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AV-870p

PCIe Adaptive SoC Card

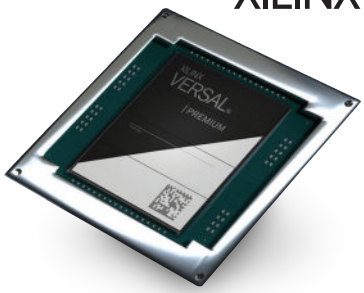
LDA

Versal™ Premium Adaptive SoC Card

400G and PCIe Gen5

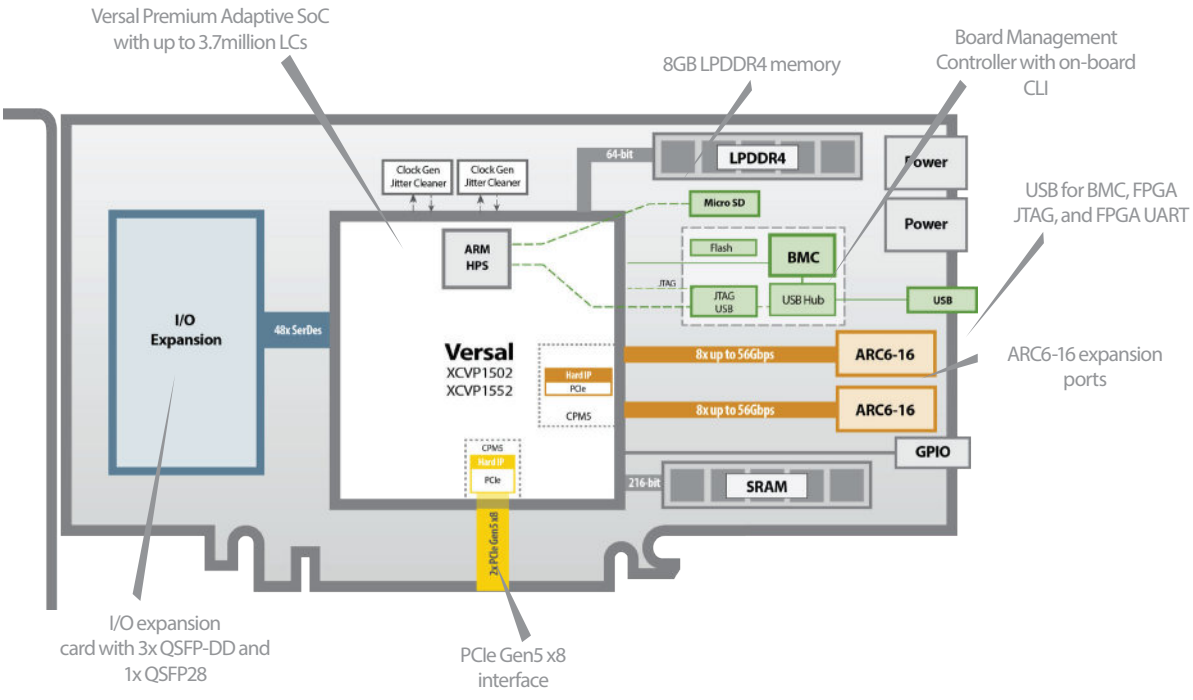
Brought to market in partnership with LDA Technologies, the AV-870p is a PCIe Gen5 accelerator card designed to deliver extreme performance for data center and edge compute workloads. Featuring AMD Xilinx®'s Versal Premium Adaptive SoC, the AV-870p is a deployment-ready full height, ¾ length PCIe accelerator compatible with high-performance servers. The card features QSFP-DDs for up to 6x 400G, 2x PCIe Gen5 x8, and a sophisticated Board Management Controller (BMC) for advanced system monitoring and control.

AMD XILINX



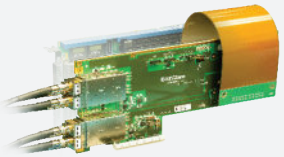
key features

- QSFP-DDs and QSFP28 for **6x 400G**
- **2x PCIe Gen5** x8
- **Versal Premium** with up to **3.7M Logic Cells**



Additional Services

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

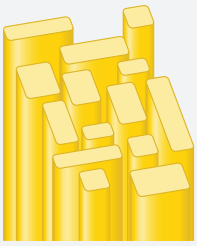


Customization

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

Adaptive SoC	• Versal Premium
	  • VP15 02/ VP1552
	  • Core speed grade - 2

On-board Flash	• Flash memory for booting FPGA

External memory	• 2x 4GB LPDDR4 chips (8GB total) @ 4266MHz for ARM system (64 bits)
	• 432 MB of ultra-low-latency GSI SRAMs
	  • 12x 18-bit chips
	  • 216-bit total bus width

Host interface	• 2x PCIe x8 Gen5 interfaces direct to FPGA, connected to PCIe Hard IP

I/O Expansion Site	• I/O expansion site connected to FPGA via 48x SerDes channels:
	  • VP1502 : 12 GTYP and 36 GTM
	  • VP1552 : 32 GTYP and 16 GTM
	• Default I/O module features:
	  • 2x QSFP-DD cages on front panel supporting 56G PAM4,
	  • QSFP28 cage on front panel supporting 28G NRZ

Clocking	• 2x Jitter cleaners for network recovered clocking

ARC6-16	• 2x ARC6-16 connectors connected to FPGA via 8x SerDes channels each (16x total)
	  • VP1502: 16x GTM 56Gbps channels
	  • VP1552: 16x GTYP 32Gbps channels

USB	• USB access to BMC, USB-JTAG, USB-UART
Board Management Controller	• Onboard CLI • Python, C++ API • 200 Mbps parallel port connected to the FPGA fabric and the NO • USB SD Card Reader for simple OS images transfer to ARM processors • Fast FPGA Boot Flash programming • Temperature, voltage, current monitoring • SNMP agent for centralized management • Dedicated preprogrammed array of 32 MAC addresses • I/O ports monitoring. Full QSFP, SFP, QSFP-DD access • and programming through CLI and API • CLI-based clock selection supporting custom clock configurations
Cooling	• Standard: dual-width passive heatsink
Electrical	• On-board power derived from 12V PCIe slot and 2x AUX connectors • 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

Application development	Supported design flows -Vivado Design Suite (HDL, Verilog, VHDL, etc.)

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BittWare a molex company

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