

SmartFusion Evaluation Kit

Quickstart Card

Kit Contents – A2F-EVAL-KIT

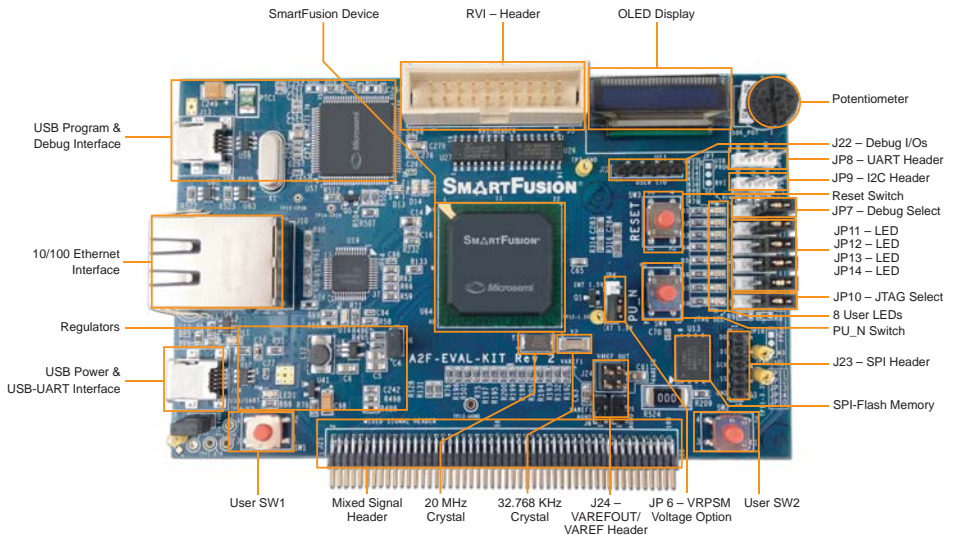
| Quantity | Description |
|----------|---|
| 1 | SmartFusion [®] Evaluation board with A2F200M3F-FGG484 |
| 2 | USB 2.0 A to mini-B cable |

Note: The A2F-EVAL-KIT is RoHS compliant.

Overview

Microsemi's SmartFusion Evaluation Kit provides designers access to SmartFusion customizable system-on-chip (SoC) FPGAs, the only devices that integrate an FPGA, an ARM[®] Cortex™-M3 processor, and programmable analog, offering full customization, IP protection, and ease-of-use.

The device contains on-chip flash and on-chip SRAM memory, as well as additional SPI flash memory on the board.



Jumpers Settings, Programming, and Debug

Prior to powering up the A2F-EVAL-KIT for the first time, make sure the jumpers are in the following positions:

| Jumper | Location | Purpose | Setting |
|--------|----------------------------------|-------------------------|----------|
| J6 | 2 pins next to the Ethernet jack | 3.3 V Regulator | 1–2 |
| JP6 | Next to the PU_N switch | VRPSM voltage option | 2–3 |
| JP7 | Right side of board | Input selecting option | 1–2 |
| JP10 | Right side of board | JTAG programming option | 1–2 |
| JP11 | Right side of board | Access to LED5 | 1–2 |
| JP12 | Right side of board | Access to LED6 | 1–2 |
| JP13 | Right side of board | Access to LED7 | 1–2 |
| JP14 | Right side of board | Access to LED8 | 1–2 |
| J24 | Bottom right side of board | VAREFOUT/ VAREF Header | 1–2, 3–4 |

Jumpers JP7 and JP10 control the programming and debug interaction with the SmartFusion device. JP8 is the UART header and JP9 is the I2C header. Jumpers JP11–JP14 control LED access. J23 is the SPI header. The UART and circuitry on the top left of the board replicate the functionality of the Microsemi standalone low-cost programming stick (LCPS) and provide the Microsemi programming and debug interface used with the FlashPro programming software and SoftConsole Integrated Design Environment (IDE) software. The RVI header on the board is used for communication through J-LINK or U-LINK for Keil™ and IAR Systems. The table below indicates how these settings can be used.

| Function | Software | Connector | JP7 | JP10 |
|-----------------|-------------|-----------------|----------------|------------|
| Debug Cortex-M3 | SoftConsole | J13 – USB PROG | 1–2 (USB PROG) | 2–3 (M3) |
| Debug Cortex-M3 | Keil or IAR | J3 – RVI-HEADER | 2–3 (RVI) | 2–3 (M3) |
| Debug FPGA | Identify | J13 – USB PROG | 1–2 (USB PROG) | 1–2 (FPGA) |
| Programming | FlashPro | J13 – USB PROG | 1–2 (USB PROG) | 1–2 (FPGA) |

Note: *USB to UART for HyperTerminal is connected through the second UART connection and is not affected by these settings.*

For a full description of all jumpers, refer to the *SmartFusion Evaluation Kit User's Guide*.

Running the Demo Design

The SmartFusion Evaluation Kit comes with a preloaded demo design. If the board is programmed correctly, you will see the following message displayed on the OLED:



Note: You may have to press the RESET or PUB switch to activate the demo design. The OLED will then update to show the following:



If the board is not preprogrammed, the programming file and the source files for the demo are provided on the SmartFusion Evaluation Kit page. The programming file for the demo is provided standalone as a zip file under the SmartFusion Evaluation Kit Quickstart Card. The source files are posted with the SmartFusion Webserver Demo Using uIP and FreeRTOS document:

www.microsemi.com/soc/products/hardware/devkits_boards/smartfusion_eval.aspx

Running the Manufacturing Test

You can run the manufacturing test to verify the device and board connections. The manufacturing test files are available from the SmartFusion Evaluation Kit web page. Instructions on how to run the test are available in the *SmartFusion Evaluation Kit User's Guide*.

Software and Licensing

The SmartFusion Evaluation Kit is supported by Libero[®] System-on-Chip (SoC) v10.0 or later, which includes a web install option. SoftConsole Software IDE and FlashPro are enabled by default in the web install; these software tools can be used for software design and debug. SmartFusion is also supported by Keil and IAR Systems, which can be installed separately. Refer to the *SmartFusion Evaluation Kit User's Guide* for more information.

Software releases: www.microsemi.com/download/software/libero

Keil and IAR information: www.microsemi.com/soc/products/smartfusion/ecosystem.aspx

Libero SoC v10.0 requires a valid Gold, Platinum, or Standalone Libero license.

If you need a new license, select FREE Libero SoC Gold license and request a new one from your Microsemi Customer Portal account. This license supports all tools for designing with the SmartFusion family and associated development kits.

License updates: www.microsemi.com/soc/Portal/default.aspx?r=1

Documentation Resources

For further kit information, including user's guide, tutorial, and full design examples, refer to the SmartFusion Evaluation Kit page:

Documentation: www.microsemi.com/soc/products/hardware/devkits_boards/smartfusion_eval.aspx

As new demos and tutorials become available, they will be posted on the SmartFusion Evaluation Kit. Microsemi recommends that you sign up for Product Updates to be notified when new material is available. You can sign up for product updates from your Microsemi Customer Portal account.

Product updates: <https://www.actel.com/portal/default.aspx?r=2>

Technical Support and Contacts

Technical support is available online at www.microsemi.com/soc/support and by email at soc_tech@microsemi.com.

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