

XpressVUP - LP5/9PT2

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

- Low-profile PCIe board using Virtex™ Ultrascale+™ VU5P or VU9P FPGA
- PCIe Gen3 x16
- 2 banks of DDR4, 8GByte total @2666MT/s
- 2 banks of QDR2+, 144 Mbit total
- Dual QSFP28 cages 10GbE/40GbE/100GbE
- Single slot passive heatsink



Target applications:

Acceleration
Data center
Networking
Security

Contact :

Europe Sales Office
sales@reflexces.com

www.reflexces.com

UltraSCALE™
Architecture



XILINX®

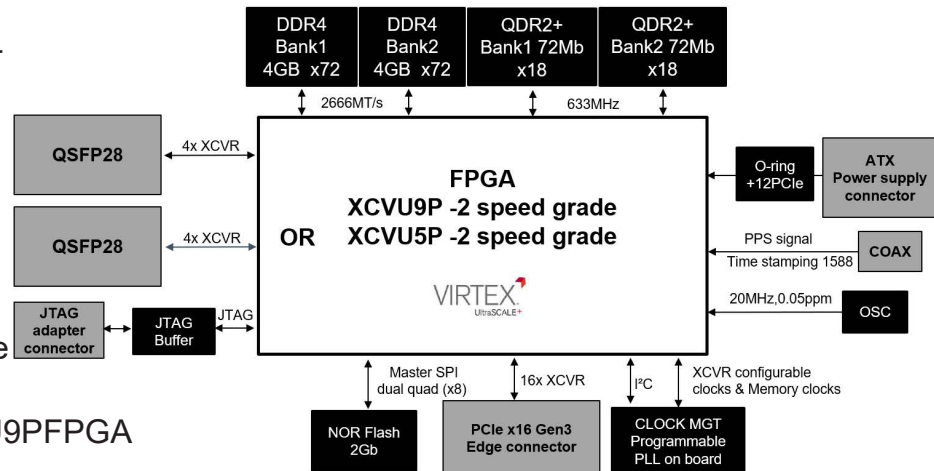
North America Sales Office
salesusa@reflexces.com



XpressVUP-LP5/9PT2

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 or VU9P FPGA



Full Specifications

FPGA and Configuration Modules

- AMD Virtex UltraScale+ 16nm FPGA, XCVU5P-2FLVB2104E
1,26 M System Logic Cells, 132 Mb UltraRAM
OR
- AMD Virtex UltraScale+ 16nm FPGA, XCVU9P-2FLGB2104E
2,6 M System Logic Cells, 270 Mb UltraRAM
- 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 bit ECC, total 8GB
- On board QDR-II+Xtrem, 2x banks by 18 bit of 72Mbit each @633Mhz, total 144Mbits

Operating Range & Power

- 10°C to 45°C
- Max 100W
- Delivered with a single slot passive 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

- Low-profile: 68.9mm (2.71inches) x 167.7mm (6.59inches)
- Thickness : 1.57 mm (0.062 inches) / single-slot PCIe

Standards and compliance

- RoHS/REACH compliant
- UL certified
- ISO9001 Facility

Deliverables

- XpressVUP PCIe Board
- Standard full height and low profile PCIe brackets
- ATX power cable and expander
- JTAG adapter cable to USB
- XpressVUP Board Support Package
 - Reference Manual
 - HDL designs, Vivado 2023.1
 - PCIe Reference Design using AMD Xilinx QDMA IP
- Mechanical files: 3D DWF/STEP models and 2D CAD drawing (upon request)

Ordering information

Part number	Description
XpressVUP-LP5PT2	VU5P speed grade -2, XCVU5P-2FLVB2104E
XpressVUP-LP9PT2	VU9P speed grade -2, XCVU9P-2FLGB2104E