

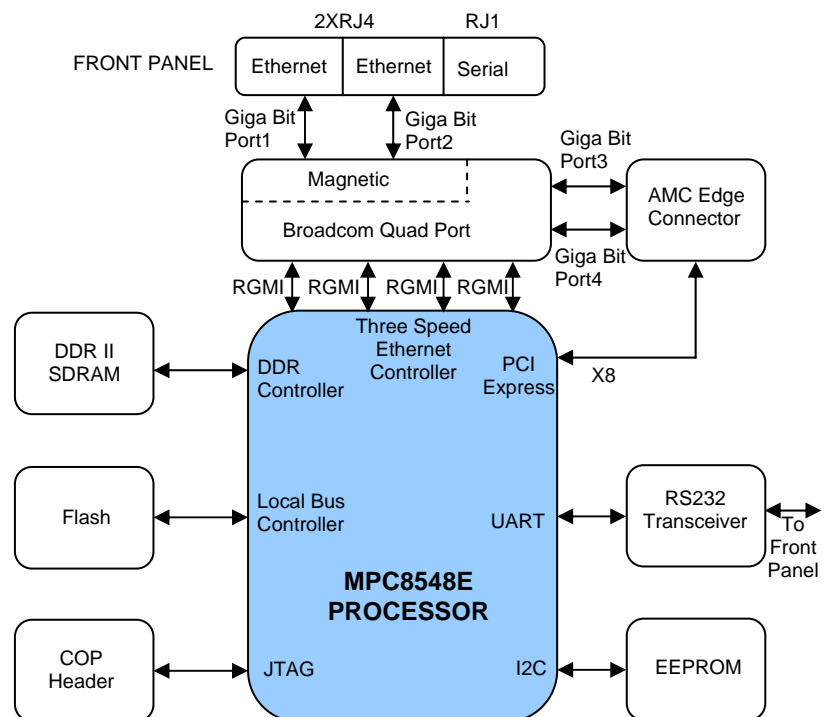
# MPC8548E Based Advanced Mezzanine Card

## HIGHLIGHTS

- MPC8548E PowerQUICC® III Processor at 1,333 MHz
- Four Gigabit Ethernet ports
- Eight lane PCI Express
- Support for Katsumi (“Misty”)
- DES, 3DES, MD-5, SHA-1/2, AES, RSA, RNG and ARC-4
- Intelligent power management v1.5
- AMC.x Complaint, single width, full height form factor
- Embedded Linux and GDA diagnostics software

Advanced Mezzanine Card (AdvancedMC or AMC) is a PCI Industrial Computer Manufacturers Group (PICMG) specification for hot-swappable, field-replaceable mezzanine cards optimized for, but not limited to, ATCA carriers in a telecom shelf.

Based on the Freescale MPC8548E PowerQUICC® III processor, the AMC board runs at 1.3GHz with a 512 MB of on-board DDR2 memory, while addressing power and heat constraints for an AMC form-factor. The highly integrated MPC8548E processor architecture improves system performance, simplifies board design, lowers power consumption, and reduces system implementation cost. Delivering performance beyond 3065 MIPS, the reference board facilitates Telecom Equipment Manufacturers (TEM) to add processing power to AdvancedTCA (ATCA), MicroTCA or proprietary systems equipped with AMC expansion bays.



With two Gigabit Ethernet ports in the front panel and two Gigabit Ethernet ports with x8 PCI Express on the AMC edge connector, the card provides a modular development environment for embedded applications using PCI Express, Gigabit Ethernet and Serial RapidIO.

The board's Intelligent Platform Management Interface (IPMI), which is routed to the AMC connector, enables it to be monitored and controlled through the ATCA carrier card by remote shelf management controllers. Also, the XOR acceleration in hardware supports software based RAID systems allowing for integration of networks to storage systems.



## APPLICATIONS

### Wireless Infrastructure

- ATCA & MicroTCA architectures
- Ideal compute platform for wireless base stations (BSC) requiring 3G GSM voice encryption support
- WiMax Base transceiver stations (BTS)

### Enterprise Networking

- High-end switches, routers & router control plane cards
- IP-PBX
- Network processor controllers

### Storage subsystems

- Software based RAID systems, allowing integration of networks to storage systems
- Network attached storage (NAS)/ network file system (NFS) storage controllers

### Pervasive Computing

- Web Servers, Search Engines
- Aerospace & Aeronautics
- High-end Multifunction printers

With encryption capability for ETSI implementation of the Kasumi (MISTY) algorithm (F8/F9) needed for 3G GSM voice encryption support, the 8548E is an ideal compute platform for wireless base stations. Also included in the 8548E is support for DES, 3DES, MD-5, SHA-1/2, AES, RSA, RNG, and ARC-4 encryption algorithms, enabling robust communications at very high speeds along with TCP/IP checksum acceleration and QoS support.

## SPECIFICATIONS

### Processor

- Freescale PowerQUICC® III MPC8548E Integrated Host Processor at 1333MHZ
- e500 PowerPC core, 512KB L2 cache, Integrated Security Engine

### Board Resources

- 32MB Boot Flash
- 512MB DDR2 SDRAM with ECC
- 32Kbit EEPROM
- JTAG test access Port
- BCM5464 Quad Port PHY

### Bus Connect:

#### AMC Connector:

- Gigabit Ethernet Interfaces – 2 Ports
- x8 PCI-Express
- 4x Serial RapidIO (Optional)

#### Front Panel:

- 2x RJ45 Gigabit Ethernet Interfaces
- RJ11 Serial UART – 1Port

#### LEDs

- IPMI/ Card Status (3 LEDs)

### Other

- IPMI v1.5 (Intelligent Power Management Interface)
- Temperature Monitor

### Software

- GNU Compiler tools
- U-Boot v1.1.4
- Linux Kernel v2.6.14
- Network File System & Ramdisk File System

### Power Requirements

- 30W (Minimum)
- 22W (Typical consumption)

### Electrical

- 12V and 3.3V DC (through AMC Edge connector)

### Mechanical

- 181.5mm x 73.5 mm x 13.71mm (w/o front bezel)

### Environmental

- Humidity: 10% to 90% non-condensing
- Storage Temperature: -40C to 85C
- Operating Temperature: 0C to 40C



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