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User Guide ™

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Microsemi M2S090TS Smart Fusion2 Soc FPGA Security Evaluation Kit



Product Information

Specifications

• Product Name: SmartFusion2 SoC FPGA Security Evaluation Kit

• Model: M2S090TS-EVAL-KIT

• Quantity: 1

Overview

- The SmartFusion2 SoC FPGA Security Evaluation Kit is a comprehensive kit designed for evaluating the security features of the SmartFusion2 SoC FPGA.
- It includes hardware components and software tools to facilitate the evaluation process.

Hardware Features

• The evaluation board features a range of hardware components essential for testing and assessing the security capabilities of the SmartFusion2 SoC FPGA.

Software and Licensing

- To access the software tools and licensing information, download the latest Libero SoC release from the Microsemi website. The kit includes a Software ID letter with instructions on generating a Libero Gold license.
- Additional details on obtaining a Gold license can be found on the Microsemi website.

Documentation Resources

 For comprehensive documentation, user guides, tutorials, and design examples related to the SmartFusion2 SoC FPGA Security Evaluation Kit, visit the Microsemi website at the provided link.

Support

 Technical support is available online and via email. For sales inquiries or to locate a local representative, visit the Microsemi website or contact the Corporate Headquarters.

Product Usage Instructions

Getting Started

- 1. Unbox the SmartFusion2 SoC FPGA Security Evaluation Kit.
- 2. Refer to the included SmartFusion2 SoC FPGA Security Evaluation Kit Quickstart Card for initial setup instructions.
- 3. Download the latest Libero SoC release from www.microsemi.com.

Hardware Setup

Follow the Evaluation Board Block Diagram provided in the kit to set up the hardware components correctly.

Software Installation

- 1. Install the Libero SoC software on your computer.
- 2. Refer to the Software ID letter for instructions on generating a Libero Gold license.
- 3. Visit the provided links for further details on licensing and software usage.

Exploring Documentation

• Visit the documentation resources link to access user guides, tutorials, and design examples to enhance your evaluation process.

Support Assistance

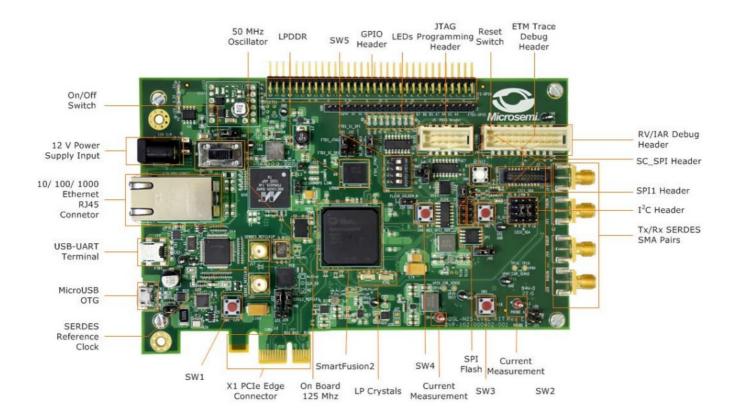
• If you encounter any issues or require assistance during the evaluation process, reach out to Microsemi's technical support team via email or online support portal.

Parts Description

Kit Contents—M2S090TS-EVAL-KIT

Quantity Description

- 1 SmartFusion®2 system-on-chip (SoC) FPGA 90K LE M2S090TS-1FGG484 Evaluation Board
- 1 USB 2.0 A-Male to mini-B cable
- 1 12 V, 2 A AC power adapter
- 1 Quickstart card
- 1 Software ID letter for Libero Gold License
- 1 FlashPro4 programmer



Overview

Microsemi's SmartFusion2 Security Evaluation Kit makes it easy to develop secure embedded systems and provides the best-in-class 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 SoC FPGA designs using Microsemi's SmartFusion2 SoC FPGAs, which integrates 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.

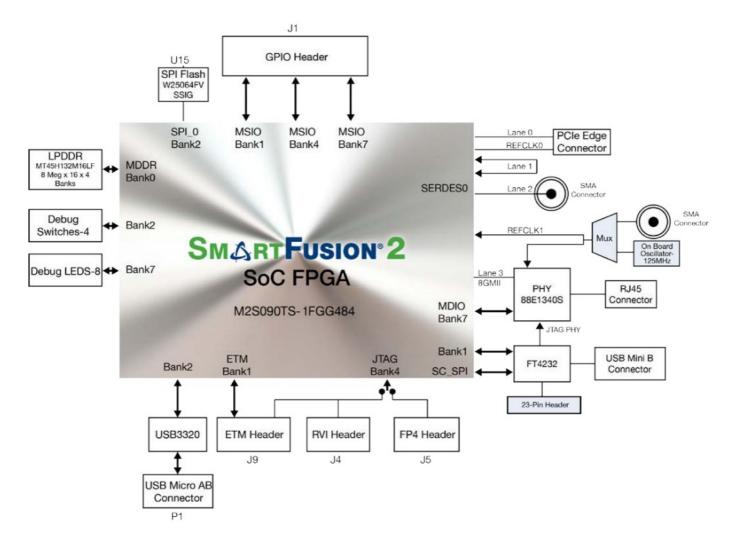
Hardware Features

This kit enables you to do the following:

- 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
- Program the FPGA device using FlashPro4, FlashPro5, or embedded FlashPro5 programmers
- 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 I2C, 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 Gold license for the Libero SoC software toolset to enable
 FPGA development and to utilize the reference designs made available with the kit.

Evaluation Board Block Diagram



Software and Licensing

- Libero® SoC Design Suite is required for designing with the SmartFusion2 SoC FPGA Security Evaluation Kit.
- Libero® SoC Design Suite offers high productivity with its comprehensive, easy-to-learn, easy-to-adopt development tools for designing with Microsemi's low power Flash FPGAs and SoC.
- 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

- www.microsemi.com/products/fpga-soc/design-resources/designsoftware/libero-soc#downloads
- A Software ID letter enclosed with the kit contains the Software ID and instructions on how to generate a Libero Gold license.
- For further details on generating a Gold license, please visit
 www.microsemi.com/products/fpga-soc/design-resources/dev-kits/smartfusion2/sf2-evaluation-kit#licensing

Documentation Resources

- For more information about the Smartfusion2 SoC FPGA Security Evaluation Kit, including user guides, tutorials, and design examples, see the documentation at.
- www.microsemi.com/products/fpga-soc/design-resources/devkits/smartfusion2/sf2-evaluation-kit#documentation

Support

- Technical support is available online at <u>www.microsemi.com/soc/support</u> and by email at <u>soc_tech@microsemi.com</u>
- Microsemi sales offices, including representatives and distributors, are located worldwide.
- To find your local representative, go to www.microsemi.com/salescontacts
- Microsemi Corporation (Nasdaq: MSCC) offers a comprehensive portfolio of semiconductor and system solutions for aerospace & defense, communications, data

center, and industrial markets.

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FAQ

- Q: Where can I find more information about generating a Gold license?
 - A: Detailed instructions on generating a Gold license can be found on the Microsemi website at <u>www.microsemi.com/products/fpga-soc/design-resources/dev-kits/smartfusion2/sf2-evaluationkit#licensing</u>
- Q: How can I locate a local Microsemi sales representative?
 - A: To find your local representative, visit <u>www.microsemi.com/salescontacts</u> or contact Microsemi Corporate Headquarters for assistance.

Documents / Resources



Microsemi M2S090TS Smart Fusion2 Soc FPGA Security Evaluation Kit [pdf] User Guide

M2S090TS Smart Fusion2 Soc FPGA Security Evaluation Kit, M2S090TS , Smart Fusion2 Soc FPGA Security Evaluation Kit, Soc FPGA Security Evaluation Kit, Security Evaluation Kit, Evaluation Kit

References

- User Manual
- Microsemi
- ► Evaluation Kit, M2S090TS, M2S090TS Smart Fusion2 Soc FPGA Security Evaluation Kit, Microsemi, Security Evaluation Kit, Smart Fusion2 Soc FPGA Security Evaluation Kit, Soc FPGA Security Evaluation Kit

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