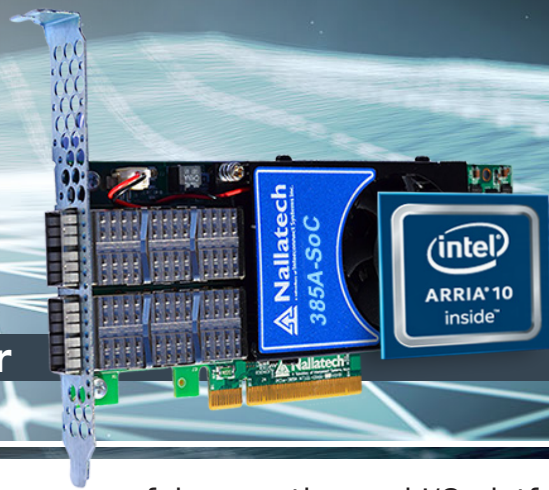


# Nallatech 385A-SoC

System-on-Chip FPGA Accelerator



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 Analytic

- **Featuring an Arria-10 SoC FPGA**
- **2 DDR4 SDRAM banks**
  - » **1 FPGA bank is 4GB**
  - » **1 ARM bank is 2GB**
- **8-lane PCIe Gen 3.0 card**
- **Two QSFP+ network ports (up to 40 Gbps)**
- **40/10/1 GbE, CPRI, Fiber Channel protocol support**
- **Embedded BSP (ARM Processors)**

ARM®

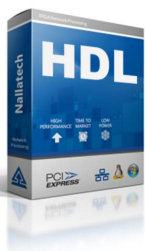


Designed to address a range of compute-intensive and latency-critical applications, including:

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



**ARM-based SoC delivers optimal performance, power efficiency and low cost for real-time applications**



## » **Hardware Description Language (HDL)**

- Traditional VHDL/Verilog tool flow support
- Aimed at hardware-orientated customers
- Hand-code HDL for ultimate performance
- FPGA card designed to support standard Intel IP cores for Arria-10

# Nallatech 385A-SoC

## System-on-Chip FPGA Accelerator

### Form Factor

- » Half-height, half-length, single width PCI Express card
- » 2.713 x 6.6 inches (68.9 x 167.6 mm)

### Host Interface

- » 8-lane PCI-Express Gen 3.0
- » Actual performance is host computer chipset and operating system dependent

### Processing

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

### DDR4 SDRAM Memory

- » One bank of DDR4 SDRAM x 72 for FPGA fabric, 4GB @ 2133MT/s
- » One bank of DDR4 SDRAM x 40 for ARM processors, 2GB @ 2133MT/s

### Application Development

- » Supports HDL

### Electrical

- » On-card power derived from 12V PCIe slot
- » FPGA power dissipation is application dependent

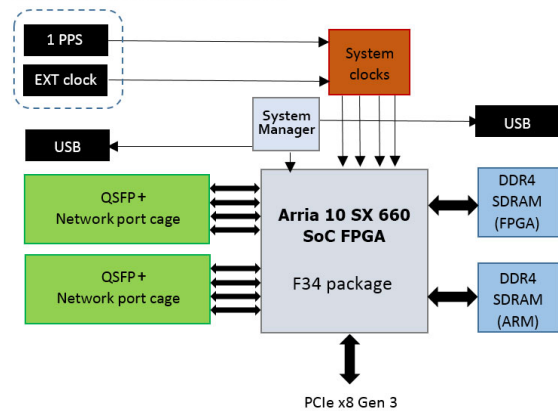
### Quality

- » Manufactured to ISO9001:2008 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

(Optional signals via full-height PCI back plate)



### Two QSFP+ Network Ports (up to 40Gbps each)

- » Flexible low jitter clocking supporting multiple telecoms standards – 40/10/1 GbE, CPRI, Fiber Channel
- » Each QSFP+ can be independently clocked
- » Network recovered with jitter attenuation
- » QSFP+ Clocking: user programmable
- » Others: external clock input, 1PPS input (optional)

### Cooling

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

### Environmental

- » Cooling: Air convection
- » Operating temperature: 0°C to 35°C

### 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

**Customization:** 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.

**Application optimization:** Nallatech provides consultancy services assisting customers in the porting, optimization and benchmarking of applications executed on Nallatech FPGA accelerators.

\* Please check with Sky Blue or Zerif for availability  
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