



PCIe M.2 SSDs

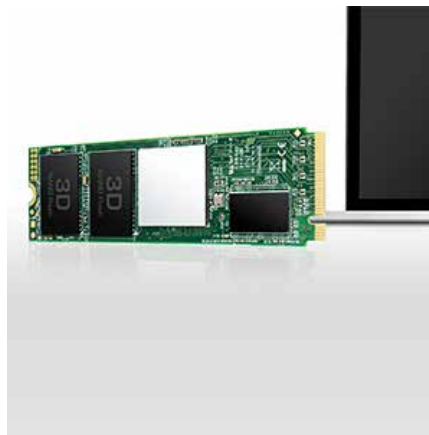
## PCIe SSD 220S

Transcend's PCIe SSD 220S aims at high-end applications, such as digital audio/video production, gaming, and enterprise use, which require constant processing heavy workloads with no system lags or slowdowns of any kind. Utilizing the PCI Express<sup>®</sup> Gen3 x4 interface supported by the latest NVMe<sup>™</sup> standard, 3D NAND flash memory, an 8-channel controller, and a DRAM cache, the PCIe SSD 220S offers supreme transfer speeds that override others.



### Supreme transfer speeds

Transcend's PCIe SSD 220S follows NVMe 1.3 and utilizes the PCIe<sup>™</sup> Gen3 x4 interface, meaning four lanes are used for transmitting and receiving data simultaneously. Its 8-channel controller supports ultra high data throughput, resulting in compelling performance of up to 3,400MB/s read and 2,100MB/s write.



### Understanding the PCIe interface

PCIe (or PCI Express<sup>®</sup>) is a much faster interface than SATA (or Serial ATA) for connecting a host computer to solid-state storage devices over one or more lanes consisting of one transmit and one receive serial interface in each lane, meaning it can better fulfill new performance requirements.



### Understanding the NVMe standard

NVMe (or NVM Express<sup>®</sup>) is a host controller interface standard designed to address the needs of enterprise and client applications that utilize PCI Express-based solid-state storage. NVMe calls for better performance vectors than AHCI (Advanced Host Controller Interface), including scalable bandwidth, increased IOPS, and low latency.



## PCIe M.2 SSDs

# PCIe SSD 220S

### Features

- Adopts PCIe Gen3 x4 interface and NVMe 1.3 standard
- Up to 3,400 MB/s read; 2,100 MB/s write
- 3D NAND flash memory, 8-channel controller, and DDR3 DRAM cache
- Engineered with LDPC (Low-Density Parity Check) coding to ensure data integrity; built-in SLC caching technology for exceptional transfer speeds
- Engineered dynamic thermal throttling mechanism



### SSD Scope Software

Transcend SSD Scope is advanced, user-friendly software that makes it easy to ensure your Transcend SSD remains healthy, and continues to run fast and error-free by determining the condition and optimizing the performance of your drive.

### Specification

#### Appearance

Dimensions (Max.)	80 mm x 22 mm x 3.58 mm (3.15" x 0.87" x 0.14")
Weight (Max.)	8 g (0.28 oz)

#### Interface

Bus Interface	NVMe PCIe Gen3 x4
---------------	-------------------

#### Storage

Flash Type	3D NAND flash
Capacity	256 GB / 512 GB / 1 TB

#### Operating Environment

Operating Temperature	0°C (32°F) ~ 70°C (158°F)
Operating Voltage	3.3V±5%

#### Performance

Sequential Read/Write (CrystalDiskMark, max.)	Read: 3,400 MB/s Write: 2,100 MB/s
4K Random Read/Write (IOmeter, max.)	Read: 300,000 IOPS Write: 340,000 IOPS
Mean Time Between Failures (MTBF)	2,000,000 hour(s)
Terabytes Written (TBW)	2,200 TB
Drive Writes Per Day (DWPD)	1.2 (5 yrs)
Note	<ul style="list-style-type: none"> <li>• Speed may vary due to host hardware, software, usage, and storage capacity.</li> <li>• Some motherboards only provide PCIe x2 connections for the M.2 slot, creating a bottleneck on even the fastest drives.</li> </ul>

#### Warranty

Certificate	CE/FCC/BSMI
Warranty	Five-year Limited Warranty

#### Ordering Information

256GB	TS256GMTE220S
512GB	TS512GMTE220S
1TB	TS1TMTE220S

## PCIe M.2 SSDs Comparison



PCIe SSD 220S



PCIe SSD 110S

### Appearance

Dimensions (Max.)

80 mm x 22 mm x 3.58 mm (3.15" x 0.87" x 0.14")

Weight (Max.)

8 g (0.28 oz)

### Interface

Bus Interface

NVMe PCIe Gen3 x4

### Storage

Flash Type

3D NAND flash

Capacity

256 GB/512 GB/1 TB

128 GB/256 GB/512 GB/1 TB

### Operating Environment

Operating Temperature

0°C (32°F) ~ 70°C (158°F)

Operating Voltage

3.3V±5%

### Performance

Sequential Read/Write  
(ATTO, max.)

-

Read: 1,700 MB/s  
Write: 1,400 MB/s

Sequential Read/Write  
(CrystalDiskMark, max.)

Read: 3,400 MB/s  
Write: 2,100 MB/s

Read: 1,700 MB/s  
Write: 1,500 MB/s

4K Random Read/Write  
(Iometer, max.)

Read: 300,000 IOPS  
Write: 340,000 IOPS

Read: 160,000 IOPS  
Write: 140,000 IOPS

Mean Time Between Failures  
(MTBF)

2,000,000 hour(s)

1,000,000 hour(s)

Terabytes Written (Max.)

2,200 TB

400 TB

Drive Writes Per Day (DWPD)

1.2 (5 yrs)

0.2 (5 yrs)

### Warranty

Warranty

Five-year Limited Warranty

### Technology

S.M.A.R.T.

✓

✓

DDR3 DRAM Cache

✓

-

Advanced Garbage Collection

✓

✓

RAID Engine

✓

-

LDPC Coding

✓

✓

\*Speed may vary due to host hardware, software, usage, and storage capacity.