

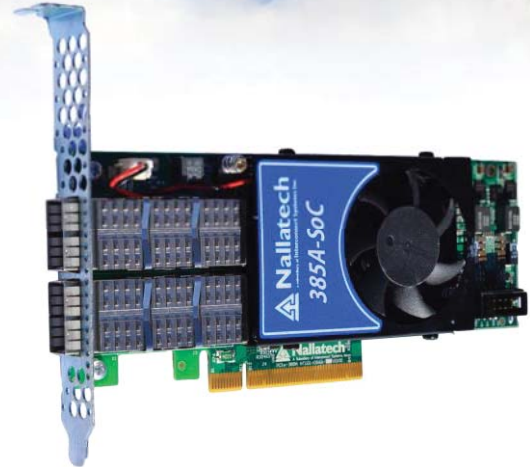
385A-SoC

System-on-Chip FPGA Accelerator Card

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.

The OpenCL-programmable 385A-SoC is an 8-lane PCIe Gen 3 card featuring an Altera Arria 10 SoC FPGA and DDR4 SDRAM external memory.

Two QSFP network ports enable support for a range of serial I/O protocols and speeds ranging from 1G to 40G.

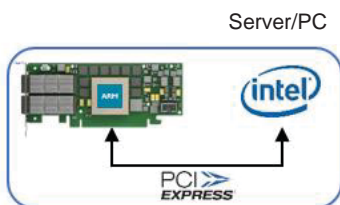


ALTERA **ARM**



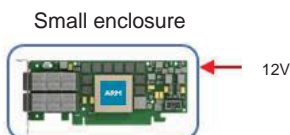
ARM-Based FPGA/SoC Delivers Optimal Performance at Low Cost for Real-Time Applications

Application Use Cases



» PCIe-attached

- Use the 385A-SoC integrated in a server/PC
- FPGA/SoC is tightly coupled to the host processor via PCIe
- Off-load compute and I/O functions to the FPGA and ARM processors



» Stand-alone

- Use the 385A-SoC as a stand-alone instrument, unattached to a PCIe Host
- Card is mechanically hosted in a small enclosure
- Power is applied to the enclosure via the 12V AUX connector
- OS (including RTOS) executes on an embedded ARM processor
- Up to 1TB of mass storage using two solid state disks (SSD)

The Leader in FPGA
Accelerated Computing

Nallatech

a **molex** company

www.Nallatech.com / contact@nallatech.com

Specification Highlights

Form factor

- » Low profile, single width PCI Express card
- » Half height, half length
- » 2.713 x 6.6 inches

Processing

- » Altera Arria 10 SX F34 package
- » Default configuration: SX 660, speed grade 2

DDR4 SDRAM memory (FPGA)

- » One bank of DDR4 SDRAM x 72 for FPGA fabric
- » 4GB @ 2133 MT/s

DDR4 SDRAM memory (ARM processors)

- » One bank of DDR4 SDRAM x 40 for ARM processors
- » 2GB @ 2133 MT/s

Host interface

- » 8-lane PCI-Express Gen 3
- » Actual performance is host computer chipset and operating system dependant

Application Development

- » Supports multiple design flows including OpenCL and HDL

Electrical

- » On-card power derived from 12V PCIe slot or AUX connector (when used in stand-alone mode)
- » FPGA power dissipation is application dependent

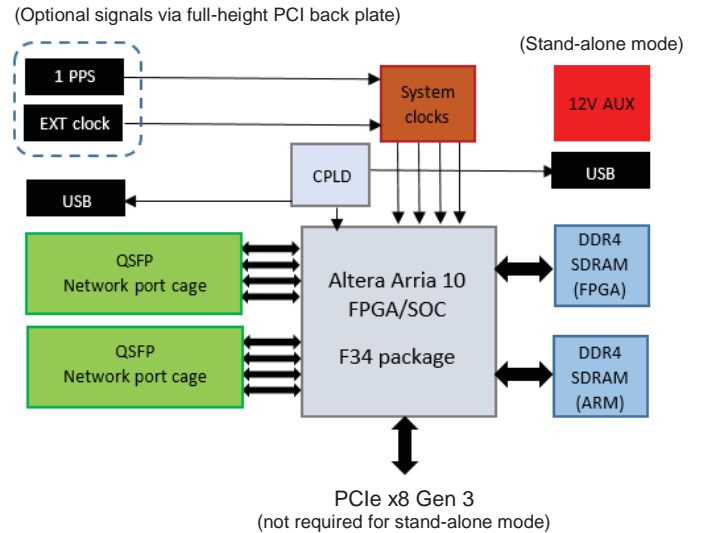
Quality

- » Manufactured to ISO9001:2000 IPC-A-610-Class III
- » ROHS compliant

Power Supply Monitoring & Reporting

- » On-board Altera USB Blaster
- » Voltage monitoring
- » Temperature monitoring
- » Fault condition reporting to FPGA

Functional Diagram



Cooling

- » Standard: single-width active heatsink (embedded fan)
- » Optional: Passive heatsink

Environmental

- » Cooling: Air convection
- » Operating temperature: 0°C to 35°C
- » Storage temperature: -20°C to 80°C
- » Relative humidity: 45 to 95% (non-condensing)

Deliverables

- » 385A-SoC FPGA card
- » Built-In-Self-Test (BIST)
- » Full and half-height PCI back plates available
- » 1 year access to online support lounge
- » 1 year hardware warranty



Nallatech accelerator cards are available pre-integrated in server platforms from leading vendors. Nallatech also offers application porting and optimization services. Please visit www.nallatech.com

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Technical specifications (e.g. FPGA type, size, external memory capacity etc.) can be modified to meet the exact needs of commercial customer applications as off-the-shelf product available to the general market.



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