



Micron Launches Low-Power Memory Qualified for Automotive Safety Applications

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Solution enhances smart, data-rich driver assistance, automatic braking and driver warning systems

BOISE, Idaho, Feb. 24, 2021 (GLOBE NEWSWIRE) -- Micron Technology, Inc. (Nasdaq: MU), today announced that it has begun sampling the industry's first automotive low-power DDR5 DRAM (LPDDR5) memory that is hardware-evaluated to meet the most stringent Automotive Safety Integrity Level (ASIL), ASIL D. The solution is part of [Micron's new portfolio of memory and storage products targeted for automotive functional safety](#) based on the International Organization for Standardization (ISO) 26262 standard.

Micron's functional safety-evaluated DRAM is compatible with advanced-driver assistance system (ADAS) technologies, including adaptive cruise control, automatic emergency braking systems, lane departure warning and blind spot detection systems.¹ Micron's LPDDR5's high performance, superior power efficiency and low latency provide the requisite performance and headroom to keep pace with increasing bandwidth requirements of next-generation automotive systems.

"Autonomous vehicles promise to make our roads safer, but they need powerful, trusted memory that can enable real-time decision-making in extreme environments," said Kris Baxter, corporate vice president and general manager of Micron's Embedded Business Unit. "To fulfill this growing market need, we've optimized our automotive LPDDR5 to deliver the utmost performance, quality and reliability for the smart, safe cars of tomorrow."

As electronic components in cars become integral for safety, automakers must meet strict functional safety standards that require mechanisms to mitigate risk in the event of malfunctions. Recognizing the growing importance of functional safety, Micron has established an office dedicated to collaborating with customers on the memory requirements of designing safe automotive systems. To help customers navigate complex compliance obligations, this office has spearheaded the launch of LPDDR5 with a safety application note and the industry's first supplier-provided hardware evaluation report of DRAM. Micron's hardware evaluation has also been independently assessed and verified by [exida](#), a renowned expert in automotive safety. By taking on this demanding evaluation in-house, Micron simplifies system design and speeds time to market for automotive customers.

"Functional safety is essential to the development of advanced automotive systems, but to date, memory has had a somewhat neglected commercial off-the-shelf existence," said Alexander Griessing, chief operating officer and principal safety expert at exida. "Micron has launched its industry-leading automotive LPDDR5 with a laser focus on ISO 26262, setting a new standard for the rest of the memory industry. This increased attention to functional safety will benefit all, from automakers to consumers who need advanced, safe vehicles."

Micron's low-power memory drives automotive innovation and greener transportation

As the adoption of ADAS and autonomous technologies rapidly increases, data capture and efficient processing are becoming key to automotive innovation. [Gartner projects](#) the automotive memory market will grow to \$6.3 billion in 2024, more than doubling from \$2.4 billion in 2020.² With data-intensive automotive technologies on the rise, ADAS-enabled vehicles now run over 100 million lines of code and require hundreds of tera operations per second, rivaling data center compute. LPDDR5 addresses these requirements with a 50% increase in data access speeds and more than 20% improvement in power efficiency.³ These capabilities equip intelligent vehicles with near-instantaneous decision-making from the fusion of multiple sensors and inputs, such as radar, lidar, hi-resolution imaging, 5G networking and optical image recognition.

LPDDR5's energy efficiency enables high-performance compute for cars while minimizing power consumption for both electric and conventional vehicles, resulting in greener transportation with lower emissions. Micron's automotive LPDDR5 is also ruggedized to support extreme temperature ranges and qualified for automotive reliability standards such as Automotive Electronics Council-Q100 and International Automotive Task Force 16949.

Unique functional safety-evaluated DRAM speeds time to market for smart, safe cars

Accompanied by extensive functional safety collateral, Micron's LPDDR5 supports customers in conducting comprehensive safety analysis during system configuration. The Micron-provided hardware evaluation report verifies extensive functional safety analysis in strictest compliance with ISO 26262.⁴ To meet top-level safety requirements, LPDDR5 incorporates safety mechanisms to detect and control memory errors during operation, as well as mechanisms that can be implemented by system integrators to further reduce risk.

Used by leading automakers, Micron's high-quality memory and storage solutions have accumulated trillions of miles⁵ on the road over the company's 30 years in the [automotive market](#). Micron's deep expertise stems from tight collaboration with automotive customers on designing memory into the system architecture that underpins ADAS, in-vehicle infotainment, digital cockpits and machine learning. As the market share leader, Micron is uniquely positioned as the top memory supplier to the automotive market.

Resources

- Product page: [Functional Safety for Automotive](#)
- Blog: [Building Safety into Automotive Silicon — Micron Is Leading the Charge](#)
- Video: [Automotive Functional Safety — Enabling the Autonomous Future](#)

¹ Subject to system integrators' assessment

² Gartner, Semiconductor Forecast Database, Worldwide, 4Q20 Update, Table 2.1, December 2020

³ Compared to the previous generation of LPDDR4x

⁴ The hardware evaluation report satisfies the requirements of clause 13 of ISO 26262-8.

⁵ Estimate based on Micron's calculations

About Micron Technology, Inc.

We are an industry leader in innovative memory and storage solutions. Through our global brands — Micron® and Crucial® — our broad portfolio of high-performance memory and storage technologies, including DRAM, NAND, 3D XPoint™ memory and NOR, is transforming how the world uses information to enrich life *for all*. Backed by more than 40 years of technology leadership, our memory and storage solutions enable disruptive trends, including artificial intelligence, 5G, machine learning and autonomous vehicles, in key market segments like mobile, data center, client, consumer, industrial, graphics, automotive, and networking. Our common stock is traded on the Nasdaq under the MU symbol. To learn more about Micron Technology, Inc., visit micron.com.

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