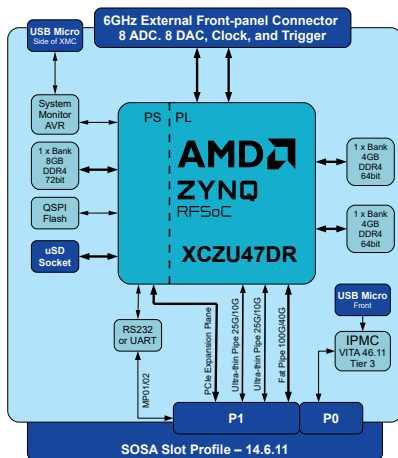


AD01552



Applications

- RF Signal Sampling/Generation
- SOSA Systems
- Radar
- Beamforming
- MIMO (5G) communications - Tx and Rx
- Signal Detection/Jamming

Board Features

- SOSA IPMC - compliant with Vita 46.11 Tier 3
- 8 ADC and DAC channels capable of Multi-gigasample data conversion
- AMD Ultrascale+ reconfigurable logic and DSP processing
- AMD Zynq ARM multi-core control and computation Processing System
- 10MHz to 6GHz front-end bandwidth

Summary

This SOSA-Aligned 3U VPX module hosting a high-performance System-on-Module (SOM) based on the AMD Zynq Ultrascale+ RFSoc, combines FPGA Fabric, ADC and DAC interfaces and ARM CPU cores in a single low-power device.

The module is provided in rugged SOSA-Aligned 3U VPX format and is available in industrial temperature grades with conduction cooling. When equipped with XQ-grade components, the ADA-V9202 also supports the LVAUX SEL mitigation mode. However, the board remains as an industrial temperature-grade solution.

Target Devices

AMD Zynq Ultrascale+
XCZU47DR-2, XCZU48DR-2 (FFVE1156)

Host Interface

Default: Ethernet (40G)
Alternate: PCI Express Gen3 x8

FPGA Specification

Cells = 930k (930k)
DSPs = 4272 (4272)
BRAM = 38Mb (38Mb)
URAM = 22.5Mb (22.5Mb)
8x 14-bit 5GSPS RF-ADC
8x 14-bit 10GSPS RF-DAC
4x ARM® Cortex™-A53 MPCore™ - 1.5GHz
2x ARM® Cortex™-R5 MPCore™ - 533MHz
8x SD-FEC cores (ZU48 only)
1x PCIe Gen3x8 in Fabric
1x PCIe Gen2x4 to ARM PS

Application Data Memory

1x 16Gb DDR4 SDRAM - 32-bit wide (to PS)
2x 8Gb DDR4 SDRAM - 8-bit wide (to PL)
1x SD Card specific SDC microSD - 8-bit wide (to PL)

Configuration Memory

QSPI 2x512Mb

Configuration Modes

PS - Configured via QSPI or uSD

Input/Output Interfaces

High-Frequency Analogue Inputs (Front I/O)

8x 14-bit 5GSPS RF-ADC BW 10MHz-6GHz
Resolution: 14-bit
Max Sample Freq: 5Gsp/s
Connector: Rosenberger Multiport Mini-Coax Locking Connector

High-Frequency Analogue Outputs (Front I/O)

8x 14-bit 10GSPS RF-DAC BW 10MHz-6GHz
Resolution: 14-bit
Max Sample Freq: 10Gsp/s
Connector: Rosenberger Multiport Mini-Coax Locking Connector

High-Speed Digital IO (Front I/O)

2x Reference Clocks and Synchronization

Ethernet (P1)

1x 40G/10G Fat Pipe Ethernet
2x 1G/10G Ultra Thin Pipe Ethernet

Serial Low-Speed Comms (P1)

2x RS232 or UART from PS

Expansion Plane (PCI Express) (P4)

1x 10/25/40/100G Ethernet or PCI Express Gen3 x8

Serial Low-Speed Comms (P0)

2x IPMC-compliant redundant I2C
1x JTAG programming interface

Support

Software compatible with the ADM-XRC-9R1 utilizing its ARM-centric Targeted Reference Design and Board Support Package. Includes a Gen3 x8 PCIe reference design (via P6) compatible with the ADXDMA driver and API for both Windows and Linux.

Deliverables

ADA-V9202 Board
One Year Warranty
One Year Technical Support

Board Format

3U VPX (SOSA Aligned - VITA 46 and 65)
WxHxD = 100mm x 19.55mm x 160mm
Weight = TBDg

Environmental Specification

Cooling Option	Operating Temperatures		Storage Temperatures	
	Min	Max	Min	Max
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.

Order Code: ADA-V9201(d)(x)(c)(a)

Device	d	/Z47 = XCZU47DR-2, /Z48 = XCZU48DR-2 /XQZU48DR-1/PB = XQ-grade LVAUX support - leaded build not-RoHS
XMC Connector	x	blank = VITA42 XMC, /V88 VITA88 XMC+
Cooling	c	/AC1 = air cooled industrial, /CC1 = conduction cooled industrial
Conformal Coating	a	blank = no conformal coating, A = Acrylic, P = Polyurethane