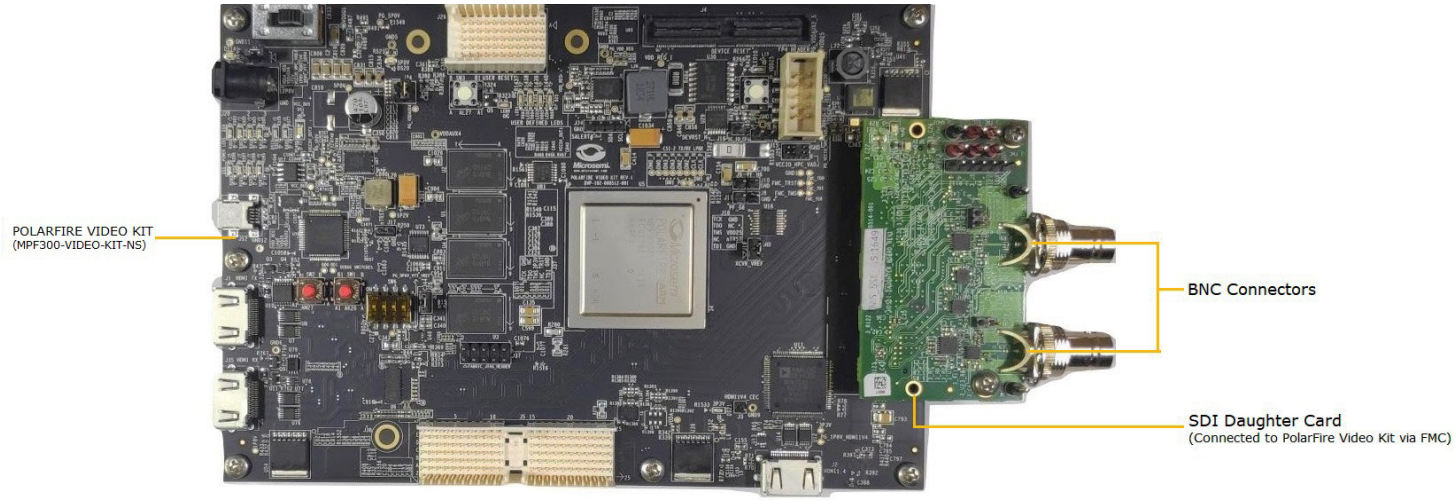
SDI FMC Daughter Card Quickstart Card

Kit Contents—VIDEO-DC-SDI

Quantity	Description
1	SDI FMC Board (VIDEO-DC-SDI)
1	Coaxial BNC to BNC Male to Male
1	Quickstart card

Overview



Microchip's Serial Digital Interface (SDI) solution is a 2-board solution, supports HD/3G/6G/12G rates and is compliant with the SMPTE standards. The board is equipped with BNC connectors and the necessary clocking circuitry to facilitate hassle-free evaluation of the solution.

Microchip's SDI FMC daughter card is the hardware evaluation platform for evaluating and testing the SDI protocol. The daughter card works with the PolarFire Video Kit, which features the PolarFire FPGA device. You need to buy the daughter card separately to evaluate the SDI solution. The kit is purposely built for effortless prototyping of popular imaging and video protocols including MIPI CSI-2 TX, MIPI CSI-2 RX, HDMI 1.4 TX, HDMI2.0, DSI, and HD/3G/6G/12G SDI. With a 300K logic element (LE) PolarFire FPGA with DDR4 and SPI-flash, the kit is ideally suited for mid-bandwidth imaging and video applications.

Hardware Features

- 6G/12G SDI support
- On board 148.5 MHz Oscillator
- Equalizer on RX path
- Driver and Re-clocker on TX path

Programming

Microchip's PolarFire Video Kit must be programmed prior to using the SDI FMC Daughter Card. A programming file (.stp) is available at https://www.microsemi.com/existing-parts/parts/150888.

See the documentation resources at https://www.microsemi.com/existing-parts/parts/150747#resources for more information about programming procedures.

Running the Demo Design

To run the demo, set up the board as outlined in the following steps. For detailed instructions, see the DG0889: PolarFire FPGA SDI Demo Guide.

Setting Up the Board

The following steps set up the PolarFire Video Kit (MPF300-VIDEO-KIT-NS) to run this demo.

1. Connect the FMC connector **3-J4** on SDI board to the FMC connector and **J14** on the PolarFire Video kit.
2. Connect the **TX(3_J1)** and **RX(3_J1)** BNC connectors on the SDI board using a BNC cable.
3. Insert the dual camera module into **J38** on the PolarFire Video Kit.

   Note: Ensure to remove the camera lens caps.
4. Connect the **12 V** power supply to connector **J20** on the PolarFire Video Kit.
5. Connect a HDMI monitor cable to the **J1** connector on the PolarFire Video kit.
6. Power **ON** the PolarFire Video Kit by sliding **SW4** to the **ON** position.
7. A color-bar pattern or a camera image is displayed on the HDMI monitor.

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 release
https://www.microsemi.com/product-directory/design-resources/1750-libero-soc

A Gold license is required to program the PolarFire Video Kit. A Software ID letter enclosed with the kit contains Software ID and instructions on how to generate this license. For more information, see https://www.microsemi.com/existing-parts/parts/150747#overview.

Documentation Resources

For more information about the SDI FMC daughter card, including schematics and user's guides, see the documentation at https://www.microsemi.com/existing-parts/parts/150888#resources.

Support

For Technical support, log a case at our portal, https://soc.microsemi.com/Portal/Default.aspx.

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