Micron Delivers High-Speed 7,200MT/s DDR5 Memory Using 1β Technology

October 10, 2023 at 9:02 AM EDT

Offering a 50% increase in performance, Micron extends leading-edge 1β technology to power server and PC applications

BOISE, Idaho, Oct. 10, 2023 (GLOBE NEWSWIRE) -- Micron Technology, Inc. (Nasdaq: MU), today announced it has extended its industry-leading 1β (1-beta) process node technology with the introduction of 16Gb DDR5 memory. With demonstrated in-system functionality at speeds up to 7,200 MT/s, Micron's 1β DDR5 DRAM is now shipping to all data center and PC customers. Micron's 1β-based DDR5 memory with advanced high-k CMOS device technology, 4-phase clocking and clock-sync [1] provides up to a 50% performance uplift[2] and 33% improvement in performance per watt over the previous generation.[3]

As CPU core counts increase to meet the demands of data center workloads, the need for higher memory bandwidth and capacities grows significantly to overcome the 'memory wall' challenge while optimizing the total cost of ownership for customers. Micron's 1β DDR5 DRAM allows computational capabilities to scale with higher performance enabling applications like artificial intelligence (AI) training and inference, generative AI, data analytics, and in-memory databases (IMDB) across data center and client platforms. The new 1β DDR5 DRAM product line offers current module densities in speeds ranging from 4,800 MT/s up to 7,200MT/s for use in data center and client applications.

"The high-volume manufacturing and availability of 1β DDR5 DRAM for client and data center platforms signals an important milestone in the industry. Our collaboration with our ecosystem partners and customers will drive faster adoption of these higher-performance memory offerings," said Brian Callaway, corporate vice president of Micron's Core Compute Design Engineering Group.

Micron's 1β technology enables Micron to deliver a broad portfolio of memory-based solutions, including DDR5 RDIMMs and MCRDIMMs using 16Gb, 24Gb and 32Gb DRAM die, LPDDR5X using 16Gb and 24Gb DRAM die, HBM3E and GDDR7. The new Micron 16Gb DDR5 memory offerings will be available through direct sales and channel partners.

Industry Quotes:

"ASUS is a leader in high-performance notebooks for consumer and gaming applications. The transition of the memory subsystem to DDR5 is a key focus area for ASUS," said Y.C. Chen, associate vice president of ASUS. "We are excited to launch our ASUS and ROG notebooks with Micron's 1β DDR5 to provide the superior user experience our customers demand."

"Ampere's Cloud Native Processors paired with Micron's leading 1β DDR5 provide best-in-class compute solutions to deliver the performance, scalability and power efficiency hyperscalers require," said Jeff Wittich, chief product officer at Ampere Computing. "The early integration of Micron's 1β DDR5 at 7,200MT/s speeds with our AmpereOne™ platforms will continue to drive advances in AI, machine learning and all high-performance compute applications."

"We are excited to partner with Micron to power next-generation platforms optimized for targeted applications with our industry-leading DDR5, LPDDR5X, GDDR6 and HBM3 IP system solutions and Micron's world-class memory portfolio," said Boyd Phelps, vice president and general manager of the Cadence IP Group. "By leveraging Micron's advanced 1β DDR5 memory, we're able to evaluate and qualify our high-performance DDR5 IP with speeds up to 7,200MT/s."

Resources Section:

- DDR5 webpage
- DDR5 video

About Micron Technology, Inc.
We are an industry leader in innovative memory and storage solutions transforming how the world uses information to enrich life *for all*. With a relentless focus on our customers, technology leadership, and manufacturing and operational excellence, Micron delivers a rich portfolio of high-performance DRAM, NAND and NOR memory and storage products through our Micron® and Crucial® brands. Every day, the innovations that our people create fuel the data economy, enabling advances in artificial intelligence and 5G applications that unleash opportunities — from the data center to the intelligent edge and across the client and mobile user experience. To learn more about Micron Technology, Inc. (Nasdaq: MU), visit micron.com.

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[1] The JEDEC optional SRX/NOP Clock-Sync (CLK_SYNC) feature is intended to mitigate host-to-DRAM duty cycle distortion effects in 4-phase clock architectures, which the Micron 1βnm device supports.

[2] Based on theoretical max bandwidth, component level performance increase: (7200-4800)/4800.

[3] Performance per watt (theoretical max BW, component level): Y52K 7,200MT/s vs. Y32A 4,800MT/s. Calculated based on projected Gstress bus

utilization @ 7,200MT/s (58%) and measured in SPR E-step system.

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