



BittWare
a molex company

TeraBox 1501B
1U FPGA Server

Extreme Density FPGA Server
1U, 4 card, PCIe Gen5 x16, AMD EPYC 9004 series

At the extreme of FPGA server density, the TeraBox 1501B gives the highest level of compute and network capability in a 1U chassis. This server provides twice the density of the typical 4U server and the power of 4 of our largest Achronix, AMD, or Intel FPGAs.

This innovative product supports PCIe Gen5 and features an AMD EPYC processor in a standard rack depth chassis.



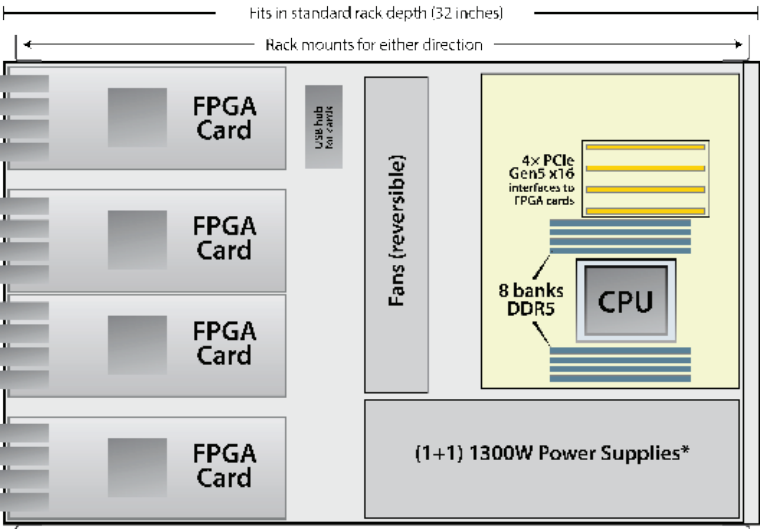
4x Double-Width FPGA Cards in 1U Chassis

key features

Up to
12x 400G
48x 100G
or 96x 10/25G

PCIe Gen5
with support for
CXL

1U
4 FPGAs in a
standard-depth
1U server



* Option for 2000W fixed power supply

chassis key specs

- 1U depth, 32 in (81.28 cm)
- Processor: (1) AMD EPYC 9004 Series Processor
- Ethernet: 2 RJ45 (10GbE) by Intel® X550-AT2
- Memory: Up to 8 DDR5 DIMM slots
- Storage: up to 2x M.2 (PCIe5 x4)
- Slots: 4x front panel PCIe Gen5 x16
- Power supply: 1+1 AC 1300W, 110/220V

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BittWare FPGA Cards

The TeraBox 1501B supports up to four dual-slot BittWare PCIe FPGA cards. Choose from a variety of cards based on Achronix, AMD, and Intel FPGAs. System specs will vary greatly, depending on the FPGA card you select. For example, with four BittWare For example, with four BittWare Intel Agilex PCIe cards, which support up to 3x 400GbE interfaces each, the chassis can support as many as 12x 400GbE interfaces. With four Agilex cards using breakout cables, each chassis supports 48x 100GbE.

BittWare 1U Server

The TeraBox 1501B server featuring AMD EPYC processor is exclusive to BittWare and is the ideal platform to unleash the energy-efficient acceleration of BittWare's FPGA cards. This FPGA-optimized 1U server delivers unrivaled performance density and value for a range of compute-intensive applications, including machine learning.

The server is assembled in the USA, is TAA compliant, and offers a 3-year warranty.

The TeraBox Advantage

Choosing a TeraBox FPGA server means knowing you are getting a pre-configured and tested solution. This includes setup and installation of your FPGA cards and associated hardware, your choice of operating system, and development tools. Your TeraBox arrives ready for use—giving your team more time for development and deployment.

Example System Configuration

The TeraBox 1501B supports many of BittWare's Achronix, AMD, or Intel FPGA-based PCIe cards. The table below lists specifications for some of our FPGA cards*:

	FPGA	Cards per Server	Memory	Front Panel System I/O	Processing
S7t-VG6	Achronix Speedster7t	4	• 4 banks GDDR6 (up to 16 GBytes)	• 1x QSFP-DD, 1x QSFP • 6x 100/50/40/25/10 GbE	• 692K 6-input lookup tables (LUTs) • 375 Mbits embedded RAM
IA-860m	Agilex AGM039	4	• 32 GBytes HBM2e	• Up to 3x QSFP-DDs • Up to 3x 400 GbE, 12x 100 GbE, or 24x 10/25/50 GbE	• 3.9M system logic elements • ARM HPS
IA-780i	Agilex AGI023	4	• 2 banks DDR4 (up to 32 GBytes)	• 2x QSFP-DD • 1x 400 GbE, 2x 200 GbE, 4x 100GbE, 16x 10/25 GbE	• 2.3M system logic elements • ARM HPS
XUP-VV8	UltraScale+ VU13P	4	• 4 banks DDR4 (up to 512 GBytes) • 8 banks QDRII+ (up to 2.3 Gbits)	• 4x QSFP-DDs • 8x 100/50/40/25/10 GbE	• 3.8 million system logic cells • Up to 12,288 DSP slices

* Subject to availability. Contact BittWare for additional FPGA card options.



Server Configurations

Low

- (1) AMD EPYC 9124 (3.0 GHz, 16C/32T) 64MB Cache Processor
- 64GB DDR5 4800MHz (8x 8GB)
- (2) 1 TB M.2 (RAID1)
- (1+1) 1300W power supplies **

Medium

- (1) AMD EPYC 9354 (3.2 GHz, 32C/64T) 256MB Cache Processor
- 128GB DDR5 4800MHz (8x 16GB)
- (2) 1TB M.2 (RAID1)
- (1+1) 1300W power supplies **

High

- (1) AMD EPYC 9554 (3.1 GHz, 64C/128T) 256MB Cache Processor
- 256GB DDR5 4800MHz (8x 32GB)
- (2) 1TB M.2 (RAID1)
- (1+1) 1300W power supplies **

Ultra

- (1) AMD EPYC 9654 (2.4 GHz, 96C/192T) 384MB Cache Processor
- 1TB DDR5 4800MHz (8x 128GB)
- (2) 1TB M.2 (RAID1)
- (1+1) 1300W power supplies **

**Option for 2000W fixed power supply

Rev 2024.1.16 | January 2024



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