PMC-FPGA03F

Xilinx® Virtex®-II Pro

Processing Engine PMC Module

Applications

The PMC-FPGA03F is designed to solve demanding scalable processing requirements in embedded systems where communication over long distances and/or through electromagnetically noisy environments is required. It is particularly suitable for applications such as:

- Radar
- In-flight/Shipboard systems
- Electronic warfare / Signal intelligence (ELINT) / Surveillance
- Real-time imaging / Inspection / Machine vision
- Medical imaging

Features

- Xilinx Virtex-II Pro XC2VP50 FPGA
- 4x Front panel fiber optic I/O links operating up to 3.125Gbps
- 64 discrete PMC user I/O (P14) lines
- 2x 64Mbytes DDR SDRAM
- 3x QDR-II SRAM - up to 8Mx18-bit per bank
- 64-bit, 66MHz Master/Slave PCI interface
- Windows 2000/XP, VxWorks and Linux support
- Ruggedized versions available (air or conduction-cooled)
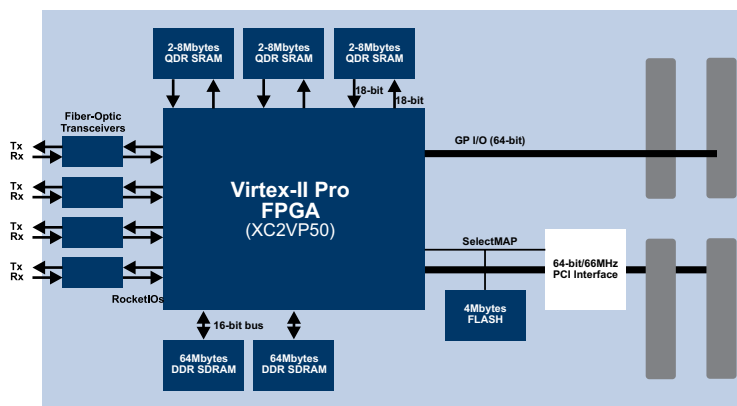
Overview

The PMC-FPGA03F combines the processing capabilities of a Xilinx Virtex-II Pro FPGA with up to four front panel multi-Gigabit fiber-optic communications transceivers on a PMC format module.

The PMC-FPGA03F is complementary to Curtiss-Wright's PMC-FPGA03, which offers copper based multi-Gigabit serial communications as well as a range of parallel digital I/O options at the front panel. From the software and firmware developer's point of view, the PMC-FPGA03F is identical to a PMC-FPGA03.

Rugged/conduction cooled boards are available subject to evaluation of the overall heatsinking required by the individual application. Please contact Curtiss-Wright to discuss your ruggedization requirements.

Figure 1: PMC-FPGA03F Block Diagram

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Table 1: Specifications

FPGA	
Device	Xilinx Virtex-II Pro XC2VP50 (Contact Curtiss-Wright for other sizes)
Package	FF1152
Memory	
DDR SDRAM with ECC	2x 64Mbytes @ 125MHz
QDR-II SRAM	3x 2Mx18-bit @ 125MHz
FLASH	4Mbytes
PCI Interface	
Device	Quicklogic QL5064
Compliance	PCI 2.2: 32/64-bit, 33/66MHz 3.3/5V tolerant Initiator/Target/DMA
Enhancements	DMA, Interrupt support
Bandwidth	up to 528 Mbytes/s
Standards	
Compliance	IEEE 1386.1 (PMC Module) specification & ANSI/ VITA 20-2001 conduction cooled PMC
Input / Output	
Front Panel Serial I/O	4x RocketIO to transceiver with LC connector up to 3.125Gbps signaling
User I/O (PMC P14)	64 bit data
Software Support	
Firmware Tool Chain	Xilinx ISE 7.x*, XST
Utilities	Board memory viewer Confidence tests Flash and FPGA configuration
Libraries	API for DMA, Interrupt and hardware manipulation
Firmware	Interface & Simulation

* Contact Curtiss-Wright for the latest supported toolchain

Table 2: Front Panel Fiber Optic I/O Options

Optical Tx/Rx	Mode	Data Rate (GHz)	Range (m)	Suitable for supporting
1310nm FP laser	Single-mode	1.0625	10,000	1x Fibre Channel
1310nm FP laser	Single-mode	1.25	10,000	Gigabit Ethernet
850nm VCSEL	Multi-mode	1.0625	550	1x Fibre Channel
850nm VCSEL	Multi-mode	1.25	500	Gigabit Ethernet
850nm VCSEL	Multi-mode	2.0	200	Custom
850nm VCSEL	Multi-mode	1.0625/2.125	500/300	1x/2x Fibre Channel **
850nm VCSEL	Multi-mode	2.5	150	Infinband, Serial FPDP

** Default build

Warranty

This product has a one year warranty.

Contact Information

To find your appropriate sales representative, please visit:

Website: www.cwcembedded.com/sales

Email: sales@cwcembedded.com

For technical support, please visit:

Website: www.cwcembedded.com/support1

Email: support1@cwcembedded.com

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