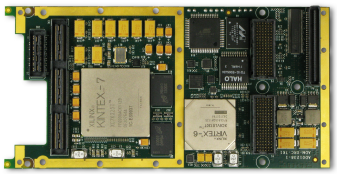
ADM-XRC-7K1

31st March 2019 **Datasheet Revision: 1.1**



Applications

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

Board Features

- Air-Cooled/Conduction-Cooled Options
- Separate PCI Express Bridge
- XRM2 I/O Interface

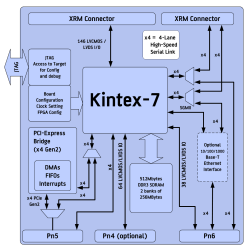
FPGA Features

- 1x PCIe® Gen2

Summary

The **ADM-XRC-7K1** is a high performance reconfigurable XMC (VITA 42.3 Mezzanine Card) based on the Xilinx Kintex-7 range of Platform FPGAs.

Features include PCI Express Gen2 interface, external memory, high density I/O, temperature monitoring 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.
Placing the PCI Express bridge in bypass allows the creation of a Gen 2 x8 PCI Express endpoint design directly into the target FPGA (x8 for -2/-3 devices only x4 for -1 devices).
There is a build option to include a 10/100/1000 Ethernet Interface connecting the target FPGA to P6.
The optional fitting of the Pn4 connector provides an additional 64 General Purpose IO (GPIO) links to the carrier card.



Target Devices

Xilinx Kintex-7: XCK325T
(FFG900)

FPGA Specification

LUTs = 326k
FFs = 407k
DSPs = 840
BRAM = 16Mb

1x PCIe® Gen2

Application Data Memory

2x SDRAM 256MB DDR3-1600

FPGA Configuration Memory

BPI 512MBit Flash Memory

FPGA Configuration Modes

PCI Express direct to SelectMAP port
From Flash direct on power up
External JTAG connector

Deliverables

ADM-XRC-7K1 Board
One Year Warranty
One Year Technical Support

Host 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

Board Format

XMC (Switched Mezzanine Card, VITA 42)

Input/Output Interfaces

146x LVCMOS/LVDS I/O (programmable to 1.2

8x High-Speed Serial Links to XRM2

8x High-Speed Serial Links via Pn6 connector (two x4 Links Multiplexed between Front IO or Rear IO)

8x High-Speed Serial Links via Pn6 connector (two x4 Links Multiplexed between Front IO or Rear IO). There is a build option for a 10/100/1000 Ethernet Interface to be fitted which connects to P6 (replaces one x4 high speed serial link)

38x LVCMOS/LVDS GPIO connections via Pn6 connector (VITA 46.9 X38s compatible pinout)

64x LVCMOS/LVDS GPIO connections via optional PMC Pn4 connector (2.5V levels with 3.3V compatible inputs)

Support

The ADM-XRC-7K1 is supplied with the ADMXRCG3 Support & Development kit (SDK) along with ADB3 Driver for Windows / Linux / VxWorks.

Environmental Specification

Temperature Ranges

Cooling Option	Operating Temperatures		Storage Temperatures	
	Min	Max	Min	Max
AC0	0°C	55°C	-40°C	85°C
ACE	0°C	70°C	-55°C	100°C
AC1	-40°C	70°C	-55°C	100°C
CC0	0°C	55°C	-40°C	85°C
CCE	0°C	70°C	-55°C	100°C
CC1	-40°C	70°C	-55°C	100°C

Operating Humidity : Up to 95% (non-condensing)

EMC Standards

FCC 47CFR Part 2
EN55022:2010 Equipment ClassB

Conformal Coating Options
Acrylic or Polyurethane
Contact sales for specification of coatings.

Ordering Information

Order Code: ADM-XRC-7K1/z-y(m)(c)(a)(p)(e)(t)(s)

Option	Code	Description of Options
Kintex-7 device	z	K325T,K410T
Kintex-7 speed	y	1, 2, 3
Memory	m	blank = Two banks each of 256MBytes at 1600MT/s, /1 = Two banks of 512MByte at 800MT/s
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 conformal coating, A = Acrylic, P = Polyurethane
Pn4 Fitted	p	blank = not fitted, /Pn4 = Pn4 Connector fitted
Ethernet I/F Fitted	e	blank = not fitted, /GE = Ethernet I/F fitted
XMC Connector Type	t	blank = XMC (VITA 42) Connectors , /X2 = XMC2 (VITA 61) Connectors
Stack Height	s	blank = Standard Stack Height, /C7 = 12mm Stack Height
Note	not all FPGA speed grades available in all configurations. Contact Alpha Data for full details.	

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