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Microchip's Low-Cost PolarFire® SoC Discovery Kit Makes RISC-V® and FPGA Design More Accessible for a Wider Range of Embedded Engineers

Cost-sensitive development platform helps student, beginner and seasoned designers work with emerging technologies

CHANDLER, Ariz., Feb. 15, 2024 (GLOBE NEWSWIRE) -- The embedded industry is seeing an increased demand for open-source RISC-V®-based processor architectures, but there are still limited options when it comes to commercially available silicon or hardware. To fill this gap and help empower innovation, Microchip Technology **(Nasdaq: MCHP)** has launched the **PolarFire® SoC Discovery Kit**. By offering a user-friendly, feature-rich development kit for embedded processing and compute acceleration, Microchip is making emerging technology more accessible to engineers at all levels. The open-source development kit features a quad-core, RISC-V application-class processor that supports Linux® and real-time applications, a rich set of peripherals and 95K of low-power, high-performance FPGA logic elements. This full-featured, yet low-cost kit allows rapid testing of application concepts, developing firmware applications, programming and debugging user code.

"We are dedicated to helping support the growth of embedded systems that require low-power, high-performance FPGA fabrics. The PolarFire SoC Discovery Kit is a pivotal step in our journey towards creating more accessible, smart, secure and high-performing computing solutions for a wide range of applications," said Shakeel Peera, vice president of marketing for Microchip's FPGA business unit. "With the new Discovery Kit, experienced and new design engineers, as well as university students, will have access to a low-cost RISC-V and FPGA development platform for learning and rapid innovation."

In addition to traditional sales channels, PolarFire SoC Discovery Kits are being made available through a pilot project as part of the Microchip Academic Program in the second half of 2024. By offering the Discovery Kit at a reduced price to universities, Microchip is ensuring that the future generation of engineers have direct access to state-of-the-art technology. This approach not only enhances the practical learning experience for students but also aligns academic studies with the latest industry trends. Microchip's academic program offers resources for educators, researchers, and students worldwide and helps universities incorporate advanced technology into their curriculum.

"Preparing students for the work world, a capstone project is a unique opportunity for students to develop practical applications. Several ASU students are using the PolarFire SoC Discovery Kit in their projects this year and it's been an invaluable experience for them to have access not only to development boards, but also the amazing mentorship provided

through Microchip's academic program," said Steven Osburn, professor at the Ira A. Fulton Schools of Engineering at Arizona State University. "The students are getting hands-on experience working with new technology to complete real world engineering projects, finding innovative solutions to real-world problems."

The Discovery Kit is built around the PolarFire MPFS095T SoC FPGA that features an embedded microprocessor subsystem consisting of a quad-core, 64-bit CPU cluster based on the RISC-V Instruction Set Architecture (ISA). A large L2 memory subsystem can be configured for performance or deterministic operation and supports an asymmetric multi-processing (AMP) mode. The board includes support for Microchip's **Mi-V ecosystem,** a MikroBUS™ expansion header for Click Boards™ and a 40-pin Raspberry Pi® connector, as well as a MIPI video connector. The expansion boards can be controlled using protocols like I2C and SPI. An embedded FP5 programmer is included for FPGA fabric programming and debugging, and firmware applications development. Visit the **PolarFire SoC FPGA** webpage for additional details.

Pricing and Availability
The PolarFire SoC Discovery Kit is available starting at $132 for the general public and only $99 through Microchip's Academic Program. 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/53511685058/sizes/l/**
- Product image: **https://www.flickr.com/photos/microchiptechnology/53511816247/sizes/l/**
- Product Video: **https://youtu.be/GmitNBnw22I?si=vqyOY15NxLPZ3Vdv**

About Microchip Technology:
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