

# Arria 10 Low Profile PCIe FPGA Board

The 385A low profile accelerator card provides a powerful PCIe computing and I/O platform for FPGA development and deployment across a range of application areas including high performance computing, image processing, and network analytics.

## 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



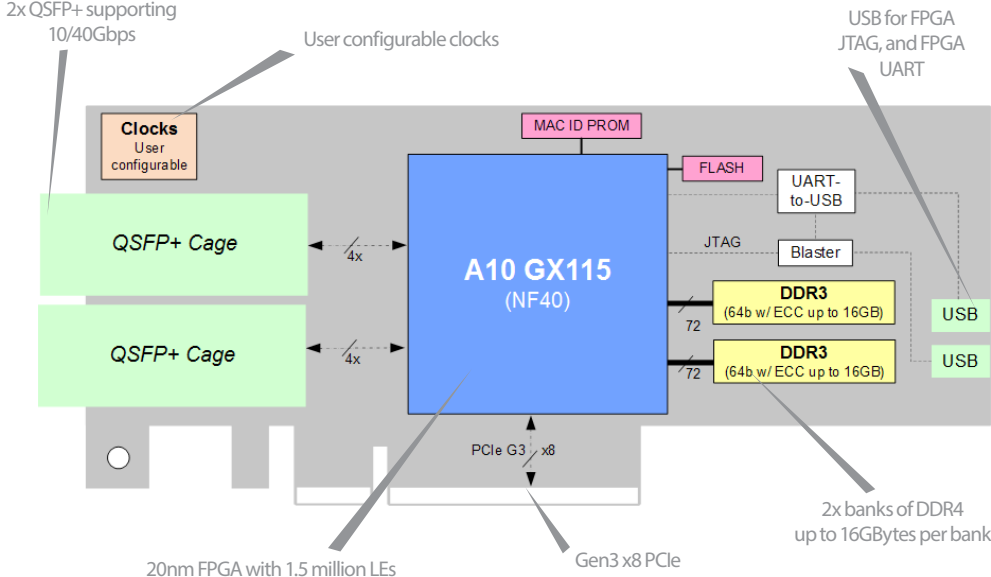
- Traditional VHDL/Verilog support for hardware-orientated customers
- Hand-code for ultimate performance
- High-Level Synthesis (HLS) available for rapid development
- FPGA card designed to support standard Intel IP cores for Stratix 10

## key features

Intel Arria 10  
GX 1150

2x QSFP+  
for 10/40Gbps

OpenCL  
BSP



### Key Applications

- Designed to address a range of compute-intensive and latency-critical applications:
- Compute, Network and Storage
  - Finance and Risk Analysis
  - Datacenter
  - HPC
  - Communications (wireless and wireline)
  - Industrial, Broadcast, Embedded
  - Medical
  - Automotive

# 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.



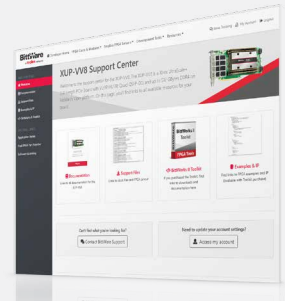
## Server Integration

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"> <li>Intel Arria 10 GX             <ul style="list-style-type: none"> <li>1150 GX F1517 NF40 package</li> <li>Core speed grade -2: I/O speed grade -3</li> </ul> </li> <li>Contact BittWare for other Arria 10 GX options</li> </ul>
On-board Flash	<ul style="list-style-type: none"> <li>Flash memory for booting FPGA</li> </ul>
On-board memory	<ul style="list-style-type: none"> <li>Two banks of DDR3 SDRAM x 72 bits</li> <li>4GB per bank (8GB total /16GB and 32GB version also available)</li> <li>2133MT/s per bank</li> </ul>
Host interface	<ul style="list-style-type: none"> <li>x8 Gen3 interface direct to FPGA</li> </ul>
QSFP cages	<ul style="list-style-type: none"> <li>2 QSFP+ cages on front panel connected directly to FPGA via 8 transceivers</li> <li>User programmable low jitter clocking supporting 10/40 GbE</li> <li>Each QSFP can be independently clocked</li> <li>Clocking options:             <ul style="list-style-type: none"> <li>Network recovered with jitter attenuation</li> <li>QSFP clocking: user programmable, or CPRI, 1GbE</li> <li>External clock input, 1PPS input</li> </ul> </li> </ul>
Cooling	<ul style="list-style-type: none"> <li>Standard: single-width active heatsink (embedded fan)</li> <li>Optional: single-width passive heatsink</li> </ul>
Electrical	<ul style="list-style-type: none"> <li>On-board power derived from 12V PCIe slot</li> <li>Power dissipation is application dependent</li> <li>Typical 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 ISO9001:2008 IPC-A-610-Class</li> <li>RoHS compliant</li> </ul>
Form factor	<ul style="list-style-type: none"> <li>Half-height, half-length PCIe single-slot board</li> <li>167.6mm x 68.9 mm x 17mm</li> </ul>

## Development Tools

FPGA development	<b>BIST</b> - Built-In Self-Test for CentOS 7 provided with source code (pinout, gateway, PCIe driver & host test application)
Application development	<b>Supported design flows</b> - Intel FPGA OpenCL SDK, Quartus Prime Pro (HDL, Verilog, VHDL, etc.)

## Deliverables

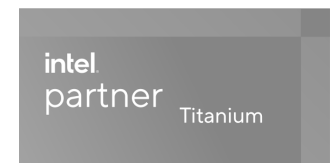
- 385A FPGA board
- USB cable (front panel access)
- Built-In Self-Test (BIST)
- OpenCL HPC Board Support Package (BSP)
- 1-year access to online Developer Site
- 1-year hardware warranty

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

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