

COM-HPC-EP

Server Type COM-HPC Size E Module with AMD EPYC™ Embedded 3000 Series Processor

Features

- AMD EPYC™ Embedded 3000 Series SoC, up to 16C/32T at 100W TDP
- Up to 384GB DDR4 in 6 DIMM sockets
- Up to 56 PCIe lanes, supports three PCIe x16
- Dedicated PCIe and IPMB for remote management

Preliminary



Specifications

Core System

SoC

AMD EPYC™ Embedded 3000 Series Processors SoC

- EPYC™ 3451, 2.14/3.00GHz, 32MB L3, 100W (16C)
- EPYC™ 3351, 1.90/3.00GHz, 32MB L3, 80W (12C)

Note: Additional SKUs supported by project basis

Memory

2666 MHz DDR4 memory up to 384GB in 6 DIMM sockets

- Supports RDIMM, UDIMM, LRDIMM

Embedded BIOS

AMI UEFI with CMOS backup in 32MB SPI BIOS

Cache

32MB L3 for 3451, 3351

Expansion Busses

Up to 56 PCI Express Gen3 lanes

- 16 PCI Express Lanes 0-15 (J1): configurable to x16, 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
 - 8 PCI Express Lanes 48-55 (J2): configurable to x8, x4
- LPC bus, SMBus (system), 2x I2C (user)

SEMA Board Controller

Supports: Voltage/current monitoring, power sequence debug support, AT/ATX mode control, logistics and forensic information, general purpose I2C, watchdog timer, fan control

Module Management Controller

Supports: IPMB, used for communicating with carrier BMC

Note: Module Management Controller (MMC) supported by build option

Debug Headers

30-pin multipurpose flat cable connector for use with DB-30 x86 debug module providing BIOS POST code LED, EC access, SPI BIOS flashing, power testpoints, debug LEDs

Ethernet KR

MAC

External LAN controller

Interface

Up to 4x 10GBASE-KR (TBC)

NBASE-T Ethernet

Intel® MAC/PHY

Intel® Ethernet Connection i210

Interface

10/100/1000 Mbit/s Ethernet connection

Remote Management Dedicated Interface

PCIe_BMC

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

IPMB

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

Multi I/O and Storage

USB

4x USB 3.0/2.0/1.1 (USB 0,1,2,3)

SATA

Not supported

Serial

2x UART ports with console redirection

GPIO

12x GPIO from EC (SEMA board controller), GPI with interrupt (TBC)

Specifications

- **TPM**

Chipset

Infineon

Type

TPM 2.0 (LPC based)

- **Power**

Standard Input

ATX: 12V±5% / 5Vsb ±5%; or AT: 12V±5%

Management

ACPI 5.0 compliant

Power States

C1-C6, S0, S3, S4, S5, S5 ECO mode (Wake on USB S3/S4, WOL S3/S4/S5)

ECO mode

Supports deep S5 mode for power saving (TBC)

- **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

HALT

Thermal Stress, Vibration Stress, Thermal Shock and Combined Test

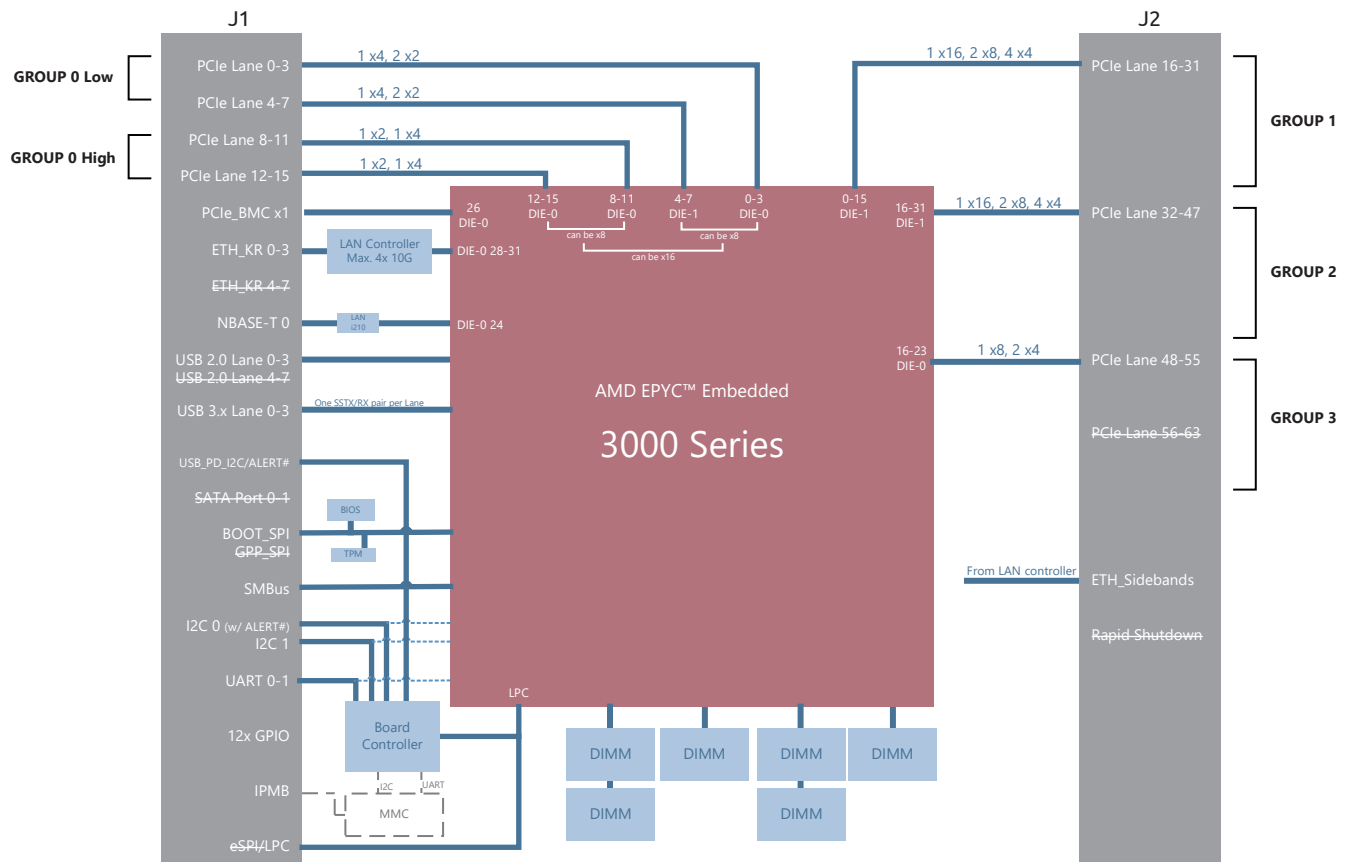
- **Operating Systems**

Standard Support

Windows 10 64-bit, Windows Server 2016 64-bit, Yocto project based Linux 64-bit, Ubuntu 64-bit (TBC)

COM-HPC-EP

Functional Diagram



Ordering Information

- **COM-HPC-EP-3451**
Server Type COM-HPC Size E module with AMD EPYC™ Embedded 3451, 16C
- **COM-HPC-EP-3351**
Server Type COM-HPC Size E module with AMD EPYC™ Embedded 3351, 12C

Accessories

Active Heatsink

- **THSF-EP-BT**
High profile heatsink with fan for COM-HPC-EP with threaded standoffs for top mounting

Starter Kit

- **Server Type COM-HPC Starter Kit**
Starter kit for Server Type COM-HPC