Overview

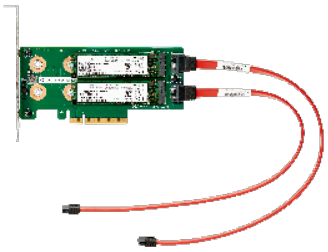
Shape the Future of QuickSpecs – Your Input Matters

HPE Solid State Disk Drives

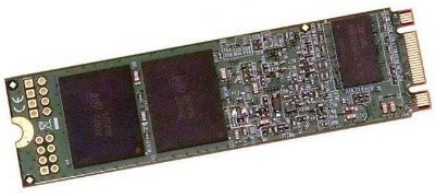
(SSD, AICs, M.2s and M.2 EKits)

HPE Solid State Drives (SSDs), 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), Enterprise and Datacenter Standard Form Factor (EDSFF) E3.S, M.2, and PCIe/NVME Add-In-Cards (AIC).



M.2 Enablement Kit



M.2

Smart Carrier NVMe (SCN)

Smart Carrier (SC)

Basic Carrier (BC)

Low Profile Converter (LPC)

E3.S Thin Carrier (EC1)

Overview

What's New?

- New Solid State Drives & Drive Option Kit(s):

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 of older SKUs. All SDDs in the HPE main portfolio of SKU have digitally signed firmware unless otherwise noted, particularly in newer released SKU (even if DS does not appear in the description)Digitally Signed Firmware can be confirmed in the capacity/workload tables by SKU number.

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 SSDs

- 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 6.0

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.

For best access to SSDs, HPE has enhanced its extensive SSD portfolio with a multi-vendor offering. HPE multi-vendor portfolio utilizes specific vendor SSDs which are HPE qualified and released and are then bundled into a multi-sourced SKU per capacity. Identified by Multi Vendor (MV) in the SKU description, these multi-vendor SKUs provide the shortest lead time SSDs, preferable pricing to single sourced SKUs and are assured to meet or exceed the minimum performance specifications and power requirements published in this HPE QuickSpecs document per capacity SKU number.
HPE's multi-vendor SSD offering helps customers simplify their purchasing decisions by providing immediate availability, preferable pricing and SKU longevity on HPE certified SSDs.

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, HPE offers a portfolio of NVMe SSDs. HPE Mainstream Performance NVMe SSDs are advanced data center drives optimized for greater performance and endurance in a cost-effective design. HPE High Performance NVMe SSDs are positioned to deliver high performance and low latency. HPE 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** at **http://ssd.hpe.com** you can quickly determine what SSD solution might best meet your needs. You can also compare specific capacity, performance attributes, and server compatibility.

Overview

XXXXXX-B21 is SKU designation formed by a common six digit part number that identifies a SKU that is offered from COMPUTE but also available across multiple server family lines. Refer to the table below to find the SKU suffix that applies to the specific server product line this option can be ordered with.		
-B21	**-H21**	**-K21**
COMPUTE Server Line	**SPECIALIZED COMPUTE Server Line**	**STORAGE Line**
HPE ProLiant DL20/DL160/DL180 Servers HPE ProLiant DL320/DL325/DL345/DL360/DL365/DL380/DL385/DL560/DL580 Servers HPE ProLiant MicroServer HPE ProLiant ML30/ML110/ML350 Servers HPE Synergy 480 Systems		HPE Apollo 4000 Systems HPE Alletra 4000 Server HPE D3000 Disk Enclosures
Disclaimer: This may not be a complete listing of applicable servers		

Standard Features

What is 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 O/S 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
Notes: Non-hot plug devices are 15mm Z-height, which restricts them to those servers that can accept a 15mm device.

Product Category

HPE Enterprise SSDs are available in three categories based on workload level: Read Intensive (RI), Mixed Use (MU), and Write Intensive (WI). The categories indicate the number of drive writes per day (DWPD1) 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.

Standard Features

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:

- 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

Notes: HPE Direct Connect to the HPE Smart Array B110i SATA RAID Controller is not currently supported by the above noted tool.

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.
Notes: 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.

Technical Specifications

SATA Capacity, Workload and Carrier 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**	**Flash Type**	**Port**	**Server Gen Supported (Select Platforms)**
Mixed Use SATA Drives											
Mixed Use SATA Self-Encrypting Drives (SED)											
P58244-B21	HPE 960GB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	960	MU	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10,10 Plus,11
Read Intensive SATA Drives											
Read Intensive SATA Self-Encrypting Drives (SED)											
P58236-B21	HPE 480GB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	480	RI	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10,10 Plus,11
Very Read Optimized SATA Drives											

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

Technical Specifications

SATA Speeds and Feeds 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)**
Mixed Use SATA Drives							
Mixed Use SATA Self-Encrypting Drives (SED)							
P58244-B21	HPE 960GB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	8,760	5.00	516 / 494	111 / 37	71,652 / 52,194	76,811@32 / 53,103@4
P58248-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	17,520	5.00	516 / 493	111 / 37	70,786 / 52,238	78,227@Q256 / 53,217@Q4
Read Intensive SATA Drives							
P63886-B21	HPE 480GB SATA 6G Read Intensive SFF BC PM893a SSD	876	1.00	536 / 371	114 / 54	71,359 / 18,340	78,779@Q32 / 18,634@Q4
P63890-B21	HPE 480GB SATA 6G Read Intensive SFF SC PM893a SSD	876	1.00	536 / 371	114 / 54	71,359 / 18,340	78,779@Q32 / 18,634@Q4
P63910-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC PM893a SSD	7,008	1.00	536 / 499	114 / 39	64,677 / 32,460	73,629@Q32 / 32,729@Q4
P63914-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC PM893a SSD	7,008	1.00	536 / 499	114 / 39	64,677 / 32,460	73,629@Q32 / 32,729@Q4
Read Intensive SATA Self-Encrypting Drives (SED)							
P58236-B21	HPE 480GB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	1,324	1.50	515 / 449	111 / 38	73,183 / 45,284	79,702@128 / 47,820@4
P58240-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	5,256	1.50	519 / 495	111 / 38	71,031 / 33,182	78,175@64 / 33,930@256
Very Read Optimized SATA Drives							

Technical Specifications

SATA Power and Height Specifications

SATA 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**
Read Intensive SATA Drives									
Mixed Use SATA Self-Encrypting Drives (SED)									
P58244-B21	HPE 960GB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	1.5	3.9	3.9	3.1	4.1	2.15	4.1	7mm
Read Intensive SATA Self-Encrypting Drives (SED)									
P58236-B21	HPE 480GB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	1.5	3.5	3.5	3.15	3.75	2.15	3.75	7mm
Very Read Optimized SATA Drives									

SATA Certifications

- Prequalified certification will be listed in the HPE Selector Tool **http://ssd.hpe.com/**
- For latest vSAN Compatibility, please visit **Broadcom vSAN SSD Compatibility Guide** and enter specific HPE Part Number to confirm compatibility.
- For latest Windows OS Certification and SDDC (Software Defined Data Center) Premium AQ Certification please visit **https://www.windowsservercatalog.com/** and enter specific HPE Model Number to confirm compatibility.

Technical Specifications

SATA Capacity, Workload, Carrier Specifications MULTI VENDOR

SATA Interface– (Capacity, Workload, Carrier...) MULTI VENDOR											
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)
Mixed Use Multi Vendor SATA Drives											
P18432-X21	HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	480	MU	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P18434-X21	HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	960	MU	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P18436-X21	HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	1,920	MU	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P18438-X21	HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	3,840	MU	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P40502-B21	HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	480	MU	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P40503-B21	HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	960	MU	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P40504-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	1,920	MU	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P40505-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	3,840	MU	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P47419-B21	HPE 960GB SATA 6G Mixed Use LFF SCC Multi Vendor SSD	960	MU	SATA	LFF	Hot Plug	SCC	Yes	TLC	Single	Gen10,10 Plus
Read Intensive Multi Vendor SATA Drives											
P18420-X21	HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	240	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P18422-X21	HPE 480GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	480	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P18424-X21	HPE 960GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	960	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P18426-X21	HPE 1.92TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1,920	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus

Technical Specifications

SATA Capacity, Workload, Carrier Specifications MULTI VENDOR

SATA Interface– (Capacity, Workload, Carrier…) MULTI VENDOR

HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)
Mixed Use Multi Vendor SATA Drives											
P18428-X21	HPE 3.84TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	3,840	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P18430-X21	HPE 7.68TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	7,680	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P40496-B21	HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	240	RI	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P40497-B21	HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	480	RI	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P40498-B21	HPE 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	960	RI	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P40499-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1,920	RI	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P40500-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	3,840	RI	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P40501-B21	HPE 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	7,680	RI	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P47807-B21	HPE 480GB SATA 6G Read Intensive LFF SCC Multi Vendor SSD	480	RI	SATA	LFF	Hot Plug	SCC	Yes	TLC	Single	Gen10,10 Plus
P47808-B21	HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD	960	RI	SATA	LFF	Hot Plug	LPC	Yes	TLC	Single	Gen10,10 Plus
P65272-B21	HPE 480GB SATA 6G Read Intensive SFF RW Multi Vendor SSD	480	RI	SATA	SFF	Non Hot Plug	RW	Yes	TLC	Single	Gen10,10 Plus, 11

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.
- Multi-vendor SKUs are composed of numerous vendor manufactured SSDs within a given SATA capacity SKU. When ordering a particular SKU-B21 number the customer will receive a homogenous set of vendor manufactured SSDs in that capacity that has met or exceeds the HPE qualification standards published above.

Technical Specifications

SATA Speeds and Feeds Specifications MULTI VENDOR

SATA Interface – (Speeds & Feeds) MULTI VENDOR							
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)**
Mixed Use Multi Vendor SATA Drives							
P18432-X21	HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	2,628	3.0	510 / 430	125 / 52	62,000 / 29,000	72,000@Q32 / 29,000@Q4
P18434-X21	HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	5,256	3.0	516 / 480	125 / 50	61,000 / 31,000	72,000@Q32 / 31,000@Q4
P18436-X21	HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	10,000	3.0	516 / 480	125 / 52	59,000 / 31,000	71,000@Q32 / 31,000@Q4
P18438-X21	HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	21,024	3.0	512 / 480	140 / 76	59,000 / 32,000	69,000@Q32 / 32,500@Q32
P40502-B21	HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	2,628	3.0	510 / 430	125 / 52	62,000 / 29,000	72,000@Q32 / 29,000@Q4
P40503-B21	HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	5,256	3.0	516 / 480	125 / 50	61,000 / 31,000	72,000@Q32 / 31,000@Q4
P40504-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	10,000	3.0	516 / 480	125 / 52	59,000 / 31,000	71,000@Q32 / 31,000@Q4
P40505-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	21,024	3.0	510 / 480	140 / 76	59,000 / 32,000	70,000@Q32 / 35,000@Q4
P47419-B21	HPE 960GB SATA 6G Mixed Use LFF SCC Multi Vendor SSD	6,000	3.5	516 / 480	125 / 50	61,000 / 31,000	72,000@Q32 / 31,000@Q4
Read Intensive Multi Vendor SATA Drives							
P18420-X21	HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	438	1.0	400 / 235	124 /61	44,000 / 16,000	45,000@Q16 / 10,500@Q1
P18422-X21	HPE 480GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	700	0.8	510 / 395	125 / 53	63,000 / 25,000	73,000@Q32 / 25,000@Q1
P18424-X21	HPE 960GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1,400	0.8	506 / 480	125 / 53	63,000 / 29,000	73,000@Q32 / 29,000@Q4
P18426-X21	HPE 1.92TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	2,800	0.8	519 / 470	125 / 60	55,500 / 24,000	56,000@Q32 / 25,000@Q32
P18428-X21	HPE 3.84TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	5,256	0.8	503 / 480	125 / 65	63,000 / 22,500	72,000@Q32 / 23,000@Q1
P18430-X21	HPE 7.68TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	9,111	0.7	505 / 480	126 / 87	65,000 / 11,500	57,000@Q32 / 10,000@Q1
P40496-B21	HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	438	1.0	400 / 235	124 /61	44,000 / 16,000	45,000@Q16 / 16,500@Q4
P40497-B21	HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	700	0.8	510 / 395	125 / 53	63,000 / 25,000	73,000@Q32 / 25,000@Q1

Technical Specifications

SATA Interface – (Speeds & Feeds) MULTI VENDOR							
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)**
P40498-B21	HPE 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1,400	0.8	506 / 480	125 / 53	63,000 / 29,000	73,000@Q32 / 29,000@Q4
P40499-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	2,400	0.8	519 / 470	125 / 60	55,500 / 24,000	56,000@Q32 / 25,000@Q32
P40500-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	5,256	0.8	503 / 480	125 / 65	63,000 / 22,500	72,000@Q32 / 23,000@Q1
P40501-B21	HPE 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	9,111	0.7	505 / 480	126 / 87	65,000 / 11,500	73,000@Q32 / 11,800@Q64
P47807-B21	HPE 480GB SATA 6G Read Intensive LFF SCC Multi Vendor SSD	700	0.8	510 / 395	125 / 53	63,000 / 25,000	73,000@Q32 / 25,000@Q1
P47808-B21	HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD	1,400	0.8	506 / 480	125 / 53	63,000 / 29,000	73,000@Q32 / 29,000@Q4
P65272-B21	HPE 480GB SATA 6G Read Intensive SFF RW Multi Vendor SSD	876	1.0	515 / 449	111 / 38	68,000 / 29,000	77,000@Q32 / 29,000@Q4

Technical Specifications

SATA Power and Height Specifications MULTI VENDOR

SATA Interface – (Power & Height) MULTI VENDOR									
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**
Mixed Use Multi Vendor SATA Drives									
P18432-X21	HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	1.50	3.55	3.55	3.56	4.00	2.94	5.00	7mm
P18434-X21	HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	1.50	3.90	3.90	3.10	4.10	2.81	5.00	7mm
P18436-X21	HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	1.50	3.90	3.90	3.20	4.10	3.04	5.00	7mm
P18438-X21	HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	1.50	4.50	4.50	3.66	4.39	3.17	5.00	7mm
P40502-B21	HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	1.50	3.55	3.55	3.56	4.00	2.94	5.00	7mm
P40503-B21	HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	1.50	3.90	3.90	3.10	4.10	2.81	5.00	7mm
P40504-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	1.50	3.90	3.90	3.20	4.10	3.04	5.00	7mm
P40505-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	1.50	4.50	4.50	3.66	4.39	3.17	5.00	7mm
P47419-B21	HPE 960GB SATA 6G Mixed Use LFF SCC Multi Vendor SSD	1.50	3.90	3.90	3.10	4.10	2.81	5.00	7mm
Read Intensive Multi Vendor SATA Drives									
P18420-X21	HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1.50	3.05	3.05	3.00	3.50	2.10	5.00	7mm
P18422-X21	HPE 480GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1.50	3.50	3.50	3.15	3.75	2.54	5.00	7mm
P18424-X21	HPE 960GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1.50	4.05	4.05	3.10	4.00	2.66	5.00	7mm
P18426-X21	HPE 1.92TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1.50	4.10	4.10	3.16	4.00	3.15	5.00	7mm
P18428-X21	HPE 3.84TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1.50	4.10	4.10	3.56	4.25	3.46	5.00	7mm
P18430-X21	HPE 7.68TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1.54	2.99	2.99	2.46	3.55	2.99	3.55	7mm
P40496-B21	HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1.50	3.05	3.05	3.00	3.50	2.10	5.00	7mm
P40497-B21	HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1.50	3.50	3.50	3.15	3.75	2.54	5.00	7mm

Technical Specifications

SATA Interface – (Power & Height) MULTI VENDOR									
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
P40498-B21	HPE 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1.50	4.05	4.05	3.10	4.00	2.66	5.00	7mm
P40499-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1.50	4.10	4.10	3.16	4.00	3.15	5.00	7mm
P40500-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1.50	4.10	4.10	3.56	4.25	3.46	5.00	7mm
P40501-B21	HPE 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1.54	2.99	2.99	2.46	3.55	2.99	3.55	7mm
P47807-B21	HPE 480GB SATA 6G Read Intensive LFF SCC Multi Vendor SSD	1.50	3.50	3.50	3.15	3.75	2.54	5.00	7mm
P47808-B21	HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD	1.50	4.05	4.05	3.10	4.00	2.66	5.00	7mm
P65272-B21	HPE 480GB SATA 6G Read Intensive SFF RW Multi Vendor SSD	1.50	3.50	3.50	3.15	3.75	2.45	5.00	7mm

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.
- Multi-vendor SKUs are composed of numerous vendor manufactured SSDs within a given SATA capacity SKU. When ordering a particular SKU-B21 number the customer will receive a homogenous set of vendor manufactured SSDs in that capacity that has met or exceeds the HPE qualification standards published above.

SATA Certifications MULTI VENDOR

- Prequalified certification will be listed in the HPE Selector Tool **http://ssd.hpe.com/ .**
- For latest vSAN Compatibility, please visit **Broadcom vSAN SSD Compatibility Guide** and enter specific HPE Part Number to confirm compatibility.
- For latest Windows OS Certification and SDDC (Software Defined Data Center) Premium AQ Certification please visit **https://www.windowsservercatalog.com/** and enter specific HPE Model Number to confirm compatibility.

Technical Specifications

SAS Capacity, Workload, Carrier 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	Port	Server Gen Supported (Select Platforms)
Write Intensive SAS Drives											
Mixed Use SAS Drives											
P49048-B21	HPE 1.6TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	1,600	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P49052-B21	HPE 3.2TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	3,200	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P49056-B21	HPE 6.4TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	6,400	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P49047-B21	HPE 800GB SAS 24G Mixed Use SFF BC Multi Vendor SSD	800	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P49049-B21	HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	1,600	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P49053-B21	HPE 3.2TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	3,200	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P49057-B21	HPE 6.4TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	6,400	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
Mixed Use SAS Self-Encrypting Drives (SED)											
P63871-B21	HPE 1.6TB SAS Mixed Use SFF BC Self-encrypting FIPS 140-2 PM7 SSD	1,600	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus,11
Read Intensive SAS Drives											
P49028-B21	HPE 960GB SAS 12G Read Intensive SFF SC Multi Vendor SSD	960	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P49030-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	1,920	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P49034-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	3,840	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P49039-B21	HPE 7.68TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	7,680	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P49044-B21	HPE 15.36TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	15,360	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P49029-B21	HPE 960GB SAS 24G Read Intensive SFF BC Multi Vendor SSD	960	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P49031-B21	HPE 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	1,920	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus

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**	**Port**	**Server Gen Supported (Select Platforms)**
P49035-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	3,840	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P49041-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	7,680	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P49045-B21	HPE 15.36TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	15,360	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
Read Intensive SAS Self-Encrypting Drives (SED)											
P63875-B21	HPE 3.84TB SAS Read Intensive SFF BC Self-encrypting FIPS 140-2 PM7 SSD	3,840	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus,11

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

Technical Specifications

SAS Speeds and Feeds Specifications

SAS Interface – (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)**
Write Intensive SAS Drives							
Mixed Use SAS Drives							
P49048-B21	HPE 1.6TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	8,760	3	1,080 / 1,030	185 / 95	115,000 / 120,000	173,000@Q64 / 120,000@Q16
P49052-B21	HPE 3.2TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	17,121	3	1,080 / 1,030	165 / 95	110,000 / 120,000	173,000@Q64 / 130,000@Q16
P49056-B21	HPE 6.4TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	34,241	3	1,080 / 1,030	195 / 95	105,000 / 120,000	173,000@Q64 / 130,000@Q16
P49047-B21	HPE 800GB SAS 24G Mixed Use SFF BC Multi Vendor SSD	4,380	3	1,090 / 1,040	94 / 34	150,000 / 135,000	174,000@Q64 / 120,000@Q16
P49049-B21	HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	8,760	3	2,030 / 1,950	90 / 27	150,000 / 165,000	155,000@Q64 / 165,000@Q16
P49053-B21	HPE 3.2TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	17,121	3	2,030 / 1,950	97 / 29	145,000 / 160,000	155,000@Q64 / 160,000@Q16
P49057-B21	HPE 6.4TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	32,241	3	1,080 / 1,035	108 / 32	135,000 / 125,000	173,000@Q64 / 130,000@Q16
Mixed Use SAS Self-Encrypting Drives (SED)							
P63871-B21	HPE 1.6TB SAS Mixed Use SFF BC Self-encrypting FIPS 140-2 PM7 SSD	8,760	3.00	2,047 / 2,046	78 / 23	184,642 / 317,376	308,406@Q64 / 325,959@Q128
Read Intensive SAS Drives							
P49028-B21	HPE 960GB SAS 12G Read Intensive SFF SC Multi Vendor SSD	1,712	1	1,080 / 1,030	180 / 96	115,000 / 46,000	173,000@Q64 / 46,000@Q4
P49030-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	3,424	1	1,080 / 1,030	190 / 95	115,000 / 70,000	173,000@Q64 / 70,000@Q32
P49034-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	6,848	1	1,080 / 1,030	175 / 95	110,000 / 78,000	173,000@Q64 / 78,000@Q4
P49039-B21	HPE 7.68TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	13,697	1	1,080 / 1,030	190 / 95	105,000 / 55,000	173,000@Q64 / 56,000@Q4
P49044-B21	HPE 15.36TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	27,393	1	1,080 / 1,030	185 / 95	100,000 / 63,000	173,000@Q64 / 64,000@Q16
P49029-B21	HPE 960GB SAS 24G Read Intensive SFF BC Multi Vendor SSD	1,712	1	2,030 / 1,280	90 / 26	155,000 / 65,000	174,000@Q64 / 65,000@Q4
P49031-B21	HPE 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	3,424	1	2,030 / 1,950	90 / 29	150,000 / 100,000	155,000@Q32 / 100,000@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 (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)**
P49035-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	7,008	1	2,030 / 1,950	97 / 27	145,000 / 114,000	155,000@Q32 / 100,000@Q4
P49041-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	14,016	1	2,030 / 1,950	97 / 29	145,000 / 140,000	155,000@Q64 / 140,000@Q16
P49045-B21	HPE 15.36TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	27,393	1	2,030 / 1,950	97 / 26	150,000 / 140,000	174,000@Q64 / 145,000@Q16
Read Intensive SAS Self-Encrypting Drives (SED)							
P63875-B21	HPE 3.84TB SAS Read Intensive SFF BC Self-encrypting FIPS 140-2 PM7 SSD	7,008	1.00	2,047 / 2,037	77 / 23	186,622 / 159,779	308,508@Q64 / 160,497@Q128

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines**.**
- 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**
Write Intensive SAS Drives									
Mixed Use SAS Drives									
P49048-B21	HPE 1.6TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	3.83	6.59	6.59	6.55	9.60	6.59	9.60	15mm
P49052-B21	HPE 3.2TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	3.74	6.95	6.95	6.60	10.16	6.95	10.16	15mm
P49056-B21	HPE 6.4TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	3.69	7.63	7.63	7.70	9.82	7.63	9.82	15mm
P49047-B21	HPE 800GB SAS 24G Mixed Use SFF BC Multi Vendor SSD	4.66	6.47	6.47	8.28	8.56	6.47	8.56	15mm
P49049-B21	HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	6.11	8.00	8.00	8.84	13.61	8.00	13.61	15mm
P49053-B21	HPE 3.2TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	6.27	8.56	8.56	9.00	16.89	8.56	16.89	15mm
P49057-B21	HPE 6.4TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	6.12	8.77	8.77	10.49	17.64	8.77	17.64	15mm
Mixed Use SAS Self-Encrypting Drives (SED)									
P63871-B21	HPE 1.6TB SAS Mixed Use SFF BC Self-encrypting FIPS 140-2 PM7 SSD	5.00	10.56	13.80	9.75	14.99	14.80	16.00	15mm
Read Intensive SAS Drives									
P49028-B21	HPE 960GB SAS 12G Read Intensive SFF SC Multi Vendor SSD	3.67	6.68	6.68	6.76	8.35	6.68	8.35	15mm
P49030-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	3.69	6.74	6.74	6.47	9.57	6.74	9.57	15mm
P49034-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	3.42	7.00	7.00	6.63	9.19	7.00	9.19	15mm
P49039-B21	HPE 7.68TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	4.04	7.92	7.92	7.36	10.26	7.92	10.26	15mm
P49044-B21	HPE 15.36TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	4.18	8.67	8.67	7.97	9.88	8.67	9.88	15mm
P49029-B21	HPE 960GB SAS 24G Read Intensive SFF BC Multi Vendor SSD	6.19	7.81	7.81	8.42	10.34	7.81	10.34	15mm
P49031-B21	HPE 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	6.17	7.96	7.96	8.64	13.66	7.96	13.66	15mm
P49035-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	6.33	8.94	8.94	9.00	16.82	8.94	16.82	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**
P49041-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	6.10	8.90	8.90	10.10	17.29	8.90	17.29	15mm
P49045-B21	HPE 15.36TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	6.64	8.94	8.94	12.40	17.62	8.94	17.62	15mm
Read Intensive SAS Self-Encrypting Drives (SED)									
P63875-B21	HPE 3.84TB SAS Read Intensive SFF BC Self-encrypting FIPS 140-2 PM7 SSD	5.00	11.22	15.48	11.47	16.02	16.20	18.00	15mm

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines**.**
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

SAS Certifications

- Prequalified certification will be listed in the HPE Selector Tool **http://ssd.hpe.com/ .**
- For latest vSAN Compatibility, please visit **Broadcom vSAN SSD Compatibility Guide** and enter specific HPE Part Number to confirm compatibility.
- For latest Windows OS Certification and SDDC (Software Defined Data Center) Premium AQ Certification please visit **https://www.windowsservercatalog.com/**and enter specific HPE Model Number to confirm compatibility.

Technical Specifications

Value SAS Capacity, Workload, Carrier Specifications MULTI VENDOR

Value SAS Interface– (Capacity, Workload, Carrier...) MULTI VENDOR											
HPE Option Kit SKU	**Long Description**	**Capacity**	**Workload Type**	**Interface Type**	**Form Factor**	**Plug Type**	**Carrier Type**	**Digitally Signed Firmware (DS)**	**Flash Type**	**Port**	**Server Gen Supported (Select Platforms)**
Mixed Use Multi Vendor Value SAS Drives											
P37009-B21	HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD	960	MU	Value SAS	LFF	Hot Plug	LPC	Yes	TLC	Single	Gen10,10 Plus
P37011-B21	HPE 1.92TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	1,920	MU	Value SAS	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P40510-B21	HPE 960GB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	960	MU	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P40511-B21	HPE 1.92TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	1,920	MU	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P40512-B21	HPE 3.84TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	3,840	MU	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
Read Intensive Multi Vendor Value SAS Drives											
P36999-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	1,920	RI	Value SAS	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P37001-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	1,920	RI	Value SAS	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P40506-B21	HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	960	RI	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11

Technical Specifications

Value SAS Interface– (Capacity, Workload, Carrier...) MULTI VENDOR											
HPE Option Kit SKU	**Long Description**	**Capacity**	**Workload Type**	**Interface Type**	**Form Factor**	**Plug Type**	**Carrier Type**	**Digitally Signed Firmware (DS)**	**Flash Type**	**Port**	**Server Gen Supported (Select Platforms)**
Read Intensive Multi Vendor Value SAS Drives											
P40507-B21	HPE 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	1,920	RI	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P40508-B21	HPE 3.84TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	3,840	RI	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P40509-B21	HPE 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	7,680	RI	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.
- Multi-vendor SKUs are composed of numerous vendor manufactured SSDs within a given SATA capacity SKU. When ordering a particular SKU-B21 number the customer will receive a homogenous set of vendor manufactured SSDs in that capacity that has met or exceeds the HPE qualification standards published above.

Technical Specifications

Value SAS Speeds and Feeds Specifications MULTI VENDOR

Value SAS Interface – (Speeds & Feeds) MULTI VENDOR							
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)**
Mixed Use Multi Vendor Value SAS Drives							
P37009-B21	HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD	5,200	3.0	820 / 650	122 / 34	105,000 / 42,322	160,000@Q64 / 51,000@Q32
P37011-B21	HPE 1.92TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	10,000	3.0	820 / 650	134 / 38	96,000 / 51,000	160,000@Q64 / 51,000@Q256
P40510-B21	HPE 960GB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	5,200	3.0	790 / 635	130 / 35	105,000 / 42,322	155,000@Q32 / 42,322@Q16
P40511-B21	HPE 1.92TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	10,000	3.0	820 / 635	140 / 38	96,000 / 51,000	155,000@Q32 / 51,000@Q256
P40512-B21	HPE 3.84TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	21,000	3.0	820 / 650	129 / 34	105,000 / 51,000	160,000@Q32 / 51,000@Q256
Read Intensive Multi Vendor Value SAS Drives							
P36999-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	3,500	1.00	820 / 620	122 / 34	108,713 / 41,000	160,000@Q64 / 41,000@Q4
P37001-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	7,000	1.00	820 / 650	129 / 35	100,000 / 41,000	160,000@Q64 / 42,000@Q128
P40506-B21	HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	1,700	1.00	820 / 650	121 / 34	105,000 / 41,000	160,000@Q32 / 41,000@Q4
P40507-B21	HPE 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	3,500	1.00	820 / 620	122 / 34	108,713 / 41,000	160,000@Q64 / 41,000@Q4
Read Intensive Multi Vendor Value SAS Drives							
P40508-B21	HPE 3.84TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	7,000	1.00	820 / 650	129 / 35	100,000 / 41,000	160,000@Q64 / 42,000@Q128
P40509-B21	HPE 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	14,000	1.00	820 / 695	129 / 38	108,9550 / 41,550	160,000@Q256 / 41,789@Q16

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.
- Multi-vendor SKUs are composed of numerous vendor manufactured SSDs within a given SAS capacity SKU. When ordering a particular SKU-B21 number the customer will receive a homogenous set of vendor manufactured SSDs in that capacity that has met or exceeds the HPE qualification standards published above.

Technical Specifications

Value SAS Power and Height Specifications MULTI VENDOR

Value SAS Interface – (Power & Height) MULTI VENDOR									
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**
Mixed Use Multi Vendor Value SAS Drives									
P37009-B21	HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD	4.71	5.04	4.95	8.13	5.78	5.04	9.00	15mm
P37011-B21	HPE 1.92TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	4.88	6.08	5.35	8.21	6.25	6.08	9.00	15mm
P40510-B21	HPE 960GB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	4.71	5.04	4.95	8.13	5.78	5.04	9.00	15mm
P40511-B21	HPE 1.92TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	4.88	6.08	5.35	8.21	6.25	6.08	9.00	15mm
P40512-B21	HPE 3.84TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	4.99	6.26	5.79	8.23	6.57	6.26	9.00	15mm
Read Intensive Multi Vendor Value SAS Drives									
P36999-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	4.60	6.33	5.12	7.66	6.62	6.33	9.00	15mm
P37001-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	4.99	6.52	5.79	8.03	7.26	6.52	9.00	15mm
P40506-B21	HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	4.49	5.10	5.00	7.60	5.98	5.10	9.00	15mm
P40507-B21	HPE 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	4.60	6.33	5.12	7.66	6.62	6.33	9.00	15mm
P40508-B21	HPE 3.84TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	4.99	6.52	5.79	8.03	7.26	6.52	9.00	15mm
P40509-B21	HPE 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	4.69	7.69	5.70	8.45	6.91	7.69	9.00	15mm

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.
- Multi-vendor SKUs are composed of numerous vendor manufactured SSDs within a given SAS capacity SKU. When ordering a particular SKU-B21 number the customer will receive a homogenous set of vendor manufactured SSDs in that capacity that has met or exceeds the HPE qualification standards published above.

Technical Specifications

Value SAS Certifications MULTI VENDOR

- Prequalified certification will be listed in the HPE Selector Tool **http://ssd.hpe.com/ .**
- For latest vSAN Compatibility, please visit **Broadcom vSAN SSD Compatibility Guide** and enter specific HPE Part Number to confirm compatibility.
- For latest Windows OS Certification and SDDC (Software Defined Data Center) Premium AQ Certification please visit **https://www.windowsservercatalog.com/** and enter specific HPE Model Number to confirm compatibility.

PCIe/NVMe Capacity, Workload, Carrier 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	Flash Type	Port	Server Gen Supported (Select Platforms)
NVMe High Performance and Mainstream Mixed Use Drives											
P50225-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735a SSD	1,600	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10
P50227-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	1,600	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus, 11
P50230-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	3,200	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P50233-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	6,400	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus, 11
P63845-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD	1,600	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus, 11
P63849-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD	3,200	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus, 11
P70426-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PS1030 SSD	3,200	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P70428-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PS1030 SSD	6,400	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P63853-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD	6,400	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus, 11
P64999-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	800	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P65007-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	1,600	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P65015-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	3,200	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11

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**	**Flash Type**	**Port**	**Server Gen Supported (Select Platforms)**
P65023-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	6,400	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
NVMe High Performance and Mainstream Read Intensive Drives											
P50216-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	1,920	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P50219-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	3,840	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P50222-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	7,680	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P50224-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	15,360	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P63829-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	1,920	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus,11
P63833-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	3,840	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus,11
P63837-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	7,680	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus,11
P63841-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	15,360	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus,11
P70434-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PS1010 SSD	7,680	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus,11
P70436-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PS1010 SSD	15,360	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus,11
P64842-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	960	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P64844-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	1,920	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P64846-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	3,84	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P64848-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	7,680	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11

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**	**Flash Type**	**Port**	**Server Gen Supported (Select Platforms)**
P69255-B21	HPE 15.36TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static SPDM Multi Vendor SSD	15,360	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
NVMe High Performance Self-Encrypting Drives (SED) and Federal Information Processing Standards (FIPS) SFF SSDs											
P61019-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	1,920	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P61027-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	3,840	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P61035-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	7,680	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P61043-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	1,600	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P61051-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	3,200	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11
P61059-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	6,400	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus, 11

Technical Specifications

PCIe/NVMe Speeds and Feeds 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)**
NVMe High Performance and Mainstream Mixed Use Drives							
P50225-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735a SSD	8,760	3.00	7,100 / 2,500	70 / 19	220,000 / 270,000	1,250,000@256 / 280,000@64
P50227-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	8,760	3.00	7,100 / 2,500	70 / 19	220,000 / 270,000	1,250,000@Q256 / 280,000@Q64
P50230-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	17,520	3.00	7,100 / 4,200	70 / 19	225,000 / 310,000	1,350,000@Q256 / 320,000@Q64
P50233-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	35,040	3.00	7,100 / 4,200	79 / 19	200,000 / 310,000	1,350,000@Q256 / 320,000@Q64
P63845-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD	8,760	3.00	7,155 / 3,409	67 / 11	221,887 / 318,295	1,242,113Q128 / 318,187@Q16
P63849-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD	17,520	3.00	7,118 / 6,818	67 / 11	225,305 / 582,238	1,334,274@Q256 / 654,401@Q256
P63853-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD	35,040	3.00	7,117 / 6,831	67 / 11	226,351 / 538,037	1,286,234@Q256 / 592,261@Q32
P70426-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PS1030 SSD	20,031	3.43	7,066 / 6,373	61 / 15	250,180 / 657,811	922,894@256 / 714,198@256
P70428-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PS1030 SSD	40,062	3.43	7,066 / 6,345	60 / 14	251,921 / 732,734	903,765@256 / 794,791@256
P64999-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	4,380	3.0	6,200 / 1,383	72 / 16	189,142 / 158,900	543,727@256 / 159,907@4
P65007-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	8,760	3.0	6,200 / 2,731	72 / 16	202,668 / 283,846	812,698@256 / 283,568@16
P65015-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	17,520	3.0	6,200 / 4,300	73 / 16	209,431 / 382,266	930,000@Q256 / 390,000@16
P65023-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	35,040	3.0	6,200 / 4,300	73 / 16	211,802 / 394,003	950,000@Q256 / 408,171@16
NVMe High Performance and Mainstream Read Intensive Drives							
P50216-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	3,504	1.00	7,100 / 2,500	70 / 19	220,000 / 125,000	1,250,000@Q256 / 130,000@Q4

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)**
P50219-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	7,008	1.00	7,100 / 4,200	70 / 19	225,000 / 140,000	1,350,000@Q256 / 170,000@Q4
P50222-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	14,016	1.00	7,100 / 4,200	79 / 19	200,000 / 175,000	1,350,000@Q256 / 180,000@Q4
P50224-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	28,032	1.00	7,100 / 4,200	79 / 19	200,000 / 175,000	1,350,000@Q256 / 185,000@Q4
P63829-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	3,504	1.00	7,160 / 3,421	67 / 11	222,075 / 161,441	1,198,665@Q256 / 161,460Q4
P63833-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	7,008	1.00	7,151 / 6,813	67 / 11	225,439 / 307,155	1,207,140@Q256 / 332,212@Q32
P63837-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	14,016	1.00	7,165 / 6,831	67 / 11	225,888 / 298,739	1,202,924@Q128 / 316,613@Q32
P63841-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	28,032	1.00	7,162 / 6,832	67 / 11	227,113 / 312,673	1,225,944@Q128 / 326,121@Q32
P70434-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PS1010 SSD	19,622	1.40	7,066 / 6,347	61 / 16	252,232 / 411,445	944,867@256 / 413,020@16
P70436-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PS1010 SSD	40,366	1.44	7,066 / 6,412	61 / 15	252,285 / 390,850	994,678@256 / 395,203@16
P64842-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	1,752	1.0	6,200 / 1,395	72 / 17	189,027 / 71,425	543,737@256 / 71,429@Q4

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)**
P64844-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	3,504	1.0	6,200 / 2,681	73 / 17	202,698 / 133,123	811,976@256 / 133,753@4
P64846-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	7,008	1.0	6,200 / 3,969	72 / 17	209,990 / 180,000	984,200@256 / 180,000@4
P64848-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	14,016	1.0	6,200 / 3,870	76 / 17	196,951 / 190,000	950,000@Q256 / 190,000@4
P69255-B21	HPE 15.36TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static SPDM Multi Vendor SSD	28,032	1.0	6,730 / 5,947	70 / 16	220,577 / 267,851	1,098,870@256 / 274,294@16
NVMe High Performance Self-Encrypting Drives (SED) and Federal Information Processing Standards (FIPS) SFF SSDs							
P61019-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	3,504	1.00	7,160 / 3,421	67 / 11	222,075 / 161,441	1,198,665@Q256 / 161,460Q4
P61027-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	7,008	1.00	7,151 / 6,813	67 / 11	225,439 / 307,155	1,207,140@Q256 / 332,212@Q32
P61035-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	14,016	1.00	7,165 / 6,831	67 / 11	225,888 / 298,739	1,202,924@Q128 / 316,613@Q32
P61043-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	8,760	3.00	7,155 / 3,409	67 / 11	221,887 / 318,295	1,242,113Q128 / 318,187@Q16
P61051-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	17,520	3.00	7,118 / 6,818	67 / 11	225,305 / 582,238	1,334,274@Q256 / 654,401@Q256
P61059-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	35,040	3.00	7,117 / 6,831	67 / 11	226,351 / 538,037	1,286,234@Q256 / 592,261@Q32

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

Technical Specifications

PCIe/NVMe Power & Height 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**
NVMe High Performance and Mainstream Mixed Use Drives									
P50225-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735a SSD	4.40	15.10	14.10	13.90	14.20	13.50	15.10	15mm
P50227-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	4.40	15.10	14.10	13.90	14.20	13.50	15.10	15mm
P50230-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	4.60	17.10	15.10	14.60	18.40	15.80	18.40	15mm
P50233-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	4.20	17.60	15.30	14.80	18.70	15.50	18.70	15mm
P63845-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD	3.41	15.60	12.66	12.94	13.28	13.22	18.00	15 mm
P63849-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD	3.53	16.58	18.80	13.60	20.18	18.04	22.00	15 mm
P63853-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM7 SSD	3.61	17.76	19.18	14.17	21.90	19.57	24.00	15 mm
P70426-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PS1030 SSD	3.96	13.12	15.70	11.22	14.43	15.90	16.01	15 mm
P70428-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PS1030 SSD	4.23	15.16	19.48	12.75	15.62	19.91	20.31	15 mm
P64999-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	5.00	10.06	8.28	10.64	8.70	8.35	13.00	15mm
P65007-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	5.00	11.94	11.58	10.96	11.75	10.62	16.00	15mm
P65015-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	5.00	12.65	12.38	11.31	14.80	11.79	17.00	15mm
P65023-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static V2 Multi Vendor SSD	5.00	12.75	14.32	12.10	17.92	13.55	21.00	15mm
NVMe High Performance and Mainstream Read Intensive Drives									
P50216-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	4.30	15.10	14.10	13.90	14.20	13.50	15.10	15mm

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**
P50219-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	4.20	17.30	16.20	14.50	18.70	16.60	18.70	15mm
P50222-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	4.30	17.80	16.20	14.90	19.00	16.60	19.00	15mm
P50224-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	4.30	18.60	16.80	16.60	20.00	16.90	20.00	15mm
P63829-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	3.60	15.53	12.54	13.02	13.49	12.80	18.00	15 mm
P63833-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	3.71	16.79	18.37	13.74	20.16	17.88	22.00	15 mm
P63837-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	3.62	17.53	19.69	14.14	21.68	19.58	24.00	15 mm
P63841-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM7 SSD	3.97	18.78	20.94	15.02	22.61	20.33	25.00	15 mm
P70434-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PS1010 SSD	4.17	15.14	20.61	12.65	15.66	20.98	21.12	15 mm
P70436-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PS1010 SSD	4.48	16.85	21.21	13.82	16.49	21.33	21.74	15 mm
P64842-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	5.00	8.96	8.00	9.60	8.42	8.50	13.00	15mm
P64844-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	5.00	9.50	11.28	10.00	11.33	10.25	16.00	15mm
P64846-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	5.00	10.56	13.00	10.82	14.80	11.48	17.00	15mm
P64848-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static V2 Multi Vendor SSD	5.00	11.50	13.96	12.10	15.28	13.25	21.00	15mm
P69255-B21	HPE 15.36TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static SPDM Multi Vendor SSD	5.00	13.40	13.40	12.40	15.40	13.10	15.60	15MM
NVMe High Performance Self-Encrypting Drives (SED) and Federal Information Processing Standards (FIPS) SFF SSDs									

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
P61019-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	3.60	15.53	12.54	13.02	13.49	12.80	18.00	15 mm
P61027-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	3.71	16.79	18.37	13.74	20.16	17.88	22.00	15 mm
P61035-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	3.62	17.53	19.69	14.14	21.68	19.58	24.00	15 mm
P61043-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	3.41	15.60	12.66	12.94	13.28	13.22	18.00	15 mm
P61051-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	3.53	16.58	18.80	13.60	20.18	18.04	22.00	15 mm
P61059-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 Self-encrypting FIPS 140-3 CM7 SSD	3.61	17.76	19.18	14.17	21.90	19.57	24.00	15 mm

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines**.**
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

NVMe Certifications

- Prequalified certification will be listed in the HPE Selector Tool **http://ssd.hpe.com/ .**
- For latest vSAN Compatibility, please visit **Broadcom vSAN SSD Compatibility Guide** and enter specific HPE Part Number to confirm compatibility.
- For latest Windows OS Certification and SDDC (Software Defined Data Center) Premium AQ Certification please visit **https://www.windowsservercatalog.com/**and enter specific HPE Model Number to confirm compatibility.

PCIe/NVMe EDSFF E3.S Capacity, Workload, Carrier Specifications

PCIe/NVMe EDSFF E3.S – 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	Port	Server Gen Supported (Select
NVMe Main Performance Mixed Use EDSFF E3.S SSDs											

Technical Specifications

PCIe/NVMe EDSFF E3.S – 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**	**Port**	**Server Gen Supported (Select**
P69241-B21	HPE 1.6TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 CD8P SSD	1,600	MU	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P69243-B21	HPE 3.2TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 CD8P SSD	3,200	MU	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P69245-B21	HPE 6.4TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 CD8P SSD	6,400	MU	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P77262-B21	HPE 1.6TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 EDSFF SPDM PE1030 SSD	1,600	MU	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P77265-B21	HPE 3.2TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 EDSFF SPDM PE1030 SSD	3,200	MU	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P77267-B21	HPE 6.4TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 EDSFF SPDM PE1030 SSD	6,400	MU	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
NVMe Main Performance Read Intensive EDSFF E3.S SSDs											
P69234-B21	HPE 1.92TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	1,920	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P69237-B21	HPE 3.84TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	3,840	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P69239-B21	HPE 7.68TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	7,680	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P69546-B21	HPE 15.36TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	15,360	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P77269-B21	HPE 1.92TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF SPDM PE1010 SSD	1,920	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P77271-B21	HPE 3.84TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF SPDM PE1010 SSD	3,840	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P77273-B21	HPE 7.68TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF SPDM PE1010 SSD	7,680	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P77275-B21	HPE 15.36TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF SPDM PE1010 SSD	15,360	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
NVMe Main Performance Very Read Optimized EDSFF E3.S SSDs											

Technical Specifications

PCIe/NVMe EDSFF E3.S – 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**	**Port**	**Server Gen Supported (Select**
P63930-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	3,840	VRO	NVMe	E3.S	Hot Plug	EC1	Yes	QLC	Single	Gen11, 12
P63934-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	7,680	VRO	NVMe	E3.S	Hot Plug	EC1	Yes	QLC	Single	Gen11, 12
P63938-B21	HPE 15.36TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	15,360	VRO	NVMe	E3.S	Hot Plug	EC1	Yes	QLC	Single	Gen11, 12
P79065-B21	HPE 30.72TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	30,720	VRO	NVMe	E3.S	Hot Plug	EC1	Yes	QLC	Single	Gen11, 12
NVMe High Performance Mixed Use EDSFF E3.S SSDs											
P61191-B21	HPE 3.2TB NVMe Gen5 High Performance Mixed Use E3S EC1 EDSFF SPDM CM7 SSD	3,200	MU	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P61195-B21	HPE 6.4TB NVMe Gen5 High Performance Mixed Use E3S EC1 EDSFF SPDM CM7 SSD	6,400	MU	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P70399-B21	HPE 3.2TB NVMe Gen5 High Performance Mixed Use E3S EC1 PS1030 SSD	3,200	MU	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P70401-B21	HPE 6.4TB NVMe Gen5 High Performance Mixed Use E3S EC1 PS1030 SSD	6,400	MU	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P70403-B21	HPE 12.8TB NVMe Gen5 High Performance Mixed Use E3S EC1 PS1030 SSD	12,800	MU	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
NVMe High Performance Read Intensive EDSFF E3.S SSDs											
P57799-B21	HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM PM1743 SSD	3,840	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P57803-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM PM1743 SSD	7,680	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P57807-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM PM1743 SSD	15,360	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P61179-B21	HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM CM7 SSD	3,840	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P61183-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM CM7 SSD	7,680	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12

Technical Specifications

PCIe/NVMe EDSFF E3.S – 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	Port	Server Gen Supported (Select
P61187-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM CM7 SSD	15,360	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P70392-B21	HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 PS1010 SSD	3,840	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P70395-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 PS1010 SSD	7,680	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P70397-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 PS1010 SSD	15,360	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
NVMe High Performance Self-Encrypting Drives (SED) and Federal Information Processing Standards (FIPS) E3S SSDs											
P70674-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 Self-encrypting FIPS 140-3 CM7 SSD	7,680	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P79122-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 Self-encrypting FIPS 140-3 CM7 SSD	15,360	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P70669-B21	HPE 3.2TB NVMe Gen5 High Performance Mixed Use E3S EC1 Self-encrypting FIPS 140-3 CM7 SSD	3,200	MU	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12
P70672-B21	HPE 6.4TB NVMe Gen5 High Performance Mixed Use E3S EC1 Self-encrypting FIPS 140-3 CM7 SSD	6,400	MU	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11, 12

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

PCIe/NVMe EDSFF E3.S Speeds and Feeds Specifications

PCIe/NVMe EDSFF E3.S – 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)
NVMe Main Performance Mixed Use EDSFF E3.S SSDs							
P69241-B21	HPE 1.6TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 CD8P SSD	8,760	3.00	11,837 / 3,429	75 / 15	199,703 / 314,566	1,289,951@Q256 / 315,178@QQ16
P69243-B21	HPE 3.2TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 CD8P SSD	17,520	3.00	11,837 / 5,425	75 / 15	206,818 / 424,436	1,262,557@Q256 / 423,326@Q16

Technical Specifications

PCIe/NVMe EDSFF E3.S – 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)**
P69245-B21	HPE 6.4TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 CD8P SSD	35,040	3.00	11,837 / 5,426	75 / 15	208,152 / 417,995	1,306,127@Q256 / 417,056@Q16
P77262-B21	HPE 1.6TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 EDSFF SPDM PE1030 SSD	11,855	4.06	11,536 / 4,173	56 / 10	262,149 / 383,174	1,304,501@256 / 382,283@16
P77265-B21	HPE 3.2TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 EDSFF SPDM PE1030 SSD	23,535	4.03	11,038 / 6,416	55 / 10	267,089 / 557,402	1,301,776@256 / 561,142@16
P77267-B21	HPE 6.4TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 EDSFF SPDM PE1030 SSD	47,304	4.05	11,502 / 5,851	56 / 10	268,651 / 544,111	1,327,381@256 / 545,439@32
NVMe Main Performance Read Intensive EDSFF E3.S SSDs							
P69234-B21	HPE 1.92TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	3,504	1.00	11,837 / 3,423	75 / 15	199,342 / 160,036	1,296,099@Q256 / 160,396@Q4
P69237-B21	HPE 3.84TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	7,008	1.00	11,837 / 5,426	73 / 15	207,244 / 211,371	1,300,978@Q256 / 211,905@Q16
P69239-B21	HPE 7.68TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	14,016	1.00	11,837 / 5,400	73 / 15	207,936 / 214,770	1,280,513@Q256 / 218,309@Q16
P69546-B21	HPE 15.36TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	28,032	1.00	11,837 / 5,316	95 / 15	160,484 / 210,452	1,296,764@256 / 212,280@16
P77269-B21	HPE 1.92TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF SPDM PE1010 SSD	5,011	1.43	11,654 / 4,109	56 / 10	261,725 / 176,961	1,308,969@256 / 177,226@4
P77271-B21	HPE 3.84TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF SPDM PE1010 SSD	9,741	1.39	11,526 / 6,363	56 / 10	265,590 / 261,446	1,295,535@256 / 264,090@64
P77273-B21	HPE 7.68TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF SPDM PE1010 SSD	19,622	1.40	11,019 / 5,816	56 / 10	267,826 / 225,842	1,322,295@256 / 226,065@32
P77275-B21	HPE 15.36TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF SPDM PE1010 SSD	40,086	1.43	11,498 / 6,109	56 / 10	268,651 / 242,563	1,317,146@256 / 243,361@4
NVMe Main Performance Very Read Optimized EDSFF E3.S SSDs							
P63930-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	3,860	0.55	5,316 / 908	100 / 16	134,391 / 59,452	541,934.1@Q256 / 63,638.9@Q32

Technical Specifications

PCIe/NVMe EDSFF E3.S – 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)**
P63934-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	8,040	0.57	6,965 / 1,750	100 / 14	144,842 / 109,023	804,975.3@Q256 / 116,139.2@Q128
P63938-B21	HPE 15.36TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	14,340	0.51	7,119 / 2,922	101 / 15	148,022 / 135,419	958,736.8@Q256 / 144,081.1@Q256
P79065-B21	HPE 30.72TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	31,220	0.56	6,967 / 3,017	97 / 14	157,188 / 82,689	971,306@Q256 / 85,721@Q16
NVMe High Performance Mixed Use EDSFF E3.S SSDs							
P61191-B21	HPE 3.2TB NVMe Gen5 High Performance Mixed Use E3S EC1 EDSFF SPDM CM7 SSD	17,520	3	13,852 / 6,802	70 / 15	215,995 / 599,050	1,159,100@Q128 / 649,489@Q16
P61195-B21	HPE 6.4TB NVMe Gen5 High Performance Mixed Use E3S EC1 EDSFF SPDM CM7 SSD	35,040	3	13,852 / 6,864	70 / 15	216,271 / 527,456	1,199,553@Q128 / 574,490@Q16
P70399-B21	HPE 3.2TB NVMe Gen5 High Performance Mixed Use E3S EC1 PS1030 SSD	19,914	3.41	14,123 / 7,936	57 / 12	266,442 / 708,847	1,198,444@Q256 / 719,249@Q256
P70401-B21	HPE 6.4TB NVMe Gen5 High Performance Mixed Use E3S EC1 PS1030 SSD	40,062	3.43	14,125 / 8,289	57 / 12	267,387 / 798,941	1,215,819@Q256 / 822,954@Q256
P70403-B21	HPE 12.8TB NVMe Gen5 High Performance Mixed Use E3S EC1 PS1030 SSD	81,526	3.49	14,125 / 8,050	57 / 12	268,034 / 847,716	1,218,330@Q256 / 894,439@Q256
NVMe High Performance Read Intensive EDSFF E3.S SSDs							
P57799-B21	HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM PM1743 SSD	7,008	1	13,821 / 5,850	73 / 19	220,626 / 288,895	1,040,714@Q128 / 290,896@Q16
P57803-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM PM1743 SSD	14,016	1	13,378 / 5,841	82 / 19	196,587 / 312,346	1,068,434@Q128 / 314,755@Q16
P57807-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM PM1743 SSD	28,032	1	13,800 / 7,276	82 / 19	197,931 / 359,542	1,060,146@Q128 / 363,570@Q16
P61179-B21	HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM CM7 SSD	7,008	1	13,852 / 6,868	70 / 15	215,993 / 325,008	1,202,413@Q128 / 342,962@Q16
P61183-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM CM7 SSD	14,016	1	13,852 / 6,860	70 / 14	215,951 / 302,927	1,175,981@Q128 / 321,298@Q16

Technical Specifications

PCIe/NVMe EDSFF E3.S – 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)**
P61187-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM CM7 SSD	28,032	1	12,520 / 5,337	92 / 14	165,451 / 273,611	1,174,204@Q128 / 276,715@Q16
P70392-B21	HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 PS1010 SSD	9,461	1.35	14,123 / 7,903	57 / 12	266,362 / 310,939	1,220,136@Q256 / 320,418@Q256
P70395-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 PS1010 SSD	18,922	1.35	14,126 / 8,258	57 / 12	267,567 / 413,609	1,187,283@Q256 / 413,886@Q256
P70397-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 PS1010 SSD	40,366	1.44	14,125 / 8,231	57 / 12	268,119 / 379,978	1,204,150@Q256 / 386,847@Q256
NVMe High Performance Self-Encrypting Drives (SED) and Federal Information Processing Standards (FIPS) E3S SSDs							
P70674-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 Self-encrypting FIPS 140-3 CM7 SSD	14,016	1	13,852 / 6,860	70 / 14	215,951 / 302,927	1,175,981@Q128 / 321,298@Q16
P79122-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 Self-encrypting FIPS 140-3 CM7 SSD	28,032	1	12,520 / 5,337	92 / 14	165,451 / 273,611	1,174,204@Q128 / 276,715@Q16
P70669-B21	HPE 3.2TB NVMe Gen5 High Performance Mixed Use E3S EC1 Self-encrypting FIPS 140-3 CM7 SSD	17,520	3	13,852 / 6,802	70 / 15	215,995 / 599,050	1,159,100@Q128 / 649,489@Q16
P70672-B21	HPE 6.4TB NVMe Gen5 High Performance Mixed Use E3S EC1 Self-encrypting FIPS 140-3 CM7 SSD	35,040	3	13,852 / 6,864	70 / 15	216,271 / 527,456	1,199,553@Q128 / 574,490@Q16

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

Technical Specifications

PCIe/NVMe EDSFF E3.S Power & Height Specifications

PCIe/NVMe EDSFF E3.S – (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
NVMe Main Performance Mixed Use EDSFF E3.S SSDs									
P69241-B21	HPE 1.6TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 CD8P SSD	3.98	15.94	13.19	17.34	13.91	13.68	17.76	7.5 mm
P69243-B21	HPE 3.2TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 CD8P SSD	4.03	18.08	15.20	17.55	17.75	18.70	19.07	7.5 mm
P69245-B21	HPE 6.4TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 CD8P SSD	4.23	20.57	16.74	19.83	19.75	20.63	21.05	7.5 mm
P77262-B21	HPE 1.6TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 EDSFF SPDM PE1030 SSD	4.39	14.21	12.48	14.07	12.69	12.64	14.23	7.5 mm
P77265-B21	HPE 3.2TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 EDSFF SPDM PE1030 SSD	4.31	15.12	14.59	14.02	15.20	15.04	15.23	7.5 mm
P77267-B21	HPE 6.4TB NVMe Gen5 Mainstream Performance Mixed Use E3S EC1 EDSFF SPDM PE1030 SSD	4.40	15.32	15.42	14.91	15.18	15.10	15.60	7.5 mm
NVMe Main Performance Read Intensive EDSFF E3.S SSDs									
P69234-B21	HPE 1.92TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	3.96	15.91	13.31	17.25	13.80	13.45	17.60	7.5 mm
P69237-B21	HPE 3.84TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	4.08	17.97	14.93	17.57	17.75	18.37	18.73	7.5 mm
P69239-B21	HPE 7.68TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	4.10	20.53	16.83	19.50	19.90	20.12	20.94	7.5 mm
P69546-B21	HPE 15.36TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 CD8P SSD	4.40	23.17	18.82	20.95	23.28	21.58	23.74	7.5 mm
P77269-B21	HPE 1.92TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF SPDM PE1010 SSD	4.39	14.28	12.88	14.19	12.90	12.46	14.29	7.5 mm
P77271-B21	HPE 3.84TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF SPDM PE1010 SSD	4.31	15.19	15.23	14.05	15.28	15.21	15.30	7.5 mm
P77273-B21	HPE 7.68TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF SPDM PE1010 SSD	4.40	15.39	15.26	15.06	15.31	15.57	15.77	7.5 mm

Technical Specifications

PCIe/NVMe EDSFF E3.S – (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**
P77275-B21	HPE 15.36TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF SPDM PE1010 SSD	4.75	17.08	16.77	17.20	16.78	16.98	17.23	7.5 mm
NVMe Main Performance Very Read Optimized EDSFF E3.S SSDs									
P63930-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	4.15	10.03	10.18	10.04	9.37	9.65	10.50	7.7mm
P63934-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	4.19	12.33	14.03	11.67	13.70	12.99	14.10	7.7mm
P63938-B21	HPE 15.36TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	4.12	14.33	15.95	12.47	20.52	16.90	21.00	7.7mm
P79065-B21	HPE 30.72TB NVMe Gen4 Mainstream Performance Very Read Optimized E3S EC1 EDSFF P5430 SSD	4.63	14.97	20.14	13.58	21.65	20.22	21.74	7.7mm
NVMe High Performance Mixed Use EDSFF E3.S SSDs									
P61191-B21	HPE 3.2TB NVMe Gen5 High Performance Mixed Use E3S EC1 EDSFF SPDM CM7 SSD	4.05	22.14	19.74	19.57	20.73	18.97	24	7.5mm
P61195-B21	HPE 6.4TB NVMe Gen5 High Performance Mixed Use E3S EC1 EDSFF SPDM CM7 SSD	4.13	23.65	20.52	22.31	23.24	21.26	24	7.5mm
P70399-B21	HPE 3.2TB NVMe Gen5 High Performance Mixed Use E3S EC1 PS1030 SSD	4.40	18.20	16.69	15.44	17.29	16.91	18.22	7.5 mm
P70401-B21	HPE 6.4TB NVMe Gen5 High Performance Mixed Use E3S EC1 PS1030 SSD	4.40	21.23	20.47	17.30	21.02	20.84	21.57	7.5 mm
P70403-B21	HPE 12.8TB NVMe Gen5 High Performance Mixed Use E3S EC1 PS1030 SSD	4.90	23.42	22.93	19.85	22.87	23.13	23.46	7.5 mm
NVMe High Performance Read Intensive EDSFF E3.S SSDs									
P57799-B21	HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM PM1743 SSD	4.4	22.3	20.8	19.9	21.0	18.7	22.3	7.7mm
P57803-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM PM1743 SSD	4.5	22.6	20.7	20.4	21.2	19.0	22.6	7.7mm

Technical Specifications

PCIe/NVMe EDSFF E3.S – (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**
P57807-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM PM1743 SSD	4.9	23.5	22.5	20.9	24.6	21.1	24.6	7.7mm
P61179-B21	HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM CM7 SSD	4.03	22.26	19.6	19.61	20.71	19.04	24	7.5mm
P61183-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM CM7 SSD	4.07	23.62	21.51	22.15	23.36	21.26	24	7.5mm
P61187-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF SPDM CM7 SSD	4.41	24.38	23.21	23.32	23.75	22.23	25	7.5mm
P70392-B21	HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 PS1010 SSD	4.40	18.04	16.85	15.40	17.22	16.49	18.07	7.5 mm
P70395-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 PS1010 SSD	4.40	21.21	21.43	17.35	20.91	21.71	21.56	7.5 mm
P70397-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 PS1010 SSD	4.90	23.35	22.90	19.84	22.93	23.08	23.38	7.5 mm
NVMe High Performance Self-Encrypting Drives (SED) and Federal Information Processing Standards (FIPS) E3S SSDs									
P70674-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 Self-encrypting FIPS 140-3 CM7 SSD	4.07	23.62	21.51	22.15	23.36	21.26	24	7.5mm
P79122-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 Self-encrypting FIPS 140-3 CM7 SSD	4.41	24.38	23.21	23.32	23.75	22.23	25	7.5mm
P70669-B21	HPE 3.2TB NVMe Gen5 High Performance Mixed Use E3S EC1 Self-encrypting FIPS 140-3 CM7 SSD	4.05	22.14	19.74	19.57	20.73	18.97	24	7.5mm
P70672-B21	HPE 6.4TB NVMe Gen5 High Performance Mixed Use E3S EC1 Self-encrypting FIPS 140-3 CM7 SSD	4.13	23.65	20.52	22.31	23.24	21.26	24	7.5mm

Notes:

B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.

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

Technical Specifications

NVMe EDSFF E3.S Certifications

- Prequalified certification will be listed in the HPE Selector Tool **http://ssd.hpe.com/ .**
- For latest vSAN Compatibility, please visit **Broadcom vSAN SSD Compatibility Guide** and enter specific HPE Part Number to confirm compatibility.
- For latest Windows OS Certification and SDDC (Software Defined Data Center) Premium AQ Certification please visit **https://www.windowsservercatalog.com/** and enter specific HPE Model Number to confirm compatibility.

M.2 Enablement Kits Capacity, Workload, Carrier Specifications

M.2 Enablement Kits – (Capacity, Workload, Carrier…)

HPE Option KIT SKU	Long Description	Capacity	Workload T…	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed	Flash Type	Server Gen Supported (Select
878783-X21	HPE Universal SATA 6G AIC HHHL M.2 SSD Enablement Kit	N/A	N/A	SATA	M.2e	Non Hot Plug	N/A	Yes	N/A	Gen9,10

Notes:
- 878783-X21 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.
- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines**.**
- Use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

M.2 Enablement Kits Speeds and Feeds 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)
878783-X21	HPE Universal SATA 6G AIC HHHL M.2 SSD Enablement Kit	N/A	N/A	N/A	N/A	N/A	N/A

Notes:
- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines**.**
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

Technical Specifications

M.2 Enablement Kits Power and Height Specifications

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-X21	HPE Universal SATA 6G AIC HHHL M.2 SSD Enablement Kit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Half Height/ Half Length

Notes:

- Power information should be taken from the M.2 drives used within the enablement kits. See SATA M.2s in tables above and below.
- 878783-X21 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.
- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines**.**
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

M.2 Enablement Kits Certifications

- Prequalified certification will be listed in the HPE Selector Tool **http://ssd.hpe.com/ .**
- For latest vSAN Compatibility, please visit **Broadcom vSAN SSD Compatibility Guide** and enter specific HPE Part Number to confirm compatibility.
- For latest Windows OS Certification and SDDC (Software Defined Data Center) Premium AQ Certification please visit **https://www.windowsservercatalog.com/**and enter specific HPE Model Number to confirm compatibility.

M.2 Capacity, Workload, Carrier 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)**
Read Intensive SATA M.2s										
P47818-B21	HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	480	RI	SATA	M.2	Non Hot Plug	N/A	Yes	TLC	Gen10,10 Plus, 11

Technical Specifications

M.2 Speeds and Feeds Specifications

M.2s– (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 (4KiB,Q1)**	**Random Read / Random Writes IOPS (4KiB, Q=16)**	**MAX Random Read / MAX Random Write IOPS (4KiB)**
Read Intensive SATA M.2s							
P47818-B21	HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	1,324	1.50	510 / 400	125 / 45	64,000 / 38,000	74,500@Q632 / 39,500@Q256

Notes:
- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

M.2 Power and Height Specifications

M.2s– (Power & Height)									
Read Intensive SATA M.2s									
P47818-B21	HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	1.20	4.00	4.00	2.75	4.10	2.30	4.10	2280 M.2

Notes:B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.

M.2s Certifications

- Prequalified certification will be listed in the HPE Selector Tool **http://ssd.hpe.com/** .
- For latest vSAN Compatibility, please visit **Broadcom vSAN SSD Compatibility Guide** and enter specific HPE Part Number to confirm compatibility.
- For latest Windows OS Certification and SDDC (Software Defined Data Center) Premium AQ Certification please visit **https://www.windowsservercatalog.com/**and enter specific HPE Model Number to confirm compatibility.

M.2 Capacity, Workload, Carrier 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**	**Flash Type**	**Server Gen Supported (Select Platforms)**
P69543-B21	HPE 480GB NVMe Gen4 Mainstream Performance Read Intensive M.2 PM9A3 SSD	480	RI	NVMe	M.2	Non Hot Plug	N/A	Yes	TLC	Gen10 Plus, 11
P40513-B21	HPE 480GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	480	RI	NVMe	M.2	Non Hot Plug	N/A	Yes	TLC	Gen10,10 Plus, 11
P40514-B21	HPE 960GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	960	RI	NVMe	M.2	Non Hot Plug	N/A	Yes	TLC	Gen10,10 Plus, 11

Technical Specifications

P40515-B21	HPE 1.92TB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	1,920	RI	NVMe	M.2	Non Hot Plug	N/A	Yes	TLC	Gen10,10 Plus, 11
P80318-B21	HPE 480GB NVMe Gen4 Mainstream Performance Read Intensive M.2 2280 V2 Multi Vendor SSD	480	RI	NVMe	M.2	Non Hot Plug	N/A	Yes	TLC	Gen10 Plus, 11, 12
P80321-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive M.2 2280 V2 Multi Vendor SSD	960	RI	NVMe	M.2	Non Hot Plug	N/A	Yes	TLC	Gen10 Plus, 11, 12
P80324-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive M.2 2280 V2 Multi Vendor SSD	1,920	RI	NVMe	M.2	Non Hot Plug	N/A	Yes	TLC	Gen10 Plus, 11, 12
P80327-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive M.2 2280 Self-encrypting Multi Vendor SSD	960	RI	NVMe	M.2	Non Hot Plug	N/A	Yes	TLC	Gen10 Plus, 11, 12

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines**.**
- Multi-vendor SKUs are composed of numerous vendor manufactured SSDs within a given Nvme M.2 capacity SKU. When ordering a particular SKU-B21 number the customer will receive a homogenous set of vendor manufactured SSDs in that capacity that has met or exceeds the HPE qualification standards published above.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

M.2 Speeds and Feeds Specifications MULTI VENDOR

M.2s– (Speeds & Feeds) MULTI VENDOR

HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes	Random Read Avg. / Random Write Avg. Latency uSec	Random Read / Random Writes IOPS	MAX Random Read / MAX Random Write IOPS
P69543-B21	HPE 480GB NVMe Gen4 Mainstream Performance Read Intensive M.2 PM9A3 SSD	876	1.0	1,500/ 380	75 / 50	106,393 / 20,000	135,000@Q256 / 20,000@Q256
P40513-B21	HPE 480GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	876	1.0	1,500/ 380	80 / 50	106,393 / 20,000	135,000@Q256 / 20,000@Q256
P40514-B21	HPE 960GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	1,752	1.0	4,900 / 1,350	80 / 17	170,000 / 88,000	535,000@Q256 / 88,000@4
P40515-B21	HPE 1.92TB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	3,504	1.0	4,900 / 2,400	80 / 17	185,000 / 130,000	740,000@Q256 / 130,000@4
P80318-B21	HPE 480GB NVMe Gen4 Mainstream Performance Read Intensive M.2 2280 V2 Multi Vendor SSD	893	1.12	7,020 / 1,007	57 / 26	227,730 / 38,082	693,583@Q256 / 38,285@Q64
P80321-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read	1,799	1.12	7,103 / 2,027	57 / 14	242,097 / 73,900	1,097,749@Q256 / 72,317@Q1

Technical Specifications

M.2s– (Speeds & Feeds) MULTI VENDOR							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes	Random Read Avg. / Random Write Avg. Latency uSec	Random Read / Random Writes IOPS	MAX Random Read / MAX Random Write IOPS
	Intensive M.2 2280 V2 Multi Vendor SSD						
P80324-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive M.2 2280 V2 Multi Vendor SSD	3,264	1.02	7,022 / 2,416	57 / 12	247,129 / 92,641	1,125,900@Q256 / 92,758@Q64
P80327-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive M.2 2280 Self-encrypting Multi Vendor SSD	1,799	1.12	7,103 / 2,027	57 / 14	242,097 / 73,900	1,097,749@Q256 / 72,317@Q1

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines**.**
- Multi-vendor SKUs are composed of numerous vendor manufactured SSDs within a given Nvme M.2 capacity SKU. When ordering a particular SKU-B21 number the customer will receive a homogenous set of vendor manufactured SSDs in that capacity that has met or exceeds the HPE qualification standards published above.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

M.2 Power and Height Specifications MULTI VENDOR

M.2s– (Power & Height) MULTI VENDOR									
HPE Option Kit SKU	Long Description	Power Idle Time (Watts)	Power Random Read (Watts)	Power Random Write	Power Sequential Read (Watts)	Power Sequential Write	Power Random R/W (Watts)	Power MAX (Watts)	z- Height
P69543-B21	HPE 480GB NVMe Gen4 Mainstream Performance Read Intensive M.2 PM9A3 SSD	2.23	3.50	3.50	3.42	3.70	3.50	3.70	2280 M.2
P40513-B21	HPE 480GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	2.90	4.50	4.50	7.10	4.50	4.50	7.10	2280 M.2
P40514-B21	HPE 960GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	2.90	6.00	5.50	7.30	5.50	6.00	7.30	2280 M.2
P40515-B21	HPE 1.92TB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	2.90	6.50	6.90	7.80	7.80	6.90	7.80	22110 M.2
P80318-B21	HPE 480GB NVMe Gen4 Mainstream Performance Read Intensive M.2 2280 V2 Multi Vendor SSD	2.05	4.16	3.37	4.13	3.34	3.3	4.2	2280 M.2
P80321-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive M.2 2280 V2 Multi Vendor SSD	2.13	5.61	4.85	6.03	4.81	4.65	6.3	2280 M.2

Technical Specifications

M.2s– (Power & Height) MULTI VENDOR									
HPE Option Kit SKU	**Long Description**	**Power Idle Time (Watts)**	**Power Random Read (Watts)**	**Power Random Write**	**Power Sequential Read (Watts)**	**Power Sequential Write**	**Power Random R/W (Watts)**	**Power MAX (Watts)**	**z- Height**
P80324-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive M.2 2280 V2 Multi Vendor SSD	2.24	6.67	6.23	7.45	6.53	5.42	7.82	2280 M.2
P80327-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive M.2 2280 Self-encrypting Multi Vendor SSD	2.13	5.61	4.85	6.03	4.81	4.65	6.3	2280 M.2

Notes:

- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines**.**
- Multi-vendor SKUs are composed of numerous vendor manufactured SSDs within a given Nvme M.2 capacity SKU. When ordering a particular SKU-B21 number the customer will receive a homogenous set of vendor manufactured SSDs in that capacity that has met or exceeds the HPE qualification standards published above.
- Please use HPE Selector Tool **http://ssd.hpe.com/** to determine server compatibility.

M.2s Certifications MULTI VENDOR

- Prequalified certification will be listed in the HPE Selector Tool **http://ssd.hpe.com/** .
- For latest vSAN Compatibility, please visit **Broadcom vSAN SSD Compatibility Guide** and enter specific HPE Part Number to confirm compatibility.
- For latest Windows OS Certification and SDDC (Software Defined Data Center) Premium AQ Certification please visit **https://www.windowsservercatalog.com** and enter specific HPE Model Number to confirm compatibility.

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.

SATA/SAS - SFF/LFF - SSD					
Form Factor	**Smart or Non-Smart**	**Hot Plug or Non-Hot Plug**	**Carrier Name (Abbreviation)**	**Carrier Abbreviation**	**Size/Form Factor**
SFF Carrier (2.5")	Smart	Hot Plug	Smart Carrier (SC)	SC	SFF
	Non-Smart		Basic Carrier (BC)	BC	SFF
LFF Carrier (3.5")	Smart	Hot Plug	Smart Carrier Converter (SCC)	SCC	LFF
	Non-Smart		Low Profile Converter (LPC)	LPC	LFF
No Carrier	Non-Smart	Non-Hot Plug	Raw No Carrier (RW)	RW	SFF/LFF

Technical Specifications

NVMe - SFF/AIC SSD					
Form Factor	**Smart or Non-Smart**	**Hot Plug or Non-Hot Plug**	**Carrier Name (Abbreviation)**	**Carrier Abbreviation**	**Size/Form Factor**
SFF Carrier (2.5")	Smart	Hot Plug	Smart Carrier NVMe (SCN)	SCN	SFF
			Smart Carrier (SC)	SC	SFF
	Non-Smart		Basic Carrier (BC)	BC	SFF
		Non-Hot Plug	Raw No Carrier (RW)	RW	SFF
NVMe Add-in-Card	Non-Smart	Non-Hot Plug	NVMe Add-in-Card (AIC)	AIC	HHHL
SATA/NVMe - M.2 & Enablement Kits					
Form Factor	**Smart or Non-Smart**	**Hot Plug or Non-Hot Plug**	**Carrier Name (Abbreviation)**	**Carrier Abbreviation**	**Size/Form Factor**
SATA M.2 2280	Smart	Hot Plug	Smart Carrier M.2 (SCM)	SCM	SFF
	Non-Smart	Non-Hot Plug	Raw Standalone M.2 (N/A)	N/A	M.2
			Universal AIC Card + SATA M.2 (AIC)	AIC	HHHL
NVMe M.2 2280	Non-Smart	Non-Hot Plug	Raw Standalone M.2 (N/A)	N/A	M.2
NVMe - EDSFF SSD					
EDSFF E3.S	Smart	Hot Plug	E3.S 1T Thin Carrier (EC1)	EC1	E3.S
EDSFF E3.S	Smart	Hot Plug	E3.S 2T Thick Carrier (EC2)	EC2	E3.S

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)

Technical Specifications

SAS, SATA, NVMe SSD SKU Decoders

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. Please contact product management for any questions.

HPE 960GB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD

Brand	Storage Capacity	Interface Type/ Interface Speed	Endurance *	Form Factor Type / Size	Carriers	Special Features *	Vendor Model Name	Drive Type
HPE	240-960GB 1.6-30.7TB	**SATA/SAS** 6G/12G/24G NVMe Gen3/Gen4 **High Performance Low Latency** NVMe Gen3/Gen4 **High Performance** **NVMe** Gen3/Gen4 **Mainstream Performance**	Write Intensive Mixed Use Read Intensive Very Read Optimized	SFF LFF	BC Basic Carrier SC Smart Carrier SCN Smart Carrier NVMe SCM Smart Carrier M.2 SCC Smart Carrier Converter LPC Low Profile Converter RW Raw Drive	U.2 U.3 MV Multi Vendor VS Value SAS SPL Special – Special SKUs SED Self Encrypting Drive FIPS Self Encrypting Drive FIPS *In priority order where 1st is closest to Drive Type*	Limited to 7 digits Examples: PM1643a PM1735	SSD

SATA/ SAS/ NVMe SSD SKU Decoder Long Name

Notes: If the description exceeds character count:

- Abbreviate Special Features starting from lowest priority item
- Drop form factor from the description
- Abbreviate Endurance with the exception Very Read Optimized

HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF PM1743 SSD

Brand	Storage Capacity	Interface Type/ Interface Speed	Endurance *	Form Factor Type / Size	Carriers	Special Features *	Vendor Model Name	Drive Type
HPE	1.6-30.7TB	NVMe Gen5 **High Performance** NVMe Gen5 **Mainstream Performance**	Mixed Use Read Intensive Very Read Optimized	E3S	EC1 E3 Thin EC2 E3 Thick	MV Multi Vendor SPL Special – Special SKUs SED Self Encrypting Drive FIPS Self Encrypting Drive FIPS EDSFF Enterprise and Datacenter Standard Form Factor *In priority order where 1st is closest to Drive Type*	Limited to 7 digits Examples: PM1743 CD7	SSD

NVMe EDSFF E3.S SSD SKU Decoder Long

HPE 1.92TB NVMe Gen3 Mainstream Performance Read Intensive M.2 PE6010 SSD

Brand	Storage Capacity	Interface Type / Interface Speed / Interface Swim lane	Endurance *	Form Factor Type / Size	Special Features *	Vendor Model Name	Drive Type
HPE	240-960GB 1.92-3.84TB	NVMe Gen3/Gen4 **Mainstream Performance** SATA 6Gb	Mixed Use Read Intensive	M.2	MV Multi Vendor SPL Special – Special SKUs *In priority order where 1st is closest to Drive Type*	Limited to 7 digits Examples: PE6010 5300B 5300P	SSD

M.2 SSDs SKU Decoder Long Name

Technical Specifications

HPE Universal SATA 6G AIC HHHL M.2 SSD Enablement Kit

Brand	Features	Interface Type/ Interface Speed	Workload	Form Factor Type / Form Factor Size	Drive Type
HPE	Universal	SATA 6G	Read Intensive	AIC HHHL	M.2 SSD Enablement Kit

M.2 SATA SSD Enablement Kits SKU Decoder Long Name

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
07-Jul-2025	**Version 68**	Changed	Update VMware to Broadcom vSAN
		Removed	SKUs from "What´s New" Table on Page2: P79065-B21, P80318-B21, P80321-B21, P80324-B21.
02-Jun-2025	**Version 67**	Changed	30TB P5430, V2 MV M.2, and SED M.2 added and following SKUs were removed: P79122-B21, P51460-B21, P51459-B21, P51461-B21, P51455-B21, P51458-B21
07-Apr-2025	**Version 66**	Changed	15TB FIPS CM7 added.
18-Feb-2025	**Version 65**	Changed	Survey added
03-Feb-2025	**Version 64**	Changed	PE1010/PE1030 added & Obsolete SKUs were removed
02-Dec-2024	**Version 64**	Changed	Overview & What´s New Section was updated
03-Sep-2024	**Version 63**	Changed	FIPS CM7 SFF/E3S added. Update VSAN and Windows Server Hyperlink
01-Jul-2024	**Version 62**	Changed	PS1010/PS1030 SFF/E3S added. CD8P E3S added.
03-Jun-2024	**Version 61**	Changed	U.3ST SPDM MV SFF added
06-May-2024	**Version 60**	Changed	E3S P5430 added.
04-Mar-2024	**Version 59**	Changed	PM9A3 M.2 added.
05-Feb-2024	**Version 58**	Changed	New drive models added. Obsolete SKUs have been removed.
08-Jan-2024	**Version 57**	Changed	Added PM893a and FIPS PM7. Updated NVMe Main U.3ST Power specs
04-Dec-2023	**Version 56**	Changed	SFF and E3.S CM7 added. Updated SATA/SAS/VSAS/NVMe/M.2 MV Specifications
05-Sep-2023	**Version 55**	Changed	MV NVMe main V2 added, Consolidate duplicate SATA data
05-Jun-2023	**Version 54**	Changed	Micron 5400 1.92TB SED added. E3.S VMware restriction removed
03-Apr-2023	**Version 53**	Changed	Kioxia and Samsung EDSFF E3.S Added
10-Jan-2023	**Version 52**	Changed	Micron 5400 SED added. Technical Specifications revised and updated
05-Dec-2022	**Version 51**	Changed	New drive models added. Technical Specifications revised and updated
01-Aug-2022	**Version 50**	Changed	New drive models added. Technical Specifications revised and updated
05-Jul-2022	**Version 49**	Changed	New drive models added. Technical Specifications revised and updated
04-Apr-2022	**Version 48**	Changed	Overview updated. New drive models added. Technical Specifications revised and updated
07-Feb-2022	**Version 47**	Changed	Technical Specifications section was updated
10-Jan-2022	**Version 46**	Changed	Technical Specifications section was updated
06-Dec-2021	**Version 45**	Changed	Technical Specifications section was updated
01-Nov-2021	**Version 44**	Changed	Technical Specifications section was updated
04-Oct-2021	**Version 43**	Changed	Technical Specifications section was updated
07-Sep-2021	**Version 42**	Changed	Technical Specifications section was updated
07-Jun-2021	**Version 41**	Changed	Tables were fixed and updated
04-May-2021	**Version 40**	Changed	Technical Specifications section was updated
06-Apr-2021	**Version 39**	Changed	Tables were fixed and updated
01-Feb-2021	**Version 38**	Changed	Technical Specifications section was updated
07-Dec-2020	**Version 37**	Changed	Technical Specifications section was updated
05-Oct-2020	**Version 36**	Changed	Technical Specifications section was updated
17-Aug-2020	**Version 35**	Changed	Technical Specifications and Overview Sections were updated
13-Jul-2020	**Version 34**	Changed	Technical Specifications section was updated
18-May-2020	**Version 33**	Changed	Tables were fixed and updated
27-Apr-2020	**Version 32**	Changed	Technical Specifications section was updated
03-Feb-2020	**Version 31**	Changed	Technical Specifications section was updated
16-Dec-2019	**Version 30**	Changed	Format Revised
02-Dec-2019	**Version 29**	Changed	New drive models added. Technical Specifications revised and updated
07-Oct-2019	**Version 28**	Changed	New drive models added. Technical Specifications revised and updated
05-Aug-2019	**Version 27**	Changed	Technical Specifications section was updated
01-Jul-2019	**Version 26**	Changed	Technical Specifications section was updated
03-Jun-2019	**Version 25**	Changed	New drive models added. Technical Specifications revised and updated

Summary of Changes

Date	Version History	Action	Description of Change
02-Apr-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 and new drive models added
04-Dec-2017	**Version 13**	Changed	New drive model was added Technical Specifications were revised
02-Oct-2017	**Version 12**	Changed	Technical Specifications were revised
25-Sep-2017	**Version 11**	Changed	New drive models were added 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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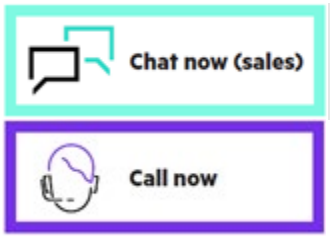

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