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PolarFire FPGA-Based Solution Enables Lowest-Power, Smallest-Form-Factor 4K Video and Imaging Applications

New development kit includes IP, reference designs and solutions to give designers the ability to implement high-resolution smart vision systems

CHANDLER, Ariz., Feb. 20, 2019 /PRNewswire/ -- Today's video and imaging processing involves developing complex computer algorithms which enable systems to capture and display information and high-resolution images. As designers require high-performance computing, memory and connectivity resources to achieve high-resolution imaging with rich, vivid detail, Field Programmable Gate Arrays (FPGAs) are excellent platforms to achieve this, as they can perform thousands of tasks in parallel to maximize data throughput. The new **PolarFire™ FPGA imaging and video solution** from **Microchip Technology Inc.** (Nasdaq: MCHP), addresses these challenges by delivering capabilities superior to alternative technologies to support resolution as high as 4K in small, low-power form factors necessary for a wide variety of imaging and video applications.



Microchip's award-winning PolarFire FPGAs—originally launched in February 2017 by Microsemi Corporation, now a wholly owned subsidiary of Microchip—are ideal for these mid-bandwidth (4K/2K) imaging/video applications due to their rich memory and Digital Signal Processor (DSP) resources in addition to offering up to 50 percent lower power than competing Static Random-Access Memory (SRAM)-based devices.

The new imaging and video solution comes with a complete ecosystem for customers, including comprehensive application-specific hardware, optimized intellectual property suite for image processing, sample reference designs, demonstration designs and collateral—providing designers with the hardware and software needed to implement 4K resolution

designs targeting PolarFire FPGAs. The video and imaging kit enables high-performance evaluation of 4K image processing and rendering using dual-camera sensors suitable for designing demonstrations for video stitching, static and dynamic object insertion, as well as real depth estimation based on disparity maps. With its modular intellectual property suite providing clients the ability to prototype and accelerate time to market, the kit can be leveraged for multiple projects to save costs, time and effort.

The kit also includes industry-standard imaging interfaces bolstered by 4 GB on-chip Double Data Rate fourth-generation (DDR4) and 1 GB flash memory for frame buffering and user configuration, respectively. It offers bidirectional Mobile Industry Processor Interface (MIPI) as a sensor interface and the choice of High-Definition Multimedia Interface (HDMI), Display Serial Interface (DSI) for display and Serial Digital Interface (SDI) for broadcast-grade video. The kit also facilitates the evaluation of reference designs for Picture-in-Picture (PiP) and edge detection with configurable resolution and image signal parameters. These features enhance the PolarFire FPGA imaging and video solution's suitability for numerous applications in multiple markets, including surveillance and Internet Protocol (IP) cameras, automotive and other untethered/mobile use cases, machine vision/medical, smart home and others in the industrial, aerospace/aviation and defense markets.

"Our PolarFire imaging and video offering serves as a one-stop solution to enable the evaluation of multiple imaging protocols and the development of high-resolution image and video processing applications in thermal, power and space constrained environments," said Shakeel Peera, vice president of marketing for the FPGA business unit at Microchip's Microsemi subsidiary. "The kit will also enable a flexible development platform that's easy to test and design, especially when developing custom intellectual property for applications like stereo video which have scarce customizable development platforms today."

To learn more about Microchip's cost-optimized PolarFire FPGAs delivering the industry's lowest power at mid-range densities with exceptional security and reliability, visit **www.microsemi.com/polarfire.**

Development Tools
The PolarFire imaging and video solution includes dedicated hardware to enable evaluation of multiple imaging and video protocols on PolarFire FPGAs. The development kit, optimized intellectual property suite, sample reference designs, demonstration designs and collateral are also included as part of the solution's complete ecosystem. The kit includes a free one-year gold license to the Libero® SoC Design Suite, Microchip's comprehensive development tool.

Pricing and Availability
Microchip's PolarFire FPGA imaging and video kit, MPF300-VIDEO-KIT, is available for purchase orders now. Pricing begins at $949 per unit. For more information, visit https://www.microsemi.com/product-directory/technology/3861-imaging or contact sales.support@microsemi.com.

About Microchip
Microchip Technology Inc. (Nasdaq: MCHP) is a leading provider of microcontroller, mixed-signal, analog and Flash-IP solutions, providing low-risk product development, lower total system cost and faster time to market for thousands of diverse customer applications worldwide. 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.**

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EDITORIAL CONTACT:
Brian Thorsen
480-792-7182
pr@microchip.com

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