


Summary

The **ADM-XRC-6T1** 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 PCI Express® Gen2 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 64 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/4GByte options) of DDR3 SDRAM @ 800MT/s (32-bit wide so 3.2GB/s)

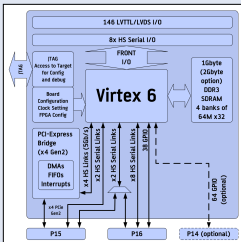
FLASH - Configuration Flash providing an initialisation design for automatic loading into the target FPGA.

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 from Target FPGA)
- 10 High-Speed Serial Links via P16 connector (VITA 46.9 X8d+X12d compatible pinout)
- 38 LVTTTL GPIO connections via P16 connector (VITA 46.9 X38s compatible pinout)
- 64 I/O connections via optional PMC P14 connector (2.5V levels with 3.3V compatible inputs)



Specification

Product Name	ADM-XRC-6T1
Target Devices	Xilinx Virtex-6 - LX240T, LX365T, LX550T, SX315T, SX475T (FFG1759)
Host I/F	PCI Express® Gen2 x4
Interface	PCI Express® Gen2 x1, x2 or x4 link to separate bridge device with 2GB/s local link to user FPGA 4 DMA Controllers Interrupt Controller
Memory	SDRAM - 1GByte in 4 independent banks (2GByte/4GByte options) 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
XRM2	The ADM-XRC-6T1 is also available for XRM2 based FPGA products.
Rear I/O	8 High-Speed Serial Links via P15 connector (allowing second x4 PCI Express® Gen 2 channel from Target FPGA) 10 High-Speed Serial Links via P16 connector (VITA 46.9 X8d+X12d compatible pinout) 38 LVTTTL GPIO connections via P16 connector (VITA 46.9 X38s compatible pinout) 64 I/O connections via optional PMC P14 connector (2.5V levels with 3.3V compatible inputs)
Clocks	Low-jitter 250MHz reference clock, suitable for SerDes applications Low-jitter 200MHz reference clock for IOB delay circuits 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 Extended Range (ACE) 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-6T1/z-y(m)(c)(a)(p)(t)		
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 - 2GBytes for the board, /4 = 1024MBytes per bank - 4GBytes for the board
Cooling	c	blank = air cooled commercial, /ACE = air cooled Extended, /AC1 = air cooled industrial, /CC0 = conduction cooled Commercial, /CCE = conduction cooled Extended, /CC1 = conduction cooled industrial
Conformal Coating	a	blank = No coating, A = Acrylic (HumiSeal 1B31), P = Polyurethane (Arathane 5750)
Pn4 Fitted	p	blank = not fitted, /Pn4 = Pn4 Connector fitted
XMC Connector Type	t	blank = XMC (VITA 42) Connectors, /X2 = XMC2 (VITA 61) Connectors
Note	#	not all FPGA speed grades available in all configurations. Contact Alpha Data for full details.