



Netlist N1552 NVMe™ SSD

Netlist low power and cost-effective family of NVMe™ SSD drives based on 96 Layer 3D NAND

Advantages & Benefits

- NVM Express v1.3 Compliant
- NVMe-MI Support
- NVM Express Compliant Form Factors: 2.5" U.2 & AIC HHHL
- Low Active Power (< 10 W)
- Self-Encrypting Drive (SED) with AES-256 encryption
- T10 PI end-to-end data protection (DIF / DIX) ensures in-transit data is not corrupted
 - Variable sector size support
- Crypto Erase
- Power Loss Protection (PLP)
- S.M.A.R.T. support
- Thermal management & throttling
- Device Self-Test
- No reset required for firmware upgrades
- Dual port capability (U.2)

Applications

- Boot, Searching, Indexing, Logging
- CDN & IoT caching
- Database & analytics
- Micro & modular data centers

Netlist N1552 NVMe SSDs excel to support the most power-efficient and cost-optimized systems & infrastructures. This family of SSDs are NVM Express v1.3 compliant with DWPD (Drive Writes Per Day) customization capability up to nine DWPD for five years. While providing low power and reduced costs, these drives deliver up to 3.3 GB/s and 1.9 GB/s read / write throughput, respectively, with a capacity range from 1.6 TB to 3.84 TB. Netlist N1552 NVMe drives are optimized for lowest power, latency, & system cost.

Ultra-Low Write Latency & Power

N1552 series ensures low and consistent write latency, even for non-aligned I/Os using a proprietary tiered caching algorithm. With write latency less than 15 μ s, this ensures that application performances are not bottlenecked by the SSD, hence end user productivity is maximized. In addition to the drives' ultra-low latency, power has also been optimized to fit the toughest system power profiles. The N1552 series NVMe SSD offers an active power of less than 10 W, while maintaining an idle power of only 4 W.

Data Security & Protection (SED, AES-256 Encryption, & PLP)

The N1552 is a self-encrypting drive that includes AES-256 data encryption and T10 Protection Information (PI) End-to-End Data Protection (DIF / DIX). Capabilities such as these allow for full data path protection for in-transit data. Additionally, Power Loss Protection (PLP) is implemented to protect critical data from being lost during power outages or brown-outs, making Netlist NVMe drives suitable for secure, high-availability applications.

High-Availability Dual Port (U.2) & AIC HHHL for Higher Bandwidth

Dual-port functionality solves single-path failure problems for mission critical, high-availability needs. The N1552 has two ports in which data can be accessed simultaneously providing the highest Quality of Service.

Another form factor is available, Half-Height, Half-Length (HHHL) Add-In-Card (AIC). Equipped with four lanes of PCI Express™ Gen3, the HHHL AIC provides write bandwidth performance up to 1.9 GB/s.



2.5" U.2 Form Factor



AIC HHHL Form Factor



Key Specifications

Netlist Data Center (Low Power / Cost-Effective) NVMe SSD N1552				
	D2-Series	E2-Series	D3-Series	E3-Series
Form Factor	2.5" U.2 15mm		AIC HHHL	
Interface	PCIe Gen3 x4			
User Capacity	1.92 TB, 3.84 TB	1.6 TB, 3.2 TB	1.92 TB, 3.84 TB	1.6 TB, 3.2 TB
Sequential Read (128KB) ^[1]	Up to 3.3 GB/s		Up to 3.3 GB/s	
Sequential Write (128KB) ^[1]	Up to 1.7 GB/s		Up to 1.9 GB/s	
Sustained Random Read (4KB) ^[1]	Up to 520K IOPS			
Latency Read/Write ^[2]	86 / 15 μ s			
Endurance for 5 years	1 DWPD (up to 9 DWPD) ³	3 DWPD (up to 9 DWPD) ³	1 DWPD (up to 9 DWPD) ³	3 DWPD (up to 9 DWPD) ³
Power Consumption	Active: 9 W, Idle: 4 W			
UBER / MTBF	< 1 sector per 10 ¹⁷ bits read / 2 million hours			
NAND Flash Memory	3D TLC NAND			
Basic Feature Support	Power Loss Protection, TRIM, AES-256 Data Encryption, Hot Pluggable			
Advanced Feature Support	T10 Protection Information, Fast Reboot, Device Self-Test, Crypto Erase, Dual Port (U.2)			
Spec Compliance	PCI Express Gen3, NVM Express Rev. 1.3			
Certification	America: FCC, Europe: CE, RoHS, WEEE, China: CNAS, Taiwan: BSMI			

[1]. Performance may vary due to different system configurations and firmware version

[2]. Average latency measured with 4KB random I/O pattern

[3]. Customizable over-provisioning (endurance) available up to 9 DWPD

Ordering Information

Family	Capacity	Part Number
N1552 D2 2.5" U.2, 1 DWPD	1.92 TB	NS1552UF11T9-5T1A000
	3.84 TB	NS1552UF13T8-5T1A000
N1552 E2 2.5" U.2, 3 DWPD	1.6 TB	NS1552UF31T6-5T1A000
	3.2 TB	NS1552UF33T2-5T1A000
N1552 D3 AIC HHHL, 1 DWPD	1.92 TB	NS1552AU11T9-5T1A000
	3.84 TB	NS1552AU13T8-5T1A000
N1552 E3 AIC HHHL, 3 DWPD	1.6 TB	NS1552AU31T6-5T1A000
	3.2 TB	NS1552AU33T2-5T1A000

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The Memory Storage Company™

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