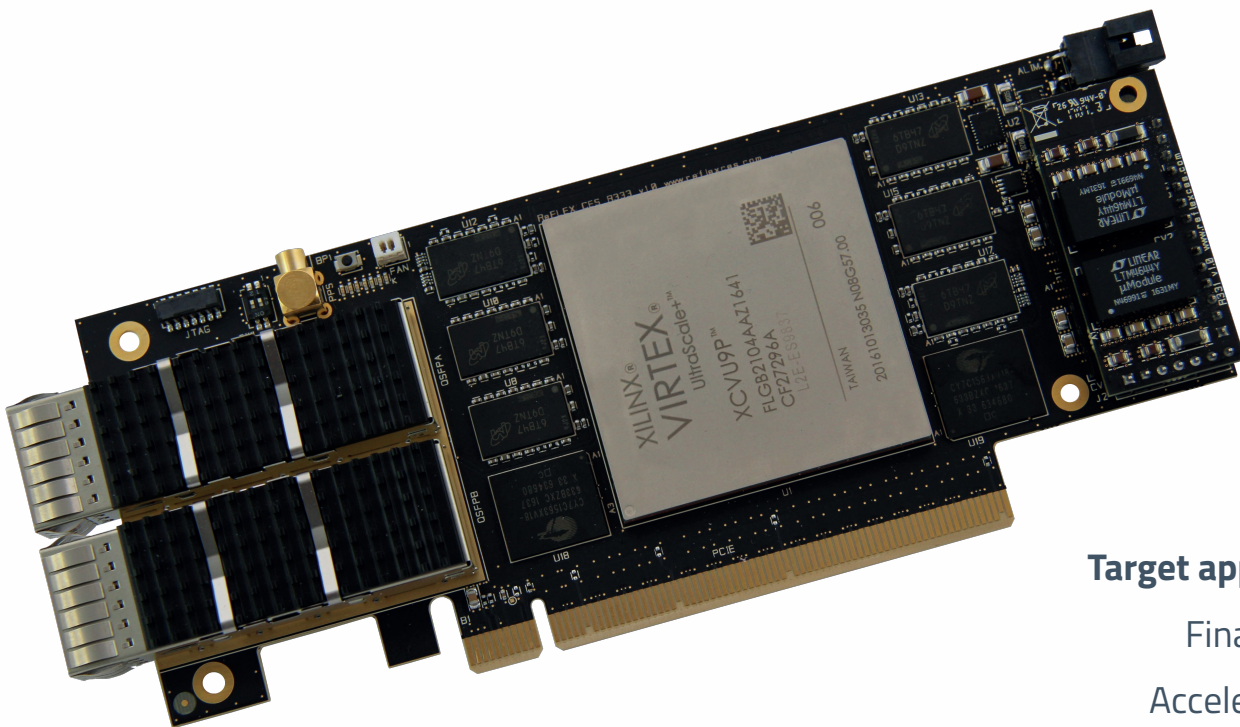# XpressVUP - LP9P

Low-profile PCIe Network Processing FPGA Board Featuring 2 x 100G Ethernet

- Low-profile PCIe Virtex Ultrascale+ VU9P FPGA board

- PCIe Gen3 x16

- 2 banks of DDR4 memories

- 2 banks of QDR2+ memories

- Dual QSFP28 cages 10GbE/40GbE/100GbE networking solutions

Target applications:

Finance

Acceleration

Data center

Networking

Security

UltraSCALE™ Architecture   PCI EXPRESS 3   XILINX®

Contact :
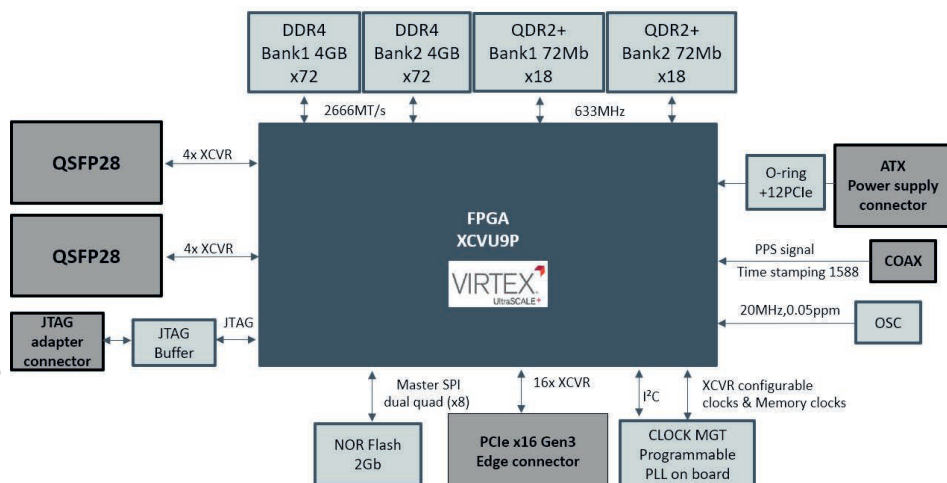
Europe Sales Office
sales@reflexces.com

www.reflexces.com

North America Sales Office
salesusa@reflexces.com

Benefits

- On board two DDR4 and two QDR2+ independent banks
- Two QSFP28 optical cage for multi networking solutions
- PCIe endpoint with 16 lanes at 8 Gb/s link rate (Gen3)
- Fail safe configuration flash sector
- Tandem configuration mode available
- JTAG connector
- Xilinx Virtex UltraScale+ VU9P FPGA

Full Specifications

FPGA and Configuration Modules

- Xilinx Virtex UltraScale+ 16nm FPGA
- XCVU9P-L2FLGB2104E (Production)
- 2,6 M System Logic Cells
- 270 Mb UltraRAM (high-density, dual-port, synchronous memory block available in UltraScale+)
- JTAG connector for external Xilinx USB cable
- 2x Nor Flash for dual quad SPI (x8) configuration mode

Communication Interfaces

- PCI Express x16 (Gen 1, 2 or 3)
- 2 x QSFP28 quad optical cage (2 x 4 XCVR : 28 Gb/s per link)
  - 10 GbE/25GbE/50GbE/100GbE/2 x 100GbE networking interface
  - Other protocols supported by the QSFP28 modules

Memory

- On board DDR4, 2x banks by 64 bits + 8 bits ECC, total 8GB
- On board QDR-II+, 2x banks by 18 bits, total 144Mbits

Operating Range

- 10°C to 45°C

Power

- Max 100W
- Delivered with a passive custom heatsink

Other resources

- On board programmable PLL oscillator (Si5345), highly flexible and configurable clock generator.
- On board high precision oscillator provides clock accurate 20MHz-0.05ppm for Precision Time Protocol (PTP) Ethernet, synchronisation protocol standardized IEEE 1588
- One coax connector for PPS (pulse per second) that allows a synchronisation of multiple electronics parts

Board Dimensions

- Length : 167.7mm (6.59inches)
- Height : 68.9mm (2.71 inches) / Low Profile PCIe
- Thickness : 1.57 mm (0.062 inches) / Standard Thickness PCIe

Standards and compliance

- RoHS/REACH compliant
- UL certified
- ISO9001 Facility

Deliverables

- Low-profile (half-height) form factor PCIe Board
- PCIe standard or low profile bracket
- XpressVUP Board Support Package
- JTAG adapter board for external USB Xilinx Cable
- Mechanical files (3D DWF/STEP models and 2D drawing) (upon request)

Ordering information

Version	Part number	Description
«Turbo» version	XpressVUP-LP9PT	VU9P speed grade –2; 2 bank DDR4 by 72bit of 8GBytes total @2666MT/s; 2 banks QDR2+Xtrem by 18bit of 72Mbit each @633Mhz