Netlist N1951 NVMe™ SSD

Netlist SSD high-performance family of NVMe™ drives up to 15.36TB based on 3D NAND

Netlist NVMe SSD excels in the demanding workloads of Enterprise and Data Center applications. The N1951 family of SSDs are NVM Express v1.2 compliant with up to three DWPDs (Drive Writes Per Day) for five years and ultra high performance up to 6GB/s read throughput. Netlist N1951 NVMe drives are optimized to surpass the needs of Enterprise and Data Center users.

Cost Effective Higher Density Capacities with 3D NAND
Netlist NVMe SSD, providing up to 15.36TB on a single drive.

High Performance Transfer Speeds
Maximum performance of up to 6GB/s read throughput and 1 million read IOPS.

Data Security & Protection
AES 256 Data Encryption allows for full Data Path Protection and Enhanced Power Failure protection to protect critical enterprise applications.

Flexible and Accurate Power Consumption
Over 16 power mode settings, ranging from 10W to 25W, and power mode switching time of < 1ms. Accurate and dynamic power control is achieved for enterprise users and storage systems.

Up to 8TB/s Enterprise TRIM Function
TRIM functionality is essential and ensures that trimmed old data will not be accessed by new users, while significantly improving performance and endurance. TRIM speeds of up to 8TB/s results in minimal impact on the business. High security and high-performance requirements of cloud computing applications can benefit from a flexible TRIM strategy.

Create Multi-namespace
Multiple namespaces for multi-service deployment scenarios are supported. Service utilization and capacity sharing on the device as performance and capacity of single SSD device increases are improved through the use of virtualization.

High-availability Dual Port
Dual-port function solves the single-path failure problem. The two ports can be accessed simultaneously allowing for data access while providing Quality of Service in the Enterprise Storage space.

Advantages & Benefits

- NVM Express v1.2 Compliant
- High Transfer Speeds up to 6GB/s and Read IOPs up to 1M
- NVM Express Compliant Form Factor U.2 2.5in & AIC
- AES256 Encryption to ensure data integrity
- Thermal management Temperature setting
- TRIM performance up to 8TB/s ensures faster writing speed when new data is stored
- Virtualization that relies on multi namespaces to divide the capacity of the SSD
- Dual port PCIe capability

Applications Best Suited

- Database Management
- Cloud and Hyper-scale Computing
- High Performance Computing
- Deep Learning & Big Data Analytics
- Virtualization

Key Specifications

	Netlist Data Center & Enterprise NVMe SSD N1951			
	D2-Series	**E2-Series**	**D3-Series**	**E3-Series**
From Factor	2.5-inch U.2		HHHL AIC	
Interface	PCIe 3.0 x 4		PCIe 3.0 x 8	
User Capacity	3.84 TB, 7.68 TB, 15.36 TB	3.2 TB, 6.4 TB 12.8TB	3.84 TB. 7.68 TB 15.36TB	3.2 TB, 6.4 TB 12.8TB
Sequential Read (128KB)	Up to 3.3 GB/s	Up to 3.5 GB/s	Up to 6.0 GB/s	Up to 6.0 GB/s
Sequential Write (128KB)	Up to 3.0 GB/s	Up to 3.1 GB/s	Up to 3.8 GB/s	Up to 3.8 GB/s
Sustained Random Read (4KB)	Up to 835K IOPS	Up to 840K IOPS	Up to 1000K IOPS	Up to 1000K IOPS
Latency Read/Write [2]	90 / 15µs	90 / 12µs	90 / 15µs	90 / 12µs
Endurance for 5 years	1 DWPD	3 DWPD	1 DWPD	3 DWPD
Power Consumption	Active Max: 24 W, Idle: 7W			
UBER / MTBF	1 sector per 10^{17} read / 2.1 million hours			
Basic Feature Support	Power Failure Protection, Hot Pluggable,			
Advanced Feature Support	TRIM, Multi-namespace, AES 256 Data Encryption, Fast Reboot, Crypto Erase, Dual Port			
Spec Compliance	PCI Express Gen3 Rev 3.0, NVME Express spec rev. 1.2, Enterprise SSD form factor Version 1.0a			
Certification	America: FCC, Europe: CE, RoHS, WEEE, Taiwan: BSMI			

[1]. Performance may vary due to different system configurations and firmware version.
[2]. Average latency measured with 4KB random I/O pattern

Ordering Information

Family	Capacity	Part Number
N1951 D2 Datacenter, 2.5", U.2 1DWPD	3.84TB	NS1951UF13T8-5M1A000
	7.68TB	NS1951UF17T6-5M1A000
	15.36TB	NS1951UF115T-5M1A000
N1951 E2 Enterprise, 2.5", U.2 3DWPD	3.2TB	NS1951UF33T2-5M1A000
	6.4TB	NS1951UF36T4-5M1A000
	12.8TB	NS1951UF112T-5M1A000
N1951 D3 Datacenter, AIC, HHHL 1DWPD	3.84TB	NS1951AH13T8-5M1A000
	7.68TB	NS1951AH17T6-5M1A000
	15.36TB	NS1951AH115T-5M1A000
N1951 E3 Enterprise, AIC, HHHL 3DWPD	3.2TB	NS1951AH33T2-5M1A000
	6.4TB	NS1951AH36T4-5M1A000
	12.8TB	NS1951AH312T-5M1A000