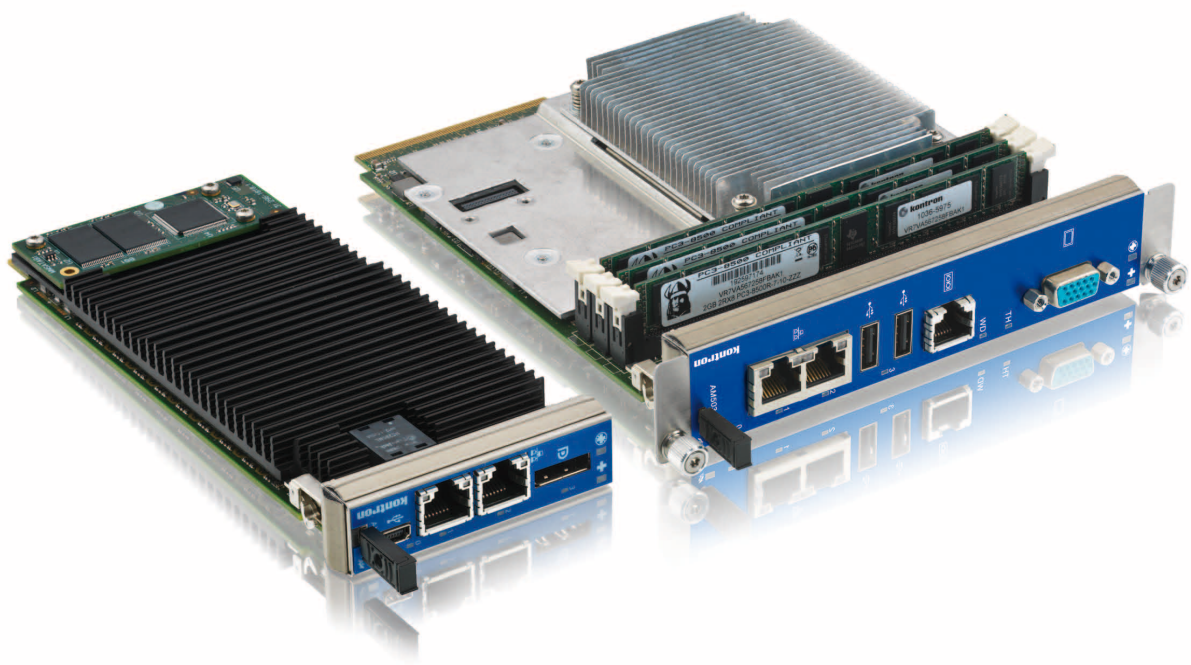
» IPMI Firmware for Processor AMCs «



IPMI Firmware for Kontron Processor AMCs

» Designed for AMC environments (ATCA, MicroTCA)

» Monitoring of voltages, temperatures, board states, etc.

» Standard interfaces: KCS, IPMB and LAN

» Support for AM4020, AM5020 and AM5030 processor boards

Module Management Controller - IPMI Firmware for Kontron Processor AMCs

Kontron Processor AMCs are highly integrated CPU boards implemented as Advanced Mezzanine Card (AMC) for ATCA or MicroTCA applications. They have full hot swap capability, which enables the module to be replaced without having to shut down the ATCA carrier board or the MicroTCA system.
A dedicated Module Management Controller (MMC) is used to manage the board and support a defined subset of Intelligent Platform Management Interface (IPMI) commands and PICMG (ATCA/AMC) command extensions. This includes monitoring several onboard temperature conditions, board voltages and the power supply status, managing hot swap operations, rebooting the board, etc.

Module Management Controller Firmware

The Module Management Controller (MMC) implements one local Keyboard Controller Style Interface (KCS) with interrupt support for communication with system side software and the uEFI BIOS.
The local IPMB bus (IPMB-L) is used for interconnection with the carrier's IPMC (in an ATCA environment) or the MCH (MicroTCA Controller Hub).

Additionally the MMC can be accessed over LAN, using IPMI over LAN (IOL) and Serial over LAN (SOL) functionality defined by IPMI. IOL and SOL connections are supported on all four channels of the quad Gigabit Ethernet controller which is directly connected to module's CPU.

The Module Management Controller provides access to various board sensors that permit the monitoring of:
» System power voltages
» Processor, chipset, board and air temperatures
» Various processor and system states (power good, board resets, POST code, boot errors, ...)

All sensors are monitored and Sensor Events are generated if the sensor values are out-of-range. Generated sensor events are sent to the carrier IPMC (in an ATCA environment) or to the MCH (in a MicroTCA environment).

Furthermore the MMC uses two Firmware banks for redundant firmware image storage, which allows manual roll-back or automatic roll-back to the backup-copy of the firmware. Downloading new Firmware doesn't break MMC or CPU activities.

Supported Features

Module Management	Firmware designed for AMC environments (ATCA, MicroTCA): » PIGMG AMC.0 R2.0 » IPMI v1.5/v2.0 Supporting the PICMG AMC sub-specifications: » PICMG AMC.1 R2.0 – PCI Express » PICMG AMC.2 R1.0 – Ethernet » PICMG AMC.3 R1.0 – Storage
MMC Interfaces	Keyboard Controller Style (KCS) interface with interrupt support for communication with system side software and uEFI BIOS. Local IPMB (IPMB-L) interface for communication with the carrier's IPMC (ATCA environment) or the MCH (MicroTCA Controller Hub). Network Controller Sideband Interface (NC-SI) to quad Gigabit Ethernet controller of board's CPU for IOL/SOL.
IPMI Functionality	Sensor Device functionality: » Sensor thresholds fully configurable » Sensor names are prefixed, based on module's slot number Complete IPMI watchdog functionality Complete FRU Inventory functionality IOL – IPMI over LAN support SOL – Serial over LAN support
AMC Functionality	AMC Port E-Keying and PCI-E clock E-Keying (AMC.0 R2.0, AMC.1 R2.0) Hot-Swap / Module Management Graceful shutdown support
Front panel LEDs	LED indication for System Health and KCS activity Out-of-Service LED Hot-Swap LED
Firmware Upgrade	Firmware can be updated in the field via KCS, IPMB-L or IOL. Two Firmware banks for redundant firmware image storage. Manual roll-back or automatic roll-back to the backup-copy. Downloading new Firmware doesn't break MMC or CPU activities. MMC Firmware image in HPM.1 format. Bootable FW update CDROM, available for download.
uEFI BIOS interaction	uEFI BIOS fail over control, for automatic EFI firmware bank switching. OEM commands for uEFI BIOS FW bank selection and uEFI BIOS boot override. Configurable via uEFI BIOS shell
Documentation	IPMI Firmware User Guide in PDF format » Including List of Sensor and a list of supported IPMI commands

Supported Processor AMCs

IPMI Firmware B300	Supported processor boards: » AM4020 » AM5020 » AM5030

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