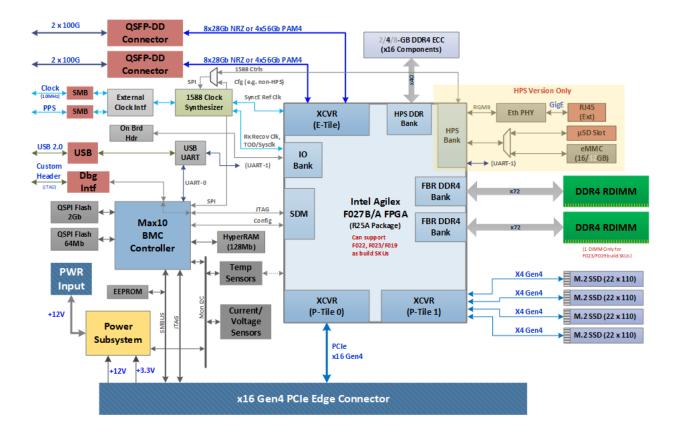# HiPrAcc™ NCS200

Product Brief (HTK-NCS-200G-aa)

Features

- Intel high performance Agilex F027 FPGA with two P-Tiles and one E-Tile (Can support F019, F022 and F023 devices as build SKUs)
- 16 transceivers with up to 32Gbps NRZ or 8 transceivers with up to 57.8Gbps PAM4
- P-Tile based x16 Gen4 PCIe host interface (Edge Connector)
- Support for up to four Gen4 M.2 NVMe SSDs
- GPU profile: 3/4 length, full height, double-wide [Length 266.7mm, height 111.15mm, double-width 39mm (34.8mm primary, 2.67 secondary)]
- Up to 300W card load with 75W from the PCIe edge connector and 225W from the auxiliary 8-pin CPU/GPU (EPS) connector
- Flexible clocking architecture with support for external synchronization/clock interface
- Intel OFS, OpenCL and oneAPI support for high level abstracted development flow

Target Applications

- Smart NIC solutions
- Embedded designs
- Signal processing/image processing
- Up to 4x100G/50G/40G/ and up to 16x 25G/10G networked signal processing devices and platforms

Power and heatsink options

- PCIe edge and auxiliary 8-pin CPU/GPU (EPS) connector
- High performance power subsystem
- Up to 300W of card load
- Available with dual-slot passive cooling

HPS interfaces (For HPS Agilex parts)

- 2/4/8GB DDR4 ECC chip-down SDRAM
- 16/32GB onboard eMMC and µSD debug slot
- RGMII based 10/100/1000 Base-T Ethernet via custom header debug interface
- UART console access to the HPS

FPGA fabric interfaces

- Up to 2 banks of 72-bit DDR4 ECC interfaces for RDIMM(s)

Debug support

- External JTAG access via custom debug header interface
- UART access to the BMC
- Extensive voltage, current and temperature telemetry support with SMBUS based host server access to Board Management CPLD (BMC)

IP cores available

- Ethernet, FEC and Interface IPs

Interfaces

- x16 Gen4 PCIe card edge Interface

  - Backward compatible with Gen3
  - Supports bifurcation as two x8 Gen4/Gen3
  - Gen2 and Gen1 supported via link down training

- Dual QSFP-DD Network Interface Ports

  -NRZ: 4x100G
  -NRZ: 4x50G (4-Lanes)
  -NRZ: 4x40G (4-Lanes)
  -NRZ: 16x25G
  -NRZ: 16x10G
  PAM4 options supported via external splitter

Product Ordering Codes

AGF-NCS200-B72-01: w/HPS, 2x 16GB DDR4 UDIMMs, two 2 M.2 carriers, no SSDs, Network Sync support

AGF-NCS200-B72-02: w/HPS, 16GB DDR4 ECC DIMMs, two 2 M.2 carriers with 4x 3.84TB Enterprise 1DWPD PCIe Gen4 SSDs, Network Sync support

Links

https://hiteksys.com/fpga-and-soc-development-boards/intel/ncs-200g

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