µTCA Virtex-5 Data Processing "CoBo" AMC – CM044

µTCA Virtex-5, CoBo AMC

KEY FEATURES

- Data Processing CoBo (Concentration Board) in AMC format
- Double module, full-size compliant to MicroTCA.0
- Virtex-5 FPGA (XC5VFX100T in FFG 1136 package)
- 256 MB DDR3 DDR2 SDRAM and 32 MB Flash
- Dual VHDCI, two dual-coax LEMO, and one micro USB connector via the front panel
- Port 0 and Port 4 for GbE
- Port 1 for GET Clocks
- Ports 8-11 for GET Data
- Activity and MGT LEDs
- Slow/Fast control of ASIC ADC
- Partial reconfiguration and firmware upgrade support
- Advanced diagnostic, monitoring and debugging

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Benefits of Choosing VadaTech

- Data processing performance of Virtex-5 FPGA with ASIC A/D Converter
- Electrical, mechanical, software, and system-level expertise in house
- Full ecosystem of front and rear boards, enclosures, specialty modules, and test/dev products from one source
- AS9100 and ISO9001 certified company

The CM044 AMC-based Concentration Board (CoBo) is a high-performance data processor designed according to the PICMG MTCA.0 specifications. The board is targeted for General Electronics (GET) for Time Projection Chamber (TPC) project. The AMC module intelligently reads, reduces and concentrates the high data throughput of TPC detectors.

The CoBo AMC interfaces to external ASIC ADCs, timing boards, controller and storage farms. The module comes in the double module, full-size AMC format with 1GbE on ports 0, 4. Port 1 is used for GET Clocks and Ports 8-11 are used for GET Data.

COMPLETE MICROTCA SYSTEM (GET COMPATIBLE)

For a complete MicroTCA system (GET compatible, the following products are needed from VadaTech:

- MicroTCA Chassis: VT893-123-000-000
- 792W DC Power Supply: UTC010-200-000-010
- MCH: UTC002-210-400-010
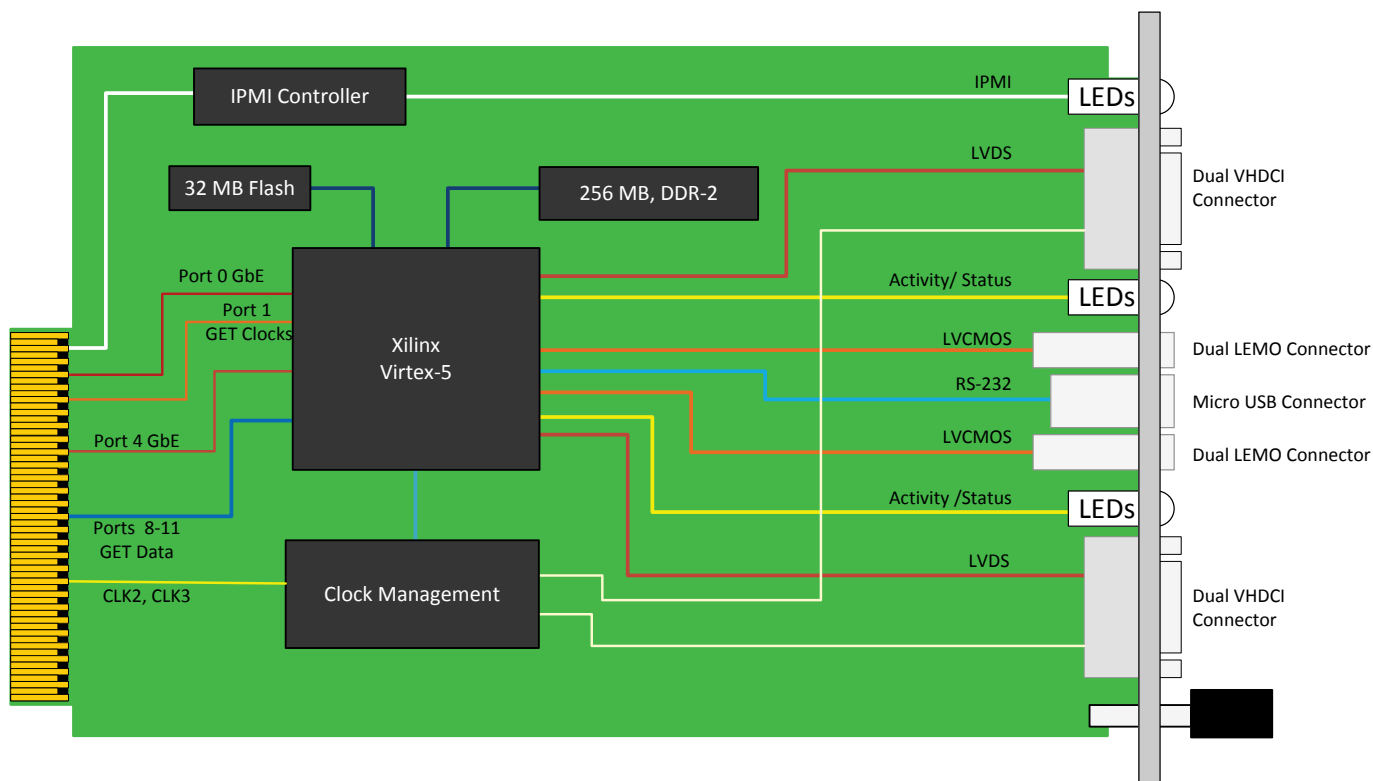- Optional JTAG Module: UTC008-000-000-000

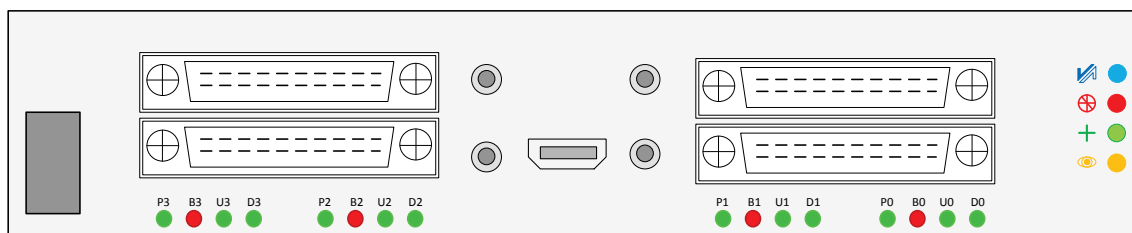## BLOCK DIAGRAM

Figure 1: Block Diagram

FRONT PANEL

Figure 2: Representative Front Panel

SPECIFICATIONS

Architecture			
Physical	Dimensions	Double module, full-size	
		Width: 5.486" (148.5 mm)	
		Depth 7.11" (180.6 mm)	
Type	AMC Data Processing Module	Xilinx Virtex-5 XC5VFX100T	
		DDR2 memory	

Standards			
AMC	Type	AMC.2	
MTCA	Type	MTCA.0	
Module Management	IPMI	IPMI version 2.0	
Ethernet	GbE	GbE on Ports 0 and 4	

Configuration			
Power	CM044	36 watts	
Environmental	Temperature	Operating Temperature: -5° to 55°C (air flow > 400LFM) industrial and military versions also available (See environmental spec sheet)	
		Storage Temperature: –40° to +85°C	
	Vibration	Operating 9.8 m/s^2 (1.0 G), 5 to 500Hz	
	Shock	30Gs on each axis	
	Relative Humidity	5 to 90 per cent, non-condensing	
Front Panel	Interface Connectors	2x Dual VHDCI Connectors, RS-232 and Dual LEMO Connectors	
	LEDs	IPMI management control	
	Mechanical	Hot swap ejector handle	
Conformal Coating		Humiseal 1A33 Polyurethane Optional)	
		Humiseal 1B31 Acrylic (Optional)	

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	Limited hardware warranty from VadaTech. Contact factory for details.
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ORDERING OPTIONS

CM044 – 000 – 000 – 00J

J = Collaborators
1 = Collaborators*
2 = Non-collaborators

*See CoBo specification document for list of collaborators.

RELATED PRODUCTS

VT893
MTCA Chassis

UTC002 MCH

UTC010 Power
Module

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