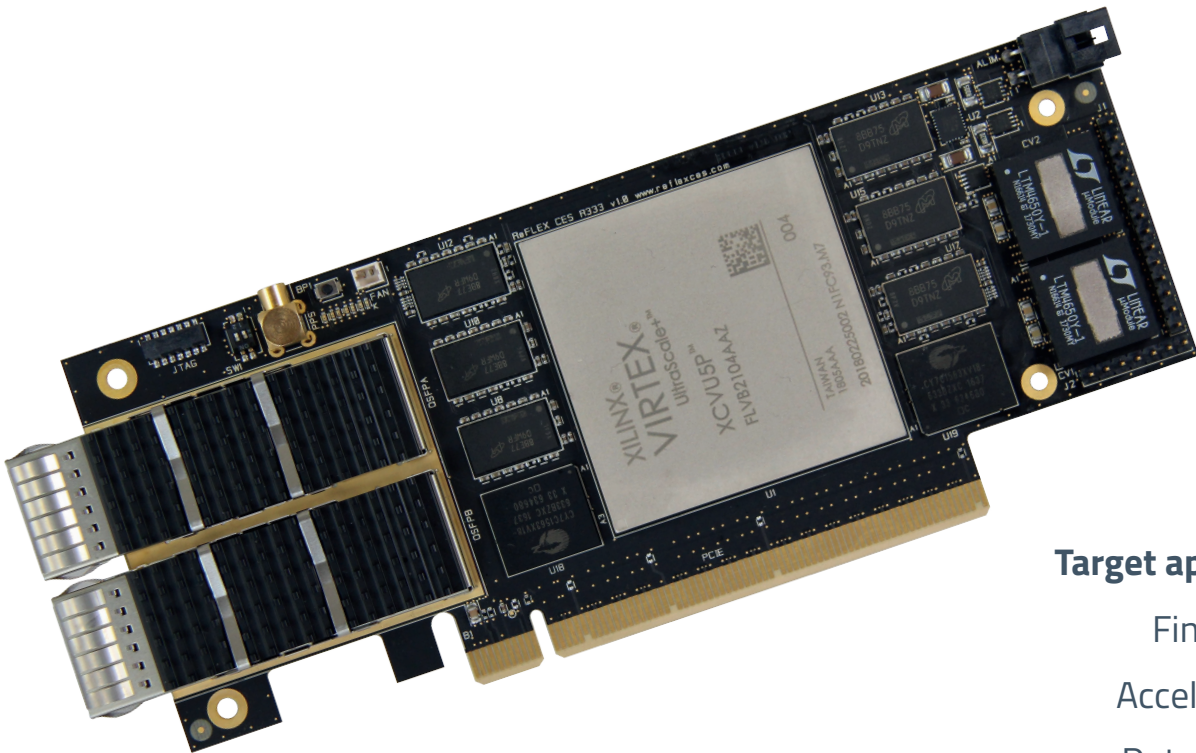


# XpressVUP - LP5P

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

- Low-profile PCIe Virtex Ultrascale+ VU5P 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

## Contact :

Europe Sales Office  
sales@reflexces.com

[www.reflexces.com](http://www.reflexces.com)

UltraSCALE™  
Architecture



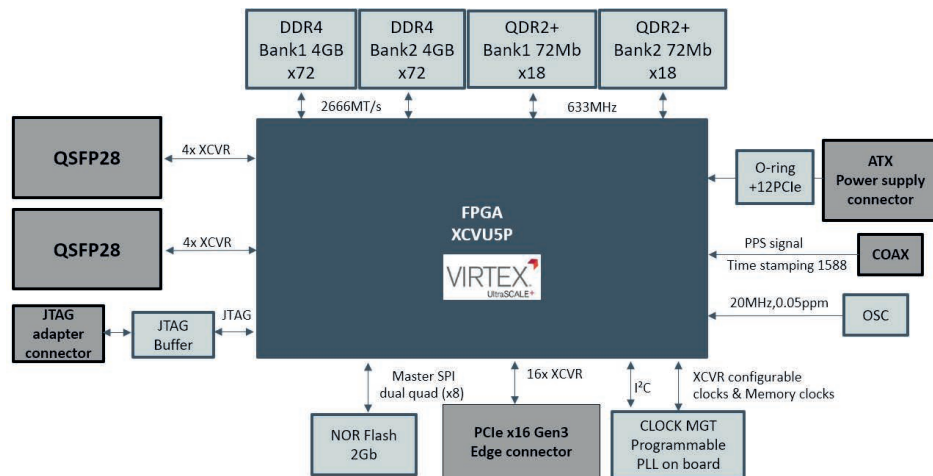
 **XILINX**®

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+ VU5P FPGA



## Full Specifications

### FPGA and Configuration Modules

- Xilinx Virtex UltraScale+ 16nm FPGA
- XCVU5P-L2FLVB2104E (Production)
- 1,26 M System Logic Cells
- 132 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

## 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-LP5PT	VU5P speed grade -2; 2 bank DDR4 by 72bit of 8GBytes total @2666MT/s; 2 banks QDR2+Xtrem by 18bit of 72Mbit each @633Mhz

### 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