

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
- Abstraction for faster development
- Push-button flow for FPGA executable, driver, and API
- Add optimized HDL IP cores to OpenCL designs as libraries



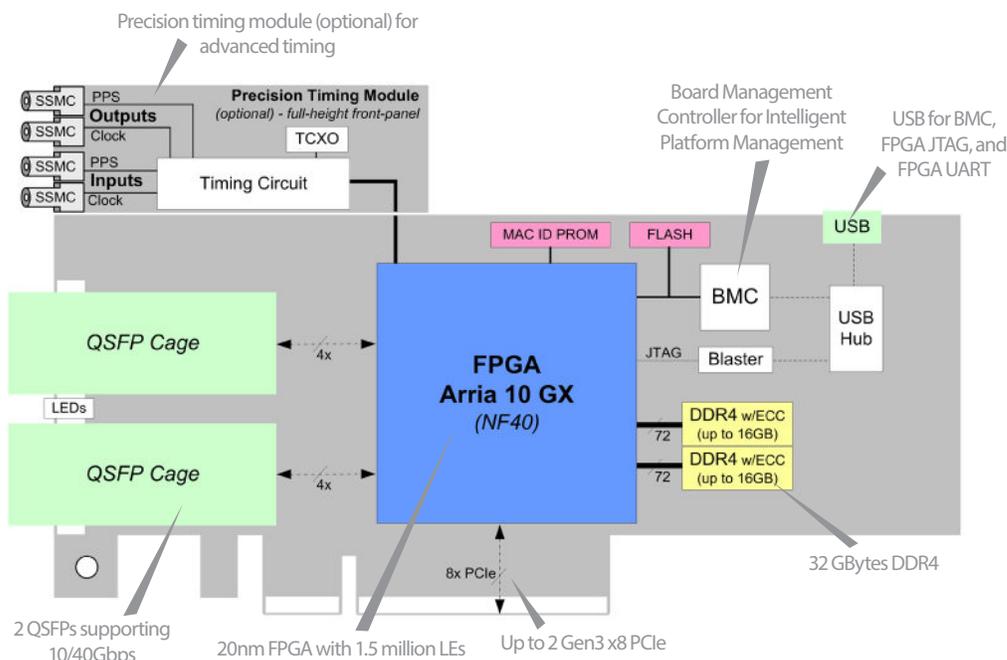
- Traditional VHDL/Verilog support for hardware-orientated customers
- Hand-code for ultimate performance
- High-Level Synthesis (HLS) available for rapid development
- FPGA card designed to support standard Intel IP cores for Arria 10

key features

Intel Arria 10
GX 1150

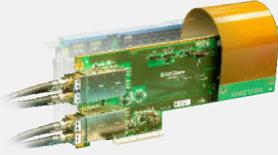
2x QSFP28s
for 10/40Gbps

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 | <ul style="list-style-type: none"> Intel Arria® 10 GX FPGA <ul style="list-style-type: none"> 1150 GX in NF40 package Core speed grade - 2; I/O speed grade -3 Contact BittWare for other FPGA options |
| On-board memory | <ul style="list-style-type: none"> Two banks DDR4 with ECC, up to 16 GBytes (x72) each Flash with support for multiple boot images |
| Host interface | <ul style="list-style-type: none"> x8 Gen3 interface direct to FPGA |
| Utility header | <ul style="list-style-type: none"> USB 2.0 interface for debug and programming FPGA and Flash Built-in Intel USB-Blaster |
| Timestamping (optional) | <ul style="list-style-type: none"> 1 PPS input/output Reference clock input/output Adjustable TCXO |
| QSFP cages | <ul style="list-style-type: none"> Two QSFP cages on front panel, each supporting 40GbE or 4x 10GbE Can be optionally adapted for use as SFP+ |

| | |
|-----------------------------|--|
| Board Management Controller | <ul style="list-style-type: none"> Voltage, current, temperature monitoring Power sequencing and reset Field upgrades FPGA configuration and control Clock configuration I²C bus access USB 2.0 and JTAG access Voltage overrides |
| Cooling | <ul style="list-style-type: none"> Standard: single-width active heatsink Optional: single-width passive heatsink |
| Electrical | <ul style="list-style-type: none"> On-board power derived from 12V PCIe slot Power dissipation is application dependent |
| Environmental | <ul style="list-style-type: none"> Operating temperature 5°C to 35°C |
| Size | <ul style="list-style-type: none"> Low profile (half-height, half-length) PCIe slot board 168mm x 68.9mm |

Development Tools

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|-------------------------|---|
| Application development | <ul style="list-style-type: none"> HDL development - BittWorks II Toolkit: host, command, and debug tools for BittWare hardware OpenCL development - Board Support Package, Intel SDK for OpenCL |
| FPGA development | <ul style="list-style-type: none"> FPGA Examples - example Quartus projects Intel Tools - Quartus II software |



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