BittWare a molex company

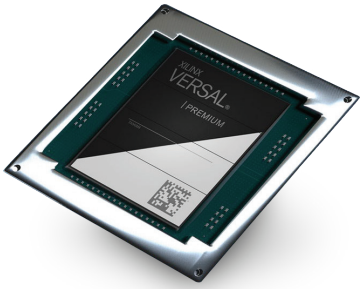
AX-840p
PCIe ACAP Card

PRODUCT CONCEPT
Preliminary Product Info

Versal™ ACAP Accelerator
Ready for the most demanding compute-intensive workloads

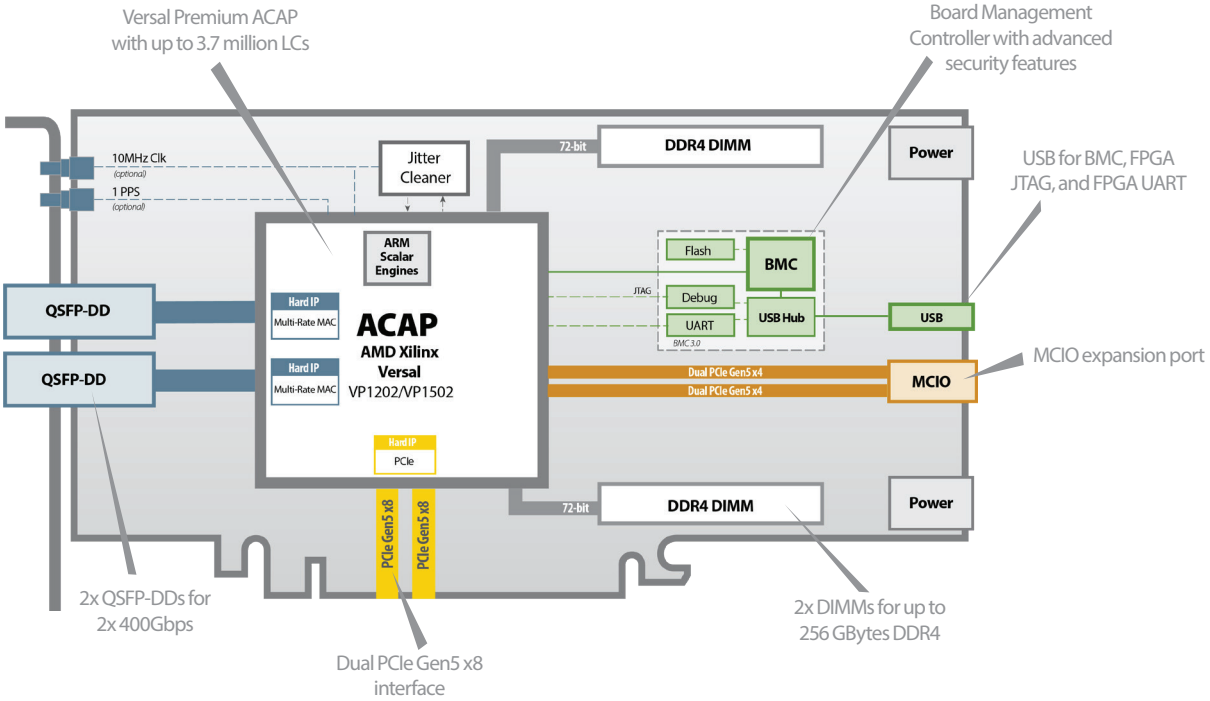
BittWare's AX-840p is a PCIe Gen5 accelerator card designed to deliver extreme performance for data center and edge compute workloads. Featuring AMD Xilinx®'s 7nm Versal Premium ACAP devices, the AX-840p is a deployment-ready full height, ¾ length PCIe accelerator compatible with high-performance servers. The AX-840p features QSFP-DDs for up to 2x 400G, dual PCIe Gen5 x8, and a sophisticated Board Management Controller (BMC) for advanced system monitoring, control, and security.

AMD XILINX



key features

- **2x 400GbE**
- Dual **PCIe Gen5** x8
- **Versal ACAP** with up to **3.7M Logic Cells**

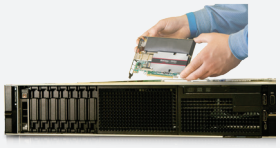


Additional Services

Take advantage of BittWare's range of design, integration, and support options

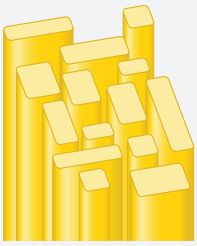
Customization

Additional specification options or accessory boards to meet your exact needs.



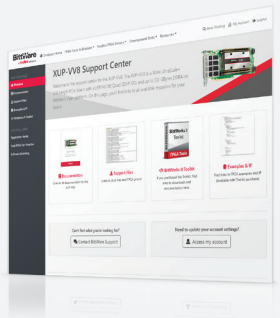
Server Integration

Available pre-integrated in our TeraBox servers in a range of configurations.



IP and Solutions

Our portfolio of IP and solutions reduce risk for development and deployment.



Service and Support

BittWare Developer Site provides online documentation and issue tracking.

Board Specifications

ACAP	• Versal Premium
	  • VP1502/VP1202
	  • Core speed grade - 2
	• Contact BittWare for other ACAP options

On-board Flash	• Flash memory for booting ACAP
External memory	• 2 DIMM sites, each supporting up to 128 GBytes DDR4 x72 with ECC
Host interface	• Dual x8 Gen5 interfaces direct to ACAP, connected to PCIe Hard IP

QSFP-DD cages	• 2x QSFP-DD cages on front panel each supporting:
	  • 1x 400GbE, 2x 200GbE, 4x 100GbE, 8x 50GbE
	  • Multi-rate hard MAC
	• Jitter cleaner for network recovered clocking

MCIO	• x8 connector supporting 2x Gen5 x4 PCIe
External clocking	• 1 PPS and 10MHz ref clk front panel inputs (optional)
USB	• USB access to BMC, USB-JTAG, USB-UART

Board Management Controller	• Power sequencing and reset
	• Voltage, current, temperature monitoring
	  • Protection shut-down
	• Clock configuration
	• Low bandwidth BMC-FPGA comms with SPI link
	• USB 2.0
	• PLDM support
	• Card-level security
	  • BMC Root of Trust
	  • BMC and FPGA secure boot
	  • BMC and FPGA secure upgrade
	  • Key management

Cooling	• Standard: dual-width passive heatsink • Optional: liquid cooling (contact BittWare)
Electrical	• On-board power derived from 12V PCIe slot and two AUX connectors (8-pin) • Power dissipation is application dependent
Environmental	• Operating temperature 5°C to 35°C
Form factor	• ¾-length, standard-height PCIe dual-width board • 10 x 4.37 inches (254 x 111.15 mm)

Development Tools

System development	BittWare SDK including PCIe driver, libraries, and board monitoring utilities
Application development	Supported design flows -Vivado Design Suite (HDL, Verilog, VHDL, etc.)

To learn more, visit **www.BittWare.com**

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