

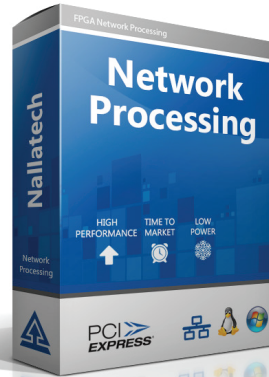
PCIe-180

FPGA Network Processing Card

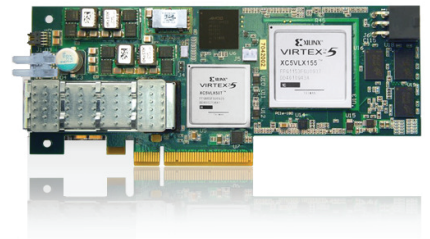
The PCIe-180™ low profile network processing card provides a powerful PCI Express computing and I/O platform for FPGA development and deployment across a range of application areas including Signal Intelligence, Network Security and Algorithm Acceleration.

The PCIe-180 features an XFP module supporting 10Gb Ethernet and OC192 SONET via PCI backplate. This network interface is directly coupled to a Xilinx FPGA and a flexible, high bandwidth configuration of SRAM and SDRAM memory.

The PCIe-180 is compatible with most high density server and blade platforms from leading vendors.



XILINX
ALL PROGRAMMABLE™



Low profile 10GbE Accelerator Card Featuring a Xilinx FPGA and Random Access Memory

Key features

- Low profile PCI Express form factor
- XFP supporting 10GbE and OC192 SONET
- 8-lane PCI Express Gen 1 host interface
 - Up to 1.1 GB/s WRITE (system-to-card)
 - Up to 1.3 GB/s READ
- Xilinx Virtex-5 LX155-1 user FPGA
- Five independent banks of DDR-II SRAM memory
- Single bank of DDR2 SDRAM memory
- Linux and Windows 7 Operating System support

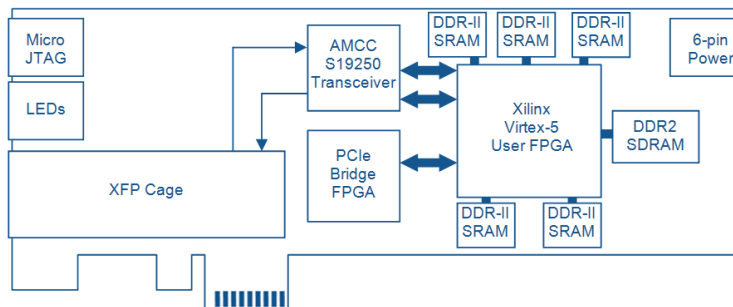
Benefits

- » Commercial-off-the-shelf (COTS) hardware
Shorten time to market and reduce risk
- » PCI Express
Industry standard interconnect
- » 8-lane
Ubiquitous high performance host interface
- » Comprehensive suite of IP
Invest time developing your algorithm, not interfaces

The Leader in FPGA
Accelerated Computing

 **Nallatech**
a **molex** company

Functional diagram



Full specification

Form factor

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

Processing

- Xilinx Virtex-5 LX155-1 user FPGA
- Please contact Nallatech for other supported FPGAs options

SRAM memory

- 40 MB DDR-II SRAM
- Five independent 8 MB banks
- 32-bit data bus per bank
- ECC and Parity support
- Operating frequency: 250 MHz
- Max. bandwidth per bank: 2 GB/s
- Max. total bandwidth: 10 GB/s
- DDR-II SRAM controller IP core included

SDRAM memory

- 512 MB DDR2 SDRAM
- 72-bit data bus
- ECC and Parity support
- Operating frequency: 250MHz
- Max. total bandwidth: 4 GB/s
- Auto refresh capable
- DDR2 SDRAM controller IP core included

Host interface

- 8-lane PCI-Express 1.1
- Up to 2.4GB/s total Host bandwidth
- Actual performance is host computer chipset and operating system dependant
- PCIe host interface IP core included

PCI backplate interfaces

- XFP cage
 - AMCC- S19250 physical layer bridge chip supports 10GbE and OC192 SONET
 - Converts between 10Gbps XFP interface and two 16-bit LVDS FPGA interfaces operating at 622.08Mbps (10GbE) and 644.53Mbps (SONET)
 - AMCC interface IP core included
- Tri-color LEDs and uJTAG header

Application Programming Interface (API)

- NallaLIB API for 64-bit Linux
- Runtime FPGA programming, hardware control, and application communication

Application development software

- Supports multiple design flows including VHDL and Verilog
- Compatible with Xilinx ISE and all major synthesis design flows

Electrical

- On-card power derived from 3.3V and 12V PCIe slot
- FPGA power dissipation is application dependent
- 6-pin GPU-style header for applications that need more power. Please contact Nallatech for further information

Quality

- Manufactured to IPC610-Class 2 standard.
- Designed and Supplied to ISO9001:2000 certification
- ROHS compliant

Ordering and deliverables

Deliverables

- PCIe-180 FPGA card
- Micro JTAG adapter
- Full and half height PCI backplates
- Product DVD
- NallaLIB API and documentation
- IP cores (including VHDL source)
- 30 days product maintenance (technical support, support lounge access)

Cooling

- Available with either active (chipfan) or passive (heatsink) cooling
- Passive heatsink option requires forced-air cooling
- Please contact Nallatech for further information

Environmental

- Cooling: Air convection
- Operating temperature: 0°C to 50°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 45 to 95% (non-condensing)

Ordering

- Contact us for leadtime and pricing information

International Distributors



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