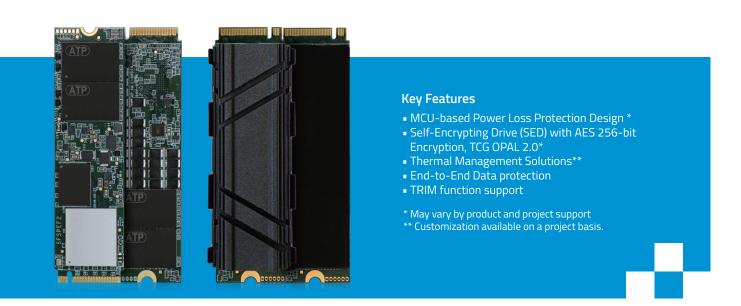


M.2 NVMe

Targeted Product Portfolio, Engineered Specifically for Your Mission Critical Applications



M.2 solid state modules based on the NVMe[™]protocol leverage the blazing-fast PCI Express® (PCIe®) interface to deliver dramatic improvements in speed and performance to fulfill the increasing demand for responsiveness in enterprise storage systems and to support the growing data-hungry needs of today's enterprise. Delivering 32 Gb/s bandwidth on a PCIe 3.1 x4 slot (8 Gb/s per Iane), ATP NVMe SSDs outperform Serial ATA 6 Gb/s SSDs with 4-6X faster access, over 3X lower latency, and higher Input/Output per Second (IOPS). ATP NVMe SSDs with industrial operating temperature rating deliver stable performance even in extreme temperatures ranging from -40°C to 85°C, while Dynamic Thermal Throttling automatically adjusts the speed to maintain cooler operation under intense and heavy workloads.

Adopting NVMe 1.3 specifications and integrating 3D NAND TLC technology, ATP's M.2 2280 NVMe modules offer up to 1.92TB of storage capacity and deliver boosted performance with sequential read up to 3,420 MB/s, sequential write up to 3,050 MB/s, and random read/write IOPS up to 225,200/179,200.

Designed to move past the limitations of mechanical drives, NVMe was specifically built from the ground up for faster, more efficient access to storage devices with non-volatile memory such as current NAND flash solutions and future non-volatile memory technologies. These SSDs can deliver fast, reliable and durable performance for any demanding application.

Specifications

	M.2 NVMe						
D 1 1 1	Premium		Superior				
Product Line	N750Pi (High Endurance)	N700Pi	N650Si (High Endurance)	N650Sc (High Endurance			
Interface		PCle	G3 x4				
Flash Type	3D TLC (p	SLC mode)	3D 1	LC			
Form Factor	M.2 22	80-D2-M	M.2 228	0-D2-M			
Operating Temperature (Tcase) ¹		-40°C to 85°C	-40°C to 85°C	0°C to 70°C			
Power Loss Protection Options	Hardware + F	irmware Based	Hardware + Firmware Based or Firmware Based				
Optional SED Features	AES 256-bit Encryption, TCG Opal 2.0		AES 256-bit Encryption, TCG Opal 2.0				
Capacity	40 GB to 320 GB	40 GB to 640 GB	120 GB to	960 GB			
		Perfor	rmance				
Sequential Read (MB/s) up to	3,1	50	3,4	20			
Sequential Write (MB/s) up to	2,670	2,820	3,0	50			
Random Reads IOPS up to	147,789	(4K, QD32)	222,700	(4K, QD32)			
Random Writes IOPS up to	114,227	(4K, QD32)	176,600 (4K, QD32)				
		Endurance a	nd Reliability				
Endurance (TBW) ² up to	16,000 TB	21,300 TB	4,64	0 TB			
Reliability MTBF @ 25°C		>2,000,0	00 hours				
, .			ners				
Dimensions: L x W x H (mm)		2280 Bare PCBA) 2 2280 with 8 mm heatsink)					
Certifications			KCA, RoHS, REACH				
		- / - / - / -					
Warranty	5	years	2	years			
Warranty		years	2	years			
Warranty	M.2 NVMe	, 	2	years			
Warranty Product Line		, 	2	years			
	M.2 NVMe Supe	rior N6005c	2	years			
Product Line	M.2 NVMe Supe N600Si	rior N600Sc i3 x4	2	years			
Product Line Interface	M.2 NVMe Supe N6005i PCle C	rior N6005c 53 x4 "LC	2	years			
Product Line Interface Flash Type	M.2 NVMe Supe N600Si PCIe C 3D 1	rior N6005c 53 x4 "LC	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature	M.2 NVMe Supe N6005i PCle 0 3D 1 M.2 2280 -40°C to 85°C PCle 0	rior N6005c i3 x4 1LC)-D2-M	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature (Tcase) ¹ Power Loss	M.2 NVMe Supe N6005i PCle 0 3D 1 M.2 2280 -40°C to 85°C PCle 0	rior N600Sc 53 x4 CLC D-D2-M 0°C to 70°C ased or Firmware Based	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature (Tcase) ¹ Power Loss Protection Options Optional SED Features	M.2 NVMe Supe N6005i PCIe C 3D T M.2 228C -40°C to 85°C Hardware + Firmware B	rior N600Sc 53 x4 TLC D-D2-M 0°C to 70°C ased or Firmware Based ion, TCG Opal 2.0	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature (Tcase) ¹ Power Loss Protection Options	M.2 NVMe Supe N600Si PCle C 3D T M.2 228C -40°C to 85°C Hardware + Firmware B AES 256-bit Encrypt 120 GB to 1,	rior N600Sc 53 x4 TLC D-D2-M 0°C to 70°C ased or Firmware Based ion, TCG Opal 2.0 920 GB	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature (Tcase) ¹ Power Loss Protection Options Optional SED Features	M.2 NVMe Supe N600Si PCle C 3D T M.2 228C -40°C to 85°C Hardware + Firmware B AES 256-bit Encrypt	rior N6005c S3 x4 TLC D-D2-M O°C to 70°C ased or Firmware Based ion, TCG Opal 2.0 D20 GB mance	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature (Tcase)' Power Loss Protection Options Optional SED Features Capacity Sequential Read	M.2 NVMe Supe N600Si PCIe C 3D T M.2 228C -40°C to 85°C Hardware + Firmware B AES 256-bit Encrypt 120 GB to 1, Perfore	rior N6005c S3 x4 TLC D-D2-M O°C to 70°C ased or Firmware Based ion, TCG Opal 2.0 920 GB mance D	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature (Tcase)' Power Loss Protection Options Optional SED Features Capacity Sequential Read (MB/s) up to Sequential Write	M.2 NVMe Supe N600Si PCIe 0 3D T M.2 2280 -40°C to 85°C Hardware + Firmware B AES 256-bit Encrypt 120 GB to 1, Perfort 3,420	rior N600Sc S3 x4 TLC O-D2-M O°C to 70°C ased or Firmware Based ion, TCG Opal 2.0 920 GB mance 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature (Tcase) ¹ Power Loss Protection Options Optional SED Features Capacity Sequential Read (MB/s) up to Sequential Write (MB/s) up to	M.2 NV/Me Supe N600Si PCIe (C 3D T M.2 2280 -40°C to 85°C Hardware + Firmware B AES 256-bit Encrypt 120 GB to 1, Perfort 3,420 3,050 225,200 (4)	rior N600Sc S3 x4 TLC D-D2-M O°C to 70°C ased or Firmware Based ion, TCG Opal 2.0 D20 GB mance D O(0) K, QD32)	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature Operating Temperature Power Loss Protection Options Optional SED Features Capacity Sequential Read (MB/s) up to Sequential Write (MB/s) up to Random Reads IOPS up to	M.2 NV/Me Supe N600Si PCle (3D M.2 2280 -40°C to 85°C Hardware + Firmware B AES 256-bit Encrypt 120 GB to 1, Perform 3,420 3,050 225,200 (4 179,200 (4	rior N600Sc 53 x4 TLC 53 x4 TLC 0°C to 70°C ased or Firmware Based ion, TCG Opal 2.0 320 GB mance 0 0 0 0 0 0 0 0 0 0 0 0 0	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature (Tcase)' Power Loss Protection Options Optional SED Features Capacity Sequential Read (MB/s) up to Sequential Write (MB/s) up to Random Reads IOPS up to	M.2 NV/Me Supe N600Si PCIe C 3D T M.2 2280 -40°C to 85°C Hardware + Firmware B AES 256-bit Encrypt 120 GB to 1, Perform 3,050 225,200 (4 179,200 (4 Endurance and	rior N6005c 33 x4 C C N6005c 33 x4 C C N O C C to 70 C N O C C to 70 C C N N C C C C C C C C C C C C C C C	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature (Tcase)' Power Loss Protection Options Optional SED Features Capacity Sequential Read (MB/s) up to Sequential Write (MB/s) up to Sequential Write (MB/s) up to Random Reads IOPS up to	M.2 NV/Me Supe N600Si PCIe C 3D T M.2 2280 -40°C to 85°C Hardware + Firmware B AES 256-bit Encrypt 120 GB to 1, Perfort 3,050 225,200 (4 179,200 (4 Endurance and 5,585 T	rior N600Sc 33 x4 TLC 0 -D2-M 0°C to 70°C ased or Firmware Based ion, TCG Opal 2.0 20 GB mance 0 	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature (Tcase)' Power Loss Protection Options Optional SED Features Capacity Sequential Read (MB/s) up to Sequential Write (MB/s) up to Random Reads IOPS up to	M.2 NV/Me Supe N600Si PCIe C 3D T M.2 2280 -40°C to 85°C Hardware + Firmware B AES 256-bit Encrypt 120 GB to 1, Perfort 3,420 3,050 225,200 (4 179,200 (4 5,585 T >2,000,00	rior N600Sc 33 x4 TLC 0 0°C to 70°C ased or Firmware Based ion, TCG Opal 2.0 20 GB mance 0 0 0 K, QD32) Reliability REliability IFB 0 0 hours	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature (Tcase)' Power Loss Protection Options Optional SED Features Capacity Sequential Read (MB/s) up to Sequential Write (MB/s) up to Random Reads IOPS up to Random Writes IOPS up to Capacity	M.2 NV/Me Supe N600Si PCIe C 3D T M.2 2280 -40°C to 85°C Hardware + Firmware B AES 256-bit Encrypt 120 GB to 1; Perfort 3,050 225,200 (4 179,200 (4 Endurance and 5,585 T >2,000,00 Others 80.0 x 22.0 x 3.5 (M.2 228)	rior N600Sc S3 x4 TLC N600Sc N	2	years			
Product Line Interface Flash Type Form Factor Operating Temperature (Tcase) ¹ Power Loss Protection Options Optional SED Features Capacity Sequential Read (MB/s) up to Sequential Write (MB/s) up to Random Reads IOPS up to Random Writes IOPS up to Random Writes IOPS up to Random Writes IOPS up to Random Writes IOPS up to	M.2 NV/Me Supe N600Si PCle C 3D T M.2 2280 -40°C to 85°C Hardware + Firmware B AES 256-bit Encrypt 120 GB to 1; Perfort 3,420 3,050 225,200 (4 179,200 (4 5,585 T >2,000,00 Others	rior N600Sc 33 x4 (14 C 0 70°C 33 x4 (14 C 0 70°C 0°C to 70°C to 70°C 0°C to 70°C to 70°C to 70°C 0°C to 70°C to	2	years			

1 Case Temperature, the composite temperature as indicated by SMART temperature attributes. 2 Under highest Sequential write value. May vary by density, configuration and applications.

Technologies & Add-On Services	S.M.A.R.T.	Hardware-based Power Loss Protection	AutoRefresh	Advanced Wear Leveling	Dynamic Data Refresh	End-to End Data Protection	Secure Erase	P TCG Opal 2.0	Industrial Temperature	Anti-Sulfur Resistors	Conformal Coating
Premium	0	0	0	0	0	0		0	0		
Superior	0	0	0	0	0	0		0	A		

▲: Customization option available on a project basis.

Hot Items Ordering Information								
Product Line	Capacity ₁	Operating Temperature ₂	Power Loss Protection ₃	SED ₄	P/N			
N650Si (New)	120GB	-40°C to 85°C	Hardware + Firmware Based	-	AF120GSTJA-8BCIP			
N650Si (New)	240GB	-40°C to 85°C	Hardware + Firmware Based	-	AF240GSTJA-8BCIP			
N650Si (New)	480GB	-40°C to 85°C	Hardware + Firmware Based	-	AF480GSTJA-8BCIP			
N650Si (New)	960GB	-40°C to 85°C	Hardware + Firmware Based	-	AF960GSTJA-8BCIP			
N650Sc (New)	120GB	0°C to 70°C	Hardware + Firmware Based	-	AF120GSTJA-8BCXP			
N650Sc (New)	240GB	0°C to 70°C	Hardware + Firmware Based	-	AF240GSTJA-8BCXP			
N650Sc (New)	480GB	0°C to 70°C	Hardware + Firmware Based	-	AF480GSTJA-8BCXP			
N650Sc (New)	960GB	0°C to 70°C	Hardware + Firmware Based	-	AF960GSTJA-8BCXP			
N600Sc	120GB	0°C to 70°C	Hardware + Firmware Based	-	AF120GSTJA-8BAXP			
N600Sc	240GB	0°C to 70°C	Hardware + Firmware Based	-	AF240GSTJA-8BAXP			
N600Sc	480GB	0°C to 70°C	Hardware + Firmware Based	-	AF480GSTJA-8BAXP			
N600Sc	960GB	0°C to 70°C	Hardware + Firmware Based	-	AF960GSTJA-8BAXP			
N600Sc	1920GB	0°C to 70°C	Hardware + Firmware Based	-	AF1T92STJA-8BAXP			
N600Sc	120GB	0°C to 70°C	Firmware Based	-	AF120GSTJA-8BAXX			
N600Sc	240GB	0°C to 70°C	Firmware Based	-	AF240GSTJA-8BAXX			
N600Sc	480GB	0°C to 70°C	Firmware Based	-	AF480GSTJA-8BAXX			
N600Sc	960GB	0°C to 70°C	Firmware Based	-	AF960GSTJA-8BAXX			
N600Sc	1920GB	0°C to 70°C	Firmware Based	-	AF1T92STJA-8BAXX			

Amount of actual usable storage that can be utilize.
 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 <u>www.atpinc.com</u> for latest information

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The Global Leader in Specialized Storage and Memory Solutions

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