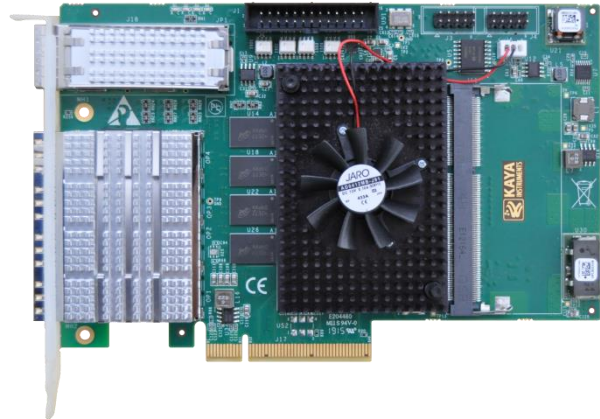


Komodo – Fiber FPGA board

Overview

Komodo-Fiber is high-performance yet low-cost FPGA card supporting four SPF+ 10GigE transceivers and a single QSFP+ 40GigE optical interface. The card is based on Arria V GZ powerful FPGA that offers up to 400K flexible logic elements, 1K DSP blocks and 28Mbit of embedded memory. The board offers a flexible DDR3 memory system with up to 144 Gb of memory and 128 Gbps throughput. A high speed 8 lane Gen 3.0 PCI express interface allows fast data transfers between optical links and computer memory while a versatile GPIO with multi-standard support enables connection to external devices. The QSFP and SFP interfaces are connected directly to FPGA device transceiver channels to minimize latency.

All of these features combine make the Komodo-Fiber ideal for a wide range of applications, including network processing and security, compute and storage, instrumentation, broadcast, defense and aerospace.



Applications

- ✓ Machine Vision
- ✓ Networking
- ✓ Algorithm Acceleration
- ✓ Broadcasting and sports analytics
- ✓ High-speed DVRs

Optical networking is a means of communication that uses signals encoded onto light to transmit information among various nodes of a telecommunications network. They operate from the limited range of a local-area network (LAN) or over a wide-area network (WAN), which can cross metropolitan and regional areas all the way to national, international and transoceanic distances. It is a form of optical communication that relies on optical amplifiers, lasers or LEDs and wave division multiplexing (WDM) to transmit large quantities of data, generally across fiber-optic cables. Because it is capable of achieving extremely high bandwidth, it is an enabling technology for today's Internet and the communication networks that transmit the vast majority of all human and machine-to-machine information.

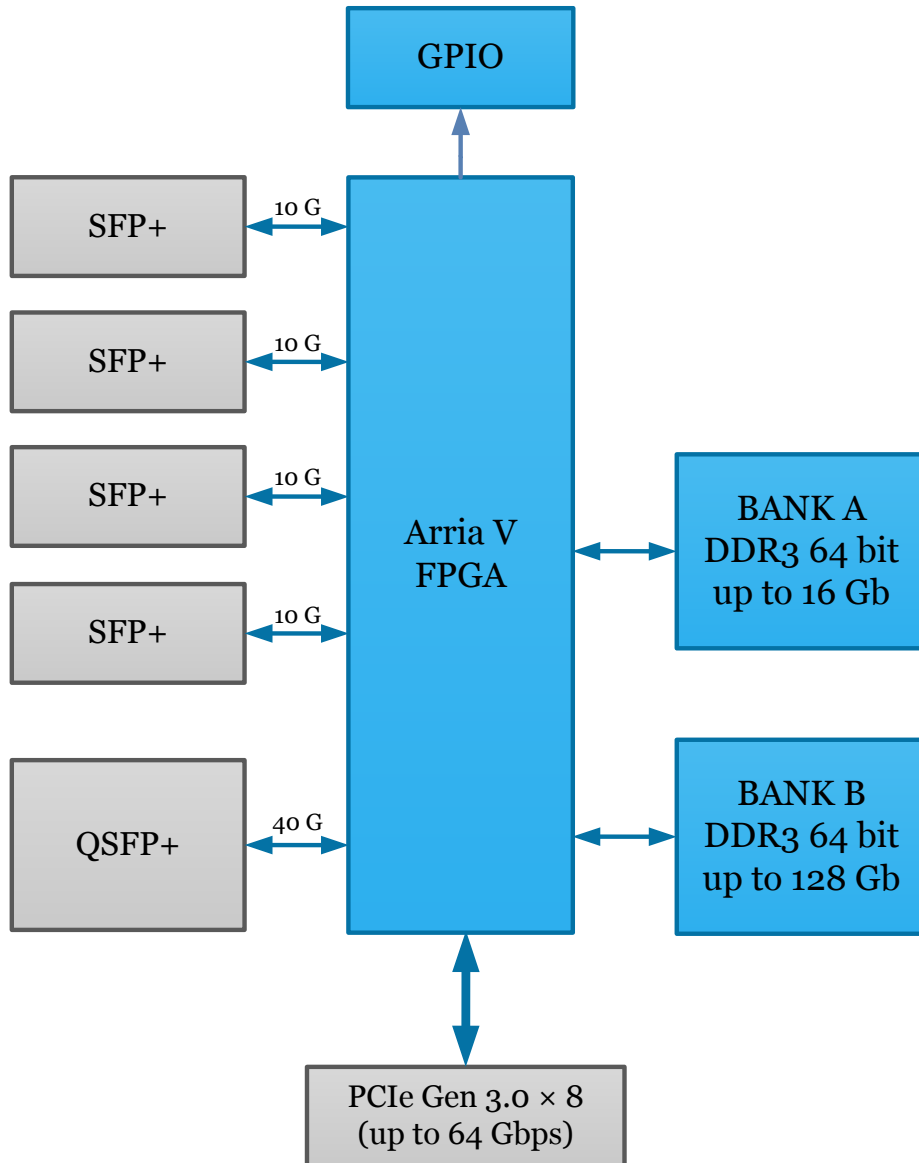
Features

- 4 x SFP+ channels at 10 Gbps each
 - 1 x QSFP+ channel at 40 Gbps
 - PCIe Gen3 x8 Half-length card
 - Up to 144 Gb of DDR3 memory
 - On-board 16 Gb DDR3 64bit wide
 - SODDIMM of up to 128 Gb
 - DDR3 1066 rate compatible
 - Altera Arria V GZ FPGA with up to:
 - 400K equivalent LEs
 - 1092 DSP blocks
 - 28Mbit of embedded memory
 - Hardened IP PCIe Gen 3.0 block
 - Supports Altera's PCIe IP
 - Supports Ethernet IPs
 - Supports Memory controller IPs
 - Flexible machine I/O:
 - 4 TTL configurable I/Os
 - 4 LVCMOS configurable I/Os
 - 2 LVDS inputs
 - 2 LVDS outputs
 - 4 opto-isolated outputs
 - 4 opto-isolated inputs
 - 2 quadrature rotary encoders
 - Integrated strobe controller
 - Transfer Rate of up to 64 Gbps through PCIe
 - Transfer Rate of up to 80 Gbps through optical interfaces
 - CWDM support
 - QSFP+ can be expanded to 4x 10G interfaces
 - Authentication device for design security
 - Temperature control
 - Fan control
- 4 indication LEDs
 - 0°C to 50°C operating environment temperature
 - Flexibility to achieve system optimal topology including 3D and 12D-Torus, 6D and 24DHypercube, 3-Way Tree, Star, etc.

Deliverables

- Komodo – Fiber card
- Hardware user manual
- Reference designs (VHDL and Verilog)
- SFP+ modules (optional)
- QSFP+ module (optional)
- GPIO extension panel (optional)

Komodo-Fiber Block Diagram



Contact