

**BittWare**  
a **molex** company

**AX-440p**  
PCIe ACAP Card



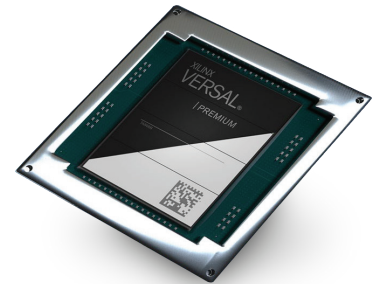
**PRODUCT CONCEPT**  
**Preliminary Product Info**

## Versal™ ACAP Accelerator

Ready for the most demanding compute-intensive workloads



BittWare's AX-440p 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 device, the AX-440p is a deployment-ready NIC-sized PCIe accelerator compatible with high-performance servers. The AX-440p features a QSFP-DD for up to 400G, dual PCIe Gen5 x8, and a sophisticated Board Management Controller (BMC) for advanced system monitoring, control, and security.

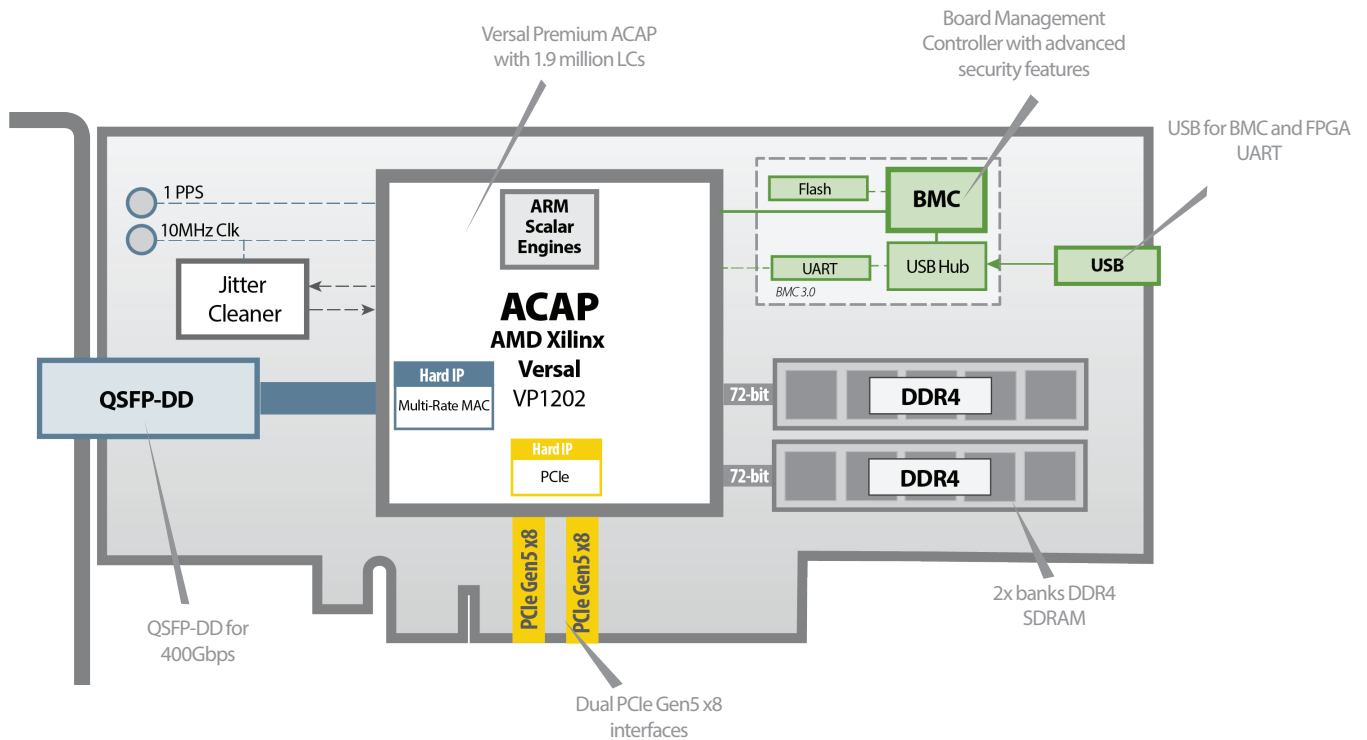


### key features

**QSFP-DD**  
for 400G

**Dual PCIe**  
**Gen5**  
x8

**Versal ACAP**  
with 1.9M  
Logic Cells



# Additional Services

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



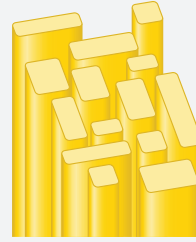
## Customization

[Additional specification options](#) or [accessory boards](#) to meet your exact needs.



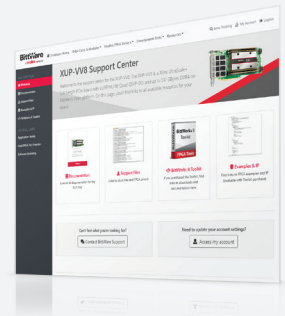
## Server Integration

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	<ul style="list-style-type: none"> <li>Versal Premium             <ul style="list-style-type: none"> <li>VP1202</li> <li>Core speed grade - 2</li> </ul> </li> <li>Contact BittWare for other ACAP options</li> </ul>
On-board Flash	<ul style="list-style-type: none"> <li>Flash memory for booting ACAP</li> </ul>
External memory	<ul style="list-style-type: none"> <li>2x banks on-board DDR4, up to 16GB each</li> </ul>
Host interface	<ul style="list-style-type: none"> <li>Dual x8 Gen5 interfaces direct to ACAP, connected to PCIe Hard IP</li> </ul>
QSFP-DD cage	<ul style="list-style-type: none"> <li>1x 400GbE, 2x 200GbE, 4x 100GbE, 8x 50GbE</li> <li>Multi-rate hard MAC</li> <li>Jitter cleaner for network recovered clocking</li> </ul>
External clocking	<ul style="list-style-type: none"> <li>1 PPS and 10MHz ref clk inputs (in-board)</li> </ul>
USB	<ul style="list-style-type: none"> <li>USB access to BMC, USB-UART</li> </ul>

Board Management Controller	<ul style="list-style-type: none"> <li>Power sequencing and reset</li> <li>Voltage, current, temperature monitoring             <ul style="list-style-type: none"> <li>Protection shut-down</li> </ul> </li> <li>Clock configuration</li> <li>Low bandwidth BMC-FPGA comms with SPI link</li> <li>USB 2.0</li> <li>PLDM support</li> <li>Card-level security             <ul style="list-style-type: none"> <li>BMC Root of Trust</li> <li>BMC and FPGA secure boot</li> <li>BMC and FPGA secure upgrade</li> <li>Key management</li> </ul> </li> </ul>
Cooling	<ul style="list-style-type: none"> <li>Standard: single-width passive heatsink</li> </ul>
Electrical	<ul style="list-style-type: none"> <li>On-board power derived from PCIe slot</li> <li>Power dissipation is application dependent</li> <li>Max power consumption 75W</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>Operating temperature: 5°C to 35°C</li> </ul>
Quality	<ul style="list-style-type: none"> <li>Manufactured to IPC-A-610 Class 2</li> <li>RoHS compliant</li> <li>CE, FCC and ICES approvals</li> </ul>
Form factor	<ul style="list-style-type: none"> <li>Low profile (half-height, half-length) PCIe slot card</li> <li>Optional: full-height</li> <li>Size: 167.7 mm x 68.9 mm</li> </ul>

## Development Tools

System development	BittWare SDK including PCIe driver, libraries, and board monitoring utilities
Application development	<a href="#">Supported design flows</a> -Vivado Design Suite (HDL, Verilog, VHDL, etc.)

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

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