March 24, 2025

PolarFire® SoC FPGAs Achieve AEC-Q100 Qualification

The robust, low-power solutions from Microchip Technology meet stringent automotive standards for reliability in harsh conditions

CHANDLER, Ariz., March 24, 2025 (GLOBE NEWSWIRE) -- Microchip Technology's **(Nasdaq: MCHP)** **PolarFire® System on Chip (SoC) FPGAs** have earned the Automotive Electronics Council (AEC)-Q100 qualification. The AEC-Q standards are a guideline for integrated circuits, using stress tests to measure the reliability of electronic components in vehicles. AEC-Q100 qualified devices have gone through rigorous testing to demonstrate they can withstand extreme conditions in automotive applications. The PolarFire SoC FPGA has been qualified for automotive Grade 1 temperatures, -40°C to 125°C.

PolarFire SoC FPGAs feature an embedded 64-bit, quad-core RISC-V® architecture capable of running Linux® and real-time operating systems (RTOS), with mid-range density programmable logic of up to 500K logic elements (LE). The SoC FPGA is designed for complex applications that demand low-power, high-performance, exceptional reliability and an extended operating temperature range. Devices with the same density and package have scalable assurance and share pin-package compatibility across temperature grades, making it appropriate for automotive use as well as aerospace and military applications.

The SoC FPGAs incorporate embedded security and safety features to protect physical, device, design and data integrity. The SoCs are designed with single event upset (SEU) immunity, which enhances reliability and helps mitigate the risk of data corruption and system failures in demanding environments.

"Achieving the AEC-Q100 qualification for our PolarFire SoC FPGAs validates that our technology can perform under the most challenging conditions and underscores our commitment to delivering robust solutions to meet the stringent demands of the automotive industry," said Bruce Weyer, Corporate Vice President of Microchip's FPGA business unit. "Our low-power design and RISC-V cores empower automotive engineers to create advanced, reliable and energy-efficient solutions for next-generation automotive systems."

PolarFire FPGAs and SoCs deliver power and thermal efficiency, eliminating the need for active cooling while ensuring high integration, defense-grade security and reliability. With high levels of scalability, they maintain performance across varying temperature conditions and meet stringent demands of mission-critical environments.

Development Tools

PolarFire SoCs are supported by Microchip's Libero® SoC Design Suite, SmartHLS™, VectorBlox™ and Microchip's Mi-V ecosystem of partner platforms for rapid RISC-V application development. Additionally, a wide variety of Microchip and partner intellectual property (IP) cores are available to accelerate time-to-market. Libero SoC Design Suite is

TÜV Rheinland-certified for functional safety, meeting ISO 26262 ASIL D standards for automotive applications. Compatible development boards are also available.

Pricing and Availability
For additional information and to purchase, contact a Microchip sales representative, authorized worldwide distributor or visit Microchip's Purchasing and Client Services website, **www.microchipdirect.com**.

Resources
High-res images available through Flickr or editorial contact (feel free to publish):
• Application image:
https://www.flickr.com/photos/microchiptechnology/54395159145/sizes/l/

About Microchip Technology:
Microchip Technology Inc. is a leading provider of smart, connected and secure embedded control and processing solutions. Its easy-to-use development tools and comprehensive product portfolio enable customers to create optimal designs which reduce risk while lowering total system cost and time to market. The company's solutions serve over 100,000 customers across the industrial, automotive, consumer, aerospace and defense, communications and computing markets. Headquartered in Chandler, Arizona, Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the Microchip website at **www.microchip.com**.

Editorial Contact:
Amber Liptai
480-792-5047
amber.liptai@microchip.com

Reader Inquiries:
1-888-624-7435

Source: Microchip Technology Inc.