

» OM6040 «



AdvancedMC™

μTCA™



MicroTCA System - OM6040 Compact AMC Platform

- » Compact System for up to 4 AMCs incl. AC Power and fans
- » Single Star backplane incl. GbE and PCIe/SRIO
- » Fully featured MCH incl. managed GbE switch and PCIe/SRIO switch
- » Ready to use: system configured and Linux installed
- » MicroTCA Power Management on backplane

The OM6040 is a fully featured compact AMC system for up to 4 AMCs (full-size or mid-size). It applies to entry level designs and compact system designs with AMCs and MicroTCA. The OM6040 is available in basic configurations which are ready to run and contain a MCH in different flavours combined with Processor AMCs (with operating system installed) selected by the customer. The system can be extended by additional I/O AMCs or customer developed AMCs.

The AMC bays are fully compliant with the AMC standards and the MicroTCA standard, so any standard compliant AMCs may be used. In order to save costs and space, the OM6040 does not contain MicroTCA Power Modules. Instead, power is managed on the backplane and controlled by the MCH (so the backplane represents the functional equivalent of the Power Module to the MCH). All AMCs are hot swappable. The OM6040 contains an AC power supply, so no extra AC/DC converters are needed.

The OM6040 backplane supports clocks for sync I/O and PCIe from the MCH to all AMC slots, as well as CLK 2 from the AMCs to the MCH. Ethernet (GbE) is switched on the MCH to all AMC slots in a single star configuration. The backplane also connects AMC ports 4-7 in a single star to the MCH. Depending on the configuration of the MCH, the corresponding lanes can be used either for PCIe, or for SRIIO.

The OM6040-BASE configuration includes the AM4904-BASE MCH with GbE switching capability. This configuration allows an easy implementation of multi-processor applications communication via Ethernet.

The OM6040-PCIE supports the AM4904-PCIE MCH with GbE and PCIe switching implementation. The use of the PCIe switch allows any AMC slot to be root or downstream device. Corresponding to the AMC and MicroTCA standards, the MCH will check and activate the configuration over E-keying.

The OM6040-SRIO provides GbE and SRIIO switching capabilities on the AM4904-SRIO MCH dedicated to be used with the AM4100 variant supporting SRIIO on AMC ports 4-7, which can be ordered with an SRIIO demo application. The system is delivered with AMC filler modules for empty slots, respectively with extra AMCs.

Areas of Application

- » Entry-Level System for MicroTCA Designs
- » Multi-Processor systems for medical, research and industrial automation
- » Communication systems for 3G/Wimax, government, avionics and defense

System Configuration

- » Basic Configuration Chassis with AC power & fans, backplane including power management module, fully featured MCH supporting GbE only switching or in combination with either PCIe switch or SRIIO switch support
- » Options: Processor AMCs (alternatively AM4010 or AM4100) with operating system installed (Linux or VxWorks), I/O Cards.

Technical Information

OM6040-BASE Configuration

Chassis incl. AC Power & Fans
MCH with GbE switch
4 AMC slots

Options

Processor AMCs

Multiple AM4010 Intel® Core™2 Duo with WindRiver Linux 2.6 installed (over GbE)
Multiple AM4100 Freescale Dual Core PowerPC M8641D with VxWorks installed (over GbE)

I/O AMCs

Storage Boards (over SATA)

OM6040-PCIE Configuration

Chassis incl. AC Power & Fans
MCH with GbE & PCIe switch
4 AMC slots

Options

Processor AMCs

Multiple AM4010 Intel® Core™2 Duo with WindRiver Linux 2.6 installed (over GbE)
Multiple AM4100 Freescale Dual Core PowerPC M8641D with VxWorks installed (over GbE)

I/O AMCs

Storage Boards (over SATA), Graphics Board (over PCIe), Network Interface Card (over PCIe)

OM6040-SRIO Configuration

Chassis incl. AC Power & Fans
MCH with GbE & PCIe switch
4 AMC slots

Options

Processor AMCs

Multiple AM4100 Freescale Dual Core PowerPC M8641D with VxWorks installed (over GbE and SRIO)

Physical Dimensions

150 mm height (3U incl mounting brackets)
157 mm width, 259 mm depth
1 Full-Size MCH slot on front
4 Full-size AMC slots on front
2 axial fans below AMC tray
AC Power on rear (100 VAC to 240VAC)
150 Watts power

Standards Compliance

AMC.0 R2, AMC.1 PCIe, AMC.2 10/1 GbE, AMC.3 Storage
MicroTCA compliant AMCs
MicroTCA compliant MCH
System Management: IPMI 1.5 on MCH

Environmental & Regulatory

Safety

IEC60950-1

EMC

EN55022 (CISPR22)

Vibration/Shock

IEC60068-2-6/EIC60068-2-27

Climatic Humidity

IEC60068-2-78

WEEE

Directive 2002/96/EC

RoHS

Directive 2002/95/EC

Ordering Information

Article

Description

**OM6040-3U-250W
(AM4904-BASE)**

4 Slot MicroTCA chassis, 250W PSU, MCH with GbE switch

**OM6040-3U-250W
(AM4904-BASE)**

4 Slot MicroTCA chassis, 250W PSU, MCH with GbE switch + PCIe switch

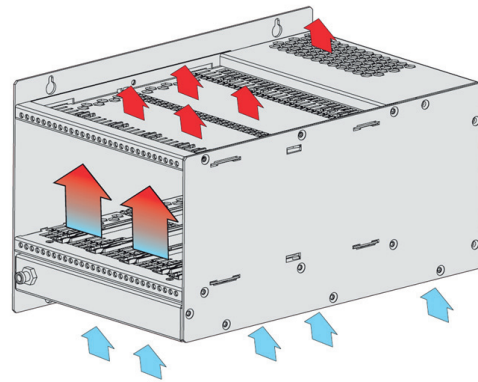
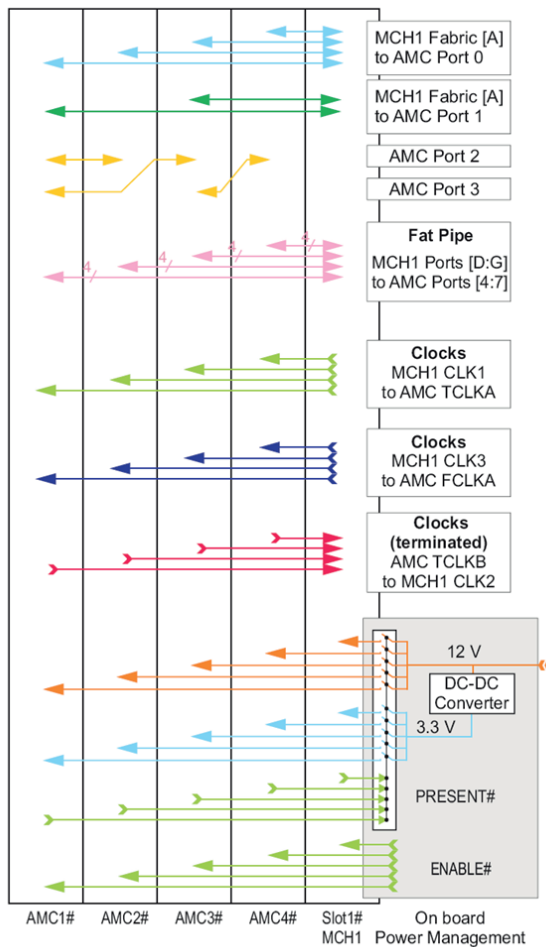
**OM6040-3U-250W
(AM4904-SRIO)**

4 Slot MicroTCA chassis, 250W PSU, MCH with GbE switch + SRIO switch

Block Diagram and Chassis

The OM6040 backplane represents a single star for clocks, Ethernet (GbE) on AMC ports 0 (and two extra connections on port 1 for two selected AMC slots). Fat pipes are also routed in a star configuration between AMC ports 4-7 to the MCH. Depending on the MCH configuration (PCIe switch or SRIO switch), the fat pipes may be used for 4x lanes of PCIe or 4x lanes of SRIO. The backplane contains a power management module,

which is controlled by the MCH for E-Keying and hot swap. Fans are not controlled and positioned below the AMC tray with airflow from below. The chassis has mounting brackets on one side and can be mounted either in a vertical or horizontal position (with airflow side to side). The AC power converter is positioned in the back and cooled by a separate axial fan.



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