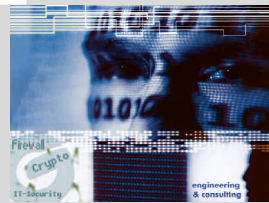
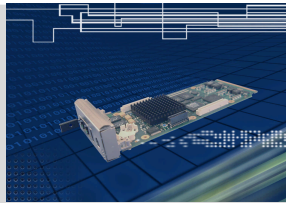


MCH Base MicroTCA Carrier HUB



Data Sheet

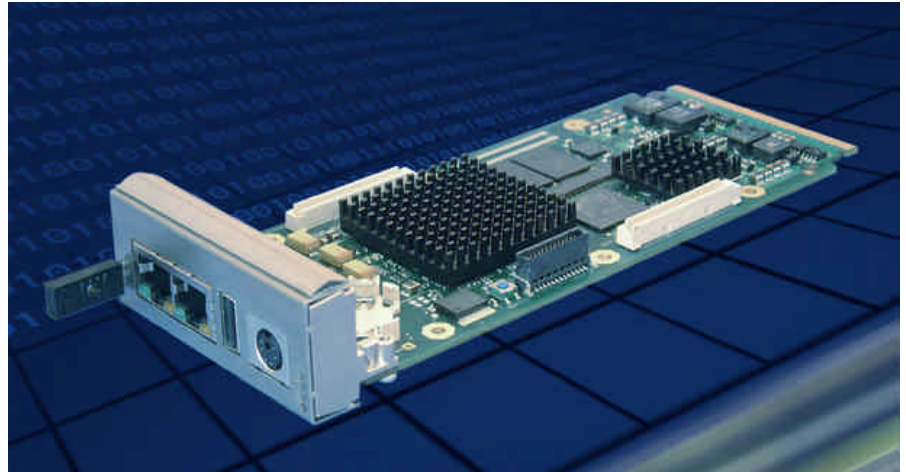
Preliminary

Description

The MCH base board constitutes the basic carrier card (Tongue 1) of the GateWare MicroTCA carrier hub (MCH) in form factor full size (SW/FH). The basic carrier card can be extended to have additional functionalities with plug-in cards. The flexibility of having up to 3 plug-in cards allows individual adaptation to each of the requirements of the necessary switching and clock technology of the AMC modules used in the MicroTCA carrier.

The MCH base board itself essentially provides the switch fabric A and the IPMB-L bus for up to 12 AMC modules, the IPMB0 bus for communication with up to two fan modules (CU) and up to 4 power modules (PU).

A high-performance CPU with a clock frequency of maximum 533 Mhz and considerable memory expansion allow sufficient resources for management and supervisory functions.



Two front 1 Gbit Ethernet interfaces allow the cascading of several carriers in the shelf to allow central administration through a masterMCH.

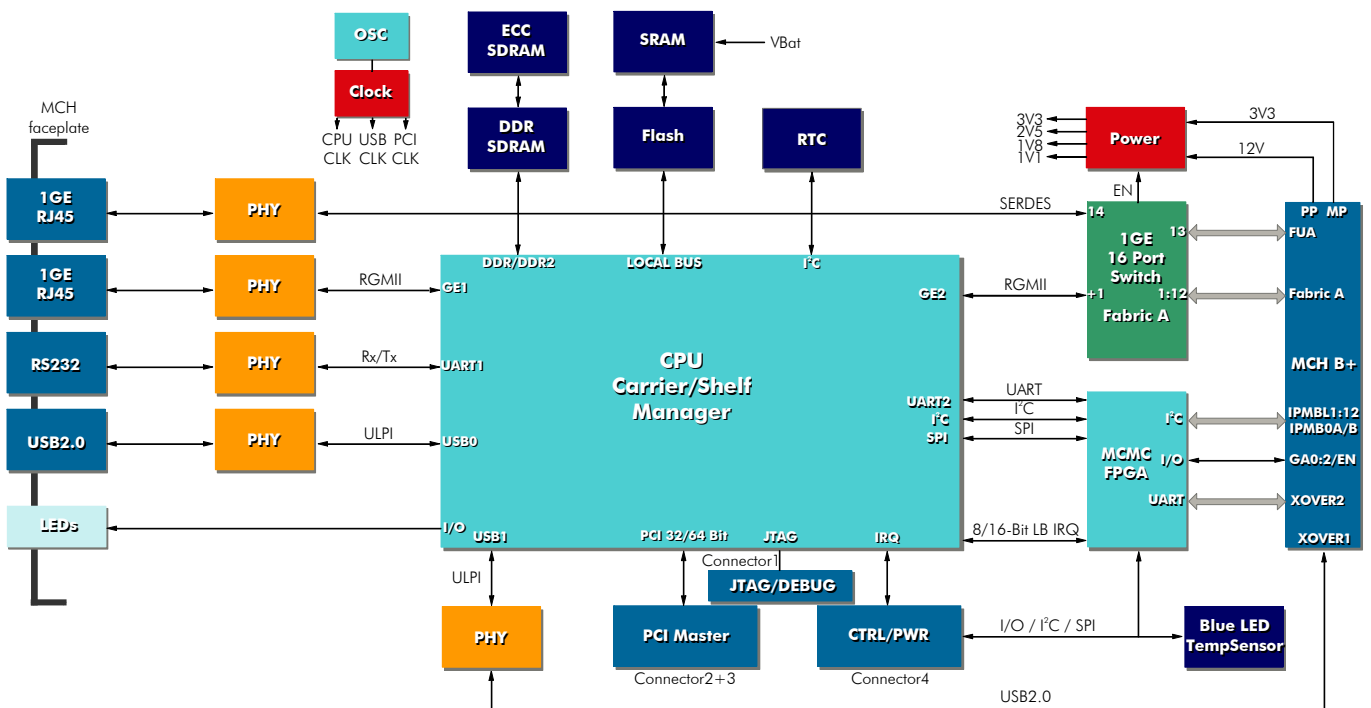
Remote management can optionally be supported by a crypto-unit integrated in the CPU so that the SSL-secured management

connections can be operated with the maximum possible data throughput.

Areas of Application

MicroTCA-Systeme with

- Plug for one or two full size MCHs
- 0 to 12 AMC, 1-2 CU and 1-4 PU modules
- Redundant or non-redundant operation



Features

- Scalable MCH for middle and high demands.
- Carrier board (Tongue 1) with efficient management CPU and gigabit switch.
- Can be expanded by any switching/clocking requirements with plug-in module (levels 2-4).
- IPMI carrier management.
- Management via command (CLI) or web-interface (WEB).

Specifications

- CPU and MCMC
 - Freescale PowerQuicc II Pro MPC8349E or MPC8347E CPU.
 - IPMI controller.
 - 1-Gigabit Ethernet Management Interface.
 - 1-Gigabit Ethernet Interface for cascading several MicroTCA carriers.
 - USB 2.0 full speed host interface for USB devices (Security tokens or firmware-update via USB stick).
 - RS232 with phantom feed e.g. for terminals (keyboard + LCD screen) for local configuration and status query.
 - Voltage and temperature monitoring.
 - BlueLED and 3 LEDs for status display.
 - Battery-buffered real time clock (RTC).
- Memory
 - 64-bit DDR SDRAM from 32Mbyte to 256Mbyte with error correction (ECC) 72-Bit expansion (optional).
 - 16/32-bit boot and application flash from 8Mbyte to 64Mbyte.
 - NAND flash to 1 Gbyte for file system and syslog (optional).
 - SRAM to 256 kByte battery-buffered (optional).
- Layer-2 Gigabit Ethernet switch for fabric A
 - To 12 AMC module, port 13 for fabric update (FUA) between two MCH's, port 14 to the front (cascading systems) and management port for CPU.
 - Non-blocking SERDES 16+1-port managable switch

- VLAN and 4K 802.1Q tag VLAN
- Jumbo frames to 9728 Bytes
- Quality of service via 4 queues (Port-/MAC-based, 802.1P, DiffServ).
- Maskable port mirroring.
- IGMP snooping.
- Bridge management via CPU.
- IPMB Expander and XOVER
 - Expander in programmable FPGA with monitoring of malfunctions and cut-off through insulation.
 - IPMB-L1..12
 - IPMB0-A/B and FRU-I²C.
 - IPMB priorisierung optional.
 - XOVER0/2 via UART symmetrically LVDS to redundant MCH.
 - XOVER 1 via USB 2.0 high speed to redundant MCH.
 - XOVER alternative to the connection of UART and USB Devices on the MicroTCA backplane.
- Power Consumption
 - Management power: 0,15A at 3,3V = 0,5W.
 - Payload power: 0,8A at 12V = 9,6W (base board).
 - Payload power maximum: 5A at 12V = 60W for supply of tongue 2-4 boards.
- Plug-in connector for tongue 2-4
 - Power supply 2.5V, 3.3V and 5V, a total of 60W.
 - I²C, SPI, IOs and interrupt for configuration and status query.
 - PCI bus 2x32-bit or 64-bit for switches with bridge function.
- Software
 - IPMI and MCH Management Software
 - Carrier-Manager via command line, RMCP and GUI web interface (optional hardware-SSL secured).
 - Support of all mandatory and many IPMI commands.
 - Expansion to OEM-IPMI command (e.g. Switch Fabric configuration).
 - Operating system Linux Kernel V2.6x.
 - Self-test and diagnosis functions.
 - Power-on self-test
 - Boot loader
- Standard
 - PICMG MTCA.0: MicroTCA specification R1.0
 - PICMG AMC.0: Advanced mezzanine card specification R1.0
 - PICMG AMC.2: Gigabit Ethernet R1.0
 - IPMI Intelligent Platform Management Interface Specification V1.5
 - EN 60950-1 Safety
 - EN 55022 and EN 55024
- Documentation
 - Installations and configuration manual.
- Environment and mechanics
 - MCH Full Size (single width, full height).
 - Operating temperature 5°C to 55°C.
 - Storage temperature -40°C to 85°C.
 - Humidity 5% to 85% non-condensing.
- Options
 - TBA
- Order-Information
 - TBA