XpressGXA10-LP1150T
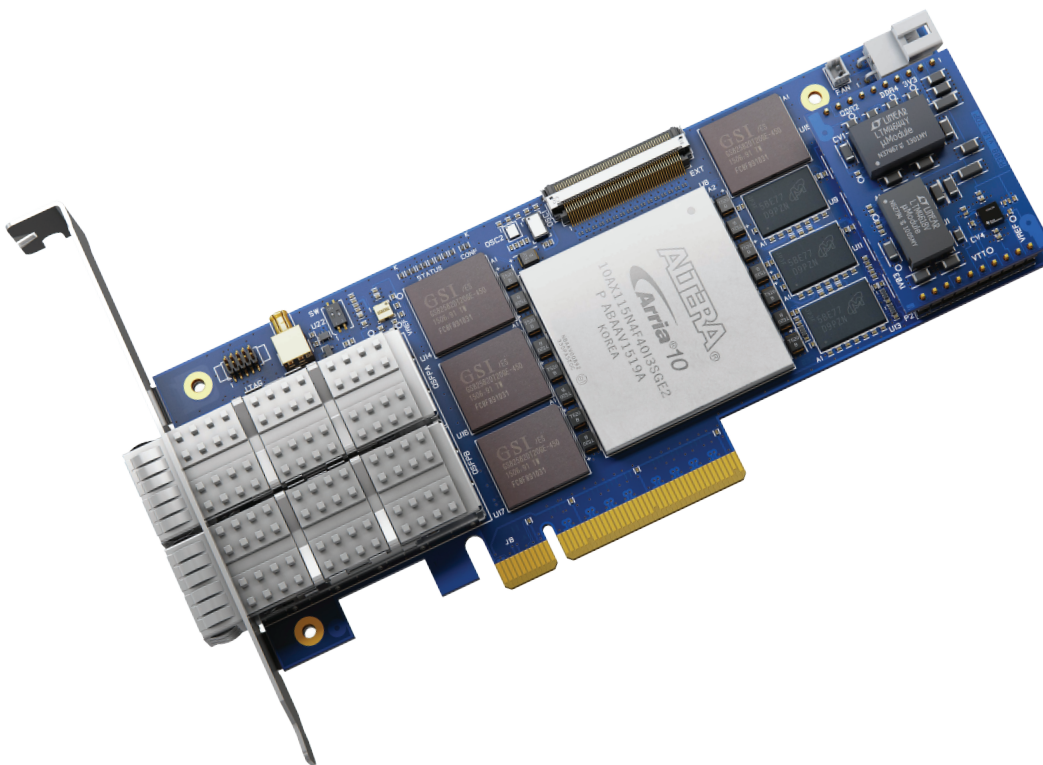
Low-profile PCIe Network Processing FPGA Board Featuring 80G Ethernet

- **Low-profile PCIe Altera Arria 10 GX 1150 KLE board**

- **Designed for ultra low latency applications**

- **PCIe Gen3 x8 interface**

- **4 GB DDR4 (1x 72bits)**

- **Up to 72 MB QDR2+ (4x 18bits)**

- **Dual QSFP+ cages 10/40 GbE ports**

- **16x transceiver expansion port**

Target applications:

Finance

Acceleration

Data center

Networking

Security

ALTERA
now part of Intel

Arria®10

PCI EXPRESS 3

Contact :

Europe Sales Office
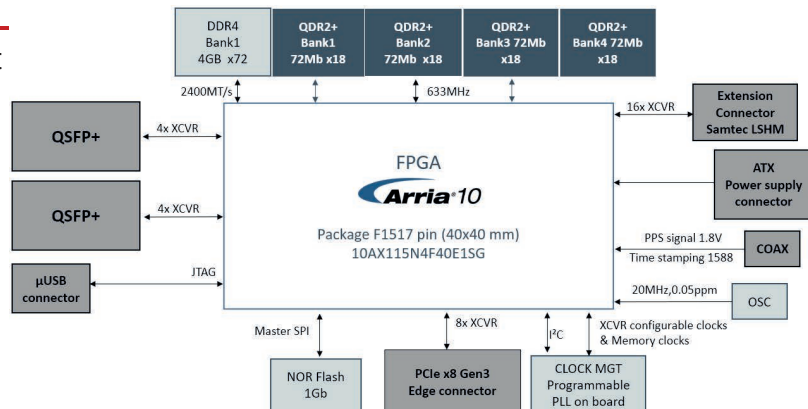sales@reflexces.com

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North America Sales Office
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Benefits

- On board one DDR4 plus four QDR2+ independent banks
- Fail safe configuration flash sector
- Configuration via protocol (CvP)
- JTAG connector
- High speed extension connector for inter board communication (16 transceiver lanes)

Full Specifications

FPGA and Configuration Modules

- ALTERA Arria 10 GX 20nm FPGA
- NOR Flash for Active Serial (AS) configuration mode (2 sector for fail safe feature)

Communication Interfaces

- PCI Express x8 (Gen 1, 2 or 3)
- 2x QSFP+ quad optical cage (2x 4 XCVR:10.3125 Gb/s per link)
  - 10GbE/40GbE/80GbE networking interface
  - Other protocols supported by the QSFP modules

Memory

- On board 4GB DDR4
  - 1 bank 72 bits (ECC)
  - 2400MT/s (FPGA speed grade 1)
- On board QDR-II+ up to 72 Mb
  - 4 independent banks, 18-bits
  - 633MHz (FPGA speed grade 1)

Operating Range : 0°C to 40°C
Storage Temp Range : 0°C to 70°C

Power

- External auxiliary connector (12V)
- Max 80W
- The XpressGXA10-LP1150 is delivered with a custom passive heatsink

Other resources

- Board capabilities extension or board-to-board connection over SAMTEC LSHM connector (LSHM-150-01-F-DH-A-S-K-TR) (16 transceivers Rx/Tx)
- On board programmable PLL oscillator (Si5341), highly flexible and configurable clock generator. The clock generator SI5341 is controlled by the FPGA through an I²C serial interface
- JTAG connector for external USB blaster
- On board oscillator high precision provides clock accurate 20MHz-0.05ppm for Precision Time Protocol (PTP) Ethernet, synchronization 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
- Board Support Package (Manual, Test Designs)
- PCIe Power Supply adapter cable (same as GPU)
- PCIe Low profile or Standard bracket
- JTAG adapter cable for external USB Blaster cable

- Mechanical files 3D DWF/STEP models and 2D drawings (upon request)
- SDK for Windows 10 64Bits
- SDK for Linux Debian Stretch 64Bits (on request for other Linux distribution)
  Both SDK version are based on WinDriver driver

Ordering informations

Part number	Description
XpressGXA10-LP1150T	Altera Arria 10 GX 10AX115N2F40I1SG, 4GB DDR4, 4 banks of 72Mbit QDR2+ Xtrem