



Silicon Motion Introduces Advanced AI-Optimized SM2524XT PCIe Gen5 DRAMless SSD Controller for AI PCs

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Delivering Industry-Leading 2.5M IOPS Random Performance for AI Inference and KV Cache Workloads

TAIPEI, Taiwan--(BUSINESS WIRE)--May 28, 2026-- Silicon Motion Technology Corporation (NasdaqGS: SIMO), a global leader in NAND flash controllers for solid-state storage devices, today announced the SM2524XT, a next-generation PCIe Gen5 DRAMless SSD controller purpose-built for AI inference and KV Cache-intensive workloads. The SM2524XT leverages a new four-processor-core architecture with PCIe Gen5 x4 and NAND interface speeds up to 4,800 MT/s to achieve sequential read speeds up to 14 GB/s and industry-leading random performance of up to 2.5 million IOPS.

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20260528225884/en/>



SM2524XT - Edge SSD Controller

throughput even under the most demanding thermal and power constrained conditions. Against the previous generation controller, the SM2524XT improves random performance by up to 25 percent, slashing latency and accelerating response times for the highly fragmented data access patterns that define KV Cache and AI inference workloads.

"KV Cache has become a critical factor in AI inference performance, driving the need for sustained high random read/write throughput and low-latency data access," said Nelson Duann, Senior VP of Client & Automotive Storage Business at Silicon Motion. "As AI PCs evolve to support increasingly complex Local Agent and on-device LLM workloads, the SM2524XT is designed to deliver the random I/O performance, latency stability, and power efficiency required for next-generation AI storage architectures."

As on-device AI inference scales in complexity, KV Cache has become the decisive storage bottleneck separating responsive AI PCs from sluggish ones. Unlike conventional consumer SSD workloads, KV Cache generates relentless streams of highly fragmented, latency-sensitive random read/write operations that demand sustained IOPS throughput and rock-solid low-latency performance under continuous load. The SM2524XT was engineered from the ground up to conquer these AI-driven access patterns, maintaining stable random I/O performance even during the most demanding sustained inference sessions.

The SM2524XT integrates Silicon Motion's Separated Command Address (SCA) technology, advanced FTL scheduling, and NANDXtend® LDPC ECC technologies to improve parallel data processing efficiency, reduce latency interruptions, and maintain consistent performance during sustained AI workloads.

For more information, please visit www.siliconmotion.com

About Silicon Motion:

Silicon Motion Technology Corporation (NasdaqGS: SIMO) is the global leader in supplying NAND flash controllers for solid-state storage devices. The company ships more SSD controllers than any other supplier worldwide for servers, PCs, and other edge devices, and is also the leading merchant provider of eMMC and UFS embedded storage controllers used in smartphones, IoT products, and automotive applications.

Silicon Motion delivers customized, high-performance controller solutions for Enterprise SSDs, Edge SSDs, Embedded UFS & eMMC controllers, as well as Enterprise Boot Drives and Ferri solutions for automotive. Its controllers and storage solutions are designed to power the world's most advanced AI Infrastructure, Edge AI, and Physical AI, combining high performance, low power, and proven reliability.

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Source: Silicon Motion Technology Corporation

Built on TSMC's advanced 6nm process technology, the SM2524XT delivers up to 25 percent higher performance per watt compared to the previous generation controller, sustaining peak random I/O