

## M.2 2280 PCIe NVMe SSD

**READ 1600MB/s\***  
**WRITE 1100MB/s\***  
**READ 240K IOPS\***  
**WRITE 180K IOPS\***



120 GB

240 GB

480 GB

960 GB

### INTRODUCTION

#### M.2 2280 PCIe Gen3x2 NVMe SSD

The M.2 NVMe Solid State Drive can meet your most demanding gaming, graphic design, and video workflow needs. Delivering super-fast speeds of up to 1600MB/s read and 1100MB/s write, with read/IOPS of up to 240K.

### PRODUCT OVERVIEW

- M.2 PCIe NVMe SSDs are up to four times faster in performance when compared to SATA SSDs and are compatible with most computing hardware and software that support the NVME standard, including small form factor machines (e.g Intel NUC), Ultrabooks and enthusiast desktops
- Choose the M.2 PCIe NVMe SSD to break through the 6Gbps SATA limitation for your performance needs. Specifically engineered to compliment high-specification machines and provide the best gaming and multimedia application performance that is ultra-responsive

### KEY BENEFITS:

- Good balanced high performance PCIe Gen3x2 conforming to the NVMe 1.2 standard. Achieving up to 1600MB/s\* read and 1100MB/s\* write, the Integral M.2 PCIe SSDs break through the 6Gbps SATA limitation that takes computing performance to the next level
- Random read IOPS up to 240K
- Gamers will benefit from faster loading times, exceptional performance and a more enjoyable gaming experience
- Power-users, content editors, graphic designers and general multi-taskers will all benefit from an ultra-responsive system and super-fast boot
- Improved video workflow when used in machines that work with: Digital film recording, live broadcast, video editing, colour correction and visual effects
- Supports SSD enhanced set of S.M.A.R.T. attributes

### BENEFITS:

- Performance up to four times faster than a conventional SATA SSD
- Sequential Read up to 1600MB/s\*, Write up to 1100MB/s\*, Random Read 240K IOPS\*
- No mechanical parts
- Highest reliability; less likely to fail than HDD
- Extreme shock resistance
- Zero noise
- No heat generation
- Low power consumption - improved battery life on laptops/netbooks

\*Up to performance may vary depending on host device. (960GB model performance)

## FEATURES

- PCIe Gen3x2
- Compliant with PCI Express Base Specification Rev 3.
- Compliant with NVMe 1.2
- Non-volatile Flash Memory for outstanding data retention
- Ultra-efficient Block Management and Wear Levelling
- Supports S.M.A.R.T. - Self-Monitoring, Analysis and Reporting Technology
- 3 Year Warranty

CAPACITIES & INTERFACE	
Capacities available	120GB, 240GB, 480GB, 960GB
Controller Technology	Phison E8
NAND	3D TLC
Form Factor	M.2 2280
Interface	PCIe (Gen 3x2)
Compliance	Compliant with PCI Express Base Specification Rev 3.1 NVMe 1.2
Sequential Performance up to <sup>1</sup>	120GB = READ 1400MB/s WRITE 350MB/s 240GB = READ 1500MB/s WRITE 720MB/s 480GB = READ 1550MB/s WRITE 950MB/s 960GB = READ 1600MB/s WRITE 1100MB/s
Random Performance up to <sup>1</sup>	120GB = READ 75K IOPS, WRITE 80K IOPS 240GB = READ 140K IOPS, WRITE 150K IOPS 480GB = READ 120K IOPS, WRITE 150K IOPS 960GB = READ 240K IOPS, WRITE 180K IOPS
DIMENSIONS	
Length mm	80
Width mm	22
Height mm	1.5 (Single Side Only)
Weight	10g
Packaged Weight	58g
Packaged Dimensions (mm)	L = 11.5, W = 13.2, D = 5.7

POWER CONSUMPTION			
Power Management	+3.3V (-+5%)		
Power Consumption (mW) <sup>5</sup>	READ	WRITE	IDLE
	120GB - 2800	2000	<50
	240GB - 3900	3200	<50
	480GB - 3200	2700	<50
960GB - 4000	3300	<50	
ENVIRONMENTAL			
Operating Temp <sup>2</sup>	0° - +70°C		
Storage Temp	-40° - +85°C		
Humidity <sup>6</sup>	RH 90% under 40°C		
Linear Shock (non-operating)	1500G		
Vibration (non-operational)	Frequency 20Hz~80Hz/Displacement 1.5mm Frequency 80Hz~2000Hz/Acceleration 20G		
FEATURES			
Supports SMART Software	Yes		
Supports TRIM	Yes (OS support required)		
MTBF <sup>3</sup>	1.6 Million Hours		
Endurance (TBW <sup>4</sup> )	120GB - 65		
	240GB - 130		
	480GB - 400		
	960GB - 600		
Compliance	CE, FCC, RoHS		
WARRANTY			
3 years or TBW			

CAPACITY	PART CODE	BARCODE (EAN)
120GB	INSSD120GM280N	5055288439849
240GB	INSSD240GM280N	5055288439856
480GB	INSSD480GM280N	5055288439863
960GB	INSSD960GM280N	5055288439870

### Notes:

1. Actual performance may vary and depends on use conditions, host and environment
2. Operating temperature is the drive case temperature as measured by the SMART temperature attribute
3. Mean Time Between Failures is estimated based on JEDEC-218/219 standard methodology
4. TBW (Terabytes Written) DWPD (Drive Write Per Day). TBW and DWPD is a measurement of SSDs expected lifespan, which represents the amount of data written to the device. This is only an estimate and can differ based in user usage behaviour, platform and estimates provided by the flash vendor
5. Power Consumption may differ according to flash configuration and platform
6. Humidity test was for 4 hours

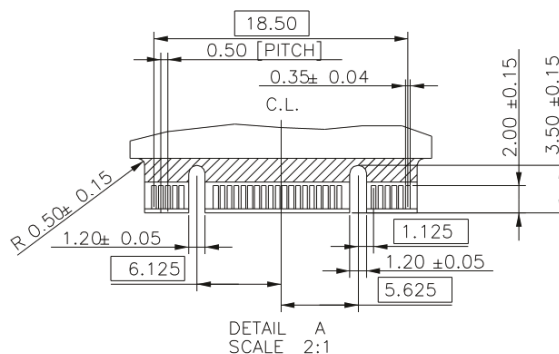
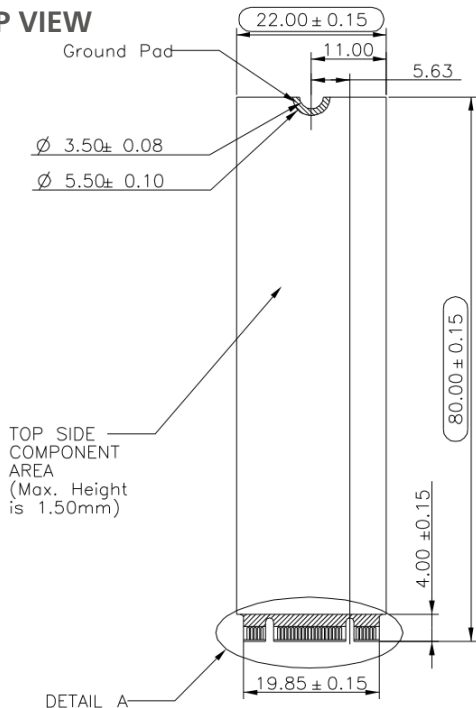
All Specifications are subject to change without notice

1GB = 1,000,000,000 Bytes, 1TB = 1,000,000,000,000 Bytes; 1 sector = 512 Bytes.

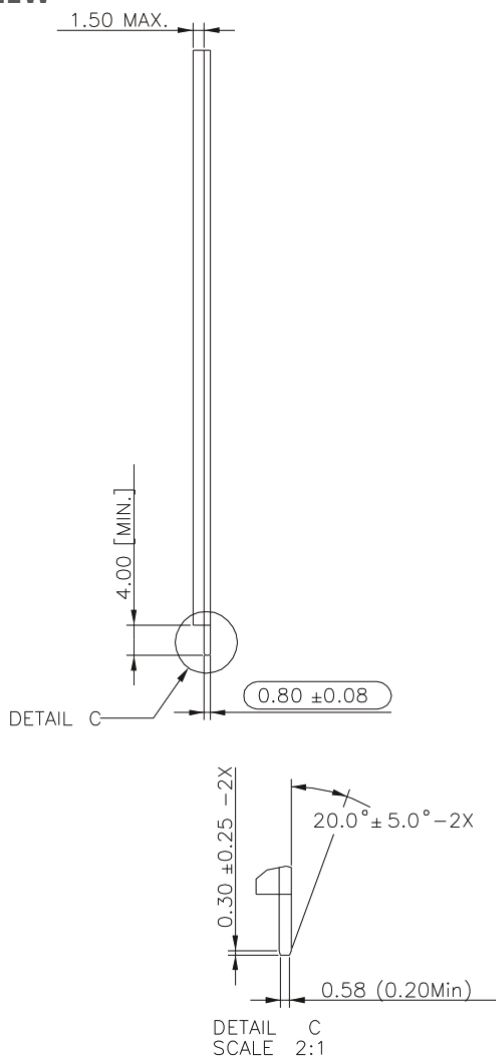
The total usable capacity of the SSD may be less than the total physical capacity because a small portion of the capacity is used for NAND flash management and maintenance purposes.

PHYSICAL DIMENSION: M.2 2280 S3 : 80.00mm (L) x 22.00mm (W) x1.50mm (H)

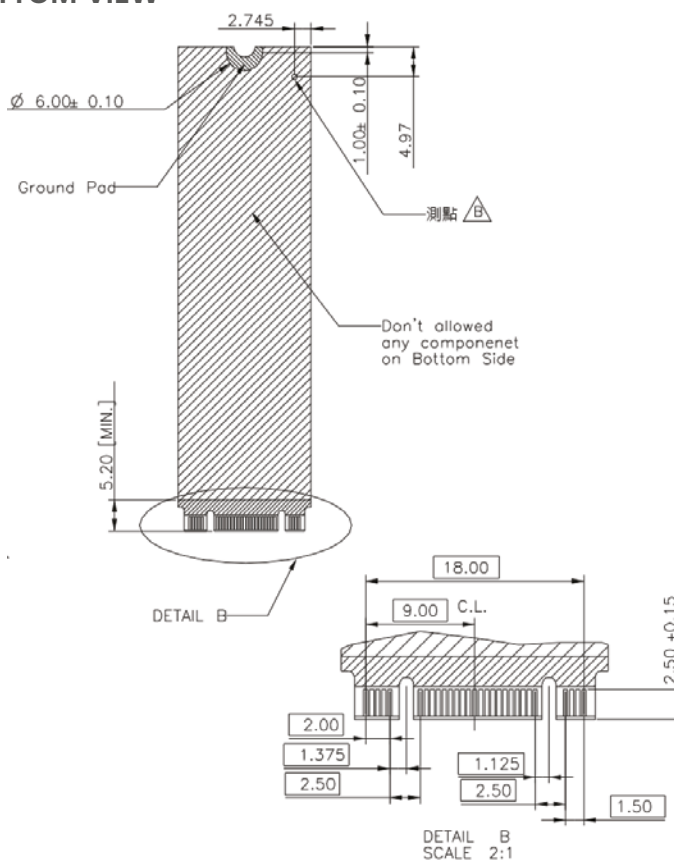
## TOP VIEW



## SIDE VIEW



## BOTTOM VIEW



### Notes :

1. = Max Component Height
2. = No Component
3. = No Component / Signal Vias / Signal Copper / Printing
4. General Tolerance ±0.15mm
5. is IQC inspection dimension