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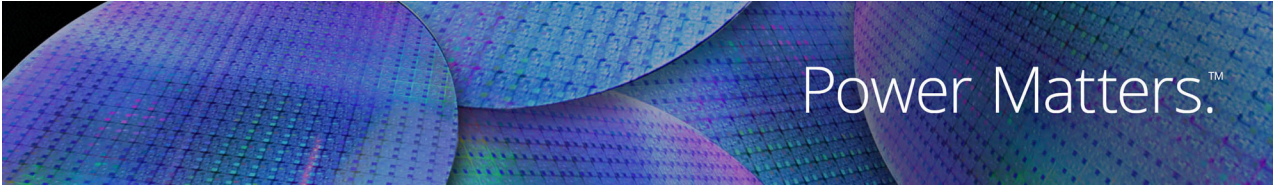
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MPFS-ICICLE-KIT-ES

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PolarFire SoC FPGA Icicle Kit

Click here to get started

The PolarFire SoC Icicle kit is a low-cost development platform that enables evaluation of the five-core Linux capable RISC-V microprocessor subsystem, innovative Linux, and real-time execution, low-power capabilities, and the rich set of peripherals of the [PolarFire SoC FPGA](#). PolarFire SoC is ideally suited for secure, reliable and power-efficient compute across a wide range of applications including Imaging, AI/ML, Industrial automation, IoT, Wireline Access Networks, Aerospace, and Defense & Automotive. The Icicle kit features onboard memories (LPDDR4, SPI, and eMMC flash) to run Linux off-the-shelf; a multi-rail power sensor to monitor various power domains; PCIe root port, Raspberry pi, and mikroBUS expansion ports and a host of wired connectivity options for quick prototyping and fast time to market.

PolarFire® SoC Icicle Kit, Microchip's RISC-V-Based SoC FPGA D...

[▶]

Hardware Features

- **PolarFire SoC FPGA (MPFS250T-FCVG484EES)**
  - SiFive E51 Monitor core (1 x RV64IMAC)
  - SiFive U54 Application cores (4 x RV64GC)
  - and Secure boot
- **Memory and Storage**

- **Interfaces**
  - 4 x 12.7 Gbps SERDES
  - PCIe Gen2 Rootport
  - 2 x Gigabit Ethernet
  - Micro USB 2.0 Hi-Speed OTG

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- 2 GB LPDDR4 x 32
- 1 Gb SPI flash
- 8 GB eMMC flash & SD card slot (multiplexed)
- **Programming & Debugging**
  - Onboard JTAG connector or onboard embedded FlashPro (multiplexed)
  - UART via micro USB
  - 52 x test points

- 4 x UART (via single micro USB)
- 2 x CAN
- 2 x SPI
- 2 x I²C
- **Expansion**
  - Raspberry Pi compatible 40-pin header
  - mikroBUS socket

PolarFire SoC FPGA Icicle Kit Block Diagram
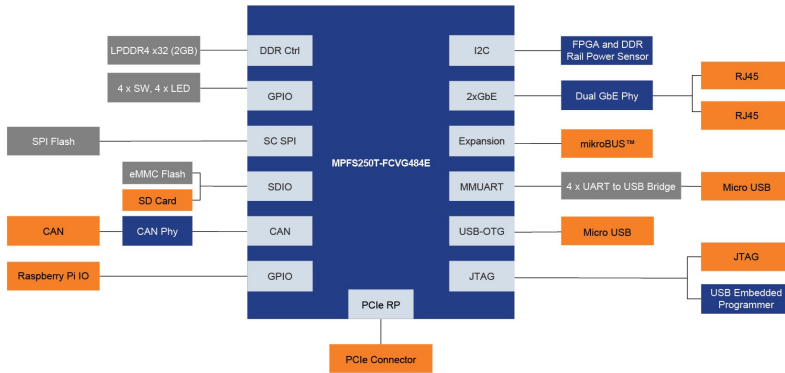
PolarFire SoC FPGA Icicle Kit Image

Interested in Early Access?

If you are interested in early access of PolarFire SoC and the Icicle kit mail to **polarfiresoc@microchip.com**

Licensing

A Libero Silver license is required with the PolarFire SoC Icicle kit to evaluate your designs. A Silver license is free and valid for 1 year. It supports single language simulation with programming and debugging features.

Generate your FREE Silver License

For any query please raise a tech support case. **https://soc.Microsemi.com/Portal/Default.aspx**

The MCPFS-ICICLE-KIT-ES uses the following parts supplied by Würth Elektronik eiSos GmbH & Co. KG:

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WE-CBF SMT EMI Suppression Ferrite Bead

WR-MJ Modular Jack Tab Up

WR-PHD 2.54 mm THT Pin Header

WR-COM Micro USB 2.0 Type AB Horizontal

WE-LHMI SMT Power Inductor

Würth Elektronik eiSos GmbH & Co. KG is a manufacturer of electronic and electromechanical components for the electronics industry. The company currently employs 8,300

staff and generated sales of 848 million euros in 2018. Würth Elektronik eiSos is one of the largest European manufacturers of passive components and is active in 50 countries.

ROHS

Package Carrier:	Box

This part can be found in the following product categories:

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