ADA-VPX3-7V1

ALPHA DATA

Applications

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

Board Features

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

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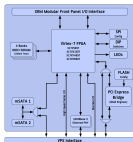
- 2x PCI Express cores (Gen2 or Gen3 - FPGA dependent)

Summary

The **ADA-VPX3-7V1** assembly brings together the availability and configurability of the ADM-XRC-7V1 FPGA XMC2 in a VPX 3U module based on the Xilinx 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.

Target Devices

Xilinx Virtex-7: XC7V585T
(FF(G)1761

LUTs = 582k
FFs = 728k
DSPs = 1260
BRAM = 28Mb

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

Application Data Memory

4x SDRAM 512MB DDR3-1600

FPGA Configuration Memory

BPI 512MBit Flash Memory
Configured as 2x Bridge

FPGA Configuration Modes

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

Deliverables

ADA-VPX3-7V1 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

3U VPX (OpenVPX Compliant)

Input/Output Interfaces

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

8x High-Speed Serial Links to XRM2

1x x4 PCI Express Interface

2x Ethernet connectivity to VPX backplane

8x Discrete IO

64x IO compliant with VITA 46.9 X64S

![ALPHA DATA logo]

Support

The ADA-VPX3-7V1 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

Ordering Information

Order Code: ADA-VPX3-7V1/z-y(m)(c)/Pn4

Option	Code	Description of Options
Virtex-7 device	z	V585T=XC7V585T, VX330T=XC7VX330T, 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, /CC1 = conduction cooled industrial
Note		not all FPGA speed grades available in all configurations. Contact Alpha Data for full details.

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