KIOXIA

Press Release

New UFS 5.0 Embedded Flash Memory Devices from KIOXIA Enable On-Device AI

Built on the latest JEDEC UFS 5.0 Standard, delivering up to 10 GB/s sequential read performance

Germany, Düsseldorf, 30 July 2026 – KIOXIA Europe GmbH today announced its UFS(1) 5.0 embedded flash memory solutions, designed to deliver the performance, efficiency and capacity required for the next generation of AI-enabled mobile and edge devices. The new solutions will be demonstrated next week at FMS: the Future of Memory and Storage and are now available as commercial samples in 1 TB and 512 GB capacities*. Mass production is expected to begin by the end of 2026.

Built on the latest JEDEC UFS 5.0 standard, KIOXIA's new devices leverage the MIPI M-PHY v6.0 physical layer and UniPro v3.0 protocol, including HS-Gear6 operation, to support theoretical interface speeds of up to 46.6 Gb/s per lane and approximately 10.8 GB/s of effective dual-lane read/write performance.

As AI workloads continue moving onto devices, storage performance is becoming increasingly important. Large language models, multimodal AI, advanced imaging and real-time inference require significantly faster movement of data between storage and compute.

Until now, UFS read performance has been a limiting factor for increasingly sophisticated on-device AI, constraining how quickly large language models and other AI workloads can access data. KIOXIA UFS 5.0 helps remove these bottlenecks, enabling faster application loading, greater responsiveness and an outstanding user experience across on-device AI applications when compared to UFS 4.1.

KIOXIA UFS 5.0 solutions combine an in-house developed UFS 5.0 controller with KIOXIA BiCS FLASH™ generation 8 3D flash memory, to deliver significant improvements in performance, power efficiency and packaging compared to the previous generation of KIOXIA product[(2)], including:

- Sequential read performance of up to 10 GB/s[(3)]
- Sequential write performance of up to 9.0 GB/s[(4)]
- Enhanced power efficiency compared to the previous generation[(2)]
- Enhanced thermal management
- Compact 7.5 × 13 mm BGA package, smaller than the previous-generation product[(2)]
- Available in 1 TB and 512 GB capacities

While optimised for premium smartphones featuring on-device AI, KIOXIA UFS 5.0 is also well-suited for AI-enabled tablets, gaming systems, AR/VR devices, robotics, smart security cameras and industrial edge applications that require fast local storage for data-intensive AI workloads.

“On-device AI redefines what users expect from future mobile and edge devices; manufacturers need storage solutions that keep pace with these increasing AI workloads”, said Axel Störmann, VP & CTO, KIOXIA Europe GmbH.

“As AI workloads require fast, efficient access to data, KIOXIA UFS 5.0 delivers the speed, efficiency and capacity necessary to build these next-generation intelligent devices.”

KIOXIA continues to advance its UFS portfolio with flash memory innovations designed to meet the growing demand for higher capacity, greater performance and improved efficiency in AI-enabled mobile and edge applications and will demonstrate its UFS 5.0 embedded flash memory solutions at FMS: the Future of Memory and Storage.

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Notes:

1: Universal Flash Storage (UFS) is a product category for a class of embedded memory products built to the JEDEC UFS standard specification. Due to its serial interface, UFS supports full duplexing, which enables both concurrent reading and writing between the host processor and UFS device.
2: Compared to the previous generation 512 GB device “THGJFRT2G48BATV” and 1 TB device “THGJFRT3G88BATW” respectively
3: UFS5.0 512GB / 1TB model
4: UFS5.0 1TB model

*In every mention of a KIOXIA product: Product density is identified based on the density of memory chips(s)within the product, not the amount of memory capacity available for data storage by the end user. In terms of product capacity, available user storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system, pre-installed software applications, media content, and other constraints. Actual formatted capacity may vary. KIOXIA Corporation defines a gigabit (Gb) as 1,073,741,824 bits, a megabyte (MB) as 1,000,000 bytes, a gigabyte (GB) as 1,000,000,000 bytes and a terabyte (TB) as 1,000,000,000,000 bytes. However, a computer operating system, reports storage capacity using powers of 2 for the definition of 1 GB = 2^30 bytes = 1,073,741,824 bytes and 1 TB = 2^40 bytes = 1,099,511,627,776 bytes.

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1 Gbps is calculated as 1,000,000,000 bits/s and 1 GB/s is calculated as 1,000,000,000 bytes/s.

Read and write speeds are the best values obtained in a specific test environment at KIOXIA Corporation and KIOXIA Corporation warrants neither read nor write speeds in individual devices. Read and write speed may vary depending on a device used and file size read or written.

About KIOXIA Europe GmbH

KIOXIA Europe GmbH is the European-based subsidiary of KIOXIA Corporation, a leading worldwide supplier of flash memory and solid-state drives (SSDs). From the invention of NAND flash memory to today's renowned BiCS FLASH™ 3D flash memory KIOXIA continues to pioneer innovative memory solutions and services that enrich people's lives and expand society's horizons. The company's innovative BiCS FLASH™ 3D flash memory technology is shaping the future of storage in high-density applications, including advanced smartphones, PCs, automotive systems, data centers and generative AI systems.

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