The Intel Stratix 10 SX (up to Sx2800) SoC FPGA based development platform for signal processing and communication centric designs with dual FMC+ mezzanine slots, dual QSFP28 and dual SFP+ front panel interfaces. Integrated quad-core 64-bit A-53 ARM processor complex with network, control and storage peripherals.

Features
- Intel S10 SX SoC FPGA (L or H Transceiver Tiles)
- Signal Processing and wireless communications centric design
- Dual FMC plus mezzanine slots for application scalability and flexibility
- Compact 8.15” x 8.4” module
- Complete FPGA support package available
- Rich suite of Ethernet IP cores available
- Available as integrated 19” half width, 1U, 300mm deep standalone SoC FPGA device

Applications
- Rapid prototyping
- Volume production with Stratix 10 SX SoC FPGA
- OEM and white label devices and platforms

Target Markets
- Wideband Wireless and RF Communications
- 5G wireless technology development
- Signal Processing / Image Processing
- 10G/25G/40G/100G networked signal processing devices and platforms
Front Panel Interfaces
- Dual FMC+ (Vita 57.4) mezzanine interfaces. All 34 LA diff-pairs, 24 HA diff-pairs and 24 Serdes lanes routed to FPGA. Backwards compatible with FMC (Vita 57.1) modules.
- Max VADJ of 1.8V on LA, HA signals; DIP switch selectable for 1.2V, 1.5V and 1.8V
- Dual QSFP28 ports for 2x100G, 2x40G, 8x25G and 8x10G data plane network interfaces
- Dual SFP+ ports for 10G/1G for control plane network interface to FPGA fabric
- Micro-USB 2.0 control and configuration port with integrated USB hub for single cable access to integrated USB Blaster II, module management and serial debug console
- RJ45 GigE and USB2.0 host interface to A-53 ARM controller HPS

Fabric Memory and SDM Configuration Interfaces
- One 64-bit DDR4 SODIMM slot with dual-rank and dual-die support
- SDM configuration options for QSPI, microSD and JTAG
- On-board dual 2Gbit QSPI Flash memory configuration devices
- MicroSD slot for FPGA configuration through microSD plug-in memory card

HPS Memory Interfaces
- One 64-bit DDR4 SODIMM slot with dual-rank and dual-die support
- On-board slot for uSD memory card
- On-board 16Gbyte eMMC storage device

Power Tree
- All Intel (Enpirion) power tree conforming to Intel's recommended Stratix10 power-up and power-down sequencing
- ATX power supply (PCIe) 12V power connecter
- Remote power management through USB console

Clock and Synchronization functions
- 5–200MHz external reference clock input
- 1PPS or IRIG-A/B/G (DCLS and AM) input
- Flexible clocking tree with Silicon lab Si5345 clock de-jitter and synthesizer
- Flexible FMC+ clock routing and configuration
- Support for application specific clocking including GPS interface through clock mezzanine module

On-board Development and Debug Support
- Integrated USB Blaster II
- Remote module management and control for power, boot and reconfiguration through USB interface
- Module clock configuration management through HPS I2C interface
- Temperature monitor and power modules telemetry through USB interface
- Automatic over-temp shut down
- Multiple on-board and front panel diagnostic and status LED’s

Low cost, quick turnaround customizations available

Links

For sales or more information:
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Product Ordering Codes
HTK-S10Sx-280L2E2; SoC Sx280 with -2 L-Tile transceivers, -2 fabric, E temp