NFB-200G2QL

FPGA-based Hardware

200G Ethernet & PCI Express Gen 3

TECHNICAL SPECIFICATIONS

- ▶ **2x QSFP28 network interfaces**
- ▶ **Supported configurations:**
  - ▶ **2x 100G / 4x 50G / 2x 40G / 8x 25G / 8x 10G**
- ▶ **Ethernet standards:**
  - ▶ **100GBASE-SR4 (hard IP core for FEC) / LR4**
  - ▶ **25G / 50GBASE-SR (soft IP cores for FEC)**
  - ▶ **40GBASE-SR4 / LR4 / IR4**
  - ▶ **10GBASE-SR / LR**
- ▶ **PCI Express Gen 3 x16 + x16 (128 + 128Gbps)**
- ▶ **Xilinx Virtex UltraScale+ chip**
- ▶ **QDRIIIe SRAM:**
  - ▶ **No QDR / 3 x 72Mb / 3x 288Mb**
- ▶ **PPS (pulse per second) time synchronization input**
- ▶ **Half length & low profile**

AVAILABLE FEATURES & TOOLS

- ▶ **FPGA development kit for P4 and VHDL/Verilog**
- ▶ **IP cores for 100G/40G/10G Ethernet**
- ▶ **Low-latency electronic trading**
- ▶ **IP cores for PCI Express Gen 3 x16 and DMA engine**
- ▶ **IP cores for on-board QDR memories**
- ▶ **IP cores for time synchronization**
- ▶ **Special-features firmware available for packet capture and stateless and stateful filtering**
- ▶ **Board support package (pinout, clock reference, PCIe block configuration, documentation)**

OVERVIEW

Netcope FPGA Board NFB-200G2QL is a unique example of symbiosis of state-of-the-art technologies fitting together in terms of achievable performance and throughput. Network link speed, performance of on-board network controller, throughput of PCI Express bus, performance of host system these are all factors that influence the whole solution and we paid maximum attention to make all links of this chain as strong as possible.

We have unlocked the card's capability of sending packets to software at line rate of 200 Gbps with zero packet loss by using the latest Xilinx FPGA chip Virtex UltraScale+. The card's firmware can also effectively distribute traffic to two CPUs in dual-CPU system, bypassing QPI often considered as a bottleneck. The card connects to one or two gen3 x16 PCI-E slots and doesn't require additional power cables. Last but not least, it comes in a low profile design, so it fits into smaller servers.

This dramatic improvement of bandwidth and processing power is great news for traders on electronic exchanges, OEM manufacturers, communication service providers or pioneers of the NFV industry. The bandwidth goes up and latency goes down.

In addition, NFB-200G2QL is programmable with P4 language, making it possible to combine all our market proven IP cores without HDL knowledge.

USE CASES

- ▶ **Packet capture**
- ▶ **Network traffic preprocessing**
- ▶ **Session-oriented packet capture and processing**
- ▶ **Low-latency electronic trading**
- ▶ **Development of hardware-accelerated applictions**
- ▶ **P4 programmability**

ORDERING INFORMATION

Please contact Netcope Technologies for pricing and additional information about this product.