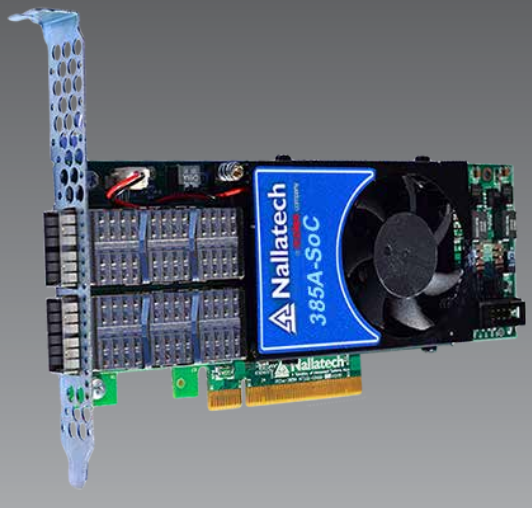
BittWare a molex company

385A-SoC
PCIe FPGA Board



Arria 10 SoC Low Profile PCIe FPGA Board

System-on-Chip FPGA with dual QSFPs and DDR4

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

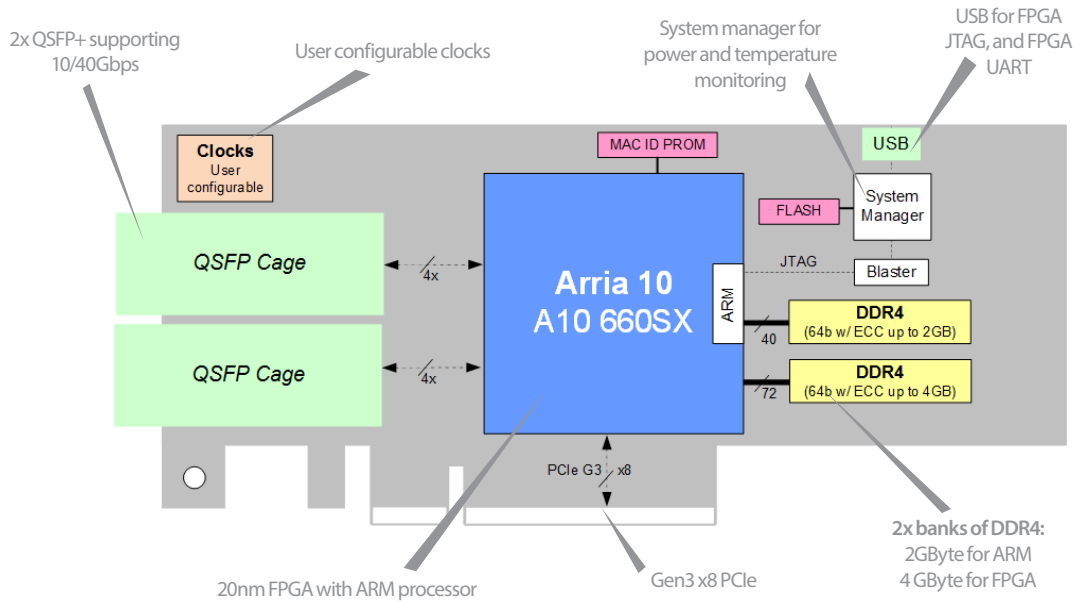
Key Applications

Designed to address a range of compute-intensive and latency-critical applications, including:

- Machine Learning Inference
- Internet of Things
- Intelligent Storage Gateway
- Real-time Network Analytics

key features

- Intel Arria 10 SoC **SX 660**
- 2x QSFP+ for **10/40Gbps**
- **Embedded BSP** (ARM)



Additional Services

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

Customization

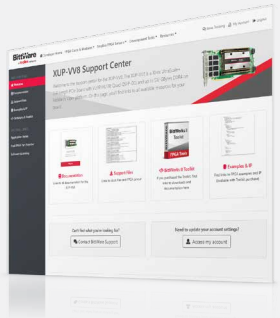
Additional specification options or accessory boards to meet your exact needs.

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 SX
	  • 660 SX in F34 package
	  • Core speed grade -2

On-board Flash	• Flash memory for booting FPGA
On-board memory	• One bank of DDR4 SDRAM x 72 for FPGA fabric, 4GB @ 2133MT/s • One bank of DDR4 SDRAM x 40 for ARM processor, 2GB @ 2133MT/s
Host interface	• x8 Gen3 interface direct to FPGA

QSFP cages	• 2 QSFP+ cages on front panel connected directly to FPGA via 8 transceivers
	• User programmable low jitter clocking supporting 10/40 GbE
	• Each QSFP can be independently clocked
	• Clocking options:
	  • Network recovered with jitter attenuation
	  • QSFP clocking: user programmable, or CPRI, 1GbE
	  • External clock input, 1PPS input

Power supply monitoring and reporting	• On-board Altera USB Blaster • Voltage monitoring • Temperature monitoring • Fault condition reporting to FPGA
Cooling	• Standard: single-width active heatsink (embedded fan) • 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
Quality	• Manufactured to IPC-A-610 Class 2 • RoHS compliant
Form factor	• Half-height, half-length PCIe single-slot board • 2.713 x 6.6 inches (68.9 x 167.6 mm)

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-SoC FPGA board
- Built-In Self-Test (BIST)
- Full and half-height PCI back plates available
- 1-year access to online Developer Site
- 1-year hardware warranty

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

intel partner Titanium

Rev 2021.11.23 | November 2021

© BittWare 2021

Arria 10 is a registered trademark of Intel Corp. All other products are the trademarks or registered trademarks of their respective holders.

BittWare a molex company