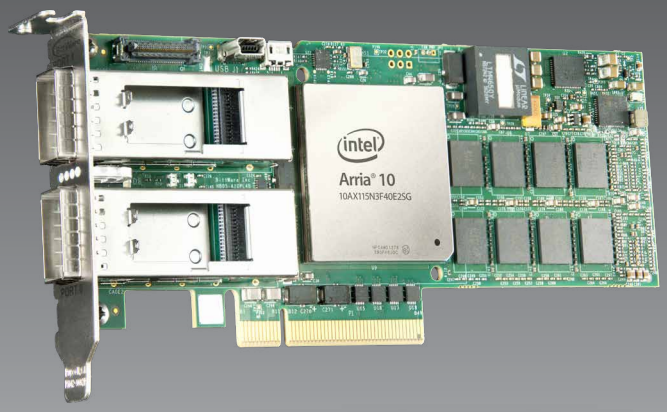
BittWare a molex company

A10PL4
PCIe FPGA Board



Arria 10 GX Low-Profile PCIe FPGA Board
with Dual QSFP and 32GBytes DDR4

BittWare's A10PL4 is a low-profile PCIe x8 card based on the Intel Arria 10 GX FPGA. The Arria 10 boasts high densities and a power-efficient FPGA fabric married with a rich feature set including high-speed transceivers, hard floating-point DSP blocks, and embedded Gen3 PCIe x8. The board offers over 32 GB of memory, sophisticated clocking and timing options, and two front panel QSFP cages, each supporting 40 Gbps.

The A10PL4 also incorporates a Board Management Controller (BMC) for advanced system monitoring, which greatly simplifies platform management. All of these features combine to make the A10PL4 ideal for a wide range of applications, including network processing and security, compute and storage, instrumentation, broadcast, and SigInt.

Tool Flow Flexibility for Software- or Hardware-Based Development

- OpenCL support for software-orientated customers
- Abstration for faster development
- Push-button flow for FPGA executable, driver, and API
- Add optimized HDL IP cores to OpenCL designs as libraries

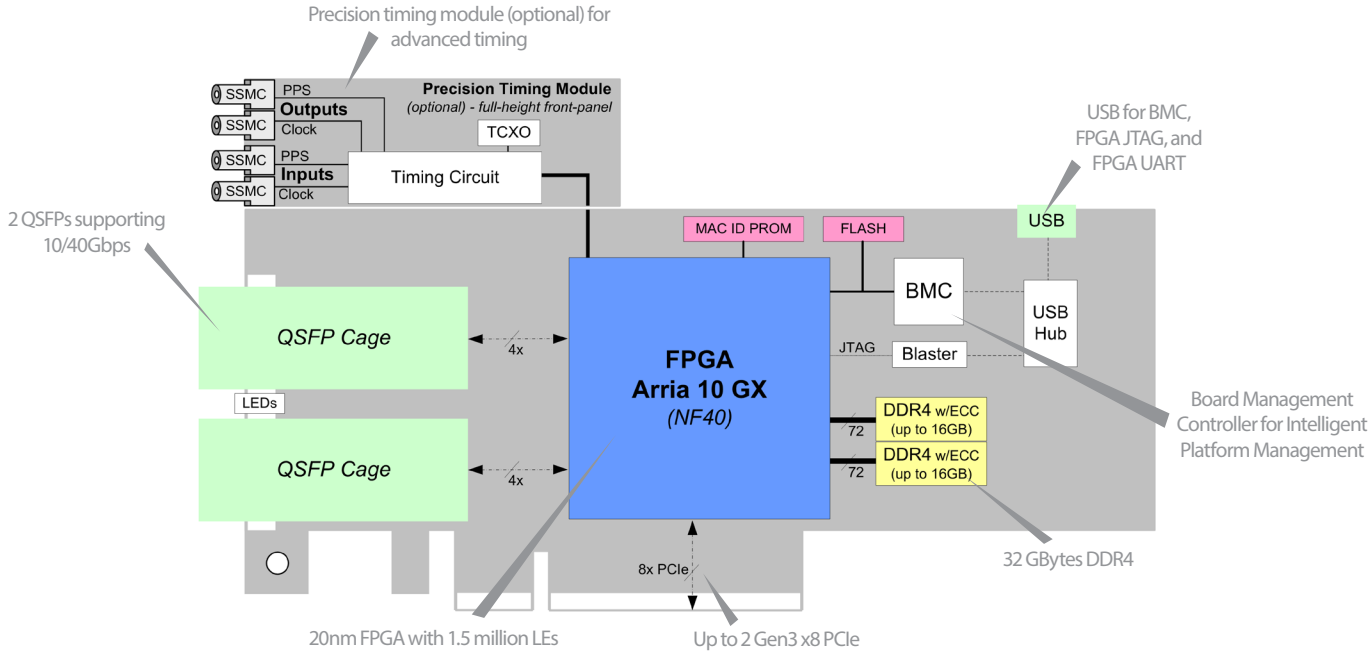
- Traditional VHDL/Verilog support for hardware-orientated customers
- Hand-code for ultimate performance
- High-Level Synthesis (HLS) available for rapid development
- FPGA card designed to support standard Intel IP cores for Arria 10

key features

Intel Arria 10 **GX 1150**

2x QSFP28s for **10/40Gbps**

Precision Timing Options



Additional Services

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

Customization

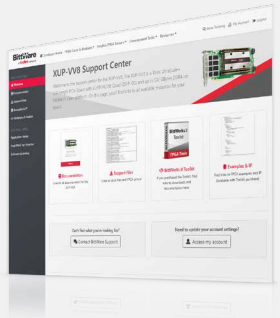
Additional specification options or accessory boards to meet your exact needs.

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	• Intel Arria® 10 GX FPGA
	  • 1150 GX in NF40 package
	  • Core speed grade - 2; I/O speed grade -3
	• Contact BittWare for other FPGA options

On-board memory	• Two banks DDR4 with ECC, up to 16 GBytes (x72) each • Flash with support for multiple boot images
Host interface	• x8 Gen3 interface direct to FPGA
Utility header	• USB 2.0 interface for debug and programming FPGA and Flash • Built-in Intel USB-Blaster
Timestamping (optional)	• 1 PPS input/output • Reference clock input/output • Adjustable TCXO
QSFP cages	• Two QSFP cages on front panel, each supporting 40GbE or 4x 10GbE • Can be optionally adapted for use as SFP+

Board Management Controller	• Voltage, current, temperature monitoring • Power sequencing and reset • Field upgrades • FPGA configuration and control • Clock configuration • I^2C bus access • USB 2.0 and JTAG access • Voltage overrides
Cooling	• Standard: single-width active heatsink • Optional: single-width passive heatsink
Electrical	• On-board power derived from 12V PCIe slot • Power dissipation is application dependent
Environmental	• Operating temperature 5°C to 35°C
Size	• Low profile (half-height, half-length) PCIe slot board • 168mm x 68.9mm

Development Tools

Application development	• HDL development - **BittWorks II Toolkit:** host, command, and debug tools for BittWare hardware • OpenCL development - Board Support Package, Intel SDK for OpenCL
FPGA development	• FPGA Examples - example Quartus projects • Intel Tools - Quartus II software

intel partner Titanium

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

Rev 2021.05.25 | May 2021

BittWare a molex company