

AD01481



Applications

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

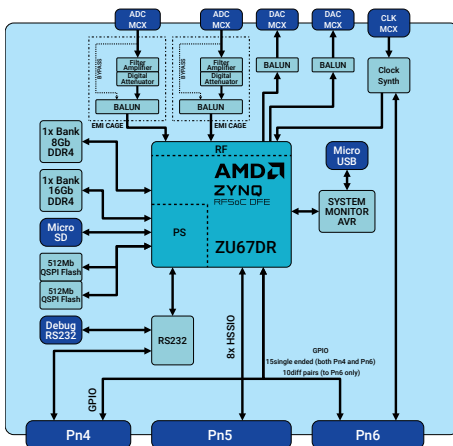
Summary

The **ADM-XRC-9R4** 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 module is provided in rugged XMC (or XMC+) format and is available in Industrial temperature grades with Air or Conduction Cooling.

Board Features

- 2x 14 bit 5.9GSPS RF-ADC
- 2x 14 bit 10GSPS RF-DAC
- Digital Front-End Hard-IP
- On-board microcontroller accessible via USB



Target Device

AMD Zynq Ultrascale+
XCZU67DR-2 (FFVE1156)

FPGA Specification

Logic Cells = 489k DSPs = 1872
BRAM = 22.8Mb URAM = 45Mb

- 4x ARM@ Cortex™-A53 MPCore™ - 1.5GHz
- 2x ARM@ Cortex™-R5 MPCore™ - 533MHz
- 2x 14 bit 5.9GSPS RF-ADC
- 2x 14 bit 10GSPS RF-DAC
- 1x Digital Front-End Hard-IP

Application Data Memory

- 1x 16Gb DDR4-2400 - (to PS)
- 1x 8Gb DDR4-2400 - (to PL)
- 1x microSD

Configuration Memory

QSPI 2x512Mb Flash Memory

Configuration Modes

PS - Configured via QSPI or uSD

Deliverables

- ADM-XRC-9R4 Board
- One Year Warranty
- One Year Technical Support

Input/Output Interfaces

High-Frequency Analogue Inputs

Dual 14-bit 5.9GSPS RF-ADC with an external low-pass filter - amplifier - digital attenuator - Balun (all bar the Balun is bypassable)

Resolution: 14-bit
Max Sample Freq: 5.9Gsp/s
Bandwidth: 625MHz-2815MHz (bypass the LPF and attenuators to increase the bandwidth)
Impedance: 50Ω (AC coupled)
Connector: MCX

High-Frequency Analogue Outputs

Dual 14-bit 10GSPS RF-DAC driving a Balun to the output connector

Resolution: 14-bit
Max Sample Freq: 10Gsp/s
Bandwidth: 625MHz-2815MHz
Impedance: 50Ω (AC coupled)
Connector: MCX

External Clock Input

External Clock Source

Resolution:
Max Sample Freq:
Bandwidth: 1MHz to 500MHz
Impedance: 100Ω (AC coupled)
Connector: MCX

High-Speed Serial IO

HSSIO Links - 10G Ethernet

Onboard USB Comms

USB Interface to system monitor

Low-Speed Serial IO

Serial Comms Ports

Low-Speed Digital IO

15x single ended signals (to both Pn4 and Pn6)
10x differential pair signals (to Pn6 ONLY)

Support

TBC

Board Format

XMC (Switched Mezzanine Card, VITA 42) or XMC+ (VITA 88)

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)

EMC Standards

 FCC 47CFR Part 2
 EN55022:2010 Equipment ClassB

Conformal Coating Options

 Acrylic or Polyurethane
 Contact sales for specification of coatings.

Ordering Information
Order Code: ADM-XRC-9R4(x)(c)(a)

Option	Code	Description of Options
XMC+ Option	x	blank = Standard XMC connectors Fitted, /V88 = XMC+ connectors fitted
Cooling	c	/AC1 = air cooled industrial, /CC1 = conduction cooled industrial
Conformal Coating	a	blank = no conformal coating, A = Acrylic, P = Polyurethane
Note		Contact Sales for other options