

Enterprise PCIe Gen5 U.2 – 61.44 TB Opal SED

TAA COMPLIANT

AES-XTS 256-BIT

U.2 15MM

PCIe GEN 5 X4

This is an enterprise-grade U.2 15mm SSD featuring a PCIe Gen 5 x4 interface and NVMe 2.0 compliance. With 61.44 TB capacity, it delivers up to 14,000 MB/s sequential read, hardware-based AES-XTS 256-bit encryption, and robust data protection features — ideal for demanding data center and enterprise storage workloads.

Top Features

- PCIe Gen 5 x4
- In certification process
- Sequential Read up to 14,000 MB/s
- Sequential Write up to 3,000 MB/s
- Random Read up to 2,000 KIOPs (4K)
- Random Write up to 35 KIOPs (16K)
- Hardware AES-XTS 256-bit Encryption (SED)
- TCG Opal 2.0 & IEEE 1667 support
- Hardware-Based Power Loss Data Protection
- End-to-End Data Path Protection (SECDED)
- 128 Namespaces supported
- SMBus management interface

Available Models

Part Number	Capacity	Form Factor	Interface	Encryption	DWPD
DIG-P5U20G43-61T	61.44 TB	U.2 15mm	PCIe Gen 5 x4	AES-256 / TCG Opal	0.3

Performance Summary

Capacity	Seq. Read	Seq. Write	Rand. Read	Rand. Write	Flash
61.44 TB	14,000 MB/s (512K)	2,700 MB/s (≤25W)	2,000K IOPS (4K)	34K IOPS (16K, ≤25W)	QLC
61.44 TB	14,000 MB/s (512K)	3,000 MB/s (≤30W)	2,000K IOPS (4K)	35K IOPS (16K, ≤30W)	QLC
Latency (Read)	110 μs (4K, QD1)	—	QoS 99%: 120 μs	—	—
Latency (Write)	—	30 μs (16K, QD1)	—	QoS 99%: 35 μs	—

Note: Performance measured at steady state after preconditioning. Platform: Ubuntu 20.04.2 LTS, Linux 5.10.32, Intel Xeon Gold 5416S, Gigabyte MS03-CE0-00, 64 GiB RAM. Default power state PS1: 25W. Results may vary by flash configuration and platform.

This document describes a product that is currently under development. Specifications, features, and performance characteristics are subject to change without notice as the product design is finalized. The information provided herein is for reference and evaluation purposes only and should not be relied upon for final design decisions. Photos in this document are for illustrative purposes only and might not be representative of the exact product described.

Reliability & Environmental

Parameter	Rating
MTBF	2.5 million hours
UBER	<1 sector per 10 ¹⁸ bits read
TBW	33,638 TB
DWPD	0.3 (5-year warranty)
Op. Temp.	0°C to 70°C
Storage Temp.	-40°C to 85°C
Op. Humidity	Up to 90% RH
Shock (op / non-op)	1000G / 1500G, 0.5ms
Vibration (op)	3.08 Grms (7-200 Hz)
Vibration (non-op)	20G (20-2000 Hz)
ESD	±4 kV (EN 61000-4-2)
Typical Power	Seq. Read 18.8W / Seq. Write 28.8W / Rand. Read 24.1W / Rand. Write 26.4W (≤30W state)
Idle Power	5 W
Inrush Current	2000 mA/μs
Op. Voltage	12V ±10%; 3.3Vaux
Dimensions	100.00 × 69.85 × 15.00 mm

Compliance

- TAA Compliant
- TCG Opal 2.0 Compliant
- RoHS Compliant

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Security Capabilities

- Hardware AES-XTS 256-bit Encryption (SED)
- TCG Opal 2.0 with PSID Revert support
- IEEE 1667 (activated via vendor tool)
- Sanitize: Overwrite, Block Erase, Crypto Erase
- NVMe Security Send / Security Receive commands
- Hardware-Based Power Loss Data Protection (PLP)
- End-to-End Data Path Protection
- SECDED (Single-Error Correction, Double-Error Detection)
- Reservation support (multi-host environments)
- 128 independent Namespaces with Namespace Management

Flash Management Technology

Thermal Throttling

Multi-stage TMT (77°C / 81°C) with thermal shutdown at flash ≥85°C or controller ≥120°C to protect data integrity.

IOPS Consistency

90% consistency on 4K random read and 85% on 16K random write at QD1024 (QD128 × 8 jobs) under steady state.

Power Loss Protection

Hardware-based PLP ensures all inflight data is committed to NAND on unexpected power removal, preventing data loss.

QoS Guarantee

99% QoS: 120 μs read / 35 μs write; 99.99% QoS: 300 μs read / 11,000 μs write at QD=1 steady state.

Typical Applications

- Hyperscale and enterprise data center storage
- AI/ML training dataset storage and high-throughput inference
- Cloud storage, object storage, and warm-data tiering
- High-density NVMe JBOF / JBOD storage expansion