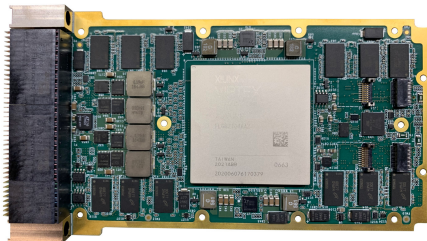


AD01377



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

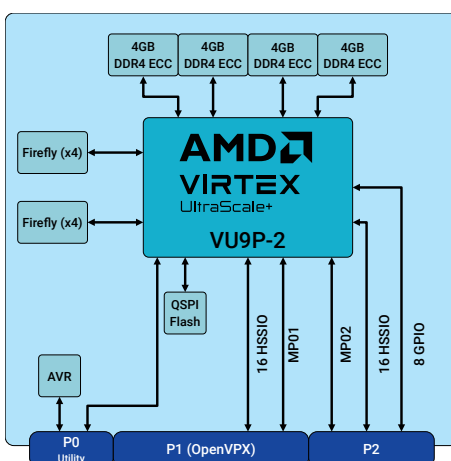
The **ADM-VPX3-9V2** is a high-performance reconfigurable 3U OpenVPX format board based on the AMD Virtex UltraScale Plus range of Platform FPGAs.

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 Open Group Sensor Open Systems Architecture™ influenced the development of this board and the **ADM-VPX3-9V2** is aligned with the SOSA™ Technical Standard.

The **ADM-VPX3-9V2** is aligned with the SOSA™ Technical Standard 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)

FPGA Specification

LUTs = 1182k(1728k)
FFs = 2364k(3456k)
DSPs = 6840(12288)
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
SDRAM - 4GBytes @72bit wide ECC

Configuration Memory

QSPI 2Gb (x4 Interface)

Configuration Modes

Via QSPI or JTAG

Host Interface

PCI Express Gen3 x16

Input/Output Interfaces

Firefly (or VPX with appropriate build variant)
2x 4x HSSIO - Firefly Interface 28Gbps per channel (up to 112Gbps total Bandwidth per Firefly Connection)

HSSIO P1 (P1)

16x Configurable as 4 fat pipes, 8 thin pipes or 16 ultra-thin pipes

Serial Comms P1 (P1)

1x MP01 (Maintenance Port). Compatible with RS232 and 3.3V UART (build option dependent)

HSSIO P2 (P2)

16x Configurable as 4 fat pipes, 8 thin pipes or 16 ultra-thin pipes

Serial Comms P2 (P2)

1x MP02 (Maintenance Port). Compatible with RS232 and 3.3V UART (build option dependent) - can be discrete GPIO if comms port not required

GPIO P2 (P2)

6x Single Ended GPIO

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.

Deliverables

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

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)

Conformal Coating Options

Acrylic or Polyurethane
Contact sales for specification of coatings.

Order Code: ADM-VPX3-9V2/(F)(c)(a)(n)

Order Code: ADM-VPX3-9V2/(F)(c)(a)(n)		
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	