

## Applications

- Low Latency Trading
- High-Frequency Trading
- High-speed Communications Hub

## Board Features

- x8 Gen3 PCIe
- 4x QSFP-DD Cages
- 1x OpenCAPI Interface
- 1x Firefly Interface (optional)
- 1x PPS synchronisation Input

## FPGA Features

- 8x 100G Ethernet MACs (incl. KR4 RS-FEC) (4 on VU5P-3)
- 8x 150G Interlaken cores (4 on VU5P-3)
- 6x PCI Express x16 Gen3 cores (4 on VU5P-3)

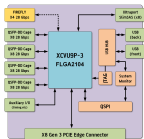
## Summary

The ADM-PCIE-9V5 is a Single-slot half-length, full height, PCI Express Add-In Card featuring the powerful and efficient Xilinx Virtex UltraScale Plus VU5P-3 FPGA.

8 lane PCIe Gen3 capable Interface.

Front IO with 4x QSFP-DD sockets, each supporting two 100GbE or eight 10/25GbE interfaces. Onboard Ultraport SlimSAS Connector for OpenCAPI Connectivity.

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



## Target Devices

Xilinx Virtex UltraScale Plus: XCVU5P-3 (FLGA2104)

LUTs = 1182k(601k)  
 FFs = 2364k(1201k)  
 DSPs = 6840(3474)  
 BRAM = 75.9Mb(36Mb)  
 URAM = 270.0Mb(132.2Mb)

- 8x 100G Ethernet MACs (incl. KR4 RS-FEC) (4 on VU5P-3)
- 8x 150G Interlaken cores (4 on VU5P-3)
- 6x PCI Express x16 Gen3 cores (4 on VU5P-3)

## FPGA Notes

Other FPGA options are available. Contact sales for full details.

## FPGA Configuration Memory

QSPI 2Gbit Flash Memory

## FPGA Configuration Modes

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

## Deliverables

ADM-PCIE-9V5 Board  
 One Year Warranty  
 One Year Technical Support

## Host Interface

PCI Express Gen3 x8 or OpenCAPI

## Communications Interfaces

4x QSFP-DD 8x28Gbps - User Configurable, includes 10/25/40/100G Ethernet  
 1x Ultraport SlimSAS 8x25Gbps - OpenCAPI  
 1x Firefly 4x28Gbps - User Configurable

## Input/Output Interfaces

### Other Interfaces

USB (front and rear sockets) board management (built-in JTAG)

Isolated PPS Timing Input

## Board Management

The ADM-PCIE-9V5 houses a system monitoring chip which is able to 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 (or rear of board), 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-9V5.

\*\* 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-9V5.

**Support**

TBC

**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**

FCC 47CFR Part 2

EN55022 Equipment ClassB

**Ordering Information****Order Code: ADM-PCIE-9V5(x)**

Option	Code	Description of Options
FPGA Select	x	blank=Standard COTS product with XCVU5P-3, /VU5P-3=standard variant with XCVU5P-3
Note		Other options are available, please contact sales for details.

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