SmartFusion2 SoC FPGA Security Evaluation Kit Quickstart Guide

Kit Contents – M2S090TS-EVAL-KIT

Quantity	Description
1	SmartFusion®2 system-on-chip (SoC) FPGA 90K LE M2S090TS-FGG484 Evaluation Board
1	USB A male to micro-B male cable
1	12 V, 2 A AC power adapter
1	Quickstart guide
1	Libero® System-on-Chip (SoC) Platinum software one year license
1	FlashPro4 programmer
Note: The M2S090TS-EVAL-KIT is RoHS compliant.	

Overview

Microsemi's **SmartFusion2 Security Evaluation Kit** makes it easy to develop secure embedded systems and provides the best-in-world solutions for both Design Security—when protecting your design IP is critical; and Data Security—when protecting application data is necessary. The kit provides a cost effective SoC field programmable gate array (FPGA) platform for developing cost-optimized SoC FPGA designs using Microsemi's SmartFusion2 SoC FPGAs, which integrate inherently reliable flash-based FPGA fabric, a 166 MHz ARM® Cortex®-M3 processor, advanced security processing accelerators, DSP blocks, SRAM, eNVM, and industry-required high-performance communication interfaces—all on a single chip.

In addition, the SmartFusion2 Security Evaluation comes with a large 90K LE device to make it easy to develop transceiver I/O-based FPGA designs to build PCI Express® and Gigabit Ethernet-based systems and also have room for large IP blocks to complement the design. The board is also small form-factor PCIe compliant, which will allow quick prototyping and evaluation using any desktop PC or laptop with a PCIe slot.

The kit enables you to:

- Evaluate the Data Security features of SmartFusion2 SoC FPGAs including:
  - Elliptic Curve Cryptography (ECC)
  - SRAM-PUF (Physically Unclonable Function)
  - Random Number Generator (RNG)
  - AES/SHA
  - Anti-Tamper
- Develop and test PCI Express Gen2 x1 lane designs
- Test the signal quality of the FPGA transceiver using full-duplex SERDES SMA Pairs
- Measure the low power consumption of the SmartFusion2 SoC FPGA
- Quickly create a working PCIe link with the included PCIe Control Plane Demo

The board includes an RJ45 interface to 10/100/1000 Ethernet, 512 MB of LPDDR, 64 MB SPI Flash, and USB-UART connections, as well as I^2C, SPI, and GPIO headers. The kit includes a 12 V power adapter, but can also be powered through the PCIe edge connector. Also included is a **free Platinum License** for the Libero SoC software toolset to enable FPGA development and to utilize the reference designs made available with the kit.

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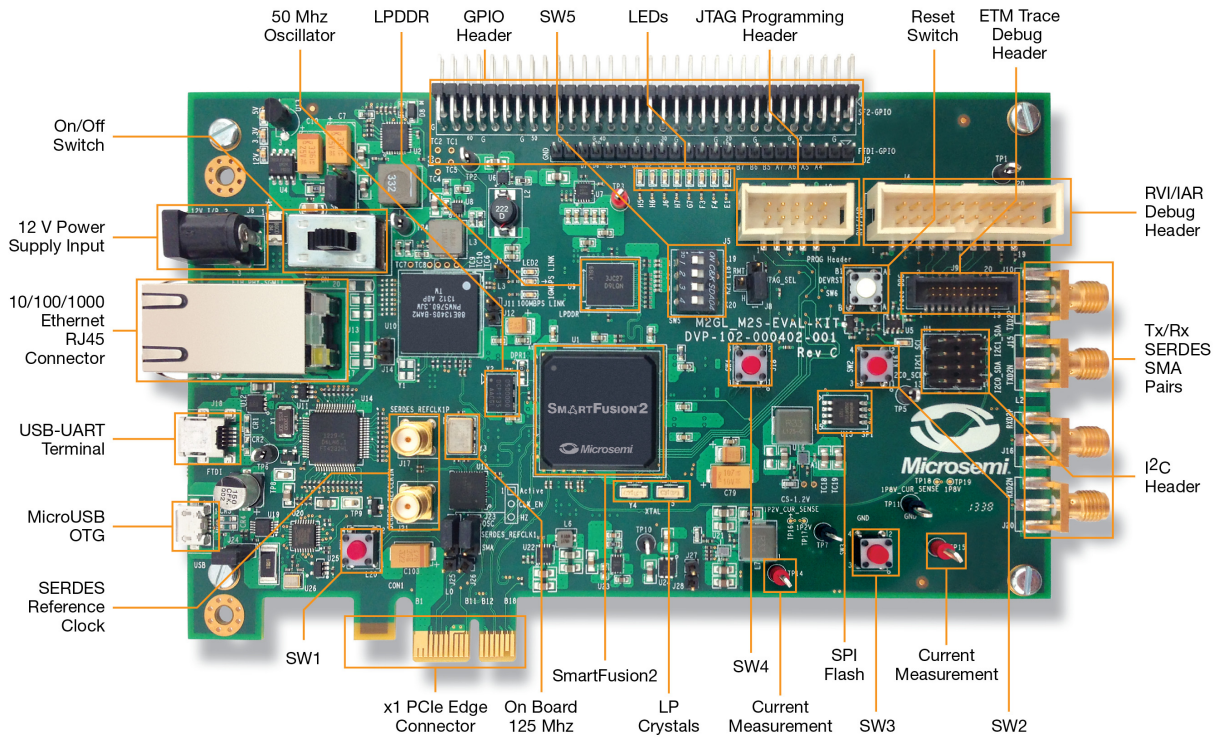
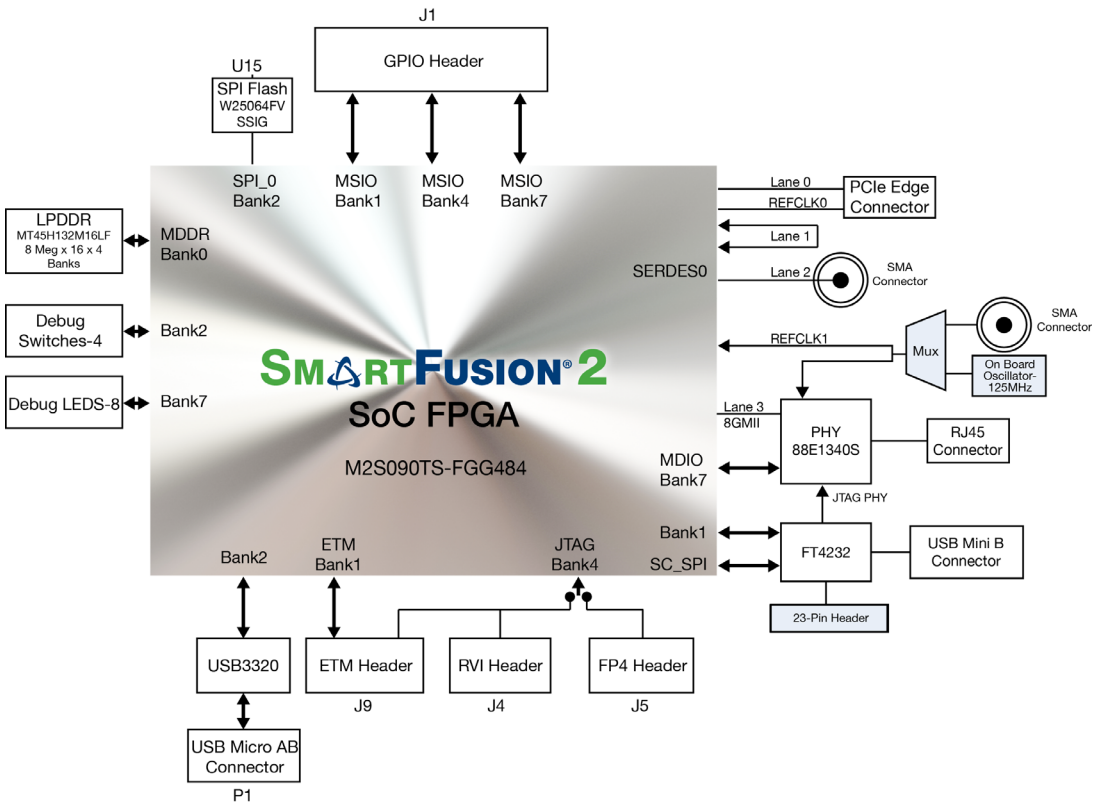
Evaluation Board Callout



Evaluation Board Block Diagram



Software and Licensing

The SmartFusion2 SoC FPGA Security Evaluation Kit is supported by the Libero SoC v11.4 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. Refer to the SmartFusion2 SoC FPGA Security Evaluation Kit User's Guide for more information at:

http://www.microsemi.com/products/fpga-soc/design-resources/dev-kits/smartfusion2/sf2-evaluation-kit#documentation

The SmartFusion2 Soc FPGA Security Evaluation Kit comes with a free one year Platinum License.

To receive the Platinum License, go to the license request page:

http://www.microsemi.com/form/47-libero-platinum-1-year-license-for-smartfusion2-security-evaluation-kit

Access code is available in the Quickstart Card delivered along with the SmartFusion2 Soc FPGA Security Evaluation Kit.

Programming

The SmartFusion2 SoC FPGA Security Evaluation Kit comes with a FlashPro4 programmer. Embedded programming with the SmartFusion2 SoC FPGA Security Evaluation Kit is also available, and it is supported by the Libero SoC v11.4 SP1 or later.

Documentation Resources

For further kit information, including user's guide, tutorial, and full design examples, refer to the *SmartFusion2 SoC FPGA Security Evaluation Kit* page.

As new demos and tutorials become available, they will be posted on the SmartFusion2 Security 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.

Technical Support and Contacts

Technical support is available online and by *email*.To find your local representative visit *Microsemi SoC Sales* offices, including *Representatives* and *Distributors*, which are located worldwide.

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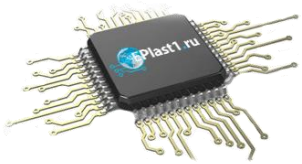

Как с нами связаться

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