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Micron Introduces Industry's First 1TB Automotive and Industrial Grade PCIe NVMe™ Flash Storage

Industry's Highest-Capacity BGA and 22x30mm M.2 SSD

BOISE, Idaho and MUNICH, Germany, Nov. 13, 2018 (GLOBE NEWSWIRE) -- Micron Technology, Inc., (Nasdaq: MU) an industry leader in innovative memory and storage solutions, today introduced the industry's first 1TB automotive and industrial grade PCIe NVMe™ solid state drive (SSD) in BGA and 22x30mm M.2 form factors at Electronica 2018. Based on 64-layer triple-level cell (TLC) 3D NAND technology, the new Micron 2100 series of NVMe SSDs is designed for next-generation autonomous cars and the industrial internet of things (IIoT).

As data requirements in connected cars with advanced driver-assistance systems (ADAS) and in-vehicle infotainment (IVI) increase, vehicles are transforming into data centers on wheels, requiring faster, reliable and cost-effective storage. In addition, the proliferation of edge computing and use of artificial intelligence (AI) in IIoT applications is driving a similar need for faster storage that is not supported by legacy interfaces like SATA and e.MMC.

"Strategy Analytics estimates that 1.8 million cars with Level 3 or higher autonomous driving capabilities will be sold in 2023. These cars are expected to require up to 1TB of flash storage for 3D maps, black box recording, sensor data and 4K infotainment content," said Ian Riches, executive director of global automotive practice at Strategy Analytics. "The introduction of Micron's PCIe NVMe automotive SSD is a much-needed development toward overcoming the bandwidth, latency and capacity challenges of ADAS and is well-suited to service the storage needs of future self-driving cars."

"As a leading innovator of memory and storage technologies, Micron has several decades of experience working with automotive and industrial manufacturers to address their challenges," said Aravind Ramamoorthy, NAND product line senior director for Micron's Embedded Business Unit. "The Micron 2100 SSD offers industry-leading capacity, performance, reliability and low-cost storage in a small form factor."

Micron 2100 SSD Key Features

- **Superior performance**: Up to 2000 MB/s reads and 1100 MB/s writes, >2X faster reads and >1.5X faster writes than UFS 2.1 and SATA 3 interfaces[1]
- **Highest capacity in small form factor**: Available in 64GB to 1TB densities[2] and 16x20mm BGA and 22x30mm M.2 form factors
- **Low-power**: Optimized for reduced power consumption with lower estimated energy usage vs. UFS 2.1[3]
- **Operating temperature:** -40°C to 105°C and -40°C to 95°C Tcase
- **Storage interface:** PCIe x4 Gen3, NVMe 1.3 with direct boot option, bypassing the need for another storage device for boot; NVMe shows >25% and >15% improvement in system write and read speeds, respectively, over SCSI software storage stack used in UFS[4]
- **Quality and reliability:** AEC-Q100, IATF 16949-compliant
- **Automotive and industrial specific features**: End-to-end data path protection, SLC partitioning support for high endurance, TCG Opal with self-encryption capability
- **Cost-effective**: Based on industry-leading 64-layer TLC NAND with CMOS under array technology

Customer Enablement

"We are pleased that Micron is announcing the industry's first automotive grade PCIe SSD based on TLC 3D NAND for next-generation IVI and ADAS systems," said Nikolaus Bettinger, head of memory purchasing at Continental Automotive GmbH. "Micron's automotive PCIe SSD offers the significantly higher performance, capacity and reliability needed for Continental's next-generation autonomous driving solutions."

"The new Micron 2100 SSD, with its extended operating temperature range, brings unprecedented storage performance and capacity for numerous industrial applications in a compact 16x20mm BGA form factor," said Yves Desrochers, technology architect and industry relations at Kontron — An S&T Company

Availability

Micron 2100AI and 2100AT PCIe-based NVMe SSDs are sampling to automotive and industrial customers today, with volume production expected in 2H 2019.

Micron will showcase its automotive and industrial grade products during Electronica 2018, November 13-16, in Munich, Germany (exhibit hall B5, booth 438).

As a leading memory partner with more than 25 years of experience, Micron provides advanced automotive memory solutions that meet stringent quality, reliability and compliance requirements. Micron's broad portfolio of volatile and nonvolatile memory products are optimized for automotive and supported by a formal product longevity program.

For more information on Micron Technology's automotive and industrial memory solutions, visit: Automotive: https://www.micron.com/solutions/automotive
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Resources

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

References and Sources

1. 256GB density, 128KB sequential read access, nominal temperature, FOB, QD32, self-encryption enabled for PCIe SSD. May vary based on upon host and test environments.
2. 1GB = 1,000,000,000 bytes. User available space may be less.
3. Micron internal estimates.
4. Micron white paper: "Comparing UFS and NVMe™ Storage Stack and System-Level Performance in Embedded Systems"

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