
SmartDesign MSS

Interrupt Management



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Configuration Options

The SmartFusion Microcontroller Subsystem (MSS) contains a large number of interrupts. The Interrupt Management core in the SmartDesign MSS Configurator is a logical representation of the Interrupt capabilities of the SmartFusion MSS, which is why you will notice that it contains ports that physically belong to the Cortex-M3 and Fabric Interface Controller as described in the [Actel SmartFusion Microcontroller Subsystem User's Guide](#).

The Interrupt Management core in the SmartDesign MSS Configurator only displays the subset of interrupts that interface to the SmartFusion FPGA Fabric.

The ports on this core can be used to listen for an interrupt from the Fabric or assert an interrupt into the Fabric.

Using the Fabric to MSS Interrupt - You can have the MSS interrupted by your FPGA fabric. To do so, click the **Use Fabric to MSS Interrupt (FABINT)** checkbox (Figure 1) to expose the FABINT port. This port is automatically promoted to the top level of the MSS Configurator Canvas so that it is available at the next level of hierarchy.

Using the MSS to Fabric Interrupts - You can have the MSS interruptions used by your FPGA fabric logic. Click the **Use MSS to Fabric Interrupt (MSSINT)** checkbox to expose the MSSINT port. This port is automatically promoted to the top level of the MSS Configurator Canvas so that it is available at the next level of hierarchy.



Figure 1 • Interrupt Management Configuration

Port Description

Table 1 • Interrupt Port Description

Port Name	Direction	PAD?	Description
FABINT	IN	No	Interrupt signal sourced by user logic to the NVIC on the Cortex™-M3, which is INTISR[31]
MSSINT[7:0]	OUT	No	There are 128 interrupt sources within the MSS. There are a finite number of signal resources that exist at the boundary between the MSS and the FPGA fabric. The fabric interface controller (FIIC) manages a subset of the total available MSS interrupts and maps those to these ports. Refer to the Actel SmartFusion Microcontroller Subsystem User's Guide on the Fabric Interface Interrupt Controller for the mapping of each bit.

A – Product Support

Microsemi SoC Products Group backs its products with various support services, including Customer Service, Customer Technical Support Center, a website, electronic mail, and worldwide sales offices. This appendix contains information about contacting Microsemi SoC Products Group and using these support services.

Customer Service

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

From North America, call 800.262.1060

From the rest of the world, call 650.318.4460

Fax, from anywhere in the world, 408.643.6913

Customer Technical Support Center

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

Technical Support

Visit the Customer Support website (www.microsemi.com/soc/support/search/default.aspx) for more information and support. Many answers available on the searchable web resource include diagrams, illustrations, and links to other resources on the website.

Website

You can browse a variety of technical and non-technical information on the SoC home page, at www.microsemi.com/soc.

Contacting the Customer Technical Support Center

Highly skilled engineers staff the Technical Support Center. The Technical Support Center can be contacted by email or through the Microsemi SoC Products Group website.

Email

You can communicate your technical questions to our email address and receive answers back by email, fax, or phone. Also, if you have design problems, you can email your design files to receive assistance. We constantly monitor the email account throughout the day. When sending your request to us, please be sure to include your full name, company name, and your contact information for efficient processing of your request.

The technical support email address is soc_tech@microsemi.com.

My Cases

Microsemi SoC Products Group customers may submit and track technical cases online by going to [My Cases](#).

Outside the U.S.

Customers needing assistance outside the US time zones can either contact technical support via email (soc_tech@microsemi.com) or contact a local sales office. [Sales office listings](#) can be found at www.microsemi.com/soc/company/contact/default.aspx.

ITAR Technical Support

For technical support on RH and RT FPGAs that are regulated by International Traffic in Arms Regulations (ITAR), contact us via soc_tech_itar@microsemi.com. Alternatively, within [My Cases](#), select **Yes** in the ITAR drop-down list. For a complete list of ITAR-regulated Microsemi FPGAs, visit the [ITAR](#) web page.



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