



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 **ADA-VPX3-7K1** assembly brings together the power and configurability of the ADM-XRC-7K1 FPGA XMC in a VPX 3U module 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 PE.

Target Devices

Xilinx Kintex-7: XCK325T (FFG900)

LUTs = 326k

FFs = 407k

DSPs = 840

BRAM = 16Mb

1x PCIe® Gen2

Application Data Memory

2x SDRAM 256MB DDR3-1600

FPGA Configuration Memory

BPI 512MBt 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-VPX3-7K1 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

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 X645

Support

The ADA-VPX3-7K1 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
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-VPX3-7K1/z-y(m)(c)/Pn4(e)

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 = Extended air cooled Commercial, /AC1 = air cooled industrial, /CC1 = conduction cooled industrial
Ethernet I/F Fitted	e	blank = not fitted, /GE = Ethernet I/F fitted
Note		not all FPGA speed grades available in all configurations. Contact Alpha Data for full details.

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