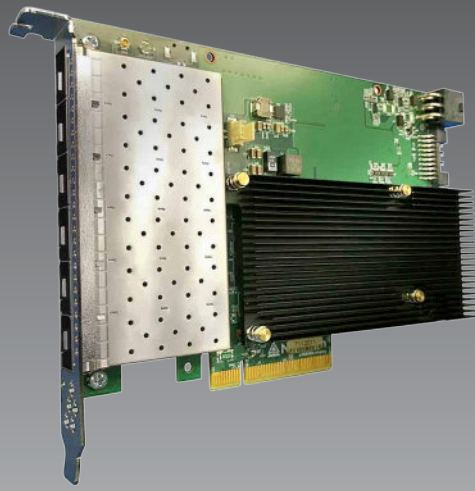**BittWare** a **molex** company

385A-SFP
PCIe FPGA Board

Arria 10 PCIe FPGA Board
1/2-Length PCIe with Six SFP+ and DDR3

The 385A-SFP network accelerator card provides a powerful PCI-Express compute and high-density I/O platform for processing high-speed network traffic, FPGA development and deployment across a range of application areas including inline error correction, network traffic storage, and high frequency trading.

Key Applications

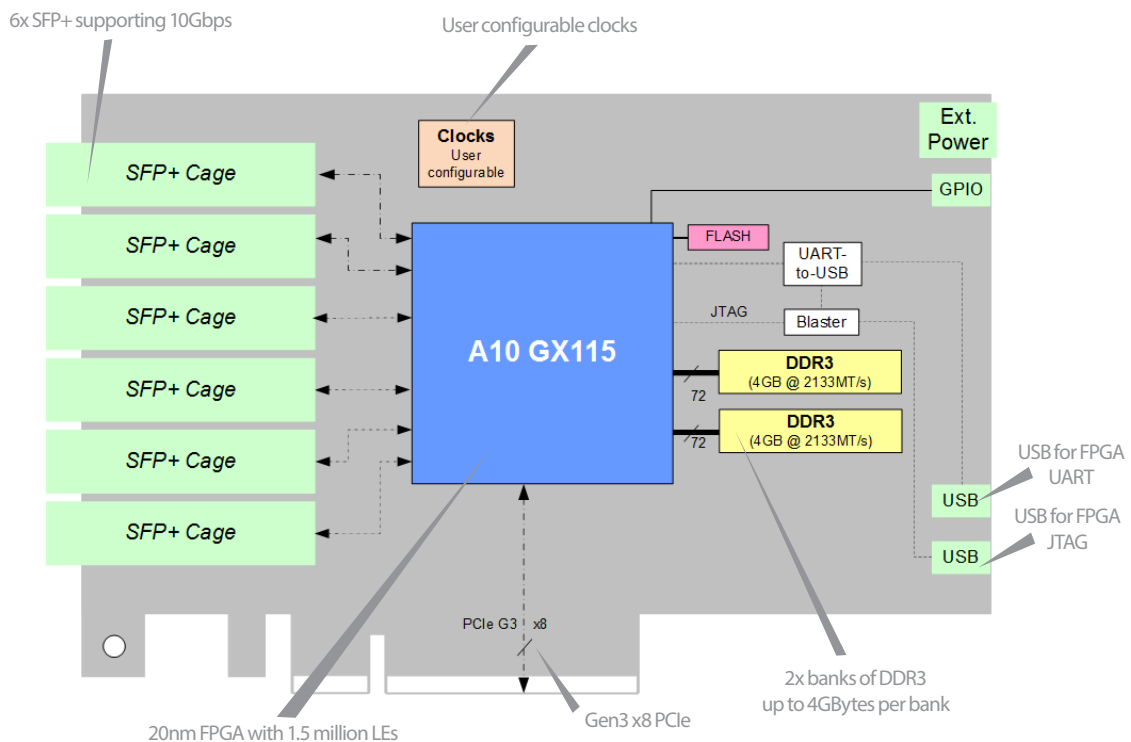Designed to address a range of latency-critical applications:

- Macrocell monitoring
- Macrocell inline digital RF filtering
- RF interference monitoring across CPRI
- CRAN monitoring using multiple cards across the PCIe bus
- Backhaul monitoring of Ethernet traffic
- High Frequency Trading
- Video Transcoding
- Medical Imaging

key features

| Intel Arria 10 **GX 1150** | 6x SFP+ for **10Gbps** | **8 GBytes DDR3** |

6x SFP+ supporting 10Gbps

User configurable clocks

Ext. Power

Clocks User configurable

GPIO

FLASH

UART-to-USB

JTAG

Blaster

SFP+ Cage
SFP+ Cage
SFP+ Cage
SFP+ Cage
SFP+ Cage
SFP+ Cage

A10 GX115

DDR3 (4GB @ 2133MT/s)
72

DDR3 (4GB @ 2133MT/s)
72

USB for FPGA UART

USB

USB for FPGA JTAG

USB

PCIe G3 x8

20nm FPGA with 1.5 million LEs

Gen3 x8 PCIe

2x banks of DDR3 up to 4GBytes per bank

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.
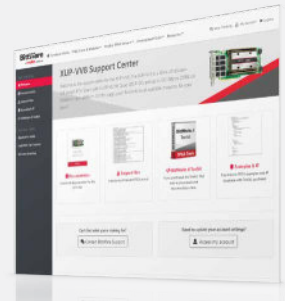
Server Integration
Available pre-integrated in our [TeraBox servers](#) in a range of configurations.

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
	  • 1150GX in F45 package
	  • Core speed grade -2: I/O speed grade -3
	• Contact BittWare for other Arria 10 GX options

On-board Flash	• Flash memory for booting FPGA
On-board memory	• Two banks of DDR3 SDRAM x 72 bits • 4GB per bank (8GB total /16GB and 32GB version also available) • 2133MT/s per bank
Host interface	• x8 Gen3 interface direct to FPGA

SFP+ cages	• 6 SFP+ cages on front panel connected directly to FPGA via 6 transceivers
	• Supports 1/10Gb Ethernet, Fiber Channel, and CPRI rates up to 10 Gbps
	• Clocked by up to four independent sources
	• Clocking options:
	  • User clock programming via I2C
	  • Flexible low jitter clocking
	  • External clock input, 1PPS

GPIO	• Single ended and differential GPIO connector
Power Supply Monitoring & Reporting	• On-board Intel USB-Blaster II • Power and temperature monitoring
Cooling	• Standard: single-width active heatsink (embedded fan) • Optional: single-width passive heatsink

Electrical	• On-card power derived from host motherboard PCIe slot and optional external power source • Power dissipation is application dependent • Typical max power consumption 75W
Environmental	• Operating temperature: 5°C to 35°C
Quality	• Manufactured to IPC-A-610 Class 2 • RoHS compliant
Form factor	• Standard-height, half-length PCIe single-slot board • 167.6mm x 110.9 mm x 17mm

Development Tools

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

Deliverables

• 385A-SFP FPGA board
• USB cable (back panel access)
• Built-In Self-Test (BIST)
• 1-year access to online Developer Site
• 1-year hardware warranty
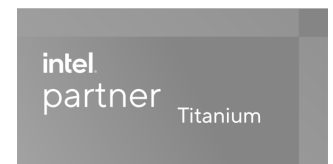
intel partner Titanium

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a **molex** company

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