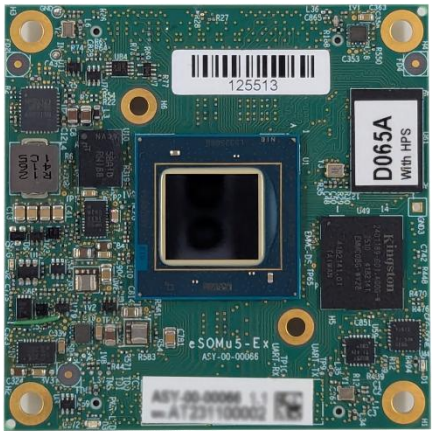
Intel Agilex Micro Embedded SOM (eSOM5u-Ex)

Features

- 60mm x 60mm form factor
- Two 200-pin high performance connector with Serdes and IOs
  - Supports Agilex® 5 E-Series Group A and Group B devices in B23A package
  - All devices in B23A package with 120 HVIO (low speed, high voltage) and 96 HSIO pins
  - 12x XVRS for 028A/B, 043A/B, 052A/B and 065A/B devices (28Gbps/17Gbps)
- 4x XVRS for 0013A/B, 008A/B devices
- 32-Bit 2GB LPDDR4 and 8GB eMMC
- Industrial temp design, -40C to 85C
- Paired with COTS or custom (Hitek or customer-designed) carriers for rapid time-to-market.

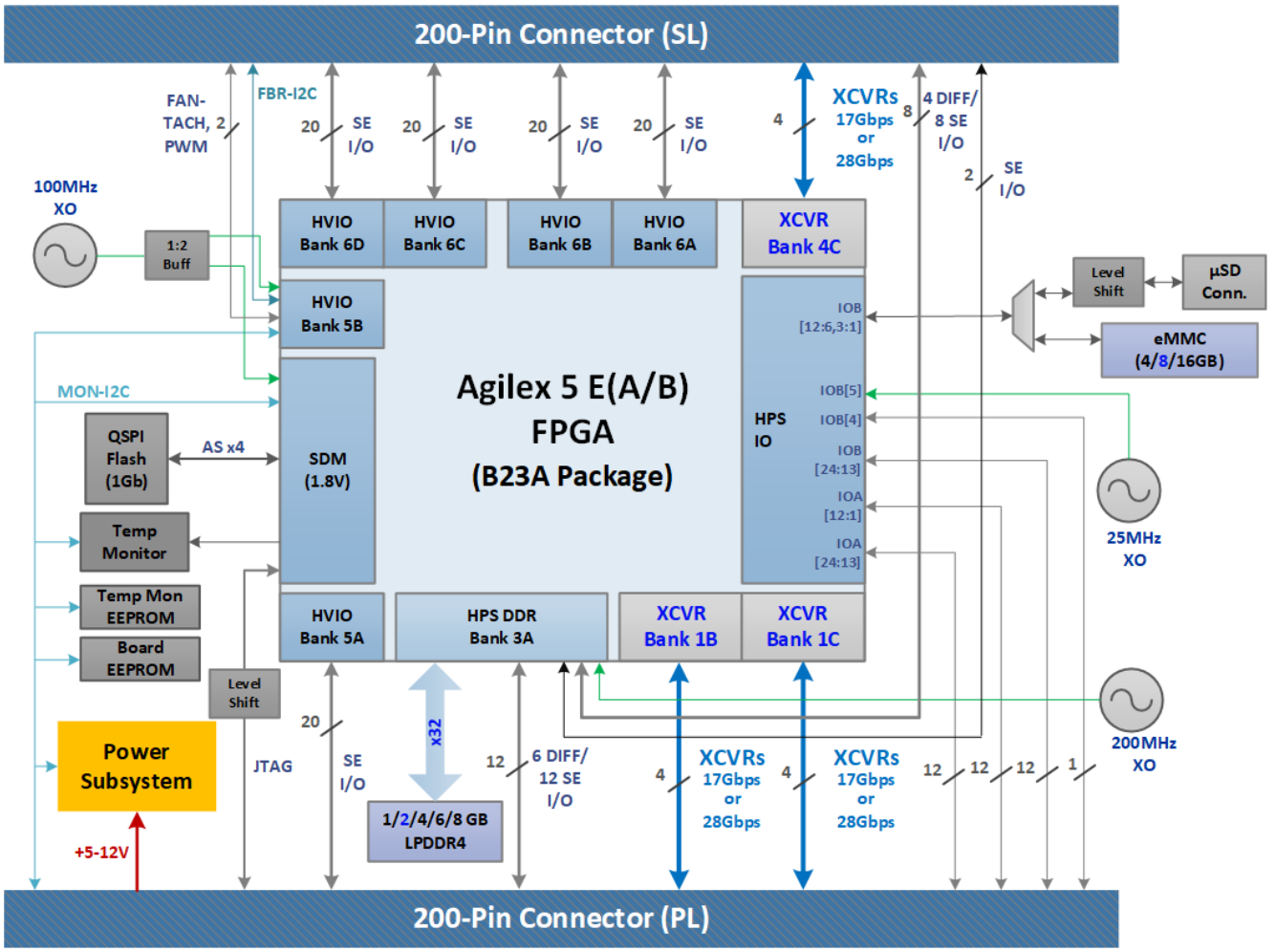
Target Markets

- 5G/ORAN and Satcom wireless systems
- Embedded high performance edge AI/ML systems
- Edge AI/ML image and signal processing
- 100G/50G/40G/25G/10G networking platforms



Ready-to-Deploy SOM for low power, low cost FPGA enabled embedded and Edge designs

Intel 7 technology based Agilex 5 Series FPGA powers this micro embedded System on Module (eSOM), featuring the Agilex™ 5 E-Series in a 60 mm × 60 mm micro form factor. It delivers high performance for space-constrained applications such as high-speed signal processing, wireless systems with RF transceivers, and networking, while supporting –40°C to +85°C industrial operation.



Carrier module connections

- Up to 12 17Gbps or 28Gbps transceivers
- Up to 100 configurable 1.8V/2.5/3.3 high voltage single ended I/O
- 10 fabric true-differential (LVDS) signals
- Reference clock inputs and outputs from carrier
- HPS Interfaces: 36 configureable I/Os for USB, UART, I2C, GiGE and SPI interfaces

HPS interfaces

- **2**/4/6/8 GB LPDDR4 32-bit SDRAM
- **4**/8 GB onboard eMMC and µSD debug slot
- USB 3.1/2.0 (via PHY on carrier module)
- GiGE (via PHY on carrier module)

FPGA fabric interfaces

- 1Gb micron SDM QSPI flash for FPGA image

Power Rails and cooling

- Single +4.5V to 12V power input from carrier module
- High performance power tree
- Up to 35A of core power rail

Debug and monitoring interfaces

- JTAG interface from Carrier module
- UART console access to the HPS
- On card temperature monitor and protection
- JTAG debug interface

BSP and design support

- Complete Linux BSP support package
- Comprehensive APIs for board management
- Quartus reference projects
- Carrier boards design guide for custom carrier designs

Links

https://hiteksys.com/fpga-and-soc-development-boards/intel/agilex-esom5u-ex

Product Ordering Codes

AG-eSOM5u-EA6-04-00: Agilex5 E-Series, A group, 065 Density FPGA, quad core HPS, -2V speed, extended temp, 2GB HPS LPDDR4, 4GB eMMC

For sales or more information:

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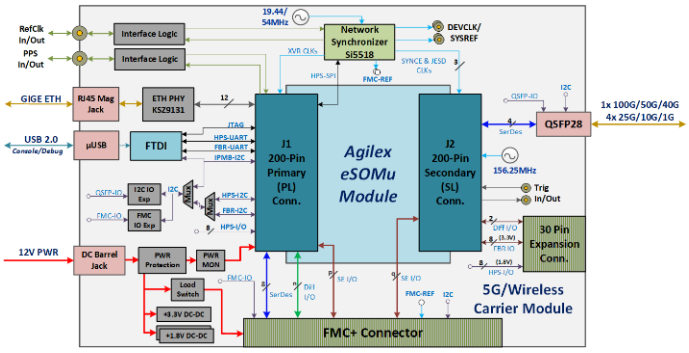
FMC+ 5G/RAN Development Carrier Module for JESD204B/C RF transceivers



- x8 SERDES to the FMC+ connector for JESD204B/C or other network/video interface; up to 28Gbps
- Onboard control and I/O conditioning for interface to high performance FMC/FMC+ RF transceiver development boards from ADI and TI
- One QSFP28 connector; up to 100G Ethernet
- 1000Base-T Ethernet HPS Etherent
- Skyworks Si5518 based PTP/1588 network synchronizer with external reference input/output support
- Unified micro USB interface for UART console and USB-Blaster 3 (UB3)
- 30-pin connectors for HPS and fabric I/O signals
- Reference clock input and output interfaces
- 12V power from standard ATX PCIe connector