ADM-PCIE-9V3

Datasheet Revision: 3.3
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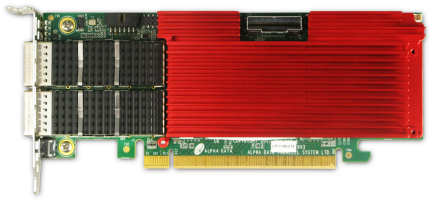
AD01322



Applications

- High-Performance Network Accelerator
- In-Network Compute
- Data Center Accelerator
- High Performance Computing (HPC)
- Data Processing
- System Modelling
- Market Analysis

Board Features

- 1x OpenCAPI Interface
- 2x QSFP28 Cages
- heatsink with passive and optional fan cooling

Summary

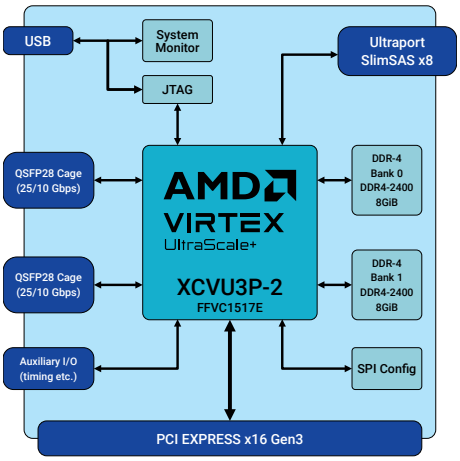
The ADM-PCIE-9V3 is a half-length, low profile, PCI Express Add-In Card featuring the powerful and efficient AMD Virtex UltraScale Plus VU3P-2 FPGA.

It boasts a 16-lane PCIe Gen3 capable interface and front IO with 2x QSFP28 sockets, each supporting either one 100GbE or four 25GbE interfaces. Additionally, it features an onboard Ultraport SlimSAS Connector for OpenCAPI Connectivity.

Two 1G x 72 DDR4-2400 ECC memory banks provide 8GiB of onboard DDR4-2400 memory each (72 bits wide).

System monitoring of temperature, voltage, and current provides developers with accurate feedback on power utilization for their designs.

This card comes with low-profile and full-height front brackets, with the low-profile bracket fitted as standard. An optional blower is available for low air-flow systems.



Target Device

AMD Virtex UltraScale Plus
XCVU3P-2 (FFVC1517)

LUTs = 394k FFs = 788k
DSPs = 2280
BRAM = 25.3Mb URAM = 90.0Mb

3x 100G Ethernet MACs (incl. KR4 RS-FEC)
3x 150G Interlaken cores
2x PCI Express x16 Gen3 / x8 Gen4 cores

Application Data Memory

2x 1G x 72 (8GiB) DDR4-2400

Other User Memory

2kb I2C EEPROM - Non-volatile data storage for the user design (i.e. storing MAC addresses)

Configuration Memory

QSPI 1GBit Flash Memory
Configured as 2 x 512MBit zones

Configuration Modes

From onboard Flash
Through USB board management (built-in JTAG)
Partial Reconfiguration (via MCAP) Over PCI Express

Deliverables

ADM-PCIE-9V3 Board
One Year Warranty
One Year Technical Support

Host Interface

PCI Express Gen3 x16

Communications Interfaces

2x QSFP28 4x28Gbps - User Configurable, includes 10/25/40/100G Ethernet

1x Ultraport SlimSAS 8x25Gbps - OpenCAPI

Input/Output Interfaces

Other Interfaces

USB board management (built-in JTAG)

customizable GPIO

Board Management

The ADM-PCIE-9V3 houses a system monitoring chip which can provide real-time temperature, voltage and current readings of the system, as well as reconfigure programmable clocks and much more. The system monitor can be accessed directly through the USB interface via the front panel, the UART connection to the target FPGA or through the SMBus interface on the card's PCI Express edge connector. When enabled**, IPMI can also be used to communicate with the system monitor, allowing for remote communication and management with the ADM-PCIE-9V3.
** IPMI is disabled by default and should only be enabled when the board is installed in an IPMI-compliant system. Please contact the factory for details on enabling IPMI on the ADM-PCIE-9V3.

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Support

Optional integrated Board Support Package (BSP) including FPGA example designs, plug and play drivers and API.

Board Format

1/2 Length low profile x16 PCIe form Factor
WxHxD = 174mm x 68.9mm x 17.45mm
Weight = 230g

Environmental Specification

Cooling Option	Operating Temperatures		Storage Temperatures	
	Min	Max	Min	Max
AC0	0°C	+55°C	-40°C	+85°C

Operating Humidity : Up to 95% (non-condensing)

EMC Standards

See the ADM-PCIE-9V3 Declaration of Conformity document

Ordering Information		
Order Code: ADM-PCIE-9V3 (m)(q)(g)		
Option	Code	Description of Options
DDR4 Memory Options	m	blank = 8Gb parts, 8GiB DDR4-2400 per bank, 16GiB total, /32G = 16Gb DDR4-1866 parts, 16GiB per bank, 32 GiB total
QSFP cages and Optical Modules	q	blank = QSFP28 cages only, /Q10 = 2x 40G QSFP Optical module (40GBASE-SR4 150m), /Q14 = 2x 56G QSFP Optical module (56G Infiniband 100m), /Q25 = 2x 100G QSFP Optical module (100GBASE-SR4 100m)
GPIO (available in full height bracket only)	g	blank = none, Contact alpha data for customizable options (timing input, RS232, RS485, Direct FPGA Connections)

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