MTCA.4 AMC + µRTM with 32 differential Analog Inputs

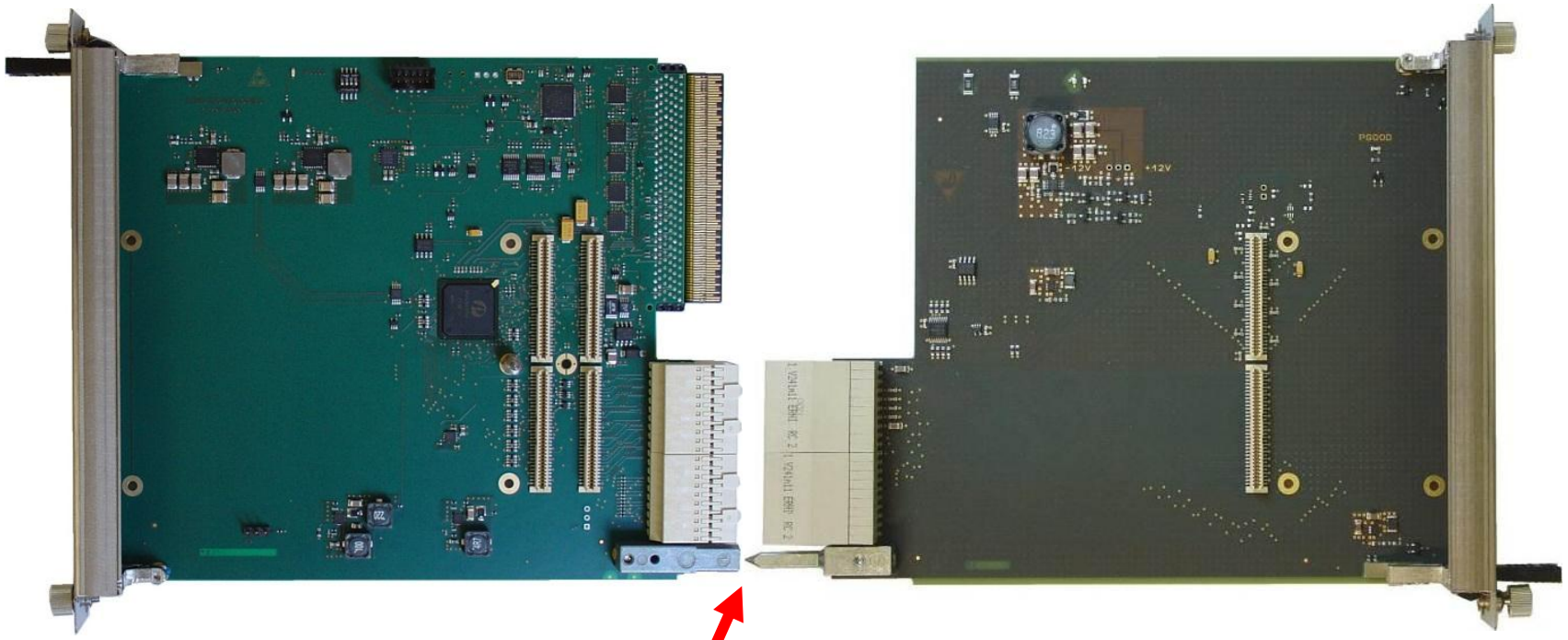
Company Background

TEWS TECHNOLOGIES is a leading solutions provider of embedded I/O and CPU products based on open architecture standards (i.e. IndustryPack, PMC, XMC, CompactPCI, standard PCI, PCIe, VME, AMC, and FMC).

Our modular hardware designs are coupled with extensive software drivers and support for major real-time and server operating systems (i.e. VxWorks, Windows, Linux, Integrity, QNX)

MTCA.4 Concept: AMC + µRTM

new products

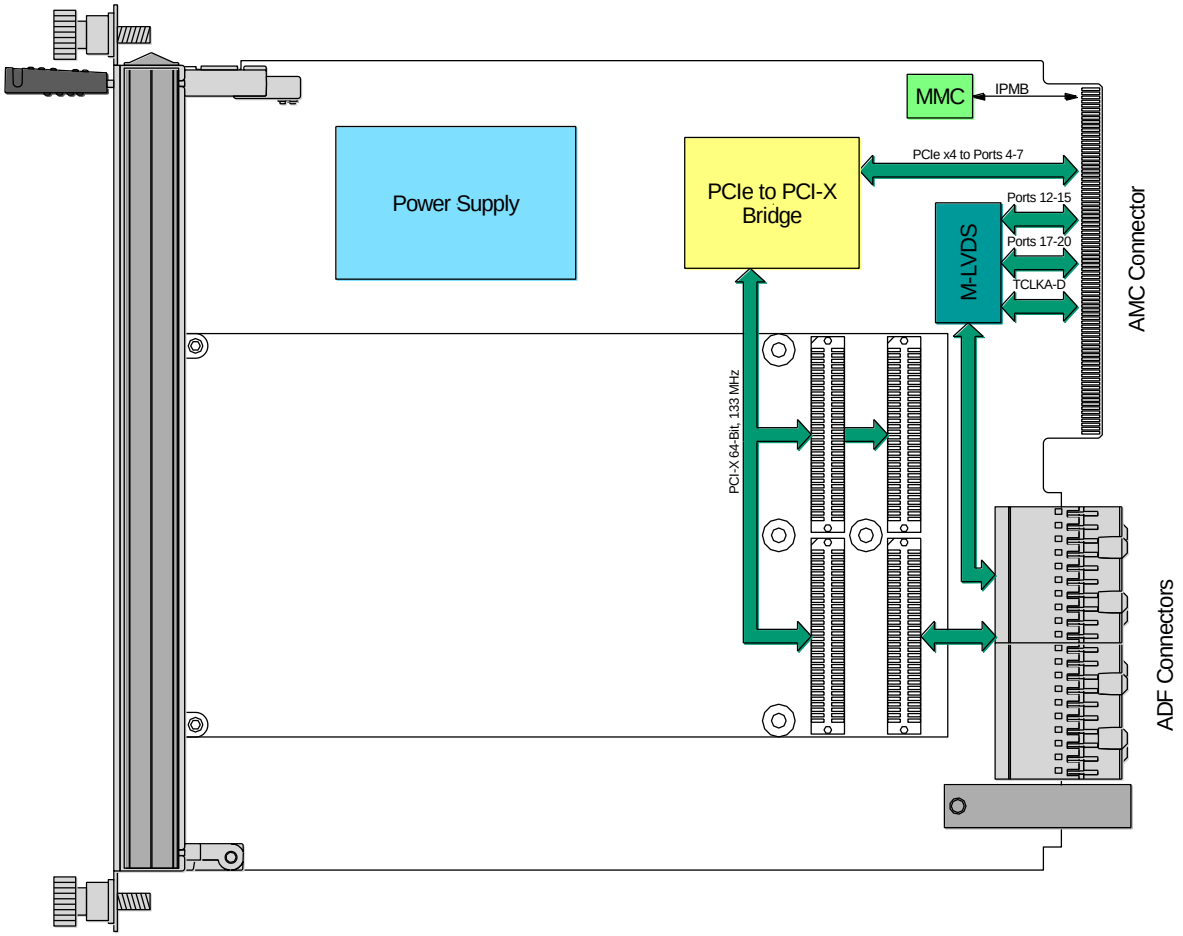


AMC
(TAMC261)

Zone 3

µRTM
(TAMC020-TM)

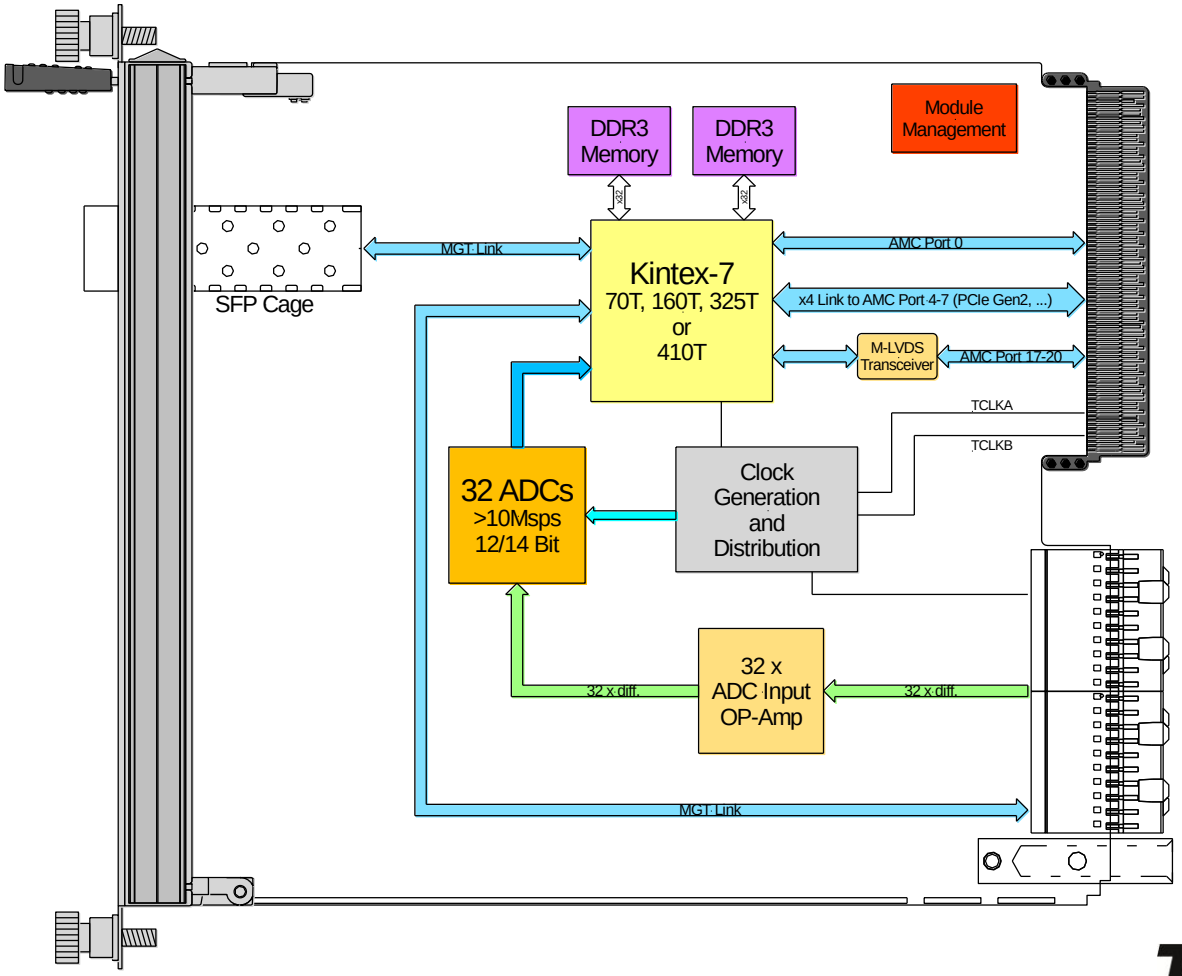
TAMC261


MMC
IPMB
Power Supply
PCIe to PCI-X Bridge
PCIe x4 to Ports 4-7
Ports 12-15
Ports 17-20
TCLKA-D
M-LVDS
AMC Connector
PCI-X 64-Bit, 133 MHz
ADF Connectors

TAMC532

(Development within Helmholtz Validation Fund)

under development



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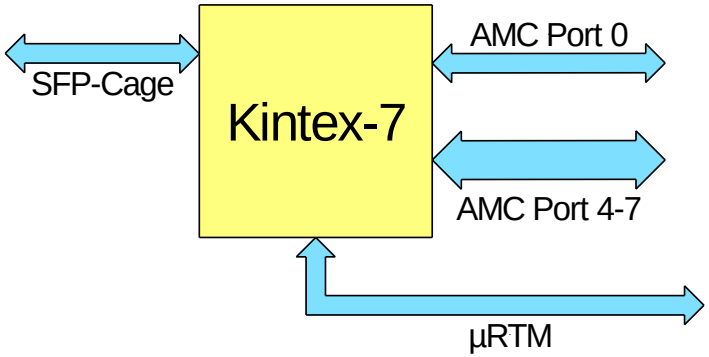
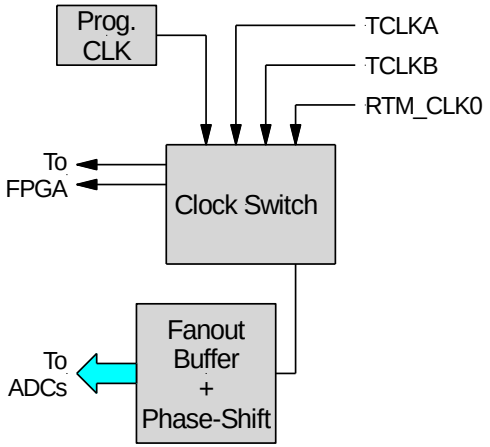
FPGA Fabric Interconnects



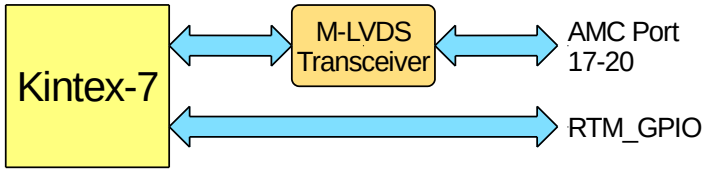
- AMC Port 0
  - (e.g. Gigabit Ethernet)
- AMC Port [7:4]
  - (e.g. x4 PCI-Express Gen 2)
- SFP Cage in AMC Bezel
- Multi-Gigabit Transceiver to µRTM

Clocks + Triggers

- Clock Distribution Inputs:
  - TCLKA + B
  - µRTM CLK0 + CLK4
  - On-Board generated Clock

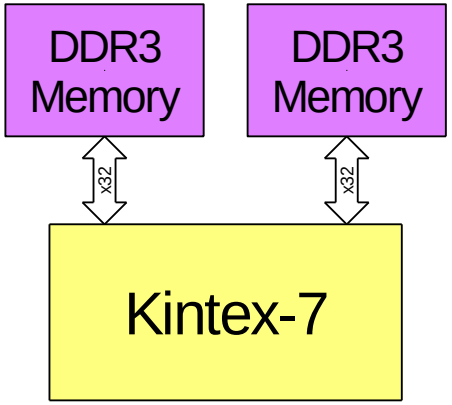


- Trigger connected to FPGA:
  - AMC Port [20:17] via MLVDS-Transceivers
  - GPIOs from µRTM



DDR3 Memory

- Two independent banks
  - allow double buffering or doubling the data rate
- 32Bit data bus width / bank
- 800Mb/s line rate
- 2GBit / bank

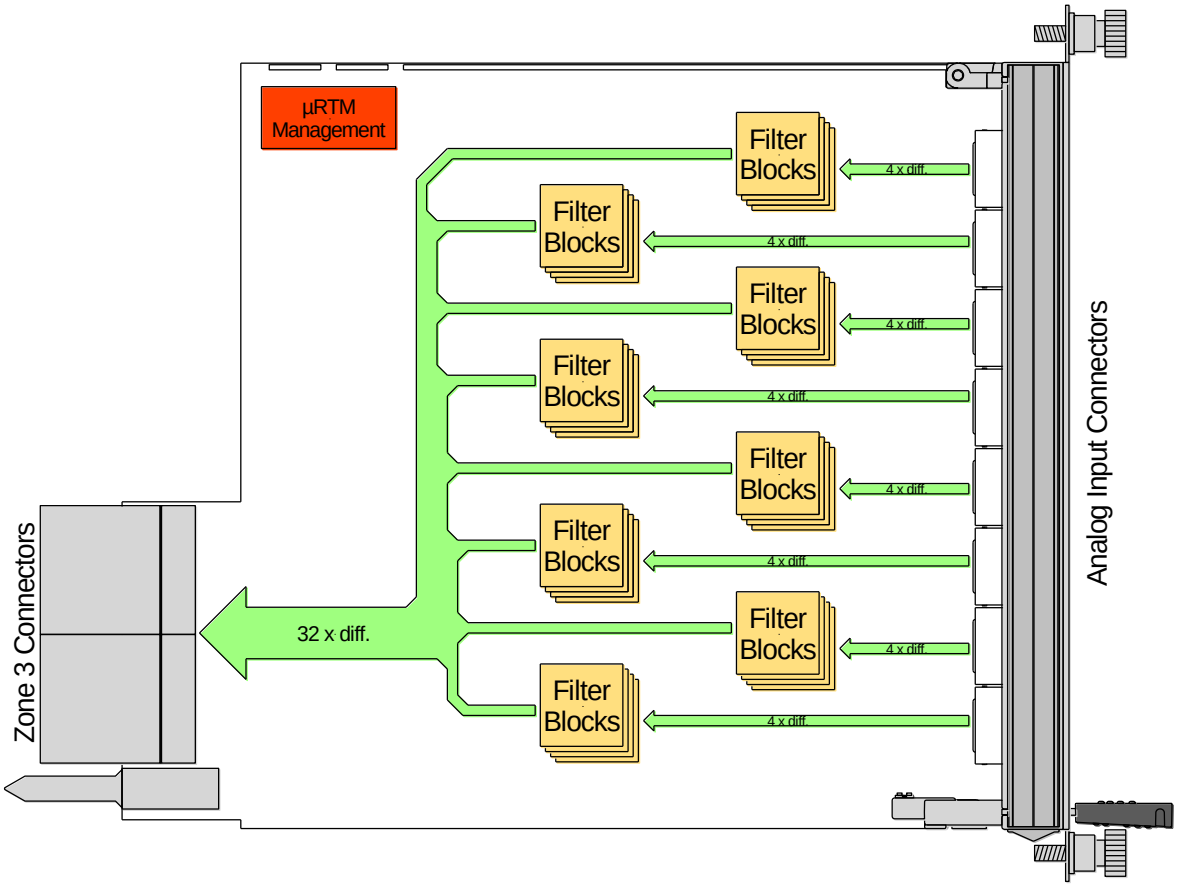


ADC

- Resolution:
  - 12 or 14 Bit (assembly option)
  - 16 bit (on request)
- max. Sample Rate ≥20 Msps
- Analog Inputs:
  - DC-coupled with on-board ADC-driver
  - ±1V differential @ 0V common-mode voltage
- Input bandwidth beyond 70MHz
- Zone 3 pin assignment
  - According to Zone 3 Recommendation Class A1.2

TAMC532-TM

under development



TAMC532-TM Facts

- RJ45 Input Connectors
  - cheap cables
  - cable field tailoring is possible
- Differential Input
  - up to ±1V differential input voltage
  - up to ±3V common mode voltage
- Analog Filtering
  - Gaussian Shaping Amplifier (2x Sallen-Key filter)
  - adjustable shaping time
- Zone 3 pin assignment according to Class A1.2
- µRTM Management according to Class A1.2

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