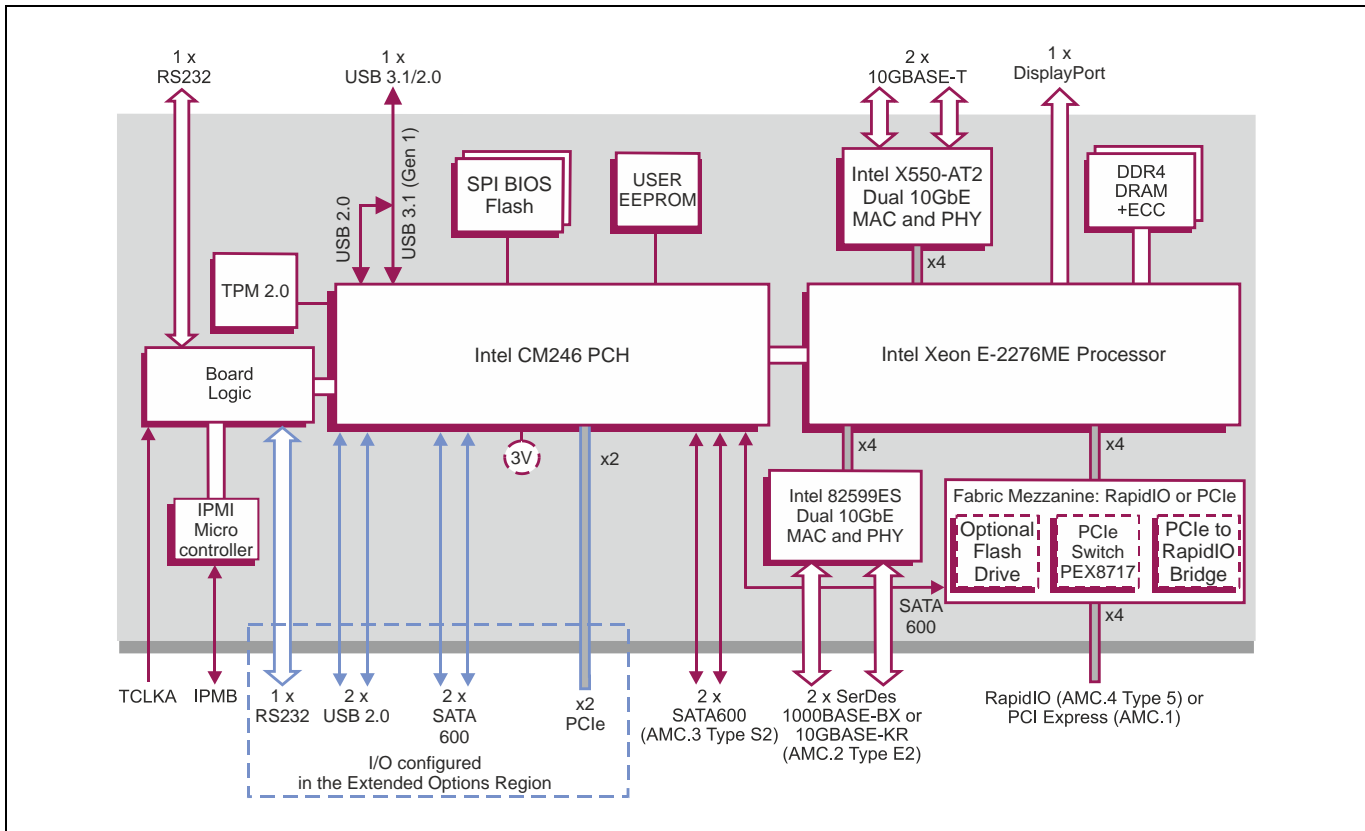## AdvancedMC™ Module utilizing Intel® Xeon® E-2276ME Processor

Key Features

AM C8x/msd is a Single-Module Full-size AdvancedMC™ processor module with enhanced processing performance relative to AM C1x/msd.

- Based on a 6-core Intel® Xeon® E-2276ME processor

- RapidIO® or PCI Express® fabric interface build options

- Front panel connections for easy development and network uplink

- Backplane connections enhanced with dual 10 Gigabit Ethernet

- VxWorks 7 Board Support Package

- Optional Flash Drive for local boot and data storage

AMC Processor Board

- air-cooled AMC board utilizing processors based on Intel® processor Coffee Lake Refresh

Central Processor

- 6-core Intel® Xeon® processor E-2276ME:
  - 12 Mbytes SmartCache, 2.8 GHz
- Intel® UHD Graphics
- utilizes the Intel® CM246 Platform Controller Hub

DRAM

- 16 Gbytes soldered DDR4 ECC DRAM:
  - single bit error correction
  - dual channel architecture
- accessible from processor and AMC connector

PICMG® AdvancedMC™ Fabric Interfaces

- two mezzanine factory build options provide either a RapidIO® or PCI Express® fabric interace
- option 1 provides a x4 RapidIO fabric interface module:
  - AMC.4.Type 5
  - Gen 1 and Gen 2
- option 2 provides a x4 PCI Express fabric interface module:
  - AMC.1 Type 4
  - Gen 1, Gen 2 and Gen 3
- hot swap compliant to AMC.0
- rear I/O compliant to AMC.4 specification

Storage Interfaces

- 4 x SATA600 interfaces:
  - AMC.3 Type S2 (2 x SATA)
  - 2 x SATA in AMC connector extended options region
- option for SATA600 Flash Drive as part of the mezzanine fabric interface module

Ethernet Interfaces

- dual Ethernet interfaces via AMC connector:
  - AMC.2 Type E2
  - 2 x 1000BASE-BX or 2 x 10GBASE-KR
  - implemented using an Intel® Ethernet Controller 82599ES device
- 2 x front panel 10 Gigabit Ethernet interfaces via RJ45 connectors:
  - 10GBASE-T
  - 1000BASE-T
  - 100BASE-TX full-duplex
  - implemented using an Intel® Ethernet Controller X550-AT2 device

Serial Interfaces

- 1 x RS232 interface via front panel via micro USB connector (adapter cable available):
  - supports TxD and RxD
- 1 x RS232 interface in AMC connector extended options region:
  - TxD, RxD, RTS and CTS
- 16550 compatible UARTs

Graphics/Audio Interfaces

- 1 x independent graphics/audio interfaces:
  - DisplayPort v1.2 interface, supporting audio and video, via front panel mini DP connector
  - up to 3840 x 2160 @ 60Hz, driver dependent

Other Peripheral Interfaces

- PC-compatible Real Time Clock
- watchdog timer
- 1 x 32-bit Long Duration Timer with processor interrupt capability
- CPU temperature monitor; voltages monitor:
  - all accessible via IPMI
- 3 x USB ports:
  - USB 2.0/3.1 (Gen 1) via front panel USB Type C connector
  - 2 x USB 2.0 in AMC connector extended options region
- x2 PCI Express (Gen 3) port in AMC connector extended options region

Board Security Package

- Trusted Platform Module (TPM 2.0)

Software Support

- supports VxWorks®

Firmware Support

- dual 16 Mbyte BIOS SPI Flash EPROMs
- UEFI boot firmware (BIOS):
  - UEFI 2.7 support
  - implements Secure Boot
- implements Intel® Boot Guard

User EEPROM

- 8 Kbytes Flash memory primarily for User data
- storage of OS boot parameters

Telecoms Clock

- TCLKA clock input to board logic
- increments 64-bit counter in board logic

IPMI

- IPMI Version 1.5 according to AMC.0
- on-board BMC (Baseboard Management Controller)

Safety

- PCB (PWB) manufactured with flammability rating of UL94V-0

Electrical Specification

- typical current figure for E-2276ME (45W) processor with 16 Gbytes DRAM, RapidIO fabric interface:
  - +12V @ 3.8A, voltage ± 2V
- +3.3V @ less than 0.15A, voltage ±5%

Environmental Specification

- operating temperature:
  - 0°C to +55°C (N-Series)
  - Full-size panel only
- non-operating temperature: -40°C to +85°C
- 5% to 95% Relative Humidity

Mechanical Specification

- AMC.0 Single Module form-factor
- 180.6mm x 73.5mm (7.1 inches x 2.9 inches)
  Full-size panel: 29mm (1.1 inches), options for:
  - Rugged Front panel with MTCA.1 screw fixings
  - Commercial front panel without screw fixings

Compatible with Legacy Module

- range of rear I/O compatible with AM C1x/msd processor module

PARHELIA

Please contact your local Concurrent Technologies sales office for further details on board build options and accessories.

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