BittWare a molex company

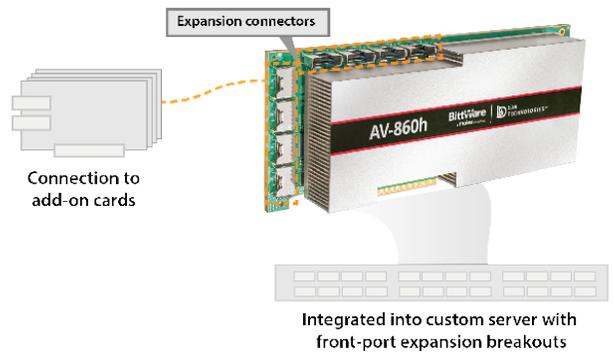**AV-860h**
PCIe Adaptive SoC Card

LDA

Versal™ HBM Adaptive SoC Card
32GB HBM2e, High-Speed I/O, and PCIe Gen5

Brought to market in partnership with LDA Technologies, the AV-860h 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 with 32GB of HBM2e memory, the AV-860h is a deployment-ready full height, ¾ length PCIe accelerator compatible with high-performance servers. The card features LPDDR4 memory, PCIe Gen5 x8, and a sophisticated Board Management Controller (BMC) for advanced system monitoring and control. Use the card as an accelerator, or connect it to I/O via a custom server or add-on card.
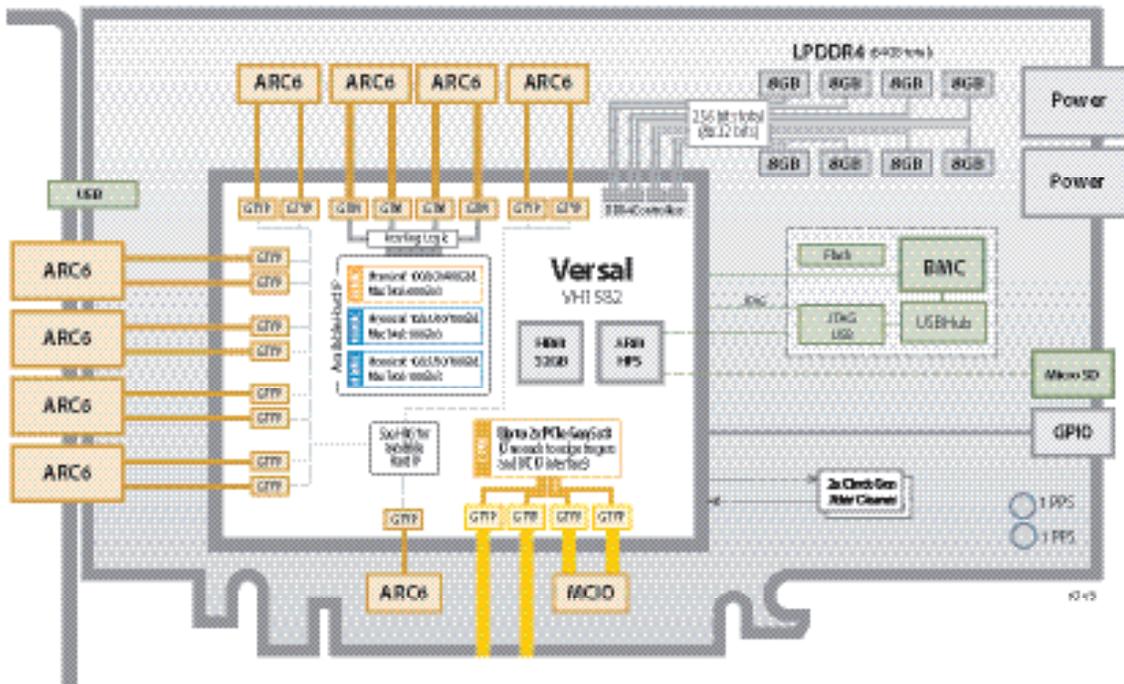

Expansion connectors

Connection to add-on cards

Integrated into custom server with front-port expansion breakouts

key features

| 32 GB HBM2e and 64GB LPDDR4 | PCIe Gen5 x8 | Versal HBM with up to 3.8M Logic Cells |

Additional Services

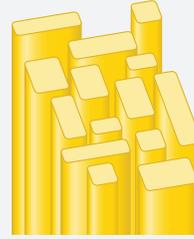Take advantage of BittWare's range of design, integration, and support options

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 HBM
	  • XCVH1582
	  • Core speed grade - 2
	  • 32 GB HBM2e

On-board Flash	• Flash memory for booting FPGA
External memory	• 64GB LPDDR4
Host interface	• PCIe 4.0 x16 or 2x PCIe 5.0 x8 (in bifurcation mode) interface direct to FPGA, connected to PCIe Hard IP

I/O Expansion	• 8x ARC6-16 connectors connected to FPGA via 64x SerDes channels
	  • 48x GTYP
	  • 16x GTM
	• ARC6-8 connector connected to FPGA via 4x SerDes channels
	• MCIO for PCIe Gen5 x8

Clocking	• 2x Jitter cleaners for network recovered clocking • 2x 1PPS (in-board)
USB	• USB access to BMC, USB-JTAG, USB-UART • USB C on front panel, USB in and out on back panel

Board Management Controller	• Onboard CLI • Python, C++ API (contact BittWare • 200 Mbps parallel port connected to the FPGA fabric and the NOC • 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 port 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.)

I/O Add-on Cards

The ARC6-16 ports are designed for connecting high-speed I/O to the AV-860h. Contact BittWare to learn about available add-ons or to discuss a custom design.

Connect I/O such as QSFP-DD to the I/O expansion ports

Safety & Compliance

• FCC (USA) 47CFR15.107 / 47CFR15.109
• CE (Europe) EN55032:2015 + A11:2020 / EN55035:2017 + A11:2020 / EN61000-3-2:2019 +
• UKCA (United Kingdom) BS EN55032:2015 + A11:2020 / BS EN55035:2017 + A11:2020 / BS
• ICES (Canada) ICES-003 Issue 7 October 2020
• RoHS compliant to the 2011/65/EU + 2015/863 directive

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

r0 v8 | last revised 2026.02.26

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AMD Embedded Partner Program — PREMIER

LDA TECHNOLOGIES™

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