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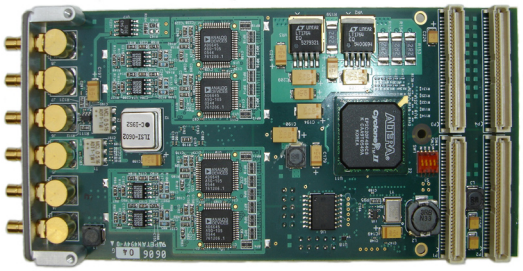
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Find the *BittWare Tetra-PMC+* at our website: *Click HERE*

Tetra-PMC+

High-Speed A/D I/O Card with Reconfigurable FPGA and TigerSHARC® Link Ports



BittWare's Tetra-PMC+ (TRPM) board is a high-speed analog input board that provides data capture for four 14-bit A/D channels running at up to 105 MHz. The board streams the data directly to an Altera Cyclone II FPGA, which provides A/D control, data distribution, and front-end processing capabilities. A 32-bit, 66 MHz PCI interface and four TigerSHARC link ports make the captured data available to the host board.

High-Speed A/D Interface

The high-speed A/D interface features four 14-bit A/D conversion channels, each sampled at up to 105 MHz. Using high-quality 14-bit A/D converters from Analog Devices, the analog interface provides input bandwidth up to 150 MHz with DC coupled inputs. For clocking options, the board features an internal clock and an external clock and trigger; the clock is user-configurable to the on-board clock or external clock.

Altera Cyclone II Reconfigurable FPGA

The Cyclone II reconfigurable FPGA (Altera) provides A/D control and data distribution for the Tetra-PMC+ and is available for configurable preprocessing of high speed A/D data, such as digital filtering, decimation, and digital down conversion. To interface the A/D data to the host, the Cyclone II contains a link port interface providing direct access to the ADSP-TS201 DSPs located on the base board.

PMC+ I/O Interface

When attached to one of BittWare's PMC+ base boards, it supports BittWare's PMC+ extensions, which include four link ports directly connected to the Cyclone II FPGA. The PMC+ link ports are configurable for BittWare's T2 (ADSP-TS201S) based boards and are an ideal way to move high-speed data directly to the DSPs.

Available Development Tools

BittWare offers complete software development tools that allow designers to easily develop application code and integrate the Tetra-PMC+ into their systems. For user-configured pre-processing, Altera also provides a complete suite of development tools for the Cyclone II.

Features

- High-performance wideband A/Ds
  - Four channels, 14-bit A/D (AD6645)
  - Up to 105 MHz per channel
- Altera® Cyclone® II reconfigurable FPGA
  - A/D control and data distribution
  - Configurable pre-processing of high-speed A/D data
- 32-bit, 66 MHz PCI interface via Cyclone II FPGA
- Four external link ports
  - Configurable for TS201-based boards
  - Available via PMC+ interface
  - Up to 210 MBytes/s per channel
- Internal/external clock and triggering
- Complete software support
- Cyclone II development and customization support

BittWare

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Tetra-PMC+ Specifications

BOARD ARCHITECTURE

A/D Interface

- Four 14-bit A/D converters, each with a single input channel; AD6645 at 105 MHz
- SMA or SMB analog input connectors, terminated in 50 Ohm
- DC coupled inputs

Altera Cyclone II FPGA

- A/D control and data distribution
- Configurable pre-processing of high-speed A/D data
- SRAM-based in-system configuration via SPROM or host
- Four SHARC link ports from Cyclone II to PMC+ interface
- FIFOs for storing A/D data
- User-configurable blocks

PMC+ Interface

- 32-bit, 66 MHz PCI [3.3v signaling only]
- Compatible with standard PMC modules
- Provides 4 link ports to BittWare PMC+ carrier boards @ up to 210 MBytes/s each

Clocking Options

- 105 MHz standard oscillator (XO)
- External clock input
- External or internal trigger
- Trigger input can also be factory configured as a clock output
- Clock option is user-configurable

Power

- +12V, +5V, and +3.3V from PMC+ interface

Size

- 149mm x 74mm (5.9" x 2.9")

SOFTWARE SUPPORT

Host Interface

- BittWare's software development kit for Windows® and Linux contains C-callable libraries for board control and communications routines
- Example software for controlling the board

Ordering Information

TRPM-ABCD-XY-JKLM-V

A: Channels
1 = 1 Channel*
2 = 2 Channels*
3 = 3 Channels*
4 = 4 Channels (default)

B: ADC Speed
1 = 65 MHz
2 = 80 MHz
3 = 105 MHz (default)

C: Altera Cyclone II Model
2 = EP2C20*
3 = EP2C35 (default)

D: Altera Cyclone II Speed
6 = Speed grade 6, fastest (default)
7 = Speed grade 7*
8 = Speed grade 8, slowest*

X: Trigger/Clock Select
1 = Trigger In
2 = Clock Out

Y: Oscillator
0 = None
1 = OCXO at ADC speed (default)
S = Special*

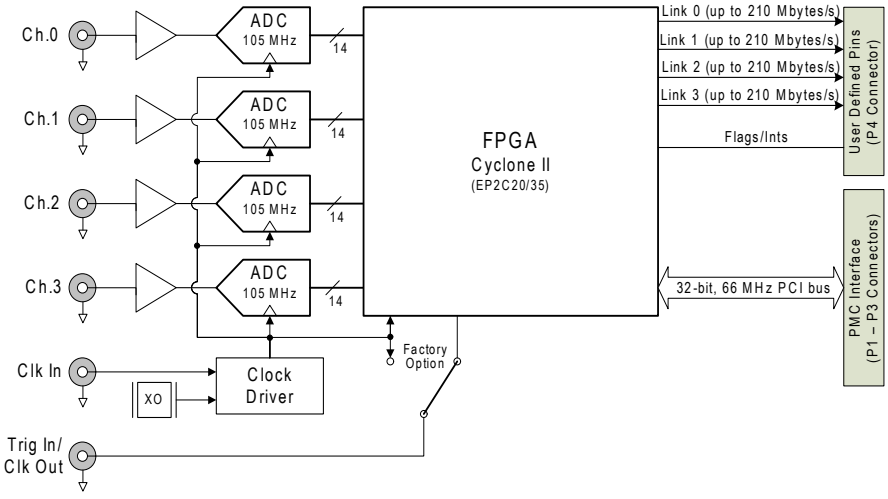
J: JTAG Connectors
0 = Not populated (default)
1 = Populated**

K: Front Panel Connectors
A = SMA
B = SMB

L: P3 PMC Connector
0 = Not populated
1 = Populated (default)

M: P4 PMC Connector
0= Not populated
1= Populated (default)

V: Input Voltage Range
1= +/- 1 volt
2= 0 - 2 volts (default)



* Contact BittWare for availability.

** Violates PMC height spec.

BittWare, Inc.
Tel: 603-226-0404
Fax: 603-226-6667
E-Mail: info@bittware.com

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