PrAMC-6210

AdvancedMC Modules

Embedded Computing for Business-Critical Continuity™

PRELIMINARY DATA SHEET

MPC8641D PowerPC based AdvancedMC Module

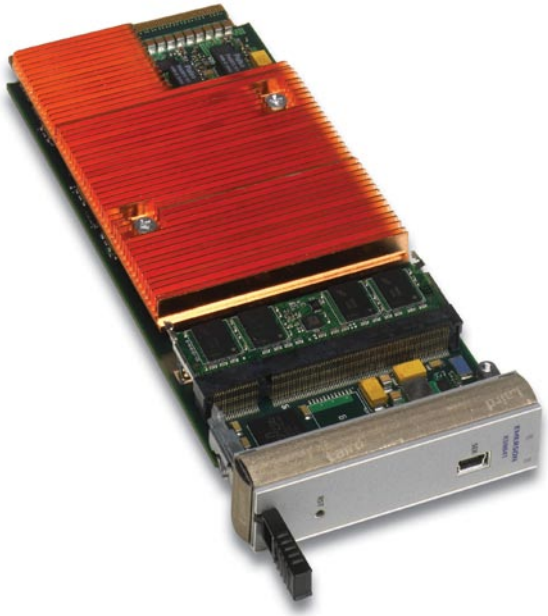
- Designed to the PICMG® AdvancedMC specification
- Full and mid AdvancedMC form factor
- Freescale MPC8641D PowerPC microprocessor
- Dual core processor capable of symmetric or asymmetric multiprocessing
- Up to 2GB Double Data Rate 2 (DDR2) SDRAM using dual memory controllers
- Dual 4MB NOR flash banks
- 1GB NAND flash
- PCI Express and GbE Fat Pipes region interfaces
- Quality assured by over 35 years of design experience, a TL 9000 and ISO 9001:2000 certified quality management system (FM 26789)

The Advanced Mezzanine Card (AdvancedMC™) standard is a collaboration by major telecom OEMs and suppliers to create an optimal expansion platform for AdvancedTCA® (ATCA®), MicroTCA™, or proprietary baseboards and systems that addresses major bandwidth, availability, field upgradeability, cost, scalability, management and interoperability issues.

Emerson's PrAMC-6210 is available as a full or mid, single AdvancedMC (AMC) based on the Freescale Semiconductor MPC8641D PowerPC® microprocessor. PrAMC-6210 provides modular, upgradeable, computing power for telecommunications applications such as protocol processing, packet processing, data management and I/O management.

PrAMC-6210 is designed with carrier grade features to address a high availability requirement. Its dual-flash bank architecture along with high mean time between failures (MTBF) enable network equipment manufacturers to achieve 5NINES availability. To support high-speed packet data transfers on and off the card, PrAMC-6210 features Gigabit Ethernet (GbE) and PCI Express interfaces to the carrier or backplane. With ever-increasing application and data transfer requirements, this combination of more traditional GbE interfaces and the emerging PCI Express interface allows developers to easily migrate existing applications.

PrAMC-6210 is hot-swappable, which allows modules to be replaced by operators or service organizations in the field without bringing down an entire ATCA blade or system. This reduces spares costs and mean time to repair (MTTR), lowering both CapEx and OpEx. PrAMC-6210 also provides an IPMI-based system management interface, which enables operators to pinpoint and fix problems at the module level, also lowering MTTR and OpEx.

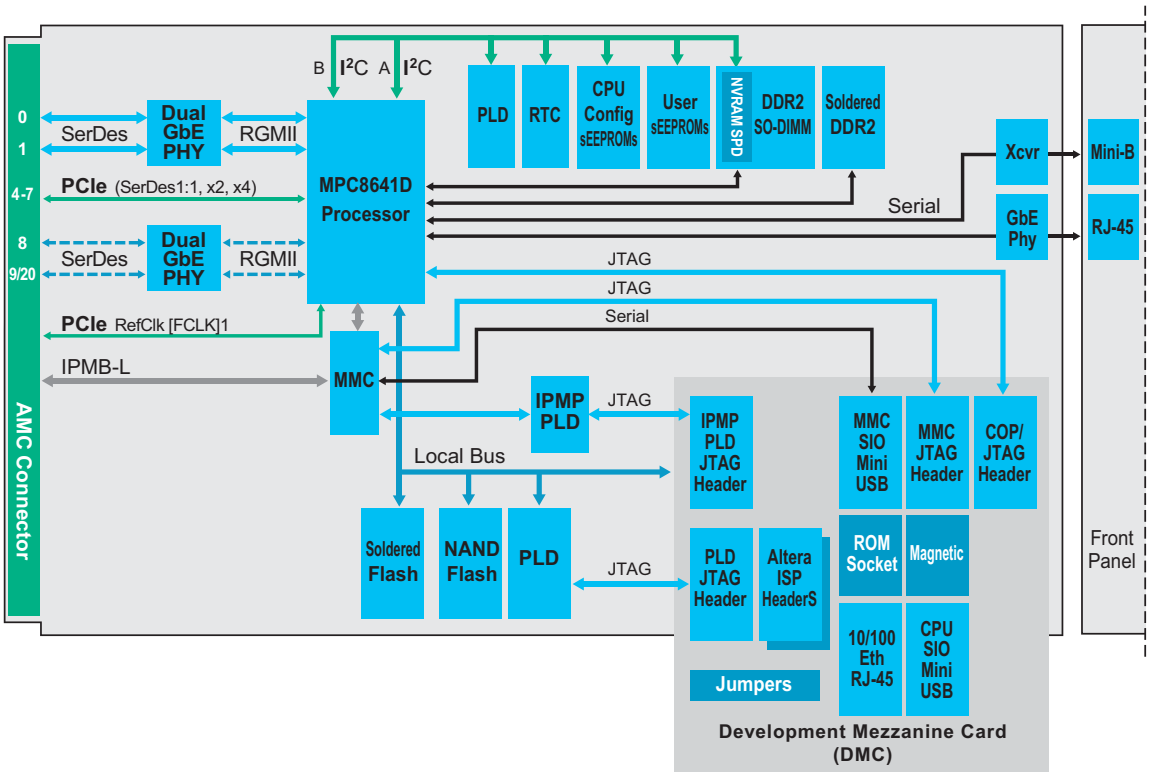


RoHS 6/6 COMPLIANT

AdvancedMC®

EMERSON™ Network Power

Block Diagram



Specifications

MPC8641D PROCESSOR

- Up to 1.33 GHz dual core PowerPC processor
- Communication functions
  - Four enhanced Three-Speed Ethernet Controllers (eTSECs)
  - DUART controller
- System functions
  - Dual DDR2 SDRAM controllers
  - Local Bus Controller (LBC)
  - Direct Memory Access (DMA) controller
  - Multiprocessor Programmable Interrupt Controller (MPIC)
  - MPX Coherency Module (MCM)
  - I²C controllers
  - PCI Express interface

MEMORY

SDRAM

- Up to 2GB DDR2 SDRAM with Error Checking and Correction (ECC) using dual memory controllers
- SO-DIMM and soldered

Boot Flash

- 8MB NOR flash for Boot (two redundant 4MB devices)
- 512KB socketed flash on optional DMC

Flash

- 1GB NAND flash for nonvolatile RAM storage and True Flash File System (TFFS)

MODULE I/O

Ethernet

- Dual GbE SerDes to AdvancedMC connector via ports 0-1
- Dual GbE SerDes to AdvancedMC connector via ports 8-9 (SCOPE), ports 8 and 20 (MicroTCA) or front panel (1000 Base-T)

PCI Express

- Fat Pipes region ports 4-7 to AdvancedMC connector are x1, x2 or x4 (SerDes1)
- PCI Express Rev1.0a compatible

Serial I/O

- EIA-232 console serial port accessible via front panel or DMC mini-B connector

JTAG

- Available via plug-on card for development
- JTAG/ITP debug interface
  - IEEE 1149.1 compatible
  - Access to internal processor scan chains for debug
  - Connection to processor core for emulator support
- JTAG interface for on-card PLDs

IPMB/MMC

- Driven by Pigeon Point Systems peripheral management device
  - Remote shutdown
  - Remote reset
  - Payload voltage monitoring
  - Temperature monitoring
  - FRU data access

LEDS AND SWITCHES

- Power/fault front panel status LEDs
- Hot Swap front panel LED
- Ethernet front panel activity/link LED
- Recessed front panel reset switch

DEVELOPMENT MEZZANINE CARD (DMC)

- Optional plug-on card (side 2) to speed development
- In-System Programmable (ISP) header for PLD programming
- CPU console connector and JTAG/COP header
- Module Management Controller (MMC) console connector and JTAG header
- Four software-readable configuration jumpers
- 32-pin PLCC 8-bit socket for software development
- Single connector attached to AdvancedMC module

OPERATING SYSTEM SUPPORT

- Reference kernel port for GPL Linux
- MontaVista Carrier Grade Edition (CGE) Linux Support Package (LSP)
- Wind River Systems VxWorks Board Support Package (BSP) (Call for availability)
- Wind River PNE-LE BSP

PHYSICAL CHARACTERISTICS

- PCB dimensions: 180.6 mm x 73.5 mm
- Single mid form factor
- Single full form factor
- Power requirements: +3.3 management and 12 volts payload
- Operating range: 0° to 55°C, not to exceed 85% relative humidity (non-condensing)
- PICMG specifications
  - Advanced Mezzanine Card Base Specification AMC.0
  - PCI Express and Advanced Switching on AdvancedMC Specification AMC.1
  - AMC Gigabit Ethernet/10Gigabit XAUI Ethernet Specification AMC.2

REGULATORY COMPLIANCE

- FCC Part 15 (US)/ICES-003 (Canada)
- IEC/UL/CSA 60950 (Western Europe and US)
- NEBS: Applicable sections of Telcordia GR-63 and GR-1089
- EN55022
- EN55024
- EN300386

SOLUTION SERVICES

Emerson Network Power provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh. Plus solution extras include enhanced warranty and repairs.

Emerson Network Power.
The global leader in enabling
Business-Critical Continuity™.

- AC Power Systems
- Connectivity
- DC Power Systems
- **Embedded Computing**
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- Integrated Cabinet Solutions
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- Power Switching & Control
- Precision Cooling
- Services
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- Surge & Signal Protection

Emerson Network Power

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