

PolarFire® Splash Kit QuickStart Guide

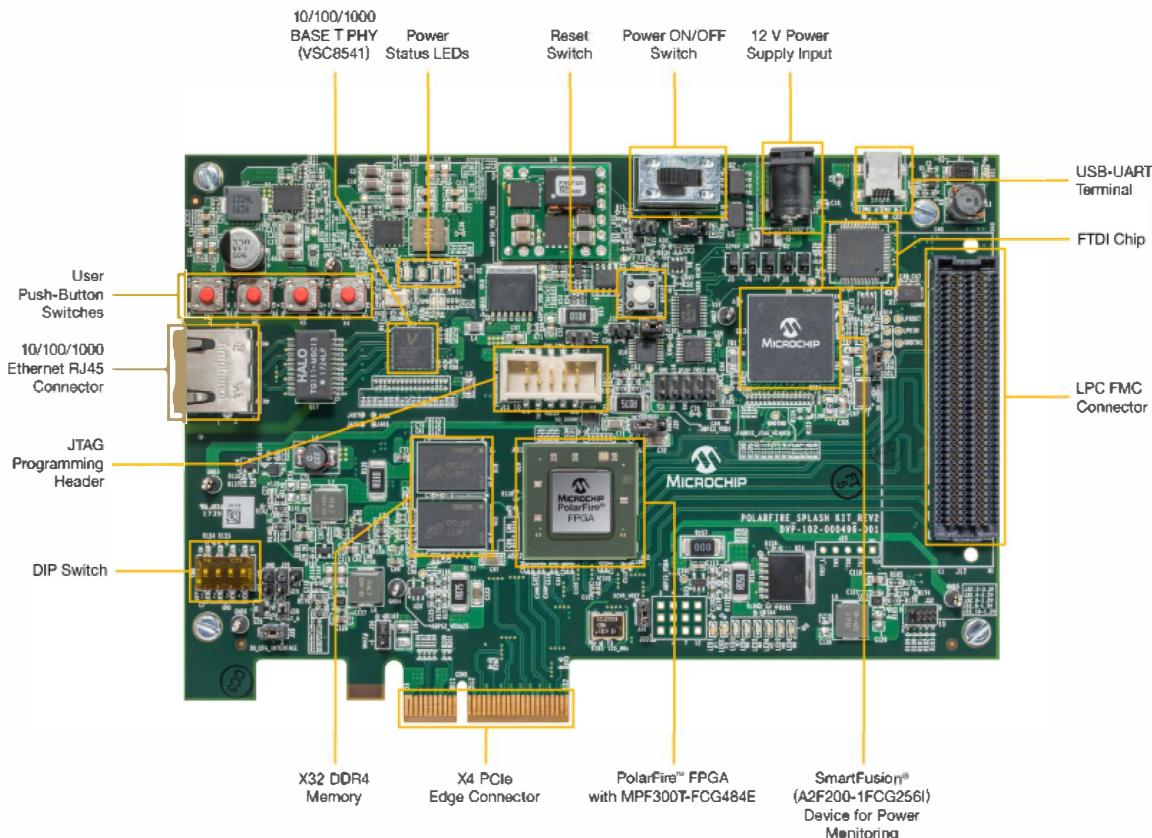
Introduction

Microchip's PolarFire Splash Kit is a general-purpose hardware platform for evaluating the lowest power, cost-optimized, non-volatile PolarFire FPGAs. This kit has a 300K LE PolarFire FPGA, which integrates reliable non-volatile FPGA fabric, 12.7 Gbps transceivers, 1.6 Gbps I/Os, best-in-class-performance, hardened security IP, and crypto processors. The silicon features power optimization with the lowest static power for 28 nm non-volatile FPGAs, in its low power mode; integrated DDR PHY, PCIe endpoint/ root port, and crypto processor hard IPs.

Table 1. Kit Contents—MPF300-Splash-Kit

Quantity	Description
1	PolarFire Splash Kit Board with MPF300T-1FCG484E device
1	12V power pack/AC adapter
1	USB 2.0A-male to Mini-B
1	Quickstart card

Figure 1. MPF300 Splash Kit Call-Out



Design Applications

- Industrial automation
- Wireless access networks and cellular infrastructure
- FMC expansion
- High-speed I/O
- Imaging and video
- Security
- Power measurement

Hardware Features

- 300K LE PolarFire FPGA in an FCG484 package (MPF300T-1FCG484E)
- PCI Express (x4) edge connector
- FMC connector (LPC)
- x32 LPDDR4
- On-board power monitoring
- RJ45 interface for 10/100/1000 Ethernet using SGMII on GPIO
- USB for UART interface and programming
- 1 Gb SPI Flash memory
- JTAG and SPI programming interface

Programming

Microchip's PolarFire Splash Kit provides FPGA programmability using an on-board embedded FlashPro5 programmer.

The board can also be programmed with standalone FlashPro4/5 hardware (not included with kit).

IAP programming and debug support is also provided on the board.

For more information about programming procedures, see www.microsemi.com/existing-parts/parts/150866#resources.

Jumper Settings

The PolarFire Splash Kit comes with the following default jumper settings.

Table 2. Jumper Settings

Jumper	Pin	Factory Default
J5, J6, J7, J8, and J9	2-3	Closed
J4, J11, and J32	1-2	Closed

Running the Demo

The PolarFire Splash Board comes with a preprogrammed JESD204B standalone demo design.

The following steps set up the PolarFire Splash Kit Board to run the JESD204B demo.

1. Connect the power supply cable to the **J2** connector on the board.
2. Connect the USB cable from the host PC to the **J1** connector (FTDI port) on the board.
3. Power on the board using the **SW1** slide switch.

The following LEDs glow when the board is completely powered-up and the demo design is running.

- Power supply LEDs: LED1 to LED6
- Demo LEDs: DS1, DS3, DS4, DS5, DS6, and D5

Software and Licensing

Libero[®] SoC PolarFire Design Suite offers high productivity with its comprehensive, easy-to-learn, easy-to-adopt development tools for designing with Microchip's PolarFire FPGAs. The suite integrates industry standard Synopsys Synplify Pro synthesis and Mentor Graphics ModelSim simulation with best-in-class constraints management and debug capabilities.

Download the latest Libero SoC PolarFire release www.microsemi.com/products/fpga-soc/design-resources/design-software/libero-soc-polarfire#downloads

Your Kit will work with Silver License.

Documentation Resources

For more information about the PolarFire Splash Kit, including user's guides, tutorials, and design examples, see the documentation at www.microsemi.com/existing-parts/parts/150866#resources

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- Embedded Solutions Engineer (ESE)
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ISBN: 978-1-5224-8881-1

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