

AD01515



Prime Application

Adaptable RF Processing Node

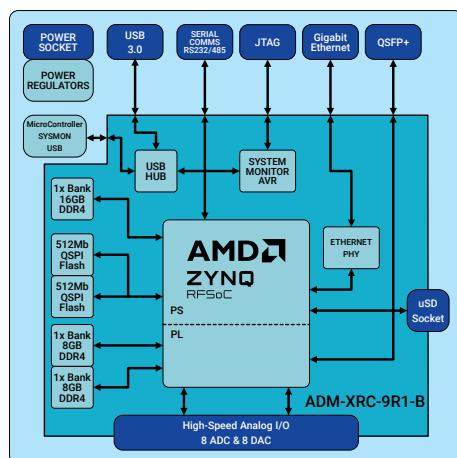
Board Features

- ADM-XRC-9R1-B
- 8x High-Speed 12/14-bit ADCs
- 8x High-Speed 14-bit DACs
- 4x ARM® Cortex™-A53 MPCore™
- 2x ARM® Cortex™-R5 MPCore™
- Gigabit Ethernet Port
- Microcontroller System Monitor
- USB and Serial Comms
- Fan cooling for the 9R1-B
- External Power connector

Summary

The **ADA-S9303** is a standalone fully enclosed 8 channel ADC (5 GSPS@14 bit - Gen3 RFSoc) and 8 channel DAC (10 GSPS@14 bit - Gen3 RFSoc) data converter based on AMD RFSoc technology. This is a stand alone deployable platform enclosing an assembly of one ADM-XRC-9R1-B and one ADC-XMC-STANDALONE carrier with all analog I/O brought out to front panel SMA connectors. Digital connection off chip is available through a choice of system interfaces including Ethernet, USB and High-Speed Serial Comms.

The ADA-S9303 can be remotely powered on and off via the USB connection to the on-board system management controller that runs off the standby power supply.



Target Devices

AMD Zynq RFSoc
XCZU27DR-2 (Gen1), XCZU28DR-2 (Gen1),
XCZU47DR-2 (Gen3), XCZU48DR-2 (Gen3)
(FFVE1156 or FSVE1156)

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 12/14 bit 4/5 GSPS RF-ADC (G1/G3)
8x 14 bit 6.5/10 GSPS RF_DAC (G1/G3)
8x SD-FEC cores (ZU28/ZU48 only)

Application Data Memory

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

Configuration Memory

QSPI 2x512MBit

Configuration Modes

PS - Configured via QSPI or uSD

Input/Output Interfaces

High-Frequency Analogue Inputs (Front I/O)

8x 12/14-bit 4/5GSPS RF-ADC (G1/G3)
Resolution: 12/14-bit
Max Sample Freq: 4/5 Gsps
Bandwidth: 4/6 GHz
Coupling: AC
Impedance: 50R

High-Frequency Analogue Outputs (Front I/O)

8x 14-bit 6.5/10GSPS RF-DAC (G1/G3)
Resolution: 14-bit
Max Sample Freq: 6.5/10 Gsps
Bandwidth: 4/6 GHz
Coupling: AC
Impedance: 50R

GPIO (Front I/O)

1x External Clock in and clock out and 2
Bidirectional GPIO

Comms (RJ45)

1x 1000BASE-T Ethernet
4x QSFP+ HSSIO (4 lanes)
1x Serial COM Port
1x USB3.0

Power (2.1mm DC Power Plug)

1x External power: 15V-24V (not included)

Support

Contact Alpha Data support for details of the ADM-XRC-9R1 reference design package.

Deliverables

ADA-S9303 Board
One Year Warranty
One Year Technical Support
Reference Designs RD-9R1

Board Format

WxHxD = 275mm x 48mm x 165mm
Weight = 1500g

Environmental Specification

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

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

Ordering Information

Order Code: ADA-S9303/t/x/(f)

Option	Code	Description of Options
XMC Connector Type	t	blank = XMC/VITA42, V88 = XMC+/VITA88 Connectors
FPGA Platform	x	9R1-B
RFSoc	f	27 = XCZU27DR-2, 28 = XCZU28DR-2, 47 = XCZU47DR-2, 48 = XCZU48DR-2