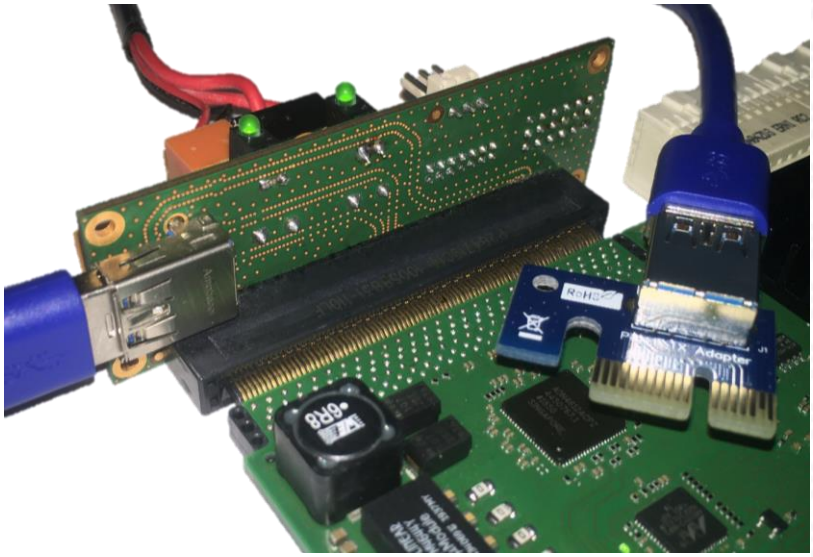
MicroTCA Bring-Up Adapter

MTCA-BRINGUP

HIGHLIGHTS

- Designed for laboratory bring-up of MicroTCA boards
- Stand-alone operation of AMCs*
- PCIe fan-out to mainboard PCIe slot
- Enable jumper and fan connector
- To support the MicroTCA community, the production data is provided free of charge.



FEATURES

- Provides MicroTCA AMC.0 slot on laboratory bench
- PCIe Gen 2 (5 GT/s) x1 connection to standard PC
- Designed as a low-cost 4-layer FR4 PCB that can be manufactured by virtually any board manufacturer
- Extremely simple BOM allows in-house assembly
- Mates with cable and PCIe riser of ultra- low-cost PCIe mining kits (has to be purchased separately)
- +12V and +3V3 power entry via two 2-pin connectors
- Contains two 3-pin 12V fan sockets (standard fans)
- ENABABLE# signal can be set via jumper*
- Pin header for ENABLE#, SCL, SDA, GA0, GA1
- AMC backplane JTAG signals routed to standard 14-pin FPGA JTAG connector
- Does not block space needed by RTM: AMC-RTM combinations can be powered and operated*.

* Pre-requisite: The AMC module management controller needs to allow laboratory bench operation (i.e. without being managed by MCH). The DESY MMC and the DMMC-STAMP detect this operation mode and can be used with this adaptor. Alternatively, the MCH can be emulated using the SCL/SDA pins that are available on pin headers.

PRODUCTION FILES CAN BE PROVIDED ON REQUEST. PLEASE CONTACT US.

The **DESY MTCA-BRINGUP** is a solution to test and operate MicroTCA boards on the laboratory bench. This is extremely useful during development where convenient access to the AMC board is required and operation inside a MicroTCA rack prevents easy probing of the on-board components.

The board brings out the first lane of the AMC PCI express interface (AMC port 4) on a high-speed connector. Ultra-low-cost PCIe are established in PC industry: A USB 3.0 connector and cable are used to carry PCIe reference clock and one lane of data. The bring-up adapter uses an identical connector, so that it mates to the commercially available risers and cables. This allows connecting the board to a standard PCB mainboard and accessing the on-board FPGAs with a PCIe Gen 2 x1 link.

The board provides two power sockets (management and payload power) and two 12V fan connectors. In addition, the backplane JTAG signals of the AMC are routed to a 14-pin header that allows to connect a standard programmer to the device under test.

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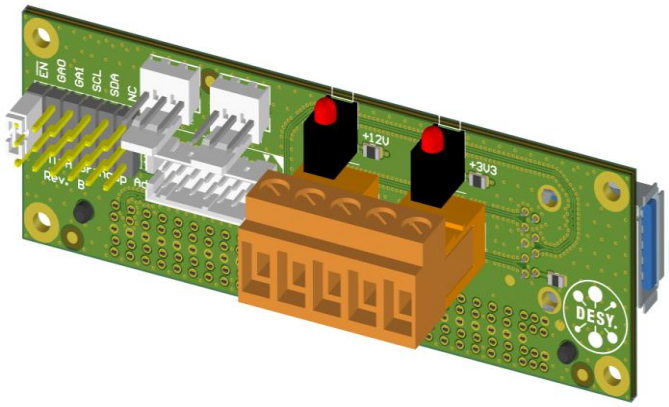
MicroTCA TECHNOLOGY LAB
A HELMHOLTZ INNOVATION LAB

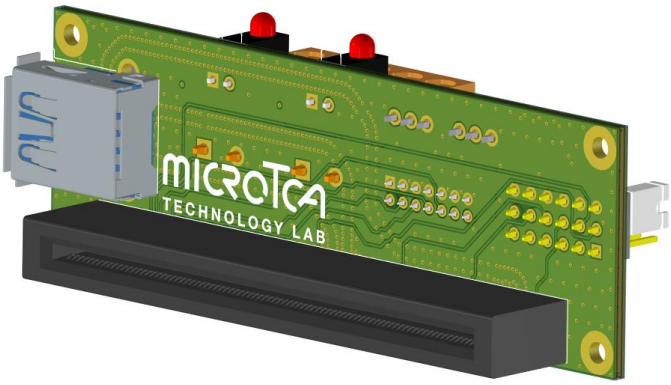
DESY.

MicroTCA Bring-Up Adapter

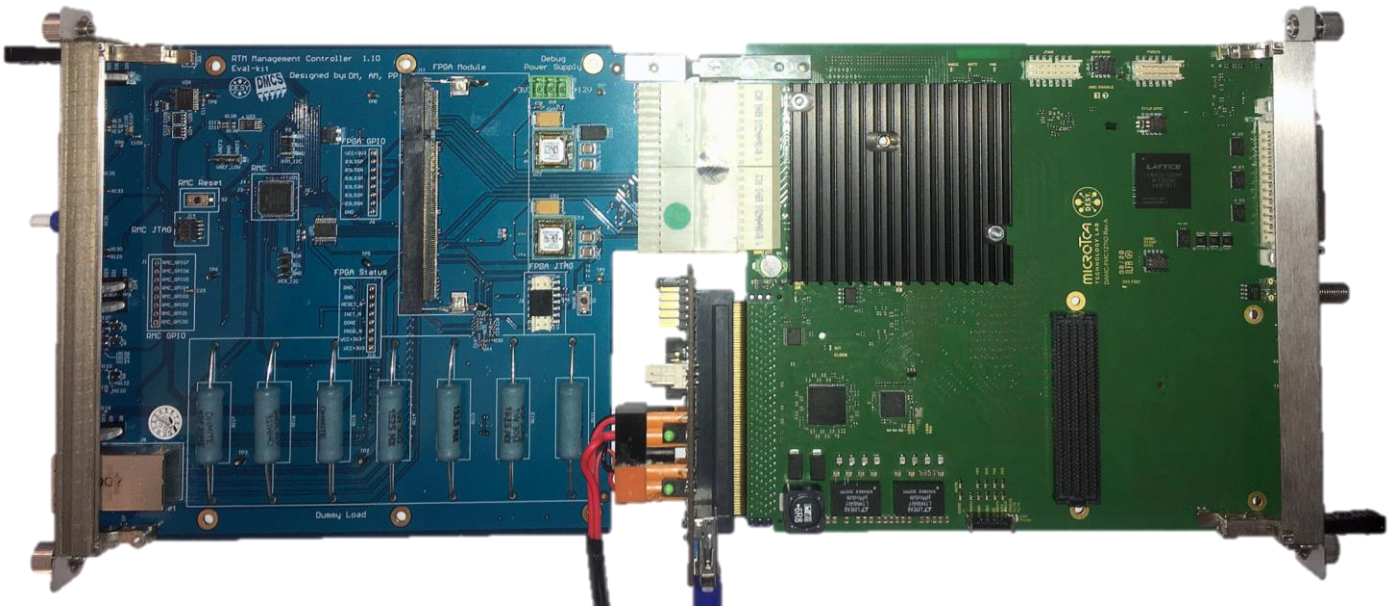
Top view



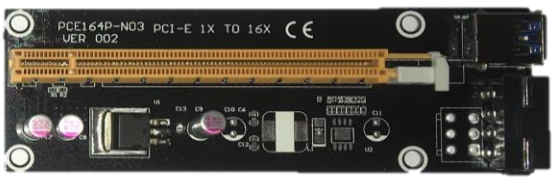
Bottom view



AMC/RTM combination with Bring-up Adapter



Ultra-low-cost mining kit: PCIe riser and high-speed cable are used for connecting the Bring-up Adapter (has to be purchased in separately)



The PCIe x16 board is not used in conjunction with the Bring-up Adapter

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