
SmartDesign MSS
Cortex™-M3 Configuration



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Configuration Options

The SmartFusion Microcontroller Subsystem (MSS) contains an ARM Cortex-M3 microcontroller, a low-power processor that features low gate count, low and predictable interrupt latency, and low-cost debug. It is intended for deeply embedded applications that require fast interrupt response features.

This document describes the ports that are available on the Cortex-M3 core in the SmartDesign MSS Configurator.

For more information about the specific implementation of the Cortex-M3 in the Actel SmartFusion device, please refer to the [Actel SmartFusion Microcontroller Subsystem User's Guide](#).

Configuration Options

Using the MSS to Fabric DEEPSLEEP signal - Click the **Use MSS to Fabric DEEPSLEEP port** checkbox (Figure 1) to expose the DEEPSLEEP port. This port is automatically promoted to the top level of the MSS configurator canvas so it is available at the next level of hierarchy.

Using the MSS to Fabric SLEEP signal - Click the **Use MSS to Fabric SLEEP port** checkbox to expose the SLEEP port. This port is automatically promoted to the top level of the MSS Configurator Canvas so it is available at the next level of hierarchy.

Using the MSS to Fabric TXEV signal - Click the **Use MSS to Fabric TXEV port** checkbox to expose the TXEV port. This port is automatically promoted to the top level of the MSS Configurator Canvas so it is available at the next level of hierarchy.

Using the Fabric to MSS RXEV signal - Click the **Use MSS to Fabric RXEV port** checkbox to expose the RXEV port. This port is automatically promoted to the top level of the MSS Configurator Canvas so it is available at the next level of hierarchy.

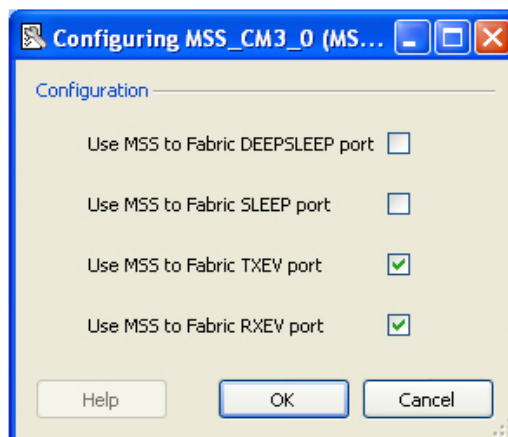


Figure 1 • Configuring the MSS Cortex-M3 Microcontroller

Port Description

Table 1 • Cortex-M3 Port Description

Port Name	Direction	PAD?	Description
RXEV	IN	No	Causes the Cortex-M3 to wake up from a WFE (wait for event) instruction. The event input, RXEV, is registered even when not waiting for an event, and so affects the next WFE.
TXEV	OUT	No	Event transmitted as a result of a Cortex-M3 SEV (send event) instruction. This is a single-cycle pulse equal to 1 FCLK period.
SLEEP	OUT	No	This signal is asserted when the Cortex-M3 is in sleep now or sleep-on-exit mode, and indicates that the clock to the processor can be stopped.
DEEPSLEEP P	OUT	No	This signal is asserted when the Cortex-M3 is in sleep now or sleep-on-exit mode when the SLEEPDEEP bit of the System Control Register is set.

A – Product Support

The Microsemi SoC Products Group backs its products with various support services including a Customer Technical Support Center and Non-Technical Customer Service. This appendix contains information about contacting the SoC Products Group and using these support services.

Contacting the Customer Technical Support Center

Microsemi staffs its Customer Technical Support Center with highly skilled engineers who can help answer your hardware, software, and design questions. The Customer Technical Support Center spends a great deal of time creating application notes and answers to FAQs. So, before you contact us, please visit our online resources. It is very likely we have already answered your questions.

Technical Support

Microsemi customers can receive technical support on Microsemi SoC products by calling Technical Support Hotline anytime Monday through Friday. Customers also have the option to interactively submit and track cases online at My Cases or submit questions through email anytime during the week.

Web: www.actel.com/mycases

Phone (North America): 1.800.262.1060

Phone (International): +1 650.318.4460

Email: soc_tech@microsemi.com

ITAR Technical Support

Microsemi customers can receive ITAR technical support on Microsemi SoC products by calling ITAR Technical Support Hotline: Monday through Friday, from 9 AM to 6 PM Pacific Time. Customers also have the option to interactively submit and track cases online at My Cases or submit questions through email anytime during the week.

Web: www.actel.com/mycases

Phone (North America): 1.888.988.ITAR

Phone (International): +1 650.318.4900

Email: soc_tech_itar@microsemi.com

Non-Technical Customer Service

Contact Customer Service for non-technical product support, such as product pricing, product upgrades, update information, order status, and authorization.

Microsemi's customer service representatives are available Monday through Friday, from 8 AM to 5 PM Pacific Time, to answer non-technical questions.

Phone: +1 650.318.2470



Microsemi Corporation (NASDAQ: MSCC) offers the industry's most comprehensive portfolio of semiconductor technology. Committed to solving the most critical system challenges, Microsemi's products include high-performance, high-reliability analog and RF devices, mixed signal integrated circuits, FPGAs and customizable SoCs, and complete subsystems. Microsemi serves leading system manufacturers around the world in the defense, security, aerospace, enterprise, commercial, and industrial markets. Learn more at www.microsemi.com.

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