



Silicon Motion Launches the Best Performance/Watt PCIe Gen5 SSD Controller at FMS 2024

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The Company Also Showcases SSD Solutions for Enterprise, PC, and Automotive AI Applications

TAIPEI and MILPITAS, Calif., Aug. 5, 2024 /PRNewswire/ -- [Silicon Motion Technology Corporation](#) (NasdaqGS: SIMO) ("Silicon Motion"), a global leader in designing and marketing NAND flash controllers for solid-state storage devices, today announced **SM2508**, the best power efficiency PCIe Gen5 NVMe 2.0 client SSD controller for AI PCs and gaming consoles. It's the world's first PCIe Gen5 client SSD controller using TSMC's 6nm EUV process, offering a 50% reduction in power consumption compared to competitive offerings in the 12nm process. With less than 7W power consumption for the entire SSD, it delivers 1.7x better power efficiency than PCIe Gen4 SSDs and up to 70% better than current competitive PCIe Gen5 offerings on the market. Silicon Motion will be showcasing its SM2508 based SSD design and other innovations during the Future of Memory and Storage event from Aug. 6 to 8 at booth #315.



Silicon Motion's SM2508 is a superior-performance, low-power PCIe Gen5 x4 NVMe 2.0 SSD controller designed for AI-capable PC notebooks. It supports eight NAND channels with up to 3,600 MT/s per channel, delivering sequential performance speeds of up to 14.5 GB/s and 13.6 GB/s and random performance speeds of up to 2.5M IOPS, providing up to 2x higher performance than PCIe Gen4 products. The SM2508 maximizes PCIe Gen5 performance with an impressive power consumption of approximately 3W. It features Silicon Motion's proprietary 8th-generation NANDXtend® technology, which includes an on-disk training algorithm designed to reduce ECC timing. This enhancement boosts performance and maximizes power efficiency while ensuring compatibility with the latest 3D TLC/QLC NAND technologies, enabling higher data density and meeting the evolving demands of next-generation AI PCs.



"SSD storage solutions are continuously evolving to meet the new challenges posed by future AI applications, which demand data efficiency and high-performance models," said Nelson Duann, Silicon Motion's Senior VP of Client & Automotive Storage Business. "Our PCIe Gen5 SSD controller, with its best-in-class power efficiency, is designed to satisfy the unique demands of today's AI-capable PCs, delivering high performance and power efficiency to meet the evolving AI PC standards of tomorrow."

The SM2508 specifications include:

- PCIe Gen5 x4, NVMe2.0
- 8 NAND flash channels, up to 3600MT/s
- TSMC's 6nm process
- Powerful quad-core Arm® Cortex®-R8 CPU supporting four PCIe lanes of 32Gb/s data transfer speed
- Up to 14.5GB/s and 13.6GB/s sequential performance and up to 2.5M IOPS random performance
- Support the latest 3D TLC/QLC NAND

The SM2508 is being designed by multiple major SSD vendors including major NAND vendors. Production ramp of SM2508 is targeted for Q4 of this year.

Besides the SM2508, the Silicon Motion exhibit will also include:

MonTitan™ PCIe Gen5 Enterprise SSD Development Platform for AI Storage Workloads

- [SM8366](#): 14 GB/s sequential and 3.5 M IOPS random SSD performance, supporting capacities beyond 128TB with 16 channels providing up to 2400MT/s of TLC and QLC NAND.
- [MonTitan™](#): Multi-Dimensional QLC-based PCIe Gen5 SSDs: Enabled by FDP and PerformaShape™ technologies to maximize AI Training Pipeline performance.

UFS 4.0 and USB Storage Solutions for AI PCs and AI Smartphones

- [SM2756 UFS 4.0 controller](#) : 65% more power-efficient than previous-generation UFS 3.1.
- [SM2322 USB SSD controller](#): Double up the capacity of the previous-generation for portable SSDs

Advanced Storage Solutions for AI in Automotive / IoT Edge Applications

- [SM2264XT-AT](#) Automotive-grade SSD Controller: 30% less CPU power-consuming than PCIe Gen4 SSD without SR-IOV.
- [FerriSSD PCIe Gen 4](#) NVMe single-chip BGA SSD
- [Ferri-eMMC 5.0/5.1](#)
- [Ferri-UFS 2.2/3.1](#)

Silicon Motion representatives will also be presenting at FMS forums. For further information, please visit: <https://www.siliconmotion.com/events/2024FMS/>

About Silicon Motion:

We are the global leader in supplying NAND flash controllers for solid state storage devices. We supply more SSD controllers than any other company in the world for servers, PCs and other client devices and are the leading merchant supplier of eMMC and UFS embedded storage controllers used in smartphones, IoT devices and other applications. We also supply customized high-performance hyperscale data center and specialized industrial and automotive SSD solutions. Our customers include most of the NAND flash vendors, storage device module makers and leading OEMs. For further information on Silicon Motion, visit us at www.siliconmotion.com.

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