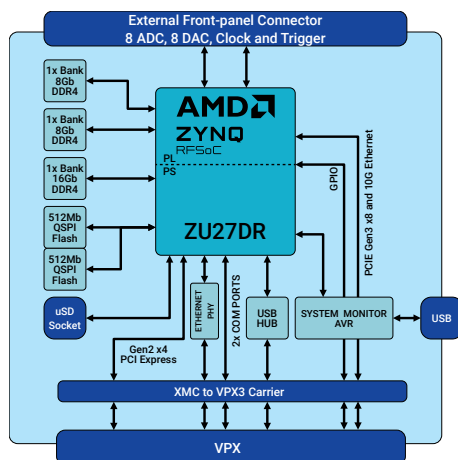
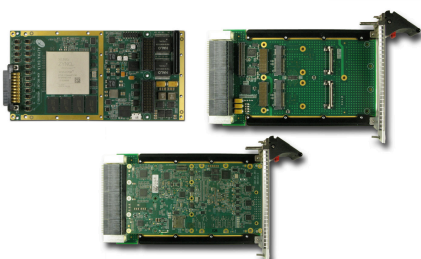




Applications

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

Board Features

- OpenVPX 65.0 14.2.2 Slot Profile
- On-board microcontroller accessible via USB

Summary

The **ADA-VPX3-9R1** is a high performance System On Module (SOM) based on the AMD Zynq Ultrascale+ RFSoc, which combines FPGA Fabric, ADC and DAC interfaces and ARM CPU cores in a single low-power device.

The assembly is provided in rugged VPX 3U format and is available in Industrial temperature grades with Air- or Conduction Cooling.

Target Devices

AMD Zynq Ultrascale+
XCZU27DR-2, XCZU28DR-2, XCZU47DR-2,
XCZU48DR-2 (FFVE1156 or FSVE1156)

Host Interface

PS - PCI Express Gen2 x4 (P5)
PL - PCI Express Gen3 x8 or 10 Gigabit Ethernet (P6)

FPGA Specification

Cells = 930k(930k)
DSPs = 4272(4272)
BRAM = 38Mb(38Mb)
URAM = 22.5Mb(22.5Mb)

4x ARM® Cortex™-A53 MPCore™ - 1.5GHz
2x ARM® Cortex™-R5 MPCore™ - 533MHz
8x 12 bit 4/5 GSPS RF-ADC
8x 14 bit 6.5/10 GSPS RF_DAC
8x SD-FEC cores (ZU28/ZU48 only)
1x PCIe Gen3x8 in Fabric
1x PCIe Gen2x4 to ARM PS

Input/Output Interfaces

High-Frequency Analogue Inputs (Front I/O)

8x 12-bit 4/5GSPS RF-ADC
Resolution: 14-bit
Max Sample Freq: 4/5Gsp/s
Connector: CMM Micro connectors

High-Frequency Analogue Outputs (Front I/O)

8x 14-bit 6.5/10GSPS RF-DAC
Resolution: 14-bit
Max Sample Freq: 6.5/10Gsp/s
Connector: CMM Micro connectors

Application Data Memory

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

Low-Speed Digital IO (P6)

19x GPIO (19 single ended or 5 differential pairs and 9 single ended)

High-Speed Serial IO (P4)

2x 1 Gigabit Ethernet

Low-Speed Serial IO (P4)

2x USB Interfaces
2x Serial Comms Ports

High-Speed Serial IO (P6)

8x HSSIO Links - 10G Ethernet or PCI Express Gen3 x8

Onboard USB Comms (Onboard)

1x USB Interface

Configuration Memory

QSPI 2x512Mb

Configuration Modes

PS - Configured via QSPI or uSD

Support

ARM centric Targeted Reference Design and Board Support Package
Gen3x8 example PCIe reference design (via P6) compatible with the
ADXDMA driver and API for Windows and Linux.

Deliverables

ADA-VPX3-9R1 Board
One Year Warranty
One Year Technical Support

Board Format

3U VPX (OpenVPX Compliant)

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-VPX3-9R1(d)(c)(a)

Device	d	/Z27 = XCZU27DR-2, /Z28 = XCZU28DR-2, /Z47 = XCZU47DR-2, /Z48 = XCZU48DR-2
Cooling	c	/AC1 = air cooled industrial, /CC1 = conduction cooled industrial
Conformal Coating	a	blank = no conformal coating, A = Acrylic, P = Polyurethane