

# Intel Stratix 10 Gx Dual FMC+ Development Platform

## Product Brief (HTK-S10Gx-DFMCP)



### Features

- Intel S10 Gx (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
- 19" half width 1U high performance FPGA platform with host processor available (Intel Xeon-D, Pentium, Atom; Marvell/Cavium ARM)

### Applications

- Rapid prototyping
- Volume production with Stratix 10 Gx FPGA
- OEM and white label devices and platforms

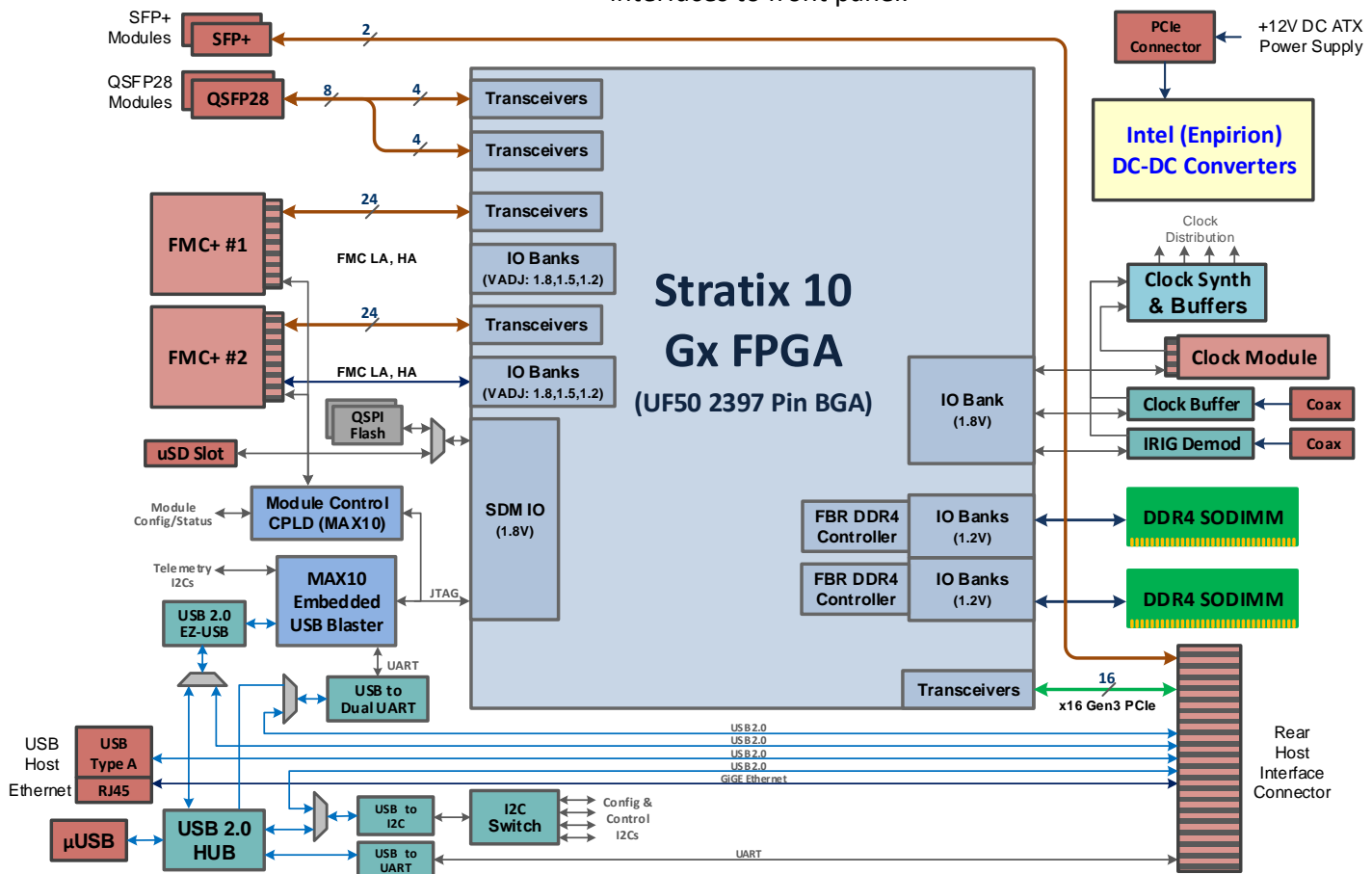
### Target Markets

- Wideband Wireless and RF Communications
- 5G wireless technology development
- Signal Processing / Image Processing
- 10G/25G/40G/100G networked signal processing devices and platforms

HIGHLY INTEGRATED, SCALABLE, FEATURE RICH, SIGNAL PROCESSING CENTRIC DEVELOPMENT PLATFORM



The Intel Stratix 10 Gx (up to Gx2800) FPGA based development platform for signal processing and communication centric designs with dual FMC+ mezzanine slots, dual QSFP28 and dual SFP+ front panel interfaces. Designed to be paired with a host processor using a custom carrier for Type7 COMe Basic plug-in module. Integrated platform supports up to x16 Gen3 PCIe interface to the FPGA and pass through 2 x 10GbE, GiGE and USB 2.0 host interfaces to front panel.



## 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 QSPF28 ports for 2x100G, 2x40G, 8x25G and 8x10G data plane network interface
- Dual SFP+ ports for fabric 10G/1G control plane network interface. Configurable as COMe 10Gbps network interface with COMe host platform option.
- 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 consoles
- RJ45 GigE and USB2.0 host interface (with host processor option only)

## Rear Panel Interfaces

- Rear edge connector with x16 Gen3 PCIe. Dual 10G SFI, RJ-45 and 4x USB 2.0 interfaces for host processor module connectivity
- Support for CvP configuration of the FPGA fabric over PCIe

## Fabric Memory and SDM Configuration Interfaces

- Two 64-bit DDR4 SODIMM slots with dual-rank and dual-die support
- SDM configuration options for QSPI, microSD and JTAG
- Dual 2Gbit Micron QSPI Flash memory for large designs
- microSD slot for FPGA configuration through microSD plug-in memory card

## Power Tree

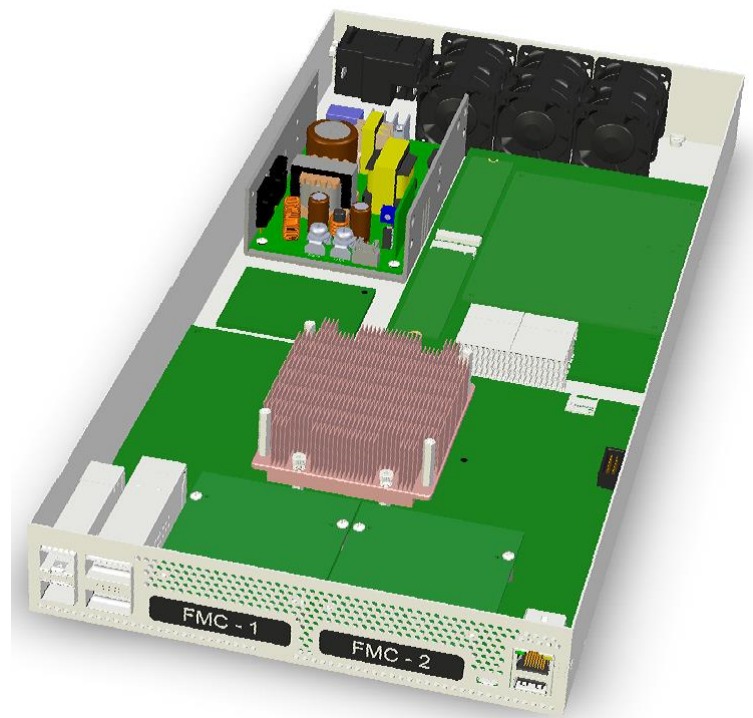
- **All Intel (Enpirion) power tree** conforming to Intel's recommended Stratix10 power-up and power-down sequencing
- ATX power supply (PCIe) 12V power connector
- Remote power management through USB console

## 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 USB 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

<http://www.hiteksys.com/products/fpga-soc-development-boards>

<http://www.hiteksys.com/products/ip-cores>

For sales or more information:

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## Product Ordering Codes

- **HTK-S10Gx-280H1E2**; SG280 with -1 H-Tile transceivers, -2 fabrics, E temp