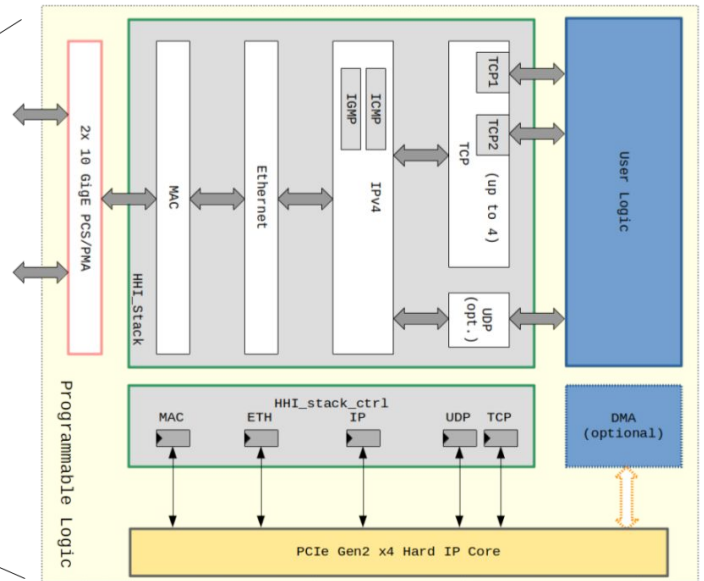
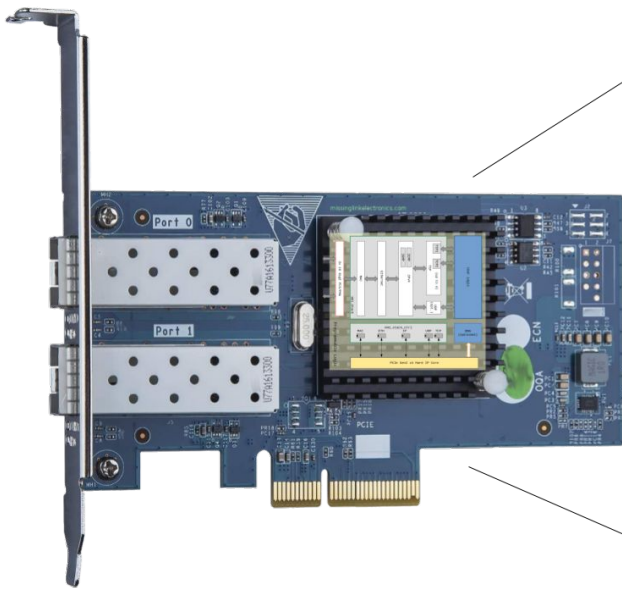


NPAC-20G: A Cost-Efficient PCIe Network Protocol Accelerator Card

MLE has partnered with Fraunhofer HHI to provide the industry-proven TCP/UDP/IP Network Protocol Acceleration Platform (NPAP) in form of NPAC, a PCIe Network Protocol Accelerator Card with dual-port 10G Ethernet.

NPAC-20G implements reliable high-bandwidth low-latency TCP transport.

NPAC-20G includes Linux PCIe stream device drivers, or optionally can run customized data-in-motion processing on the integrated FPGA subsystem.



Benefits

- 2x 10 Gbps Source-to-Sink Data Transport
- Full Accelerator to fully offload the CPU
- Cost-Efficient, Customizable, Ready-to-Run

Key Features

- HHHH PCIe Card
- PCIe 2.0 x4 (~20 Gbps bandwidth)
- 2x 10 Gigabit Ethernet via SFP+
- Low-latency TCP with RTT <1400 nanosec.
- IPv4 with ICMP, IGMP, DHCP, ARP
- 10 GigE Point-to-point or LAN capable
- Integrates IETF 1122 TCP/UDP/IP Stack from Fraunhofer HHI
- Option for adding Custom User Logic

Deliverables

- Pre-configured PCIe Card, ready-to-run
- Linux device drivers (GPL sources)
- FPGA Design Project with NPAP design license for adding Custom User Logic (optional)
- Application-specific expert design services

Contact Information

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Application Use Cases

- High-Speed Sensor Data Acquisition and Replay
- Customizable Camera Frame Grabber
- Data-in-motion processing and streaming between networked Edge devices / Servers
- Lossless, Gapless Data Recording onto Network-Attached Storage (NAS)
- SmartNIC with TCP/IP "Full Acceleration"
- 10 GigE Network Spy, NetFilter, DPI
- TSN NIC for Low-Latency Time-Sensitive Networking (automotive/industrial/medical)

Pricing Examples (excl. VAT)

Quantity	Item Description	Cost / Unit
Up to 9	dual-port 10 GigE PCIe Card, Ready-to-Run (includes binary-only commercial license for NPAP-10G)	\$ 495.-
From 10	dual-port 10 GigE PCIe Card, Ready-to-Run (includes binary-only commercial license for NPAP-10G)	\$ 440.-
From 100	dual-port 10 GigE PCIe Card, Ready-to-Run (includes binary-only commercial license for NPAP-10G)	\$ 365.-
From 100	dual-port 10 GigE PCIe Card plus FPGA Design Project (includes Single-Project-Use Netlist License for NPAP-10G)	\$ 588.-
From 500	dual-port 10 GigE PCIe Card plus FPGA Design Project (includes Single-Project-Use Source Code License for NPAP-10G)	\$ 297.-

Fraunhofer Heinrich-Hertz-Institute (HHI)

Founded in 1949, the Fraunhofer-Gesellschaft is the world's leading applied research organization and currently operates 75 institutes and research institutions throughout Germany. The majority of the organization's 29,000 employees are qualified scientists and engineers, who work with an annual research budget of 2.8 billion euros.

Fraunhofer HHI was founded in 1928 and joined in 2003 the Fraunhofer-Gesellschaft as the "Fraunhofer Institute for Telecommunications, Heinrich-Hertz-Institut, Today it is the leading research institute for networking and telecommunications technology, "Driving the Gigabit Society".

Missing Link Electronics (MLE)

We are a Silicon Valley based technology company with offices in Germany. We are partner of leading electronic device and solution providers and have been enabling key innovators in the automotive, industrial, test & measurement markets to build better Embedded Systems, faster.

Our mission is to develop and market technology solutions for Embedded Systems Realization via pre-validated IP and expert application support, and to combine off-the-shelf FPGA devices with Open-Source Software for dependable, configurable Embedded System platforms.

Our expertise is Domain-Specific Architectures I/O connectivity and acceleration of data communication protocols, additionally opening up FPGA technology for analog applications, and the integration and optimization of Open Source Linux and Android software stacks on modern extensible processing architectures.