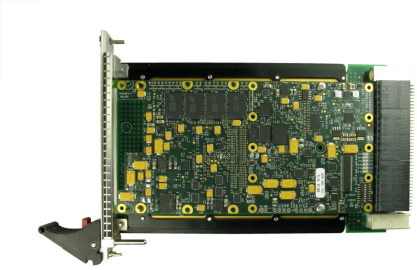
ADA-VPX3-7V1

Datasheet Revision: 2.1
30th May 2023

AD01260



Applications

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

Board Features

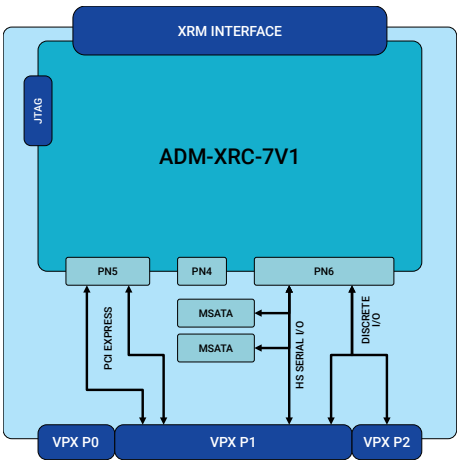
- Air-Cooled/Conduction-Cooled Options
- Separate PCI Express Bridge
- XRM2 I/O Interface

Summary

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



Target Devices

AMD Virtex-7
XC7V585T, XC7VX330T, XC7VX485T, XC7VX690T (FF(G)1761

LUTs = 582k FFs = 728k DSPs = 1260
BRAM = 28Mb(27Mb)

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

Application Data Memory

4x 512MB DDR3-1600

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

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

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
x4 PCI Express Interface

1000Base-X Ethernet
Ethernet connectivity to VPX backplane

Discrete Digital
Discrete IO
IO compliant with VITA 46.9 X64S

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Support

The ADA-VPX3-7V1 is supplied with the ADMXRCG3 Support & Development kit (SDK) along with ADB3 Driver for Windows / Linux / VxWorks.

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

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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