

AD01305



Applications

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

Summary

The **ADM-XRC-KU1** is a high performance reconfigurable XMC (compliant to VITA Standard 42.0 and 42.3) based on the AMD Kintex Ultrascale 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.

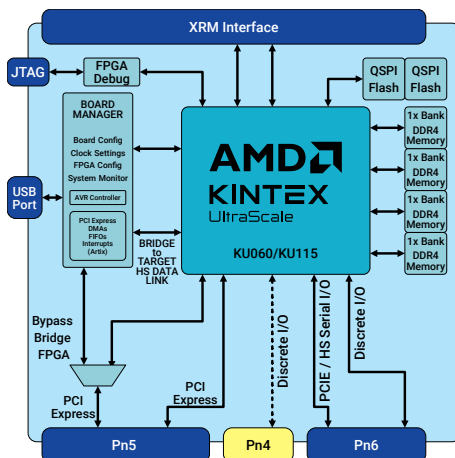
Board management is provided by the combination of the Artix FPGA and AVR Microcontroller. This allows the board to be managed via PCI Express or via USB.

The KU1 provides multiple communications modes:

PCI Express Gen2 x4 through the Artix FPGA with an optional Gen3 x4 PCI Express link direct to the target FPGA.

Gen3 x8 PCI Express link direct to the target when the bridge is in USB mode.

An optional Gen3 x8 PCI Express link provided through Pn6 using a compatible XMC carrier.



Target Devices

AMD Kintex UltraScale
XCKU060, XCKU115 (FLVA1517)

LUTs = 221k FFs = 663k

DSPs = 2760

BRAM = 38.0Mb(75.9Mb)

3x PCI Express Gen3 x8 cores (6 for XCKU115)

Application Data Memory

4x 2GB DDR4-2400

Configuration Memory

BPI 1GBit Flash Memory

Configured as 2x Bridge

Configuration Modes

By PCI Express Bridge on power up

By software via PCI Express Bridge

Via External JTAG connector

Deliverables

ADM-XRC-KU1 Board

One Year Warranty

One Year Technical Support

Board Features

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

Host Interface

PCI Express Gen2 x4 (Separate bridge FPGA) or
Gen3 x8 (direct from Target FPGA)

Input/Output Interfaces

Discrete

LVCMOS/LVDS I/O (programmable to 1.2

High-Speed|Serial Links

High-Speed Serial Links to XRM2 (x8)

High-Speed Serial Links via Pn6 connector

Discrete I/O

LVCMOS 3.3V GPIO connections via Pn6

connector (VITA 46.9 X8d+X12d+X38s

compatible pinout)

Multiple LVCMOS/LVDS GPIO connections via

optional PMC Pn4 connector (1.8V levels with

2.5V compatible inputs)

Support

The ADM-XRC-KU1 is supplied with the ADM-XRC-KU1 Support & Development kit (SDK) along with ADB3 Driver for Windows / Linux / VxWorks.

Board Format

XMC (Switched Mezzanine Card, VITA 42)

Environmental Specification

Cooling Option	Operating Temperatures		Storage Temperatures	
	Min	Max	Min	Max
AC0	0°C	+55°C	-40°C	+85°C
AC1	-40°C	+70°C	-55°C	+100°C
CC1	-40°C	+70°C	-55°C	+100°C

Operating Humidity : Up to 95% (non-condensing)

Conformal Coating Options

Acrylic or Polyurethane
Contact sales for specification of coatings.

Ordering Information

Order Code: ADM-XRC-KU1/z-2(c)(a)(p)(IO)

Option	Code	Description of Options
Kintex Ultrascale device	z	KU060 = XCKU060 FPGA fitted, KU115 = XCKU115 FPGA fitted
Pn4 Fitted	p	blank = not fitted, /Pn4 = Pn4 connector fitted
Cooling	c	blank = air cooled commercial, /AC1 = air cooled industrial, /CC1 = conduction cooled industrial
Conformal coating	a	blank = no conformal coating, A = Acrylic, P = Polyurethane
IO Option	IO	blank = One differential pair on Pn6 designated as an external clock input, /10RX = External clock input replaced by 10th data input