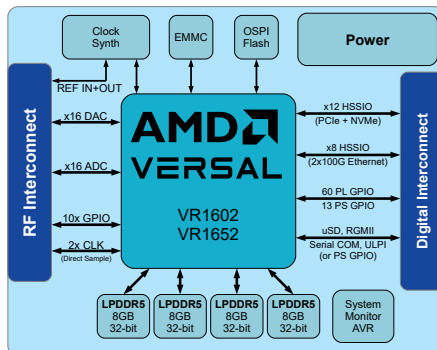
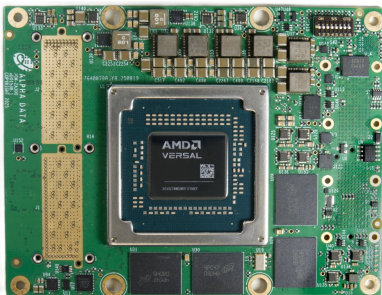


AD01538



Applications

- RF Signal Sampling/Generation
- Electromagnetic Spectrum Operations (EMSO)
- Radar Systems
- MilCom
- RF Signal Sampling/Generation
- Beamforming
- Signal Detection/Jamming
- Pre-6G Systems

Board Features

- 14-bit x 16 ADC and 16 DAC channels capable of Multi-Gigasample data conversion
- AMD Versal hardened and re-configurable logic and DSP processing
- AMD Versal multi-core control and computation Processing System
- 18GHz front end bandwidth

Summary

This Versal RF SoM (System on Module) delivers all the advantages of AMD's latest RF platform in a compact deployable form factor.

Versal RF offers 16 DACs and 16 ADCs at 14-bit resolution with up to 18GHz bandwidth combined with powerful hardened IP for FFT, channelization, LDPC decode, and resample. Alpha Data is proud to deliver these uncompromised design resources in a compact form factor to accelerate product development. Features include: 32 channel wideband ADC/DAC connectivity, RF clock reference inputs, 60GPIO, PS I/O for Ethernet, USB and COM ports, system monitoring, JTAG programming, High-Speed Debug Port (HSDP), 20 lanes of high speed serial I/O capable of PCIe Gen5x4, PCIe Gen4x8, NVME, 2x 100G Ethernet, 56G PAM4, and more.

Target Device

AMD Versal RF
VR1602 or VR1652 (VSVA2488)

Host Interface

PCI Express Gen5 x4 or Gen4 x8

FPGA Specification

Cells = 1.2M
DSPs = 2256
BRAM = 39Mb
URAM = 100Mb
AIEs = 126

16 or 4x 14-bit 8GSPS or 32GSPS RF-ADC
16 or 8 x 14-bit 16GSPS RF-DAC
2x ARM® Cortex™-A72 (APU)
2x ARM® Cortex™-R5F (RPU)
2x 100G Multirate Ethernet MAC
1x PCIe Gen5x4
4x DDR5 Memory Controllers

Input/Output Interfaces

High-Frequency Analogue Inputs (RF Interconnect)

16 or 4x 14-bit 8GSPS RF-ADC BW 18GHz
Resolution: 14-bit
Max Sample Freq: 8Gsp/s
Connector: GMI

High-Frequency Analogue Outputs (RF Interconnect)

16 or 8x 14-bit 16GSPS RF-DAC BW 18GHz
Resolution: 14-bit
Max Sample Freq: 16Gsp/s
Connector: GMI

Digital I/O (RF Interconnect)

4x Clocks (REF IN, REF OUT, and 2x Direct Sample Clocks)

General Purpose I/O (Digital Interconnect)

60x PL GPIO (single ended or LVDS)
13x PS GPIO

Low-Speed Serial I/O (Digital Interconnect)

1x RGMII (or 14 GPIO)
1x USB ULPI Host Interfaces (or 13 GPIO)
1x Serial Comms Ports (UART)

High-Speed Serial I/O (Digital Interconnect)

12x HSSIO Links - PCIe Gen4/5 or Aurora
8x HSSIO Links - 10/25/40/100G Ethernet or Aurora

Onboard USB Comms (Digital Interconnect)

1x System Monitor

Application Data Memory

4x 32Gb LPDDR5 SDRAM - 32-bit
1x 32GB 200MHz eMMC

Configuration Memory

OSPI 2Gb

Configuration Modes

PS - Configured via OSPI, uSD(carrier), eMMC, JTAG or HSDP

Support

Targeted Reference Design and Board Support Package.

Deliverables

ADM-ZA300 Board
One Year Warranty
One Year Technical Support

Board Format

Custom System On Module
WxHxD = 113mm x 86.5mm x 9.0mm
Weight = 97g

Environmental Specification

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

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

Order Code: ADM-ZA300(d)(s)(t)

Device	d	/1602 = XCVR1602 /1652 = XCVR1652
Speed Grade	s	-2MS = -2MS
FPGA Temperature Rating	t	/E = Enhanced /I = Industrial
Note	Please Contact sales for other options.	