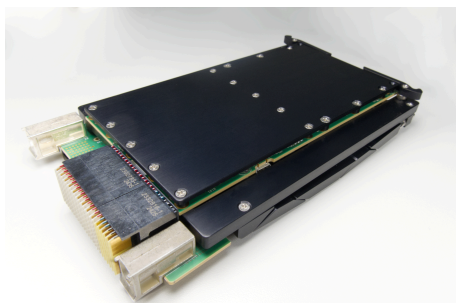


AD01506



Applications

- AI Inference for Edge Applications
- SOSA Systems
- High-Performance Data Capture and Processing
- Low-Latency Networking and Analytics
- Radar/Sonar Beamforming
- ELINT/ISR
- Image/Video Processing
- Machine Vision
- Digital Signal Processing
- Data Encryption

Board Features

- AMD Versal Prime and Versal Core options available
- SOSA Profile 14.6.11
- SOSA IPMC adheres to Vita 46.11 Tier 3
- Quad ARM® Cortex™-A53 MPCore™
- Dual ARM® Cortex™-R5 MPCore™
- Onboard microcontroller accessible via USB provides power rail monitoring; temperature monitoring; and clock programming
- XRM2 I/O interface
- Conduction and Air-Cooled options

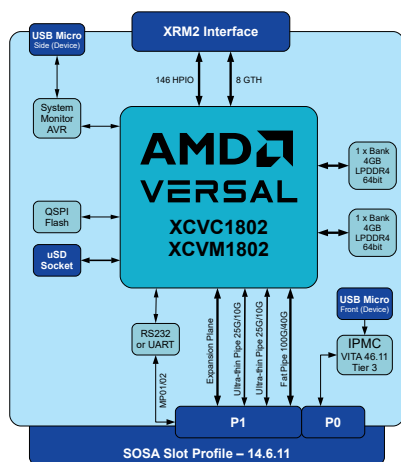
Summary

This 14.6.11 SOSA-Aligned 3U VPX module hosts an AMD Versal™ ACAP Data Processing Unit suitable for programs seeking a complete hardware path from development to rapid deployment of solutions based on the AMD Versal Prime VM1802 or VC1802 AI Core device.

The module is provided in a rugged SOSA-Aligned 3U VPX format and is available in industrial temperature grades with conduction cooling.

Flexible reference designs, allowing customers to access the full I/O flexibility of the chip, are provided for both the Vivado and Vitis toolchains.

The board enables access to a large number of configurable I/O pins and Gigabit Transceiver ports, which can connect to built-in hard-IP cores for 100G Multi-rate Ethernet, PCIe, and DDR4, or can be controlled by custom I/O logic in the programmable fabric, supporting an incredibly wide range of communication standards and applications.



Target Device

AMD Versal
XCVM1802-2MSI or XCVC1802-2MSI
(D1760)

FPGA Specification

Cells = 1586k-1968k
DSPs = 1600-1968 DSP58s
BRAM = 28-34 Mb
URAM = 91-130 Mb

300x AI Engines (XCVC1802 only)
1x Dual-core Arm Cortex-A72 APU
1x Dual-core Arm Cortex-R5F RPU
4x PCI Express Gen4 x4 (or 2x8)
2x 100G Multi-rate Ethernet MAC

Application Data Memory

2x 512M x 64-bit (4 GiB) Banks SDRAM - LPDDR4 (3900 MHz)
1x SD Card specific SDC microSD

Configuration Memory

8-bit QSPI

Configuration Modes

Configured via QSPI, uSD, or JTAG (P5 or onboard).

Host Interface

SOSA 14.6.11
PCI Express Gen4 x8
2x Ethernet (100G/50G/40G/4x25G/4x10G)

Input/Output Interfaces

XRM2 High-Speed Serial (XRM2)
8x High-Speed Serial Input Output (HSSIO) Links

XRM2 Low-Speed GPIO (XRM2)
146x LVCMOS/LVDS I/O

Expansion Plane (PCI Express) (P1)
1x Gen2 x4 or Gen3 x8 (G2x4 from PS or G3x4/ x8 from PL)

Ethernet (P1)
2x 40G/100G Fat Pipe Ethernet
2x 1G/10G/25G Ultra Thin Pipe Ethernet

Serial Low-Speed Comms (P1)
2x RS232 or UART from PS
2x IPMC-compliant redundant I2C
1x JTAG programming interface

P4 GPIO (P4)
4x General Purpose I/O (GPIO) from PS

Support

Comprehensive reference designs for the Adaptive SoC, covering Standalone and PCIe use cases and including a host driver and API support

Deliverables

ADA-VA210 Board
One Year Warranty
One Year Technical Support
RD-XA210 Reference Designs

Board Format

3U VPX (SOSA Aligned - VITA 46 and 65)
WxHxD = 149mm x 74mm x 12.72mm
Weight = TBCg

Environmental Specification

Cooling Option	Operating Temperatures		Storage Temperatures	
	Min	Max	Min	Max
AC1	-40°C	+85°C	-55°C	+100°C
CC1	-40°C	+85°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-VA210/(d)(c)(a)

Order Code: ADA-VA210/(d)(c)(a)		
Device	d	/M18-2MSI = VM1802-2MSI /C18-2MSI = VC1802-2MSI
Cooling	c	/AC1 = air cooled industrial /CC1 = conduction cooled industrial
Conformal Coating	a	blank = no conformal coating /A = Acrylic /P = Polyurethane
Note	Custom order codes are available for specific modifications, additional testing/screening, and enhanced ruggedization like tin-lead solder. Contact sales@alpha-data.com for more details.	