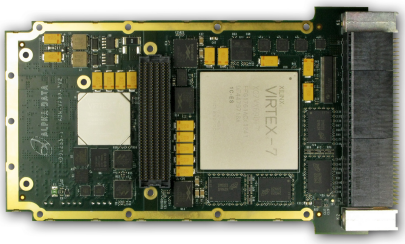
ADM-VPX3-7V2

Datasheet Revision: 2.2
28th November 2024

AD01255



Applications

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

Board Features

- Separate PCI Express Bridge FPGA
- High-density FMC Interface
- 2GByte on-board DDR3-1600 SDRAM

Summary

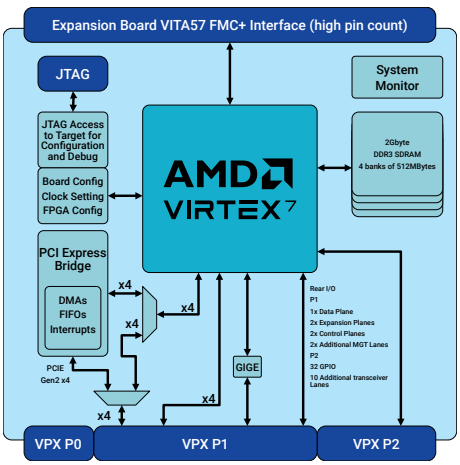
The **ADM-VPX3-7V2** is a high performance reconfigurable 3U OpenVPX format board based on the AMD Virtex-7 range of Platform FPGAs.

Features include PCI Express Gen2 interface, external memory, high density I/O using a Vita 57 standard, high Pin Count FMC interface, Gigabit Ethernet Interface, 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 **ADM-VPX3-7V2** is available in a cost reduced form without a separate Bridge FPGA for high-volume production orders. A Rear Transition Module (RTM) is available to accelerate development by providing monitor and control access to all Rear (backplane) IO signals.



Target Devices

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

LUTs = 582k FFs = 728k
DSPs = 1260
BRAM = 28.6Mb(52.9Mb)

3x PCIe® Gen2 (690T 2x Gen3)

Application Data Memory

4x 512MB DDR3-1600 - 4GByte option available

Configuration Memory

BPI 512MBit Flash Memory
Configured as 2x Bridge

Configuration Modes

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

Deliverables

ADM-VPX3-7V2 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

Input/Output Interfaces

Discrete Digital
GPIO

High-Speed Serial Links
High-Speed Serial Links
High-Speed Serial Links (compliant to VITA 46.9 X24S+X12D+X8D)

Discrete Digital
GPIO (compliant to VITA 46.9 X24S+X12D+X8D)

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Support

Comprehensive Software Development Kit with source code for example software and FPGA designs.

Board Format

3U VPX (OpenVPX Compliant)

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

Conformal Coating Options

Acrylic or Polyurethane
Contact sales for specification of coatings.

Ordering Information

Order Code: ADM-VPX3-7V2/z-y(m)(c)(a)

Option	Code	Description of Options
Virtex-7 device	z	V585T=XC7V585T, VX690T=XC7VX690T
Virtex-7 speed	y	1, 2, 2G, 2L, 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
Note	not all FPGA speed grades available in all configurations. Contact Alpha Data for full details.	

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