DERA
For Data Vitality

PCIe 5.0 QLC NVMe SSD

D8433 Series

Highlights

- NVMe 2.0 compliant
- U.2 15mm Form Factor
- Data integrity of enterprise class
- 15.36TB-122.88TB capacity options
- Up to 14/4.5 GB/s Seq.R/ W Bandwidth
- Up to 3300K/ 65K Rand.R(4K)/ W(16K) IOPS
- Supports hot-pluggable
- Supports Power Loss Data Protection
- Supports NVMe-MI Management interface
- Supports Telemetry Log Collection
- Supports Firmware Online Update (MCTP)
- Supports UEFI/ Legacy BIOS Boot
- Supports secure erase
- Supports advanced device self-test
- Supports native drivers for mainstream operating systems

Applications & Workloads

- Cloud Computing
- AI
- Big Data Analytics
- Software Defined Storage
- Database

Setting a New Benchmark for QLC SSD

DERA D8433 is an enterprise QLC NVMe SSD built on a brand-new architecture and featuring a domestically produced PCIe 5.0 controller. It deeply integrates the advantages of controller architecture with 3D eQLC NAND, perfectly supporting the NVMe 2.0. With strengths of low latency, high throughput, exceptional energy efficiency, and enterprise-class reliability—it maximizes the capacity and cost potential of QLC storage. D8433 provides a high-storage-density, cost-effective storage solution tailored for scenarios such as AI training, cloud computing, big data analytics, and software-defined storage, thereby redefining the performance boundaries of enterprise QLC storage.

Enterprise-Class Data Integrity

D8433 provides end-to-end data protection with support for the T10 DIF/DIX data checksum mechanism. Compatible with multiple sector formats, and offering detailed logging, it performs comprehensive checks across the entire data path—from data writing and transmission to storage—effectively preventing data corruption and loss. Furthermore, it integrates a complete suite of enterprise-grade security features, including built-in Secure Boot, firmware security verification, Format and Sanitize functions. It safeguards the entire lifecycle from firmware boot and data erasure to device management, blocking unauthorized access and data leakage. Fully compliant with enterprise data security standards, it builds a robust security line of defense for enterprises' mission-critical data.

Intelligent I/O scheduling, for complex business scenarios

D8433 NVMe SSD boasts advantages such as high performance, low latency, and stable throughput. Under steady-state conditions, its maximum 16K random write IOPS can reach up to 65K, while its random read/write latencies are as low as 90/15 μs. Building upon the NVMe standard's queue-level scheduling capability, it features a multi-level IO granularity prioritization mechanism, making it ideally suited for hybrid cloud storage scenarios involving multiple services. This ensures exceptional service quality for latency-sensitive applications such as AI inference, online transactions, and databases.

Series		D8433			
Capacity（TB）		15.36	30.72	61.44	122.88
Form Factor		U.2 15mm			
PCIe Interface		PCIe 5.0 x4			
NVMe Compliance		NVMe 2.0			
NAND		3D eQLC NAND			
Seq. Read/Write[1]		Up to 14/4.5 GB/s			
Ran. Read[2]/ Write[3]		Up to 3300K/65K IOPS			
Random R/ W Latency(μs)[4]		90/15			
Power[5]	Active	25W			
	Idle	6W			
DWPD (5 years)		0.6 DWPD			
UBER		1 sector per 10^{18} bits read			
MTBF		2.5 million hours			
Temperature		0-77°C			
Feature		Hot-plug, Firmware online upgrades, NVMe-MI over MCTP, End-to-end data protection, Variable Sector Size, Advanced device self-test, Secure erase, EUI64/NGUID			

[1] Measurement range: 100% LBA, sequential read/write with 128 KB block size
[2] Measurement range: 100% LBA, random read with 4KB block size
[3] Measurement range: 100% LBA, random write with 16KB block size
[4] Measurement range: 100% LBA, random read/write with 4KB block size, TC=1 and QD=1, TC represents the number of threads, and QD represents the queue depth.
[5] Measurement range: 100% LBA. Sequential read/write with 128KB block sizes, random read/write with 4KB block sizes. The sampling interval is 100ms.
*Performance testing is based on the FIO tool under the Linux system; results obtained from different test platforms may vary. 1MB/s = 1,000,000 bytes/second。