PCle2 to S-RIO2 Bridging + Switching Evaluation Platform

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Tsi721 Serial Links
Tsi721 Configs

- S1.1: I2C Disable loading
- S1.2: I2C_Address Select
- S1.4: SRIO Host/Slave mode
- S2.1: S-RIO Link Rate[0]
- S2.2: S-RIO Link Rate[1]
- S2.4: PCI Express Clocking Mode
- S3.1: S-RIO Device ID control
- S3.2: Clock Frequency select 0
- S3.3: Clock Frequency select 1
- S3.4: S-RIO Link training mode
- S4.1: I2C_SA0
- S4.2: I2C_SA1
- S4.3: I2C_SA2
- S4.4: I2C_SA3

Delay set to 1ms
Decoupling Rule

Caps must be located in the ball grid except for >0.1uF

Make two separate power planes: 1.0V_VDD and 1.0V_VDDA_TSI721

Total DC resistance: 25mOhm max.

Expected voltage drop: 7mV

Equivalent to 110 Ohms / 4A ferrite bead
These caps must be located in the ball grid (one per VDDT ball) except for >0.1uF

Decoupling 1.0V_VDD

Decoupling 1.0V_VDDA

Decoupling 1.2V_VDDT

Decoupling 3.3V

Expected voltage drop: 26mV max
Total DC resistance: 12mOhm max.
Equivalent to 30 Ohms / 6A ferrite bead
Most of these caps must be located in the ball grid
Bulk decoupling is on the regulator page
SFP+ Connectors

Green LEDs will turn ON during normal operation

SFP+ Connectors

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SFP+ CONNECTORS
IDT has introduced new improved clocking solutions since this evaluation board was developed. The recommended timing solutions for new designs are:

1. **VersaClock 5 Devices**: In System Programmable, Very Low Power, with up to four universal output pairs.

2. **XUM LVDS Crystal Oscillator**: Ultra precise with only 300fs typical phase jitter. If using a 156.25 MHz clock source then the applicable part number is XUM535156.250JS618.
I2C and JTAG Interface

JTAG signals are high impedance when USB is not powered up.
Revision History

April 7, 2015 -- Added a note on page 16 on improving clocking solutions for 5-RIO components.

June 28, 2011 -- The following changes were made:
* Sheet 4 - Added connections to ground on SP_SWAP_TX and SP_SWAP_RX
* Sheet 4 - Added 10K pull up resistors to 3.3V on SP_DEVID, CLKSEL[0] and CLKSEL[1]
* Sheet 4 - Added DNP attribute on U10
* Sheet 21 - Changed U13 to SN74AUP1G07
* Sheet 21 - Changed C320 to 0.1uF

April 11, 2011 -- First release of document.