



Silicon Motion Launches SM8008, a Purpose-Built PCIe Gen5 Controller for Enterprise Boot Drives and Ultra-Low-Power Storage

March 12, 2026

Power-Efficient Architecture Delivers Up to 14GB/s Performance Under 5W for Hyperscale and Enterprise Server Deployments

TAIPEI and MILPITAS, Calif., March 12, 2026 /PRNewswire/ -- Silicon Motion Technology Corporation (NasdaqGS: SIMO), a global leader in designing and marketing NAND flash controllers for solid-state storage devices, today announced the launch of the SM8008, a PCIe Gen5 x4 NVMe enterprise SSD controller purpose-built for data center boot drives and power-sensitive enterprise storage applications.



As hyperscale and enterprise data centers expand server deployments, boot SSDs have become a critical infrastructure component across every system node. The SM8008 addresses this growing demand with a controller architecture optimized for power efficiency, predictable performance, and enterprise-grade security at scale, while supporting the OCP Hyperscale NVMe Boot SSD Specification to meet production-ready enterprise deployment requirements.

"The rapid growth of AI and cloud infrastructure is driving large-scale server deployments," said Alex Chou, Senior Vice President of Enterprise Storage & Display Interface Solution Business at Silicon Motion. "While much focus is placed on accelerators and high-performance storage, every AI server relies on reliable, power-efficient boot storage. SM8008 is purpose-built for this critical layer, delivering Gen5 performance with enterprise-grade security while strengthening our enterprise portfolio."

Power Efficiency at Data Center Scale

Boot SSDs operate continuously across thousands—or even millions—of servers. Even marginal power savings per drive can translate into significant reductions in total data center power consumption and operating costs.

Built on advanced TSMC 6nm process technology, the SM8008 delivers:

- Up to 14GB/s sequential throughput
- Over 2.3 million random IOPS (4K)
- Active power consumption under 5W
- PCIe Gen5 x4 host interface
- 8 NAND channels supporting ONFI and Toggle DDR 5.0 up to 3,600MT/s

It supports single channel DDR4-3200 or LPDDR4-3200 DRAM with inline ECC architecture to further optimize system-level power efficiency and BOM cost, making it ideal for high-volume hyperscale deployments.

By balancing high Gen5 performance with stringent power targets, the SM8008 enables data center operators to modernize boot infrastructure without increasing energy budgets.

Designed for Hyperscale and Enterprise Infrastructure

The SM8008 is engineered to meet the architectural, scalability, and security requirements of hyperscale and enterprise server environments. It supports the latest NVMe 2.0a protocol and meets OCP Hyperscale NVMe Boot SSD Specification Version 1.0, enabling seamless integration into open data center platforms. The SM8008 supports multiple industry-standard form factors including M.2, U.2, E1.S, and E3.S, providing flexibility for diverse server architectures.

Enterprise Security Built for Long-Term Compliance

Security is a core design pillar of the SM8008 architecture. The controller integrates a comprehensive enterprise-grade security framework, including:

- TCG Opal 2.0 compliant encryption
- Hardware-accelerated AES-256, SHA2-512, and RSA-3072b
- Secure Boot and firmware authentication
- Support for DICE and SPDm
- CNSA 2.0 readiness, aligning with the requirement that all new NSS acquisitions comply with the standard beginning in 2027.

This robust security architecture ensures data integrity, firmware protection, and compliance with evolving regulatory and hyperscale security standards.

Strategic Expansion of Enterprise Portfolio

The introduction of the SM8008 strengthens Silicon Motion's enterprise SSD controller portfolio by addressing the rapidly growing segment of dedicated data center boot storage and power sensitive Enterprise applications.

As PCIe Gen5 infrastructure expands—driven by AI and cloud deployments—boot drives must evolve alongside primary storage tiers. With advanced NAND support, patented NANDCommand™ technology, and enterprise-class LDPC error correction, the SM8008 delivers the endurance and performance consistency required for enterprise workloads.

"With the shift to PCIe Gen5 and more power-sensitive data center designs, even foundational components like boot SSDs are becoming strategically important," said Gregory Wong, Founder and Principal Analyst of Forward Insights. "Vendors that align performance, efficiency, and security with evolving hyperscale standards are positioned to benefit as this segment continues to expand within the broader enterprise storage market."

Early customer adoption underscores the strategic importance of this segment, with ATP and Exascend integrating the SM8008 into their next-generation enterprise SSD platforms.

"We have adopted Silicon Motion's SM8008 for our latest enterprise SSD platform," said Chris Lien, NSG BU Director of ATP. "Its power-efficient architecture and enterprise-ready feature set align well with the needs of large-scale server deployments."

"In the year of AI explosion, data storage is more critical than ever," said Frank Chen, CEO of Exascend. "Through this close collaboration with Silicon Motion, we have jointly developed a high performance PCIe Gen5 SSD tailored for AI servers, ensuring consistent read and write speeds with efficient data management, perfectly meeting the storage demand of the AI era"

Silicon Motion's expanding boot storage portfolio—from SATA and PCIe Gen3/Gen4 controllers to PCIe NVMe BGA SSD solutions and the latest SM8008 Gen5 controller—demonstrates its strategic focus on dedicated boot storage as a distinct and growing segment within the enterprise market.

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 client 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 also delivers customized, high-performance solutions for hyperscale data centers, industrial systems, and automotive SSDs. Its controllers are designed to power the world's most advanced AI, cloud, and enterprise storage platforms, combining high performance, low power, and proven reliability.

Our customers include most of the world's NAND flash vendors, data center and enterprise storage solution providers, storage device module makers, and leading OEMs, all of whom rely on Silicon Motion's proven controller technologies to enable innovative, high-quality storage solutions. For further information, please visit www.siliconmotion.com

Corporate Media Contact:

Minnie Lin
Director of Marketing Communication
minnie.lin@siliconmotion.com

Investor Contacts:
IR@siliconmotion.com

Sales Contact:

E-mail: service@siliconmotion.com

View original content to download multimedia: <https://www.prnewswire.com/news-releases/silicon-motion-launches-sm8008-the-industrys-first-purpose-built-pcie-gen5-controller-for-enterprise-boot-drive-and-ultra-low-power-storage-302711995.html>

SOURCE Silicon Motion Technology Corporation