Samsung Unveils Industry-Leading PC SSD for AI Applications

October 4, 2024

Samsung Electronics, a global leader in advanced memory technology, announced today the mass production of the PM9E1, a PCIe 5.0 SSD with exceptional performance and capacity.

Powered by its in-house 5-nanometer (nm)-based controller and eighth-generation V-NAND (V8) technology, the PM9E1 offers unparalleled performance and enhanced power efficiency, making it ideal for on-device AI PCs.

"Our PM9E1 integrated with a 5nm controller delivers industry-leading power efficiency and utmost performance validated by our key partners," said YongCheol Bae, Executive Vice President of Memory Product Planning at Samsung Electronics. "In the rapidly growing on-device AI era, Samsung's PM9E1 will offer a robust foundation for global customers to effectively plan their AI portfolios."

The PM9E1 boasts impressive sequential read and write speeds of up to 14.5 gigabytes-per-second (GB/s) and 13GB/s, respectively, thanks to its eight-channel PCIe 5.0 interface. This powerful performance enables faster data transfer, even with data-intensive AI applications.

Offering storage options ranging from 512GB to 4TB, the PM9E1 caters to various storage needs, including large-sized files, data-heavy programs, and high-resolution videos. The 4TB option is particularly suitable for PC users demanding high-capacity storage for intensive workloads like gaming and AI-generated content.

The PM9E1's significantly improved power efficiency of over 50% ensures longer battery life, making it ideal for on-device AI applications.

Samsung has enhanced security measures by applying Security Protocol and Data Model (SPDM) v1.2 to the PM9E1. SPDM provides technologies like Secure Channel, Device Authentication, and Firmware Tampering Attestation to prevent supply chain attacks and protect stored data.

Samsung plans to expand its advanced SSD offerings to global PC makers and expects to launch PCIe 5.0-based consumer products in the future, solidifying its leadership in the on-device AI market.