-on password, hard disk password, supervisor password, security keyh					
	* System cloc						ockeis	Security chip	Security chip Discrete TPM 2.0, TCG Certified					
Display							ght, IPS, 250 nits,	vPro <i>(optional)</i> Fingerprint reade	net					
						viewing angl	e nt, IPS, 300 nits,	Color calibration	Optional: Panton	ne® color calibrator by	X-Rite® color calibra	tion sensor in palm rest		
							0° viewing angle	NFC	None					
Multi-touch (opt)	Capacitive-ty	ype mu	ılti-touch,	supports 1	0-finger ges	sture, 220 nits	(FHD only)	Battery		4-cell <i>(66Wh)</i> or 6-ce	ll (90Wh)			
Pen (optional)	ThinkPad Pe				touch displa	ay		Max battery life <sup>10</sup> (MobileMark® 2014)	Model	4-cell	6-cell			
Storage	Up to 3 drives				7mm high	Active Protec	tion System™	(WODIIEWAIK 2014)	Discrete drapines	4.5 hr	6.1 hr			
	Some: M.2						dion System		Hybrid Graphics	6.5 hr	8.9 hr	70		
RAID (optional)	RAID 0/1 su	pport		•	•			AC adapter	170W slim tip AC		js, usaye, & olilei laciol	5		
Optical	None	1 - 1 - 1 - 1 - 1	4-1 = 4		1040 V	/	<u> </u>	Operating system	One of the following	g, configurable by model	:			
Ethernet	Non-vPro m vPro model:	<i>odel:</i> Ir Ir	itel Ethei Itel Ethei	net Connec	tion 1219-V	(Jacksonville M (Jacksonvill	)  e)		<ul> <li>Windows® 7 Pro</li> </ul>	ofessional 64		0.4		
WLAN	One of the foli				DIIOII IL IO L	ivi (odokoorivii	<u> </u>	-	Windows® 10 H	ough downgrade right	s in Windows 10 Pro	64		
* * L/\  \	<ul> <li>Intel Dual I</li> </ul>	Band W	/ireless-/	AC 8260, W		2.11ac + BT4.1			<ul> <li>Windows 10 Pro</li> </ul>	o 64				
Divists at hTM						2.11ac + BT4.				o 64 for Workstations				
Bluetooth™	* Intel 8260ac	ı wirele :/ <i>8265a</i>	ess, integ ac card su	grated in Wi oport BT4.2 b	-rı + Biueto out is limited t	oth combo ad to BT4.1 by Wind	apter dows OS	Limited warranty		g, configurable by model	:			
WWAN (optional)						.,		1	<ul><li>1-year depot re</li><li>3-year/1-yr batt</li></ul>	pair service ery depot repair serv	ice			
(	<ul> <li>Wireless V</li> </ul>	VAN up	gradable	<b>;</b>						tery limited onsite ser				
	Integrated     Ouglcomm					eless EM745	5) M 2 card	Mil Specifics MIL STD 910G military testing						
SIM card (opt)							EMEA) SIM card	Environment	EPEAT™ Gold (U	IS only); ENERGY ST	TAR® 6.1; RoHS-com	pliant		
Note: The specification			<u> </u>	· ·		vo Connect (	LIVILA) SIIVI CATO	Livilolillelit	LI LAI ··· Gold (U	o omy), ENERGT 3	IAIT 0.1, NOTIS-COIII	pliarit		

September 2018













# ThinkPad P52 Platform Specifications

Processor	8th Gener	ation I	ntel® Cor	e™ i7 / i9 Pr	ocessor or	Intel X	eon® E Pro	ocessor	Dimensions	<i>WxDxH:</i> 14.86" x 9.93" x 0.96-1.16"; 377.4mm x 252.3mm x 24.5-29.4mm
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Weight	WxDxH(Touch): 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7mm 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	ExpressCard	r <i>Optional:</i> Smart card reader None
	NVIDIA Q P3200 (60 supports 6 supports f	uadro® GB mer externa our ind ution:	P1000 (4 mory, VR al digital n dependen 3840X21 5120X28	monitor via it displays; 60@60Hz 80@30Hz	ry), P2000 HDMI, Min (DisplayPo	(4GB   i Displa rt via M	ayPort, or T Iini Display	or hunderbolt <sup>™</sup> ; Port cable); 60Hz (HDMI)	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 * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Memory	128GB no only on Xe * Installed I	on-ECC eon pro	or 64GE ocessor), are actuall	B ECC max	nel capable out run at 24	e, four D	DDR4 SO-[	ction supported DIMM sockets limitation	Camera (optional) - Audio support	One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus  R camera and HD720p camera, fixed focus  HD Audio, Realtek® ALC3286 codec /
Display	30	00 nits,	16:9 asp	HD (1920x1 bect ratio, 7 viewing an	00:1 contra	glare, I ast ratio	_ED backli o,	ght, IPS,	- Addio Support	stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone
	Some: 15 40	5.6" (39 00 nits,	96mm) 4k 16:9 asp	Viewing and K (3840x21 pect ratio, 1 of viewing a	60), anti-gl 000:1 cont	rast rat	D backligh	t, IPS,	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	Capacitive Supports	e-type i pen ac	multi-toud cessory,	ch, support please see	s 10-finger the acces	gestur			Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
	Some: Some:	HDD / M.2 S	SATA 6.0 SD / PCIe	e NVMe, P0	wide, 7mn Cle 3.0 x 4	, 32Gb	/s	ection System™	Color calibration	Intel vPro Technology Touch style match on chip fingerprint reader on the palm rest None Near Field Communication
Optane™ memory RAID <i>(optional)</i> Optical	RAID 0/1 None	suppor	ptane me rt	emory, PCI	e invivie, P	Cle 3.0	) X 2		Battery Max battery life	Swappable Li-ion 90Wh battery  Discrete mode: 6.1 hr; Hybrid mode: 8.9 hr
Ethernet	Non-vPro vPro mod			nernet Coni nernet Coni					AC adapter	* Battery life varies significantly with settings, usage, & other factors 170W slim tip AC adapter
WLAN Bluetooth™		del: Intel Ethernet Connection I219-LM (Jacksonville) eless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card h 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter							Operating system	One of the following, configurable by model:  Windows® 10 Home 64  Windows 10 Pro 64
WWAN (optional)	Integrated Intel XMM	d Mobile Broadband 4G LTE-A, /™ 7360 (Fibocom L850-GL), M.2 card								Windows 10 Pro 64 for Workstations
SIM card (opt)	Nano-SIM	card s	slot, optio	nal Verizon	LTE (US)	SIM ca	ırd		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® 6.1; RoHS-compliant

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



# ThinkPad P52s Platform Specifications

Processor	8th Generation	Intel® Cor	e™ i5 / i7 F	rocessor				Dimensions	WxDxH: 14.40" x 9.95" x 0.79-0.80"; 365.8mm x 252.8mm x 19.95-20.2mm				
	Processor # of	f # of	1.7 GHz 3.6 GHz 6ME		6MB	Memory Types	Processor Graphics	Weight Case color Case material	starting at 4.39 lb / 1.99 kg Black Display cover: Glass-Fiber Reinforced Plastic (PPS); Bottom: Glass-Fiber Reinforced Plastic				
Graphics	Intel UHD Grap NVIDIA Quadro supports exterr supports three Max resolution	o <sup>®</sup> P500, 2 nal digital i independe	GB GDDR: monitor via ent displays	5 memory; HDMI or U s;	JSB Typ	*	620	Media reader Ports Ti	er Optional: Smart card 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 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,				
Chipset Memory	Intel SoC (Syst 32GB max / 24 * System clocks of	tem on Ch 00MHz DI down for pro	ip) platform DR4, dual-ocessors with	channel ca lower mem	pable, tv	wo DDR4 S roller	SO-DIMM sockets		optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), 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				
Display	Some: 15.6" (3 16:9 as	s, 16:9 asp 396mm) U pect ratio,	ect ratio, 7 HD (3840x) 1000:1 coi	00:1 contra 2160), anti- ntrast ratio,	ast ratio -glare, L , 72% ga	, 170° view ED backlio	int, IPS, ring angle ght, IPS, 300 nits, viewing angle	<u> </u>	Camera (optional) USB-C to DP: Lenovo USB-C to DisplayPort Adapter  Camera (optional) One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus  IR camera and HD720p camera, fixed focus				
Multi-touch (opt) Pen Storage	On-cell touch, s None System has one	HDD slot or	one M.2 22	80 slot exclu	sively for			Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack				
	Some: HDD / Some: SSD / Some: M.2 SS	SATA 6.00 SD / PCIe	ab/s, 2.5" w NVMe, PCI	ride, 7mm h e 3.0 x 2,	nigh (e.g 16Gb/s	g. xxxGB S		Keyboard UltraNav™ Security	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad Power-on password, hard disk password, supervisor password, security keyhole				
Optane™ memory Optical	<i>Optional:</i> Intel None	AN slot as Optane m	2nd Storag emory, PC	ge, mutuall le NVMe, F	y exclus Cle 3.0	ive with W x 2		Security chip Discrete TPM 2.0, TCG Certified vPro (optional) Intel vPro Technology Fingerprint reader Optional: Touch style match on chip fingerprint reader on the palm rest anti-spoofing technology					
Ethernet	Non-vPro model:		nernet Con nernet Con					NFC (optional)	Near Field Communication				
WLAN + Bluetooth™	Intel Dual Band * Intel 8265ac ca	l Wireless- ard supports	AC 8265, \ BT4.2 but is	Ni-Fi 2x2 8 limited to B	02.11ac <i>T4.1 by V</i>	+ Bluetoo Vindows OS	th 4.1, M.2 card	Battery Max battery life	Optional integrated Li-ion 32Wh battery and swappable Li-ion 24Wh, 48Wh, or 72Wh battery  Models   48Wh   72Wh   32Wh + 24Wh   32Wh + 48Wh   32Wh + 72Wh				
WWAN (optional)	<ul><li>Wireless WAI</li><li>Integrated Mo</li></ul>	N upgrada obile Broad	ble dband 4G L	TE,				( <i>MobileMark</i> ® 2014) AC adapter	Max battery life 12.2 hr 18.5 hr 13.5 hr 20.1 hr 26.3 hr  * Battery life varies significantly with settings, usage, & other factors 65W USB Type-C AC adapter				
	Intel XMM™ 7 • Integrated Mo	7262 (Fibo obile Broad	com L830-l dband 4G L	EB), M.2 ca .TE-A,	ard (EM	EA only)		Operating system Windows® 10 Home 64 or Windows 10 Pro 64					
SIM card (opt)	Intel XMM™ 7 * For non-WWAN Nano-SIM card	7360 (Fibo I model, it n	com L850-0 neans the mo	GL), M.2 ca odel is NOT l	WWAN u			Limited warranty					
								Mil-Spec test	MIL-STD-810G military testing				
Note: The specifica	ations above mov	not be ave	ilable in all	rogione				Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant  Lenove				













## ThinkPad P53 Platform Specifications

Processor	9th Gener	ration I	ntel® Co	re™ i5 /	/ i7 / i9 P	rocessor	or Inte	l Xeon® E	Proce	essor		Dimensions	WxDxH (non-touch): 14.86" x 9.93" x 0.96-1.16";
	Processor Number	# of Cores	# of Threads			ax Turbo equency C	ache	Memory Types		Process Graphic			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	ll Weight		Weight	Non-touch model: starting at 5.51 lb / 2.5 kg;								
	i7-9850H	6	12				ONAD	DDR4-2666	1	630	артноз	Case color	Multi-touch model: starting at 6.4 lb / 2.9 kg Black
	i9-9880H	8	16	2.3	GHz 4	.8 GHz 1	6MB	JD114-2000	Intel UHD Graphics			Case material	Display cover: Glass-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum
	E-2276M	6	12	2.8	GHz 4	.7 GHz 1	2MB		Inter C	P630		Smart card reade	er Optional: Smart card reader
Graphics	Intel UHD Graphics 630 or P630 in processor and NVIDIA® Quadro® T1000 (4GB GDDR5), T2000 (4GB GDDR5), RTX 3000 (6GB GDDR6, VR ready), RTX 4000 (8GB GDDR6, VR ready), or RTX 5000 (16GB GDDR6, VR ready); supports external digital monitor via HDMI, Mini DisplayPort, or Thunderbolt™; supports five independent displays; Max resolution: 5K@60Hz (Thunderbolt); 4K@60Hz (USB-C or HDMI)											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 Intel CM246 Chipset 128GB max / 2666MHz DDR4 (ECC function supported only on Xeon processor), dual-channel capable, four DDR4 SO-DIMM sockets									proces	ssor),	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	olution		Туре	Surface	Brightnes	ss Asp	ect Contratio			iewing/ 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		/	IPS .	Anti-glare	300 nits	16	_			160°	Bundled Accy	None
		(1920x y Vision		IPS .	Anti-glare	500 nits	16	6:9 1200	):1 72	2%	160°	Camera (optional)	) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
	15 6" UHD	(3840x y Vision	2160)	IPS .	Anti-glare	500 nits	16	3:9 1200	):1 10	00%	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 /</li> </ul>
	15.6" Dolby	(3840x y Vision -touch	2160) HDR,	OLED	Anti- reflection Anti- smudge	SDR 400i HDR 500 (peak)	nit, nit 16	3:9 10000	0:1 DC	00% CI-P3	170°	Kevboard	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-	uch, su smudo	pports 1	U-finger g	esture	(UHD or	nly),			UltraNav™	3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad
Pen	Supports	pen àc	céssory	, pleas	se see th	e accesso	ry cor	npatibility	for de	tails		Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified
Storage  Optane™ memory		SATA 6. 30 SSD nly avail Intel C	.0Gb/s, 2 7 PCIe <i>able for</i> 7 9ptane n	2.5" wi NVMe 1000 a	de, 7mm , PCIe 3. nd T2000	high, Áct 0 x 4 graphics m	nodel		ystem⁻	гм		vPro <i>(optional)</i> Fingerprint reader	Intel vPro Technology rTouch style match on chip fingerprint reader on the palm rest
RAID (optional) Optical	RAID 0/1/ None											Battery Max battery life	Integrated Li-ion 90Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  Discrete mode: 8 hr; Hybrid mode: 13 hr
Ethernet	Non-vPro vPro mod					tion I219- tion I219-						( <i>MobileMark</i> ® 2014) AC adapter	* Battery life varies significantly with settings, usage, & other factors 170W or 230W slim tip AC adapter
WLAN (optional) Bluetooth™ (opt)	Intel Wi-Fi Bluetooth	5.0 wi	reléss, i	ntegrat	ted in Wi				lapter			Operating system	n One of the following, configurable by model:  • Windows® 10 Home 64  • Windows 10 Pro 64
WWAN (optional)	One of the • Wireless				y model:							I too to all	Windows 10 Pro 64 for Workstations
SIM card (opt)	• Integrate * For non-V	ed Mob	upgradable ille Broadband 4G LTE-A, Fibocom L850-GL, M.2 card nodel, it means the model is NOT WWAN upgradable slot, optional Verizon LTE (US) SIM card									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



# ThinkPad P53s Platform Specifications

Processor	8th G	enerati	on Int	tel® Co	re™	i7 Proces	sor					Dimensions	<i>WxDxH</i> : 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm								
	Proce	er C	of ores 7	# of Threads	Fre	quency F	requency	cy Cache	Memory Types	Proce Grap	hics	Weight Case color Case material	starting at 3.87 lb / 1.75 kg Black Display cover: PPS / 50% GF;								
	i7-856		4	8	_			8MB 8MB	DDR4-2400	Intel UHD 62		S	Bottom: PA / 50% GF rOptional: Smart card reader								
Graphics												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 DisplayPo 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),								
Chipset 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										ĸet	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 HDMI to VGA. Lenovo HDMI to VGA Monitor Adapter USB-C to VGA. Lenovo USB-C to VGA Adapter								
Display	Size	Resoluti	on	1	Туре	Surface	Brightness	Aspec Ratio	t Contrast Ratio	Color Gamut	Viewing Angle	Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter None								
	15.6"	FHD (19	20x10	080)	IPS	Anti-glare	250 nits	16:9	700:1	45%	170°	Camera (optional)	One of the following, configurable by model:								
	15.6"	UHD (38 Dolby V	340x2⁻ sion™	160) ' HDR	IPS	Anti-glare	500 nits	16:9	1200:1	100% Adobe	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>								
Multi-touch (opt) Pen	On-ce None		ı, sup	ports '	10-fir	nger gest	ure (FHD c	nly)				stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack	stereo speakers, 2W x 2, Dolby® Audio™ Premium /								
	• M.2		SSD/	PCIe I	NVM	le, PCIe 3						Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad								
Optical	• Inte	Optan 2280,	е™ М	1emory	/ H10		id State St	orage,				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								
Ethernet							ection I219-					NFČ (optional)	r Optional: Touch style match on chip fingerprint reader on the palm rest Near Field Communication								
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											Battery Max battery life AC adapter	Integrated Li-ion 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) MobileMark® 2014: 15 hr (FHD model) / 10 hr (UHD model) * Battery life varies significantly with settings, usage, & other factors 65W USB Type-C AC adapter								
WWAN (optional)						by model	:						Windows® 10 Home 64 or Windows 10 Pro 64								
SIM card (opt)	<ul> <li>Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA only)</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> </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						om L8: <i>NAN u</i>	50-ĜL, M.2 ( ogradable	rd (EME <i>l</i> card	I	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 enecifies												Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant								

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













# ThinkPad P72 Platform Specifications

Processor	8th Generation	Intel® Cor	e™ i7 Proces	ssor or Int	el 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		
	Processor # of Number Cores i7-8750H i7-8850H	# of Threads		Max Turbo Frequency 4.1 GHz 4.3 GHz	Cache 9MB 9MB	Memory Types DDR4-2400	Processor Graphics Intel UHD Graphics 630 Intel UHD Graphics P630	Weight Case color Case material	Starting at 7.5 lb / 3.4kg Black Display cover: GFRP + PPS; Bottom: Magnesium/Aluminum		
	E-2176M E-2186M	12	2.6 GHz 2.7 GHz 2.9 GHz	4.4 GHz 4.8 GHz	12MB 12MB			ExpressCard Media reader Ports	r Optional: Smart card reader None 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card		
Graphics	Intel UHD Grap NVIDIA Quadro P3200 (6GB me supports extern supports four in Max resolution:	P600 (4)	GB memory 4200 (8GB i monitor via I nt displays; 60@60Hz ( 80@30Hz (	y), P2000 memory), HDMI, Mir (DisplayPo	(4GB m or P520 ni Displa ort via N	00 (16GB r ayPort, or T Mini Display	hunderbolt™;		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 spee Optional: Lenovo Mini-DisplayPort to DisplayPort Monitor Cable		
Chipset Memory	only on Xeon pr * Installed DIMMs	C or 64ĠE ocessor), are actuall	B ECC max dual-chann <i>y 2666MHz b</i>	nel capable out run at 2	e, four [ 400MHz	DDR4 SO-I due to Intel	limitation	Audio support	IR camera and HD720p camera, fixed focus HD Audio, Realtek® ALC3286 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone		
Display	16:9 asp Some: 17.3" (4	pect ratio, 39mm) 4k	800:1 contr	rast ratio, 30), anti-q	72% ga lare. LE	mut, 170° i D backligh	ght, IPS, 300 nits, viewing angle t, IPS, 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 Storage	None Supports pen a  Up to 3 drives (tw. Some: HDD / Some: M.2 S	ewing angl ccessory, o M.2 SSD SATA 6.0	e please see and one HDL Gb/s, 2.5" v	the acces	ssory co	ompatibility  Active Prote	for details	Fingerprint reader Color calibration	ecurity chip Discrete TPM 2.0, TCG Certified Pro (optional) Intel vPro Technology ngerprint reader Touch style match on chip fingerprint reader on the palm rest plor calibration None		
Optane™ memor RAID <i>(optional)</i> Optical		Optane me						Battery Li-ion 99Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  Max battery life  **Battery life varies significantly with settings, usage, & other factors**			
Ethernet	Non-vPro mode vPro model:		nernet Conr nernet Conr					AC adapter Operating system	230W slim tip AC adapter  One of the following, configurable by model:		
WLAN Bluetooth™	Intel Wireless-A Bluetooth 5.0 w	C 9560, V	Vi-Fi 2x2 80	2.11ac + I	Bluetoo	th 5.0, M.2	card		<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								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-STD-810G military testing		
								Environment	EPEAT™ Gold (US only); ENERGY STAR® 7.0; RoHS-compliant		











# ThinkPad P73 Platform Specifications

Processor	9th Generation Intel® (						Dimensions Weight	WxDxH: 16.38" x 11.06" x 1.02-1.22"; 416mm x 281mm x 25.9-31mm Starting at 7.5 lb (3.4kg)	
	Processor # of # o Number Cores Threa	f Base M ds Frequency Fi	lax Turbo requency Cache	e Memory Types	Proce Grap		Case color	Black	
	i5-9400H 4 8		4.3 GHz 8MB		Старі	ilics	Case material	Display cover: GFRP + PPS;	
	i7-9750H 6 12		4.5 GHz 12MB		Intel UHD	Graphics		Bottom: Magnesium/Aluminum	
	i7-9850H 6 12		1.6 GHz 12MB		63		Smart card reade	er <i>Optional:</i> Smart card reader None	
	i9-9880H 8 16	2.3 GHz 4	4.8 GHz 16MB	3 DDR4-260			ExpressCard Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card	
	E-2276M 6 12	2.8 GHz 4	1.7 GHz 12MB	3	Intel UHD P63		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	Intel UHD Graphics 63 NVIDIA Quadro® P620 RTX 3000 (6GB GDDI or RTX 5000 Max-Q (1 supports external digit supports five independ Max resolution: 5K@	(4GB GDDR5), R6, VR ready), R 6GB GDDR6, V al monitor via HI lent displavs:	T2000 (4GB 0 TX 4000 Max- R ready); DMI or Thunde	-Q (8GÉ G erbolt™;		ready),	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	Max resolution: 5K@60Hz (Thunderbolt); 4K@60Hz (USB-C or HDMI)  Mobile Intel CM246 Chipset							USB-C to DP: Lenovo USB-C to DisplayPort Adapter	
Memory	128GB max / 2666MH	z <sup>'</sup> DDR4 (ECC fu	ınction suppor	ted only or	Xeon proc	essor),	Bundled Accy	None	
	dual-channel capable,	four DDR4 SO-I	DIMM sockets					IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus	
Display	Size Resolution	Type Surface	brightness	Aspect Cont Ratio Ra	tio Gamut Angle		Audio support	HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2 / dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system	
	17.3" FHD (1920x1080)	IPS Anti-glare	9 300 nits	16:9 700	):1 72%	160°	Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight	
N //	17.3" UHD (3840x2160) Dolby Vision™ HDF	IPS Anti-glare	400 nits	16:9 100	0:1 100%	170°	UltraNav™	3-button Mylar surface multi-touch touchpad	
Multi-touch Pen	None None						Security	Power-on password, hard disk password, supervisor password, security keyhole	
Storage Optane™ memo RAID <i>(optional)</i>	Up to 3 drives (two M.2 S  HDD / SATA 6.0Gb/s  M.2 2280 SSD / PCl  ory Optional: Intel Optane RAID 0/1 support	, 2.5" wide, 7mn e NVMe. PCIe 3	n high, Active F 5.0 x 4		System™		Security chip vPro (optional) Fingerprint reade Color calibration NFC (optional)	Discrete TPM 2.0, TCG Certified Intel vPro Technology r Touch style match on chip fingerprint reader on the palm rest Optional: X-Rite Pantone factory color calibration (UHD model only) Near Field Communication	
Optical	None						Battery	Integrated Li-ion 99Wh battery, supports Rapid Charge (charge up to 80% in 1hr)	
Ethernet	Non-vPro model: Intel vPro model: Intel	Ethernet Conne Ethernet Conne					Max battery life  AC adapter	MobileMark® 2014: 17.2 hr  * Battery life varies significantly with settings, usage, & other factors 170W or 230W slim tip AC adapter	
WLAN Bluetooth™	Intel Wi-Fi 6 AX200, W Bluetooth 5.0 wireless				dapter			One of the following, configurable by model:  Windows® 10 Home 64  Windows 10 Pro 64  Windows 10 Pro 64 for Workstations	
WWAN SIM card	None None								
								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	

October 2019







# ThinkPad T470 Platform Specifications

Processor	6th General	tion In	tel® Core	-™ i5 / i7 F	rocessor or				WWAN (optional)	One of the following, configurable by model (WWAN can coexist with WiGig):
	Processor	# of	# of		May Turbo	Cache 3MB	Memory Types	Processor Graphics	(00000000000000000000000000000000000000	<ul> <li>Wireless WAN upgradable</li> <li>Integrated Mobile Broadband 4G LTE-A, Qualcomm® Snapdragon™ X7 LTE-A (Sierra Wireless EM7455), M.2 card</li> <li>Integrated Mobile Broadband 4G LTE,</li> </ul>
	i5-6300U i7-6500U i7-6600U	00U 2 4 2.4 GHz 3.0 GHz 3MB 2.5 GHz 3.1 GHz 4MB DDR4-2133 Intel HD Graphic 520		Intel HD Graphics 520	SIM card (opt)	Intel XMM™ 7160 (Fibocom L831-EAÚ), M.2 card (EMEA only) Micro-SIM card slot, opt Verizon LTE (US) or Lenovo® Connect (EMEA) SIM card				
	7th General	tion In	tel Core	2.6 GHz i3 / i5 / i7	3.4 GHz   Processor	4MB			Dimensions Weight	WxDxH: 13.25" x 9.15" x 0.79"; 336.6mm x 232.5mm x 19.95mm  Models 3-cell or 3 + 3-cell 6-cell or 3 + 6-cell
		# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		Magnesium         3.49 lb / 1.58 kg         3.92 lb / 1.78 kg           PPS         3.63 lb / 1.65 kg         4.35 lb / 1.85 kg
	i3-7100U i5-7200U i5-7300U	i3-7100U 2.4 GHz - 3MB i5-7200U 2.5 GHz 3.1 GHz 3MB i5-7200U 2.4 CHz 3.5 GHz 3MB DDR4-2133 Intel HD Graphics						Intel HD Graphics 620	Case color Case material	Black Display cover: Magnesium Hybrid or PPS; Bottom: Glass-Fiber Reinforced Plastic
	i7-7500U i7-7600U			2.7 GHz 2.8 GHz	3.5 GHz 3.9 GHz	4MB 4MB		020	Media reader	er Optional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC), supports SD 3.0, UHS-I
	* i7-6500U is								Ports	Three USB 3.1 Gen 1 (USB 3.0, one Always On), USB 3.1 Type-C Gen 2 / Thunderbolt 3 (w/ the function of Power Delivery and DP),
Graphics	Intel HD Gra	aphics Iz GDI cternal	620 in p DR5 mei digital n	processor mory (disc nonitor via	rete models HDMI or US	GeFord are NO	T available	Κ, e in EMEA);	WiGig dock (opt) Monitor cable	HDMI 1.4b, Ethernet (RJ-45), Dock connector  * Depending on many factors, actual data transfer speed may be lower than theoretical speed ThinkPad WiGig dock Optional: Lenovo USB-C to VGA Adapter
	Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@24Hz (HDMI)								Camera (optional	I) 720p: HD720p resolution, fixed focus IR & 720p: IR camera and HD720p camera (mutually exclusive with WiGig)
Chipset Memory	Intel SoC (S 32GB max / * System close	/ 2400	MHz DD	Ŕ4, dual-d	i channel capa n lower memor	able, tw	o DDR4 S	O-DIMM sockets	Audio support	HD Audio, Realtek ALC3268 codec / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack
Display	Some: 14.0	0" (355	5mm) HI	D (1366x76	68), anti-glar	re, LED			- Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	Some: 14.0 220 Some: 14.0 250	0" (355) ) nits, 7 0" (355) ) nits, 7	5mm) Fh 16:9 asp 5mm) Fh 16:9 asp	HD (1920x) ect ratio, 4 HD (1920x) ect ratio, 7	1080), anti-g 00:1 or 500: 1080), anti-g 00:1 contras	glare, LE :1 contra glare, LE st ratio,	ast ratio ED backlig 170° view	ht, IPS, ing angle		Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology or Optional: Touch style match on chip fingerprint reader on the keyboard bezel
Multi-touch (opt)					sture (FHD 30 slot exclusi			PS cover only)	NFC <i>(optional)</i> Internal battery	Near Field Communication  Optional: Integrated Li-Polymer 3-cell (24Wh)
Storage	Some: HD	D/SA	TA 6.0G	ib/s, 2.5" w	ide, 7mm hi	igh, Acti	ive Protect	tion System™	External battery	Li-Polymer 3-cell (24Wh) or Li-ion 6-cell (48Wh or 72Wh)
	Some: M.2	2 SSD	/ PCIe N	NVMe, PCI	ide, 7mm hi e 3.0 x 2, 16	6Gb/s		,	Max battery life (MobileMark® 2014	Models   3-cell   3 + 3-cell   6-cell 48Wh   6-cell 72Wh   3 + 6-cell 48Wh   3 + 6-cell 72Wh   11.0   11.
					Gb/s, in WW AN and WiG		t as 2nd S	torage,		<i>Discrete</i> 6.9 hr 13.9 hr 14.3 hr 21.6 hr 21.2 hr 28.6 hr
Optical	None								AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W slim tip AC adapter, 45W or 65W USB Type-C AC adapter
Ethernet	Non-vPro n vPro model				nection I219 nection I219			e)	Operating system	One of the following, configurable by model:  Windows® 7 Professional 64 preinstalled
WLAN	One of the following, configurable by model (WiGig can coexist with WWAN):  • Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + BT4.1, M.2 card  • Intel Dual Band Wireless-AC 8260, Wi-Fi 2x2 802.11ac + BT4.1, M.2 card  • Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + BT4.1, M.2 card									through downgrade rights in Windows 10 Pro 64  • Windows 10 Home 64  • Windows 10 Pro 64
	<ul> <li>Intel Tri-Ba</li> </ul>							, M.2 card 302.11ac + BT4.1,	Limited warranty	One of the following, configurable by model:  • 1-vear depot repair service
Bluetooth™					Wi-Fi + Blue					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® 6.1; RoHS-compliant
Note: The specific	ations above r	may no	ot be ava	ilable in all	regions.					Lenovo







#### ThinkPad T470s Platform Specifications

Processor	6th Generation Intel®	® Core™ i5 / i7 F	Processor			Dimensions	WxDxH: 13.03" x 8.93" x 0.67-0.74"; 331mm x 226.8mm x 16.9-18.8mm
	Number Cores Thro	f of Base Frequency 2.3 GHz 4 2.4 GHz	Max Turbo Frequency Cache 2.8 GHz 3MB 3.0 GHz 3MB	Memory Types DDR4-2133	Processor Graphics Intel HD Graphics	Weight Case color Case material	Starting at 2.9 lb / 1.32 kg Black or Silver Display cover: CFRP Hybrid; Bottom: Magnesium
	i7-6600U	2.6 GHz	3.4 GHz 4MB	JDD114-2100	520	Media reader	er <i>Optional:</i> Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC)
	or 7th Generation Int	1		M	Duranan	Ports	Three USB 3.1 Gen 1 (USB 3.0, one Always On), USB 3.1 Type-C Gen 2 / Thunderbolt 3 (w/ the function of Power Delivery and DP).
	Number Cores Three		<del> </del>	Memory Types	Processor Graphics		HDMI 1.4b, Ethernet (RJ-45), Dock connector  * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	i5-7200U i5-7300U i7-7500U i7-7600U	4 2.5 GHz 2.6 GHz 2.7 GHz 2.8 GHz	3.1 GHz 3MB 3.5 GHz 3MB 3.5 GHz 4MB 3.9 GHz 4MB	DDR4-2133	Intel HD Graphics 620	Monitor cable (optional)	ThinkPad WiGig dock, mutually exclusive with WWAN  HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter  USB-C to VGA: Lenovo USB-C to VGA Adapter
0 1:						Camera (optional	/)HD720p resolution, fixed focus (models without camera are NOT available in EMEA)
Graphics	Intel HD Graphics 52 supports external dig supports three indep	gital monitor via pendent displays	HDMI or USB Typs:	•		Audio support	HD Audio, Realtek® ALC3268 codec / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack
Chipset	Max resolution: 4096			96x2160@	24Hz (HDMI)	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Memory	20GB or 24GB max <sup>7</sup> 4GB or 8GB memory * System clocks down for	7 / 2400MHz DD y soldered to sy	R4, dual-channel stemboard, one D	DR4 SÓ-DI	IMM socket	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
Display		9 aspect ratio, 7	700:1 contrast ratio	o, 160° view	ing angle	Fingerprint reade NFC (optional)	or Optional: Touch style match on chip fingerprint reader on the palm rest Near Field Communication
Multi-touch (opt)	Some: 14.0" (355mr 300 nits, 16:9 On-cell touch, suppo	9 aspect ratio, 7	700:1 contrast ratio	o, 160° view	klight, IPS, ring angle	Internal battery Max battery life	Front Li-Polymer 3-cell (23Wh) and rear Li-ion 3-cell (26Wh), both Integrated MobileMark® 2014: up to 10.5 hr * Battery life varies significantly with settings, usage, & other factors
Storage	One of the following, co. • M.2 SSD / SATA 6.0					AC adapter	45W slim tip AC adapter, 45W or 65W USB Type-C AC adapter  One of the following, configurable by model:
Optical	M.2 SSD / PCle N\ None	VMe, PCIe 3.0	x 4, 32Gb/s (e.g. x	xxGB SSD	M.2 PCIe NVMe)	Operating system	Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64
Ethernet	Non-vPro model: Inte		nection I219-V (Ja nection I219-LM (		<u> </u>		Windows 10 Home 64     Windows 10 Pro 64
	One of the following, co Intel Dual Band Wir Intel Dual Band Wir Intel Tri-Band Wirele	onfigurable by mod reless-AC 8260 reless-AC 8265	del (WiGig is mutually , Wi-Fi 2x2 802.11 , Wi-Fi 2x2 802.11	y exclusive wa ac + BT4.1, ac + BT4.1,	ith WWAN): M.2 card M.2 card	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
	M.2 card	,	J		,	Mil-Spec test	MIL-STD-810G military testing
Bluetooth™	Bluetooth 4.1 wireles * Intel 8265ac / 18265a	ac card support B	T4.2 but is limited to E	BT4.1 by Wind	dows OS	Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
(-7/	One of the following, co  • Wireless WAN upgg  • Integrated Mobile E  Qualcomm® Snapd  • Micro-SIM card slo	<sub>l</sub> raďable Broadband 4G I dragon™ X7 LTI	_TE-A, E-A (Sierra Wireles	ss EM7455)	), M.2 card		
Olivi Cara (Opt)	WHOID ONVI CAI'U SIO	7., OPT VOIIZOII E	12 (30) 01 201000	, 30111100t (	(LIVILA) Olivi Galu		Lenovo

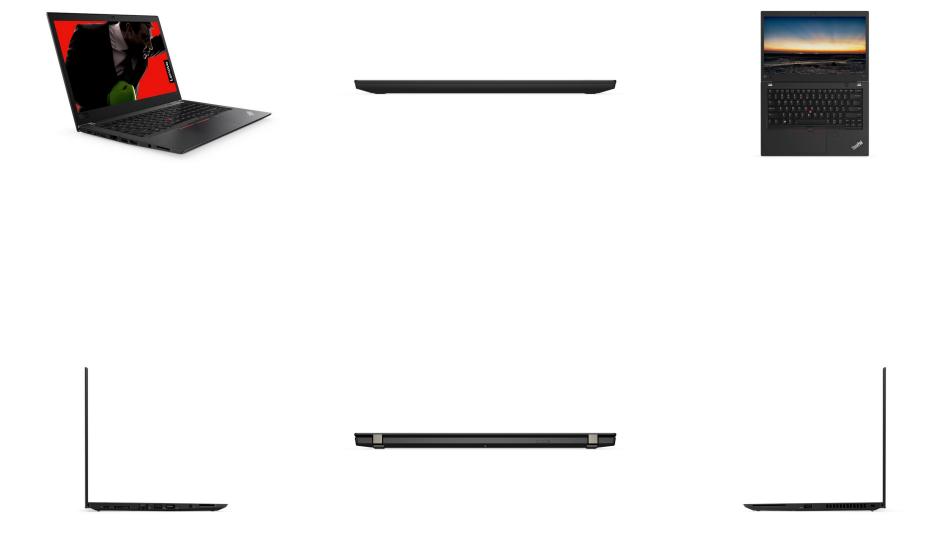






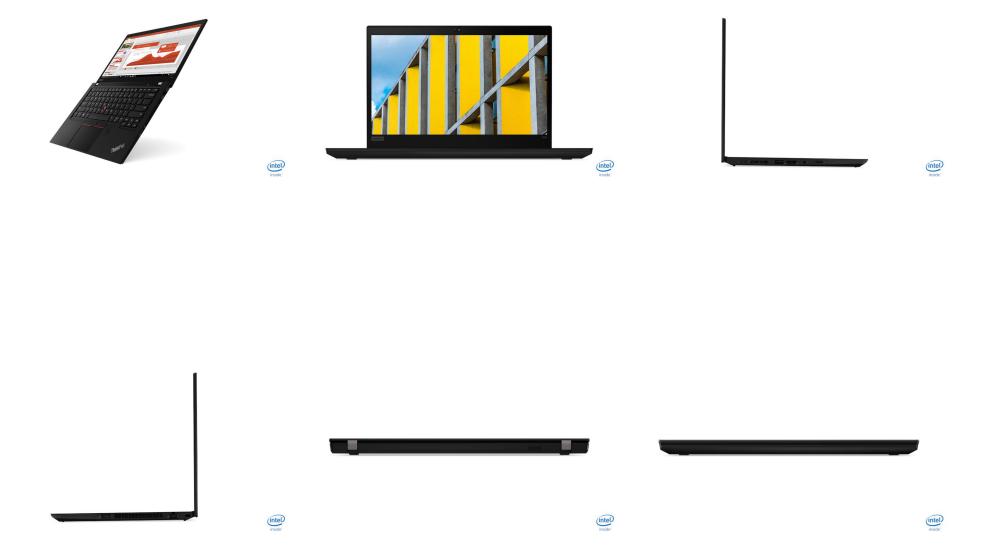
#### ThinkPad T480 Platform Specifications

Processor	7th Gene	ration I	ntel® Cor	e™ i5 Proc	essor				Dimensions	WxDxH:	13.25" x 9	).15" x 0.79	"; 336.6m	m x 232.5ı	mm x 19.95mr	n
	Processor	_	# of	Base	Max Turbo	Cache	Memory	Processor	Weight	Models			4Wh + 24Wh		2Wh, or 24Wh +	
	Number	Cores	Threads		Frequency		Types	Graphics		Integrated N		3.49 lb	/ 1.58 kg		3.92 lb / 1.78	kg
	i5-7200U	2	4	2.5 GHz	3.1 GHz	3MB	DDR4-2133	Intel HD Graphics		Integrated F			/ 1.65 kg		4.08 lb / 1.85	
	i5-7300U			2.6 GHz	3.5 GHz	3MB		620	_	Discrete Ma			/ 1.60 kg		3.97 lb / 1.80	
	or 8th Ge	neratio	n Intel Co	ore i3 / i5 /	7 Process	or				Discrete PP	S	3.68 lb	/ 1.67 kg		4.12 lb / 1.87	kg
	Processor Number i3-8130U	# of Cores	# of Threads	Base Frequency 2.2 GHz	Max Turbo Frequency 3.4 GHz	Cache 4MB	Memory Types	Processor Graphics	Case color Case material	Black Display con Bottom:		esium Hybr -Fiber Rein		tic		
	i5-8750U i5-8250U i5-8350U i7-8550U	4	8	1.6 GHz 1.7 GHz 1.8 GHz 1.9 GHz	3.4 GHz 3.6 GHz 4.0 GHz 4.2 GHz	6MB 6MB 8MB 8MB	DDR4-2400	Intel UHD Graphics 620	Smart card reade Media reader Ports	4-in-1 read Two USB 3 one USB 3	er (MMC, 8 8.1 Gen 1 ( .1 Type-C (	SD, SDHC, one Always Gen 1 (with	On), the functio	n of Power (with the fu	r Delivery and unction of PD a	DisplayPort), and DP),
Graphics	Intel HD ( NVIDIA® ( discrete supports supports	Graphic GeFord graphic externa three ir	cs 620 or ce® MX15 cs is avail al digital r ndepende	Intel UHD 50, 2GB GD lable only o nonitor via ent displays	Graphics 6 DR5 mem <i>n i7 model</i> HDMI or U ;	20 in p ory <i>s in EN</i> ISB Typ	e-C;		Monitor cable (optional)	HDMI 1.4b headphone 4-in-1 med side dockin * Depending HDMI to Vo	, Ethernet e / microph ia reader (l ig connecte on many fa GA: Leno	(RJ-45), na one combo MMC, SD, S or, security	no-SIM car jack, optior SDHC, SDX keyhole data transfer VGA Monit	d slot (WW nal smart o (C), speed may or Adapter	/AN models), card reader, be lower than th	,
Chipset Memory	Intel SoC 32GB ma	(Syste x / 240	m on Chi 0MHz DI	ip) platform	hannel ca	oable, t	wo DDR4 S	O-DIMM sockets	Camera (optional) - Audio support	• HD720p	camera wit a and HD7	h ThinkShu 20p camera	itter camera a, fixed focu		ixed focus	
Display		220 nì	its, 16:9 a	aspect ratio	, 400:1 cor	itrast ra		•	Addio Support	stereo spea	akers, 2W	x 2, Dolby® e, headpho	Audio™ Pre		oo iack	
		250 ni	its, 16:9 a	spect ratio	, 700:1 cor	ntrast ra	, LED backli itio, 170° vie re, LED bac	wing angle	Keyboard UltraNav™	6-row, spill-	resistant,	multimedia	Fn keys, or	tional LEC		touchpad
Multi-touch (opt)		170° vi	ewing an				io, 72% gar	nut,	Security Security chip vPro (optional)	Security chip Discrete TPM 2.0, TCG Certified vPro (optional) Intel vPro Technology					ırity keyhole	
Storage	System ha	s one H	DD slot or	one M.2 228 ab/s, 2.5" w	30 slot exclusion	sively for		ion System™	Fingerprint reade	r Optional: 🛚	Touch style anti-spoofir	match on ong technolog		rint reader	on the keyboa	ard bezel,
	Some: N Some: 1	1.2 SSE 28GB 1	D / PCIe I M.2 SSD	NVMe, PCI / PCIe NVI	e 3.0 x 4 Me, PCIe 3	3.0 x 2,	-	,	Battery	Optional in	tegrated Li	-ion 24Wh I 48Wh, or 7				
Optane™ memory	* <i>Installed</i> Intel Opta	M.2 SSL	D is PCIe :	3.0 x 4 but rū	n at PCIe 3.	0 x 2 du	sive with WV e to M.2 SSD	VAN adapter limitation	Max battery life (MobileMark® 2014)	mogratoun		nr 14.4 hr	21.8 hr	14.4 hr	24Wh + 48Wh 21.8 hr	29.0 hr
Optical Ethernet	None  Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville)  vPro model: Intel Ethernet Connection I219-LM (Jacksonville)							)	AC adapter		varies sign	nr   13.2 hr   ificantly with s oe-C AC ada	settings, usa	13.6 hr ge, & other f	19.8 hr factors	26.4 hr
WLAN +	Intel Dual Band Wireless-AC 8265. Wi-Fi 2x2 802.11ac + Bluetooth 4.1. M.2 (								Operating system	Optional: \	Vindows® .	10 Home 64	or Windov	vs 10 Pro 6	64	
Bluetooth™							vindows OS	ii 4. i, ivi. Z caiu	Limited warranty	One of the fo						
WWAN (optional)	One of the • Wireless • Integrate	followin s WAN ed Mob	ng, configu upgrada oile Broad	rable by mod	lel (mutually TE,	exclusiv	e with Intel O	ptane memory):		<ul><li>1-year de</li><li>1-year de</li></ul>	epot repair epot with 2 yr battery o	service -year syster depot repair	m board rep	air service	9	
	<ul> <li>Integrate</li> </ul>	Integrated Mobile Broadband 4G LTE-A,							Mil-Spec test MIL-STD-810G military testing							
SIM card (opt)	* For non-V	Intel XMM™ 7360 (Fibocom L850-GL), M.2 card For non-WWAN model, it means the model is NOT WWAN upgradable lano-SIM card slot, optional Verizon LTE (US) SIM card							Environment	EPEAT™ G	iold (US or	nly); ENERC	GY STAR® 6	6.1; RoHS-	compliant	



#### ThinkPad T480s Platform Specifications

Processor	7th Generation Intel® Core™ i5 Processor	Dimensions	<i>WxDxH:</i> 13.03" x 8.93" x 0.73"; 331mm x 226.8mm x 18.45mm
	Processor # of # of Base Max Turbo Cache Memory Processor		Starting at 2.9 lb / 1.32 kg Black or Silver
	Number Cores Inreads Frequency Frequency Types Graphics	Case material	Display cover: CFRP Hybrid;
	i5-7200U   2   4   2.5 GHz   3.1 GHz   3MB   DDR4-2133   Intel HD Graphics   620   620		Bottom: Magnesium
	or 8th Generation Intel Core i5 / i7 Processor		Optional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC)
	Processor Number         # of Cores         # of Threads         Base Frequency         Max Turbo Frequency         Cache Types         Memory Types         Processor Graphics	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),
	1.6 GHz   3.4 GHz   6MB   1.7 GHz   3.6 GHz   6MB   1.7 GHz   3.6 GHz   6MB   1.8 GHz   4.0 GHz   8MB   1.9 GHz   4.2 GHz   1.9		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, 4-in-1 reader (MMC, SD, SDHC, SDXC), side docking connector, security keyhole
Graphics	Intel HD Graphics 620 or Intel UHD Graphics 620 in processor only or Intel UHD Graphics 620 in processor and NVIDIA® GeForce® MX150, 2GB GDDR5 memory (discrete models are NOT available in EMEA);	Monitor cable	* Depending on many factors, actual data transfer speed may be lower than theoretical speed USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)		One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus  IR camera and HD720p camera, fixed focus
Chipset Memory	Intel SoC (System on Chip) platform 20GB or 24GB max / 2400MHz DDR4, dual-channel capable, 4GB or 8GB memory soldered to systemboard, one DDR4 SO-DIMM socket	Audio support	The carrier a and rib72b carriera, fixed focus HD Audio, Realtek® ALC3287 codec / stereo speakers, 1W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack
Disales	* System clocks down for processors with lower memory controller	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Display	Some: 14.0" (355mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 250 nits, 16:9 aspect ratio, 700:1 contrast ratio, 170° viewing angle, supports ThinkPad Privacy Guard on some models  Some: 14.0" (355mm) WQHD (2560x1440), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 170° viewing angle	Security Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology Optional: Touch style match on chip fingerprint reader on the palm rest, anti-spoofing technology
Multi-touch (opt)	On-cell touch, supports 10-finger gesture, 250 nits (FHD only)	NFC (optional)	Near Field Communication
Storage	One of the following, configurable by model:  • M.2 SSD / SATA 6.0Gb/s		Integrated Li-ion 57Wh battery, supports Rapid Charge (0-80% in 60 mins) with 65W USB Type-C AC adapter
Optical	M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s None		MobileMark® 2014: 15.6 hr * Battery life varies significantly with settings, usage, & other factors
Ethernet	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville)	AC adapter	45W or 65W USB Type-C AC adapter
	vPro model: Intel Ethernet Connection I219-LM (Jacksonville)	,	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WLAN + Bluetooth™	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card * Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS	,	One of the following, configurable by model:  1-year depot repair service
WWAN (optional)	One of the following, configurable by model:  • Wireless WAN upgradable  • Integrated Mobile Broadband 4G LTE,		<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>
	Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)	Mil-Spec test	MIL-STD-810G military testing
SIM card (opt)	<ul> <li>Integrated Mobile Broadband 4G LTÉ-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card</li> <li>Nano-SIM card slot, optional Verizon LTE (US) SIM card</li> </ul>	Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant
	ations above may not be available in all regions	I	Lenovo



#### ThinkPad T490 Platform Specifications

Processor	8th Gener	ation Ir	ntel® Cor	e™ i5 / i7 F	rocessor					Dimensions	WxDxH:	12.95" x 8.9	14" x 0.70"; 329m	nm x 227mm x 17.9mm	
	Processor	# of	# of	Base	Max Turbo	ache	Memory	Proces	ssor	Weight	Models	HD	FHD	FHD Low Power / WQHD	Privacy Guard
	Number	Cores	Threads	Frequency	rrequericy		Types	Graph	nics		Weight	3.37 lb / 1.53 k	g 3.41 lb / 1.55 kg	3.23 lb / 1.46 kg	3.56 lb / 1.61 kg
	i5-8265U	-		1.6 GHz		6MB				Case color Case material	Black	over DDC / E	00/ CE:		
	i5-8365U i7-8565U	4	8	1.6 GHz 1.8 GHz		6MB 8MB	DDR4-2400	Intel UHD (		Case material	Bottom:	over: PPS / 5 PA / 50°			
	i7-8565U	1		1.9 GHz		BMB		020	,	Smart card reade					
		eneration	on Intel C		Processor (N		vailable in E	EMEA)		Media reader Ports	MicroSD	card reader 3.1 Gen 1 (or			
	Processor Number	# of	# of Threads	Base Frequency	Max Turbo Frequency	ache	Memory Types	Proce Graph		Ports	one USB	3.1 Type-C G	en 1 (with the func	tion of Power Delivery ar	nd DisplayPort),
	i5-10210U	4	8	1.6 GHz	4.2 GHz	6MB	DDR4-2400				HDMI 1.4	1b, Ethernet (F	J-45), nano-SIM c	3 (with the function of Pland slot (WWAN models	s),
	i7-10510U			1.8 GHz		8MB			атартноз	<u> </u>	headpho microSD	ne / microphor card reader, s	ie combo jack, opt ide docking conne	ional smart card reader, ctor, security keyhole	
Graphics	Intel UHD	Graphi	cs 620 c	r Intel UH[	) Graphics in ) Graphics in	proc	essor only	or		Monitor cable	* Dependi	ng on many facto	ors, actual data trans	ctor, security keyhole fer speed may be lower than	n theoretical speed
					DR5 memor		essoi anu			(optional)	USB-C to	<i>VGA:</i> Lenov	o HDMI to VGA M o USB-C to VGA A	onitor Adapter Adapter	
	supports e	externa	l digital r	nonitor via	HDMI or Thu		oolt;				USB-C to	o <i>HDMI:</i> Lenov	o USB-C to HDMI	Adapter	
	supports three independent displays; Max resolution: 4096x2304@60Hz (Thunderbolt); 4096x2160@24Hz (HI									Bundled Accy	USB-C to None	DP: Lenov	o USB-C to Displa	yPort Adapter	
Chipset	Intel SoC	(Syster	n on Chi	p) platform					,	Bundled Accy None  Camera (optional) One of the following, configurable by model:					
Memory	48GB max	k / 2400 GB me	NIHZ DL morv so	)H4, dual-0 Idered to s	hannel capa ystemboard,	DIE, one Γ	DR4 SO-F	OIMM sock	æt					era privacy, fixed focus inkShutter camera priva	cy fixed focus
					ut run at 2400				ioi	Audio support		o, Realtek® AL		ilikollullei cailleia piivai	cy, lixed locus
Display	Size Reso	lution	T	pe Surface	Brightness	Aspe Ratio		t Color	Viewing	]			2, Dolby® Audio™ l ophone, headphor	Premium / ne / microphone combo ja	ack
	14.0" HD (1			N Anti-glai		16:9		45%	Angle 90°	Keyboard		,		optional LED backlight	
	1110		-/	J. J. H. H. G. G.	250 nits	1	10011	10,1		UltraNav™				s Mylar surface multi-tou	ch touchpad
	14.0" FHD	(1920x1	080)	PS Anti-glai	e (non-touch) 300 nits	16:9	700:1	45%	170°	Security				supervisor password, se	ecurity keyhole
					(multi-touch)	)				Security chip System Mgt (opt)	Discrete Intel vPro	TPM 2.0, TCG	Certified		
	14.0" FHD	(1920x1	080)	PS Anti-glai	e 400 nits	16:9	800:1	72%	170°	Fingerprint reade	r Optional:	Touch style n		erprint reader on the pain	n rest
	LOW I	Power (1920x1		- 3						NFČ (optional)		ld Communica		· · · · · · · · · · · · · · · · · · ·	
	14.0" Think	(Pad Pri	vacy I	PS Anti-glai	e 400 nits	16:9	1000:1	72%	170°	Battery			battery, supports I	Rapid Charge (charge up	o to 80% in 1hr)
	Guar		)::1 1 10)					1000/		Max battery life		/ AC adapter <i>ark® 2014:</i> 16	.11 hr		
		ID (2560 , Dolby \		PS Glossy	500 nits	16:9	1500:1	100% Adobe	170°	AC adapter	* Battery	life varies signific		sage, & other factors	
Multi-touch (opt)	On-cell to	uch, su	pports 1	O-finger ge	sture (FHD o	nly)				Preload		,	gurable by model:	O1	
Storage					OT available	in EM	EA)			Ticload		/s® 10 Home 6			
	<ul><li>M.2 228</li><li>M.2 224</li></ul>											/s 10 Pro 64			
	• Intel Opt	ເຂີວວມ tane™ l	/ FCIE N	H10 with S	olid State St	orage					<ul><li>Window</li><li>No OS</li></ul>	s 10 Pro in S	mode		
	M.2 228	0, PCI	e NVMe	3.0 x 4		9-	,			Limited warranty		e followina, confid	gurable by model:		
Optical	None									- Limitou wananty	• 1-year o	depot repair se	rvice		
Ethernet	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) vPro model: Intel Ethernet Connection I219-LM (Jacksonville)												ear system board r oot repair service	epair service	
WLAN +				able by mod						1			ited onsite service	<u> </u>	
Bluetooth™					302.11ac + B					Mil-Spec test	MIL-STD	-810G military	testing		
(optional)				ocessor on	.11ax + Blue <sup>.</sup> ly)	tootn	5.0			Environment	EPEAT™	Silver; ENER	GY STAR® 7.1; Ro	HS-compliant	
WWAN (optional)					lel:					1					
	<ul> <li>Wireless</li> </ul>				TE E11		ED MO	( <b>- N A -</b> - 1							
					TE, Fibocom TE-A, Fiboco				a only)						
	• Integrate	ed Mob	ile Broad	band 4G L	TE-A, Fiboco del is NOT W	m L8	60-GL, MIN	ло 4х4, М	.2 card						
SIM card (opt)	* For non-W	VWAN m	nodel, it m	eans the mo	del is NOT WV	VAN u	ogradable rd	•							
Note: The enecified					LTE (US) S	iwi Ca	ıu								Longue



#### ThinkPad T490s Platform Specifications

Processor	8th Genera	ation Ir	ntel® Co	e™ i5 / i	7 Proces	sor					Dimensions	WxDxH (l		Privacy Guard):			
	Processor Number i5-8265U	# of Cores	# of Threads	Base Frequer 1.6 GH		ency Cac	cne	Memory Types	Proces Graph			,	black with FHD L 12.94" x	<ul> <li>(8.90" x 0.66"; 329.0mm x 2</li> <li>Low Power / WQHD);</li> <li>(8.89" x 0.63"; 328.8mm x 2</li> </ul>	225.8mm x 16.1mm		
	i5-8365U i7-8565U	4	8	1.6 GH	z 4.1 ( z 4.6 (	GHz 6N GHz 8N	//B DE	DR4-2400	Intel UHD ( 620	Graphics )	Weight	WxDxH (s	silver): 12.96" > Black with FHD	8.92" x 0.68"; 329.15mm x  Black with FHD Low Power / WQHD / Privacy Guard	226.45mm x 17.2mm Silver		
-	i7-8665U		<u> </u>	1.9 GF		3Hz 8N	/IB					Weight	2.98 lb / 1.35 kg	2.81 lb / 1.27 kg	3.29 lb / 1.49 kg		
Graphics	Intel UHD Graphics 620 in processor; supports external digital monitor via HDMI or Thunderbolt; supports three independent displays; Max resolution: 4096x2304@60Hz (Thunderbolt); 4096x2160@24Hz (HDMI)								24Hz (HDM	<b>(</b> 1)	Case color Case material	Bottom:	over: CFRP Hyb Magnesiu		er);		
Chipset Memory	Intel SoC (System on Chip) platform 8GB, 16GB or 32GB / 2400MHz DDR4 / soldered to systemboard, no sockets * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation										Media reader Ports	ader Optional: 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 Display one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP					
Display	Size Resolution Type Surface Brightness Aspect Ratio Ratio Gamut Ang											HDMI 1.4	b, Ethernet exte	2 / Thunderbolt 3 (with the function connector, nano-SIM combo jack, optional smart c	ard slot (WWAN models)		
	250 nits								45%	170°	Monitor cable	microSD o * Dependin HDMI to \	card reader, side ng on many factors VGA: Lenovo I	e docking connector, security , actual data transfer speed may HDMI to VGA Monitor Adapte	keyhole be lower than theoretical spe		
		(1920x1 Power	1080)	IPS Anti	glare 4	100 nits	16:9	800:1	72%	170°	(optional) Bundled Accy	USB-C to	DP: Lenovo I	USB-C to VGA Adapter USB-C to DisplayPort Adapte net Extension Adapter Gen 2	er O		
	14.0" FHD Think Guard		1080) ivacy	IPS Anti	glare	100 nits	16:9	1000:1	1 72%	170°	Camera	One of the	following, configur	<u> </u>			
	14 0" WQH	D (2560	0x1440) Vision™	IPS GI	ossy 5	500 nits	16:9	1500:1	1 100% Adobe	170°	Audio support	IR came     HD Audio	era and HD720p . Realtek® ALC3	camera with ThinkShutter ca 287 codec /			
Multi-touch (opt)	On-cell tou	uch, su	ipports 1	0-finger	gesture	(FHD onl	y)					stereo spe	eakers, 1W x 2, / far-field micron	Dolby® Audio™ Premium / hone, headphone / micropho	ne combo jack		
Storage	<ul><li>M.2 228</li><li>M.2 228</li><li>M.2 224</li></ul>	0 SSD	/ PCIe I	VMe, P	Cle 3.0 x	: 4					Keyboard UltraNav™	6-row, spi	ill-resistant, mult	imedia Fn keys, optional LED e and buttonless Mylar surfac	backlight		
Ontical	Intel Opt M.2 228 None	tane™	Memory	H <sub>10</sub> wit			age,				Security Security chip System Mgt (opt)	Discrete T	ГРМ 2.0. TCG C	disk password, supervisor partified	assword, security keyhol		
Optical Ethernet	Native Inte										Fingerprint reader NFC (optional)	r Optional:	Touch style mat d Communicatio	ch on chip fingerprint reader n	on the palm rest		
WLAN + Bluetooth™ (optional)	via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2  One of the following, configurable by model:  Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0  Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0										Battery Max battery life	with 65W MobileMa * Battery li	AC adapter ark® 2014: 20 hi ife varies significan	itly with settings, usage, & other t			
WWAN (optional)	One of the f				nodel:						AC adapter		·	SB-C AC adapter	· A		
SIM card (opt)	<ul> <li>Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA of 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</li> </ul>								ard (EMEA card	only)	Limited warranty	One of the 1-year of 1-year of 3-year/1	following, configur depot repair serv depot with 2-yea 1-yr battery depo	ice r system board repair service			
											Mil-Spec test		-810G military te				
											Environment	EPEAT™	Gold; ENERGY	STAR® 7.1; RoHS-compliant			



#### ThinkPad T495 Platform Specifications

Processor	AMD Ryze	en™ PF	RO Mobil	e Proc	cessors	with Rad	eon™ Ve	ga Graphics	<del></del>		Dimensions	WxDxH:	12.95" x 8.	.94" x	0.70"; 329mm	x 227mm x 17.9mm
	Processor	# of	_ # of	Bas		ax Turbo	Cache	Memory		essor	Weight	Models	HD		FHD	FHD Low Power
		Cores	Threads	Freque	ency   Fre	equency	2MB L2 /	Controller		ohics		Weight	3.46 lb / 1.57	7 kg	3.46 lb / 1.57 kg	3.39 lb / 1.54 kg
	Ryzen 3 Pro 3300U	4	4	2.1 G	GHz 3.		4MB L3		Grap	vega 6 ohics	Case color Case material	Black Display c	over: PPS/	50% (	GF:	
	Ryzen 5 Pro 3500U	4	8	2.1 G	GHz 3.		MB L2 / 4MB L3	DDR4-2400	Radeon Gran	vega 8	0	Bottom:	PA / 50	0% GF	= ´	
	Ryzen 7 Pro 3700U	4	8	2.3 G	GHz 4.	0.00- 2	MB L2 / 4MB L3		Radeon		Smart card reade Media reader Ports	MicroSD	card reader		r s On), one USB (	3.1 Gen 2,
	AMD Rad supports of supports of Max resol	externatiour inc	aľ digital depende	monitont disc	or via US olavs:	SB-C or I	HDMI;	orocessor; 60@60Hz (H	HDMI)			HDMI 2.0 headphor microSD	), Ethernet (R ne / micropho card reader.	RJ-45) one co side d	, nano-SIM card mbo jack, option locking connecto	n of Power Delivery and DisplayPort), slot (WWAN models), lal smart card reader, ir, security keyhole speed may be lower than theoretical speed
Memory	AMD SoC 32GB max 8GB or 16 * Installed r	x / 240 SGB m	0MHz D emory so	DŘ4, o oldere	dual-cha d to syst	temboard	d, one D	DR4 SO-DII ue to AMD lim	MM socl	ket	Monitor cable (optional) Bundled Accy	HDMI to	<i>VGA:</i> Leno <i>VGA:</i> Leno	ovo HE	DMI to VGA Moni SB-C to VGA Ada SB-C to DisplayP	tor Adapter apter
Display	Size Reso	lution	7	Гуре Ѕ	Surface	Brightnes	s Aspec	ct Contrast Ratio		Viewing Angle	Camera (optional					privacy, fixed focus
	14.0" HD (	1366x7	68)	TN Ar	nti-glare	220 nits	16:9	400:1	45%	90°	1,	• IR came	era and HD72	20p ca	amera with Think	Shutter camera privacy, fixed focus
	14.0" FHD	(1920x	1080)	IPS Ar	nii-giare	250 nits (non-touch 300 nits (multi-touc	<sup>n)</sup> 16:9	700:1	45%	170°	Audio support	stereo sp dual array	y far-field mic	x 2, Do cropho	olby® Audio™ Pre one, headphone /	microphone combo jack
		(1920x Power	1080)	IPS Ar	nti-glare	400 nits	1	800:1	72%	170°	Keyboard UltraNav™					tional LED backlight lylar surface multi-touch touchpad
Multi-touch (opt)	On-cell to	uch, sı	upports 1	10-fing	er gestu	ıre (FHD	only)				Security Security chip					pervisor password, security keyhole
Storage	• M.2 228	80 SSD	/ SATA	6.0Gb	/s	•					System Mgt	DISCIPLE DASH Ma	TPM 2.0, TC( anagement	G Cer	unea	
	<ul><li>M.2 228</li><li>M.2 224</li></ul>										Fingerprint reade NFC	r <i>Optional:</i> None	Touch style	match	n on chip fingerpi	rint reader on the palm rest
-	None	DTI 04	11 Oinel	:4 [74]							Battery			h batte	ery, supports Rap	pid Charge (charge up to 80% in 1hr)
	Realtek® F							. F O			Max battery life		AC adapter ark® 2014: 1	3.4 hr		
								combo adapt	ter		AC adapter	* Battery I 45W or 6	life varies signit 5W USB Type	ficantly e-C A	<i>with settings, usag</i> C adapter	ge, & other factors
WWAN (optional)					y model:						Operating system		71			<u> </u>
	<ul><li>Wireless</li><li>Integrate</li></ul>				I 4G LTF	E-A. Fibo	com L8	50-GL. M.2 c	ard		Limited warranty		following, conf			
	* For non-V Nano-SIM							50-GL, M.2 o <i>gradable</i> d				• 1-year	depot repair s 1-yr battery d		e epair service	
											Mil-Spec test	MIL-STD	-810G militar	y testi	ing	
											Environment	EPEAT™	Silver; ENEF	RGY S	STAR® 7.1; RoHS	-compliant

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

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#### ThinkPad T495s Platform Specifications

Processor	AMD Ryze	en™ PR	O Mobil	le Pro	ocessors	s with Rac	deon™ Ve	ga Graphics	3		Dimensions	WxDxH (F	FHD / Privacy Gua			
	Processor	# of	# of			/lax Turbo	Cache	Memory	Proce			WyDyH (I	12.95" x 8 Low Power):	3.90" x 0.66"; 329.0mm x	226.15mm x 16.7mm	
	Number Ryzen 5		Threads			requency	2MB L2 /	Controller	Grap Radeon			VVXDXII (L		3.89" x 0.63"; 328.8mm x	225.8mm x 16.1mm	
	Pro 3500U	4	8	2.1	GHz		4MB L3	DDR4-2400	Grap	hics	Weight	Models	FHD	FHD Low Power	FHD Privacy Guard	
	Ryzen 7 Pro 3700U	4	8	2.3	GHz		2MB L2 / 4MB L3	DDN4-2400	Radeon \	/ega 10	Case color	Weight Black	2.92 lb / 1.33 kg	2.76 lb / 1.25 kg	2.89 lb / 1.31 kg	
Graphics	AMD Rade	oon Vo	an Q or	Voga	10 Gra				Спар	11100	Case material	Display co	over: CFRP Hybri			
Graphics	supports e	externa	l digital	moni	itor via Ü			,				Bottom:	Magnesium/			
	supports th	hree in	depend	lent d	lisplays;	ISB-C)· /	1006v21	60@24Hz (I	-IDMI)		Smart card reader	r <i>Optional:</i> MicroSD (	Smart card reade card reader	r		
Chipset	AMD SoC						+030XZ I	00 @ 241 12 (I	iDivii)		Ports	One USB	3.1 Gen 1 (Always	s On), one USB 3.1 Gen 2		
Memory	8GB or 16	ĠB´/24	400MHz	z ĎĎĺ	R4 / solo	dered to s		ard, no soci			two USB 3.1 Type-C Gen 2 (with the function of Power Delivery and HDMI 2.0, Ethernet extension connector, nano-SIM card slot (WWAN					
Display			is actual	ly 266	66MHZ DL	it run at 240		e to AMD lim		\ <i>t</i> : .	 	headphon	ne / microphone co	ombo jack, optional smart locking connector, securit	card reader,	
Display	Size Resol	lution	-	Туре	Surface	Brightnes	ss Aspec Ratio		Gamut	Viewing Angle		* Dependin	ng on many factors, a	ctual data transfer speed may	y be lower than theoretical speed	
						250 nits	1.3				Monitor cable (optional)			DMI to VGA Monitor Adap SB-C to VGA Adapter	ter	
	14.0" FHD (	(1920x1	1080)	IPS /	Anti-glare	300 nits	16:9	700:1	45%	170°	Bundled Accy	Optional:	ThinkPad Etherne	et Extension Adapter Gen	2	
	14.0" FHD (	(1920x1	1080)	IDC	Anti-glare	<u> </u>	-1	800:1	72%	170°	Camera		following, configurab	<i>le by model:</i> kShutter camera privacy,	fixed focus	
	LOW F	ower (1920x1		IF3 /	Anti-giare	400 11118	10.9	000.1	12%	170	Audia augaset	<ul> <li>IR came</li> </ul>	era and HD720p ca	amera with ThinkShutter o	camera privacy, fixed focus	
	14.0" Think	Pad Pri		IPS /	Anti-glare	400 nits	16:9	1000:1	72%	170°	Audio support	stereo spe	, Realtek® ALC328 eakers. 1W x 2. Do	olbv® Audio™ Premium /		
NAIA: 4b (4)	Guard	_		10 6:			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				J	dual array	far-field micropho	ne, headphone / microph		
Multi-touch (opt) Storage	M.2 2280		• • • • • • • • • • • • • • • • • • • •			· ·	only)				_Keyboard UltraNav™	6-row, spi	Il-resistant, multim	edia Fn keys, optional LE and buttonless Mylar surfa	D backlight	
Optical	None	00071	I CIE IN	v ivic,	i Ole J.	.0 X 4					Security	-	<u> </u>	<b>*</b>	password, security keyhole	
Ethernet	Realtek® F	RTL811	11EPV (	Gigab	oit Ether	net conne	ction				Security chip	Discrete T	ΓPM 2.0, TCG Cer		, , , , ,	
WLAN <i>(optional)</i> Bluetooth™	Intel Wirele							i 5.0 combo adap	tor		System Mgt Fingerprint reader	r Optional:	nagement Touch style match	n on chip fingerprint reade	er on the palm rest	
WWAN (optional)							Je looli i C	orribo adap	iCi		NFČ .	None				
i i i i i (op nond)	<ul> <li>Wireless</li> </ul>	WAN	upgrada	able				0 OL MO			Battery		d Li-ion 57Wh batte AC adapter	ery, supports Rapid Charg	ge (charge up to 80% in 1hr)	
	* For non-W	/WAN n	nodel, it r	neans	s the mod	del is NOT V	NWAN up	60-GL, M.2 o gradable	ard		Max battery life	MobileMa	<i>rk® 2014:</i> 16.4 hı	v with settings, usage, & other	r footoro	
SIM card (opt)	Nano-SIM	card s	lot, opti	onal '	Verizon	LTE (US)	SIM car	d			AC adapter		5W USB Type-C A		Taciors	
											Operating system	Optional:	Windows® 10 Hor	me 64 or Windows 10 Pro	64	
											Limited warranty		following, configurab depot repair service			
												• 3-year/1	iepot repair servic I-yr battery depot i	epair service		
											Mil-Spec test	_	810G military test			
											Environment	EPEAT™ :	Silver; ENERGY S	STAR® 7.1; RoHS-complia	nt	
Note: The specifica	ations above	may n	ot be av	ailabl	e in all re	egions.									Lenov	

October 2019







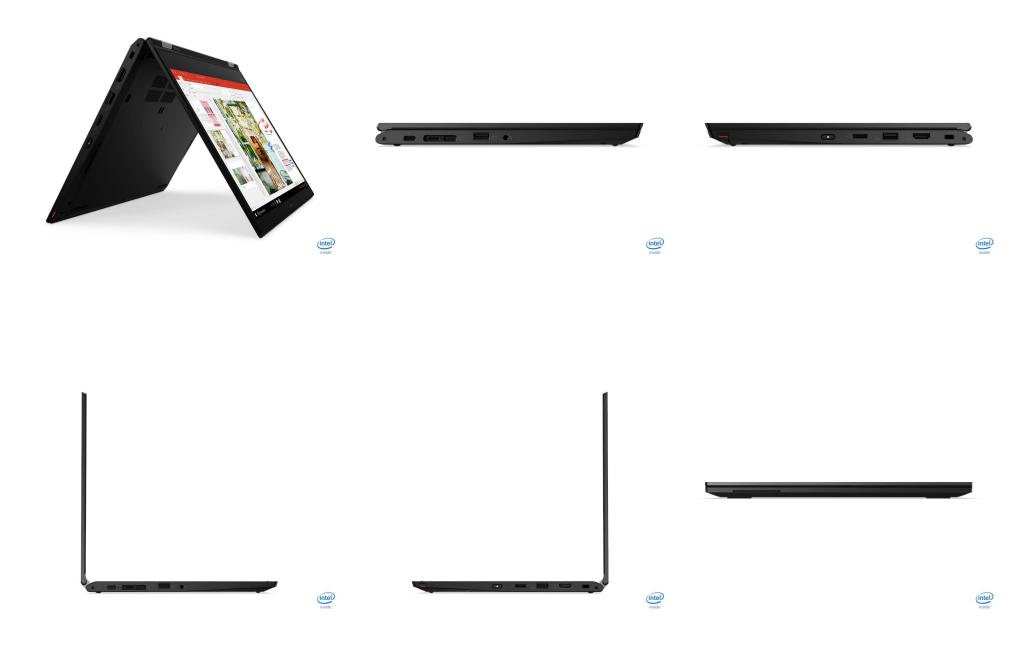
#### ThinkPad T580 Platform Specifications

Processor	7th Generation Intel®	<sup>®</sup> Core™ i5 Proce	essor			Dimensions	WxDxH: 14.40" x 9.95" x 0.79-0.80"; 365.8mm x 252.8mm x 19.95-20.2mm
		of Base	Max Turbo Cache	Memory	Processor	Weight	Integrated model: starting at 4.29 lb / 1.95 kg; Discrete model: starting at 4.39 lb / 1.99 kg
			Frequency	Types	Graphics	Case color	Black
	i5-7200U i5-7300U 2	4 2.5 GHz 2.6 GHz	3.1 GHz 3MB 3.5 GHz 3MB	DDR4-2133	Intel HD Graphics 620	Case material	Display cover: Glass-Fiber Reinforced Plastic (PPS); Bottom: Glass-Fiber Reinforced Plastic
	or 8th Generation Inte	tel Core i5 / i7 P	rocessor	_		Smart card reade	rOptional: Smart card reader
	Number Cores Three		Max Turbo Frequency Cache	Memory Types	Processor Graphics	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.1 Gen 1 (one Always On), We USB 3.1 Gen 2 (one Always On),
	i5-8250U i5-8350U i7-8550U i7-8650U	8 1.6 GHz 1.7 GHz 1.8 GHz 1.9 GHz	3.4 GHz     6MB       3.6 GHz     6MB       4.0 GHz     8MB       4.2 GHz     8MB	- - DDR4-2400 -	Intel UHD Graphics 620		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, 4-in-1 reader (MMC, SD, SDHC, SDXC), side docking connector, security keyhole
Graphics	Intel HD Graphics 62 Intel HD Graphics 62 NVIDIA® GeForce® M	20 or Intel UHD (	Graphics 620 in p			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 DP: Lenovo USB-C to DisplayPort Adapter
	supports external dig	gital monitor via	HDMI or USB Typ	oe-C;		Camera (optional)	One of the following, configurable by model:
	supports three independent Max resolution: 4096	6x2304@60Hź (	(USB Type-C); 40	)96x2160@	30Hz (HDMI)	Audio support	HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera, fixed focus     HD Audio, Realtek® ALC3287 codec /
Chipset Memory	Intel SoC (System on 32GB max / 2400MH * System clocks down for	lz DDŔ4, dual-c	hannel capable,	two DDR4 S	O-DIMM sockets		stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack
Display		9 aspect ratio, 70	00:1 contrast ratio	o, 170° viewi	ng angle	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch (opt)	Some: 15.6" (396mm 16:9 aspect ra On-cell touch, suppor	ratio, 1000:1 con	ntrasť ratio, 72% g			Security Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Storage	System has one HDD sl	slot or one M.2 228	30 slot exclusively fo			Fingerprint reader	r Optional: Touch style match on chip fingerprint reader on the palm rest,
	Some: HDD / SATA   Some: SSD / SATA					NFC (optional)	anti-spoofing technology Near Field Communication
	Some: M.2 SSD / PC Some: 128GB M.2 S	Cle NVMe, PCI	e 3.0 x 2, 16Gb/s	J	30)	Battery	Optional integrated Li-ion 32Wh battery and external Li-ion 24Wh, 48Wh, or 72Wh battery
Optane™ memory Optical	in WWAN slo Optional: Intel Optan None	ot as 2nd Storag ne memory, PCI	je, mutually exclu e NVMe, PCIe 3.	sive with WV 0 x 2	VAN	Max battery life (MobileMark® 2014)	Models 24Wh 48Wh 72Wh 32Wh + 24Wh 32Wh + 48Wh 32Wh + 72Wh
	Non-vPro model: Inte		nection I219-V (Janection I219-LM (		<u> </u>	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
WLAN +	Intel Dual Band Wirel				,		Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Bluetooth™	* Intel 8265ac card supp	ports BT4.2 but is	limited to BT4.1 by	Windows OS		Limited warranty	One of the following, configurable by model:  1-year depot repair service
(-1	One of the following, cor • Integrated Mobile B Intel XMM™ 7262 (F • Integrated Mobile B	Broadband 4G L Fibocom L830-E	TE, EB), M.2 card (EN	IEA only)			<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>
	Intel XMM™ 7360 (F	Fibocom L850-0	GL), M.2 card			Mil-Spec test	MIL-STD-810G military testing
	* For non-WWAN model Nano-SIM card slot, o	optional Verizon	LTE (US) SIM ca			Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant



#### ThinkPad T590 Platform Specifications

Processor	8th Generation I	Intel® Co	re™ i5 / i7 Pr	ocessor					Dimensions	<i>WxDxH</i> : 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm
		# of Threads	Frequency	Frequency	Cache	Memory Types	Proce Grap		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;
	i5-8265U i5-8365U i7-8565U i7-8665U	8		4.1 GHz 4.6 GHz	6MB 6MB 8MB	DDR4-2400	Intel UHD 62			Bottom: PA / 50% GF  Par Optional: Smart card reader MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
Graphics	Intel UHD Graph Intel UHD Graph NVIDIA® GeFord supports externa supports three in Max resolution:	nics 620 i ce® MX25 al digital ndepende	in processor 50, 2GB GDI monitor via H ent displavs:	and DR5 memo IDMI or Th	underb		24Hz (HD	MI)	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	Intel SoC (Syste 48GB max / 240 8GB or 16GB m * Installed memory	00MHz D emory so	DA4, dual-ch oldered to sy	stemboard	, one D	DR4 SO-Due to Intel lin	DIMM soci	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  1) One of the following, configurable by model:
Display	Size Resolution	-	Type Surface	Brightness	Aspec Ratio	t Contrast Ratio	t 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
	15.6" FHD (1920x	,	IPS Anti-glare	+	16:9	700:1	45% 100%	170°	Audio Support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack
Multi-touch (opt)	On-cell touch, si	Vision™	IPS Anti-glare		16:9 onlv)	1200:1	Adobe	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Storage	<ul> <li>M.2 2280 SSE</li> <li>M.2 2280 SSE</li> <li>M.2 2242 SSE</li> <li>Intel Optane™</li> <li>M.2 2280. PC</li> </ul>	O / SATA O / PCle I O / PCle I Memory	6.0Gb/s NVMe, PCIe NVMe, PCIe H10 with Sc	3.0 x 4 3.0 x 2		,			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 r Optional: Touch style match on chip fingerprint reader on the palm rest Near Field Communication
Optical	None								Battery	Integrated Li-ion 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Ethernet	Non-vPro mode vPro model:		hernet Conn hernet Conn				e)		Max battery life	with 65W AC adapter  MobileMark® 2014: 14.98 hr (9.5 hr for UHD model with discrete graphics)
WLAN <i>(optional)</i> Bluetooth™	Intel Wireless-AG Bluetooth 5.0 wi						pter		AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
	One of the followin  Wireless WAN Integrated Mol Integrated Mol For non-WWAN Nano-SIM card	l upgrada bile Broa bile Broa model, it n	ble dband 4G LT dband 4G LT neans the mod	E, Fibocon E-A, Fiboc lel is NOT W	om L8! WAN up	50-GL, M.2 ogradable	ard (EME/ card	A only)	Operating system Limited warranty	Optional: Windows® 10 Home 64 or Windows 10 Pro 64  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
									Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant



#### ThinkPad L13 Yoga Platform Specifications

Processor	10th Generation Intel® Core™ i3 / i5 / i7 Processor	Camera	One of the following, configurable by model:  • HD720p camera, with ThinkShutter™ camera privacy, fixed focus
	Processor Number         # of Cores         # of Threads         Base Frequency         Max Turbo Frequency         Cache Frequency         Memory Types         Processor Graphics           i3-10110U         2         4         2.1 GHz         4.1 GHz         4MB           i5-10210U         4         8         1.6 GHz         4.2 GHz         6MB         DDR4-2666         Intel UHD           i7-10510U         4         8         4.9 GHz         8MB         4.9 GHz         8MB	Audio support	<ul> <li>IR camera and 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 (Fingerprint model only)</li> <li>HD Audio, Synaptics® CX11880-11Z / stereo speakers, 2W x 2,</li> <li>Dolby® Audio™ Premium / dual array microphone,</li> <li>headphone / microphone combo jack</li> </ul>
Graphics	Intel UHD Graphics in processor only; supports external digital monitor via HDMI or USB Type-C;	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	Security	Power-on password, hard disk password, supervisor password, system management password, security keyhole
Chipset Memory	Intel SoC (System on Chip) platform 4GB, 8GB or 16GB / 2400MHz DDR4 / soldered to systemboard, no sockets	Security chip System Mgt	Discrete TPM 2.0 TCG Certified None
Display	13.3" (337.8mm) FHD (1920x1080), LED backlight, IPS, Glossy, 300 nits, 16:9 aspect ratio, 800:1 contrast ratio, Color Gamut 72%, 170° viewing angle,	Fingerprint reade NFC	or Optional: Touch style match on host fingerprint reader on the palm rest  None
Multi-touch	capacitive-type multi-touch supports 10-finger gesture	Battery	Integrated Li-ion 46Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
Hinge Convert-mode	Yoga hinge, 360 degree Laptop, tent, stand and tablet	Max battery life	MobileMark® 2014: 12.23 hrs * Battery life varies significantly with settings, usage, & other factors
Pen	ThinkPad Pen Pro, active pen for multi-touch display, on-board rechargeable	AC adapter	45W USB Type-C, 65W USB Type-C or 65W Slim USB Type-C AC adapter
Storage	One of the following, configurable by model: • M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4	Light sensor G-sensor	None Yes
Optical	M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2 None	Gyroscope	None
Ethernet	Gigabit Ethernet via USB-C to Ethernet Adapter Dongle or Mechanical Dock	Preload Preload	Windows® 10 Pro 64
WLAN +	One of the following, configurable by model:	Limited warranty	One of the following, configurable by model:
Bluetooth™	<ul> <li>Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0</li> <li>Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0, M.2 card</li> </ul>		<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board service</li> <li>3-year depot repair service</li> </ul>
WWAN	None	Mil-Spec test	MIL-STD-810G military testing
Dimensions Weight Case color Case Material	WxDxH: 12.26" x 8.62" x 0.69"; 311.5mm x 219mm x 17.6mm Starting at 3.17lb / 1.43kg Black or silver Display cover. Magnesium + Aluminum Bottom: GFRP (Glass Fiber Reinforced Polymer)	Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant
Smart card reade	erOptional: Smart card reader		
Media reader Ports	MicroSD card reader Two USB 3.1 Type-A Gen 1 (one Always On), two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and Display Port), HDMI 1.4b, 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		
Monitor cable (optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to HDMI: Lenovo USB-C to HDMI Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter		
Bundled Accy (optional)	USB-C to USB-A: Lenovo USB-C to DisplayFort Adapter USB-C to USB-A: Lenovo USB-C to USB-A Adapter USB-C to USB-C: Lenovo USB-C to USB-C Cable 2M		











#### ThinkPad L380 Yoga Platform Specifications

Processor	7th Generation Intel® Core™ i3 / i5 Processor	Dimensions	WxDxH: 12.67" x 8.82" x 0.74"; 322mm x 224.2mm x 18.8mm
	Processor # of # of Base Max Turbo Cache Memory Processor	Weight Case color	Starting at 3.44 lb / 1.56 kg Black or Silver
	Number Cores I frequency Frequency Types Graphics	Case material	Display cover: Aluminum
	i3-7020U   2   4   2.3 GHz   // 3MB   DDR4-2133   Intel HD Graphics   620		Bottom: GFRP
	8th Generation Intel Core i3 / i5 / i7 Processor	Smart card reade	
	Draceson H of H of Door May Turbo Memory Draceson	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
	Number   Cores   Threads   Frequency   Frequency   Cache   Types   Graphics		two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	i3-8130U 2 4 2.2 GHz 3.4 GHz 4MB		HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack, microSD card reader, security keyhole
	16 GHz 3.4 GHz 6MB DDR4-2400 Intel UHD Graphics		* Depending on many factors, actual data transfer speed may be lower than theoretical speed
	13-83300 4 8 1.7 GHZ 3.0 GHZ 0WB	Monitor cable	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
		(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
Graphics	Intel HD Graphics 620 or Intel UHD Graphics 620 in processor; supports external digital monitor via HDMI or USB Type-C;	Camera	720p: HD720p resolution, low light sensitive, fixed focus
	supports three independent displays:		IR & 720p: IR camera and HD720p camera, fixed focus
	Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	Audio support	World facing: Rear camera, 5MP resolution, auto focus HD Audio, Realtek ALC3287 codec, Dolby® Advance / stereo speakers, 2W x 2 /
Chipset	Intel SoC (System on Chip) platform Up to 32GB max / 2400MHz DDR4, dual-channel capable,	Addio Support	dual array microphone, headphone / microphone combo jack
Memory	two DDR4 SO-DIMM sockets	Keyboard	6-row, multimedia Fn keys, optional LED backlight
	* System clocks down for processors with lower memory controller	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch
Display	13.3" (338mm) FHD (1920x1080), glossy, LED backlight, IPS, 300 nits,	Security	Power-on password, hard disk password, supervisor password, security keyhole
Multi-touch (opt)	16:9 aspect ratio, 800:1 contrast ratio, 170° viewing angle Capacitive-type multi-touch, AR (anti-reflection), supports 10-finger gesture	Security chip System Mat (opt)	Discrete TPM 2.0, TCG Certified Intel vPro Technology
Hinge ` ' / '	Yoga hinge, 360 degree	Fingerprint reader	r Optional: Touch style fingerprint reader on the keyboard bezel,
Convert-mode Pen	Laptop, tent, stand, yoga and tablet	NFC (optional)	anti-spoofing technology Near Field Communication (mutually exclusive with smart card reader)
	ThinkPad Pen Pro, active pen for multi-touch display, on-board garage  One of the following, configurable by model:	Battery	Integrated Li-lon 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Storage	M.2 SSD / SATA 6.0Gb/s (e.g. xxxGB SSD M.2)	Dattery	with 65W USB Type-C AC adapter
	• M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxGB SSD M.2 PCIe NVMe)	Max battery life	MobileMark® 2014: 12.85 hrs
Optane Memory Optical	None None	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
Ethernet	Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro))	Preload	Windows® 10 Home 64 or Windows 10 Pro 64
Lincinici	via optional ThinkPad Ethernet Extension Cable Gen 2	Limited warranty	One of the following, configurable by model:
WLAN +	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card		1-year depot repair service
Bluetooth™	* Wireless card supports BT4.2 but is limited to BT4.1 by Windows OS		<ul> <li>1-year depot with 2-year system board service</li> <li>3-year/1-yr battery depot repair service</li> </ul>
WWAN SIM card	None None		3-year/1-yr battery limited onsite service
C.ivi Gara		Mil-Spec test	MIL-STD-810G military testing
		Environment	EPEAT™ Gold; ENERGY STAR® 6.1; RoHS-compliant
		•	Lenovo

Lenovo March 2019



### ThinkPad L390 Yoga Platform Specifications

Processor	8th Gener	ation I	ntel® Cor	e™ i3 / i5 /	i7 Process	or			Smart card reade				
	Processor 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),			
	i3-8145U i5-8265U i5-8365U	2 4 4	8 8	2.1 GHz 1.6 GHz 1.6 GHz	3.9 GHz 3.9 GHz 4.1 GHz	4MB 6MB	DDR4-2400	Intel UHD Graphics 620		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			
	i7-8565U	4	8	1.8 GHz	4.6 GHz	8MB			Monitor cable	USB-C to VGA: Lenovo USB-C to VGA Adapter			
Graphics	supports t	externa hree ir	al digital independe	n processo monitor via ent displays 04@60Hz	HDMI or U ;	,,	,	30Hz (HDMI)	- <i>(optional)</i> Bundled	USB-C to VGA + Power Adapter: USB-C to HDMI: USB-C to HDMI + Power Adapter: Lenovo USB-C to HDMI plus Power Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter Lenovo USB-C to Ethernet Adapter			
Chipset Memory				ip) platform DR4, dual-c		pable, t	wo DDR4 S	SO-DIMM sockets	Accessories (optional)	USB-C to USB-A: USB-C to USB-C: Lenovo USB-C to USB-A Adapter Lenovo USB-C to USB-C Cable 2M			
Display Multi-touch Hinge	300 nits, 1	6:9 as type	spect ration		ntrast ratio	, 72% g	jamut, 170°	viewing angle per gesture	Camera	720p: HD720p resolution, low light sensitive, fixed focus IR & 720p: IR camera and HD720p camera, fixed focus (black model only) World facing: 5MP resolution, auto focus (mutually exclusive with fingerprint reader)			
Multi-mode Pen <i>(optional)</i>	Notebook,	, stand	l, tent, tal	olet pen for mu	ulti-touch d	isplay, d	on-board ga	arage	Audio support	HD Audio, Realtek ALC3287 codec, Dolby® Audio™ Premium / stereo speakers, 2W x 2 / dual array microphone, headphone / microphone combo jack			
Storage	<ul> <li>M.2 SSI</li> </ul>	D / SAT	TA 6.0Gb						Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch			
	<ul> <li>M.2 (228</li> <li>Intel Op M.2 228</li> </ul>	80) SS tane M 0, PCI	SD / PCIe Iemory H Ie NVMe		le 3.0 x 4	torage,			Security Security chip System Mat (opt)	Power-on password, supervisor password, system management password, hard disk password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology			
Optane™ Memory Optical	None								Fingerprint reade	r Optional: Touch style fingerprint reader on the palm rest (mutually exclusive with World facing camera)			
Storage				rable by mod /s (e.g. xxx		12)			NFC (optional) Battery	Near Field Communication			
Ontinal	<ul> <li>M.2 SSI</li> </ul>	D / PC	le NVMe	, PCle 3.0	x 4, 32Gb/s	s (e.g. x	xxGB SSD	M.2 PCIe NVMe)	,	Integrated Li-Ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter			
Optical Ethernet	None Native Inte	al Etho	rnet Con	nection I21	9-V (Non-	vPro) o	r 1210-1 M /	vPro)	Max battery life	MobileMark® 2014: 12.17 hrs  * Battery life varies significantly with settings, usage, & other factors			
Linemet	via optiona	al Thin	kPad Eth	ernet Exte	nsion Cabl	e or	1 12 13 EW (	VI 10)	AC adapter	45W or 65W USB Type-C AC adapter			
WLAN	Lenovo USB-C to Ethernet Adapter Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card								Preload	Windows® 10 Home 64 or Windows 10 Pro 64			
WLAIN Bluetooth™				tegrated in					Limited warranty	One of the following, configurable by model:  1-year depot repair service			
WWAN	None									1-year depot with 2-year system board service			
Dimensions Weight	WxDxH: Starting at			x 0.74"; 32	21.8mm x 2	224.2m	m x 18.8mi	n		<ul> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>			
Case color	Black or S	Silver		J					Mil-Spec test				
Case material	Display cover: Magnesium / Aluminum Bottom: GFRP								Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant			

Lenovo July 2019







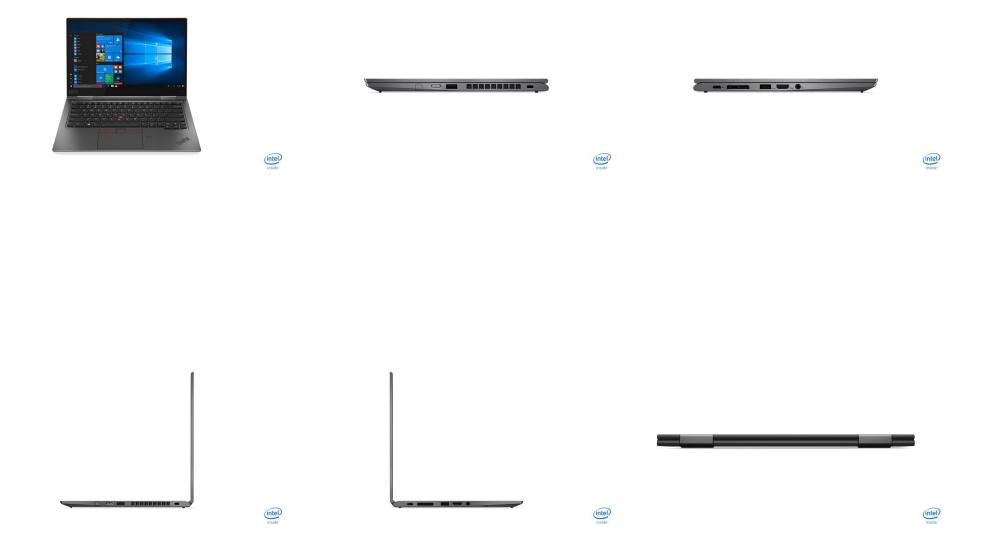






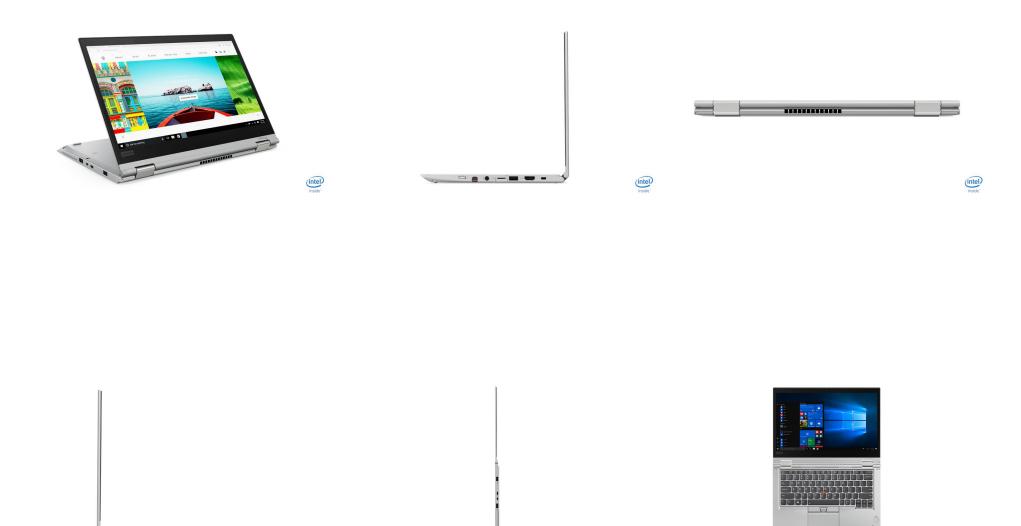
### ThinkPad X1 Yoga (3<sup>rd</sup> Gen) Platform Specifications

Processor	7th Generatio	n Intel® Co	re™ i5 Proce	essor				Smart card reade	erNone
		of # of res Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Graphics	Media reader Ports	MicroSD card reader, supports UHS-II Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (Power Delivery, DisplayPort, Data
	i5-7300U 2	2 4	2.6 GHz	3.5 GHz	3МВ	LPDDR3-1866	Intel HD Graphics 620		transfer), HDMI 1.4, Ethernet extension connector, nano-SIM card slot (WWAN models),
		8th Generation Intel Core i5 / i7 Processor							headphone / microphone combo jack, microSD card reader * Depending on many factors, actual data transfer speed may be lower than theoretical speed
		of # of res Threads	Base Frequency 1.6 GHz	Max Turbo Frequency 3.4 GHz	Cache 6MB	Memory Types	Processor Graphics	WiGig dock Monitor cable	None HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
	i5-8350U i7-8550U	8	1.7 GHz 1.8 GHz	3.6 GHz 4.0 GHz	6MB 8MB	LPDDR3-2133	Intel UHD Graphics 620	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter  I) One of the following, configurable by model:
	i7-8650U		1.9 GHz		8MB			Camera (optional	720p: HD720p camera with ThinkShutter camera privacy, fixed focus
Graphics	Intel HD Grap supports exte supports thre Max resolutio	rnal digital e independ n: 5120x2	monitor via lent displays 880@60Hz	HDMI or U ;; (USB Type	JSB Ty	pe-C;	0Hz (HDMI)	Audio support	IR & 720p: IR camera and HD720p camera, fixed focus  * WWAN models and HDR panel models can not support IR camera HD Audio, Realtek® ALC3286 codec, Dolby® Audio™ Premium / stereo speakers 1W x 2 /, 360° Noise-cancelling Dual Array Far Field, headphone / microphone combo jack
Chipset Memory	Intel SoC (Sy 8GB or 16GB	/ 2133MH	z ĹPDDR3/	soldered t				Keyboard UltraNav™	6-row wave keyboard (rise & fall), spill-resistant, multimedia Fn keys, LED backlit TrackPoint® pointing device and 3+2 buttons multi-touch clickpad
Display	Some: 14.0" 16:9 a Some: 14.0"	aspect ratio (355mm) \ aspect ratio (355mm) H	o, 700:1 con WQHD (256 o, 700:1 con HDR WQHD	trast ratio, 0x1440), L trast ratio, (2560x14	72% ga ED bad 72% ga 40) with	amut, 170° vie cklight, 300 ni amut, 170° vie h Dolby Visior	ewing angle, IPS ts, ewing angle, IPS n™,		Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0 TCG Certified Intel vPro Technology Touch style match on chip fingerprint reader on the palm rest Near Field Communication
Multi-touch	100% Capacitive-tyl supports 10-f Yoga hinge, 3	gamut, 17 be multi-too inger gestu 60 degree	70° viewing auch, AR (ant lire, reduces	angle, IPS ti-reflection	), AS (		,	Battery  Max battery life  AC adapter	Integrated Li-Ion 54Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter  MobileMark® 2014: 15.4 hrs  * Battery life varies significantly with settings, usage, & other factors
Convert-mode Pen <i>(optional)</i>	Laptop, tent, : ThinkPad Per			ulti-touch d	isplav.	on-board recl	nargeable	Light sensor	
Storage		SD / SATA SD / PCle	6.0Gb/s (e. NVMe, PCI	g. xxxG SS e 3.0 x 4, 3	SD) B2Gb/s	(e.g. xxxG S	SD PCIe NVMe)	G-sensor Gyroscope GPS	3D accelerometer 3D gyrometer GPS function is integrated into WWAN module
Optical Ethernet	None Native Intel E	thornot Co	nnaction \//	21010 1 M /	'Dro\			Preload	Windows® 10 Pro 64
Ellielliel	via optional T							Limited warranty	One of the following, configurable by model:
WLAN Bluetooth™	Bluetooth 4.2	wireless, i	ntegrated in	Wi-Fi + Bl			4.2, M.2 card oter		<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board service</li> <li>3-year/1-vr battery depot repair service</li> </ul>
WWAN (optional)	Integrated Mo Intel XMM™ 7				Н			Mil-Spec test	MIL-STD-810G military testing
SIM card (opt)	Nano-SIM ca	rd slot, opti	onal Verizor	ı ÎTE (US)	SIM ca			Environment	EPEAT™ Silver; ENERGY STAR®; RoHS-compliant
Dimensions Weight Case color Case material	WxDxH: 1 Starting at 3.0 Black or silve Display cover Bottom:	08 lb / 1.4k r :     Carbon	g	Glass-Fiber		m x 17.05mm ;			
								:	Lenovo



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

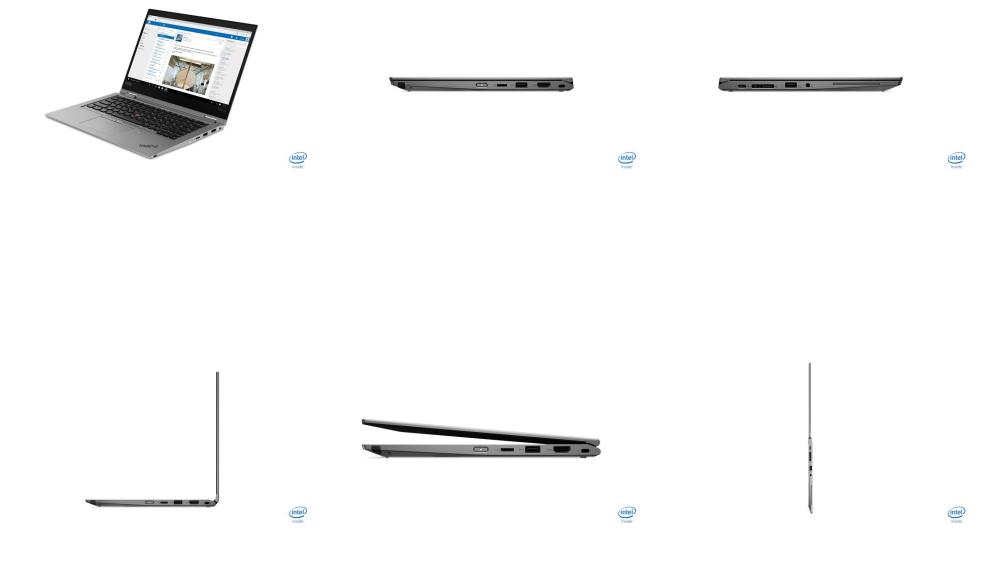
Processor	8th Generation Intel® Core™ i5 / i7 Processor or 10th Generation Intel® Core™ i5 / i7 Processor (Not available in EMEA)										Dimensions	WxDxH (Privacy Guard): 12.71" x 8.58" x 0.63"; 323mm x 218mm x 15.95mm WxDxH (Other model): 12.71" x 8.58" x 0.63"; 323mm x 218mm x 15.5mm
	Proce	ssor # of	# of Threads	Bas	Base Max Frequency Frequency					Weight	Privacy Guard model: starting at 3.24lb / 1.47kg  Other model: starting at 2.99lb / 1.36kg	
	i5-826	5U		1.6 G 1.6 G	Hz 3.9 Hz 4.1	GHz 6M GHz 6M	3			I UHD	Case color Case material	Iron Grey Display cover: Aluminium; Bottom: Magnesium
	i7-856	5U 4	8	1.8 G 1.9 G	Hz 4.8	GHz 8M GHz 8M	3 LPDD	R3-2133	Grapr	nics 620	Smart card reade Media reader	
	i5-10210U i7-10510U i7-10710U 6		12	1.6 GHz 1.8 GHz 1.1 GHz	Hz 4.9	GHz 6M GHz 8M GHz 12M	3			I UHD phics	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 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models),
Graphics	suppo suppo	rts externa	al digital	monitor	via HDİ olavs;	hics in pro II or USB 3 Type-C);	Type-C <sup>™</sup>			,	Monitor cable Bundled Accy	headphone / microphone combo jack, side docking connector, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed Optional: Lenovo HDMI to VGA Monitor Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2
Chipset Memory	Intel S	oC (Syste	m on Cl	nip) plat	form	lered to sy			`	,	Camera (optional	) 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	Size	Resolu		Туре	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color		Audio support	HD Audio, Realtek® ALC1012L codec, Stereo speakers, 2W x 2, 0.8W x 2, Dolby® Audio™ Atmos /
	14.0"	FHD (1920 Low Powe	r '	IPS	Glossy	380 nits	16:9	800:1	72%	170°	Keyboard	4 array 360-degree far-field microphones, headphone / microphone combo jack 6-row, spill-resistant, multimedia Fn keys, LED backlight
	14.0"	FHD (1920 ThinkPad I Guard		IPS	Glossy	380 nits	16:9	1000:1	72%	170°	UltraNav™ Security	TrackPoint® pointing device and buttonless Glass surface multi-touch touchpad  Power-on password, supervisor password, system management password,
	14.0"	WQHD (2560x144	10)	IPS	Glossy	280 nits	16:9	800:1	72%	170°	Security chip System Mgt	hard disk password Discrete TPM 2.0 TCG Certified Optional: Intel vPro Technology
	14.0"	UHD (3840 Dolby Vision HDR400		IPS	Glossy	470 nits	16:9	1400:1	90%	170°	NFČ '	r Touch style match on chip fingerprint reader on the palm rest Optional: Near Field Communication
Multi-touch					(anti-ref	ection), A	3 (anti-s	mudge),	<u> </u>		Battery Max battery life	Integrated Li-Ion 51Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter  MobileMark® 2014: 18.1 hrs
Hinge Convert-mode Pen	Laptor	ninge, 360 o, tent, sta	nd, and		r multi ta	ouch displa	u on ho	ard rook	oracok	alo	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W USB Type-C, 65W USB Type-C or 65W Slim USB Type-C AC adapter
Storage	One of	the following	ng, config	ırable by	model:	ucii dispia	iy, 011-00	alu lecii	aryear	л <del>е</del>	—G-sensor Gyroscope GPS	3D accelerometer 3D gyrometer GPS function is integrated into WWAN module
Optical	<ul> <li>M.2 2280 SSD / SATA 6.0Gb/s</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>										Preload	One of the following, configurable by model:  • Windows® 10 Pro 64  • Windows 10 Home 64
Ethernet						M ( <i>vPro</i> ) et Extension					Limited warranty	One of the following, configurable by model:  1-year depot repair service
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									Mil Spectost	1-year depot with 2-year system board service     3-year/1-yr battery depot repair service  MU STD 9100 military testing
WWAN (optional)		the following									Mil-Spec test Environment	MIL-STD-810G military testing  EPEAT™ Gold; ENERGY STAR® 7.1; RoHS-compliant
SIM card (opt)	<ul> <li>Integ</li> </ul>	grated Mo	bile Broa	adband	4G LTE-	A, Fibocor A, Fibocor E (US) SIM	ո L860-0	AL, M.2 c AL, MIMC	ard 2x2,	M.2 card		ELENT GOID, ENERGY O'INTERNATIONS COMPRIANT
, , ,			- 1								•	Lenove



## ThinkPad X380 Yoga Platform Specifications

Processor	8th Generation In							rOptional: Smart card reader (mutually exclusive with NFC)
	Processor # of Number Cores	# of Threads		Max Turbo requency Cache	Memory Types	Processor Graphics	Media reader Ports	One microSD card slot (microSD, microSDHC, microSDXC), UHS-I Two USB 3.1 Gen 1 (one Always On), Ethernet extension connector,
	i3-8130U 2	4		3.4 GHz 4MB				one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (Power Delivery, DisplayPort, Data transfer), HDMI 1.4b, microSD card reader.
	i5-8250U i5-8350U			3.4 GHz 6MB 3.6 GHz 6MB	DDR4-2400	Intel UHD Graphics 620		nano-SÍM card slot (WWAN models), headphone / microphone combo jack * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	i7-8550U <sup>4</sup> i7-8650U	8		4.0 GHz 8MB 4.2 GHz 8MB		Graphics 620	WiGig dock	None
Graphics	Intel UHD Graphic	cs 620 ir					Monitor cable (optional)	USB-C to VGA: Lenovo USB-C to VGA Plus Power Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
Crapilles	supports external	digital n	nonitor via H		pe-C;		Camera	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter  One of the following, configurable by model:
	supports three inc Max resolution: 4	aepenae 1096x23(	ent dispiays; 04@60Hz (l	JSB Type-C); 40	096x2160@30	Hz (HDMI)	Camera	720p: HD720p camera, fixed focus
Chipset	Intel SoC (System	n on Chi	p) platform				Audio support	IR & 720p: IR camera and HD720p camera, fixed focus HD Audio, Conexant® CX11771 codec / stereo speakers, 2W x 2 /
Memory	8GB or 16GB / 2400MHz DDR4 / soldered to systemboard, no sockets * System clocks down for processors with lower memory controller							dual array microphone, headphone / microphone combo jack
Display	13.3" (337.8mm) 300 nits, 16:9 asp						Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and 3+2 buttons Mylar surface multi-touch click pad
Multi-touch	Capacitive-type m	nulti-toud	h, AR (anti-				Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0 TCG Certified
Hinge	supports 10-finge Yoga hinge, 360 c	degree					System Mgt (opt) Fingerprint reader	Intel vPro Technology r Optional: Touch style match on chip fingerprint reader on the palm rest Near Field Communication (mutually exclusive with smart card reader)
Convert-mode Pen	Laptop, tent, stand ThinkPad Pen Pro	d, yoga o, active	and tablet pen for mult	ti-touch display,	on-board rech	argeable		
Storage	Some: M.2 SSD	/ SATA 6	6.0Gb/s (e.g	. xxxG SSD)	/a a	D DOI: NIV(Ma)	Battery Max battery life	Li-Ion 51Wh battery  MobileMark® 2014: 13.6 hrs
Optical Optane Memory	Some: M.2 SSD / None None	/ PCIe N	IVME, PCIE	3.0 X 4, 32GD/S	(e.g. xxxG SS	D PCIe NVIVIe)	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W AC adapter (slim tip), 45W or 65W USB Type-C AC adapter
Ethernet	Native Intel Ether				or I219-LM ( <i>vP</i>	ro)	Light sensor G-sensor/	Ambient Light Sensor 3D accelerometer and 3D magnetometer
WLAN Bluetooth™	Intel Dual Band W Bluetooth 4.2 wire						eCompass Gyroscope	3D compass 3D gyrometer
WWAN (optional)	One of the following,				T COMBO adapt	<u> </u>	Preload	Some: Windows® 10 Home 64 Some: Windows 10 Pro 64
(	<ul> <li>Integrated Mobil</li> <li>Integrated Mobil</li> </ul>							
SIM card (opt)	Nano-SIM card sl	lot						
Dimensions Weight	WxDxH: 12.34 Starting at 3.17 lb			13.5mm x 222.2	2mm x 18.2mm	n		3-year/1-yr battery depot repair service
Case color	Black or silver	Black or silver						MIL-STD-810G military testing
Case Material	Carbon-Fiber Hyb	orid					Environment	EPEAT™ Gold; ENERGY STAR®; RoHS-compliant

Lenovo March 2019



#### ThinkPad X390 Yoga Platform Specifications

Processor	8th Generation Intel® Core™ i5 / i7 Processor		er Optional: Smart card reader
	Processor Number	Media reader Ports	MicroSD card reader, in the combo slot with nano-SIM card
	Number Cores Threads Frequency Frequency Frequency Graphics i5-8265U 4 8 1.6 GHz 3.9 GHz 6MB	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 Display Port),
	i5-8365U 4 8 1.6 GHz 4.1 GHz 6MB DDD 4.0.00 Intel UHD		one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP),
	i7-8565U 4 8 1.8 GHz 4.6 GHz 8MB DDR4-2400 Graphics 62	,	HDMI 1.4b, Ethernet extension connector,
	i7-8665U 4 8 1.9 GHz 4.8 GHz 8MB		combo slot of nano-SIM card (WWAN models) and microSD card reader, headphone / microphone combo jack, optional smart card reader,
Overshies		4	side docking connector, security keyhole
Graphics	Intel UHD Graphics 620 in processor only; supports external digital monitor via HDMI or USB Type-C;		* Depending on many factors, actual data transfer speed may be lower than theoretical speed
	supports three independent displays:	Monitor cable	USB-C to HDMI: Lenovo USB-C to HDMI Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter
	Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@24Hz (HDMI)	(optional)	USB-C to DP: Lenovo USB-C to VGA Adapter  USB-C to DP: Lenovo USB-C to DisplayPort Adapter
Chipset	Intel SoC (System on Chip) platform	Bundled Accy	Optional: ThinkPad Ethernet Extension Adapter Gen 2
Memory	8GB or 16GB / 2400MHz DDR4 / soldered to systemboard, no sockets * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation	Camera	One of the following, configurable by model:
Disaless		_	<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>
Display	13.3" (337.8mm) FHD (1920x1080), LED backlight, IPS, Glossy, 270 nits, 16:9 aspect ratio, 800:1 contrast ratio, Color Gamut 72%, 170° viewing angle,	Audio support	• IR camera and HD/20p camera, with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2,
Multi-touch	capacitive-type multi-touch, AR (anti-reflection), AS (anti-smudge),	Addio Support	Dolby® Audio™ Premium, dual array far-field microphones,
	supports 10-finger gesture		headphone / microphone combo jack
Hinge Convert-mode	Yoga hinge, 360 degree Laptop, tent, stand and tablet	Keyboard	6-row, spill-resistant, multimedia Fn keys, LED backlight
Pen	ThinkPad Pen Pro, active pen for multi-touch display, on-board rechargeable	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Storage	• M.2 2280 SSD / SATA 6.0Gb/s	Security	Power-on password, supervisor password, system management password,
otorago	<ul> <li>M.2 2280 SSD / PCle NVMe, PCle 3.0 x 4</li> </ul>	Security chip	hard disk password, security keyhole Discrete TPM 2.0 TCG Certified
	• M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2		Intel vPro Technology
	<ul> <li>Intel Optane Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4</li> </ul>	Fingerprint reade	erTouch style match on chip fingerprint reader on the palm rest
Optane™ memory	Optional: Intel Optane Memory H10	NFC (optional)	Near Field Communication
Optical	None	Battery	Integrated Li-ion 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Ethernet	Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro)	Max battery life	with 65W USB Type-C AC adapter  MobileMark® 2014: 14.5 hrs
	via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2		* Battery life varies significantly with settings, usage, & other factors
WLAN	One of the following, configurable by model:	AC adapter	45W USB Type-C, 65W USB Type-C or 65W Slim USB Type-C AC adapter
	<ul> <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> </ul>	Light sensor	None
Bluetooth™	Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	G-sensor	3D accelerometer
WWAN (optional)	One of the following, configurable by model:	Gyroscope	3D gyrometer
(optional)	<ul> <li>Integrated Mobile Broadband 4G LTE, Fibocom L830-EB,</li> </ul>	Preload	Windows® 10 Home 64 or Windows 10 Pro 64
	M.2 card (EMEA only)	Limited warranty	One of the following, configurable by model:  • 1-year depot repair service
	Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card     * For non-WWAN model, it means the model is NOT WWAN upgradable		1-year depot repair service     1-year depot with 2-year system board service
Dimensions		-	3-year/1-yr battery depot repair service
Weight	<i>WxDxH:</i> 12.22" x 8.62" x 0.63"; 310.4mm x 219mm x 15.95mm Starting at 2.85 lb /1.29kg		3-year/1-yr battery limited onsite service
Case color	Black or silver (Silver is not available in EMEA)	Mil-Spec test	MIL-STD-810G military testing
Case Material	Display cover. Carbon-Fiber Hybrid	Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant
	Bottom: Carbon-Fiber Hybrid		
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Lenovo July 2019



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

Processor	7th Generation Intel® Core™ m / i5 Processor, Intel Celeron® processor, or Intel Pentium® Silver processor							cessor,	Dimensions Weight	WxDxH: 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 Controller	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	2.6 GHz 3.2 GHz	4MB 4MB	LPDDR3-1866	Intel HD Graphics 615	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1,
	Cel N4100	4	4	1.1 GHz	2.4 GHz	4MB	DDD4 0400	Intel UHD Graphics 600		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, microSD card reader, security keyhole
	Pen N5000			1.1 GHz	2.7 GHz	4MB	DDR4-2400	Intel UHD Graphics 605	Control buttons	Power button, volume control button
Graphics	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)								Camera Audio support	One of the following, configurable by model:  720p: HD720p resolution, low light sensitive, fixed focus  World facing: Rear camera, 5MP resolution, auto focuss  HD Audio, Realtek® ALC3287 codec Dolby Audio™ / stereo speakers, 2W x 2 /
Chipset Memory	Intel SoC ( 4GB or 8G soldered to	B/ 18	366MHz	ĽÝDDR3 (	or 2400MH	lz DDF	R4 /		Keyboard UltraNav™	monaural microphone, headphone / microphone combo jack  6-row, multimedia Fn keys Two buttons click pad below keyboard, multi-touch
Display  MultiTouch Hinge	16:9 aspect Capacitive Yoga hinge	ct ratio -type   e, 360	o, 800:1 ( multi-tou degree	contrast ra ich, suppo	ıtio, 170° v	iewing	klight, IPS, 25 angle, Cornir	50 nits, ng® Gorilla® Glass	Security Security chip System Mgt (opt) Fingerprint reader	
Convertible mode Pen	E Laptop, ter Optional:	nt, stai ThinkF	nd and t Pad Pen	ablet Pro, batte	ries requir	ed, on-	board garage	•	Battery Max battery life	Integrated Li-lon 42Wh battery  MobileMark® 2014: 12 hrs
Storage	eMMC flash memory on board or M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s								AC adapter	*Battery life varies significantly with settings, usage, & other factors 45W or 65W slim tip AC adapter or USB Type-C AC adapter
Optical Ethernet	None Realtek R	TL811	1GUS-C	G Gigabit	Network (	Connec	ction		Preload	Some: Windows® 10 Home 64 Some: Windows 10 Pro 64
WLAN	<ul> <li>Intel Wire</li> </ul>	eless- <i>l</i> eless- <i>l</i>	AC 9260 AC 9560	, Wi-Fi 2x2 , Wi-Fi 2x2	2 802.11ad 2 802.11ad	+ Blu	etooth 5.0, M. etooth 5.0, M.	2 card	Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year depot repair service
Bluetooth™ WWAN	Bluetooth None	Bluetooth wireless, integrated in Wi-Fi + Bluetooth combo adapter								MIL-STD-810G military testing
VVVVAIN	NONE								Environment	EPEAT™ Gold; ENERGY STAR® 6.1; RoHS-compliant

Lenovo March 2019







# ThinkPad X1 Carbon (6<sup>th</sup> Gen) Platform Specifications

Processor	7th Generation Intel® Core™ i5 Processor		WxDxH: 12.74" x 8.55" x 0.63"; 323.5mm x 217.1mm x 15.95mm
	Processor # of H of Threads   Base   Max Turbo   Cache   Memory Types   Processor   Graphics   Cache   Memory Types   Processor   Graphics   Processor   Cache   Memory Types   Processor   Cache   Cache   Memory Types   Processor   Cache   Memory Types   Processor   Cache   Cache   Memory Types   Processor   Cache   Ca	Case color	Starting at 2.49 lb / 1.13 kg Black or Silver (silver case is NOT available in EMEA) Display cover: CFRP/GFRP hybrid;
	i5-7300U 2 4 2.6 GHz 3.5 GHz 3MB LPDDR3-1866 Intel HD Graphics 620		Bottom: magnesium alloy / PPS hybrid
	or 8th Generation Intel Core i5 / i7 Processor	Smart card reader Media reader	None MicroSD card reader, supports UHS-II
	Processor Number Cores Threads Frequency Frequency Cache Memory Types Processor Graphics	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 1.4b.
	1.6 GHz   3.4 GHz   6MB   1.7 GHz   3.6 GHz   6MB   1.7 GHz   3.6 GHz   6MB   1.8 GHz   4.0 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz	Monitor cable	Ethernet extension connector, nano-SIM card slot (WWAN models), headphone / microphone combo jack, microSD card reader, sided 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
Graphics	Intel HD Graphics 620 or Intel UHD Graphics 620 in processor; supports external digital monitor via HDMI or USB Type-C; supports three independent displays;	Bundled Accy	
	Max resolution: 5120x2880@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	Camera (optional)	One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus
Chipset Memory	Intel SoC (System on Chip) platform 8GB or 16GB / 2133MHz LPDDR3 / soldered to systemboard, no sockets * System clocks down for processors with lower memory controller	Audio support	• IR camera and HD720p camera, fixed focus  HD Audio, Realtek® ALC3286 codec / stereo speakers, 1W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack, Dolby® Atmos™ via headphones
Display	One of the following, configurable by model: • 14.0" (355mm) FHD (1920x1080), anti-glare, LED backlight, IPS,		
	300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 170° viewing angle • 14.0" (355mm) WQHD (2560x1440), anti-glare, LED backlight, IPS.		6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint®pointing device and buttonless glass surface multi-touch touchpad
	300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 170° viewing angle • 14.0" (355mm) HDR WQHD (2560x1440) with Dolby Vision™, glossy, LED backlight, IPS, 500 nits,16:9 aspect ratio, 1500:1 contrast ratio, 100% gamut, 170° viewing angle	Security Power-on password, hard disk password, supervisor password, security keyho Discrete TPM 2.0, TCG Certified Intel vPro Technology Fingerprint reader Touch style match on chip fingerprint reader on the palm rest,	
Multi-touch (opt)	On-cell touch, supports 10-finger gesture (FHD only)		i-spoofing technology
Storage	One of the following, configurable by model:  • M.2 SSD / SATA 6.0Gb/s (e.g. xxxGB SSD M.2)	(-/ /	Near Field Communication
	• M.2 SSD / SAIA 6.0Gb/s (e.g. xxxGB SSD M.2) • M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxGB SSD M.2 PCIe NVMe)	Battery	Integrated Li-ion 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Optical	None	Max battery life	MobileMark® 2014: 19.3 hr
Ethernet	Native Intel Ethernet Connection I219-V ( <i>Non-vPro</i> ) or I219-LM ( <i>vPro</i> ) via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2	l	* Battery life varies significantly with settings, usage, & other factors 45W, 65W, or 65W Low Halogen USB-C AC adapter
WLAN +	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card		Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Bluetooth™	* Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS  Integrated Mobile Broadband 4G LTE-A,		One of the following, configurable by model:  1-year depot repair service
SIM card (opt)	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		<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>
2 54.4 (561)	Traile of the said story optional voltage in ETE (00) of the said		MIL-STD-810G military testing
		Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
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Lenovo August 2019

















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

Nu i5-i i5-i i7-i i7-i or Pro Nu i5- i7-i	-8265U -8365U -8565U -8665U	f # of es Threads			lax Turbo						
i5-i i7-i i7-i or Pro Nu i5- i7-	-8365U -8565U -8665U				requency Ca		Memory Types		essor phics		<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> </ul>
17-1 17-1 or Prr Nu 15- 17-1	-8565U -8665U					MB MB		Intal	IIIID	SIM card (opt)	Nano-SIM card slot, optional Verizon LTE (US) SIM card
or Prr Nu i5- i7-		8				MB L	PDDR3-2133		UHD ics 620	Dimensions	WxDxH (Privacy Guard): 12.72" x 8.54" x 0.61"; 323mm x 217mm x 15.4mm
Pro Nu i5- i7-	1046 0		1.	9 GHz	4.8 GHz 81	ИВ				Weight	WxDxH (other model): 12.72" x 8.54" x 0.59"; 323mm x 217mm x 14.95mm Privacy Guard model: starting at 2.66 lb / 1.21 kg;
Nu i5- i7-			_		· · · · · · · · · · · · · · · · · · ·	OT av	ailable in EM			Case color	Other model: starting at 2.4 lb / 1.09 kg Black paint or black weave
i7-	rocessor # Co		s Fre	equency F	requericy		Memory Types		essor phics	Case material	Display cover: Carbon Fiber;  Bottom: magnesium alloy
	-10210U -10510U	8				MB I	LPDDR3-2133	Intel	UHD	Smart card reade	
i7-	-10310U 6	12	_			MB	LFDDN3-2133	Gra	phics	Media reader Ports	None Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3
sup sup Ma	ipports three ax resolution	nal digital independ : 5K@60	mor dent ( Hz (	nitor via H displays; Thunderb	DMI or USB	Туре	e-C / Thunder	bolt;		- Monitor cable	(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 Optional: Lenovo HDMI to VGA Monitor Adapter
Chipset Into Memory 8G	Intel SoC (System on Chip) platform 8GB or 16GB / 2133MHz LPDDR3 / soldered to systemboard, no sockets									Bundled Accy	Optional: ThinkPad Ethernet Extension Adapter Gen 2
Display						Aspec			Viewing	Camera (optional)	One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
Siz	ize Resolutio	1	Type		Brightness	Ratio	Ratio	Gamut	Angle	A If a	<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
14	4.0" FHD (192 Multi-touc	0x1080) h	IPS	Anti- reflection Anti- smudge	300 nits	16:9	700:1	72%	170°	Audio support	HD Audio, Realtek® ALC3286 codec / Dolby® Atmos™ speaker system, 2W x 2, 0.8 x 2 / 4 array far-field microphones, headphone / microphone combo jack
14	4.0" FHD (192 Low Powe	0x1080) r	IPS	Anti-glare	400 nits	16:9	800:1	72%	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
14	FHD (192 4.0" ThinkPad Guard		IPS	Anti-glare	400 nits	16:9	1000:1	72%	170°	Security Security chip System Mat (opt)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
14	4.0" WQHD (2		IPS	Anti-glare	300 nits	16:9	700:1	72%	170°	Fingerprint reade	rTouch style match on chip fingerprint reader on the palm rest
14	UHD (384 4.0" HDR 400 Dolby Vis	,	IPS	Glossy	500 nits	16:9	1400:1	90%	170°	NFC (optional) Battery	Near Field Communication Integrated Li-ion 51Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Multi-touch (opt) Ca		e multi-to	uch,	supports	10-finger ge	sture	(FHD only),			Max battery life	with 65W AC adapter  MobileMark® 2014: 18.3 hr  * Battery life varies significantly with settings, usage, & other factors
	ne of the follo	` '								AC adapter	45W, 65W, or 65W slim USB-C AC adapter
• 1	M.2 2280 S										Optional: Windows® 10 Home 64 or Windows 10 Pro 64
	M.2 2280 S Intel Optane					rage.				Limited warranty	
N	<ul> <li>Intel Optane™ Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4</li> </ul>										<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> </ul>
	<ul> <li>Intel Optane SSD, M.2 2280, PCIe NVMe 3.0 x 2 None</li> </ul>										<ul> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
Ethernet Na via	Native Intel Ethernet Connection I219-V ( <i>Non-vPro</i> ) or I219-LM ( <i>vPro</i> ) via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2									Mil-Spec test	MIL-STD-810G military testing
WLAN + On	ne of the follo	ving, config	urable	e by model						Environment	EPEAT™ Gold; ENERGY STAR® 7.1; RoHS-compliant
• Ir	Intel Wireles Intel Wi-Fi 6 (AX201 for 1	AX201, W	/i-Fi 2	2x2 802.1	1ax + Blueto						





















## ThinkPad X1 Extreme Platform Specifications

Processor	8th Generation Intel® Core™ i5 / i7 Processor	Smart card reader C	Optional: Smart card reader
	Processor # of # of Base Max Turbo Cache Threads Frequency Frequency Cache Types Graphics	Ports T	SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card wo USB 3.1 Gen 1 (one Always On),
	15-8300H	a h S *	wo USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 2.0, Ethernet extension connector, neadphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole  Power Delivery only supports power-out for charging peripherals
Graphics	Intel UHD Graphics 630 in processor and NVIDIA® GeForce® GTX 1050 Ti, 4GB GDDR5 memory; supports external digital monitor via HDMI or Thunderbolt™; supports four independent displays;	Monitor cable (optional) USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable  Camera (optional) One of the following, configurable by model:	USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable
	Max resolution: 5K@60Hz (Thunderbolt); 4K@60Hz (HDMI)	` · · · · · · · · · · ·	HD720p camera with ThinkShutter camera privacy, fixed focus
Chipset Memory	Mobile Intel CM246 Chipset 64GB max / 2666MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets		IR camera and HD720p camera, fixed focus HD Audio, Realtek® ALC3286 codec /
Display	Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio,	S	stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, neadphone / microphone combo jack, Dolby Atmos® headphone
	72% gamut, 170 <sup>o</sup> viewing angle  Some: 15.6" (396mm) HDR UHD (3840x2160) with Dolby Vision™, LED backlight, IPS, 400 nits, 16:9 aspect ratio, 1200:1 contrast ratio,		6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
Multi-touch (opt) Pen	100% gamut, 170° viewing angle, multi-touch, anti-reflection (AR) Capacitive-type multi-touch, supports 10-finger gesture (4K only) Supports pen accessory, please see the accessory compatibility for details	Security chip D vPro (optional) Ir	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology Touch style match on chip fingerprint reader on the keyboard bezel
Storage	<ul> <li>Up to 2 drives (two M.2 SSD)</li> <li>M.2 SSD / SATA 6.0Gb/s (e.g. xxxGB SSD M.2)</li> <li>M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxGB SSD M.2 PCIe NVMe)</li> </ul>	Color calibration N NFC N	
RAID (optional) Optical	RAID 0/1 support None	Max battery life D	ntegrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  Discrete mode: 9.5 hr; Hybrid mode: 14.9 hr  * Battery life varies significantly with settings, usage, & other factors
Ethernet	Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro))	AC adapter 1	35W slim tip AC adapter
WLAN	via bundled or optional ThinkPad Ethernet Extension Cable  Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card		Vindows® 10 Home 64 or Windows 10 Pro 64
Bluetooth™	Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter		One of the following, configurable by model:  1-year depot repair service
WWAN SIM card	None None	•	3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm		MIL-STD-810G military testing
Weight	WxDxH (multi-ouch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm Non-touch model: starting at 3.76 lb / 1.7 kg; Multi-touch model: starting at 4.06 lb / 1.8 kg	Environment E	EPEAT™ Gold (US only); ENERGY STAR® 7.0; RoHS-compliant
Case color Case material	Black Display cover: CFRP/GFRP hybrid; Bottom: Aluminum alloy		

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

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

Processor	9th G	eneration	Intel® Co	re™ i5	/ i7 / i9 P	rocessor					Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm
	Proce Numb	oer Cores	# of Threads	Freq	uency Fre	x Turbo equency Cach	ie Ty	mory pes	Proces Graph		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
	i5-93 i5-94 i7-97	00H 4 50H 6	8 8 12	2.5 2.6	GHz 4. GHz 4.		3 B DDR	4-2666 Ir	ntel UHD ( 630		Case color Case material	Black paint (FHD model) or black weave (UHĎ model)  Display cover: CFRP/GFRP hybrid;  Bottom: Aluminum alloy
	i7-98		12 16			6 GHz 12M 8 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 in processor and  NVIDIA® GeForce® GTX 1650, 4GB GDDR5 memory;  supports external digital monitor via HDMI or Thunderbolt™;  supports four independent displays;  Max resolution: 5K@60Hz (Thunderbolt); 4K@60Hz (HDMI)										Ports	Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbol (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 adapt * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical sp.
Chipset Memory	Mobi 64GE	le Intel CM 3 max / 266	246 Chip 66MHz D	oset DR4,	dual-char	nnel capable	, two D	DR4 SC	D-DIMM s	sockets	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 (1920x	(1080)	IPS	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 (1920x Dolby Vision	ı™ HĎR	IPS	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 (3840) Dolby Visior	(2160) 1 HDR	IPS	Anti-glare	500 nits	16:9	1200:1	100% Adobe	170°		dual 360° far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system
	15.6"	UHD (3840) Dolby Visior Multi-touch	(2160) n HDR,	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	anti-r	eflection (A	AR), anti-	smud	ipports 10 ge (AS) c	O-finger gest oating e accessory				l.	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
Storage	Up to	two M.2 SSI 2280 SSD /	<u> </u>			2 docc3301 y	соттра	don'ty lo	details		Color calibration	rTouch style match on chip fingerprint reader on the keyboard bezel  Optional: X-Rite Pantone factory color calibration (UHD model only)  None
RAID (optional) Optical		0/1 suppo			.o x 1						Battery Max battery life	Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  MobileMark® 2014: 14 hr
Ethernet						( <i>Non-vPro</i> ) net Extension			Pro))		AC adapter	* Battery life varies significantly with settings, usage, & other factors 135W slim tip AC adapter
WLAN (optional) Bluetooth™						+ Bluetooth Fi + Bluetoo		bo adap	ter		Operating system Limited warranty	n Windows® 10 Home 64 or Windows 10 Pro 64  One of the following, configurable by model:
WWAN SIM card	None None	)		nogra		TTT Blacker	00111	o adap			_ 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

September 2019

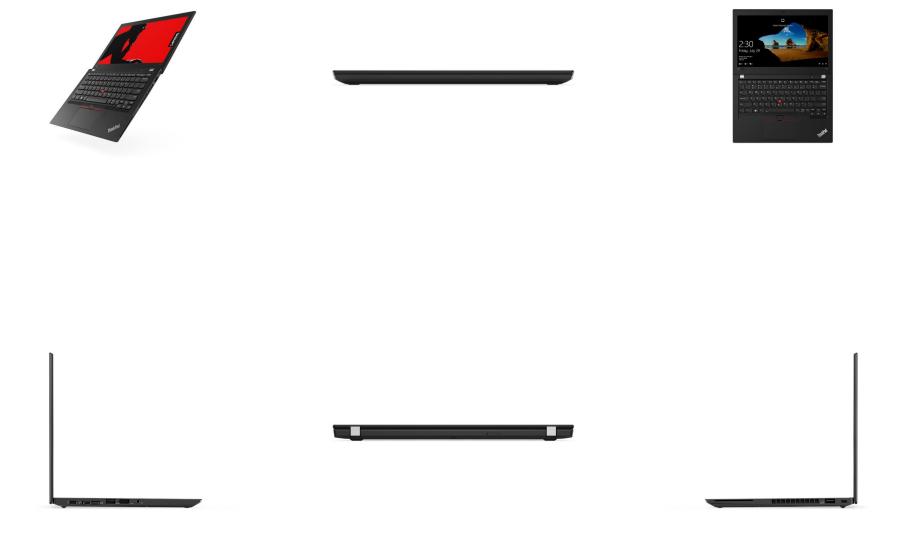






## ThinkPad X270 Platform Specifications

Processor	6th Generation I	ntel® Cor	e™ i3 / i5 / i	7 Processor			Dimensions	WxDxH: 12.03" x 8.21" x 0.80"; 305.5mm x 208.5mm x 20.3mm
1 10000001	Processor # of	# of	Base	Mary Trustee	Memory	Processor	Weight	Models No + 3-cell 3-cell 3+ 6-cell
		Threads		Frequency Cache	Types	Graphics		Weight 2.79 lb / 1.27 kg 2.98 lb / 1.36 kg 3.33 lb / 1.52 kg
	i3-6006U		2.0 GHz	- 3MB			Case color	Black
	i3-6100U		2.3 GHz	- 3MB			Case material	Display cover: Glass-Fiber Reinforced Plastic;  Bottom: Glass-Fiber Reinforced Plastic
	i5-6200U 2	4	2.3 GHz	2.8 GHz 3MB	DDR4-2133	Intel HD Graphics	0	
	i5-6300U		2.4 GHz	3.0 GHz 3MB 3.1 GHz 4MB	-	520	Media reader	er <i>Optional:</i> Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC)
	i7-6500U i7-6600U		2.5 GHz 2.6 GHz	3.4 GHz 4MB	-		Ports	Two USB 3.1 Gen 1 (USB 3.0, one Always On),
	or 7th Generatio	n Intel Co						USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	Processor # of	# of	Base	Max Turbo	Memory	Processor		HDMI 1.4b, Ethernet (RJ-45), Dock connector  * Depending on many factors, actual data transfer speed may be lower than theoretical speed
		Threads	Frequency	Frequency Cache	Types	Graphics	WiGig dock (opt)	ThinkPad WiGig dock, mutually exclusive with WWAN (US only)
	i3-7100U		2.4 GHz	- 3MB			Monitor cable	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
	i5-7200U		2.5 GHz	3.1 GHz 3MB		Intel HD Graphics	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	i5-7300U 2	4	2.6 GHz	3.5 GHz 3MB	DDR4-2133	620	Camera (ontiona	//HD720p resolution, fixed focus
	i7-7500U		2.7 GHz	3.5 GHz 4MB			Audio support	HD Audio, Realtek ALC3268 codec / stereo speakers, 1.5W x 2 /
	i7-7600U		2.8 GHz	3.9 GHz 4MB				dual array microphone, combo audio/microphone jack
Graphics	Intel HD Graphic				C.		Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight
	supports three in			HDMI or USB Typ	e-C;		UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
				, USB Type-C); 40	96x2160@	24Hz (HDMI)	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Chipset	Intel SoC (Syste	m on Chi	p) platform				vPro (optional)	Intel vPro Technology
Memory				DR4 SO-DIMM so			Fingerprint reade	er Optional: Touch style match on chip fingerprint reader on the palm rest
D: 1		•		lower memory cont			NFČ (optional)	Near Field Communication
Display	Some: 12.5" (31	l / .5mm) 16·9 asr	HD (1366X) ect ratio 50	768), anti-glare, L 00:1 contrast ratio	.ED backligi	nt,	Internal battery External battery	Optional: Integrated Li-ion or Li-Polymer 3-cell (23Wh) Li-ion 3-cell (23Wh) or 6-cell (48Wh or 72Wh)
	Some: 12.5" (31	17.5mm)	HD (1366x)	768), anti-glare, L	ED backlig	nt, IPS,	Max battery life	Models   No + 3-cell   3-cell + 3-cell   3-cell + 6-cell 48Wh   3-cell + 6-cell 72Wh
	300 nits,	16:9 aśp	ect ratio, 8	00:1 contrast ratio	o, 170° view	ing angle	(MobileMark® 2014	Max battery life   6.52 hr   13.04 hr   20.1 hr   26.9 hr
				x1080), anti-glare 00:1 contrast ratio				* Battery life varies significantly with settings, usage, & other factors
Multi-touch (opt)					o, i i o view	ing angle	AC adapter	45W slim tip AC adapter or 45W USB Type-C AC adapter
Storage	System has one H	DD slot or	one M.2 228	0 slot exclusively for	r storage		Operating system	One of the following, configurable by model:
Ü				ide, 7mm high, Ad				<ul> <li>Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64</li> </ul>
				de, 7mm high (e.		SD)		Windows 10 Home 64
				e 3.0 x 2, 16Gb/s Gb/s, in WWAN sl		torage.		Windows 10 Pro 64
	mutually			N and WiGig	0. 40	go,	Limited warranty	One of the following, configurable by model:
Optical	None							1-year depot repair service
Ethernet		: Intel Eth	ernet Conr	nection I219-V (Ja	cksonville)	. \		<ul> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
14/1 441	vPro model:			nection I219-LM (		,	Mil-Spec test	MIL-STD-810G military testing
WLAN	<ul> <li>One of the following</li> <li>Realtek® RTL8</li> </ul>			el (WiGig is mutuall) 02 11ac ± RT4 1	y exclusive w	itn vvvvAN):	I	
				Wi-Fi 2x2 802.11	ac + BT4.1		Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
	<ul> <li>Intel Dual Band</li> </ul>	d Wireles	s-AC 8265,	Wi-Fi 2x2 802.11	ac + BT4.1			
Pluotooth™		Vireless-	AC 18265, V	ViGig 802.11ad +	Wi-Fi 2x2	302.11ac + BT4.1		
Bluetooth™	(US only) Bluetooth 4.1 wii	reless in	tegrated in	Wi-Fi + Bluetooth	combo ada	inter		
	* Intel 8265ac / 18.	265ac car	d support BT	4.2 but is limited to E	3T4.1 by Win	dows OS		
WWAN (optional)	One of the followin			el (mutually exclusiv	e with WiGig	):		
	Wireless WAN     Integrated Make			TF A				
	<ul> <li>Integrated Mob Qualcomm® Sr</li> </ul>	nandrago	ıbanu 4G L n™ X7 I TF	ī E-A, ∃-A (Sierra Wireles	ss FM7455	١		
	<ul> <li>Integrated Mob</li> </ul>	oile Broad	lband 4G L	TE,		,		
CIM cord (and)				AÚ) (EMEA only)				
SIM card (opt)	Micro-SIM card	siot, opt \	erizon Li E	(US) or Lenovo®	Connect (E	w∟A) SIM card		:
								Lenovo



## ThinkPad X280 Platform Specifications

Processor				e™ i3 / i5 P n US and EN		OU is NO	T available ir	n US	Dimensions Weight	WxDxH: 12.11" x 8.26" x 0.69-0.70"; 307.7mm x 209.8mm x 17.4-17.8mm FHD non-touch model: 2.49 lb / 1.13 kg;	
	Processor Number	# of	# of Threads	Base	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		HD non-touch model: 2.78 lb / 1.26 kg; FHD multi-touch model: 2.79 lb / 1.27 kg	
	i3-7020U i3-7130U i5-7200U	2	4	2.3 GHz 2.7 GHz 2.5 GHz	- - 3.1 GHz	3MB 3MB 3MB	DDR4-2133	Intel HD Graphics 620	Case color Case material	Black Display cover: Carbon Fiber (FHD non-touch model) or Glass Fiber (HD & FHD multi-touch model); Bottom: Magnesium/Aluminum	
	i5-7300U		 	2.6 GHz	3.5 GHz	3MB			Smart card reade Media reader	er <i>Optional:</i> Smart card reader MicroSD card reader, in the combo slot with nano-SIM card	
	Processor	# of	# of	Base	i7 Processo Max Turbo	Cache	Memory	Processor	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),	
	Number i3-8130U	Cores 2	Threads 4	Frequency 2.2 GHz	Frequency 3.4 GHz	4MB	Types	Graphics		one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet extension connector.	
	i5-8250U i5-8350U i7-8550U i7-8650U	4	8	1.6 GHz 1.7 GHz 1.8 GHz 1.9 GHz	3.4 GHz 3.6 GHz 4.0 GHz 4.2 GHz	6MB 6MB 8MB 8MB	DDR4-2400	Intel UHD Graphics 620	- Monitor cable	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 HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter	
Graphics	supports t	externa hree ir	al digital r ndepende	nonitor via ent displays	Graphics 6. HDMI or U s; (USB Type-	SB Typ	e-C;	30Hz (HDMI)	(optional) Bundled Accy	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2  I) One of the following, configurable by model:	
Chipset Memory	4GB, 8GB * 4GB mem	, or 16 ory is N	GB / 240 VOT availa	ble in US an	R4 / soldere	,	•	, no sockets	Audio support	<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera, fixed focus</li> <li>HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /</li> </ul>	
Display	22 Some: 12	20 nits, 2.5" (31	16:9 aśp I7.5mm)	ect ratio, 4 FHD (1920	00:1 contra 0x1080), an	ist ratio ti-glare	, LED back	ight, IPS,	 Keyboard UltraNav™	dual array microphone, headphone / microphone combo jack  6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad	
Multi-touch (opt)	On-cell to:	uch. sí	ipports 1	ect ratio, 7 0-finger ge OT available	sture (FHD	st ratio only)	, 170° view	ing angle	Security Power-on password, hard disk password, supervisor password, security Security chip Discrete TPM 2.0, TCG Certified Intel vPro Technology		
Storage	<ul> <li>M.2 SSE</li> </ul>	/ SAT	A 6.0Gb/	rable by mod s (e.g. xxx0 PCIe 3.0 x	GB SSD M.	.2) (e.g. x)	vGB SSD	M.2 PCIe NVMe)	Fingerprint reade	er Optional: Touch style match on chip fingerprint reader on the palm rest, anti-spoofing technology	
Optical	None								NFC (optional) Battery	Near Field Communication  Integrated Li-ion 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr)	
Ethernet							1219-LM (ı dapter Ger		Max battery life	with 65W AC adapter  MobileMark® 2014: 16.6 hr	
WLAN + Bluetooth™	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card * Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS							h 4.1, M.2 card	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB-C AC adapter	
WWAN (optional) SIM card (opt)	<ul> <li>Integrate Intel XMI</li> <li>Integrate Intel XMI</li> <li>* For non-M</li> </ul>	ed Mob M™ 72 ed Mob M™ 73 VWAN n	pile Broad 62 (Fibodoile Broad 660 (Fibodonodel, it m	lband 4G L com L830-E lband 4G L com L850-C eans the mo	TE, EB), M.2 ca	rd VWAN u	pgradable		Limited warranty	<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>	
(-1-7)	optional Ve								Mil-Spec test	MIL-STD-810G military testing	
Note: The specifica									Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant  Lenovo	



## ThinkPad X390 Platform Specifications

Processor	8th G	eneration I	ntel® Cor	e™ i3 /	i5 / i7 F	Processor					Dimensions	Models	FHD Non-touc	ch	HD /	FHD Multi-touch
	Proce Numb		# of Threads	Bas Freque		ax Turbo equency	Cache	Memory Types		cessor phics		Carbon Fiber	311.9mm x 217.0mm 12.28" x 8.54" x 0			-
	i3-814		4	2.1 G 1.6 G			4MB 6MB					PPS	312.0mm x 217.2mm 12.28" x 8.55" x 0			x 217.2mm x 16.9mm 8" x 8.55" x 0.67"
	i5-836		8	1.6 G	Hz 4	l.1 GHz	6MB	DDR4-2400		D Graphics 320	Weight	Models	FHD Non-touch	Н	ID .	FHD Multi-touch
	i7-856	55U		1.8 G	-		8MB			20		Carbon Fiber	2.70 lb / 1.22 kg		-	-
	1.9 GHz										-	_	PPS 2.85 lb / 1.29 kg 2.93 lb / 1.33 kg 2.84 lb / 1.2			
	or 10th Generation Intel Core i5 / i7 Processor (NOT available in EMEA)										Case color Case material	Black Display cover: Carbon Fiber (FHD non-touch only) or PPS;				٥.
	Numb	Processor Number         # of Cores         # of Threads         Base Frequency         Max Turbo Frequency         Cache Trepuency         Memory Types         Processor Graphics										Bottom: Magnesium/Aluminum				
	i5-102	4	8	1.6 G 1.8 G			6MB 8MB	DDR4-2400	Intel UHI	D Graphics	Tivieula readei	MicroSD card	reader, in the combo s		no-SIM card	i
Graphics	Intel UHD Graphics 620 or Intel 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 (HDMI)									OMI)	Ports	one USB 3.1 T one USB 3.1 T HDMI 1.4b, Et combo slot of	hernet extension conn nano-SIM card (WWAI	function of rbolt 3 (with ector, V models) a	and microS	ivery and DisplayPort), on of PD and DP), D card reader,
Chipset Memory	Intel SoC (System on Chip) platform 4GB, 8GB, 16GB or 32GB / 2400MHz DDR4 / soldered to systemboard, no so * 32GB memory for 10th Gen processor only * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation									o sockets	Monitor cable  - (optional)	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 HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter				
Display	Size	Resolution	T	ype Su	ırface E	Brightness	Aspec Ratio	t Contrast Ratio	Color Gamu		Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2				
	13.3"	HD (1366x7	68)	ΓN Ant	i-glare	250 nits	16:9	500:1	45%	90°		I) One of the follow	ving, configurable by mod	el:		
	13.3"	FHD (1920x	1080) I	PS Ant	i-glare	300 nits	16:9	800:1 (non-touch 700:1 (multi-touch	1270	170°	Audio support	<ul> <li>HD720p cam</li> <li>IR camera and HD Audio, Rea</li> </ul>	nera with ThinkShutter nd HD720p camera wi altek® ALC3287 codec rs, 1W x 2, Dolby® Auc	camera pri th ThinkShu /	utter camer	focus a privacy, fixed focus
	13.3"	FHD (1920x ThinkPad Pr Guard		PS Ant	i-glare	400 nits	16:9	1000:1	72%	178°	Kevboard	dual array far-field microphone, headphone / microphone combo jack  6-row, spill-resistant, multimedia Fn keys, optional LED backlight				
Multi-touch (opt)	On-c		inports 1	0-finge	r aestu	ıre (FHD c	nlv)				UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touch				ulti-touch touchpad
Storage	• M.2 • M.2 • M.2 • Inte	2280 SSD 2280 SSD 2242 SSD I Optane™ 2280, PCI	/ SATA 6 / PCIe N / PCIe N Memory	6.0Gb/s IVMe, IVMe, H10 w	PCIe 3. PCIe 3. PCIe 3. ith Solid	.0 x 4 .0 x 2		,			Security Security chip System Mgt (opt) Fingerprint reade NFC (optional)	Discrete TPM: Intel vPro Tech	ch style match on chip			
Optical	None										Battery			orts Rapid	Charge (ch	arge up to 80% in 1hr)
Ethernet	Nativ via bu	e Intel Ethe Indled or o	rnet Con ptional Tl	nectior ninkPac	n I219-V d Etherr	V ( <i>Non-vP</i> net Extens	<i>ro</i> ) or sion A	I219-LM ( <i>v.</i> dapter Gen	<i>Pro</i> ) 2		Max battery life	with 65W AC a MobileMark® 2		nge ueaga S	& other factor	
WLAN (optional)		f the followin				2.11ac + F	Bluetoo	oth 5.0			AC adapter	45W, 65W, or	65W slim USB-C AC a	dapter		<b>.</b>
Bluetooth™	<ul> <li>Inte</li> </ul>	ا Wi-Fi 6 A	K200, Wi	Fi 2x2	802.11	ax + Blue	tooth !		oter		Operating system Limited warranty		dows <sup>®</sup> 10 Home 64 or ving, configurable by mode		0 Pro 64	
WWAN (optional)	One of Wire Inte	f the followin eless WAN grated Mob grated Mob	g, configu upgrada pile Broad pile Broad	rable by ble dband 4 dband 4	<i>model:</i> 4G LTE: 4G LTE:	, Fibocom	L830	-EB, M.2 ca 50-GL, M.2	rd (EME	EA only)		<ul><li>1-year depot</li><li>1-year depot</li><li>3-year/1-yr b</li><li>3-year/1-yr b</li></ul>	repair service with 2-year system bo attery depot repair ser pattery limited onsite se	oard repair :	service	
	* For i	ion-WWAN i	nodel, it n	eans th	e model	is NOT W	VAN up	ogradable			Mil-Spec test	Mil-Spec test MIL-STD-810G military testing				
											Environment	EPEAT™ Gold	; ENERGY STAR® 7.1;	; RoHS-con	npliant	



## ThinkPad X395 Platform Specifications

Processor	AMD Ryze	en™ PR	O Mobile	e Process	ors with Rad	leon™ Ve	ga Graphics	3		Dimensions	<i>WxDxH:</i> 12.28" x 8.55" x 0.67"; 311.9mm x 217.2mm x 16.9mm
	Processor Number	# of	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Controller		essor phics	Weight	Models HD / FHD multi-touch FHD non-touch FHD Privacy Guard
	Ryzen 3	4	1 III Eaus	2.1 GHz	3.5 GHz	2MB L2 /	Controller		n Vega 6	Case color	Weight   2.91 lb / 1.32 kg   2.82 lb / 1.28 kg   3.01 lb / 1.37 kg
	Pro 3300U	4	4	2.1 GHZ		4MB L3			phics	Case material	Display cover: PPS/GF;
	Ryzen 5 Pro 3500U	4	8	2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-2400		n Vega 8 phics	Smart card roads	Bottom: Magnesium/Aluminum er Optional: Smart card reader
	Ryzen 7 Pro 3700U	4	8	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3			Vega 10 phics	Media reader Ports	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,
Graphics	AMD Radeon Vega 6, Vega 8, or Vega 10 Graphics in processor; supports external digital monitor via USB-C or HDMI; supports three independent displays; Max resolution: 4096x2304@60Hz (USB-C); 4096x2160@24Hz (HDMI)										two USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), 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		ĠĔ/24	400MHz	DDR4/s	oldered to s		ard, no sock ue to AMD lim			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 Reso	olution	Т	ype Surfa	ce Brightnes	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Bundled Accy Camera (optional	Optional: ThinkPad Ethernet Extension Adapter Gen 2  I) One of the following, configurable by model:
	13.3" HD (	1366x76	68)	TN Anti-g	are 250 nits	_	300:1	45%	90°	Camera (opnomal)	HD720p camera with ThinkShutter camera privacy, fixed focus
	13.3" FHD	,		PS Anti-g	are 300 nits	16:9	800:1 (non-touch) 700:1 (multi-touch)	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 / dual array far-field microphone, headphone / microphone combo jack</li> </ul>
	13.3" FHD Think		1080) vacy I	PS Anti-g	are 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-cell to	uch, su	pports 1	0-finger	esture (FHD	only)		1		Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified
Storage	• M.2 228				N- 0 0 - 4					System Mgt	DASH Management
Optical	<ul> <li>M.2 228</li> <li>None</li> </ul>	10 SSD	/ PCIe i	NVIVIE, PC	ie 3.0 x 4					Fingerprint reade	er Optional: Touch style match on chip fingerprint reader on the palm rest None
Ethernet	Native Revia bundle	altek® F ed or op	RTL8153 otional Tl	Gigabit I	thernet con thernet Exte	nection ension A	dapter Gen 2	2		Battery	Integrated Li-ion 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
WLAN <i>(optional)</i> Bluetooth™	Bluetooth	5.0 wir	eless, in	tegrated			n 5.0 combo adapt	ter		Max battery life  AC adapter	MobileMark® 2014: 14.5 hr * Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
WWAN (optional)					odel:					<u> </u>	n Windows® 10 Home 64 or Windows 10 Pro 64
SIM card (opt)	<ul> <li>Wireless</li> <li>Integrate</li> <li>* For non-W</li> <li>Nano-SIM</li> </ul>	ed Mobi	ile Broad Brodel, it m	dband 4G	LTE-A, Fibo nodel is NOT I on LTE (US)	com L85 WWAN up SIM car	50-GL, M.2 c ogradable d	ard		Limited warranty	
										Mil-Spec test	MIL-STD-810G military testing
										Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant

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

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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	Optional: IR camera, fixed focus (mutually exclusive with NFC)
Chipset	Intel SoC (System on Chip) platform	Audio support	Realtek® ALC3278 codec / stereo speakers, 1W x 2 /
Memory	8GB or 16GB / 2133MHz LPDDR3, soldered to systemboard, no sockets		dual array microphones, combo audio/microphone jack
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	Discrete TPM 2.0 TCG Certified
Kick stand	Opening angle up to 170 degrees	System Mgt (opt) Fingerprint reade	Intel vPro Technology er Optional: Touch style Fingerprint reader
Storage	One of the following, configurable by model:	NFC (optional)	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>	Battery	Integrated Li-Ion 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  Tue LIGB 0.1 Ture 0.0 Con 1. ((with the function of Bours Belliners and Bioglas Bert)	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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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.

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## September 2019 - Version 549

## Additions in this update

► New product(s)

ThinkCentre M75s SFF ThinkCentre M720e SFF

► New model(s)

None

**▶** Others

None

### Withdrawals in this update

► Withdrawn product(s)

None

► Withdrawn model(s)

None













## ThinkCentre M810z Platform Specifications

Processor	Intel® Celeron®, Int	tel Pentiur	n®, or 6th / 7th G	en Intel	Core™ i3 / i5 / i7 I	Processor	Security features	Security slot (in rear for attachment of     Power-on, admin, hard disk password				
	Processor	Cores /	Frequency	Cache	Memory Support		1	optional Kensington® MicroSaver® cable; • Boot sequence control				
			Base/Max(GHz)		(Up to)	Graphics		<ul> <li>Kensington lock also locks chassis)</li> <li>Smart USB protection, allows keyboard/</li> <li>Individual USB port disablement</li> </ul>				
	Pentium G4400	2/2	3.3G	3 MB	DDR4-2133	HD 510	-	mouse only, blocks all storage devices   Optional Chassis intrusion switch				
	Pentium G4560	2/4	3.5G	3 MB	DDR4-2400	HD 610	-	Optional cable lock to physically lock     Is the send and may see				
	Pentium G4600	2/4	3.6G 3.7G	3 MB 3 MB	DDR4-2400 DDR4-2133	HD 630	1	keyboard and mouse				
	Core i3-6100 Core i5-6500	4/4				HD 530	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black				
	Core i7-6700	4/4	3.2G / 3.6G 3.4G / 4.0G	6 MB 8 MB	DDR4-2133 DDR4-2133	HD 530 HD 530	-	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black				
	Core i3-7100	2/4	3.4G / 4.0G 3.9G	3 MB	DDR4-2133 DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black				
	Core i5-7100	4/4	3.0G / 3.5G	6 MB	DDR4-2400 DDR4-2400	HD 630		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black				
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630	Mechanical	Business black color				
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630	1	• Toolless stand				
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630	1	Support VESA mount (100mm)				
Marian							4	Dimensions (WxDxH) Max weight (lb / kg) Adjustments				
Memory	32GB max, DDR4 * System clocks do	,			*			Without stand: 21.1 X 1.8 X 14.3 (inch); (Touch) 14.6 / 6.6 (Non-touch) 12.8 / 5.8 N/A				
Storage	Some: Hard Drive Some: Solid State	Drive (S	SD) / SATA 6.0G	b/s. 2.5"	· ·			With Basic Monitor stand: 21.1 X 9.6 X 17.0 (inch); (Non-touch) 17.0 / 7.7 Tilt: 45° back, -5° forward				
Optical	Some: M.2 Solid Some: Intel Optar Some: DVD-RON Some: DVD Burn	State Driv ne™ Memo I SATA 1.5 er (DVD±l	e (SSD) / PCIe N ory (models with 5Gb/s Drive, slim RW), SATA 1.5Gl	IVMe, Po 7th gen (9.5mm)	Core processor),	√s M.2		With UltraFlex II stand: 21.1X 10.0 X 19.3 (inch); (Touch) 20.3 / 9.2 (Non-touch) 18.3 / 8.3 Tilt: 61° back, -5° forward; (Non-touch) 18.3 / 8.3 Lift: 110mm; Swivel: +/-45°				
Media reader	Optional 9-in-1 me	edia card r	eader				Power supply	150 watts, autosensing, 85% PSU				
Graphics	Intel HD Graphics external monitor si	upport via	DisplayPort <sup>™</sup> ;	-	•	DirectX® 12	Limited warranty <sup>3</sup>					
Display	Max resolution: 40 21.5" (546.1mm) F angle (+/- 89°), LE anti-glare, support	<b>Full HD 1(</b> D backligl	<b>)80p (1920x108)</b> nt, 250 nits, 16:9	D) TFT co	olor, MVA panel,	wide viewing rast ratio,	Preload	Preloaded operating system  Some: Windows® 7 Professional 32/64 preinstalled through downgrade  Preloaded applications (only some listed)  • Microsoft Office preloaded;				
Multi-touch Camera	Optional Projected Optional 1080p ca switch on/offf	I Capacitiv mera, fixe	re Touch (PCT) to d focus, with dua	al microp	hone, LED indica	tor, physical		rights in Windows 10 Pro 64-bit  Some: Windows 10 Home 64-bit  Some: Windows 10 Home 64-bit  Some: Windows 10 Home 64-bit  Some: Windows 10 Home 64-bit  - Only for Window 10  - Lenovo Companion				
Controls	Physical buttons for	or Microph	one mute, bright	ness up/	down, and power	on/off		- Only for Window 7				
Chipset	Intel B250 Chipse	et					]	Lenovo Solution Center     Lenovo ThinkVantage Tools				
Rear ports* Side ports*	Four USB 3.1 Gen Two USB 3.1 Gen one headphone / r * Depending on man	1 (one is A nicrophon v factors, ac	Always On and fa e combo jack (3. ctual data transfer s	st chargi 5mm) speed may	e), optional card r	reader,		ThinkVantage System Update Create Recovery Media Adobe® Reader® Cyberlink PowerDVD Create				
M.2 card slot	Two M.2 Card slot	`			<u> </u>		<u> </u>	(ĎVD±RW)				
Audio support	High Definition (HI Dolby <sup>®</sup> Audio™ cer	,	Realtek ALC233	/ two inte	ernal speakers (2'	W x 2),	Environment	EPEAT™ Gold rating (North America); ENERGY STAR® 6.1; TCO AIO Computer Certified; ErP Lot 3; GREENGUARD® certified; RoHS-compliant				
WLAN <sup>13</sup>	Some: 11ac wirel Wi-Fi + Blu	ess, M.2 ( uetooth 4.	Card, Qualcomm 1 combo adapter	Atheros	QCA9377A (dua	l band),	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock)				
	Some: 11ac wirel	ess, M.2 (	Card, Qualcomm 1 combo adapter	Atheros	QCA6174A (dua	l band),	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com				
		uetooth 4.	1 combo adapter	; 1x1								
	Some: 11ac wirel	ess, M.2 ( letooth /	Card, Intel Dual E 1 combo adapter	sand Wir · 2x2	eiess-AU 8265,							
Bluetooth™ Ethernet	Some: Bluetooth 4 Gigabit ethernet, F	.1 wireles	s, integrated in V	Vi-Fi + Bl	uetooth combo a	dapter						
Manageability Security chip	None TPM (Trusted Plat * Downgrade to TF				G Win7 32 OS							
Soo footpotos for	more detailed informa	tion			<u>-</u>			© Lenovo				

























## **ThinkCentre M820z Platform Specifications**

Drococc	Intol® Coloron® Intol	Dontium®	or 9th / 9th Con	Intol Co	roTM i2 / i5 / i7 / i0	) oorioo	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),		
Processor	Intel® Celeron®, Intel				1		WLAN	Wi-Fi + Bluetooth 4.2 combo adapter, 1x1		
	Processor		Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Graphics		Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2		
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		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	Bluetooth™	Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter		
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610	Ethernet	Gigabit ethernet, Realtek RTL8111G, Wake on LAN®		
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	Manageability	None		
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	Security chip	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 password		
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	. Cooding locatoroo	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 mouse only, blocks all storage devices</li> <li>Optional Chassis intrusion switch</li> </ul>		
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	16 1			
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black		
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630		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 Mouse (USB connector), black		
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black		
	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     Support VESA mount (100mm)		
	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	)-DIMM o	nly available via	special b	oid models), DDR	4-2666*,	1	19.3 X 1.9 X 13.5 (inch) (Touch) 11.6 / 5.25 (Non-touch) 11.1 / 5.05 N/A		
,	two 260-pin SO-DIMN	√ sockets	, dual-channel ca	apable				With Full Function Monitor stand (No camera):		
	* System clocks down for the processors with lower memory controller							Tilt: 45° back -5° forward:		
Storage	Some: Hard Drive / SATA 6.0Gb/s, 2.5", 5400 rpm or 7200 rpm							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 Lift: 110mm; Lift: 110mm;		
	Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5"							Swivei. +/-45		
	Some: M.2 SSD / PC	Cle NVMe	, PCle 3.0 x 4*,	32Gb/s	N- 0 0 0 400h	1-		With UltraFlex III stand (No camera):  10.0 V 0.0 V 10.4 (bisheat) (inch) (Tauch) 17.0 / 7.05   Tilt: 70° back, -5° forward		
	* 128GB SSD M.2 (22 Some: Intel Optane <sup>TI</sup>	242) PCIE Memory	NVIVIE only sup	ports PC	Dentium Processo	/S r\ M 2		[19.3 X 9.9 X 16.4 (nignest) (inch)   (10uch) 17.3 / 7.85   Lift 136mm;		
Optical	Some: DVD-ROM S				Cittaiii i 1000330	1), IVI.Z		491 X 252 X 416 (highest) (mm)   (Non-touch) 16.9 / 7.65   Swivel: +/-45°		
•	Some: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (9.0mm)						Power supply	150 watts, autosensing, 90% PSU		
Media reader	Optional 3-in-1 media card reader							. 0.		
Graphics	Intel HD Graphics 610/630 in processor, uses main memory, DirectX® 12,					2,	Limited warranty <sup>3</sup>	3 Some: 1-year or 3-year, depot repair service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available		
	external monitor supp			4000 /B	lonal\@60U-		Dueleed			
Display	Max resolution: 4096 21.5" (546.1mm) Ful					sian	Preload	Preloaded operating system Some: Windows 10 Pro 64-bit		
Diopiay	MVA panel, wide viev	ving angle	e (+/- 89°), LED k	acklight	, 250 nits, 16:9 as	spect ratio,		Some: Windows 10 Home 64-bit		
	1000:1 contrast ratio,	anti-glare	e, support Low B	lue Light	Mode			Preloaded applications (only some listed)		
Multi-touch	Optional multi-touch,	supports	10-point, AIT (A	dvanced	In-cell Touch) ted	chnology		Lenovo Vantage		
Camera	Optional 1080p came off, supports multi-de	era, with d aree rotat	uai microphone, ion (horizontal 0	LED ING	ocator, physical si	WITCH OH/ 25°)		Microsoft Office preloaded; purchase a product key to activate     Output link Program (No. 1977)		
Controls	Physical buttons on s					23 )		<ul> <li>Cyberlink PowerDVD (only for models with DVD / ĎVD±RW)</li> <li>Cyberlink Power2GO (only for models with DVD±RW)</li> </ul>		
Chipset	Intel B360 Chipset						-	LinkedIn		
						-\	Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models), ErP Lot 3,		
Rear ports*	Four USB 3.1 Gen1 (one supports Smart Power On), one ethernet (RJ-45),					·5),	Livinoriinorii	TCO AIO Computer certified, GREENGUARD® certified, TUV Eye comfort certified		
Side ports*	one DisplayPort, one optional serial (9-pin), one USB 3.1 Gen2 (one is Always On and fast charge), one USB 3.1 Type-C Gen 1							(for Full Function Monitor Stand only), TUV Low Blue Light certified,		
5.00 p 5.10	one optional card rea	der, one h	neadphone / mic	rophone	combo jack (3.5r	nm)		TUV Ultra Low Noise certified (on some models), RoHS-compliant		
		pending on many factors, actual data transfer speed may be lower than theoretical speed b M.2 Card slots (one for WLAN, one for SSD/Optane)					MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature,		
M.2 card slot								Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus)		
Audio support	High Definition (HD) Audio, Realtek ALC233 / two internal speakers (2W x 2),						Accessories	For compatible accessories, please go to http://smartfind.lenovo.com		
	Dolby <sup>®</sup> Audio™ Premi	um								
Note: The specifications above may not be available in all radions								Lenovo June 2010		













## ThinkCentre M910z Platform Specifications

Processor	Intel® Celeron®, Int	tel Pentiur	m®, or 6th / 7th G	en Intel	Core™ i3 / i5 / i7 I	Processor	Security chip	TPM (Trusted Platform Module) 2.0, TCG Certified			
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	1 '	* Downgrade to TPM1.2 for the models with Win10 DG Win7 32 OS			
		Threads	· /		(Up to)	Graphics	Security features	<ul> <li>Security slot (in rear for attachment of optional Kensington® MicroSaver® cable;</li> <li>Boot sequence control</li> </ul>			
	Core i3-6100 Core i5-6500	2/4	3.7G 3.2G / 3.6G	3 MB 6 MB	DDR4-2133 DDR4-2133	HD 530 HD 530	-	Kensington lock also locks chassis)   • Boot without keyboard and mouse			
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530	-	Smart USB protection, allows keyboard/     Individual USB port disablement     Chicago Characteristics and the second control of the second control o			
	Core i3-7100	2/4	3.9G	3 MB	DDR4-2400	HD 630	1	mouse only, blocks all storage devices  Optional Chassis intrusion switch  Optional cable lock to physically lock			
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630		keyboard and mouse			
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630	1	Some: Lenovo Traditional Keyboard (USB connector), black			
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black			
Memory	32GB max, DDR4	-2400*. tw	o 260-pin SO-D	IMM soci	kets. dual-channe	l capable	INIOUSE	Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
,	* System clocks do		•				Mechanical	Business black color     Toolless back cover, stand, disk, memory removal     Support VESA mount (100mm)			
Storage	Some: Hard Drive	e / SATA 6 e Drive (S	.0Gb/s, 2.5", 540 SD) / SATA 6.0G	00 rpm oi b/s, 2.5"	7200 rpm		Medianical				
	Some: M.2 Solid	State Driv	e (SSD) / PCIe N	√VMe, P				Dimensions (WxDxH) Max weight (lb / kg) Adjustments			
Optical	Some: Intel Optar	ne™ Mem ∉SΔTΔ 1 ¤	ory (models with 5Gh/s Drive, slim	7th gen	Core processor),	M.2		Without stand: 23.0 X 1.8 X 15.4 (inch); (Touch) 17.2 / 7.8			
Optical	Some: DVD-ROM SATA 1.5Gb/s Drive, slim (9.5mm) Some: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (9.5mm)				) e, slim (9.5mm)			584 X 45 X 590 (mm) (Non-touch) 15.0 / 6.8			
Media reader	Optional 9-in-1 me	ptional 9-in-1 media card reader  tel HD Graphics 530/630 in processor, uses main memory, DirectX® 12,						With Basic 23.0 X 9.6 X 18.0 (inch); (Non-touch) 19.4 / 8.8 Tilt: 45° back, -5° forward			
Graphics	external monitor si	upport via	in processor, us DisplavPort™:	es main	memory, DirectA	12,		Tilt: 61° back,			
	Max resolution: 40	)96x2304	(DP)@60Hz, 192					With UltraFlex   23.0X 10.0 X 19.9 (inch);   (Touch) 22.7 / 10.3   -5° forward;   II stand:   584 X 253 X 505 (mm)   (Non-touch) 20.7 / 9.4   Lift: 110mm;			
Display	23.8" (604.5mm) F	Full HD 10	080p (1920x108	0) TFT c	olor, WVA panel,	wide viewing	1	Swivel: +/-45°			
	angle (+/- 89°), LE anti-glare, support	:D backlig :Low Blue	nt, 250 nits, 16:9 Light Mode wo	aspect i rk as sta	atio, 1000:1 conti ndalone monitor v	ast ratio,	Power supply	150 watts, autosensing, 85% PSU			
	DisplayPort (DP in			ik as sia	ridaione monitor v	πα					
Multi-touch	Optional Projected	l Capacitiv	ve Ťouch (PCT) t	echnolog	y, supports 10-po	oint touch	Limited warranty <sup>3</sup>	3 Some: 1-year or 3-year, depot repair service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available			
Camera	Optional 1080p ca switch on/offf	mera, fixe	ed focus, with dua	al microp	none, LED indica	tor, physical	Preload	Preloaded operating system Preloaded applications (only some			
Controls	Physical buttons for and power on/off	or Microph	none mute, monit	or mode	switch, brightnes	s up/down,	ricioad	Some: Windows® 7 Professional 32/64 listed) preinstalled through downgrade • Microsoft Office preloaded;			
Chipset	Intel Q270 Chipse	et					-	rights in Windows 10 Pro 64-bit purchase a product key to activate			
Rear ports*	Four USB 3.1 Gen	1, etherne	et (RJ-45), Displa	ayPort in	out combo port,			Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit  - Only for Window 10  Lenovo Companion			
	optional serial (9-p							- Only for Window 7			
Side ports*	Two USB 3.1 Gen1 (one is Always On and fast charge), optional card reader,				e), optional card r	reader,		<ul> <li>Lenovo Solution Center</li> </ul>			
	one headphone / microphone combo jack (3.5mm), optional USB 3.1 Type-C Gen1 * Depending on many factors, actual data transfer speed may be lower than theoretical speed							<ul><li>Lenovo ThinkVantage Tools</li><li>ThinkVantage System Update</li></ul>			
M.2 card slot	Two M.2 Card slot					romour opoou		Create Recovery Media			
Audio support	High Definition (HI	D) Audio,	Realtek ALC233	/ two inte	ernal speakers (3'	W x 2),	1	Adobe® Reader®     Cubadiak PayerPVD Create			
	Dolby <sup>®</sup> Audio™ cer	rtified				, .		<ul> <li>Cyberlink PowerDVD Create (DVD±RW)</li> </ul>			
WLAN <sup>13</sup>	Some: 11ac wirel				QCA9377A (dua	l band),	Environment	EPEAT™ Gold rating (North America); ENERGY STAR® 6.1; TCO AIO Computer			
			1 combo adapte		00001740 /due	l la a .a al\		Certified; ULE Gold; ErP Lot 3; GREENGUARD® certified; RoHS-compliant			
	Some: 11ac wirel Wi-Fi + Blı		Jard, Qualcomm 1 combo adapte		QCA6174A (dua	i band),	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature,			
	Some: 11ac wirel				eless-AC 3165,			Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock)  For compatible accessories, please go to http://www.lenovoquickpick.com			
	Some: 11ac wirel	ess, M.2 (	1 combo adapte Card, Intel Dual E	Sand Wir	eless-AC 8265,		Accessories				
			1 combo adapte		alaaa AC gage						
	Some: 11ac wirel Wi-Fi + Blı					pport. 2x2					
Bluetooth™	Some: Bluetooth 4	Wi-Fi + Bluetooth 4.1 combo adapter, Intel vPro technology support, 2x2 Some: Bluetooth 4.1 wireless, integrated in Wi-Fi + Bluetooth combo adapter				dapter					
Ethernet	Gigabit ethernet, In	ntel Ether	net Connection I	219-LM	(Jacksonville), Wa	ke on LAN®	]				
Manageability	Intel Active Manag Intel vPro technolo	gy on sor	ne modéls (requ	ire choos	sing a vPro-suppo	ort Wi-Fi					
	adapter to enable	vPro func	tion through wire	less con	nection)						
See footnotes for	more detailed informa	ation						© Lenov			



















## **ThinkCentre M920z Platform Specifications**

Processor	Intel® Celeron®, Intel Pentium®, or 8th / 9th Gen Intel Core™ i3 / i5 / i7 / i9 series					series	Audio support	High Definition (HD) Audio, Realtek ALC233 / two internal speakers (3W x 2),			
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics		Dolby® Audio™ Premium			
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1			
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band),			
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610	1	Wi-Fi + Bluetooth 4.2 combo adapter, 2x2			
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1			
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,			
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 2x2			
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),			
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Bluetooth™	Wi-Fi + Bluetooth 5.0 combo adapter, 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	Manageability	Intel Active Management Technology 12.0 (Intel AMT 12.0);			
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	-	Intel vPro technology on some models (require choosing a vPro-support Wi-Fi			
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Caarreiter alain	adapter to enable vPro function through wireless connection)			
	Core i5-8500	6/6	3.0G / 4.1G	9 MB 9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified  Security slot (in rear for attachment of Power-on, admin, hard disk password)			
	Core i5-8600 Core i7-8700	6/6 6/12	3.1G / 4.3G 3.2G / 4.6G	12 MB	DDR4-2666 DDR4-2666	UHD 630 UHD 630	Security features	optional Kensington® MicroSaver® cable; • Boot sequence control			
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630	-	Kensington lock also locks chassis)  • Boot without keyboard and mouse			
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400 DDR4-2400	UHD 630	-	<ul> <li>Smart USB protection, allows keyboard/</li> <li>Individual USB port disablement</li> </ul>			
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices   Optional Chassis intrusion switch			
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	Core i5-9600	6/6	3.1G / 4.6G	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 i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black			
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	1	Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
Memory  Storage	32GB max (16GB SC two 260-pin SO-DIMI * System clocks down for Some: Hard Drive / S	M sockets or the proce	, dual-channel c essors with lower m	apable nemory co	ntroller		Mechanical	Business black color     Toolless back cover, stand, disk, memory removal     Support VESA mount (100mm)			
Olorage					support (RAID pr			Dimensions (WxDxH) Max weight (lb / kg) Adjustments			
	available via  Some: Solid State D  Some: M.2 SSD / PO	rive (SSD Cle NVMe	) / SATÁ 6.0Gb/s e, PCIe 3.0 x 4*,	32Gb/s	0.4001/-	·		Without stand (No camera):  21.3 X 1.8 X 13.7 (inch) (Touch) 14.0 / 6.34 (Non-touch) 13.5 / 6.13 (Non-touch) 13.5 / 6.13			
	* 128GB SSD M.2 (2242 Some: Intel Ontane	2) PCIE NV ™ Memory	vie only supports i	eleron / P	2, 16GB/S Pentium Processo	r) M 2	I	With Full Function Monitor stand (No camera):  21.3 X 9.9 X 15.9 to 20.2 (inch) (No camera) Tilt: 45° back, -5° forward;			
Optical	Some: Intel Optane™ Memory (not support Celeron / Pentium Processor), M.2 Some: DVD-ROM SATA 1.5Gb/s Drive, slim (9.0mm)							542 X 252 X 405 to 514 (mm) (Non-touch) 18.2 / 8.26 Lift: 110mm; Swivel: +/-45°			
•	Some: DVD Burner	(DVD±RV	<li>V), SATA 1.5Gb/s</li>		lim (9.0mm)			With UltraFlex III stand (No camera):			
Media reader Graphics	Optional 3-in-1 media Intel HD Graphics 6			main me	emory, DirectX® 1	2,	_	21.3 X 9.9 X 14.3 to 17.5 (inch)   (Touch) 19.7 / 8.94   Tilt: 70° back, -5° forward; 542 X 252 X 363 to 444 (mm)   (Non-touch) 19.2 / 8.73   Lift: 136mm; Swivel: +/-45°			
	external monitor supp	oort via D	isplayPort™;				Power supply	150 watts, autosensing, 90% PSU			
Display	Max resolution: 4096x2304 (DP)@60Hz, 1920x1080 (Panel)@60Hz 23.8" (604.5mm) Full HD 1080p (1920x1080) TFT color, Borderless design, WVA panel, wide viewing angle (+/- 89°), LED backlight, 250 nits, 16:9 aspect ratio.						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			
Multi-touch	1000:1 contrast ratio, monitor via DisplayPo Optional multi-touch,	anti-glare ort (DP in supports	e, support Low B / out combo) 10-point, AIT (A	llue Light dvanced	t Mode, work as s In-cell Touch) ted	tandalone hnology		Preloaded operating system Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit			
Camera	Some: 1080p camer	a, with du	ial microphone, l	LED indic	cator, physical sw	itch on/off,		Preloaded applications (only some listed)			
Controlo	supports multi-degree rotation (horizontal 0° to 180°, vertical -25° to 25°)  Some: RGBIR camera, 1080p, with dual microphone, physical switch on/off, supports multi-degree rotation (horizontal 0° to 180°, vertical -25° to 25°)  Windows Hello support, only available via special bid models  Physical buttons on side for microphone mute and power on/off							<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> </ul>			
Controls		side ioi iii	cropriorie mute a	and powe	51 UII/UII		-	LinkedIn			
Chipset	Intel Q370 Chipset						Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models), ErP Lot 3			
Rear ports*	Four USB 3.1 Gen1 ( one DisplayPort in/ou one USB 3.1 Gen2 (	it combo	port, one optiona	al serial (	9-pin)			TCO AlO Computer certified, GREENGUARD® certified, TUV Eye comfort certified, TUV Low Blue Light certified, TUV Ultra Low Noise certified (on some models), RoHS-compliant			
Side ports*	USB 3.1 Type-C Gen combo jack (3.5mm)	1, one or	otional card read	er, one h	eadphone / micro	phone	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus			
M.2 card slot	* Depending on many factors, actual data transfer speed may be lower than theoretical speed Two M.2 Card slots (one for WLAN, one for SSD/Optane)						Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			













## ThinkCentre M600 Tiny Platform Specifications

Processor	Intel® Celeron® F	Processor	N3000 Series or	Intel Penti	ium® Processor	N3000 Series	Keyboard		B Keyboard (USB connector), Lenov	vo logo		
	Processor Cores / Threads (Base/Max) Cache Memory Types Integrated Graphics						Mayraa	Some: Lenovo USB Fingerprint Keyboard (USB connec Some: Ultraslim Plus Wireless Keyboard (2.4GHz via U				
	Celeron N3050	2/2	1.6 / 2.16 GHz	2MB	DDR3L-1600	Intel HD	Mouse	Some: Enhanced Optical USB Mouse, black, Lenovo logo Some: Ultraslim Plus Wireless Mouse (2.4GHz via USB receiver), bl.		iver) black		
	Celeron J3060	2/2	1.6 / 2.48 GHz	2MB	DDR3L-1600	Intel HD 400	 Mechanical	• Tiny (1L), black color, m	<u> </u>	ivor), black		
	Pentium N3700	4/4	1.6 / 2.4 GHz	2MB	DDR3L-1600	Intel HD	Mechanica	Tilly (TE), black color, ill				
	Pentium J3710	4/4	1.6 / 2.64 GHz	2MB	DDR3L-1600				Dimensions (WxDxH)	Max weight (lb / kg)		
Chipset			C that integrates In es into a single s			ics, memory		M600 Tiny only (1L)	7.05" X 7.20" X 1.36" 179mm X 182.9mm X 34.5mm	2.9 lb (1.3 kg)		
Graphics	twoDisplayPort™	⁴, onė opti	essor, uses main ional 3rd DP (not	memory, D support D	DirectX® 11.1, P to HDMI donç	gle) or VGA,		M600 Tiny (1L) with VESA mount & ODD box	7.42" X 7.30" X 2.48" 188.4mm X 185.38mm X 63mm	4.12 lb (1.87 kg)		
	supports triple independent display; Maximum resolution: 3840x2160(DP)@30Hz; 1920x1200(optional VGA)@60Hz; 1920x1080(DP to VGA dongle)@60Hz; 1920x1080(DP to DVI dongle)@60Hz;							M600 Tiny (1L) with VESA mount & I/O box	7.42" X 7.30" X 2.62" 188.4mm X 185.38mm X 66.6mm	3.53 lb (1.6 kg)		
Monitor cable	3840x2160(DP to V		ongle)@30Hz o DVI-D (single lir	nk), or DP	to HDMI 1.4 do	ngle	VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation				
Memory	8GB max / DDR socket	3 Low Vol	tage, DDR3L-160	00, non-pa	rity, one 204-pir	SO-DIMM	Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models) 90 watts AC/DC adapter, autosensing, 88% PSU (only for models with I/O box)				
Storage Optical	Some: 500GB (NAND fl Some: Solid Sta Some: external	(5400 rpm ash memate Drive ODD box	r 7200 rpm, SATA n) Solid State Hyb ory, SATA 6.0Gb/s (SSD) / SATA 6.0 c with DVD-ROM, c with DVD±RW, 9	orid Drive ( s, 2.5" wid Gb/s, 2.5" 9.5mm hig	SSHD) / with 80 e Wide gh, via USB	GB MLC	Limited warranty <sup>3</sup>	1 7 0				
Onboard SATA Media reader	Some: external Some:	ODD box	(for TIO) with DV (for TIO) with DV one connectors or	/D-ROM, 9 /D±RW, 9.	5mm high, via	USB JSB	Preload	Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64-bit Some: Windows 7 Professional 64 Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit				
Front ports*	Two USB 3.0 (or	ne is Alwa	ys On and fast ch	narge), one	e microphone (s	tereo, 3.5mm)						
Danumantak	one headphone	/ microph	one combo jack (	stereo, 3.5	imm)			Preloaded applications (only some listed)				
Rear ports*			0 (optional extern n some models),					<ul> <li>Desktop Power Manage</li> </ul>				
	one optional por	t (VGA, 3ı	rd DP, or serial or	n some mo	dels), one head	lphone		Lenovo Solution Center     Lenovo REACHit				
I/O box*	Optional external I/O box, extends two USB 2.0, two USB 3.0, and one serial on rear, two USB 2.0 on front, via USB (occupy two specific USB 3.0 of M600 Tiny)					Lenovo REACHI     Lenovo SHAREit						
rear, two USB 2.0 on front, via USB (occupy two * Depending on many factors, actual data transfer spe				y two spec	of the lower than the	M600 Tiny)		Lenovo Bluetooth Lock				
Audio oupport						·	-	<ul> <li>McAfee® LiveSafe™ (30-day trial)</li> <li>Microsoft Office preloaded; purchase a product key to activate</li> </ul>				
Audio support WLAN <sup>13</sup>			o, Realtek ALC22		•	er (r watt)						
WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821AE (dual band), Wi-Fi + Bluetooth 4.0 combo adapter, 1x1							<ul> <li>PowerDVD Create (DVD±RW)</li> </ul>				
			2 Card, Qualcom		QCA9377 (dua	l band),		Lenovo ThinkVantage Tools				
			4.1 combo adapt					<ul><li>Only for Window 10</li><li>Lenovo Companion (Window)</li></ul>	n10)			
	Some: 11ac wir	eless, M.2	2 Card, Qualcomr 4.1 combo adapt	m Atheros	QCA6174 (dua	l band),						
			2 Card, Intel Dual		eless-AC 3165.			<ul><li>Cyberlink PowerDVD (E</li><li>Lenovo QuickOptimizer</li></ul>				
	Wi-Fi + E	Bluetooth	4.0 combo adapt	er, 1x1	·			- Only for Window 7				
			2 Card, Intel Dual		eless-AC 8260,			<ul><li>Rescue and Recovery</li><li>Password Manager</li></ul>				
Bluetooth™			<ol> <li>4.1 combo adapt</li> <li>.1 wireless, integr</li> </ol>		i-Fi + BT combo	adanter		ThinkVantage System I	Jpdate			
Ethernet Modem	One gigabit ethe	ernet port,	Realtek RTL811	1GN, Wak	e on LAN®	adaptor		<ul> <li>Lenovo Message Cente</li> <li>Adobe® Reader®</li> </ul>				
Manageability Security chip	None Trusted Platform Module, TCG 1.2-compliant						Environment	ENERGY STAR® 6.0*, EP GREENGUARD®; RoHS-0	EAT™ Gold rating* (*not for non-OS compliant; Cisco EnergyWise compa	S models); atible; ErP Lot 3		
Security features	Kensington® M • Padlock loop • Smart USB pro	licroSaver otection, a ocks all st	<sup>®</sup> cable)	<ul><li>Hard dis</li><li>Boot se</li><li>Boot wit</li><li>Individu</li></ul>	strator password sk password quence control thout keyboard al USB port dis s intrusion switch	and mouse ablement	Accessories	For compatible accessorie	es, please go to TC-AQP sheet			
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## ThinkCentre M600 Tiny Thin Client Platform Specifications

Processor	Intel® Celeron® Processor N3000 Series or Intel Pentium® Processor N3000 Series	Keyboard	Some: PS/2 Keyboard (PS/2 connector), Lenovo logo (for 2L models)			
	Processor         Cores / Threads         Frequency (Base/Max)         Cache         Memory Types         Integrated Graphics           Celeron N3000         2 / 2         1.04 / 2.08 GHz         2MB         DDR3L-1600         Intel HD           Celeron N3010         2 / 2         1.04 / 2.24 GHz         2MB         DDR3L-1600         Intel HD 400	Mouse	Some: Preferred Pro USB Keyboard (USB connector), Lenovo logo Some: Ultraslim Plus Wireless Keyboard (2.4GHz via USB receiver), black Some: PS/2 Optical Wheel Mouse, black, Lenovo logo (for 2L models) Some: Enhanced Optical USB Mouse, black, Lenovo logo Some: Ultraslim Plus Wireless Mouse (2.4GHz via USB receiver), black			
Chipset	Intel Architecture (IA) SoC that integrates Intel processor core, graphics, memory controller, and I/O interfaces into a single system-on-chip solution	Mechanical	• Tiny (1L or 2L), black color, metal case			
Graphics	Intel HD Graphics in processor, uses main memory, DirectX® 11.1,		Dimensions (WxDxH) Max weight (lb / kg)			
	twoDisplayPort™, one optional 3rd DP (not support DP to HDMI dongle) or VGA, supports triple independent display;		M600 Tiny only (1L) 7.05" X 7.20" X 1.36" 2.9 lb (1.3 kg) 179mm X 182.9mm X 34.5mm			
	Maximum resolution: 3840x2160(DP)@30Hz; 1920x1200(optional VGA)@60Hz; 1920x1080(DP to VGA dongle)@60Hz; 1920x1080(DP to DVI dongle)@60Hz; 3840x2160(DP to HDMI dongle)@30Hz		M600 Tiny only (2L) 7.05" X 7.20" X 3.15" 4.2 lb (1.9 kg) 179mm X 182.9mm X 80mm			
Monitor cable	Optional DP to VGA, DP to DVI-D (single link), or DP to HDMI 1.4 dongle	VESA mount	Optional VESA mount bracket kit, supports VESA 75mm and 100mm			
Memory	and the state of t	Floor Stand	Optional system floor stand for vertical orientation			
Storage	16GB 32GB or 128GB M 2 Solid State Drive (SSD) SATA interface	Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)			
Optical Onboard SATA Media reader	None SATA 6.0Gb/s controller, one connectors on planar None	Limited warranty <sup>3</sup>	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available Some: 3-year, limited onsite service, OID (Onsite International Delivery) / service upgrades available For Lenovo service upgrade options, please go to S-TC sheet  Some: Windows Embedded Standard 7 (WES 7) Some: Windows Embedded Standard 7 V2 (WES 7 V2) Some: Windows 10 IoT Enterprise Some: LeTOS (Lenovo Terminal Operating System, Linux-based) Some: LeTOS V2 (Lenovo Terminal Operating System, Linux-based)			
Front ports*	Two USB 3.0 (one is Always On and fast charge), one microphone (stereo, 3.5mm),					
Rear ports*	one headphone / microphone combo jack (stereo, 3.5mm) Two USB 2.0, two USB 3.0, ethernet (RJ-45), two DisplayPort, one optional port (VGA, 3rd DP, or serial on some models), one headphone; additional four serial (9-pin), one parallel (25-pin), and two PS/2 ports on 2L models *Depending on many factors, actual data transfer speed may be lower than theoretical speed None	Preload				
Audio support		Environment	ENERGY STAR® 6.0*, EPEAT™ Gold rating* (*not for non-OS models);			
WLAN¹³	Some: 11ac wireless, M.2 Card, Realtek RTL8821AE (dual band), Wi-Fi + Bluetooth 4.0 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377 (dual band), Wi-Fi + Bluetooth 4.1 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174 (dual band), Wi-Fi + Bluetooth 4.1 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.0 combo adapter, 1x1 (only for 1L models)  Some: Bluetooth 4.0 or 4.1 wireless, integrated in Wi-Fi + BT combo adapter	Accessories	GREENGUARD®; RoHS-compliant; Cisco EnergyWise compatible; ErP Lot 3  For compatible accessories, please go to TC-AQP sheet			
Ethernet Modem Manageability	One gigabit ethernet port, Realtek RTL8111GN, Wake on LAN® None					
Security chip	Trusted Platform Module, TCG 1.2-compliant					
Security features	<ul> <li>Security slot (in rear for optional Kensington® MicroSaver® cable)</li> <li>Padlock loop</li> <li>Smart USB protection, allows keyboard/ mouse only, blocks all storage devices</li> <li>Power-on password</li> <li>Administrator password</li> <li>Boot sequence control</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> <li>Chassis intrusion switch</li> </ul>		Langua November 2017			

























# ThinkCentre M625 Tiny Platform Specifications

Processor	AMD A9 series	APU					Keyboard	Some: Fullsize USB Keyboard (USB connector), black, Lenovo logo		
	ADII		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		Optional dust filter M625 Tiny only: 7.05" W X 7.20" D X 1.36" H 179mm W X 182.9mm D X 34.5mm H		
Disk	Some: SATA 6.0 Some: 128GB N Some: 256GB N	1.2 Solid	State Drive (SS	D) / PC	le NVMe interl	ace	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	None one SATA 6.0Gb	/s conne	ctor on planar				Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)		
Media reader	None		•				Limited warranty <sup>3</sup>	Some: 1-year, depot service / service upgrades available Some: 1-year, limited onsite service / service upgrades available		
Graphics	Mode), supports  Max resolution: 3	ne option up to 2 i 3840x216 3840x216	al port (VGA or ndependent dis 60 (DP)@60Hz; 60 (USB 2.0 Typ	USB 2.0 plays; 2048x1; e-C)@6	) Type-C with [ 280 (VGA)@6 0Hz	DisplayPort Alternate 0Hz;	Preload	Preloaded operating system Some: Windows® 10 Pro 64-bit listed) Some: Windows 7 Professional 64 preinstalled through downgrade  Preloaded applications (only some listed) - Windows 10 only - Lenovo Vantage		
Monitor cable	Optional DP to V		to DVI-D (single	link), or	DP to HDMI 1	.4 dongle		rights in Windows 10 Pro 64-bit • LinkedIn • Microsoft Office preloaded;		
Chipset	AMD SoC platfo							purchase a product key to activate		
Front ports*	Two USB 3.1 Ge one headphone	n1 (one	is Always On ar	nd fast cl	narge), one mi	crophone (3.5mm),		- Windows 7 only  ■ Lenovo Solution Center		
Rear ports*	One USB 3.1 Ge two optional port Alternate Mode), * Depending on ma	en1, three s (Port 1 Port 2 fo	e USB 2.0, ethe for VGA / serial or serial)	rnet (RJ I / USB 2	-45), two Disp 2.0 Type-C (wit	layPort, th DisplayPort than theoretical speed		<ul> <li>Lenovo System Update</li> <li>Factory Recovery</li> <li>User Guide Viewer</li> <li>Microsoft Office preloaded;</li> </ul>		
I/O box	None	15) 4 1	D !! ! A! O!	200 1/00				purchase a product key to activate  • Adobe® Reader®		
Audio support						speaker (1.5 watt)				
WLAN <sup>13</sup>	Some: 11ac wire Wi-Fi + E	Bluetooth	4.2* combo ad	apter. 2x	(2	,,	Environment	ENERGY STAR® 6.1*, EPEAT™ Silver rating* (*Not for non-OS models), ErP Lot 3, RoHS-compliant, WEEE, TCO		
Bluetooth™	Some: Bluetooth	Bluetooth	4.2* combo ad reless, integrate	apter, 2x	t2 Fi + BT combo	adapter	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	Some: Bluetooth 4.2* wireless, integrated in Wi-Fi + BT combo adapter * Win 10 RS3 and Win10 earlier version only support Bluetooth 4.1 Gigabit ethernet, Realtek RTL8111HN, Wake on LAN® None						Accessories	For compatible accessories, please go to http://smartfind.lenovo.com		
Manageability Security chip Security features	None Discrete TPM 2.0 Security slot (ir Kensington® M Smart USB pro mouse only, blo 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 oard and mouse ort disablement				























# ThinkCentre M625 Tiny Thin Client Platform Specifications

Processor	AMD E2 series A	APU					Keyboard	Some: Fullsize USB Keyboard (USB connector), black, Lenovo logo		
	APU	Coros	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		
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		M625 Tiny Thin Client only: 7.05" W X 7.20" D X 1.36" H 179mm W X 182.9mm D X 34.5mm H 2.9 lb (1.3 kg), weight may vary by configuration		
Disk	Some: 32GB M. Some: 128GB M					face	VESA mount Floor Stand	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 Limited warranty <sup>3</sup>	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)  y <sup>3</sup> Some: 1-year, depot service / service upgrades available		
Graphics	AMD Radeon™ (	Graphic	s in processor.	uses ma	in memory. Di	rectX® 12, two		Some: 1-year, limited onsite service / service upgrades available		
·	DisplayPort™, on Mode), supports  Max resolution: 3	ne option up to 2 i 3840x216 3840x216	al port (VGA or ndependent dis 60 (DP)@60Hz; 60 (USB 2.0 Typ	USB 2.0 plays; 2048x12 pe-C)@6	Type-C with [ 280 (VGA)@6 0Hz	DisplayPort Alternate 0Hz;	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 Chipset	Optional DP to V		to DVI-D (single	link), or	DP to HDMI	1.4 dongle	Environment	ENERGY STAR® 6.1*, EPEAT™ Silver rating* (*Not for non-OS models), ErP Lot 3, RoHS-compliant, WEEE, TCO		
Front ports*	Two USB 3.1 Ge	n1 (one i				crophone (3.5mm),	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock		
Rear ports*	one headphone / One USB 3.1 Ge two optional ports	n1, three	e USB 2.0, ethe	rnet (RJ	-45), two Disp	layPort, th DisplayPort	Accessories	Fungus, Solar Radiation)  For compatible accessories, please go to http://smartfind.lenovo.com		
	Alternate Mode),	Port 2 fo	or serial)		, ,	han theoretical speed	Accessories	To compatible decedednes, please go to mip.//smartima.ic/io/o.som		
I/O box	None									
Audio support			·			speaker (1.5 watt)				
WLAN <sup>13</sup>	Some: 11ac wire Wi-Fi + E Some: 11ac wire Wi-Fi + E Some: 11ac wire Wi-Fi + E	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	apter, 13 mm Athe apter, 13 c RTL882 apter, 23 mm Athe apter, 23	x1 eros QCA9377 x1 22BE (dual ba x2 eros QCA6174 x2	7 (dual band), nd), 4A (dual band),				
Bluetooth™	Some: Bluetooth * Win 10 RS3 and									
Ethernet Modem	Gigabit ethernet, None									
Manageability Security chip	None Discrete TPM 2.0	,								
Security features	Security slot (ir Kensington® M     Smart USB pro mouse only, blo     Power-on pass	icroSave otection, ocks all s	r® <sup>·</sup> cable) allows keyboar	<ul> <li>Har</li> <li>Boo</li> <li>Boo</li> <li>Indi</li> </ul>	ninistrator 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	Generat	ion Intel Core™	i3 / i5 Pr	ocessor		Manageability	None			
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support	Integrated	Security chip	Firmware TPM 2.0,	integrated in chipse		
	Pentium Gold 5405U	2 / 4	2.3G	2 MB	(Up to) DDR4-2133	Graphics UHD 610	Security leatures	<ul> <li>Security slot (in re Kensington® Micro</li> </ul>	ear for optional oSaver® cable)	Boot sequence     Boot without key	control board and mouse
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2400	UHD 620		Chassis intrusion	switch	<ul> <li>Individual USB</li> </ul>	port disablement
	Core i5-8265U	4/8	1.6G / 3.9G	6 MB	DDR4-2400	UHD 620		<ul> <li>Power-on passwo</li> </ul>			ection, allows keyboard/
Memory	16GB max, DDR4-266						_	<ul><li>Administrator pas</li><li>Hard disk passwo</li></ul>		mouse only, blo	cks all storage devices
Wichiory	* System automaticall	y clocks	down for the prod	cessors	with lower memo	ry controller	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
Storage	Some: Hard Drive / S	ATA 6.00	ab/s, 2.5", 5400 r	rpm or 7			Mouse	Some: Lenovo Cal			
	Some: Solid State Dr Some: M.2 SSD (228				PGh/s		Mechanical	Tiny (1L), black cold			
	Some: M.2 SSD (224							Optional dust filte     Ope 2.5" hav for l		clote (one for WI AI	N, one for M.2 SSD)
Onboard SATA	One onboard SATA 6.							Office 2.5 bay for i	·	·	· ,
Graphics	Intel HD Graphics 61					12, one			+	ns (WxDxH)	Weight (Approx.)
	DisplayPort™, one HD							Tiny only		20" X 1.36" 9mm X 34.5mm	2.91 lb (1.32 kg), vary by config
Monitor cable	Max resolution: 4096x Optional DP to VGA d	onale or	DP to HDMI 1.4	.2304 (n donale	DIVII) @ 24 HZ			0 11 11/504			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Chipset	Intel SoC (System or	n Chip) p	latform				VESA mount Floor Stand	Optional VESA mou Optional system flo			and 100mm
Front ports* (Std.)	One USB 3.1 Gen1, o				nicrophone (3.5m	ım),	Power supply	Some: 65 watts adapter, autosensing, 88% PSU			
Rear ports* (Std.) Rear ports* (Opt.)	one headphone / micr Two USB 3.1 Gen1, to None	vo USB 2	ombo jack (3.5n .0, one ethernet	nm) (RJ-45)	, one DisplayPor	t, one HDMI	Limited warranty	Some: 1-year, depot service / service upgrades available Some: 1-year, limited onsite service / service upgrades available			le s available
	* Depending on many fac	ctors, actua	ıl data transfer spe	ed may b	e lower than theore	etical speed	Preload	Preloaded operati			
Audio support	Realtek ALC233VB / i	nternal s	peaker (1.5 watt)	)				Some: Windows® Some: Windows 1	10 Pro 64-bit		
WLAN	Some: 11ac wireless,				dual band),			Preloaded applica		isted)	
	Wi-Fi + Blueto Some: 11ac wireless		ombo adapter, 1		(dual band)			<ul> <li>Lenovo Vantage</li> </ul>	` •	,	
			ombo adapter, 2		duai bariu),			Microsoft Office p			
	Some: 11ac wireless	, M.2 Car	d, Intel Dual Bar	nd Wirele	ess-AC 3165,			<ul><li>purchase a produ</li><li>LinkedIn</li></ul>	ict key to activate		
	Some: 11ac wireless		ombo adapter, 1 d. Intel Dual Bar		ess-AC 8265		Environment	ENERGY STAR® 7.0, EPEAT™ Silver rating, ErP Lot 3, TCO, RoHS-compliant,			CO. RoHS-compliant.
	Wi-Fi + Blueto	oth 4.2 c	ombo adapter, 2	x2	,			WEEE, REACH			
Bluetooth	Some: Bluetooth 4.2			-Fi + BT	combo adapter		MIL-SPEC test	Coming soon			
Ethernet Ethernet (Opt.)	Gigabit ethernet, Real None	itek HTL	TITHN-CG				Accessories	For compatible acce	essories, please go	to http://smartfind	d.lenovo.com
							1				

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













## ThinkCentre M710 SFF Platform Specifications

Processor	Intel® Celeron®. Int	tel Pentiur	m®. or 6/7th Gene	eration Ir	ntel Core™ i3 / i5	/ i7 Processor	Security features	Security slot (in rear for optional	Power-on password
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)		Joseph Marianes	Kensington® MicroSaver® cable)  • Padlock loop	Administrator password     Hard disk password
	Pentium G4400	2/2	3.3G	3 MB	DDR4-2133	HD 510		<ul> <li>Smart USB protection, allows keyboard/</li> </ul>	Boot sequence control
	Pentium G4560	2/4	3.5G	3 MB	DDR4-2400	HD 610		<ul> <li>mouse only, blocks all storage devices</li> <li>Optional cable lock to physically lock</li> </ul>	<ul><li>Boot without keyboard and mouse</li><li>Individual USB port disablement</li></ul>
	Pentium G4600	2/4	3.6G	3 MB	DDR4-2400	HD 630		both keyboard and mouse	Optional chassis intrusion switch
	Core i3-6100	2/4	3.7G	3 MB	DDR4-2133	HD 530	Keyboard	Some: Lenovo Calliope Keyboard (USB co	
	Core i5-6500	4/4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530	l to j z out u	Some: Lenovo Traditional Keyboard (USB	connector), black
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530	Mouse	Some: Lenovo Calliope Wireless Keyboar	d (2.4GHz via USB receiver), black
	Core i3-7100	2/4	3.9G	3 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Mouse (USB conr Some: Lenovo Calliope Wireless Mouse (2	
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630	Machanical	• SFF (8.4L), black color; metal case	2. TGT 12 VIG GGB 10001V01), SIGGR
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630	Mechanical	• (WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm >	( 290.5mm X 343.5mm
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630		<ul> <li>Approx. 13.2 lb (6.0 kg), weight may vary</li> </ul>	
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630		<ul> <li>Toolless cover, disk, optical removal</li> </ul>	
Memory	64GB max, UDIMN dual-channel capa * System automati	ble*			•		r	<ul> <li>Optional dust filter</li> <li>Bay 1: Slim external ODD bay</li> <li>Bay 2: 3.5", 1" high, internal, HDD/SSD</li> <li>Bay 3: 2.5", internal, HDD/SSD (optional b.</li> </ul>	av)
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S	e Drive (St State Driv	SD) / SATA 6.0GI e (SSD) / PCIe N	b/s, 2.5" IVMe, P(	Cle 3.0 x 4, 32Gb	/s		Slot 1: low-profile (length < 150mm, height Slot 2: low-profile (length < 150mm, height Slot 3: low-profile (length < 150mm, height	< 68mm), PCIe 3.0 x16* < 68mm), PCIe 3.0 x1* < 68mm), PCIe 3.0 x1*
Optical	Some: Intel Optar Some: DVD-ROM Some: DVD Burn	l SATA 1.5 er (DVD±l	5Gb/s Drive, slim RW), SATA 1.5Gl	(9.0 mm)	)	101.2		lot 4: no slot, only bracket for optional port extension* .2 card slots: Two (one for WLAN, one for SSD/Optane) Optional 2 front USB3.1 Type-C ports module occupies PCIe x16 slot (x4	
Onboard SATA Media reader	Three onboard SATA 6.0Gb/s connectors Optional 7-in-1 media reader						Floor Stand	optional rear 2x USB2.0 / parallel / 2nd ser Optional system floor stand for vertical orie	ial occupies one expansion slot
Graphics	Intel HD Graphics one VGA, two Disp discrete graphics t Max resolution: 40 Some: NVIDIA Ge two Display	olayPort™, o support 96x2304 ( e <b>force® G</b> /Port, 35 v	supports 3 inde more displays; (DP) @ 60Hz; 204 <b>r 730</b> , DirectX 12 vatts;	pendent 8x1536 2, 2GB, F	displays, works a (VGA)@50Hz PCIe 2.0 x8 adapt	long with	т оттол одрргу	Some: 180 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 92% PS 210 watts, autosensing, 92% PS 25ome: 1-year or 3-year, depot service / 1-year or 3-year, limited onsite states.	U (only available via special bid) service upgrades available
Monitor cable	Max resolu Optional DP to VG	<i>tion:</i> 3840 A, DP to I	0x2160 (DisplayP DVI-D (single link	ort)@60 (), DP to	Hz; dual DP, or DP to	HDMI 1.4	Preload	Preloaded operating system Some: Windows® 7 Professional 32/64	
Chipset	Intel B250 Chipse	et						preinstalled through downgrade	
Front ports*	Four USB 3.1 Gen	1, optiona	al two USB 3.1 Ty	/pe-C Ge	en 2 (only availabl	e via special		rights in Windows 10 Pro 64-bit (not available with 7th Gen Intel	
D +	bid), microphone (	3.5mm), h	eadphone (3.5m	im)	) 0 (0 )			processor)	
Rear ports*	Two USB 3.1 Gen serial (9-pin), optic							Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit	
	two PS/2 ports (ke	yboard/m	ouse);	1101 (110	10), 0110 1 0, 1, 1111	Diopiayi ort,	'	Preloaded applications (only some	
	additional DisplayF	ort on op	tional graphics o	n some ı	models			listed)	
Rear audio ports?	Line-in (3.5mm), li	ne-out (3.	5mm), microphoi	ne-in (3.5	ōmm)			<ul> <li>Microsoft Office preloaded;</li> </ul>	
ILLL 1004	None * Depending on many	v factors a	ctual data transfer s	sneed may	, he lower than theo	retical speed		purchase a product key to activate	
Audio support	High Definition (HI			· · ·	·		_	<ul><li>Only for Window 10</li><li>Lenovo Companion</li></ul>	
WLAN <sup>13</sup>	Some: 11ac wirele	, .				,	-	- Only for Window 7	
V V L/\(\)\	Wi-Fi + Blu	uetooth 4.	1 combo adapter	r, 1x1	,	, .		Lenovo Solution Center     Lenovo Think Vantago Tools	
	Some: 11ac wirele	ess, M.2 (	Card, Qualcomm	Atheros	QCA6174A (dua	l band),		<ul><li>Lenovo ThinkVantage Tools</li><li>Create Recovery Media</li></ul>	
	Wi-Fi + Blu Some: 11ac wirele		1 combo adapter		ologo AC 2165			Adobe® Reader®	
			1 combo adapter		EIESS-AC 3105,			Cyberlink PowerDVD Create     (DVD - DVV)	
	Some: 11ac wirele	ess, M.2 (	Card, Intel Dual E	Sand Wir	eless-AC 8265,		Environment	(DVD±RW) ENERGY STAR® 6.1, EPEAT™ Gold rating	(North America)
Bluetooth™	Some: Bluetooth	uetooth 4. 4 1 wirele	1 combo adapter	r, 2x2 Wi-Fi	RT combo adante	r	LIMIOIMIEM	ErP Lot 3, GREENGUARD®, RoHS-compli	ant.
Ethernet	Gigabit ethernet, F	Realtek R	L8111GN, Wake	on LAN	®			TUV low noise verified (on some models)	
Modem	None		<u> </u>				Accessories	For compatible accessories, please go to	nttp://www.lenovoquickpick.com
Manageability Security chip	None TPM (Trusted Platt * Downgrade to TF				G Win7 32 OS				
	. 3						1		













## ThinkCentre M710 Tiny Platform Specifications

Processor	Intel® Celeron®. Int	el Pentiur	n®. or 6/7th Gene	eration In	itel Core™ i3 / i5 /	i7 Processor	Security features	Security slot (in real	ar for optional • Administrate	or password		
	Processor	Cores /	Frequency Base/Max(GHz)		Memory Support (Up to)		Joseph Harris	Kensington® Micro		assword		
	Pentium G4400T	2/2	2.9G	3 MB	DDR4-2133	HD 510		mouse only, blocks	all storage devices    Boot without	t keyboard and mouse		
	Pentium G4560T	2/4	2.9G	3 MB	DDR4-2400	HD 610		<ul> <li>Power-on passwor</li> </ul>	SB port disablement usion switch			
	Pentium G4600T	2/4	3.0G	3 MB	DDR4-2400	HD 630	Kaybaard	Comor Longua Calli				
	Core i3-6100T	2/4	3.2G	3 MB	DDR4-2133	HD 530	Keyboard	Some: Lenovo Calli	ope Keyboard (USB connector), blac tional Keyboard (USB connector), bla	K ack		
	Core i5-6500T	4/4	2.5G / 3.1G	6 MB	DDR4-2133	HD 530		Some: Lenovo Callid	ope Wireless Keyboard (2.4GHz via	USB receiver), black		
	Core i7-6700T	4/8	2.8G / 3.6G	8 MB	DDR4-2133	HD 530	Mouse	Some: Lenovo Callid	ope Mouse (USB connector), black	<i>,</i> .		
	Core i3-7100T	2/4	3.4G	3 MB	DDR4-2400	HD 630		Some: Lenovo Callid	ope Wireless Mouse (2.4GHz via US	B receiver), black		
	Core i5-7400T	4/4	2.4G / 3.0G	6 MB	DDR4-2400	HD 630	Mechanical	Tiny (1L), black color; metal case  Toolless chassis open				
	Core i5-7500T	4/4	2.7G / 3.3G	6 MB	DDR4-2400	HD 630						
	Core i5-7600T	4/4	2.8G / 3.7G	6 MB	DDR4-2400	HD 630		<ul> <li>Toolless HDD, SSE</li> <li>Optional toolless c</li> </ul>				
	Core i7-7700T	4/8	2.9G / 3.8G	8 MB	DDR4-2400	HD 630		<ul> <li>Optional dust filter</li> </ul>	nassis screw			
Memory	32GB max, DDR4- dual-channel capa		o 260-pin SO-DI	MM sock	ets, non-ECC,			M740 Time and	Dimensions (WxDxH)	Weight (Approx.)		
Ctorogo	* System automatic	cally clock				ory controller		M710 Tiny only	7.05" X 7.20" X 1.36" 179mm X 182.9mm X 34.5mm	2.91 lb (1.32 kg), vary by config		
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S	Drive (S	SD) / SATA 6.0Gb	o/s, 2.5"		le.		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		
Optical	Some: Intel Optan Some: DVD-ROM	ne™ Memo	ory (models with	7th gen	Core processor),	M.2		With VESA mount & I/O box	7.42" X 7.30" X 2.62" 188.4mm X 185.38mm X 66.6mm	3.66 lb (1.66 kg), vary by config		
•	Some: DVD Burne	er (DVϱF	RW), slim (9.0mm			box	VESA mount		nt bracket kit, supports VESA 75mm			
Onboard SATA Media reader	One onboard SATA None	4 6.0GD/S	connector				Floor Stand	Optional system floo	r stand for vertical orientation			
Graphics	Intel HD Graphics two DisplayPort™, with DisplayPort Al	one optio	nal video port (H	DMI, VG.	A, 3rd DP, or UŚĒ		Power supply	90 watts AC/DC ada	oter, autosensing, 88% PSU (not incloter, autosensing, 88% PSU (only for	r models with I/O box)		
	Max resolution: 40	96x2304 (		6x2304 (	(Type-C)@60Hz;			Some: 1-year or 3-	year, depot service / service upgrad year, limited onsite service / servic			
Monitor cable	Optional DP to VG	A, DP to [				HDMI 1.4	Preload	preinstalled through downgrade rights in Windows 10 Pro 64-bit (not available with 7th Gen Intel processor) Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit				
Chipset	Intel B250 Chipse	et										
Front ports*	Two USB 3.1 Gen1	(one is A	Ilways On and fa	st charge	e), one microphor	ne (3.5mm),						
Rear ports*	one headphone / n Four USB 3.1 Gen or two specific USB	1 (optiona	ıl external optical	box or e								
	two optional ports (with DisplayPort A	(Port 1 for Iternate N	VGA / 3rd DP / I lode), Port 2 for	HĎMI / s serial)	erial / USB 3.1 Ty	pe-C Gen 1		Preloaded applicati listed)  • Microsoft Office pr	, ,			
I/O box*	Optional external la on rear, two USB 2 Tiny)							purchase a production of the p	t key to activate			
	* Depending on many	/ factors. ac	tual data transfer s	peed may	be lower than theo	retical speed		<ul> <li>Lenovo Companio</li> </ul>				
Audio support	High Definition (HD			· ·				- Only for Window 7	ontor			
WLAN <sup>13</sup>	Some: 11ac wirele	, .			•	,	1	<ul><li>Lenovo Solution C</li><li>Lenovo ThinkVanta</li></ul>				
VVLAIN		etooth 4.	1 combo adapter	, 1x1	`	,,		Create Recovery N     Adobe® Reader®				
		etooth 4.	1 combo adapter	, 2x2	,	banuj,		Cyberlink PowerD\     (DVD±RW)	/D Create			
	Wi-Fi + Blu	etooth 4.	1 combo adapter	, 1x1			Environment	ENERGY STAR® 6.1	, EPEAT™ Gold rating (North Americ	ca),		
		etooth 4.	1 combo adapter	, 2x2				ErP Lot 3, GREENG TUV low noise verifie	UARD®, RoHS-compliant,	•		
Bluetooth™ Ethernet Modem	Some: Bluetooth 4 Gigabit ethernet, Ir None						MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperatur Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shrungus, Solar Radiation)				
Manageability Security chip	None TPM (Trusted Platf * Downgrade to TP	orm Modu M1.2 for t	ule) 2.0*, TCG Ce he models with V	ertified Vin10 D0	G Win7 32 OS		Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com				

See footnotes for more detailed information













## ThinkCentre M710 Tower Platform Specifications

Processor	Intel® Celeron®, Int	el Pentiur	m®, or 6/7th Gene	eration Ir	ntel Core™ i3 / i5 /	i7 Processor	Manageability	None
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)		Security chip	TPM (Trusted Platform Module) 2.0, TCG Certified  * Downgrade to TPM1.2 for the models with Win10 DG Win7 32 OS
	Pentium G4400	2/2	3.3G	3 MB	DDR4-2133	HD 510	Security features	• Security slot (in rear for optional • Power-on password
	Pentium G4560	2/4	3.5G	3 MB	DDR4-2400	HD 610		Kensington® MicroSaver® cable)  • Administrator password
	Pentium G4600	2/4	3.6G	3 MB	DDR4-2400	HD 630		<ul> <li>Padlock loop</li> <li>Smart USB protection, allows keyboard/</li> <li>Boot sequence control</li> </ul>
	Core i3-6100	2/4	3.7G	3 MB	DDR4-2133	HD 530		mouse only, blocks all storage devices  • Boot sequence control  • Boot without keyboard and mouse
	Core i5-6500	4/4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530		<ul> <li>Optional cable lock to physically lock</li> <li>Individual USB port disablement</li> </ul>
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530		both keyboard and mouse   • Optional chassis intrusion switch
	Core i3-7100	2/4	3.9G	3 MB	DDR4-2400	HD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630		Some: Lenovo Traditional Keyboard (USB connector), black
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630	Mechanical	Tower (15L), black color, metal case
Memory	64GB max, UDIMN dual-channel capal * System automatic	ble cally clock	ks down for the p	rocessor	rs with lower mem	ory controller		<ul> <li>(WxDxH) 5.7" X 11.5" X 14.4"; 145mm X 292.7mm X 366mm</li> <li>Approx. 14.3 lb (6.5 kg), weight may vary by configuration</li> <li>Optional dust filter</li> <li>Bay 1: Slim external ODD bay</li> </ul>
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S Some: Intel Optan	Drive (St State Driv	SD) / SATA 6.0GI e (SSD) / PCIe N	b/s, 2.5" IVMe, P0	Cle 3.0 x 4, 32Gb/	's		Bay 2: 3.5", 1" high, internal, HDD/SSD Bay 3: 3.5", 1" high, internal, HDD/SSD Slot 1: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x16* Slot 2: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x1*
Optical	Some: DVD-ROM Some: DVD Burne	SATA 1.5	Gb/s Drive, slim	(9.0 mm)	)			Slot 3: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x1* Slot 4: no slot, only bracket for optional port extension*
Onboard SATA Media reader	Three onboard SA Optional 7-in-1 me				. ,			M.2 card slots: Two (one for WLAN, one for SSD/Optane)  * Optional 2 front USB3.1 Type-C ports module occupies PCIe x16 slot (x4 card)
Graphics	Intel HD Graphics							optional rear 2x USB2.0 / parallel occupies one expansion slot
	one VGA, two Disp discrete graphics to Max resolution: 409 Some: NVIDIA Ge	o support 96x2304 (	more displays; (DP)@60Hz; 204	8x1536	(VGA)@50Hz		Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 92% PSU (only available via special bid)
	two Display <i>Max resolu</i> :	Port, 35 v <i>tion:</i> 3840	vatts; )x2160 (DisplayP	ort)@60	Hz;	- ,	Limited warranty <sup>3</sup>	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available
		ne HDMI	, 75 watts, occup	ies two s		985Hz	Preload	Preloaded operating system  Some: Windows® 7 Professional 32/64 listed)  Preloaded applications (only some listed)
Monitor Cable	Optional DP to VG	A, DP to I						preinstalled through downgrade • Microsoft Office preloaded; rights in Windows 10 Pro 64-bit purchase a product key to activate
Chipset Front ports*	Four USB 3.1 Gen		ol two LICE 2.1 To	ma C Cc	on 2 (only ovoilable	a via aposial		(not available with 7th Gen Intel - Only for Window 10 processor) • Lenovo Companion
	bid), microphone (3 Two USB 3.1 Gen1	3.5mm), h	neadphone (3.5m	im)				Some: Windows 10 Pro 64-bit - Only for Window 7 Some: Windows 10 Home 64-bit - Lenovo Solution Center
Rear ports*	serial (9-pin), optio two PS/2 ports (key	nal parall yboard/m	el (25-pin), ether ouse);	net (RJ-	45), one VGA, two	DisplayPort,		<ul> <li>Lenovo ThinkVantage Tools</li> <li>Create Recovery Media</li> <li>Adobe® Reader®</li> </ul>
Rear audio ports* IEEE 1394*	additional VGA, Dis Line-in (3.5mm), lir None	ne-out (3.	5mm), microphoi	ne-in (3.5	5mm)	oueis		<ul> <li>Cyberlink PowerDVD Create (DVD±RW)</li> </ul>
	* Depending on many	/ factors, ac	ctual data transfer s	speed may	be lower than theor	retical speed	Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America),
Audio support	High Definition (HD	) Audio, I	Realtek ALC662	/ optiona	al internal speaker	(1.5 watt)	]	ErP Lot 3, GREENGUARD®, RoHS-compliant, TUV low noise verified (on some models)
WLAN <sup>13</sup>	Some: 11ac wirele				QCA9377A (dual	band),	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com
	Wi-Fi + Bluetooth 4.1 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.1 combo adapter, 2x2						Accessories	roi companible accessories, please go to mtp.//www.ieriovoquickpick.com
	Some: 11ac wirele Wi-Fi + Blu	ess, M.2 ( uetooth 4.	Card, Intel Dual E 1 combo adapter	Band Wir ; 1x1				
	Some: 11ac wirele Wi-Fi + Blu	etooth 4.	1 combo adapter	: 2x2				
Bluetooth™ Ethernet Modem	Some: Bluetooth 4 Gigabit ethernet, R None	4.1 wireles	ss, integrated in \	Wi-Fi + E	BT combo adapter			
							I	













#### ThinkCentre M710e SFF Platform Specifications

Processor	Intel® Celeron® Int	tel Pentiu	m® or 6/7th Gen	eration l	ntel Core™ i3 / i5 /	i7 Processor	Security features	Security slot (in rear for optional     Power-on password
1 10003301		Cores /	Frequency		Memory Support		Coounty leatures	Kensington® MicroSaver® cable)  • Administrator password
	Processor		Base/Max(GHz)	Cache	(Up to)	Graphics		Padlock loop
	Celeron G3900	2/2	2.8G	2 MB	DDR4-2133	HD 510		Smart USB protection, allows keyboard/     Boot sequence control     Boot sequence control     Boot sequence control     Boot without look and make
	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> <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	1	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 connector), black
	Core i3-6100	2/4	3.7G	3 MB	DDR4-2133	HD 530		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, b
	Core i5-6400	4/4	2.7G / 3.3G	6 MB	DDR4-2133	HD 530	Mechanical	• SFF (7.4L), black color, metal case
	Core i5-6500	4/4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530		• (WxDxH) 3.9" X 11.9" X 10.8"; 100mm X 303.5mm X 273.5mm
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530		<ul> <li>Approx. 9.37 lb (4.25 kg), weight may vary by configuration</li> <li>Bay 1: Slim external ODD bay</li> </ul>
	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 bracke
	Core i3-7300	2/4	4.0G	4 MB	DDR4-2400	HD 630		comes with disk)
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630		Slot 1: low-profile (length < 152mm, height < 64mm), PCle 3.0 x16*
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630		Slot 2: low-profile (length < 152mm, height < 64mm), PCIe 3.0 x1* M.2 card slots: one for SSD
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630		*Optional rear 2x USB2.0 / parallel occupies 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 orientation
Memory	32GB max, UDIMN dual-channel capa	bĺe	, ,		,	,	Packaging	(WxDxH) 7.7" X 15.4" X 19.7"; 195mm X 390mm X 500mm     Cross weight (approx.) 14.22 lb (6.45 kg)
	*System automation						Power supply	Some: 180 watts, autosensing, 85% PSU
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S	Drive (S	SD) / SATA 6.0G	b/s. 2.5"				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	I SATA 1.	5Gb/s Drive, slim	ı (9.0mm	)	3	Preload	Preloaded operating system Some: Windows® 10 Pro 64-bit
Onboard SATA	Some: DVD Burn Two onboard SATA			D/S DIIVE	e, Siim (9.0mm)			Some: Windows 10 Pro 64-bit
Media reader	Optional 7-in-1 me							Some: Windows 7 Professional 32/64 preinstalled through downgrade rights
Graphics	Intel HD Graphics	510/530	<b>/610/630</b> in proc	essor. us	es main memory.	DirectX® 12.		in Windows 10 Pro 64-bit(not available with 7th Gen Intel processor)
	one VGA, one Disp	olayPort™	, supports 2 inde					Preloaded applications (only some listed)
	discrete graphics t	o support	more displays;	004000	(\(\( \alpha \) \( \alpha \) \( \alpha \) \( \alpha \) \( \alpha \)			Microsoft Office preloaded; purchase a product key to activate
	Max resolution: 40 Some: NVIDIA Ge	96X2160 force® G	(DP)@60HZ; 192 <b>T 730</b> DirectY 1	20X1200	(VGA)@60HZ PCIa 2 0 v8 adant	or		Cyberlink PowerDVD (DVD, DVD±RW)
	two Display	Port. 35	watts:	z, zGD, i	Cie 2.0 xo auapi	ei,		Cyberlink PowerDVD Create (DVD±RW)
			0x2160 (DisplayF	Port)@60	Hz;			- Only for Window 10
Monitor cable	Optional DP to VG	A, DP to	DVI-D (single link	(), DP to	dual DP, or DP to	HDMI 1.4		<ul> <li>Lenovo Companion</li> <li>Only for Window 7</li> </ul>
Chipset	Intel B250 Chipse	et						Lenovo Solution Center
Front ports*	Two USB 3.1 Gen	1, micropl	none (3.5mm), oi	ne headr	hone / microphor	e combo jacl	₹	Lenovo System Update
	(3.5mm)		_ , ,,					Create Recovery Media
Rear ports*	Two USB 3.1 Gen	1, two US	B 2.0, optional to	vo USB 2	2.0, serial (9-pin),	optional 2nd		Adobe® Reader®
	serial (9-pin), optional external U	ınaı paralı ISB to PS	lei (∠5-piñ), ethei 3/2 ports cable (fo	net (HJ-	45), ONE VGA, ONE	e DisplayPort	Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3,
	additional Display	Port on or	ntional graphics of	n some	models	,		RoHS-compliant, WEEE
Rear audio ports	Line-out jack (3.5n		monar grapinos s				Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com
IEEE 1394*	None	,						
	* Depending on many	y factors, a	ctual data transfer	speed ma	y be lower than theo	retical speed		
Audio support	High Definition (HI	D) Audio,	Realtek ALC233	/ interna	l speaker (1.5 wa	tt )	]	
WLAN <sup>13</sup>	None							
Bluetooth™	None		TI 044411N1 N4/1		10			
Ethernet Modem	Gigabit ethernet, F None	кеапек Н	IL8111HN, Wake	e on LAN	₩			
							-	
Manageability Security chip	None TPM (Trusted Platt	form Mod	ule) 2.0, TCG Ce	ertified				
	* Downgrade to TF				G Win7 32 OS			
Note: The execition	ations above may not	امانور بو مط	ala in all maniana	_				Lenovo January













# ThinkCentre M715 SFF Platform Specifications

						lo "				
Processor	AMD A6 / A8 / A10 / A1			/ 5 / 7 series	·	Security features	es • Security slot (in rear for optional • Power-on password			
	APU / processor	Cores / Threads	Frequency (Base/Max)	L2 Cache	Integrated Graphics		<ul> <li>Kensington® MicroSaver® cable)</li> <li>Padlock loop</li> <li>Smart USB protection, allows keyboard/</li> <li>Administrator password</li> <li>Hard disk password</li> <li>Boot sequence control</li> </ul>			
	Ryzen 3 PRO 1200	4 / 4	3.1 / 3.4	2MB	None		mouse only, blocks all storage devices  • Boot sequence control  • Boot sequence control  • Boot without keyboard and mouse			
	Ryzen 3 PRO 1300	4 / 4	3.5 / 3.7	2MB	None		Optional cable lock to physically lock     Individual USB port disablement			
	Ryzen 5 PRO 1500	4/8	3.5 / 3.7	2MB	None		both keyboard and mouse   Optional chassis intrusion switch			
	Ryzen 7 PRO 1700	8 / 16	3.0 / 3.7	4MB	None	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	PRO A6-8570	2/2	3.5 / 3.8	1MB	Radeon R5 Series		Some: Lenovo Traditional Keyboard (USB connector), black			
	PRO A10-8770	4 / 4	3.5 / 3.8	2MB	Radeon R7 Series	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
	PRO A12-8870	4/4	3.7 / 4.2	2MB	Radeon R7 Series	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
	PRO A6-9500	2/2	3.5 / 3.8	1MB	Radeon R5 Series		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black			
	PRO A8-9600	4 / 4	3.1 / 3.4	2MB	Radeon R7 Series	Mechanical	SFF (8.4L), black color; metal case			
	PRO A10-9700	4 / 4	3.5 / 3.8	2MB	Radeon R7 Series	Moonanicai	• (WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm			
	PRO A12-9800	4 / 4	3.8 / 4.2	2MB	Radeon R7 Series		<ul> <li>Approx. 13.2 lb (6.0 kg), weight may vary by configuration</li> </ul>			
Memory	64GB max, UDIMM, DI dual-channel capable* * System automatically	clocks down	for the proces	sors with low	er memory controller		Toolless cover, disk, optical removal     Optional dust filter Bay 1: Slim external ODD bay Bay 2: 3.5", nternal, HDD/SSD			
Storage	Some: Hard Drive / SA Some: Solid State Driv Some: M.2 Solid State	re (SSD) / Ś/	ATA 6.0Gb/s, 2.	5" ່	'		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* Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1*			
Optical	Some: DVD-ROM SAT Some: DVD Burner (D	VD±RW), SA	ATA 1.5Gb/s Dr		mm)		Slot 3: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1* Slot 4: no slot, only bracket for optional port extension*			
Onboard SATA Media reader	Three onboard SATA 6. Optional 7-in-1 media r	eader				_	M.2 card slots: two (one for WLAN, one for SSD)  * Optional front USB3.1 Type-C x2 module occupies PCIe x16 slot (x4 card), optional rear 2x USB2.0 / parallel / 2nd serial occupies one expansion slot			
Graphics	AMD Radeon™ Graph memory, DirectX® 12, c	ics in proce	ssor (not for A DisplayPort™	MD Ryzen p (Onboard VC	rocessor), uses main AA and DP ports	Floor Stand	Optional system floor stand for vertical orientation			
	are invalid on the mode displays, works along v Max resolution: 4096x2 Some: NVIDIA Gefore	els with AMD vith AMD dis 160 (DP)@6	Ryzen process crete graphics 1 30Hz: 1920x120	sor), supports to support m 10 (VGA)@6	s 3 independent ore displays; 0Hz	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 92% PSU (only available via special bid)			
	two DisplayPort Max resolution:	, 35 watts; 3840x2160	(DisplavPort)@	60Hz:		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			
Monitor cable	Optional DP to VGA, D	P to DVI-D (s	single link), DP	to dual DP, c	or DP to HDMI 1.4	Preload	Preloaded operating system			
Chipset	AMD B350 Chipset						Some: Windows® 7 Professional 32/64 preinstalled through downgrade rights i Windows 10 Pro 64-bit (Only available with Pro A6/A10/A12-8xxx APUs			
Front ports*	Two USB 3.1 Gen2, two available via special bid	o USB 3.1 G d), microphor	en1, optional tv ne (3.5mm), he	vo USB 3.1 T adphone (3.5	Type-C Gen 2 (only 5mm)		Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit			
Rear ports*	Two USB 3.1 Gen1, two	USB 2.0, o	ptional two US	B 2.0, serial	(9-pin), optional		Preloaded applications (only some listed)			
	2nd serial (9-pin), optio DisplayPort (not availab	nai parailei ( de on model	25-pin), etnern s with AMD Rv	et (HJ-45), 0 zen processo	ne vGA and two or), two PS/2 ports		Microsoft Office preloaded;			
	(keyboard / mouse);	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	o willing try	Lon process	51), two 1 6/2 porto		purchase a product key to activate - Only for Window 10			
	àdditional DisplayPort	on optional g	raphics on som	e models			Lenovo Companion			
Rear audio ports	Line-in (3.5mm), line-or	ut (3.5mm), r	nicrophone-in (	3.5mm)			- Only for Window 7			
IEEE 1394*	None * Depending on many factor	ors. actual data	a transfer speed i	nav be lower t	han theoretical speed		<ul> <li>Lenovo Solution Center</li> <li>Lenovo ThinkVantage Tools</li> </ul>			
Audio support	High Definition (HD) Au				· · · · · · · · · · · · · · · · · · ·	1	Create Recovery Media			
WLAN	Some: 11ac wireless,			IAE (dual ba	nd),	1	<ul> <li>Adobe® Reader®</li> <li>Cyberlink PowerDVD Create (DVD±RW)</li> </ul>			
	Wi-Fi + Bluetoo Some: 11ac wireless, Wi-Fi + Bluetoo	M.2 Card, Q	ualcomm Ather	os QCA6174	A (dual band),	Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, GREENGUARD®, RoHS-compliant			
	Some: 11ac wireless, Wi-Fi + Bluetoc	M.2 Card, Quality of the 4.1 comb	ualcomm Ather o adapter, 1x1		, , , , , , , , , , , , , , , , , , , ,	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com			
Bluetooth™ Ethernet Modem	Some: Bluetooth 4.0 o Gigabit ethernet, Realte None	r 4.1 wireles	s, integrated in		combo adapter					
Manageability Security chip	DASH TPM (Trusted Platform * Downgrade to TPM1.2									













# 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 rear for optional			
	Processor Athlon 200GE	Cores / Threads	Frequency Base/Max 3.2 GHz	L2 / L3 Cache	Memory Support (Up to) DDR4-2666	Integrated Graphics		<ul> <li>Kensington® MicroSaver® cable)</li> <li>Padlock loop</li> <li>Smart USB protection, allows keyboard/mouse only, blocks all storage devices</li> <li>Hard disk password</li> <li>Boot sequence control</li> <li>Boot without keyboard and mouse individual USB port disablement</li> </ul>			
	Athlon PRO 200GE	2/4	3.2 GHz 3.2 GHz	1 MB / 4MB	DDR4-2666 DDR4-2666	Radeon Vega 3 Radeon Vega 3		Power-on password     Power-on password     Chassis intrusion switch	ı		
	PRO A6-8570E	2/4	3.0 / 3.4 GHz	1 MB / -	DDR4-2400	Radeon R5	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	PRO A10-8770E	4/4	2.8 / 3.5 GHz	2 MB / -	DDR4-2400	Radeon R7	.,	Some: Lenovo Traditional Keyboard (USB connector), black			
	PRO A6-9500E	2/2	3.0 / 3.4 GHz	1 MB / -	DDR4-2400	Radeon R5	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black	Ĺ		
	PRO A10-9700E	4/4	3.0 / 3.5 GHz	2 MB / -	DDR4-2400	Radeon R7	Iviouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support,	black		
	PRO A12-9800E	4/4	3.1 / 3.8 GHz	2 MB / -	DDR4-2400	Radeon R7		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black	Diaoi		
	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			
	Ryzen 3 PRO 2200GE	4/4	3.2 / 3.6 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 8		• Toolless chassis open (need optional toolless chassis screw)			
	Ryzen 5 2400GE	4/8	3.2 / 3.8 GHz	2 MB / 4MB	DDR4-2933	Radeon RX Vega 11		Optional dust filter			
	Ryzen 5 PRO 2400GE	4/8	3.2 / 3.8 GHz	2 MB / 4MB	DDR4-2933	Radeon RX Vega 11		M715 Gen2 Tiny only: 7.05" W X 7.20" D X 1.36" H			
Memory	32GB max, DDR4 2666*, two 260-pin SO-DIMM sockets, dual-channel capable * System automatically clocks down for the lower memory controller							7.05 W X 7.20 D X 1.36 H 179mm W X 182.9mm D X 34.5mm H 2.91 lb (1.32 kg), weight may vary by configuration With VESA mount & ODD box:			
Disk Optical	Some: Hard Drive / Some: Solid State   Some: M.2 SSD / F * 128GB SSD M.2 (; Some: DVD-ROM,	Drive (S PCIe NV 2242) P 9.0mm l	SD) / SATA 6 Me, PCIe 3.0 CIe NVMe or nigh. via USB	.0Gb/s, 2.5 x 4*, 32Gb nly supports s external O	/s PCIe 3.0 x DD box	2, 16Gb/s	VESA mount Floor Stand	7.42" W X 7.30" D X 2.48" H 188.4mm W X 185.38mm D X 63mm H 3.66 lb (1.66 kg), weight may vary by configuration Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation			
'	Some: DVD±RW, 9	.0mm hi	igh, via USB	external OD	D box						
Onboard SATA	One SATA cable (1-		,,				Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models	s)		
Graphics	AMD Radeon™ Gra						Limited warranty	1-year or 3-year, limited onsite service / service upgrades available			
Monitor cable	DisplayPort™, one of displays (supports in port or DP to DVI/HI Max resolution: 409 192 Optional DP to VGA	naximun DMI don 6x2160 0x1200	n of 2 concur gles, and Ath (DP)@60Hz; (VGA)@60Hz	rent HDMI/I nlon / Athlor 4096x2160 z	OVI displays PRO only s (HDMI)@3	when using HDMI support 2 displays); 0Hz;	Preload	Preloaded operating system Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64-bit  Preloaded applications (only som listed)  - Windows 10 only  Lenovo Vantage  Microsoft Office preloaded; purchase a product key to activate			
Chipset	AMD B300 Chipset	İ						<ul> <li>Cyberlink PowerDVD (only for modern control of the co</li></ul>			
	) Two USB 3.1 Gen1 3.5mm), one headpl ) One USB 3.1 Gen1 one headphoneone	hone / m	nicrophone co	ombo jack (	stereo, 3.5m	ım)		with DVD / DVD±RW)  • Cyberlink Power2GO (only for mowith DVD±RW)  • LinkedIn	odels		
	) One optional port (V * Depending on many to ** Not support VGA, 3r	factors, a d DP, HD	ctual data trans MI for the mod	sfer speed ma els with Athlo	y be lower th n / Athlon PR	an theoretical speed O		<ul> <li>Windows 7 only</li> <li>Lenovo Solution Center</li> <li>ThinkVantage System Update</li> <li>Create Recovery Media</li> </ul>			
Audio support	High Definition (HD)					, ,		Microsoft Office preloaded;  purebase a product leave to activate.			
WLAN		tooth 4.	2* combo ad	apter, 1x1	`	,,		purchase a product key to activate  • Adobe® Reader®	e 		
		etooth 4.	2* combo ad	apter, 1x1		, ,,	Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*Not for non-OS models); ErP Lot 3; ; RoHS-compliant			
	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 military certification (Low Pressure [Altitude], High Temperatur Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Sh	re, hock)		
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®				BT combo	adapter	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
Manageability Security chip	DASH 1.0/1.1 Discrete TPM 2.0, TCG Certified										













# ThinkCentre M715 Tiny Thin Client Platform Specifications

Processor	AMD A6, A10, or	A12 sei	ies APUs				Keyboard		Fullsize USB Keyboard (USB connector), Lenovo logo
	APU	Cores	Frequency	L2	Memory	Integrated	Mouse		USB Optical Wheel Mouse, black, Lenovo logo
	PRO A6-8570E	2	Base/Max 3.0 / 3.4 GHz	Cache 1 MB	Types DDR4-2400	Graphics Radeon R5 Series	Mechanical	Tiny (1L M715 Ti	.), black color; metal case
	PRO A10-8770E	4	2.8 / 3.5 GHz	2 MB	DDR4-2400 DDR4-2400	Radeon R7 Series		7.05" W	X 7.20" D X 1.36" H
	PRO A12-8870E*	4	2.9 / 3.8 GHz	2 MB	DDR4-2400	Radeon R7 Series	-	179mm	W X 182.9mm D X 34.5mm H
						via special bid models	VECA mount		.3 kg), weight may vary by configuration
Memory	4GB max, DDR4					na opoolai bia modolo	Floor Stand		I VESA mount bracket kit, supports VESA 75mm and 100mm I system floor stand for vertical orientation
Disk	Some: 256GB Se		<u>'</u>				Power supply	65 watts	s AC/DC adapter, autosensing, 88% PSU (not included for TIO models)
DISK	*256GB SATA (sup	port Wir	ndows 10 IOT ón	ly) is only	/ available via s	special bid models	Limited warranty <sup>3</sup>		1-year or 3-year, depot service / service upgrades available
	Some: 32GB M.2					· ,	Limitod Warranty		1-year or 3-year, limited onsite service / service upgrades available
Optical	Some: 128GB M None	i.2 Solid	State Drive (SS	SD) / PC	ie NVMe interi	ace	Preload	Preload	led operating system
Onboard SATA	One SATA cable (	(1-drop	o device), one	SATA 6.0	Gb/s connect	or on planar			Windows Embedded Standard 7 V2 (WES 7 V2)
Media reader	None							Some:	Windows 10 IoT Enterprise LeTOS V2 (Lenovo Terminal Operating System, Linux-based)
Graphics	AMD Radeon™ C						Environment		Y STAR® 6.1*, EPEAT™ Gold rating* (*not for non-OS models);
						orts 3 independent s when using HDMI	Livioiiiicii		3; GREENGUARD®; RoHS-compliant
	port or DP to DVI	/HDMI c	longles);		, ,	J	Accessories	For com	patible accessories, please go to http://www.lenovoquickpick.com
	Max resolution: 4				160 (HDMI)@:	30Hz;			
DP cable	Optional DP to VC		00 (VGA)@60H: to DVI-D (single		DP to HDMI 1	1.4 dongle			
Chipset	AMD B300 Chips	set	, ,						
Front ports*	Two USB 3.0 (one	e is Alwa	ays On and fast	charge)	, one micropho	one (stereo, 3.5mm),			
	one headphone /	microph	one combo jac	k (stered	, 3.5mm)				
Rear ports*	one specific USB	inree t	some models)	ai extern ethernet	ai opticai box ( (R.I-45) two [	or I/O box occupies			
	one optional port	(VGA, 3	ord DP, HDMI, o	r serial c	n some mode	ls), one headphone			
I/O box		ny factors	, actual data trans	sfer speed	l may be lower t	han theoretical speed			
	None	ID\	a. Daaltal: ALO	000.00	/ :	lean (1 Fatt)			
Audio support	High Definition (H		*			,			
WLAN <sup>13</sup>	Some: 11ac wire Wi-Fi + B		4.0 combo ada			na),			
Bluetooth™	Some: Bluetooth	4.0 or 4	I.1 wireless, inte	grated i	n Wi-Fi + BT c	combo adapter			
Ethernet Modem	Gigabit ethernet,	Realtek	RTL8111EPV,	Wake or	LAN®				
Manageability	None DASH 1.0/1.1								
Security chip	Discrete TPM 2.0	TCG C	ertified						
Security features	Security slot (in	*		• Adr	ninistrator pas	sword			
	Kensington® Mi			<ul><li>Har</li></ul>	d disk passwo	ord			
		tootion	allowe keybeer						
	Power-on passy		.3		assis intrusion				
	<ul> <li>Padlock loop</li> <li>Smart USB promouse only, blo</li> </ul>	tection, ocks all s	allows keyboard	d/	vidual USB po	oard and mouse ort disablement			













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

Processor	AMD Athlon, A6, A10	), or Rvz	en processor				Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	APU Athlon PRO 200GE	Cores / Threads	Frequency Base/Max 3.2 GHz	L2 / L3 Cache	Memory Sup- port (Up to) DDR4-2666	Integrated Graphics Radeon Vega 3	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, black
	PRO A6-8570E	2/2	3.0 / 3.4 GHz	1 MB / -	DDR4-2400	Radeon R5		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
	PRO A10-8770E	4/4	2.8 / 3.5 GHz	2 MB / -	DDR4-2400	Radeon R7	Mechanical	Tiny (1L), black color; metal case
	Ryzen 3 PRO 2200GE	4/4	3.2 / 3.6 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 8		<ul> <li>Toolless chassis open (need optional toolless chassis screw)</li> <li>Optional dust filter</li> </ul>
Memory	8GB max, DDR4 266 * System automatical							M715 Gen2 Tiny only: 7.05" W X 7.20" D X 1.36" H
Disk Optical	Some: 32GB M.2 So Some: 128GB M.2 S None	olid State Solid Stat	e Drive (SSD) te Drive (SSD	/ SATA inte 0) / PCIe N\	erface VMe, PCIe 3	.0 x 2	VESA mount	179mm W X 182.9mm D X 34.5mm H 2.91 lb (1.32 kg), weight may vary by configuration Optional VESA mount bracket kit, supports VESA 75mm and 100mm
Onboard SATA	One SATA cable (1-d	rop to de	evice), one S	ATA 6.0Gb/s	s connector	on planar	Floor Stand	Optional system floor stand for vertical orientation
Graphics	AMD Radeon™ Gra		,.				Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)
·	DisplayPort™, one or	tional po	ort (HDMI, VC	A, or 3rd D	P), supports	3 independent	Limited warranty	1-year or 3-year, limited onsite service / service upgrades available
	displays (supports m port or DP to DVI/HD Max resolution: 4096	MI dong x2160 (E	les, and Athlo DP)@60Hz; 4	on / Athlon I	PRO onlý su	pport 2 displays);	Preload	Preloaded operating system Some: Windows Embedded Standard 7 V2 (WES 7 V2) Some: Windows 10 IoT Enterprise
Monitor cable	1920 Optional DP to VGA		/GA)@60Hz	longlo or D		1 4 donalo		Some: LeTOS V2 (Lenovo Terminal Operating System, Linux-based)
Chipset	AMD B300 Chipset	uorigie, L		Jorigle, or D	P 10 HDIVII	1.4 dorigie	Environment	ENERGY STAR® 6.1*, EPEAT™ Silver rating* (*not for non-OS models); ErP Lot 3; RoHS-compliant
, , ,	Two USB 3.1 Gen1 ( 3.5mm), one headph	one / mid	crophone cor	nbo jack (st	éreo, 3.5mm	1)	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock)
Rear ports* (Std.)	One USB 3.1 Gen1 a	and three	e USB 2.0, et	nernet (HJ-	45), two Dis	olayPort,	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com
Rear ports* (Opt.)	One optional port (VC * Depending on many fa ** Not support VGA, 3rd	ctors, act	ual data transfe	er speed may	be lower than	theoretical speed		<b>3</b>
Audio support	High Definition (HD)	Audio, R	ealtek ALC23	33-VB2 / int	ernal speak	er (1.5 watt)		
WLAN	Some: 11ac wireless Wi-Fi + Bluet Some: 11ac wireless Wi-Fi + Bluet 11ac wireless Wi-Fi + Bluet Some: 11ac wireless Wi-Fi + Bluet Some: Bluetooth 4.2	cooth 4.2 s, M.2 Ca cooth 4.2 s, M.2 Ca cooth 4.2 s, M.2 Ca cooth 4.2 2* wireles	* combo ada ard, Qualcom * combo ada ard, Realtek I * combo ada ard, Qualcom * combo ada ss, integrated	oter, 1x1 Im Atheros oter, 1x1 RTL8822BE oter, 2x2 Im Atheros oter, 2x2 In Wi-Fi + I	QCA9377 (c E (dual band QCA6174A BT combo a	lual band), ), (dual band), dapter		
Bluetooth Ethernet	* Hardware supports Gigabit ethernet, Rea					OORS B1 4.1		
Manageability Security chip Security features	DASH 1.0/1.1 Discrete TPM 2.0, TO			- A almainte	lunkau mas			
Coounty locatores	<ul> <li>Security slot (in rea Kensington® Micros</li> <li>Padlock loop</li> <li>Smart USB protect mouse only, blocks</li> <li>Power-on password</li> </ul>	Saver® ca ion, allov all stora	able) ws keyboard/	<ul><li>Hard dis</li><li>Boot sec</li><li>Boot wit</li><li>Individual</li></ul>	trator passw sk password quence cont hout keyboa al USB port intrusion sw	rol rd and mouse disablement		













## ThinkCentre M715 Tower Platform Specifications

Processor	AMD A6 / A8 / A10 / A1	12 series AF	PU and Ryzen :	3 / 5 / 7 series	s processor	Manageability	DASH			
	APU / processor	Cores / Threads	Frequency (Base/Max)	L2 Cache	Integrated Graphics	Security chip	TPM (Trusted Platform Module) 2.0, TCG Certified  * Downgrade to TPM1.2 for the models with Win10 DG Win7 32 OS			
	Ryzen 3 PRO 1200	4/4	3.1 / 3.4	2MB	None	Security features	Security slot (in rear for optional     Power-on password			
	Ryzen 3 PRO 1300	4/4	3.5 / 3.7	2MB	None		Kensington® MicroSaver® cable)  • Administrator password  • Hard disk password			
	Ryzen 5 PRO 1500	4/8	3.5 / 3.7	2MB	None		<ul> <li>Padlock loop</li> <li>Smart USB protection, allows keyboard/</li> <li>Hard disk password</li> <li>Boot sequence control</li> </ul>			
	Ryzen 7 PRO 1700	8 / 16	3.0 / 3.7	4MB	None		mouse only, blocks all storage devices  • Boot sequence control			
	PRO A6-8570	2/2	3.5 / 3.8	1MB	Radeon R5 Series		<ul> <li>Optional cable lock to physically lock</li> <li>Individual USB port disablement</li> </ul>			
	PRO A10-8770	4/4	3.5 / 3.8	2MB	Radeon R7 Series		both keyboard and mouse   • Optional chassis intrusion switch			
	PRO A12-8870	4/4	3.7 / 4.2	2MB	Radeon R7 Series	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	PRO A6-9500	2/2	3.5 / 3.8	1MB	Radeon R5 Series		Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
	PRO A8-9600	4/4	3.1 / 3.4	2MB	Radeon R7 Series	Mouse	Some: Lenovo Calliope Mouse (USB connector), black			
	PRO A10-9700	4/4	3.5 / 3.8	2MB	Radeon R7 Series		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
	PRO A12-9800	4/4	3.8 / 4.2	2MB	Radeon R7 Series		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black			
Memory	64GB max, UDIMM, DI dual-channel capable * System automatically		·		•	Mechanical r	<ul> <li>Tower (15L), black color, metal case</li> <li>(WxDxH) 5.7" X 11.5" X 14.4"; 145mm X 292.7mm X 366mm</li> <li>Approx. 14.3 lb (6.5 kg), weight may vary by configuration</li> <li>Optional dust filter</li> </ul>			
Storage	Some: Hard Drive / SA Some: Solid State Driv Some: M.2 Solid State	/e (SSD) / S · Drive (SSI	SATA 6.0Gb/s, 2 0) / PCIe NVMe	2.5" e, PCle 3.0 x 4			Bay 1: Slim external ODD bay Bay 2: 3.5", internal, HDD/SSD Bay 3: 2.5", internal, HDD/SSD			
Optical	Some: DVD-ROM SAT Some: DVD Burner (D	VD±RW), S	ATA 1.5Gb/s D		mm)		Slot 1: half-length full-height (length < 189mm, height < 104mm), PCIe 3.0 x16* Slot 2: half-length full-height (length < 189mm, height < 104mm), PCIe 2.0 x1*			
Onboard SATA Media reader	Three onboard SATA 6. Optional 7-in-1 media r	eader					Slot 3: half-length full-height (length < 189mm, height < 104mm), PCle 2.0 x Slot 4: no slot, only bracket for optional port extension*			
Graphics	AMD Radeon™ Graph memory, DirectX® 12, of are invalid on the mode displays, works along w	one VGA, twels with AMI	o DisplayPort™ DRyzen proces	' (Onboard V( ssor), support	GA and DP ports s 3 independent	1	M.2 card slots: two (one for WLAN, one for SSD)  * Optional front USB3.1 Type-C x2 module occupies PCIe x16 slot (x4 card), optional rear 2x USB2.0 / parallel / 2nd serial occupies one expansion slot			
	Max resolution: 4096x2 Some: NVIDIA Geforce two DisplayPort	:160 (DP)@ <b>e® GT 730</b> , , 35 watts;	60Hz; 1920x12 DirectX 12, 2G	200 (VGA)@6 B, PCle 2.0 x	0Hz	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU 210 watts, autosensing, 92% PSU (only available via special bid)			
	Max resolution: Some: AMD Radeon™ one VGA, one H	RX 550, D IDMI, one D	irectX 12, 2GB DisplayPort, 50	PCIe 3.0 x8 watts, occupio	es two slots;	Limited warranty Preload	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available Preloaded operating system			
Monitor Cable	Max resolution:	5120x2880	(DP)@60Hz		,	1 101044	Some: Windows® 7 Professional 32/64 preinstalled through downgrade rights in Windows 10 Pro 64-bit (Only available with Pro A6/A10/A12-8xxx APUs)			
	Optional DP to VGA, DI	ר נס טעו-ט	(single link), DF	to dual DP, C	OF DP to HUMI 1.4	_	Some: Windows 10 Pro 64-bit			
Chipset	AMD B350 Chipset						Some: Windows 10 Home 64-bit Preloaded applications (only some listed)			
Front ports*	Two USB 3.1 Gen2, two						Microsoft Office preloaded;			
Rear ports*	available via special bid Two USB 3.1 Gen1, two						purchase a product key to activate			
rical porto	2nd serial (9-pin), optio	nal parallel	(25-pin), ether	net (RJ-45), o	ne VGA and two		- Only for Window 10			
	DisplayPort (not availab	ole on mode	els with AMD R	yzen process	or),		<ul> <li>Lenovo Companion</li> <li>Only for Window 7</li> </ul>			
	two PS/2 ports (keyboa	rd / mouse)	); • • • • • • • • • • • • • • • • • • •				Lenovo Solution Center			
Rear audio porto	additional VGA, DiśplayPort, or HDMI on optional graphics on some models 'ts* Line-in (3.5mm), line-out (3.5mm), microphone-in (3.5mm) None		some modéls		Lenovo ThinkVantage Tools					
Hear audio ports <sup></sup> IEEE 1394*			), line-out (3.5mm), microphone-in (3.5mm)			Create Recovery Media				
	* Depending on many factor	ors, actual da	ta transfer speed	may be lower t	han theoretical speed		Adobe® Reader®     Cyberlink PowerPMD Create (DMD) PMM			
Audio support	High Definition (HD) Au		•			Environment and	Cyberlink PowerDVD Create (DVD±RW)      Children (North America)			
WLAN	Some: 11ac wireless, Wi-Fi + Bluetoo	M.2 Card, F	Realtek RTL882	1AE (dual ba	, ,	Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, GREENGUARD®, RoHS-compliant			
	Some: 11ac wireless,   Wi-Fi + Bluetoo	M.2 Card, C	Qualcomm Athe	ros QCA6174	1A (dual band),	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com			
	Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377 (dual band), Wi-Fi + Bluetooth 4.1 combo adapter, 1x1									
Bluetooth™ Ethernet Modem	Some: Bluetooth 4.0 o Gigabit ethernet, Realte None	r 4.1 wirele	ss, integrated in	n Wi-Fi + BT o	combo adapter					
	-									













# ThinkCentre M720 SFF Platform Specifications

Processor	Intel® Celeron®, Intel I	Pantium®	or 8th / 9th Gon	Intel Co	ore™ i3 / i5 / i7 / i0	Processor		Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band),		
Fiocessoi	inter Celerons, inter	Cores /	Frequency		Memory Support			Wi-Fi + Bluetooth 4.2 combo adapter, 2x2		
	Processor	Threads	Base/Max(GHz)	Cache	(Up to)	Graphics		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1		
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,		
	Celeron G4920	2/2	3.2G	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		Bluetooth™	Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter		
	Pentium Gold G5500	2/4	3.8G	4 MB	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	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4*, gigabit ethernet, 4x RJ-45, PCIe x4 Some: Bitland BN8E88*, gigabit ethernet, PCIe x1 (only available via special bid)		
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630		* Choose either I350-T4 or BN8E88		
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Manageability	None		
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified		
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630 UHD 630	Security features	Security slot (in rear for optional Power-on password		
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666 DDR4-2666	UHD 630		Kensington® MicroSaver® cable) • Administrator password		
	Core i7-8700 Core i3-9100	6 / 12 4 / 4	3.2G / 4.6G 3.6G / 4.2G	12 MB 6 MB	DDR4-2400	UHD 630		<ul> <li>Padlock loop</li> <li>Optional cable lock to physically lock</li> <li>Boot sequence control</li> </ul>		
	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     Individual USB port disablement		
	Core i5-9320	6/6	2.9G / 4.1G	9 MB	DDR4-2400 DDR4-2666	UHD 630		Optional chassis E-Lock (special bid)     Smart USB protection, allows keyboard/mouse only, blocks all storage devices		
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630	Marrie a a val			
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black 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)		
Memory	64GB max, UDIMM, [	DDR4-260	66. four 288-pin	OIMM sc	ckets, non-FCC.		iviouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black		
	dual-channel capable * System automaticall	*	•			y controlle		Some: Lenovo Filiger Filit Mouse (OSB conflector), Wildows Fielio support, bia 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 / S				om or 7200 rpm		Mechanical	SFF (8.4L), black color; metal case		
	Some: Solid State Dr Some: M.2 Solid State * M.2 SSD (2242) PC	te Drive ( Ie NVMe	ŚSD) / PCIe NVI only supports P	Me, PCI Cle 3.0 x	( 2, 16Gb/s		Moonanioa	<ul> <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	Some: Intel Optane™ Some: DVD-ROM SA	4TA 1.5ĞI	b/s Drive, slim (9	.0mm)		r), IVI.2		Optional dust filter Bay 1: Slim external ODD bay		
Onboard SATA	Some: DVD Burner ( Three onboard SATA			Dilve, S	iiiii (9.0iiiii)			Bay 2: 3.5", 1" high, internal, HDD/SSD		
Media reader	Optional 7-in-1 media		Join Tooloro					Bay 3: 2.5", internal, HDD/SSD (optional bay) Slot 1: low-profile (length < 147mm, height < 68.9mm), PCIe 3.0 x16		
Graphics	Intel UHD Graphics	<b>610/630</b> i	n processor, use	s main r	nemory, DirectX®	12,	1	Slot 2: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x1		
·	one VGA, two Display	rPort™, sι	upports 3 indepe					Slot 3: low-profile (length < 147mm, height < 68.9mm), PCIe 3.0 x1		
	discrete graphics to si			1506 (\/	CA)@E0U-			Slot 4: no slot, only bracket for optional port extension  M.2 card slots: Two (one for WLAN, one for SSD/Optane)		
	Max resõlution: 4096x2304 (DP) @ 60Hz; 2048x1536 (VGA) @ 50Hz Some: NVIDIA Geforce® GT 730, DirectX 12, 2GB, PCIe 2.0 x16 adapter,						Floor Stand	Optional system floor stand for vertical orientation		
	two DisplayPo			,	=	,	Power supply	Some: 180 watts, autosensing, 85% PSU		
Monitor coble	Max resolution	n: 3840x2	160 (DisplayPort	)@60Hz	r 	'4a O !! - :	1	Some: 210 watts, autosensing, 85% PSU		
Monitor cable	Optional DP to VGA d Display with intel inted					ior Collage		Some: 260 watts, autosensing, 92% PSU (only available via special bid)		
Chipset	Intel B360 Chipset	graicu gra	4P11103), 01 D1 10	ו וואוטוי	dollyle		Limited warranty	<sup>3</sup> 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	USB 3.1	Gen1, 1x USB 3	.1 Type-	C Gen1 (15W cha	arging),	Preload	Preloaded operating system		
. ,	1x microphone (3.5m)	m), 1x he					i ieloau	Some: Windows® 10 Pro 64-bit		
Front ports* (Opt. Rear ports* (Std.	) Optional: 1x media re ) 4x USB 2.0, 1x serial	ader (9-pin), 1	x ethernet (RJ-4	5), 1x V(	GA, 2x DisplayPo	rt,		Some: Windows 10 Home 64-bit Preloaded applications (only some listed)		
	1x line-out (3.5mm) ) Optional: 2x USB 3.1							Lenovo Vantage		
ricai ports (Opt.	(special bid only), 1x 2	2nd seria	1 (9-pin)	36 3.1 1 Il (9-pin)	via PCIe x1. 1x n	arallel (25-		Microsoft Office preloaded;		
	pin), 2x PS/2 ports (ke	eyboard/r	nouse), addition	al RJ-45	and video ports a	available or	n	<ul> <li>purchase a product key to activate</li> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> </ul>		
	optional graphics or e	thernet c	ard		·			Cyberlink PowerDVD (only for models with DVD±RW)     Cyberlink Power2GO (only for models with DVD±RW)		
	* Depending on many fac ** Choose either 2x USB					ical speed		• LinkedIn		
Audio support	High Definition (HD) A					tt )	Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO,		
WLAN	Some: 11ac wireless.					/		TUV low noise verified (coming soon, on some models), RoHS-compliant		
V V L / N I N			ombo adapter, 1		adai band),		Accessories	For compatible accessories, please go to http://smartfind.lenovo.com		













## ThinkCentre M720 Tiny Platform Specifications

Processor   Tomas   Features   County   From the County   County	Processor	Intel® Celeron®, Intel F	Pentium®.	or 8th / 9th Gen	Intel C	ore™ i3 / i5 / i7 / i	9 Processor	Manageability	None				
Security Pearlure   Security				Frequency		1		Security chip	Discrete TPM 2.0, TC	G Certified			
Pertium Gold GS507				` '		(Up to)		Security features	• Security slot (in rea	r for optional			
Power on password   Power password   Power on password   Power pas													
Administratory password   Administratory p						-			<ul> <li>Power-on password</li> <li>Smart USB protection, allows</li> </ul>				
Core 18-9800T						<u> </u>							
Core 15-84007				-					<ul> <li>Hard disk password</li> </ul>	d	•	•	
Cone it-8600T 6 / 6   2.16 / 3.56   9.MB   DBR-42666   UHD 530								Keyboard	Some: Lenovo Callio	pe Keyboard (U	SB connector), black	(	
Concert   1-800   1-													
Some   Continue   Co								Mouse	Some: Lenovo Callio	pe Wireless Key	board (2.4GHz via U	JSB receiver), black	
Some: Lanovo Calliope Wireless Mouse (2.4-GHz via USB receiver), black   Some: Lanovo Calliope Wireless Mouse (2.4-GHz via USB receiver), black   Some: Lanovo Calliope Wireless Mouse (2.4-GHz via USB receiver), black   Some: 1.4-GHz via USB						-		Wiodoc	Some: Lenovo Finge	rprint Mouse (USB	SB connector). Wind	lows Hello support, black	
Core iB-3800T   41/4   3_26_3_86   BMB   DDR4-2800   UHD-630			-	<del> </del>		<u> </u>							
**Toolles's classis open (need optional toolles's chassis screw)  **Toolles's chassis open (need optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis open (need optional toolles's chassis optional toolles's chassis optional toolles's chassis options' not chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional tool								Mechanical	Tiny (1L) black color:	metal case	,		
Core 15-9900T   6 / 6   2.36 / 376   9 MB   DDR4-2666   UHD 630								Mooriariioar			al toolless chassis so	crew)	
Core is-9600T   6 / 6   2.36 / 3.93   9 MB   DDR4-2666   UHD 630										, mèmory remova	al	,	
Core if 97000T   818   2.06/4.36   12 MB   DDR4-2868   UHD 630										/CCD and DCIa	O O vO alat /law prof	ile) two M O clots (one	
Memory   32GB max, DDR4-2666*, two 260-jin SQ-DIMM sockets, non-ECC, dual-channel capable   1.0 miles   1.0 mile													
Memory   SCBB max, DPR4-2666*, two 260-pin SO-DIMM sockets, non-ECC, dual-channel capable   System-audical channel capable   Syste				<del> </del>		<del> </del>			101 112/111, 0110 101 1111	, · ·			
dual-channel capable  *System untomatically clocks down for the processors with lower memory controller  *System untomatically clocks down for the processors with lower memory controller  *System untomatically clocks down for the processors with lower memory controller  *System untomatically clocks down for the processors with lower memory controller  *Some: Active Company of th							OHD 630						
Storage Some: Hart Drive / SATA 6.0Gb/s, 2.5°, 5400 pm or 7200 pm	Memory		66*, two 2	260-pin SO-DIMI	√l socke	ets, non-ECC,			liny only				
Some: Solid State Drive (SSD) / SATA 6.0Gb/s 2.5" Some: No. 258D P/Cle NVMe, PCle 3.0 x 4', 32Gb/s Some: NVMe, PCle 3.0 x 4', 32Gb/s Some: NVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: Usb over 1500 and 150							ory controller					3.66 lb (1.66 kg),	
Some: M.2 SSD / PCIe NVMé, PCIe 3.0 x 4*, 32Gb/s 128GB SSD M.2 (22442) PCIe NVMe only supports PCIe 3.0 x 2, 16Gb/s Some: Intel Optane™ Memory (not support Celeron / Pentium Processor), M.2 Some: DVD-ROM, slim (9.0mm), via USB external ODD box Onboard SATA One onboard SATA 6.06b/s connector One one one one one one one one one one o	Storage	Some: Hard Drive / S	SATA 6.00	6b/s, 2.5", 5400 i	pm or 7	7200 rpm			ODD box 188.4mm X 185.38mm X 63mm vary by config			vary by config	
Proor Stand Potential System floor stand for vertical orientation  Some: Intel Qotane™ Memory (not support Deferon / Pentium Processor), M.2 Some: DVD-ROM, slim (9.0mm), via USB external ODD box Onboard SATA One onboard SATA One onboard SATA 6.0Gb/s connector  Intel HD Graphics 610(9530 in processor, uses main memory, DirectX™ 12, one DisplayPort™, one HDMI, one optional video port (2nd HDMI, VGA, 2nd DP or USB 3.1 Type-C Gen time that the properties of the USB 2.3 Type-C Gen 1 (May System) (Protost VGB) (Protost								VECA mount	Optional VESA mount bracket kit, supports VESA 75mm and 100mm			and 100mm	
Optical Some: Intel Optanè "Mémory (not support Céleron / Pentium Processor), M.2 Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-Borner (DVD-EMW), slim (9.0mm), via USB external ODD box Some: DVD Burner (DVD-EMW), slim (9.0mm), via USB external ODD box Some: 30 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 146 watts AC/DC adapter, autosensing, 88% PSU Some: 146 watts AC/DC adapter, autosensing, 88% PSU Some: 146						Cle 3 0 x 2 16Gh	n/s						
Optical Some: DVD-RM, slim (9.0mm), via USB external ODD box Some: 90 watts AC/DC adapter; autosensing, 88%; PSU Onboard SATA 6.0Gb/s connector  Onboard SATA 6.0Gb/s connector  Intel HD Graphics 6 10f30 in processor, uses main memory, DirectX**12, one DisplayPort** one HDMI, one optional video port (2nd HDMI, VGA, 2nd DP or USB 3.1 Type-C Gent with DisplayPort function, up to 3 independent displays; Max resolution: 4096:x2304 (DP)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (DP)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (DP)@60Hz; 4096x2304 (DP)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (DP)@60Hz; 4096x2		Some: Intel Optane™	¹ Memorv	(not support Ce	leron / I	Pentium Processo	or), M.2		Some: 65 watts AC/DC adapter autosansing 88% PSII				
Onboard SATA One onboard SATA 6.0Gb/s connector  Intel HD Graphics 610/630 in processor, uses main memory, DirectX® 12, one DisplayPort™, one HDMI, one optional video port (2nd HDMI), VGA, 2nd DP, or USB 3.1 Type-C Gen1 with DisplayPort function), up to 3 independent displays; Max resolution: 4096x2304 (DP)e-Q60Hz; 4096x2304 (Type-Q6 60Hz; 4096x2304 (Type-Q6 40P) 4096x2304 (Type-Q6 40P) 4096x2304 (Type-Q6 40P) 4096x2304 (Type-Q6 40P) 4096x2304 (Type-Q6 40P) 4096x2304 (Type-Q6 40P) 4096x2304 (Type-Q6 40P) 4096x2304 (Type-Q6 40P) 4096x2304 (Type-Q6 40P) 4096x2304 (T	Optical	Some: DVD-ROM, sli	im (9.0mr	n), via USB exte	rnal OD	D box		l ower supply	Some: 90 watts AC/E	OC adapter, auto	sensing, 88% PSU		
Intel HD Graphics 610/630 in processor, uses main memory, DirectX® 12, one DisplayPort**, one HDMI, one optional video port (2nd HDMI, VGA, 2nd DP, or USB 3.1 Type-C Gen1 with DisplayPort function), up to 3 independent displays; Max resolution: 4096x2304 (DP)® 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (DP)® 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (DP)® 60Hz; 4096x234 (DP)® 60Hz; 4096x234 (DP)® 60Hz; 4096x234 (DP)® 60Hz; 4096x234	Onboard SATA				via USI	3 external ODD b	OOX		Some: 135 watts AC/	DC adapter, aut	osensing, 88% PSU		
DisplayPort**, one HDMI, one óptional video port (2nd HDMÍ, VGA, 2nd DP, or USB 3.1 Type-C Genf with DisplayPort function), up to 3 independent displays; Max resolution: 4096x2304 (DP)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x					main m	emory DirectX®	12 one	Limited warranty					
Monitor cable  Monitor cable  Optional DP to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle (for Collage Display with intel integrated graphics), or DP to HDMI 1.4 dongle  Chipset  Intel B360 Chipset  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) Rear ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (BJ-45), 1x DisplayPort, 1x HDMI Rear ports* (Opt.) Two optional ports (mutually exclusive with PCle card): Port 1 for VGA / 2nd DP / 2nd hDMI / Serial / USB 3.1 Type-C Gen 1 via PCle card: 2x USB 3.1 Gen1 (1 Vis PCle x1, 4x serial (9-pin) via PCle x1  Depending on many factors, actual data transfer speed may be lower than theoretical speed  Audio support  Realtek ALC233VBZ / optional internal speaker (1.5 watt or 2 watt)  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL882DE (dual band), WI-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, WI-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, WI-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth	агартноо	DisplayPort™, one HD	MI, one	optional video po	rt (2nd	HDMÍ, VGA, 2nd	DP,						
Optional DP to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle (for Collage Display with intel integrated graphics), or DP to HDMI 1.4 dongle  Chipset Intel B360 Chipset  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)  Rear ports' (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (RJ-45), 1x DisplayPort, 1x HDMI Rear ports' (Opt.) Two optional ports (mutually exclusive with PCle card; Port 1 for VGA / 2nd DP / 2nd HDMI / serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCle card: 2x USB 3.1 Gen1 via PCle x1							t displays;						
Optional DP to VGA dongle, DP to Dungle, DP to dual DP dongle (for Collage Display with intel integrated graphics), or DP to HDMI 1.4 dongle  Chipset  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)  Rear ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (RJ-45), 1x DisplayPort, 1x HDMI PCIe card): Port 1 for VGA / 2nd DP / 2nd HDMI / serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCIe card: 2x USB 3.1 Gen1 via PCIe x1, 4x serial (9-pin) via PCIe x1  Depending on many factors, actual data transfer speed may be lower than theoretical speed Audio support  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter (2x2 Std) and the propertion of the		Max resolution: 4096x	(2304 (DF	P)@60Hz; 4096x	2304 (T	ype-C)@60Hz;	@ FOLL=		Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit				
Monitor cable   Display with intel integrated graphics), or DP to HDMI 1.4 dongle											listed)		
Chipset   Intel B360 Chipset	Monitor cable						(ioi ooilage			, , ,	,		
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)  Rear ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (RJ-45), 1x DisplayPort, 1x HDMI Rear ports* (Opt.) Two optional ports (mutually exclusive with PCle card): Port 1 for VGA / 2nd DP / 2nd HDMI / serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCle card: 2x USB 3.1 Gen1 via PCle x1, 4x serial (9-pin) via PCle x1  Audio support Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Some: Some: Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Bluetooth  Bruth Some Substantial DVD / DVD±RW)  Environment  Environment  Environment  Environment  Environment  Some: Sloed Redation (Some)  Some Substantial Combo Avenue Substantial Combo Avenue Substantial	Chipset		<u>,                                     </u>	, ,,				1		crosoft Office preloaded;			
one microphone (3.5mm), one headphone / microphone combo jack (3.5mm) Rear ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (RJ-45), 1x DisplayPort, 1x HDMI Rear ports* (Opt.) Two optional ports (mutually exclusive with PCle card): Port 1 for VGA / 2nd DP / 2nd HDMI / serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCle x1 via PCle x1, 4x serial (9-pin) via PCle x1 PCle x1 Popending on many factors, actual data transfer speed may be lower than theoretical speed Audio support  Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®  Occurrence of the provision of the Company of the		· · · · · · · · · · · · · · · · · · ·	lwovo On	and fact charge	\ ono I	ISB 2.1 Tupo C.C	Con 1	-					
Rear ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (RJ-45), 1x DisplayPort, 1x HDMI Rear ports* (Opt.) Two optional ports (mutually exclusive with PCle card): Port 1 for VGA / 2nd DP / 2nd HDMI / serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCle card: 2x USB 3.1 Gen1 via PCle x1, 4x serial (9-pin) via PCle x1  Depending on many factors, actual data transfer speed may be lower than theoretical speed PCle x1  Audio support Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter (3igabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®	From ports (Stu.											nvv)	
2nd HDMI / serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCle card: 2x USB 3.1 Gen1 via PCle x1, 4x serial (9-pin) via PCle x1  * Depending on many factors, actual data transfer speed may be lower than theoretical speed  **Audio support**  **Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  **WLAN**  **Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  **Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  **Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  **Bluetooth**  **Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Intel Ethernet Connection 1219-V (Jacksonville), Wake on LAN®**  **TUV ultra low noise verified (coming soon, on some models), RoHS-compliant TUV ultra low noise verified (coming soon, on some models), RoHS-compliant TUV ultra low noise verified (coming soon, on some models), RoHS-compliant TUV ultra low noise verified (coming soon, on some models), RoHS-compliant TUV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compli		2x USB 3.1 Gen2, 2x	USB 3.1	Gen1, 1x ethern	et (RJ-4	45), 1x DisplayPo	rt, 1x HDMI						
Optional ports via PCle card: 2x USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCle card: 2x USB 3.1 Gen1 via PCle x1, 4x serial (9-pin) via PCle x1  Depending on many factors, actual data transfer speed may be lower than theoretical speed  Audio support  Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (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, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter (Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®	Rear ports* (Opt.	) Two optional ports (mi	utually ex	clusive with PCI	e card):	Port 1 for VGA /	2nd DP /	Environment	t ENERGY STAR® 7.0. EPEAT™ Gold rating (North America). ErP Lot 3. TCO.			a), ErP Lot 3, TCO,	
PCIe x1 * Depending on many factors, actual data transfer speed may be lower than theoretical speed  Audio support  Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (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, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter (Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®									TUV ultra low noise verified (coming soon, on some models), RoHS-compliant			ls), RoHS-compliant	
Audio support Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Gigabit ethernet Connection I219-V (Jacksonville), Wake on LAN®			ie caru. Z	x 03D 3.1 dell1	via i O	ie XI, 4X Seriai (3	-piii) via	MIL-SPEC test	MIL-STD-810G milita	ry certification (L	ow Pressure [Altitud	le], High Temperature,	
Audio support  Healtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®			ctors, actua	al data transfer spe	ed may l	oe lower than theore	etical speed				k, Humidity, Sand an	d Dust, Vibration, Shock,	
WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (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, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®	Audio support	Realtek ALC233VB2 /	optional	internal speaker	(1.5 wa	att or 2 watt)		ļ		,			
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, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®		Some: 11ac wireless.	M.2 Car	d. Realtek RTL8	821CE	(dual band).		Accessories	For compatible acces	sories, please go	o to <b>http://smartfind</b>	l.lenovo.com	
Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®		Wi-Fi + Blueto	oth 4.2 c	ombo adapter, 1	x1	, , , , , , , , , , , , , , , , , , , ,							
Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®		Some: 11ac wireless,	, M.2 Car	d, Realtek RTL8	822BE	(dual band),							
Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter 2x2 Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter											
Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®													
Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®													
Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®	Bluetooth												
Ethernet (Opt.) Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4													
	Ethernet (Opt.)	Some: Intel Ethernet S	Server Ad	lapter I350-T4, g	igabit e	thernet, 4x RJ-45	5, PCIe x4						













## ThinkCentre M720 Tower Platform Specifications

Processor	Intel® Celeron®, Intel I	Pantium®	or 8th / 9th Gen	Intel Co	vro™ i3 / i5 / i7 / i0	Processor	ΔΛ/Ι Δ ΝΙ13	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),			
1 10003301		Cores /	Frequency		Memory Support		VVLAIN	Wi-Fi + Bluetooth 4.2 combo adapter, 1x1			
	Processor		Base/Max(GHz)	Cache	(Up to)	Graphics		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			
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,			
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	DI t tl-TM	Wi-Fi + Bluetooth 4.2 combo adapter, 2x2			
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Bluetooth™	Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter			
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Ethernet (Opt )	Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN® Some: Intel Ethernet Server Adapter I350-T4*, gigabit ethernet, 4x RJ-45, PCIe x			
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Bitland BN8E88*, gigabit ethernet, 1x RJ-45, PCle x1 (special bid only)			
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630		* Choose either I350-T4 or BN8E88			
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Manageability	None			
	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 • Power-on password			
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Kensington <sup>®</sup> MicroSaver <sup>®</sup> cable) • Administrator password			
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		<ul> <li>Padlock loop</li> <li>Optional cable lock to physically lock</li> <li>Boot sequence control</li> </ul>			
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630		both keyboard and mouse  • Boot without keyboard and mouse			
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		<ul> <li>Optional chassis intrusion switch</li> <li>Individual USB port disablement</li> </ul>			
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		Optional chassis E-Lock (special bid)			
	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 Some: Lenovo Traditional Keyboard (USB connector), black			
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
Memory	64GB max, UDIMM, I		66*, four 288-pin	DIMM s	ockets, non-ECC	,		Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)			
	dual-channel capable		down for the pro	annor i	with lower memor	ar controller	Mouse	Some: Lenovo Calliope Mouse (USB connector), black			
01	* System automatical					y controller	_	Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
Storage	Some: Hard Drive / S Some: Solid State Drive	0.00 AIA 6.00	3D/S, 2.5" OF 3.5" ) / SATA 6 OGb/s	, 5400 rp	om or 7200 rpm			Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)			
	Some: M.2 Solid Star	te Drive (	SSD) / PCIe NVI	Me. PCI	e 3.0 x 4*. 32Gb/s	3	Mechanical	Tower (15L), black color, metal case			
	* 128GB SSD M.2 (22	242) PCIè	e NVMe only sup	ports PC	Cle 3.0 x 2. 16Gb	/s	IVICOITATIICAI	• (WxDxH) 5.91" X 10.65" X 14.17"; 150mm X 270.5mm X 360mm			
Ontinal	Some: Intel Optane <sup>TM</sup>	Memory	(not support Ce	leron / F	entium Processo	r), M.2		<ul> <li>Approx. 15.21 lb (6.9 kg), weight may vary by configuration</li> </ul>			
Optical	Some: DVD-ROM SA Some: DVD Burner (				lim (9 0mm)			Optional dust filter			
Onboard SATA	Three onboard SATA			D1110, 0	(0.011111)			Bay 1: Slim external ODD bay Bay 2: 3.5", 1" high, internal, HDD/SSD			
Media reader	Optional 7-in-1 media	reader						Bay 3: 3.5", 1" high, internal, HDD/SSD (optional bay)			
Graphics	Intel UHD Graphics							Slot 1: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x16			
	one VGA, two Display			ndent di	splays, works alo	ng with		Slot 2: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x1			
	discrete graphics to s Max resolution: 4096x			1536 (\/	GA)@50Hz			Slot 3: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x1 Slot 4: no slot, only bracket for optional port extension			
	Some: NVIDIA Gefor					er,		M.2 card slots: Two (one for WLAN, one for SSD/Optane)			
	two DisplayPo				·		Power supply	Some: 180 watts, autosensing, 85% PSU			
Monitor Cable	Max resolution Optional DP to VGA		160 (DisplayPort			for Collago		Some: 210 watts, autosensing, 85% PSU			
Monitor Gabio	Display with intel integ					ioi collage		Some: 260 watts, autosensing, 92% PSU (only available via special bid)			
Chipset	Intel B360 Chipset	9 9					Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available			
Front ports* (Std.)	2x USB 3.1 Gen2, 2x	USB 3.1	Gen1, 1x USB 3	.1 Type-	C Gen1 (15W ch	arging),	Preload	Some: 1-year or 3-year, limited onsite service / service upgrades available Preloaded operating system			
, , ,	1x microphone (3.5m)	m), 1x he					Fieldau	Some: Windows® 10 Pro 64-bit			
Front ports* (Opt.	Optional: 1x media re	ader		E) 4 )//	0.4 0 D: 1 D			Some: Windows 10 Home 64-bit			
near ports (Stu.)	4x USB 2.0, 1x serial 1x line-out (3.5mm)	(9-pin), 1	x etnernet (HJ-4	5), 1X V	3A, 2x DisplayPo	rt,		Preloaded applications (only some listed)			
Rear ports* (Opt.)	Optional: 2x USB 3.1	Gen1 via	PCIe x1**, 2x U	SB 3.1 T	vpe-C Gen2 via F	PCle x4**		<ul><li>Lenovo Vantage</li><li>Microsoft Office preloaded;</li></ul>			
	(special bid only), 1x 2	2nd seria	l (9-pin), 4x seria	ıl (9-pin)	via PCIe x1,			purchase a product key to activate			
	1x parallel (25-pin), 2				dditional RJ-45 ar	nd video		<ul> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> </ul>			
	ports available on opt * Depending on many fac				e lower than theore	tical speed		<ul> <li>Cyberlink Power2GO (only for models with DVD±RW)</li> </ul>			
	** Choose either 2x USB					a. opoou		• LinkedIn			
Audio support	High Definition (HD) A	Audio, Re	altek ALC233VB	2 / interr	nal speaker (2 wa	tt )	Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant			
							Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
							•				













# ThinkCentre M720e SFF Platform Specifications

Dragonor	Intal® Calaran® Intal	Dantium®	or Oth / Oth Con	Intal Ca	*oTM :0 /:E /:7 /:0	Drassass	Managashilitu	None
Processor	Intel® Celeron®, Intel			inter Co	Υ		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	Occurry leatures	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 sequence control     Boot sequence control
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		<ul> <li>mouse only, blocks all storage devices</li> <li>Optional smart cable clip to physically</li> <li>Individual USB port disablement</li> </ul>
	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	1	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), PCIe 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	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		, p				11.7	<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	3b/s 2.5" or 3.5"	5400 rp	m or 7200 rpm		Preload	Preloaded operating system
Otorago	Some: M.2 Solid Sta	te Drive (	SSD) / PCIe NVI	Ие. PCle	3.0 x2 or PCle 3	3.0 x4		Some: Windows® 10 Pro 64-bit
Optane memory	Some: Intel Optane™	Memory	, M.2 2280, PCI	NVMe,	PCle 3.0 x 2			Some: Windows 10 Home 64-bit Some: Linux Ubuntu
Optical	Some: DVD-ROM SA Some: DVD Burner (				lim (0.0mm)		En income at	
Onboard SATA	Two onboard SATA 6.			Dilve, S	11111 (9.0111111)		Environment	ENERGY STAR® 7, EPEAT™ Silver rating (North America), ErP Lot 3, RoHS-compliant, WEEE
Media reader	Optional 7-in-1 media						Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com
Graphics	Intel HD Graphics 61	<b>10/630</b> in	processor, uses	main me	mory, DirectX® 1:	2,	Accessories	To companione accessories, please go to http://www.ienovoquickpick.com
•	one VGA, one Display			ndent dis	splays, works alo	ng with		
	discrete graphics to s Max resolution: 4096	upport m	ore displays;	1506 (\/	C			
	Some: AMD Radeon	™ <b>520</b> D	irectX 12 2GB 6	iDDR5 F	GA) @ SUFIZ PCIe 3 0 x8 adan	ter		
	one VGA, one	HDMI, 3	0 watts (Max);		·			
Manitan aalala	Max resolution	n: 3840x2	160 (HDMI)@30	Hz; 2048	3x1536 (VGA)@8	5Hz		
Monitor cable	Optional DP to VGA,	DP to DV	I-D (single link),	JP to du	al DP, or DP to H	DMI 1.4	_	
Chipset	Intel B365 Chipset							
Front ports* (Std.	Two USB 3.1 Gen1, n	nicrophor	ne (3.5mm), one	headpho	ne / microphone	combo jack	(	
Front norto* (Ont	(3.5mm)							
Front ports* (Opt. Rear ports* (Std.)	) Two USB 3.1 Gen1, to	wo USB 2	2.0. serial (9-pin)	etherne	t (RJ-45), one VC	A. one		
. , ,	DisplayPort, Line-out	jack (3.5)	mm)		, ,,	•		
Rear ports* (Opt.)	optional two USB 2.0.					), optional		
	external USB to PS/2 additional video ports					ma madala		
	* Depending on many fac							
Audio support	High Definition (HD)					ioai speeu	-	
WLAN <sup>13</sup>	3 / /	auio, ne	andr ALOUZU / II	nemai S	Joaner (2 Wall)		+	
WLAN <sup>™</sup> Bluetooth™	None None							
Ethernet	Gigabit ethernet, Rea							
Ethernet (Opt.)	Some: Bitland BN8E	88*, gigal	oit ethernet, PCI	x1				
Modem	None							













# ThinkCentre M725 SFF Platform Specifications

Processor	AMD A6 / A8 / A10	/ A12 and	d Ryzen 3 /	5 / 7 series	processor		Ethernet	Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN®			
-				L2/L3	Memory	Integrated	Ethernet (Opt.)	Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)			
	Processor	Cores / Threads	Frequency (Base/Max)	Cache	Support	Integrated Graphics	Manageability	DASH 10/1.1			
	PRO A6-9500	2/2	3.5 / 3.8	1MB	(Up to) DDR4-2400	Radeon R5	Security chip	Discrete TPM 2.0, TCG Certified			
	PRO A6-9500 PRO A8-9600	4/4	3.5 / 3.8	2MB	DDR4-2400 DDR4-2400	Radeon R5	Security features	Security slot (in rear for optional Power-on password			
	PRO A10-9700	4/4	3.5 / 3.8	2MB	DDR4-2400	Radeon R7		Kensington® MicroSaver® cable) ● Administrator password			
	PRO A12-9800	4/4	3.8 / 4.2	2MB	DDR4-2400	Radeon R7		Padlock loop     Hard disk password     Past assumes central			
	Ryzen 3 2300X	4/4	3.5 / 4.0	+	DDR4-2933	None		Smart USB protection, allows keyboard/     Boot sequence control     Boot without keyboard and mouse			
	Ryzen 5 2500X	4/8	3.6 / 4.0		DDR4-2933	None		Optional cable lock to physically lock     Individual USB port disablement			
	Ryzen 3 PRO 2200G	4/4	3.5 / 3.6	2MB / 4MB		Radeon Vega 8		both keyboard and mouse  • Optional chassis intrusion switch			
	Ryzen 5 PRO 2400G	4/8	3.6 / 3.8	2MB / 4MB	DDR4-2933		Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	Ryzen 5 PRO 2600	6 / 12	3.4 / 3.9	3MB / 16MB		None	l to j z o a. a	Some: Lenovo Traditional Keyboard (USB connector), black			
	Ryzen 7 PRO 2700	8 / 16	3.2 / 4.1	+	DDR4-2933	None		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
Mamani	64GB max, UDIMM	DDD4 0	)CCC* form	200 nin DIM	M applicate in	an FCC	Mauga	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)			
Memory	dual-channel capab		2000 , IOUI 2	200-bili Diivi	ivi sockets, n	on-ECC,	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black			
	* Systemboard supp		o DDR4-26	66. memory	frequency n	nav automatically		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
	clocks down for the							Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)			
Storage	Some: Hard Drive						Mechanical	SFF (8.4L), black color; metal case			
	Some: Solid State	Drive (SS	SD) / SATA 6	3.0Gb/s, 2.5		- P	iviculalillal	• (WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm			
	Some: M.2 SSD / F	PCIe NVN	/le, PCIe 3.0	) x 4*, 32Gb	/s			• Approx. 13.2 lb (6.0 kg), weight may vary by configuration			
	* 128GB SSD M.2 (			nd AMD A6	/ A8 / A10 / .	A12 processor only		Toolless cover, disk, optical removal			
Ontical	supports PCIe 3.0 x Some: DVD-ROM	(2, 16GD	/S Ch/o Drivo	olim (0 0mn	2)			<ul> <li>Optional dust filter</li> <li>Bay 1: Slim external ODD bay</li> <li>Bay 2: 3.5", nternal, HDD/SSD</li> <li>Bay 3: 2.5", internal, HDD/SSD (bay only comes with 2.5" 2nd disk)</li> </ul>			
Optical	Some: DVD-ROW Some:	3AIA 1.3 r (DVD+F	RW) SATA 1	566/s Driv	ı) e. slim (9.0m	nm)					
Onboard SATA	Three onboard SAT										
	available via specia	l bid mod	el)	•	、	' '		Slot 1: low-profile (length < 150mm, height < 68mm), PCIe 3.0 x16			
Media reader	Optional 7-in-1 med	lia reader	•					Slot 2: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1			
Graphics	AMD Radeon™ Gra	aphics in	processor	(only for so	me process	ors), uses main		Slot 3: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1			
	memory, DirectX® 12, one VGA, two DisplayPort™ (Onboard VGA and DP ports are only available on the models with integrated graphics), supports 3 independent displays, works along with AMD discrete graphics to support more displays; Max resolution: 4096x2160 (DP)@60Hz; 1920x1200 (VGA)@60Hz Some: NVIDIA Geforce® GT 730, DirectX 12, 2GB GDDR5, PCIe 2.0 x16 (x8 elec. adapter, two DisplayPort, 35 watts; Max resolution: 3840x2160 (DisplayPort)@60Hz Optional DP to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle,							Slot 4: low-profile (length < 150mm, height < 68mm), PCI 3.0			
							Floor Stand	M.2 card slots: two (one for WLAN, one for SSD) Optional system floor stand for vertical orientation			
							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)			
Mandanashi							1				
Monitor cable	Optional DP to VGA or DP to HDMI 1.4 (	dongle,	DP to DVI-E	dongle, DF	o to dual DP	dongle,	Limited warranty 1-year or 3-year, limited onsite service / service upgrades available				
Chipset	AMD B450 Chipse						Preload	Preloaded operating system Some: Windows 10 Pro 64-bit			
<u> </u>	•		1 Con1 1v	miorophone	(2 Emm) 1	v haadahana	-	Some: Windows 10 Home 64-bit			
From ports (Std.)	.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x microphone (3.5mm), 1x headphone (3.5mm)							Preloaded applications (only some listed)			
Front ports* (Opt.)	Optional: 1x media	reader, 2	x USB 3.1 T	vpe-C Gen2	via PCIe ca	rd (special bid only)		Lenovo Vantage     Missassiti Office preligeded.			
Rear ports* (Std.)	2x USB 3.1 Gen1, 2	x USB 2	.0, 1x serial	(9-pin), 1x e	ethernet (RJ	-45), 1x VGA**,		Microsoft Office preloaded; purchase a product key to activate			
	2x DisplayPort**, 2x			rd / mouse);	1x line-in (3	.5mm), 1x line-out		Cyberlink PowerDVD (only for models with DVD / DVD±RW)			
Poor porto* (Opt.)		(3.5mm), 1x microphone (3.5mm)  Optional: 2x USB 2.0, 1x 2nd serial (9-pin), 1x parallel (25-pin), additional RJ-45		additional D L 45		Cyberlink Power2GO (only for models with DVD±RW)					
near ports (Opt.)	and video ports ava	.∪, TX ∠N ilable on	ontional ara	nn), ix parai	ernet card	audilional HJ-45		• LinkedIn			
	* Depending on many	factore ac	tual data tran	efor enoud me		an theoretical speed	Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models);			
	** only available on the models with integrated graphics							ErP Lot 3; RoHS-compliant			
Audio support	High Definition (HD) Audio, Realtek ALC662 / optional internal speaker (1 watt )						Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),					d),					
	Some: 1120 wireles	Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377A (dual band),				(dual hand)					
		Wi-Fi + Bluetooth 4.2* combo adapter, 1x1			i (uuai vailu),						
	Some: 11ac wireles	ome: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), Wi-Fi + Bluetooth 4.2* combo adapter, 2x2									
	Wi-Fi + Blue	etooth 4.2	2* combo ac	lapter, 2x2							
	Some: 11ac wireles	ss, M.2 C	ard, Qualco	mm Atheros	s QCA6174 <i>A</i>	A (dual band),					
Bluetooth™	Wi-Fi + Blue Some: Bluetooth 4.	etooth 4.2	2* combo ac	apter, 2x2	RT combo	adantor					
Diuelooth	* Hardware support										
	i lai avvai o ouppoi i	J J 1 7.2,	Dat William	co ana ca	mor ormy out	/PO.10 D1 7.1	J				











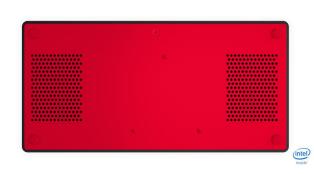


## ThinkCentre M75s-1 SFF Platform Specifications

Processor							Ethernet	Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN®			
	D	Cores /	Frequency	L2 / L3	Memory	Integrated	Ethernet (Opt.)	None			
	Processor	Threads (Base/Max) Cache Support Graphics		Manageability Security chip	DASH 10/1.1 Discrete TPM 2.0, TCG Certified						
	Athlon PRO 300GE	2/4			Radeon Vega 3	Security features	Security slot (in rear for optional     Power-on password				
	Ryzen 3 PRO 3200G	4/4	3.6 / 4.0		DDR4-2933	Radeon Vega 8		Kensington® MicroSaver® cable) • Administrator password			
	Ryzen 5 PRO 3400G	4/8	3.7 / 4.2	2MB / 4MB	DDR4-2933	Radeon Vega 11		Padlock loop     Hard disk password			
Memory	64GB max, UDIMM dual-channel capab * Memory may be u lower capability of m	le ndercloc	ked to DDR4	-1866, DD				<ul> <li>Smart USB protection, allows keyboard/mouse only, blocks all storage devices</li> <li>Optional smart cable clip to physically lock both keyboard and mouse</li> <li>Boot sequence control</li> <li>Boot sequence control</li> <li>Individual USB port disablement</li> <li>Optional chassis intrusion switch</li> </ul>			
Storage	Some: Hard Drive /	SATA 6.	0Gb/s, 2.5" o	or 3.5", 540	0 rpm or 720	00 rpm	Keyboard	Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
Optical	Some: M.2 SSD (2: Some: DVD-ROM)	242 / 228 SATA 1.5	Gb/s Drive.	vivie, PCie i slim (9.0mn	3.0 X2 or PC 1)	le 3.0 x4	Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)			
•	Some: DVD Burner	r (DVD±F	RW), SATA 1	.5Gb/s Driv	é, slim (9.0m		Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black			
Onboard SATA	Three onboard SATA available via special			s, RAID 0/1	support (RA	ID preset only		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
Media reader	Optional 7-in-1 med							Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)			
Graphics	AMD Radeon™ Gramemory, DirectX® 1: are only available or displays, works alon Max resolution: 409: Some: AMD Radeo two DisplayF	2, one V0 n the mo ng with A 6x2160 ( n™ <b>520</b> , Port, 30 v	GA, two Disp dels with inte MD discrete DP)@60Hz; DirectX 12, vatts (Max);	olayPort™ (Cegrated grap graphics to 2GB GDDF	Onboard VGA phics), suppo support moi	A and DP ports orts 3 independent re displays;	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, and extension card removal</li> <li>Optional dust filter</li> <li>Bay 1: Slim external ODD bay</li> <li>Bay 2: 3.5", internal, HDD/SSD</li> <li>Bay 3: 2.5", internal, HDD/SSD (bay only comes with 2.5" 2nd disk)</li> </ul>			
Monitor cable	Max resolution: 4096x2160 (DP)@60Hz Optional DP to VGA, DP to DVI-D (single link), DP to dual DP, or DP to HDMI 1.4							Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16 Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1			
Chipset	AMD PRO 560 FCH	I					Floor Stand	Slot 3: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1			
	) 2x USB 3.1 Gen2, 2 (3.5mm)		.1 Gen1, 1x	microphone	e (3.5mm), 1:	x headphone		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			
	) <i>Optional:</i> 1x media i ) 2x USB 3.1 Gen1 (c		ort Smort Do	wor On) 0:	LICE O O 1	v coriol (0 pip) 1v					
	ethernet (RJ-45), 1x line-in (3.5mm), 1x l ) <i>Optional:</i> 2x USB 2	VGA**, ine-out (	2x DisplayPo 3.5mm), 1x r	ort**, 2x PS nicrophone	/2 ports (key (3.5mm)	board / mouse); 1x	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)			
near ports (Opt.	optional graphics ca		ialiei (25-piii	), auditiona	i video poi is	available on	Limited warranty	1-year or 3-year, limited onsite service / service upgrades available			
	* Depending on many to a validable on the		tual data trans vith integrated	sfer speed ma graphics	ay be lower tha	an theoretical speed	Preload	Preloaded operating system Some: Windows 10 Pro 64-bit			
Audio support	High Definition (HD) Audio, Realtek ALC662 / optional internal speaker (1 watt )			Some: Windows 10 Home 64-bit							
WLAN		Come: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2			Some: Windows 10 IoT Enterprise Some: Linux Ubuntu						
	Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2			Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models); ErP Lot 3; RoHS-compliant, WEEE						
	Some: 11ac wireles Wi-Fi + Blue	e: 11ac wireless, M.2 Card, Intel Wireless-AC 9260 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2				Accessories	For compatible accessories, please go to http://smartfind.lenovo.com				
Bluetooth™	Some: Bluetooth 4.	2 / 5.0 w	rireless, integ	rated in Wi	-Fi + BT com	nbo adapter					
Note: The specifica	ations above may not b	e availab	le in all region	ns				Lenovo, September 2019			



















# ThinkCentre M90n-1 Nano Platform Specifications

Processor	Intel® 8th Generation	Intel Core	e™ i3 / i5 / i7 Pro	cessor			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	Pro function through CG Certified		
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2400	UHD 620	Security features	• Security slot (in rea	ar for optional	<ul> <li>Boot sequence</li> </ul>	
	Core i5-8265U	4/8	1.6G / 3.9G	6 MB	DDR4-2400	UHD 620		Kensington® Micro	Saver® cable)		yboard and mouse
	Core i5-8365U	4/8	1.6G / 4.1G	6 MB	DDR4-2400	UHD 620		<ul><li>Chassis intrusion s</li><li>Power-on passwor</li></ul>		<ul> <li>Individual USB</li> <li>Smart USB pro-</li> </ul>	port disablement tection, allows keyboard/
	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 / DDR						Keyboard	Hard disk password     Some: Lenovo Calliope Keyboard (USB connector), black			Κ
Storage	Support up to two M. Some: M.2 2280 SS Some: M.2 2242 SS Some: Intel Optane	2 SSD 5D / PCIe I 5D / PCIe I ™ Memory	NVMe, PCIe 3.0 NVMe, PCIe 3.0	x 4* x 2 State St			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 supposome: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
RAID Optical	* M.2 SSD / Optane with RAID 0/1 support (R. None	h SSD in Po AID prese	Cle 3.0 x 2 M.2 slot t only available v	t can only ia speci	al bid model)		Mechanical	Nano (0.35L), black Three M.2 slots: two for WLAN		PCIe 3.0 x4 and or	ne PCIe 3.0 x2) and one
Graphics	Intel UHD Graphics	<b>620</b> in pro	cessor, uses ma	ain mem	ory, DirectX® 12,	one			Dimension	ns (WxDxH)	Weight (Approx.)
	DisplayPort™, one U displays;  Max resolution: 4096	,,		' '	, , ,	ndependent		M90n-1 Nano (with fan, 0.35L)	7.05" X 3.4	46" X 0.87" 3mm X 22mm	1.11 lb (0.505 kg), vary by config
Monitor cable	Optional DP to VGA HDMI dongle, Type-C	dongle,`Dl	o to HDMI dongle			, Type-C to	Mounting	Some: VESA mount	t bracket kit, suppo t bracket kit with ac	orts VESA 75mm daper holder, supp	, , , , ,
Chipset	Intel SoC (System of						Floor Stand	Some: DIN rail mou None	nt bracket kit		
Front ports (Std.)	* 2x USB 3.1 Gen2, 1) jack (3.5mm)	( USB 3.1	Type-C Gen 2, o	ne head	lphone / microph	one combo	Power supply	65 watts AC/DC ada	pter. autosensing.	88% PSU (Not for	TIO models)
Rear ports (Std.)	* 2x USB 3.1 Gen2, 1x power-in [20V and >4 * Depending on many f	45W]), 1x	eťhernet (RJ-45)	, 1x Dis	pláyPort ´ '		Limited warranty		ted onsite service	e / service upgrade	es available
Audia augaset	Realtek ALC233VB /			eeu may	be lower trian trieor	elicai speed	Preload	Preloaded operatin	g system		
Audio support WLAN	Some: 11ac wireless	s, M.2 Car	d, Realtek RTL8		(dual band),			Some: Windows® 1 Some: Windows 10	0 Pro 64-bit Home 64-bit		
	Some: 11ac wireles	s, M.2 Cai	ombo adapter, 1 d, Realtek RTL8 ombo adapter, 2	822CE	(dual band),		Environment	ENERGY STAR® 7.1 TUV ultra low noise			ca), ErP Lot 3, TCO 8.0, EEE, REACH
	Some: 11ac wireles: Wi-Fi + Bluet	s, M.2 Car tooth 5.0 c	d, Intel Wireless ombo adapter, 1	-AC 946 x1	, , , , , , , , , , , , , , , , , , , ,		MIL-SPEC test				re, Low Temperature, Shock, Solar Radiation)
	Some: 11ac wireles: Wi-Fi + Bluet	s, M.2 Cai tooth 5.0 c	d, Intel Wireless ombo adapter, 2	-AC 956 x2			Accessories	For compatible acces			
	Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, Intel vPro technology support, 2x2										
Bluetooth Ethernet	Some: Bluetooth 5.0 Gigabit ethernet, Inte					e on LAN®					
Note: The specifics	ations above may not be	available	in all regions								Lenovo, July 2019



















# ThinkCentre M90n-1 Nano IoT Platform Specifications

Processor	Intel® Celeron® or 8th	h Generati	on Intel Core™ i3	Proces	ssor		Manageability	None
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	Security chip	Discrete TPM 2.0, TCG Certified
	Celeron 4205U	Threads 2/2	Base/Max(GHz)	2 MB	(Up to) DDR4-2133	Graphics UHD 610	Security features	Security slot (in rear for optional Kensington® MicroSaver® cable)     Boot sequence control     Boot without keyboard and mouse
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2133 DDR4-2400	UHD 620		Chassis intrusion switch     Individual USB port disablement
NA						0110 020	1	Power-on password
Memory	4GB / DDR4-2666* / * System automatica					ory controlle		Administrator password     Hard disk password
Storage	* M.2 SSD / Optane with	SD / PCIe I SD / PCIe I ™ Memory 3.0 x 4 (no th SSD in Po	NVMe, PCIe 3.0 H10 with Solid Sot support Celero Cle 3.0 x 2 M.2 slot	x 2 State St n) can only	run at PCle 3.0 x2		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 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
RAID Optical	RAID 0/1 support (R. None	AID prese	t only available v	ia speci	al bid model)		Mechanical	Nano (fanless 0.55L), black color; metal case
Graphics	Intel UHD Graphics DisplayPort™, one U						1	Four M.2 slots: two for M.2 SSD (one PCle 3.0 x4 and one PCle 3.0 x2), one fo WLAN, and one for WWAN
	displays;	3D 3.1 1y	De-C Genz with C	iispiay ii	unction, up to 2 i	пиерепиет		Dimensions (WxDxH) Weight (Approx. )
Monitor cable	Max resolution: 4096 Optional DP to VGA	dongle, DI	P to HDMI dongle			, Type-C to		M90n-1 Nano IoT (fanless, 0.55L)         7.05" X 3.46" X 1.36" 179mm X 88mm X 34.5mm         1.58 lb (0.72 kg), vary by config
Object	HDMI dongle, Type-C						Mounting	Some: VESA mount bracket kit, supports VESA 75mm
Chipset	Intel SoC (System o							Some: VESA mount bracket kit with adaper holder, supports VESA 75mm
. , ,	* 2x USB 3.1 Gen2, 1x jack (3.5mm), 2x seri	ial					Floor Stand	Some: DIN rail mount bracket kit None
Rear ports (Std.)*	<i>With Celeron:</i> 1x US	SB 2.0, 1x	USB 3.1 Type-C	Gen 2 (	with display funct	tion, suppor	Power supply	Some: 65 watts AC/DC adapter, autosensing, 88% PSU
	With Core i3: 1x US	er-in (20v, : SB 3.1 Ger	> 45vvj), 1x etne 12, 1x USB 3.1 Tv	rnet (RJ /pe-C G	-45). TX DISDIAVE	y function,		Some: 65 watts AC/DC adapter (wide temperature), autosensing, 88% PSU (or for Machine Type 11AS)
	* Depending on many f	factors, actu	ial data transfer spe	ed may	be lower than theor	etical speed	Limited warranty	
Audio support	Realtek ALC233VB /	/ internal s	peaker (1watt)				<u></u>	Some: 3-year, limited onsite service / service upgrades available
WLAN	Some: 11ac wireles	tooth 5.0 c s, M.2 Cai	combo adapter, 1	x1 822CE	,,		Preload	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)
		tooth 5.0 c	combo adapter, 1	x1	,,,		Environment	ENERGY STAR® 7.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO 8. TUV ultra low noise verified (on some models), RoHS, WEEE, REACH
		tooth 5.0 c	combo adapter, 2	x2	,		MIL-SPEC test	MIL-STD-810H (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Solar Radiation
	Some: 11ac wireles: Wi-Fi + Bluet				60 (dual band), 5 technology sup	port. 2x2	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com
Bluetooth Ethernet	Some: Bluetooth 5.0 With Celeron: Gigab With Core i3: Two g	O wireless, oit etherne	integrated in Wi t, Realtek RTL81	Fi + BT 11K, 1x	combo adapter RJ-45, Wake on	LAN®		
Note: The enecified	ations above may not be	o ovoiloble	in all regions				·	Lenovo July 2













# ThinkCentre M910 SFF Platform Specifications

Processor	Intel® Celeron®. Int	tel Pentiur	m®, or 6/7th Gen	eration Ir	ntel Core™ i3 / i5 /	/ i7 Processor	Security features	Security slot (in rear for optional     Power-on password
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)			Kensington® MicroSaver® cable)  • Padlock loop  • Administrator password  • Hard disk password
	Core i5-6500	4 / 4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530		<ul> <li>Smart USB protection, allows keyboard/</li> <li>Boot sequence control</li> </ul>
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530		<ul> <li>mouse only, blocks all storage devices</li> <li>Optional cable lock to physically lock</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> </ul>
	Core i3-7300	2/4	4.0G /	4 MB	DDR4-2400	HD 630		<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>
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630	rtcyboard	Some: Lenovo Traditional Keyboard (USB connector), black
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630	Mauro	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
Memory	64GB max, UDIMN dual-channel capa * System automatic	bĺe	'		,	•	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. 11.92 lb (5.4 kg), weight may vary by configuration</li> </ul>
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S	e Drive (St State Driv	SD) / SATA 6.0G e (SSD) / PCIe N	b/s, 2.5" IVMe, P	Cle 3.0 x 4, 32Gb	/s		<ul> <li>Toolless cover, disk, optical, graphic card removal</li> <li>Optional dust filter</li> <li>Bay 1: Slim external ODD bay</li> </ul>
Optical	Some: Intel Optan Some: DVD-ROM Some: DVD Burne	1 SATA 1.5 er (DVD±l	5Gb/s Drive, slim RW). SATA 1.5G	(9.0mm b/s Drive	) . slim (9.0mm)			Bay 2: 3.5", 1" high, internal, HDD/SSD Bay 3: 2.5", internal, HDD/SSD (optional bay) Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16*
Onboard SATA	Four onboard SATA available via specia	A 6.0Gb/s al bid mod	connectors, RAI del)	ID 0/1 su	pport (RAID pres	et only		Slot 2: low-profile (length < 150mm, height < 68mm), PCle 3.0 x1* Slot 3: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16 (x4 signal)*
Media reader	Optional 7-in-1 me						-	Slot 4: no slot, only bracket for optional port extension* M.2 card slots: Two (one for WLAN, one for SSD/Optane)
Graphics	one VGA, two Disp discrete graphics to	olayPort™, o support	, supports 3 inde more displays;	pendent	displays, works a			*Optional 2 front USB3.1 Type-C ports module occupies PCIe x16 (x4 signal) slot optional rear 2x USB2.0 / parallel / 2nd serial / cable lock / Wi-Fi antenna occupies one expansion slot
	Max resolution: 409 Some: NVIDIA Ge	96x2304 (	(DP) @ 60Hz; 204 <b>T 730</b> Direct <b>Y</b> 17	18x1536	(VGA)@50Hz PCIo 2 0 v8 adapt	or	Floor Stand	Optional system floor stand for vertical orientation
	two Display			2, 2GD, F	Cie 2.0 xo auapi	ei,	Power supply	Some: 180 watts, autosensing, 85% PSU
Monitor cable		ition: 3840	x2160 (DisplayP	ort)@60 k), DP to	Hz; dual DP, or DP to	HDMI 1.4	Tower suppry	Some: 210 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 92% PSU (only available via special bid)
Chipset	Intel Q270 Chipse	et						
Front ports*	Four USB 3.1 Gen				en 2 (only availabl	e via special		Some: 1-year or 3-year, limited onsite service / service upgrades available
Rear audio ports	bid), microphone (3 Four USB 3.1 Gen optional parallel (2 PS/2 ports (keyboa additional DisplayF Line-in (3.5mm), lir	11, optiona 5-pin), eth ard/mouse Port on op	al two USB 2.0, s nernet (RJ-45), o e); tional graphics o	eríal (9-p ne VGA, n some l	two DisplayPort, models	serial (9-pin), optional two	Preload	Preloaded operating system  Some: Windows® 7 Professional 32/64 preinstalled through downgrade rights in Windows 10 Pro 64-bit (not available with 7th Gen Intel processes)  Preloaded applications (only some listed)  Microsoft Office preloaded; purchase a product key to activate - Only for Window 10
IEEE 1394*	None * Depending on many					retical speed		some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit Lenovo Companion - Only for Window 7  Lenovo Companion - Only for Window 7  Lenovo Solution Center
Audio support	High Definition (HD				<u> </u>	<u> </u>	-	<ul> <li>Lenovo ThinkVantage Tools</li> </ul>
WLAN <sup>13</sup>	Some: 11ac wirele Wi-Fi + Blu Some: 11ac wirele	ess, M.2 ( uetooth 4. ess, M.2 (	Card, Qualcomm 1 combo adapte	Atheros r, 1x1 Atheros	QCA9377A (dual	l band),		<ul> <li>Create Recovery Media</li> <li>Adobe® Reader®</li> <li>Cyberlink PowerDVD Create (DVD±RW)</li> </ul>
	Some: 11ac wirele Wi-Fi + Blu	ess, M.2 ( uetooth 4.	Card, Intel Dual E 1 combo adapte	Band Wir r, 1x1				ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, GREENGUARD®, RoHS-compliant,
	Some: 11ac wirele Wi-Fi + Blu		Card, Intel Dual E 1 combo adapte		eless-AC 8265,			TUV low noise verified (on some models)  For compatible accessories, please go to http://www.lenovoquickpick.com
	Some: 11ac wirele Wi-Fi + Blu	ess, M.2 ( uetooth 4.	Card, Intel Dual E 1 combo adapte	Band Wir r, Intel vF	Pro technology su	pport, 2x2	, 1000001100	. o. ospanore accessorios, piedes go to international ordinational
Bluetooth™ Ethernet Modem	Some: Bluetooth 4 Gigabit ethernet, Ir None							
Manageability Security chip	Intel Active Manag Intel vPro technolo adapter to enable v TPM (Trusted Platf * Downgrade to TP	ogy on sor vPro funct form Mod	ne models (requition through wire ule) 2.0, TCG Ce	ire choos less con ertified	sing a vPro-suppo nection)	ort Wi-Fi		













# ThinkCentre M910 Tiny Platform Specifications

		la	
Processor	Intel® Celeron®, Intel Pentium®, or 6/7th Generation Intel Core™ i3 / i5 / i7 Processor	Security features	<ul> <li>Security slot (in rear for optional Kensington® MicroSaver® cable)</li> <li>Administrator password</li> <li>Hard disk password</li> </ul>
	Processor Cores / Threads Base/Max(GHz) Cache Memory Support Integrated Graphics		Smart USB protection, allows keyboard/     Boot sequence control     mouse only, blocks all storage devices     Boot without keyboard and mouse
	Core i5-6500T 4 / 4 2.5G / 3.1G 6 MB DDR4-2133 HD 530		Power-on password     Individual USB port disablement
	Core i7-6700T         4 / 8         2.8G / 3.6G         8 MB         DDR4-2133         HD 530		<ul> <li>Chassis intrusion switch</li> </ul>
	Core i5-7500T 4 / 4 2.7G / 3.3G 6 MB DDR4-2400 HD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i5-7600T 4 / 4 2.8G / 3.7G 6 MB DDR4-2400 HD 630		Some: Lenovo Traditional Keyboard (USB connector), black
	Core i7-7700T   4 / 8   2.9G / 3.8G   8 MB   DDR4-2400   HD 630	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black
Memory	32GB max, DDR4-2400*, two 260-pin SO-DIMM sockets, non-ECC, dual-channel capable  * System automatically clocks down for the processors with lower memory controller	Mechanical	Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Tiny (1L), black color; metal case
Storage	Some: Hard Drive / SATA 6.0Gb/s, 2.5", 5400 rpm or 7200 rpm, APS	Moonanioa	Toolless chassis open     Toolless HDD, SSD, memory removal
C	Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5"  Some: M.2 Solid State Drive (SSD) / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s  Some: Intel Optane™ Memory (models with 7th gen Core processor), M.2		Optional toolless chassis screw  Optional dust filter
Optical	Some: DVD-ROM, slim (9.0mm), via USB external ODD box		Dimensions (WxDxH) Weight (Approx. )
Onboard SATA	Some: DVD Burner (DVD±RW), slim (9.0mm), via USB external ODD box One onboard SATA 6.0Gb/s connector		M910 Tiny only 7.05" X 7.20" X 1.36" 2.91 lb (1.32 kg), vary by config
Media reader Graphics	None Intel HD Graphics 510/530/610/630 in processor, uses main memory, DirectX® 12,	_	With VESA mount & 7.42" X 7.30" X 2.48" 3.66 lb (1.66 kg), ODD box 188.4mm X 185.38mm X 63mm vary by config
	two DisplayPort™, one optional video port (HDMI, VGA, 3rd DP, or USB 3.1 Type-C with DisplayPort Alternate Mode), up to 3 independent displays;		With VESA mount & 7.42" X 7.30" X 2.62" 3.66 lb (1.66 kg),
	Max resolution: 4096x2304 (DP) @ 60Hz; 4096x2304 (Type-C) @ 60Hz; 4096x2160 (HDMI) @ 24Hz; 1920x1200 (VGA) @ 60Hz		I/O box 188.4mm X 185.38mm X 66.6mm vary by config
Monitor cable	Optional DP to VGA, DP to DVI-D (single link), DP to dual DP, or DP to HDMI 1.4	VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation
Chipset	Intel Q270 Chipset	Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)
Front ports*	Two USB 3.1 Gen1 (one is Always On and fast charge), one microphone (3.5mm),		90 watts AC/DC adapter, autosensing, 88% PSU (only for models with I/O box)
Rear ports*	one headphone / microphone combo jack (3.5mm) Four USB 3.1 Gen1 (optional external optical box or external I/O box occupies one or two specific USB 3.1 Gen1 on some models), ethernet (RJ-45), two DisplayPort,	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
	two optional ports (Port 1 for VGA / 3rd DP / HDMI / serial / USB 3.1 Type-C Gen 1 (with DisplayPort Alternate Mode), Port 2 for serial)	Preload	Some: Windows® 7 Professional 32/64 Preloaded applications (only some preinstalled through downgrade listed)
I/O box*	Optional external I/O box, extends two USB 2.0, two USB 3.1 Gen1, and one serial on rear, two USB 2.0 on front, via USB cable (occupy two specific USB 3.1 Gen1 of		rights in Windows 10 Pro 64-bit • Microsoft Office preloaded; (not available with 7th Gen Intel purchase a product key to activate
	Tiny)  * Depending on many factors, actual data transfer speed may be lower than theoretical speed		processor)  Some: Windows 10 Pro 64-bit  - Only for Window 10  Lenovo Companion
Audio support	High Definition (HD) Audio, Realtek ALC294 / optional internal speaker (1w or 2w)	-	Some: Windows 10 Home 64-bit  Intel Unite download link
WLAN <sup>13</sup>	Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377A (dual band),	1	(vPro models only)
WLAIN	Wi-Fi + Bluetooth 4.2 combo adapter, 1x1		- Only for Window 7
	Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band),		<ul><li>Lenovo Solution Center</li><li>Lenovo ThinkVantage Tools</li></ul>
	Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,		Create Recovery Media
	Wi-Fi + Bluetooth 4.2 combo adapter, 1x1		Adobe® Reader®     Cyberlink PowerDVD Create
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2		(ĎVD±RW)
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,	Environment	Intel Unite (vPro models only)  ENERGY STAR® 6.1, EPEAT™ Gold rating (North America),
Bluetooth™	Wi-Fi + Bluetooth 4.2 combo adapter, Intel vPro technology support, 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	ENVIRONMENT	ErP Lot 3, GREENGUARD®, RoHS-compliant, TUV low noise verified (on some models)
Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature,
Manageability	Intel Active Management Technology 11.0 (Intel AMT 11.0); Intel vPro technology on some models (require choosing a vPro-support Wi-Fi		Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar Radiation)
Security chip	adapter to enable vPro function through wireless connection) TPM (Trusted Platform Module) 2.0*, TCG Certified  * Downgrade to TPM1.2 for the models with Win10 DG Win7 32 OS	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com

See footnotes for more detailed information (M910 Tiny-Spec) February 2017













# ThinkCentre M910 Tower Platform Specifications

			® 0/711 O				le	0: 1: 1
Processor	Intel® Celeron®, Int			eration In	i i		Ethernet Modem	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN None
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Manageability	Intel Active Management Technology 11.0 (Intel AMT 11.0);
	Core i5-6500	4/4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530		Intel vPro technology on some models (require choosing a vPro-support Wi-Fi
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530	Security chip	adapter to enable vPro function through wireless connection) TPM (Trusted Platform Module) 2.0, TCG Certified
	Core i3-7300	2/4	4.0G /	4 MB	DDR4-2400	HD 630		* Downgrade to TPM1.2 for the models with Win10 DG Win7 32 OS
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630	Security features	Security slot (in rear for optional     Power-on password
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630		Kensington® MicroSaver® cable) • Administrator password
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630		<ul> <li>Padlock loop</li> <li>Smart USB protection, allows keyboard/</li> <li>Hard disk password</li> <li>Boot sequence control</li> </ul>
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630		mouse only, blocks all storage devices  • Boot sequence control  • Boot sequence control
Memory	64GB max, UDIMN dual-channel capal	hĺa	, , , , , , , , , , , , , , , , , , ,		,	*		<ul> <li>Optional cáble lock to physically lock both keyboard and mouse</li> <li>Individual USB port disablement</li> <li>Optional chassis intrusion switch</li> </ul>
Otawa	* System automation	Cally Clock	OCh/a O FII ar O	TIL FACO	S WILLI IOWEL THEIL	ory controller	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
Storage	Some: Hard Drive Some: Solid State	Drive (S	SD) / SATA 6.0G	.5", 5400 h/s. 2.5"	rpm or 7200 rpm			Some: Lenovo Traditional Keyboard (USB connector), black
	Some: M.2 Solid S	State Drive	e (ŚSD) / PCIe N	IVMe, PO	Cle 3.0 x 4, 32Gb	/s	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black
	Some: Intel Optan	ne™ Memo	ory (models with	7th gen	Core processor),	M.2		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
Optical	Some: Front accessome: DVD-ROM	SSIDIE AND	5Gb/s 5 25" or	), 3.5", 10 slim (9 Ni	ckable via priysic: mm)	агкеу	Mechanical	Tower (18L), black color, metal case
Optioai	Some: DVD Burne	er (DVD±F	RW), SATA 1.5GI	b/s, 5.25'	or slim (9.0mm)			• (WxDxH) 6.5" X 12.65" X 16.15"; 165mm X 321.35mm X 410.25mm
Onboard SATA	Four onboard SATA	4 6.0Gb/s	connectors (1x	eSATA ar		D 0/1 support		<ul> <li>Approx. 15.45 lb (7 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, graphic card removal</li> </ul>
Media reader	(RAID preset only a Optional 7-in-1 me			odel)				Optional carry handle, dust filter
Graphics	Intel HD Graphics			ecor He	es main memory	DirectY® 12		Bay 1: Slim external ODD bay
Graphics	one VGA, two Disp	olayPort™.	supports 3 inde	pendent	displavs, works a	long with		Bay 2: 5.25", 1.6" high, external, ODD / optional front access HDD Bay 3: 3.5", 1" high, internal, HDD/SSD
	discrete graphics to	o support	more displays;			Ü		Bay 4: 3.5", 1" high, internal, HDD/SSD (optional bay, bay comes with disk)
	Max resolution: 409 Some: NVIDIA Ge					or		Bay 5: 2.5", internal, HDD/SSD (optional bay)
	two Display			L, 20D, I	Ole 2.0 X0 adapt	GI,		Notes: M910 Tower supports up to 3 SATA devices (ODD/HDD/SSD) and 1 eSATA device (front access HDD)
	Max resolu	tion: 3840	x2160 (DisplayP	ort)@60	Hz;			Slot 1: full-length full-height (length < 268mm, height < 112mm), PCIe 3.0 x16*
	Some: AMD Rade		3 <b>50</b> , DirectX 11, 2 75 watts, occup					Slot 2: full-length full-height (length < 268mm, height < 112mm), PCle 3.0 x1*
					1015, 148x1536 (VGA)@	985Hz		Slot 3: full-length full-height (length < 268mm, height < 112mm), PCle 3.0 x16 (x4 signal)*
	Some: NVIDIA Ge	force GT	<b>X™ 1080</b> (onlý a	vailable v	ia special bid mo			Slot 4: no slot, only bracket for optional port extension*
			le 3.0 x16 adapt 0 watts, occupie		VI-D, one HDMI,			M.2 card slots: Two (one for WLAN, one for SSD/Optane)
					096x2160 (HDMI)	@60Hz		* Optional 2 front USB3.1 Type-C ports module occupies PCle x16 (x4 signal) slo optional rear 2x USB2.0 / parallel / 2nd serial occupies one expansion slot
Manitan Calala		7680	x4320 (with Sing	gle DP)@	60Hz		Danis	· · · · · · · · · · · · · · · · · · ·
Monitor Cable	Optional DP to VG		DVI-D (single link	(), DP to	dual DP, or DP to	HDMI 1.4	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 250 watts, autosensing, 85% PSU
Chipset					0 / 1 111			Some: 400 watts, autosensing, 92% PSU (only available via special bid)
Front ports*  Rear ports*	Four USB 3.1 Gen bid), microphone (3 Four USB 3.1 Gen	3.5mm), h	eadphone (3.5m	im)	` ,	·	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
ricai porto	optional parallel (2)	5-pin), eth	nernet (RJ-45). o	ne VGA.	two DisplayPort.	optional two	Preload	Preloaded operating system
	PS/2 ports (keyboa	ard/mouse	e);			•		Some: Windows® 7 Professional 32/64 listed)
Rear audio porto	additional VGA, Dis	spiayPort,	טעו-ט, or HDMI	on optio	nai graphics on s	ome models		preinstalled through downgrade • Microsoft Office preloaded;
IEEE 1394*	Line-in (3.5mm), lir None	ne-out (3.	omm), microphoi	ne-in (3.5	инт)			rights in Windows 10 Pro 64-bit purchase a product key to activate (not available with 7th Gen Intel - Only for Window 10
	* Depending on many	/ factors, ac	ctual data transfer s	speed may	be lower than theo	retical speed		processor) • Lenovo Companion
Audio support	High Definition (HD	D) Audio, F	Realtek ALC662	/ optiona	l internal speaker	(1.5 watt )		Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit - Only for Window 7 • Lenovo Solution Center
WLAN	Some: 11ac wirele Wi-Fi + Blu	ess, M.2 Cuetooth 4.	Card, Qualcomm 1 combo adapter	Atheros	QCA9377A (dual	band),		Lenovo Think Vantage Tools     Create Recovery Media
	Some: 11ac wirele	ess, M.2 C	Card, Qualcomm	Atheros	QCA6174A (dual	band),		<ul> <li>Adobe® Reader®</li> </ul>
	Wi-Fi + Blu Some: 11ac wirele		1 combo adapter		Nocc-∆C 2165			Cyberlink PowerDVD Create     (DVD - DW)
			ard, inter Duar E 1 combo adapter		51535-AC 3103,		Cardina a const	(DVD±RW)
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,			Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, GREENGUARD®, RoHS-compliant,			
		Wi-Fi + Bluetooth 4.1 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,				TUV low noise verified (on some models)		
	Wi-Fi + Blu	ະວຣ, ເທ.∠ ເ uetooth 4∵	zaru, iritei Dual E 1 combo adaptei	and wife . Intel vP	eiess-AC 8265, ro technology su	oport. 2x2	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com
Bluetooth™	Some: Bluetooth							



















## ThinkCentre M920 SFF Platform Specifications

Processor	Intel® Celeron®, Intel	Pentium®	, or 8th / 9th Ger	Intel Co	ore™ i3 / i5 / i7 / i9	Processor	Audio support	High Definition (HD) Audio, Realtek ALC233VB2 / internal speaker (2 watt )
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support		WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),
	Celeron G4900	2/2	3.1G	2 MB	(Up to) DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band),
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 2x2
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 1x1
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630		Wi-Fi + Bluetooth 5.0 combo adapter, Intel vPro technology support, 2x2
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	Bluetooth	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 (Opt.)	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN® 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		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	Coourity obio	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	<ul> <li>Security slot (in rear for optional Kensington® MicroSaver® cable)</li> <li>Power-on password</li> <li>Administrator password</li> </ul>
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		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		both keyboard and mouse  • Boot without keyboard and mouse
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		<ul> <li>Optional chassis intrusion switch</li> <li>Optional chassis E-Lock (special bid)</li> <li>Smart USB protection, allows keyboard.</li> </ul>
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	,	Some: Lenovo Traditional Keyboard (USB connector), black
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black
Memory	64GB max, DDR4-26 * System automatical						Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid) Some: Lenovo Calliope Mouse (USB connector), black
Storage	Some: Hard Drive / Some: Solid State D Some: M.2 Solid Sta	SATA 6.00 rive (SSD	Gb/s, 2.5" or 3.5" 0) / SATA 6.0Gb/s	, 5400 rp	om or 7200 rpm	•		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)
Optical	* 128GB SSD M.2 (2: Some: Intel Optane <sup>T</sup> Some: DVD-ROM, S Some: DVD Burner	242) PCI Memory  SATA 1.5€	e NVMe only sup / (not support Ce ab/s Drive, slim (	ports PC eleron / P 9.0mm)	Cle 3.0 x 2, 16Gb/ Pentium Processo	'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. 13.23 lb (6 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, extension card removal</li> </ul>
Onboard SATA	Four onboard SATA 6 available via special b	6.0Gb/s co	onnectors, RAID			only		Optional dust filter Bay 1: Slim external ODD bay
Media reader	Optional 7-in-1 media		,					Bay 2: 3.5", 1" high, internal, HDD/SSD
Graphics	Intel UHD Graphics one VGA, two Display discrete graphics to s Max resolution: 4096: Some: NVIDIA Gefor two DisplayPo	yPort™, su support m x2304 (Di rce® GT 7 ort, 35 wa	upports 3 indepe ore displays; P) @ 60Hz; 2048; <b>′30</b> , DirectX 12, 2	ndent dis 1536 (Ve 2GB, PC	splays, works aloi GA)@50Hz le 2.0 x16 adapte	ng with	Floor Stand	Bay 3: 2.5", internal, HDD/SSD (optional bay) Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16 Slot 2: low-profile (length < 150mm, height < 68mm), PCle 3.0 x1 Slot 3: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16 (x4 signal) 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
Monitor cable	Optional DP to VGA of Display with intel inte	dongle, D	P to DVI-D dong	e, DP to	dual DP dongle (	for Collage	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU 260 watts, autosensing, 85% PSU (only qualifylia via special bid)
Chipset	Intel Q370 Chipset						I the transfer of the second	Some: 260 watts, autosensing, 92% PSU (only available via special bid)
Front ports* (Std.)	2x USB 3.1 Gen2, 2x 1x microphone (3.5m						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* (Opt. Rear ports* (Std.)	) <i>Optional:</i> 1x media re 4x USB 3.1 Gen1, 1x	eader	•		, ,	,	Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit
	1x line-out (3.5mm) ) <i>Optional:</i> 2x USB 2.0	. 2x USB	3.1 Gen1 via PC	le x1, 2x	USB 3.1 Type-C	Gen2	Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant
	via PCIe x4 (special I 1x parallel (25-pin), 2 USB3.1 Type-C Gen additional RJ-45 and * Depending on many fa	oid only), xx PS/2 po 2 / Displa video poi	1x 2nd serial (9- orts (keyboard/m yPort) via PCIe o ts available on c	pin), 4x s ouse), 1x (4 (availa ptional g	serial (9-pin) via F x Thunderbolt 3 (o able on 09/30/201 graphics or ethern	PCIe x1, combo 8), et card	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com





















# ThinkCentre M920 Tiny Platform Specifications

Processor	Intel® Celeron®, Intel F	Pentium®.	or 8th / 9th Gen	Intel Co	ore™ i3 / i5 / i7 / i	9 Processor	Bluetooth	Some: Bluetooth 4.2	2/5.0 wireless, inte	egrated in Wi-Fi + B	combo adapter
1 10000001	Processor	Cores /	Frequency		Memory Support		Ethernet	Gigabit ethernet, Inte	el Ethernet Conne	ction I219-LM(Jacks	sonville), Wake on LAN®
		Threads	Base/Max(GHz)		(Up to)	Graphics	Ethernet (Opt.)				rnet, 4x RJ-45, PCle x4
	Celeron G4900T	2/2	2.9G	2 MB	DDR4-2400	UHD 610	Manageability	Intel Active Manager Intel vPro technology	ment Technology 1	12 (Intel AMT 12);	vPro-support Wi-Fi
	Celeron G4930T Pentium Gold G5400T	2/2	3.0G 3.1G	2 MB 4 MB	DDR4-2400 DDR4-2400	UHD 610 UHD 610		adapter to enable vP	ro function through	th wireless connection	on)
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400 DDR4-2400	UHD 630	Security chip	Discrete TPM 2.0, TO	CG Certified	,	,
	Pentium Gold G5600T	2/4	3.3G	4 MB	DDR4-2400	UHD 630	Security features	• Security slot (in rea	ar for optional	<ul> <li>Boot sequence</li> </ul>	
	Pentium Gold G5420T	2/4	3.2G	4 MB	DDR4-2400	UHD 610		Kensington® Micro	Saver® cable)	Boot without key	
	Core i3-8100T	4/4	3.1G	6 MB	DDR4-2400	UHD 630		<ul><li>Chassis intrusion s</li><li>Power-on passwor</li></ul>		<ul> <li>Individual USB</li> <li>Smart USB prot</li> </ul>	ection, allows keyboard/
	Core i3-8300T	4/4	3.2G	8 MB	DDR4-2400	UHD 630		<ul> <li>Administrator pass</li> </ul>			cks all storage devices
	Core i5-8400T	6/6	1.7G / 3.3G	9 MB	DDR4-2666	UHD 630		<ul> <li>Hard disk passwor</li> </ul>	rd		
	Core i5-8500T	6/6	2.1G / 3.5G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calli			
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630		Some: Lenovo Tradi	itional Keyboard (l	USB connector), bla	CK
	Core i7-8700T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Callie Some: Lenovo Callie	ope Wireless Keyl one Mouse (LISB	00ard (2.4GHZ VIa C connector) black	isb receiver), black
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB	DDR4-2400	UHD 630		Some: Lenovo Finge	erprint Mouse (US	SB connector), Wind	ows Hello support, black
	Core i3-9300T	4/4	3.2G / 3.8G	8 MB	DDR4-2400	UHD 630		Some: Lenovo Calli	ope Wireless Mou	ıse (2.4GHz via USE	3 receiver), black
	Core i5-9400T	6/6	1.8G / 3.4G	9 MB	DDR4-2666	UHD 630	Mechanical	Tiny (1L), black color	r; metal case		
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630		<ul> <li>Toolless chassis or</li> </ul>	pen (need optiona		crew)
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630		Toolless HDD, SSE     Ontional dust filter		al	
	Core i7-9700T	8/8	2.0G / 4.3G	12 MB	DDR4-2666	UHD 630		<ul> <li>Optional dust filter</li> <li>one 2.5" bay for HDF</li> </ul>		3 0 x8 slot (low-profi	le), two M.2 slots (one
	Core i9-9900T	8/16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630					d are mutually exclusive
Memory	32GB max, DDR4-266	66*, two 2	260-pin SO-DIMI	VI socket	s, dual-channel	capable	1		Dimension	ns (WxDxH)	Weight (Approx.)
Storage	* System automaticall	y clocks o	down for the pro	cessors	with lower memo			Tiny only	7.05" X 7.	.20" X 1.36" .9mm X 34.5mm	2.91 lb (1.32 kg), vary by config
Cicrago	Some: Solid State Dr Some: M.2 SSD / PC	iome: Hard Drive / SATA 6.0Gb/s, 2.5", 5400 rpm or 7200 rpm iome: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" iome: M.2 SSD / PCIe NVMe, PCIe 3.0 x 4*, 32Gb/s 128GB SSD M.2 (2242) PCIe NVMe only supports PCIe 3.0 x 2, 16Gb/s				n/s		With VESA mount & ODD box	7.42" X 7.	.30" X 2.48" 5.38mm X 63mm	3.66 lb (1.66 kg), vary by config
Optical	Some: Intel Optane™ Some: DVD-ROM, sli Some: DVD Burner (I	¹ Memory im (9.0mr	(not support Ce n), via USB exte	leron / P rnal ODI	Pentium Processo D box	or), M.2	VESA mount Floor Stand	Optional VESA mour Optional system floo			nd 100mm
Onboard SATA	One onboard SATA 6.	0Gb/s co	nnector	via OOD	external ODD to	JOX	Power supply	Some: 65 watts AC/	DC adapter, autos	sensing, 88% PSU	
Graphics	Intel HD Graphics 61 DisplayPort™, one HD	MI, one o	optional video po	ort (2nd F	HDMÍ, VGA, 2nd	DP,	,	Some: 90 watts AC/ Some: 135 watts AC	DC adapter, autos	sensing, 88% PSU	
	or USB 3.1 Type-C Ge Max resolution: 4096x	2304 (DF	P)@60Hz; 4096x	2304 (Ty	/pe-C)@60Hz;		Limited warranty	Some: 1-year or 3- Some: 1-year or 3-			
Monitor cable	Optional DP to VGA d Display with intel integ	longle, DF		e, DP to	dual DP dongle		Preload	Preloaded operatin Some: Windows® 1	0 Pro 64-bit		
Chipset	Intel Q370 Chipset	jiatoa gic	(prii00), or Br to	TIDIVII I	.+ dorigio		-	Some: Windows 10 Preloaded applicati		listed)	
	* one USB 3.1 Gen1 (A	lwave On	and fact charge	) one II	SR 3.1 Type-C G	2on 1	-	Lenovo Vantage	ions (only some	iisteu)	
r rom ports (ota.)	one microphone (3.5n							<ul> <li>Microsoft Office pr</li> </ul>			
	* 2x USB 3.1 Gen2, 2x	USB 3.1	Gen1, 1x ethern	et (RJ-4	<ol><li>5), 1x DisplayPo</li></ol>	rt, 1x HDMI		<ul><li>purchase a product</li><li>Cyberlink PowerD\</li></ul>		de with DVD / DVD+	D\\\\
Rear ports (Opt.)	* Two optional ports (mi	utually ex	clusive with PCI	e card):	Port 1 for VGA /	2nd DP /		Cyberlink Power20     Cyberlink Power20	GO (only for mode	els with DVD+RW)	nvv)
	2nd HDMI / serial / US Optional ports via PCI	on J. ۱۱۷  ام card: 2	v LISR 3.1 Gan1	via PCI	011); POIL 2 101 8 2 v1 1/2 carial (0	seriai, I-nin) via		• LinkedIn	o. o (o) . o o. o		
	PCle x1, 1x Thunderb	olt 3 (con	nbo USB3.1 Typ	e-C Gen	2 / DisplayPort)	via PCle x4		<ul> <li>Intel Unite (Machir</li> </ul>	ne Type 10V8 mod	dels only)	
	* Depending on many fac						Environment	ENERGY STAR® 7.0			
Audio support	Realtek ALC233VB2 /	optional /	internal speaker	(1.5 wa	tt or 2 watt)			TUV ultra low noise			
WLAN	Some: 11ac wireless, Wi-Fi + Blueto	oth 4.2 c	ombo adapter, 1	x1 `	,		MIL-SPEC test		emperature Shock		le], High Temperature, d Dust, Vibration, Shock,
	Some: 11ac wireless	, M.2 Car	d, Realtek RTL8	822BE (	dual band),		Annonceite		<u> </u>	. to batton.//o	Llanava aarr
	Some: 11ac wireless	, M.2 Car	ombo adapter, 2 d, Intel Dual Bar ombo adapter, 1	nd Wirele	ess-AC 3165,		Accessories	For compatible acces	ssories, please go	ιο <b>πττp://smartfinc</b>	i.ienovo.com
	Some: 11ac wireless	, M.2 Car		nd Wirele	ess-AC 8265,						
	Some: 11ac wireless	, M.2 Car		-AC 9560		port, 2x2					





















# ThinkCentre M920 Tower Platform Specifications

Processor	Intel® Celeron®, Intel	Pentium®	or 8th /9th Gen	Intel Co	re™ i3 / i5 / i7 / i9	Processor		USB3.1 Type-C Gen 2 / DisplayPort) via PCle x4 (available on 09/30/2018),
	Processor	Cores /	Frequency	Cache	Memory Support			additional RJ-45 and video ports available on optional graphics or ethernet card
		Threads	Base/Max(GHz)		(Up to)	Graphics		* Depending on many factors, actual data transfer speed may be lower than theoretical speed
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	Audio support	High Definition (HD) Audio, Realtek ALC233VB2 / internal speaker (2 watt )
	Celeron G4920	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 G4930	2/2	3.2G	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
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, 2x2
	Pentium Gold G5400 Pentium Gold G5500	2/4	3.7G 3.8G	4 MB	DDR4-2400 DDR4-2400	UHD 610 UHD 630		Some: 11ac Wi-Fi + BT 5.0, M.2 Card, Intel Wireless-AC 9560 (dual band),
	Pentium Gold G5600	2/4	3.8G 3.9G	4 MB 4 MB	DDR4-2400 DDR4-2400	UHD 630		Intel vPro technology support, 2x2
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400 DDR4-2400	UHD 610	Bluetooth™	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 DDR4-2400	UHD 630	Ethernet	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	Ethernet (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	Security chip	adapter to enable vPro function through wireless connection) Discrete TPM 2.0, TCG Certified
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	, ,	s • Security slot (in rear for optional • Power-on password
	Core i7-8700	6 / 12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Security leatures	Kensington® MicroSaver® cable)  • Administrator password
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Padlock loop     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		<ul> <li>both keyboard and mouse</li> <li>Optional chassis intrusion switch</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> </ul>
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		Optional chassis E-Lock (special bid)
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	1	Some: Lenovo Traditional Keyboard (USB connector), black
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)
Memory	64GB max, DDR4-26 * System automatical						Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black
Storage	Some: Hard Drive / 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: Lenovo Mouse (PS/2 connector), black (only available via special bid)
	* SSD M.2 (2242) PC Some: Intel Optane	Cle NVMe	only supports P	Cle 3.0 x	2, 16Gb/s		Mechanical	<ul> <li>Tower (18L), black color, metal case</li> <li>(WxDxH) 6.5" X 12.65" X 16.15"; 165mm X 321.35mm X 410.25mm</li> </ul>
Optical	Optional DVD-ROM of	or DVD Bu	rner (DVD±RW)	. SATA 1	.5Gb/s Drive. slin	n (9.0mm)		<ul> <li>Approx. 15.45 lb (7 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, extension card removal</li> </ul>
Onboard SATA	Four onboard SATA 6	6.0Gb/s co	nnectors, RAID					Optional carry handle, dust filter
Madia raadar	available via special b	bid model	)					Bay 1: Slim external ODD bay
Media reader	Optional 7-in-1 media				D: 174%	10	_	Bay 2: 5.25", 1.6" high, external, ODD / optional front access HDD Bay 3: 3.5", 1" high, internal, HDD/SSD
Graphics	Intel UHD Graphics one VGA, two Display	610/630 I	n processor, use	s main n	nemory, DirectX®	12, na with		Bay 4: 3.5", 1" high, internal, HDD/SSD (optional bay, bay comes with disk)
	discrete graphics to s			nacm an	spiays, works alo	ing with		Bay 5: 2.5", internal, HDD/SSD (optional bay)
	Max resolution: 4096:	x2304 (DI	P)@60Hz;2048x	1536 (V	GA)@50Hz			Notes: M920 Tower supports up to 3 SATA devices (ODD/HDD/SSD) and
	Some: NVIDIA Gefor			2GB, PC	le 2.0 x16 adapte	er,		1 eSATA device (front access HDD) Slot 1: full-length (< 268mm) full-height (< 112mm), PCIe 3.0 x16
		ort, 35 watts; on: 3840x2160 (DisplayPort)@60Hz;			Slot 2: full-length (< 268mm) full-height (< 112mm), PCle 3.0 x1			
	Some: NVIDIA Gefor	rce GTX	1060 (DisplayFor	l only). D	, irectX 12. 6GB. F	Cle 3.0		Slot 3: full-length (< 268mm) full-height (< 112mm), PCle 3.0 x16 (x4 signal)
	x16 adapter, 1	1x DVI-D,	1x HDMI, 3x DP,	120 wat	ts, occupies two	slots;		Slot 4: no slot, only bracket for optional port extension
		Solution: 2560x1600 (DVI-D)@60Hz; 4096x2160 (HDMI)@60Hz 200 (DP)@60Hz			060Hz		M.2 card slots: Two (one for WLAN, one for SSD/Optane)	
Monitor Cable	Optional DP to VGA	)P)@60H:	Z P to DVI D donal	0 DB to	dual DP dangle	(for Collago	Power supply	Some: 180 watts, autosensing, 85% PSU
World Gablo	Display with intel inte	grated gra	aphics), or DP to	HDMI 1	4 dongle	(ioi collage		Some: 250 watts, autosensing, 85% PSU Some: 400 watts, autosensing, 92% PSU (only available via special bid)
Chipset	Intel Q370 Chipset	<u> </u>					l insite al community	
	) 2x USB 3.1 Gen2, 2x						Limited warranty	Some: 1-year or 3-year, limited onsite service / service upgrades available
Front ports* (Opt.	1x microphone (3.5mm), 1x headphone / microphone combo jack (3.5mm) ont ports* (Opt.) Optional: 1x media reader ar ports* (Std.) 4x USB 3.1 Gen1. 1x serial (9-pin), 1x ethernet (B.L45), 1x VGA, 2x DisplayPort					Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit	
	d.) 4x USB 3.1 Gen1, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA, 2x DisplayPort, 1x line-out (3.5mm) ot.) Optional: 2x USB 2.0, 2x USB 3.1 Gen1 via PCIe x1, 2x USB 3.1 Type-C Gen2 via						Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant
. ισαι ροι ισ (Ορι.	PCIe x4 (special bid ( 1x parallel (25-pin), 2	only), 1x 2	2nd serial (9-pin)	, 4x seria	al (9-pin) via PCI	e x1,	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com
	paranor (20 pin), 2	, O, _ pc	(noyboard/iii	5 400/, 17		00.1100		



















# ThinkCentre M920x Tiny Platform Specifications

Processor	Intel® Celeron®, Intel Pen	tium®. or 8	th / 9th Gen Intel C	Core™ i3	/ i5 / i7 / i9 Process	or		4x Mini DisplayPo	ort, up to 4 independent displays, works	s along with
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	1	onboard DP and	HDMI to support up to 6 independent di 5120x2880@60Hz ((up to 2 Mini Displ	splays;
		Threads	Base/Max(GHz)		(Up to)	Graphics	4		4096x2160@60Hz ((up to 4 Mini Displ	avPort)
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	Monitor cable	Optional DP to VGA dong	le, DP to DVI-D dongle, DP to dual DP o ics), or DP to HDMI 1.4 dongle, Mini DF	dongle (for Collage Display
	Celeron G4920 Celeron G4930	2/2	3.2G 3.2G	2 MB 2 MB	DDR4-2400 DDR4-2400	UHD 610 UHD 610	Chipset	Intel Q370 Chipset	iles), of DF to Fibini 1.4 dorigle, Milli DF	TO DE
	Celeron G4950	2/2	3.2G 3.3G	2 MB	DDR4-2400 DDR4-2400	UHD 610	1∟	·		
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400 DDR4-2400	UHD 610	Front ports (Std.)*	one USB 3.1 Gen1 (Alway	ys On and fast charge), one USB 3.1 Typ , one headphone / microphone combo ja	pe-C Gen 1,
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	Rear ports (Std.)*	2x USB 3.1 Gen2, 2x USE	3 3.1 Gen1, 1x ethernet (RJ-45), 1x DP,	1x HDMI
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Rear ports (Opt.)*	Two optional ports (mutua	ally exclusive with PCIe card): Port 1 for	VGA / 2nd DP / 2nd HDMI /
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	1	Optional ports via PCIe ca	en 1 with DP function); Port 2 for serial; ard: 2x USB 3.1 Gen1 via PCle x1, 4x se	erial (9-pin) via PCle x1. 1x
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	1	Thunderbolt 3 (combo US	B3.1 Type-C Gen 2 / DP) via PCIe x4	
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	1		tors, actual data transfer speed may be	· · · · · · · · · · · · · · · · · · ·
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Audio support	Realtek ALC233VB2 / opt	tional internal speaker (1.5 watt or 2 wat	it)
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	WLAN		4.2, M.2 Card, Realtek RTL8821CE (du	
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	1	Some: 11ac Wi-Fi + BT	4.2, M.2 Card, Realtek RTL8822BE (du 4.2, M.2 Card, Intel Dual Band Wireless	al band), 2x2 ≈-ΔC 3165, 1y1
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	1	Some: 11ac Wi-Fi + BT	4.2, M.2 Card, Intel Dual Band Wireless	s-AC 8265, 2x2
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	1	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	Some: Bluetooth 4.2/5.0	ology support, 2x2 ) wireless, integrated in Wi-Fi + BT coml	bo adapter
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Eth	ernet Connection I219-LM(Jacksonville)	), Wakė on LAN®
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630	Ethernet (Opt.)		ver Adapter I350-T4, gigabit ethernet, 4	x RJ-45, PCle x4
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630	Manageability		Technology 12 (Intel AMT 12);	ourne art M/: Ei
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630	]	adapter to enable vPro ful	some models (require choosing a vPro-s nction through wireless connection)	support wi-Fi
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG C		
	Celeron G4900T	2/2	2.9G	2 MB	DDR4-2400	UHD 610	Security features	<ul> <li>Security slot (in rear for</li> </ul>		
	Celeron G4930T	2/2	3.0G	2 MB	DDR4-2400	UHD 610		<ul> <li>Kensington® MicroSaver</li> <li>Chassis intrusion switch</li> </ul>		ooard and mouse
	Pentium Gold G5400T	2/4	3.1G	4 MB	DDR4-2400	UHD 610		Power-on password	<ul> <li>Smart USB protect</li> </ul>	ction, allows keyboard/
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400	UHD 630		<ul> <li>Administrator password</li> </ul>	mouse only, block	s all storage devices
	Pentium Gold G5600T	2/4	3.3G	4 MB	DDR4-2400	UHD 630		Hard disk password	14 1 14100	
	Pentium Gold G5420T	2/4	3.2G	4 MB	DDR4-2400	UHD 610	Keyboard	Some: Lenovo Calliope	Keyboard (USB connector), black al Keyboard (USB connector), black	
	Core i3-8100T	4/4	3.1G	6 MB	DDR4-2400	UHD 630	4	Some: Lenovo Calliope	Wireless Keyboard (2.4GHz via USB re	ceiver), black
	Core i3-8300T	4/4	3.2G	8 MB	DDR4-2400	UHD 630	Mouse	Some: Lenovo Calliope	Mouse (USB connector), black	lalla august black
	Core i5-8400T	6/6	1.7G / 3.3G	9 MB	DDR4-2666	UHD 630	4	Some: Lenovo Calliope	int Mouse (USB connector), Windows H Wireless Mouse (2.4GHz via USB recei	iver). black
	Core i5-8500T	6/6	2.1G / 3.5G	9 MB	DDR4-2666	UHD 630	Mechanical	Tiny (1L), black color; met	· · · · · · · · · · · · · · · · · · ·	,,
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630	- Inviceriarilear	<ul> <li>Toolless chassis open (r</li> </ul>	need optional toolless chassis screw)	
	Core i7-8700T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630	-	Toolless HDD, SSD, me     Ontional dust filter.	mory removal	
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB 8 MB	DDR4-2400	UHD 630 UHD 630	-	<ul> <li>Optional dust filter</li> <li>one 2.5" bay for HDD/SSI</li> </ul>	D, one PCIe 3.0 x8 slot (low-profile), thre	ee M 2 slots (one for WLAN
	Core i3-9300T Core i5-9400T	4 / 4 6 / 6	3.2G / 3.8G 1.8G / 3.4G	9 MB	DDR4-2400 DDR4-2666	UHD 630	-		DD/SSD and PCIe card are mutually exc	
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630	1		Dimensions (WxDxH)	Weight (Approx.)
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630	1	Tiny only	7.05" X 7.20" X 1.36"	2.91 lb (1.32 kg),
	Core i7-9700T	8/8	2.0G / 4.3G	12 MB	DDR4-2666	UHD 630	1	Tilly Offiny	179mm X 182.9mm X 34.5mm	vary by config
	Core i9-9900T	8/16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630	1	With VESA mount &	7.42" X 7.30" X 2.48"	3.66 lb (1.66 kg),
						0110 000	4	ODD box	188.4mm X 185.38mm X 63mm	vary by config
Memory	32GB max, DDR4-2666*  * System automatically c	locks down	for the processors	s with low	er memory control	ler	VESA mount Floor Stand	Optional VESA mount bra Optional system floor star	cket kit, supports VESA 75mm and 100 nd for vertical orientation	mm
Storage	Some: Hard Drive / SA Some: Solid State Drive	TA 6.0Gb/s	, 2.5", 5400 rpm o	r 7200 rp	m		Power supply	135 watts AC/DC adapter	. autosensing, 88% PSU	
	Some: M 2 SSD (suppo	ort un tó tw	n M 2 SSD) / PCIe	NVMe,	PCIe 3.0 x 4*, 32GI	b/s.	Limited warranty		r, depot service / service upgrades ava	ailabla
	RAID 0/1 suppo	rt (RAID n	reset only available	via sneo	cial hid model)		Limited warranty		r, <b>limited onsite service</b> / service upgra	
	* 128GB SSD M.2 (2242 Some: Intel Ontane™ N	) PCIE NVI Jemory (no	vie only supports F at support Celeron	/Cle 3.0 ) / Pentiun	(2, 16Gb/s Processor) M.2		Preload	Some: Windows® 10 Pr	ro 64-bit	
Optical	Some: Intel Optane™ N Some: DVD-ROM, slim	(9.0mm),	via USB external C	DD box	11 10000001), W.L			Some: Windows 10 Ho	me 64-bit	
Onboard SATA	Some: DVD Burner (D\ One onboard SATA 6.0G	/D±RW), s b/s connec	lim (9.0mm), via U tor	SB exteri	nal ODD box		Environment		EAT™ Gold rating (North America), ErPed (coming soon, on some models), Rob	
Graphics	Intel HD Graphics 610/6	30 in proc	essor, uses main n	nemory, [	DirectX® 12, one Di	splayPort™,	MIL-SPEC test		· · · · · · · · · · · · · · · · · · ·	<u> </u>
	one HDMI, one optional video port (2nd HDMI, VGA, 2nd DP, or USB 3.1 Type-C Gen1 with DisplayPort function), up to 3 independent displays; Max resolution:c4096x2304 (DP) @ 60Hz; 4096x2304 (Type-C) @ 60Hz;					57 20 1051	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar Radiation)			
		216Ò (ońbo	ard HDMI)@24Hz	. 2048x1	536 (VGA)@50Hz		Accessories	For compatible accessorie	es, please go to http://smartfind.lenovo	o.com













## ThinkSmart Hub 500 Platform Specifications

Positioning	Purpose-built Skype Room Systems device	Security chip	TPM (Trusted Platform Module) 2.0, TCG Certified
Processor	7th Gen Intel Core™ i5 Processor with vPro  Processor Cores / Frequency Base/Max(GHz) Cache (Up to) Graphics  Core i5-7500T 4 / 4 2.7G / 3.3G 6 MB DDR4-2400 HD 630	Security features	optional Kensington® MicroSaver® cable; • Boot sequence control Kensington lock also locks chassis) • Secure cable management door  • Boot without keyboard and mouse • USB port disablement
Memory	4GBx2, DDR4-2400, two 260-pin SO-DIMM sockets, dual-channel capable	Keyboard Mouse	None None
Storage	128GB M.2 Solid State Drive (SSD) / PCle NVMe, PCle 3.0 x 4, 32Gb/s	Mechanical	Business black color
Graphics Display	Intel HD Graphics 630 in processor, uses main memory, DirectX® 12 11.6" (294.64mm) Full HD 1080p (1920x1080) TFT color, wide viewing angle (+/-85°), LED backlight, 300 nits, 16:9 aspect ratio, 800:1 contrast ratio, anti-glare, smudge resistant Supports 10-point touch, OGS		<ul> <li>(WxDxH) 7.60" X 10.98" X 7.02"; 193.25mm X 278.9mm X 178.45mm</li> <li>Approx. 5.51 lb (2.5 kg)</li> <li>Secure Cable Management Door, secures physical ports and prevents cables being accidentally disconnected</li> <li>360 degree rotatable Display</li> </ul>
Sensor	IR Presence/Motion sensor, automatically dim / brighten display	Power supply	90 watts adapter, autosensing, 88% efficiency
LED indicators	(Detection angle: +/- 45% (from display); detection distance: 3 meters at minimum) 360 degree LED ring on hinge neck, indicates Skype status for all users in the	Limited warranty <sup>3</sup>	3-year, limited onsite service / service upgrades available
	room; power LED on power button	Preload	Preloaded operating system
Chipset	Intel Q270 Chipset		Windows® 10 IoT Enterprise CBB X64 (RS3)
Ports*	Four USB 3.1 Gen1(Type A), two HDMI-out, one HDMI-in (1920x1080@60Hz at maximum), one ethernet (RJ-45), one headphone / microphone combo jack		Preloaded applications Microsoft Skype Room Systems App
	(3.5mm), one power connector	Certification	Skype for Business Group Certified
M.2 card slot	* Depending on many factors, actual data transfer speed may be lower than theoretical speed Two M.2 Card slots (one for WLAN, one for SSD)	Environment	ErP Lot 26, GREENGUARD® certified, RoHS, WEEE
		Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com
Audio support	Dual 4W speakers, 2 omnidirectional microphones for 360 degree audio capture		
WLAN <sup>13</sup>	11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,Wi-Fi + Bluetooth 4.1* combo adapter, Intel vPro technology support, 2x2		
Bluetooth™	combo adapter, Intel vPro technology support, 2x2 Bluetooth 4.1* wireless, integrated in Wi-Fi + Bluetooth combo adapter * Hardware supports Bluetooth 4.2, but Win10 RS3 only supports Bluetooth 4.1		
Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM (Jacksonville), Wake on LAN®		
Manageability	Intel Active Management Technology 11.0 (Intel AMT 11.0), Intel vPro technology	]	

See footnotes for more detailed information

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# ThinkCentre Tiny-in-One (TIO) 22

Model	10LKPAR6++ / 10L	KPAT6++		Ī
Form factor			e when optional Tiny slots into	1
Commontible Time		clean cabling and effortle		
Compatible Tiny:	M53 Tiny, Chromet		y*, M83 Tiny, M73 Tiny*, or	
	* Non-TIO models	can't be turned on by pres	sing power button of TIO 22	
Panel	TFT-LCD, In-Plane	Switching (IPS), White LE	D backlight	]
Viewable image size Max view area (W x H)	18.74" x 10.54" / 47	agonal 76.06mm x 267.79mm		
Bezel Width	Top / Side: 2mm, B	ottom: 16.3mm		
Optimum resolution Aspect ratio	<b>1920x1080</b> 16:9			
Pixel pitch (mm)	0.24795mm			
Dot/Pixel per Inch Brightness	102.4 dpi 250 nits or cd/m² (t	ypical)		
Contrast ratio	1000:1 (typical)	,		
Pixel response time Color gamut	7ms 72%			
Anti-reflective	Anti-glare		-1	
Preset resolutions		ontal, 178° (+/- 89°) vertic	aı	1
Freser resolutions	640x350 @ 70Hz 640x480 @ 60Hz,	66Hz, 72Hz, 75Hz		
	720x400 @ 70Hz	70U- 75U-		
	800x600 @ 60Hz, 1024x768 @ 60Hz.			
	1152x864 @75Hz			
	1280x800 @ 60Hz 1280x1024 @ 60H			
	1366x768 @ 60Hz			
	1440x900 @ 60Hz 1600x1200 @ 60Hz			
	1680x1050 @ 60H	_		
Presets / user settings	1920x1080 @ 60H Presets: 25; user se			
On screen display	On screen display	with digital user controls (8	3 languages)	1
Control features		O mode / standalone mon sources) / Back button, Lef	itor mode, switches video /	
		Selection button / Menu bu		
Tiny-in-One Power On			ver button positioned on TIO	
Front ports		o USB 2.0 (when M73 or N	y support, see compatible list) 1/1/3 installed or USB 2.0	
·		upstream port), one head	Iphone / microphone combo	
	jack (3.5mm) * The USB ports ar	e only available when a Ti	ny is istalled or a PC is	
Oide mente	connected via USB	upstream port		
Side ports Rear ports		oy installed Tiny (optional) 2 port, one USB upstream	port, one power connector	
3-in-1 Cable	Undetachable 3-in-	1 cable (Power connecter,	USB 3.0 [supports USB 3.0/	
Internal Speaker	USB 2.0], DisplayP 1.5 watt x1	ort 1.2), only for connecting	g to Tiny installed (optional)	
Security	Security keyhole fo		able lock (Kensington® lock	1
	compatible), locks offered by Tiny inst	optional Tiny with TIO 22 to	ogether, more security features	1
Mechanical	Dimensions	TIO 22 without stand	TIO 22 with stand	1
	W x D x H (inch)	19.25 x 2.65 x 12.47	19.25 x 9.90 x 14.02 - 18.35	
	W x D x H (mm)			1
	** Y D Y U (IIIIII)	489.06 x 67.2 x 316.78	489.06 x 251.4 x 356.07 - 466.07	
	Weight (approximately)	11.27 lb /5.1	1 kg (with stand)	

Mounting features	Wall or desk mounting using the extend arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)
Adjustable stand	Tilt: 35° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°
Power supply Power consumption	90 watts AC/DC adapter, 88% PSU, universal 15.57 watts typical, 35 watts maximum, <0.5 watts standby / suspend
Limited warranty <sup>3</sup>	3-years, Customer Carry-In or Mail-In via Rapid Replacement Service
VESA-compliant <sup>2</sup> Ergonomics Emission standards Environmental Windows certifications	VESA DDC2B/CI, VESA DPMS-compliant ISO 9241-307 FCC Class B TCO 7.0, TCO Edge 2.0, WEEE, RoHS, ENERGY STAR® 7.0 EPEAT™ Gold rating, ULE Gold, TUV, VOC Windows 7, Windows 8/8.1, and Windows 10 certified
Ship group	TIO 22 (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 Compatible list						
Model	M900 Tiny, M700 Tiny, M600 Tiny,	M93/p Tiny,	Chromebox			
	M83 Tiny, 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 (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) d	76.1mm x 267.8mm				
Bezel Width	Top / Side: 2mm, B					
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 CF	R178° (+/- 89°) horiz	contal, 178° (+/- 89°) ve	ertical			
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					
		440x900 @ 60Hz, 75Hz 600x1200 @ 60Hz, 70Hz, 75Hz				
	1600x1200 @ 60H 1680x1050 @ 60H					
	1920x1080 @ 60Hz					
Presets / user settings	Presets: 25; user s					
On screen display On screen display with digital user controls (8 languages)						
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		en 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°
<b>/</b>	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	M93/p Tiny, M73 Tiny	Chromebox				
	M90n Nano (with TIO kit)					
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 (TIO) 24

Model	10LLPAR6++ / 10L	LPAT6++		
Form factor		a full All-In-One experience clean cabling and effortle	e when optional Tiny slots into	
Compatible Tiny:		•	y*, M83 Tiny, M73 Tiny*, or	
	M53 Tiny, Chromet		oing power button of TIO 24	
Panel		Switching (IPS), White LE	sing power button of TIO 24	
Viewable image size	23.8" (604.7mm) di	agonal	D backlight	
Max view area (W x H) Bezel Width	21.06" x 12.32" / 53 Top / Side: 2mm, B	35.0mm x 313.0mm ottom: 16.3mm		
Optimum resolution	1920x1080			
Aspect ratio Pixel pitch (mm)	16:9 0.2745mm			
Dot/Pixel per Inch Brightness	92.6 dpi	vnical)		
Contrast ratio	250 nits or cd/m² (typical) 1000:1 (typical)			
Pixel response time Color gamut	7ms 72%			
Anti-reflective	Anti-glare	1	-1	
		ontal, 178° (+/- 89°) vertic	al	
Preset resolutions	640x350 @ 70Hz 640x480 @ 60Hz,	66Hz, 72Hz, 75Hz		
	720x400 @ 70Hz 800x600 @ 60Hz,	79Hz 75Hz		
	1024x768 @ 60Hz			
	1152x864 @75Hz 1280x800 @ 60Hz			
	1280x1024 @ 60H			
		1366x768 @ 60Hz 1440x900 @ 60Hz, 75Hz		
	1600x1200 @ 60Hz, 70Hz, 75Hz 1680x1050 @ 60Hz			
5	1920x1080 @ 60Hz			
Presets / user settings	Presets: 25; user se	ettings: 25 with digital user controls (8	) languages)	
On screen display Control features	Mode-switching (TI	O mode / standalone mon	itor mode, switches video /	
		sources) / Back button, Lef Selection button / Menu bu		
Tiny-in-One Power On	Pressing Alt + P or	keyboard or pressing Pov	ver button positioned on TIO	
Front ports	Two USB 3.0 or two	O and Tiny (only some Tin o USB 2.0 (when M73 or N	y support, see compatible list) 153 installed or USB 2.0	
•	connected via USE		lphone / microphone combo	
	jack (3.5mm)  * The USB ports ar	e only available when a Ti	ny is istalled or a PC is	
Side ports	connected via USE Side ports offered I	upstream port by installed Tiny (optional)		
Rear ports	One DisplayPort 1.	2 port, one USB upstream	port, one power connector	
3-in-1 Cable			USB 3.0 [supports USB 3.0/ ig to Tiny installed (optional)	
Internal Speaker	1.5 watt x1			
Security			able lock (Kensington® lock ogether, more security features	
	offered by Tiny inst		ogothor, more eccurity reatures	
Mechanical	Dimensions	TIO 24 without stand	TIO 24 with stand	
	W x D x H (inch)	21.24 x 2.7 x 13.64	21.24 x 9.90 x 15.16 - 19.46	
	W x D x H (mm)	539.6 x 68.2 x 346.45	539.6 x 251.4 x 385.08 - 495.08	
	Weight (approximately)	12.25 lb /5.5	7 kg (with stand)	

Mounting features	Wall or desk mounting using the extend arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)		
Adjustable stand	Tilt: 35° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°		
Power supply Power consumption	90 watts AC/DC adapter, 88% PSU, universal 16.7 watts typical, 35 watts maximum, <0.5 watts standby / suspend		
Limited warranty <sup>3</sup>	3-years, Customer Carry-In or Mail-In via Rapid Replacement Service		
VESA-compliant <sup>2</sup> Ergonomics Emission standards	VESA DDC2B/CI, VESA DPMS-compliant ISO 9241-307 FCC Class B		
Environmental Windows certifications	TCO 7.0, TCO Edge 2.0, WEEE, RoHS, ENERGY STAR® 7.0 EPEAT™ Gold rating, ULE Gold, TUV, VOC Windows 7, Windows 8/8.1, 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 Compatible list						
Model	M900 Tiny, M700 Tiny, M600 Tiny,	M93/p Tiny,	Chromebox			
	M83 Tiny, M53 Tiny	M73 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 (TIO) 24 Gen3

Model	Non-touch model: Touch model:	10QYPAR1++/10QYPA 10QXPAR1++/10QXPA				
Form factor			nce 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		Switching technology**				
Viewable image size						
Max view area (W x H) Bezel Width	21.06" x 12.32" / 53 Top / Side: 2mm, B	35.0mm x 313.0mm ottom: 22.1mm				
Native resolution	1920x1080		ko on Touch			
Multi-touch Aspect ratio	16:9	nulti-touch, supports Wa	ke on Touch			
Pixel pitch (mm) Dot/Pixel per Inch	0.2745mm 92.6 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%					
Anti-reflective Viewing angle at 10:1 C	Anti-glare R178° (+/- 89°) horiz	ontal, 178° (+/- 89°) ver	tical			
Preset resolutions	640x350 @ 70Hz	0711- 7011- 7511-				
640x480 @ 60Hz, 67Hz, 72Hz, 75Hz 720x400 @ 70Hz						
	800x600 @ 60Hz, 72Hz, 75Hz					
	1152x864 @75Hz	1024x768 @ 60Hz, 70Hz, 75Hz 1152x864 @75Hz				
	1280x800 @ 60Hz	280x800 @ 60Hz 280x1024 @ 60Hz, 72Hz, 75Hz				
	1366x768 @ 60Hz	366x768 @ 60Hz				
		440x900 @ 60Hz, 75Hz 600x1200 @ 60Hz, 70Hz, 75Hz				
	1680x1050 @ 60H	680x1050 @ 60Hz 920x1080 @ 60Hz				
Presets / user settings	Presets: 25; user settings: 25					
On screen display		with digital user controls				
Control features			button (TIO / monitor mode), Menu button, Power button			
Tiny-in-One Power On		up button, Volume down	button Power button positioned on TIO			
	can turn on both TI	O and Tiny (only some	Finy support, see compatible list)			
Side ports (TIO)	One USB 3.1 Gen connected via USE		or M53 installed or USB 2.0			
	Notes: The USB p	orť is only availáble whe	n a Tiny is istalled or a PC is			
Side ports (Tiny)		via USB upstream port by installed Tiny (options	al)			
Rear ports 7	One DisplayPort in	port, one USB upstrear	n port, one power connector er, USB [supports USB 3.1 Gen1]			
3-III-1 Cable			g to Tiny installed (optional)			
Camera Internal Speaker	1080p camera with dual microphone for VOIP, LED indicator 2 watt x2					
Security	Security keyhole for	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			

0	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°
<b>y</b>	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,
	Windows certifications	EPEAT™ Silver rating, ULE Gold, TUV, VOC 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 / M62		. ,	Chromebox				
	/ M600 / M75q / M715 / M83 / M53 Tiny M90n Nano (with TIO kit)						
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 (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         Top / Side: 2mm, Bottom: 23.3mm         Mountain M	Adjustable stand	Wall or desk mounting using the extend arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)  Tilt: 35° back, -5° forward;  lift: 4.3" (110mm);  swivel: +/-45°;  Pivot: clockwise -5° to 90°				
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	7 / 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)					

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**Carry-in or Mail-in Service:** Parts and labor repair coverage where the customer is responsible for shipping (including packaging) or delivery to authorized warranty provider or repair center.

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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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U.S. EMEA

## **Summary of Changes**

This section describes the changes made in this version of ThinkStation PSREF and in previous version. This edition might also include minor corrections and editorial changes which are not identified.

#### 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 PCle 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









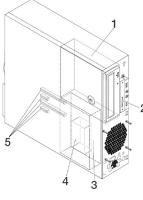




<b>ThinkStation</b>	P320	SFF	<b>Platform</b>	<b>Specifications</b>
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Components	Specification	•	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.0.00					
Chipset	Intel C236 Chipset								
Intel AMT	Intel Active Manag	ement	Technolo	gy 11 on her mode	Xeon models, ls				
	One Intel "Kabylake" or "Skylake" processor as listed:  "Kaby Lake"								
Processor	Xeon E3-1280 v6 Xeon E3-1275 v6 Xeon E3-1270 v6 Xeon E3-1240 v6 Xeon E3-1240 v6 Xeon E3-1230 v6 Xeon E3-1220 v6 Xeon E3-1220 v6 Core i7-7700 Core i5-7600 Core i5-7500 Core i5-7400 Core i3-7300 Core i3-7300 Core i3-7100	4C 4C 4C 4C 4C 4C 4C 4C 4C 4C 2C 2C	%3.8GHz/8 %3.7GHz/8 %3.7GHz/8 %3.3GHz/8 %3.3GHz/8 %3.6GHz/8 %3.5GHz/6 %3.4GHz/6 %34GHz/6M %4GHz/4M	MB/72W/D MB/73W/D MB/73W/D MB/73W/D MB/72W/D MB/73W/D MB/65W/D MB/65W/D MB/65W/D MB/65W/D MB/51W/DD MB/51W/DD	DR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 BR4-2400 BR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 BR4-2400 BR4-2400 BR4-2400				
	"Skylake"								
	Xeon E3-1245 v5 Xeon E3-1240 v5 Xeon E3-1230 v5 Xeon E3-1220 v5 Xeon E3-1220 v5 Core i7-6700 Core i5-6500 Core i3-6400 Core i3-6100	4C 4C 4C 4C 4C 4C	C/3.5GHz/8 C/3.4GHz/8 C/3.3GHz/8 C/3GHz/8M C/3.4GHz/8 C/3.2GHz/6 C/2.7GHz/6	MB/80W/D MB/80W/D MB/80W/D MB/80W/D B/80W/DD MB/65W/D MB/65W/D MB/65W/D MB/51W/D	DR4-2133 DR4-2133 DR4-2133 R4-2133 DR4-2133 DR4-2133 DR4-2133				
Memory DIMM slots	4 DIMM slots, 2-ch	annel	(integrate	d memor	y controller in processor)				
Memory type/capacity	Up to 64GB ECC/r	non-EC	C (4 x 16	GB), DDI	R4-2400. UDIMM. "Skylake" i7 and i5 processors cannot				
Intel HD Graphics in processor	Integrated Intel HD P530 in Xeon E3-12x5 v5 processors, or Intel HD P630 in Xeon E3-12x5 v6 processors, or Intel HD 530 in Core i7, i5, or i3 6000 processors. or Intel HD 630 in Core i7, i5, or i3 7000 processors. Works along with discrete graphics to support multi-display, enables three display connectors (2 DP, 1 VGA) on rear.								
		3.0 x16			adapters. Up to two NVIDIA Quinic adapters:	Jadro			
	Adapter	Cores	Memory	Power	Connector				
Diameter annuality	NVS 310	48	1GB	19.5W	2xDP				
Discrete graphics	NVS 315	48	1GB	19.5W	2xDVI-I SL/2xDP				
	NVS 510	192	2GB	33.4W	4xmini DP				
	Quadro P400 Quadro P600	256 384	2GB 2GB	30W 40W	3xminiDP 4xminiDP				
	Quadro P1000	640	4GB	47W	4xminiDP				
Onboard drive controller		6.0Gl	b/s conne	ctors for o	optical and disk drives plus one	)			
Drive Bays	One external 5.25'	bay, c	ne intern	al 3.5" ba lisk drive	y (see right). bays + 1 x 2.5" disk drive bay -	+ two			
Supporting disk drives	3.5" SATA HDD (7.2K 6Gbs) 1TB/2TB/4TB/1TB hybrid/2TB hybrid 2.5" SATA SSD (6Gbs) 256GB Onal/512GB/512GB Onal/1TB Onal/2TB onal								
Max internal storage	10TB (2 x 4TB 3.5	" HDD:	s + 1 x 2T	B 2.5" SS	SD) plus two 1TB M.2 NVMe S	SD			
Media reader	· · · · · · · · · · · · · · · · · · ·				der on selected models				
Power supply	210 watts with vari	able s	peed fan,	autosens	ing,				
Onboard Ethernet					supports Wake-on-LAN				
HD Audio	Realtek ALC662 c		aniet, inte	I IZ I ƏLIVİ,	Supports ware-on-LAIN				
TPM	Standard, TCG 2.0		liant						
1 1 141	Jordinadia, 100 Z.C	Comp	пап						

Components	Specification
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)
Rear ports	1 VGA and 2 DisplayPort (for Intel HD Graphics models only), two USB 2.0, four USB 3.0, one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)
Mechanical	<ul> <li>Raven black color; metal case</li> <li>4.02"W x 15.53"D x 13.31"H</li> <li>102mm W x 394.5mm D x 338mm H</li> <li>17.2 lb (7.9kg) max configuration</li> <li>12.9-liter</li> </ul>
Environmental certifications	GREENGUARD certified/RoHS-compliant/EPEAT Gold rating/ ENERGY STAR 6.1 qualified
Limited warranty	1 or 3-year limited onsite service with 9x5/NBD. Some parts are Customer Replaceable Units.
ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>



### **Drive Bays and PCle Slots**

	•
	5.25", supports one of the following: HH optical/flex module***/9mm optical+3.5" HDD bay/ 3.5" HDD bay/Front Access Storage Enclosure **** Flex module supports one or more of the following: 9mm optical/ 29-in-1 reader/front IEEE 1394/front eSATA. Up to one flex module is supported per system.
Bay 2	Optional 9-in-1 single slot reader
Bay 3	Standard 3.5" HDD bay
Bay 4	Optional 2.5" HDD bay (under Bay 3)
5 -Slots	Four PCIe slots (top-down): Slot 1: Low Profile, PCIe 3.0 x16 (near CPU) Slot 2: Low Profile, PCIe 3.0 x1 Slot 3: Low Profile, PCIe 3.0 x16 (x4 elec) Slot 4: Low Profile, PCIe 3.0 x1









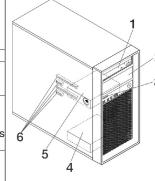


ThinkStation P320 Tower Platform Specifications									
Components	Specification								
Chipset	Intel C236 Chipset	ntel C236 Chipset							
Intel AMT	Intel Active Management Technology 11 on Xeon models, Intel Standard Manageability on other models								
	One Intel "Kaby La "Kaby Lake"	ke" or	"Skylake	" processo	or as listed:				
Processor	Xeon E3-1280 v6								
	"Skylake"								
	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133 Xeon E3-1240 v5 4C/3.5GHz/8MB/80W/DDR4-2133 Xeon E3-1230 v5 4C/3.4GHz/8MB/80W/DDR4-2133 Xeon E3-1225 v5 4C/3.3GHz/8MB/80W/DDR4-2133 Xeon E3-1220 v5 4C/3GHz/8MB/80W/DDR4-2133 Xeon E3-1220 v5 4C/3GHz/8MB/80W/DDR4-2133 Core I7-6700 4C/3.4GHz/8MB/65W/DDR4-2133 Core i5-6500 4C/3.2GHz/6MB/65W/DDR4-2133 Core i5-6400 4C/2.7GHz/3MB/55W/DDR4-2133 Core i5-6400 2C/3.7GHz/3MB/51W/DDR4-2133								
Memory DIMM slots	4 DIMM slots, 2-ch	annel	(integrate	ed memory	y controller in processor)				
Memory type/capacity	Up to 64GB ECC/non-ECC (4 x 16GB), DDR4-2400. UDIMM. "Skylake" processor supports up to DDR4-2133. Core i7 and i5 processors cannot support ECC.								
Intel HD Graphics in processor	Integrated Intel HD P530 in Xeon E3-12x5 v5 processors, or Intel HD P630 in Xeon E3-12x5 v6 processors, or Intel HD 530 in Core i7, i5, or i3 6000 processors. or Intel HD 630 in Core i7, i5, or i3 7000 processors. Works along with discrete graphics to support multi-display, enables three display connectors (2 DP, 1 VGA) on rear.								
	Two PCI Express 3.0 x16 slots for graphics adapters. Up to two Quadro P1000 on 250 watts models. Or up to two Quadro P2000, or up to one Quadro P4000 on 400 watts Supports the following NVIDIA graphics adapters:								
	Adapter	Cores		Power	Connector				
	NVS 310	48	1GB	19.5W	2xDP	-			
Discrete graphics	NVS 315 NVS 510	48 192	1GB 2GB	19.5W 33.4W	2xDVI-I SL/2xDP 4xmini DP	-			
	NVS 810	1024	4GB	68W	8xmini DP	-			
	Quadro P400	256	2GB	30W	3xminiDP				
	Quadro P600	384	2GB	40W	4xminiDP				
	Quadro P1000	640	4GB	47W	4xminiDP				
	Quadro P2000	1024	5GB	75W	4xDP				
	Quadro P4000	1792	8GB	105W	4xDP				
Onboard drive controller	SATA connector for	option	nal eSATA	A. RAID 0,		s one			
Drive Bays	Two external 5.25" Up to one 9mm op				ays (see right). ve bays plus two M.2 NVN	le SSD			
	3.5" SATA HDD (7.2K 6								
Supporting disk drives	2.5" SATA SSD (6Gbs) M.2 NVMe SSD, via PO adapter	Cle 2	56GB Opal	/512GB Opa	GB Opal/1TB Opal/2TB opal al/1TB Opal, PCIe 3.0 x4, up to ory, PCIe 3.0 x2	2; or			
Max internal storage	16TB (4 x 4TB 3.5'	' HDDs	s) plus 27	B (2 x 1T	B) M.2 NVMe SSD				
221 211 211 211 212 212 212	16TB (4 x 4TB 3.5" HDDs) plus 2TB (2 x 1TB) M.2 NVMe SSD								

9-in-1 card reader. Optional 29-in-1 card reader on selected models

Media reader

Components	Specification		
Power supply	One 250 watts with variable speed fan, autosensing, Climate Savers Computing Bronze, 80 PLUS Bronze qualified. Or one 400 watts with variable speed fan, autosensing, Climate Savers Computing Platinum, 80 PLUS Platinum qualified.		
Onboard Ethernet	One onboard gigabit ethernet, Intel I219LM, supports Wake-on-LAN		
HD Audio	Realtek ALC662 codec		
TPM	Standard, TCG 2.0-compliant		
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)		
Rear ports	1 VGA and 2 DisplayPort (for Intel HD Graphics models only), two USB 2.0, four USB 3.0, one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)		
Mechanical	<ul> <li>Raven black color; metal case</li> <li>6.89"W x 16.77"D x 14.8"H</li> <li>175mm W x 426mm D x 376mm H</li> <li>28.66 lb (13kg) max configuration</li> <li>25-liter</li> </ul>		
Environmental certifications	GREENGUARD certified/RoHS-compliant/EPEAT Gold rating/ ENERGY STAR 6.1 qualified		
Limited warranty  1 or 3-year limited onsite service with 9x5/NBD. Some parts a Replaceable Units.			
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/		



### Drive Bays and PCIe Slots

2	Bay 1 and	5.25", support one of the following: HH optical/flex module/9mm optical+3.5" HDD bay/ 3.5" HDD bay/Front Access Storage Enclosure (FASE) Note:  1. Flex module supports one or more of the following: 9mm optical/ 29-in-1 reader/front IEEE 1394/front eSATA. 2. Up to one flex module/FASE per system.
3	Bay 3	Optional 9-in-1 single slot reader
	Bay 4	Standard 3.5" HDD bay
	Bay 5	Standard 3.5" HDD bay
	6 -Slots	Four PCle slots (top-down): Slot 1: Half length, full height, PCle 3.0 x16 (near CPU) Slot 2: Half length, full height, PCle 3.0 x1 Slot 3: Half length, full height, PCle 3.0 x16 (x4 elec) Slot 4: Half length, full height, PCle 3.0 x1 Note: 1. Both discrete graphics adapter and M.2 NVMe SSD should be installed on slot 1 or slot 3, the maximum quantity of discrete graphics adapter and M.2 NVMe SSD is 2. 2. When two discrete graphics adapters are used, no other PCle card can be used.







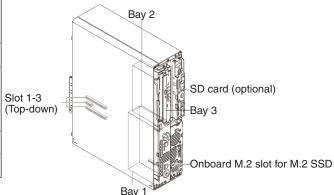




# **ThinkStation P330 SFF Platform Specifications**

Components	Specification								
Machine Type	MT 30C7 for Transactional model and MT 30C8 for Relationship model. For configuration of all 30C7 EMEA and US models, please visit: http://psref.lenovo.com/Product/ThinkStation/ThinkStation_P330_SFF								
Form factor	8.4L mini-tower								
Dimensions	Height: 343.5 mm (13.5 in). Width: 92.5 mm (3.6 in). Depth: 305.6 mm (12 in)								
Weight	Maximum configuration: 13.23 lb (6.0kg)								
Processor	Up to one Intel Xeon E-2100 family processor, up to 80W, up to 6 cores at 3.7GHz, p to 3.8GHz with 4 cores, up to 12MB cache, DDR4-2666 memory speed. Drup to one 8th Intel Core family processor, i7, i5, or i3, up to 65W, up to 6 cores at 1.2GHz, up to 3.7GHz with 4 cores, up to 12MB cache, up to DDR4-2666 memory peed. Drup to one Intel Pentium G5400 via Special Bids, 58W, 2 cores at 3.7GHz, 4MB ache, DDR4-2400 memory speed								
Chipset	Intel C246 Chipset								
Memory	4 DIMM sockets. DDR4-2666. UDIMM. ECC and non-ECC are supported, but memory types cannot be intermixed								
Memory capacity	Up to 64GB with 4x 16GB, both ECC and non-ECC								
Memory protection	ECC with ECC UDIMM. Core i7 and i5 processors cannot support ECC UDIMM								
	Three PCIe 3.0 slots as following:								
Expansion slots	Slot 1 PCle 3.0 x16, full height, half length, links to CPU								
·	Slot 2 PCle 3.0 x1, full height, full length, links to PCH								
	Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, half length, links to PCH								
Graphics - Processor graphics	Integrated Intel UHD Graphics P630 in -G suffix Xeon processors, or Intel UHD Graphics 630 in Core i7, i5, or i3 processors, or Intel UHD Graphics 610 in Pentium Gold G5400.  Works along with discrete graphics to support multi-display, enables three display connectors (2x DP, 1x HDMI. HDMI is optional) on rear								
	Up to two PCle 3.0 x16 slots for discrete graphics adapter (Slot 1 and 3). Supports the following graphics adapters:								
Graphics - Discrete graphics card	Quadro P400         256         2GB GDDR5         30W         3x miniDP         2           Quadro P620         512         2GB GDDR5         40W         4x miniDP         2								
	Quadro P1000 640 4GB GDDR5 47W 4x miniDP 2								
Storage controllers	Integrated Intel SATA AHCI/RAID controller in chipset, 6Gbps SATA, RAID 0/1. Four onboard SATA ports for max 4 SATA HDD/SSD/ODD								
	Up to 3 bays with two disk bays and one slim optical bay:								
Internal storage	Bay 1 Primary 3.5" SATA bay								
bay	Bay 2 2.5" SATA bay (Optional)								
Bay 3 9mm Slim ODD bay									
Disks	3.5" HDD supports up to 4TB each, 6Gbps SATA, 7.2K. 2.5" SSD supports up to 1TB each, 6Gbps SATA								
M.2 slot for SSD	Up to 3x M.2 SSD with one dedicated onboard M.2 slot plus two PCIe to M.2 adapters. PCIe to M.2 adapter uses slot 1 or 3. Supports RAID 0/1 with PCH, When used as RAID, M.2 SSD should be installed in onboard M.2 slot and slot 3. Up to one Optane memory per system; Optane memory must work with a HDD or SSD; Optane memory cannot supported on Pentium G5400 models								
M.2 SSD	M.2 SSD supports up to 1TB each, PCle 3.0 x4, NVMe, Opal. Optane memory supports 32GB, PCle 3.0 x2, NVMe, 3D Xpoint								
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								

Components	Specification
Media reader	Optional SD 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, cable lock, Kensington lock, and pad lock
Intel vPro	Supports Intel vPro on Xeon models. vPro also requires Wireless-AC 9560 if Wi-Fi is needed
Intel AMT	Intel Active Management Technology 12 on Xeon 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	2x USB 3.1 Type-C. 1x COM. PS/2. 1x Parallel. 1x Thunderbolt. 1x IEEE1394. 1x HDMI. 1x Audio line-out Notes: HDMI needs Core, Pentium, or -G suffix Xeon processor
Temperature	Operating: 41 °F to 104 °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 www.thinkworkstations.com/isv-certifications/









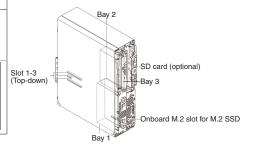




# ThinkStation P330 SFF Gen 2 (30D1 and 30D2) Platform Specifications

Components	Specification				-				
Form factor	8.4L mini-tower								
Dimensions		12 5 in\ \//id	th. 02	5 mm	/2 6 in	Donth:	205 6 mm	(12 in)	
		Height: 343.5 mm (13.5 in). Width: 92.5 mm (3.6 in). Depth: 305.6 mm (12 in)  Maximum configuration: 13.23 lb (6.0kg)							
Weight									
	Supports one of the following processor:								
	Xeon E-2278G 8C/16T/3.4GHz/16MB/80W/DDR4-2666 (260W PSU need Xeon E-2276G 6C/12T/3.8GHz/12MB/80W/DDR4-2666								
	Xeon E-2276G						i		
	Xeon E-2274G	4C/8T/4.00							
	Xeon E-2246G	6C/12T/3.6					)		
	Xeon E-2244G Xeon E-2236	4C/8T/3.80 6C/12T/3.4							
	Xeon E-2234	4C/8T/3.60					,		
	Xeon E-2226G	6C/6T/3.40							
	Xeon E-2224G	4C/4T/3.50			-				
	Xeon E-2224	4C/4T/3.40							
Processor	Xeon E-2174G	4C/8T/3.8C							
1 10063301	Core i9-9900	8C/16T/3.1	GHz/	16MB/	65W/DE	R4-2666	5		
	Core i7-9700	8C/8T/3.00	3Hz/12	2MB/6	5W/DDF	R4-2666			
	Core i7-8700	6C/12T/3.2	GHz/	12MB/	65W/DE	R4-2666	3		
	Core i5-9600	6C/6T/3.10							
	Core i5-9500	6C/6T/3.00							
	Core i5-9400	6C/6T/2.90							
	Core i5-8500	6C/6T/3.00							
	Core i3-9300	4C/4T/3.70							
	Core i3-9100 Core i3-8300	4C/4T/3.60 4C/4T/3.70							
	Core i3-8100	4C/4T/3.7C							
	Pentium Gold G5620								
Chipset	Intel C246 Chipset	20/+1/+.00	AI 12/ TI	VID/OT	VV/DDIT	7 2 700	-		
Memory Sockets	4 DIMM sockets with	2 channels							
,	8GB/16GB DDR4-26		CC or						
Memory Types	4GB/8GB/16GB/32G				n-ECC				
Memory Capacity	64GB with 4 x 16GB	for UDIMM E	CC or	128G	B with 4	x 32GB	UDIMM noi	n-ECC	
Memory Protection	ECC on models with	UDIMM ECC	mem	eory					
,	Three PCIe 3.0 slot	s as followin	a:						
				to CP	П				
Expansion slots	Slot 1 PCle 3.0 x16, low profile, links to CPU								
	Slot 2 PCle 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								
Processor graphics	Graphics 630 in Core i5 or i3 processors.								
	Works along with discrete graphics to support multi-display, enables three rear display connectors (2 DP standard, 1 DP or HDMI optional)								
	Up to two PCIe 3.0							3) Supports	
	the following graphi	cs adapters:	uiscit	cic gi	aprilos c	ισαρισι (	Olot I alla	o). Oupports	
Discrete graphics	3 3 1	ores Memo	rv I	Power	Con	nectors	Max qty		
card		56 2GB GDI		30W		niniDP	2		
		12 2GB GDI		40W		niniDP	2		
		40 4GB GDI		47W		niniDP	2		
	Storage Controller			Inter	rface	Disl	к Туре	RAID	
Storage Controller	Onboard Intel RST S	SATA RAID	Std	SATA	6Gb/s	HDD	or SSD	0/1	
Storage Controller	Onboard Intel RST F				NVMe		Cle SSD	0/1	
	Notes: M.2 SSD support is	s limited, please	see Sto	rage ba	y section	for more inf	ormation		
		nterface RPI	_		Offerina			v Otv	
		TA 6Gb/s 7.2			3/2TB/41	TB.	ivia	x Qty 1	
		TA 6Gb/s 7.2			OGB FIP			2	
Storage Support		TA 6Gb/s			3/512GE			2	
		le NVMe			32GB		1, used wi	th HDD/SSD	
		le NVMe	1	256GE	3/512GE	/1TB		3	

	Components	Specification					
		Up to 3 bays with two disk bays and one slim optical bay:					
		Bay 1 Primary 3.5" SATA bay					
	Storage bay	Bay 2 2.5" SATA bay (Optional)					
		Bay 3 9mm Slim ODD bay					
}		M.2 3x M.2 SSD (1 onboard. 2 via PCIe 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 SD 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, cable lock, Kensington lock, and pad lock					
	Intel vPro	Supports Intel vPro on Xeon models. vPro also requires Wireless-AC 9560 if Wi-Fi is needed					
	Intel AMT	Intel Active Management Technology 12 on Xeon 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 Supports the following via PCle adapter: 4x COM. 2x USB 3.1 Type-C. 2x USB 3.0. 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 RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY Silver rating and ENERG							
3	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 www.thinkworkstations.com/isv-certifications/					
	Note:						















# ThinkStation P330 Tiny Platform Specifications - I of II

Components	Specification							Components	Specification		
	1L. Optional VE	SA m	ount brac	ket kit, sup	ports V	ESA 75mm and 1	00mm.	Chipset	Intel Q370 Chipset		
Form factor	Optional floor s Optional tool-le	tand f	or vertica	I orientatior	٦.			Memory	2 DIMM sockets. DDR4-2666. SoDIMM. Non-ECC		
	Optional dust fi		assis upe						One PCIe slot via specific riser card:		
Dimensions	Height: 179 mm (7.0 in). Width: 36.5 mm (1.437 in). Depth: 182.9 mm (7.2 in)					in). Depth: 182.9 r	nm (7.2 in)		PCIe 3.0 x16 (negotiable link width x8) and low profile for discrete graphics card:		
Weight	Maximum configuration: 3.08 lb (1.4kg)								PCIe 3.0 x4 and low profile for i350-T4 adapter and quad COM ports adapter		
Supported TIO	Tiny-in-One 23 (MT: 10DQ). Tiny-in-One 22 (MT: 10LK). Tiny-in-One 24 (MT: 10LL).							Graphics	65W or 62W processor models supports processor graphics only.  35W processor models come with processor graphics plus a discrete graphic adapter		
monitors									Integrated Intel UHD Graphics 630. Works along with discrete graphics to support multi-display		
	Tiny-in-One24 Gen3 (MT: 10QY).							graphics	One of the following discrete graphics cards on 35W processor models:		
	Tiny-in-One24							Ohim Diameter	Adapter Cores Memory Pow- Connectors		
Recommended monitors	and productivity		Ininkvis	ion P series	s monit	ors for best displa	y performance	Graphics - Discrete graphics card	er		
	Supports one of		ollowing:						Quadro P620 512 2GB GDDR5 40W 4x miniDP		
	Processor	Coros	Threads	Base	Cache	TDD Memory	Processor		Quadro P1000   640   4GB GDDR5   47W   4x miniDP   Integrated Intel SATA AHCI controller in chipset, 6Gbps SATA, one onboard		
	<u> Number</u>		illeaus	Frequency		Types	Graphics Intel UHD	Storage controllers	SATA port for 2.5" HDD		
	Core i9-9900T	8	16	2.1GHz	16MB	35WDDR4-2666	Graphics 630	Internal storage bay	Up to one 2.5" HDD		
	Core i7-9700T	8	8	2.0GHz	12MB	35WDDR4-2666	Intel UHD Graphics 630	Disks	2.5" HDD supports up to 1TB, 6Gbps SATA, 7.2K or 5.4K		
	Core i5-9600T	6	6	2.3GHz	OMB	35WDDR4-2666	Intel UHD	M.2 slot for SSD	Two onboard M.2 slots for M.2 SSD, one for M.2 2280 SSD, one for M.2 2280 or 2242 SSD		
		-	-				Graphics 630 Intel UHD	M.2 SSD	M.2 2280 SSD supports up to 1TB each, PCle 3.0 x4, NVMe, optional Opal.		
	Core i5-9600	6	6	3.1GHz	9MB	65WDDR4-2666	Graphics 630	IVI.Z GOD	M.2 2242 SSD supports up to 128GB, PCle 3.0 x2, NVMe		
	Core i5-9500T	6	6	2.2GHz	9MB	35WDDR4-2666	Intel UHD Graphics 630	Optane memory	Up to one 16GB Optane memory per system. Optane memory must work with a 2.5" HDD		
	Core i5-9500	6	6	3.0GHz	9MB	65W DDR4-2666	Intel UHD Graphics 630	M.2 slot for Wi-Fi and Bluetooth	One dedicated M.2 2230 slot for optional Wi-Fi card, supports one of the following:		
	Core i5-9400T	6	6	1.8GHz	9MB	35WDDR4-2666	Intal LIUD		Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps.		
	Core i5-9400	6	6	2.9GHz	9MB	65WDDR4-2666	Intel UHD Graphics 630		Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to 867Mbps.		
	Core i3-9320	4	4	3.7GHz	8MB	62WDDR4-2400	Intel UHD Graphics 630	Wi-Fi antenna	Note: Wi-Fi card, or specific functions of Wi-Fi- card may not be supported in some countries  Optional Tiny 2.4GHz/5GHz SMA antenna kit		
	Core i3-9300T	4	4	3.2GHz	8MB	35WDDR4-2400		Optical	Optional one 9.0mm optical drive via optical drive kit, DVD-ROM or DVD±RW. VESA mount is required		
	Core i3-9300	4	4	3.7GHz	8MB	62WDDR4-2400	Intel UHD	Media reader	None. Using USB adapter		
Processor	Core i3-9100T	4	4	3.1GHz	6MB	35WDDR4-2400	Graphics 630 Intel UHD Graphics 630	Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-on-LAN. Optional Intel i350-T4 for 4x GbE ports, using PCle slot		
	Core i3-9100	4	4	3.6GHz	6MB	65WDDR4-2400	Intel UHD Graphics 630	Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Chassis intrusion switch. Optional Kensington lock		
	Core i7-8700T	6	12	2.4GHz	12MB	35WDDR4-2666	Intel UHD Graphics 630	Intel vPro	Supports vPro on models with the following processors: Core i7-8700T, Core		
	Core i7-8700	6	12	3.2GHz	12MB	65WDDR4-2666	Intel UHD Graphics 630	Technology	i7-5700, Core i5-8600T, Core i5-8600, Core i5-8500T, Core i5-8500. vPro also requires Wireless-AC 9560 if Wi-Fi is needed		
	Core i5-8600T	6	6	2.3GHz	9MB	35WDDR4-2666	Intel UHD Graphics 630	Systems management	Intel Active Management Technology 12 on vPro models, Intel Standard Manageability on other models		
	Core i5-8600	6	6	3.1GHz	9MB	65WDDR4-2666	Intel UHD Graphics 630	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		
	Core i5-8500T	6	6	2.1GHz	9MB	35WDDR4-2666	Intel UHD Graphics 630	HD Audio	Intel HD Audio interface with Realtek ALC233 Codec		
	Core i5-8500	6	6	3.0GHz	9MB	65WDDR4-2666	Intel UHD Graphics 630	Front standard ports	1x USB 3.1 Gen 1 Type A (charging). 1x USB 3.1 Gen 1 Type-C. 1x Mic-in. 1x Combo jack		
	Core i5-8400T	6	6	1.7GHz	9MB	35WDDR4-2666	Intel UHD Graphics 630	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		
	Core i5-8400	6	6	2.8GHz	9MB	65WDDR4-2666	Intel UHD Graphics 630		Up to two optional rear ports via punch out cable.		
	Core i3-8300T	4	4	3.2GHz	8MB	35WDDR4-2400	Intel UHD Graphics 630	Ontional	Port 1 supports one of the following: 1x USB 3.1 Gen 1 Type-C, also supports DP function.		
	Core i3-8300	4	4	3.7GHz	8MB	62WDDR4-2400	Intel UHD Graphics 630	Optional rear ports - via punch out cable	1x COM. 1x VGA. 1x DP.		
	Core i3-8100T	4	4	3.1GHz	6MB	35WDDR4-2400	Intel UHD Graphics 630		1x HDMI. Port 2 supports one COM		
	Core i3-8100	4	4	3.6GHz	6MB	65WDDR4-2400	Intel UHD Graphics 630		I OIL & SUPPOILS OILE OOM		

# ThinkStation P330 Tiny Platform Specifications - II of II

Components	Specification
Optional rear ports - via punch out cable	Up to two optional rear ports via punch out cable. Port 1 supports one of the following: 1x USB 3.1 Gen 1 Type-C, also supports DP function. 1x COM. 1x VGA. 1x DP. 1x HDMI. Port 2 supports one COM
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/









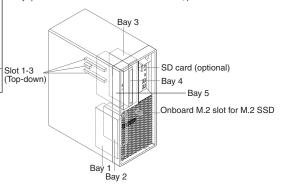




# **ThinkStation P330 Tower Platform Specifications**

Components	Specification										
Machine Type	MT 30C5 for Transactional model and MT 30C6 for Relationship model. For configuration of all 30C5 EMEA and US models, please visit: http://psref.lenovo.com/Product/ThinkStation/ThinkStation_P330_Tower										
Form factor	18L Tower										
Dimensions	Height: 376 mm (14.8 in). Width: 165 mm (6.5 in). Depth: 328 mm (12.9 in)										
Weight	Maximum configuration: 23.4 lb (10.6kg)										
Processor	Up to one Intel Xeon E family processor, up to 95W, up to 6 cores at 3.8GHz, up to 2MB cache, up to DDR4-2666 memory speed.  Drup to one 8th Intel Core family processor, i7, i5, or i3, up to 95W, up to 6 cores to 3.7GHz, up to 12MB cache, up to DDR4-2666 memory speed.  Drup to one Intel Pentium Gold G5400 via Special Bids, 54W, 2 cores at 3.7GHz, MB cache, DDR4-2400 memory speed										
Chipset	atel C246 Chipset										
Memory	4 DIMM sockets. DD	DIMM sockets. DDR4-2666. UDIMM. ECC and non-ECC are supported, but nemory types cannot be intermixed									
Memory capacity	Up to 64GB with 4x			d non-	ECC						
Memory protection					ors cannot support ECC UD	IMM					
	Three PCIe 3.0 slots										
Evanacion alata	Slot 1 PCIe 3.0 x16,	full he	eight, half leng	ıth, link	s to CPU						
Expansion slots	Slot 2 PCIe 3.0 x1, full height, full length, links to PCH										
	Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, half length, links to PCH										
Graphics - Processor graphics	Graphics 630 in Core i7, i5, or i3 processors, or Intel UHD Graphics 610 in Pentium Gold G5400.  Works along with discrete graphics to support multi-display, enables three display connectors (2x DP, 1x HDMI. HDMI is optional) on rear  Up to two PCIe 3.0 x16 slots for discrete graphics card (Slot 1 and 3). Supports the										
	following graphics ac	dapter	s:								
	Adapter Quadro P400	Cores 256		Power 30W	Connectors 3x miniDP	Max qty 2					
Graphics - Discrete	Quadro P620	512	2GB GDDR5 2GB GDDR5	40W	4x miniDP	2					
graphics card	Quadro P1000	640	4GB GDDR5	47W	4x miniDP	2					
	Quadro P2000		5GB GDDR5	75W	4x DP	2					
	Quadro P4000         1792         8GB GDDR5         105W         4x DP         1										
Storage controllers	Notes: Quadro P4000 and Integrated Intel SATA Four onboard SATA	AHC	I/RAID contro	ller in d	chipset, 6Gbps SATA, RAID (	0/1/10/5					
	Up to five bays with four disk bays plus one slim optical bay, supports up to 3x 3.5" HDD plus 1x 2.5" SSD, or 4x 2.5" SSD										
	Bay 1 Primary disk	nav 3	5" or 2.5"								
				e whe	n 2nd Quadro P2000 is used						
	Bay 3 Secondary di										
Internal storage	Bay 4 5.25" Flex bar			e follo	wina.						
bay	'				hunderbolt/IEEE1394						
,	<ul> <li>3rd disk bay</li> </ul>	, 3.5"		able, v	ria Front Access Storage End	closure,					
			or 2.5",via 5.2								
					closure, also occupies slot 1	or 3					
	Bay 5 9mm Slim OE				•						
Disks	3.5" HDD supports u 2.5" SSD supports u	ip to 4	TB each, 6Gb								

Components	Specification
M.2 slot for SSD	Up to 3x M.2 SSD with one dedicated onboard M.2 slot plus two PCle to M.2 adapters. PCle to M.2 adapter uses slot 1 or 3.  Supports RAID 0/1 with PCH, When used as RAID, M.2 SSD should be installed in onboard M.2 slot and slot 3.  Up to one Optane memory per system; Optane memory must work with a HDD or SSD; Optane memory cannot supported on Pentium G5400 models
M.2 SSD	M.2 SSD supports up to 1TB each, PCIe 3.0 x4, NVMe, Opal. Optane memory supports 32GB, PCIe 3.0 x2, NVMe, 3D Xpoint
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 SD 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, cable lock, Kensington lock, and pad lock
Intel vPro	Supports Intel vPro on Xeon models. vPro also requires Wireless-AC 9560 if Wi-Fi is needed
Intel AMT	Intel Active Management Technology 12 on Xeon 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 front ports (on flex module)	2x Thunderbolt (USB Type-C), one of two ports supports video-out. 1x eSATA. 1x IEEE1394
Optional rear ports	2x USB 3.1 Type-C. 1x COM. PS/2. 1x Parallel. 1x Thunderbolt. 1x IEEE1394. 1x HDMI.  Notes: HDMI needs Core, Pentium, or -G suffix Xeon processor
Temperature	Operating: 41 °F to 104 °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 250W or 400W power supply, 100V - 240V, 92% PSU. Climate Savers Computing Platinum and 80 PLUS Platinum qualified. 400W PSU supports one 6+2-pin aux power connector.
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/
Note:	















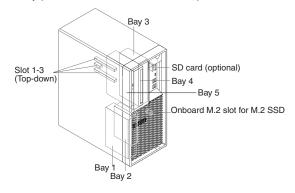
# ThinkStation P330 Tower Gen 2 (30CY and 30D0) Platform Specifications - I of II

Note: 2x Quadro P2000, Quadro P4000, Quadro P5000, or Quadro RTX 4000 needs 400W PSU

Components	Specification			Components	s Specification							
Form factor	18L Tower				Storage Controller Type Interface Disk Type RAID							
Dimensions	Height: 376 mm (14.8	8 in). Width: 165 mm (6.5 in). Depth: 32	8 mm (12.9 in)	Storage Controller		RST SATA RAID			HDD or SSD	0/1/10/5		
Weight	Maximum configurati	, , , , ,	- ( - /	Onboard Intel RST PCIe RAID   Std   PCIe NVMe   M.2 PCIe SSD   0/1								
rroigin		following processors:		Disk Type	Interface F	RPM	Offering	Max	Qtv			
	Xeon E-2286G		400W DCI I recoded			D SATA 6Gb/s 7		1TB/2TB/41	В 3			
	Xeon E-2278G	6C/12T/4.0GHz/12MB/95W/DDR4-2666 8C/16T/3.4GHz/16MB/80W/DDR4-2666				D SATA 6Gb/s 7	7.2K	500GB FIP				
	Xeon E-2276G	6C/12T/3.8GHz/12MB/80W/DDR4-2666		Storage Support	2.5" SATA SSI	D SATA 6Gb/s		256GB/512GB				
	Xeon E-2274G	4C/8T/4.0GHz/8MB/83W/DDR4-2666			Optane Memo	ry PCIe NVMe		32GB	1, used with h			
	Xeon E-2246G	6C/12T/3.6GHz/12MB/80W/DDR4-2666			M 2 PCIe SSE	PCIe NVMe		256GB/512GB				
	Xeon E-2244G	4C/8T/3.8GHz/8MB/71W/DDR4-2666					h a					
	Xeon E-2236	6C/12T/3.4GHz/12MB/80W/DDR4-2666			3 5" HDD nlue	S WITH TOUT CISK	bays   r 4 v 2	pius one siim d 5 5" HDD/SSD	ptical bay, support	is up to 3x		
	Xeon E-2234	4C/8T/3.6GHz/8MB/71W/DDR4-2666			3.5" HDD plús 1x 2.5" SSD, or 4x 2.5" HDD/SSD							
	Xeon E-2226G Xeon E-2224G	6C/6T/3.4GHz/12MB/80W/DDR4-2666		Bay 1 Primary disk bay, 3.5" or 2.5"  Bay 2 2.5" SATA bay, cannot be available when 2nd Quadro P2000 is used								
	Xeon E-2224	4C/4T/3.5GHz/8MB/71W/DDR4-2666 4C/4T/3.4GHz/8MB/71W/DDR4-2666							nd Quadro P2000	is used		
	Xeon E-2186G	6C/12T/3.8GHz/12MB/95W/DDR4-2666	400W PSU needed			dary disk bay, 3.						
Processor	Xeon E-2174G	4C/8T/3.8GHz/8MB/71W/DDR4-2666		Storage Bays		lex bay, support						
1 10063301	Pentium Gold G5620	2C/4T/4.0GHz/4MB/54W/DDR4-2400						nderbolt/IEEE1394				
	Core i9-9900	8C/16T/3.1GHz/16MB/65W/DDR4-2666			3rd disk bay, 3.5" or 2.5", removable, via Front Access Storage Enclosure, using SATA 4 connector as eSATA mode     3rd disk bay, 3.5" or 2.5", via 5.25" to 3.5" HDD Kit							
	Core i7-9700K		400W PSU needed									
	Core i7-9700	8C/8T/3.0GHz/12MB/65W/DDR4-2666										
	Core i7-8700 Core i5-9600K	6C/12T/3.2GHz/12MB/65W/DDR4-2666 6C/6T/3.7GHz/9MB/95W/DDR4-2666	400W PSU needed		Bay 5 9mm Slim ODD bay M.2 3x M.2 SSD (1 onboard. 2 via PCle to M.2 adapter)							
	Core i5-9600	6C/6T/3.1GHz/9MB/65W/DDR4-2666	HOOVY I SO Heeded			<u> </u>			apter)			
	Core i5-9500	6C/6T/3.0GHz/9MB/65W/DDR4-2666		Media reader		ard reader on m						
	Core i5-9400	6C/6T/2.9GHz/9MB/65W/DDR4-2666		Network	One onboard	GbE port via int	egrat	ed gigabit ethe	rnet Intel i219LM,	supports		
	Core i5-8500	6C/6T/3.0GHz/9MB/65W/DDR4-2666		interfaces		I. Optional PCIe						
	Core i3-9300	4C/4T/3.7GHz/8MB/62W/DDR4-2400		WLAN + Bluetooth					Wireless-AC 9560			
	Core i3-9100	4C/4T/3.6GHz/6MB/65W/DDR4-2400						<u>etooth 5, up to 1.7</u> Module, TCG 2.0 c				
	Core i3-8300 Core i3-8100	4C/4T/3.7GHz/8MB/62W/DDR4-2400 4C/4T/3.6GHz/6MB/65W/DDR4-2400		Security features					ock, Kensington lo			
Chipset	Intel C246 Chipset	4C/41/3.6GHZ/6WB/63W/DDR4-2400		-	pad lock	olo il ili dololi ovi	1011, 0	roadit, dabid it	on, nononigion lo	ort, arra		
Memory Sockets	4 DIMM sockets with 2	2 channels		Intel vPro		l vPro on Xeon i						
	8GB/16GB DDR4-266			- Interview		uires Wireless-A						
Memory Types	4GB/8GB/16GB/32GE	B DDR4-2666 UDIMM non-ECC		Intel AMT		anagement Tech			models,			
Memory Capacity		or UDIMM ECC or 128GB with 4 x 32GB	UDIMM non-ECC						ce with 9x5/NBD.			
Memory Protection	ECC on models with U	,		Base warranty	1 or 3-year lin	nited onsite serv	ice w	ith 9x5/NBD in	EMEA or other GI	EOs		
	Three PCIe 3.0 slots			HD Audio	Intel HD Audio	o interface with F	Realte	ek ALC233 Cod	dec			
Expansion slots		full height, half length, links to CPU ull height, full length, links to PCH		Front ports				3.1 Gen 2 Type	e A. 1x USB 3.1 Ge	en 1		
		uii neight, luii length, links to PCH (negotiable link width x4), full height, ha	olf longth links to DCH			c-in. 1x Combo en 1 Type A 2x		2.0 Type-A. 1x	RJ-45. 1x COM. 2	x DP.		
		, , , , , , , , , , , , , , , , , , , ,		Rear ports	1x Audio line-	out			110 10. 17 00111. 2	х Б		
		Graphics P630 in -G suffix Xeon proce i7, i5, i3, or Pentium processors.	essors, or intel UHD	0 11 11	Notes: DP needs (	Core, Pentium, or -G	suffix X	eon processor				
Processor graphics		crete graphics to support multi-display,	enables three rear	Optional front ports (on flex			, one	of two ports su	pports video-out.			
	display connectors (2	2 DP standard, 1 DP or HDMI optional)		module)	1x eSATA. 1x	IEEE1394		·				
	Up to two PCIe 3.0 x	16 slots for discrete graphics card (Slo	t 1 and 3). Supports the	- Intodutor	Supports the	following via cab	ole:					
	following graphics ad	lapters:	, , ,	Optional rear	1x COM. 1x P	arallel. Žx PS/2.	1x D		2x USB 2.0			
	Graphics	Memory Power Connector	Max Qty	ports	Supports the	following via PC	le ada	apter:				
		2GB GDDR5 30W 3x miniDP	2		4x COM. 2x U	ISB 3.1 Type-C. Il needs Core, Pentiu	2x US	SB 3.0. 1x Thur	iderbolt.			
D:		2GB GDDR5 40W 4x miniDP	2			°F to 95 °F (10			3001			
Discrete Graphics Offering		AGB GDDR5 50W 4x miniDP	2	Temperature	Non operating	(no package):	14 ° F	to 140°F (-10	°C to 60 °C)			
J.ioinig		GGB GDDR5         75W         4x DP           GB GDDR5X         75W         4x DP	2		Non operating	(with package)	: -40 °	°F to 140 °F (-	40 °C to 60 °C)			
		3GB GDDR5 105W 4x DP	1									
		GGB GDDR5X 180W DVI-D DL + 4x DP	1									
	Quadro RTX 4000 8											

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

Components	Specification
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 250W or 400W power supply, 100V - 240V, 92% PSU. Climate Savers Computing Platinum and 80 PLUS Platinum qualified. 400W PSU supports one 6+2-pin aux power connector.
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/





# ThinkStation P520 Platform Specifications

IninkStation		rılı əp	ecilic	ations	)						
	33L Tower										
	165mm/6.5" W x 460mm/18.1" D x 440mm/17.3" H (with feet)										
Weight	Maximum configuration: 52.91 lb (24kg)										
	Processor	# of	# of	Bas		Cache	Т	DP	Memory		
	Xeon W-2195	Cores 18	Threads	Freque 2.3G		24.75ME		10W	Types DDR4-2666		
	Xeon W-2175	14	<u>36</u> 28	2.5G		19MB		40W	DDR4-2666		
	Xeon W-2175	10	20	3.3G		13.75ME	_	40W	DDR4-2666		
Dragger Cumpert	Xeon W-2145	8	16	3.7G		11MB			DDR4-2666		
Processor Support	Xeon W-2135	6	12	3.7G		8.25MB		40W	DDR4-2666		
	Xeon W-2133	6	12	3.6G		8.25MB		40W	DDR4-2666		
	Xeon W-2125	4	8	4.0G		8.25MB			DDR4-2666		
	Xeon W-2123 Xeon W-2104	4	<u>8</u> 4	3.6G 3.2G		8.25MB 8.25MB		20W   20W	DDR4-2666 DDR4-2400		
	Xeon W-2102	4	4	2.9G		8.25MB		20W	DDR4-2400		
Processor Sockets				2.00	112	O.ZOIVID	1 12		DDTH ZHOO		
	Intel C422 Chipset										
	8 DIMM sockets		nannale								
	DDR4-2666 RDI		larificis								
	256GB with 8 x 3		OIMMs								
Memory Protection											
		DCI^ 3 U	vQ full l	ooiaht fu	II lonati	n, 25W, o	non o	ndod			
						th, 75W,			1		
									1		
	Slot 3 (PCH) PCIe 3.0 x4, full height, half length, 25W, open ended Slot 4 (CPU) PCIe 3.0 x16, full height, full length, 75W, double-width										
	Slot 5 PCI, full height, full length, 25W										
	Slot 6 (PCH) PCIe 3.0 x4, full height, half length, 25W, open ended										
									/ M Ob-		
	Graphics	IVI	emory	Pow-	Co	nnector	١	SLI / N' link	V- Max Qty		
	NVS 810	4G	B DDR3	er 68W	8v	mini DP		IIIIK	2		
	Quadro P400		GDDR			miniDP			2		
	Quadro P600		GDDR			miniDP			2		
	Quadro P620		GDDR:			miniDP			2		
	Quadro P1000		GDDR:			<u>miniDP</u>			2		
Discrete Graphics	Quadro P2000		GDDR:			4xDP			2		
Offering	Quadro P4000 Quadro P5000		GDDR:	5 120W 5X 180W		<u>4xDP</u> ) DL+4xD	D	SLI	2 2		
	Quadro P6000					DL+4xD		SLI	1		
	Quadro RTX 40		GDDR			1xVirtualL			2		
	Quadro RTX 50					1xVirtualL			1		
	Quadro RTX 60	00 24GI	3 GDDF	R6 295W	4xDP,	1xVirtualL	ink		1		
	Quadro RTX 80					1xVirtualL			1		
	Quadro GP100		B HBM2			D DL, 4x	DP	NVLin	k 2		
	Quadro GV100		B HBM			4xDP					
	Storage Control			Interface		0/1/10/	-		Cache		
	Onboard Intel R	Sie Sia		ATA 6Gb 12Gb/s,							
	9440-8i PCle	Opt	SAS	6Gb/s	SAIA	0/1/10/	5				
Storage Controller	0400 40' DOL-	01	SAS	12Gb/s,	SATA	0/4/40/5	10 41	20.00	D4 0 0		
	9460-16i PCIe	Opt		6Gb/s		0/1/10/5		ab DD	R4, SuperCap		
	NVMe Basic	Opt	P	Cle NVN	1e	0/1/10					
	NVMe Premium	Opt		Cle NVN		0/1/10/					
	NVMe for Intel S	SSD  Opt	P	Cle NVN	1e	0/1/10/	5				
	Disk Type	Interface	RPM	(	Offering			Ma	ax Qty		
	3.5" SATA	SATA	7.2K	1TB/2	TB/4TI	3/6TB			6		
	HDD	6Gb/s	7.12.1	, _	,	2,0.2					
	2.5" SATA HDD	SATA 6Gb/s	7.2K	500GE	/500GI	B FIPS			6		
Storage Support	2.5" SATA	SATA									
	SSD	6Gb/s		256GB/5	12GB/	1TB/2TB			6		
		PCle		0500D/5	1000/	4 TD /0 TD			9		
	M 2 PCIA CCD			'J ムム( - ロ / L							
	M.2 PCIe SSD	NVMe		256GB/5	12GB/	118/218					
	M.2 PCIe SSD PCIe AIC SSD				12GB/ 480GB		2		en quad M.2 ter used)		

	Bay	N	Maximum Drives Qty						
	Type	Ov M 2 SSD (2 ophoard, 7	via PCIa to M.2 adaptor\						
	IVI.2 SIOI	9x M.2 SSD (2 onboard, 7 2 flex bays. Supports the fo							
		<ul> <li>2x half-height optical dri</li> </ul>							
		<ul> <li>2x 5.25" 9.0mm optical of</li> </ul>	drives						
			drive + 2x 3.5"/2.5" SATA SSD/HDD						
Storage Bays	• 1x 3.5"/2.5" SATA SSD/HDD with Front Access Storage Enclosure								
	Flex Bay 1x flex module for the following options: Tray 1: 9.0mm optical								
			reader, 2x Thunderbolt, or 4-digit diagnostic						
		display	roador, Ex Triandorbott, or 1 digit diagnostic						
		Port 1 and 2: Front USB							
			nt Removable Drive Enclosures						
	Disk bay	ontional)	with 4 disk bays (2 bays standard, 2 bays						
]			5" HDD/6x 2.5" SATA disks/4x 2.5" SAS HDD +	$\dashv$					
Man Otamana		AIC SSD.	TIDD/0x 2.3 OATA dishortx 2.3 OAOTIDD +						
Max Storage		36TB using 6x 3.5" HDD							
]	All SSD:	30.48TB using 6x 2.5" SAT	A SSD, 9x M.2 SSD, and 1x PCIe AIC SSD						
		one of the following:							
Power supply	One fixe	ed 690W, autosensing, 92%	6, 80 PLUS Platinum qualified						
			6, 80 PLUS Platinum qualified odels. Optional UHS-II 15-in-1 USB 3.0 reader	on					
Media reader	flex modu		odeis. Optional Ons-II 15-III-1 03B 3.0 leader	OH					
Network		-	l i219LM), supports Wake-on-LAN. Optional PC	Cle					
interfaces		or wireless adapters are av							
WLAN +			2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to	.0					
Bluetooth	867Mbps								
Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant, switch								
Intel vPro	Intol vPro	technology supported vP	ess panel lock, Kensington lock, and pad lock ro requires Wireless-AC 8265 if Wi-Fi is needed	4					
Intel AMT		ve Management Technolog		_					
IIICI AWII			on Diagnostics for Windows. Photo-audio trans	fer					
Diagnostic			droid and iOS. Optional front 4-digit diagnostic	101					
		n flex module	, , ,						
		ar limited onsite service wit	th 9x5/NBD						
HD Audio		ALC662 codec							
			ging), 1x combo audio/microphone jack (3.5mm						
	2x USB 2 2x PS/2	2.0, 4x USB 3.0, 1x RJ-45,	3x analog audio ports (line-in, line-out, mic-in),						
	Front:			$\dashv$					
		nderbolt ports (USB Type-C	c) on flex module, one of two ports						
		ts video-out	, ,						
	<ul> <li>1x eSA</li> </ul>	TA on flex module							
Optional ports	• 1X USE	3 Type-C on flex module, U	SB 3.1 gen 1						
	• 1x CON	M port							
			apter, USB 3.1 gen 2. One 15W, one 5W						
	Internal:								
		nal USB 3.0 port		_					
		e - operating	50 °F to 95 °F (10 °C to 35 °C)	41					
		e - storage (no package)	14 °F to 140 °F (-10 °C to 60 °C)	$\dashv$					
Environmental	_	e - storage (with package)	-40 °F to 140 °F (-40 °C to 60 °C)	+					
specification	Altitude - op Humidity - o		(Unpressurized): -50ft-10000ft (-15.2m-3048m)	+					
		storage (with package)	10%~80%, non-condensing	$\dashv$					
<u> </u>			, ,	ᆜ					
Environmental Certifications	RoHS-co qualified	ompliant. GREENGUARD. E on model 30BE0008US ar	EPEAT Silver rating. ENERGY STAR 6.1 and 30BE0009US						
ISV certifications	Please v	isit www.thinkworkstations.	com/isv-certifications/						
Note:	any factors	natual data transfer and d martings	d on this page may be lower than theoretical appeal						
2. To support the ma	aximum expa	andability, 900W power supply may b	d on this page may be lower than theoretical speed. De needed.						
3. Any questions or	advice on Th	ninkStation PSREF, please contact 1	hinkStation PSREF developer Lenovo, September 201	9					
				-					





# ThinkStation P520c Platform Specifications

Form factor	25L Tower									_][.		
Dimensions	175mm/6.89" W x 426mm/16.77" D x 376mm/14.8" H (with feet)											
Weight	Maximum config	guration	: 31.97 lb	(14.5kg)						_ا		
	Processor	# of	# of	Base		Cache	TE	)P	Memory	F.		
	Xeon W-2195	Cores	Threads		icy	4.75MB	140		Types DR4-2666	1		
	Xeon W-2175	<u>18</u> 14	36 28	2.3GF 2.5GF		<u>4.75МВ</u> 19МВ	140		DR4-2666			
	Xeon W-2175	10	20	3.3GF		3.75MB	140		DR4-2666			
	Xeon W-2145	8	16	3.7GF		3.75MB 11MB	140		DR4-2666	Ī		
Processor Support	Xeon W-2135	6	12	3.7GF		3.25MB	140		DR4-2666	E		
	Xeon W-2133	6	12	3.6GF		3.25MB	140		DR4-2666			
	Xeon W-2125	4	8	4.0GH		3.25MB	120		DR4-2666	5		
	Xeon W-2123	4	8	3.6GH	lz 8	3.25MB	120		DR4-2666			
	Xeon W-2104	4	4	3.2GF		3.25MB	120		DR4-2400			
	Xeon W-2102	4	4	2.9GF	lz   8	3.25MB	120	)W   DI	DR4-2400			
Processor Sockets	1x FCLGA2066	i										
Chipset	Intel C422 Chip	set										
Memory Sockets	4 DIMM sockets	s with 4	channels									
Memory Types	DDR4-2666 RD	MMI										
Memory Capacity	128GB with 4 x	32GB F	RDIMMs									
Memory Protection	ECC									T F		
,	Slot 1 (CPU)	PCIe 3.	0 x16. ful	I height, f	ull lenati	n. 75W.				F		
	Slot 2 (CPU)			height, ful			en ei	nded		II.		
Expansion slots	Slot 3 (CPU)	PCle 3	0 x0, idii 0 x16 ful	I height, f	ull lenati	75W	,011 01	laca				
	Slot 4 (PCH)			height, ha			nen e	nded				
	, ,								Maria	-1		
	Graphics		Memory	Power	Col	nnector	;	SLI / NV- link	- Max Qty			
	NVS 810		GB DDR3		8xr	nini DP			1	]   C		
	Quadro P400		B GDDR			<u>miniDP</u>			2	<b>-</b>		
Discrete Graphics	Quadro P600		B GDDR			miniDP_			2	4		
Offering	Quadro P620         2GB GDDR5         40W         4x miniDP         2											
	Quadro P1000         4GB GDDR5         50W         4xminiDP         2           Quadro P2000         5GB GDDR5         75W         4xDP         2											
	Quadro P2000 Quadro P4000		B GDDR			IxDP			2	$\exists \Vdash$		
	Quadro P5000			5X 180W		DL+4xD	Р		1	<del>-</del>		
	Quadro RTX 40					xVirtualL			1	7		
	Storage Contro		Type		nterface			RAID	Cache	TI.		
	Onboard Intel F		Štd		ATA 6Gb		-	0/1/10/5	-	E		
Storage Controller	9440-8i PCle		Opt	SAS 12G				0/1/10/5	-	s		
	NVMe Basic		Opt		Cle NVN			0/1/10	-	1		
	NVMe for Intel	SSD	Opt	P(	Cle NVN	1e	(	0/1/10/5	-			
	Disk Type		Interface	RPM	(	Offering			Max Qty			
	3.5" SATA HDD	S	ATA 6Gb		1TB/2	TB/4TB/	6TB		4	_  E		
Storage Support	2.5" SATA HDD	S	ATA 6Gb	/s 7.2K	500GB	/500GB I	FIPS		4			
	2.5" SATA SSD	S	ATA 6Gb	/s 2	256GB/5	12GB/1T	B/2T	В	4			
	M.2 PCIe SSD	l P	Cle NVM	e 2	256GB/5	12GB/1T	B/2T	В	5	╝╖		
	Bay			Maxim	um Driv	es Otv				1.		
	Type			Wickini	ann Biiv	oo aty				2		
		2 SSD (2	2 onboard	d, 3 via PC	Cle to M	.2 adapte	er)					
	M.2 slot 5x M.2 SSD (2 onboard, 3 via PCIe to M.2 adapter) 2 flex bays. Supports the following:											
	∥ ≥ nex	2x half-height optical drives										
	• 2x h	nalf-heig	nt opticai	• 2x 5.25" 9.0mm optical drives								
	• 2x h • 2x 5	5.25" 9.0	mm option	al drives		<b></b>						
Store de Doue	• 2x h • 2x 5 • 1x 5	5.25" 9.0 5.25" 9.0	mm option	cal drives cal drive +								
Storage Bays	• 2x f • 2x 5 • 1x 5 • 1x 3	5.25" 9.0 5.25" 9.0 3.5"/2.5"	mm option mm option SATA SS	cal drives cal drive + SD/HDD w	ith Fron	t Access			osure			
Storage Bays	• 2x f • 2x 5 • 1x 5 • 1x 3 Flex Bay • 1x f	5.25" 9.0 5.25" 9.0 3.5"/2.5" lex mod	mm option Omm option SATA SS ule for the	cal drives cal drive + SD/HDD w e following	ith Fron	t Access			osure			
Storage Bays	• 2x h • 2x 5 • 1x 5 • 1x 3 Flex Bay • 1x f Tray	5.25" 9.0 5.25" 9.0 3.5"/2.5" lex mod / 1: 9.0n	mm option omm option SATA SS ule for the omm optica	cal drives cal drive + SD/HDD w e following l	ith Fron poptions	t Access s:	Stora	age Enc				
Storage Bays	• 2x h • 2x 5 • 1x 5 • 1x 3 Flex Bay • 1x f Tray Tray	5.25" 9.0 5.25" 9.0 3.5"/2.5" lex mod / 1: 9.0n / 2: 15-ir	mm option omm option SATA SS ule for the omm optica	cal drives cal drive + SD/HDD w e following	ith Fron poptions	t Access s:	Stora	age Enc				
Storage Bays	• 2x h • 2x 5 • 1x 5 • 1x 3 Flex Bay • 1x f Tray Tray displa	5.25" 9.0 5.25" 9.0 3.5"/2.5" lex mod / 1: 9.0n / 2: 15-ir y	omm option  SATA SS  ule for the optica  notice of the optica  1-1 USB 3	cal drives cal drive + SD/HDD w e following l	vith Frong g options g, 2x Thu	t Access s: nderbolt,	Stora	age Enc				
Storage Bays	• 2x h • 2x 5 • 1x 5 • 1x 5 • 1x 6 • 1x f Tray Tray displa	5.25" 9.0 5.25" 9.0 3.5"/2.5" lex mod 7 1: 9.0n 7 2: 15-ir 9 1 1 and 2 M.2 SSE	mm option mm option SATA SS ule for the mm optica n-1 USB 3 2: Front U ) with 2x	cal drives cal drive + cal dri	vith From g options r, 2x Thu vpe-C or novable	t Access s: nderbolt, eSATA	Stora	age Encl				

	Max Storage	Supports up to 5x M.2 SSD + 4x 3.5 All HDD: 24TB using 4x 3.5" HDD								
		All SSD: 18TB using 4x 2.5" SATA S								
	Power supply	One fixed 500W, autosensing, 92%, 80 PLUS Platinum qualified								
	Media reader	SD USB 2.0 card reader on most m on flex module	odels. Optional UHS-II 15-in-1 USB 3.0 reader							
	Network interfaces	Integrated one gigabit ethernet (Inte PCIe ethernet or wireless adapters	el i219LM), supports Wake-on-LAN. Optional are available							
	WLAN + Bluetooth	Optional Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, o 867Mbps								
	Security features	switch to 1.2 via UEFI setting. Optio pad lock	sted Platform Module, TCG 2.0 compliant, nal access panel lock, Kensington lock, and							
	Intel vPro	Intel vPro technology supported. vP needed	ro requires Wireless-AC 8265 if Wi-Fi is							
	Intel AMT	Intel Active Management Technolog								
	Diagnostic	ThinkStation Diagnostics for Windov flex module	ws. Optional front 4-digit diagnostic display on							
	Base warranty	1 or 3-year limited onsite service wit	th 9x5/NBD							
	HD Audio	Realtek ALC662 codec								
	Front ports	2x USB 3.0, microphone (3.5mm), headphone (3.5mm)								
	Rear ports	2x USB 2.0, 4x USB 3.0, 1x RJ-45, 3x analog audio ports (line-in, line-out, mic-n), 2x PS/2								
		Supports the following optional ports Front:  2x Thunderbolt ports (USB Type-C								
	Optional ports	supports video-out  1x eSATA on flex module  1x USB Type-C on flex module, USB	•							
	Optional ports	Rear:  1x COM port								
		<ul> <li>2x USB Type-C ports via PCIe ada Internal:</li> <li>1x internal USB 3.0 port</li> </ul>	apter, USB 3.1 gen 2. One 15W, one 5W							
1		Temperature - operating	50 °F to 95 °F (10 °C to 35 °C)							
7		Temperature - storage (no package)	14 °F to 140 °F (-10 °C to 60 °C)							
	Environmental	Temperature - storage (with package)	-40 °F to 140 °F (-40 °C to 60 °C)							
	specification	Altitude - operating	(Unpressurized): -50ft-10000ft (-15.2m- 3048m)							
		Humidity - operating	10%~80%, non-condensing							
7		Humidity - storage (with package)	10%~90%, non-condensing							
	Environmental Certifications	RoHS-compliant. GREENGUARD. E qualified on model 30BX0008US ar	EPEAT Silver rating. ENERGY STAR 6.1 and 30BX0009US							
	ISV certifications	Please visit www.thinkworkstations.	com/isv-certifications/							













Slot 1 (CPU2)	PCIe 3.0 x16, full height, full length, 75W
Slot 2 (CPU1)	PCIe 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)	PCIe 3.0 x16, full height, full length, 75W, double-width
Slot 5	PCI, full height, full length, 25W
	PCIe 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 485mm/19.1" D x 446mm/17.6" H (with feet)									
Weight	Maximum configuration: 52.25 lb (23.7kg)									
Processor Sockets	essor Sockets 2x FCLGA3647									
Processor Support	Processor Support Up to two 150 W Gen 1 or Gen 2 Intel Xeon Scalable family processors, Bronze, Silver, Gold, or Platinum									
	Processor	# of Cores	# of Threads	Ba Freq	ase uency	Cache	TDP	Memory Ty	pes	
	Xeon Gold 6242	16	32		GHz	22MB	150W	DDR4-293		
	Xeon Gold 6238T	22	44		GHz	30MB	125W	DDR4-293		
	Xeon Gold 6234	8	16		GHz	25MB	130W	DDR4-290 DDR4-290		
	Xeon Gold 6230 Xeon Gold 5222	20 4	40 8		<u>GHz</u> GHz	28MB 17MB	125W 105W	DDR4-290 DDR4-290		
	Xeon Gold 5218	16	32		GHz	22MB	125W	DDR4-290		
	Xeon Gold 5217	8	16		GHz	11MB	115W	DDR4-266		
	Xeon Gold 5215	10	20		GHz	13.75MB	85W	DDR4-266		
	Xeon Silver 4216	16	32		GHz	22MB	100W	DDR4-240		
	Xeon Silver 4215	8	16		GHz	11MB	85W	DDR4-240		
	Xeon Silver 4214	12	24		GHz	17MB	85W	DDR4-240	00	
	Xeon Silver 4210	10	20		GHz	14MB	85W	DDR4-240		
	Xeon Silver 4209T	8	16		GHz	11MB	70W	DDR4-240		
Dragger Offering	Xeon Silver 4208	8	16	2.1	GHz	11MB	85W	DDR4-240		
Processor Offering	Xeon Bronze 3204	24	6		GHz	8.25MB	85W	DDR4-213		
	Xeon Platinum 8160T Xeon Gold 6142	16	48 32		GHz GHz	33MB 22MB	150W 150W	DDR4-266 DDR4-266		
	Xeon Gold 6136	12	24			24.75MB	150W	DDR4-266		
	Xeon Gold 6134	8	16			24.75MB	130W	DDR4-266		
	Xeon Gold 6128	6	12		GHz	19.25MB	115W	DDR4-266		
	Xeon Gold 5122	4	8		GHz	16.5MB	105W	DDR4-266		
	Xeon Gold 5120T	14	28		GHz	19.25MB	105W	DDR4-240		
	Xeon Gold 5118	12	24		GHz	16.5MB	105W	DDR4-240	00	
	Xeon Gold 5115	10	20		GHz	13.75MB	85W	DDR4-240		
	Xeon Silver 4116	12	24		GHz	16.5MB	85W	DDR4-240		
	Xeon Silver 4114T	10	20		GHz	13.75MB	85W	DDR4-240		
	Xeon Silver 4114	10	20		GHz	13.75MB	85W	DDR4-240		
	Xeon Silver 4112 Xeon Silver 4110	8	8 16		GHz GHz	8.25MB 11MB	85W 85W	DDR4-240 DDR4-240		
	Xeon Silver 4109T	8	16		GHz	11MB	70W	DDR4-240		
	Xeon Silver 4108	8	16		GHz	11MB	85W	DDR4-240		
Chipset	Intel C621 Chipset				<u> </u>					
Memory Sockets	12 DIMM sockets with	12 cha	nnels 6	DIMI	/I sock	ets with 6	channels	ner process	or	
Memory Types	DDR4-2666 RDIMM	12 0110		Dilli	0001	oto with o	onamoic	, po. p. 00000	,,,,	
Memory Capacity	768GB (DDR4-2933 F	SDIMM)	or 3840	3B (D	DR4-2	666 BDIM	M)			
Memory Protection		(Dilvilvi)	01 00 10	ש) שג	D117 Z	.0001101111	101)			
Wichiory I Totodion		2 O v16	, full heig	aht fu	II long	th 75\M				
	'		•	•	_		منام ما	d+h		
	,					th, 75W, d				
Expansion slots						1, 25W, op				
· .	,			,	_	th, 75W, d	ouble-wid	atn		
			nt, full le							
				nt, nai		h, 25W, op				
	Graphics	Memo	ry P	ow-	Co	nnector	SLI /	Max		
				er			NVlin	k Qty	4	
		4GB DE		W88		mini DP		2	-	
		GB GD		OW		miniDP	_	3	-	
Discrete Graphics		GB GD		5W		miniDP		3	-	
Offering		GB GD GB GD		-0W		<u>miniDP</u> miniDP		3	1	
		GB GD		50W 75W		4xDP		3	1	
		GB GD		20W		4xDP		2	1	
			DR5X 18			DL+4xDF	SLI	2	1	
			DR5X 25			DL+4xDF		1	]	

	Graphics					Co	onnecto	r	SLI / NVlink	Max Qty								
	Quadro RTX 4000	8GE	3 GD	DR6	er 160W 3	BxDP,	1xVirtua	alLinl	K	2								
Discrete Graphics	Quadro RTX 5000	) 16GI	B GE	DR6	265W 4	<u>IxDP, </u>	1xVirtua	<u>alLinl</u>	K	1								
Offering	Quadro RTX 6000	) 24GI			295W 4					11								
	Quadro RTX 8000	) 48GI	B GL	DN40	295W 4	IXDP,	1xVirtua	alLini	K .	1								
	Quadro GP100 Quadro GV100				235W	IXDVI	<u>-D DL, 4</u> 4xDP	4XDF	<b>'</b>	1 1								
					250W				0 1									
	Storage Controlle	rllype	Type Inter			l K	AID		Cach	e								
	Onboard Intel RSTe	Std	Std SATA 6			0/1/10/5												
Ctavasa Castrallar	9440-8i PCIe	Opt	S	ATA (	6Gb/s	0/1	/10/5											
Storage Controller	9460-161 PCIE	Opt	S	ATA (	2Gb/s, 6Gb/s		10/5/6	4GI	B DDR4, 9	SuperCap								
	NVMe Basic	Opt			<u>IVMe</u>		1/10											
	NVMe Premium NVMe for Intel	Opt	Р	Cie i	<u>IVMe</u>	0/1	/10/5											
	SSD	Opt	Р	Cle N	VVMe	0/1	/10/5											
	Disk Type	Interfac	ce F	RPM		Offeri	ng		(Blind co	Qty nnection used)								
	3.5" SATA HDD S	ata 6G	ab/s	7.2K	1TB/	2TB/4	TB/6TE	3	6 (Also s addit 4x 2.5	6 (Also supports additional 4x 2.5" SATA								
Storage Support	O EII OATA LIDD O	ATA 00	N- /	7.014	50001	D/E00	0 FID	_		HDD)								
	2.5" SATA HDD S						GB FIP	S		0								
	2.5" SAS HDD SA 2.5" SATA SSD S			IUK	256GB/	OGB/6		TD		0								
	2.5" PCIe SSD P				23000/	1.5T		ID		2								
	M 2 PCIe SSD P	SSD PCIe NVMe 256GB/512GB/1TB/2TB							9									
	PCIe AIC SSD P	Cle NV	'Me		ZOOGD	480G				2								
	Bay				Maximu			,										
	Type M.2 clot. Dv. M.2 SSD /2 cohoogid. 7 via BClo to M.2 adoptor)																	
	M.2 slot 9x M.2 SSD (2 onboard, 7 via PCle to M.2 adapter) 2 flex bays. Supports the following:																	
	<ul> <li>2x half-height optical drives</li> <li>2x 5.25" 9.0mm optical drives</li> <li>1x 5.25" 9.0mm optical drive + 1x 3.5"/2.5" SATA SSD/HDD</li> </ul>																	
	Flex Bay 1x 3.5	modul	e for	the f	ollowing	option	าร:		•									
Ctavana Davia	Tray 1	: 9.0mr	n opt	tical			<b>T</b> la al a											
Storage Bays					) reader B 3.0 Tvi													
					ont Rem				neurae									
										of the fol-								
	lowing co				,	w)	, t. 0	Oup	por 10 0110	00 .0.								
	• 4x 3.5"																	
	Disk bay edded)	SATA I	HDD	+ 4x	2.5" SA	TA SS	D/HDD	(Blir	nd connec	tion								
	needed)	CATA	000	/	0 0	-II C A	CLIDD	/DI:										
	needed)		55D/	טטחי	or 8x 2.	5 SA	2 HDD	(BIIII	d connec	lion								
			SSD	+ 2x	3 5"/2 5"	' dieke	(Blind	conn	ection ne	eded)								
	Supports up to 9x																	
	PCIe AIC SSD.	IVI.Z S	+ טכ	OX 3	טעח ני.	/ IUX 2	331	(טו /כ	( Z.3 HDL	J + ZX								
Max Storage	All HDD: 36TB usi	ng 6x 3	3.5" H	HDD														
	All SSD: 38.96TB				ATA SSE	D, 9x N	Л.2 SSI	D, an	d 2x PCle	AIC SSD								
										, , ,								

# **ThinkStation P720 Platform Specifications**

	11 720 1 lationii opooliioat						
Power supply	Supports one of the following:  One fixed 690W, autosensing, 92%, 80 PLUS Platinum qualified  One fixed 900W, autosensing, 92%, 80 PLUS Platinum qualified						
Media reader	SD USB 2.0 card reader on most models. Optional UHS-II 15-in-1 USB 3.0 reader on flex module						
Network interfaces	Integrated two-port gigabit ethernet (Intel i219LM and i210AT), supports Wake-on-LAN on both two ports. Optional PCIe ethernet are available						
WLAN + Bluetooth	Optional Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to 867Mbps						
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	11					
Diagnostic	Front panel warning LED. ThinkSta-tion Diagnostics for Windows. Photo-audio transfer with Lenovo PC Diag-nostics for Android and iOS. Optional front 4-digit diagnostic display on flex module						
Base warranty	1 or 3-year limited onsite service with	9x5/NBD					
HD Audio	Realtek ALC662 codec						
Front ports	4x USB 3.0 (includes one 11W charging), 1x combo audio/microphone jack (3.5mm)						
Rear ports	2x USB 2.0, 4x USB 3.0, 2x RJ-45, 3x analog audio ports (line-in, line-out, mic-in), 2x PS/2						
Optional ports	Supports the following optional ports: Front:  • 2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out  • 1x eSATA on flex module  • 1x USB Type-C on flex module, USB 3.1 gen 1 Rear:  • 1x COM port  • 2x USB Type-C ports via PCIe adapter, USB 3.1 gen 2. One 15W, one 5W Internal:  • 1x internal USB 3.0 port						
Environmental specification	Temperature - operating Temperature - storage (no package) Temperature - storage (with package) Altitude - operating Humidity - operating Humidity - storage (with package)	50 °F to 95 °F (10 °C to 35 °C) 14 °F to 140 °F (-10 °C to 60 °C) -40 °F to 140 °F (-40 °C to 60 °C) (Unpressurized): 0-10000ft (0-3048m) 10%~80%, non-condensing 10%~90%, non-condensing					
Environmental Certifications	RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 6.1 qualified on model 30BA0007US and 30BA0008US						
ISV certifications	Please visit www.thinkworkstations.co	om/isv-certifications/					
Noto:							

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 lactor	55L Tower								
Dimensions	200mm/7.87" W x 620mm/24.4" D x 446mm/17.56" H (with feet)								
Weight	Maximum configuration	n: 71.3 lb	(32.3kg)						
Processor Sockets	kets 2x FCLGA3647								
	Up to two 205 W Gon 1 or Gon 2 Intol Yoon Scalable family processors Bronzo Sil								
Processor Support	ver, Gold, or Platinum								
	vor, dord, or r identarii	# of	# of	Base			Manaami		
	Processor				Cache	TDP	Memory		
		Cores		Frequency			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 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		
	Xeon Gold 5222	4	8	3.8GHz	17MB	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		
	Xeon Silver 4209T	8	16	2.2GHz	11MB	70W	DDR4-2400		
Dragger Offering	Xeon Silver 4208	8	16	2.1GHz	11MB	85W	DDR4-2400		
Processor Offering	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		
		8	16	1.8GHz	11MB	85W	DDR4-2400		
01:	Xeon Silver 4108	0	10	1.000	ITIVID	0344	DDD4-2400		
Chipset	Intel C621 Chipset								
Memory Sockets	16 DIMM sockets with	12 chan	nels. 8 DI	MM sockets	with 6 cha	nnels pei	processor		
Memory Types	DDR4-2666 RDIMM, D	DR4-26	66 LRDIN	MM, or DDR4	4-2933 RD	IMM			
Memory Capacity	1TB (DDR4-2666 LRD	IMM or I	DDR4-29	33 RDIMM)	or 512GB (	DDR4-26	666 RDIMM)		
Memory Protection					(				
Welliory i lotection		010	الماند المالية	full lava author	75\1/ -  -	ملقام : ما			
Expansion slots	Slot 2 (CPU1) PCIe 3 Slot 3 (CPU1) PCIe 3 Slot 4 (CPU1) PCIe 3	3.0 x4, fu 3.0 x16, f 3.0 x4, fu 3.0 x4, fu	ll height, ull height Il height, Il height.	, full length, full length, 2 , full length, full length, 2 half length, 2	5W, open 6 75W, doub 5W, open 6 25W, open	ended le-width ended ended			
	Slot 6 (CPU2) PCIe 3 Slot 7 (CPU2) PCIe 3	3.0 x16, f 3.0 x16, f	ull height ull height	, half length, , full length, , full length,	75W 75W, doub	le-width			

	Graphics		Memory			Power	Connector		SLI / NVlink	Max Qtv
	NVS 810		4GB DDR3		DR3	68W	8xmin	i DP		2
	Quadro P400		2GB GDE			30W	3xmin			5
Discrete Graphics Offering	Quadro P600		2GB GD		DR5	45W	4xmin	iDP		4
	Quadro P620		2G	B GE	DR5	40W	4xmin	iDP		4
	Quadro P1000		4G	B GE	DR5	50W	4xmin	iDP		4
	Quadro P2000		5GB GDE		DR5	75W	4xD	P		4
	Quadro P4000		8GB GD		DR5	120W	4xD	P		4
			16GB GDDI		DR5X	180W			SLI	3
	Quadro P6000 2		24GB GDDR5X						SLI	3
	Quadro RTX 40		8GB GDDI				3xDP, 1xVi			3
	Quadro RTX 50		16GB GDDF		DDR6	265W	4xDP, 1xVi	rtualLink	NVLink	3
	Quadro RTX 60				DDR6	295W 4xDP, 1xVi		rtualLink	NVLink	2
	Quadro RTX 80					295W	4xDP, 1xVi	rtualLink		2
	Quadro GP100				BM2		1xDVI-D D		NVLink	3
	Quadro GV100		320	GB H	BM2	250W	4xD	P	NVLink	3
	Storage Contro	ller	Type			Interfac	е	RAID	Ca	che
	Onboard Intel F	RSTe			ATA 6GI		0/1/10/5	5		
_	9440-8i PCIe		Op	t S	AS 120	ab/s, SA	ATA 6Gb/s	0/1/10/5		
Storage Controller	9460-16i PCle	9460-16i PCle		t S	AS 120	AS 12Gb/s, SATA 6Gb/s		0/1/10/5/		DDR4, rCap
	NVMe Basic		Op	ot	P	Cle NVI	Me	0/1/10	0.,50	
	NVMe Premium	1	Op			Cle NVI		0/1/10/5	5	
		IVMe for Intel SSD				Cle NVI		0/1/10/5		
	Disk Type Interfa		face RPM		Offering			Max Qty (9460 used)		
	3.5" SATA HDD	SAT.		7.2K	1TE	/2TB/4TB/6TB		6 (Also supports additiona 4x 2.5" SATA SSD/HDD)		ditional
	2.5" SATA HDD	SAT	Α	7.2K	500GB/500GB FIPS			10		
Storage Support	2.5" SAS HDD	SAS 12Gb	S o/s	10K	300GB/600GB			8		
Storage Support	2.5" SATA SSD	SAT.	A /s	256GE		3/512GB/1TB/2TB		10		
	2.5" PCIe SSD	PCI NVN	1e			1.5TB		4		
	M.2 PCIe SSD	PCI NVN	1e		256GE	/512GB/1TB/2TB		9		
	PCIe AIC SSD	PCI NVN				480G	iB		2	
	Bay Maximum Drives Qty Type									
	M.2 slot 9x M.2	SSD	(2 (	onbo	ard. 7 v	ia PCle	to M.2 ada	apter)		
	2x 3.5" or 2.5" disks. Supports the following:  3x half-height optical drives									
	• 2x 5	5.25" 9	0.Öm	m op	tical dr	ives				
	• 1x 5.25" 9.0mm optical drive + 1x 3.5"/2.5" SATA SSD/HDD									
							Front Acc	ess Stora	ge Enclos	ure
Storage Bays	וואו קי					owing o	ptions:			
Storage Bays	Tray 1: 9.0mm optical									
	Tray 2: 15-in-1 USB 3.0 reader or 2x Thunderbolt Port 1 and 2: Front USB 3.0 Type-C or eSATA									
							<u>/able Drive</u>			orto
							andard, 2 b	ays optio	mai). Supp	SIO
	one of the following configurations:									
	Disk bay • 4x 3.5" SATA HDD • 4x 3.5" SATA HDD + 4x 2.5" SATA SSD/HDD									
	• 8x 2.5" SATA SSD/HDD or 8x 2.5" SAS HDD									
	₱ 8X 2.5" SATA SSD/HDD or 8X 2.5" SAS HDD									

# ThinkStation P920 Platform Specifications

	Supports up to 9x M.2 SSD + 6x 3.5" HDD/10x 2.5" SSD/10x 2.5" HDD + 2x PCIe						
Max Storage	AIC SSD. All HDD: 36TB using 6x 3.5" HDD						
	All SSD: 38.96TB using 10x 2.5" SATA SSD, 9x M.2 SSD, and 2x PCle AIC SSD						
	One fixed 1400 watts, autosensing, 92						
Power supply	Countries with input voltage under 115V, output power limited to 1125 watts						
Media reader	SD USB 2.0 card reader on most models. Optional UHS-II 15-in-1 USB 3.0 rea						
iviedia reader	on flex module	·					
Network		ntel i219LM and i210AT), supports Wake-on-					
interfaces	LAN on both two ports. Optional PCIe						
WLAN +	Optional Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up						
Bluetooth	to 867Mbps	d Dietferm Medule, TOO 0.0 compliant					
Security features	ewitch to 1.2 via LIFFI setting Chassis	d Platform Module, TCG 2.0 compliant,					
coounty locatores	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	requires Wireless-AC 8265 if Wi-Fi is					
IIILEI VETO	needed						
Intel AMT	Intel Active Management Technology						
Diagnostic		tation Diagnostics for Windows. Photo-audio					
	transfer with Lenovo PC Diagnostics for						
Base warranty	1 or 3-year limited onsite service with	9x5/NBD					
HD Audio	Realtek ALC662 codec						
Front ports	4x USB 3.0 (includes one 11W charging), 1x combo audio/microphone jack (3.5mm)						
		analog audio ports (line-in, line-out, mic-					
Rear ports	in), 2x PS/2	anding adding ports (into int, into out, find					
	Supports the following optional ports:						
	Front:						
	<ul> <li>2x Thunderbolt ports (USB Type-C) on flex module, one of two ports</li> </ul>						
	supports video-out  1x eSATA on flex module						
Optional ports	1x USB Type-C on flex module, USB 3.1 gen 1						
	Rear:						
	• 1x COM port						
	• 2x USB Type-C ports via PCle adapter, USB 3.1 gen 2. One 15W, one 5W						
	Internal:						
	1x internal USB 3.0 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 specification	Temperature - storage (no package)						
	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. EPEAT Silver rating. ENERGY STAR 6.1 qualified on model 30BC0008US and 30BC0009US						
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. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer (houyt@lenovo.com)

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**Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges.

### Lenovo Services:

**Carry-in or Mail-in Service:** Parts and labor repair coverage where the customer is responsible for shipping (including packaging) or delivery to authorized warranty provider or repair center.

**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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# **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.

# Ju]j, 2019 - Version 5%

# Additions in this update

► New product(s)

ThinkVision M14 announced June 2019

► New model(s)

None

**▶** Others

None

### Withdrawals in this update

► Withdrawn product(s)

None









# PORTABLE USB-C MONITOR CRAFTED FOR IMPROVED PRODUCTIVITY

The ThinkVision M14 is an ultraslim and ultralight mobile monitor. Its 14-inch screen helps you extend your workspace comfortably no matter where work takes you. Compatible with notebooks of any screen size that come with an advanced USB Type-C port\*, the ThinkVision M14 can either extend or duplicate your notebook display with one plug. The USB Type-C ports on either side allow both left- and right-handed users to work efficiently, and the ergonomic design enhances user experience. Packed with impressive portability, connectivity, and flexibility features, the ThinkVision M14 is ideal for mobile productivity.



Extreme **Portability** 



Connectivity



**Flexibility** 

ACHIEVE TARGETS ON THE GO The ThinkVision M14 boosts productivity with its thin and light form factor. Weighing 570g, this 4.4mm sleek mobile monitor enables easy portability. The stylish design with a Full HD, IPS display provides vivid lifelike visuals, ensuring you never miss out on any detail. With a brightness of 300 nits, the ThinkVision M14 offers a stunning visual experience while consuming content online.



Weight 570g



**Screen Size** 14 inches



**Brightness** 300 nits (Typical)





# **EXPERIENCE ADVANCED** CONNECTIVITY

Two innovative USB Type-C ports on either side of the monitor make connectivity effortless. These ports support both power and video delivery simultaneously from a single port. The ThinkVision M14 also offers a 'power pass through' design that powers the mobile monitor by an adapter and charges the notebook at the same time. This feature is suitable for smartphones or notebooks with one USB Type-C port\*. The ambidextrous design of this monitor enhances user comfort.



Ambidextrous design: built to enable both left- and-right handed users to work with ease



**USB Ports** 2 x USB Type-C



Cable USB Type-C to C



# WORK THE WAY YOU LIKE The ThinkVision M14 with its admirable flexibility

is built for varied job roles. With a tilt angle of -5°~90°, you can position your monitor in a way that suits your style. Compare content with ease even as you use laptops of different screen sizes with the ergonomic height adjustable foot. Also, you can wall mount your monitor effortlessly with mounting support for a hands-free viewing experience. The advanced low blue light technology minimizes eye strain, making extended working hours easy.



Tilt 0°~90° **Monitor Stand** 





\*For charging usage, a Lenovo branded 65W adapter (Part No.: SA10E75874) is recommended



Remarkable flexibility: position the monitor in the way that suits your style

**Temperature - Operating** 

**Humidity - Operating** 

**Altitude - Operating** 

**Humidity - Non-operating** 

**Altitude - Non-operating** 

**Temperature - Non-operating** 

0° to 40°C

-20° to 60°C

30 to 80%

30 to 90%

0 to 5000 m

0 to 40,000 ft

Yes

Yes

85%

WW

Warranty

3 Years

7.1

CCC

Yes

**PVC** free

Mercury free

PCC % of plastic resins

**Geography Availability** 

**ENERGY STAR® Rating** 

**Arsenic-free Glass** 

# **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° / 178° **Response Time (typical)** 

6ms with OD Refresh Rate 60 Hz

**Brightness (typical)** 300 cd/m<sup>2</sup>

**Contrast Ratio (typical)** 

**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

# **Video Input Signals**

2 x USB 3.1 Type-C (DP1.2 Alt Mode)

Power Consumption Sleep/Off

6 W / 7.5 W (Without USB Type-C output)

Power Consumption (Typ./Max)

**ENERGY STAR® Power Consumption** (Pon)

**ENERGY STAR® Power Consumption** (E<sub>TEC</sub>) 15.53 kWh

Mode < 0.3 W

4.88 W

# **Height Adjustable Foot**

Tilt -5°~90°

**Eye-care Technology** Low blue light

# **Power Consumption Switch-Off Mode** < 0.3 W

**Power Supply** External (no adapter bundle)

**USB Type-C/Power Delivery** 

Voltage Required DC 5 V to 20 V

Tilt Angle (front/back) -5° / 90°

Up to 65 W

**Mounting Support** Yes (100 mm) Kensington™ Lock Slot

**Cable Management** Yes

**Bezel Color** Raven Black Bezel Width (Side)

Bezel Width (top / bottom) 5.47 mm / 23.87 mm

5.48mm

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  $(D \times H \times W) (mm / inch)$ (Lowest position)

96.54 x 209.03 x 323.37 mm / 3.8 x 8.23 x 12.73 inches Size Unpacked w/stand  $(D \times H \times W) (mm / inch)$ 

(Highest position) 96.54 x 220.03 x 323.37 mm / 3.8 x 8.66 x 12.73 inches

Stand base footprint area (mm<sup>2</sup>) 260.87 x 69.55 mm /

Weight Packed (kg / lbs.) 1.67 kg / 3.67 lbs.

10.27 x 2.74 inches

Weight Unpacked (kg / lbs.) 0.57 kg / 1.26 lbs.

1 x ThinkVision M14 sleeve

1 x USB Type-C cable (1 m)

1 x Monitor with stand

1x QSG

1x Pair of clips

**EPEAT** Bronze

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** Low Blue Light / Eye Comfort

Yes (Low Bluelight)





© 2019 Lenovo. All rights reserved. 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. These products are available while supplies last. Prices shown are subject to change without notice. For any questions concerning price, please contact your Lenovo Account Executive. Lenovo is not responsible for photographic or typographic errors. Warranty: For a copy of applicable warranties, write to: Warranty Information, 500 Park Offices Drive, RTP, NC 27709, Attn: Dept. ZPYA/B600. Lenovo makes no representation or warranty regarding third-party products or services. Trademarks: Lenovo, the Lenovo logo, Rescue and Recovery, ThinkPad, ThinkCentre, ThinkStation, ThinkVantage, and ThinkVision are trademarks of Lenovo. Microsoft, Windows, and Vista are registered trademarks of Microsoft Corporation. Intel, the Intel logo, Intel Inside, Intel Core, and Core Inside are trademarks of Intel Corporation in the U.S. and/or other countries. Other company, product, and service names may be trademarks or service marks of these













Name E1922s Wide Flat Panel Monitor

Case color **Black** 

Type-model 60G2AAR6US / 60G2AAT6EU

Panel TFT-LCD, twisted nematic (TN), White LED backlight

Viewable image size

**18.5" (470mm)** diagonal 16.1" x 9.1" / 409.8mm x 230.4mm Max view area (W x H)

Native resolution 1366x768 Aspect ratio 16:9 Pixel pitch (mm) 0.3mm Dot/Pixel per Inch 85 dpi

Brightness 200 nits or cd/m2 (typical)

Contrast ratio 600:1 (typical) Pixel response time 5ms (typical)

Color gamut 72%

180° (+/- 90°) horizontal, 100° (+/- 50°) vertical Viewing angle at 10:1 CR

Stand Tilt adjustable stand Sides: 0.73" (18.5mm) 13.44" H x 17.65" W x 6.58" D; Bezel width Dimensions (HxWxD)

341.5mm H x 448.4mm W x 167.2mm D Power supply 13.7 watts typical, 17 watts maximum,

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

6.03 lb; 2.74 kg Weight

3 year (includes backlight) March 2014 Limited warranty4

Available date

VESA-compliant<sup>2</sup> VESA DPMS-compliant ENERGY STAR® 7.0 Power management Ergonomics ISO 9241-307 Emission standards

FCC Class B TCO (TCO Displays 7.0), WEEE, RoHS, EPEAT™ Silver rating Environmental

Preset resolutions VGA:

640x350, 640x480, 720x400 800x600, 832x624 1024x768, 1152x864 SVGA: XGA:

SXGA: 1280x1024 WXGA: 1366x768

Presets / user settings Standard presets: 15

user settings: 16

Viewing adjustments Tilt: 20° backward, -5° forward

Rotating screen

On screen display On screen display with digital user controls (8 languages)

Control features Direct access (control buttons on front) for automatic image setup and adjustment for brightness

Multiple input None

Monitor connectors

Signal cables

VGA 15-pin D-shell, analog, blue detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) with the standard problem of the problem o Mounting features

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Security

Ship group Monitor with stand, 1.8 meter analog signal cable, 1.8 meter black power cord

# **Limited Warranty**

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

# **Accessories**

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

Widescreen 18.5-inch monitor

• Supports HD 1366x768 resolution

Supports VESA mount (100mm)
Mercury free panel and arsenic free glass

Kensington lock slot ready for enhanced security
 Support Lenovo Tiny PC via VESA mount

Support Echovo Tiny T O via VE
 Supports optional soundbar
 Microsoft® Windows® 7 certified

Microsoft Windows 8 / Windows 8.1 certified



ThinkVision E1922s Wide Monitor

Lenovo February 2014













**E2054 Wide Flat Panel Monitor** Name Raven black

Case color Type-model 60DFAAR1US / 60DFAAT1EU

Panel TFT-LCD, In-Plane Switching (IPS), LED backlight **19.5"** (**494mm**) diagonal 16.48" x 10.33" / 418.6mm x 262.4mm Viewable image size

Max view area (W x H) Native resolution 1440x900

Aspect ratio Pixel pitch (mm) Dot/Pixel per Inch 16:10 0.097mm x 0.292mm

87 dpi Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 7ms (typical) Color gamut

Viewing angle at 10:1 CR

178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Stand Tilt adjustable stand

Top: 0.71" (18.0mm)
Bottom: 0.70" (17.9mm)
Sides: 1.02" (26.0mm)
14.65" H x 17.95" W x 7.41" D; Bezel width Dimensions (HxWxD)

372.0mm H x 456.0mm W x 188.3mm D Power supply 16 watts typical, 20 watts maximum, <0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

6.17 lb; 2.8 kg Weight

Limited warranty 3 year (includes backlight)

Available date November 2015

VESA DPMS-compliant VESA-compliant Power management ENERGY STAR® 6.0 Ergonomics ISO 9241-307

FCC Class B TCO (TCO Displays 6.0), WEEE, RoHS, EPEAT™ Silver rating Emission standards Environmental

Preset resolutions 640x480, 720x400

SVGA: 800x600 XGA: 1024x768

1280x768, 1280x1024 SXGA:

WXGA: 1366x768 WXGA+: 1440x900 Standard presets: 18

Presets / user settings user settings: 10

Viewing adjustments Tilt: 22° backward, -5° forward

Rotating screen None

On screen display On screen display with digital user controls (8 languages)

Control features Direct access (control buttons on front) for automatic image setup and adjustment for brightness

Multiple input None

Monitor connectors

Signal cables

VGA 15-pin D-shell, analog, blue detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) with the standard problem of the problem o Mounting features

Security Security keyhole for attachment of optional cable lock (Kensington® lock-compatible)

Ship group Monitor with stand, 1.8 meter analog signal cable, 1.8 meter black power cord

# **Limited Warranty**

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

### **Accessories**

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

Widescreen 19.5-inch monitor

• Supports HD 1440x900 resolution

Supports VESA mount (100mm)
Mercury free panel and arsenic free glass

 Kensington lock slot ready for enhanced security Support Lenovo Tiny PC via VESA mount
 Microsoft® Windows® 7 certified
 Microsoft Windows 8 / Windows 8.1 certified

Microsoft Windows 10 certified



ThinkVision E2054 Wide Monitor

Lenovo November 2015











Name LT1913p Square Flat Panel Monitor Case color

Type-model 60FBHAR1US / 60FBHAT1EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight

Viewable image size Max view area (W x H)

Optimum resolution Max pixel rate Aspect ratio

Pixel pitch (mm) Dot/Pixel per Inch Brightness

Contrast ratio Pixel response time Color gamut

Viewing angle at 10:1 CR

Stand Bezel width

Dimensions (HxWxD)

Power supply

Weight Limited warranty4 Available date

VESA-compliant<sup>2</sup> Power management

**Ergonomics** Emission standards Environmental

Preset resolutions

Presets / user settings

**Black** 

19.0" (480.0mm) diagonal 14.76" x 11.80" (374.7mm x 299.8mm) 1280x1024

205MHz (VGA), 165MHz (DVI)

0.0976 (H) x 0.2928 (V) mm

86.8 dpi

250 nits or cd/m2 (typical)

1000:1 (typical) 7ms (typical) 72%

178° horizontal, 178° vertical

Tilt, swivel, pivot, and height adjustable stand Sides: 0.68" (17.4mm); top: 0.68" (17.4mm); bottom: 0.68" (17.4mm) 14.63" H x 16.18" W x 10.40" D; 371.5mm H x 411.0mm W x 264.2mm D

24 watts typical, 27 watts maximum,

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

10.69 lb; 4.85kg 3 year (includes backlight)

April 2015

VESA DDC2B/CI, EDID 1.3

ENERGY STAR® 7.0

ISO 9241-307 FCC Class B

TCO Displays 7.0, TCO Certified Edge 1.1, WEEE, RoHS, **EPEAT™ Silver rating**, ULE Gold

VGA: 640x350, 640x480, 720x400

SVGA: 800x600, 823x624 XGA: 1024x768, 1152x864, 1152x900

1280x1024 SXGA: Standard presets: 20; user settings: 20

#### **Features**

- 19-inch Square IPS LED backlit panel
- Supports 1280x1024 resolution
- Supports ThinkCentre Tiny Clamp Bracket
- Mercury and arsenic free glass
- Low Halogen
- Recycled content in plastic material
- Supports optional soundbar
   Microsoft® Windows® 7 certified
   Microsoft Windows 8 / Windows 8.1 certified

- Microsoft Windows 10 certified



ThinkVision LT1913p Square Monitor

Viewing adjustments Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/- 45° Screen pivots 90 degrees from landscape to portrait On screen display with digital user controls (8 languages) Rotating screen On screen display Control features

Direct access (buttons on front) for automatic image setup, input switch, and brightness Multiple input

Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) Monitor connectors

(1) VGA 15-pin D-shell, analog, blue (2) Digital Visual Interface (DVI-D), digital, white, **HDCP-compliant** (1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter (2) detachable, DVI-D at each end, digital, 1.8 meter Signal cables

Mounting features Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) Security

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible)

Monitor, attached stand, Setup poster, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DVI-D cable, 1.8 meter black power cord Ship group

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See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

#### **Accessories**

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock Lenovo Security Cable Lock 45K1620 57Y4303 Lenovo Easy Reach Monitor Stand 55Y9258

See details at www.lenovo.com/support/monitoraccessories













T1714 Square Flat Panel Monitor Name

Case color **Black** 

Type-model 60FDHAR1US / 60FDHAT1EU

Panel TFT-LCD, twisted nematic (TN), White LED backlight

Viewable image size

**17.0"** (**432mm**) diagonal 13.3" x 10.6" (337.9mm x 270.3mm) Max view area (W x H)

Optimum resolution 1280x1024 Aspect ratio 5:4 Pixel pitch (mm)
Dot/Pixel per Inch 0.264mm 96 dpi

Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 5ms (typical) Color gamut 72%

Viewing angle at 10:1 CR

170° (+/- 85°) horizontal, 160° (+/- 80°) vertical

Stand Tilt stand

Sides: 0.69" (17.5mm) Bezel width 14.72" H x 14.74" W x 7.87" D; Dimensions (HxWxD. including stand) 373.9mm H x 374.5mm W x 200mm D Power supply 14.0 watts typical, 18.0 watts maximum,

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

Weight Limited warranty 5.75 lb; 2.61kg

3 year (includes backlight) September 2015

Available date

VESA-compliant VESA DDC2B/CI Power management **ENERGY STAR® 7.0** Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

Preset resolutions VGA: 640x350, 640x480, 720x400

SVGA: 800x600

1024x768, 1152x864, XGA: SXGA: 1280x800, 1280x1024

Presets / user settings Standard presets: 17;

user settings: 17

**Features** 

17-inch Square LCD monitor

Supports SXGA 1280x1024 resolution

• Includes dual input connection for attachment to two systems concurrently (analog and digital)

Mercury Arsenic free glass

Supports optional soundbar
 Microsoft® Windows® 7 certified
 Microsoft Windows 8 certified

Microsoft Windows 8.1 certified

Microsoft Windows 10 certified



ThinkVision T1714 Monitor

Tilt: 22° back, -5° forward Viewing adjustments

Rotating screen None

On screen display On screen display with digital user controls (8 languages)

Control features

Multiple input

Monitor connectors

Direct access (buttons on front) for automatic image setup and brightness
Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)
(1) VGA 15-pin D-shell, analog, blue
(2) Digital Visual Interface (DVI-D), digital, white, **HDCP-compliant**(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
(2) detachable, DVI-D at each end, digital, 1.8 meter
(2) Mall or desk mounting using the Extend Arm or third party accessories meeting the VESA ERMARANE (15) Signal cables

Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) Mounting features Security

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible)

Monitor and stand, Setup poster, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DVI-D cable, 1.8 meter black power cord Ship group

**Accessories Limited Warranty** Kensington MicroSaver Cable Lock 73P2582 See details at http://support.lenovo.com/en\_US/guides-and-manuals/de-Kensington Twin Head Cable Lock 45K1620 tail.page?DocID=UM008281 Lenovo Easy Reach Monitor Stand 55Y9258

See details at www.lenovo.com/support/monitoraccessories













T1714p Square Flat Panel Monitor Name

Case color **Black** 

Type-model 60FELAR1US / 60FELAT1EU

Panel TFT-LCD, twisted nematic (TN), White LED backlight

Viewable image size

**17.0"** (**432mm**) diagonal 13.3" x 10.6" (337.9mm x 270.3mm) Max view area (W x H) Optimum resolution 1280x1024

Aspect ratio 5:4 Pixel pitch (mm)
Dot/Pixel per Inch 0.264mm 96 dpi

Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 5ms (typical) Color gamut 72%

170° (+/- 85°) horizontal, 160° (+/- 80°) vertical Viewing angle at 10:1 CR

Tilt height adjustable stand Sides: 0.69" (17.5mm) 17.63" H x 14.74" W x 9.61" D; Stand Bezel width Dimensions

(HxWxD. including stand) 447.9mm H x 374.5mm W x 244.2mm D Power supply 14.0 watts typical, 18.0 watts maximum, <0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

8.71 lb; 3.95kg

Weight Limited warranty 3 year (includes backlight) September 2015

Available date

VESA-compliant VESA DDC2B/CI Power management **ENERGY STAR® 7.0** Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

Preset resolutions VGA: 640x350, 640x480, 720x400

SVGA: 800x600

XGA: 1024x768, 1152x864 SXGA: 1280x800, 1280x1024

Presets / user settings Standard presets: 22;

Viewing adjustments

user settings: 22

Tilt: 22° back, -5° forward; lift: 4.3" (110mm)

Rotating screen None On screen display On screen display with digital user controls (8 languages)

Control features

Multiple input

Monitor connectors

Direct access (buttons on front) for automatic image setup and brightness
Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)
(1) VGA 15-pin D-shell, analog, blue
(2) Digital Visual Interface (DVI-D), digital, white, **HDCP-compliant**(3) DisplayPort, digital, black, HDCP-compliant
(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
(2) detachable, DVI-D at each end, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA EDMPMI® (10)

Signal cables

Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) Mounting features

Security Security keyhole for attachment of optional cable lock (Kensington® lock-compatible)

Monitor and stand, Setup poster, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DVI-D cable, 1.8 meter black power cord Ship group

**Accessories Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620 Lenovo Easy Reach Monitor Stand 55Y9258

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

• Includes dual input connection for attachment to two

Supports Lenovo Tiny PC and 3rd party thin client via

17-inch Square LCD monitor

Mercury Arsenic free glass

optional Lenovo bracket

Supports optional soundbar

Microsoft® Windows® 7 certified
 Microsoft Windows 8 certified

Microsoft Windows 8.1 certified

• Microsoft Windows 10 certified

Supports SXGA 1280x1024 resolution

systems concurrently (analog and digital)

ThinkVision T1714p Monitor













T2054p Wide Flat Panel Monitor Name Bezel color Raven black 60G1MAR2US / 60G1MAT2EU Type-model Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight **19.5" (495mm)** diagonal 16.48" x 10.33" (418.6mm x 262.4mm) **1440x900** Viewable image size Max view area (W x H)

Native resolution Aspect ratio 16:10 Pixel pitch (mm) 0.2915 x 0.2915 mm Dot/Pixel per Inch 87 dpi Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 7ms (typical) Color gamut

Viewing angle at 10:1 CR 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, and height adjustable stand Stand Bezel width

Sides: 0.67" (17.0mm) 13.62" H x 17.88" W x 9.55" D; 345.9mm H x 454.2mm W x 242.6mm D Dimensions (HxWxD) Power supply

14.5 watts typical, 21 watts maximum, <0.3 watts standby/suspend, universal, integrated (no external brick-like power supply)

8.16 lb; 3.70 kg

3 year (includes backlight) Weight Limited warrantv4

Available date September 2015

VESA DDC2B/CI VESA-compliant<sup>2</sup> ENERGY STAR® qualified Power management Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

VGA: Preset resolutions 640x480, 720x400, 720x576

SVGA: 800x600 XGA: 1024x768, 1152x864

SXGA: 1280x800, 1280x1024 WXGA: 1366x768

WXGA+: 1440x900 Standard presets: 22 Presets / user settings user settings: 16

Viewing adjustments

Tilt: 22° backward, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand

Rotating screen On screen display On screen display with digital user controls (8 languages)

Direct access (buttons on front) for automatic image setup, dual input and brightness Control features

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)

(1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, HDCP-compliant
(3) DisplayPort, digital, black, HDCP-compliant
(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
(2) detachable, DisplayPort at each end, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Monitor connectors

Signal cables

Mounting features

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Security

Ship group Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable,

1.8 meter black power cord **Limited Warranty** 

# See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

### Accessories

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

 Supports ThinkCentre Tiny Clamp Bracket Includes dual input connection for attachment to two systems concurrently (analog and digital) Supports optional soundbar

**Features** 

Microsoft® Windows® 7 certified
 Microsoft Windows 8 / Windows 8.1 certified

Microsoft Windows 10 certified

Widescreen 19.5-inch monitor

• Supports 1440x900 resolution

ÉPEAT Gold certified



ThinkVision T2054p Wide Monitor



**E21 Wide Flat Panel Monitor** Name **Black** 

Bezel color

61B9JAR1US / 61B9JAT1EU Type-model

Panel TFT-LCD, twisted nematic (TN), White LED backlight

Viewable image size

**20.7"** (**525.78mm**) diagonal 18.03" x 10.14" (457.92mm x 257.58mm) Max view area (W x H)

Native resolution 1920x1080

Aspect ratio 16:9

Pixel pitch (mm) 0.2385 x 0.2385 mm Dot/Pixel per Inch 106 dpi

Brightness 250 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical)

Pixel response time 5ms (typical) Color gamut 72%

170° (+/- 85°) horizontal, 160° (+/- 80°) vertical Viewing angle at 10:1 CR

Stand Tilt adjustable stand Sides: 0.6" (15.3mm) 14.6" H x 19.31" W x 8.07" D; Bezel width

Dimensions (HxWxD)

370.9mm H x 490.5mm W x 204.9mm D

18 watts typical, Power supply 23 watts maximum.

<0.3 watts standby/suspend, universal, integrated (no external brick-like power supply)

Weight

5.82 lb; 2.64 kg 3 year (includes backlight) Limited warranty

August 2017 Available date

VESA DDC2B/CI VESA-compliant ENERGY STAR® qualified Power management

Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

Preset resolutions 640x350, 640x480, 720x400 800x600, 832x624

SVGA: XGA: 1024x768, 1152x864

SXGA: 1280x1024 WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080

Presets display modes Standard presets: 22 **Features** 

- Widescreen 20.7-inch monitor Supports 1920x1080 resolution
- Supports ThinkCentre Tiny Clamp Bracket
- · Supports optional soundbar
- EPEAT Gold certified
- Low Blue Light certification
   Microsoft® Windows® 7 certified
   Microsoft Windows 10 certified



ThinkVision F21 Wide Monitor

Viewing adjustments Tilt: 22° back, -5° forward

Rotating screen None

On screen display On screen display with digital user controls (8 languages)

Control features Direct access (buttons on front) for power, menu, input source select and brightness

USB hub None

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)

Monitor connectors

Signal cables

(1) VGA 15-pin D-shell, analog, blue
(2) DisplayPort (1.2), digital, black, **HDCP-compliant**(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Mounting features Security

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible)

Ship group Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter black power cord

**Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/de-

tail.page?DocID=UM008281

**Accessories** 

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories













**E24 Wide Flat Panel Monitor** Name Bezel color **Black** 

Type-model 61B7JAR6US / 61B7JAT6EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight

Viewable image size

**23.8**" (**604.7mm**) diagonal 20.75" x 11.67" (527.04mm x 296.46mm) **1920x1080** Max view area (W x H) Native resolution

Aspect ratio 16:9

Pixel pitch (mm) 0.2745 x 0.2745 mm Dot/Pixel per Inch 92.5 dpi

Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 6ms (typical) Color gamut 72%

Viewing angle at 10:1 CR 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical

Tilt adjustable stand Stand Bezel width

Sides: 0.51" (13mm) 15.9" H x 21.81" W x 8.07" D; 403.8mm H x 554mm W x 204.9mm D Dimensions (HxWxD)

18 watts typical, 23 watts maximum, Power supply

<0.3 watts standby/suspend, universal, integrated (no external brick-like power supply)

Weight Limited warranty

8.2 lb; 3.7 kg
3 year (includes backlight) August 2017 Available date

VESA DDC2B/CI VESA-compliant ENERGY STAR® qualified Power management ISO 9241-307 Ergonomics

Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Gold rating** Environmental

Preset resolutions 640x350, 640x480, 720x400 800x600, 832x624 VGA:

SVGA: XGA: 1024x768, 1152x864

SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900, 1600x900

WSXGA+: 1680x1050 Full HD: 1920x1080

Presets display modes Standard presets: 24; user settings: 20

Viewing adjustments Tilt: 22° back, -5° forward

Rotating screen None

On screen display On screen display with digital user controls (8 languages)

Control features Direct access (buttons on front) for power, menu, input source select and brightness USB hub None

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) Monitor connectors

Signal cables

Dual input (two different PCs attach to two different connectors, one PC shows image, selectivia L (1) VGA 15-pin D-shell, analog, blue (2) DisplayPort, digital, black, HDCP-compliant (1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter (2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security boyled for attachment of optional cable lock (Kensington® lock-compatible) Mounting features

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Security

Ship group Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable,

1.8 meter black power cord

**Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

**Accessories** 

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

Widescreen 23.8-inch monitor

• Supports 1920x1080 resolution Supports ThinkCentre Tiny VESA mount

Supports optional soundbar

 Includes dual input connection for attachment to two systems concurrently

EPEAT Gold certified

• Microsoft® Windows® 7 certified

Microsoft Windows 10 certified



ThinkVision E24 Wide Monitor

Lenovo August 2017













P24h Wide Flat Panel Monitor Name Bezel color **Black** 

Type-model 61AEGAR3US / 61AEGAT3EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight

1000:1 (typical)

99% sRGB

4ms (extreme) / 6ms (typical)

12.54 lb; 5.69 kg **3 year** (includes backlight)

178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm) 14.7" H x 21.26" W x 10.3" D;

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

373.4mm H x 540.2mm W x 261.75mm D 24 watts typical, 120 watts maximum (with USB 3.0 hub),

Viewable image size

**23.8"** (**604.7mm**) diagonal 20.74" x 11.67" (526.9mm x 296.4mm) **2560x1440** Max view area (W x H)

Native resolution Aspect ratio 16:9

Pixel pitch (mm) 0.2058x 0.2058 mm Dot/Pixel per Inch 124 dpi Brightness 300 nits or cd/m2 (typical)

Contrast ratio Pixel response time

Color gamut Viewing angle at 10:1 CR Stand

Bezel width Dimensions (HxWxD)

Power supply

Weight Limited warranty

Available date VESA-compliant

April 2017 VESA DDC2B/CI ENERGY STAR® qualified

Power management

Presets display modes

USB hub

Ergonomics Emission standards Environmental

ISO 9241-307 FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600 XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900, 1680x900

WSXGA+: 1680x1050 1920x1080, 1920x1200 Full HD: QHD: 2560x1440

HDMI: 22; DP: 14

**Features** 

 Widescreen 23.8-inch monitor • Supports 2560x1440 resolution

· Supports optional soundbar

Supports ThinkCentre Tiny Clamp Bracket

 Includes dual input connection for attachment to two systems concurrently

EPEAT Gold certified

• Microsoft® Windows® 7 certified

Microsoft Windows 10 certified



ThinkVision P24h Wide Monitor

Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand

Viewing adjustments Screen pivots 90 degrees from landscape to portrait Rotating screen On screen display with digital user controls (8 languages) On screen display Control features

Direct access (buttons on front) for power, menu, input source select and brightness USB Hub: one USB 3.1 Type-C upstream port, four USB 3.0 Type-A downstream ports Audio-out, optional sound bar supported

Multimedia

Camera

Multiple input

Support HDMI, DisplayPort, USB 3.1 Type-C, DisplayPort-out (1) 2\*HDMI (1.4), digital, **HDCP-compliant** (2) DisplayPort (1.2), digital, **HDCP-compliant** (3) DisplayPort-out, digital (4) USB 3.1 Type-C (1) USB 3.1 Type-C cable, 1.8 meter Monitor connectors

Signal cables

Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features

Security

Monitor with stand, Safety and Warranty Information, 1.8 meter USB 3.1 Type-C cable, 1.8 meter black power cord Ship group

Limited Warranty	Accessories	
See details at http://support.lenovo.com/en_US/guides-and-manuals/detail.page?DocID=UM008281	Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620	
	See details at www.lenovo.com/support/monitoraccessories	
	See all monitors at www.lenovo.com/thinkvision	













## Lenovo ThinkVision P24q

P24q Wide Flat Panel Monitor Name

Case color Black

61A5GAR3US / 61A5GAT3EU Type-model

Panel TFT-LCD, IPS (In-Plane Switching), White LED

Viewable image size

**23.8**" (**604.5mm**) diagonal 20.74" x 11.67" (526.85mm x 296.35mm) **2560x1440** Max view area (W x H)

Optimum resolution Max pixel rate 300MHz Aspect ratio 16:9

Pixel pitch (mm) 0.2058 x 0.2058mm

Dot/Pixel per Inch 123 dpi

Brightness 300 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 4ms Color gamut 99% sRGB

Viewing angle at 10:1 CR 178° horizontal, 178° vertical

Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2mm) 14.7" H x 21.26" W x 10.3" D; Stand

Bezel width **Dimensions** 

(HxWxD, including stand)

373.4mm H x 540.2mm W x 261.75mm D 24 watts typical, Power supply

67 watts maximum (with USB),

<0.5 watts sleep/off; <0.5 watts switch off

integrated (no external brick-like power supply)

12.35 lb; 5.6kg (including stand)

Weight Limited warranty 3 year January 2017 Available date

VESA-compliant VESA DDC2B/CI

Power management **ENERGY STAR® 7.0 Ergonomics** ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, RoHS, **EPEAT™ Silver rating**, Environmental

ULE Gold

Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600 1024x768 XGA: SXGA: 1280x1024 WXGA: 1366x768

1440x900, 1600x900 WXGA+: WSXGA+: 1680x1050

1920x1080, 1920x1200 Full HD: QHD: 2560x1440

Presets / user settings Standard presets: 20; user settings: 24

Tilt: 30° back, -5° forward; lift: 4.33" (110mm); swivel: +/-45° Screen pivots 90 degrees from landscape to portrait Viewing adjustments Rotating screen On screen display On screen display with digital user controls (8 languages) Control features Direct access for menu, source switch, and brightness

USB hub USB Hub: one USB 3.0 upstream port, four USB 3.0 downstream ports

Multimedia Audio-out, optional sound bar supported

Camera

Multiple input

None
Support HDMI, DisplayPort, mini DisplayPort, DisplayPort-out
(1) 2\*HDMI (1.4), digital, **HDCP-compliant**(2) DisplayPort (1.2), digital, **HDCP-compliant**(3) Mini DisplayPort, digital, **HDCP-compliant**(1) detachable, mini DisplayPort to DisplayPort, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)
Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Monitor connectors

Signal cables

Mounting features Security

Monitor, detachable stand, Quick start and safety poster, 1.8 meter USB 3.0 cable, Ship group

1.8 meter mini DP to DP cable, 1.8 meter black power cord

## **Limited Warranty**

See details at http://support.lenovo.com/en US/quides-and-manuals/detail.page?DocID=UM008281

#### Accessories

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 45K1620 Lenovo Security Cable Lock

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

#### **Features**

- 23.8-inch IPS LED backlit monitor • Supports 2560x1440 resolution
- 5-Ports USB hub, support USB 3.0
- Support ThinkCentre Tiny
- Supports optional soundbar
- Microsoft® Windows® 7 certified Microsoft Windows 10 certified



ThinkVision P24q Monitor













## Think Vision® S22e-19

**DISPLAY** 

Panel Size

21.5 inch

Screen Dimensions (H x V) (mm)

476.06 (H) × 267.79 (V)

Panel Type

VΑ

Backlight

WLED

**Aspect Ratio** 

16:9

Resolution

1920 x 1080

Pixel Pitch (H x V) (mm)

 $0.2480 \times 0.2480$ 

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%

Color Support (typical)

16.7M

CONNECTIVITY

**Video Input Signals** 

VGA + HDMI1.4

Video Cable Length

1.8 m

Audio Out

Yes (3.5 mm)

MULTI-MEDIA

**Optional Soundbar Support** 

Yes

**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.

SPECIAL FEATURES

Anti-Glare

Yes

Thin Client Support (Tiny)

Yes (by VESA mount PN:4XF0N03161)

**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 mm / 21.2 mm

WHAT'S IN THE BOX

Monitor with stand

1x HDMI Cable

1x Power Cable

Quick setup guide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

7.0

CCC

Yes

TCO

TCO 7.0/TCO Edge 2.0

EPEAT™

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















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## Think Vision® S24e-10

DISPLAY

Panel Size

23.8"

Screen Dimensions (H x V) (mm)

527.04 (H) × 296.46 (V)

Panel Type

VA

Backlight

WLED

Aspect Ratio

16:9

Resolution

1920 × 1080

Pixel Pitch (H x V) (mm)

 $0.2745 \times 0.2745$ 

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%

Color Support

16.7M

CONNECTIVITY

**Video Input Signals** 

VGA + HDMI 1.4

Video Cable Length

1.8 m

**Audio Out** 

Yes (3.5 mm)

**MULTI-MEDIA** 

**Optional Soundbar Support** 

Yes

**DIMENSIONS** 

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

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.

**SPECIAL FEATURES** 

Anti-Glare

Yes

Thin Client Support (Tiny)

Yes (by VESA mount PN:4XF0N03161)

MECHANICAL

Tilt Angle (front/back)

-5º / 22º

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 mm / 22 mm

WHAT'S IN THE BOX

Monitor with stand

1 x HDMI Cable

1 x Power Cable Quick setup guide 0 to 40°C

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

**Ambient Operating Temperature** 

**CERTIFICATIONS** 

7.0

CCC

Yes

Gold

ULE

Gold

RoHS

Tier 2

Yes

EPEAT™

**ENERGY STAR Rating** 

Low Blue Light

Yes











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T2224d Wide Flat Panel Monitor Name Bezel color

**Black** 

Type-model 61B1JAR1US / 61B1JAT1EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight

Viewable image size

**21.5"** (**546mm**) diagonal 18.74" x 10.54" (476.1mm x 267.8mm) **1920x1080** Max view area (W x H)

Native resolution Aspect ratio 16:9

Pixel pitch (mm) 0.248 x 0.248 mm

Dot/Pixel per Inch 102 dpi

Brightness 250 nits or cd/m<sup>2</sup> (typical) Contrast ratio 1000:1 (typical)

7ms (typical); 4ms (extreme mode) Pixel response time Color gamut

Viewing angle at 10:1 CR 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical

Stand Tilt stànd

Bezel width Sides: 0.69" (17.6mm)

Dimensions (HxWxD)

15.02" H x 20.19" W x 8.06" D; 381.4mm H x 512.9mm W x 204.9mm D

20 watts typical, 25 watts maximum Power supply

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

6.48 lb; 2.94 kg 3 year (includes backlight) March 2017 Weight Limited warranty

Available date

VESA-compliant VESA DDC2B/CI

Power management ENERGY STAR® qualified

**Ergonomics** ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

Preset resolutions VGA: 640x350, 640x480, 720x400

SVGA: 800x600

XGA: 1024x768, 1152x864

SXGA: 1280x1024

WXGA: 1280x768, 1280x800, 1366x768

WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080

Presets / user settings Standard presets: 22; user settings: 22

Viewing adjustments Tilt: 22° back, -5° forward

Rotating screen None

On screen display On screen display with digital user controls (8 languages) Control features Direct access (buttons on front) for automatic image setup, dual input and brightness

USB hub None

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)

Monitor connectors

Signal cables

Dual input (two different PCs attach to two different connectors; one PC shows image; select via b (1) VGA 15-pin D-shell, analog, blue (2) DisplayPort, digital, black, **HDCP-compliant** (1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter (2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features

Security

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group

1.8 meter black power cord

# **Limited Warranty**

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

## Accessories

Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 73P2582 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

Supports ThinkCentre Tiny via VESA back mount

systems concurrently (analog and digital)

Includes dual input connection for attachment to two

Widescreen 21.5-inch monitor

· Supports optional soundbar

EPEAT Gold certified

• Supports 1920x1080 resolution

Microsoft® Windows® 7 certified

Microsoft Windows 10 certified

Think Vision T2224d Wide Monitor













T2254 Wide Flat Panel Monitor Name

Bezel color Raven black Type-model 60F6HAR1EU

Panel TFT-LCD, twisted nematic (TN), White LED backlight Viewable image size

**22.0"** (**559mm**) diagonal 18.70" x 11.70" (473.8mm x 296.1mm) **1680x1050** Max view area (W x H)

Native resolution

Aspect ratio 16:10 Pixel pitch (mm)

0.282 x 0.282 mm Dot/Pixel per Inch 90 dpi

Brightness 250 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical) Pixel response time 5ms (typical)

Color gamut 72%

170° (+/- 85°) horizontal, 160° (+/- 80°) vertical Tilt and height adjustable stand Sides: 0.67" (17mm) 14.97" H x 20.05" W x 9.61" D; Viewing angle at 10:1 CR

Stand

Bezel width Dimensions (HxWxD)

380.2mm H x 509.3mm W x 244.2mm D

16 watts typical, Power supply

22 watts maximum,

22 watts standby/suspend, universal, integrated (no external brick-like power supply)
10.38 lb; 4.71 kg
3 year (includes backlight)
March 2015

Weight Limited warranty

Available date

VESA DDC2B/CI VESA-compliant ENERGY STAR® qualified Power management

Ergonomics ISO 9241-307 Emission standards None

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Gold rating** Environmental

Preset resolutions 640x350, 640x480, 720x400

SVGA: 800x600

XGA: 1024x768, 1152x864 SXGA: 1280x1024

WXGA: 1280x768, 1280x800, 1366x768

WXGA+: 1440x900

WSXGA+: 1600x900, 1680x1050

Presets / user settings Standard presets: 26; user settings: 20

Viewing adjustments Tilt: 30° back, -5° forward; lift: 4.3" (110mm) Rotating screen

On screen display On screen display with digital user controls (8 languages)

Control features Direct access (buttons on front) for automatic image setup, dual input and brightness

USB hub None

Multiple input

Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) Monitor connectors

Signal cables

(1) VGA 15-pin D-shell, analog, blue
(2) Digital Visual Interface (DVI-D), digital, white, **HDCP-compliant**(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
(2) detachable, DVI-D at each end, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Mounting features

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Security

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DVI-D cable, Ship group

1.8 meter black power cord

**Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

**Accessories** 

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

 Widescreen 22.0-inch monitor • Supports 1680x1050 resolution

Supports ThinkCentre Tiny Clamp Bracket

Includes dual input connection for attachment to two

systems concurrently (analog and digital) ÉPEAT Gold certified

Supports optional soundbar

Microsoft® Windows® 7 certified
 Microsoft Windows 8 / Windows 8.1 certified

Microsoft Windows 10 certified

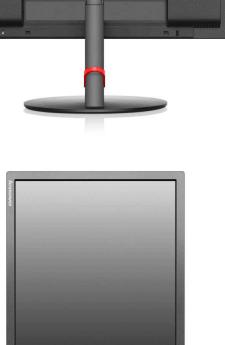


ThinkVision T2254 Wide Monitor

© Lenovo (T2254) November 2016















T2254p Wide Flat Panel Monitor Name

Bezel color Raven black

Type-model 61BAMAR2US / 60E1MAR2US / 60CCMAR2US /

60CCMAT2EU / 61BAMAT2EU

Panel TFT-LCD, twisted nematic (TN), White LED backlight Viewable image size

**22.0"** (**559mm**) diagonal 18.70" x 11.70" (473.8mm x 296.1mm) **1680x1050** Max view area (W x H) Native resolution

Aspect ratio 16:10 Pixel pitch (mm) 0.282 x 0.282 mm Dot/Pixel per Inch 90 dpi

Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 5ms (typical) Color gamut

Viewing angle at 10:1 CR 170° (+/- 85°) horizontal, 160° (+/- 80°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.67" (17.1mm) 14.63" H x 20.01" W x 9.55" D; Stand

Bezel width Dimensions (HxWxD)

371.7mm H x 509.3mm W x 242.7mm D

Power supply

20 watts typical, 25 watts maximum,

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

10.14 lb; 4.60 kg

3 year (includes backlight) Weight Limited warranty Available date March 2015

VESA DDC2B/CI VESA-compliant ENERGY STAR® qualified Power management Ergonomics

ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Gold rating** Environmental

Preset resolutions 640x350, 640x480, 720x400

SVGA: 800x600 XGA: 1024x768, 1152x864

SXGA: 1280x1024

WXGA: 1280x768, 1280x800, 1366x768 WXGA+: 1440x900

WSXGA+: 1600x900, 1680x1050

Presets / user settings Standard presets: 28;

user settings: 20

#### **Features**

- Widescreen 22.0-inch monitor • Supports 1680x1050 resolution
- Supports ThinkCentre Tiny Clamp Bracket
- Supports optional soundbar
- Includes dual input connection for attachment to two systems concurrently (analog and digital)
- EPEAT Gold certified
- Microsoft® Windows® 7 certified
   Microsoft Windows 8 / Windows 8.1 certified
- Microsoft Windows 10 certified



ThinkVision T2254p Wide Monitor

Viewing adjustments Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand

Rotating screen Screen pivots 90 degrees from landscape to portrait On screen display with digital user controls (8 languages) On screen display Control features Direct access (buttons on front) for automatic image setup, dual input and brightness

USB hub None Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)

Multiple input Monitor connectors

(1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, HDCP-compliant
(3) DisplayPort, digital, black, HDCP-compliant
(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter

Signal cables

(2) detachable, DisplayPort at each end, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount
Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features

Security

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group

1.8 meter black power cord

# **Limited Warranty** See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

## **Accessories**

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories













T22i Wide Flat Panel Monitor Name Bezel color **Black** 61A9MAR1US / 61A9MAT1EU Type-model Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight **21.5"** (**546mm**) diagonal 18.74" x 10.54" (476.1mm x 267.8mm) **1920x1080** Viewable image size Max view area (W x H) Native resolution Aspect ratio 16:9 Pixel pitch (mm) 0.248 x 0.248 mm Dot/Pixel per Inch 102 dpi Brightness 250 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical) 6ms (typical); 4ms (extreme mode) Pixel response time Color gamut 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm)
14.08" H x 19.28" W x 9.92" D;
357.6mm H x 489.7mm W x 251.9mm D Viewing angle at 10:1 CR Stand Bezel width Dimensions (HxWxD) 16.5 watts typical, 55 watts maximum (with USB 3.0 hub), Power supply <0.5 watts standby/suspend, universal, integrated (no external brick-like power supply) 10.85 lb; 4.92 kg

3 year (includes backlight) Weight Limited warranty Available date April 2017 VESA DDC2B/CI VESA-compliant ENERGY STAR® qualified Power management ISO 9241-307 Ergonomics Emission standards FCC Class B TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental Preset resolutions VGA: 640x350, 640x480, 720x400 SVGA: 800x600 XGA: 1024x768, 1152x864 SXGA: 1280x1024 1280x768, 1366x768 1440x900, 1680x900 WXGA: WXGA+:

WSXGA+:

HDMI: 17;

Full HD:

Presets display modes

Viewing adjustments Rotating screen

1680x1050 1920x1080

DP: 17

#### **Features**

- Widescreen 21.5-inch monitor • Supports 1920x1080 resolution
- · Supports optional soundbar
- Supports ThinkCentre Tiny via VESA back mount Includes dual input connection for attachment to two
- systems concurrently
- EPEAT Gold certified • Microsoft® Windows® 7 certified
- Microsoft Windows 10 certified



ThinkVision T22i Wide Monitor

On screen display On screen display with digital user controls (8 languages) Direct access (buttons on front) for power, menu, input source select and brightness USB 3.0 Hub: 1 port into PC (USB 3.0); 4 ports for accessories (4 USB 3.0) Control features USB hub Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) Dual input (two different PCs attach to two different connectors; one PC shows image; select via b (1) VGA 15-pin D-shell, analog, blue (2) HDMI (1.4), digital, **HDCP-compliant** (3) DisplayPort, digital, black, **HDCP-compliant** (1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter (2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Monitor connectors Signal cables Mounting features Security Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group 1.8 meter USB signal cable, 1.8 meter black power cord

Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand Screen pivots 90 degrees from landscape to portrait

Limited Warranty	Accessories	ĺ
See details at http://support.lenovo.com/en_US/guides-and-manuals/detail.page?DocID=UM008281	Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620	
	See details at www.lenovo.com/support/monitoraccessories	
	See all monitors at www.lenovo.com/thinkvision	
		l













T22v Wide Flat Panel Monitor Name

Bezel color

Type-model 61BBMAR6US / 61BBMAT6EU Panel

Viewable image size Max view area (W x H)

Native resolution Aspect ratio

Pixel pitch (mm) Dot/Pixel per Inch Brightness

Contrast ratio Pixel response time Color gamut

Viewing angle at 10:1 CR Stand Bezel width

Dimensions (HxWxD)

Power supply

Weight Limited warranty

Available date

Presets display modes

October 2017

VESA-compliant Power management Ergonomics Emission standards Environmental

FCC Class B

Preset resolutions VGA:

1024x768, 1152x864 1280x1024

WSXGA+: 1680x1050 Full HD: 1920x1080

Presets: 24; user modes: 20

**Black** 

TFT-LCD, In-Plane Switching (IPS),

White LED backlight

**21.5"** (**546mm**) diagonal 18.74" x 10.54" (476.1mm x 267.8mm) **1920x1080** 

16:9 0.248 x 0.248 mm 102 dpi

250 nits or cd/m2 (typical)

1000:1 (typical)

6ms (typical); 4ms (extreme mode)

12% (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm) 19.14" H x 19.28" W x 9.92" D;

485.8mm H x 489.7mm W x 251.9mm D

18 watts typical, 43 watts maximum (with USB 3.0 hub),

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

10.16 lb; 4.61 kg

3 year (includes backlight)

VESA DDC2B/CI

ENERGY STAR® qualified ISO 9241-307

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** 

640x480, 720x400 800x600, 832x624 SVGA: XGA: SXGA: WXGA+: 1440x900, 1600x900

Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand

Viewing adjustments Screen pivots 90 degrees from landscape to portrait Rotating screen On screen display On screen display with digital user controls (8 languages) Control features

Direct access for power, menu, input source select, volume up / down, speaker mute and microphone mute USB 3.0 Hub: 1 port into PC (USB 3.0); 2 ports for accessories (2 USB 3.0)

USB hub

Integrated speakers, dual-array microphone, audio-in and Audio-out, optional sound bar supported Integrated FHD camera with IR

Multimedia Camera Integrated FHD camera with IR
Support HDMI, DisplayPort, VGA
(1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, **HDCP-compliant**(3) DisplayPort, digital, black, **HDCP-compliant**(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
(2) detachable, DisplayPort at each end, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount
Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Multiple input Monitor connectors

Signal cables

Mounting features Security

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, 1.8 meter USB signal cable, 1.8 meter black power cord, 1.8 meter HDMl signal cable (Row) Ship group

**Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

Accessories

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

 Widescreen 21.5-inch monitor • Supports 1920x1080 resolution

· Supports optional soundbar • Supports ThinkCentre Tiny via VESA back mount

EPEAT Gold certified

Microsoft® Windows® 7 certified

Microsoft Windows 10 certified



ThinkVision T22v Wide Monitor













T2324d Wide Flat Panel Monitor Name

Bezel color **Black** 

Type-model 60F3JAR2US / 60F3JAT2EU Panel TFT-LCD, twisted nematic (TN), White LED backlight

Viewable image size

**23.0"** (**584mm**) diagonal 20.07" x 11.29" (509.8mm x 286.7mm) Max view area (W x H)

1920x1080 Native resolution

Aspect ratio 16:9

Pixel pitch (mm)
Dot/Pixel per Inch 0.2655 x 0.2655 mm 96 dpi

Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 5ms (typical) Color gamut 72%

170° (+/- 85°) horizontal, 160° (+/- 80°) vertical Viewing angle at 10:1 CR

Tilt stand Stand

Sides: 0.68" (17.3mm) Bezel width

15.75" H x 21.48" W x 8.06" D; Dimensions (HxWxD)

400.3mm H x 545.8mm W x 204.9mm D Power supply 20 watts typical,

27 watts maximum

<0.3 watts standby/suspend, universal, integrated (no external brick-like power supply)

Weight Limited warranty

7.06 lb; 3.20 kg

3 year (includes backlight)
June 2016

Available date

**VESA-compliant** VESA DDC2B/CI

Power management Ergonomics Emission standards

ENERGY STAR® qualified ISO 9241-307

FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Gold rating** Environmental

Preset resolutions VGA: 640x350, 640x480, 720x400

SVGA: 800x600

XGA: 1024x768, 1152x864

SXGA: 1280x1024

WXGA: 1280x768, 1280x800, 1366x768

WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080

Presets / user settings Standard presets: 26; user settings: 16

Tilt: 22° back, -5° Viewing adjustments

Rotating screen None

On screen display

Control features USB hub

On screen display with digital user controls (8 languages)

Direct access (buttons on front) for automatic image setup, dual input and brightness

None

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)

Monitor connectors

Signal cables

Dual input (two different PCs attach to two different connectors; one PC shows image; select via b (1) VGA 15-pin D-shell, analog, blue (2) DisplayPort, digital, black, **HDCP-compliant** (1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter (2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features

Security

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group

1.8 meter black power cord

**Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

Accessories

Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 73P2582 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

Widescreen 23.0-inch monitor

• Supports 1920x1080 resolution · Supports optional soundbar

Supports ThinkCentre Tiny via VESA back mount

 Includes dual input connection for attachment to two systems concurrently (analog and digital)

EPEAT Gold certified

Microsoft® Windows® 7 certified

Microsoft Windows 10 certified

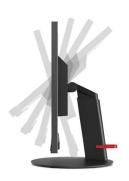














Name T23d-10 Wide Flat Panel Monitor Bezel color **Black** Type-model 61C3MAR6US / 61C3MAT6EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight **22.5**" (**571.5mm**) diagonal 19.5" x 12.4" (496.2mm x 313.9mm) Viewable image size Max view area (W x H) 1920x1200 Native resolution Aspect ratio 16:10 Pixel pitch (mm) 0.25 x 0.25 mm Dot/Pixel per Inch 100.6 dpi Brightness 250 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical) Pixel response time 6ms (typical) Color gamut 12% (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.09" (2.3mm) 19.37" H x 19.73" W x 9.9" D; 491.9mm H x 501.2mm W x 251.9mm D Viewing angle at 10:1 CR Stand Bezel width Dimensions (HxWxD) 15 watts typical, 18 watts maximum, Power supply <0.3 watts standby/suspend, universal, integrated (no external brick-like power supply) Weight Limited warranty 10.67 lb; 4.85 kg

3 year (includes backlight) June 2018 Available date VESA-compliant VESA DDC2B/CI ENERGY STAR® qualified Power management ISO 9241-307 Ergonomics Emission standards FCC Class B TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental Preset resolutions VGA: 640x480, 720x400 SVGA: 800x600 XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080

1920x1200

**Features** 

Widescreen 22.5-inch monitorSupports 1920x1200 resolution

Supports ThinkCentre Tiny Clamp Bracket

Supports optional soundbar

 Includes dual input connection for attachment to two systems concurrently

EPEAT Gold certified

• Microsoft® Windows® 7 certified

Microsoft Windows 10 certified



ThinkVision T23d-10 Wide Monitor

Presets display modes Standard presets: 27; user settings: 20 Viewing adjustments Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand Screen pivots 90 degrees from landscape to portrait Rotating screen On screen display On screen display with digital user controls (8 languages) Control features Direct access (buttons on front) for power, menu, input source select and brightness USB hub None Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) (1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, HDCP-compliant
(3) DisplayPort, digital, black, HDCP-compliant
(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter Monitor connectors Signal cables (1) detachable, VGA 15-pin D-shell at each end, alratog, 1.5 meter (2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features Security Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group 1.8 meter black power cord, 1.8 meter HDMI signal cable (NA only)

Limited Warranty	Accessories		
	See details at http://support.lenovo.com/en_US/guides-and-manuals/detail.page?DocID=UM008281	Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620	
		See details at www.lenovo.com/support/monitoraccessories	
		See all monitors at www.lenovo.com/thinkvision	

WUXGA:













T23i Wide Flat Panel Monitor Name Bezel color

Type-model Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight

Viewable image size Max view area (W x H)

Native resolution Aspect ratio Pixel pitch (mm)

Dot/Pixel per Inch Brightness Contrast ratio

Pixel response time Color gamut Viewing angle at 10:1 CR

Stand Bezel width

Dimensions (HxWxD) Power supply

Weight Limited warranty **Black** 

61ABMAR1US / 61ABMAT1EU

23" (584.2mm) diagonal 20.36" x 11.92" (517.2mm x 302.8mm) 1920x1080

16:9 0.2652 x 0.2652 mm

95.8 dpi 250 nits or cd/m2 (typical)

1000:1 (typical) 6ms (typical)

178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm) 13.3" H x 20.56" W x 10.4" D; 337.7mm H x 522.2mm W x 264.2mm D

16 watts typical, 45 watts maximum (with USB 3.0 hub), <0.5 watts standby/suspend, universal,

integrated (no external brick-like power supply)

10.85 lb; 4.92 kg 3 year (includes backlight)

Available date April 2017

VESA-compliant VESA DDC2B/CI

Power management ENERGY STAR® qualified

Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600 XGA: 1024x768, 1152x864

SXGA: 1280x1024 WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080

Presets display modes HDMI: 18; DP: 18 **Features** 

 Widescreen 23-inch monitor • Supports 1920x1080 resolution

Supports ThinkCentre Tiny Clamp Bracket

 Includes dual input connection for attachment to two systems concurrently

ÉPEAT Gold certified

Microsoft® Windows® 7 certified
 Microsoft Windows 10 certified



ThinkVision T23i Wide Monitor

Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand Viewing adjustments

Rotating screen On screen display Control features

USB hub

Multiple input Monitor connectors

Signal cables

Screen pivots 90 degrees from landscape to portrait

On screen display with digital user controls (8 languages)

Direct access (buttons on front) for power, menu, input source select and brightness and automatic image setup USB 3.0 Hub: 1 port into PC (USB 3.0); 4 ports for accessories (4 USB 3.0)

Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)

(1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, HDCP-compliant
(3) DisplayPort, digital, black, HDCP-compliant
(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter

(2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features Security

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group

1.8 meter USB signal cable, 1.8 meter black power cord

**Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

**Accessories** 

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories













T2454p Wide Flat Panel Monitor Name Bezel color Raven black 60F9MAR1US / 60F9MAT1EU Type-model Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight **24.0"** (**609.6mm**) diagonal 20.41" x 12.76" (518.4mm x 324.0mm) **1920x1200** Viewable image size Max view area (W x H) Native resolution Aspect ratio 16:10 Pixel pitch (mm) 0.270 x 0.270 mm

Dot/Pixel per Inch Brightness Contrast ratio Pixel response time Color gamut 77.4%

Viewing angle at 10:1 CR Stand

Bezel width Dimensions (HxWxD)

Power supply

Weight Limited warranty

Available date VESA-compliant

Power management

Ergonomics Emission standards Environmental

Preset resolutions

Presets / user settings

Viewing adjustments Rotating screen On screen display

Control features USB hub Multiple input

Security

94 dpi

300 nits or cd/m2 (typical) 1000:1 (typical) 7ms (typical)

178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.74" (18.8mm) 15.85" H x 21.94" W x 10.39" D; 402.5mm H x 557.4mm W x 264.2mm D

24 watts typical, 27 watts maximum (without USB 3.0 hub), 54 watts maximum (with USB 3.0 hub), <0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

13.60 lb; 6.15 kg 3 year (includes backlight)

VESA DDC2B/CI ENERGY STAR® qualified

ISO 9241-307 FCC Class B

March 2015

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™** Gold rating

VGA: 640x350, 640x480, 720x400 800x600

SVGA: XGA: 1024x768 SXGA: 1280x1024

WXGA: 1280x720, 1280x768, 1280x800 WXGA+: 1440x900

WSXGA+: 1680x1050, 1600x1200 1920x1080, 1920x1200 Full HD: Standard presets: 21; user settings: 20 **Features** 

- Widescreen 24.0-inch monitor • Supports 1920x1200 resolution
- Supports ThinkCentre Tiny Clamp Bracket

Supports optional soundbar

 Includes dual input connection for attachment to two systems concurrently (analog and digital)

EPEAT Gold certified

Microsoft® Windows® 7 certified
 Microsoft Windows 8 / Windows 8.1 certified

Microsoft Windows 10 certified



ThinkVision T2454p Wide Monitor

Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand Screen pivots 90 degrees from landscape to portrait On screen display with digital user controls (8 languages)
Direct access (buttons on front) for automatic image setup, dual input and brightness USB 3.0 Hub: 1 port into PC (USB 3.0); 4 ports for accessories (4 USB 3.0)

Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) (1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, HDCP-compliant
(3) DisplayPort, digital, black, HDCP-compliant
(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter Monitor connectors Signal cables (2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DisplayPort cable, Ship group

1.8 meter USB signal cable, 1.8 meter black power cord

**Limited Warranty** See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

Accessories

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision













Name **T24d Wide Flat Panel Monitor** Bezel color **Black** 

Type-model 61B4MAR1US / 61B4MAT1EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight

Viewable image size Max view area (W x H)

**24"** (**609.6mm**) diagonal 20.41" x 12.75" (518.4mm x 324mm) **1920x1200** Native resolution 16:10

Aspect ratio Pixel pitch (mm)

0.27 x 0.27 mm Dot/Pixel per Inch 94 dpi Brightness 300 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical)

Pixel response time Color gamut

99% 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm) 19.58" H x 20.99" W x 10.25" D; 497.4mm H x 533.2mm W x 260.4mm D Viewing angle at 10:1 CR Stand

Bezel width Dimensions (HxWxD)

Power supply

Weight Limited warranty

Available date

12.41 lb; 5.63 kg

3 year (includes backlight) June 2017 VESA DDC2B/CI

7ms (typical)

VESA-compliant Power management

Ergonomics Emission standards Environmental

ENERGY STAR® qualified ISO 9241-307 FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600 XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080 WUXGA: 1920x1200

22 watts typical, 64 watts maximum (with USB 3.0 hub),

<0.3 watts standby/suspend, universal, integrated (no external brick-like power supply)

Presets display modes Standard presets: 22; user settings: 20 **Features** 

- Widescreen 24-inch monitor • Supports 1920x1200 resolution
- Supports ThinkCentre Tiny Clamp Bracket
- Supports optional soundbar
- Includes dual input connection for attachment to two systems concurrently
- EPEAT Gold certified
- Microsoft® Windows® 7 certified
- Microsoft Windows 10 certified



ThinkVision T24d Wide Monitor

Viewing adjustments Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand Screen pivots 90 degrees from landscape to portrait Rotating screen On screen display with digital user controls (8 languages)
Direct access (buttons on front) for power, menu, input source select and brightness
USB 3.0 Hub: 1 port into PC (USB 3.0); 4 ports for accessories (4 USB 3.0)
Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) On screen display Control features USB hub Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via to (1) VGA 15-pin D-shell, analog, blue (2) HDMI (1.4), digital, **HDCP-compliant** (3) DisplayPort, digital, black, **HDCP-compliant** (1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter (2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Monitor connectors Signal cables Mounting features Security Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group 1.8 meter USB signal cable, 1.8 meter black power cord, 1.8 meter HDMI signal cable (NA only)

Limited Warranty	Accessories
See details at http://support.lenovo.com/en_US/guides-and-manuals/detail.page?DocID=UM008281	Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620
	See details at www.lenovo.com/support/monitoraccessories
	See all monitors at www.lenovo.com/thinkvision













# ThinkVision 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 WI FD 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)

(inches) 21.26" x 1.82" x 12.83" Stand Base Footprint Area

(mm) 250 x 250 (inches)

Weight Packed Unpacked

Monitor Head Only Full Container Load (40' STD / 20' STD)

9.84" x 9.84"

540 2 x 46 45 x 325 98

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

Starting at 16.39 lbs (7.45 kg)

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)

### POWER CONSUMPTION

16.5 W Typical Mavimum 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 Raven Black

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™ Gold ENERGY STAR® Rating 7.1 TCO<sup>®</sup> 7.0 TCO Edge 2.0 RoHS (EU 2002/95/EC) Yes China Energy Efficiency Standard Tier 2

Windows Certification Windows 7 / Windows 10 TüV Eye Comfort Certification

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.





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# ThinkVision 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

### 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 DisplayPort™ Video Cables Supplied USB Hub

Audio Out Power

VGA + HDMI™ +

23.8" Wide

WLED

16:9

Yes

Yes

In-Plane-Switching

FHD (1920 x 1080)

527.04 x 296.46

0.2745 x 0.2745

20.75" x 11.67"

250 nits

178°/178°

1000:1

2 x 2W

72% NTSC

16.7 Million

4 ms / 6 ms

3M:1

8 hit

5

VGA, DisplayPort™, USB, Power, HDMI™ (for NA only) USB 3.0 (4 x down, 1 x BC)

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

Yes (3.5 mm) Internal

## 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

### **MECHANICAL**

-5°/30° Tilt Angle (Front / Back) Swivel Angle (Left / Right) +/-45° Lift Range (mm) 110 +/-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

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)

### **CERTIFICATIONS**

Quick Setup Guide

EPEAT™ Gold **ENERGY STAR® Rating** 7.1 7.0 TCO TCO Edge 2.0 ULF Yes 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 Soundbar Support\* Yes

**EPS Cushion** Package

Optional





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Name T24m Wide Flat Panel Monitor **Features** Bezel color **Black** • Widescreen 23.8-inch monitor 61B8RAR3US / 61B8RAT3EU Type-model • Supports 1920x1080 resolution Panel TFT-LCD, In-Plane Switching (IPS), Supports ThinkCentre Tiny Clamp Bracket White LED backlight Supports optional soundbarEPEAT Gold certified **23.8"** (**604.7mm**) diagonal 20.75" x 11.67" (527.04mm x 296.46mm) **1920x1080** Viewable image size Max view area (W x H) Microsoft® Windows® 7 certified Native resolution Microsoft Windows 10 certified Aspect ratio 16:9 0.2745 x 0.2745 mm Pixel pitch (mm) Dot/Pixel per Inch 92 dpi Brightness 250 nits or cd/m<sup>2</sup> (typical) Contrast ratio 1000:1 (typical) Pixel response time 6ms (typical) Color gamut 99% sRGB Viewing angle at 10:1 CR 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm) 19.03" H x 21.26" W x 10.3" D; 483.4mm H x 540.2mm W x 261.75mm D Stand Bezel width Dimensions (HxWxD) 17 watts typical, 110 watts maximum (with USB 3.0 hub), Power supply <0.5 watts standby/suspend, universal, integrated (no external brick-like power supply) 12.34 lb; 5.6 kg

3 year (includes backlight)
August 2017 Weight Limited warranty Available date VESA DDC2B/CI VESA-compliant ENERGY STAR® qualified Power management Ergonomics ISO 9241-307 Emission standards FCC Class B TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental Preset resolutions VGA: 640x480 800x600 SVGA:

Presets display modes	XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900, 1600x900 WSXGA+: 1680x1050 Full HD: 1920x1080,1920x1200 HDMI: 19; DP: 11	ThinkVision T24m Wide Monitor	
Viewing adjustments Rotating screen	Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/ Screen pivots 90 degrees from landscape to portrait	-45°; detachable stand	
On screen display	On screen display with digital user controls (8 language	es)	
Control features Direct access (buttons on front) for power, menu, input source select and brightness USB hub USB 3.0 Hub: 1 port into PC (USB 3.0); 4 ports for accessories (4 USB 3.0)		source select and brightness	
		cessories (4 USB 3.0)	
Multimedia	Audio-out, optional sound bar supported Support HDMI, DisplayPort, USB 3.1 Type-C		
Multiple input Monitor connectors	(1) HDMI (1.4), digital, <b>HDCP-compliant</b>		
Worldon Connectors	(2) DisplayPort (1.2), digital, <b>HDCP-compliant</b>		
	(3) USB 3.1 Type-C		
Signal cables	(1) 1.8 meter USB Type-C to USB Type-C cable		
Mounting features	Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount		
Security	Security keyhole for attachment of optional cable lock	(Kensington® lock-compatible)	
Ship group	Monitor with stand, Safety and Warranty Information, 1 1.8 meter black power cord	.8 meter USB Type-C to USB Type-C cable,	

Limited Warranty	Accessories	
See details at http://support.lenovo.com/en_US/guides-and-manuals/detail.page?DocID=UM008281	Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620	
	See details at www.lenovo.com/support/monitoraccessories	
	See all monitors at www.lenovo.com/thinkvision	













T24v Wide Flat Panel Monitor Name

Bezel color

Type-model 61BCMAR6US / 61BCMAT6EU Panel White LED backlight

Viewable image size

Max view area (W x H)

Native resolution

Aspect ratio Pixel pitch (mm)

Dot/Pixel per Inch Brightness Contrast ratio

Pixel response time Color gamut

Viewing angle at 10:1 CR Stand

Bezel width

Dimensions (HxWxD)

Power supply

Weight Limited warranty

**Black** 

TFT-LCD, In-Plane Switching (IPS),

**23.8**" (**604.5mm**) diagonal 20.75" x 11.67" (527.04mm x 296.46mm) **1920x1080** 

16:9 0.2745 x 0.2745 mm

92 dpi 250 nits or cd/m<sup>2</sup> (typical)

1000:1 (typical)

6ms (typical); 4ms (extreme mode)

178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm) 19.72" H x 21.28" W x 10.32" D;

500.5mm H x 540.2mm W x 261.9mm D

20 watts typical, 45 watts maximum (with USB 3.0 hub), <0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

11.18 lb; 5.07 kg

3 year (includes backlight)

October 2017 Available date

VESA-compliant

Power management

Ergonomics Emission standards Environmental

VESA DDC2B/CI

ENERGY STAR® qualified

ISO 9241-307 FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** 

Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600, 832x624 XGA: 1024x768, 1152x864 1280x1024 SXGA: WXGA+: 1440x900, 1600x900

WSXGA+: 1680x1050 Full HD: 1920x1080

Presets display modes Presets: 24; user modes: 20 **Features** 

- Widescreen 23.8-inch monitor • Supports 1920x1080 resolution
- Supports ThinkCentre Tiny Clamp Bracket
- · Supports optional soundbar
- EPEAT Gold certified Microsoft® Windows® 7 certified
- Microsoft Windows 10 certified



ThinkVision T24v Wide Monitor

Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand

On screen display with digital user controls (8 languages)

Screen pivots 90 degrees from landscape to portrait

Viewing adjustments Rotating screen On screen display Control features

USB hub Multimedia Camera Multiple input

Monitor connectors

Security

Signal cables Mounting features

Integrated speakers, dual-array microphone, audio-in and Audio-out, optional sound bar supporte Integrated FHD camera with IR
Support HDMI, DisplayPort, VGA
(1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, **HDCP-compliant**(3) DisplayPort, digital, black, **HDCP-compliant**(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
(2) detachable, HDMI at each end, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible)

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, 1.8 meter USB signal cable, 1.8 meter black power cord, 1.8 meter HDMl signal cable (Row) Ship group

Direct access for power, menu, input source select, volume up / down, speaker mute and microphone mute USB 3.0 Hub: 1 port into PC (USB 3.0); 2 ports for accessories (2 USB 3.0) Integrated speakers, dual-array microphone, audio-in and Audio-out, optional sound bar supported

**Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

Accessories

Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

73P2582

45K1620













X24 Pro Wide Flat Panel Monitor Name

Bezel color **Black** 

60E4ECR1US / 60E4ECT1US / 60E4ECT1EU Type-model

Panel TFT-LCD, AH-IPS (In-Plane Switching),

White LED backlight

**23.8"** (**604.5mm**) diagonal 20.75" x 11.67" (527.0mm x 296.5mm) **1920x1080** Viewable image size Max view area (W x H)

Native resolution

Aspect ratio 16:9 Pixel pitch (mm) 0.2745 x 0.2745 mm Dot/Pixel per Inch 92 dpi

Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 7ms (typical) Color gamut 72%

Viewing angle at 10:1 CR 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical

Stand Tilt stànd

Bezel width

Dimensions (HxWxD)

Sides: 0.09" (2.3mm) 17.61" H x 21.30" W x 9.39" D; 447.4mm H x 540.9mm W x 238.4mm D

20 watts typical, 90 watts maximum, Power supply

<0.5 watts standby/suspend, universal,

external power supply 9.26 lb; 4.20 kg 1 year (includes backlight) Weight Limited warranty

July 2016 Available date

ENERGY STAR® qualified Power management Ergonomics ISO 9241-307

Emission standards FCC Class B

TCO Displays 6.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

Preset resolutions 640x350, 640x480, 720x400 VGA:

SVGA: 800x600° XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768

WXGA+: 1440x900, 1600x900 WSXGA+: 1680x1050

Full HD: 1920x1080 Presets / user settings Standard presets: 16; user settings: 20

Viewing adjustments Tilt: 22° back, -5° forward

Rotating screen None

On screen display On screen display with digital user controls
Direct access (buttons on side bezel) for dual input and brightness
USB Hub: two USB 3.1 Type-C and one micro USB 3.0 ports Control features USB hub Integrated stereo speakers (3 watts x 2), bulit-in microphone Multimedia

RealSense 3D camera SR300 Camera

mealsense 3D camera SR300

Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)
(1) mDP, Mini DisplayPort, digital, **HDCP-compliant**(2) USB Type-C, digital
(1) detachable, mDP to DP, digital, 2.0 meter
(2) DP to mDP adapter
(3) Micro USB 3.0 cable Multiple input

Monitor connectors

Signal cables

Mounting features None

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Security

Monitor with stand, Safety and Warranty Information, ThinkPad 90W Square tip power adaptor, 2.0 meter Mini DisplayPort to DisplayPort signal cable (with DP to mDP adapter), Ship group

Micro USB 3.0 cable (for using camera)

**Limited Warranty** Accessories

See details at http://support.lenovo.com/en\_US/guides-and-manuals/de-

tail.page?DocID=UM008281

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

 Widescreen 23.8-inch monitor • Supports 1920x1080 resolution

 Includes dual input connection for attachment to two systems concurrently

EPEAT Silver certified

• Intel RealSense 3D camera • Stereo speakers 3 watts x 2

One cable docking through USB 3.1 Type C

with power delivery

• Windows Hello certified

Microsoft® Windows® 10 certified



ThinkVision X24 Pro Wide Monitor

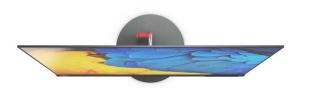












### Lenovo ThinkVision X24-20

X24-20 Flat Panel Monitor Name **Features** Bezel color Raven black Widescreen 23.8-inch monitor 61BDGAR3US / 61BDGAT3EU Type-model • Supports 1920x1080 resolution Panel TFT-LCD, IPS (In-Plane Switching), • Includes dual input connection for attachment to two White LED backlight 23.8" (604.5mm) diagonal 20.75" x 11.67" (527.0mm x 296.5mm) 1920x1080 systems concurrently Viewable image size EPEAT Silver certified Max view area (W x H) • Microsoft® Windows® 7 certified Native resolution Microsoft Windows 10 certified Aspect ratio 16:9 Pixel pitch (mm) 0.2745 x 0.2745 mm Dot/Pixel per Inch 92 dpi Brightness 250 nits or cd/m<sup>2</sup> (typical) Contrast ratio 1000:1 (typical) Pixel response time 6ms (typical) 72% (NTSC) 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Color gamut Viewing angle at 10:1 CR Tilt stand Stand Sides: 0.04" (1.1mm) 12.85" H x 21.16" W x 8.66" D; 326.4mm H x 537.4mm W x 220mm D Bezel width Dimensions (HxWxD) 20 watts typical, 25 watts maximum, Power supply 25 watts maximum, <0.5 watts standby/suspend, universal, external power supply 7.3 lb; 3.3 kg 3 year (includes backlight) December 2017 Weight Limited warranty Available date ENERGY STAR® qualified Power management Ergonomics ISO 9241-307 Emission standards FCC Class B TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental Preset resolutions 640x350, 640x480, 720x400 VGA: SVGA: 800x600° XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900, 1600x900 WSXGA+: 1680x1050 Full HD: 1920x1080 Presets / user settings Standard presets: 18; ThinkVision X24-20 Monitor user settings: 0 Viewing adjustments Tilt: 30° back, -5° forward

Rotating screen

On screen display with digital user controls (8 languages) On screen display

Control features Direct access (buttons on side bezel) for power, dual input and brightness

USB hub None

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)

(1) HDMI (1.4a), digital, **HDCP-compliant**(2) DisplayPort, digital, black, **HDCP-compliant**(1) detachable, HDMI at each end, digital, 1.8 meter None Monitor connectors

Signal cables Mounting features

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Security

Ship group Monitor with stand, Safety and Warranty Information, 1.8 meter HDMI signal cable,

1.8 meter black power cord

Limited Warranty	Accessories	
See details at http://support.lenovo.com/en_US/guides-and-manuals/detail.page?DocID=UM008281	Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620	
	See details at www.lenovo.com/support/monitoraccessori See all monitors at www.lenovo.com/thinkvision	es













### Lenovo ThinkVision P27h

**P27h Wide Flat Panel Monitor** Name

Case color **Black** 

61AFGAR1US / 61AFGAT1EU Type-model

Panel TFT-LCD, IPS (In-Plane Switching), White LED

backlight

Viewable image size

**27"** (**685.8mm**) diagonal 23.49" x 13.21" (596.7mm x 335.7mm) **2560x1440** Max view area (W x H)

Optimum resolution Max pixel rate 300MHz Aspect ratio 16:9

Pixel pitch (mm) 0.2331 x 0.2331mm

Dot/Pixel per Inch 109 dpi

Brightness 350 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical) Pixel response time 4ms (extreme) / 6ms (typical) Color gamut 99% sRGB

Viewing angle at 10:1 CR

178° horizontal, 178° vertical Stand

Bezel width **Dimensions** 

Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2mm) 20.21" H x 24.08" W x 10.62" D; 513mm H x 611.6mm W x 269.8mm D (HxWxD, including stand) 38 watts typical, 140 watts maximum (with USB), Power supply

<0.5 watts sleep/off;

<0.5 watts switch off

integrated (no external brick-like power supply) 15.43 lb; 7.0kg (including stand)

Weight Limited warranty 3 year April 2017 Available date

VESA-compliant Power management Ergonomics Emission standards

Environmental

VESA DDC2B/CI **ENERGY STAR® 7.0** ISO 9241-307 FCC Class B

TCO Displays 7.0, RoHS, **EPEAT™ Silver rating**,

ULE Gold

Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600 1024x768 XGA: SXGA: 1280x1024 WXGA: 1366x768

1440x900, 1680x900 WXGA+: WSXGA+: 1680x1050

Full HD: 1920x1080, 1920x1200 QHD: 2560x1440

Presets display modes HDMI: 22; DP: 14

> Tilt: 30° back, -5° forward; lift: 4.33" (110mm); swivel: +/-45° Screen pivots 90 degrees from landscape to portrait On screen display with digital user controls (8 languages)

On screen display Direct access (buttons on front) for power, menu, input source select and brightness USB Hub: one USB 3.1 Type-C upstream port, four USB 3.0 Type-A downstream ports Audio-out, optional sound bar supported Control features USB hub

Multimedia

Camera

Viewing adjustments Rotating screen

Multiple input

Support HDMI, DisplayPort, USB 3.1 Type-C, DisplayPort-out (1) 2\*HDMI (1.4), digital, **HDCP-compliant** (2) DisplayPort (1.2), digital, **HDCP-compliant** (3) DisplayPort-out, digital Monitor connectors

(4) USB 3.1 Type-C (1) USB 3.1 Type-C cable, 1.8 meter Signal cables Mounting features

Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Security

Ship group Monitor, detachable stand, Quick start and safety poster, 1.8 meter USB 3.1 Type-C cable,

1.8 meter black power cord

### **Limited Warranty**

See details at http://support.lenovo.com/en US/quides-and-manuals/detail.page?DocID=UM008281

Accessories

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 45K1620 Lenovo Security Cable Lock 57Y4303

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

 27-inch IPS LED backlit monitor • Supports 2560x1440 resolution • 5-Ports USB hub, support USB 3.0

 Supports optional soundbar Support ThinkCentre Tiny

 Microsoft® Windows® 7 certified Microsoft Windows 10 certified



ThinkVision P27h Monitor

Lenovo July 2017













## Lenovo ThinkVision P27q

P27q Wide Flat Panel Monitor Name

Case color Black Type-model 61A8GAT1EU

Panel TFT-LCD, IPS (In-Plane Switching), White LED

backlight

Viewable image size

**27"** (**685.8mm**) diagonal 23.49" x 13.21" (596.7mm x 335.7mm) **2560x1440** Max view area (W x H)

Optimum resolution Max pixel rate 300MHz Aspect ratio 16:9

Pixel pitch (mm) 0.2331 x 0.2331mm

Dot/Pixel per Inch 109 dpi

Brightness 350 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 4ms Color gamut 99% sRGB

Viewing angle at 10:1 CR 178° horizontal, 178° vertical

Stand

Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2mm) 20.21" H x 24.17" W x 10.62" D; Bezel width **Dimensions** 513mm H x 614mm W x 269.8mm D (HxWxD, including stand) Power supply

38 watts typical, 75 watts maximum (with USB), <0.5 watts sleep/off; < 0.3 watts switch off

integrated (no external brick-like power supply)

15.43 lb; 7.0kg (including stand) Weight Limited warranty

3 year January 2017 Available date

VESA-compliant VESA DDC2B/CI Power management **ENERGY STAR® 7.0** Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, RoHS, **EPEAT™ Silver rating**, Environmental

ULE Gold

Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600 1024x768 XGA: SXGA: 1280x1024 WXGA: 1366x768

1440x900, 1600x900 WXGA+: WSXGA+: 1680x1050

1920x1080, 1920x1200 Full HD: QHD: 2560x1440

Presets / user settings Standard presets: 20; user settings: 24

Tilt: 30° back, -5° forward; lift: 4.33" (110mm); swivel: +/-45° Screen pivots 90 degrees from landscape to portrait Viewing adjustments Rotating screen On screen display On screen display with digital user controls (8 languages) Control features Direct access for menu, source switch, and brightness

USB hub USB Hub: one USB 3.0 upstream port, four USB 3.0 downstream ports

Multimedia Audio-out, optional sound bar supported

Camera

Support HDMI, DisplayPort, mini DisplayPort, DisplayPort-out Multiple input

Support HDMI, DisplayPort, mini DisplayPort, DisplayPort-out
(1) 2\*HDMI (1.4), digital, **HDCP-compliant**(2) DisplayPort (1.2), digital, **HDCP-compliant**(3) Mini DisplayPort, digital, **HDCP-compliant**(1) detachable, mini DisplayPort to DisplayPort, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)
Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Monitor connectors

Signal cables

Mounting features Security

Monitor, detachable stand, Quick start and safety poster, 1.8 meter USB 3.0 cable, Ship group

1.8 meter mini DP to DP cable, 1.8 meter black power cord

### **Limited Warranty**

See details at http://support.lenovo.com/en US/quides-and-manuals/detail.page?DocID=UM008281

### Accessories

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 45K1620 Lenovo Security Cable Lock

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

## **Features**

27-inch IPS LED backlit monitor

• Supports 2560x1440 resolution • 5-Ports USB hub, support USB 3.0

Support ThinkCentre Tiny

• Supports optional soundbar Microsoft® Windows® 7 certified

Microsoft Windows 10 certified



ThinkVision P27q Monitor

Lenovo July 2017













### Lenovo ThinkVision P27u

P27u Wide Flat Panel Monitor Name **Features** Case color **Black**  27-inch IPS LED backlit monitor Type-model 61CBGAR1US / 61CBGAT1EU / 61CBGAR1EU / • Supports 3840x2160 resolution 61B0GAR1US / 61B0GAT1EU • 5-Ports USB hub, support USB 3.0 Panel TFT-LCD, IPS (In-Plane Switching), White LED Support ThinkCentre Tiny backlight 27" (684.7mm) diagonal • Supports optional soundbar Viewable image size Microsoft® Windows® 7 certified 23.49" x 13.21" (596.74mm x 335.66mm) 3840x2160 Max view area (W x H) Microsoft Windows 10 certified Optimum resolution Max pixel rate 600MHz Aspect ratio 16:9 Pixel pitch (mm) 0.1554 x 0.1554mm Dot/Pixel per Inch 163 dpi Brightness 350 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical) 6ms (typical) 1.457 sRGB Pixel response time Color gamut Viewing angle at 10:1 CR 178° horizontal, 178° vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2mm) 20.21" H x 24.08" W x 10.62" D; 513.3mm H x 611.6mm W x 269.8mm D Stand Bezel width **Dimensions** (HxWxD, including stand) 513.3IIII H X 611.3IIIII W X 269 50 watts typical, 160 watts maximum (with USB), <0.5 watts sleep/off; <0.3 watts switch off Power supply integrated (no external brick-like power supply) 15.32 lb; 6.95kg (including stand) Weight 3 year Limited warranty August 2017 Available date **VESA-compliant** VESA DDC2B/CI ENERGY STAR® 7.0 ISO 9241-307 FCC Class B Power management Ergonomics Emission standards TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating**, ULE Gold Environmental Preset resolutions VGA: 640x480, 720x400, 720x480, 720x576 SVGA: 800x600 1024x768 XGA: SXGA: 1280x720, 1280x800, 1280x1024 WXGA+: 1440x900, 1600x900 WSXGA+: 1680x1050 Full HD: 1920x1080, 1920x1200 QHD: 2560x1440 ThinkVision P27u Monitor UHD: 3840x2160 Standard presets: 27; user settings: 20 Presets / user settings Tilt: 30° back, -5° forward; lift: 4.33" (110mm); swivel: +/-45° Viewing adjustments Rotating screen Screen pivots 90 degrees from landscape to portrait On screen display On screen display with digital user controls (8 languages) Direct access (buttons on front) for power, menu, input source select and brightness USB Hub: one USB 3.1 Type-C port, four USB 3.0 Type-A downstream ports Audio-out, optional sound bar supported Control features USB hub Multimedia Camera Support HDMI, DisplayPort, USB 3.1 Type-C (1) 2\*HDMI (2.0), digital, **HDCP-compliant** (2) DisplayPort (1.2), digital, **HDCP-compliant** Multiple input Monitor connectors

(3) USB 3.1 Type-C

Signal cables

(1) detachable, DisplayPort to DisplayPort, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)
Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features Security

Monitor, detachable stand, Quick start and safety poster, 1.8 meter USB Type-C to USB Type-C cable, 1.8 meter DP to DP cable, 1.8 meter HDMI to HDMI cable (NA only), 1.8 meter black power cord, Ship group

1.8 meter USB Type-C to USB Type-A cable

Limited Warranty	Accessories	
See details at http://support.lenovo.com/en_US/guides-and-manuals/detail.page?DocID=UM008281	Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock Lenovo Security Cable Lock See details at www.lenovo.com/support/mc	













# ThinkVision P32u-10 MONITOR



# **SPECIFICATIONS**

DISPLAY
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 (1931)
Response Time (Typical)

**POWER CONSUMPTION** 

32"
In-Plane Switching
WLED
3840 x 2160
10.0

162
708.48 (H) x 398.52 (V)
300 cd/m <sup>2</sup>
178°/178°
1000:1
3M:1
0.1845 (H) x 0.1845 (V)
137

107
99.5% AdobeRGB
6 ms

# ENVIRONMENTAL Temperature

Temperature Operating Non-Operating	0°C - 40°C -20°C - 60°C
Humidity Operating Non-Operating	8% - 80% 5% - 95%
Altitude Operating Non-Operating	0 ft - 5000 ft 0 ft - 40,000 ft
Arsenic-Free Glass PVC-Free Mercury-Free	Yes Yes Yes
PCC % of Plastic Resins	85% with >25 g Plastic Parts

844 x 228 x 528

 $33.23" \times 8.98" \times 20.79"$ 

726 7 4 67 7 4 471 5

# DIMENSIONS (W x D x H)

Size Unpacked with Stand

Size Packed

(mm) (inches)

Typical	70 W	
Maximum	200 W	
Sleep-Mode	≤0.5 W	
Switch Off-Mode	≤0.5 W	
Power Supply	External	
Power Voltage	90 VAC - 264 VAC	
Voltage Dynamic Frequency	47 Hz - 63 Hz	
SIGNAL INPUT		

Video Input Signals	2 x HDMI™ 2.0 + DisplayPort™ 1.2 + Thunderbolt™ 3.0-In + Thunderbolt™ 3.0-Out
Video Cables Supplied	HDMI™, DisplayPort™, Thunderbolt™ 3.0
Video Cable Length USB Hub	2 m for Thunderbolt™, 1.8 m for HDMI™ and DisplayPort™
USB Cable Supplied Audio-Out	Yes (4 x Downstream, 1 x BC) Yes (USB Type-A to Type-B) Yes (3.5 mm)

	Lowest Position	
	(mm)	726.7 x 350 x 497.8
	(inches)	28.61" x 13.78" x 19.6"
	Highest Position	
М	(mm)	726.7 x 350 x 606.8
	(inches)	28.61" x 13.78" x 23.89"
	Size Unpacked without Stand	
	(Monitor Head Only)	

)	(inches)	28.61" x 2.49" x 16.99'
	Distance from Table to Panel	
	Lowest Pixel at Bottom of Screen	
	(mm / inches)	90.9 / 3.58"

30 kHz - 160 kHz 23 Hz - 80 Hz	Highest Pixel at Top of Screen (mm / inches)	489.4 / 19.27"
3840 x 2160	Stand Base Footprint Area	
HDMI™ : 600 MHz	(mm / inches)	350 x 350 / 13.78" x 13.78"

Maximum Pixel Clock Speed /	HDMI™ : 600 MHz	(mm / inches)	350 x 350 / 13.78" x 13.78"
Bandwidth	Display Port™: 5.4 Gbps Thunderbolt™: 10 Gbps	Weight	
Preset / User OSD Buttons	28 / 20 5 Buttons	Packed	Starting at 29.32 lbs (13.3 kg)
OSD Languages	English, French, German,	Unpacked	Starting at 22.05 lbs (10 kg)
OSD Languages	Spanish, Italian, Japanese, Simplified Chinese, Russian	Monitor Head Only	Starting at 15.21 lbs (6.9 kg)

MECHANICAL		
Tilt Angle (Front / Back)	-5° / 22°	
Swivel Angle (Left / Right)	45° / 45°	
Lift (mm)	110	
(CW / CCW)	90° / 90°	
VESA® Mount (mm)	100 x 100	

(CVV / CCVV)	30 / 30
VESA® Mount (mm)	100 x 100
Kensington® Lock Slot	Yes
Cable Management	Yes
Bezel Color	Raven Black
Bezel Width	
Ton (mm / inches)	2 / 0 08"

SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution

MEGUANUGAL

Top (mm / inches)	2 / 0.08"
Bottom (mm / inches)	23.8 / 0.94"
Sides (mm / inches)	2 / 0.08"

# COMPLIANCE

EPEAT™	Gold
ENERGY STAR® Rating	7.0
TCO	TCO 7.0 / TCO Edge 2.0
Windows Certification	Windows 7 / Windows 10
China Energy Efficiency Standard	Tier 2

### WARRANTY AND AVAILABILITY

Warranty 3 Years Geography Availability WW





# WWW.LENOVO.COM













# anti-glare Curvature 1800R

**Backlight** 

**WLED** 

**HDR** 

**Panel Type** 

DISPLAY

**Panel Size** 

43.4 inches

1052.3 x 328.8mm

41.4 x 12.9 inches

VA NearEdgeless,

Screen Dimensions (H x V)

ThinkVision P44w-10

Specifications

32:10 Resolution 3840 x 1200

Pixel Pitch (H x V)

0.2740 x 0.2740mm

Viewing Angle (H x V)

VESA Certified DisplayHDR™ 400

**Aspect Ratio** 

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)** 1.07B

**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, 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)

1 x USB Type-C Gen2)

4 x USB 3.1 Gen1 (1 BC)

**Power Consumption** 

Typical/Max: 70W/250W Switch-off Mode: <0.5W

Size Packed (D x H x W)

47.99 x 19.68 x 14.80 inches

Size Unpacked w/stand

269.8 x 591.1 x 1058.3mm

10.62 x 23.27 x 41.67 inches

Size Unpacked w/o stand

(D x H x W) (Lowest Position)

Sleep/Off Mode: <0.5W

**DIMENSIONS** 

1219 x 500 x 376mm

**USB Downstream** 

**Power** 

Internal

(D x H x 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

Weight (Monitor Head Only) 9.35kg/20.61lbs.

**SPECIAL FEATURES** 

# **Anti-Glare** Yes

13.45kg/29.65lbs.

PIP/PBP Yes **Software** 

Yes (ThinkColor)

Speaker Supports optional Harman Kardon certified speaker

-5°/22°

Yes

**MECHANICAL** 

Tilt Angle (front/back)

Swivel Angle (left/right)

Kensington™ Lock Slot

Yes (130mm) **VESA Mount Capability** Yes (100 x 100mm)

Lift (Max. range)

1 x DP cable
1 x USB Type-C Gen2 cable
1 x USB Type-C to Type-A cable Quick setup guide

**Cable Management** 

Bezel Width (side)

Bezel Width (top/bottom)

WHAT'S IN THE BOX

Monitor with stand

1 x Power cable

1 x HDMI cable

Yes

**Bezel Color** 

Raven Black

2.4/25.6mm

2.4mm

CCC Yes

**ENERGY STAR® Rating** 

**CERTIFICATIONS** 

8.0

**RoHS** 

Yes

**ULE** 

Gold

**TCO** 

**Ambient Operating Temperature** 

0°C to 45°C



Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 2

**TÜV Eye Comfort** Yes

**Windows** 













### Think Vision® S27i-10

DISPLAY

Panel Size

27 inch

Screen Dimensions (H x V) (mm)

597.89 (H) × 336.31 (V)

Panel Type

In-Plane Switching

Backlight

WLED

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)

72%

Color Support

16.7M

CONNECTIVITY

**Video Input Signals** 

VGA + HDMI 1.4

Video Cable Length

1.8 m

**Audio Out** 

Yes (3.5 mm)

MULTI-MEDIA

**Optional Soundbar Support** 

Yes

**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)

(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)

220.0 x 443.5 x 611.9 mm / 8.66 x 17.46 x 24.10 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

Weight Packed (kg/lbs.)

6.80kg / 14.99 lbs.

Weight Unpacked (kg/lbs.)

4.76kg / 10.49 lbs.

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

4.22ka / 9.30 lbs.

SPECIAL FEATURES

Anti-Glare

Yes

Thin Client Support (Tiny)

(by VESA mount PN:4XF0N03161)

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 mm / 21.68 mm

WHAT'S IN THE BOX

Monitor with stand

1x HDMI Cable

1x VGA Cable (AP. EMEA only)

1x Power Cable

Quick setup quide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

7.0

TCO

70

**EPEAT™** 

Gold

ULE

Gold

RoHS

Yes

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

**Ambient Operating Temperature** 

0°C to 40°C

TÜV Eye Confort Certification

Yes















enovo













### Think Vision 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

1.8m

**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<sub>тес</sub>) 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 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

Optional Soundbar Support

Ye

ThinkCentre Tiny Support

Yes

**MECHANICAL** 

Tilt Angle (front/back)

-5°/30°

Swivel Angle (left/right)

+/-45°

Yes (110mm)

Pivot

+/-90°

**VESA Mount Capability** 

Yes (100 x 100mm)

Kensington™ Lock Slot

163

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** 

7.1

EU RoHS Yes

**CCC** Yes

тсо

TCO 8.0/TCO Edge 2.0

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

TÜV Eye Comfort

Yes

**ULE** Gold













\*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® (P.,.)

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

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 Type-C<sup>™</sup> to Type-C<sup>™</sup> cable

Quick Setup Guide

### CERTIFICATIONS

**ENERGY STAR® Rating** 

7.1

**EU RoHS** 

Yes CCC

Yes

TCO

TCO 8.0/TCO Edge 2.0

Windows Certification

Windows 7. Windows 10

China Energy Efficiency Standard

Tier 2

**TÜV Eye Comfort** 

Yes

ULE Gold











\*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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### 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

WLED

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)

72%

**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)

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<sup>™</sup> 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 DP-DP cable

1 x HDMI cable (NA only)

1 x USB 3.0 cable

Quick setup guide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

7.0

CCC

Yes

TCO

7.0

EPEAT™

Gold

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



























# 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<sub>TEC</sub>)

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

**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)

 $Kensington^{\mathsf{TM}} \ Lock \ Slot$ 

Bezel Width (Side)

2.0mm

Yes

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<sup>™</sup> to Type-C<sup>™</sup> cable Quick Setup Guide

Setup Guide



**ENERGY STAR® Rating** 

7.1

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

**ULE** Gold













\*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.

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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## Lenovo ThinkVision X1

X1 Wide Flat Panel Monitor Name

Case color **Black** 

Type-model 60E2GAR1US / 60E2GAT1US / 60E2GAT1EU

TFT-LCD, IPS (In-Plane Switching), White LED backlight 27" (684.7mm) diagonal 23.49" x 13.21" (596.7mm x 335.7mm) Panel

Viewable image size

Max view area (W x H)

3840x2160 Optimum resolution Max pixel rate 600MHz 16:9 Aspect ratio Pixel pitch (mm) 0.16 x 0.16mm Dot/Pixel per Inch 163 dpi

300 nits or cd/m2 (typical) Brightness

Contrast ratio 1300:1 (typical)

Pixel response time 6ms Color gamut 99%

Viewing angle at 10:1 CR 178° horizontal, 178° vertical Stand Tilt stand Sides: 0.088" (2.23mm) Bezel width Dimensions

(HxWxD, including stand) Power supply

19.35" H x 24.19" W x 10.63" D; 491.4mm H x 614.5mm W x 270.0mm D 40 watts typical, 130 watts maximum (with USB),

<0.5 watts sleep/off;

< 0.5 watts switch off

14.11 lb; 6.40kg (including stand) Weight

Limited warranty4 3 year Available date March 2016

VESA DDC2B/CI VESA-compliant<sup>2</sup> Power management ENERGY STAR® 7.0 **Ergonomics** ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, RoHS, EPEAT™ Silver rating, Environmental

ULE Gold

Preset resolutions VGA: 640x350, 640x480, 720x400

SVGA: 800x600

XGA: 1024x768, 1152x864

SXGA: 1280x1024

WXGA: 1280x720, 1280x768, 1280x800, 1360x768

WXGA+: 1440x900, 1600x900

WSXGA+: 1680x1050

Full HD: 1920x1080, 1920x1200 UHD: 3840x2160

Presets / user settings Standard presets: 20; user settings: 20

Viewing adjustments Tilt: 22° back, -5° forward;

None

Rotating screen

On screen display Control features On screen display with digital user controls (8 languages)

Direct access (touch buttons on front) for menu, mute, volume up/down, and brightness USB hub USB Hub: one USB 3.1 Type-C upstream port, four USB 3.0 Type-A downstream ports

Multimedia Integrated stereo speakers (3 watts x 2), bulit-in microphone

Camera Full HD camera with LED light Multiple input Support HDMI, DisplayPort

(1) HDMI (1.4), digital, **HDCP-compliant**(2) DisplayPort (1.2), digital, **HDCP-compliant**(1) detachable, HDMI at each end, digital, 1.8 meter
(2) detachable, DisplayPort at each end, digital, 1.8 meter Monitor connectors Signal cables

Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features Security

Ship group Monitor, detachable stand, Quick start and safety poster, 1.8 meter DisplayPort cable, 1.8 meter HDMI cable,

1.8 meter USB Type-C cable, 1.8 meter USB Type-C to Type-A cable, 1.8 meter black power cord,

mini DP to DP adapter, power adapter (135W)

## **Limited Warranty**

See details at http://support.lenovo.com/en US/quides-and-manuals/detail.page?DocID=UM008281

Accessories

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620 Lenovo Security Cable Lock 57Y4303

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

### **Features**

27-inch IPS LED backlit monitor with speaker

• Supports 3840x2160 resolution

• 5-Ports USB hub, support USB Type-C

• 3watts x 2 stereo speakers Microsoft® Windows® 7 certified

• Microsoft Windows 10 certified



ThinkVision X1 Monitor





















# ThinkVision X1 (2nd GEN) MONITOR

# EXTREME STYLISH, EXTREME FOREFRONT.



THE MILESTONE OF X-SERIES, 27" FULL-SCREEN, 4K, THUNDERBOLT™ 3 MONITOR.

Pushing the limit of screen share ratio with innovative technology, the 27" Lenovo™ ThinkVision® X1 (2nd GEN) display brings full-screen and ultra-slim appearance in elegant design. With 4K resolution and >99% sRGB color gamut, you will be assured of excellent watching experience and Thunderbolt™ 3 interface will bring the best user experience. "Motor" camera is first used on monitor, which will move up and down automatically and with it you will own standard VoIP system.

### WHY YOU SHOULD BUY THE LENOVO THINKVISION X1 (2nd GEN) MONITOR



### Full-screen appearance

With world's slimmest (4.7 mm) 27" 4K TBT monitor you will experience full-screen 4-side Near-Edgeless display with the screen ratio of approximately 93%. The monitor also comes with a metal stand and a base.



### **Brilliant performance**

The 4K UHD IPS screen displays 3840 x 2160 resolution at 60 Hz, 99% sRGB color gamut, 10-bit depth, with 1.07 billion color support assures you stunning visuals and superb color experience.



### Convenient user experience

Total versatility with
Thunderbolt™ 3 interface
supporting 4K + USB 3.0 &
45W PD + motor-camera with
dual-array microphone. A Think
RedDot tracking button is
integrated in the back cover.

### THE LENOVO THINKVISION X1 (2nd GEN) MONITOR IS BEST SUITED FOR



The Executives and CXO of company.



SOHO and Gold Collars with high income.



Trendsetters who pursue an extreme and forefront monitor.













# ThinkVision X1 (2nd GEN) MONITOR



### **SPECIFICATIONS**

DISPLAY
---------

 Panel Size
 27"

 Panel Type
 IPS

 Backlight
 WLED

 Resolution
 3840 (H) x 2160 (V)

Aspect Ratio 16:9
Anti-Glare Yes

Screen Dimensions (W x H) (mm) 596.7 (H) x 335.7 (V)
Maximum Brightness (Typical) 350 cd/m²
Viewing Angle (H/V at CR 10:1) 178°/178°
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
Color Gamut (CIE 1931) 99% sRGB
Response Time (Extreme/Typical/Off) 4/6/14 ms (G-to-G)

### **POWER CONSUMPTION**

 Typical
 65 W

 Maximum
 135 W

 Sleep-Mode
 0.5 W

 Switch Off-Mode
 0.5 W

 Power Supply
 External

Power Voltage 100 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
DisplayPort™ 1.2 + HDMI™ 2.0
+ Thunderbolt™ 3

Video Cable Length

USB Hub Yes (4 x USB 3.0)

USB Cable Supplied N/A Audio-Jack Yes

### 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

1.2 / 0.05"

1.2 / 0.05"

18 m

2 Buttons + Tracking Point English, French, Italian, German, Spanish, Japanese, Chinese, Russian

### **ENVIRONMENTAL**

Temperature
Operating
O°C - 45°C
Non-Operating
-20°C - 60°C

8% - 80%

Humidity Operating

Non-Operating 5% - 95%

Altitude

Operating 16,000 ft 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 (inches) 28.27" x 5.51" x

(inches) 28.27" x 5.51" x 18.5" Size Unpacked with Stand

(mm) 609.74 x 234.81 x 474.76 (inches) 24" x 9.24" x 18.69"

Size Unpacked without Stand (Monitor Head Only)

(mm) 609.74 x 32.7 x 351.71 (inches) 24" x 1.29" x 13.85"

Distance from Table to Panel Lowest Pixel at Bottom of Screen

(mm / inches) 134 / 5.276"

Highest Pixel at Top of Screen

(mm / inches) 450 / 17.717"

Stand Base Footprint Area

 (mm)
 234.81 x 234.81

 (inches)
 9.24" x 9.24"

Weight

Packed Starting at 18.45 lbs (8.37 kg)
Unpacked Starting at 12.21 lbs (5.54 kg)
Monitor Head Only Starting at 9.46 lbs (4.29 kg)

### **MECHANICAL**

Tilt Angle (Front / Back) -5° / 30° Swivel Angle (Left / Right) N/A 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 / 0.05"

ezel Width
Top (mm / inches)
Bottom (mm / inches)
Sides (mm / inches)

### COMPLIANCE

EPEAT™ Silver
ENERGY STAR\* Rating 7.0

ULE Silver
TCO\* 7.0

RoHS Yes

Windows Certification Windows 10

China Energy Label Grade 2

### WARRANTY AND AVAILABILITY

Warranty 3 Years Geography Availability WW





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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.

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

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