M.2 2280 PCIe NVMe SSD – UltimaPro X - Version 2

READ 3400MB/s*
WRITE 3000MB/s*

READ 570K IOPS*
WRITE 650K IOPS*

NVMe M.2 PCIe 2280

TCG Opal 2.0
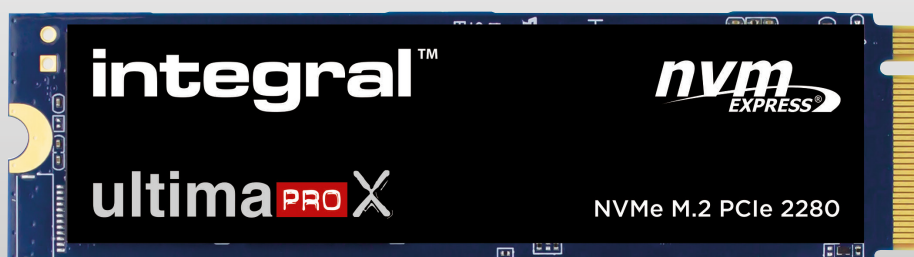
| 240 GB | 256 GB | 480 GB | 512 GB | 960 GB | 1 TB | 1920 GB | 2 TB | 4 TB |

INTRODUCTION

UltimaPro X M.2 2280 PCIe Gen3x4 NVMe SSD

The UltimaPro X is Integral's extreme performance SSD that can meet your most demanding gaming, graphic design, and video workflow needs.

The UltimaPro X SSD delivers super-fast speeds of up to 3400MB/s* read and 3000MB/s* write, with random read/write IOPS of up to 570K/650K*.

PRODUCT OVERVIEW

• UltimaPro X 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, enthusiast desktops.

• Choose the UltimaPro X M.2 PCIe NVMe SSD to break through the 6Gbps SATA limitation for your extreme performance needs. Specifically engineered to compliment high-specification machines and provide the best gaming and multimedia application performance that is ultra-responsive.

• The UltimaPro X SSD has a high read/write IOPS threshold that makes use of every bit of the SSD's superior hardware, giving you the finest experience in professional solid state computing.

• The UltimaPro X features 256-bit hardware encryption, with support for Trusted Computing Group (TCG) Opal 2.0. This ensures compatibility with 3rd party security software from Independent Software Vendors (ISVs), providing strong data security and assisting compliance with regulations such as the General Data Protection Regulation (GDPR).

KEY BENEFITS:

• An industry-leading PCIe Gen3x4 interface and NVMe 1.2 standard achieving upto 3400MB/s* read and 3000MB/s* write, the Integral UltimaPro X M.2 PCIe NVMe SSDs break through the 6Gbps SATA limitation that takes computing performance to the next level.

• Random read/write IOPS up to of up to 570K/650K*

• 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:

• Seqential Read up to 3400MB/s*, Write up to 3000MB/s*

• Random Read 570K I0PS*, write 650K I0PS.*

• No mechanical parts

• Highest reliability; less likely to fail than HDD

• Extreme shock resistance

• Zero noise

• No heat generation

• Low power consumption

*Up to performance may vary depending on host device. (4TB model performance)

FEATURES

- PCIe Gen3x4
- Compliant with PCI Express Base Specification Rev 3.1
- Compliant with NVMe 1.3
- 3D TLC NAND flash technology
- 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	240GB, 256GB, 480GB, 512GB, 960GB, 1TB, 1920GB, 2TB, 4TB
Controller Technology	Phison E12
NAND	3D TLC
Form Factor	M.2 2280
Interface	PCIe (Gen 3x4)
Compliance	Compliant with PCI Express Base Specification Rev 3.1 NVMe 1.3
Sequential Perfomance up to[1]	240GB READ 3300MB/s, WRITE 1050MB/s 256GB READ 3100MB/s, WRITE 1100MB/s 480GB READ 3300MB/s, WRITE 2000MB/s 512GB READ 3400MB/s, WRITE 2400MB/s 960GB READ 3300MB/s, WRITE 3000MB/s 1TB READ 3400MB/s, WRITE 3000MB/s 1920GB READ 3300MB/s, WRITE 2700MB/s 2TB READ 3400MB/s, WRITE 3000MB/s 4TB READ 3400MB/s, WRITE 3000MB/s
*Random Performance up to[1]	240GB = READ 160K IOPS, Write 230K IOPS 256GB = READ 138K IOPS, Write 280K IOPS 480GB = READ 350K IOPS, Write 380K IOPS 512GB = READ 190K IOPS, Write 570K IOPS 960GB = READ 500K IOPS, Write 410K IOPS 1TB = READ 250K IOPS, Write 680K IOPS 1920GB = READ 470K IOPS, Write 400K IOPS 2TB = READ 480K IOPS, Write 680K IOPS 4TB = READ 570K IOPS, Write 650K IOPS

DIMENSIONS

Length mm	80
Width mm	22
Height mm	Double side 3.80
Weight	10g
Packaged Weight	58g
Packaged Dimensions (mm)	L = 114mm, W = 65mm, D = 8mm

POWER CONSUMPTION

Power Management	+3.3V (-+5%)
Power Consumption (mW)[5]	READ WRITE IDLE 240GB - 5000 3900 <910 256GB - 4600 3200 <190 480GB - 5500 4100 <200 512GB - 4700 5100 <200 960GB - 6600 5300 <910 1TB - 3900 4700 <260 1920GB - 5700 5400 <910 2TB - 4900 5800 <290 4TB - 7500 6800 <450

ENVIRONMENTAL

Operating Temp[2]	0° - +70°C
Storage Temp	-40° - +85°C
Humidity[6]	RH 90% under 40°C (operational)
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[3]	1.8 Million Hours
TBW[4]	240GB - 380 256GB - 170 480GB - 800 512GB - 350 960GB - 1665 1TB - 565 1920GB - 3115 2TB - 1550 4TB - 6070
Compliancy	CE, FCC, RoHS

WARRANTY

3 years or TBW

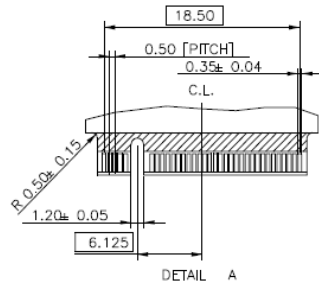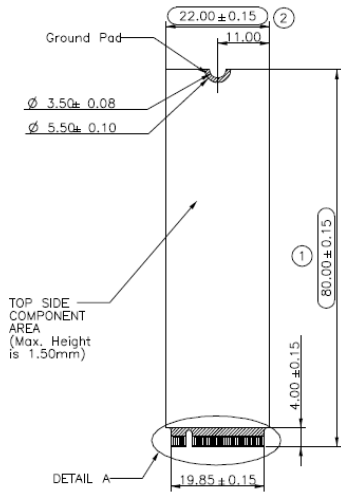| CAPACITY	PART CODE	BARCODE (EAN)
240GB	INSSD240GM280NUPX2	5055288442573
256GB	INSSD256GM280NUPX2	5055288446090
480GB	INSSD480GM280NUPX2	5055288442580
512GB	INSSD512GM280NUPX2	5055288446106
960GB	INSSD960GM280NUPX2	5055288442597
1TB	INSSD1TM280NUPX2	5055288446113
1920GB	INSSD1920GM280NUPX2	5055288442603
2TB	INSSD2TM280NUPX2	5055288446120
4TB	INSSD4TM280NUPX2	5055288446137

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) DWP (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.

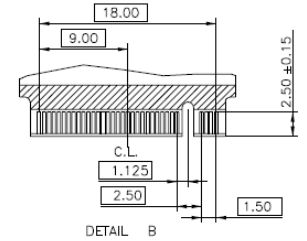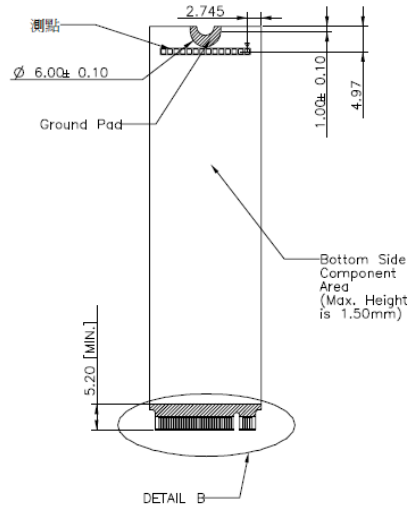All Specifications are subject to change without notice

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.

TOP VIEW

BOTTOM VIEW

SIDE VIEW

integral™