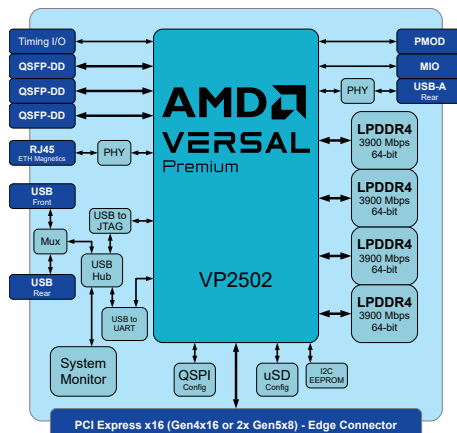
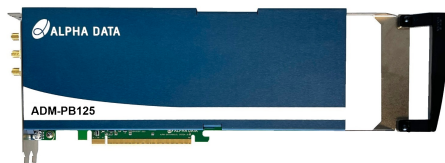


AD01533



Applications

- In-line NIC Processing
- AI Inference for Data Center or Edge applications
- Network Traffic Analysis/Threat Detection
- CPU Offload Acceleration
- Time Sensitive Networking
- Synchronous Ethernet
- Network Data Capture
- Network Test and Measurement

Board Features

- AMD Versal™ Premium Adaptive SoC (VP2502)
- 3x QSFP-DD High-speed each x8 serial links (28 Gbps NRZ / 56 Gbps PAM4)
- 4x Timing I/O (incl. 1PPS)
- Front Panel GigE Interface
- System Monitor
- Heatsink with optional fan

Summary

The ADM-PB125 is an adaptable Data Processing Unit with AI Engines suitable for high-performance network-attached acceleration. It is a PCIe form factor plug-in card, based on the AMD Versal™ Premium Adaptive SoC - VP2502.

Target Device

AMD Versal™ Premium Adaptive SoC
VP2502 (B3340)

Host Interface

PCI Express Gen4x16 or 2x Gen5x8

FPGA Specification

LUTs = 1.71M
DSPs = 7.39K
BRAM = 89Mb
URAM = 366Mb

2x ARM Cortex-A72 MPCore™
2x ARM Cortex-R5F MPCore™
1x 256kB On-Chip Memory with ECC
472x AI Engines Tiles

Application Data Memory

4x 1G x 64 bit (8 GiB per bank)
LPDDR4-3900 LPDDR4-SDRAM

Configuration Memory

8-bit QSPI 4Gb (2x 2 Gb devices)

Configuration Modes

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

Input/Output Interfaces

QSFP-DD (Front Panel)

3x QSFP-DD Cages for copper or fibre interconnectivity. Capable of up to 28 Gbps NRZ (all QSFP-DD cages) or 56 Gbps PAM4 (2 of the QSFP-DD cages).

10-MHz external input clock (Front Panel)

10-MHz input (Signaling as per ITU-T G.703 section 20)

1PPS Input (Front Panel)

1PPS timing input (Signaling as per ITU-T G.703 section 19.2)

1PPS Output/Trigger Output (Front Panel)

1PPS timing output (Signaling as per ITU-T G.703 section 19.2)

Time Of Day (ToD) (Front Panel)

RJ45 Connector for ToD and 1PPS input/Output (Signaling as per ITU-T G.703 section 19.1)

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

Deliverables

ADM-PB125 Board
One Year Warranty
One Year Technical Support

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	Operating Temperatures		Storage Temperatures	
	Min	Max	Min	Max
Active	0°C	+55°C	-40°C	+85°C
Passive	0°C	+55°C	-40°C	+85°C

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

EMC Standards

See the ADM-PB125 Declaration of Conformity document

Order Code: ADM-PB125(a)(f)

FPGA Configuration	a	/VP2502 = AMD Versal™ Premium Adaptive SoC VP2502-2MS - CPM5 Overdrive Enabled
Fan Fitted	f	BLANK = active (cooling fans) /NF = passive (no fans)
Note	Please Contact sales for other options.	