

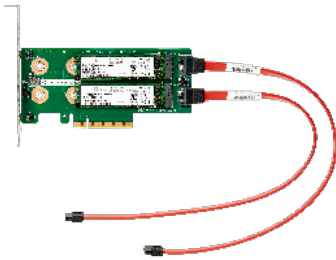
### Overview

#### HPE Solid State Disk Drives

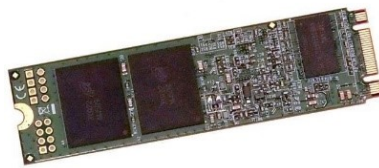
(SSD, AICs, M.2s and M.2 EKits)

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

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



**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)**

## Overview

### What's New?

- New Solid State Drives & Drive Option Kit(s):
  - P41398-B21 HPE 3.84TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD
  - P41399-B21 HPE 7.68TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD
  - P41400-B21 HPE 800GB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD
  - P41401-B21 HPE 1.6TB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD
  - P41402-B21 HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD
  - P41403-B21 HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD
  - P41404-B21 HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD
  - P41405-B21 HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD
  - P44568-B21 HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC Self-encrypting FIPS U.3 CM6 SSD
  - P44572-B21 HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN Self-encrypting FIPS U.3 CM6 SSD
  - P44576-B21 HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC Self-encrypting FIPS U.3 CM6 SSD
  - P44580-B21 HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN Self-encrypting FIPS U.3 CM6 SSD
  - P44584-B21 HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC Self-encrypting FIPS U.3 CM6 SSD
  - P44588-B21 HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN Self-encrypting FIPS U.3 CM6 SSD
  - P44592-B21 HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC Self-encrypting FIPS U.3 CM6 SSD
  - P44596-B21 HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN Self-encrypting FIPS U.3 CM6 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 SSDs 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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## Overview

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

- Windows Server 2019
  - Microsoft Windows Server 2008 (x86 and x64) SP2 and R2 w/SP1
    - Standard Edition
    - Datacenter
    - Enterprise Edition
    - Web Server
    - Embedded
  - Microsoft Windows 2012 Server (x64) R2
  - Microsoft Windows 2016 (RTM)
  - Red Hat Enterprise Linux 6 (EM64T/AMD64)
  - Red Hat Enterprise Linux 7 (EM64T/AMD64)
  - SLES 11 (EM64T/AMD64) (includes XEN)
  - SLES 12 (EM64T/AMD64) (includes XEN)
  - VMware ESXi 5.5
  - VMware ESXi 6.0
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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 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.

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 best access to SATA SSDs, HPE has enhanced its extensive SSD portfolio with a multi-vendor offering that allows for shorter lead times to immediately available supply and extended SKU lifecycles on preferably priced HPE certified SATA SSDs, ensuring the SSDs included in the multi-vendor options deliver the minimum performance published or better. 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 multi-vendor portfolio utilizes specific vendor SSDs which are HPE qualified and released as single sourced SATA SSD SKUs and are bundled into a multi-sourced SKU per capacity. Identified by Multi Vendor (MV) in the SKU description, these multi-vendor SKUs provide the shortest lead time of SATA 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. 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.



## Overview

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

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

Using the above information along with our **HPE SSD Selector Tool** 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.

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## 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 (DWPD1) that you can expect from the drive. (DWPD is the maximum number of 4K host writes to the entire drive capacity of the SSD per day over a five-year period.

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

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

Simple Network Management Protocol (SNMP) Storage Agents for both Microsoft® Windows® and Linux provide status and condition updates through traps, OS event logs and the HPE System **Management Homepage:**

<https://www.hpe.com/us/en/product-catalog/detail/pip.hp-system-management-homepage-software.344313.html>

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

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## Standard Features

### 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.

### 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.

### 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 DWPDP (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 (DWPDP) 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 DWPDP endurance. However, if the VRO SSD is used differently than targeted, the DWPDP will vary based upon how the drive is written to. If used incorrectly, such as the industry standard 4K random write workload the DWPDP endurance drops to: 0.2 on the 1.92TB; 0.09 on the 3.84TB and 0.05 on the 7.68TB VRO SSDs.

**Table 1. Endurance by workload**

Capacity	Drive Writes Per Day (DWPDP)			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



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## Technical Specifications

### HPE Technology Services for Industry Standard Servers

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

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### Protect your business beyond warranty with HPE Support Services

HPE support services offer complete care and support expertise with committed response choices that are designed to meet your IT and business needs.

**Notes:** [HPE Solid State Drives are supported as a part of the HPE Server Infrastructure. No separate Support Services are needed to be purchased.](#)

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### Connect your devices to HPE

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Achieve up to 77%<sup>1</sup> reduction in down time, near 100%<sup>2</sup> diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7 monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization.

All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support.

**Notes:**

- [1.-IDC Whitepaper](#)
  - [2.-HPE CSC Reports 2014-2015](#)
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### HPE Support Center

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

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

HPE Insight Remote Support and HPE Support Center are available at no additional cost with a Hewlett Packard Enterprise warranty, HPE Support Services or HPE contractual support agreement.

**Notes:** [HPE Support Center Mobile App above is subject to local availability.](#)

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### Parts and materials

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

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

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

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## Technical Specifications

### Warranty / Service Coverage

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

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

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

### Additional Notes Regarding Usage and Wear

- DWPD (Drive-Writes-Per Day) ->Full drive writes per day for 5 years. Based on 100% Random Writes (KiB).
- HPE Enterprise SSDs deliver: Full data path error detection, surprise power loss protection and Smart SSD Wear Gauge support.

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### For more information

To learn more on services for HPE ESSN Options, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Or visit:

- <https://www.hpe.com/us/en/servers/proliant-dl-servers.html> or
- <https://www.hpe.com/us/en/integrated-systems/bladesystem.html>

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### Supporting Helpful Links

- <http://www.hpe.com/info/rackandpower>
- <http://www.hpe.com/info/poweradvisor>
- <https://www.hpe.com/us/en/storage/entry-level.html>

### Also

Take control of your data - A guide to understanding storage technologies.

- <http://www.hpe.com/h20195/V2/getpdf.aspx/4AA4-7667ENW.pdf?ver=1.0>



## Technical Specifications

### SATA Capacity, Workload and Carrier Specifications

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

HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)
<b>Mixed Use SATA Drives</b>											
P05976-B21	HPE 480GB SATA 6G Mixed Use SFF SC S4610 SSD	480	MU	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P05980-B21	HPE 960GB SATA 6G Mixed Use SFF SC S4610 SSD	960	MU	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P05986-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC S4610 SSD	1,920	MU	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P05994-B21	HPE 3.84TB SATA 6G Mixed Use SFF SC S4610 SSD	3,840	MU	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P09712-B21	HPE 480GB SATA 6G Mixed Use SFF SC SM883 SSD	480	MU	SATA	SFF	Hot Plug	SC	Yes	MLC	Single	Gen9,10
P09716-B21	HPE 960GB SATA 6G Mixed Use SFF SC SM883 SSD	960	MU	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P09718-B21	HPE 960GB SATA 6G Mixed Use LFF SCC SM883 SSD	960	MU	SATA	LFF	Hot Plug	SCC	Yes	TLC	Single	Gen9,10
P09722-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC SM883 SSD	1,920	MU	SATA	SFF	Hot Plug	SC	Yes	MLC	Single	Gen9,10
P09724-B21	HPE 1.92TB SATA 6G Mixed Use LFF SCC SM883 SSD	1,920	MU	SATA	LFF	Hot Plug	SCC	Yes	MLC	Single	Gen9,10
P19980-B21	HPE 960GB SATA 6G Mixed Use LFF LPC 5300M SSD	960	MU	SATA	LFF	Hot Plug	LPC	Yes	TLC	Single	Gen10,10 Plus
P21517-B21	HPE 3.84TB SATA 6G Mixed Use SFF SC SM883 SSD	1,920	MU	SATA	SFF	Hot Plug	SC	Yes	MLC	Single	Gen9,10
P19982-B21	HPE 1.92TB SATA 6G Mixed Use LFF SCC 5300M SSD	1,920	MU	SATA	LFF	Hot Plug	SCC	Yes	TLC	Single	Gen10
P40545-B21	HPE 480GB SATA 6G Mixed Use SFF BC S4610 SSD	480	MU	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P40546-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC S4610 SSD	3,840	MU	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P42128-B21	HPE 960GB SATA 6G Mixed Use SFF BC Self-encrypting 5300M SSD	960	MU	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P42132-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5300M SSD	1,920	MU	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
<b>Read Intensive SATA Drives</b>											
P04556-B21	HPE 240GB SATA 6G Read Intensive SFF SC PM883 SSD	240	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P04560-B21	HPE 480GB SATA 6G Read Intensive SFF SC PM883 SSD	480	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P04564-B21	HPE 960GB SATA 6G Read Intensive SFF SC PM883 SSD	960	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10



## Technical Specifications

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

HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)
P04566-B21	HPE 1.92TB SATA 6G Read Intensive SFF SC PM883 SSD	1,920	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P04570-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC PM883 SSD	3,840	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P05924-B21	HPE 240GB SATA 6G Read Intensive SFF SC S4510 SSD	240	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P05928-B21	HPE 480GB SATA 6G Read Intensive SFF SC S4510 SSD	480	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P05932-B21	HPE 960GB SATA 6G Read Intensive SFF SC S4510 SSD	960	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P05938-B21	HPE 1.92TB SATA 6G Read Intensive SFF SC S4510 SSD	1,920	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P05946-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC S4510 SSD	3,840	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen9,10
P09685-B21	HPE 240GB SATA 6G Read Intensive SFF RW PM883 SSD	240	RI	SATA	SFF	Non Hot Plug	RW	Yes	TLC	Single	Gen9,10
P09687-B21	HPE 480GB SATA 6G Read Intensive LFF SCC PM883 SSD	480	RI	SATA	LFF	Hot Plug	SCC	Yes	TLC	Single	Gen9,10
P09691-B21	HPE 960GB SATA 6G Read Intensive LFF LPC PM883 SSD	960	RI	SATA	LFF	Hot Plug	LPC	Yes	TLC	Single	Gen9,10
P09697-B21	HPE 3.84TB SATA 6G Read Intensive SFF RW PM883 SSD	3,840	RI	SATA	SFF	Non Hot Plug	RW	Yes	TLC	Single	Gen9,10
P19945-B21	HPE 7.68TB SATA 6G Read Intensive SFF SC 5300P SSD	7,680	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P19974-B21	HPE 480GB SATA 6G Read Intensive LFF LPC 5300P SSD	480	RI	SATA	LFF	Hot Plug	LPC	Yes	TLC	Single	Gen10,10 Plus
P40543-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC S4510 SSD	1,920	RI	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P40544-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC S4510 SSD	3,840	RI	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P42120-B21	HPE 480GB SATA 6G Read Intensive SFF BC Self-encrypting 5300P SSD	480	RI	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P42124-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5300P SSD	1,920	RI	SATA	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
<b>Very Read Optimized Intensive SATA Drives</b>											
P23487-B21	HPE 1.92TB SATA 6G Very Read Optimized SFF SC 5210 SSD	1,920	VRO	SATA VRO	SFF	Hot Plug	SC	Yes	QLC	Single	Gen10,10 Plus
P23489-B21	HPE 3.84TB SATA 6G Very Read Optimized SFF SC 5210 SSD	3,840	VRO	SATA VRO	SFF	Hot Plug	SC	Yes	QLC	Single	Gen10,10 Plus
P23493-B21	HPE 7.68TB SATA 6G Very Read Optimized SFF SC 5210	7,680	VRO	SATA VRO	SFF	Hot Plug	SC	Yes	QLC	Single	Gen10,10 Plus



## Technical Specifications

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

HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)
	SSD										
P40554-B21	HPE 1.92TB SATA 6G Very Read Optimized SFF BC 5210 SSD	1,920	VRO	SATA VRO	SFF	Hot Plug	BC	Yes	QLC	Single	Gen10 Plus
P40555-B21	HPE 7.68TB SATA 6G Very Read Optimized SFF BC 5210 SSD	7,680	VRO	SATA VRO	SFF	Hot Plug	BC	Yes	QLC	Single	Gen10 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.

## SATA Speeds and Feeds Specifications

### SATA Interface – (Speeds & Feeds)

HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes 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)
<b>Mixed Use SATA Drives</b>							
P05976-B21	HPE 480GB SATA 6G Mixed Use SFF SC S4610 SSD	3,000	3.50	530 / 480	110 / 52	68,000 / 40,000	76,000@Q32 / 42,000@Q32
P05980-B21	HPE 960GB SATA 6G Mixed Use SFF SC S4610 SSD	6,000	3.40	530 / 480	110 / 50	68,000 / 41,000	76,000@Q32 / 43,000@Q32
P05986-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC S4610 SSD	10,000	3.10	525 / 480	110 / 52	69,000 / 38,000	76,000@Q32 / 41,000@Q32
P05994-B21	HPE 3.84TB SATA 6G Mixed Use SFF SC S4610 SSD	22,000	3.10	525 / 480	110 / 55	69,000 / 36,000	76,000@Q32 / 38,000@Q32
P09712-B21	HPE 480GB SATA 6G Mixed Use SFF SC SM883 SSD	3,000	3.50	535 / 495	91 / 36	70,000 / 29,000	80,000@Q32 / 29,000@Q4
P09716-B21	HPE 960GB SATA 6G Mixed Use SFF SC SM883 SSD	6,000	3.50	535 / 495	91 / 36	70,000 / 31,000	80,000@Q32 / 31,000@Q4
P09718-B21	HPE 960GB SATA 6G Mixed Use LFF SCC SM883 SSD	6,000	3.50	535 / 495	91 / 36	70,000 / 31,000	80,000@Q32 / 31,000@Q4
P09722-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC SM883 SSD	12,100	3.50	535 / 495	91 / 36	70,000 / 31,000	80,000@Q32 / 31,000@Q4
P09724-B21	HPE 1.92TB SATA 6G Mixed Use LFF SCC SM883 SSD	12,100	3.50	535 / 495	91 / 36	70,000 / 31,000	80,000@Q32 / 31,000@Q4
P19980-B21	HPE 960GB SATA 6G Mixed Use LFF LPC 5300M SSD	8,760	5.00	520 / 490	125 / 37	67,000 / 52,000	76,000@Q256 / 52,000@Q4
P21517-B21	HPE 3.84TB SATA 6G Mixed Use SFF SC SM883 SSD	24,200	3.00	525 / 480	140 / 76	61,000 / 32,000	69,000@Q32 / 32,500@Q32



## 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)
P19982-B21	HPE 1.92TB SATA 6G Mixed Use LFF SCC 5300M SSD	17,520	5.00	520 / 490	125 / 37	67,000 / 52,000	75,000@Q256 / 52,000@Q4
P40545-B21	HPE 480GB SATA 6G Mixed Use SFF BC S4610 SSD	3,000	3.50	530 / 480	110 / 52	68,000 / 40,000	76,000@Q32 / 42,000@Q32
P40546-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC S4610 SSD	22,000	3.10	525 / 480	110 / 55	69,000 / 36,000	76,000@Q32 / 38,000@Q32
P42128-B21	HPE 960GB SATA 6G Mixed Use SFF BC Self-encrypting 5300M SSD	8,760	5.00	520 / 490	125 / 37	67,000 / 52,000	76,000@Q256 / 52,000@Q4
P42132-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5300M SSD	17,520	5.00	520 / 490	125 / 37	67,000 / 52,000	75,000@Q256 / 52,000@Q4
Read Intensive SATA Drives							
P04556-B21	HPE 240GB SATA 6G Read Intensive SFF SC PM883 SSD	350	0.80	535 / 315	105 / 70	70,000 / 14,000	79,000@Q32 / 14,000@Q1
P04560-B21	HPE 480GB SATA 6G Read Intensive SFF SC PM883 SSD	700	0.80	535 / 495	105 / 40	68,000 / 25,000	77,000@Q32 / 25,000@Q1
P04564-B21	HPE 960GB SATA 6G Read Intensive SFF SC PM883 SSD	1,400	0.80	535 / 495	105 / 36	65,000 / 29,000	76,000@Q32 / 29,000@Q4
P04566-B21	HPE 1.92TB SATA 6G Read Intensive SFF SC PM883 SSD	2,800	0.80	535 / 495	120 / 36	64,000 / 30,000	73,000@Q32 / 30,000@Q4
P04570-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC PM883 SSD	5,600	0.80	535 / 495	120 / 36	63,000 / 30,000	72,000@Q32 / 30,000@Q4
P05924-B21	HPE 240GB SATA 6G Read Intensive SFF SC S4510 SSD	900	1.90	530 / 255	110 / 65	66,000 / 16,000	76,000@Q32 / 16,500@Q4
P05928-B21	HPE 480GB SATA 6G Read Intensive SFF SC S4510 SSD	1,200	1.30	530 / 465	110 / 75	68,000 / 17,500	76,000@Q32 / 19,000@Q4
P05932-B21	HPE 960GB SATA 6G Read Intensive SFF SC S4510 SSD	3,400	1.90	525 / 480	110 / 60	68,000 / 33,000	76,000@Q32 / 35,000@Q32
P05938-B21	HPE 1.92TB SATA 6G Read Intensive SFF SC S4510 SSD	5,741	1.50	530 / 480	125 / 60	55,500 / 24,000	56,000@Q32 / 25,000@Q32
P05946-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC S4510 SSD	13,100	1.90	525 / 480	110 / 65	69,000 / 28,000	76,000@Q32 / 30,500@Q32
P09685-B21	HPE 240GB SATA 6G Read Intensive SFF RW PM883 SSD	250	0.80	535 / 315	105 / 70	70,000 / 14,000	79,000@Q32 / 14,000@Q1
P09687-B21	HPE 480GB SATA 6G Read Intensive LFF SCC PM883 SSD	700	0.80	535 / 495	105 / 40	68,000 / 25,000	77,000@Q32 / 25,000@Q1
P09691-B21	HPE 960GB SATA 6G Read Intensive LFF LPC PM883 SSD	1,400	0.80	535 / 495	105 / 36	65,000 / 29,000	76,000@Q32 / 29,000@Q4
P09697-B21	HPE 3.84TB SATA 6G Read Intensive SFF RW PM883 SSD	5,600	0.80	535 / 495	120 / 36	63,000 / 30,000	72,000@Q32 / 30,000@Q4
P19945-B21	HPE 7.68TB SATA 6G Read Intensive SFF SC 5300P SSD	9,111	0.65	505 / 495	126 / 87	67,000 / 11,500	76,000@Q32 / 11,800@Q64
P19974-B21	HPE 480GB SATA 6G Read Intensive LFF LPC 5300P SSD	1,324	1.50	510 / 395	125 / 38	65,000 / 38,500	75,000@Q256 / 40,000@Q4

## 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)
P40543-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC S4510 SSD	5,741	1.50	520 / 470	125 / 60	55,500 / 24,000	56,000@Q32 / 25,000@Q32
P40544-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC S4510 SSD	13,100	1.90	525 / 480	110 / 65	69,000 / 28,000	76,000@Q32 / 30,500@Q32
P42120-B21	HPE 480GB SATA 6G Read Intensive SFF BC Self-encrypting 5300P SSD	1,324	1.50	510 / 395	125 / 38	65,000 / 38,500	75,000@Q256 / 40,000@Q4
P42124-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5300P SSD	5,256	1.50	520 / 495	125 / 38	67,000 / 31,000	76,000@Q32 / 33,000@Q32
<b>Very Read Optimized Intensive SATA Drives</b>							
P23487-B21	HPE 1.92TB SATA 6G Very Read Optimized SFF SC 5210 SSD	700	0.20	490 / 250	170 / 76	51,000 / 12,600	63,000@Q64 / 13,000@Q1
P23489-B21	HPE 3.84TB SATA 6G Very Read Optimized SFF SC 5210 SSD	630	0.09	490 / 330	175 / 141	53,000 / 7,000	65,000@Q32 / 7,100@Q1
P23493-B21	HPE 7.68TB SATA 6G Very Read Optimized SFF SC 5210 SSD	700	0.05	500 / 340	175 / 225	54,000 / 4,500	62,000@Q64 / 4,500@Q128
P40554-B21	HPE 1.92TB SATA 6G Very Read Optimized SFF BC 5210 SSD	700	0.20	490 / 250	170 / 76	51,000 / 12,600	63,000@Q64 / 13,000@Q1
P40555-B21	HPE 7.68TB SATA 6G Very Read Optimized SFF BC 5210 SSD	700	0.05	500 / 340	175 / 225	54,000 / 4,500	62,000@Q64 / 4,500@Q128

### SATA Power and Height Specifications

#### SATA Interface – (Power & Height)

HPE Option Kit SKU	Long Description	Power Idle Time (Watts)	Power Random Read (Watts)	Power Random Write (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z- Height
<b>Mixed Use SATA Drives</b>									
P05976-B21	HPE 480GB SATA 6G Mixed Use SFF SC S4610 SSD	1.31	2.94	2.94	2.32	3.33	2.94	4.00	7mm
P05980-B21	HPE 960GB SATA 6G Mixed Use SFF SC S4610 SSD	1.37	2.79	2.79	2.36	3.23	2.79	3.23	7mm
P05986-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC S4610 SSD	1.37	3.04	3.04	2.32	3.30	3.04	3.30	7mm



## 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
P05994-B21	HPE 3.84TB SATA 6G Mixed Use SFF SC S4610 SSD	1.36	3.11	3.11	2.36	3.74	3.11	3.74	7mm
P09712-B21	HPE 480GB SATA 6G Mixed Use SFF SC SM883 SSD	0.99	2.08	2.08	1.63	1.87	2.08	2.08	7mm
P09716-B21	HPE 960GB SATA 6G Mixed Use SFF SC SM883 SSD	1.01	2.33	2.33	1.76	2.00	2.33	2.33	7mm
P09718-B21	HPE 960GB SATA 6G Mixed Use LFF SCC SM883 SSD	1.01	2.33	2.33	1.76	2.00	2.33	2.33	7mm
P09722-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC SM883 SSD	1.02	2.39	2.39	1.73	2.00	2.39	2.39	7mm
P09724-B21	HPE 1.92TB SATA 6G Mixed Use LFF SCC SM883 SSD	1.02	2.39	2.39	1.73	2.00	2.39	2.39	7mm
P19980-B21	HPE 960GB SATA 6G Mixed Use LFF LPC 5300M SSD	1.17	1.47	1.47	2.29	2.97	1.47	2.97	7mm
P21517-B21	HPE 3.84TB SATA 6G Mixed Use SFF SC SM883 SSD	1.11	2.44	2.44	1.85	2.14	2.44	2.44	7mm
P19982-B21	HPE 1.92TB SATA 6G Mixed Use LFF SCC 5300M SSD	1.20	1.39	1.39	2.24	3.23	1.39	3.23	7mm
P40545-B21	HPE 480GB SATA 6G Mixed Use SFF BC S4610 SSD	1.31	2.94	2.94	2.32	3.33	2.94	3.33	7mm
P40546-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC S4610 SSD	1.36	3.11	3.11	2.36	3.74	3.11	3.74	7mm
P42128-B21	HPE 960GB SATA 6G Mixed Use SFF BC Self-encrypting 5300M SSD	1.17	1.47	1.47	2.29	2.97	1.47	2.97	7mm
P42132-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5300M SSD	1.20	1.39	1.39	2.24	3.23	1.39	3.23	7mm
<b>Read Intensive SATA Drives</b>									
P04556-B21	HPE 240GB SATA 6G Read Intensive SFF SC PM883 SSD	1.12	2.11	2.11	1.84	1.84	2.11	3.00	7mm
P04560-B21	HPE 480GB SATA 6G Read Intensive SFF SC PM883 SSD	1.12	2.29	2.29	1.89	2.50	2.29	3.00	7mm
P04564-B21	HPE 960GB SATA 6G Read Intensive SFF SC PM883 SSD	1.12	2.33	2.33	1.93	2.63	2.33	3.00	7mm
P04566-B21	HPE 1.92TB SATA 6G Read Intensive SFF SC PM883 SSD	1.23	2.22	2.22	1.78	2.65	2.35	2.65	7mm
P04570-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC PM883 SSD	1.23	2.21	2.21	1.78	2.65	2.21	2.65	7mm
P05924-B21	HPE 240GB SATA 6G Read Intensive SFF SC S4510 SSD	1.23	2.48	2.48	2.21	2.44	2.48	3.00	7mm
P05928-B21	HPE 480GB SATA 6G Read Intensive SFF SC S4510 SSD	1.27	2.92	2.92	2.26	3.15	2.92	3.15	7mm
P05932-B21	HPE 960GB SATA 6G Read Intensive SFF SC S4510 SSD	1.35	3.02	3.02	2.30	3.18	3.02	3.18	7mm

## 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
P05938-B21	HPE 1.92TB SATA 6G Read Intensive SFF SC S4510 SSD	1.35	3.15	3.15	2.36	3.31	3.15	3.31	7mm
P05946-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC S4510 SSD	1.11	3.46	3.46	2.47	3.88	3.46	4.00	7mm
P09685-B21	HPE 240GB SATA 6G Read Intensive SFF RW PM883 SSD	1.23	2.11	2.11	1.84	2.23	2.11	2.23	7mm
P09687-B21	HPE 480GB SATA 6G Read Intensive LFF SCC PM883 SSD	1.23	2.29	2.29	1.89	2.50	2.29	2.50	7mm
P09691-B21	HPE 960GB SATA 6G Read Intensive LFF LPC PM883 SSD	1.23	2.33	2.33	1.93	2.63	2.33	2.63	7mm
P09697-B21	HPE 3.84TB SATA 6G Read Intensive SFF RW PM883 SSD	1.23	2.21	2.21	1.78	2.65	2.21	2.65	7mm
P19945-B21	HPE 7.68TB SATA 6G Read Intensive SFF SC 5300P SSD	1.25	2.01	2.01	2.26	2.76	2.01	2.76	7mm
P19974-B21	HPE 480GB SATA 6G Read Intensive LFF LPC 5300P SSD	1.16	1.45	1.45	1.91	2.61	1.45	2.61	7mm
P40543-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC S4510 SSD	1.35	3.15	3.15	2.36	3.31	3.15	3.31	7mm
P40544-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC S4510 SSD	1.11	3.46	3.46	2.47	3.88	3.46	3.88	7mm
P42120-B21	HPE 480GB SATA 6G Read Intensive SFF BC Self-encrypting 5300P SSD	1.16	1.45	1.45	1.91	2.61	1.45	2.61	7mm
P42124-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5300P SSD	1.21	1.51	1.51	2.20	2.88	1.51	2.88	7mm
<b>Very Read Optimized Intensive SATA Drives</b>									
P23487-B21	HPE 1.92TB SATA 6G Very Read Optimized SFF SC 5210 SSD	1.71	2.18	2.18	3.14	4.36	2.18	4.36	7mm
P23489-B21	HPE 3.84TB SATA 6G Very Read Optimized SFF SC 5210 SSD	1.70	2.20	2.20	3.29	5.30	2.20	5.30	7mm
P23493-B21	HPE 7.68TB SATA 6G Very Read Optimized SFF SC 5210 SSD	1.78	2.43	2.43	3.36	5.52	2.43	5.52	7mm
P40554-B21	HPE 1.92TB SATA 6G Very Read Optimized SFF BC 5210 SSD	1.71	2.18	2.18	3.14	4.36	2.18	4.36	7mm
P40555-B21	HPE 7.68TB SATA 6G Very Read Optimized SFF BC 5210 SSD	1.78	2.43	2.43	3.36	5.52	2.43	5.52	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.



## Technical Specifications

### SATA Certifications

#### 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>						
P05976-B21	HPE 480GB SATA 6G Mixed Use SFF SC S4610 SSD	Certified	Certified	Certified	Certified	Certified
P05976-B21	HPE 480GB SATA 6G Mixed Use SFF SC S4610 SSD	Certified	Certified	Certified	Certified	Certified
P05980-B21	HPE 960GB SATA 6G Mixed Use SFF SC S4610 SSD	Certified	Certified	Certified	Certified	Certified
P05986-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC S4610 SSD	Certified	Certified	Certified	Certified	Certified
P05994-B21	HPE 3.84TB SATA 6G Mixed Use SFF SC S4610 SSD	Certified	Certified	Certified	Certified	Certified
P09712-B21	HPE 480GB SATA 6G Mixed Use SFF SC SM883 SSD	Certified	Certified	Certified	Certified	Certified
P09716-B21	HPE 960GB SATA 6G Mixed Use SFF SC SM883 SSD	Certified	Certified	Certified	Certified	Certified
P09718-B21	HPE 960GB SATA 6G Mixed Use LFF SCC SM883 SSD	Certified	Certified	Certified	Certified	Certified
P09722-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC SM883 SSD	Certified	Certified	Certified	Certified	Certified
P09724-B21	HPE 1.92TB SATA 6G Mixed Use LFF SCC SM883 SSD	Certified	Certified	Certified	Certified	Certified
P19980-B21	HPE 960GB SATA 6G Mixed Use LFF LPC 5300M SSD	Certified	Certified	Certified	Certified	Certified
P21517-B21	HPE 3.84TB SATA 6G Mixed Use SFF SC SM883 SSD	Certified	Certified	Certified	Certified	Certified
P19982-B21	HPE 1.92TB SATA 6G Mixed Use LFF SCC 5300M SSD	Certified	Certified	Certified	Certified	Certified
P40545-B21	HPE 480GB SATA 6G Mixed Use SFF BC S4610 SSD	Certified	Certified	Certified	Certified	Certified
P40546-B21	HPE 3.84TB SATA 6G Mixed Use SFF BC S4610 SSD	Certified	Certified	Certified	Certified	Certified
P42128-B21	HPE 960GB SATA 6G Mixed Use SFF BC Self-encrypting 5300M SSD	Certified	Certified	Certified	Certified	Certified
P42132-B21	HPE 1.92TB SATA 6G Mixed Use SFF BC Self-encrypting 5300M SSD	Certified	Certified	Certified	Certified	Certified
<b>Read Intensive SATA Drives</b>						
P04556-B21	HPE 240GB SATA 6G Read Intensive SFF SC PM883 SSD	N/A	Certified	Certified	Certified	Certified
P04560-B21	HPE 480GB SATA 6G Read Intensive SFF SC PM883 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)
P04564-B21	HPE 960GB SATA 6G Read Intensive SFF SC PM883 SSD	Certified	Certified	Certified	Certified	Certified
P04566-B21	HPE 1.92TB SATA 6G Read Intensive SFF SC PM883 SSD	Certified	Certified	Certified	Certified	Certified
P04570-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC PM883 SSD	Certified	Certified	Certified	Certified	Certified
P05924-B21	HPE 240GB SATA 6G Read Intensive SFF SC S4510 SSD	Certified	Certified	Certified	Certified	Certified
P05928-B21	HPE 480GB SATA 6G Read Intensive SFF SC S4510 SSD	Certified	Certified	Certified	Certified	Certified
P05932-B21	HPE 960GB SATA 6G Read Intensive SFF SC S4510 SSD	Certified	Certified	Certified	Certified	Certified
P05938-B21	HPE 1.92TB SATA 6G Read Intensive SFF SC S4510 SSD	Certified	Certified	Certified	Certified	Certified
P05946-B21	HPE 3.84TB SATA 6G Read Intensive SFF SC S4510 SSD	Certified	Certified	Certified	Certified	Certified
P09685-B21	HPE 240GB SATA 6G Read Intensive SFF RW PM883 SSD	N/A	Certified	Certified	Certified	Certified
P09687-B21	HPE 480GB SATA 6G Read Intensive LFF SCC PM883 SSD	Certified	Certified	Certified	Certified	Certified
P09691-B21	HPE 960GB SATA 6G Read Intensive LFF LPC PM883 SSD	Certified	Certified	Certified	Certified	Certified
P09697-B21	HPE 3.84TB SATA 6G Read Intensive SFF RW PM883 SSD	Certified	Certified	Certified	Certified	Certified
P19945-B21	HPE 7.68TB SATA 6G Read Intensive SFF SC 5300P SSD	Certified	Certified	Certified	Certified	Certified
P19974-B21	HPE 480GB SATA 6G Read Intensive LFF LPC 5300P SSD	Certified	Certified	Certified	Certified	Certified
P40543-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC S4510 SSD	Certified	Certified	Certified	Certified	Certified
P40544-B21	HPE 3.84TB SATA 6G Read Intensive SFF BC S4510 SSD	Certified	Certified	Certified	Certified	Certified
P42120-B21	HPE 480GB SATA 6G Read Intensive SFF BC Self-encrypting 5300P SSD	Certified	N/A	N/A	N/A	N/A
P42124-B21	HPE 1.92TB SATA 6G Read Intensive SFF BC Self-encrypting 5300P SSD	Certified	N/A	N/A	N/A	N/A
<b>Very Read Optimized Intensive SATA Drives</b>						
P23487-B21	HPE 1.92TB SATA 6G Very Read Optimized SFF SC 5210 SSD	N/A	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)
P23489-B21	HPE 3.84TB SATA 6G Very Read Optimized SFF SC 5210 SSD	N/A	Certified	Certified	Certified	Certified
P23493-B21	HPE 7.68TB SATA 6G Very Read Optimized SFF SC 5210 SSD	N/A	Certified	Certified	Certified	Certified
P40554-B21	HPE 1.92TB SATA 6G Very Read Optimized SFF BC 5210 SSD	N/A	Certified	Certified	Certified	Certified
P40555-B21	HPE 7.68TB SATA 6G Very Read Optimized SFF BC 5210 SSD	N/A	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)
<b>Mixed Use Multi Vendor SATA Drives</b>											
P18432-B21	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-B21	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-B21	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-B21	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



## Technical Specifications

Read Intensive Multi Vendor SATA Drives												
P18420-B21	HPE 240GB SATA 6G Read Intensive SC Multi Vendor SSD	240	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus	
P18422-B21	HPE 480GB SATA 6G Read Intensive SC Multi Vendor SSD	480	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus	
P18424-B21	HPE 960GB SATA 6G Read Intensive SC Multi Vendor SSD	960	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus	
P18426-B21	HPE 1.92TB SATA 6G Read Intensive SC Multi Vendor SSD	1,920	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus	
P18428-B21	HPE 3.84TB SATA 6G Read Intensive SC Multi Vendor SSD	3,840	RI	SATA	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus	
P18430-B21	HPE 7.68TB SATA 6G Read Intensive 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	
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	
Read Intensive Multi Vendor SATA Drives												
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	

### 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 Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes Through-put (MiB/s)	Random Read Avg. / Random Write Avg. Latency uSec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P18432-B21	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 uSec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P18434-B21	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@Q32 / 31,000@Q4
P18436-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	10,000	3.10	520 / 480	125 / 52	59,000 / 31,000	67,000@Q32 / 31,000@Q4
P18438-B21	HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	22,000	3.10	510 / 480	125 / 55	67,000 / 34,000	67,000@Q32 / 34,000@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@Q32 / 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@Q32 / 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@Q32 / 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@Q32 / 35,000@Q4
<b>Read Intensive Multi Vendor SATA Drives</b>							
P18420-B21	HPE 240GB SATA 6G Read Intensive SC Multi Vendor SSD	350	0.80	505 / 255	203 / 121	57,000 / 14,000	65,500@Q32 / 14,000@Q1
P18422-B21	HPE 480GB SATA 6G Read Intensive SC Multi Vendor SSD	430	0.50	510 / 300	125 / 75	63,000 / 15,000	65,500@Q32 / 15,400@Q1
P18424-B21	HPE 960GB SATA 6G Read Intensive SC Multi Vendor SSD	1,400	0.80	515 / 480	125 / 60	58,500 / 29,000	58,500@Q32 / 29,000@Q4
P18426-B21	HPE 1.92TB SATA 6G Read Intensive SC Multi Vendor SSD	2,800	0.80	520 / 470	125 / 60	55,500 / 24,000	56,000@Q32 / 30,000@Q32
P18428-B21	HPE 3.84TB SATA 6G Read Intensive SC Multi Vendor SSD	3,400	0.50	510 / 480	125 / 65	54,000 / 22,500	56,000@Q32 / 22,000@Q4
P18430-B21	HPE 7.68TB SATA 6G Read Intensive SC Multi Vendor SSD	9,111	0.65	505 / 495	126 / 100	67,000 / 11,500	76,000@Q32 / 11,800@Q1
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

## Technical Specifications

### SATA Power and Height Specifications MULTI VENDOR

SATA Interface – (Power & Height) MULTI VENDOR									
HPE Option Kit SKU	Long Description	Power Idle Time (Watts)	Power Random Read (Watts)	Power Random Write (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z-Height
<b>Mixed Use Multi Vendor SATA Drives</b>									
P18432-B21	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-B21	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-B21	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-B21	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
<b>Read Intensive Multi Vendor SATA Drives</b>									
P18420-B21	HPE 240GB SATA 6G Read Intensive SC Multi Vendor SSD	1.23	2.48	2.48	2.21	2.44	2.48	2.48	7mm
P18422-B21	HPE 480GB SATA 6G Read Intensive SC Multi Vendor SSD	1.27	2.92	2.92	3.06	3.36	2.92	3.36	7mm
P18424-B21	HPE 960GB SATA 6G Read Intensive SC Multi Vendor SSD	1.35	3.02	3.02	3.05	3.37	3.02	3.37	7mm
P18426-B21	HPE 1.92TB SATA 6G Read Intensive SC Multi Vendor SSD	1.35	3.15	3.15	3.16	3.53	3.15	3.53	7mm
P18428-B21	HPE 3.84TB SATA 6G Read Intensive SC Multi Vendor SSD	1.26	3.46	3.46	3.56	3.88	3.46	3.88	7mm
P18430-B21	HPE 7.68TB SATA 6G Read Intensive 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

## 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
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

#### Notes:

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

### SATA Certifications MULTI VENDOR

#### 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-B21	HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18434-B21	HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18436-B21	HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18438-B21	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
<b>Read Intensive Multi Vendor SATA Drives</b>						
P18420-B21	HPE 240GB SATA 6G Read Intensive SC 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)
P18422-B21	HPE 480GB SATA 6G Read Intensive SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18424-B21	HPE 960GB SATA 6G Read Intensive SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18426-B21	HPE 1.92TB SATA 6G Read Intensive SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18428-B21	HPE 3.84TB SATA 6G Read Intensive SC Multi Vendor SSD	Certified	Certified	Certified	Certified	Certified
P18430-B21	HPE 7.68TB SATA 6G Read Intensive 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
P40501-B21	HPE 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor 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.
- 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

### SAS Capacity, Workload, Carrier Specifications

#### SAS Interface – (Capacity, Workload, Carrier...)

HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)	
<b>Write Intensive SAS Drives</b>												
P26295-B21	HPE 400GB SAS 24G Write Intensive SFF SC PM6 SSD	400	WI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus	
P26372-B21	HPE 800GB SAS 24G Write Intensive SFF SC PM6 SSD	800	WI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus	
P26376-B21	HPE 1.6TB SAS 24G Write Intensive SFF SC PM6 SSD	1,600	WI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus	
P40480-B21	HPE 400GB SAS 24G Write Intensive SFF BC PM6 SSD	400	WI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40481-B21	HPE 800GB SAS 24G Write Intensive SFF BC PM6 SSD	800	WI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40482-B21	HPE 1.6TB SAS 24G Write Intensive SFF BC PM6 SSD	1,600	WI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
<b>Mixed Use SAS Drives</b>												
P19913-B21	HPE 800GB SAS 12G Mixed Use SFF SC PM1645a SSD	800	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus	
P19915-B21	HPE 1.6TB SAS 12G Mixed Use SFF SC PM1645a SSD	1,600	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus	
P19917-B21	HPE 3.2TB SAS 12G Mixed Use SFF SC PM1645a SSD	3,200	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus	
P19919-B21	HPE 6.4TB SAS 12G Mixed Use SFF SC PM1645a SSD	6,400	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus	
P26290-B21	HPE 800GB SAS 24G Mixed Use SFF SC PM6 SSD	800	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus	
P26354-B21	HPE 1.6TB SAS 24G Mixed Use SFF SC PM6 SSD	1,600	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus	
P26358-B21	HPE 3.2TB SAS 24G Mixed Use SFF SC PM6 SSD	3,200	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus	
P26362-B21	HPE 6.4TB SAS 24G Mixed Use SFF SC PM6 SSD	6,400	MU	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus	
P40560-B21	HPE 800GB SAS 12G Mixed Use SFF BC PM1645a SSD	800	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40561-B21	HPE 1.6TB SAS 12G Mixed Use SFF BC PM1645a SSD	1,600	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40562-B21	HPE 3.2TB SAS 12G Mixed Use SFF BC PM1645a SSD	3,200	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40563-B21	HPE 6.4TB SAS 12G Mixed Use SFF BC PM1645a SSD	6,400	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40475-B21	HPE 800GB SAS 24G Mixed Use SFF BC PM6 SSD	800	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40476-B21	HPE 1.6TB SAS 24G Mixed Use SFF BC PM6 SSD	1,600	MU	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)
P40477-B21	HPE 1.6TB SAS 24G Mixed Use LFF LPC PM6 SSD	1,600	MU	SAS	LFF	Hot Plug	LPC	Yes	TLC	Dual	Gen10,10 Plus
P40478-B21	HPE 3.2TB SAS 24G Mixed Use SFF BC PM6 SSD	3,200	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P40479-B21	HPE 6.4TB SAS 24G Mixed Use SFF BC PM6 SSD	6,400	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P41400-B21	HPE 800GB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD	800	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P41401-B21	HPE 1.6TB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD	1,600	MU	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus

### Read Intensiv SAS Drives

P19903-B21	HPE 960GB SAS 12G Read Intensive SFF SC PM1643a SSD	960	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P19905-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC PM1643a SSD	1,920	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P19907-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC PM1643a SSD	3,840	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P19909-B21	HPE 7.68TB SAS 12G Read Intensive SFF SC PM1643a SSD	7,680	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P19911-B21	HPE 15.36TB SAS 12G Read Intensive SFF SC PM1643a SSD	15,300	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P26302-B21	HPE 1.92TB SAS 24G Read Intensive SFF SC PM6 SSD	1,920	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P26306-B21	HPE 3.84TB SAS 24G Read Intensive SFF SC PM6 SSD	3,840	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P26310-B21	HPE 7.68TB SAS 24G Read Intensive SFF SC PM6 SSD	7,680	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P40556-B21	HPE 960GB SAS 12G Read Intensive SFF BC PM1643a SSD	960	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P40557-B21	HPE 1.92TB SAS 12G Read Intensive SFF BC PM1643a SSD	1,920	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P40558-B21	HPE 3.84TB SAS 12G Read Intensive SFF BC PM1643a SSD	3,840	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P40559-B21	HPE 7.68TB SAS 12G Read Intensive SFF BC PM1643a SSD	7,680	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P40471-B21	HPE 1.92TB SAS 24G Read Intensive SFF BC PM6 SSD	1,920	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P40472-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC PM6 SSD	3,840	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P40473-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC PM6 SSD	7,680	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P26285-B21	HPE 960GB SAS 24G Read Intensive SFF SC PM6 SSD	960	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 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)
P26314-B21	HPE 15.3TB SAS 24G Read Intensive SFF SC PM6 SSD	15,300	RI	SAS	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10,10 Plus
P40470-B21	HPE 960GB SAS 24G Read Intensive SFF BC PM6 SSD	960	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P40474-B21	HPE 15.3TB SAS 24G Read Intensive SFF BC PM6 SSD	15,300	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P41398-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD	3,840	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P41399-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD	7,680	RI	SAS	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 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.

## SAS Speeds and Feeds Specifications

### SAS Interface – (Speeds & Feeds)

HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency uSec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
<b>Write Intensive SAS Drives</b>							
P26295-B21	HPE 400GB SAS 24G Write Intensive SFF SC PM6 SSD	7,134	10.00	1,080 / 1,035	95 / 32	150,000 / 125,000	173000@Q64 / 135000@Q16
P26372-B21	HPE 800GB SAS 24G Write Intensive SFF SC PM6 SSD	14,267	10.00	1,080 / 1,035	100 / 32	145,000 / 125,000	173000@Q64 / 130000@Q16
P26376-B21	HPE 1.6TB SAS 24G Write Intensive SFF SC PM6 SSD	28,534	10.00	1,080 / 1,035	108 / 32	135,000 / 125,000	173000@Q64 / 130000@Q16
P40480-B21	HPE 400GB SAS 24G Write Intensive SFF BC PM6 SSD	7,134	10.00	1,080 / 1,035	95 / 32	150,000 / 125,000	173000@Q64 / 135000@Q16
P40481-B21	HPE 800GB SAS 24G Write Intensive SFF BC PM6 SSD	14,267	10.00	1,080 / 1,035	100 / 32	145,000 / 125,000	173000@Q64 / 130000@Q16
P40482-B21	HPE 1.6TB SAS 24G Write Intensive SFF BC PM6 SSD	28,534	10.00	1,080 / 1,035	108 / 32	135,000 / 125,000	173000@Q64 / 130000@Q16
<b>Mixed Use SAS Drives</b>							
P19913-B21	HPE 800GB SAS 12G Mixed Use SFF SC PM1645a SSD	4,280	3.00	1,080 / 1,030	165 / 95	115,000 / 100,000	175,000@Q256 / 100,000@Q16



## Technical Specifications

### SAS Interface – (Speeds & Feeds)

HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes	Throughput (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)
P19915-B21	HPE 1.6TB SAS 12G Mixed Use SFF SC PM1645a SSD	8,560	3.00	1,080 / 1,030	185 / 95	115,000 / 125,000	175,000@Q256 / 125,000@Q32		
P19917-B21	HPE 3.2TB SAS 12G Mixed Use SFF SC PM1645a SSD	17,121	3.00	1,080 / 1,030	165 / 95	110,000 / 125,000	175,000@Q256 / 125,000@Q32		
P19919-B21	HPE 6.4TB SAS 12G Mixed Use SFF SC PM1645a SSD	34,241	3.00	1,080 / 1,030	195 / 95	105,000 / 125,000	175,000@Q256 / 125,000@Q32		
P26290-B21	HPE 800GB SAS 24G Mixed Use SFF SC PM6 SSD	4,280	3.00	1,080 / 1,035	95 / 32	150,000 / 125,000	173000@Q64 / 130000@Q4		
P26354-B21	HPE 1.6TB SAS 24G Mixed Use SFF SC PM6 SSD	8,560	3.00	1,080 / 1,035	100 / 32	145,000 / 125,000	173000@Q64 / 130000@Q16		
P26358-B21	HPE 3.2TB SAS 24G Mixed Use SFF SC PM6 SSD	17,121	3.00	1,080 / 1,035	108 / 32	135,000 / 125,000	173000@Q64 / 130000@Q16		
P26362-B21	HPE 6.4TB SAS 24G Mixed Use SFF SC PM6 SSD	34,241	3.00	1,080 / 1,035	108 / 32	135,000 / 125,000	173000@Q64 / 130000@Q16		
P40560-B21	HPE 800GB SAS 12G Mixed Use SFF BC PM1645a SSD	4,280	3.00	1,080 / 1,030	165 / 95	115,000 / 100,000	175,000@Q256 / 100,000@Q16		
P40561-B21	HPE 1.6TB SAS 12G Mixed Use SFF BC PM1645a SSD	8,560	3.00	1,080 / 1,030	185 / 95	115,000 / 125,000	175,000@Q256 / 125,000@Q32		
P40562-B21	HPE 3.2TB SAS 12G Mixed Use SFF BC PM1645a SSD	17,121	3.00	1,080 / 1,030	165 / 95	110,000 / 125,000	175,000@Q256 / 125,000@Q32		
P40563-B21	HPE 6.4TB SAS 12G Mixed Use SFF BC PM1645a SSD	34,241	3.00	1,080 / 1,030	195 / 95	105,000 / 125,000	175,000@Q256 / 125,000@Q32		
P40475-B21	HPE 800GB SAS 24G Mixed Use SFF BC PM6 SSD	4,280	3.00	1,080 / 1,035	95 / 32	150,000 / 125,000	173000@Q64 / 130000@Q4		
P40476-B21	HPE 1.6TB SAS 24G Mixed Use SFF BC PM6 SSD	8,560	3.00	1,080 / 1,035	100 / 32	145,000 / 125,000	173000@Q64 / 130000@Q16		
P40477-B21	HPE 1.6TB SAS 24G Mixed Use LFF LPC PM6 SSD	8,560	3.00	1,080 / 1,035	100 / 32	145,000 / 125,000	173000@Q64 / 130000@Q16		
P40478-B21	HPE 3.2TB SAS 24G Mixed Use SFF BC PM6 SSD	17,121	3.00	1,080 / 1,035	108 / 32	135,000 / 125,000	173000@Q64 / 130000@Q16		
P40479-B21	HPE 6.4TB SAS 24G Mixed Use SFF BC PM6 SSD	34,241	3.00	1,080 / 1,035	108 / 32	135,000 / 125,000	173000@Q64 / 130000@Q16		
P41400-B21	HPE 800GB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD	4,380	3.00	1,080 / 1,035	95 / 32	150,000 / 125,000	173000@Q64 / 130000@Q16		
P41401-B21	HPE 1.6TB SAS 24G Mixed Use SFF BC Self-encrypting FIPS PM6 SSD	8,760	3.00	1,080 / 1,035	100 / 32	145,000 / 125,000	173000@Q64 / 130000@Q16		
<b>Read Intensive SAS Drives</b>									
P19903-B21	HPE 960GB SAS 12G Read Intensive SFF SC PM1643a SSD	1,712	1.00	1,080 / 1,030	180 / 96	115,000 / 46,000	175,000@Q128 / 46,000@Q4		
P19905-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC PM1643a SSD	3,424	1.00	1,080 / 1,030	190 / 95	115,000 / 70,000	175,000@Q128 / 70,000@Q32		
P19907-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC PM1643a SSD	6,848	1.00	1,080 / 1,030	175 / 95	110,000 / 92,000	175,000@Q128 / 92,000@Q16		

## Technical Specifications

### SAS Interface – (Speeds & Feeds)

HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes	Throughput (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)
P19909-B21	HPE 7.68TB SAS 12G Read Intensive SFF SC PM1643a SSD	13,697	1.00	1,080 / 1,030	190 / 95	105,000 / 94,000	175,000@Q128 / 92,000@Q16		
P19911-B21	HPE 15.36TB SAS 12G Read Intensive SFF SC PM1643a SSD	27,393	1.00	1,080 / 1,030	185 / 95	100,000 / 67,000	175,000@Q128 / 67,000@Q32		
P26302-B21	HPE 1.92TB SAS 24G Read Intensive SFF SC PM6 SSD	3,424	1.00	1,080 / 1,035	100 / 32	145,000 / 79,000	173000@Q64 / 80000@Q4		
P26306-B21	HPE 3.84TB SAS 24G Read Intensive SFF SC PM6 SSD	6,848	1.00	1,080 / 1,035	108 / 32	135,000 / 78,000	173000@Q64 / 78000@Q4		
P26310-B21	HPE 7.68TB SAS 24G Read Intensive SFF SC PM6 SSD	13,697	1.00	1,080 / 1,035	108 / 32	135,000 / 55,000	173000@Q64 / 56000@Q4		
P40556-B21	HPE 960GB SAS 12G Read Intensive SFF BC PM1643a SSD	1,712	1.00	1,080 / 1,030	180 / 96	115,000 / 46,000	175,000@Q128 / 46,000@Q4		
P40557-B21	HPE 1.92TB SAS 12G Read Intensive SFF BC PM1643a SSD	3,424	1.00	1,080 / 1,030	190 / 95	115,000 / 70,000	175,000@Q128 / 70,000@Q32		
P40558-B21	HPE 3.84TB SAS 12G Read Intensive SFF BC PM1643a SSD	6,848	1.00	1,080 / 1,030	175 / 95	110,000 / 92,000	175,000@Q128 / 92,000@Q16		
P40559-B21	HPE 7.68TB SAS 12G Read Intensive SFF BC PM1643a SSD	13,697	1.00	1,080 / 1,030	190 / 95	105,000 / 94,000	175,000@Q128 / 92,000@Q16		
P40471-B21	HPE 1.92TB SAS 24G Read Intensive SFF BC PM6 SSD	3,424	1.00	1,080 / 1,035	100 / 32	145,000 / 79,000	173000@Q64 / 80000@Q4		
P40472-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC PM6 SSD	6,848	1.00	1,080 / 1,035	108 / 32	135,000 / 78,000	173000@Q64 / 78000@Q4		
P40473-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC PM6 SSD	13,697	1.00	1,080 / 1,035	108 / 32	135,000 / 55,000	173000@Q64 / 56000@Q4		
P26285-B21	HPE 960GB SAS 24G Read Intensive SFF SC PM6 SSD	1,712	1.00	1,080 / 1,035	95 / 32	150,000 / 75,000	173000@Q64 / 76000@Q4		
P26314-B21	HPE 15.3TB SAS 24G Read Intensive SFF SC PM6 SSD	27,393	1.00	1,080 / 1,035	108 / 32	135,000 / 63,000	173000@Q64 / 64000@Q16		
P40470-B21	HPE 960GB SAS 24G Read Intensive SFF BC PM6 SSD	1,712	1.00	1,080 / 1,035	95 / 32	150,000 / 75,000	173000@Q64 / 76000@Q4		
P40474-B21	HPE 15.3TB SAS 24G Read Intensive SFF BC PM6 SSD	27,393	1.00	1,080 / 1,035	108 / 32	135,000 / 63,000	173000@Q64 / 64000@Q16		
P41398-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD	7,008	1.00	1,080 / 1,035	108 / 32	135,000 / 78,000	173000@Q64 / 78000@Q4		
P41399-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD	14,016	1.00	1,080 / 1,035	108 / 32	135,000 / 55,000	173000@Q64 / 56000@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.



## Technical Specifications

### SAS Power and Height 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
<b>Write Intensive SAS Drives</b>									
P26295-B21	HPE 400GB SAS 24G Write Intensive SFF SC PM6 SSD	2.77	5.72	5.72	6.68	8.29	5.72	8.29	15mm
P26372-B21	HPE 800GB SAS 24G Write Intensive SFF SC PM6 SSD	2.84	5.37	5.37	6.45	9.64	5.37	9.64	15mm
P26376-B21	HPE 1.6TB SAS 24G Write Intensive SFF SC PM6 SSD	2.98	5.77	5.77	7.15	9.91	5.77	9.91	15mm
P40480-B21	HPE 400GB SAS 24G Write Intensive SFF BC PM6 SSD	2.95	5.95	5.95	8.28	8.60	5.95	8.60	15mm
P40481-B21	HPE 800GB SAS 24G Write Intensive SFF BC PM6 SSD	3.05	6.14	6.14	8.69	12.26	6.14	12.26	15mm
P40482-B21	HPE 1.6TB SAS 24G Write Intensive SFF BC PM6 SSD	3.23	6.60	6.60	9.06	13.04	6.60	13.04	15mm
<b>Mixed Use SAS Drives</b>									
P19913-B21	HPE 800GB SAS 12G Mixed Use SFF SC PM1645a SSD	3.47	5.09	5.09	5.79	6.66	5.09	6.66	15mm
P19915-B21	HPE 1.6TB SAS 12G Mixed Use SFF SC PM1645a SSD	3.47	5.47	5.47	6.31	9.03	5.47	9.03	15mm
P19917-B21	HPE 3.2TB SAS 12G Mixed Use SFF SC PM1645a SSD	3.42	5.56	5.56	6.44	9.19	5.56	9.19	15mm
P19919-B21	HPE 6.4TB SAS 12G Mixed Use SFF SC PM1645a SSD	3.66	5.74	5.74	6.84	8.86	5.74	8.86	15mm
P26290-B21	HPE 800GB SAS 24G Mixed Use SFF SC PM6 SSD	2.84	6.16	6.16	6.55	9.60	6.16	9.60	15mm
P26354-B21	HPE 1.6TB SAS 24G Mixed Use SFF SC PM6 SSD	2.84	6.16	6.16	6.55	9.60	6.16	9.60	15mm
P26358-B21	HPE 3.2TB SAS 24G Mixed Use SFF SC PM6 SSD	2.92	6.33	6.33	6.60	9.68	6.33	9.68	15mm
P26362-B21	HPE 6.4TB SAS 24G Mixed Use SFF SC PM6 SSD	3.25	7.63	7.63	7.70	9.82	7.63	9.82	15mm
P40560-B21	HPE 800GB SAS 12G Mixed Use SFF BC PM1645a SSD	3.47	5.09	5.09	5.79	6.66	5.09	6.66	15mm
P40561-B21	HPE 1.6TB SAS 12G Mixed Use SFF BC PM1645a SSD	3.47	5.47	5.47	6.31	9.03	5.47	9.03	15mm
P40562-B21	HPE 3.2TB SAS 12G Mixed Use SFF BC PM1645a SSD	3.42	5.56	5.56	6.44	9.19	5.56	9.19	15mm
P40563-B21	HPE 6.4TB SAS 12G Mixed Use SFF BC PM1645a SSD	3.66	5.74	5.74	6.84	8.86	5.74	8.86	15mm
P40475-B21	HPE 800GB SAS 24G Mixed Use SFF BC PM6 SSD	2.91	6.47	6.47	8.28	8.56	6.47	8.56	15mm
P40476-B21	HPE 1.6TB SAS 24G Mixed Use SFF BC PM6 SSD	3.07	6.92	6.92	8.84	12.50	6.92	12.50	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
P40477-B21	HPE 1.6TB SAS 24G Mixed Use LFF LPC PM6 SSD	3.07	6.92	6.92	8.84	12.50	6.92	12.50	15mm
P40478-B21	HPE 3.2TB SAS 24G Mixed Use SFF BC PM6 SSD	3.13	6.92	6.92	8.83	12.73	6.92	12.73	15mm
P40479-B21	HPE 6.4TB SAS 24G Mixed Use SFF BC PM6 SSD	3.43	7.93	7.93	10.49	17.64	7.93	17.64	15mm
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

### Read Intensive SAS Drives

P19903-B21	HPE 960GB SAS 12G Read Intensive SFF SC PM1643a SSD	3.47	5.09	5.09	5.79	6.66	5.09	6.66	15mm
P19905-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC PM1643a SSD	3.47	5.47	5.47	6.31	9.03	5.47	9.03	15mm
P19907-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC PM1643a SSD	3.42	5.56	5.56	6.44	9.19	5.56	9.19	15mm
P19909-B21	HPE 7.68TB SAS 12G Read Intensive SFF SC PM1643a SSD	3.66	5.74	5.74	6.84	8.86	5.74	8.86	15mm
P19911-B21	HPE 15.36TB SAS 12G Read Intensive SFF SC PM1643a SSD	4.18	6.28	6.28	7.97	9.59	6.28	9.59	15mm
P26302-B21	HPE 1.92TB SAS 24G Read Intensive SFF SC PM6 SSD	2.78	6.74	6.74	6.47	9.57	6.74	9.57	15mm
P26306-B21	HPE 3.84TB SAS 24G Read Intensive SFF SC PM6 SSD	2.86	7.00	7.00	6.63	7.26	7.00	7.26	15mm
P26310-B21	HPE 7.68TB SAS 24G Read Intensive SFF SC PM6 SSD	3.08	7.92	7.92	7.36	9.43	7.92	9.43	15mm
P40556-B21	HPE 960GB SAS 12G Read Intensive SFF BC PM1643a SSD	3.47	5.09	5.09	5.79	6.66	5.09	6.66	15mm
P40557-B21	HPE 1.92TB SAS 12G Read Intensive SFF BC PM1643a SSD	3.47	5.47	5.47	6.31	9.03	5.47	9.03	15mm
P40558-B21	HPE 3.84TB SAS 12G Read Intensive SFF BC PM1643a SSD	3.42	5.56	5.56	6.44	9.19	5.56	9.19	15mm
P40559-B21	HPE 7.68TB SAS 12G Read Intensive SFF BC PM1643a SSD	3.66	5.74	5.74	6.84	8.86	5.74	8.86	15mm
P40471-B21	HPE 1.92TB SAS 24G Read Intensive SFF BC PM6 SSD	3.02	7.46	7.46	8.64	12.23	7.46	12.23	15mm
P40472-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC PM6 SSD	3.04	7.34	7.34	8.68	12.63	7.34	12.63	15mm
P40473-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC PM6 SSD	3.25	8.26	8.26	10.10	17.29	8.26	17.29	15mm
P26285-B21	HPE 960GB SAS 24G Read Intensive SFF SC PM6 SSD	2.77	6.68	6.68	6.76	8.35	6.68	8.35	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
P26314-B21	HPE 15.3TB SAS 24G Read Intensive SFF SC PM6 SSD	3.53	8.67	8.67	7.96	9.88	8.67	9.88	15mm
P40470-B21	HPE 960GB SAS 24G Read Intensive SFF BC PM6 SSD	2.89	6.76	6.76	8.34	8.57	6.76	8.57	15mm
P40474-B21	HPE 15.3TB SAS 24G Read Intensive SFF BC PM6 SSD	3.92	8.87	8.87	10.86	17.62	8.87	17.62	15mm
P41398-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD	3.92	8.87	8.87	10.86	17.62	8.87	17.62	15mm
P41399-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC Self-encrypting FIPS PM6 SSD	3.25	8.26	8.26	10.10	17.29	8.26	17.29	15mm

#### Notes:

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

## SAS Certifications

### 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)
<b>Write Intensive SAS Drives</b>						
P26295-B21	HPE 400GB SAS 24G Write Intensive SFF SC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P26372-B21	HPE 800GB SAS 24G Write Intensive SFF SC PM6 SSD	Certified	Certified	N/A	Certified	Certified
P26376-B21	HPE 1.6TB SAS 24G Write Intensive SFF SC PM6 SSD	Certified	Certified	N/A	Certified	Certified
P40480-B21	HPE 400GB SAS 24G Write Intensive SFF BC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P40481-B21	HPE 800GB SAS 24G Write Intensive SFF BC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P40482-B21	HPE 1.6TB SAS 24G Write Intensive SFF BC PM6 SSD	Certified	Certified	Certified	Certified	Certified
<b>Mixed Use SAS Drives</b>						
P19913-B21	HPE 800GB SAS 12G Mixed Use SFF SC PM1645a SSD	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)
P19915-B21	HPE 1.6TB SAS 12G Mixed Use SFF SC PM1645a SSD	Certified	Certified	Certified	Certified	Certified
P19917-B21	HPE 3.2TB SAS 12G Mixed Use SFF SC PM1645a SSD	Certified	Certified	Certified	Certified	Certified
P19919-B21	HPE 6.4TB SAS 12G Mixed Use SFF SC PM1645a SSD	Certified	Certified	Certified	Certified	Certified
P26290-B21	HPE 800GB SAS 24G Mixed Use SFF SC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P26354-B21	HPE 1.6TB SAS 24G Mixed Use SFF SC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P26358-B21	HPE 3.2TB SAS 24G Mixed Use SFF SC PM6 SSD	Certified	Certified	N/A	Certified	Certified
P26362-B21	HPE 6.4TB SAS 24G Mixed Use SFF SC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P40560-B21	HPE 800GB SAS 12G Mixed Use SFF BC PM1645a SSD	Certified	Certified	Certified	Certified	Certified
P40561-B21	HPE 1.6TB SAS 12G Mixed Use SFF BC PM1645a SSD	Certified	Certified	Certified	Certified	Certified
P40562-B21	HPE 3.2TB SAS 12G Mixed Use SFF BC PM1645a SSD	Certified	Certified	Certified	Certified	Certified
P40563-B21	HPE 6.4TB SAS 12G Mixed Use SFF BC PM1645a SSD	Certified	Certified	Certified	Certified	Certified
P40475-B21	HPE 800GB SAS 24G Mixed Use SFF BC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P40476-B21	HPE 1.6TB SAS 24G Mixed Use SFF BC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P40477-B21	HPE 1.6TB SAS 24G Mixed Use LFF LPC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P40478-B21	HPE 3.2TB SAS 24G Mixed Use SFF BC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P40479-B21	HPE 6.4TB SAS 24G Mixed Use SFF BC PM6 SSD	Certified	Certified	Certified	Certified	Certified
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>						
P19903-B21	HPE 960GB SAS 12G Read Intensive SFF SC PM1643a SSD	Certified	Certified	Certified	Certified	Certified
P19905-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC PM1643a SSD	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)
P19907-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC PM1643a SSD	Certified	Certified	Certified	Certified	Certified
P19909-B21	HPE 7.68TB SAS 12G Read Intensive SFF SC PM1643a SSD	Certified	Certified	Certified	Certified	Certified
P19911-B21	HPE 15.36TB SAS 12G Read Intensive SFF SC PM1643a SSD	Certified	Certified	Certified	Certified	Certified
P26302-B21	HPE 1.92TB SAS 24G Read Intensive SFF SC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P26306-B21	HPE 3.84TB SAS 24G Read Intensive SFF SC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P26310-B21	HPE 7.68TB SAS 24G Read Intensive SFF SC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P40556-B21	HPE 960GB SAS 12G Read Intensive SFF BC PM1643a SSD	Certified	Certified	Certified	Certified	Certified
P40557-B21	HPE 1.92TB SAS 12G Read Intensive SFF BC PM1643a SSD	Certified	Certified	Certified	Certified	Certified
P40558-B21	HPE 3.84TB SAS 12G Read Intensive SFF BC PM1643a SSD	Certified	Certified	Certified	Certified	Certified
P40559-B21	HPE 7.68TB SAS 12G Read Intensive SFF BC PM1643a SSD	Certified	Certified	Certified	Certified	Certified
P40471-B21	HPE 1.92TB SAS 24G Read Intensive SFF BC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P40472-B21	HPE 3.84TB SAS 24G Read Intensive SFF BC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P40473-B21	HPE 7.68TB SAS 24G Read Intensive SFF BC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P26285-B21	HPE 960GB SAS 24G Read Intensive SFF SC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P26314-B21	HPE 15.3TB SAS 24G Read Intensive SFF SC PM6 SSD	N/A	Certified	Certified	Certified	Certified
P40470-B21	HPE 960GB SAS 24G Read Intensive SFF BC PM6 SSD	Certified	Certified	Certified	Certified	Certified
P40474-B21	HPE 15.3TB SAS 24G Read Intensive SFF BC PM6 SSD	N/A	Certified	Certified	Certified	Certified
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.



## Technical Specifications

### Value SAS Capacity, Workload, Carrier Specifications MULTI VENDOR

Value SAS Interface- (Capacity, Workload, Carrier...) MULTI VENDOR											
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)
<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	Value SAS	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P37009-B21	HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD	960	MU	Value SAS	LFF	Hot Plug	LPC	Yes	TLC	Single	Gen10,10 Plus
P37011-B21	HPE 1.92TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	1,920	MU	Value SAS	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P37013-B21	HPE 1.92TB SAS 12G Mixed Use LFF SCC Value SAS Multi Vendor SSD	1,920	MU	Value SAS	LFF	Hot Plug	SCC	Yes	TLC	Single	Gen10
P37017-B21	HPE 3.84TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	3,840	MU	Value SAS	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P40510-B21	HPE 960GB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	960	MU	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P40511-B21	HPE 1.92TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	1,920	MU	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P40512-B21	HPE 3.84TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD	3,840	MU	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
<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	Value SAS	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P36999-B21	HPE 1.92TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	1,920	RI	Value SAS	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P37001-B21	HPE 3.84TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	1,920	RI	Value SAS	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P37003-B21	HPE 7.68TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	7,680	RI	Value SAS	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10,10 Plus
P40506-B21	HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	960	RI	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus



## Technical Specifications

P40507-B21	HPE 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	1,920	RI	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P40508-B21	HPE 3.84TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	3,840	RI	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P40509-B21	HPE 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD	7,680	RI	Value SAS	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus

### 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.

## Value SAS Speeds and Feeds Specifications MULTI VENDOR

### Value SAS Interface – (Speeds & Feeds) MULTI VENDOR

HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes Through-put (MiB/s)	Random Read Avg. / Random Write Avg. Latency uSec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
<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@Q32 / 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@Q32 / 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@Q32 / 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@Q32 / 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@Q32 / 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@Q32 / 36,000@Q4
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@Q32 / 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@Q32 / 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.



## Technical Specifications

### Value SAS Power and Height Specifications MULTI VENDOR

Value SAS Interface – (Power & Height) MULTI VENDOR									
HPE Option Kit SKU	Long Description	Power Idle Time (Watts)	Power Random Read (Watts)	Power Random Write (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z-Height
<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
<b>Read Intensive Multi Vendor Value SAS Drives</b>									
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



## Technical Specifications

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

### 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



## Technical Specifications

Read Intensive Multi Vendor Value SAS Drives						
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
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

Read Intensive Multi Vendor Value SAS Drives						
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	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)
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NVMe High Performance Low Latency SSDs Write Intensive SSDs											
878014-B21	HPE 375GB NVMe Gen3 High Performance Low Latency Write Intensive SFF SCN U.2 P4800X SSD	375	WI	NVMe SFF		Hot Plug	SCN	Yes	MLC	Single	Gen9,10
878038-B21	HPE 750GB NVMe Gen3 x4 High Performance Low Latency Write Intensive AIC HHHL P4800X SSD	750	WI	NVMe HH		Non Hot Plug	N/A	Yes	MLC	Single	Gen9,10



## Technical Specifications

### PCIe/NVMe Interface – SKUs (Capacity, Workload, Carrier...)

HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)
P06952-B21	HPE 750GB NVMe Gen3 High Performance Low Latency Write Intensive SFF SCN U.2 P4800X SSD	750	WI	NVMe	SFF	Hot Plug	SCN	Yes	MLC	Single	Gen9,10
P40552-B21	HPE 375GB NVMe Gen3 High Performance Low Latency Write Intensive SFF BC U.2 P4800X SSD	375	WI	NVMe	SFF	Hot Plug	BC	Yes	MLC	Single	Gen10 Plus
P40553-B21	HPE 750GB NVMe Gen3 High Performance Low Latency Write Intensive SFF BC U.2 P4800X SSD	750	WI	NVMe	SFF	Hot Plug	BC	Yes	MLC	Single	Gen10 Plus

### NVMe High Performance and Mainstream Mixed Use Drives

P13699-B21	HPE 1.6TB NVMe Gen3 High Performance Mixed Use SFF SCN U.2 P4610 SSD	1,600	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen9,10
P13701-B21	HPE 3.2TB NVMe Gen3 High Performance Mixed Use SFF SCN U.2 P4610 SSD	3,200	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen9,10
P16497-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	1,600	MU	NVMe	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10 Plus
P16499-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	3,200	MU	NVMe	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10 Plus
P19827-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 PE8030 SSD	1,600	MU	NVMe	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10 Plus
P19829-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 PE8030 SSD	1,600	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen10
P19831-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 PE8030 SSD	3,200	MU	NVMe	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10 Plus
P19833-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 PE8030 SSD	3,200	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen10
P19837-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 PE8030 SSD	6,400	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen10
P20094-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	800	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10
P20096-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	1,600	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10



## Technical Specifications

PCIe/NVMe Interface – SKUs (Capacity, Workload, Carrier...)												
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)	
P20098-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	3,200	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10	
P20100-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	6,400	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10	
P20195-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 CD6 SSD	1,600	MU	NVMe	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10 Plus	
P20197-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 CD6 SSD	3,200	MU	NVMe	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10 Plus	
P20199-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 CD6 SSD	6,400	MU	NVMe	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10 Plus	
P20203-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 CD6 SSD	1,600	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen10	
P20205-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 CD6 SSD	3,200	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen10	
P20207-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 CD6 SSD	6,400	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen10	
P22268-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	1,600	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10	
P22270-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	3,200	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10	
P22272-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	6,400	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10	
P22274-B21	HPE 12.8TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	12,800	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10	
P22329-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	800	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10	
P26124-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	6,400	MU	NVMe	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10 Plus	



## Technical Specifications

PCIe/NVMe Interface – SKUs (Capacity, Workload, Carrier...)												
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)	
P26543-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	800	MU	NVMe	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10 Plus	
P26934-B21	HPE 1.6TB NVMe Gen4 x8 High Performance Mixed Use AIC HHHL PM1735 SSD	1,600	MU	NVMe	HH	Non Hot Plug	N/A	Yes	TLC	Dual	Gen10	
P26936-B21	HPE 3.2TB NVMe Gen4 x8 High Performance Mixed Use AIC HHHL PM1735 SSD	3,200	MU	NVMe	HH	Non Hot Plug	N/A	Yes	TLC	Dual	Gen10	
P29166-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	800	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P31191-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	1,600	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P31193-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	3,200	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P31195-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	6,400	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P40549-B21	HPE 1.6TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	1,600	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P40550-B21	HPE 3.2TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	3,200	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P40551-B21	HPE 6.4TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	6,400	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P40569-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	800	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40570-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	1,600	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40571-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	3,200	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40572-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	6,400	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	



## Technical Specifications

PCIe/NVMe Interface – SKUs (Capacity, Workload, Carrier...)											
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)
P40486-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	800	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P40487-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	1,600	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P40488-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	3,200	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P40489-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	6,400	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus
P40492-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	800	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P40493-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	1,600	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P40494-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	3,200	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P40495-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	6,400	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P41404-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	1,600	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P41405-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	3,200	MU	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus
P44584-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC Self-encrypting FIPS U.3 CM6 SSD	1,600	MU	NVMe	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10 Plus
P44588-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN Self-encrypting FIPS U.3 CM6 SSD	1,600	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10,10 Plus
P44592-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC Self-encrypting FIPS U.3 CM6 SSD	3,200	MU	NVMe	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10 Plus
P44596-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN Self-encrypting FIPS U.3 CM6 SSD	3,200	MU	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10,10 Plus



## Technical Specifications

PCIe/NVMe Interface – SKUs (Capacity, Workload, Carrier...)											
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)
<b>NVMe High Performance and Mainstream Read Intensive Drives</b>											
P13695-B21	HPE 2TB NVMe Gen3 High Performance Read Intensive SFF SCN U.2 P4510 SSD	2,000	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen9,10
P13697-B21	HPE 4TB NVMe Gen3 High Performance Read Intensive SFF SCN U.2 P4510 SSD	4,000	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen9,10
P16501-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	1,920	RI	NVMe	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10 Plus
P16503-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	3,840	RI	NVMe	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10 Plus
P19811-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 PE8010 SSD	1,920	RI	NVMe	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10 Plus
P19813-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 PE8010 SSD	1,920	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen10
P19815-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 PE8010 SSD	3,840	RI	NVMe	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10 Plus
P19817-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 PE8010 SSD	3,840	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen10
P19819-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 PE8010 SSD	7,680	RI	NVMe	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10 Plus
P19821-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 PE8010 SSD	7,680	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen10
P20131-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 CD6 SSD	1,920	RI	NVMe	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10 Plus
P20133-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 CD6 SSD	3,840	RI	NVMe	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10 Plus
P20135-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 CD6 SSD	7,680	RI	NVMe	SFF	Hot Plug	SC	Yes	TLC	Single	Gen10 Plus

## Technical Specifications

PCIe/NVMe Interface – SKUs (Capacity, Workload, Carrier...)												
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)	
P20139-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 CD6 SSD	1,920	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen10	
P20141-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 CD6 SSD	3,840	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen10	
P20143-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 CD6 SSD	7,680	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Single	Gen10	
P22276-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	1,920	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10	
P22278-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	3,840	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10	
P22280-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	7,680	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10	
P22282-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	15,360	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10	
P22331-B21	HPE 960GB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	960	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10	
P26104-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	7,680	RI	NVMe	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10 Plus	
P26109-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	15,360	RI	NVMe	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10 Plus	
P26538-B21	HPE 960GB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	960	RI	NVMe	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10 Plus	
P29161-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	960	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P31185-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	1,920	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P31187-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	3,840	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	



## Technical Specifications

PCIe/NVMe Interface – SKUs (Capacity, Workload, Carrier...)												
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)	
P31189-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	7,680	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P40547-B21	HPE 2TB NVMe Gen3 High Performance Read Intensive SFF BC U.2 P4510 SSD	2,000	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P40548-B21	HPE 4TB NVMe Gen3 High Performance Read Intensive SFF BC U.2 P4510 SSD	4,000	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P40564-B21	HPE 960GB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	960	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40565-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	1,920	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40566-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	3,840	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40567-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	7,680	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40568-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	15,360	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40483-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	1,920	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P40484-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	3,840	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P40485-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	7,680	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Single	Gen10 Plus	
P40490-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM6 SSD	1,920	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P40491-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM6 SSD	3,840	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P41402-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	1,920	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	



## Technical Specifications

PCIe/NVMe Interface – SKUs (Capacity, Workload, Carrier...)												
HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Port	Server Gen Supported (Select Platforms)	
P41403-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	3,840	RI	NVMe	SFF	Hot Plug	BC	Yes	TLC	Dual	Gen10 Plus	
P44568-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC Self-encrypting FIPS U.3 CM6 SSD	1,920	RI	NVMe	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10 Plus	
P44572-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN Self-encrypting FIPS U.3 CM6 SSD	1,920	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10,10 Plus	
P44576-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC Self-encrypting FIPS U.3 CM6 SSD	3,840	RI	NVMe	SFF	Hot Plug	SC	Yes	TLC	Dual	Gen10 Plus	
P44580-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN Self-encrypting FIPS U.3 CM6 SSD	3,840	RI	NVMe	SFF	Hot Plug	SCN	Yes	TLC	Dual	Gen10,10 Plus	



## Technical Specifications

### PCIe/NVMe Speeds and Feeds Specifications

#### PCIe/NVMe Interface – SKUs (Speeds and Feeds)

HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes	Throughput (MiB/s)	Random Read Avg. / Random Write Avg. Latency uSec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
<b>NVMe High Performance Low Latency SSDs Write Intensive SSDs</b>								
878014-B21	HPE 375GB NVMe Gen3 High Performance Low Latency Write Intensive SFF SCN U.2 P4800X SSD	20,500	30.00	2,550 / 2,150	17 / 17	585,000 / 550,000	585,000@Q16 / 550,000@Q16	
878038-B21	HPE 750GB NVMe Gen3 x4 High Performance Low Latency Write Intensive AIC HHHL P4800X SSD	41,000	30.00	2,550 / 2,300	17 / 18	575,000 / 580,000	575,000@Q16 / 580,000@Q16	
P06952-B21	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	
P40552-B21	HPE 375GB NVMe Gen3 High Performance Low Latency Write Intensive SFF BC U.2 P4800X SSD	20,500	30.00	2,550 / 2,150	17 / 17	585,000 / 550,000	585,000@Q16 / 550,000@Q16	
P40553-B21	HPE 750GB NVMe Gen3 High Performance Low Latency Write Intensive SFF BC 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>								
P13699-B21	HPE 1.6TB NVMe Gen3 High Performance Mixed Use SFF SCN U.2 P4610 SSD	12,250	4.10	3,200 / 1,950	83 / 18	165,000 / 200,000	660,000@Q256 / 205,000@Q32	
P13701-B21	HPE 3.2TB NVMe Gen3 High Performance Mixed Use SFF SCN U.2 P4610 SSD	21,850	3.70	3,200 / 2,900	83 / 18	165,000 / 215,000	660,000@Q256 / 230,000@Q32	
P16497-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	8,560	3.00	6,300 / 2,400	90 / 41	150,000 / 180,000	600,000@Q128 / 225,000@Q64	
P16499-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	17,121	3.00	6,600 / 3,700	85 / 37	165,000 / 170,000	680,000@Q128 / 290,000@Q256	
P19827-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 PE8030 SSD	11,512	3.80	6,200 / 2,800	77 / 24	210,000 / 270,000	870,000@Q256 / 275,000@Q256	
P19829-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 PE8030 SSD	11,512	3.80	6,200 / 2,800	77 / 24	210,000 / 270,000	870,000@Q256 / 275,000@Q256	
P19831-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 PE8030 SSD	23,143	3.80	6,200 / 3,650	77 / 24	215,000 / 310,000	980,000@Q256 / 335,000@Q32	
P19833-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 PE8030 SSD	23,143	3.80	6,200 / 3,650	77 / 24	215,000 / 310,000	980,000@Q256 / 335,000@Q32	

## Technical Specifications

### PCIe/NVMe Interface – SKUs (Speeds and Feeds)

HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes	Throughput (MiB/s)	Random Read Avg. / Random Write Avg.	Latency $\mu$ Sec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P19837-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 PE8030 SSD	46,406	3.80	6,200 / 3,650	77 / 24		215,000 / 320,000	1,000,000@Q256 / 345,000@Q32	
P20094-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	4,280	3.00	6,500 / 1,400	93 / 25		175,000 / 100,000	850,000@Q256 / 100,000@Q16	
P20096-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	8,561	3.00	6,500 / 2,700	93 / 25		180,000 / 220,000	950,000@Q256 / 220,000@Q256	
P20098-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	17,121	3.00	6,500 / 4,000	93 / 24		180,000 / 350,000	950,000@Q256 / 350,000@Q32	
P20100-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	34,242	3.00	6,500 / 3,800	101 / 25		170,000 / 330,000	930,000@Q256 / 340,000@Q64	
P20195-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 CD6 SSD	8,561	3.00	5,500 / 1,150	105 / 25		155,000 / 87,000	700,000@Q256 / 85,000@Q32	
P20197-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 CD6 SSD	17,121	3.00	5,900 / 2,300	105 / 25		155,000 / 170,000	900,000@Q256 / 170,000@Q4	
P20199-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 CD6 SSD	34,242	3.00	5,900 / 3,800	110 / 25		155,000 / 250,000	900,000@Q256 / 250,000@Q16	
P20203-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 CD6 SSD	8,561	3.00	5,500 / 1,150	105 / 25		155,000 / 87,000	700,000@Q256 / 85,000@Q32	
P20205-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 CD6 SSD	17,121	3.00	5,900 / 2,300	105 / 25		155,000 / 170,000	900,000@Q256 / 170,000@Q4	
P20207-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 CD6 SSD	34,242	3.00	5,900 / 3,800	110 / 25		155,000 / 250,000	900,000@Q256 / 250,000@Q16	
P22268-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	8,561	3.00	7,000 / 2,500	85 / 30		190,000 / 235,000	890,000@Q256 / 240,000@Q256	
P22270-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	17,121	3.00	7,000 / 3,900	82 / 26		200,000 / 270,000	960,000@ Q256 / 300,000@Q256	
P22272-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	34,242	3.00	7,000 / 3,750	91 / 26		180,000 / 270,000	960,000@Q256 / 280,000@Q64	
P22274-B21	HPE 12.8TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	68,484	3.00	7,000 / 3,800	95 / 30		175,000 / 265,000	960,000@Q256 / 280,000@Q128	



## Technical Specifications

PCIe/NVMe Interface – SKUs (Speeds and Feeds)									
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes	Throughput (MiB/s)	Random Read Avg. / Random Write Avg.	Latency $\mu$ Sec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P22329-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	4,280	3.00	5,200 / 1,250	85 / 30	180,000 / 140,000	530,000@Q256 / 145,000@Q4		
P26124-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	34,242	3.00	7,000 / 3,750	91 / 26	180,000 / 270,000	960,000@Q256 / 280,000@Q64		
P26543-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	4,280	3.00	5,200 / 1,250	85 / 30	180,000 / 140,000	530,000@Q256 / 145,000@Q4		
P26934-B21	HPE 1.6TB NVMe Gen4 x8 High Performance Mixed Use AIC HHHLL PM1735 SSD	8,760	3.00	7,000 / 2,500	80 / 25	195,000 / 235,000	900,000@Q256 / 240,000@Q64		
P26936-B21	HPE 3.2TB NVMe Gen4 x8 High Performance Mixed Use AIC HHHLL PM1735 SSD	17,520	3.00	7,000 / 4,000	80 / 27	200,000 / 260,000	950,000@Q256 / 290,000@Q256		
P29166-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	5,741	3.80	5,900 / 1,400	79 / 28	190,000 / 145,000	530,000@Q256 / 145,000@Q256		
P31191-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	11,512	3.80	6,200 / 2,800	77 / 24	210,000 / 270,000	870,000@Q256 / 275,000@Q256		
P31193-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	23,143	3.80	6,200 / 3,650	77 / 24	215,000 / 310,000	980,000@Q256 / 335,000@Q32		
P31195-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	46,406	3.80	6,200 / 3,650	77 / 24	215,000 / 320,000	1,000,000@Q256 / 345,000@Q32		
P40549-B21	HPE 1.6TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	12,250	4.10	3,200 / 1,950	83 / 18	165,000 / 200,000	660,000@Q256 / 205,000@Q32		
P40550-B21	HPE 3.2TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	21,850	3.70	3,200 / 2,900	83 / 18	165,000 / 215,000	660,000@Q256 / 230,000@Q32		
P40551-B21	HPE 6.4TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	36,540	3.10	3,200 / 3,100	83 / 18	170,000 / 205,000	680,000@Q256 / 225,000@Q32		
P40569-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	4,380	3.00	5,200 / 1,250	75 / 20	180,000 / 140,000	530,000@Q256 / 140,000@Q4		
P40570-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	8,760	3.00	7,000 / 2,500	75 / 20	190,000 / 235,000	800,000@Q256 / 240,000@Q16		
P40571-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	17,520	3.00	7,000 / 4,000	75 / 20	200,000 / 280,000	960,000@Q256 / 290,000@Q16		

## Technical Specifications

PCIe/NVMe Interface – SKUs (Speeds and Feeds)									
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes	Throughput (MiB/s)	Random Read Avg. / Random Write Avg.	Latency $\mu$ Sec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P40572-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	35,040	3.00	7,000 / 3,700	83 / 20	180,000 / 270,000	1,000,000@Q256 / 280,000@Q16		
P40486-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	4,280	3.00	5,500 / 1,300	100 / 22	160,000 / 92,000	700,000@Q256 / 9,000@Q4		
P40487-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	8,561	3.00	5,500 / 1,150	105 / 25	155,000 / 87,000	700,000@Q256 / 85,000@Q32		
P40488-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	17,121	3.00	5,900 / 2,300	105 / 25	155,000 / 170,000	900,000@Q256 / 170,000@Q4		
P40489-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	34,242	3.00	5,900 / 3,800	110 / 25	155,000 / 250,000	900,000@Q256 / 250,000@Q16		
P40492-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	4,280	3.00	6,500 / 1,400	93 / 25	175,000 / 100,000	850,000@Q256 / 100,000@Q16		
P40493-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	8,561	3.00	6,500 / 2,700	93 / 25	180,000 / 220,000	950,000@Q256 / 220,000@Q256		
P40494-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	17,121	3.00	6,500 / 4,000	93 / 24	180,000 / 350,000	950,000@Q256 / 350,000@Q32		
P40495-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	34,242	3.00	6,500 / 3,800	101 / 25	170,000 / 330,000	930,000@Q256 / 340,000@Q64		
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 / 220,000@Q256		
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 / 350,000@Q32		
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 / 220,000@Q256		
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 / 220,000@Q256		
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 / 350,000@Q32		
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 / 350,000@Q32		

## Technical Specifications

PCIe/NVMe Interface – SKUs (Speeds and Feeds)									
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes	Throughput (MiB/s)	Random Read Avg. / Random Write Avg.	Latency $\mu$ Sec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
<b>NVMe High Performance and Mainstream Read Intensive Drives</b>									
P13695-B21	HPE 2TB NVMe Gen3 High Performance Read Intensive SFF SCN U.2 P4510 SSD	2,600	0.70	3,100 / 1,900	80 / 22	170,000 / 83,000	670,000@Q256 / 83,000@Q16		
P13697-B21	HPE 4TB NVMe Gen3 High Performance Read Intensive SFF SCN U.2 P4510 SSD	6,300	0.80	2,900 / 2,800	80 / 21	170,000 / 120,000	670,000@Q256 / 120,000@Q16		
P16501-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	3,424	1.00	6,300 / 2,400	90 / 41	150,000 / 115,000	690,000@Q128 / 115,000@Q16		
P16503-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	6,848	1.00	6,600 / 3,700	90 / 40	155,000 / 130,000	700,000@Q128 / 150,000@Q32		
P19811-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 PE8010 SSD	5,382	1.50	6,200 / 2,800	79 / 28	205,000 / 120,000	850,000@Q256 / 125,000@Q64		
P19813-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 PE8010 SSD	5,382	1.50	6,200 / 2,800	79 / 28	205,000 / 120,000	850,000@Q256 / 125,000@Q64		
P19815-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 PE8010 SSD	10,979	1.50	6,200 / 3,650	79 / 29	210,000 / 145,000	930,000@Q256 / 150,000@Q256		
P19817-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 PE8010 SSD	10,979	1.50	6,200 / 3,650	79 / 29	210,000 / 145,000	930,000@Q256 / 150,000@Q256		
P19819-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 PE8010 SSD	22,103	1.50	6,200 / 3,650	79 / 29	210,000 / 150,000	980,000@Q256 / 150,000@Q128		
P19821-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 PE8010 SSD	22,103	1.50	6,200 / 3,650	79 / 29	210,000 / 150,000	980,000@Q256 / 150,000@Q128		
P20131-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 CD6 SSD	3,424	1.00	5,500 / 1,150	105 / 33	155,000 / 30,000	700,000@Q256 / 30,000@Q256		
P20133-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 CD6 SSD	6,848	1.00	5,900 / 2,300	105 / 25	155,000 / 60,000	880,000@Q256 / 60,000@Q64		
P20135-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 CD6 SSD	13,697	1.00	5,900 / 3,800	107 / 25	155,000 / 85,000	880,000@Q256 / 85,000@Q128		
P20139-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 CD6 SSD	3,424	1.00	5,500 / 1,150	105 / 33	155,000 / 30,000	700,000@Q256 / 30,000@Q256		



## Technical Specifications

PCIe/NVMe Interface – SKUs (Speeds and Feeds)									
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes	Throughput (MiB/s)	Random Read Avg. / Random Write Avg.	Latency $\mu$ Sec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P20141-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 CD6 SSD	6,848	1.00	5,900 / 2,300	105 / 25	155,000 / 60,000	880,000@Q256 / 60,000@Q64		
P20143-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 CD6 SSD	13,697	1.00	5,900 / 3,800	107 / 25	155,000 / 85,000	880,000@Q256 / 85,000@Q128		
P22276-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	3,424	1.00	7,000 / 2,500	85 / 30	195,000 / 115,000	900,000@Q256 / 120,000@Q256		
P22278-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	6,848	1.00	7,000 / 4,000	85 / 30	200,000 / 145,000	900,000@Q256 / 150,000@Q256		
P22280-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	13,697	1.00	7,000 / 3,800	95 / 30	180,000 / 140,000	900,000@Q256 / 145,000@Q256		
P22282-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	27,394	1.00	7,000 / 3,800	95 / 30	175,000 / 145,000	960,000@Q256 / 145,000@Q256		
P22331-B21	HPE 960GB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	1,712	1.00	5,200 / 1,250	85 / 30	180,000 / 70,000	530,000@Q256 / 71,000@Q256		
P26104-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	13,697	1.00	7,000 / 3,800	95 / 30	180,000 / 140,000	900,000@Q256 / 145,000@Q256		
P26109-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	27,394	1.00	7,000 / 3,800	95 / 30	175,000 / 145,000	960,000@Q256 / 145,000@Q256		
P26538-B21	HPE 960GB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	1,712	1.00	5,200 / 1,250	85 / 30	180,000 / 70,000	530,000@Q256 / 71,000@Q256		
P29161-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	2,691	1.50	5,900 / 1,400	79 / 28	190,000 / 69,000	520,000@Q256 / 69,000@Q256		
P31185-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	5,382	1.50	6,200 / 2,800	79 / 28	205,000 / 120,000	850,000@Q256 / 125,000@Q64		
P31187-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	10,979	1.50	6,200 / 3,650	79 / 29	210,000 / 145,000	930,000@Q256 / 150,000@Q256		
P31189-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	22,103	1.50	6,200 / 3,650	79 / 29	210,000 / 150,000	980,000@Q256 / 150,000@Q128		
P40547-B21	HPE 2TB NVMe Gen3 High Performance Read Intensive SFF BC U.2 P4510 SSD	2,600	0.70	3,100 / 1,900	80 / 22	170,000 / 83,000	670,000@Q256 / 83,000@Q16		

## Technical Specifications

PCIe/NVMe Interface – SKUs (Speeds and Feeds)									
HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes	Throughput (MiB/s)	Random Read Avg. / Random Write Avg.	Latency $\mu$ Sec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
P40548-B21	HPE 4TB NVMe Gen3 High Performance Read Intensive SFF BC U.2 P4510 SSD	6,300	0.80	2,900 / 2,800	80 / 21	170,000 / 120,000	670,000@Q256 / 120,000@Q16		
P40564-B21	HPE 960GB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	1,752	1.00	5,200 / 1,250	75 / 21	180,000 / 69,000	530,000@Q256 / 70,000@Q128		
P40565-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	3,504	1.00	7,000 / 2,400	75 / 21	195,000 / 115,000	900,000@Q256 / 115,000@Q64		
P40566-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	7,008	1.00	7,000 / 4,000	75 / 21	200,000 / 145,000	1,000,000@Q256 / 150,000@Q128		
P40567-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	14,016	1.00	7,000 / 3,700	83 / 22	180,000 / 145,000	820,000@Q256 / 145,000@Q16		
P40568-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	28,032	1.00	7,000 / 3,700	85 / 22	175,000 / 145,000	820,000@Q256 / 145,000@Q256		
P40483-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	3,424	1.00	5,500 / 1,150	105 / 33	155,000 / 30,000	700,000@Q256 / 30,000@Q256		
P40484-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	6,848	1.00	5,900 / 2,300	105 / 25	155,000 / 60,000	880,000@Q256 / 60,000@Q64		
P40485-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	13,697	1.00	5,900 / 3,800	107 / 25	155,000 / 85,000	880,000@Q256 / 85,000@Q128		
P40490-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM6 SSD	3,424	1.00	6,500 / 2,700	93 / 25	180,000 / 100,000	950,000@Q256 / 100,000@Q128		
P40491-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM6 SSD	6,848	1.00	6,500 / 4,000	93 / 26	180,000 / 170,000	930,000@Q256 / 175,000@Q16		
P41402-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC Self-encrypting FIPS U.3 CM6 SSD	3,504	1.00	6,500 / 2,700	93 / 25	180,000 / 100,000	950,000@Q256 / 100,000@Q128		
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 / 175,000@Q16		
P44568-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC Self-encrypting FIPS U.3 CM6 SSD	3,504	1.00	6,500 / 2,700	93 / 25	180,000 / 100,000	950,000@Q256 / 100,000@Q128		

## Technical Specifications

### PCIe/NVMe Interface – SKUs (Speeds and Feeds)

HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes	Throughput (MiB/s)	Random Read Avg. / Random Write Avg.	Latency $\mu$ Sec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
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 / 100,000@Q128		
P44576-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC Self-encrypting FIPS U.3 CM6 SSD	7,008	1.00	6,500 / 4,000	93 / 26	180,000 / 170,000	930,000@Q256 / 175,000@Q16		
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 / 175,000@Q16		

#### Notes:

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

### 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
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#### NVMe High Performance Low Latency SSDs Write Intensive SSDs

878014-B21	HPE 375GB NVMe Gen3 High Performance Low Latency Write Intensive SFF SCN U.2 P4800X SSD	4.00	5.16	5.16	8.50	12.20	5.16	13.00	15mm
878038-B21	HPE 750GB NVMe Gen3 x4 High Performance Low Latency Write Intensive AIC HHHL P4800X SSD	4.70	9.8	9.80	9.50	13.90	9.80	14.00	Half Height/Half Length
P06952-B21	HPE 750GB NVMe Gen3 High Performance Low Latency Write Intensive SFF SCN U.2 P4800X SSD	4.50	9.74	9.74	9.12	14.04	9.74	14.04	15mm
P40552-B21	HPE 375GB NVMe Gen3 High Performance Low Latency Write Intensive SFF BC U.2 P4800X SSD	4.00	5.16	5.16	8.50	12.20	5.16	13.00	15mm
P40553-B21	HPE 750GB NVMe Gen3 High Performance Low Latency Write Intensive SFF BC U.2 P4800X SSD	4.50	9.74	9.74	9.12	14.04	9.74	14.04	15mm

#### NVMe High Performance and Mainstream Mixed Use Drives



## 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
P13699-B21	HPE 1.6TB NVMe Gen3 High Performance Mixed Use SFF SCN U.2 P4610 SSD	4.38	10.49	10.49	10.49	8.90	11.83	11.83	15mm
P13701-B21	HPE 3.2TB NVMe Gen3 High Performance Mixed Use SFF SCN U.2 P4610 SSD	4.36	10.56	10.56	8.43	13.37	10.56	13.37	15mm
P16497-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	7.00	8.40	8.40	11.00	14.00	8.40	14.00	15mm
P16499-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	7.00	8.40	8.40	11.00	14.00	8.40	14.00	15mm
P19827-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 PE8030 SSD	4.40	8.45	10.75	10.15	10.92	9.19	10.92	15mm
P19829-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 PE8030 SSD	4.40	8.45	10.75	10.15	10.92	9.19	10.92	15mm
P19831-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 PE8030 SSD	4.60	9.41	12.83	11.78	13.51	11.91	13.51	15mm
P19833-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 PE8030 SSD	4.60	9.41	12.83	11.78	13.51	11.91	13.51	15mm
P19837-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 PE8030 SSD	4.68	14.37	14.37	12.32	14.40	14.37	14.40	15mm
P20094-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	6.00	11.90	9.30	13.10	10.20	9.50	13.10	15mm
P20096-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	6.30	15.10	12.80	14.00	14.10	11.50	15.10	15mm
P20098-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	6.30	18.20	16.70	15.70	18.20	15.00	18.20	15mm
P20100-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	6.30	17.80	18.00	16.00	18.80	15.50	18.80	15mm
P20195-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 CD6 SSD	6.30	11.90	10.10	11.80	10.10	10.50	11.90	15mm
P20197-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 CD6 SSD	6.30	14.60	13.40	13.40	13.60	12.40	14.60	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
P20199-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 CD6 SSD	6.30	17.40	16.80	15.30	18.60	14.70	18.60	15mm
P20203-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 CD6 SSD	6.30	11.90	10.10	11.80	10.10	10.50	11.90	15mm
P20205-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 CD6 SSD	6.30	14.60	13.40	13.40	13.60	12.40	14.60	15mm
P20207-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 CD6 SSD	6.30	17.40	16.80	15.30	18.60	14.70	18.60	15mm
P22268-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	5.00	12.90	12.90	13.90	13.60	12.90	13.90	15mm
P22270-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	5.00	15.20	15.20	14.00	17.50	15.20	17.50	15mm
P22272-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	5.00	15.30	15.30	14.60	17.90	15.30	17.90	15mm
P22274-B21	HPE 12.8TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	5.20	15.80	15.80	16.30	18.50	15.80	18.50	15mm
P22329-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	5.00	10.30	10.30	11.30	11.50	10.30	11.50	15mm
P26124-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	5.00	15.30	15.30	14.60	17.90	15.30	17.90	15mm
P26543-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	5.00	10.30	10.30	11.30	11.50	10.30	11.50	15mm
P26934-B21	HPE 1.6TB NVMe Gen4 x8 High Performance Mixed Use AIC HHHHL PM1735 SSD	4.87	9.56	9.56	12.48	14.64	9.56	14.64	Half Height/Half length
P26936-B21	HPE 3.2TB NVMe Gen4 x8 High Performance Mixed Use AIC HHHHL PM1735 SSD	4.76	9.42	9.42	12.84	18.64	9.42	18.64	Half Height/Half length
P29166-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	4.40	7.25	7.95	9.51	7.81	7.27	9.51	15mm
P31191-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	4.40	8.45	10.75	10.15	10.92	9.19	10.92	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
P31193-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	4.60	9.41	12.83	11.78	13.51	11.91	13.51	15mm
P31195-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	4.68	14.37	14.37	12.32	14.40	14.37	14.40	15mm
P40549-B21	HPE 1.6TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	4.38	10.49	10.49	10.49	8.90	11.83	11.83	15mm
P40550-B21	HPE 3.2TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	4.36	10.56	10.56	8.43	13.37	10.56	13.37	15mm
P40551-B21	HPE 6.4TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	4.97	12.13	12.13	8.84	14.48	12.13	14.48	15mm
P40569-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	4.49	8.50	8.50	10.84	10.82	8.50	10.84	15mm
P40570-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	4.76	8.64	8.64	11.14	14.10	8.64	14.10	15mm
P40571-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	4.91	8.68	8.68	11.76	18.35	8.68	18.35	15mm
P40572-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	4.76	8.58	8.58	11.37	17.66	8.58	17.66	15mm
P40486-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	6.00	11.30	9.80	12.20	9.70	10.30	12.20	15mm
P40487-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	6.30	11.90	10.10	11.80	10.10	10.50	11.90	15mm
P40488-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	6.30	14.60	13.40	13.40	13.60	12.40	14.60	15mm
P40489-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	6.30	17.40	16.80	15.30	18.60	14.70	18.60	15mm
P40492-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	6.00	11.90	9.30	13.10	10.20	9.50	13.10	15mm
P40493-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	6.30	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	
P40494-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	6.30	18.20	16.70	15.70	18.20	15.00	18.20	15mm	
P40495-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	6.30	17.80	18.00	16.00	18.80	15.50	18.80	15mm	
P41404-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	4.70	15.10	12.80	14.00	14.10	11.50	15.10	15mm	
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	
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	
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	
P44592-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC Self-encrypting FIPS U.3 CM6 SSD	4.70	18.20	16.70	15.70	18.20	15.00	18.20	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	
NVMe High Performance and Mainstream Read Intensive Drives										
P13695-B21	HPE 2TB NVMe Gen3 High Performance Read Intensive SFF SCN U.2 P4510 SSD	4.53	10.71	10.71	10.71	9.47	11.76	11.76	15mm	
P13697-B21	HPE 4TB NVMe Gen3 High Performance Read Intensive SFF SCN U.2 P4510 SSD	4.54	10.47	10.47	10.47	8.88	12.56	12.56	15mm	
P16501-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	4.60	8.81	8.81	11.21	14.10	8.81	14.10	15mm	
P16503-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	7.00	8.40	8.40	11.00	14.00	8.40	14.00	15mm	
P19811-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 PE8010 SSD	4.40	8.45	10.75	10.15	10.92	9.19	10.92	15mm	
P19813-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 PE8010 SSD	4.40	8.45	10.75	10.15	10.92	9.19	10.92	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
P19815-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 PE8010 SSD	4.60	9.41	12.83	11.78	13.51	11.91	13.51	15mm
P19817-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 PE8010 SSD	4.60	9.41	12.83	11.78	13.51	11.91	13.51	15mm
P19819-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 PE8010 SSD	4.68	14.37	14.37	12.32	14.40	14.37	14.40	15mm
P19821-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 PE8010 SSD	4.68	14.37	14.37	12.32	14.40	14.37	14.40	15mm
P20131-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 CD6 SSD	6.30	11.90	9.90	11.80	10.10	10.30	11.90	15mm
P20133-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 CD6 SSD	6.30	14.60	13.20	13.40	13.60	12.80	14.60	15mm
P20135-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 CD6 SSD	6.30	17.40	17.10	15.30	18.60	16.00	18.60	15mm
P20139-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 CD6 SSD	6.30	11.90	9.90	11.80	10.10	10.30	11.90	15mm
P20141-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 CD6 SSD	6.30	14.60	13.20	13.40	13.60	12.80	14.60	15mm
P20143-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 CD6 SSD	6.30	17.40	17.10	15.30	18.60	16.00	18.60	15mm
P22276-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	4.60	8.81	8.81	11.21	14.10	8.81	14.10	15mm
P22278-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	5.00	15.30	15.30	14.30	18.20	15.30	18.20	15mm
P22280-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	5.00	15.60	15.60	14.70	17.90	15.60	17.90	15mm
P22282-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	5.20	16.20	16.20	16.00	18.80	16.20	18.80	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
P22331-B21	HPE 960GB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	5.00	10.40	10.40	11.20	11.50	10.40	11.50	15mm
P26104-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	5.00	15.60	15.60	14.70	17.90	15.60	17.90	15mm
P26109-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	5.20	16.20	16.20	16.00	18.80	16.20	18.80	15mm
P26538-B21	HPE 960GB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	5.00	10.40	10.40	11.20	11.50	10.40	11.50	15mm
P29161-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	4.40	7.25	7.95	9.51	7.81	7.27	9.51	15mm
P31185-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	4.40	8.45	10.75	10.15	10.92	9.19	10.92	15mm
P31187-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	4.60	9.41	12.83	11.78	13.51	11.91	13.51	15mm
P31189-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	4.68	14.37	14.37	12.32	14.40	14.37	14.40	15mm
P40547-B21	HPE 2TB NVMe Gen3 High Performance Read Intensive SFF BC U.2 P4510 SSD	4.53	10.71	10.71	10.71	9.47	11.76	11.76	15mm
P40548-B21	HPE 4TB NVMe Gen3 High Performance Read Intensive SFF BC U.2 P4510 SSD	4.54	10.47	10.47	10.47	8.88	12.56	12.56	15mm
P40564-B21	HPE 960GB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	4.51	8.73	8.73	11.13	10.84	8.73	11.13	15mm
P40565-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	4.60	8.81	8.81	11.21	14.10	8.81	14.10	15mm
P40566-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	4.81	9.17	9.17	11.11	18.78	9.17	18.78	15mm
P40567-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	4.67	8.75	8.75	11.68	16.64	8.75	16.64	15mm
P40568-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	4.58	9.26	9.26	12.88	18.82	9.26	18.82	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
P40483-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	6.30	11.90	9.90	11.80	10.10	10.30	11.90	15mm
P40484-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	6.30	14.60	13.20	13.40	13.60	12.80	14.60	15mm
P40485-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	6.30	17.40	17.10	15.30	18.60	16.00	18.60	15mm
P40490-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM6 SSD	6.30	15.10	11.60	14.00	14.10	12.20	15.10	15mm
P40491-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM6 SSD	6.30	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
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
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
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
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

### 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

### Inbox NVMe Drivers

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

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

### NVMe Certifications

#### NVMe 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>NVMe High Performance Low Latency SSDs Write Intensive SSDs</b>						
878014-B21	HPE 375GB NVMe Gen3 High Performance Low Latency Write Intensive SFF SCN U.2 P4800X SSD	Certified	Certified	Certified	Certified	Certified
878038-B21	HPE 750GB NVMe Gen3 x4 High Performance Low Latency Write Intensive AIC HHHHL P4800X SSD	Certified	Certified	Certified	Certified	Certified
P06952-B21	HPE 750GB NVMe Gen3 High Performance Low Latency Write Intensive SFF SCN U.2 P4800X SSD	Certified	Certified	Certified	Certified	Certified
P40552-B21	HPE 375GB NVMe Gen3 High Performance Low Latency Write Intensive SFF BC U.2 P4800X SSD	Certified	Certified	Certified	Certified	Certified
P40553-B21	HPE 750GB NVMe Gen3 High Performance Low Latency Write Intensive SFF BC U.2 P4800X SSD	Certified	Certified	Certified	Certified	Certified
<b>NVMe High Performance and Mainstream Mixed Use Drives</b>						
P13699-B21	HPE 1.6TB NVMe Gen3 High Performance Mixed Use SFF SCN U.2 P4610 SSD	Certified	Certified	Certified	Certified	Certified
P13701-B21	HPE 3.2TB NVMe Gen3 High Performance Mixed Use SFF SCN U.2 P4610 SSD	Certified	Certified	Certified	Certified	Certified
P16497-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P16499-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	Certified	Certified	Certified	Certified	Certified



## Technical Specifications

### NVMe 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)
P19827-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 PE8030 SSD	Certified	Certified	Certified	Certified	Certified
P19829-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 PE8030 SSD	Certified	Certified	Certified	Certified	Certified
P19831-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 PE8030 SSD	Certified	Certified	Certified	Certified	Certified
P19833-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 PE8030 SSD	Certified	Certified	Certified	Certified	Certified
P19837-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 PE8030 SSD	Certified	Certified	Certified	Certified	Certified
P20094-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	Certified	Certified	N/A	N/A	N/A
P20096-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	Certified	Certified	N/A	N/A	N/A
P20098-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	Certified	Certified	N/A	N/A	N/A
P20100-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 CM6 SSD	Certified	Certified	N/A	N/A	N/A
P20195-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 CD6 SSD	Certified	Certified	N/A	N/A	N/A
P20197-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 CD6 SSD	Certified	Certified	N/A	N/A	N/A
P20199-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SC U.3 CD6 SSD	Certified	Certified	N/A	N/A	N/A
P20203-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 CD6 SSD	Certified	Certified	N/A	N/A	N/A
P20205-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 CD6 SSD	Certified	Certified	N/A	N/A	N/A
P20207-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF SCN U.3 CD6 SSD	Certified	Certified	N/A	N/A	N/A



## Technical Specifications

### NVMe 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)
P22268-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P22270-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P22272-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P22274-B21	HPE 12.8TB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P22329-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF SCN U.3 PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P26124-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P26543-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF SC U.3 PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P26934-B21	HPE 1.6TB NVMe Gen4 x8 High Performance Mixed Use AIC HHHL PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P26936-B21	HPE 3.2TB NVMe Gen4 x8 High Performance Mixed Use AIC HHHL PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P29166-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	Certified	Certified	Certified	Certified	Certified
P31191-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	Certified	Certified	Certified	Certified	Certified
P31193-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	Certified	Certified	Certified	Certified	Certified
P31195-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 PE8030 SSD	Certified	Certified	Certified	Certified	Certified
P40549-B21	HPE 1.6TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	Certified	Certified	Certified	Certified	Certified
P40550-B21	HPE 3.2TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	Certified	Certified	Certified	Certified	Certified



## Technical Specifications

### NVMe 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)
P40551-B21	HPE 6.4TB NVMe Gen3 High Performance Mixed Use SFF BC U.2 P4610 SSD	Certified	Certified	Certified	Certified	Certified
P40569-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P40570-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P40571-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P40572-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735 SSD	Certified	Certified	Certified	Certified	Certified
P40486-B21	HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	N/A	N/A	N/A	N/A	N/A
P40487-B21	HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	N/A	N/A	N/A	N/A	N/A
P40488-B21	HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	N/A	N/A	N/A	N/A	N/A
P40489-B21	HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 CD6 SSD	N/A	N/A	N/A	N/A	N/A
P40492-B21	HPE 800GB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	N/A	N/A	N/A	N/A	N/A
P40493-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	N/A	N/A	N/A	N/A	N/A
P40494-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	N/A	N/A	N/A	N/A	N/A
P40495-B21	HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 CM6 SSD	N/A	N/A	N/A	N/A	N/A
P41404-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A	N/A	N/A	N/A
P41405-B21	HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A	N/A	N/A	N/A

## Technical Specifications

### NVMe 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)
P44584-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SC Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A	N/A	N/A	N/A
P44588-B21	HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF SCN Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A	N/A	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	N/A	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	N/A	N/A	N/A

### NVMe High Performance and Mainstream Read Intensive Drives

P13695-B21	HPE 2TB NVMe Gen3 High Performance Read Intensive SFF SCN U.2 P4510 SSD	Certified	Certified	Certified	Certified	Certified
P13697-B21	HPE 4TB NVMe Gen3 High Performance Read Intensive SFF SCN U.2 P4510 SSD	Certified	Certified	Certified	Certified	Certified
P16501-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	Certified	Certified	Certified	Certified	Certified
P16503-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	Certified	Certified	Certified	Certified	Certified
P19811-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 PE8010 SSD	Certified	Certified	Certified	Certified	Certified
P19813-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 PE8010 SSD	Certified	Certified	Certified	Certified	Certified
P19815-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 PE8010 SSD	Certified	Certified	Certified	Certified	Certified
P19817-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 PE8010 SSD	Certified	Certified	Certified	Certified	Certified
P19819-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 PE8010 SSD	Certified	Certified	Certified	Certified	Certified
P19821-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read	Certified	Certified	Certified	Certified	Certified



## Technical Specifications

### NVMe 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)
	Intensive SFF SCN U.3 PE8010 SSD					
P20131-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 CD6 SSD	Certified	Certified	N/A	N/A	N/A
P20133-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 CD6 SSD	Certified	Certified	N/A	N/A	N/A
P20135-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SC U.3 CD6 SSD	Certified	Certified	Certified	Certified	Certified
P20139-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 CD6 SSD	Certified	Certified	N/A	N/A	N/A
P20141-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 CD6 SSD	Certified	Certified	N/A	N/A	N/A
P20143-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF SCN U.3 CD6 SSD	Certified	Certified	N/A	N/A	N/A
P22276-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	Certified	Certified	Certified	Certified	Certified
P22278-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	Certified	Certified	Certified	Certified	Certified
P22280-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	Certified	Certified	Certified	Certified	Certified
P22282-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	N/A	Certified	Certified	Certified	Certified
P22331-B21	HPE 960GB NVMe Gen4 High Performance Read Intensive SFF SCN U.3 PM1733 SSD	Certified	Certified	Certified	Certified	Certified
P26104-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	Certified	Certified	Certified	Certified	Certified
P26109-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	N/A	Certified	Certified	Certified	Certified
P26538-B21	HPE 960GB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733 SSD	Certified	Certified	Certified	Certified	Certified



## Technical Specifications

### NVMe 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)
P29161-B21	HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	Certified	Certified	Certified	Certified	Certified
P31185-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	Certified	Certified	Certified	Certified	Certified
P31187-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	Certified	Certified	Certified	Certified	Certified
P31189-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 PE8010 SSD	Certified	Certified	Certified	Certified	Certified
P40547-B21	HPE 2TB NVMe Gen3 High Performance Read Intensive SFF BC U.2 P4510 SSD	Certified	Certified	Certified	Certified	Certified
P40548-B21	HPE 4TB NVMe Gen3 High Performance Read Intensive SFF BC U.2 P4510 SSD	Certified	Certified	Certified	Certified	Certified
P40564-B21	HPE 960GB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	Certified	Certified	Certified	Certified	Certified
P40565-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	Certified	Certified	Certified	Certified	Certified
P40566-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	Certified	Certified	Certified	Certified	Certified
P40567-B21	HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	Certified	Certified	Certified	Certified	Certified
P40568-B21	HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733 SSD	N/A	Certified	Certified	Certified	Certified
P40483-B21	HPE 1.92TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	N/A	N/A	N/A	N/A	N/A
P40484-B21	HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	N/A	N/A	N/A	N/A	N/A
P40485-B21	HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 CD6 SSD	N/A	N/A	N/A	N/A	N/A
P40490-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM6 SSD	N/A	N/A	N/A	N/A	N/A

## Technical Specifications

### NVMe 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)
P40491-B21	HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 CM6 SSD	N/A	N/A	N/A	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	N/A	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	N/A	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	N/A	N/A	N/A
P44572-B21	HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SCN Self-encrypting FIPS U.3 CM6 SSD	N/A	N/A	N/A	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	N/A	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	N/A	N/A	N/A

#### Notes:

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



## Technical Specifications

### M.2 Enablement Kits 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-B21	HPE Universal SATA 6G AIC HHHL M.2 SSD Enablement Kit	NA	NA	SATA	M.2e	Non Hot Plug	N/A	Yes	N/A	Gen9,10
P19894-B21	HPE Dual 240GB SATA 6G Read Intensive M.2 to SFF SCM 5300B SSD Kit	240	RI	SATA	SFF	Hot Plug	SCM	Yes	TLC	Gen10,10 Plus
P19896-B21	HPE Dual 480GB SATA 6G Read Intensive M.2 to SFF SCM 5300P SSD Kit	480	RI	SATA	SFF	Hot Plug	SCM	Yes	TLC	Gen10,10 Plus

#### Notes:

- 878783-B21 enablement Kit is an Add-In-Card, for installation inside of the server, that can be configured to be either Single or Dual with choice of any SATA 2280 M.2 in the HPE M.2 portfolio. See SATA M.2s in Tables above.
- Speeds and Feeds information should be taken from the M.2 drives used within the enablement kits. See SATA M.2s in tables above and below.
- B21 SKU suffix may be replaced with -H21 and/or -K21 to support across different server family lines.
- Use HPE Selector Tool <http://ssd.hpe.com/> to determine server compatibility.

### M.2 Enablement Kits Speeds and Feeds Specifications

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

HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes 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-B21	HPE Universal SATA HHHL 3yr Wty M.2 Kit	N/A	N/A	N/A	N/A	N/A	N/A
P19894-B21	HPE Dual 240GB SATA 6G Read Intensive M.2 to SFF SCM 5300B SSD Kit	N/A	N/A	520 / 210	125 / 85	48,000 / 11,500	50,500@Q128 / 11,800@Q16
P19896-B21	HPE Dual 480GB SATA 6G Read Intensive M.2 to SFF SCM 5300P SSD Kit	N/A	N/A	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.



## Technical Specifications

### M.2 Enablement Kits Power and Height Specifications

#### M.2 Enablement Kits – (Power & Height)

HPE Option Kit SKU	Long Description	Power Idle Time (Watts)	Power Random Read (Watts)	Power Random Write (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	Power Random R/W (Watts)	Power MAX (Watts)	z-Height
878783-B21	HPE Universal SATA HHHL 3yr Wty M.2 Kit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Half Height/ Half Length
P19894-B21	HPE Dual 240GB SATA 6G Read Intensive M.2 - UFF to SFF SCM 3yr Wty SSD	1.03	1.26	1.26	1.89	2.22	1.26	2.22	7mm
P19896-B21	HPE Dual 480GB SATA 6G Read Intensive M.2 - UFF to SFF SCM 3yr Wty 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-B21 enablement Kit is an Add-In-Card, for installation inside of the server, that can be configured to be either Single or Dual with choice of any SATA 2280 M.2 in the HPE M.2 portfolio. See SATA M.2s in Tables above and below.
- Speeds and Feeds information should be taken from the M.2 drives used within the enablement kits. See SATA M.2s in tables above and below.
- 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

#### 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-B21	HPE Universal SATA 6G AIC HHHL M.2 SSD Enablement Kit	N/A	N/A	N/A	N/A	N/A
P19894-B21	HPE Dual 240GB SATA 6G Read Intensive M.2 to SFF SCM 5300B SSD Kit	Certified	Certified	Certified	Certified	Certified
P19896-B21	HPE Dual 480GB SATA 6G Read Intensive M.2 to SFF SCM 5300P SSD Kit	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.



## Technical Specifications

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

#### M.2s– (Capacity, Workload, Carrier...)

HPE Option Kit SKU	Long Description	Capacity	Workload Type	Interface Type	Form Factor	Plug Type	Carrier Type	Digitally Signed Firmware (DS)	Flash Type	Server Gen Supported (Select Platforms)
<b>Read Intensive SATA M.2s</b>										
P19888-B21	HPE 240GB SATA 6G Read Intensive M.2 2280 5300B SSD	240	RI	SATA	M.2	Non Hot Plug	N/A	Yes	TLC	Gen10,10 Plus
P19890-B21	HPE 480GB SATA 6G Read Intensive M.2 2280 5300P SSD	480	RI	SATA	M.2	Non Hot Plug	N/A	Yes	TLC	Gen10,10 Plus
P19892-B21	HPE 960GB SATA 6G Read Intensive M.2 2280 5300P SSD	960	RI	SATA	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.
- Please use HPE Selector Tool <http://ssd.hpe.com/> to determine server compatibility.

### M.2 Speeds and Feeds Specifications

#### M.2s– (Speeds & Feeds)

HPE Option Kit SKU	Long Description	Lifetime Writes (TB)	Endurance DWPD	MAX Seq Reads / Max Seq Writes	Throughput	Random Read Avg. / Random Write Avg.	Latency uSec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
<b>Read Intensive SATA M.2s</b>									
P19888-B21	HPE 240GB SATA 6G Read Intensive M.2 2280 5300B SSD	438	1.00	520 / 210	125 / 85	48,000 / 11,500		50,500@Q128 / 11,800@Q16	
P19890-B21	HPE 480GB SATA 6G Read Intensive M.2 2280 5300P SSD	1,324	1.50	510 / 400	125 / 37	65,000 / 38,000		76,000@Q64 / 39,500@Q256	
P19892-B21	HPE 960GB SATA 6G Read Intensive M.2 2280 5300P SSD	2,628	1.50	510 / 490	125 / 38	67,000 / 37,000		76,000@Q32 / 38,000@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.



## Technical Specifications

### 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>										
P19888-B21	HPE 240GB SATA 6G Read Intensive M.2 2280 5300B SSD	1.03	1.26	1.26	1.89	2.22	1.26	2.22	2280	M.2
P19890-B21	HPE 480GB SATA 6G Read Intensive M.2 2280 5300P SSD	1.03	1.23	1.23	1.89	2.50	1.23	2.50	2280	M.2
P19892-B21	HPE 960GB SATA 6G Read Intensive M.2 2280 5300P SSD	1.04	1.27	1.27	2.10	2.80	1.27	2.80	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

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>							
P19888-B21	HPE 240GB SATA 6G Read Intensive M.2 2280 5300B SSD	Certified	Certified	Certified	Certified	Certified	
P19890-B21	HPE 480GB SATA 6G Read Intensive M.2 2280 5300P SSD	Certified	Certified	Certified	Certified	Certified	
P19892-B21	HPE 960GB SATA 6G Read Intensive M.2 2280 5300P SSD	Certified	Certified	Certified	Certified	Certified	



## Technical Specifications

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

#### 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	960	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	1,920	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	480	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 DDPD	MAX Seq Reads / Max Seq Writes	Throughput Random Read Avg. / Random Write Avg.	Latency uSec (4KiB,Q1)	Random Read / Random Writes IOPS (4KiB, Q=16)	MAX Random Read / MAX Random Write IOPS (4KiB)
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

#### 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.

## 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
P40513-B21	HPE 480GB NVMe Gen3 Mainstream Performance Read Intensive M.2 Multi Vendor SSD	2.41	4.62	4.62	6.49	4.66	4.62	6.49	22110 M.2
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

#### 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)
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.



## Technical Specifications

### 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.

<b>SATA/SAS - SFF/LFF - SSD</b>					
<b>Form Factor</b>	<b>Smart or</b>	<b>Hot Plug or</b>	<b>Carrier Name (Abbreviation)</b>	<b>Carrier Abbreviation</b>	<b>Size/Form Factor</b>
	<b>Non-Smart</b>	<b>Non-Hot Plug</b>			
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
<b>NVMe - SFF/AIC SD</b>					
<b>Form Factor</b>	<b>Smart or</b>	<b>Hot Plug or</b>	<b>Carrier Name (Abbreviation)</b>	<b>Carrier Abbreviation</b>	<b>Size/Form Factor</b>
	<b>Non-Smart</b>	<b>Non-Hot Plug</b>			
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
<b>SATA/NVMe - M.2 &amp; Enablement Kits</b>					
<b>Form Factor</b>	<b>Smart or</b>	<b>Hot Plug or</b>	<b>Carrier Name (Abbreviation)</b>	<b>Carrier Abbreviation</b>	<b>Size/Form Factor</b>
	<b>Non-Smart</b>	<b>Non-Hot Plug</b>			
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



## Technical Specifications

### Previous To Current Workload Naming Conversion

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

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

### 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 be advise SSD's new naming effective August 2020 is shown below. Please contact product management for any questions.

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

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

#### SATA/ SAS/ NVMe SSD SKU Decoder Long Name

**Notes:** If the description exceeds character count

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

#### HPE 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  <i>In priority order where 1st is closest to Drive Type</i>	Limited to 7 digits Examples: PE6010 5300B 5300P	SSD

#### M.2 SSDs 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 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  <i>In priority order where 1st is closest to Drive Type</i>	Limited to 7 digits Examples: 5300B 5300P	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

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  <i>In priority order where 1st is closest to Drive Type</i>	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



Technical Specifications

**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/ X4/X8 <b>High Performance Low Latency</b> NVMe Gen3/Gen4/ X4/X8 <b>High Performance</b> NVMe Gen3/Gen4/ X4/X8 <b>Mainstream Performance</b>	Write Intensive Mixed Use	AIC HHHL	MV Multi Vendor SPL Special – Special SKUs SED Self Encrypting Drive FIPS Self Encrypting Drive FIPS  <i>In priority order where 1st is closest to Drive Type</i>	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
- 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  <i>In priority order where 1st is closest to Drive Type</i>	Limited to 7 characters: Examples: P4800X	SSD

**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

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## Summary of Changes

Date	Version History	Action	Description of Change
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
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
07-Aug-2017	Version 9	Changed	Technical Specifications were revised
17-Jul-2017	Version 8	Changed	Technical Specifications were revised
28-Jun-2017	Version 7	Changed	Technical Specifications were revised
12-Jun-2017	Version 6	Changed	Technical Specifications were revised
06-Jun-2017	Version 5	Changed	Technical Specifications were revised
17-Mar-2017	Version 4	Changed	SSD Selection verbiage was revised
10-Mar-2017	Version 3	Changed	Edits to tables and various verbiage
17-Feb-2017	Version 2	Changed	Technical Specifications were revised
13-Feb-2017	Version 1	New	New QuickSpecs

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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.

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