KSI8560

AdvancedMC Modules

PowerQUICC III based AdvancedMC module

- AMC with up to eight software selectable E1/T1/J1 interfaces
- Freescale Semiconductor MPC8560 PowerQUICC III integrated communications processor
- Up to 256MB Double Data Rate (DDR) SDRAM with Error-correcting Code (ECC)
- 4MB boot flash with redundancy, and up to 1GB user flash
- 16MB Pseudo Static RAM (PSRAM)
- One 100 and two 10/100/1000 Ethernet ports
- PCI Express Fat Pipe
- Optional front panel E1/T1/J1 interfaces
- Optional rear transition modules for ATCA blades supporting E1/T1/J1 interfaces
- Quality assured by over 35 years of design experience, a TL 9000 and ISO 9001:2000 certified quality management system (FM 26789)

The Emerson Network Power KSI8560 is a flexible single-wide AdvancedMC™ (AMC) module that serves as a general purpose processor (GPP) AMC or a high-density WAN I/O AMC. As a GPP module, the KSI8560 gives networking equipment manufacturers a cost-effective and powerful modular processing element with its on-board Freescale PowerQUICC III MPC8560 processor. With its add-on WAN interface, the KSI8560 provides users a high density I/O module ideal for data and signaling applications such as signaling gateways and softswitch signaling interface cards. Up to eight T1/E1/J1 interfaces are available.

The KSI8560 is designed with carrier-grade features to address a high uptime environment. Its dual-flash bank architecture and persistent memory enable network equipment manufacturers to achieve 5NINES uptime. Plus it provides the scalability needed with its Gigabit Ethernet and PCI Express via the AMC Common Options region and Fat Pipes region, respectively. Open standards such as AdvancedTCA® and MicroTCA™ offer a flexible system and application design. To accommodate this flexibility, the KSI8560 is available in compact, mid-, and full-size configurations.
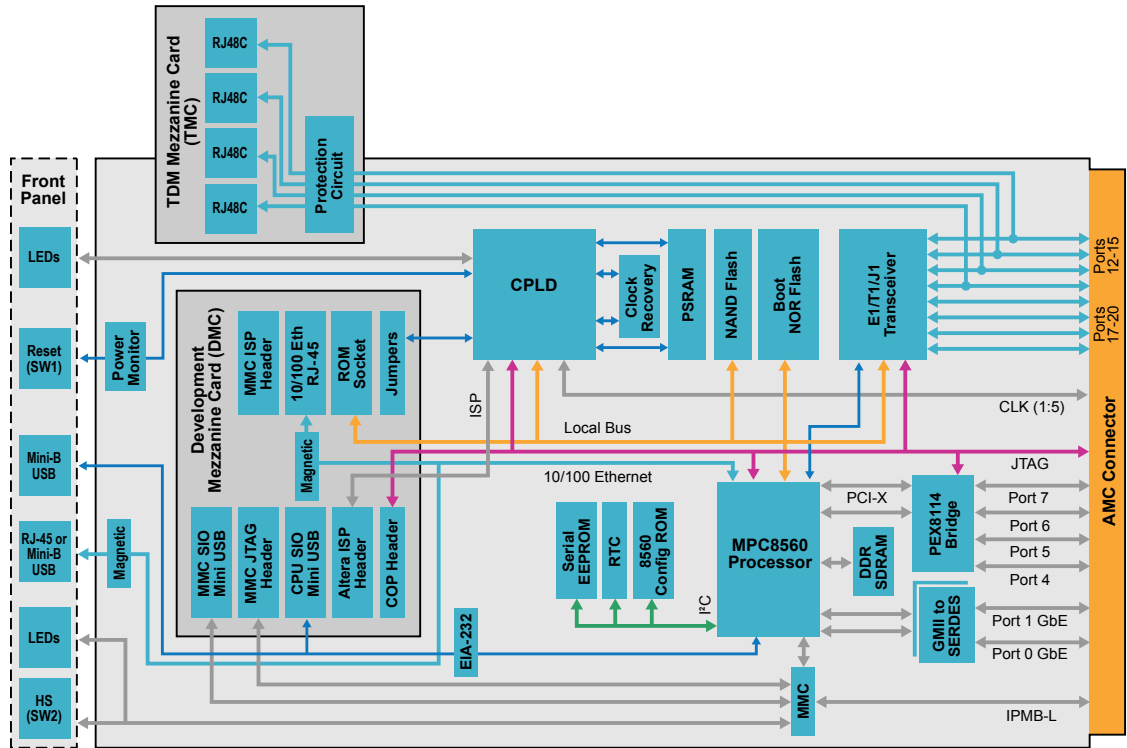
The KSI8560 is optionally integrated with Emerson's SpiderWare® protocol software and appropriate ATCA® or MicroTCA products for turnkey solutions thus accelerating time to market.

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Block Diagram

Specifications

PROCESSOR COMPLEX
Freescale PowerQuicc III MPC8560

- Up to 1000 MHz PowerPC® Book E core operation
- 333 MHz Communication Processor Module (CPM) frequency
- Communications functions
  - Ethernet controller
  - UART controller using SCC
  - TDM ports for eight T1/E1/J1 spans
  - ATM support via Inverse Multiplexing for ATM (IMA)
- System functions
  - DDR SDRAM controller
  - General purpose I/O (GPIO)
  - Direct Memory Access (DMA)
  - I^2C controller
  - PCI Express interconnect

Memory

- Up to 256MB Double Data Rate (DDR) SDRAM
- 16MB PSRAM for persistent memory through reset

Flash

- 8MB NOR flash for Boot (two redundant 4MB devices)
- 1GB NAND flash for nonvolatile RAM storage and True Flash File System (TFFS)
- 512KB socketed flash on optional DMC

COMMUNICATION INTERFACES
T1/E1/J1

- Up to eight channelized E1 or T1/J1 spans
- Supports T1/CEPT and other user-defined protocols (customer provided software may be required)
- Automatically performs efficient packing
- Rear (AMC P2) E1/T1/J1 input/output (I/O)
- Optional ATCA rear transition modules available for rear I/O applications supporting 16 or 32 ports per system blade
- Surge protection for E1/T1/J1 ports on passive transition module for four front panel RJ-45 T1/E1/J1 spans

Ethernet

- Two Gigabit Ethernet (GbE) ports to AMC P2 connector
- One 100 BASE-TX port with version dependant front panel access

AMC

- Two GbE (ports 0 and 1)
- PCI Express, support for x1 and x4 (Fat Pipe region port 4-7)
- E1/T1/J1 (ports 12-15/17-20)

Other

- EIA-232 serial console port accessible via version dependant front panel

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 AMC module

PHYSICAL CHARACTERISTICS

- Board format: 180.62 mm (7.11") x 73.5 mm (2.89")
- Baseboard and module fit in a single ATCA slot
- Available with full-size, mid-size, or compact-size
- Power requirements: +3.3 and 12 volts
- Operating range: 0° to 55°C, not to exceed 85% relative humidity (non-condensing)

OPTIONAL SIGNALING SUPPORT

- SpiderWare®SS7
- SpiderWare®SG Sigtran

OPERATING SYSTEM SUPPORT

- Linux Support Package (LSP) for MontaVista Carrier Grade Edition
- Wind River VxWorks

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

SPECIFICATION COMPLIANCE

- AMC.0, AMC.1 and AMC.2 PICMG Advanced Mezzanine Card

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.

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