

RF-Backplane

High-speed digital and high precision analog backplane in electronic crate systems

Reference No. P 108

BACKGROUND

Modern communication systems need a much higher information density, which requires high-speed processing units in combination with ultra-low-noise analog data acquisition unit using clocks for analog-to-digital converters in the sub 10fs time jitter. Currently, high-precision high-frequency signals and low-jitter clocks share a single backplane with asynchronous digital signals and communication buses, leading to signal-integrity issues and performance limitations. External RTM interconnections with cables reduce the reliability, maintainability, and performance of the entire crate system.

SOLUTION

The innovative RF-Backplane is an optional capability extension for MTCA.4 chassis, which ensures full compatibility with existing MTCA.4 crates. The innovation allows using clocks for state-of-the-art data acquisition units with ultra-low jitter in the sub 10fs range for the next generation of communications systems.

ADVANTAGES

- High-frequency signal distribution with sub 10fs short-term stability
- Distribution of analog single-ended point-to-point interconnections
- Distribution of ultra-low jitter differential clocks
- Interfaces up to 12 RTMs via Zone 3 and 3 eRTMs
- Optional analog high-performance managed power supply distribution
- Increasing reliability, maintainability and performance of entire crate system by minimization the RTM cable management

APPLICATION FIELDS

- Multichannel signal acquisition
- Processing in the telecommunications industry
- Automation industry
- Measurement (general)
- Transportation industry
- Aviation industry
- Medical technology
- R&D accelerator

PROPERTY RIGHTS

EP 2672793 B1
US 9374915 B2

POSSIBILITIES OF COOPERATION

- Licensing
- R&D Cooperation

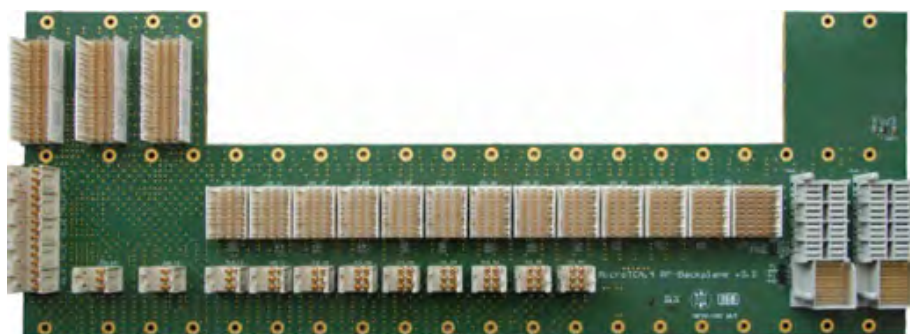


Fig. 1: MTCA.4 RF-backplane

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