

## Napatech 400G SmartNIC N3070X

### DATA SHEET



#### Powerful Altera®-based SmartNIC

The Napatech SmartNIC N3070X is a 400G PCIe Gen5 card with Altera's Agilex™ AGI041 FPGA. The Agilex™ AGI041 FPGA provides hardened 100/200Gbps Ethernet, 3x PCIe Gen 5.0 interfaces, and plenty of resources to support a 400G pipeline for line rate processing of data. One PCIe Gen 5.0 interface connects to the host, whereas the other PCIe Gen 5.0 interfaces support an optional mezzanine card and an expansion port to remote PCIe devices, such as NVMe storage. These powerful capabilities allow for unique offload capabilities, and the N3070X is the perfect solution for network and security data plane offload and acceleration.

#### Customization on demand

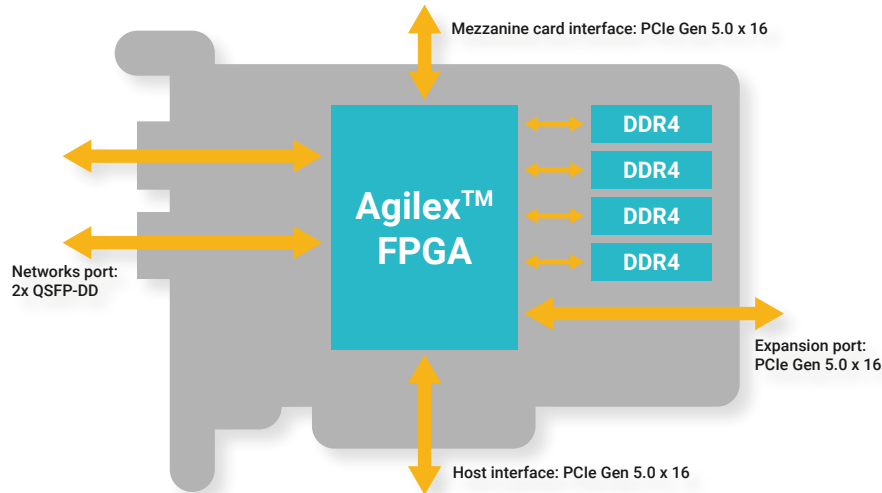
The N3070X offers programmable hardware to tailor the SmartNIC to the most demanding and specific needs in your network, and to modify and enhance its capabilities over life of the deployment. It is based on Altera's Application Stack Acceleration Framework (ASAF) that supports the integration of software and IP from Intel, Napatech, 3rd parties and homegrown solutions. This one-of-a-kind architecture enables hardware performance and the speed of software innovation.

#### Applications and Use Cases:

- Artificial Intelligence infrastructure
- Cloud and edge computing
- Storage infrastructure
- 5G mobile infrastructure
- Big Data Analytics
- Fintech and financial services
- Cybersecurity
- Monitoring and recording
- Network test & measurement



## FEATURE HIGHLIGHTS AND SPECIFICATIONS



### FPGA Device

- Intel Agilex AGIC041 (1xF-tile, 3xR-tile)
- 4M LEs, 1356.1K ALMs, 17.1K M20Ks
- Crypto support: AES, SM4

### External Memory

- Standard memory
  - 4x4 GB DDR4-2666MT/s (40b + ECC)
- Memory configuration options
  - 4x8 GB DDR4-2666/3200MT/s (40b + ECC)
- 2x2048 Mbit flash memory for boot images

### PCI Express Interfaces

- 3x PCIe Gen 5.0 x16 (32 GT/s)
  - Card edge host interface, CXL 2.0 (mount option)
  - Expansion port, CXL 2.0 (mount option)
  - Mezzanine interface

### High-Speed Network Interfaces

- 2-ports QSFP-DD
- 1x400G, 2x200GbE, 4x100GbE

### Network Standards

- IEEE 802.3 Ethernet
- Ultra Ethernet (UEC) (\*)

### Form Factors

- N3070XP12: Full-height, 1/2-length, weight: 366 g
- N3070XP34: Full-height, 3/4-length, weight: 429 g

### Power and Cooling

- Passive cooling
- Max 150W power dissipation supported by platform
- PCI Express 150W-ATX AUX power connector
- N3070XP12: Max QSFP power: 0.5 W
- N3070XP34: Max QSFP power: 8.0 W

### Board Management

- Integrated BMC
- HW RoT (option)
- Secure boot and configuration
- Secure FPGA image update
- MCTP over SMBus
- PLDM for Monitor and Control (DSP0248)
- PLDM for FRU (DSP0257)

### Operating Environment

- Temperature: -5 to +45 deg. C at  $\geq 4.0$  m/s airflow
- Humidity: 5 – 85%
- ASHRAE class A2

### MTBF according to IEC TR 62380

- N3070XP12: 519.049 hours (at 60 deg. C)
- N3070XP34: 519.049 hours (at 60 deg. C)

### Regulatory Approvals and Compliances

- PCI-SIG®, CE, CB, RoHS, REACH, cURus (UL)
- FCC, ICES, VCCI, RCM

### Supported Napatech Software

- Link-Programmable™
- Link-Inline™ (\*)
- Link-Capture™ (\*)
- Link-Virtualization™ (\*)

(\*) Napatech directional roadmap

## NAPATECH SMARTNICS + DPU SOLUTIONS

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