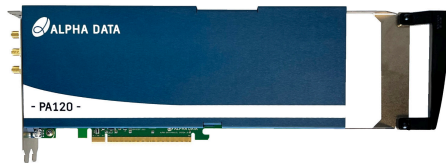


AD01492



## Applications

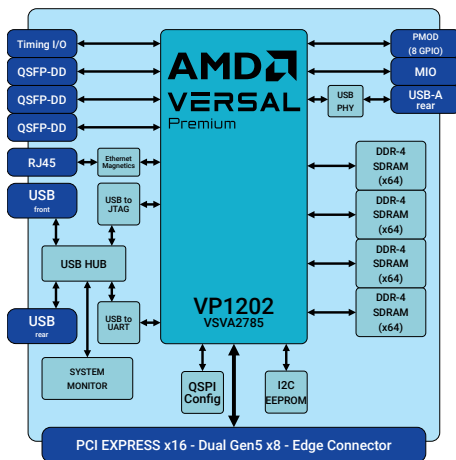
- In-line NIC processing
- Network Traffic Analysis/Threat Detection
- CPU offload acceleration
- Time Sensitive Networking
- Synchronous Ethernet
- Network Data Capture
- Network Test and Measurement
- Scientific Data Capture and front end signal processing

## Board Features

- 3x QSFP-DD High-speed each x8 serial links (28Gbps NRZ / 112Gbps PAM4)
- 4x Timing I/O (incl. 1PPS)
- Front Panel GigE Interface
- System Monitor
- Heatsink with optional fan

## Summary

The ADM-PA120 is an adaptable Data Processing Unit suitable for high-performance network-attached acceleration. ADM-PA120 is a PCIe form factor plug-in card, based on the AMD Versal™ Premium Adaptive SoC - VP1202.



## Target Device

AMD Versal™ Premium Adaptive SoC  
VP1202 (A2785)

LUTs = 900.2k  
DSPs = 3984  
BRAM = 47Mb URAM = 190Mb

2x ARM Cortex-A72 MPCore™  
2x ARM Cortex-R5F MPCore™  
1x 256kB On-Chip Memory with ECC

## Application Data Memory

4x 8G x 64 (64GiB) LPDDR4-3200

## Configuration Memory

x8 QSPI 4Gb (2x 2Gb devices) Flash  
Memory

## Configuration Modes

The FPGA is configurable using a front panel USB interface and the Vivado tool suite (through the onboard diligent module). The configuration flash for the FPGA is writeable via the USB interface and the Vivado tool suite, or the provided Alpha Data Firmware.

## Deliverables

ADM-PA120 Board  
One Year Warranty  
One Year Technical Support

## Host Interface

Dual PCI Express Gen5 x8

## Input/Output Interfaces

### QSFP-DD

3x QSFP-DD Cages for copper or fibre interconnectivity. Capable of up to 28Gbps NRZ (all QSFP-DD cages) or 112Gbps PAM4 (2 of the QSFP-DD cages).

### 10MHz external input clock

10MHz input (ITU-T G.703 section 20 compliant)

### 1PPS Input

1PPS timing input (ITU-T G.703 section 19.2 compliant)

### 1PPS Output/Trigger Output

1PPS timing output (ITU-T G.703 section 19.2 compliant)

### Time Of Day (ToD)

RJ45 Connector for ToD and 1PPS input/Output (ITU-T G.703 section 19. compliant)

## Other Interfaces

Gigabit Ethernet Interface (RJ45) to front Panel

USB-A for Application use

Dual USB Configuration Sockets (front and back)

**Support**

Reference Design Package available separately

**Board Format**

PCIe 3/4 Length, full height, Dual Slot, includes front panel  
 WxHxD = 267.2mm x 126.3mm x 39.9mm  
 Weight = PCB assembly - TBCg; with fans heatsink and covers - TBCg

**Environmental Specification**

Cooling Option	Fan Fitted	Operating Temperatures		Storage Temperatures	
		Min	Max	Min	Max
Active	YES	0°C	+55°C	-40°C	+85°C
Passive	NO	0°C	+55°C	-40°C	+85°C

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

**EMC Standards**

FCC 47CFR Part 2  
 EN55022:2010 Equipment ClassB  
 EN55024:2010  
 EN60950-1:2006 (+A12:2011)

**Ordering Information**

**Order Code: ADM-PA120(a)(f)**

Option	Code	Description of Options
FPGA Configuration	a	Blank = Default device - AMD Versal™ Premium Adaptive SoC VP1202-2MS - CPM5 Overdrive Enabled
Fan Fitted	f	BLANK = active (cooling fans) /NF = passive (no fans)
Note	Please Contact sales for other options.	