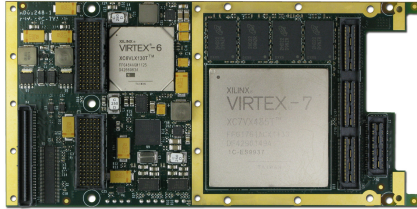


AD01248



Applications

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

Board Features

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

Summary

The **ADM-XRC-7V1** is a high performance reconfigurable XMC (compliant to VITA Standard 42.0 and 42.3) based on the AMD Virtex-7 range of Platform FPGAs.

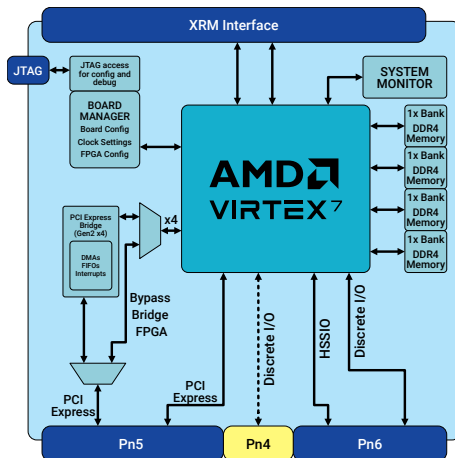
Features include PCI Express Gen2 interface, external memory, high density I/O, system monitoring and flash boot facilities.

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. Target FPGAs VX330T and VX690T can also support Gen3 x8 PCI Express designs.

The optional fitting of the Pn4 connector provides an additional 64 General Purpose IO (GPIO) links to the carrier card.

The **ADM-XRC-7V1** is available in a cost reduced form for high-volume production orders (the build option removes the Virtex-6 Bridge device).



Target Devices

AMD Virtex-7
XC7V585T, XC7VX485T, XC7VX690T (FF(G)
1761

LUTs = 582k FFs = 728k DSPs = 1260
BRAM = 28Mb(37Mb)

2x PCI Express cores (Gen2 or Gen3 -
FPGA dependent)

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

Input/Output Interfaces

Discrete Digital

LVCMOS/LVDS I/O (programmable to 1.2

High-Speed|Serial Links

High-Speed Serial Links to XRM2
High-Speed Serial Links via Pn6 connector

Discrete Digital

LVCMOS 3.3V GPIO connections via Pn6
connector (VITA 46.9 X8d+X12d+X38s
compatible pinout)

Multiple LVCMOS/LVDS GPIO connections via
optional PMC Pn4 connector (1.8V levels with
2.5V compatible inputs)

Application Data Memory

4x 512MB DDR3-1600

Configuration Memory

BPI 512MBit Flash Memory

Configuration Modes

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

Deliverables

ADM-XRC-7V1 Board
One Year Warranty
One Year Technical Support

Support

The ADM-XRC-7V1 is supplied with the ADMXRCG3 Support & Development kit (SDK) along with ADB3 Driver for Windows / Linux / VxWorks.

Board Format

XMC (Switched Mezzanine Card, VITA 42)

Environmental Specification

| 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-7V1/z-y(m)(c)(a)(p)(t)

| Option | Code | Description of Options |
|--------------------|------|---|
| Virtex-7 device | z | V585T=XC7V585T, VX485T=XC7VX485T, VX690T=XC7VX690T |
| Virtex-7 speed | y | 1, 2, 3 |
| Memory | m | blank = 2GBytes on board SDRAM (Four banks of 512MBytes), /4 = 4GByte on board SDRAM (Four banks of 1GByte) |
| 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 |
| 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. |