Advanced Industrial Electronic Systems

MFMC MTCA.4 FMC Carrier Module



Typical Applications

- Data Acquisition and Control Systems
- Image Acquisition and Processing Systems
- High Energy Physics
- Video Processing Image
- 3D Applications
- 3D Tomography
- High Performance Computing
- Medical Applications
- Research & Development
- Telecomunications

Features

- Double-width, mid-size AMC card designed according to MTCA.4 specification
- •FMC carrier with HPC and LPC connectors
- Powerful cost-effective Xilinx Artix-7 FPGA (XC7A200T-1 or XC7A200T-2)
- SDRAM DDR3 memory (up to 16 Gb) with 64 bits data bus
- RTM Zone 3 connector (D1.2 digital class)
- PCIe x4 gen. 2 (20 Gbps)
- Single gigabit Ethernet channel on port 0*
- Peer-to-Peer connectivity (6.6 Gbps) on MTCA backplane (ports 8-15)*
- 4 Multi Gigabit Transceiver channels to RTM (6.6 Gbps)
- 4 Multi Gigabit Transceiver channels to HPC connector (6.6 Gbps), 2 configurable clocks, 56 LVDS pairs

- 1 Multi Gigabit Transceiver channel to LPC connector (6.6 Gbps)*, 2 configurable clocks, 32 LVDS pairs
- Flexible clock distribution circuit with PLL and PTP support
- M-LVDS bus for synchronization and interlocks
- Redundant Quad SPI PROM
- Firmware upgrade (HPM.1, PCIe, JTAG)
- MMC controller with RTM and FMC management
- Advanced board diagnostics with IPMI and PMBus
- Configurable VADJ for both FMC slots
- Available FPGA IP cores for selected FMC camera interfaces

Front panel interfaces:

- External clock or trigger SMB input
- USB diagnostic interface for FPGA and MMC

*interfaces shared with single quad MGT tile

AIES sp. z o.o.

Advanced Industrial Electronic Systems Headquarters: 90-437 Lodz, Al. Kosciuszki 74/78/19 Development office: 91-341 Lodz, Brukowa 16, Poland Phone: +48 42 23 00 602 Fax: +48 42 23 34 108 e-mail: office@aies.pl www.aies.pl Advanced Industrial Electronic Systems

MFMC

MTCA.4 FMC Carrier Module

Overview

The MFMC module is a general purpose FMC carrier module dedicated for MTCA.4 systems. The module is designed for high performance data acquisition and data processing applications.

A combination of two FMC slots with Xilinx Artix®-7 FPGA and high-throughput DDR3 SDRAM provides a cost-effective but still powerful solution. The MFMC module offers 16 high-speed serial interfaces supporting data-rates up to 6.6 Gb/s and various protocols, like PCIe gen. 2, 10 Gb Ethernet, Infiniband. The board is compliant to the AMC.4 specification.



Block diagram of the MFMC module

AIES offers modification of this product according to customer specification.

Ordering information	RoHS Compilant
Part Number	Description
MFMC-16G1	FMC Carrier Module with Artix-7 XC7A200T-1, 16 Gb SDRAM
MFMC-16G2	FMC Carrier Module with Artix-7 XC7A200T-2, 16 Gb SDRAM
MFMC-4G2	FMC Carrier Module with Artix-7 XC7A200T-2, 4 Gb SDRAM

Phone: +48 42 23 00 602 Fax: +48 42 23 34 108 e-mail: office@aies.pl www.aies.pl