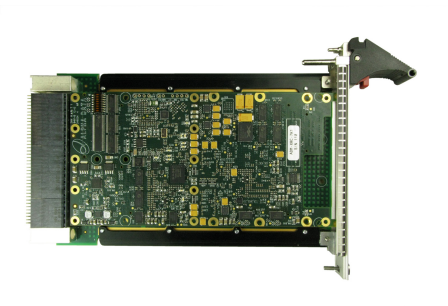
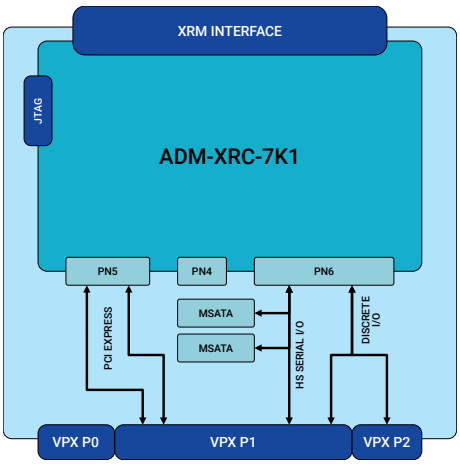
ADA-VPX3-7K1

Datasheet Revision: 2.1
30th May 2023

AD01259





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

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 AMD 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 P6.

Target Devices

AMD Kintex-7
XCK325T, XCK410T (FFG900)

LUTs = 326k FFs = 407k DSPs = 840
BRAM = 16Mb(28.6Mb)

1x PCIe® Gen2

Application Data Memory

2x 256MB DDR3-1600 - (Alternatively

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-VPX3-7K1 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

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-VPX3-7K1 is supplied with the ADMXRCG3 Support & Development kit (SDK) along with ADB3 Driver for Windows / Linux / VxWorks.

Board Format

3U VPX (OpenVPX Compliant)	ERROR	ERROR	ERROR	ERROR

Environmental Specification

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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