

AD01430



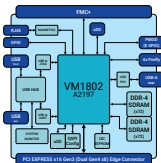
Applications

- High performance data capture and processing
- CPU offload acceleration
- Low latency networking and analytics
- High Performance Computing
- Industrial vision and control
- Lab-based system prototyping
- Rack level deployments

Summary

The **ADM-PA101** is an adaptable PCIe form factor Versal ACAP acceleration platform suitable for early development and rapid deployment of solutions based on Xilinx Versal ACAP devices.

The powerful VM1802 ACAP device provides a flexible device including 2 ARM Cortex A72 Application class CPU cores and 2 ARM Cortex R5 real-time CPU cores. These processors are complemented by a large area of 7nm Programmable Logic containing 899k LUTs, almost 1600 DSP tiles and 119Mb of very high bandwidth SRAM suitable for attaching extremely high performance and high efficiency offload acceleration to the ARM processors. The device provides, and the board allows, access to a large number of configurable IO pins and Gigabit Transceiver ports which can connect to built-in hard-IP cores for 100G Multi-rate Ethernet, PCIe and DDR4, or can be controlled by custom IO logic in the programmable fabric supporting an incredibly wide range of communication standards and applications. The FMC+ interface on the board allows off-chip support of these interfaces through the wide range of Alpha Data and 3rd Party FMC ID adapters available. The PCIe form factor is suitable for desktop, lab, rack mount and data center deployments in commercial temperature ranges. This allows the board to be used from development to deployment.



Target Device

Xilinx Versal ACAP
VM1802-2MS (A2197)

- LUTs = 899 DSPs = 1968
- BRAM = 34Mb URAM = 130Mb
- 2x ARM® Cortex™-A72 MPCore™ - 1.5GHz
- 2x ARM® Cortex™-R5 MPCore™ - 600MHz

Application Data Memory

2x 1G x 72 (8GiB) DDR4-3200

Configuration Memory

x8 QSPI 2Gb storage (2x
MT25QU01GBBBE12-0SIT) Flash Memory

Configuration Modes

From onboard Flash or uSD Card
Through USB board management (built-in JTAG)
MCAP Interface for Staged Configuration and Dynamic Function eXchange

Deliverables

ADM-PA101 Board
One Year Warranty
One Year Technical Support
Xilinx Vivado board file

Board Features

- FMC+ Interface
- GigE Interface
- 1x Firefly (x4) Interface
- System Monitor
- Heatsink with optional fan

Host Interface

PCI Express Gen3 x16 (or Dual Gen4 x8)

Communications Interfaces

1x Firefly 4x28Gbps - 10/25/40/100G Ethernet, PCIe, Fiber Channel, Infiniband, Aurora

Input/Output Interfaces

FMC+ Interface
24 High-Speed differential Serial Links (up to 28Gbps) and 80 diff pairs (or 160 single ended) GPIO

Other Interfaces

Gigabit Ethernet Interface (RJ45)
USB-A for Application use
Dual USB Configuration Sockets (front and back)
GPIO Interface (8 GPIO)
PMOD Interface (8 GPIO)

Support

Reference Design Package available separately

Board Format

 PCIe 3/4 Length, full height, Single Slot, includes front panel
 WxHxD = 267.2mm x 126.3mm x 19.6mm
 Weight = PCB assembly - 210g; with fans heatsink and covers - 730g

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

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

Ordering Information
Order Code: ADM-PA101(s)(f)

Option	Code	Description of Options
FPGA Configuration	s	/2MS = VM1802-2MS
Fan Fitted	f	BLANK = active (cooling fans) /NF = passive (no fans)
Note		Other options available. Please contact factory for details.

UK Office

 Address: Suite L4A, 160 Dundee Street,
 Edinburgh, EH11 1DQ, UK
 Telephone: +44 131 558 2600
 Fax: +44 131 558 2700
 email: sales@alpha-data.com
USA Office

 10822 West Toller Drive, Suite 250
 Littleton, CO 80127
 (303) 954 8768
 (866) 820 9956 - toll free
sales@alpha-data.com