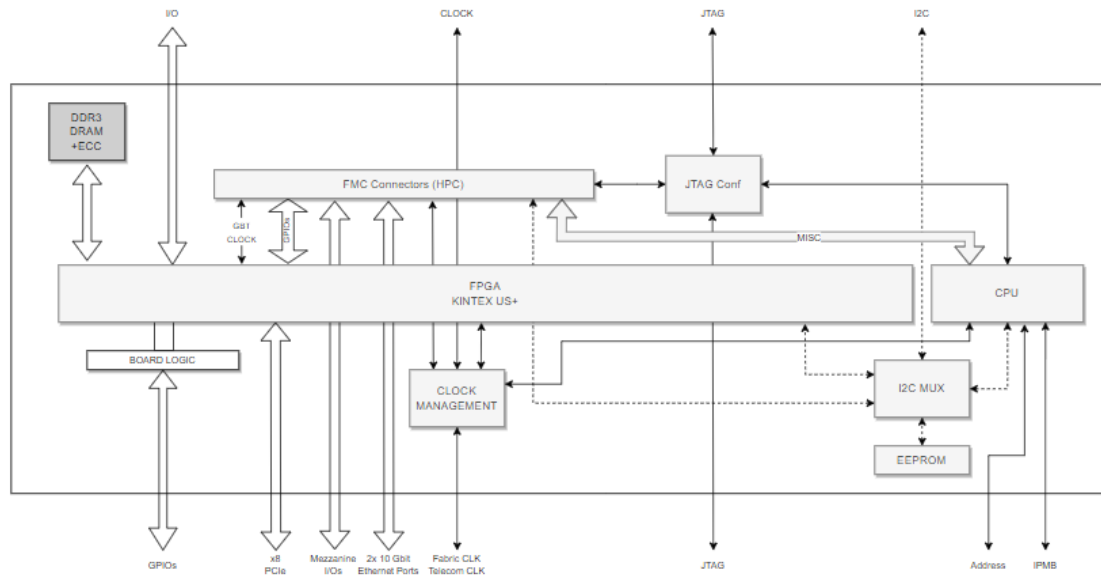


# HooperSpace AdvancedMC®

## KEY FEATURES

AMC HooperSpace is an AdvancedMC® Double Module  
Designed for long life-cycle high-performance applications. It  
supports backwards compatible rear I/O options.

- ❖ Kintex UltraScale FPGA
- ❖ CPU to control board's functionalities
- ❖ Wide range of front panel connections
- ❖ Scalable computing capacity through HPC FMCs
- ❖ More functionalities could be added via FMC connectors



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## AdvancedMC Computer Board

- AdvanceMC (AMC) Module utilizing KINTEX US+ FPGA
- AMC form factor is a Double Module Supporting :
  - Mid-size front panel
  - Full-size front panel
  - ATCA RTM connector
- AMC fabric interface supports :
  - PCI Express (PCIe)

## FPGA KINTEX US+

- 416 I/O
- 444K Cells
- 1156-Ball BGA
- Speed Grade 1, Industrial Grade

## DRAM

- 4 512 Mbits soldered DDR4 ECC DRAM
  - Single bit error correction
- Accessible from FPGA and AMC connector

## PICMG AdvancedMC Interfaces

- PCIe fabric connection (with build option) :
  - AMC.1 Type 8 or Type 4(1 x8 or 2 x4 PCIe port)
  - Support for Gen 1, Gen 2 and Gen 3
  - Transfer rate up to 8Gbps
  - Supported by a DMA engine in the PCIe switch
- PCI Express clock is user selectable from :
  - On-board fabric clock
  - External fabric clock
- Single x8 PCIe Gen 3 port via optional RTM
- Hot swap compliant to AMC.0
- Rear I/O compliant to AMC specification

## Serial Interfaces

- 1 x RS232 interface via front microUSB connector on board
- 1 x I2C interface in AMC connector
  - SCK, SDA
- 1x I2C interface via RTM
  - SCK, SDA

## Board Security Features

- Option for Trusted Platform Module
- Option for proprietary board-level security features
- Option for Sanitization Utility Software Package

## Non-Volatile Memory

- 16 kBytes Flash EEPROM, dual devices for redundancy

## IPMI

- IPMI compatible with version 2.0
- IPMI support for AMC.0
- On-board BMC (Baseboard Management Controller)

## Electrical Specification

- Typical current consumption for FPGA Kintex US+ with 2 GB DRAM :
  - +12V @2.4A, voltage  $\pm 1.2V$
- +3.3V @less than 0.25A, voltage  $\pm 5\%$

## Safety

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

## Environmental Specification

- Operating temperature :
  - -20°C to +105°C
- Non-Operating Temperature : -40°C to +125°C
- 5% to 95% Relative Humidity, non-condensing

## Mechanical Specification

- AMC.0 Double Module Form Factor : 181mm x 149mm :
  - Full-size panel : 29mm
  - Mid-size panel : 19mm
- Option for MTCA.4 I/O connector (build option) :
  - Optional RTM available

## Compatible with Legacy Modules

- Factory build options enable compatibility with legacy FPGA module, e.g. :
  - AM 90x/21 and AM 90x/41x

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