PHISON

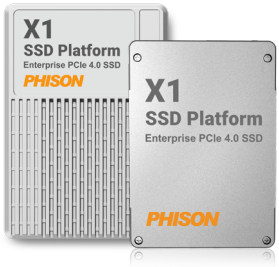
ENTERPRISE

X1 SSD Platform: Best-in-Class U.3 Enterprise PCIe Gen4x4 eTLC SSD

Customizable Platform

Exceptional Performance at Low Power PCIe Gen4x4 Dual Port.
Our most advanced SSD ever built. The X1 SSD platform has unrivaled performance while also consuming the least amount of power of drives in its class.

This is accomplished utilizing Phison's unique and patented CPU architecture. The X1 SSD solution CPU complex is composed of two performance and power efficient ARM R5 CPUs and dozens of small CPU co-processors that complete computationally heavy, redundant tasks at high speed with a minimum of power consumption.



Joint Development with Seagate
The X1 SSD platform was created in partnership with Seagate, the industry's #1 most trusted brand in Enterprise Storage. Seagate and Phison's engineering teams collaborated in the architecture, features, and development of the X1 SSD solution. Seagate's drive validation lab performed extensive systems and environmental testing to ensure the SSD has world-class reliability.

Critical Features and Applications

U.3 Compatibility
The X1 SSD supports the industry's new U.3 interface and is fully backward compatible with U.2 slots, while also supporting the new U.3 slots for maximum pluggability with rack storage manufacturers.

Customizable
Phison's business model is to customize the X1 SSD platform for our customers' unique applications and brand requirements making the X1 SSD truly unique to our partners.

Artificial Intelligence
Transformation of raw data into actionable intelligence requires enormous CPU and GPU resources fed by the fastest storage devices available. With random read IOPs up to 30% faster than on competitors, the X1 SSD solution is the optimal storage device for use in artificial intelligence applications.

Applications Servers
In computing environments with tens to thousands of employees running similar programs from centralized servers, lag time while customers or employees are waiting is unacceptable. The new X1 SSD solution is the industry's best answer to provide the fastest application speeds to help accomplish more in the day.

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X1 SSD Platform
Best-in-Class U.3 Enterprise PCIe Gen4x4 eTLC SSD

Capacities	1DWPD: 1.92, 3.84, 7.68, 15.36TB 3DWPD: 1.60, 3.20, 6.40, 12.8TB
Interface	PCIe Gen4x4, NVMe 1.4
Form Factor	U.3, 15mm & 7 mm thickness
NAND Flash	128L 3D eTLC
Sustained Performance (Up to 99%) [1,2,3]	
Sequential Read	7,400 MB/s
Sequential Write	Up to 7,200 MB/s
4K Random Read	1,750,000 IOPs
4K Random Write	Up to 470,000 IOPs
Quality of Service (99%) [3]	
4K Random Read QD1 Latency	84 µs
4K Random Write QD1 Latency	10 µs
Reliability	
UBER	< 1 sector per 10^{18} bits read
Power	
Typical	Random Read: 13.5W Random Write: 17.9W
Idle	6.5W
Temperature	
Operating	0°C ~ 70°C
Non-Operating	-40°C ~ 85°C
Advanced Features	• Power Loss Protection capacitors (pFail) • End-to-End Data Path Protection • SMBus • Multistreams • SR-IOV • TCG Opal 2.0, Sanitize, Crypto Erase • PRP/SGL • DIF/DIX • NVMe-MI • SECDED • PI • Memory Scrubbing

[1] 1MB/s = 1,000,000 bytes / second
[2] Performance measured using IOmeter version 1.1 on the full LBA span of the test drive.
- Sequential 128K queue depth 32.
- Random queue depth 32 with 4 workers
- 4K = 4096 bytes.

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