NVMe Data Center SSDs

Fast, Cool, and Consistent

Hyperscaler, Hyper-Converged, Enterprise, and Edge Data Centers

DC4800 Family | GEN4 SSD STORAGE

PCIe 4.0 x 4 | NVMe 1.4a | OCP Cloud Spec 2.0

Form Factors:
M.2 22110 | E1.S | U.2

Capacities:
1.92TB | 3.84TB | 7.68TB | 15.36TB

SMART's DC4800 PCIe Gen4 / NVMe SSDs are designed to meet the increasing demands placed on storage systems in Hyperscaler, Hyper-converged, Enterprise, and Edge data centers.

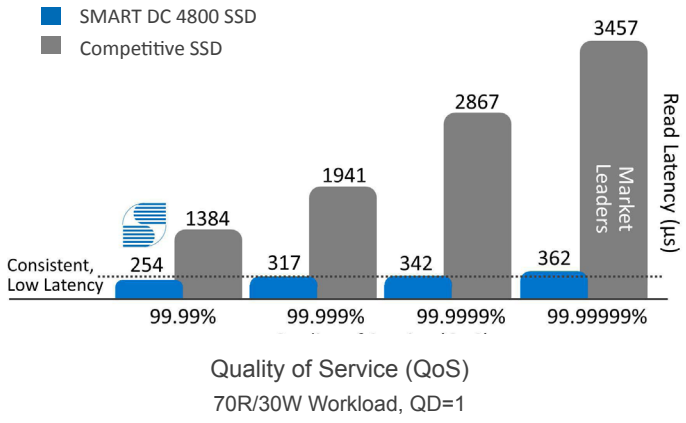
The DC4800 SSD Family delivers industry-leading KIOPs/Watt performance with superior Quality of Service (QoS) across mixed application workloads.

At the heart of the DC4800 SSDs is an innovative controller and firmware architecture that delivers ultra-low and consistent I/O latency with power consumption levels that virtually eliminate thermal throttling.

Sequential		Random	
Read	Write	Read	Write
7.3GB/s	4.6GB/s	1.5M IOPS	180K IOPS

- Superior Quality of Service (QoS) with 7 nines of latency consistency
- eTLC 3D NAND
- Up to 25% lower power than other Gen4 SSDs with industry-leading KIOPs/Watt
- Leading edge, trusted industry security standards
- Open Compute Project (OCP) support

Superior Latency QoS
<370µs at 99.99999%



E1.S

U.2

M.2

Key Features

- Capacities: 1.92TB, 3.84TB, 7.68TB, 15.36TB (7% OP)
- Security and Encryption: TCG OPAL 2.0, Microsoft eDrive Compliance, FIPS 140-2 Certification Capable Crypto Services (RSA-3072, SHA3-512, AES XTS-256, TRNG)
- Secure Boot, Secure Platform Boot, Trusted Boundary and Key Wrapping (NIST 800-38F)
- High Reliability: T10 DIF/DIX, End-to-End Data Path Protection, SRAM/DRAM ECC. Power Loss Data Protection
- Configurable Bytes per Sector: Standard (512, 4096), Optional (520, 4014 and 4160)
- Enhanced NAND-level Reliability: In-storage RAID with LUN Level Protection, L2P Mapping Index Check, 4KB LDPC Multi-code Rates
- Advanced Features: SR-IOV (15VF/PF), Multi-stream (32), ZNS, DPM, Controller Memory Buffer (16MB), Persistent Memory Region (16M), Multiple Namespace (256), 170 Queues
- NVMe-MI 1.0a, SMART and Health Logs/Telemetry
- OCP Cloud Spec 2.0

Detailed Specifications

Specification	M.2	E1.S	U.2	Notes
Performance				
Sequential Read (MB/s)	7300	7300	7600	Thread Count = 1 Queue Depth = 128 IO Size = 128KB 1MB/s=2^{20} Byte/s
Sequential Write (MB/s)	4600	4600	4600	
Random Read Performance (KIOPS)	1495	1495	1495	Thread Count = 1 Queue Depth = 128 IO Size = 4KB Sustained
Random Write Performance (KIOPS)	180	180	180	
Random Read Latency (µs)	80	80	80	Thread Count = 1 Queue Depth = 1 IO Size = 4KB Typical
Random Write Latency (µs)	15	15	15	
Latency QoS (99.9%) (Queue Depth 1 | 64)				
99.9% QoS – Random Read (µs)	110 | 250	110 | 240	110 | 240	Thread Count = 1 Queue Depth = 1 | 64 IO Size = 4KB
99.9% QoS – Random Write (µs)	30 | 1200	30 | 1200	30 | 1000	
Electrical Specification				
Supply Voltage Min | Max (V)	10.8 | 13.2	10.8 | 13.2	10.8 | 13.2	
Active Power Consumption (W)	<13.0	<13.0	<13.0	
Idle Power Consumption (W)	<1.0	<1.0	<1.0	
Reliability				
MTBF (Hours)	2M	2M	2M	
UBER	1 Sector per 10^{17} Read			
Retention	2 Months @ 40°C (EOL)			
DWPD 5yrs 7% OP (28% optional OP)	1 (3)	1 (3)	1 (3)	

SMART® Modular Technologies

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