



# PCIe® Gen 4 NVMe M.2 2280 SSD

The Global Leader in Specialized Storage and Memory Solutions



## Key Features

- Superior Read/Write performance
- MCU-based Power Loss Protection Design with Level 4 (data-in-flight) protection\*
- Self-Encrypting Drive (SED) with AES 256-bit Encryption, TCG Opal 2.0\*
- Thermal Heatsink Solutions\*\*
- End-to-End Data Path Protection
- Anti-sulfuric resistor support\*

\* May vary by product and project support  
 \*\* Customization available on a project basis.

ATP NVMe™ M.2 2280 SSDs with the PCI Express® (PCIe®) Gen 4 x4 interface meet the growing need for high-speed data transfer in today's demanding applications.

Up to 3.84 TB capacity, support for I-Temp (40°C to 85°C: N651Si) or C-Temp (0°C to 70°C: N601Sc) operation, plus AES 256-bit encryption and TCG Opal 2.0 security make these SSDs ideal for read/write-intensive mission-critical applications, such as data logging, surveillance, and imaging systems.

With twice the bandwidth of the previous generation (8 GT/s), PCIe Gen 4's 16 GT/s data rate translates to a bandwidth of 2 GB/s for every PCIe lane, enabling these SSDs to transfer data faster. ATP's PCIe Gen 4 SSDs use x4 lanes for a maximum bandwidth of 8 GB/s.

Thermal management options for optimal heat dissipation include a nickel-coated copper heat spreader on controller and a 4 mm or 8 mm fin-type heatsink design.

Technologies & Add-On Services	S.M.A.R.T.	Firmware-based Power Loss Protection	Hardware-based Power Loss Protection	AutoRefresh	Advanced Wear Leveling	Dynamic Data Refresh	End-to-End Data Path Protection	Auto-Read Calibration	Secure Erase	TCG Opal 2.0	Industrial Temperature	Anti-Sulfur Resistors	Conformal Coating
Superior	○	○	○	○	○	○	○	○	▲	▲	○	▲	▲

▲: Customization option available on a project basis.

## Specifications

PCIe® Gen 4 NVMe M.2 2280 SSD		
Product Line	Superior	
	N651SI	N601Sc
Interface	PCIe G4 x4	
Flash Type	3D TLC	
Form Factor	M.2 2280-D6-M <sup>1</sup>	M.2 2280-D2-M
Operating Temperature	-40°C to 85°C	0°C to 70°C
Power Loss Protection Options	Hardware + Firmware Based or Firmware Based	Firmware Based
Optional SED Features	AES 256-bit Encryption, TCG Opal 2.0	
Capacity	240 GB to 3.84 TB	
	Performance	
Sequential Read (MB/s) up to	6,450	
Sequential Write (MB/s) up to	6,050	
Random Reads IOPS up to	1,094,000	
Random Writes IOPS up to	1,191,000	
	Endurance and Reliability	
Endurance (TBW) <sup>2</sup> up to	10,760 TB	
Reliability MTBF @ 25°C	>2,000,000 hours	
	Others	
Dimensions (mm)	80.0 x 22.0 x 3.85 80.0 x 24.4 x 12.5 (with 8 mm heatsink)	80.0 x 22.0 x 3.6 80.0 x 24.4 x 12.5 (with 8 mm heatsink)
Certifications	CE, FCC, BSMI, UKCA, RoHS, REACH	
Warranty	2 years	

- M.2 2280-D6-M form factor (max height: 3.85mm), offers Hardware Based Power Loss Protection. M.2 2280-D2-M form factor (max height: 3.6mm), provides Firmware Based Power Loss Protection.
- Under highest Sequential write value. May vary by density, configuration and applications.

Hot Items Ordering Information					
Product Line	Capacity <sub>1</sub>	Operating Temperature <sub>2</sub>	Power Loss Protection <sub>3</sub>	SED <sub>4</sub>	P/N
N601Sc	240GB	-0°C to 70°C	Firmware Based	-	AF240GSTJA-HBAXX
N601Sc	480GB	-0°C to 70°C	Firmware Based	-	AF480GSTJA-HBAXX
N601Sc	960GB	-0°C to 70°C	Firmware Based	-	AF960GSTJA-HBAXX
N601Sc	1920GB	-0°C to 70°C	Firmware Based	-	AF1T92STJA-HBAXX
N601Sc	3840GB	-0°C to 70°C	Firmware Based	-	AF3T84STJA-HBAXX
N601Sc	240GB	-0°C to 70°C	Firmware Based	✓	AF240GSTJA-HBBXX
N601Sc	480GB	-0°C to 70°C	Firmware Based	✓	AF480GSTJA-HBBXX
N601Sc	960GB	-0°C to 70°C	Firmware Based	✓	AF960GSTJA-HBBXX
N601Sc	1920GB	-0°C to 70°C	Firmware Based	✓	AF1T92STJA-HBBXX
N601Sc	3840GB	-0°C to 70°C	Firmware Based	✓	AF3T84STJA-HBBXX

- Amount of actual usable storage that can be utilized.
- Refers to Case Temperature range during device operation, as indicated by SMART temperature attributes.
- Hardware + Firmware-based power loss protection design with Level 4 (data-in-flight) protection; Firmware-based power loss protection design with Level 1 (data-at-rest) protection.
- Allows data written to and read from the SSD to be constantly and automatically encrypted and decrypted. Conforms to TCG Opal 2.0 and uses AES 256-bit HW encryption.

Product spec and its related information are subject to change without advance notice.  
Please refer to [www.atpinc.com](http://www.atpinc.com) for latest information

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