



79610-5000 Evaluation Backplane
79610-5002 Development Chassis

MicroTCA delivers a low-cost, flexible and scaleable solution, providing 10 Gbps data rates for a wide variety of low-to-mid range telecom applications

The Micro Telecommunications and Computing Architecture (MicroTCA) is emerging as an attractive form factor for low-end equipment such as cellular base stations and access equipment. MicroTCA uses many of the features found in Advanced TCA (ATCA) such as high-speed serial signaling, a robust command and control architecture and redundancy features that allow it to achieve 99.999% availability.

MicroTCA uses Advanced Mezzanine Cards (AMCs) with a passive backplane. One or more MicroTCA control hubs (MCHs) provide the chassis management as well as switching functionality. The small size and simplicity of MicroTCA systems keep the cost down, making the system a good alternative for cost-sensitive applications in access, base stations and other similar systems. It is possible to remotely access a MicroTCA chassis via an Ethernet port for system reconfiguration and updating.



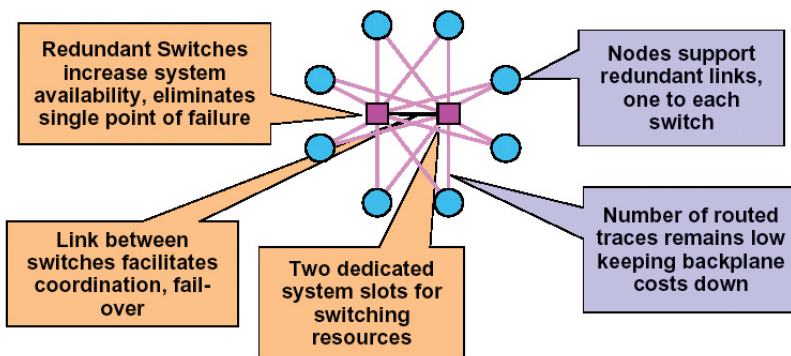
APPLICATIONS

- MicroTCA system development
- Customers manufacturing access products and small base stations for cellular and WiMax protocols
- Fiber-to-the-premise applications
- Industry standard architectures requiring high-density performance in a small package:
 - InfiniBand*
 - Gigabit Ethernet
 - PCI Express
 - Advanced Switching
- Medical applications
- Instrumentation and control systems
- Outdoor applications
 - Up-the-pole base stations
 - Traffic control boxes

*InfiniBand is a registered trademark of the InfiniBand Trade Association

BENEFITS OF A DUAL-STAR BACKPLANE

Fabric Topologies – Dual Star



Application Target
Carrier Grade applications with non-latency sensitive data requirements (e.g. modular server). Unified approach reduces cost, complexity





Fully redundant, 10Gbps MicroTCA backplane enables customers to exercise the broad range of capabilities of MicroTCA

79610-5000 Evaluation Backplane

Molex's MicroTCA backplane is ideal to evaluate the performance of various AMC (Advanced Mezzanine Cards), MCH modules (MicroTCA Carrier Hubs) and power supplies. This dual-star backplane is configured with two MCH modules that provide full redundancy for both control and switching functions. The 10Gbps performance will facilitate the development of state-of-the-art MicroTCA systems.

The press-fit, MicroTCA backplane has redundant power supplies located to the left and right of the MCH modules. Each power module is routed radially to each AMC and MCH slot. This allows the MCH to power up or down any slot independently. There are 12 centrally located payload slots for industry standard AMCs. Ten of the AMC slots are suitable for full-height modules. Four payload slots in the center of the backplane can

also handle compact AMC modules. A quarter-height slot outboard of the power supply is configured for Joint Test Action Group (JTAG) access to the backplane.

Fabric B on ports 2 and 3 is configured to support SATA drives in any of the slots, enabling customers to connect processor cards directly to SATA storage drives. Molex has carefully designed the launch geometry to achieve 10 Gbps over each differential pair, handling up to four times the bandwidth of a backplane wired to meet XAUI specifications.

The MicroTCA Backplane also features Micro-Fit 3.0™ 14-pin, blind-mate fan tray connectors to mate to hot-swappable fan trays and ensure complete redundancy. The backplane design can be customized to meet customer layout and electrical specifications.



Features and Benefits

- Backplane for single-wide AMC cards, 420.00 by 120.00mm (16.535 by 4.724") fits the Rittal Evaluation Chassis as well as the Molex Evaluation Chassis
- Connectors for 2 power supplies and 2 MCHs facilitates testing of hand-off features when one power supply or MCH fails
- Designed with 4 compact slots to allow either 10 full-height slots or 4 compact and 8 full-height slots (12 total)
- Designed with MicroFit 3.0™ 14 pin, blind-mate, fan-tray connectors with hot-swappable fan trays to ensure complete redundancy
- Connector interface with the backplane (launch geometry) has been carefully designed to minimize reflections for 10 Gbps performance
- Power system supports 80 Watts per slot, the maximum allowed by the MicroTCA 1.0 specification
- FRU ROM (Field Replaceable Unit Read Only Memory) on the backplane communicates with MCH all of the important backplane characteristics
- Design is easily scalable and flexible to minimize customization and time-to-market, to meet customer applications and requirements

SPECIFICATIONS

Reference Information

Packaging: Foam in Box

Dimensions:

0.42 by 0.12m (1.377 by .393')

Thickness 3.00mm (.120")

Mechanical

Mounting dimensions according to MicroTCA.0 specification


79610-5002 Development Chassis

Fully redundant, 10Gbps MicroTCA backplane and chassis provide customers an evaluation platform to exercise the range of capabilities of MicroTCA

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To enable customers to more quickly develop MicroTCA systems, Molex has collaborated with SIMON Industries to offer a small and sophisticated development chassis. The chassis is equipped with the Molex backplane and connector, as well as an AC-to-DC power supply

(mounted at the rear of the chassis). This makes the chassis ideal to place on the desk top or lab bench for development and testing of cards, software and middleware. The full-redundancy capability of this dual-star backplane chassis allows customers to test the functionality of their management chips as well as fail-over capability.


Features and Benefits

- Small chassis 438.00 W by 177.00 H by 260.00mm D (17.244 by 6.968 by 10.236") is a convenient size for use on the desktop or lab bench
- Power supply on the rear converts 110 or 220V AC to 48V DC that is wired to the front; a short cable plugs into the MicroTCA power module which can easily be placed on the desk or workbench without special 48V power feed
- Air input from all 4 sides, exhaust from 3 sides and the top enables full cooling functionality in the very small 4 U height
- Machined front-bottom guides provide ease in locating the slots
- Designed with 4 compact slots to allow either 10 full-height slots or 4 compact and 8 full-height slots (12 total)
- Slide-out fan tray with 10 fans with fully-redundant fans in each slot, easy to repair
- Molex 10 Gbps backplane installed allows direct comparison of the Molex solution against any other backplane solution in a similar card cage by functionally evaluating the systems and comparing results, especially when higher speeds are required
- Field Replaceable Unit Read Only Memory (FRU ROM) on the backplane communicates to the MCH all of the important backplane characteristics

SPECIFICATIONS
Reference Information

Cabinet Construction: Painted steel cabinet with stamped-steel card guides

Size:

Standard 4U,

Height: 177.00mm (6.968")

Width: 438.00mm (17.244")

Depth without power supply: 208.00mm (8.188")

Depth with power supply: 260.00mm (10.236")

Power

Rear-mounted power supply to provide

48V DC to one or two MicroTCA specified, in-rack supplies

Auto-ranging for 120V AC or 240V AC operation

1200 Watts at 120V and 1800 Watts at 240V

Cooling

Removable fan tray equipped with 10, high-performance 12V DC fans. These 60.00mm (2.362") fans provide optimized, uniformly-turbulent airflow to all slots.

Rear-mounted power supply has its own cooling fans



79610-5000 Evaluation Backplane

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Evaluation Backplane (Series 79610)

Order No.	Slots	Comments
79610-5000	12-14 slots	Redundant MCH and Power slots



Development Chassis (Series 79610)

Order No.	Size	Comments
79610-5002	4U for single wide AMC modules	Molex MicroTCA backplane included



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