ADA-PA310

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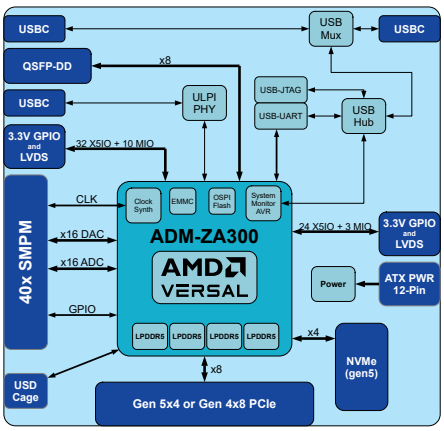

Applications

- 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, 2-slot, 241.30mm long, PCIe card delivers all the advantages of AMD's latest RF platform in a common industry standard and deployable form factor.

Versal RF offers 16 DACs and 16 ADCs at 14-bit resolution with up to 18GHz badwidth combined with powerful hardened IP for FFT, channelization, LDPC decode, and resample. Alpha Data is proud to deliver these uncompromised design resources in an industry standard PCIe form factor. Features include: 32 channel wideband ADC/DAC connectivity, RF clock reference inputs, PCIe Gen5x4 or PCIe Gen4x8, NVMe storage (gen5), QSFP-DD 400G Ethernet, 42GPIO, USB host, 1000Base-T Ethernet, system monitoring, USB JTAG programming.

Target Device

AMD Versal RF
VR1602 (VSVA2488)

FPGA Specification

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

16x 14-bit 8GSPS RF-ADC
16x 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

Application Data Memory

4x 32Gb LPDDR5 SDRAM - 32-bit
1x 16GB 50MHz microSD
1x 32GB 200MHz eMMC

Configuration Memory

OSPI 2Gb

Configuration Modes

PS - Configured via OSPI, uSD, eMMC or JTAG

Host Interface

PCI Express Gen5 x4 or Gen4 x8

Input/Output Interfaces

High-Frequency Analogue Inputs (Front I/O)
16x 14-bit 8GSPS RF-ADC BW 18GHz
Resolution: 14-bit
Max Sample Freq: 8Gsps
Connector: SMPM

High-Frequency Analogue Outputs (Front I/O)
16x 14-bit 16GSPS RF-DAC BW 18GHz
Resolution: 14-bit
Max Sample Freq: 16Gsps
Connector: SMPM

Digital I/O (Front I/O)
8x Reference Clocks and Synchronization

General Purpose I/O (Front I/O)
32x PL GPIO (single ended or LVDS)
10x PS GPIO

Low-Speed Serial I/O (Front I/O)
1x 1 Gigabit Ethernet Ports
1x USB Host Interfaces
2x Serial Comms Ports (USB)

High-Speed Serial I/O (Front I/O)
8x HSSIO Links - 10/25/40/100G/400G Ethernet or Aurora

Onboard USB Comms (Front I/O)
1x JTAG and System Monitor

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Support

Targeted Reference Design and Board Support Package.

Deliverables

ADA-PA310 Board
One Year Warranty
One Year Technical Support

Board Format

240.30mm length PCI Express Card
WxHxD = 254.6mm x 125.3mm x 41.9mm
Weight = TBDg

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)

Order Code: ADA-PA310(d)(s)(r)

Device	d	/1602 = XCVR1602 /1652 = XCVR1652
Speed Grade	s	-2MSE = -2MSE
RF Front I/O	r	/WB = Wideband high-density from I/O /PASS = Pass-through passive front I/O
Note	Please Contact sales for other options.	

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