COMXpressGX/SX Stratix 10
Basic form factor, Type 7 standard

- COM Express Basic form factor Module
- Intel Stratix 10 Technology, GX and SX pin compatible
- Designed for High Performance Computing and Acceleration
- 32 PCI Express lanes, Type 7 standard
- On board 56GB DDR4 + ECC
- IO and Transceiver extended connector

Target applications:
High Performance Computing & Analytics
Acceleration
Intelligent vision
Video processing
**Full Specifications**

**FPGA and Configuration Modules**
- Stratix 10 GX OR Stratix10 SX with ARMV8 (Integrated quad-core 64 bit ARM CortexA53 hard processor system up to 1.5 GHz embedded)
- MAX10 CPLD with board management control
- JTAG connector for external USB cable
- eMMC 32GBytes (HPS) / with U-boot, Linux kernel & Rootfs
- Nor Flash for quad SPI (x4) FPGA configuration mode

**Communication Interfaces**
- Ethernet 10/100/1000 Base-T (HPS)
- 4x 10GbE base KR (default)
- 2x Serial SATA revision 3.0, 6Gb/s
- 4x XCVR lane connected to extension connector (DisplayPort/SDI capable)
- 3x USB2.0 HOST
- 1x USB3.0
- 3x USB2.0
- 1x PCIe/SPi
- 1x SMB/I²C,UART and 8 GPIOs
- 2x PCI Express x16 (Gen 1, 2 or 3), root complex for SX, end-point supported for GX
- eSPI interface multiplexed over Intel Low Pin Count (LPC) Interface
- Network Controller Sideband Interface (NC-SI) supported (and optional)

**Power**
- +12V primary power supply input, 120W max
- +5V standby and 3.3V RTC power supply inputs
- Delivered with a custom heatsink

**Deliverables**
- Stratix 10 GX or SX COMe Basic module type 7 with heating/cooling solution
- PCIe Carrier Board available upon request

**Operating Range**
- T° : -40°C - 85°C (0°C – 100°C for FPGA)

**Memory**
- 4 memory banks on board DDR4:
  - 3 x banks 16GB + ECC, x72bit @2400MT/s (FPGA)
  - 1 x bank 8GB + ECC, x72bit @2400MT/s (HPS/FPGA)

**Other resources**
- Extension connector : Interfaces (4x transceivers Rx/Tx and 4xLVDS interface)
- Programmable PLL (Si5341), output clocks frequency 0.0001MHz to 750MHz
- High precision on board oscillator, clock accuracy 20MHz-0.05ppm for Precision Time Protocol (PTP) IEEE 1588

**Board Dimensions**
- Length : 125mm (4.92 inches)
- Width : 95mm (3.74 inches)
- Height without headspreader/heatsink :
  - Module overall height : 10.16mm
  - Module height on baseboard (COMe 5mm/8mm connector) : 11.91mm / 14.91mm

**Standards and compliance**
- RoHS/REACH compliant
- UL certified
- ISO9001 Facility

**Ordering information**
- «Basic L-Tile» version, ES = COMXpressGXS10L-2800BES ; Intel Stratix 10 GX, 15G280LN3F43E2VGS1
- «Turbo L-Tile» version, Production = COMXpressGXS10L-2800T ; Intel Stratix 10 GX, 15G280LN3F43E2VG
- «Basic L-Tile» version, ES = COMXpressSX10L-2800BES ; Intel Stratix 10 SoC 15SX280LN3F43E2VGS1
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