

**BittWare**  
a molex company

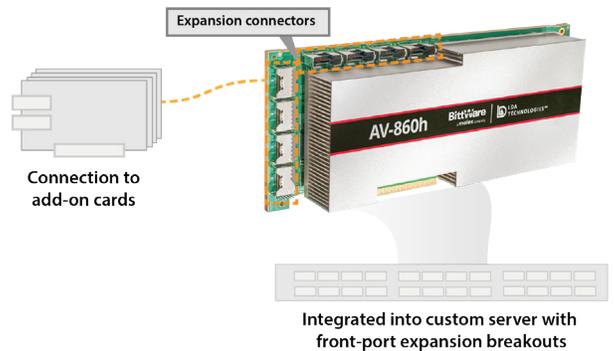
**AV-860h**  
PCIe Adaptive SoC Card



## 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.

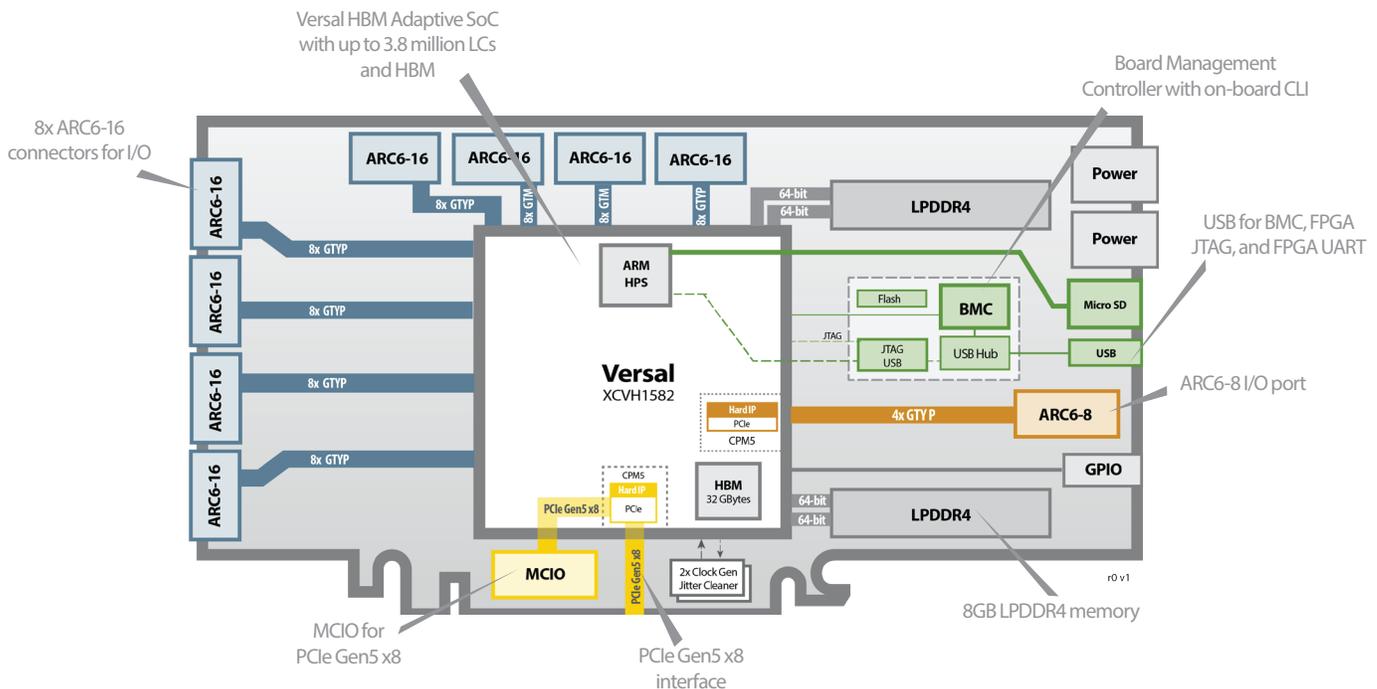


key features

**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



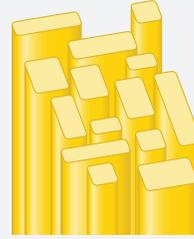
## Customization

[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	<ul style="list-style-type: none"> <li>Versal HBM               <ul style="list-style-type: none"> <li>XCVH1582</li> <li>Core speed grade - 2</li> <li>32 GB HBM2e</li> </ul> </li> </ul>
On-board Flash	<ul style="list-style-type: none"> <li>Flash memory for booting FPGA</li> </ul>
External memory	<ul style="list-style-type: none"> <li>32GB LPDDR4 @ 4266MHz -or- 64GB LPDDR4 @ 3733MHz</li> </ul>
Host interface	<ul style="list-style-type: none"> <li>PCIe 4.0 x16 or 2x PCIe 5.0 x8 (in bifurcation mode) interface direct to FPGA, connected to PCIe Hard IP</li> </ul>
I/O Expansion	<ul style="list-style-type: none"> <li>8x ARC6-16 connectors connected to FPGA via 64x SerDes channels               <ul style="list-style-type: none"> <li>48x GTYP</li> <li>16x GTM</li> </ul> </li> <li>ARC6-8 connector connected to FPGA via 4x SerDes channels</li> <li>MCIO for PCIe Gen5 x8</li> </ul>
Clocking	<ul style="list-style-type: none"> <li>2x Jitter cleaners for network recovered clocking</li> <li>2x 1PPS (in-board)</li> </ul>
USB	<ul style="list-style-type: none"> <li>USB access to BMC, USB-JTAG, USB-UART</li> <li>USB C on front panel, USB in and out on back panel</li> </ul>

### 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)

## 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



To learn more, visit [www.BittWare.com](http://www.BittWare.com)

r0 v5 | last revised 2025.05.28

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## Development Tools

### Application development

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

## 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

