

SAMSUNG

UNLEASHING THE POTENTIAL OF CLIENT SSDs!
PCIe NVMe INTERFACE DELIVERS UP TO 32 Gbps AND 4X SATA SSD PERFORMANCE



SAMSUNG'S INDUSTRY-LEADING PCIe GEN 3.0 NVMe SOLID STATE DRIVE

Solid state drives are taking the personal computing market by storm. No longer just an add-on for enthusiasts, advanced SSDs are becoming the storage of choice, reaching enviable levels of performance and efficiency – levels traditionally reserved for enterprise-class applications.

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Best of the Best

Power users invariably want the best storage performance, the best power utilization and the best reliability at a reasonable cost with minimal use of space. They desire performance levels that clearly enhance the user experience for high-intensity applications such as movie streaming, video editing, and hi-res or 3D gaming. Enter the PCIe Gen 3.0 NVMe Samsung SM951.

Extreme Performance with PCIe Gen 3.0 NVMe

For manufacturers of ultra-slim notebooks, desktops and workstations considering the PCIe 3.0 interface, the SM951 can read sequentially at 2,150MB/s (megabytes per second) – approximately 4X faster at sequential reading than current SATA SSDs. This allows the drive to read 250GB of data, the equivalent of 50 5GB HD movies, in only two minutes. The four lanes of the PCIe 3.0 interface provided by the SM951 support transferring data from the drive to the CPU at up to 32 Gbps (gigabits per second).

NVMe: Protocol Optimized for Flash

The SM951 uses the new NVMe protocol, which was built from the ground up to support flash devices. PCIe SSDs that leverage NVMe deliver 4X the performance of SATA SSDs, which use the legacy AHCI protocol originally designed for use with SATA devices such as hard disk drives. The first generation of PCIe SSDs used the AHCI protocol. Moving to NVMe allows for maximum storage performance.

Backward Compatible with Improved PCIe 2.0 Specs

Even when using a PCIe 2.0 interface, the SM951 can read sequentially at 1,600MB/s and write sequentially at 1,350MB/s. Sequential performance with the 2.0 interface is still approximately three times faster than the latest SATA-interfaced SSD.

Small Form Factor and Popular Densities

Adding to its attractiveness, Samsung's SM951 delivers its leading-edge performance within an M.2 form factor, measuring only about one seventh of a 2.5 inch SSD, and weighing less than 10 grams. Densities include 128GB, 256GB and 512GB.

COMPARING PCIe AND SATA SSDs – SM951 PCIe VS. PM871 SATA

	SM951 PCIe	PM871 SATA
Capacity	128GB, 256GB, 512GB	
MTBF	1.5 Million Hours	
Host Interface	PCI-Express Gen 3.0 x 4 – 32 Gbps NVMe	SATA Gen 3.0 – 6 Gbps AHCI
Peak Read Sequential Performance	Up to 2150 MB/s	Up to 540 MB/s
Peak Write Sequential Performance	Up to 1550 MB/s	Up to 500 MB/s
Peak Read Random Performance	Up to 300K IOPs	Up to 97K IOPs
Peak Write Random Performance	Up to 100K IOPs	Up to 90K IOPs
Form Factor	M.2 2280 *	
Dimensions	22 x 80 x 4 mm	
Weight	10 grams	

* SATA also available in 2.5 inch form factor



For more information, visit: www.samsung.com/flash-ssd
For specific sales inquiries, contact us via email at: ssd@ssi.samsung.com

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