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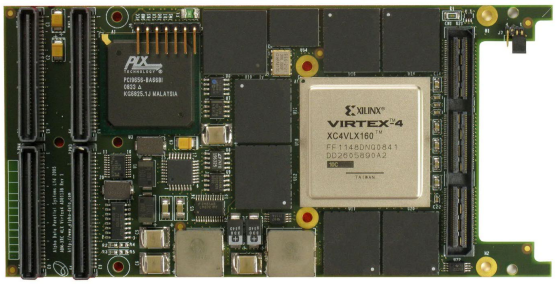
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# ADM-XRC-4

**2nd April 2009** **Datasheet Revision: 1.0**



## Summary

The **ADM-XRC-4** is a high performance reconfigurable PMC/PMC-X (PCI Mezzanine Card) based on the Xilinx™ Virtex-4 LX and SX range of Platform FPGAs. Features include high speed PCI interface, external memory, high density I/O, programmable clocks, temperature monitoring, battery backed encryption (by using an appropriate XRM) and flash boot facilities.
A comprehensive cross platform API with support for **Microsoft Windows™**, **Linux** and **VxWorks** provides access to the full functionality of these hardware features.

## Features

**Applications:**

Signal Processing
Network monitor
camera interface

**Target Devices:**

Xilinx Virtex-4 - LX80, LX100, LX160, SX55 (FF1148)

**Memory:**

**SSRAM** - 24MByte in 6 independent banks

**ZBT** - 6 x 1024K x 32-bits (4 banks on SX55 version) - independent SRAM clock

**FLASH** - 16MByte Flash

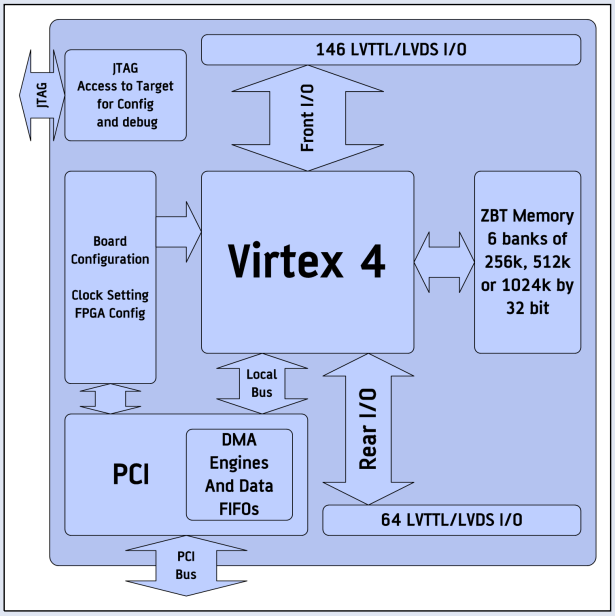
**FLASH** - Configuration Flash providing an initialisation design for automatic loading into the target FPGA.

**Front Connector I/O:**

Up to 146 LVTTL/LVDS I/O
via a range of XRM front panel adapters
Maximum I/O data rate 40Gb/sec
Programmable signaling levels of 2.5V or 3.3Vsss

**Rear Connector I/O:**

64 I/O connections via PMC Pn4 connector
programmable signaling levels of 2.5V or 3.3V




| Compatible Products | | | | | |
|---|---|---|---|---|---|
| XRM-ADC-D2-125 | Dual 14-bit ADC Interface (125Msps) | XRM-ADC-D3-1G5 | Dual 8-bit ADC Interface (1.5Gsps) | XRM-ADC-D6-250 | Dual Channel ADC 250Msps |
| XRM-ADC-S4-3G | Single 8-bit ADC I/F (3Gsps) | XRM-CAMERALINK | Single Cameralink Interface | XRM-CLINK-MINI | Single/Dual Cameralink Interface |
| XRM-CLINK-ADV | Cameralink and JPEG2000 | XRM-DAC-D3-275 | Dual Channel 14-bit DAC | XRM-DAC-D4-1G | Dual Channel 16-bit DAC |
| XRM-DDR | DDR Memory up to 512MBytes | XRM-DVI-D-RX | DVI Video Capture | XRM-FCN | 8 Full Duplex Serial IO |
| XRM-FCN-C1 | Eight Full Duplex Serial IO and JPEG2000 | XRM-FPDP | Front Panel Data Port Interface | XRM-HD-SDI | Dual HDTV I/O Interface |
| XRM-IO146 | High Density Digital I/O | XRM-IO34 | Digital I/O | XRM-MDR | Digital I/O |
| XRM-OPT | Quad Optical Transceiver Interface | XRM-RIO | Parallel RapidIO Adaptor | XRM-VIDEO-IO | Video I/O interface |
| XRM-ZBT | ZBT Memory and RS232 Interfaces | | | | |

# ADM-XRC-4

| Specification | |
|---|---|
| Product Name | ADM-XRC-4 |
| Target Devices | Xilinx Virtex-4 - LX80, LX100, LX160, SX55 (FF1148) |
| Host I/F | PCI |
| Interface | Universal PCI rev 2.2 compliant PLX 9656 ASIC with 66MHz 64-bit PCI bus and 66MHz 32-bit local bus.<br>Twin DMA controllers.<br>FIFO and interrupt controller peak data rate 533MBytes/sec. |
| Memory | **SSRAM** - 24MByte in 6 independent banks<br>**ZBT** - 6 x 1024K x 32-bits (4 banks on SX55 version) - independent SRAM clock<br>**FLASH** - 16MByte Flash<br>**FLASH** - Configuration Flash providing an initialisation design for automatic loading into the target FPGA. |
| Front I/O | Up to 146 LVTTL/LVDS I/O<br>via a range of XRM front panel adapters<br>Maximum I/O data rate 40Gb/sec<br>Programmable signaling levels of 2.5V or 3.3Vsss |
| Rear I/O | 64 I/O connections via PMC Pn4 connector<br>programmable signaling levels of 2.5V or 3.3V |
| Clocks | Local bus clock programmable up to 66MHz for transfers between PCI bridge and User FPGA.<br>High performance user clock programmable up to 500MHz using LVPECL with very low jitter.<br>Additional 200MHz reference clock for IOB delay circuits. |
| Device Configuration | PCI Bus direct to SelectMAP port<br>From Flash direct on power up<br>External JTAG connector |
| Software | Drivers for Microsoft Windows™, Linux and VxWorks<br>API with template designs in VHDL and Verilog |
| Battery | Dual battery back-up for IP encryption keys via XRM |
| Environmental | **Temperature:**<br>Air cooled option<br>Operating Temperature 0° to +55°C<br><br>**EMC:**<br>FCC 47CFR Part 2<br>EN55022 Equipment Class B |

| Ordering Codes | | |
|---|---|---|
| ADM-XRC-4/z-y(c) | | |
| Virtex-4 device | z | LX80, LX100, LX160, SX55 |
| Virtex-4 speed | y | 10, 11, 12 |
| Air cooled (comm/ind) | c | blank = air cooled commercial,<br>/AC1 = air cooled industrial |


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