

Client M.2 2280 PCIe Gen 3 NVMe FIPS 140-3 Compliant

TAA COMPLIANT

TCG OPAL

PCIe GEN 3

FIPS 140-3-COMPLIANT

DigiStor M.2 2280 NVMe Opal SED is a high-performance self-encrypting drive delivering up to 3300 MB/s read and 3100 MB/s write over PCIe Gen3 x4. Moreover, the power consumption of DigiStor M.2 2280 NVMe Opal SED is much lower than traditional hard drives, making it the best embedded solution for new platforms.

Top Features

- PCIe Gen3 x4 / NVMe 1.3 Interface
- AES-XTS 256-bit Full Disk Hardware Encryption
- FIPS 140-3 Level 2 - Compliant
- TCG OPAL SSC 2.0 Support
- RSA-2048 Secure Boot & Firmware Update
- LDPC Error Correction Code (SmartECC™)
- Advanced Wear Leveling & Bad Block Management
- Thermal Throttling with On-Die Sensor
- End-to-End Data Path Protection
- MTBF: 1,800,000 Hours
- RoHS & WHQL Compliant
- APST / ASPM / L1.2 Power State Support

Available Models

Part Number	Capacity	Form Factor	Interface	Encryption	TBW
DIG-M2N225652-UX	256 GB	M.2 2280	PCIe Gen3 x4	AES-XTS 256-bit	270 TB
DIG-M2N251252-UX	512 GB	M.2 2280	PCIe Gen3 x4	AES-XTS 256-bit	650 TB
DIG-M2N2100052-UX	1024 GB	M.2 2280	PCIe Gen3 x4	AES-XTS 256-bit	1,420 TB
DIG-M2N2200052-UX	2048 GB	M.2 2280	PCIe Gen3 x4	AES-XTS 256-bit	3,040 TB

Performance Summary

Capacity	Seq. Read	Seq. Write	Rand. Read	Rand. Write	Flash
256 GB	1,900 MB/s	1,100 MB/s	100K IOPS	280K IOPS	BiCS5 TLC
512 GB	3,300 MB/s	2,300 MB/s	200K IOPS	550K IOPS	BiCS5 TLC
1024 GB	3,300 MB/s	3,100 MB/s	400K IOPS	600K IOPS	BiCS5 TLC
2048 GB	3,300 MB/s	3,000 MB/s	700K IOPS	630K IOPS	BiCS5 TLC

Note: Performance measured using CrystalDiskMark 6.0.0, 1 GB range, QD=32, Thread=1 and IOMeter, 1 GB range, 4K data size, QD=32. Performance may differ according to flash configuration and platform.

This document contains proprietary content of CRU Data Security Group, LLC ("CDSG") which is protected by copyright, trademark, and other intellectual property rights. CDSG may make changes to specifications and product descriptions at any time without notice. DigiStor® is a trademark owned by CDSG. Specifications subject to change without notice. ©2025 CRU Data Security Group, LLC. ALL RIGHTS RESERVED.

Reliability & Environmental

Parameter	Rating
MTBF	1,800,000 hours
UBER	< 1 sector per 1016 bits read
Op. Temp.	0°C to 70°C (800 LFM @ 35°C)
Storage Temp.	-40°C to 85°C
Op. Humidity	Up to 90% RH @ 40°C
Shock (non-op)	1,500 G
Vibration (non-op)	20–2,000 Hz / up to 20 G
ESD	±4 kV (EN 61000-4-2)
Max Power (2048 GB)	5.9 W
Idle Power	< 350 mW
L1.2 Power	< 5 mW
Op. Voltage	3.14 V – 3.47 V
Dimensions	80.00 × 22.00 × 3.50 mm (D2 max)
Weight	7.5 g (256 GB) – 9.0 g (2048 GB)
Firmware Version	ECPM15.0

Compliance

- FIPS 140-3 Level 2 - Compliant
- NVMe 1.3 / PCIe Express Base 3.1
- TCG OPAL SSC 2.0
- RoHS Compliant
- FCC, CE, RCM



Contact: sales@DigiStor.com | support@DigiStor.com |

© 2026 CRU Data Security Group, LLC. All rights reserved.

DigiStor® is a trademark of CDSG. Specifications subject to change without notice.

Security Capabilities

- FIPS 140-3 Level 2 - Compliant
- Full-disk AES-XTS 256-bit hardware encryption
- TCG OPAL SSC 2.0 — locking and access control
- RSA-2048 digital signature — secure boot & firmware update
- On-chip Deterministic Random Number Generator for key generation
- Tamper-Evidence Protection
- Physical Presence SID (PSID) revert to manufacturing state
- Crypto Erase via TCG OPAL Revert (PSID)
- Format NVM disabled when in FIPS approved mode
- End-to-end data path protection

Flash Management Technology

LDPC ECC (SmartECCTM)

Low Density Parity Check algorithm detects and corrects read errors to prevent data corruption as flash cells age.

Wear Leveling

Dynamic and static algorithms evenly distribute write/erase cycles across all NAND flash media to maximize lifespan.

SLC Caching

Dynamic SLC cache delivers burst write performance improvements for better endurance and user experience.

Predict & Fetch

Anticipates sequential read commands and pre-fetches data before the next host command arrives, reducing latency.

Typical Applications

- Government & defense — FIPS-validated secure storage for classified workloads
- Embedded computing — compact M.2 2280 form factor for space-constrained platforms
- Secure communications — TCG OPAL locking for data-at-rest protection
- Edge computing — low power states (L1.2 < 5 mW) for energy-efficient deployments