Board Features
• 1x OpenCAPI Interface
• 2x QSFP28 Cages
• Shrouded heatsink with passive and fan cooling options

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

Applications
• High-Performance Network Accelerator
• Data Center Accelerator
• High Performance Computing (HPC)
• Data Processing
• System Modeling
• Market Analysis

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

16 lane PCIe Gen3 or 8 lane PCIe Gen4 capable Interface.

Front IO with 2x QSFP28 sockets, each supporting one 100GbE or four 25GbE interfaces. Onboard Ultraport SlimSAS Connector for OpenCAPI Connectivity.

Two 1G x72 DDR4-2400 ECC memory banks each provide 8GiB of on-board DDR4-2400 memory (72 bits wide).

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

This card comes with low-profile and full-height front brackets (low-profile bracket fitted as standard) and an optional blower for low air-flow systems.

Target Device
Xilinx 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 FBGA-SDRAM 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)

FPGA Configuration Memory
QSPI 1Gbit Flash Memory
Configured as 2 x 512MBit zones

FPGA 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
Xilinx Vivado board file
Xilinx SDAccel DSA
Support
Optional integrated Board Support Package (BSP) including FPGA example designs, plug and play drivers and API.

Environmental Specification

Temperature Ranges
Operating Temperature Range: 0°C to +55°C
Storage Temperature Range: -40°C to +85°C
Operating Humidity: Up to 95% (non-condensing)

EMC Standards
EMC Directive 2014/30/EU
55022:2010
55032:2015
55035:2017
EN 61000-3-3:2014
EN 61000-3-3:2013

Additional Declarations:
Emissions ANSI C63.4:2014, Class A

Other Certifications:
KN32 Class A
KN35
VCCI (V-3/2014.04)
ICES-003:Issue 6
CISPR 22:2008
CISPR 32:2015, Class A

RoHS Directive 2011/65/EU
50581: 2012

Ordering Information

Order Code: ADM-PCIE-9V3 (m)(q)(g)

<table>
<thead>
<tr>
<th>Option</th>
<th>Code</th>
<th>Description of Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDR4 Memory Options</td>
<td>m</td>
<td>blank = 8Gb parts, 8GiB DDR4-2400 per bank, 16GiB total, /32G = 16Gb DDR4-1866 parts, 16GiB per bank, 32 GiB total</td>
</tr>
<tr>
<td>QSFP cages and Optical Modules</td>
<td>q</td>
<td>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)</td>
</tr>
<tr>
<td>GPIO (available in full height bracket only)</td>
<td>g</td>
<td>blank = none, Contact alpha data for customizable options (timing input, RS232, RS485, Direct FPGA Connections)</td>
</tr>
</tbody>
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