

Features

- Low Cost
- PCIe (8x), version 1.1
- Short form factor
- 2 GB/sec per second transfer rate in each direction
- Modular Input/Output module site
- One processing module site

Available I/O Modules

- Wideband A/D Capture
- Dual Port 10 Gigabit and 1 Gigabit Ethernet

Available Processing Modules

- FPGA Virtex 5
- 96 Channel Digital Down Converter

Applications

- Signal Processing
- Data Communication
- Data Pre-Processing
- Packet Processing

PCI Express Compliance

..... Fully complies with PCI Express Specification v1.1
 Form Factor PCIe (8x)

Device Drivers

Redhat Enterprise (2.6 Kernel), Fedora Version 4,5
 Example Code with C API Provided
 DMA Implementation Scatter/Gather
 Up front memory set aside None Required

Model 2090 PCI Express Core Board

Form Factor Short
 Form Factor with rear Processing Module Installed Long
 Core FPGA Virtex-5 LX50T
 Memory 512 MB DDR2 (533 MHz)
 Memory Expansion Expandable to 2 GB
 BW to/from I/O Module 4 GB/sec
 BW to/from Processing Module 4 GB/sec
 External Inputs 10 MHz Ref, 1PPS, IRIG

Wideband/High Resolution A/D Module

Wideband A/D x1 National ADC083000
 Max Sample Rate Adjustable up to 3 GSPS
 SNR 45.3 dB
 SFDR 57 dB
 ENOB 7.2
 High Resolution A/D x2 Linear Tech LTC2208
 Max Sample Rate Adjustable up to 130 MHz
 Noise Floor 78 dBFS
 SFDR 100 dB
 ENOB 16
 Onboard DSP Processing Wideband/Narrow Band Tuners

Dual 1 GbE and 10 GbE Module

Tranceivers SFP, SFP+
 Fiber Single Mode, 1310nm, LC
 Capture/Generate Independent on each link
 Packet Processing Payload only to Host
 Packet Processing Separate Header and Payload Streams
 Packet Processing "Raw" bit mode, all data passed to Host
 Packet Processing Dual port capture, interleave into one DMA stream
 Packet Processing Packet formation for outputting data
 Packet Processing Big Endian, Little Endian swapping on data samples or headers
 Onboard DSP Processing Programmable Digital Tuner operating up to 200 MHz

Environment

Operating temperature 0-40 degrees C
 Cooling 500 LFM minimum

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