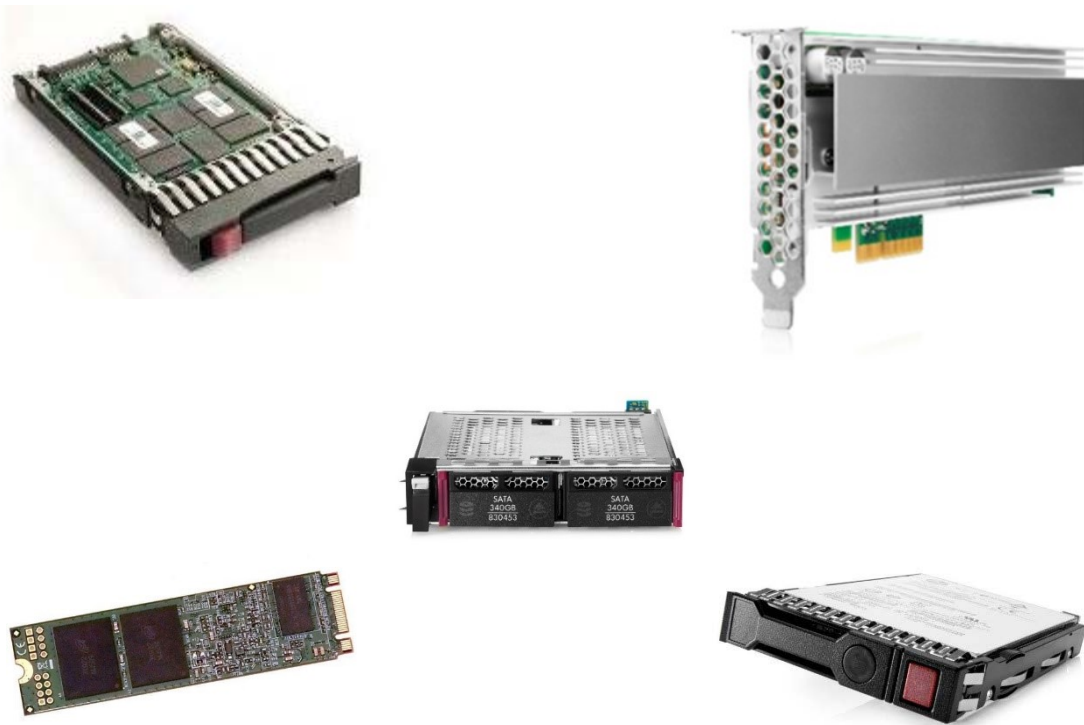## Overview

HPE Solid State Disk Drives
(SSD, AICs, M.2s and M.2 EKits)

HPE Solid State Drives (SSDs), Add-In-Cards, M.2s and M.2 Enablement Kits (EKits) are based upon industry leading NAND Flash technology, which delivers exceptional performance and endurance to support a growing broad spectrum of demanding applications with varying workload performance requirements.

These storage devices offer better I/O latency & more power efficient solutions when compared with traditional rotating (HDD) media, while also fitting seamlessly into existing HPE server & storage infrastructures, and are available in a number of form factors including: Small Form Factor (SFF), Large Form Factor (LFF), M.2, and PCIe/NVME Add-In-Cards (AIC).
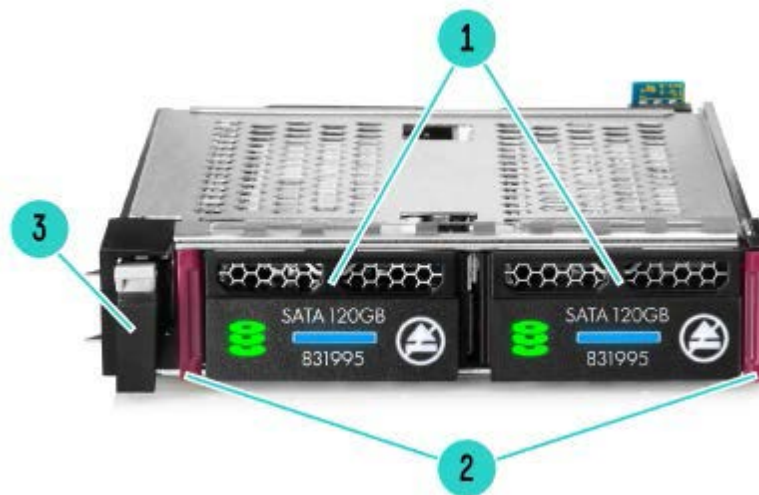
Overview

HPE M.2 Enablement Kits

M.2 Enablement Kit with Small Form Factor Flash Adapter with Dual uFF SSDs

The HPE M.2 Enablement Kit is a Small Form Factor (SFF) Flash Adapter that packages two 6G SATA M.2 Micro Form Factor (uFF) Sleds in a Dual Domain SFF Smart Drive bay which enables customers to install twice as many drives in an HPE server module when compared to standard SFF Smart Drive bays.

The HPE M.2 Enablement Kit with Small Form Factor Flash Adapter with Dual uFF SSDs increases flexibility, availability and serviceability for storage resources inside the server. The M.2 Enablement Kit with Small Form Factor Flash Adapter with Dual uFF SSDs option increases the composability of the server by enabling configurations that support a broader range of applications and workloads by providing up to 2 drives (2 x HPE SFF Dual uFF SSD options) within 1 drive bay, for example for higher drive performance, or when an on-line spare drive is needed. When higher application availability is required, customers can separate RAID1 mirror boot drives from the application. DATA availability is increased by being able to configure a RAID5 set, which also means more usable capacity.

Item Description

1) uFF SATA Drive Modules (hot pluggable)

2) uFF Drive Ejection Latches

3) Adapter Ejection Release Latch

Overview

What's New?

New Solid State Drives & Drive Option Kit(s):
- P10268-B21   HPE 6.4TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card
- P10266-B21   HPE 3.2TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card
- P10264-B21   HPE 1.6TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card
- P05976-B21   HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD
- P05980-B21   HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD
- P05986-B21   HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD
- P05994-B21   HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD
- P05924-B21   HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD
- P05928-B21   HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD
- P05932-B21   HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD
- P05938-B21   HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD
- P05946-B21   HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD
- P10446-B21   HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD
- P10444-B21   HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD
- P10442-B21   HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD
- P10440-B21   HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD
- P10448-B21   HPE 960GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD
- P10450-B21   HPE 960GB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Value SAS Digitally Signed Firmware SSD
- P10452-B21   HPE 960GB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD
- P10454-B21   HPE 1.92TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD
- P10456-B21   HPE 1.92TB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Value SAS Digitally Signed Firmware SSD
- P10458-B21   HPE 1.92TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD
- P10460-B21   HPE 3.84TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD
- P10462-B21   HPE 3.84TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD
- P12114-B21   HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD

Overview

HPE Solid State Drive Selector Tool – a web-based tool that dramatically reduces the time and complexity of selecting the right SSD for your demanding workloads. **http://ssd.hpe.com.**

Dramatically reduces the time to select the right SSD for your HPE Server
- Recommends the most appropriate SSDs for specific customer workloads
- Reduces selection time and eliminates complexity; sort by server model, price, & performance
- Ideal for customers, HPE Sales, and HPE channel partners
- Simple, web-based tool; user-friendly interface

Firmware Updates:
- HPE Digitally Signed Firmware Prevents unauthorized access to your data by providing the security and assurance that drive firmware comes from a trusted source and protects against malicious attacks. Digitally Signed Firmware is indicated by "DS" in the SKU description.
- For advanced data protection and encryption, customers should consider HPE Smart Array Controllers with HPE Smart Array Secure SR Encryption. It is a controller-based data encryption solution for HPE servers that protects data-at-rest on all SAS and SATA drives connected directly to the controller. This solution meets stringent compliance regulations such as HIPAA, FIPS, and Sarbanes-Oxley.

Minimally Supported Operating Systems for all SATA and SAS SSDs:
- Windows Server 2019
- Microsoft Windows Server 2008 (x86 and x64) SP2 and R2 w/SP1
    - Standard Edition
    - Datacenter
    - Enterprise Edition
    - Web Server
    - Embedded
- Microsoft Windows 2012 Server (x64) R2
- Microsoft Windows 2016 (RTM)
- Red Hat Enterprise Linux 6 (EM64T/AMD64)
- Red Hat Enterprise Linux 7 (EM64T/AMD64)
- SLES 11 (EM64T/AMD64) (includes XEN)
- SLES 12 (EM64T/AMD64) (includes XEN)
- VMware ESXi 5.5
- VMware ESXi 6.0

Overview

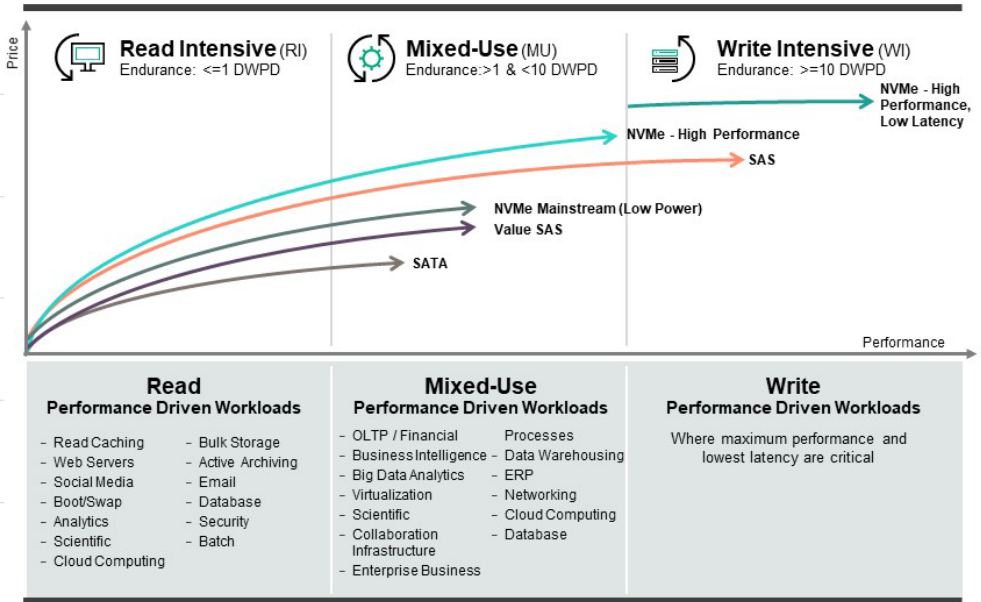## HPE Storage Options – SSD Portfolio Alignment

Figure 1 – SSD Portfolio Alignment

Overview

Our Solid State product categories include Solid State Drives, or SSDs.

We define enterprise-class as products that include full data path error detection and surprise power loss protection. In addition, our SSDs have HPE SmartSSD Wear Gauge support, which provides diagnostic information and reports on the health of any given drive.

HPE Enterprise SSDs are available in three categories based on the customer's application and workload level: Read Intensive (RI), Mixed Use (MU), and Write Intensive (WI). These categories indicate the number of drive writes per day (DWPD) that you can expect from the drive. (DWPD is the maximum number of 4K host writes to the entire drive capacity of the SSD per day over a five-year period).

Workloads such as Read caching, Web Servers, Social Media, and Boot are more Read Performance driven. Workloads such as Business Intelligence, Big Data Analytics, Virtualization tend to be more Write Performance driven.

Our Read Intensive SSDs are typically focused on Read Performance with an Endurance less than or equal to 1 full drive write per day. Our Write Intensive SSDs are focused on Write Performance with an Endurance of >=10 full drive writes per day (DWPD).
As an example, if we have an 800GB Write Intensive SSD with an endurance of 10 Drive Writes per Day, it means that customers can write to the entire 800GB capacity of that SSD 10 times per day, and the drive will last for 5 years. Positioned in-between RI and WI, we have products with Balanced Read and Write Performance that we call Mixed Use (MU), with an Endurance of typically ~3 DWPD.

HPE SATA SSDs deliver enterprise features at an affordable price in HPE servers. Entry-level pricing is fueling the rapid adoption of SSDs for read-intensive workloads, with the cost per IOPS comparing favorably to HDDs.

For customers looking to step up from SATA SSDs, HPE single-port Value SAS SSDs offer a significant performance boost over SATA SSDs with roughly twice the IOPS, and are typically lower in cost than traditional SAS SSD drives.

HPE full-performance SAS SSDs allow greater I/O bandwidth for superior performance over Value SAS SSDs, providing high write performance and endurance. They are best suited for mission-critical enterprise environments with workloads high in read and writes.

For customers looking for even more performance, High Performance Low Latency NVMe SSDs are a category of drives that offers a combination of high throughput, low latency, and ultra-high endurance. The first HPE SSDs using 3D XPoint technology*, these SSDs are optimized to break through data access bottlenecks by providing a new data storage tier. High Performance Low Latency NVMe SSDs accelerate applications for fast caching and fast storage to increase scale per server and reduce transaction costs for latency sensitive workloads.

Using the above information along with our **HPE SSD Selector Tool** you can quickly determine what SSD/AIC solution might best meet your needs. You can also compare specific capacity, performance attributes, and server compatibility.

Standard Features

What is a SSD?

An enduring data storage device utilizing NAND (negative-AND) semiconductor technology to store and access data which is volatile without the aid of an auxiliary power source.

SSD Quality

Today's businesses are seeing larger, more complex applications, coupled with an increasing amount of mission-critical and transaction processing data demand. In this environment, storage has become a critical component, significantly defining requirements for both systems reliability and performance. This is why HPE drives undergo a rigorous qualification process to ensure functionality and eliminate firmware and OS incompatibilities.

Integration

Many issues customers have with third party drives are "simple" integration issues. When buying from another supplier, there is no guarantee that a drive has been correctly set for proper operation with ProLiant servers and storage systems. These incompatibilities can create problems in configuration, can rob your system of performance, or at their worst, can cause you to lose data. HPE drives are specifically designed and tested for flawless operation in your HPE equipment. The integration of solid state drives in HPE systems means that associated components are right for your ProLiant server.

Support Matrix

Please see the following URL for the latest list of supported servers and enclosures:
https://www.hpe.com/us/en/servers.html

Product Category

HPE Enterprise SSDs are available in three categories based on workload level: Read Intensive (RI), Mixed Use (MU), and Write Intensive (WI). These categories indicate the number of drive writes per day (DWPD) that you can expect from the drive. (DWPD is the maximum number of 4K host writes to the entire drive capacity of the SSD per day over a five-year period).

Maximum Usage Limitations

NAND Flash devices use semiconductor technology that has a finite number of data that can be written to the device, defined as the Maximum Usage Limit, commonly called "Write Endurance". Write Endurance - is measured while running 100% random 4KiB writes across the entire SSD.

Drive Writes Per Day (DWPD) - Workload environment is based on 100% random 4KiB writes for five (5) years, which is the maximum amount of data that can be written to the device before reaching the device's write endurance limit.

HPE Solid State Drives (SSDs) are equipped with tools that can report the amount of lifetime remaining. Introducing HPE SMARTSSD Wear Gauge™. To take advantage of SMARTSSD Wear Gauge™, Smart Array Firmware version 5.0 or greater is required and HPE Array Configuration Utility (ACU) or HPE Diagnostic Utility (ADU) must be running.

Simple Network Management Protocol (SNMP) Storage Agents for both Microsoft® Windows® and Linux provide status and condition updates through traps, OS event logs and the HPE System **Management Homepage: https://www.hpe.com/us/en/product-catalog/detail/pip.hp-system-management-homepage-software.344313.html**

The HPE SMARTSSD Wear Gauge™ requires a Smart Array or Smart HBA controller listed below.
Standard Features
- HPE Smart Array PX1X Controller Series or newer
- HPE Smart HBA PX4X Controller Series
- HPE Dynamic Smart Array BX2Xi Controller Series or newer
- HPE Dynamic Smart Array B320i Controller

Standard Features

Data Retention

Data Retention is the period of time for retaining the data in the NAND once the maximum rated endurance level has occurred. These SSD's are rated for 3 months if no power is applied once the SSD has reached maximum rated write endurance.

Warranty

SSD & AIC Standard 3/0/0 warranty; Customer Self Repair (CSR) subject to maximum usage limitations. Maximum usage limit: This is the maximum amount of data that can be written to the drive. Drives that have reached this limit will not be eligible for warranty coverage.
NOTE: In cases where an M.2 SSD is used in conjunction with a Server Cartridge the Warranty includes 3-Year Parts, 3-Year Labor, 3-Year (3/3/3) Onsite support for that option only.

Service and Support

Service and Support

HPE Technology Services for Industry Standard Servers
HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability powered by a rich portfolio of consulting and support services designed to add value to our core products and solutions connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

Protect your business beyond warranty with HPE Support Services
HPE support services offer complete care and support expertise with committed response choices that are designed to meet your IT and business needs.
NOTE: HPE Solid State Drives are supported as a part of the HPE Server Infrastructure. No separate Support Services are needed to be purchased.

Connect your devices to HPE

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Achieve up to 77%[1] reduction in down time, near 100%[2] diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization.

All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support.
1. IDC Whitepaper
2. HPE CSC Reports 2014-2015

HPE Support Center

Personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with Hewlett Packard Enterprise experts, access support resources or collaborate with peers. Learn more **HPE Support Center**

HPE Support Center Mobile App allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

HPE Insight Remote Support and HPE Support Center are available at no additional cost with a Hewlett Packard Enterprise warranty, HPE Support Services or HPE contractual support agreement.
NOTE: HPE Support Center Mobile App above is subject to local availability.

Parts and materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

Service and Support

Warranty / Service Coverage

For ProLiant servers and storage systems, the service on the main product covers HPE-branded hardware options not designated by Hewlett Packard Enterprise as requiring separate coverage, that are qualified for the server, purchased at the same time or afterward and internal to the enclosure. These items will be covered at the same service level and for the same coverage period as the server unless the maximum supported lifetime and/or the maximum usage limitation has been reached.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction. It does not apply Disk or SSD/Flash Drives that have not failed. SSD/Flash Drives that are specified by Hewlett Packard Enterprise as consumable parts and/or that have reached maximum supported lifetime and/or the maximum usage limits as set forth in the manufacturer's operating manual, the product QuickSpecs, or the technical data sheet are not eligible for the defective media retention service feature option.

Subject to: Maximum supported lifetime: This is a period in years set to equal the warranty for the specific drive. After this period no further service coverage will be available for the drive. Maximum usage limit: This is the maximum amount of data that can be written to the drive. Drives that have reached this limit will not be eligible for services coverage.

Additional Notes Regarding Usage and Wear:
- DWPD (Drive-Writes-Per Day) ->Full drive writes per day for 5 years. Based on 100% Random Writes (KiB).

- HPE Enterprise SSDs deliver: Full data path error detection, surprise power loss protection and Smart SSD Wear Gauge support.

For more information

To learn more on services for HPE ESSN Options, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Or visit:
https://www.hpe.com/us/en/product-catalog/servers/proliant-servers.html or
 https://www.hpe.com/us/en/integrated-systems/bladesystem.html

Supporting Helpful Links
http://www.hpe.com/info/rackandpower
http://www.hpe.com/info/poweradvisor
http://www.hpe.com/info/infrastructurearchitect
https://www.hpe.com/us/en/storage/entry-level.html

Also:
Take control of your data - A guide to understanding storage technologies.
http://www.hpe.com/h20195/V2/getpdf.aspx/4AA4-7667ENW.pdf?ver=1.0

Parts and Materials	Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.
	Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.
	The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

Technical Specifications

SATA Interface– (Capacity, Workload, Carrier...)										
HPE Option Kit SKU	**Long Description**	**Capacity**	**Workload Type**	**Interface Type**	**Form Factor**	**Plug Type**	**Carrier Type**	**Digitally Signed Firmware (DS)**	**Flash Type**	**Server Gen Supported (Select Platforms)**
875488-B21	HPE 240GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	240	MU	SATA	M.2	#N/A	#N/A	Yes	TLC	Gen9 & 10
875490-B21	HPE 480GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	480	MU	SATA	M.2	#N/A	#N/A	Yes	TLC	Gen9 & 10
875492-B21	HPE 960GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	960	MU	SATA	M.2	#N/A	#N/A	Yes	TLC	Gen9 & 10
P00896-B21	HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,840	MU	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen9 & 10
P05976-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	480	MU	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10
P05980-B21	HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	960	MU	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10
P05986-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,920	MU	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10
P05994-B21	HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,840	MU	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10
P06607-B21	HPE Dual 240GB SATA 6G Mixed Use M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	480	MU	SATA	SFF	Hot Plug	SCM	Yes	MLC	Gen9 & 10
P07922-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	480	MU	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P07924-B21	HPE 480GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	480	MU	SATA	LFF	Hot Plug	SCC	Yes	TLC	Gen9 & 10
P07926-B21	HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	960	MU	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P07928-B21	HPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	960	MU	SATA	LFF	Hot Plug	SCC	Yes	TLC	Gen9 & 10
P07930-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,920	MU	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P07932-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	1,920	MU	SATA	LFF	Hot Plug	SCC	Yes	TLC	Gen9 & 10

Technical Specifications

SATA Interface– (Capacity, Workload, Carrier…)										
HPE Option Kit SKU	**Long Description**	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Server Gen Supported (Select Platforms)
P07934-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	1,920	MU	SATA	LFF	Hot Plug	LPC	Yes	TLC	Gen9 & 10
P07936-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	1,920	MU	SATA	SFF	Non-Hot Plug	RW	Yes	TLC	Gen9 & 10
P09712-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	480	MU	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P09716-B21	HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	960	MU	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P09718-B21	HPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	960	MU	SATA	LFF	Hot Plug	SCC	Yes	MLC	Gen9, 10
P09722-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,920	MU	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P09724-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	1,920	MU	SATA	LFF	Hot Plug	SCC	Yes	MLC	Gen9, 10
P09726-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	1,960	MU	SATA	LFF	Hot Plug	LPC	Yes	MLC	Gen9, 10
875498-B21	HPE 480GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	480	RI	SATA	M.2	#N/A	#N/A	Yes	TLC	Gen9 & 10
875500-B21	HPE 960GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	960	RI	SATA	M.2	#N/A	#N/A	Yes	TLC	Gen9 & 10
875503-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	240	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P04474-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	480	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P04476-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	960	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10

Technical Specifications

SATA Interface– (Capacity, Workload, Carrier...)										
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Server Gen Supported (Select Platforms)
P04478-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,920	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P04480-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,840	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P04482-B21	HPE 7.68TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	7,680	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P04499-B21	HPE 480GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	480	RI	SATA	LFF	Hot Plug	LPC	Yes	TLC	Gen9 & 10
P04501-B21	HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	1,920	RI	SATA	LFF	Hot Plug	LPC	Yes	TLC	Gen9 & 10
P04556-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	240	RI	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10
P04560-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	480	RI	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10
P04564-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	960	RI	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10
P04566-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,920	RI	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10
P04570-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,840	RI	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10
P05924-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	240	RI	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10

Technical Specifications

SATA Interface– (Capacity, Workload, Carrier...)										
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Server Gen Supported (Select Platforms)
P05928-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	480	RI	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10
P05932-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	960	RI	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10
P05938-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,920	RI	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10
P05946-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,840	RI	SATA	SFF	Hot Plug	SC	Yes	MLC	Gen10
P06194-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	480	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P06196-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	960	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P06198-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,920	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P06200-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,840	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P06609-B21	HPE Dual 480GB SATA 6G Read Intensive M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	960	RI	SATA	SFF	Hot Plug	SCM	Yes	MLC	Gen9 & 10
P09685-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	240	RI	SATA	SFF	Non-Hot Plug	RW	Yes	MLC	Gen9, 10
P09687-B21	HPE 480GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	480	RI	SATA	LFF	Hot Plug	SCC	Yes	MLC	Gen9, 10

Technical Specifications

SATA Interface– (Capacity, Workload, Carrier...)										
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Server Gen Supported (Select Platforms)
P09689-B21	HPE 960GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	960	RI	SATA	LFF	Hot Plug	SCC	Yes	MLC	Gen9, 10
P09691-B21	HPE 960GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	960	RI	SATA	LFF	Hot Plug	LPC	Yes	MLC	Gen9, 10
P09693-B21	HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	1,920	RI	SATA	LFF	Hot Plug	SCC	Yes	MLC	Gen9, 10
P09697-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	3,840	RI	SATA	SFF	Non-Hot Plug	RW	Yes	MLC	Gen9, 10
875498-B21	HPE 480GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	480	RI	SATA	M.2	#N/A	#N/A	Yes	TLC	Gen9 & 10
875500-B21	HPE 960GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	960	RI	SATA	M.2	#N/A	#N/A	Yes	TLC	Gen9 & 10
875503-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	240	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
878783-B21	HPE Universal SATA HHHL 3yr Wty M.2 Kit	NA	NA	SATA	M.2e	Non-Hot Plug	AIC	Yes	#N/A	Gen9 & 10

NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

Technical Specifications

SATA Interface – (Speeds & Feeds)							
HPE Option Kit SKU	**Long Description**	**Lifetime Writes (TB)**	**Endurance DWPD**	**MAX Seq Reads / Max Seq Writes Through-put (MiB/s)**	**Random Read Avg. / Random Write Avg. Latency uSec (4KiB,Q1)**	**Random Read / Random Writes IOPS (4KiB, Q=16)**	**MAX Random Read / MAX Random Write IOPS (4KiB)**
875488-B21	HPE 240GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	650	1.5	500 / 260	135 / 40	60,000 / 34,000	66,000@Q32 / 34,000@Q4
875490-B21	HPE 480GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	1,300	1.5	500 / 400	130 / 40	60,000 / 34,000	68,000@Q32 / 34,000@Q4
875492-B21	HPE 960GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	4,400	2.6	500 / 465	130 / 40	60,000 / 30,000	68,000@Q32 / 30,000@Q4
P00896-B21	HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	17,600	2.6	510 / 490	125 / 40	56,000 / 28,000	60,000@Q32 / 28,000@Q4
P05976-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,000	3.5	530 / 480	110 / 52	68,000 / 40,000	76,000@Q32 / 42,000@Q32
P05980-B21	HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	6,000	3.4	530 / 480	110 / 50	68,000 / 41,000	76,000@Q32 / 43,000@Q32
P05986-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	10,000	3.1	525 / 480	110 / 52	69,000 / 38,000	76,000@Q32 / 41,000@Q32
P05994-B21	HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	22,000	3.1	525 / 480	110 / 55	69,000 / 36,000	76,000@Q32 / 38,000@Q32
P06607-B21	HPE Dual 240GB SATA 6G Mixed Use M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	NA	NA	NA / NA	NA / NA	NA / NA	NA \ NA
P07922-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	4,380	5.0	520 / 445	125 / 36	66,000 / 52,500	73,500@Q32 \ 52,500@Q16
P07924-B21	HPE 480GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	4,380	5.0	520 / 445	125 / 36	66,000 / 52,500	73,500@Q32 \ 52,500@Q16
P07926-B21	HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	8,760	5.0	520 / 495	NA / NA	63,000 / 52,500	64,500@Q32 \ 52,500@Q16
P07928-B21	HPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	8,760	5.0	520 / 495	125 / 36	63,000 / 52,500	64,500@Q32 \ 52,500@Q16
P07930-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	17,500	5.0	520 / 495	125 / 36	59,000 / 52,500	62,000@Q32 \ 52,500@Q16
P07932-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	17,500	5.0	520 / 495	125 / 36	59,000 / 52,500	62,000@Q32 \ 52,500@Q16

Technical Specifications

SATA Interface – (Speeds & Feeds)								
HPE Option Kit SKU	**Long Description**	**Lifetime Writes (TB)**	**Endurance DWPD**	**MAX Seq Reads / Max Seq Writes Through-put (MiB/s)**	**Random Read Avg. / Random Write Avg. Latency uSec (4KiB,Q1)**	**Random Read / Random Writes IOPS (4KiB, Q=16)**	**MAX Random Read / MAX Random Write IOPS (4KiB)**
P07934-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	17,500	5.0	520 / 495	125 / 26	59,000 / 52,500	62,000@Q32 \ 52,500@Q16
P07936-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	17,500	5.0	520 / 495	125 / 36	59,000 / 52,500	62,000@Q32 \ 52,500@Q16
P09712-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,000	3.5	535 / 495	91 / 36	70,000 / 29,000	80,000@Q32 \ 29,000@Q4
P09716-B21	HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	6,000	3.5	535 / 495	91 / 36	70,000 / 31,000	80,000@Q32 \ 31,000@Q4
P09718-B21	HPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	6,000	3.5	535 / 495	91 / 36	70,000 / 31,000	80,000@Q32 \ 31,000@Q4
P09722-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	12,100	3.5	535 / 495	91 / 36	70,000 / 31,000	80,000@Q32 \ 31,000@Q4
P09724-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	12,100	3.5	535 / 495	91 / 36	70,000 / 31,000	80,000@Q32 \ 31,000@Q4
P09726-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	12,100	3.5	535 / 495	91 / 36	70,000 / 31,000	80,000@Q32 \ 31,000@Q4
875498-B21	HPE 480GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	450	0.5	500 / 425	130 / 40	61,000 / 46,000	67,000@Q32 / 46,000@Q64
875500-B21	HPE 960GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	900	0.5	500 / 465	130 / 40	61,000 / 41,000	67,000@Q32 / 41,000@Q4
875503-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	650	1.5	505 / 260	125 / 40	62,500 / 33,000	69,500@Q32 / 33,000@Q4
P04474-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	870	0.5	520 / 370	125 / 37	65,000 / 34,000	76,000@Q32 / 35,000@Q32
P04476-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,750	1.0	520 / 490	125 / 40	65,000 / 29,000	69,000@Q32 / 32,000@Q32

Technical Specifications

SATA Interface – (Speeds & Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes Through-put (MiB/s)	Random Read Avg. / Random Write Avg. Latency uSec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P04478-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,500	1.0	520 / 495	125 /41	60,000 / 24,000	62,000@Q32 / 25,000@Q32
P04480-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	7,700	1.1	520 / 495	125 /45	55,000 / 21,000	58,000@Q32 / 22,000@Q4
P04482-B21	HPE 7.68TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	8,400	0.6	520 / 495	125 /100	54,000 / 10,000	57,000@Q32 / 10,000@Q1
P04499-B21	HPE 480GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	870	0.5	520 / 370	125 / 37	65,000 / 34,000	76,000@Q32 / 35,000@Q32
P04501-B21	HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	3,500	1.0	520 / 495	125 / 41	60,000 / 24,000	62,000@Q32 / 25,000@Q32
P04556-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	350	0.8	535 / 315	105 / 70	70,000 / 14,000	"79,000@Q32 / 14,000@Q1"
P04560-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	700	0.8	535 / 495	105 / 40	68,000 / 25,000	77,000@Q32 / 25,000@Q1
P04564-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,400	0.8	535 / 495	105 / 36	65,000 / 29,000	76,000@Q32 / 29,000@Q4
P04566-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	2,800	0.8	535 / 495	120 / 36	64,000 / 30,000	73,000@Q32 / 30,000@Q4
P04570-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	5,600	0.8	535 / 495	120 / 36	63,000 / 30,000	72,000@Q32 / 30,000@Q4
P05924-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	900	1.9	530 / 255	110 / 65	66,000 / 16,000	76,000@Q32 / 16,500@Q4

Technical Specifications

SATA Interface – (Speeds & Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes Through-put (MiB/s)	Random Read Avg. / Random Write Avg. Latency uSec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P05928-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,200	1.3	530 / 465	110 / 75	68,000 / 17,500	76,000@Q32 / 19,000@Q4
P05932-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,400	1.9	525 / 480	110 / 60	68,000 / 33,000	76,000@Q32 / 35,000@Q32
P05938-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	7,100	2.0	530 / 480	110 / 60	69,000 / 33,000	76,000@Q32 / 34,000@Q32
P05946-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	13,100	1.9	525 / 480	110 / 65	69,000 / 28,000	76,000@Q32 / 30,500@Q32
P06194-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	430	0.5	530 / 300	120 / 65	65,000 / 15,000	65,500@Q32 / 15,400@Q1
P06196-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,710	1.0	530 / 480	120 / 42	58,500 / 36,500	58,500@Q32 / 38,200@Q16
P06198-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,100	0.9	530 / 470	120 / 42	55,500 / 31,000	56,000@Q32 \ 32,500@Q4
P06200-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,400	0.5	530 / 480	120 / 42	54,000 / 26,000	56,000@Q32 \ 25,000@Q4
P06609-B21	HPE Dual 480GB SATA 6G Read Intensive M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	NA	NA	NA / NA	NA / NA	NA / NA	NA \ NA
P09685-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	250	0.8	535 / 315	105 / 70	70,000 / 14,000	79,000@Q32 \ 14,000@Q1
P09687-B21	HPE 480GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	700	0.8	535 / 495	105 / 40	68,000 / 25,000	77,000@Q32 \ 25,000@Q1

Technical Specifications

SATA Interface – (Speeds & Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes Through-put (MiB/s)	Random Read Avg. / Random Write Avg. Latency uSec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P09689-B21	HPE 960GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	1,400	0.8	535 / 495	105 / 36	65,000 / 29,000	76,000@Q32 \ 29,000@Q4
P09691-B21	HPE 960GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	1,400	0.8	535 / 495	105 / 36	65,000 / 29,000	76,000@Q32 \ 29,000@Q4
P09693-B21	HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	2,400	0.8	535 / 495	120 / 36	64,000 / 30,000	73,000@Q32 \ 30,000@Q4
P09697-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	5,600	0.8	535 / 495	120 / 36	63,000 / 30,000	72,000@Q32 \ 30,000@Q4
878783-B21	HPE Universal SATA HHHL 3yr Wty M.2 Kit	NA	NA	NA / NA	NA / NA	NA / NA	NA / NA
NOTE: Please use HPE Selector Tool http://ssd.hpe.com/ to determine server compatibility							

Technical Specifications

HPE Option Kit SKU	Long Description	Power Idle Time	Power Random Read (Watts)	Power Random Write (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z- Height
SATA Interface – (Power & Height)									
875488-B21	HPE 240GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	1.07	3.00	3.00	3.21	3.90	2.95	4.00	2280 M.2
875490-B21	HPE 480GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	1.07	3.02	3.02	3.42	4.03	3.00	5.00	2280 M.2
875492-B21	HPE 960GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	1.07	3.17	3.17	3.82	5.62	3.10	6.00	2280 M.2
P00896-B21	HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	0.50	3.07	3.07	1.23	3.92	3.07	4.00	7mm
P05976-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.31	2.94	2.94	2.32	3.33	2.94	4.00	7mm
P05980-B21	HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.37	2.79	2.79	2.36	3.23	2.79	4.00	7mm
P05986-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.37	3.04	3.04	2.32	3.30	3.04	4.00	7mm
P05994-B21	HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.36	3.11	3.11	2.36	3.74	3.11	4.00	7mm
P06607-B21	HPE Dual 240GB SATA 6G Mixed Use M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	2.00	2.84	2.84	3.90	5.74	2.84	6.00	7mm
P07922-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.50	2.00	2.00	4.00	6.00	2.00	6.00	7mm
P07924-B21	HPE 480GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	1.50	2.00	2.00	4.00	6.00	2.00	6.00	7mm
P07926-B21	HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.50	2.30	2.30	4.20	6.30	2.30	6.30	7mm
P07928-B21	HPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	1.50	2.30	2.30	4.20	6.30	2.30	6.30	7mm
P07930-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.50	3.10	3.10	5.40	6.80	3.10	6.80	7mm
P07932-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	1.50	3.10	3.10	5.40	6.80	3.10	6.80	7mm

Technical Specifications

SATA Interface – (Power & Height)									
HPE Option Kit SKU	**Long Description**	**Power Idle Time**	**Power Random Read (Watts)**	**Power Random Write (Watts)**	**Power Sequential Read (Watts)**	**Power Sequential Write (Watts)**	**Power Random R/W (Watts)**	**Power MAX (Watts)**	**z- Height**
P07934-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	1.50	3.10	3.10	5.40	6.80	3.10	6.80	7mm
P07936-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	1.50	3.10	3.10	5.40	6.80	3.10	6.80	7mm
P09712-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.12	2.55	2.55	1.86	2.16	2.55	2.16	7mm
P09716-B21	HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.12	2.57	2.57	1.86	2.18	2.57	2.18	7mm
P09718-B21	HPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	1.12	2.57	2.57	1.86	2.18	2.57	2.18	7mm
P09722-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.12	2.60	2.60	1.89	2.22	2.60	1.89	7mm
P09724-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	1.12	2.60	2.60	1.89	2.22	2.60	1.89	7mm
P09726-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	1.12	2.60	2.60	1.89	2.22	2.60	1.89	7mm
875498-B21	HPE 480GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	1.07	3.02	3.02	3.42	4.03	3.00	5.00	2280 M.2
875500-B21	HPE 960GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	1.07	3.17	3.17	3.82	5.62	3.10	6.00	2280 M.2
875503-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.07	3.00	3.00	3.21	3.90	2.95	4.00	7mm
P04474-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.50	2.00	2.00	4.00	6.00	2.00	6.00	7mm
P04476-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.50	2.00	2.00	4.00	6.00	2.00	6.00	7mm

Technical Specifications

SATA Interface – (Power & Height)									
HPE Option Kit SKU	**Long Description**	**Power Idle Time**	**Power Random Read (Watts)**	**Power Random Write (Watts)**	**Power Sequential Read (Watts)**	**Power Sequential Write (Watts)**	**Power Random R/W (Watts)**	**Power MAX (Watts)**	**z- Height**
P04478-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.50	2.30	2.30	4.20	6.30	2.30	6.30	7mm
P04480-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.50	2.30	2.30	4.20	6.30	2.30	6.30	7mm
P04482-B21	HPE 7.68TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.50	3.10	3.10	5.40	6.80	3.10	6.80	7mm
P04499-B21	HPE 480GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	1.50	3.10	3.10	5.40	6.80	3.10	6.80	7mm
P04501-B21	HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	1.50	3.10	3.10	5.40	6.80	3.10	6.80	7mm
P04556-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.12	2.11	2.11	1.84	1.84	2.11	3.00	7mm
P04560-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.12	2.29	2.29	1.89	2.50	2.29	3.00	7mm
P04564-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.12	2.33	2.33	1.93	2.63	2.33	3.00	7mm
P04566-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.12	2.35	2.35	1.78	2.65	2.35	3.00	7mm
P04570-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.12	2.21	2.21	1.78	2.65	2.21	3.00	7mm
P05924-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.23	2.48	2.48	2.21	2.44	2.48	3.00	7mm

Technical Specifications

HPE Option Kit SKU	Long Description	Power Idle Time	Power Random Read (Watts)	Power Random Write (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z- Height
SATA Interface – (Power & Height)									
P05928-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.27	2.92	2.92	2.26	3.15	2.92	4.00	7mm
P05932-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.35	3.02	3.02	2.30	3.18	3.02	4.00	7mm
P05938-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.35	3.15	3.15	2.36	3.31	3.15	4.00	7mm
P05946-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.11	3.46	3.46	2.47	3.88	3.46	4.00	7mm
P06194-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	0.78	1.61	1.61	1.68	1.90	1.61	2.00	7mm
P06196-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	0.78	1.61	1.61	1.69	2.35	1.61	3.00	7mm
P06198-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	0.81	1.67	1.67	1.77	2.41	1.67	3.00	7mm
P06200-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	0.90	1.87	1.87	2.08	2.68	1.87	3.00	7mm
P06609-B21	HPE Dual 480GB SATA 6G Read Intensive M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	2.00	2.84	2.84	3.90	5.74	2.84	6.00	7mm
P09685-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	1.23	2.11	2.11	1.84	2.23	2.11	2.23	7mm
P09687-B21	HPE 480GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	1.23	2.29	2.29	1.89	2.50	2.29	2.50	7mm

Technical Specifications

SATA Interface – (Power & Height)									
HPE Option Kit SKU	**Long Description**	**Power Idle Time**	**Power Random Read (Watts)**	**Power Random Write (Watts)**	**Power Sequential Read (Watts)**	**Power Sequential Write (Watts)**	**Power Random R/W (Watts)**	**Power MAX (Watts)**	**z- Height**
P09689-B21	HPE 960GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	1.23	2.33	2.33	1.93	2.63	2.33	2.63	7mm
P09691-B21	HPE 960GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	1.23	2.33	2.33	1.93	2.63	2.33	2.63	7mm
P09693-B21	HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	1.23	2.22	2.22	1.78	2.65	2.22	2.65	7mm
P09697-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	1.23	2.21	2.21	1.78	2.65	2.21	2.65	7mm
878783-B21	HPE Universal SATA HHHL 3yr Wty M.2 Kit	NA	NA	NA	NA	NA	NA	0.00	Half Height/Half Length
NOTE: Please use HPE Selector Tool http://ssd.hpe.com/ to determine server compatibility									

Technical Specifications

HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification (Watts)	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
SATA Interface – (Certifications)						
875488-B21	HPE 240GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
875490-B21	HPE 480GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
875492-B21	HPE 960GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
P00896-B21	HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
P05976-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Certified	Certified
P05980-B21	HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Certified	Certified
P05986-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Certified	Certified
P05994-B21	HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Certified	Certified
P06607-B21	HPE Dual 240GB SATA 6G Mixed Use M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	NA	Certified	NA	Certified	Certified
P07922-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P07924-B21	HPE 480GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P07926-B21	HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P07928-B21	HPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P07930-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified

Technical Specifications

SATA Interface – (Certifications)						
HPE Option Kit SKU	**Long Description**	**VMWare / vSAN HCL Certification (Watts)**	**Microsoft Windows Server 2016 Certification**	**Software Defined Data Center (SDDC) Premium AQ Certification**	**Microsoft Windows Server 2019 Certification**	**WS 2019 Software Defined Data Center (SDDC)**
P07932-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P07934-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P07936-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P09712-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P09716-B21	HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P09718-B21	HPE 960GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P09722-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P09724-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P09726-B21	HPE 1.92TB SATA 6G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
875488-B21	HPE 240GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
875490-B21	HPE 480GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
875492-B21	HPE 960GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
P00896-B21	HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
P05976-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Certified	Certified

Technical Specifications

SATA Interface – (Certifications)

HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification (Watts)	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
P05980-B21	HPE 960GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Certified	Certified
P05986-B21	HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Certified	Certified
P05994-B21	HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Certified	Certified
P06607-B21	HPE Dual 240GB SATA 6G Mixed Use M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	NA	Certified	NA	Certified	Certified
P07922-B21	HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
875498-B21	HPE 480GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
875500-B21	HPE 960GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
875503-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
P04474-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P04476-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P04478-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P04480-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified

Technical Specifications

SATA Interface – (Certifications)						
HPE Option Kit SKU	**Long Description**	**VMWare / vSAN HCL Certification (Watts)**	**Microsoft Windows Server 2016 Certification**	**Software Defined Data Center (SDDC) Premium AQ Certification**	**Microsoft Windows Server 2019 Certification**	**WS 2019 Software Defined Data Center (SDDC)**
P04482-B21	HPE 7.68TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P04499-B21	HPE 480GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P04501-B21	HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	Certified	certified	pending	NA	NA
P04556-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Pending	Certified	Pending	Pending	Pending
P04560-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P04564-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P04566-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P04570-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	NA	NA	NA	Pending	Pending
P05924-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Certified	Certified
P05928-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Certified	Certified
P05932-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Certified	Certified

Technical Specifications

SATA Interface – (Certifications)						
HPE Option Kit SKU	**Long Description**	**VMWare / vSAN HCL Certification (Watts)**	**Microsoft Windows Server 2016 Certification**	**Software Defined Data Center (SDDC) Premium AQ Certification**	**Microsoft Windows Server 2019 Certification**	**WS 2019 Software Defined Data Center (SDDC)**
P05938-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	NA	NA	NA	NA	NA
P05946-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Certified	Certified
P06194-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P06196-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P06198-B21	HPE 1.92TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P06200-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P06609-B21	HPE Dual 480GB SATA 6G Read Intensive M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	NA	Certified	NA	Certified	Certified
P09685-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	Pending	Certified	Pending	NA	NA
P09687-B21	HPE 480GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P09689-B21	HPE 960GB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P09691-B21	HPE 960GB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	Certified	certified	Pending	NA	NA

Technical Specifications

SATA Interface – (Certifications)						
HPE Option Kit SKU	**Long Description**	**VMWare / vSAN HCL Certification (Watts)**	**Microsoft Windows Server 2016 Certification**	**Software Defined Data Center (SDDC) Premium AQ Certification**	**Microsoft Windows Server 2019 Certification**	**WS 2019 Software Defined Data Center (SDDC)**
P09693-B21	HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P09697-B21	HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	NA	NA	NA	NA	NA
878783-B21	HPE Universal SATA HHHL 3yr Wty M.2 Kit	NA	NA	NA	NA	NA
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.						

Technical Specifications

HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Server Gen Supported (Select Platforms)
SAS Interface – (Capacity, Workload, Carrier...)										
P04541-B21	HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	400	WI	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P04543-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	800	WI	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P04545-B21	HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,600	WI	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P04547-B21	HPE 3.2TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,200	WI	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P04558-B21	HPE 400GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD	400	WI	SAS	SFF	Hot Plug	ST	Yes	MLC	Gen9, 10
P04562-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD	800	WI	SAS	SFF	Hot Plug	ST	Yes	MLC	Gen9, 10
P09098-B21	HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	400	WI	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P09100-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	800	WI	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P09102-B21	HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,600	WI	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P04525-B21	HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	400	MU	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P04527-B21	HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	800	MU	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P04529-B21	HPE 800GB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	800	MU	SAS	LFF	Hot Plug	SCC	Yes	MLC	Gen9, 10

Technical Specifications

HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Server Gen Supported (Select Platforms)
SAS Interface – (Capacity, Workload, Carrier...)										
P04531-B21	HPE 800GB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	800	MU	SAS	LFF	Hot Plug	LPC	Yes	MLC	Gen9, 10
P04533-B21	HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,600	MU	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P04535-B21	HPE 1.6TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	1,600	MU	SAS	LFF	Hot Plug	LPC	Yes	MLC	Gen9, 10
P04537-B21	HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,200	MU	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P04539-B21	HPE 6.4TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	6,400	MU	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P09088-B21	HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	440	MU	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P09090-B21	HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	800	MU	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P09092-B21	HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,600	MU	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P09094-B21	HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,200	MU	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P09096-B21	HPE 6.4TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	6,400	MU	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P04517-B21	HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	960	RI	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P04519-B21	HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,920	RI	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P04521-B21	HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,840	RI	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10

Technical Specifications

SAS Interface – (Capacity, Workload, Carrier…)										
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Server Gen Supported (Select Platforms)
P04523-B21	HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	7,680	RI	SAS	SFF	Hot Plug	SC	Yes	MLC	Gen9, 10
P06584-B21	HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	960	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P06586-B21	HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,920	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P06588-B21	HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,840	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P06590-B21	HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	7,680	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P06592-B21	HPE 15.3TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	15,300	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.										

Technical Specifications

SAS Interface – (Speeds & Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes Throughput	Random Read Avg. / Random Write Avg. Latency uSec	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P04541-B21	HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	7,300	10.0	1,075 / 1,030	135 / 35	104,000 / 115,000	165,000@Q32 / 115,000@Q16
P04543-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	14,600	10.0	1,075 / 1,030	135 / 35	109,000 / 120,000	165,000@Q32 / 120,000@Q16
P04545-B21	HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	29,200	10.0	1,075 / 1,030	135 / 35	110,000 / 120,000	165,000@Q32 / 120,000@Q16
P04547-B21	HPE 3.2TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	58,400	10.0	1,075 / 1,030	135 / 35	110,000 / 120,000	165,000@Q32 / 120,000@Q16
P04558-B21	HPE 400GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD	7,300	10.0	1,075 / 1,030	135 / 35	104,000 / 115,000	165,000@Q32 / 115,000@Q16
P04562-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD	14,600	10.0	1,075 / 1,030	135 / 35	109,000 / 120,000	165,000@Q32 / 120,000@Q16
P09098-B21	HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	7,000	10.0	1,095 / 1,015	100 / 33	140,000 / 120,000	210,000@Q32 \ 120,000@Q16
P09100-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	15,000	10.0	1,095 / 1,045	100 / 33	130,000 / 120,000	210,000@Q32 \ 120,000@Q16
P09102-B21	HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	29,000	10.0	1,095 / 1,045	100 / 33	130,000 / 120,000	210,000@Q32 \ 125,000@Q16
P04525-B21	HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	2,190	3.0	1,070 / 670	135 / 35	95,000 / 70,000	165,000@Q64 / 70,000@Q4

Technical Specifications

SAS Interface – (Speeds & Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes Throughput	Random Read Avg. / Random Write Avg. Latency uSec	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P04527-B21	HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	4,380	3.0	1,075 / 1,030	135 / 35	104,000 / 85,000	165,000@Q32 / 85,000@Q16
P04529-B21	HPE 800GB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	4,380	3.0	1,075 / 1,030	135 / 35	104,000 / 85,000	165,000@Q32 / 85,000@Q16
P04531-B21	HPE 800GB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	4,380	3.0	1,075 / 1,030	135 / 35	104,000 / 85,000	165,000@Q32 / 85,000@Q16
P04533-B21	HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	8,760	3.0	1,075 / 1,030	135 / 35	109,000 / 105,000	165,000@Q32 / 105,000@Q16
P04535-B21	HPE 1.6TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	8,760	3.0	1,075 / 1,030	135 / 35	109,000 / 105,000	165,000@Q32 / 105,000@Q16
P04537-B21	HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	17,520	3.0	1,075 / 1,030	135 / 35	110,000 / 110,000	165,000@Q32 / 110,000@Q16
P04539-B21	HPE 6.4TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	35,040	3.0	1,075 / 1,030	135 / 35	113,000 / 105,000	165,000@Q32 / 108,000@Q16
P09088-B21	HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	2,000	3.0	1,095 / 620	100 / 33	125,000 / 100,000	210,000@Q64 \ 104,000@Q16
P09090-B21	HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	4,500	3.0	1,095 / 1,010	100 / 34	130,000 / 123,000	210,000@Q32 \ 124,000@Q16
P09092-B21	HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	8,500	3.0	1,095 / 1,045	100 / 33	130,000 / 123,000	210,000@Q32 \ 124,000@Q16
P09094-B21	HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	17,500	3.0	1,095 / 1,045	100 / 34	140,000 / 123,000	210,000@Q32 \ 124,000@Q16

Technical Specifications

SAS Interface – (Speeds & Feeds)							
HPE Option Kit SKU	**Long Description**	**Lifetime Writes (TB)**	**Endurance DWPD**	**MAX Seq Reads / Max Seq Writes Throughput**	**Random Read Avg. / Random Write Avg. Latency uSec**	**Random Read / Random Writes IOPS (4KiB, Q=16)**	**MAX Random Read / MAX Random Write IOPS (4KiB)**
P09096-B21	HPE 6.4TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	35,000	3.0	1,095 / 1,045	100 / 34	140,000 / 123,000	210,000@Q32 \ 124,000@Q16
P04517-B21	HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,752	1.0	1,075 / 1,030	135 / 35	104,000 / 47,000	165,000@Q32 / 47,000@Q4
P04519-B21	HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,504	1.0	1,075 / 1,030	135 / 35	109,000 / 54,000	165,000@Q32 / 54,000@Q4
P04521-B21	HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	7,008	1.0	1,075 / 1,030	135 / 35	110,000 / 54,000	165,000@Q32 / 54,000@Q4
P04523-B21	HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	14,016	1.0	1,075 / 1,030	135 / 35	110,000 / 48,000	165,000@Q32 / 48,000@Q4
P06584-B21	HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1,752	1.0	1,080 / 1,030	105 / 34	120,000 / 32,000	180,000@Q64 \ 32,000@Q4
P06586-B21	HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3,504	1.0	1,080 / 1,030	105 /34	120,000 / 48,000	180,000@Q64 \ 48,000@Q4
P06588-B21	HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	7,008	1.0	1,080 / 1,030	105 / 34	115,000 / 55,000	180,000@Q64 \ 55,000@Q4
P06590-B21	HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	14,016	1.0	1,080 / 1,030	120 /34	113,000 / 67,000	180,000@Q64 \ 67,000@Q4
P06592-B21	HPE 15.3TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	28,032	1.0	1,080 / 1,030	120 / 35	110,000 / 58,000	178,000@Q64 \ 58,000@Q16
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.							

Technical Specifications

SAS Interface – (Power & Height)									
HPE Option Kit SKU	Long Description	Power Idle Time (Watts)	Power Random Read (Watts)	Power Random Write (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z- Height
P04541-B21	HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	4.20	4.82	4.82	6.21	5.75	4.82	6.21	15mm
P04543-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	4.26	4.97	4.97	6.71	6.95	4.97	6.71	15mm
P04545-B21	HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	5.00	6.00	6.00	6.98	6.98	5.43	8.98	15mm
P04547-B21	HPE 3.2TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	5.00	6.17	6.17	8.56	8.56	5.90	8.56	15mm
P04558-B21	HPE 400GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD	4.20	4.82	4.82	6.21	5.75	4.82	6.21	15mm
P04562-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD	4.26	4.97	4.97	6.71	6.95	4.97	6.71	15mm
P09098-B21	HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3.00	5.22	5.22	4.07	5.74	5.22	5.74	15mm
P09100-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3.00	5.55	5.55	4.52	6.92	5.55	6.92	15mm
P09102-B21	HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3.00	5.77	5.77	5.37	8.88	5.77	8.88	15mm
P04537-B21	HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	5.00	6.17	6.17	8.56	8.56	5.90	8.56	15mm
P04539-B21	HPE 6.4TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	5.00	6.20	6.20	8.56	8.56	5.90	8.56	15mm

Technical Specifications

SAS Interface – (Power & Height)									
HPE Option Kit SKU	**Long Description**	**Power Idle Time (Watts)**	**Power Random Read (Watts)**	**Power Random Write (Watts)**	**Power Sequential Read (Watts)**	**Power Sequential Write (Watts)**	**Power Random R/W (Watts)**	**Power MAX (Watts)**	**z- Height**
P09088-B21	HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3.00	5.46	5.46	4.59	7.19	5.46	7.19	15mm
P09090-B21	HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3.00	5.78	5.78	5.26	8.76	5.78	8.76	15mm
P09092-B21	HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3.00	6.30	6.30	5.39	9.24	6.30	9.24	15mm
P09094-B21	HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3.20	6.11	6.11	5.45	9.31	6.11	9.31	15mm
P09096-B21	HPE 6.4TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3.50	6.69	6.69	6.07	9.68	6.69	9.68	15mm
P04517-B21	HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	5.00	6.00	6.00	6.98	6.98	5.43	8.98	15mm
P04519-B21	HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	5.00	6.00	6.00	6.98	6.98	5.43	8.98	15mm
P04521-B21	HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	5.00	6.17	6.17	8.56	8.56	5.90	8.56	15mm
P04523-B21	HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	5.00	6.20	6.20	8.56	8.56	5.90	8.56	15mm
P06584-B21	HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1.50	3.10	3.10	5.40	6.80	3.10	6.80	7mm
P06586-B21	HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3.50	8.62	8.62	7.39	10.17	8.62	10.17	15mm

Technical Specifications

SAS Interface – (Power & Height)									
HPE Option Kit SKU	Long Description	Power Idle Time (Watts)	Power Random Read (Watts)	Power Random Write (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z- Height
P06588-B21	HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3.50	9.42	9.42	7.76	10.62	9.42	10.62	15mm
P06590-B21	HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3.64	9.97	9.97	7.27	10.49	9.97	10.49	15mm
P06592-B21	HPE 15.3TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	4.14	10.05	10.05	7.91	10.48	10.05	10.48	15mm
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility									

Technical Specifications

SAS Interface – (Certifications)						
HPE Option Kit SKU	**Long Description**	**VMWare / vSAN HCL Certification (Watts)**	**Microsoft Windows Server 2016 Certification**	**Software Defined Data Center (SDDC) Premium AQ Certification**	**Microsoft Windows Server 2019 Certification**	**WS 2019 Software Defined Data Center (SDDC)**
P04541-B21	HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P04543-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P04545-B21	HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P04547-B21	HPE 3.2TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P04558-B21	HPE 400GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P04562-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) ST 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P09098-B21	HPE 400GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P09100-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P09102-B21	HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	?
P04525-B21	HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P04527-B21	HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending

Technical Specifications

SAS Interface – (Certifications)						
HPE Option Kit SKU	**Long Description**	**VMWare / vSAN HCL Certification (Watts)**	**Microsoft Windows Server 2016 Certification**	**Software Defined Data Center (SDDC) Premium AQ Certification**	**Microsoft Windows Server 2019 Certification**	**WS 2019 Software Defined Data Center (SDDC)**
P04529-B21	HPE 800GB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P04531-B21	HPE 800GB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P04533-B21	HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P04535-B21	HPE 1.6TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	NA	NA
P04537-B21	HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P04539-B21	HPE 6.4TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P09088-B21	HPE 400GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P09090-B21	HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P09092-B21	HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P09094-B21	HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified
P09096-B21	HPE 6.4TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Certified	Certified

Technical Specifications

SAS Interface – (Certifications)						
HPE Option Kit SKU	**Long Description**	**VMWare / vSAN HCL Certification (Watts)**	**Microsoft Windows Server 2016 Certification**	**Software Defined Data Center (SDDC) Premium AQ Certification**	**Microsoft Windows Server 2019 Certification**	**WS 2019 Software Defined Data Center (SDDC)**
P04517-B21	HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P04519-B21	HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P04521-B21	HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P04523-B21	HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P06584-B21	HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P06586-B21	HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P06588-B21	HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P06590-B21	HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
P06592-B21	HPE 15.3TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Pending	Pending	Pending
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.						

Technical Specifications

Value SAS Interface – (Capacity, Workload, Carrier...)										
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Server Gen Supported (Select Platforms)
P10448-B21	HPE 960GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	960	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Gen9, 10
P10450-B21	HPE 960GB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Value SAS Digitally Signed Firmware SSD	960	MU	SAS	LFF	Hot Plug	SCC	Yes	TLC	Gen9, 10
P10452-B21	HPE 960GB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	960	MU	SAS	LFF	Hot Plug	LPC	Yes	TLC	Gen9, 10
P10454-B21	HPE 1.92TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	1,920	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Gen9, 10
P10456-B21	HPE 1.92TB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Value SAS Digitally Signed Firmware SSD	1,920	MU	SAS	LFF	Hot Plug	SCC	Yes	TLC	Gen9, 10
P10458-B21	HPE 1.92TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	1,920	MU	SAS	LFF	Hot Plug	LPC	Yes	TLC	Gen9, 10
P10460-B21	HPE 3.84TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	3,840	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Gen9, 10
P10462-B21	HPE 3.84TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	3,840	MU	SAS	LFF	Hot Plug	LPC	Yes	TLC	Gen9, 10
P10440-B21	HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	960	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P10442-B21	HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	1,920	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
P10444-B21	HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	3,840	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10

Technical Specifications

HPE Option Kit SKU	Long Description	VMware / vSAN HCL Certification (Watts)		Microsoft Windows Server 2016 Certification		Software Defined Data Center (SDDC) Premium AQ Certification		Microsoft Windows Server 2019 Certification		WS 2019 Software Defined Data Center (SDDC)
SAS Interface – (Certifications)										
P10446-B21	HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	7,680	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Gen9 & 10
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.										

Technical Specifications

Value SAS Interface – (Speeds & Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes Throughput	Random Read Avg. / Random Write Avg. Latency uSec	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P10448-B21	HPE 960GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	5,250	3.0	790 / 635	130 / 35	108,000 / 47,000	155,000@Q32 /48,000@Q4
P10450-B21	HPE 960GB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Value SAS Digitally Signed Firmware SSD	5,250	3.0	790 / 635	130 / 35	108,000 / 47,000	155,000@Q32 / 48,000@Q4
P10452-B21	HPE 960GB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	5,250	3.0	790 / 635	130 / 35	108,000 / 47,000	155,000@Q32 / 48,000@Q4
P10454-B21	HPE 1.92TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	5,250	3.0	810 / 635	140 / 35	98,000 / 52,000	155,000@Q32 \ 52,000@Q4
P10456-B21	HPE 1.92TB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Value SAS Digitally Signed Firmware SSD	10,500	3.0	810 / 635	140 / 35	98,000 / 52,000	155,000@Q32 \ 52,000@Q4
P10458-B21	HPE 1.92TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	10,500	3.0	810 / 635	140 / 35	98,000 / 52,000	155,000@Q32 \ 52,000@Q4
P10460-B21	HPE 3.84TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	21,000	3.0	810 / 635	140 / 35	103,000 / 52,000	155,000@Q32 \ 52,000@Q4
P10462-B21	HPE 3.84TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	21,000	3.0	810 / 635	140 / 35	103,000 / 52,000	155,000@Q32 \ 52,000@Q4
P10440-B21	HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	1,750	1.0	810 / 635	130 / 35	108,000 / 32,000	155,000@Q32 / 32,000@Q4
P10442-B21	HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	3,500	1.0	810 / 635	140 / 35	97,000 / 36,000	155,000@Q32 / 36,000@Q4

Technical Specifications

Value SAS Interface – (Speeds & Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes Throughput	Random Read Avg. / Random Write Avg. Latency uSec	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P10444-B21	HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	7,000	1.0	810 / 635	140 / 35	102,000 / 37,000	155,000@Q32 \ 37,000@Q4
P10446-B21	HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	14,000	1.0	810 / 635	140 / 35	105,000 / 36,000	155,000@Q32 \ 37,000@Q4
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.							

Technical Specifications

HPE Option Kit SKU	Long Description	Power Idle Time (Watts)	Power Random Read (Watts)	Power Random Write (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z- Height
Value SAS Interface – (Power & Height)									
P10448-B21	HPE 960GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	4.26	4.97	4.97	6.71	6.95	6.95	9.65	15mm
P10450-B21	HPE 960GB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Value SAS Digitally Signed Firmware SSD	4.26	4.97	4.97	6.71	6.95	6.95	9.65	15mm
P10452-B21	HPE 960GB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	4.26	4.97	4.97	6.71	6.95	6.95	9.65	15mm
P10454-B21	HPE 1.92TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	4.34	5.05	5.05	6.98	7.26	7.26	7.26	15mm
P10456-B21	HPE 1.92TB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Value SAS Digitally Signed Firmware SSD	4.34	5.05	5.05	6.98	7.26	7.26	7.26	15mm
P10458-B21	HPE 1.92TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	4.34	5.05	5.05	6.98	7.26	7.26	7.26	15mm
P10460-B21	HPE 3.84TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	4.47	5.40	5.40	7.93	7.56	7.96	7.96	15mm
P10462-B21	HPE 3.84TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	4.47	5.40	5.40	7.93	7.56	7.96	7.96	15mm
P10440-B21	HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	4.26	4.97	4.97	6.71	6.95	6.95	9.65	15mm

Technical Specifications

Value SAS Interface – (Power & Height)									
HPE Option Kit SKU	**Long Description**	**Power Idle Time (Watts)**	**Power Random Read (Watts)**	**Power Random Write (Watts)**	**Power Sequential Read (Watts)**	**Power Sequential Write (Watts)**	**Power Random R/W (Watts)**	**Power MAX (Watts)**	**z- Height**
P10442-B21	HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	4.34	5.05	5.05	6.98	7.26	7.26	7.26	15mm
P10444-B21	HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	4.47	5.40	5.40	7.93	7.56	7.96	7.96	15mm
P10446-B21	HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	4.80	5.90	5.90	8.56	8.18	8.56	8.56	15mm
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.									

Technical Specifications

Value SAS Interface – (Certifications)						
HPE Option Kit SKU	**Long Description**	**VMWare / vSAN HCL Certification (Watts)**	**Microsoft Windows Server 2016 Certification**	**Software Defined Data Center (SDDC) Premium AQ Certification**	**Microsoft Windows Server 2019 Certification**	**WS 2019 Software Defined Data Center (SDDC)**
P10448-B21	HPE 960GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	Pending	Pending	Pending	Pending	Pending
P10450-B21	HPE 960GB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Value SAS Digitally Signed Firmware SSD	NA	NA	NA	NA	NA
P10452-B21	HPE 960GB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	Pending	Pending	Pending	NA	NA
P10454-B21	HPE 1.92TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	NA	NA	NA	Pending	Pending
P10456-B21	HPE 1.92TB SAS 12G Mixed Use LFF (3.5in) SCC 3yr Wty Value SAS Digitally Signed Firmware SSD	Pending	Pending	Pending	NA	NA
P10458-B21	HPE 1.92TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	NA	NA	NA	NA	NA
P10460-B21	HPE 3.84TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	Pending	Pending	Pending	Pending	Pending
P10462-B21	HPE 3.84TB SAS 12G Mixed Use LFF (3.5in) LPC 3yr Wty Value SAS Digitally Signed Firmware SSD	NA	NA	NA	NA	NA
P10440-B21	HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	Pending	Pending	Pending	Pending	Pending
P10442-B21	HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	Pending	Pending	Pending	Pending	Pending
P10444-B21	HPE 3.84TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	Pending	Pending	Pending	Pending	Pending

Technical Specifications

Value SAS Interface – (Certifications)						
HPE Option Kit SKU	**Long Description**	**VMware / vSAN HCL Certification (Watts)**	**Microsoft Windows Server 2016 Certification**	**Software Defined Data Center (SDDC) Premium AQ Certification**	**Microsoft Windows Server 2019 Certification**	**WS 2019 Software Defined Data Center (SDDC)**
P10446-B21	HPE 7.68TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Value SAS Digitally Signed Firmware SSD	Pending	Pending	Pending	Pending	Pending
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.						

Technical Specifications

PCIe/NVMe Interface – SKUs (Capacity, Workload, Carrier…)										
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Server Gen Supported (Select Platforms)
878014-B21	HPE 375GB NVMe x4 Lanes Write Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	375	WI	NVMe	SFF	Hot Plug	SCN	Yes	MLC	Gen9 & 10
878038-B21	HPE 750GB PCIe x4 Lanes Write Intensive HHHL 3yr Wty Digitally Signed Firmware Card	750	WI	NVMe	AIC	Non-Hot Plug	AIC	Yes	MLC	Gen9 & 10
875583-B21	HPE 400GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	400	MU	NVMe	M.2	#N/A	#N/A	Yes	MLC	Gen9 & 10
875585-B21	HPE 800GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	800	MU	NVMe	M.2	#N/A	#N/A	Yes	MLC	Gen9 & 10
P10222-B21	HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	1,600	MU	NVMe	SFF	Hot Plug	SCN	Yes	MLC	Gen9, 10
P10224-B21	HPE 3.2TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	3,200	MU	NVMe	SFF	Hot Plug	SCN	Yes	MLC	Gen9, 10
P10226-B21	HPE 6.4TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	6,400	MU	NVMe	SFF	Hot Plug	SCN	Yes	MLC	Gen9, 10
P10264-B21	HPE 1.6TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	1,600	MU	NVMe	AIC	Non-Hot Plug	AIC	Yes	?	Gen9, 10
P10266-B21	HPE 3.2TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	3,200	MU	NVMe	AIC	Non-Hot Plug	AIC	Yes	?	Gen9, 10
P10268-B21	HPE 6.4TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	6,400	MU	NVMe	AIC	Non-Hot Plug	AIC	Yes	?	Gen9, 10
P12114-B21	HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	1,600	MU	NVMe	SFF	Non-Hot Plug	RW	Yes	MLC	Gen9, 10

Technical Specifications

PCIe/NVMe Interface – SKUs (Capacity, Workload, Carrier...)										
HPE Option Kit SKU	**Long Description**	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Server Gen Supported (Select Platforms)
875579-B21	HPE 480GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	480	RI	NVMe	M.2	#N/A	#N/A	Yes	MLC	Gen9 & 10
875581-B21	HPE 960GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	960	RI	NVMe	M.2	#N/A	#N/A	Yes	MLC	Gen9 & 10
P10214-B21	HPE 1.92TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	1,920	RI	NVMe	SFF	Hot Plug	SCN	Yes	MLC	Gen9, 10
P10216-B21	HPE 3.84TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	3,840	RI	NVMe	SFF	Hot Plug	SCN	Yes	MLC	Gen9, 10
P10218-B21	HPE 7.68TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	7,680	RI	NVMe	SFF	Hot Plug	SCN	Yes	MLC	Gen9, 10
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.										

Technical Specifications

PCIe/NVMe Interface – SKUs (Speeds and Feeds)							
HPE Option Kit SKU	**Long Description**	**Lifetime Writes (TB)**	**Endurance DWPD**	**MAX Seq Reads / Max Seq Writes Throughput (MiB/s)**	**Random Read Avg. / Random Write Avg. Latency uSec (4KiB,Q1)**	**Random Read / Random Writes IOPS (4KiB, Q=16)**	**MAX Random Read / MAX Random Write IOPS (4KiB)**
878014-B21	HPE 375GB NVMe x4 Lanes Write Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	20,500	30.0	2,550 / 2,150	17 / 17	585,000 / 550,000	585,000@Q16 / 550.000@Q16
878038-B21	HPE 750GB PCIe x4 Lanes Write Intensive HHHL 3yr Wty Digitally Signed Firmware Card	41,000	30.0	2,550 / 2,300	17 / 18	575,000 / 580,000	575,000@Q16 / 580,000@Q16
875583-B21	HPE 400GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	2,475	3.0	2,300 / 490	100 / 40	122,500 / 24,500	215,000@Q64 / 24,500@Q1
875585-B21	HPE 800GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	4,950	3.0	2,300 / 575	100 / 31	132,500 / 32,000	240,000@Q64 / 32,000@Q16
P10222-B21	HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	14,600	5.0	3,400 / 1,900	86 / 24	160,000 / 135,000	720,000@Q256 / 145,000@Q16
P10224-B21	HPE 3.2TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	29,200	5.0	3,400 / 2,900	86 / 26	165,000 / 145,000	780,000@Q256 / 195,000@Q64
P10226-B21	HPE 6.4TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	58,400	5.0	3,400 / 2,800	100 / 25	149,000 / 155,000	780,000@Q256 / 200,000@Q32
P10264-B21	HPE 1.6TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	14,600	5.0	5,200 / 1,900	175 / 115	130,000 / 135,000	750,000@Q256 / 145,000@Q256
P10266-B21	HPE 3.2TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	29,200	5.0	6,200 / 2,900	85 / 25	175,000 / 150,000	880,000@Q256 / 200,000@Q256
P10268-B21	HPE 6.4TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	58,400	5.0	6,100 / 2,900	96 / 25	150,000 / 155,000	930,000@Q256 \ 210,000@Q256
P12114-B21	HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	14,600	5.0	3,400 / 1,900	86 / 24	160,000 / 135,000	720,000@Q256 / 145,000@Q16

Technical Specifications

PCIe/NVMe Interface – SKUs (Speeds and Feeds)							
HPE Option Kit SKU	**Long Description**	**Lifetime Writes (TB)**	**Endurance DWPD**	**MAX Seq Reads / Max Seq Writes Throughput (MiB/s)**	**Random Read Avg. / Random Write Avg. Latency uSec (4KiB,Q1)**	**Random Read / Random Writes IOPS (4KiB, Q=16)**	**MAX Random Read / MAX Random Write IOPS (4KiB)**
875579-B21	HPE 480GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	775	0.3	2,375 / 485	100 / 105	120,000 / 9,500	215,000@Q64 / 9,500@Q1
875581-B21	HPE 960GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	1,550	0.3	2,375 / 515	100 / 80	130,000 / 12,400	240,000@Q64 / 12,400@Q1
P10214-B21	HPE 1.92TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	3,500	1.0	3,400 / 1,900	86 / 29	160,000 / 52,000	720,000@Q256 / 52,000@Q4
P10216-B21	HPE 3.84TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	7,000	1.0	3,400 / 2,900	87 / 31	165,000 / 74,000	780,000@Q256 / 75,000@Q16
P10218-B21	HPE 7.68TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	14,000	1.0	3,400 / 2,800	100 / 30	149,000 / 94,000	780,000@Q256 / 94,000@Q16
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.							

Technical Specifications

HPE Option Kit SKU	Long Description	Power Idle Time (Watts)	Power Random Read (Watts)	Power Random Write (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z- Height
PCIe/NVMe Interface – (Power & Height)									
878014-B21	HPE 375GB NVMe x4 Lanes Write Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	4.00	5.16	5.16	8.50	12.20	5.16	13.00	15mm
878038-B21	HPE 750GB PCIe x4 Lanes Write Intensive HHHL 3yr Wty Digitally Signed Firmware Card	4.70	9,8	9.80	9.50	13.90	9.80	14.00	Half Height/ Half Length
875583-B21	HPE 400GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	2.60	4.50	5.50	6.50	7.50	5.00	8.00	22110 M.2
875585-B21	HPE 800GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	2.60	4.50	5.50	6.50	7.50	5.00	8.00	22110 M.2
P10222-B21	HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	6.20	10.00	10.00	13.70	14.90	10.00	14.90	15mm
P10224-B21	HPE 3.2TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	7.20	10.80	10.80	14.40	18.00	10.80	18.00	15mm
P10226-B21	HPE 6.4TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	8.66	13.62	13.62	14.40	18.00	13.62	18.00	15mm
P10264-B21	HPE 1.6TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	7.18	12.22	12.22	17.49	15.24	12.22	18.00	Half Height/ Half length
P10266-B21	HPE 3.2TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	7.30	13.24	13.24	17.97	18.85	13.24	19.00	Half Height/ Half length

Technical Specifications

PCIe/NVMe Interface – (Power & Height)								
HPE Option Kit SKU	Long Description	Power Idle Time (Watts)	Power Random Read (Watts)	Power Random Write (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z- Height
P10268-B21	HPE 6.4TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	7.42	13.72	13.72	18.51	21.44	13.72	22.00	Half Height/ Half length
P12114-B21	HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	6.20	10.00	10.00	13.70	14.90	10.00	15.00	15mm
875579-B21	HPE 480GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	2.60	4.50	5.50	6.50	7.50	5.00	8.00	22110 M.2
875581-B21	HPE 960GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	2.60	4.50	5.50	6.50	7.50	5.00	8.00	22110 M.2
P10214-B21	HPE 1.92TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	6.20	10.00	10.00	13.70	14.90	10.00	14.90	15mm
P10216-B21	HPE 3.84TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	7.20	10.00	10.00	14.60	18.10	10.00	18.10	15mm
P10218-B21	HPE 7.68TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	8.64	10.50	10.50	14.69	18.72	10.50	18.72	15mm
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.								

Technical Specifications

Inbox NVMe Drivers

Inbox NVMe drivers for the minimally supported operating systems listed below have been tested on HPE NVMe SSDs and Add-in Cards. Check the specifications for the HPE server of interest to determine if it supports one of these Operating Systems.

- Windows Server 2019
- Windows Server 2016
- Windows Server 2012R2
- Red Hat Enterprise Linux Server 6.5
- Red Hat Enterprise Linux Server 7.0
- SUSE Linux Enterprise Server 12
- Ubuntu 14.04 VMWare vSphere 6.1

NVMe Interface – (Certifications)

HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification (Watts)	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
878014-B21	HPE 375GB NVMe x4 Lanes Write Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
878038-B21	HPE 750GB PCIe x4 Lanes Write Intensive HHHL 3yr Wty Digitally Signed Firmware Card	Certified	Certified	Certified	Certified	Certified
875583-B21	HPE 400GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	NA	NA
875585-B21	HPE 800GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	NA	NA
P10222-B21	HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Pending	Pending
P10224-B21	HPE 3.2TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Pending	Pending
P10226-B21	HPE 6.4TB NVMe x4 Lanes Mixed Use SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Pending	Pending

Technical Specifications

NVMe Interface – (Certifications)						
HPE Option Kit SKU	**Long Description**	**VMWare / vSAN HCL Certification (Watts)**	**Microsoft Windows Server 2016 Certification**	**Software Defined Data Center (SDDC) Premium AQ Certification**	**Microsoft Windows Server 2019 Certification**	**WS 2019 Software Defined Data Center (SDDC)**
P10264-B21	HPE 1.6TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	Pending	Pending	Pending	Pending	Pending
P10266-B21	HPE 3.2TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	Pending	Pending	Pending	Pending	Pending
P10268-B21	HPE 6.4TB NVMe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	Pending	Pending	Pending	Pending	Pending
P12114-B21	HPE 1.6TB NVMe x4 Lanes Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	NA	NA
875579-B21	HPE 480GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	NA	NA
875581-B21	HPE 960GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	NA	NA
P10214-B21	HPE 1.92TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Pending	Pending
P10216-B21	HPE 3.84TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Pending	Pending
P10218-B21	HPE 7.68TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD	Pending	Pending	Pending	Pending	Pending
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.						

Technical Specifications

M.2 Enablement Kits – (Capacity, Workload, Carrier...)									
HPE Option KIT SKU	**Long Description**	**Capacity**	**Workload Type**	**Interface Type**	**Form Factor**	**Plug Type**	**Carrier Type**	**Digitally Signed Firmware (DS)**	**Flash Type**	**Server Gen Supported (Select Platforms)**
878783-B21*	HPE Universal SATA HHHL 3yr Wty M.2 Kit	N/A	N/A	SATA	M.2e	Non-Hot Plug	AIC	Yes	N/A	Gen9 & 10
P06607-B21**	HPE Dual 240GB SATA 6G Mixed Use M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	240	MU	SATA	SFF	Hot Plug	SCM	Yes	MLC	Gen10
P06609-B21**	HPE Dual 480GB SATA 6G Read Intensive M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	480	RI	SATA	SFF	Hot Plug	SCM	Yes	MLC	Gen10

NOTE: *878783-B21 enablement Kit is an Add-In-Card, for installation inside of the server, that can be configured to be either Single or Dual with choice of any SATA 2280 M.2 in the HPE M.2 portfolio. See SATA M.2s in Tables above. **Speeds and Feeds information should be taken from the M.2 drives used within the enablement kits. See SATA M.2s in tables above and below.

Technical Specifications

M.2 Enablement Kits – (Speeds & Feeds)

**Speeds and Feeds information should be taken from the M.2 drives used within the enablement kits. See SATA M.2s in tables above and below.

M.2 Enablement Kits – (Power & Height)									
HPE Option Kit SKU	**Long Description**	**Power Idle Time (Watts)**	**Power Random Read (Watts)**	**Power Random Write (Watts)**	**Power Sequential Read (Watts)**	**Power Sequential Write (Watts)**	**Power Random R/W (Watts)**	**Power MAX (Watts)**	**z - Height**
878783-B21*	HPE Universal SATA HHHL 3yr Wty M.2 Kit	NA	NA	NA	NA	NA	NA	NA	Half Height/ Half Length
P06607-B21**	HPE Dual 240GB SATA 6G Mixed Use M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	2.00	2.84	2.84	3.90	5.74	2.84	6.00	7mm
P06609-B21**	HPE Dual 480GB SATA 6G Read Intensive M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	2.00	2.84	2.84	3.90	5.74	2.84	6.00	7mm
	NOTE: Power information should be taken from the M.2 drives used within the enablement kits. See SATA M.2s in tables above and below.								
	NOTE: *878783-B21 enablement Kit is an Add-In-Card, for installation inside of the server, that can be configured to be either Single or Dual with choice of any SATA 2280 M.2 in the HPE M.2 portfolio. See SATA M.2s in Tables above and below. **Speeds and Feeds information should be taken from the M.2 drives used within the enablement kits. See SATA M.2s in tables above and below. **NOTE:** Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility								

Technical Specifications

M.2 Enablement Kits – (Certifications)						
HPE Option Kit SKU	**Long Description**	**VMWare / vSAN HCL Certification (Watts)**	**Microsoft Windows Server 2016 Certification**	**Software Defined Data Center (SDDC) Premium AQ Certification**	**Microsoft Windows Server 2019 Certification**	**WS 2019 Software Defined Data Center (SDDC)**
878783-B21*	HPE Universal SATA HHHL 3yr Wty M.2 Kit	NA	NA	NA	NA	NA
P06607-B21**	HPE Dual 240GB SATA 6G Mixed Use M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	NA	Certified	NA	Certified	Certified
P06609-B21**	HPE Dual 480GB SATA 6G Read Intensive M.2 - UFF to SFF SCM 3yr Wty Digitally Signed Firmware SSD	NA	Certified	NA	Certified	Certified
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.						

Technical Specifications

M.2s– (Capacity, Workload, Carrier...)										
HPE Option Kit SKU	**Long Description**	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Server Gen Supported (Select Platforms)
875488-B21	HPE 240GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	240	MU	SATA	M.2	#N/A	#N/A	Yes	TLC	Gen9 & 10
875490-B21	HPE 480GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	480	MU	SATA	M.2	#N/A	#N/A	Yes	TLC	Gen9 & 10
875492-B21	HPE 960GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	960	MU	SATA	M.2	#N/A	#N/A	Yes	TLC	Gen9 & 10
875498-B21	HPE 480GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	480	RI	SATA	M.2	#N/A	#N/A	Yes	TLC	Gen9 & 10
875500-B21	HPE 960GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	960	RI	SATA	M.2	#N/A	#N/A	Yes	TLC	Gen9 & 10
875583-B21	HPE 400GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	400	MU	NVMe	M.2	#N/A	#N/A	Yes	MLC	Gen9 & 10
875585-B21	HPE 800GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	800	MU	NVMe	M.2	#N/A	#N/A	Yes	MLC	Gen9 & 10
875579-B21	HPE 480GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	480	RI	NVMe	M.2	#N/A	#N/A	Yes	MLC	Gen9 & 10
875581-B21	HPE 960GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	960	RI	NVMe	M.2	#N/A	#N/A	Yes	MLC	Gen9 & 10
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.										

Technical Specifications

M.2s– (Speeds & Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency uSec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
875488-B21	HPE 240GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	650	1.5	500 / 260	135 / 40	60,000 / 34,000	66,000@Q32 34,000@Q4
875490-B21	HPE 480GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	1,300	1.5	500 / 400	130 / 40	60,000 / 34,000	68,000@Q32 34,000@Q4
875492-B21	HPE 960GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	4,400	2.6	500 / 465	130 / 40	60,000 / 30,000	68,000@Q32 30,000@Q4
875498-B21	HPE 480GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	450	0.5	500 / 425	130 / 40	61,000 / 46,000	67,000@Q32 46,000@Q64
875500-B21	HPE 960GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	900	0.5	500 / 465	130 / 40	61,000 / 41,000	67,000@Q32 41,000@Q4
875583-B21	HPE 400GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	2,475	3.0	2,300 / 490	100 / 40	122,500 / 24,500	215,000@Q64 / 24,500@Q1
875585-B21	HPE 800GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	4,950	3.0	2,300 / 575	100 / 31	132,500 / 32,000	240,000@Q64 / 32,000@Q16
875579-B21	HPE 480GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	775	0.3	2,375 / 485	100 / 105	120,000 / 9,500	215,000@Q64 9,500@Q1
875581-B21	HPE 960GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	1,550	0.3	2,375 / 515	100 / 80	130,000 / 12,400	240,000@Q64 12,400@Q1
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.							

Technical Specifications

M.2s– (Power & Height)								
HPE Option Kit SKU	Long Description	Power Idle Time (Watts)	Power Random Read (Watts)	Power Random Write (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z- Height
875488-B21	HPE 240GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	1.07	3.00	3.00	3.21	3.90	2.95	4.00	2280 M.2
875490-B21	HPE 480GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	1.07	3.02	3.02	3.42	4.03	3.00	5.00	2280 M.2
875492-B21	HPE 960GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	1.07	3.17	3.17	3.82	5.62	3.10	6.00	2280 M.2
875498-B21	HPE 480GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	1.07	3.02	3.02	3.42	4.03	3.00	5.00	2280 M.2
875500-B21	HPE 960GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	1.07	3.17	3.17	3.82	5.62	3.10	6.00	2280 M.2
875583-B21	HPE 400GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	2.60	4.50	5.50	6.50	7.50	5.00	8.00	22110 M.2
875585-B21	HPE 800GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	2.60	4.50	5.50	6.50	7.50	5.00	8.00	22110 M.2
875579-B21	HPE 480GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	2.60	4.50	5.50	6.50	7.50	5.00	8.00	22110 M.2

Technical Specifications

M.2s– (Power & Height)									
HPE Option Kit SKU	**Long Description**	**Power Idle Time (Watts)**	**Power Random Read (Watts)**	**Power Random Write (Watts)**	**Power Sequential Read (Watts)**	**Power Sequential Write (Watts)**	**Power Random R/W (Watts)**	**Power MAX (Watts)**	**z- Height**
875581-B21	HPE 960GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	2.60	4.50	5.50	6.50	7.50	5.00	8.00	22110 M.2
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.									

Technical Specifications

M.2 Enablement Kits – (Certifications)						
HPE Option Kit SKU	**Long Description**	**VMware / vSAN HCL Certification (Watts)**	**Microsoft Windows Server 2016 Certification**	**Software Defined Data Center (SDDC) Premium AQ Certification**	**Microsoft Windows Server 2019 Certification**	**WS 2019 Software Defined Data Center (SDDC)**
875488-B21	HPE 240GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
875490-B21	HPE 480GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
875492-B21	HPE 960GB SATA 6G Mixed Use M.2 2280 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	
875498-B21	HPE 480GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
875500-B21	HPE 960GB SATA 6G Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	Certified	Certified
875583-B21	HPE 400GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	NA	NA
875585-B21	HPE 800GB NVMe x4 Lanes Mixed Use M.2 22110 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	NA	NA
875579-B21	HPE 480GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	NA	NA
875581-B21	HPE 960GB NVMe x4 Lanes Read Intensive M.2 22110 3yr Wty Digitally Signed Firmware SSD	Certified	Certified	Certified	NA	NA
NOTE: Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.						

Technical Specifications

Previous To Current Workload Naming Conversion

Please use the table below for comparing older SSD models to the newer workload descriptions.

Previous Workload	Current Workload Alignment
(HE) High Endurance	(WI) Write Intensive (>25 DWPD)
(ME) Mainstream Endurance	(WI) Write Intensive (>25 DWPD)
(LE) Light Endurance	(MU) Mixed Use (>1 & <10 DWPD)
(VE) Value Endurance	(RI) Read Intensive (<=1 DWPD)

Carrier Key Decoder

HPE Solid State Drives (SSDs) utilize a wide variety of carriers, which houses the SSD and also enables a specific chassis fit to support a broad range of HPE server and storage products.

The table below summarizes the various form factors, plug types, and carrier attributes.

Carriers				
Form Factor	**HP/NHP**	**Smart/Non-Smart**	**Carrier Name (Abbreviation)**	**SFF/LFF**
SFF Carrier	Hot Plug	Smart	Smart Carrier (SC)	SFF
			Smart Carrier NVMe (SCN)	SFF
			Smart Carrier M.2 (SCM)	SFF
		Non-Smart	Standard (ST)	SFF
	Non-Hot Plug		Quick Release (QR)	SFF
LFF Carrier	Hot Plug	Smart	Smart Carrier (SC)	LFF
			Smart Carrier Converter (SCC)	LFF
		Non-Smart	Low Profile (LP)	LFF
			Low Profile Converter (LPC)	LFF
			Standard (ST)	LFF
	Non-Hot Plug		Quick Release (QR)	LFF
No Carrier	Non-Hot Plug	Non-Smart	Raw SFF HDD/SSD (RW)	SFF
			Raw LFF HDD (RW)	LFF
			M.2	N/A
			PCIe AIC Card	N/A

Technical Specifications

The following charts are provided to assist in decoding the SSD short & long product descriptions; additional details can also be found within the Carrier Key Decoder & the Previous To Current Workload Naming Conversion tables within this document.

SAS and SATA SSD SKU Decoders

SSD SKU Decoder
Long Name

HPE 3.84TB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD

Brand	Storage Capacity	Interface Type/ Interface Speed	Workload	Form Factor Type / Form Factor Size	Carriers	Wty	Special Features	Drive Type
HPE	120-960GB 1.6-12.8TB	SATA/SAS 6G/12G	Write Intensive Mixed Use Read Intensive	SFF (2.5IN) LFF (3.5IN)	SC Smart Carrier SCN Smart Carrier NVMe SCM Smart Carrier M.2 SCC Smart Carrier Converter ST Standard STC Standard Converter LP Low Profile LPC Low Profile Converter QR Quick Release RW Raw Drive	3yr Wty 1yr Wty	Digitally Signed Firmware SED Self Encrypting Drive Value SAS Special – Special SKUs *In priority order where 1st is closest to Drive Type*	SSD

SSD SKU Decoder
Short Name

HPE 3.84TB SATA RI SFF SC DS SSD

Brand	Storage Capacity	Interface Type	Workload	Form Factor Type	Carriers	Special Features	Drive Type
HPE	120-960GB 1.6-12.8TB	SATA/SAS	WI MU RI	SFF LFF	SC Smart Carrier SCN Smart Carrier NVMe SCM Smart Carrier M.2 SCC Smart Carrier Converter ST Standard STC Standard Converter LP Low Profile LPC Low Profile Converter QR Quick Release RW Raw Drive	DS Digitally Signed Firmware SED Self Encrypting Drive VS Value SAS SPL Special SKU *In priority order where 1st is closest to drive type*	SSD

NVMe SSDs SKU Decoder
Long Name

HPE 1TB NVMe x4 Lanes Read Intensive SFF (2.5in) SCN 3yr Wty Digitally Signed Firmware SSD

Brand	Storage Capacity	Interface Type/ Interface Speed	Workload	Form Factor Type / Form Factor Size	Carriers	Wty	Special Features	Drive Type
HPE	400-960GB 1-8TB	NVMe/ x4 Lanes	Write Intensive Mixed Use Read Intensive	SFF (2.5IN) HHHL/FHHL	SCN Smart Carrier NVMe	3yr Wty 1yr Wty	Digitally Signed Firmware *In priority order where 1st is closest to Drive Type*	SSD

Technical Specifications

NVMe SSDs SKU Decoder
Short Name

HPE 1TB NVMe x4 RI SFF SCN DS SSD

Brand	Storage Capacity	Interface Type	Workload	Form Factor Type	Carriers	Special Features	Drive Type
HPE	120-960GB 1.6-12.8TB	NVMe x4	WI MU RI	SFF HH FH	SCN Smart Carrier NVMe	DS Digitally Signed Firmware In priority order where 1st is closest to Drive Type	SSD

M.2 SSDs SKU Decoder
Long Name

HPE 960GB NVMe x4 Lanes Read Intensive M.2 2280 3yr Wty Digitally Signed Firmware SSD

Brand	Storage Capacity	Interface Type/ Interface Speed	Workload	Form Factor Type / Form Factor Size	Wty	Special Features	Drive Type
HPE	400-960GB 1-8TB	NVMe x4 Lanes/ SATA 6Gb	Write Intensive Mixed Use Read Intensive	M.2/ 2280/22110	3yr Wty 1yr Wty	Digitally Signed Firmware	SSD

M.2 SSDs SKU Decoder
Short Name

HPE 960GB NVMe x4 Lanes RI M.2 2280 DS SSD

Brand	Storage Capacity	Interface Type/ Interface Speed	Workload	Form Factor Type / Form Factor Size	Special Features	Drive Type
HPE	400-960GB 1-8TB	NVMe x4 / SATA 6Gb	WI MU RI	M.2/ 2280/22110	DS Digitally Signed Firmware	SSD

M.2 eKits SKU Decoder
Long Name

HPE 340GB SATA Read Intensive HHHL 3yr Wty Dual M.2 Kit

Brand	Storage Capacity	Interface Type/ Interface Speed	Workload	Form Factor Type / Form Factor Size	Wty	Special Features	Drive Type
HPE	150-960GB 1.92TB	SATA/ NVMe	Write Intensive Mixed Use Read Intensive	HHHL FHHL UFF	3yr Wty 1yr Wty	Dual Quad Blank=Single	M.2 Kit

Technical Specifications

M.2 eKits SKU Decoder
Short Name

HPE 340GB SATA RI HH Dual M.2 Kit

Brand	Storage Capacity	Interface Type/ Interface Speed	Workload	Form Factor Type / Form Factor Size	Special Features	Drive Type
HPE	150-960GB 1.92TB	SATA/ NVMe	WI MU RI	HH FH UFF	Dual Quad Blank=Single	M.2 Kit

Add-In Card SKU Decoder
Long Name

HPE 1.6TB PCIe x4 Lanes Read Intensive HHHL 3yr Wty Digitally Signed Firmware Card

Brand	Storage Capacity	Interface Type/ Interface Speed	Workload	Form Factor Type / Form Factor Size	Wty	Special Features	Drive Type
HPE	400-960GB 1-8TB	PCIe x4 Lanes	Write Intensive Mixed Use Read Intensive	HHHL FHHL Mezz	3yr Wty 1yr Wty	Digitally Signed Firmware	Card

AIC SKU Decoder
Short Name

HPE 1.6TB PCIe x4 RI HH DS Card

Brand	Storage Capacity	Interface Type/ Interface Speed	Workload	Form Factor Type / Form Factor Size	Special Features	Drive Type
HPE	400-960GB 1-8TB	PCIe x4	WI MU RI	FH/HH Mezz	DS (Digitally Signed Firmware)	Card

Environment friendly Products and Approach End-of life Management and Recycling

Hewlett Packard Enterprise offers end-of-life **product return, trade-in, and recycling programs,** in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE Directive (2012/19/EU) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the **Hewlett Packard Enterprise web site.** These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Summary of Changes

Date	Version History	Action	Description of Change
02-April-2019	Version 24	Changed	New drive models added. Technical Specifications revised and updated.
07-Jan-2019	Version 23	Changed	Technical Specifications section was updated.
03-Dec-2018	Version 22	Changed	New drive models added. Technical Specifications revised and updated.
15-Oct-2018	Version 21	Changed	Technical Specifications Section was updated
01-Oct-2018	Version 20	Changed	New drive models added. Technical Specifications revised and updated.
06-Aug-2018	Version 19	Changed	New drive models added. Technical Specifications revised and updated.
02-Jul-2018	Version 18	Changed	Overview and SKU description were updated.
04-Jun-2018	Version 17	Changed	New drive models added. Technical Specifications revised and updated.
02-Apr-2018	Version 16	Changed	New drive models added, Technical Specifications revised and updated.
05-Mar-2018	Version 15	Changed	Technical Specifications revised and updated, images revised
05-Feb-2018	Version 14	Changed	Format Revised
		Added	New drive models added
04-Dec-2017	Version 13	Added	New drive model was added.
		Changed	Technical Specifications were revised.
02-Oct-2017	Version 12	Changed	Technical Specifications were revised.
25-Sep-2017	Version 11	Added	New drive models were added.
		Changed	Technical Specifications were revised The title was changed to HPE Solid State Disk Drives (SSD & Add-In Cards).
14-Aug-2017	Version 10	Changed	Technical Specifications were revised
07-Aug-2017	Version 9	Changed	Technical Specifications were revised
17-Jul-2017	Version 8	Changed	Technical Specifications were revised
28-Jun-2017	Version 7	Changed	Technical Specifications were revised.
12-Jun-2017	Version 6	Changed	Technical Specifications were revised.
06-Jun-2017	Version 5	Changed	Technical Specifications were revised.
17-Mar-2017	Version 4	Changed	SSD Selection verbiage was revised.
10-Mar-2017	Version 3	Changed	Edits to tables and various verbiage.
17-Feb-2017	Version 2	Changed	Technical Specifications were revised.
13-Feb-2017	Version 1	New	New QuickSpecs.

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