
Summary

The **ADM-XRC-6TL** is a high performance reconfigurable XMC (VITA 42.3 Mezzanine Card) based on the Xilinx™ Virtex-6 LXT and SXT ranges of Platform FPGAs. Features include high speed PCI Express® interface, external memory, high density I/O, temperature monitoring, battery backed encryption 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.

The optional fitting of the Pn4 connector provides an additional 32 General Purpose IO (GPIO) links to the carrier card.

Features
Applications:

- Radar/Sonar Beamforming
- ELINT
- Image/Video Processing
- Data Encryption

Target Devices:

Xilinx Virtex-6 - LX240T, LX365T, LX550T, SX315T, SX475T (FFG1759)

Memory:

SDRAM - 1GByte in 4 independent banks (2GByte option) of DDR3 SDRAM @ 800MT/s (32-bit wide so 3.2GB/s)

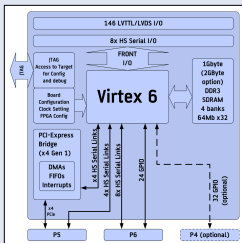
FLASH - Configuration Flash providing an initialisation design for automatic loading into the target FPGA.

Front Connector I/O:

- Up to 146 LVCMOS/LVDS I/O
- Programmable signaling levels of 1.5V, 1.8V or 2.5V
- 8 High-Speed Serial Links

Rear Connector I/O:

- 8 High-Speed Serial Links via P15 connector (allowing second x4 PCI Express® Gen 2 channel in default mode or single x8 PCI Express channel in Bridge Bypass mode)
- 8 High-Speed Serial Links via P16 connector (allowing additional PCI Express® Gen 2 channel or user defined protocol)
- 24 GPIO connections via P16 connector (LVTTTL levels)
- 32 I/O connections via optional PMC Pn4 connector (2.5V levels with 3.3V compatible inputs)



Compatible Products					
XRM-ADC-03-125	Dual 14-bit ADC Interface (125Mbps)	XRM-ADC-03-1G6	Dual 8-bit ADC Interface (1.5Gbps)	XRM-ADC-54-3G	Single 8-bit ADC IFC (3Gbps)
XRM-CLINK-M8	Single/Dual CameraLink Interface	XRM-CLINK-ADV	CameraLink and JPEG2000	XRM-CLINK-GIGE	CameraLink and Gigabit Ethernet
XRM-FCN	8 Full Duplex Serial IO	XRM-FCN-C1	Eight Full Duplex Serial IO and JPEG2000	XRM-H5SDC2A	4 x H5SDC2 links
XRM-IO146	High Density Digital I/O	XRM-IO146-ROCKET	High Density Digital Serial and Parallel I/O	XRM-IO34	Digital I/O
XRM-OPT	Quad Optical Transceiver Interface	XRM-ROD	Parallel RapidIO Adaptor	XRM-ZBT	ZBT Memory and RS232 Interfaces

Specification

Product Name	ADM-XRC-6TL
Target Devices	Xilinx Virtex-6 - LX240T, LX365T, LX550T, SX315T, SX475T (FFG1759)
Host I/F	PCI Express® x4
Interface	PCI Express® x1, x2, x4 link to separate bridge device with 1GB/s local link to user FPGA 2 DMA Controllers Interrupt Controller
Memory	SDRAM - 1GByte in 4 independent banks (2GByte option) of DDR3 SDRAM @ 800MT/s (32-bit wide so 3.2GB/s) FLASH - Configuration Flash providing an initialisation design for automatic loading into the target FPGA.
Front I/O	Up to 146 LVCMOS/LVDS I/O Programmable signaling levels of 1.5V, 1.8V or 2.5V 8 High-Speed Serial Links
Rear I/O	8 High-Speed Serial Links via P15 connector (allowing second x4 PCI Express® Gen 2 channel in default mode or single x8 PCI Express channel in Bridge Bypass mode) 8 High-Speed Serial Links via P16 connector (allowing additional PCI Express® Gen 2 channel or user defined protocol) 24 GPIO connections via P16 connector (LVTTTL levels) 32 I/O connections via optional PMC Pn4 connector (2.5V levels with 3.3V compatible inputs)
Clocks	Low-jitter 125MHz reference clock, suitable for SerDes applications Low-jitter 200MHz reference clock for IOB delay circuits General purpose user clock programmable between 32MHz and 100MHz Custom clock inputs available through the XRM interface
Device Configuration	PCI Express® direct to SelectMAP port From Flash direct on power up External JTAG connector
Software	Drivers for Microsoft Windows™, Linux and VxWorks The ADM-XRC Gen3 SDK provides the example C and HDL source code, giving software engineers and FPGA designers a head start in creating applications.
Battery	Battery back-up for IP encryption keys
Environmental	Temperature: Air cooled option (AC0) Operating Temperature 0° to +55°C Air cooled industrial option (AC1) Operating Temperature -20° to +55°C Conduction cooled option (CC1) Operating Temperature -40° to 71°C EMC: FCC 47CFR Part 2 EN55022 Equipment Class B

Ordering Codes

ADM-XRC-6TL/z-y(m)(c)(p)		
Virtex-6 device	z	LX240T, LX365T, LX550T, SX315T, SX475T
Virtex-6 speed	y	1, 2, 3
Memory Size Fitted	m	blank = 256MBytes per bank - 1GBytes for the board, /2 = 512MBytes per bank - 2 GBytes for the board
Cooling	c	blank = air cooled commercial, /AC1 = air cooled industrial, /CC1 = conduction cooled industrial
Pn4 Fitted	p	blank = not fitted, /Pn4 = Pn4 Connector fitted
Note	#	not all FPGA speed grades available in all configurations. Contact Alpha Data for full details.