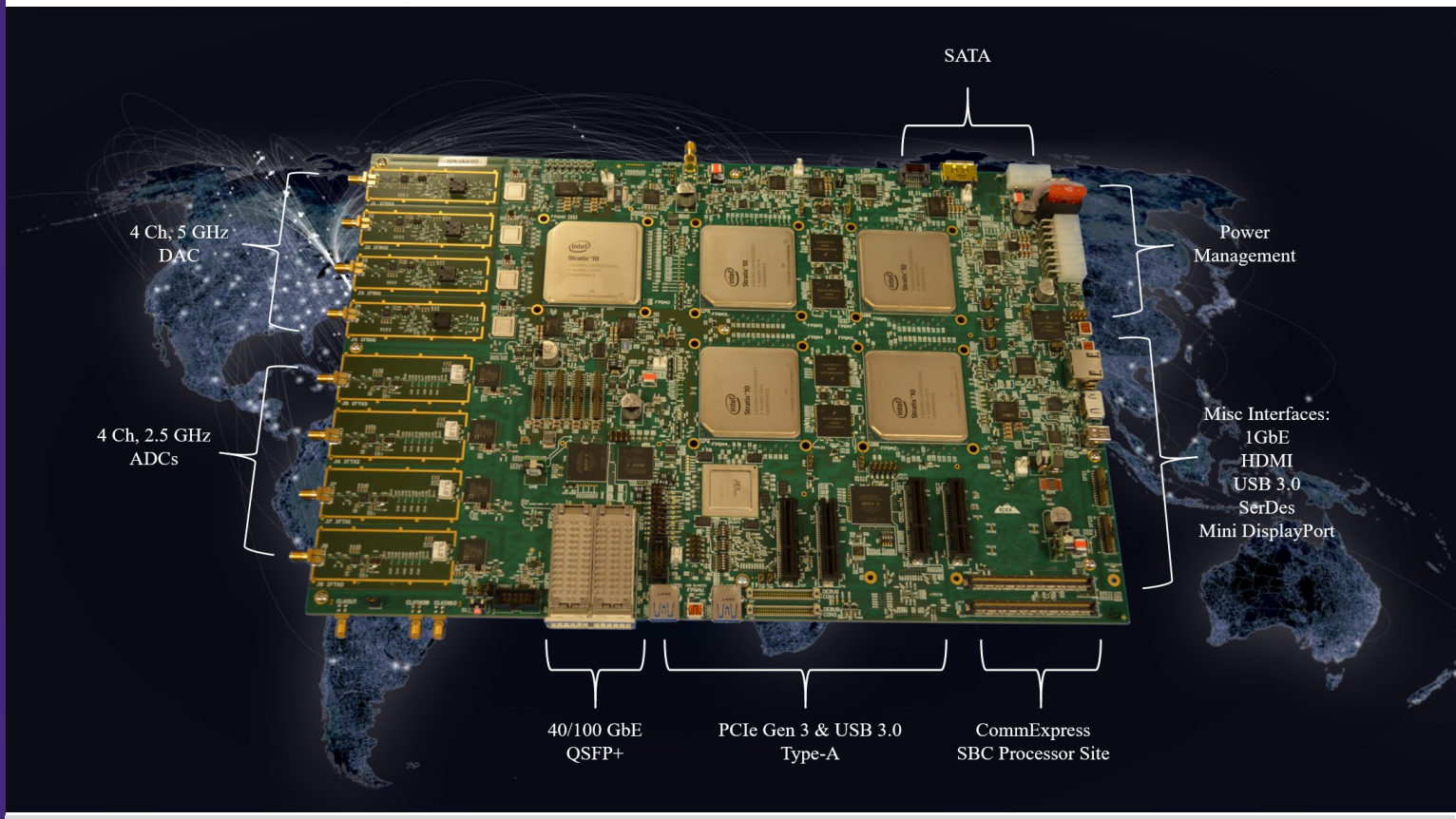
DIGITAL RECEIVER EXCITER

Peregrine II - DREX/SDR

High Performance Digital Receiver/Exciter/Software Defined Radio

COLORADO ENGINEERING, Inc.



PRODUCT DESCRIPTION

CEI's Peregrine II Digital Receiver/Exciter (DREX) provides an unprecedented 50 TFLOPS in a 10"x16" package. Peregrine II is equipped with an Intel i7 processor site, five Intel Stratix 10 FPGAs , multiple banks of DDR3, four 2.5 GSPS ADC channels, four 5 GHz DAC channels, multiple PCIe Gen 3 interfaces and two 40/100 GbE QSFP+ interfaces. Other features include HMDI, USB3.0, and gigabit Ethernet. Equipped with massive amounts of processing power and DSP capability, Peregrine II is unlike any other digital receiver/exciter platform on the market!

intel FPGA Design Solutions Network Platinum

SPECIFICATIONS

Stratix 10 FPGAs

- GX280UF50 (L-tile)
- 96 XCVR
- 2.8M logic elements
- 11,520 18x19 multipliers

DAC (AD9119)

- 12-bit 5.7 GS/sec
- LVDSx22

ADC (AD9625)

- 12-bit 2.5 GS/sec
- JESD204B - 8 lanes @ 6.25 Gbps

Processing FPGAs (FPGA1-4)

- PCIe Gen3x4
- 16 GB/s FPGA-to-FPGA crossbar
- 30x GPIO crossbar

I/O FPGA (FPGA0)

- PCIe Gen3x4
- 32 GB/s FPGA-to-FPGA
- 16 GB DDR3 with ECC
- 2x QSFP 40GbE
- JESD204B interface to ADCs
- LVDS interface to DACs

SBC (COM EXPRESS INTEL i7 Kaby-Lake 7820EQ)

- PCIe Gen3x8 to FPGAs
- 2x PCIe Gen3x4 slots
- GbE
- 2x USB 3.0
- 1x M.2 SATA
- 1x SATA
- LVDS interface to DACs

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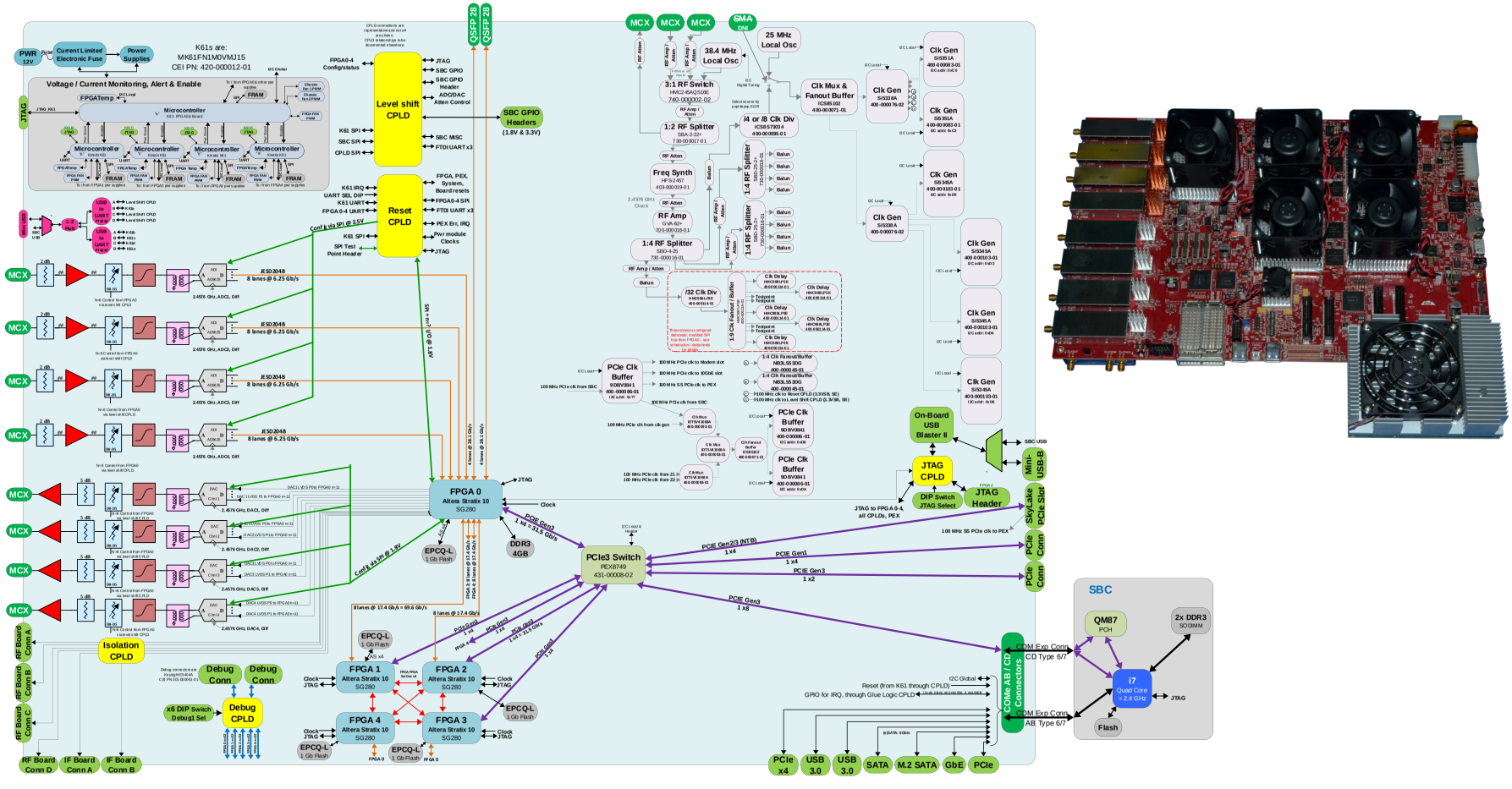
CONFIGURATIONS

Model Number	Configuration
P1-A10	5x Arria 10 FPGAs
P2-S10	5x Stratix 10 FPGAs

BLOCK DIAGRAM/ACTUAL PHOTO WITH SBC



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