Silicon Motion Announces World's First PCIe Gen5 Enterprise SSD Reference Design Kit Supporting up to 128TB

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Company Demos 128TB SSD Design at China Flash Market Summit 2025

TAIPEI and MILPITAS, Calif., March 12, 2025 /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 the sampling of its groundbreaking MonTitan™ SSD Reference Design Kit (RDK) that supports up to 128TB with QLC NAND. Designed on the advanced MonTitan PCIe Gen5 SSD Development Platform. This new offering aims to accelerate enterprise and data center storage AI SSD solutions by providing a robust and efficient RDK for OEMs and partners.



The SSD RDK incorporates Silicon Motion's PCIe Dual Ported enterprise-grade SM8366 controller, which supports PCIe Gen5 x4 NVMe 2.0 and OCP 2.5 data center specifications offering unmatched performance, QoS, and capacity for next-generation large data lake storage needs.

Built with the latest 2Tb die QLC NAND, the 128TB SSD features enterprise and data center-optimized firmware, ensuring reliability and endurance in demanding environments. The SSD design delivers exceptional sequential read speeds of over 14 GB/s and random read performance exceeding 3.3 million IOPS, maximizing throughput and reducing operational bottlenecks. Providing over 25% random read performance improvement to other Gen5 high-capacity solutions, MonTitan™ SSD solutions deliver faster LLM training and GNN completion times returning reducing power budget to AI storage platforms and improving AI GPU utilization.

The 128TB SSD RDK also supports NVMe 2.0 FDP (Flexible Data Placement), a critical feature that allows advanced data management and improved SSD write efficiency and endurance. Coupled with Silicon Motion's proprietary PerformaShape™ technology, this solution utilizes a multi-stage shaping algorithm to optimize SSD performance based on user-defined QoS sets. The combination of FDP and PerformaShape™ effectively manages data, minimizes latency, and maximizes overall performance, particularly in AI data pipelines in multi-tenant environments including Ingest, Prep, Train, and Inference stages.

"Silicon Motion's MonTitan SSD RDK offers a comprehensive solution for our customers, enabling them to rapidly develop and deploy enterprise-class SSDs tailored for AI data center and edge server applications." said Alex Chou, Senior VP of Enterprise Storage & Display Interface Solution Business. "By providing this fully integrated platform that supports up to 128TB SSD with QLC NAND, we empower our customers and solution partners to accelerate the development and commercialization of AI solution's growing demands of high-capacity, high-performance storage."

"We are delighted to collaborate with Silicon Motion in developing our latest enterprise SSD for AI servers and data centers," said CC Wu, VP of Innodisk, "With Silicon Motion's MonTitan Enterprise SSD development platform, we have the flexibility to design enterprise SSDs that deliver industry-leading performance."

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

The new 128TB SSD RDK is now available for sampling to select partners and customers. For more information, visit www.siliconmotion.com.

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