

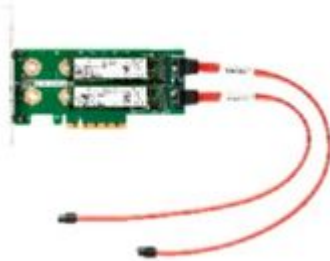
### Overview

### HPE Solid State Disk Drives

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

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

These storage devices offer better I/O latency & more power efficient solutions when compared with traditional rotational (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 M.2 (SCM)**



**PCIe Add-in-Card (AIC)**



**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):
    - P58240-B21 HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD
    - P58248-B21 HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD
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#### 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
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#### 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.

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#### Minimally Supported Operating Systems for all SATA and SAS SSDs

- Windows Server 2019
- Microsoft Windows Server 2008 (x86 and x64) SP2 and R2 w/SP1

Standard Edition

Datacenter

Enterprise Edition

Web Server

Embedded

- Microsoft Windows 2012 Server (x64) R2
  - Microsoft Windows 2016 (RTM)
  - Red Hat Enterprise Linux 6 (EM64T/AMD64)
  - Red Hat Enterprise Linux 7 (EM64T/AMD64)
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### Overview

- SLES 11 (EM64T/AMD64) (includes XEN)
  - SLES 12 (EM64T/AMD64) (includes XEN)
  - VMware ESXi 5.5
  - VMware ESXi 6.0
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### 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  $\geq 10$  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 our 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  $\sim 3$  DWPD.

For best access to SSDs, HPE has enhanced its extensive SSD portfolio with a multi-vendor offering. HPE multi-vendor SSD portfolio utilizes specific vendor SSDs which are HPE qualified and released and are then bundled into a multi-vendor SKU per capacity. Identified by Multi Vendor (MV) in the SKU description, these multi-vendor SKUs provide the short 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 compact, 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.

<b>-B21</b>	<b>-H21</b>	<b>-K21</b>
<b>COMPUTE Server Line</b>	<b>SPECIALIZED COMPUTE Server Line</b>	<b>STORAGE Line</b>
HPE Cloudline CL2100/CL2200/CL2800/CL3100/CL4100/ CL5200/CL5800 Servers HPE Composable Cloud for ProLiant DL HPE ProLiant BL460c/BL660c Servers HPE ProLiant DL20/DL160/DL180 Servers HPE ProLiant DL325/DL360/DL380/DL385/DL560/DL580 Servers HPE ProLiant DX360/DX380 Servers HPE ProLiant MicroServer HPE ProLiant for Microsoft Azure Stack HPE ProLiant ML30/ML110/ML350 Servers HPE Synergy 480/660 Systems HPE ProLiant DX170r/DX190r, DX2000 Servers HPE ProLiant DX560 Gen10 server HPE ProLiant DX4200 Gen10 server	HPE Apollo 35/40/70 Systems HPE Apollo 2000/6000 Servers HPE XL170r/XL190r/XL270d (Apollo 6500) Gen10 Server for BlueData Software HPE Converged System 300/500/700/750 HPE Edgeline Systems and Servers HPE Integrity BL860c i6/BL870c i6/BL890c i6 Server Blades HPE Integrity MC990 X Server HPE Integrity rx2800 i6 Server HPE Integrity Superdome HPE SGI 8600 System HPE Solutions for SAP HANA (TDI)	HPE Apollo 4200 Gen9/Gen10 Servers HPE Apollo 4200 Gen10 LFF Se for BlueData Software HPE Apollo 4510 Gen10 System HPE D2220sb/D2500sb Storage Blade HPE D3000/D6020/D8000 Disk Enclosures HPE Scalable Object Storage w Scality RING HPE SimpliVity 2600 HPE SimpliVity 325/380 Gen10 HPE Storage File Controllers HPE StoreEasy 1460/1560/1650/1660/1860  Disclaimer: This may not be a complete listing of applicable se

### 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.

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#### 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.

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#### 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.

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#### 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.

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#### 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 (DWPDP1) that you can expect from the drive. (DWPDP is the maximum number of 4K host writes to the entire drive capacity of the SSD per day over a five-year period).

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#### >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 (DWPDP) - 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>

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### Standard Features

The HPE SMARTSSD Wear Gauge™ requires a Smart Array or Smart HBA controller listed below.

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### Standard Features

- HPE Smart Array PX1X Controller Series or newer
- HPE Smart HBA PX4X Controller Series
- HPE Dynamic Smart Array BX2Xi Controller Series or newer
- HPE Dynamic Smart Array B320i Controller

**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.

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### 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.

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### HPE SATA Very Read Optimized Solid State Drives Endurance

"Very Read Optimized" is an HPE term used to differentiate new QLC NAND based SSDs that will have variable endurance levels or DWPD (Drive Writes Per Day) depending on how a customer writes data to them. Using QLC NAND requires that the workload write percentage and block size be understood as the endurance can be very different than other SSDs in the market.

HPE VRO SSDs are designed for targeted workloads that drive a typical mix of >80% random reads and <20% sequential large block writes. Today it is standard for all SSDs to use a 100% 4K random write workload to generate the specified endurance (DWPD) that is listed in the technical specifications. However, as VRO SSDs are not targeted at that 100% 4K random write workload, it's important to consider the actual targeted workload.

The VRO targeted workloads would typically have all write operations that are sequential and in 128K blocks which would allow all VRO capacities to support 0.8 DWPD endurance. However, if the VRO SSD is used differently than targeted, the DWPD will vary based upon how the drive is written to. If used incorrectly, such as the industry standard 4K random write workload the DWPD endurance drops to: 0.2 on the 1.92TB; 0.09 on the 3.84TB and 0.05 on the 7.68TB VRO SSDs.

### Standard Features

**Table 1. Endurance by workload**

Capacity	Drive Writes Per Day (DWPD)			Total Bytes Written (TBW)		
	1.92TB	3.84TB	7.68TB	1.92TB	3.84TB	7.68TB
100% 128K sequential writes	0.8	0.8	0.8	2800 TB	5600 TB	11210 TB
90% 128K sequential writes*	0.72	0.62	0.56	2505 TB	4370 TB	7880 TB
10% 4K random writes						
80% 128K sequential writes*	0.66	0.56	0.39	2295 TB	3900 TB	5510 TB
20% 4K random writes						
70% 128K sequential writes*	0.56	0.41	0.27	1970 TB	2870 TB	3800 TB
30% 4K random writes						
50% 128K sequential writes*	0.44	0.25	0.16	1530 TB	1760 TB	2175 TB
50% 4K random writes						
100% 16K random writes	0.2	0.2	0.2	700 TB	1366 TB	2733 TB
100% 8K random writes	0.2	0.18	0.1	700 TB	1260 TB	1400 TB
100% 4K random writes	0.2	0.09	0.05	700 TB	630 TB	700 TB

**Notes: \*Based on 100% 4K random writes; Larger block sizes and sequential writes provide greater endurance, as listed in the table in the Endurance section**

### Technical Specifications

#### SATA Capacity, Workload and Carrier Specifications

SATA Interface- (Capacity, Workload, Carrier...)				
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface
<b>Mixed Use SATA Drives</b>				
P18432-X21	HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	480	MU	SATA
P18434-X21	HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	960	MU	SATA
P18436-X21	HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	1,920	MU	SATA
P18438-X21	HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	3,840	MU	SATA
P40502-B21	HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	480	MU	SATA
P40503-B21	HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	960	MU	SATA
P40504-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	1,920	MU	SATA
P40505-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	3,840	MU	SATA
P47323-B21	HPE 480GB SATA 6G Mixed Use SFF SC S4620 SSD	480	MU	SATA
P47324-B21	HPE 480GB SATA 6G Mixed Use SFF BC S4620 SSD	480	MU	SATA
P47325-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC S4620 SSD	1,920	MU	SATA
P47326-B21	HPE 3.84TB SATA 6G Mixed Use SFF SC S4620 SSD	3,840	MU	SATA
P47327-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC S4620 SSD	3,840	MU	SATA
P47419-B21	HPE 960GB SATA 6G Mixed Use LFF SCC Multi Vendor SSD	960	MU	SATA
P44011-B21	HPE 480GB SATA 6G Mixed Use SFF BC PM897 SSD	480	MU	SATA
P44012-B21	HPE 960GB SATA 6G Mixed Use SFF BC PM897 SSD	960	MU	SATA
P44013-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC PM897 SSD	1,920	MU	SATA
P47814-B21	HPE 480GB SATA 6G Mixed Use SFF SC PM897 SSD	480	MU	SATA
P47815-B21	HPE 960GB SATA 6G Mixed Use SFF SC PM897 SSD	960	MU	SATA
P47816-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC PM897 SSD	1,920	MU	SATA
<b>Mixed Use SATA Self-Encrypting Drives (SED)</b>				
P42132-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5300M SSD	1,920	MU	SATA
P58244-B21	HPE 960GB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	960	MU	SATA
P58248-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	1,920	MU	SATA



### Technical Specifications

SATA Interface- (Capacity, Workload, Carrier...)				
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface
<b>Read Intensive SATA Drives</b>				
P18420-X21	HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	240	RI	SATA
P18422-X21	HPE 480GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	480	RI	SATA
P18424-X21	HPE 960GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	960	RI	SATA
P18426-X21	HPE 1.92TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1,920	RI	SATA
P18428-X21	HPE 3.84TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	3,840	RI	SATA
P18430-X21	HPE 7.68TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	7,680	RI	SATA
P40496-B21	HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	240	RI	SATA
P40497-B21	HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	480	RI	SATA
P40498-B21	HPE 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	960	RI	SATA
P40499-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1,920	RI	SATA
P40500-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	3,840	RI	SATA
P40501-B21	HPE 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	7,680	RI	SATA
P47319-B21	HPE 1.92TB SATA 6G Read Intensive SFF SC S4520 SSD	1,920	RI	SATA
P47320-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC S4520 SSD	1,920	RI	SATA
P47321-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC S4520 SSD	3,840	RI	SATA
P47322-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC S4520 SSD	3,840	RI	SATA
P47817-B21	HPE 240GB SATA 6G Read Intensive M.2 Multi Vendor SSD	240	RI	SATA
P47818-B21	HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	480	RI	SATA
P47809-B21	HPE 240GB SATA 6G Read Intensive SFF RW Multi Vendor SSD	240	RI	SATA
P47807-B21	HPE 480GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	480	RI	SATA

### Technical Specifications

#### SATA Interface- (Capacity, Workload, Carrier...)

HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface
P44009-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC PM893 SSD	1,920	RI	SATA/
P44010-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC PM893 SSD	3,840	RI	SATA/
P47810-B21	HPE 480GB SATA 6G Read Intensive SFF SC PM893 SSD	480	RI	SATA/
P47811-B21	HPE 960GB SATA 6G Read Intensive SFF SC PM893 SSD	960	RI	SATA/
P47812-B21	HPE 1.9TB SATA 6G Read Intensive SFF SC PM893 SSD	1,920	RI	SATA/
P47813-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC PM893 SSD	3,840	RI	SATA/

#### Read Intensive SATA Self-Encrypting Drives (SED)

P42124-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5300P SSD	1,920	RI	SATA/
P58236-B21	HPE 480GB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	480	RI	SATA/
P58240-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	1,920	RI	SATA/

#### Very Read Optimized SATA Drives

P58228-B21	HPE 7.68TB SATA 6G Very Read Optimized SFF BC 5400 SSD	7,680	VRO	SATA/
P58232-B21	HPE 7.68TB SATA 6G Very Read Optimized LFF LPC 5400 SSD	7,680	VRO	SATA/

#### 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.

### SATA Speeds and Feeds Specifications

#### SATA Interface - (Speeds & Feeds)

### Technical Specifications

SATA Interface - (Speeds & Feeds)				
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	
P18432-X21	HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	3,000	3.50	5
P18434-X21	HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	6,000	3.40	5
P18436-X21	HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	10,000	3.10	5
P18438-X21	HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	22,000	3.10	5
P40502-B21	HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	3,000	3.50	5
P40503-B21	HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	6,000	3.40	5
P40504-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	10,000	3.05	5
P40505-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	22,000	3.00	5
P47323-B21	HPE 480GB SATA 6G Mixed Use SFF SC S4620 SSD	4,200	4.7	5
P47324-B21	HPE 480GB SATA 6G Mixed Use SFF BC S4620 SSD	4,200	4.7	5
P47325-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC S4620 SSD	14,000	4.0	5
P47326-B21	HPE 3.84TB SATA 6G Mixed Use SFF SC S4620 SSD	35,100	5.0	5
P47327-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC S4620 SSD	35,100	5.0	5
P47419-B21	HPE 960GB SATA 6G Mixed Use LFF SCC Multi Vendor SSD	6,000	3.40	5
P44011-B21	HPE 480GB SATA 6G Mixed Use SFF BC PM897 SSD	2628	3	5
P44012-B21	HPE 960GB SATA 6G Mixed Use SFF BC PM897 SSD	5256	3	5
P44013-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC PM897 SSD	10,512	3	5

### Technical Specifications

#### SATA Interface - (Speeds & Feeds)

HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD
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#### Mixed Use SATA Self-Encrypting Drives (SED)

P42132-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5300M SSD	17,520	5.00	5
P58244-B21	HPE 960GB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	8,760	5.00	5
P58248-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	17,520	5.00	5

#### Read Intensive SATA Drives

P18420-X21	HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	350	0.80	5
P18422-X21	HPE 480GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	430	0.50	5
P18424-X21	HPE 960GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1,400	0.80	5
P18426-X21	HPE 1.92TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	2,800	0.80	5
P18428-X21	HPE 3.84TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	3,400	0.50	5
P18430-X21	HPE 7.68TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	9,111	0.65	5
P40496-B21	HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	250	0.80	5
P40497-B21	HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	430	0.50	5
P40498-B21	HPE 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1,400	0.80	5
P40499-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	2,400	0.80	5
P40500-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	3,400	0.50	5
P40501-B21	HPE 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	9,111	0.65	5
P47319-B21	HPE 1.92TB SATA 6G Read Intensive SFF SC S4520 SSD	8,800	2.5	5

### Technical Specifications

<b>SATA Interface - (Speeds &amp; Feeds)</b>				
<b>HPE Option Kit SKU</b>	<b>Long Description</b>	<b>Lifetime Writes (TB)</b>	<b>Endurance DWPD</b>	
P47818-B21	HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	1,324	1.50	5
P47809-B21	HPE 240GB SATA 6G Read Intensive SFF RW Multi Vendor SSD	250	0.80	4
P47807-B21	HPE 480GB SATA 6G Read Intensive LFF SCC Multi Vendor SSD	430	0.50	5
P47808-B21	HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD	1,400	0.80	5
P44007-B21	HPE 480GB SATA 6G Read Intensive SFF BC PM893 SSD	876	1	5
P44008-B21	HPE 960GB SATA 6G Read Intensive SFF BC PM893 SSD	1,752	1.00	5
P44009-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC PM893 SSD	3,504	1	5
P44010-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC PM893 SSD	7,008	1.00	5
P47810-B21	HPE 480GB SATA 6G Read Intensive SFF SC PM893 SSD	876	1	5
P47811-B21	HPE 960GB SATA 6G Read Intensive SFF SC PM893 SSD	1752	1	5
P47812-B21	HPE 1.9TB SATA 6G Read Intensive SFF SC PM893 SSD	3,504	1	5
P47813-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC PM893 SSD	7008	1	5
<b>Read Intensive SATA Self-Encrypting Drives (SED)</b>				
P42124-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5300P SSD	5,256	1.50	5
P58236-B21	HPE 480GB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	1,324	1.50	5
P58240-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	5,256	1.5	5
<b>Very Read Optimized SATA Drives</b>				
P58228-B21	HPE 7.68TB SATA 6G Very Read Optimized SFF BC 5400 SSD	9110	0.65	5
P58232-B21	HPE 7.68TB SATA 6G Very Read Optimized LFF LPC 5400 SSD	9110	0.65	5

### SATA Power and Height Specifications

### Technical 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
<b>Mixed Use SATA Self-Encrypting Drives (SED)</b>									
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
P58248-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	1.5	3.9	3.9	3.05	4	2.15	4	7mm
<b>Read Intensive SATA Self-Encrypting Drives (SED)</b>									
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
P58240-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	1.5	4.1	4.1	3.1	4	2.25	4.1	7mm
<b>Very Read Optimized SATA Drives</b>									
P58228-B21	HPE 7.68TB SATA 6G Very Read Optimized SFF BC 5400 SSD	1.5	5	5	3.15	4.35	3.15	5	7mm
P58232-B21	HPE 7.68TB SATA 6G Very Read Optimized LFF LPC 5400 SSD	1.5	5	5	3.15	4.35	3.15	5	7mm

### SATA Certifications

- Prequalified certification will be listed in the HPE Selector Tool <http://ssd.hpe.com/>.
- For latest VMware Compatibility, please visit <https://www.vmware.com/resources/compatibility/search.php> and enter specific HPE Model 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 Interface - (Certifications)						
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
<b>Mixed Use SATA Drives</b>						
P18432-X21	HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18434-X21	HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18436-X21	HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18438-X21	HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40502-B21	HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40503-B21	HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40504-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40505-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P47323-B21	HPE 480GB SATA 6G Mixed Use SFF SC S4620 SSD	N/A	N/A	N/A	N/A	N/A
P47324-B21	HPE 480GB SATA 6G Mixed Use SFF BC S4620 SSD	N/A	N/A	N/A	N/A	N/A
P47325-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC S4620 SSD	N/A	N/A	N/A	N/A	N/A
P47326-B21	HPE 3.84TB SATA 6G Mixed Use SFF SC S4620 SSD	N/A	N/A	N/A	N/A	N/A
P47327-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC S4620 SSD	N/A	N/A	N/A	N/A	N/A



### Technical Specifications

<b>SATA Interface - (Certifications)</b>						
<b>HPE Option Kit SKU</b>	<b>Long Description</b>	<b>VMWare / vSAN HCL Certification</b>	<b>Microsoft Windows Server 2016 Certification</b>	<b>Software Defined Data Center (SDDC) Premium AQ Certification</b>	<b>Microsoft Windows Server 2019 Certification</b>	<b>WS 2019 Software Defined Data Center (SDDC)</b>
P47419-B21	HPE 960GB SATA 6G Mixed Use LFF SCC Multi Vendor SSD	N/A	N/A	N/A	N/A	N/A
P44011-B21	HPE 480GB SATA 6G Mixed Use SFF BC PM897 SSD	N/A	N/A	N/A	N/A	N/A
P44012-B21	HPE 960GB SATA 6G Mixed Use SFF BC PM897 SSD	N/A	N/A	N/A	N/A	N/A
P44013-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC PM897 SSD	N/A	N/A	N/A	N/A	N/A
P47814-B21	HPE 480GB SATA 6G Mixed Use SFF SC PM897 SSD	N/A	N/A	N/A	N/A	N/A
P47815-B21	HPE 960GB SATA 6G Mixed Use SFF SC PM897 SSD	N/A	N/A	N/A	N/A	N/A
P47816-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC PM897 SSD	N/A	N/A	N/A	N/A	N/A
<b>Mixed Use SATA Self-Encrypting Drives (SED)</b>						
P42132-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5300M SSD	Certified	Certified	Certified	Certified	Certified
P58244-B21	HPE 960GB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	Certified	Certified	Certified	Certified	Certified
P58248-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5400M SSD	Certified	Certified	Certified	Certified	Certified



### Technical Specifications

SATA Interface - (Certifications)						
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
P18420-X21	HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18422-X21	HPE 480GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18424-X21	HPE 960GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18426-X21	HPE 1.92TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18428-X21	HPE 3.84TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18430-X21	HPE 7.68TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40496-B21	HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40498-B21	HPE 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40499-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40500-B21	HPE 3.84TB SATA 6G	Certified	Certified	Certified	Certified	Certified

### Technical Specifications

SATA Interface - (Certifications)						
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
P47321-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC S4520 SSD	N/A	N/A	N/A	N/A	N/A
P47322-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC S4520 SSD	N/A	N/A	N/A	N/A	N/A
P47817-B21	HPE 240GB SATA 6G Read Intensive M.2 Multi Vendor SSD	N/A	N/A	N/A	N/A	N/A
P47818-B21	HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	N/A	N/A	N/A	N/A	N/A
P47809-B21	HPE 240GB SATA 6G Read Intensive SFF RW Multi Vendor SSD	N/A	N/A	N/A	N/A	N/A
P47807-B21	HPE 480GB SATA 6G Read Intensive LFF SCC Multi Vendor SSD	N/A	N/A	N/A	N/A	N/A
P47808-B21	HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD	N/A	N/A	N/A	N/A	N/A
P44007-B21	HPE 480GB SATA 6G Read Intensive SFF BC PM893 SSD	N/A	N/A	N/A	N/A	N/A
P44008-B21	HPE 960GB SATA 6G Read Intensive SFF BC PM893 SSD	N/A	N/A	N/A	N/A	N/A
P44009-B21	HPE 1.92TB SATA 6G	N/A	N/A	N/A	N/A	N/A

### Technical Specifications

SATA Interface - (Certifications)						
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
P47812-B21	HPE 1.9TB SATA 6G Read Intensive SFF SC PM893 SSD	N/A	N/A	N/A	N/A	N/A
P47813-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC PM893 SSD	N/A	N/A	N/A	N/A	N/A

### Read Intensive SATA Self-Encrypting Drives (SED)

P42124-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5300P SSD	Certified	Certified	Certified	Certified	Certified
P58236-B21	HPE 480GB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	Certified	Certified	Certified	Certified	Certified
P58240-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5400P SSD	Certified	Certified	Certified	Certified	Certified

#### 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.

### 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)
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### Technical Specifications

#### 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
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
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
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
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
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

### Technical Specifications

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
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
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
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
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
P47807-B21	HPE 480GB SATA 6G Read Intensive LFF SCC Multi Vendor SSD	240	RI	SATA	SFF	Hot Plug	SCC	Yes	TLC	Single	Gen10,10 Plus
P47808-B21	HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD	480	RI	SATA	LFF	Hot Plug	LPC	Yes	TLC	Single	Gen10,10 Plus
P47809-B21	HPE 240GB SATA 6G Read Intensive SFF RW Multi Vendor SSD	240	RI	SATA	SFF	Non Hot Plug	RW	Yes	TLC	Single	Gen10,10 Plus

#### 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 Speeds and Feeds Specifications MULTI VENDOR

SATA Interface - (Speeds & Feeds) MULTI VENDOR							
HPE Option Kit SKU	Long Description	Lifetime Write (TB)	Endurance (DWPD)	MAX Seq Reads / Max Seq Writes Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
<b>Mixed Use Multi Vendor SATA Drives</b>							
P18432-X21	HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	3,000	3.50	510 / 430	125 / 52	62,000 / 29,000	72,000@Q32 / 29,000@Q4

### 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 Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P18434-X21	HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	6,000	3.40	520 / 480	125 / 50	67,000 / 31,000	64,500@Q3 2 / 31,000@Q4
P18436-X21	HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	10,000	3.10	520 / 480	125 / 52	67,000 / 31,000	76,000@Q3 2 / 31,000@Q4
P18438-X21	HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	22,000	3.10	510 / 480	125 / 55	67,000 / 34,000	76,000@Q3 2 / 35,000@Q4
P40502-B21	HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	3,000	3.50	510 / 430	125 / 52	62,000 / 29,000	72,000@Q3 2 / 29,000@Q4
P40503-B21	HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	6,000	3.40	520 / 480	125 / 50	61,000 / 31,000	72,000@Q3 2 / 31,000@Q4
P40504-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	10,000	3.05	520 / 480	125 / 52	59,000 / 31,000	71,000@Q3 2 / 31,000@Q4
P40505-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	22,000	3.00	510 / 480	140 / 76	59,000 / 32,000	70,000@Q3 2 / 35,000@Q4
P47419-B21	HPE 960GB SATA 6G Mixed Use LFF SCC Multi Vendor SSD	6,000	3.40	520 / 480	125 / 50	61,000 / 31,000	72,000@Q3 2 / 31,000@Q4
Read Intensive Multi Vendor SATA Drives							
P18420-X21	HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	350	0.80	520 / 255	203 / 121	57,000 / 14,000	65,500@Q3 2 / 14,000@Q1
	HPE 480GB SATA 6G					63,000 /	65,500@Q3

### 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 Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P18430-X21	HPE 7.68TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	9,111	0.65	505 / 495	126 / 87	67,000 / 11,500	76,000@Q32 / 11,800@Q64
P40496-B21	HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	250	0.80	520 / 255	124 / 70	57,000 / 14,000	65,000@Q64 / 14,000@Q1
P40497-B21	HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	430	0.50	510 / 300	125 / 75	63,000 / 15,000	65,500@Q32 / 15,400@Q1
P40498-B21	HPE 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1,400	0.80	515 / 480	125 / 60	58,500 / 29,000	58,500@Q32 / 29,000@Q4
P40499-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	2,400	0.80	520 / 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	3,400	0.50	510 / 480	125 / 65	54,000 / 22,500	56,000@Q32 / 23,000@Q1
P40501-B21	HPE 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	9,111	0.65	505 / 495	126 / 87	67,000 / 11,500	76,000@Q32 / 11,800@Q64
P47807-B21	HPE 480GB SATA 6G Read Intensive LFF SCC Multi Vendor SSD	430	0.50	510 / 300	125 / 75	63,000 / 15,000	65,000@Q32 / 15,400@Q1
P47808-B21	HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD	1,400	0.80	515 / 480	125 / 60	58,500 / 29,000	58,500@Q32 / 29,000@Q4
P47809-B21	HPE 240GB SATA 6G Read Intensive SFF RW Multi Vendor SSD	250	0.80	400 / 235	124 / 70	44,000 / 14,000	45,000@Q16 / 16,500@Q4

### SATA Power and Height Specifications MULTI VENDOR

### 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
<b>Mixed Use Multi Vendor SATA Drives</b>									
P18432-X21	HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	1.31	2.94	2.94	3.56	3.44	2.94	3.56	7mm
P18434-X21	HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	1.37	2.79	2.79	2.36	3.23	2.79	3.23	7mm
P18436-X21	HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	1.37	3.04	3.04	2.32	3.30	3.04	3.30	7mm
P18438-X21	HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	1.36	3.11	3.11	2.45	3.74	3.11	3.74	7mm
P40502-B21	HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	1.31	2.94	2.94	3.56	3.44	2.94	3.56	7mm
P40503-B21	HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	1.37	2.81	2.81	3.09	3.93	2.81	3.93	7mm
P40504-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	1.37	3.04	3.04	3.20	4.10	3.04	4.10	7mm
P40505-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	1.36	3.17	3.17	3.66	4.39	3.17	4.39	7mm
P47419-B21	HPE 960GB SATA 6G Mixed Use LFF SCC Multi Vendor SSD	1.37	2.81	2.81	3.09	3.93	2.81	3.93	7mm
<b>Read Intensive Multi Vendor SATA Drives</b>									
P18420-X21	HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1.23	2.48	2.48	2.21	2.44	2.48	2.48	7mm
P18422-X21	HPE 480GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1.27	2.92	2.92	3.06	3.36	2.92	3.36	7mm
P18424-X21	HPE 960GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1.35	3.02	3.02	3.05	3.37	3.02	3.37	7mm
P18426-X21	HPE 1.92TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1.35	3.15	3.15	3.16	3.53	3.15	3.53	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
P18428-X21	HPE 3.84TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1.26	3.46	3.46	3.56	3.88	3.46	3.88	7mm
P18430-X21	HPE 7.68TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	1.25	2.01	2.01	2.26	2.76	2.01	2.76	7mm
P40496-B21	HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1.23	2.48	2.48	2.21	2.44	2.48	2.48	7mm
P40497-B21	HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1.27	2.92	2.92	3.06	3.36	2.92	3.36	7mm
P40498-B21	HPE 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1.35	3.02	3.02	3.05	3.37	3.02	3.37	7mm
P40499-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1.35	3.15	3.15	3.16	3.53	3.15	3.53	7mm
P40500-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1.26	3.46	3.46	3.56	3.88	3.46	3.88	7mm
P40501-B21	HPE 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	1.25	2.01	2.01	2.26	2.76	2.01	2.76	7mm
P47807-B21	HPE 480GB SATA 6G Read Intensive LFF SCC Multi Vendor SSD	1.27	2.92	2.92	3.06	3.36	2.92	3.36	7mm
P47808-B21	HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD	1.35	3.02	3.02	3.05	3.37	3.02	3.37	7mm
P47809-B21	HPE 240GB SATA 6G Read Intensive SFF RW Multi Vendor SSD	1.23	2.48	2.48	2.21	2.44	2.48	2.48	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.

### Technical Specifications

#### SATA Certifications MULTI VENDOR

- Prequalified certification will be listed in the HPE Selector Tool <http://ssd.hpe.com/>.
- For latest VMware Compatibility, please visit <https://www.vmware.com/resources/compatibility/search.php> and enter specific HPE Model 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.

SATA Interface - (Certifications) MULTI VENDOR						
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
<b>Mixed Use Multi Vendor SATA Drives</b>						
P18432-X21	HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18434-X21	HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18436-X21	HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18438-X21	HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40502-B21	HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40503-B21	HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40504-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40505-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P47419-B21	HPE 960GB SATA 6G Mixed Use LFF SCC Multi Vendor SSD	N/A	N/A	N/A	N/A	N/A

### Technical Specifications

SATA Interface - (Certifications) MULTI VENDOR						
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
P18420-X21	HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18422-X21	HPE 480GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18424-X21	HPE 960GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18426-X21	HPE 1.92TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18428-X21	HPE 3.84TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18430-X21	HPE 7.68TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40496-B21	HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40497-B21	HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40498-B21	HPE 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40499-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40500-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified

### Technical Specifications

SATA Interface - (Certifications) MULTI VENDOR						
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
P47809-B21	HPE 240GB SATA 6G Read Intensive SFF RW Multi Vendor SSD	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.

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.

### 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	Digitaly Signed Firmware (D)	Flash Type	Port	Server Gen Supported (Select Platforms)

### Technical Specifications

<b>SAS Interface - (Capacity, Workload, Carrier...)</b>												
<b>HPE Option Kit SKU</b>	<b>Long Description</b>	<b>Capacity</b>	<b>Workload Type</b>	<b>Interface Type</b>	<b>Form Factor</b>	<b>Plug Type</b>	<b>Carrier Type</b>	<b>Digitally Signed Firmware (DS)</b>	<b>Flash Type</b>	<b>Port</b>	<b>Server Gen Supported (Select Platforms)</b>	
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	
<b>Mixed Use SAS Self-Encrypting Drives (SED)</b>												
P41400-B21	HPE 800GB SAS 24G	800	MU	SAS	SFF	Hot	BC	Yes	TLC	Dual	Gen10	

### 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)
P49038-B21	HPE 7.68TB SAS 24G Read Intensive LFF SCC Multi Vendor SSD	7,680	RI	SAS	LFF	Hot Plug	SCC	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
P49040-B21	HPE 7.68TB SAS 24G Read Intensive LFF LPC Multi Vendor SSD	7,680	RI	SAS	LFF	Hot Plug	LPC	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
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

### 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)

**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 Speeds and Feeds Specifications

SAS Interface - (Speeds & Feeds)				
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	

#### Write Intensive SAS Drives

#### Mixed Use SAS Drives

P49046-B21	HPE 800GB SAS 12G Mixed Use SFF SC Multi	4,380	3	1.
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### Technical Specifications

SAS Interface - (Speeds & Feeds)				
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DDPD	

Mixed Use SAS Self-Encrypting Drives (SED)				
P41400-B21	HPE 800GB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD	4,380	3.00	1,
P41401-B21	HPE 1.6TB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD	8,760	3.00	1,

Read Intensive SAS Drives				
P49028-B21	HPE 960GB SAS 12G Read Intensive SFF SC Multi Vendor SSD	1,712	1	1,
P49030-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	3,424	1	1,
P49034-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	6,848	1	1,
P49038-B21	HPE 7.68TB SAS 24G Read Intensive LFF SCC Multi Vendor SSD	14,016	1	2,
P49039-B21	HPE 7.68TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	13,697	1	1,
P49040-B21	HPE 7.68TB SAS 24G Read Intensive LFF LPC Multi Vendor SSD	14,016	1	2,
P49044-B21	HPE 15.36TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	27,393	1	1,
P49029-B21	HPE 960GB SAS 24G Read Intensive SFF BC Multi Vendor SSD	1,712	1	2,
P49031-B21	HPE 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	3,424	1	2,
P49035-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	7,008	1	2,
P49041-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	14,016	1	2,
P49045-B21	HPE 15.36TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	27,393	1	2,

Read Intensive SAS Self-Encrypting Drives (SED)				
P41398-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD	7,008	1.00	1,
P41399-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD	14,016	1.00	1,

#### 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

<b>SAS Interface - (Power &amp; Height)</b>									
<b>HPE Option Kit SKU</b>	<b>Long Description</b>	<b>Power Idle Time (Watts)</b>	<b>Power Random Read (Watts)</b>	<b>Power Random Write (Watts)</b>	<b>Power Sequential Read (Watts)</b>	<b>Power Sequential Write (Watts)</b>	<b>Power Random R/W (Watts)</b>	<b>Power MAX (Watts)</b>	<b>z-Height</b>
<b>Write Intensive SAS Drives</b>									
<b>Mixed Use SAS Drives</b>									
P49046-B21	HPE 800GB SAS 12G Mixed Use SFF SC Multi Vendor SSD	3.89	6.47	6.47	8.28	8.56	6.47	8.56	15mm
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
<b>Mixed Use SAS Self-Encrypting Drives (SED)</b>									
P41400-B21	HPE 800GB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD	2.91	6.47	6.47	8.28	8.56	6.47	8.56	15mm
P41401-B21	HPE 1.6TB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD	3.07	6.92	6.92	8.84	12.50	6.92	12.50	15mm
<b>Read Intensive SAS Drives</b>									
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

### 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
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
P49038-B21	HPE 7.68TB SAS 24G Read Intensive LFF SCC Multi Vendor SSD	3.25	8.26	8.26	10.10	17.29	8.26	17.29	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
P49040-B21	HPE 7.68TB SAS 24G Read Intensive LFF LPC Multi Vendor SSD	3.25	8.26	8.26	10.10	17.29	8.26	17.29	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
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

### 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

**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 VMware Compatibility, please visit <https://www.vmware.com/resources/compatibility/search.php> and enter specific HPE Model 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.

SAS Interface - (Certifications)						
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)

### Write Intensive SAS Drives

### Technical Specifications

<b>SAS Interface - (Certifications)</b>						
<b>HPE Option Kit SKU</b>	<b>Long Description</b>	<b>VMWare / vSAN HCL Certification</b>	<b>Microsoft Windows Server 2016 Certification</b>	<b>Software Defined Data Center (SDDC) Premium AQ Certification</b>	<b>Microsoft Windows Server 2019 Certification</b>	<b>WS 2019 Software Defined Data Center (SDDC)</b>
P49056-B21	HPE 6.4TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P49047-B21	HPE 800GB SAS 24G Mixed Use SFF BC Multi Vendor SSD	N/A	Certified	Certified	Certified	Certified
P49049-B21	HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	N/A	Certified	Certified	Certified	Certified
P49053-B21	HPE 3.2TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	N/A	Certified	Certified	Certified	Certified
P49057-B21	HPE 6.4TB SAS 24G Mixed Use SFF BC Multi Vendor SSD	N/A	Certified	Certified	Certified	Certified
<b>Mixed Use SAS Self-Encrypting Drives (SED)</b>						
P41400-B21	HPE 800GB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD	Certified	N/A	N/A	N/A	N/A
P41401-B21	HPE 1.6TB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD	Certified	N/A	N/A	N/A	N/A
<b>Read Intensive SAS Drives</b>						
P49028-B21	HPE 960GB SAS 12G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P49030-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P49034-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC	Certified	Certified	Certified	Certified	Certified

### Technical Specifications

SAS Interface - (Certifications)						
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
P49044-B21	HPE 15.36TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P49029-B21	HPE 960GB SAS 24G Read Intensive SFF BC Multi Vendor SSD	N/A	Certified	Certified	Certified	Certified
P49031-B21	HPE 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	N/A	Certified	Certified	Certified	Certified
P49035-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	N/A	Certified	Certified	Certified	Certified
P49041-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	N/A	Certified	Certified	Certified	Certified
P49045-B21	HPE 15.36TB SAS 24G Read Intensive SFF BC Multi Vendor SSD	N/A	Certified	Certified	Certified	Certified

### Read Intensive SAS Self-Encrypting Drives (SED)

P41398-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD	Certified	N/A	N/A	N/A	N/A
P41399-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD	Certified	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.

### 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

### Technical Specifications

<b>Mixed Use Multi Vendor Value SAS Drives</b>				
P37005-B21	HPE 960GB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	960	MU	V
P37009-B21	HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD	960	MU	V
P37011-B21	HPE 1.92TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	1,920	MU	V
P37013-B21	HPE 1.92TB SAS 12G Mixed Use LFF SCC Value SAS Multi Vendor SSD	1,920	MU	V
P37017-B21	HPE 3.84TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	3,840	MU	V
P40510-B21	HPE 960GB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	960	MU	V
P40511-B21	HPE 1.92TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	1,920	MU	V
P40512-B21	HPE 3.84TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	3,840	MU	V
<b>Read Intensive Multi Vendor Value SAS Drives</b>				
P36997-B21	HPE 960GB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	960	RI	V
P36999-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	1,920	RI	V
P37001-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	1,920	RI	V
P37003-B21	HPE 7.68TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	7,680	RI	V
P40506-B21	HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	960	RI	V
P40507-B21	HPE 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	1,920	RI	V
P40508-B21	HPE 3.84TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	3,840	RI	V
P40509-B21	HPE 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	7,680	RI	V

#### 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 c in that capacity that has met or exceeds the HPE qualification standards published above.

### Value SAS Speeds and Feeds Specifications MULTI VENDOR

### Technical Specifications

Value SAS Interface - (Speeds & Feeds) MULTI VENDOR							
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 (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
<b>Mixed Use Multi Vendor Value SAS Drives</b>							
P37005-B21	HPE 960GB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	5,250	3.00	790 / 635	130 / 35	105,000 / 47,000	155,000@Q32 / 48,000@Q4
P37009-B21	HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD	5,250	3.00	790 / 635	130 / 35	105,000 / 47,000	155,000@Q32 / 48,000@Q4
P37011-B21	HPE 1.92TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	10,500	3.00	810 / 635	140 / 38	96,000 / 51,000	155,000@Q32 / 52,000@Q4
P37013-B21	HPE 1.92TB SAS 12G Mixed Use LFF SCC Value SAS Multi Vendor SSD	10,500	3.00	810 / 635	140 / 38	96,000 / 51,000	155,000@Q32 / 52,000@Q4
P37017-B21	HPE 3.84TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	21,000	3.00	810 / 635	140 / 35	103,000 / 51,000	155,000@Q32 / 52,000@Q4
P40510-B21	HPE 960GB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	5,250	3.00	790 / 635	130 / 35	105,000 / 47,000	155,000@Q32 / 48,000@Q4
P40511-B21	HPE 1.92TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	10,500	3.00	810 / 635	140 / 38	96,000 / 51,000	155,000@Q32 / 52,000@Q4
P40512-B21	HPE 3.84TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	21,000	3.00	810 / 635	140 / 35	103,000 / 51,000	155,000@Q32 / 52,000@Q4



### Technical Specifications

#### Read Intensive Multi Vendor Value SAS Drives

P36997-B21	HPE 960GB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	1,700	1.00	810 / 635	130 / 35	105,000 / 32,000	155,000@Q 32 / 32,000@Q4
P36999-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	3,500	1.00	810 / 620	140 / 35	97,000 / 36,000	155,000@Q 32 / 36,000@Q4
P37001-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	7,000	1.00	810 / 635	140 / 35	100,000 / 37,000	155,000@Q 32 / 37,000@Q4
P37003-B21	HPE 7.68TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	14,000	1.00	810 / 635	140 / 35	105,000 / 36,000	155,000@Q 32 / 37,000@Q4
P40506-B21	HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	1,700	1.00	810 / 635	130 / 35	105,000 / 32,000	155,000@Q 32 / 32,000@Q4
P40507-B21	HPE 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	3,500	1.00	810 / 620	140 / 35	97,000 / 36,000	155,000@Q 32 / 36,000@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	810 / 635	140 / 35	100,000 / 37,000	155,000@Q 32 / 37,000@Q4
P40509-B21	HPE 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	14,000	1.00	810 / 635	140 / 35	105,000 / 36,000	155,000@Q 32 / 37,000@Q4

#### 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.

### Value SAS Power and Height Specifications MULTI VENDOR



### Technical Specifications

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
<b>Mixed Use Multi Vendor Value SAS Drives</b>									
P37005-B21	HPE 960GB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	4.09	4.95	4.95	6.52	5.37	4.95	6.52	15mm
P37009-B21	HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD	4.09	4.95	4.95	6.52	5.37	4.95	6.52	15mm
P37011-B21	HPE 1.92TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	4.67	5.35	5.35	7.11	6.25	5.35	7.11	15mm
P37013-B21	HPE 1.92TB SAS 12G Mixed Use LFF SCC Value SAS Multi Vendor SSD	4.67	5.35	5.35	7.11	6.25	5.35	7.11	15mm
P37017-B21	HPE 3.84TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	4.99	5.79	5.79	7.82	6.57	5.79	7.82	15mm
P40510-B21	HPE 960GB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	4.09	4.95	4.95	6.52	5.37	4.95	6.52	15mm
P40511-B21	HPE 1.92TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	4.67	5.35	5.35	7.11	6.25	5.35	7.11	15mm
P40512-B21	HPE 3.84TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	4.99	5.79	5.79	7.82	6.57	5.79	7.82	15mm

### Technical Specifications

#### Read Intensive Multi Vendor Value SAS Drives

P36997-B21	HPE 960GB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	4.08	5.01	5.01	6.70	5.40	5.01	6.70	15mm
P36999-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	4.06	4.60	4.60	6.37	5.18	4.60	6.37	15mm
P37001-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	4.99	5.79	5.79	7.82	6.57	5.79	7.82	15mm
P37003-B21	HPE 7.68TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	3.62	5.70	5.70	5.42	5.78	5.70	5.78	15mm
P40506-B21	HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	4.26	5.00	5.00	6.71	6.95	6.95	9.65	15mm
P40507-B21	HPE 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	4.06	4.60	4.60	6.37	5.18	4.60	6.37	15mm
P40508-B21	HPE 3.84TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	4.99	5.79	5.79	7.82	6.57	5.79	7.82	15mm
P40509-B21	HPE 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	3.62	5.70	5.70	5.42	5.78	5.70	5.78	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.

#### Value SAS Certifications MULTI VENDOR

- Prequalified certification will be listed in the HPE Selector Tool <http://ssd.hpe.com/>.
- For latest VMware Compatibility, please visit <https://www.vmware.com/resources/compatibility/search.php> and enter specific HPE Model 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 Interface - (Certifications) MULTI VENDOR						
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
<b>Mixed Use Multi Vendor Value SAS Drives</b>						
P37005-B21	HPE 960GB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P37009-B21	HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P37011-B21	HPE 1.92TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P37013-B21	HPE 1.92TB SAS 12G Mixed Use LFF SCC Value SAS Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P37017-B21	HPE 3.84TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40510-B21	HPE 960GB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	Certified	N/A	N/A	Certified	Certified
P40511-B21	HPE 1.92TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	Certified	N/A	N/A	N/A	N/A
P40512-B21	HPE 3.84TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	Certified	N/A	N/A	Certified	Certified
<b>Read Intensive Multi Vendor Value SAS Drives</b>						
P36997-B21	HPE 960GB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P36999-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P37001-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified

### Technical Specifications

P37003-B21	HPE 7.68TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P40506-B21	HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	Certified	N/A	N/A	Certified	Certified
<b>Read Intensive Multi Vendor Value SAS Drives</b>						
P40507-B21	HPE 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	Certified	N/A	N/A	Certified	Certified
P40508-B21	HPE 3.84TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	Certified	N/A	N/A	Certified	Certified
P40509-B21	HPE 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	Certified	N/A	N/A	Certified	Certified

### 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.

### PCIe/NVMe Capacity, Workload, Carrier Specifications

PCIe/NVMe Interface - SKUs (Capacity, Workload, Carrier...)			
HPE Option Kit SKU	Long Description	Capacity	Workload Type
<b>NVMe High Performance Low Latency SSDs Write Intensive SSDs</b>			
P06952-X21	HPE 750GB NVMe Gen3 High Performance Low Latency Write Intensive SFF SCN U.2 P4800X SSD	750	WI
<b>NVMe High Performance and Mainstream Mixed Use Drives</b>			
P22274-B21	HPE 12.8TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	12,800	MU
P50225-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735a SSD	1,600	MU
P50228-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735a SSD	3,200	MU

### Technical Specifications

PCIe/NVMe Interface - SKUs (Capacity, Workload, Carrier...)			
HPE Option Kit SKU	Long Description	Capacity	Workload Type
P50231-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735a SSD	6,400	MU
P51458-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.2 P5620 SSD	1,600	MU
P51460-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.2 P5620 SSD	3,200	MU
P51462-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.2 P5620 SSD	6,400	MU
P50226-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735a SSD	1,600	MU
P50229-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735a SSD	3,200	MU
P50232-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735a SSD	6,400	MU
P50227-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	1,600	MU
P50230-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	3,200	MU
P50233-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	6,400	MU
P51459-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.2 P5620 SSD	1,600	MU
P51461-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.2 P5620 SSD	3,200	MU
P51463-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.2 P5620 SSD	6,400	MU
P47837-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	800	MU
P47834-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 Static Multi Vendor SSD	1,600	MU
P47835-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 Static Multi Vendor SSD	3,200	MU
P47836-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 Static Multi Vendor SSD	6,400	MU
P47838-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	1,600	MU
P47839-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	3,200	MU

### Technical Specifications

PCIe/NVMe Interface - SKUs (Capacity, Workload, Carrier...)			
HPE Option Kit SKU	Long Description	Capacity	Workload Type
P47822-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.2 Multi Vendor SSD	6,400	MU
NVMe High Performance Mixed Use Self-Encrypting Drives (SED)			
P44588-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN Self-encrypting FIPS U.3 CM6 SSD	1,600	MU
P44596-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN Self-encrypting FIPS U.3 CM6 SSD	3,200	MU
P44584-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC Self-encrypting FIPS U.3 CM6 SSD	1,600	MU
P44592-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC Self-encrypting FIPS U.3 CM6 SSD	3,200	MU
P41404-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	1,600	MU
P41405-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	3,200	MU
NVMe High Performance and Mainstream Read Intensive Drives			
P50214-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733a SSD	1,920	RI
P50217-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733a SSD	3,840	RI
P50220-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733a SSD	7,680	RI
P51452-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN U.2 P5520 SSD	1,920	RI
P51454-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN U.2 P5520 SSD	3,840	RI
P51456-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SCN U.2 P5520 SSD	7,680	RI
P50215-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD	1,920	RI
P50218-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD	3,840	RI
P50221-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD	7,680	RI
P50222-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD	15,360	RI

### Technical Specifications

PCIe/NVMe Interface - SKUs (Capacity, Workload, Carrier...)			
HPE Option Kit SKU	Long Description	Capacity	Workload Type
P50224-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	15,360	RI
P51453-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.2 P5520 SSD	1,920	RI
P51455-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.2 P5520 SSD	3,840	RI
P51457-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.2 P5520 SSD	7,680	RI
P40513-B21	HPE 480GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	480	RI
P40514-B21	HPE 960GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	960	RI
P40515-B21	HPE 1.92TB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	1,920	RI
P47841-B21	HPE 1.9TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 Static Multi Vendor SSD	1,920	RI
P47842-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 Static Multi Vendor SSD	3,840	RI
P47843-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 Static Multi Vendor SSD	7,680	RI
P47844-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	960	RI
P47845-B21	HPE 1.9TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	1,920	RI
P47846-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	3,840	RI
P47847-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	7,680	RI
P47823-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.2 Multi Vendor SSD	1,920	RI
P47824-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.2 Multi Vendor SSD	3,840	RI



### Technical Specifications

PCIe/NVMe Interface - SKUs (Capacity, Workload, Carrier...)			
HPE Option Kit SKU	Long Description	Capacity	Workload Type
P44568-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC Self-encrypting FIPS U.3 CM6 SSD	1,920	RI
P44576-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC Self-encrypting FIPS U.3 CM6 SSD	3,840	RI
P41402-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	1,920	RI
P41403-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	3,840	RI

### PCIe/NVMe Speeds and Feeds Specifications

PCIe/NVMe Interface - SKUs (Speeds and Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DW PD	MAX Seq Reads / Max Seq Writes Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency (4KiB, Q1) uSec	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
<b>NVMe High Performance Low Latency SSDs Write Intensive SSDs</b>							
P06952-X21	HPE 750GB NVMe Gen3 High Performance Low Latency Write Intensive SFF SCN U.2 P4800X SSD	41,000	30.00	2,500 / 2,300	17 / 17	575,000 / 585,000	575,000@Q16 / 585,000@Q16
<b>NVMe High Performance and Mainstream Mixed Use Drives</b>							
P22274-B21	HPE 12.8TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	68,484	3.00	7,000 / 6,000	95 / 30	175,000 / 185,000	960,000@Q256 / 1,000,000@Q100



### Technical Specifications

PCIe/NVMe Interface - SKUs (Speeds and Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DW PD	MAX Seq Reads / Max Seq Writes Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency (4KiB, Q1) uSec	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P50231-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN 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
P50226-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC 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
P50229-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC 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
P50232-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SC 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
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
P51458-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.2 P5620 SSD	8,700	3.00	5,200 / 1,950	65 / 15	200,000 / 215,000	725,000@Q256 / 220,000@Q16
P51459-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.2 P5620 SSD	8,700	3.00	5,200 / 1,950	65 / 15	200,000 / 215,000	725,000@Q256 / 220,000@Q16
P51460-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.2 P5620 SSD	17,500	3.00	6,500 / 2,400	65 / 15	215,000 / 230,000	885,000@Q256 / 220,000@Q16

### Technical Specifications

PCIe/NVMe Interface - SKUs (Speeds and Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DW PD	MAX Seq Reads / Max Seq Writes Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency (4KiB, Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P47837-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	4,280	3.00	5,500 / 1,300	100 / 28	160,000 / 92,000	700,000@Q256 / 9,0000@Q4
P47834-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 Static Multi Vendor SSD	8,561	3.00	5,500 / 1,150	105 / 25	155,000 / 87,000	700,000@Q256 / 85,000@Q32
P47838-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	8,561	3.00	5,500 / 1,150	105 / 25	155,000 / 87,000	700,000@Q256 / 85,000@Q32
P47835-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 Static Multi Vendor SSD	17,121	3.00	5,900 / 2,300	105 / 25	155,000 / 170,000	900,000@Q256 / 170,000@Q4
P47839-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	17,121	3.00	5,900 / 2,300	105 / 25	155,000 / 170,000	900,000@Q256 / 75,000@Q4
P47836-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 Static Multi Vendor SSD	34,242	3.00	5,900 / 3,650	110 / 25	155,000 / 250,000	900,000@Q256 / 250,000@Q16
P47840-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	34,242	3.00	5,900 / 3,650	110 / 25	155,000 / 250,000	900,000@Q256 / 250,000@Q16
P47820-B21	HPE 1.6TB NVMe Gen4	8,561	3.00	5,500 /	105 / 25	155,000 /	700,000@Q25

### Technical Specifications

PCIe/NVMe Interface - SKUs (Speeds and Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DW PD	MAX Seq Reads / Max Seq Writes Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
<b>NVMe High Performance Mixed Use Self-Encrypting Drives (SED)</b>							
P44588-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN Self-encrypting FIPS U.3 CM6 SSD	8,760	3.00	6,500 / 2,700	93 / 25	180,000 / 220,000	950,000@Q256 / 75,000@Q4
P44596-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN Self-encrypting FIPS U.3 CM6 SSD	17,520	3.00	6,500 / 4,000	93 / 24	180,000 / 350,000	950,000@Q256 / 75,000@Q4
P44584-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC Self-encrypting FIPS U.3 CM6 SSD	8,760	3.00	6,500 / 2,700	93 / 25	180,000 / 220,000	950,000@Q256 / 75,000@Q4
P44592-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC Self-encrypting FIPS U.3 CM6 SSD	17,520	3.00	6,500 / 4,000	93 / 24	180,000 / 350,000	950,000@Q256 / 75,000@Q4
P41404-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	8,760	3.00	6,500 / 2,700	93 / 25	180,000 / 220,000	950,000@Q256 / 75,000@Q4
P41405-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	17,520	3.00	6,500 / 4,000	93 / 24	180,000 / 350,000	950,000@Q256 / 75,000@Q4
<b>NVMe High Performance and Mainstream Read Intensive Drives</b>							
P50214-B21	HPE 1.92TB NVMe Gen4 High	3,504	1.00	7,100 /	70 / 19	220,000 /	1,250,000@Q25

### Technical Specifications

PCIe/NVMe Interface - SKUs (Speeds and Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DW PD	MAX Seq Reads / Max Seq Writes Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency (4KiB, Q1) uSec	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P50218-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC 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
P50221-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SC 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
P50223-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF SC 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
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
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
P51452-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN U.2 P5520 SSD	3,500	1.00	5,200 / 1,950	65 / 15	200,000 / 120,000	713,000@Q256 / 123,000@Q4
P51453-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 P5520 SSD	3,500	1.00	5,200 / 1,950	65 / 15	200,000 / 120,000	713,000@Q256 / 123,000@Q4

### Technical Specifications

PCIe/NVMe Interface - SKUs (Speeds and Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DW PD	MAX Seq Reads / Max Seq Writes Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency (4KiB, Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P51457-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.2 P5520 SSD	14,000	1.00	7,000 / 4,200	65 / 15	220,000 / 230,000	850,000@Q256 / 235,000@Q16
P40513-B21	HPE 480GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	482	0.55	2,800 / 690	91 / 45	135,000 / 26,500	250,000@Q256 / 26,500@Q128
P40514-B21	HPE 960GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	981	0.56	3,300 / 1,350	91 / 29	155,000 / 47,500	480,000@Q256 / 47,500@Q4
P40515-B21	HPE 1.92TB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	4,765	1.36	3,300 / 1,250	97 / 28	145,000 / 54,000	425,000@Q256 / 54,500@Q64
P47844-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	1,712	1.00	5,500 / 1,300	101 / 32	160,000 / 30,000	520,000@Q256 / 30,000@Q64
P47841-B21	HPE 1.9TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 Static Multi Vendor SSD	3,424	1.00	5,500 / 1,150	105 / 33	155,000 / 30,000	700,000@Q256 / 30,000@Q256
P47845-B21	HPE 1.9TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	3,424	1.00	5,500 / 1,150	105 / 33	155,000 / 30,000	700,000@Q256 / 30,000@Q256
P47842-B21	HPE 3.84TB NVMe Gen4	6,848	1.00	5,900 /	105 / 29	155,000 /	880,000@Q256

### Technical Specifications

PCIe/NVMe Interface - SKUs (Speeds and Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DW PD	MAX Seq Reads / Max Seq Writes Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency (4KiB, Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P47847-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	13,697	1.00	5,900 / 3,650	107 / 29	155,000 / 85,000	880,000@Q256 / 85,000@Q128
P47823-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.2 Multi Vendor SSD	3,424	1.00	5,500 / 1,150	105 / 33	155,000 / 30,000	700,000@Q256 / 30,000@Q256
P47824-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.2 Multi Vendor SSD	6,848	1.00	5,900 / 2,300	105 / 29	155,000 / 60,000	880,000@Q256 / 60,000@Q64
P47825-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.2 Multi Vendor SSD	13,697	1.00	5,900 / 3,650	107 / 29	155,000 / 85,000	880,000@Q256 / 85,000@Q128
NVMe High Performance Read Intensive Self-Encrypting Drives (SED)							
P44572-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN Self-encrypting FIPS U.3 CM6 SSD	3,504	1.00	6,500 / 2,700	93 / 25	180,000 / 100,000	950,000@Q256 / 75,000@Q4
P44580-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN Self-encrypting FIPS U.3 CM6 SSD	7,008	1.00	6,500 / 4,000	93 / 26	180,000 / 170,000	930,000@Q256 / 75,000@Q4
P44568-B21	HPE 1.92TB NVMe Gen4 High	3,504	1.00	6,500 /	93 / 25	180,000 /	950,000@Q25

### Technical Specifications

PCIe/NVMe Interface - SKUs (Speeds and Feeds)							
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DW PD	MAX Seq Reads / Max Seq Writes Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency (4KiB, Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P41403-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	7,008	1.00	6,500 / 4,000	93 / 26	180,000 / 170,000	930,000@Q256 / 75,000@Q4

#### 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 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
<b>NVMe High Performance Low Latency SSDs Write Intensive SSDs</b>									
P06952-X21	HPE 750GB NVMe Gen3 High Performance Low Latency Write Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	4.50	9.74	9.74	9.12	14.04	9.74	14.04	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
P50228-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735a SSD	4.60	17.10	15.10	14.60	18.40	15.80	18.40	15mm
P50231-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735a SSD	4.20	17.60	15.30	14.80	18.70	15.50	18.70	15mm
P51458-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.2 P5620 SSD	4.08	9.42	9.42	9.26	9.64	9.42	9.64	15mm
P51460-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.2 P5620 SSD	4.13	11.17	11.17	10.57	13.55	11.17	13.55	15mm
P51462-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.2 P5620 SSD	4.25	11.68	11.68	11.7	15.52	11.68	15.52	15mm
P50226-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735a SSD	4.40	15.10	14.10	13.90	14.20	13.50	15.10	15mm
P50229-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735a SSD	4.60	17.10	15.10	14.60	18.40	15.80	18.40	15mm
P50232-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735a SSD	4.20	17.60	15.30	14.80	18.70	15.50	18.70	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
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
P51459-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.2 P5620 SSD	4.08	9.42	9.42	9.26	9.64	9.42	9.64	15mm
P51461-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.2 P5620 SSD	4.13	11.17	11.17	10.57	13.55	11.17	13.55	15mm
P51463-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.2 P5620 SSD	4.25	11.68	11.68	11.7	15.52	11.68	15.52	15mm
P47837-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	6.00	11.30	9.80	12.20	9.70	10.30	12.20	15mm
P47834-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 Static Multi Vendor SSD	6.30	11.90	10.75	11.80	10.92	10.50	11.90	15mm
P47838-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	6.30	11.90	10.75	11.80	10.92	10.50	11.90	15mm
P47835-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 Static Multi Vendor SSD	6.30	14.60	13.40	13.40	13.60	12.40	14.60	15mm

### Technical Specifications

<b>PCIe/NVMe Interface - (Power &amp; Height)</b>									
<b>HPE Option Kit SKU</b>	<b>Long Description</b>	<b>Power Idle Time (Watts)</b>	<b>Power Random Read (Watts)</b>	<b>Power Random Write (Watts)</b>	<b>Power Sequential Read (Watts)</b>	<b>Power Sequential Write (Watts)</b>	<b>Power Random R/W (Watts)</b>	<b>Power MAX (Watts)</b>	<b>z-Height</b>
P47840-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	6.30	17.40	16.80	15.30	18.60	14.70	18.60	15mm
P47820-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.2 Multi Vendor SSD	6.30	11.90	10.75	11.80	10.92	10.50	11.90	15mm
P47821-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.2 Multi Vendor SSD	6.30	14.60	13.40	13.40	13.60	12.40	14.60	15mm
P47822-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.2 Multi Vendor SSD	6.30	17.40	16.80	15.30	18.60	14.70	18.60	15mm
<b>NVMe High Performance Mixed Use Self-Encrypting Drives (SED)</b>									
P44588-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN Self-encrypting FIPS U.3 CM6 SSD	4.70	15.10	12.80	14.00	14.10	11.50	15.10	15mm
P44596-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN Self-encrypting FIPS U.3 CM6 SSD	4.70	18.20	16.70	15.70	18.20	15.00	18.20	15mm
P44584-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC Self-encrypting FIPS U.3 CM6 SSD	4.70	15.10	12.80	14.00	14.10	11.50	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
P41405-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	4.70	18.20	16.70	15.70	18.20	15.00	18.20	15mm
NVMe High Performance and Mainstream Read Intensive Drives									
P50214-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733a SSD	4.30	15.10	14.10	13.90	14.20	13.50	15.10	15mm
P50217-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733a SSD	4.20	17.30	16.20	14.50	18.70	16.60	18.70	15mm
P50220-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733a SSD	4.30	17.80	16.20	14.90	19.00	16.60	19.00	15mm
P51452-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN U.2 P5520 SSD	4.08	9.07	9.07	9.26	9.64	9.07	9.64	15mm
P51454-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN U.2 P5520 SSD	4.01	11.46	11.46	10.45	13.39	11.46	13.39	15mm
P51456-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SCN U.2 P5520 SSD	4.23	13.10	13.10	11.70	15.52	13.10	15.52	15mm
P50215-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC 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
P50223-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD	4.30	18.60	16.80	16.60	20.00	16.90	20.00	15mm
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
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
P51453-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.2 P5520 SSD	4.08	9.07	9.07	9.26	9.64	9.07	9.64	15mm
P51455-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.2 P5520 SSD	4.01	11.46	11.46	10.45	13.39	11.46	13.39	15mm
P51457-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.2 P5520 SSD	4.23	13.10	13.10	11.70	15.52	13.10	15.52	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
P40515-B21	HPE 1.92TB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	2.42	6.27	6.27	6.80	6.55	6.27	6.80	22110 M.2
P47844-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	6.00	11.30	9.70	12.20	9.70	10.20	12.20	15mm
P47841-B21	HPE 1.9TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 Static Multi Vendor SSD	6.30	11.90	10.75	11.80	11.18	10.30	11.90	15mm
P47845-B21	HPE 1.9TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	6.30	11.90	10.75	11.80	11.18	10.30	11.90	15mm
P47842-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 Static Multi Vendor SSD	6.30	14.60	13.20	13.40	14.80	12.80	14.80	15mm
P47846-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	6.30	14.60	13.20	13.40	14.80	12.80	14.80	15mm
P47843-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 Static Multi Vendor SSD	6.30	17.40	17.10	15.30	18.60	16.00	18.60	15mm
P47847-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	6.30	17.40	17.10	15.30	18.60	16.00	18.60	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
P47825-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.2 Multi Vendor SSD	6.30	17.40	17.10	15.30	18.60	16.00	18.60	15mm
NVMe High Performance Read Intensive Self-Encrypting Drives (SED)									
P44572-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN Self-encrypting FIPS U.3 CM6 SSD	4.70	15.10	11.60	14.00	14.10	12.20	15.10	15mm
P44580-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN Self-encrypting FIPS U.3 CM6 SSD	4.70	17.90	15.30	15.70	18.20	14.60	18.20	15mm
P44568-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC Self-encrypting FIPS U.3 CM6 SSD	4.70	15.10	11.60	14.00	14.10	12.20	15.10	15mm
P44576-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC Self-encrypting FIPS U.3 CM6 SSD	4.70	17.90	15.30	15.70	18.20	14.60	18.20	15mm
P41402-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	4.70	15.10	11.60	14.00	14.10	12.20	15.10	15mm
P41403-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	4.70	17.90	15.30	15.70	18.20	14.60	18.20	15mm
<b>Notes:</b> B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines. Please use HPE Selector Tool <a href="http://ssd.hpe.com/">http://ssd.hpe.com/</a> to determine server compatibility.									

### Technical Specifications

#### NVMe Certifications

- Prequalified certification will be listed in the HPE Selector Tool <http://ssd.hpe.com/>.
- For latest VMware Compatibility, please visit <https://www.vmware.com/resources/compatibility/search.php> and enter specific HPE Model 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.

NVMe Interface - (Certifications)			
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Micro Ser' Cer
<b>NVMe High Performance Low Latency SSDs Write Intensive SSDs</b>			
P06952-X21	HPE 750GB NVMe Gen3 High Performance Low Latency Write Intensive SFF SCN U.2 P4800X SSD	Certified	Certif
<b>NVMe High Performance and Mainstream Mixed Use Drives</b>			
P22274-B21	HPE 12.8TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	Certified	Certif
P50225-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735a SSD	Certified	Certif
P50228-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735a SSD	Certified	Certif
P50231-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735a SSD	Certified	Certif
P51458-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.2 P5620 SSD	Pending	Certif
P51460-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.2 P5620 SSD	Pending	Certif
P51462-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.2 P5620 SSD	Pending	Certif
P50226-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735a SSD	Certified	Certif
P50229-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735a SSD	Certified	Certif
P50232-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735a SSD	Certified	Certif
P50227-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	Certified	Certif
P50230-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	Certified	Certif
P50233-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD	Certified	Certif
P51459-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.2 P5620 SSD	Pending	Certif

### Technical Specifications

<b>NVMe Interface - (Certifications)</b>			
<b>HPE Option Kit SKU</b>	<b>Long Description</b>	<b>VMWare / vSAN HCL Certification</b>	<b>Micro Ser Cer</b>
P51461-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.2 P5620 SSD	Pending	Certif
P51463-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.2 P5620 SSD	Pending	Certif
P47837-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	N/A	N/A
P47834-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 Static Multi Vendor SSD	N/A	N/A
P47838-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	N/A	N/A
P47835-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 Static Multi Vendor SSD	N/A	N/A
P47839-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	N/A	N/A
P47836-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 Static Multi Vendor SSD	N/A	N/A
P47840-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD	N/A	N/A
P47820-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.2 Multi Vendor SSD	N/A	N/A
P47821-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.2 Multi Vendor SSD	N/A	N/A
P47822-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.2 Multi Vendor SSD	N/A	N/A
<b>NVMe High Performance Mixed Use Self-Encrypting Drives (SED)</b>			
P44588-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A
P44596-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A
P44584-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A
P44592-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A



### Technical Specifications

NVMe Interface - (Certifications)			
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	MicroServer Certification
P50217-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733a SSD	Pending	Certified
P50220-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733a SSD	Pending	Certified
P51452-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN U.2 P5520 SSD	Pending	Certified
P51454-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN U.2 P5520 SSD	Pending	Certified
P51456-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SCN U.2 P5520 SSD	Pending	Certified
P50215-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD	Pending	Certified
P50218-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD	Pending	Certified
P50221-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD	Pending	Certified
P50223-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD	Pending	Certified
P50216-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	Pending	Certified
P50219-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	Pending	Certified
P50222-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	Pending	Certified
P50224-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD	Pending	Certified
P51453-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.2 P5520 SSD	Pending	Certified
P51455-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.2 P5520 SSD	Pending	Certified
P51457-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.2 P5520 SSD	Pending	Certified
P40513-B21	HPE 480GB NVMe Gen3 Mainstream Performance Read Intensive SFF	Certified	N/A

### Technical Specifications

NVMe Interface - (Certifications)			
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Micro Ser' Cer
P47845-B21	HPE 1.9TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	N/A	N/A
P47842-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 Static Multi Vendor SSD	N/A	N/A
P47846-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	N/A	N/A
P47843-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 Static Multi Vendor SSD	N/A	N/A
P47847-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD	N/A	N/A
P47823-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.2 Multi Vendor SSD	N/A	N/A
P47824-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.2 Multi Vendor SSD	N/A	N/A
P47825-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.2 Multi Vendor SSD	N/A	N/A
NVMe High Performance Read Intensive Self-Encrypting Drives (SED)			
P44572-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A
P44580-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A
P44568-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A
P44576-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A
P41402-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A
P41403-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	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.

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

### 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 Platforms)
<b>NVMe Main Performance Read Intensive EDSFF E3.S SSDs</b>											
P56585-B21	HPE 1.92TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF CD7 SSD	1920	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11
P56586-B21	HPE 3.84TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF CD7 SSD	3840	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11
P56587-B21	HPE 7.68TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF CD7 SSD	7680	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11
<b>NVMe High Performance Read Intensive EDSFF E3.S SSDs</b>											
P57799-B21	HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF PM1743 SSD	3840	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11
P57803-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF PM1743 SSD	7680	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11
P57807-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF PM1743 SSD	15,360	RI	NVMe	E3.S	Hot Plug	EC1	Yes	TLC	Single	Gen11
<b>Notes:</b>											
<ol style="list-style-type: none"> <li>B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.</li> <li>Please use HPE Selector Tool <a href="http://ssd.hpe.com/">http://ssd.hpe.com/</a> to determine server compatibility.</li> </ol>											

### PCIe/NVMe EDSFF E3.S Speeds and Feeds Specifications

### 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 (4KiB,Q1) uSec	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
<b>NVMe Main Performance Read Intensive EDSFF E3.S SSDs</b>							
P56585-B21	HPE 1.92TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF CD7 SSD	3,504	1	6,217 / 3,476	78 / 18	193,409 / 182,910	1,051,716@Q256 / 183,541@Q16
P56586-B21	HPE 3.84TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF CD7 SSD	7,008	1	6,240 / 3,096	81 / 18	187,417 / 178,362	1,037,742@Q256 / 179,305@Q16
P56587-B21	HPE 7.68TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF CD7 SSD	14,016	1	6,022 / 5,407	81 / 19	190,379 / 176,033	1,032,244@Q256 / 175,089@Q16
<b>NVMe High Performance Read Intensive EDSFF E3.S SSDs</b>							
P57799-B21	HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF 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 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 PM1743 SSD	28,032	1	13,800 / 7,276	82 / 19	197,931 / 359,542	1,060,146@Q128 / 363,570@Q16
<b>Notes:</b>							
<ol style="list-style-type: none"> <li>1. B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.</li> <li>2. Please use HPE Selector Tool <a href="http://ssd.hpe.com/">http://ssd.hpe.com/</a> to determine server compatibility.</li> </ol>							

### PCIe/NVMe EDSFF E3.S Power & Height Specifications

### Technical Specifications

PCIe/NVMe EDSFF E3.S - (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
<b>NVMe Main Performance Read Intensive EDSFF E3.S SSDs</b>									
P56585-B21	HPE 1.92TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF CD7 SSD	5	12.8	12.92	12.4	12.73	12.29	25	7.5mm
P56586-B21	HPE 3.84TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF CD7 SSD	5	12.99	12.96	12.44	12.63	12.18	25	7.5mm
P56587-B21	HPE 7.68TB NVMe Gen5 Mainstream Performance Read Intensive E3S EC1 EDSFF CD7 SSD	5	13.98	15.3	1.45	18.4	14.72	25	7.5mm
<b>NVMe High Performance Read Intensive EDSFF E3.S SSDs</b>									
P57799-B21	HPE 3.84TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF PM1743 SSD	4.4	22.3	20.8	19.9	21	18.7	22.3	7.7mm
P57803-B21	HPE 7.68TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF PM1743 SSD	4.5	22.6	20.7	20.4	21.2	19	22.6	7.7mm
P57807-B21	HPE 15.36TB NVMe Gen5 High Performance Read Intensive E3S EC1 EDSFF PM1743 SSD	4.9	23.5	22.5	20.9	24.6	21.1	24.6	7.7mm
<b>Notes:</b>									
<ol style="list-style-type: none"> <li>B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.</li> <li>Please use HPE Selector Tool <a href="http://ssd.hpe.com/">http://ssd.hpe.com/</a> to determine server compatibility.</li> </ol>									

### Technical Specifications

#### NVMe EDSFF E3.S Certifications

- Prequalified certification will be listed in the HPE Selector Tool <http://ssd.hpe.com/>.
- For latest VMware Compatibility, please visit <https://www.vmware.com/resources/compatibility/search.php> and enter specific HPE Model 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 Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Server Gen Supported (Select Platforms)
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
P47819-B21	HPE Dual 480GB SATA 6G Read Intensive M.2 to SFF SCM Multi Vendor SSD	960	RI	SATA	SFF	Hot Plug	SCM	Yes	TLC	Gen10,10 Plus

**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

### Technical Specifications

SATA 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)
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
P47819-B21	HPE Dual 480GB SATA 6G Read Intensive M.2 to SFF SCM Multi Vendor SSD	1,324	1.50	510 / 400	125 / 37	65,000 / 38,000	76,000@Q64 / 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 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
P47819-B21	HPE Dual 480GB SATA 6G Read Intensive M.2 to SFF SCM Multi Vendor SSD	1.03	1.23	1.23	1.89	2.50	1.23	2.50	7mm

**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



### Technical Specifications

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 VMware Compatibility, please visit <https://www.vmware.com/resources/compatibility/search.php> and enter specific HPE Model 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 - (Certifications)

HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
878783-X21	HPE Universal SATA 6G AIC HHHL M.2 SSD Enablement Kit	N/A	N/A	N/A	N/A	N/A
P47819-B21	HPE Dual 480GB SATA 6G Read Intensive M.2 to SFF SCM Multi Vendor SSD	N/A	Certified	N/A	Certified	Certified

#### 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 Capacity, Workload, Carrier Specifications



### Technical Specifications

M.2s- (Capacity, Workload, Carrier...)			
HPE Option Kit SKU	Long Description	Capacity	Workload Type
<b>Read Intensive SATA M.2s</b>			
P47817-B21	HPE 240GB SATA 6G Read Intensive M.2 Multi Vendor SSD	240	RI
P47818-B21	HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	480	RI

### M.2 Speeds and Feeds Specifications

M.2s- (Speeds & Feeds)			
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD
<b>Read Intensive SATA M.2s</b>			
P47817-B21	HPE 240GB SATA 6G Read Intensive M.2 Multi Vendor SSD	438	1.00
P47818-B21	HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	1,324	1.50

#### 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)									
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
<b>Read Intensive SATA M.2s</b>									
P47817-B21	HPE 240GB SATA 6G Read Intensive M.2 Multi Vendor SSD	1.03	1.26	1.26	1.89	2.22	1.26	2.22	2280 M.2

### Technical Specifications

M.2s- (Power & Height)									
HPE Option Kit SKU	Long Description	Power Idle Time (Watts)	Power Random Read (Watts)	Power Random Write (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z-Height
P47818-B21	HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	1.03	1.23	1.23	1.89	2.50	1.23	2.50	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 VMware Compatibility, please visit <https://www.vmware.com/resources/compatibility/search.php> and enter specific HPE Model 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.2s- (Certifications)						
HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)
<b>Read Intensive SATA M.2s</b>						
P47817-B21	HPE 240GB SATA 6G Read Intensive M.2 Multi Vendor SSD	N/A	N/A	N/A	N/A	N/A
P47818-B21	HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	N/A	N/A	N/A	N/A	N/A

### M.2 Capacity, Workload, Carrier Specifications MULTI VENDOR

### Technical Specifications

M.2s- (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	Server Gen Supported (Select Platforms)
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
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
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

#### 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 DW PD	MAX Seq Reads / Max Seq Writes Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P40513-B21	HPE 480GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	482	0.55	2,800 / 690	91 / 45	135,000 / 26,500	250,000@Q256 / 26,500@Q128

### Technical Specifications

#### M.2s- (Speeds & Feeds) MULTI VENDOR

HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DW PD	MAX Seq Reads / Max Seq Writes Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P40514-B21	HPE 960GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	981	0.56	3,300 / 1,350	91 / 29	155,000 / 47,500	480,000@Q256 / 47,500@Q4
P40515-B21	HPE 1.92TB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	4,765	1.36	3,300 / 1,250	97 / 28	145,000 / 54,000	425,000@Q256 / 54,500@Q64

#### 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	Power	Power	Power	Power	Power	Power	z-Height
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### Technical Specifications

#### 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 (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z-Height
P40514-B21	HPE 960GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	2.41	6.16	6.16	6.57	6.33	6.16	6.57	22110 M.2
P40515-B21	HPE 1.92TB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	2.42	6.27	6.27	6.80	6.55	6.27	6.80	22110 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 VMware Compatibility, please visit <https://www.vmware.com/resources/compatibility/search.php> and enter specific HPE Model 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.2s- (Certifications) MULTI VENDOR

HPE Option Kit SKU	Long Description	VMWare / vSAN HCL Certification	Microsoft Windows Server 2016 Certification	Software Defined Data Center (SDDC) Premium AQ Certification	Microsoft Windows Server 2019 Certification	WS 2019 Software Defined Data Center (SDDC)

### Technical Specifications

P40513-B21	HPE 480GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	N/A	N/A	N/A	N/A	N/A
P40514-B21	HPE 960GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	N/A	N/A	N/A	N/A	N/A
P40515-B21	HPE 1.92TB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	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.

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.

### 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	Hot Plug or	Carrier Name (Abbreviation)	Carrier Abbreviation	Size/Form Factor
	Non-Smart	Non-Hot Plug			
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
NVMe - SFF/AIC SSD					
Form Factor	Smart or	Hot Plug or	Carrier Name (Abbreviation)	Carrier Abbreviation	Size/Form Factor
	Non-Smart	Non-Hot Plug			
SFF Carrier (2.5")	Smart	Hot Plug	Smart Carrier NVMe (SCN)	SCN	SFF
			Smart Carrier (SC)	SC	SFF
	Non-Smart	Non-Hot Plug	Basic Carrier (BC)	BC	SFF
			Raw No Carrier (RW)	RW	SFF
NVMe Add-in-Card	Non-Smart	Non-Hot Plug	NVMe Add-in-Card (AIC)	AIC	HHHL

### Technical Specifications

SATA/NVMe - M.2 & Enablement Kits					
Form Factor	Smart or	Hot Plug or	Carrier Name (Abbreviation)	Carrier Abbreviation	Size/Form Factor
	Non-Smart	Non-Hot Plug			
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 22110	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

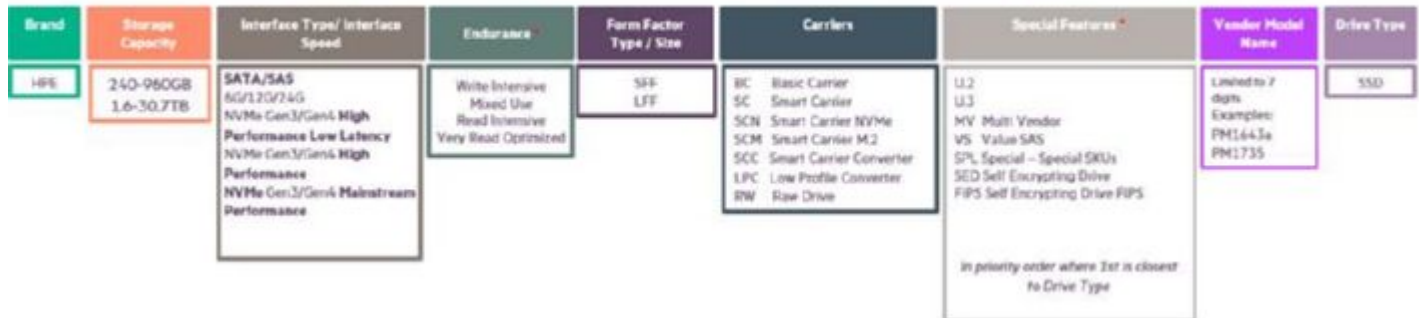
Please use the table below for comparing older SSD models to the newer workload descriptions.

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)

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



### 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



### Technical Specifications

#### 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 EDSFF Enterprise and Datacenter Standard Form Factor  In priority order where 1st is closest to Drive Type	Limited to 7 digits Examples: PM1743 C07	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 S300B S300P	SSD

M.2 SSDs SKU Decoder Long Name

#### HPE Dual 240GB SATA 6G Read Intensive M.2 to SFF SCM 5300B SSD Kit

Brand	Storage Capacity	Interface Type / Interface Speed	Endurance	Form Factor Type / Form Factor Size	Carriers	Special Features	Vendor Model Name	Drive Type
HPE	Dual • 240GB • 480GB • 960GB	SATA 6G	Read Intensive	M.2 to SFF	SCM Smart Carrier M.2	MV Multi Vendor SPL Special - Special SKUs  In priority order where 1st is closest to Drive Type	Limited to 7 digits Examples: S300B S300P	SSD Kit

M.2 SATA SSD Carrier Kits 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



### 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

#### HPE 2x240GB SATA RI M.2 SCM 5300B SSD

Brand	Storage Capacity	Interface Type	Endurance	Form Factor Type	Carrier	Special Features *	Vendor Model Name	Drive Type
HPE	2x • 240GB • 480GB • 960GB	SATA	RI	M.2	SCM Smart Carrier M.2	MV Multi Vendor SPL Special – Special SKUs  In priority order where 1st is closest to Drive Type	Limited to 7 digits Examples: 5300B 5300P	SSD

#### M.2 SATA SSD Carrier eKits SKU Decoder Long Name

Notes: If the description exceeds character count

Drop Form Factor Type

Drop Special Features starting from lowest priority with the exception of Special SKUs

#### HPE 750GB NVMe Gen3x4 High Performance Low Latency Write Intensive AIC HHHL P4800X SSD

Brand	Storage Capacity	Interface Type / Interface Speed and Lanes / Interface Swim lane	Endurance *	Form Factor Type / Size	Special Features *	Vendor Model	Drive Type
HPE	750	NVMe Gen3/Gen4/ X40GB High Performance Low Latency NVMe Gen3/Gen4/ X40GB High Performance NVMe Gen3/Gen4/ X40GB Mainstream Performance	Write Intensive Mixed Use	AIC HHHL	MV Multi Vendor 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 characters Examples: P4800X	SSD

#### Add-In Card 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

### Technical Specifications

Abbreviate Endurance with the exception Very Read Optimized

**HPE 750GB NVMe WI HH P4800X SSD**

Brand	Storage Capacity	Interface Type and Lanes	Endurance	Form Factor Type / Size *	Special Features *	Vendor Model Name	Drive Type
HPE	750	NVMe	WI MU	HH	MV Multi Vendor SPL Special – Special SKUs SED Self Encrypting Drive FIPS Self Encrypting Drive FIPS	Limited to 7 characters: Examples: P4800X	SSD

*In priority order where 1st is closest to Drive Type*

#### AIC SKU Decoder Short Name

Notes: If the description exceeds character count

Drop Form Factor Type

Drop Special Features starting from lowest priority with the exception of Special SKUs

### 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
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
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

### Summary of Changes

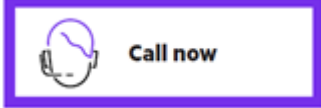
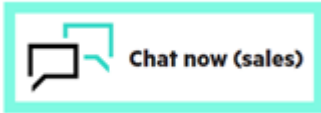
02-Jul-2018	Version 18	Changed	Overview and SKU description were updated
04-Jun-2018	Version 17	Changed	New drive models added. Technical Specifications revised and updated
02-Apr-2018	Version 16	Changed	New drive models added, Technical Specifications revised and updated
05-Mar-2018	Version 15	Changed	Technical Specifications revised and updated, images revised
05-Feb-2018	Version 14	Changed	Format Revised 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

Date	Version History	Action	Description of Change
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-Jan-2023	Version 52	Changed	Technical Specifications were 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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