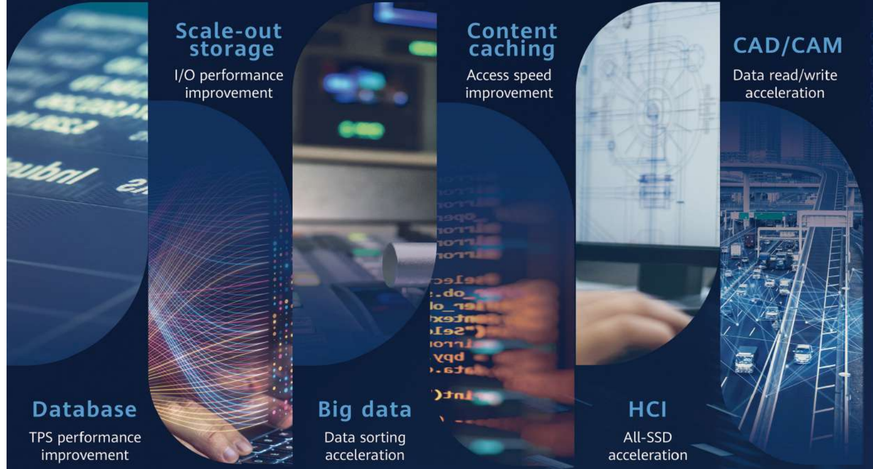
Huawei OceanDisk 300P PCIe 5.0

Basic Specifications											
Form Factor	U.2 2.5-inch										
Interface	PCIe 5.0 1*4										PCIe 5.0 2*2
NVMe Protocol	NVMe 2.0										
NAND Flash	3D TLC										
Capacity	1.6 TB	1.92 TB	3.2 TB	3.84 TB	6.4 TB	7.68 TB	12.8 TB	15.36 TB	30.72 TB	3.84 TB	7.68 TB
Model Number	HSSD-O0725PV1T6N	HSSD-O0725PL1T9N	HSSD-O0725PV3T2N	HSSD-O0725PL3T8N	HSSD-O0025PV6T4N	HSSD-O0025PL7T6N	HSSD-O0025PV12TN	HSSD-O0025PL15TN	HSSD-O0725PL30TN	HSSD-O0725DL3T8N	HSSD-O0025DL7T6N
Sequential Read/Write Bandwidth @128KB	14600/4100 MB/s	14600/4100 MB/s	14800/8200 MB/s	14800/8200 MB/s	14800/11000 MB/s	14800/11000 MB/s	14800/11000 MB/s	14800/11000 MB/s	14800/11000 MB/s	12000/7500 MB/s	12000/10800 MB/s
Random Read/Write IOPS@4KB	2300/350 k	2300/160 k	3000/720 k	3000/350 k	3450/900 k	3450/470 k	3500/1100 k	3300/500 k	3100/500 k	2750/262.5 k	2750/375 k
Average Read/Write Latency@1 QD	60/7 µs	60/7 µs	58/7 µs	58/7 µs	55/7 µs	55/7 µs	56/7 µs	56/7 µs	59/7 µs	65/12 µs	65/10 µs
Endurance[1]	3 DWPD, 5 years	1 DWPD, 5 years	3 DWPD, 5 years	1 DWPD, 5 years	3 DWPD, 5 years	1 DWPD, 5 years	3 DWPD, 5 years	1 DWPD, 5 years	1 DWPD, 5 years	1 DWPD, 5 years	1 DWPD, 5 years
Max. Data Written[2]	8.76 PBW	3.504 PBW	17.52 PBW	7.008 PBW	35.04 PBW	14.016 PBW	70.08 PBW	28.032 PBW	56.064 PBW	7.008 PBW	14.016 PBW
Weight (g)	< 200 g										
Average Power Consumption (Idle, Active)	<5 W, 18 W										
Reliability	MTBF: 2.5 million hours; AFR: ≤ 0.35%; UBER: 10^{-18}										
Temperature	Non-operational: –40°C to 85°C (–40°F to 185°F); operational: 0°C to 83°C (32°F to 181.4°F)										
TRIM	Supported										
Power Failure Protection	Supported										
Chip Failure Protection	Supported										
Certifications	China: RoHS; Europe: WEEE, RoHS, REACH, and CE; North America: NRTL; UK: UKCA; Japan: VCCI; Canada: IC; Australia: RCM; IEEE Member States/Regions: CB										

Notes: The specifications are subject to change without notice. Performance results are based on internal testing and use. Results and performance may vary according to configurations and systems, including device capacity, operating system versions, and test tools.
1 The DWPD is tested according to the JESD219 standard. An SSD can be used for five years if the DWDP stays below the specified vale. Otherwise, the SDD service life will be affected.
2 Max. Data Written: measured by petabyte writes (PBW)



Huawei Enterprise App

Huawei IT

To learn more about Huawei storage, please contact your local Huawei office or visit the Huawei Enterprise website: http://e.huawei.com.

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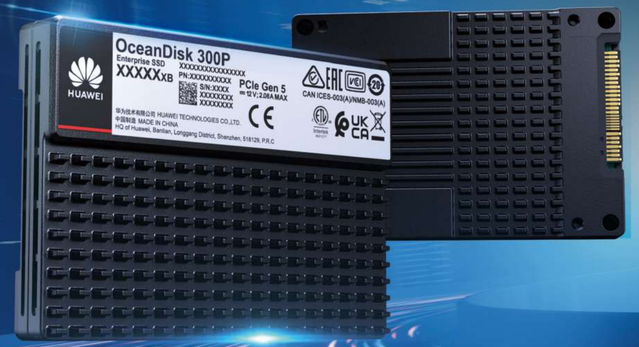
HUAWEI

Huawei OceanDisk 300P

High-Performance Enterprise SSD



Beyond the Xtreme for Data Acceleration

Huawei OceanDisk 300P

OceanDisk 300P is an enterprise NVMe PCIe SSD. It features high performance, fast response, and high reliability, greatly improving storage I/O performance. The SSD product can seamlessly fit into mainstream operating systems (OSs) and virtualization systems to enhance performance for database, virtualization, and HPC applications, helping reduce system TCO. With enhanced device management, the OceanDisk 300P supports OS-native drivers. It also supports comprehensive hot swap for easy maintenance.

- **Single-disk capacity**

Read-intensive model					Mixed use model			
1.92TB	3.84TB	7.68TB	15.36TB	30.72TB	1.6TB	3.2TB	6.4TB	12.8TB

Superb Performance

10%↑
Max. sequential write bandwidth (MB/s)
11000

37.5%↑
Max. random read IOPS
3500K

8%↓
Min. read latency
55µs

Leveraging the standard NVMe protocol and PCIe 5.0 high-speed interface, combined with a hardware-software integrated technical framework, OceanDisk 300P provides higher bandwidth and lower latency. It effortlessly handles efficient reads and writes of mass files, concurrent multi-task processing in complex environments, and critical application scenarios with heavy-load, high-performance demands. This product ensures a smooth and efficient user experience.

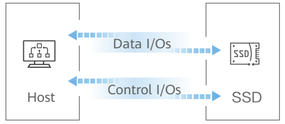
PCIe 5.0
Efficient four-channel transmission

NVMe 2.0
Standard protocol

Optimized SSD performance with hardware and software combination

Microcode-based control channel

The data and control I/O paths are decoupled, which reduces loads on each channel and delivers 10% higher energy efficiency under full load compared to similar products.



Note: The legend is for demonstration purposes only. The flow has been simplified for clarity.

Ultimate Reliability

≤0.35%
AFR
Annual Failure Rate

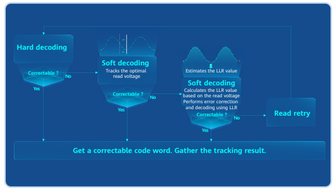
10^{-18}
UBER
Uncorrectable Bit Error Rate

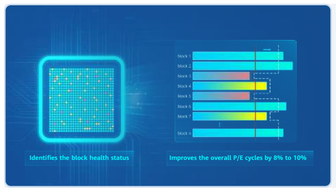
2.5M hours
MTBF
Mean Time Between Failures

With 20 years of expertise in data storage, Huawei has developed advanced technologies that deliver high stability, durability, and reliable data protection for complex environments and demanding workloads. These advanced technologies include the enhanced Low-Density Parity Check (LDPC) algorithm, intelligent wear leveling, intelligent multi-streaming and reclamation, and end-to-end data protection.

LDPC + FSP 3.0

UBER improves to 10^{-18}, **10 times** better than the industry **benchmark**.



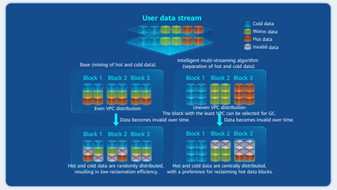


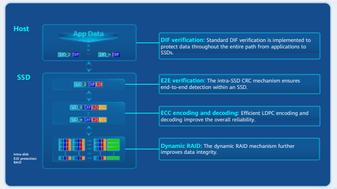
Intelligent wear leveling

This technique identifies block health status and aligns the block Program/Erase (P/E) policy to improve the overall **P/E cycles by 10%**.

Intelligent multi-streaming and reclamation

Intelligent hot and cold data identification and multi-dimensional judgment for reclamation help **reduce write amplification by 20%+**.





Four-layer dataprotection mechanism

The four-layer data protection mechanism, including DIF, intra-SSD CRC, ECC encoding and decoding, and dynamic RAID, ensures **end-to-end data resilience**.

Intelligent Management

Huawei DiskBooster is an AI-powered O&M tool that reliably predicts failures and lifespan of disks. By detecting slow disks, it reminds IT personnel to replace or repair disks or back up data to improve service performance. This reduces the impact of faulty or sub-healthy disks on services, ensuring data resilience and service continuity.

Pre-failure detection

By analyzing over 20 key indicators, including wear degree, UNC threshold-crossing, and die failure, the impact of disk faults on services is halved.

Disk life prediction

Over 10 disk lifespan indicators and advanced lifespan predication algorithms ensure disk lifespan is accurate to within five days (down from over a month).

Slow disk detection

Over 10 slow disk criteria are collected and analyzed by decision and processing algorithms, delivering a detection accuracy of 99%.

Disk logical failure repair

The multi-level incremental repair policy reduces the fault return rate by 50%.