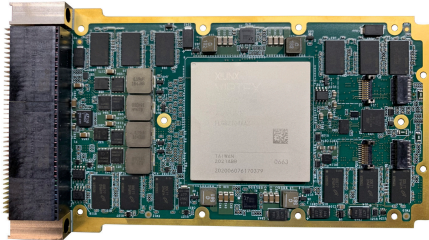


AD01377



## Applications

- High-speed Smart Switching
- Edge Machine Learning Inference
- Signal Processing
- Radar/Sonar
- Multiple Network Interface

## Board Features

- AMD Virtex UltraScale+ XCVU9P-2 and XCVU13P-2 FPGAs
- 16GByte on-board DDR4-2666 SDRAM
- Fully ruggedized for VITA 48.2 REDI compliance
- 0.8inch pitch without rear cover for highest density
- 1inch pitch with rear cover for improved thermal path
- Convenient front panel debug breakout

## Summary

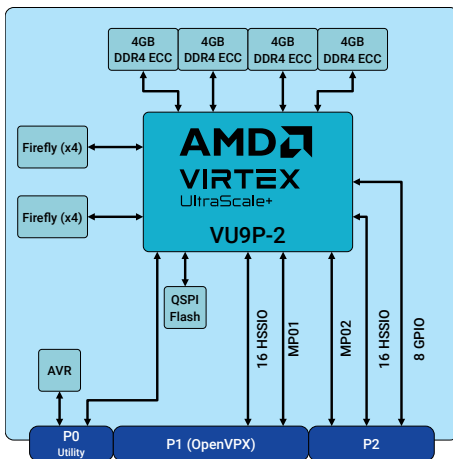
The **ADM-VPX3-9V2** is a high-performance reconfigurable 3U OpenVPX format board based on the AMD Virtex UltraScale Plus range of Platform FPGAs.

This board features the VU9P or VU13P top-end Ultrascale+ FPGAs combined with 16GB of DDR4 memory arranged in 4 independent banks. This board is extremely well suited for high bandwidth switching applications, processing data coming in and out of the VPX backplane and optionally through the front panel optical connections available via the Firefly connectors. The board can also be configured as a very high bandwidth processing offload accelerator within VPX systems for applications such as Radar, Signal processing and Machine Learning which can utilize the very high DSP performance of the top-end VU9P and VU13P Ultrascale+ FPGA devices. The **ADM-VPX3-9V2** is SOSA Compliant.

The **ADM-VPX3-9V2** is SOSA Aligned and compliant with OpenVPX compliant slot Standards:

SLT3-PAY-2F1F2U-14.2.1  
 SLT3-PAY-1D-14.2.6  
 SLT3-PAY-2F-14.2.7  
 SLT3-PAY-8U-14.2.9  
 SLT3-PAY-2F4F2U-14.2.11  
 SLT3-PAY-3F2U-14.2.13  
 SLT3-PER-2F-14.3.1  
 SLT3-PER-1U-14.3.3  
 SLT3-SWH-6F6U-14.4.1  
 SLT3-SWH-2F24U-14.4.3  
 SLT3-SWH-2F8U-14.4.5  
 SLT3-SWH-6F8U-14.4.9

SLT3-PAY-1F2F2U-14.2.2  
 SLT3-PAY-1F1F2U-14.2.4  
 SLT3-PAY-1F4U-14.2.8  
 SLT3-PAY-1F1U-14.2.10  
 SLT3-PAY-1F2U-14.2.12  
 SLT3-PAY-2U2U-14.2.17  
 SLT3-PER-1F-14.3.2  
 SLT3-PER-1Q-14.3.4  
 SLT3-SWH-8F-14.4.2  
 SLT3-SWH-4F-14.4.4  
 SLT3-SWH-6F8U-14.4.9



## Target Devices

AMD Virtex UltraScale+  
 XCVU9P-2, XCVU13P-2 (B2104)  
 LUTs = 1182k FFs = 2364k  
 DSPs = 6840  
 BRAM = 75.0Mb(94.5Mb) URAM = 270Mb (360Mb)  
 4x PCIe® Gen3x16  
 8x 150G Interlaken  
 12x 100G Ethernet w/KR4 RS-FEC  
 Up to 12288x DSP Slices

## Application Data Memory

4x 4GBytes @72bit wide ECC DDR4-2666 - 4GBytes @72bit wide ECC

## Configuration Memory

QSPI 2Gb (x4 Interface) Flash Memory

## Configuration Modes

Via QSPI or JTAG

## Deliverables

ADM-VPX3-9V2 Board  
 One Year Warranty  
 One Year Technical Support

## Host Interface

PCI Express Gen3 x16

## Input/Output Interfaces

### Firefly

4x HSSIO - Firefly Interface 28Gbps per channel (up to 112Gbps total Bandwidth per Firefly Connection)

### HSSIO P1

Configurable as 4 fat pipes

### Serial Comms P1

MP01 (Maintenance Port). Compatible with RS232 and 3.3V UART (build option dependent)

### HSSIO P2

Configurable as 4 fat pipes

### Serial Comms P2

MP02 (Maintenance Port). Compatible with RS232 and 3.3V UART (build option dependent) - can be discrete GPIO if comms port not required

### GPIO P2

Single Ended GPIO (x8 if MP02 is not required)

### Support

In development: a comprehensive Software Development Kit with source code for example software and FPGA designs. The ADM-VPX3-9V2 shall be compatible with the ADXDMA driver and API for Windows and Linux.

### Board Format

3U VPX (OpenVPX Compliant)

### 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)

### 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-VPX3-9V2/(F)(c)(a)(n)**

Option	Code	Description of Options
FPGA	F	VU9P-2 = VU9P-2 AMD Virtex UltraScale+ FPGA, VU13P-2 = VU13P-2 AMD Virtex UltraScale+ FPGA
Cooling	c	/AC1 = air cooled industrial, /CC1 = conduction cooled industrial
Conformal Coating	a	blank = no conformal coating, A = Acrylic, P = Polyurethane
NVMRO Options	n	blank = NVMRO Option Disabled, /NV = NVMRO Option Enabled
note		Contact Sales for other ordering options