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# FPGA & SoC TechBytes



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Issue 6

## Awards Pour in for PolarFire™ FPGAs



As adoption of Microsemi's PolarFire FPGAs gains momentum, the product family is winning multiple awards in recognition of its innovation in delivering low power and cost benefits. Both [Electronic Products Magazine](#) and [Electronics Products China/21ic](#) named PolarFire FPGAs as the 2017 Product of the Year, while [China Electronic Market Magazine](#) gave the family its Editor's Choice Award in recognition as the "most competitive FPGA product for 2017" based on brand influence, market share, technological innovation, product services, and unique features. In the UK, PolarFire was a finalist in Electronics Weekly's annual [Elektra Awards](#).



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## PolarFire Family Meets Key Production-Qualification Milestone

Microsemi's first cost-optimized, [low power](#), mid-range PolarFire FPGA device is now production-qualified. With 300K logic elements (LEs), the second largest device in the family targets a variety of [applications](#) in the [communications](#), [defense](#), [industrial](#), and [aviation](#) markets. There's also full [Libero SoC Design Suite](#) support for PolarFire devices, giving designers the ability to design-in any member of the family.

## Build a RISC-V PC!

Working together to accelerate the growth of the [Mi-V™ RISC-V ecosystem](#), Microsemi's new HiFive Unleashed Expansion Board, available on [Crowdsupply](#), plugs into SiFive's HiFive Unleashed Development Board to enable the implementation of custom peripherals in [PolarFire FPGAs](#). Developers can implement a full-fledged RISC-V PC by enabling standard PCI® Express devices, USB, and secure digital cards to connect to SiFive's Freedom U540 RISC-V processor.



## New Kits and Boards for Evaluation and Development



The [SmartFusion2 Dual-Axis Deterministic Starter Kit](#) gives designers a great starting point for evaluating time-saving, proven motor control

reference designs. This kit is supplied with hardware and software IP blocks and a fully integrated solution, along with a powerful, easy-to-use GUI that enables users to quickly prototype.

The [RTG4 Development Kit](#) provides space customers with an evaluation and development platform for applications such as data transmission, serial connectivity, bus interface, and high-speed designs using [RTG4](#) radiation-tolerant, high-density, high-performance FPGAs.



The [PolarFire Splash Kit](#) provides general purpose interfaces for evaluation and development. The kit connections include Gigabit Ethernet RJ45, PCIe, USB, and LPC FMC connector. A PolarFire 300K LE FPGA along with onboard DDR4 and SPI-Flash memory enable general purpose evaluations.

The Future Electronics-designed [Creative Development Board](#), featuring Microsemi's [IGLOO2](#) FPGA, is pre-programmed with a RISC-V core and peripherals, offering the lowest cost of entry for both software and hardware engineers who want to evaluate and implement their own unique designs. Click [here](#) to watch the video.



Microsemi's [PolarFire Evaluation Kit](#) offers high-performance evaluation across a broad class of applications. [Watch the unboxing video!](#)

#### **Libero SoC PolarFire v2.1 Available Now**



[Libero SoC PolarFire](#) now supports the PolarFire 300XT device with production timing data. In addition, this release also supports PolarFire 100T/TS, 200T/TS, 300T/TS, and 500T/TS devices with production packages. Other features include DDR3/4 and LPDDR3 updates, improved transceiver simulation time, IOD generic interfaces supported with silicon, as well as 2x runtime improvement on external SPI flash programming. With the upcoming v2.2 release, we are supporting production power for PolarFire 300XT devices with many more features including runtime improvements. Stay tuned for more information.

**New webinars are available for you to learn more about Libero.**

- [LiberoDesign Suite Overview](#)
- [Enhanced Constraints Flow Overview 2018](#)
- [Embedded Design Flow using SoftConsole and Mi-V](#)

#### **Events and Workshops**

- [International SpaceWire Conference 2018—Long Beach, CA: May 14-17](#)
- [Arrow and Microsemi PolarFire FPGA Workshop—North America: May 15-Nov. 13](#)
- [SEE Symposium/MAPLD Workshop—La Jolla, CA: May 21-24](#)
- [FPGA Kongress—Munich, Germany: June 12-14](#)
- [DAC RISC-V Booth \(2638\)—San Francisco, CA: June 25-27](#)
- [RISC-V Workshop at Sensors Expo and Conference—San Jose, CA: June 26](#)
- [RISC-V Day—Shanghai, China: June 30](#)
- [RISC-V Workshop—Chennai, India: July 18-19](#)
- [RISC-V Day — Tokyo, Japan: October](#)
- [RISC-V Summit—Santa Clara, CA: Dec. 3-6](#)

#### **Articles**



- [Develop your Linux apps on this RISC-V board](#)–Embedded Computing Design
- [How FPGA technology is evolving to meet new mid-range system requirements](#)–Embedded.com
- [Embed](#)–SatMagazine
- [Plugging Security Vulnerabilities in Servers and Data Center Architectures](#) – Embedded Systems Engineering
- [How mid-range FPGAs lower the cost of high-speed interfaces](#)–Electronic Products

### Making News

- [Microsemi and SiFive Launch HiFive Unleashed Expansion Board, Enabling Linux Software and Firmware Developers to Build RISC-V PCs for the First Time](#)
- [Microsemi Collaborates with MathWorks to Deliver First Integrated FPGA-in-the-Loop Workflow for PolarFire and SmartFusion2 FPGA Development Boards](#)
- [Microsemi's PolarFire FPGA Wins China Electronic Market Magazine's Editor's Choice Award for Most Competitive FPGA Product in China](#)
- [Microsemi's Mi-V Ecosystem Continues to Expand as New Member Antmicro Joins to Develop Mi-V RISC-V Processor Subsystems for PolarFire FPGAs](#)
- [Microsemi Reaches Key Production-Qualification Milestone for its Award-Winning PolarFire FPGA Family](#)
- [Microsemi Achieves QML Class Q Qualification for its RTG4 High-Speed Radiation-Tolerant FPGAs](#)
- [Microsemi's PolarFire FPGA Named "2017 Product of the Year" by Electronic Products China and 21ic.com](#)
- [Microsemi to Showcase Third-Party IP Offerings for Machine Vision Applications Using its Cost-Optimized, Low Power Mid-Range PolarFire FPGAs at Embedded World](#)
- [Microsemi's Libero SoC Development Software Now Certified for IEC 61508 Functional Safety Requirements](#)
- [Microsemi and Future Electronics Announce Avalanche Board for Designing with Microsemi's PolarFire FPGAs](#)
- [Microsemi's PolarFire FPGA Named "Product of the Year" by Electronic Products Magazine](#)
- [Microsemi and Imperas Announce Extendable Platform Kit for Microsemi Mi-V RISC-V Soft CPUs](#)
- [SiFive Joins Microsemi's New Mi-V Ecosystem to Accelerate Adoption of RISC-V Open Instruction Set Architecture](#)
- [Microsemi Launches Mi-V Ecosystem to Accelerate Adoption of RISC-V](#)

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