Micron First to Market With LPDDR5X-based LPCAMM2 Memory, Transforming User Experiences for PCs

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Higher performance, better power consumption, smaller form factor LPCAMM2 memory enables faster, lighter, smaller notebooks with longer battery life and modularity for serviceability and upgrades

BOISE, Idaho, Jan. 09, 2024 (GLOBE NEWSWIRE) -- Micron Technology, Inc. (Nasdaq: MU), today unveiled the industry's first standard low-power compression attached memory module (LPCAMM2) available in capacities from 16GB to 64GB, which delivers higher performance, energy-efficiency, space savings and modularity for PCs. Sampling now with production in the first half of 2024, LPCAMM2 is the first disruptive new form factor for client PCs since the introduction of small outline dual inline memory modules (SODIMMs) in 1997. Micron's LPDDR5X DRAM incorporated into the innovative LPCAMM2 form factor will provide up to 61% lower power[1] and up to 71% better performance for PCMark® 10 essential workloads such as web browsing and video conferencing,[2] along with a 64% space savings over SODIMM offerings.[3]

As generative artificial intelligence (GAI) use cases proliferate to client PCs, performance of the memory subsystem becomes more critical. LPCAMM2 delivers the required performance to process AI workloads on PCs and provide the potential to scale to applications needing a high performance and low power solution in a compact and modular form factor, with the ability to upgrade low power DRAM for the first time, as customer needs evolve.

"Micron is transforming the laptop user's experience with the LPCAMM2 product that will deliver best-in-class performance per watt in a flexible, modular form factor," said Praveen Vaidyanathan, vice president and general manager of Micron's Compute Products Group. "This first-of-its-kind product will enhance the capabilities of AI-enabled laptops, whose memory capacity can be upgraded as technology and customer needs evolve."

Micron's leadership in JEDEC and collaboration with key client PC OEMs and ecosystem enablers helped design and develop the LPCAMM2 form factor. Beyond product development, delivering this new type of memory has involved numerous innovations for test hardware, testing methodologies and automation technologies that will enable an efficient production ramp. Additional benefits of Micron's LPCAMM2 include:

- Higher performance with LPDDR5X to achieve speeds up to 9600Mbps versus 5600Mbps with current DDR5 SODIMMs[4]
- Up to 80%[5] system standby power savings to improve battery life
- Up to 7% better performance for digital content creation workloads[6]
- Up to 15% improvement for productivity workloads in PCMark 10 tests[6]
- Modularity to enable critical serviceability functionality for enterprise IT users and administrators
- Single PCB for all module capacities to provide supply chain flexibility to OEM and ODM customers
- Simplified motherboard routing complexity compared to SODIMM
- Crucial LPCAMM2 retail products allow laptop PC users the ability to upgrade their system memory configuration

"LPCAMM2 is a dynamic new form factor for the PC ecosystem that enables higher performance, scalable memory capacity, and improved battery life for mobile workstations and thin and light laptops," said Yasumichi Tsukamoto, executive director and distinguished engineer, Commercial Product Solutions Development at Lenovo. "We are proud of our strong relationship and joint development effort with Micron to be one of the first to market in bringing this flexible memory offering to our customers. In addition to the enhanced user experience, the low power memory used in these modules aligns with our goals to reduce energy consumption in our laptops."

"Intel and Micron, in close collaboration with key industry PC leaders, are reimagining the client PC space through the development of optimized new platform designs, powered by Micron's LPCAMM2 form factor. The technical advantages of LPCAMM2 technology enable Intel and its ecosystem partners to advance sustainable low-power memory technology solutions and exciting new PC designs for the age of the AI PC," said Dr. Dimitrios Ziakas, vice president of Memory and IO Technology at Intel. "We remain committed to our collaboration with the ecosystem, paving the path for future adoption and innovation."

"The use of large language models and AI applications on edge devices like laptops and mobile workstations is a key focus area for our future customer-focused designs," said Andy Lee, senior vice president of Compal. "Compal is working closely with Micron to design platforms that are going to fuel the AI revolution based on the high bandwidth, low power, and high-capacity capabilities of Micron's LPCAMM2 memory solutions."

Micron will also offer end customers Crucial LPCAMM2 memory offerings to provide laptop users like gamers, on-the-go professionals and content creators with the ability to upgrade their memory themselves, an industry first for low-power memory due to the upgradeable design of this new form factor. Crucial LPCAMM2 products will be available in the first half of 2024 on www.crucial.com. To learn more about the innovative features and advantages of Micron's LPCAMM2 offering, visit: www.micron.com/LPDRAM.

Resources:

- **Product brief:** https://media-www.micron.com/-/media/client/global/documents/products/product-flyer/lpddr5x_camm2_technical_brief.pdf
- **LPCAMM2 Video with Lenovo:** https://www.youtube.com/watch?v=hHqvNi9wMEM&t=2s
- **Blog:** https://www.micron.com/about/blog/2024/january/lpcamm2-no-compromise-for-next-gen-laptops
- **Image gallery:** Gallery | Micron Technologies, Inc
- **Product webpage:** LPDRAM | LPDDR | Micron Technology

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] Up to 61% lower active power per 64-bit bus at the same DDR5 speed as compared to SODIMM memory

[2] Based on PCMark 10 essentials workload test results comparing LPDDR5X LPCAMM2 versus DDR5 SODIMM; the essentials workload models common tasks and activities that users perform multiple times a day such as web browsing or video conferencing

[3] Space savings of up to 64% compared to dual-stacked SODIMM

[4] Faster data rate with LPDDR5X up to 9600Mbps compared to 5600Mbps for DDR5 SODIMM

[5] LPCAMM2 power savings over SODIMMs found in the following areas: active power is up to 43-58% lower per 64-bit bus at the same DDR5 speed; standby power savings of up to 80%; IDDR6 power savings (self-refresh) of up to 85%

[6] Based on PCMark 10 digital content creation and productivity workload test results comparing LPDDR5X LPCAMM2 versus DDR5 SODIMM; the digital content creation workload tests performance for photo and video editing, and 3D content creation; the productivity workload measures PC performance for office applications like spreadsheets and writing