MRT523

MTCA.4 RTM for AMC523, 12 Ch ADC 16-bit @ 125 MSPS

MRT523

Key Features

- MicroTCA.4 RTM for the AMC523
- Twelve channel ADC 16-bit @ 125 MSPS utilizing AD9653 device routed to AMC523
- Two analog outputs from AMC523's DACs Mezzanine
- ADC and DAC signal routed through a mezzanine
- Three pairs of user-defined digital I/O
- Double module, mid-size (full-size optional)

Benefits

- Expertise in RTM and MTCA.4 board design
- Full ecosystem of MicroTCA.4 AMCs, PMs, MCH, RTMs, chassis, and application-ready systems
- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- AS9100 and ISO9001 certified company

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MRT523

The MRT523 is a Rear Transition Module (RTM) for VadaTech's AMC523. The MRT523 accepts a mezzanine card (sold separately) to provide the ADC, DAC and Clock I/Os.

The MRT523 provides three quad channel ADCs (AD9653) on board to provide a total of 12 channels ADC 16-bit @ 125 MSPS. The ADC accept input voltage of +/–1V DC coupled, 100 Ω load. There are also dual DAC outputs with routing to the AMC523 where the DAC ICs reside. The ADCs, DAC and Clocks signals to the mezzanine are provided through five 20-pin ZIF connectors onboard the MRT523.
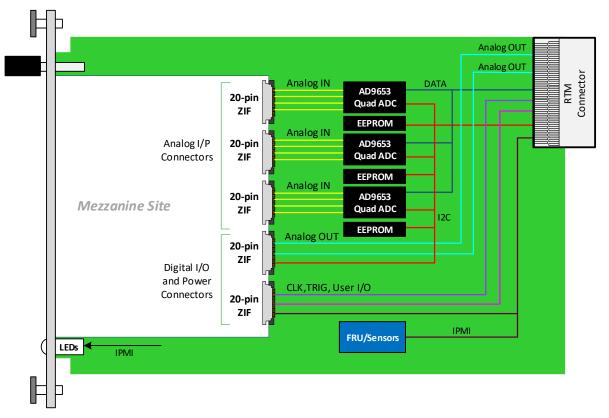
Refer to the mezzanine card datasheets (MZ523x for VadaTech versions) for available I/O channels and signal conditioning options. If you are using a custom or third-party mezzanine, ensure that the analog inputs are within +/–1V.
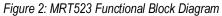
VadaTech offers a wide range of MicroTCA.4 products, including full systems. Contact your local salesperson or representative for details.
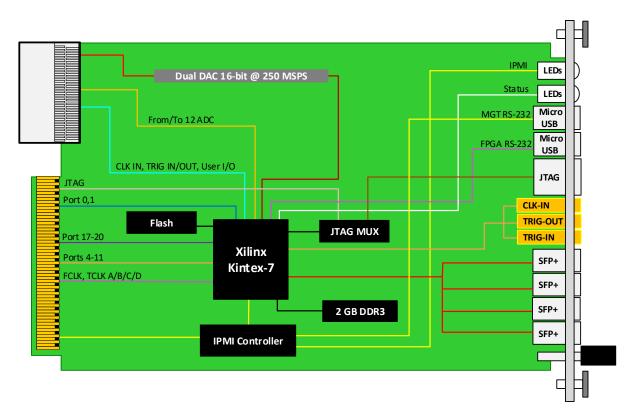

Figure 1: MRT523

Block Diagram

Figure 2: MRT523 Functional Block Diagram

Figure 3: AMC523 Functional Block Diagram (sold separately)

MRT523 – MTCA.4 RTM for AMC523, 12 Ch ADC 16-bit @ 125 MSPS

Specifications

Architecture		
Physical	**Dimensions**	Double module, mid-size (full-size optional)
		Width: 5.85" (148.5 mm)
		Depth 7.18" (182.6 mm)
		Weight: 0.3 lbs (136 g)
Type		Routes 12 analog inputs and 2 analog outputs, CLK, TRIG and User IO between the mezzanine and the AMC523 via RTM connector
		Single Mezzanine Card Slot

Standards		
MTCA	**Type**	MTCA.4 RTM
Module Management	**IPMI**	IPMI v2.0

Configuration		
Power	**MRT523**	Estimated 1W, application specific
Environmental	**Temperature**	See Ordering Options
		Storage Temperature: –40° to +85°C
	Vibration	Operating 9.8 m/s^2 (1G), 5 to 500 Hz on each axis
	Shock	30Gs each axis
	Relative Humidity	5 to 95% non-condensing
Front Panel	**Interface Connectors**	Five 20-pin ZIF connectors on board
		RTM connector to route signals to AMC523
	LEDs	IPMI management control
	Mechanical	Hot swap ejector handle
Software Support	**Operating System**	Independent

Other	
MTBF	MIL Hand book 217-F@ TBD hrs
Certifications	Designed to meet FCC, CE and UL certifications, where applicable
Standards	VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards
Warranty	Two (2) years, see VadaTech Terms and Conditions

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of OpenVPX, ATCA and MTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTMs), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

Ordering Options

MRT523 – A0C-000-00J

A = I/O Mezzanine		
0 = MZ523A (Passive Pass-through) 1 = MZ523B (Programmable Gain) 2 = No Mezzanine 3 = MZ523C (Optical Detector) (Legacy)		

C = Front Panel Size		J = Temperature Range and Coating
1 = Reserved 2 = Reserved 3 = Reserved 4 = Reserved 5 = Mid-size, MTCA.4 (captive screws) 6 = Full-size, MTCA.4 (captive screws)		0 = Commercial (–5° to +55°C), No coating 1 = Commercial (–5° to +55°C), Humiseal 1A33 Polyurethane 2 = Commercial (–5° to +55°C), Humiseal 1B31 Acrylic 3 = Industrial (–20° to +70°C), No coating 4 = Industrial (–20° to +70°C), Humiseal 1A33 Polyurethane 5 = Industrial (–20° to +70°C), Humiseal 1B31 Acrylic 6 = Extended (–40° to +85°C), Humiseal 1A33 Polyurethane* 7 = Extended (–40° to +85°C), Humiseal 1B31 Acrylic*

Notes: *Edge of module for conduction cooled boards.

For operational reasons VadaTech reserves the right to supply a higher speed FPGA device than specified on any particular order/delivery at no additional cost, unless the customer has entered into a Revision Lock agreement with respect to this product.

Related Products

AMC523

- Dual DAC 16-bit @ 250 MSPS utilizing MAX5878 device (user programmable for lower sampling rate)
- Xilinx Kintex-7 FPGA XC7K410T in FFG900 package
- Supported by DAQ Series™ data acquisition software

VT811

- MTCA System Platform 19" x 8U x 14.9" deep (with handles 16.23" deep)
- Full redundancy with dual MicroTCA Carrier Hub (MCH), dual Cooling Units and quad Power Modules
- Up to twelve AMCs: 12 front mid-size double module slots and RTM slots

UTC018

- Double-module, 12 HP height module per AMC.0
- Universal AC input (85 to 265V), 1000W
- Provides power up to 12 AMCs, 2 MCHs and Cooling Units

Contact

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