



ALPHA DATA

DESIGN, DEVELOP, DEPLOY

ALPHA-DATA.COM



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Alpha Data was founded in 1993 and serves customers worldwide from both the ITAR certified US office and the global UK office. The company offers a broad range of Commercial-Off-the-Shelf (COTS) and custom solutions for reconfigurable compute-intensive applications deployed on the ground, at sea, in the air and in space.

Alpha Data products exclusively feature AMD embedded devices such as Adaptive SoC, FPGAs, and x86 processors. Our strong partnership with AMD allows us to provide leading-edge hardware, software and expertise, backed by long-term support.

Our standards-based COTS boards can be modified to exactly meet customer requirements. We supply both COTS and Modified-COTS products to prime contractors throughout the world for use in areas that include RADAR, secure communications, Test & Measurement, Ultra Low-Latency Trading, and Space.

Open Standards. Proven Performance. Future-Ready Solutions.

What is SOSA?

The Sensor Open Systems Architecture (SOSA) is a consortium-driven technical standard that promotes interoperability, modularity, and enhanced competition in defense electronic systems. SOSA-aligned products ensure seamless integration, reduced development time, and enhanced mission capability.

Alpha Data's SOSA Commitment

Alpha Data has been at the forefront of SOSA's mission since 2021. As an AMD Premier Partner in the SOSA consortium, we contribute to the development of cutting-edge solutions that are meeting the demanding requirements of Aerospace and Defense, Industrial, Wired Communications, Wireless Communications, High Performance Computing (HPC), and Space markets.

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Alpha Data's SOSA Aligned Product Offerings

Product Name	Device(s)	Form Factor	Standards & Compliance
ADM-VA740	AMD Versal™ Premium (VP1402, high-speed crypto)	3U VPX, SOSA with optical mezzanine	SOSA Aligned 14.8.7-4 Vita 46, 65
ADM-VB240	AMD Versal™ Premium (VP2502, AI Engines)	3U VPX, SOSA with optical mezzanine	SOSA Aligned 14.6.13-14 Vita 46, 67.3
ADA-VA330	AMD Versal™ RF (VR1602/VR1652)	3U VPX, SOSA with 31 SMPS contacts	SOSA Aligned 14.6.14-6 Vita 46, 67.3
ADA-VA210	AMD Versal™ Prime (VM1802)	3U VPX, SOSA with XRM	SOSA Aligned 14.6.11-0 Vita 46
ADM-VPX3-9V2	AMD Virtex™ UltraScale+™ (VU13P)	3U VPX, SOSA with Optics	SOSA Aligned 14.4.14 Vita 46
ADA-V9202	AMD Zynq™ UltraScale+™ RFSoc Gen 3 (ZU47DR)	3U VPX, SOSA	SOSA Aligned 14.6.11-0 Vita 46
ADA-V9201	AMD Zynq™ UltraScale+™ RMPSoc (ZU11EG)	3U VPX, SOSA with XRM	SOSA Aligned 14.6.11-0 Vita 46
ADC-VX201	3U VPX XMC™ Carrier	3U VPX, SOSA	SOSA Aligned 14.6.11-0 Vita 46
ADA-V8201	AMD Kintex™ UltraScale™ (KU060/KU115)	3U VPX, SOSA with XRM	SOSA Aligned 14.6.11-0 Vita 46

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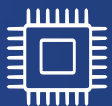
ADM-VA740

A high-performance SOSA-aligned 3U VPX, SOSA platform with optical mezzanine, featuring AMD Versal™ Premium technology, specially designed for embedded Ethernet smart switching, data encryption, digital signal processing, Electronic Intelligence (ELINT)/ Intelligence, Surveillance, and Reconnaissance (ISR), and image/video processing applications.

The ADM-VA740 is a powerful reconfigurable and customizable compute platform which combines AMD Versal™ Premium capabilities with extensive networking and security features for high-speed crypto, coupled with SOSA™-aligned 14.8.7-4 and Vita 46, 65 compliance and standards.



Profile: 14.8.7-4
SOSA IPMC (Vita 46.65)



AMD Versal™ Premium VP1402 with FPGA Fabric, dual ARM Cortex-A72, and dual ARM Cortex-R5 processors



6x multi-rate Ethernet MAC cores supporting 10/25/40/100G connections for high-throughput network processing



24GB LPDDR4 memory in three banks providing substantial data processing capabilities



4x 400G high-speed crypto engines and I/O mezzanine slot for customizable connectivity options



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ADM-VB240

A SOSA-aligned 3U VPX platform, powered by the AMD Versal™ Premium VP2502, designed for embedded system data processing and other intensive applications such as Radar, Signal Processing, and Machine Learning.

This FPGA processor card adheres to the Open VPX 14.6.11-n slot profile and is able to work in tandem with an I/O mezzanine card to support various rear aperture options. Versal Premium offers reconfigurable and customizable processing performance for the development and deployment of compute-intensive applications.



Profile: 14.6.13-14
SOSA IPMC (Vita 46.67.3 Tier 3)



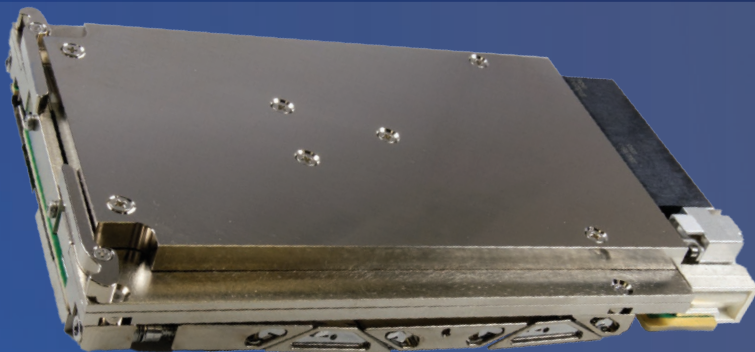
3U VPX (OpenVPX 14.6.11-n Compliant)



16GB in 4 Banks of LPDDR4 to deliver significant data processing capabilities



Available in industrial temperature grades with air or conduction cooling
-40°C to +85°C (Operating)
-55°C to +100°C (Storage)



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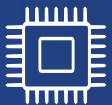
ADA-VA330

The ADA-VA330, a SOSA-aligned 3U VPX module, features an AMD Versal™ RF Series adaptive SoC engineered for demanding RF signal processing in radar systems, electromagnetic spectrum operations, and communications applications such as Beamforming, MilCom, and Pre-6G Systems.

This cutting-edge module delivers maximum RF performance through AMD's Versal™ RF architecture. It combines powerful hardened and re-configurable logic and DSP processing with multi-core control and computation Processing System. As a rugged platform, it delivers comprehensive RF signal sampling and generation capabilities while being 14.6.11 SOSA-aligned for seamless system integration.



Profile: 14.6.14-6
SOSA IPMC (Vita 46.67.3 Tier 3)



AMD Versal™ RF VR1602 with 16x 14-bit ADC channels at 8GSPS and 16x 14-bit DAC channels at 16GSPS delivering 18GHz front-end bandwidth



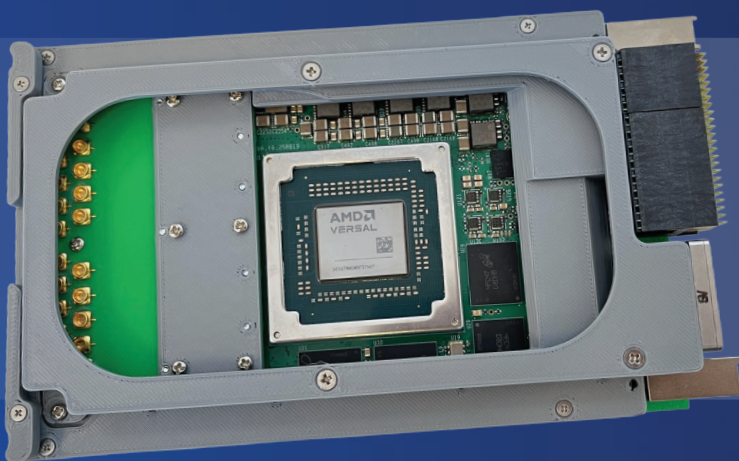
Dual ARM Cortex-A72 and R5F processors and 32Gb LPDDR5 memory across four banks



PCIe Gen5x4 or Gen4x8 connectivity and 100G Ethernet interfaces in deployable 3U VPX form factor



Industrial operating (-40°C to +85°C) and storage (-55°C to +100°C) temperatures



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ADA-VA210

A 3U VPX, SOSA-aligned with XRM, module featuring AMD Versal™ ACAP Data Processing Unit technology, designed for rapid development and deployment of AI inference, high-performance data processing, and low-latency networking solutions. This versatile platform supports both VM1802 and VC1802 AI Core devices for comprehensive edge computing applications.

The ADA-VA210 is a rugged, flexible compute module that combines AMD Versal™ Prime processing capabilities with I/O connectivity and AI acceleration. SOSA-aligned 14.6.11-0 and built to Vita 46 standards, the platform performs at industrial temperature grades with conduction cooling, while also being controllable in the programmable fabric and features hard-IP core integration for the most demanding defense and aerospace environments.



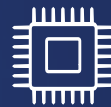
Profile: 14.6.11-0
SOSA IPMC (Vita 46 Tier 3)



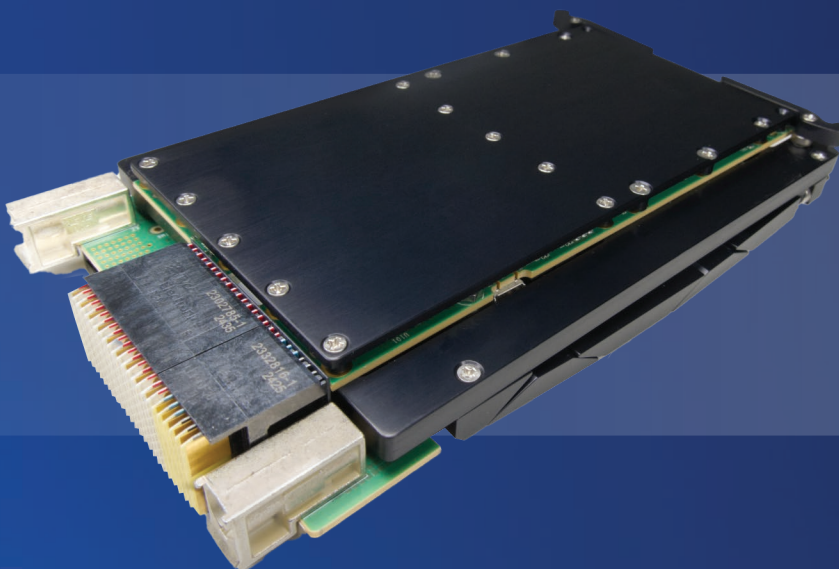
4x PCIe Gen4 x4 (or 2x8) and 2x 100G Multi-rate Ethernet MAC cores for high-speed connectivity
XRM2 I/O interface with extensive configurable IO pins and Gigabit Transceiver ports



Quad ARM Cortex-A53 MPCore and dual ARM Cortex-R5 MPCore processors for versatile computing



Profile: 14.6.11-0
SOSA IPMC (Vita 46 Tier 3)



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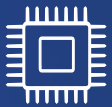
ADM-VPX3-9V2

The ideal solutions for radar and sonar systems requiring the highest levels of performance and reliability, extremely well suited for high bandwidth switching applications in Radar, Signal processing and Machine Learning.

Aligned with the SOSA 14.4.14 Technical Standard and Vita 46, the ADM-VPX3 is a reconfigurable 3U VPX, SOSA with Optics, format board that takes full advantage of the digital signal processing (DSP) performance board found within its VU9P/ VU13P UltraScale+ FPGA devices, allowing the board to operate as a very high bandwidth processing offload accelerator within VPX systems.



Profile: 14.4.14
SOSA IPMC (Vita 46)



AMD Virtex™ UltraScale+™
(VU13P or VU9P)



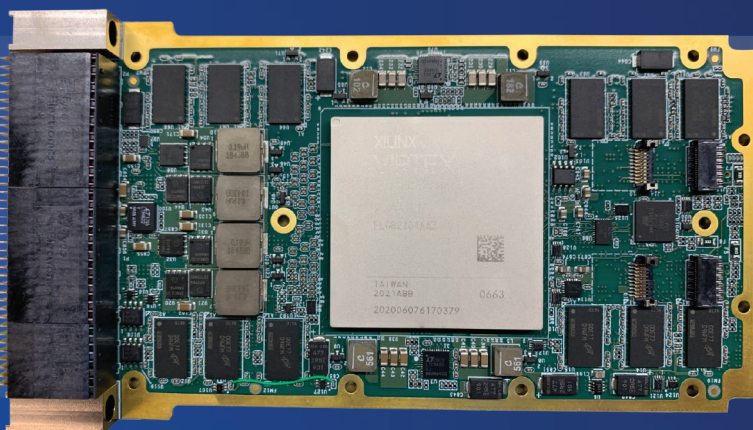
Firefly
HSSIO P1/P2
Serial Comms P1/P2
GPIO P2



3U VPX (OpenVPX Compliant)



Available in industrial temperature grades with air or conduction cooling
-40°C to +85°C (Operating)
-55°C to +100°C (Storage)



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ADA-V9202

A high-performance SOSA-aligned 3U VPX module featuring AMD Zynq™ Ultrascale+™ RFSoc technology, combining FPGA fabric, high-speed ADC/DAC interfaces, and ARM processing cores in a single integrated platform. Specifically engineered for RF signal capabilities, radar beamforming, 5G MIMO communications, and advanced signal detection applications.

The ADA-V9202 delivers exceptional RF signal sampling and generation through its integrated System-on-Module design. With multi-gigasample data conversion, 10MHz to 6GHz front-end bandwidth, and ruggedized construction for industrial temperature operations, this module provides comprehensive RF processing power while maintaining SOSA alignment to 14.6.11-0 and Vita 46 standards as well as supporting LVAUX SEL mitigation mode with XQ-grade components.



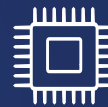
Profile: 14.6.11-0
SOSA IPMC (Vita 46 Tier 3)



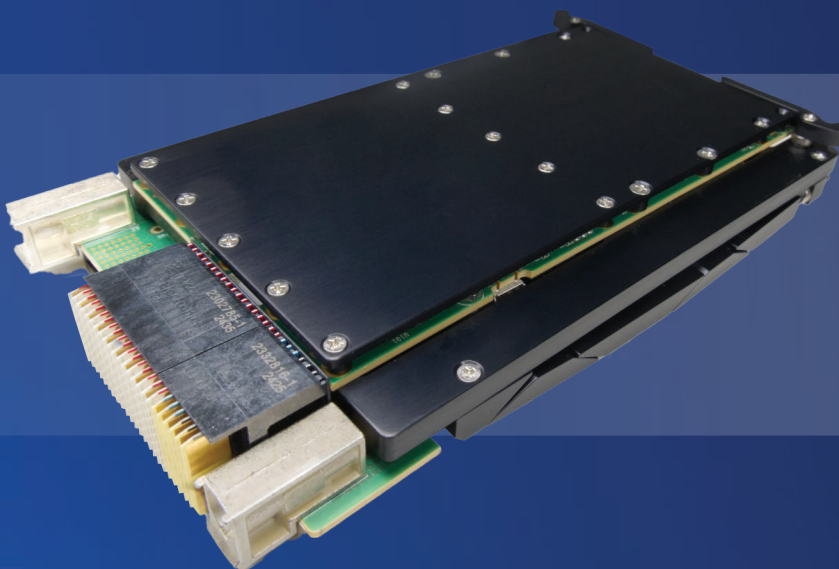
8 ADC and DAC channels with multi-gigasample data conversion capabilities
8x SD-FEC cores (ZU48 variant) and PCIe Gen3x8 fabric connectivity



Quad ARM Cortex-A53 MPCore (1.5GHz)
and dual ARM Cortex-R5 MPCore (533MHz) processors



AMD Zynq™ UltraScale+™ RFSoc Gen 3 (ZU47DR) with 8x 14-bit 5GSPS RF-ADC and 8x 14-bit 10GSPS RF-DAC



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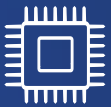
ADA-V9201

A versatile SOSA-Aligned 3U VPX, SOSA with XRM, module powered by AMD Zynq™ Ultrascale+ MPSoC technology, integrating FPGA fabric and ARM CPU cores for comprehensive embedded processing solutions. Optimized for radar/sonar beamforming, intelligence applications, image/video processing, and secure data operations in demanding sensitive environments.

The ADA-V9201 provides ARM processing power in a rugged, industrial-grade platform. With SOSA 14.6.11-0 and Vita 46 compliance, this module delivers reliable performance with conduction cooling capabilities for signal processing, machine vision, and encryption applications while offering flexible connectivity through PCIe interfaces and comprehensive system monitoring features.



Profile: 14.6.11-0
SOSA IPMC (Vita 46 Tier 3)



AMD Zynq™ UltraScale+™ MPSoC (ZU11EG) with integrated FPGA fabric and ARM processing cores



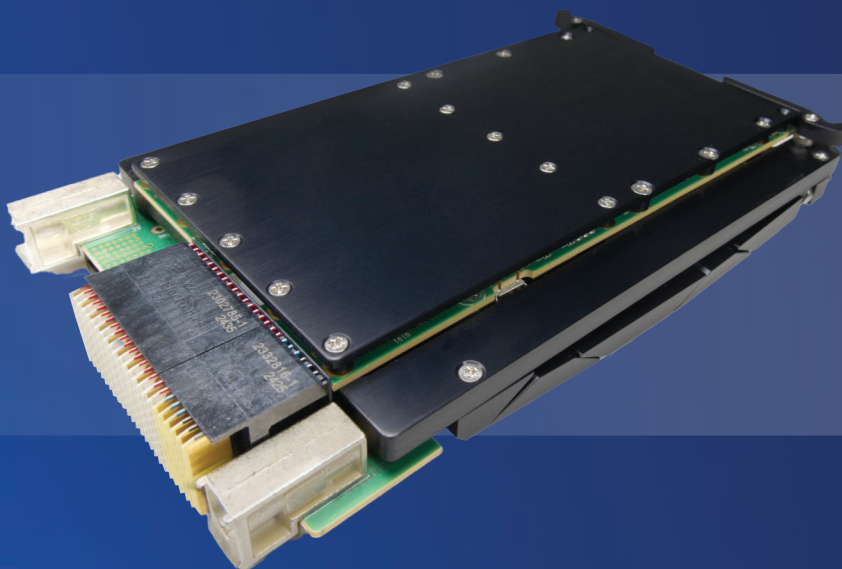
Quad ARM Cortex-A53 MPCore (1.5GHz) and dual ARM Cortex-R5 MPCore (600MHz) processors



PCIe Gen3x8 in programmable logic and PCIe Gen2x4 to ARM processing system



On-board microcontroller with clock programming, power rail and temperature monitoring



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ADC-VX201

A versatile 3U VPX XMC™ Carrier, designed for SOSA-aligned deployments supporting a range of Alpha Data modules including ADM-XA210, ADM-XRC-9R1-B, and ADM-XRC-9Z1.

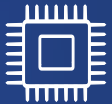
The ADC-VX201 is a flexible integration platform which combines SOSA 14.6.11-0 and Vita 46 compliance with extensive module support capabilities.



Profile: 14.6.11-0
SOSA IPMC (Vita 46 Tier 3)



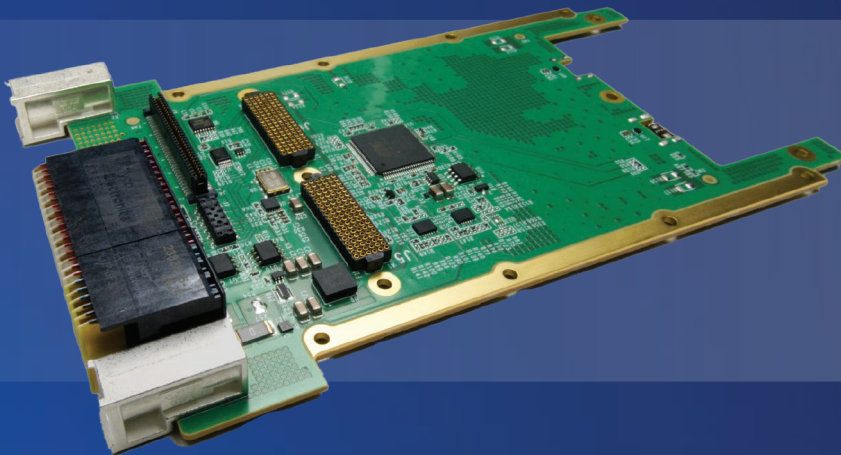
Support for VITA 88 XMC+ modules enabling advanced, high-performance computing applications



3U VPX form factor with 14.6.11 slot profile for SOSA-aligned system integration Compatible with Alpha Data flagship modules incorporating Versal™ Adaptive SoC and RFSoc technologies



Available in both air-cooled and conduction-cooled heatsink options for diverse deployment environments



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ADA-V8201

The ADA-V8210 is a robust SOSA-aligned 3U VPX module powered by AMD Kintex™ UltraScale™ FPGA technology, engineered for high-performance embedded computing and I/O intensive applications. Designed for rugged deployment in industrial environments with comprehensive system monitoring and flexible connectivity options.

The module delivers exceptional FPGA processing power through its AMD Kintex UltraScale architecture, providing multiple PCI Express connectivity modes and advanced board management capabilities. With SOSA 14.6.11-0 and Vita 46 compliance, this platform offers industrial-grade reliability with conduction cooling, comprehensive cross-platform software support, and flexible I/O configurations for demanding defense and aerospace applications.



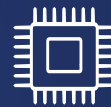
Profile: 14.6.11-0
SOSA IPMC (Vita 46 Tier 3)



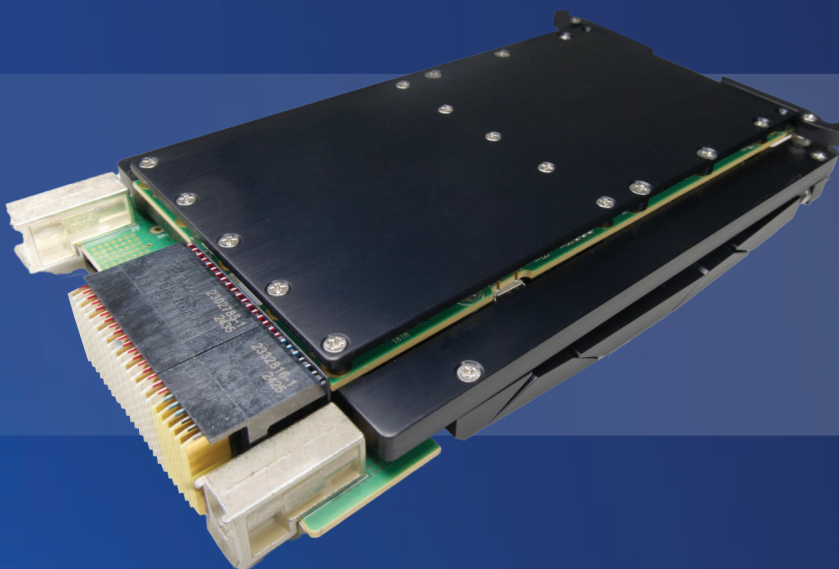
Multiple PCI Express modes: Gen2 x4 through Artix bridge, optional Gen3 x4 direct, or Gen3 x8 bypass



Dual FPGA architecture with Artix management processor and AVR microcontroller



AMD Kintex™ UltraScale™ FPGA (KU060/KU115) with high-density programmable logic



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