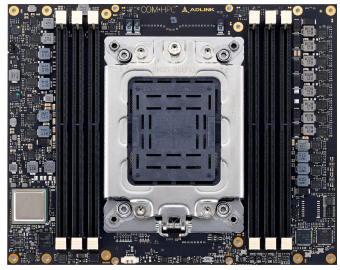
COM-HPC-ALT

Server Type COM-HPC Size E Module with ARM-based Ampere Altra Processor

Features

- Up to 128 Arm-based cores at 190W TDP
- Up to 768GB DDR4 with 6 individual memory channels
- EDK II, seamless support for popular OS, hypervisors, and software
- 64 PCIe Gen4 lanes (3 x16 available)
- CCIX capable, for heterogeneous applications
- Dedicated PCIe and IPMB for remote management



Specifications

Core System

SoC

Ampere Computing, Ampere® Altra® Series Processors

- M128-26 128 cores, 2.6GHz, 190W TDP
- M96-28 96 cores, 2.8GHz, 190W TDP
- Q64-22 64 cores, 2.2GHz, 95W TDP
- Q32-17 32 cores, 1.7GHz, 65W TDP

Note: Additional SKUs are supported by project basis

Memory

Six DIMM sockets with individual memory channels
Up to 768GB (6x 128GB) DDR4 RDIMM memory, up to 3200MT/s

Embedded BIOS

Open Source TianoCore EDK II

Cache

1 MB L2 cache per core, 32 MB System Level Cache

Expansion Busses

64 PCI Express Gen4 Lanes

- 8 PCI Express Lanes 0-7 (J1): configurable to x8, x4, x2
- 8 PCI Express Lanes 8-15 (J1): configurable to x8, x4, x2
- 16 PCI Express Lanes 16-31 (J2): configurable to x16, x8, x4
- 16 PCI Express Lanes 32-47 (J2): configurable to x16, x8, x4
- 16 PCI Express Lanes 48-63 (J2): configurable to x16, x8,

x4 CCIX for heterogeneous computing (by project basis)

SMBus (system), 2x I2C (user), GP_SPI

Module Management Controller (MMC)

Supports IPMB for communication with carrier BMC for remote management usage. Monitors module voltage/current, manages power sequence, AT/ATX mode control, board information, watchdog timer, fan control.

Debug Headers

- 40-pin multipurpose flat cable connector for use with DB40-HPC debug module providing BIOS POST code LED, MMC/EC access, SPI BIOS flashing, power testpoints, debug LEDs
- JTAG connector for CPU diagnostics

Ethernet KR

MAC

External LAN controller

Interface

Up to 4x 10GBASE-KR or 10GbE SFI (TBC)

NBASE-T Ethernet

Intel MAC/PHY

Intel® Ethernet Controller I210

Interface

10/100/1000 Mbit/s Ethernet connection

Remote Management Dedicated Interfaces

PCIe_BMC

Dedicated PCIe for carrier BMC, mainly used for KVM (carrier BMC emulates graphics card)

IPMB

Provided by MMC, dedicated connection between carrier BMC and module MMC

Multi I/O and Storage

USB

4x USB 3.0/2.0/1.0 (USB 0,1,2,3), by PCIe-to-USB host controller

Serial

2x UART ports with console redirection

GPIO

12x GPIO (GPI with interrupt, TBC)

TPM

Chipset

Infineon (build option)

Type

TPM 2.0 (SPI based)

Power

Standard Input

ATX: 12V±5% / 5Vsb ±5%; or AT: 12V±5%

Management

ACPI 5.0 compliant

Power States

TBC

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Specifications

Mechanical and Environmental

Form Factor
PICMG COM-HPC: Rev 1.0 Server Type

Dimension
Size E: 200 mm x 160 mm

Operating Temperature
Standard: 0°C to 60°C (storage: -20°C to 80°C)

Humidity
5-90% RH operating, non-condensing
5-95% RH storage (and operating with conformal coating)

Shock and Vibration
IEC 60068-2-64 and IEC-60068-2-27
MIL-STD-202F, Method 213B, Table 213-I, Condition A and Method 214A, Table 214-I, Condition D (TBC)

HALT
Thermal Stress, Vibration Stress, Thermal Shock and Combined Test

Operating Systems

Standard Support
Yocto Hardknott project based Linux 64-bit
Ubuntu Server for ARM - 20.04.3 LTS 64-bit
CentOS 8 Stream

Ordering Information

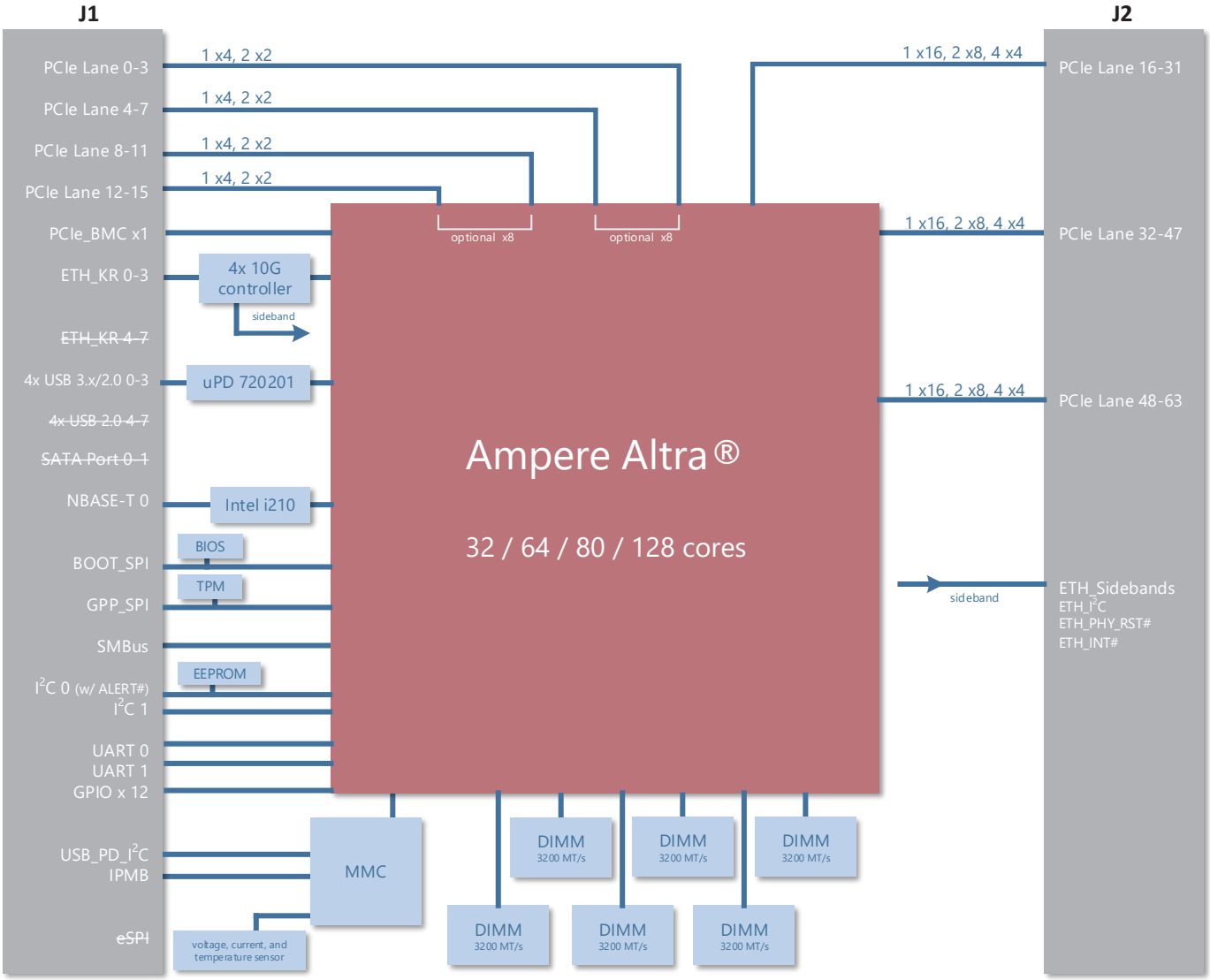
Modules

Module Number	Description/Configuration
COM-HPC-ALT-M128-26	Server Type COM-HPC Size E module with Ampere Altra M128-26, 128C
COM-HPC-ALT-M96-28	Server Type COM-HPC Size E module with Ampere Altra M96-28, 96C
COM-HPC-ALT-Q64-22	Server Type COM-HPC Size E module with Ampere Altra Q64-22, 64C
COM-HPC-ALT-Q32-17	Server Type COM-HPC Size E module with Ampere Altra Q32-17, 32C

* For processor SKUs not listed, please contact your ADLINK representative for availability.

COM-HPC Ampere Altra

Functional Diagram



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