

Enterprise PCIe Gen 5 U.2 – 122.88 TB Opal SED

- TAA COMPLIANT
- AES-XTS 256-BIT
- U.2 15MM
- PCIe GEN 5 X4

This is an enterprise-class PCIe Gen 5 x4 U.2 15mm NVMe SSD delivering up to 14,000 MB/s sequential read and industry-leading QLC NAND performance. Designed for demanding data center workloads, it combines hardware AES-XTS 256-bit encryption, TCG Opal 2.0 security, and robust end-to-end data path protection in a compact U.2 15mm form factor at 122.88 TB capacity.

Top Features

- PCIe Gen 5 x4 — up to 14,000 MB/s sequential read
 - In Certification Process
 - Hardware AES-XTS 256-bit encryption
 - TCG Opal 2.0 & IEEE 1667 support
 - End-to-End Data Path Protection (SECDED)
 - Hardware-based Power Loss Data Protection
- Thermal throttling with multi-stage protection
 - SMBus management interface
 - Sanitize & Crypto Erase (firmware option)
 - MTBF: 2.5 million hours
 - 5-year warranty / 0.3 DWPD
 - RoHS compliant

Available Models

Part Number	Capacity	Form Factor	Interface	Encryption	DWPD
DIG-P5U20G43-122	122.88 TB	U.2 15mm	PCIe Gen 5 x4	AES-256 / TCG Opal 2.0	0.3

Performance Summary — 122.88 TB

Capacity	Seq. Read	Seq. Write	Rand. Read	Rand. Write	Flash
122.88 TB (≤25 W)	14,000 MB/s	2,700 MB/s	2,500K IOPS	34K IOPS	QLC
122.88 TB (≤30 W)	14,000 MB/s	3,300 MB/s	2,625K IOPS	35K IOPS	QLC

Note: Sequential performance measured with 512KB block size at steady state (preconditioned: 128K SEQ Write QD32 Job1, full drive ×2). Random IOPS measured at QD128, 8 jobs (preconditioned: 128K SEQ Write QD32 + 16K RND Write QD32 Job8, full drive). Test platform: Ubuntu 20.04.2 LTS, Kernel 5.10.32, Intel Xeon Gold 5416S, Gigabyte MS03-CE0-00, 64 GiB RAM. Default power state PS1 (25 W). Performance may differ by flash configuration and platform.

Specifications, features, and performance characteristics are subject to change without notice. The information provided herein is for reference and evaluation purposes only and should not be relied upon for final design decisions. Revision 1.0 — 3/6/2026. Based on current mass production firmware; deviations on subsequent firmware revisions will not be updated unless greater than 5%.

Reliability & Environmental

Parameter	Rating
MTBF	2.5 million hours
UBER	< 1 sector per 1018 bits read
Op. Temp.	0°C to 70°C
Storage Temp.	-40°C to 85°C
Op. Humidity	Up to 90% RH
Shock (op / non-op)	1,000G 0.5ms / 1,500G 0.5ms
Vibration (op)	3.08 Grms (7–200 Hz)
Vibration (non-op)	20G (20–2,000 Hz)
ESD	±4 kV (EN 61000-4-2 / IEC 61000-4-2)
Typical Power	Seq. Read: 19.3 W / Seq. Write: 25–30 W
Idle Power	5 W
Inrush Current	2,000 mA/μs (all capacities)
Op. Voltage	12V ±10%; 3.3Vaux +5%/– 10%
Dimensions	100.00 mm (L) × 69.85 mm (W) × 15.00 mm (H)
Weight	—

Compliance

- RoHS compliant
- TCG Opal 2.0 compliant
- TAA compliant

Security Capabilities

- Hardware AES-XTS 256-bit encryption (SED)
- TCG Opal 2.0 (SED variant)
- IEEE 1667 support (activated via vendor tool)
- PSID Revert support
- Sanitize: Overwrite, Block Erase, Crypto Erase (firmware option)
- Windows eDrive compatible (SED variant)
- End-to-End Data Path Protection
- SECDED error correction
- Hardware-based Power Loss Data Protection
- 128 Namespaces with Reservation support

Flash Management Technology

IOPS Consistency

90% read / 85% write consistency at QD1024 (QD128 ×8 jobs) steady state

Thermal Throttling

Multi-stage TMT: light throttle at 77°C, heavy at 81°C, shutdown at ≥85°C flash / ≥120°C controller

QoS Latency

4KB read: 110 μs avg / 120 μs at 99% / 300 μs at 99.99%; 16KB write: 30 μs avg

Endurance (122TB)

67,276 TB TBW over 5 years at 0.3 DWPD per JESD219A enterprise workload

Typical Applications

- Hyperscale & cloud data center storage
- AI/ML training dataset storage and inference
- High-capacity read-intensive enterprise workloads
- Cold/warm data tiering in NVMe-oF architectures

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