# PCIe2 to S-RIO2 Evaluation Platform Quick Start Guide

**Formal Status**

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# RENESAS

# About this Document

The *PCIe2 to S-RIO2 Evaluation Platform Quick Start Guide* outlines the first steps to complete in order to get the board to a powered on state.

## Related Resources

The following related resources are available on the mySites area of www.idt.com:

- *PCIe2 to S-RIO2 Evaluation Platform User Manual*
- *Tsi721 Evaluation Board Schematic*
- *Tsi721 User Manual*
- *CPS-1432 User Manual*

# PCIe2 to S-RIO2 Evaluation Platform Quick Start Guide

## Kit Contents

| Part Number | Components | Description |
|---|---|---|
| TSI721-16GEBI | Evaluation Board | • PCIe2 to S-RIO2 Evaluation Platform with Tsi721 and CPS-1432<br>• *PCIe2 to S-RIO2 Evaluation Platform Quick Start Guide* |
| | RapidFET JTAG - Standard[a] Debug Tool with a 30-day trial of the "Enhanced" functionality | • RapidFET USB to JTAG/I2C Module<br>• RapidFET JTAG USB Key<br>• USB Cable, 1 m<br>• *RapidFET JTAG Quick Start Installation Guide* |

a. For more information about the RapidFET JTAG - Standard and Enhanced debug tools, go to the Fabric Embedded Tools website at www.fetcorp.com.

## Handling Procedure

Components on the evaluation platform are sensitive to electrostatic discharge (ESD); therefore, use standard ESD protection when handling the board.

The printed circuit board is fragile. Excessive force will cause the circuit board to flex and possibly break the thin solder joint between the components and the circuit board. Severe flex may also break internal connections in the board. When handling the evaluation platform, adhere to the following guidelines:

- Support the circuit board when inserting or removing the ATX connectors.
- Do not push the AMC modules with excessive force.
- Do not push with excessive force on the JTAG, I2C, USB, and SMA connectors.

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## Out-of-the-box Configuration Requires Connection to Host PC

The evaluation platform is configured to operate connected in a PCI Express slot. It will not work stand-alone unless the board configuration is changed. For more information about the stand-alone configuration, see the *PCIe2 to S-RIO2 Evaluation Platform User Manual*.

## Power Supply Requirement

When the platform is plugged into a host computer, it does not require an external power supply. When used without an AMC module plugged into the platform, the platform will draw about 1 Amp on the computer 12V rail.

If an AMC module is used, the current draw may be excessive for the host PC. In this condition, an external supply should be used (for more information, see the *PCIe2 to S-RIO2 Evaluation Platform User Manual*).

## LED Status

1. With the PC power off, plug the evaluation platform into a PCIe slot in the PC.
2. Turn the PC on.
   - The greed LED, (D18), should be ON and steady. This indicates the PC is supplying 12V.
   - The blue LED, (D21) should be ON and steady. This indicates the on-board voltages are correct and the devices are out-of-reset.

LED D1 Indicates the link between the host PC and Tsi721 is active.
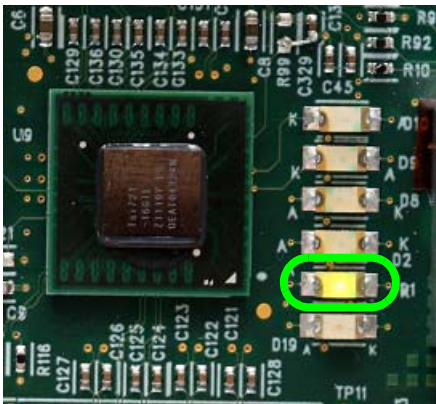


## Connecting AMCs

Insert AMC modules into the card guide assembly component-side-down. Push the module in the AMC connector gently until the module snaps in the connector.

The evaluation platform uses a Hot Swap controller to control current flow to the AMC module. Current will be applied to the module only when the Presence Detect pins (PS0 and PS1) of the module make contact.The fans will turn, a green LED (D3) will indicate power has been applied to the modules, and the AMC ENABLE signal will be asserted.

If the LED does not turn on after the module is inserted, verify that the module is fully pushed in.

The current limit per AMC connector is 6.25A for the 12V rail, and 165mA for the 3.3V management power pin.

The evaluation platform does not have an IPMI (Intelligent Platform Management Controller). AMC modules that require IPMI control to come out of reset may not work with the evaluation platform.

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## Connecting the JTAG Debugger (RapidFET) to Tsi721

There are two options:

1. Use the RapidFET pod and connect the connector labeled JTAG to the header labeled "BR JTAG".
2. Connect the USB cable directly to the mini USB connector on the faceplate and launch the RapidFET software.

## Connecting the JTAG Debugger (RapidFET) to CPS-1432

Use the RapidFET pod and connect the connector label JTAG in the to header labeled "SW JTAG".

## Serial EEPROM

The Serial EEPROM attached to the Tsi721 is programmed with register settings pertaining to GPIO settings and Errata work arounds. The Serial EEPROM loads address the following issues:

- GPIO [3:0] are changed from input to outputs. This enables status LEDs.
- RapidIO 5 Gbaud initialization failure