

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.



Application Optimization

Ask about our services to help you port, optimize, and benchmark your application.



Service and Support

BittWare Developer Site provides online documentation and issue tracking.

Board Specifications

FPGA	<ul style="list-style-type: none"> Virtex UltraScale+ <ul style="list-style-type: none"> VU9P or VU13P in D2104 package Core speed grade - 2 Contact BittWare for other FPGA options
On-board Flash	<ul style="list-style-type: none"> Flash memory for booting FPGA
External memory	<ul style="list-style-type: none"> 4 DIMM sites, each supporting: <ul style="list-style-type: none"> Up to 128 GBytes DDR4 x72 with ECC Up to 576 Mbits dual QDR-II+ x18 (2 independent 288 Mbit banks)
Host interface	<ul style="list-style-type: none"> x16 Gen3 interface direct to FPGA
USB port	<ul style="list-style-type: none"> Micro USB: access to BMC, FPGA JTAG, and FPGA UART
Timestamp	<ul style="list-style-type: none"> 1 PPS input and 10MHz clock input
OCuLink	<ul style="list-style-type: none"> 2 OcuLink on rear edge, each connected to FPGA via 4x GTY transceivers
QSFP cages	<ul style="list-style-type: none"> 4 QSFP-DD cages on front panel Each supports 2x 100GbE, 2x 40GbE, 8x 25GbE, or 8x 10GbE Jitter cleaner for network recovered clocking

Board Management Controller

- Voltage, current, temperature monitoring
- Power sequencing and reset
- Field upgrades
- FPGA configuration and control
- Clock configuration
- I²C bus access
- USB 2.0
- Voltage overrides

Cooling

- Standard: dual-width passive heatsink
- Optional: single-width passive heatsink*

Electrical

- On-board power derived from 12V PCIe slot & 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
- Single-width option*
- 111.15mm x 254.00mm (4.376in x 10.000in)

Development Tools

System development

- [BittWorks II Toolkit](#) - host, command, and debug tools for BittWare hardware

FPGA development

- [FPGA Examples](#) - example Vivado projects, available with the BittWorks II Toolkit
- [AMD Tools](#) - Vivado® Design Suite

Safety & Compliance

- FCC (USA) 47CFR15.107 / 47CFR15.109
- CE (Europe) EN55032:2015 / EN55035:2017
- UKCA (United Kingdom) BS EN55032:2015 / BS EN55035:2017
- ICES (Canada) ICES-003 Issue 6 January 2016
- RoHS: Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

* Available on boards with no external memory



To learn more, visit www.BittWare.com

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