VT816 – 1U µTCA.4 Chassis with 2 AMC Slots, PCIe Gen 3

1U µTCA.4 Chassis, 2 AMCs

KEY FEATURES

- MicroTCA.4 low-profile chassis platform, 19" x 1U x 14.2" deep
- Compliant to µTCA.4 specifications with rear IO
- Supports two µTCA.4 mid-size or one full-size double module
- Optional mounting to convert slots to support two µTCA.0 mid-size or one full-size single module
- Right-to-left cooling
- Integrated MCH and Power Module
- Integrated Intel Xeon E3-1125 v2 processor @2.5 GHz
- Front panel access to the SDHC socket, JTAG, and Telco Alarm
- Dual PCIe Gen 3 x4 or single x8 to each AMC
- Layer 2 managed GbE switch
- Optional dual SAS/SATA disks (internal to the chassis)
- Removable Air Filter, Power Module, and Fan Tray
- Single 400W AC or 460W DC Power Supply pluggable from rear
- RoHS compliant

Benefits of Choosing VadaTech

- High performance density with integrated MCH and Xeon E3 V2 processor in a compact 1U size
- Ideal chassis development platform with 2 AMC slots
- Design utilizes proven VadaTech subcomponents and engineering techniques
- 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 VT816 is ideal for applications requiring rear I/O per MicroTCA.4 in a lightweight, compact size. The unit offers two AMC slots (and corresponding µRTMs), an integrated MCH, and an integrated Intel Xeon E3-1125 v2 processor (4-core, 6MB Cache) with 16MB of DDR3 with ECC. The double module AMC slots meet the MicroTCA.4 specification for applications that require rear I/O and signal conditioning, including High Energy Physics, video processing, defense, and network security.

There are dual x4 or single x8 PCIe lanes from the processor to each AMC and point-to-point routing between the two AMCs on higher ports. The AC/DC power is located in the rear of the chassis and is removable.

Linux OS is standard on the VT816, consult VadaTech for other options.

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INTEGRATED MCH, COOLING UNIT, POWER MODULE AND PROCESSOR

The VT816 has integrated MCH, Cooling Unit (CU), Power Module (PM) and Processor. The MCH is based on VadaTech UTC002. The Processor is based on Intel Xeon E3-1125 v2 (4 core) which can clock at 2.5 GHz. The module provides PCIe Gen3 x4 to each of the AMC slots. The VT816 processor comes with 16GB of DDR3 memory with ECC and 32GB of microSD Flash. The BIOS allows booting from the front panel SDHC socket, on board SATA, PXE boot and USB. There are Quad USB ports on the front panel. The VT816 has an option for dual high density SSD drivers.

The VT816 has an intelligent Cooling Unit. The cooling airflow is from right to left. The removable air filter has an optical switch to detect its presence and can be monitored for when it needs to be replaced. The VT816 has a removable 400W AC or 460W DC power supply. It is located in the rear of the chassis.

There are temperature sensors in the chassis that monitor the intake and the outtake air temperature throughout the chassis.

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of ATCA and µTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTM), 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.
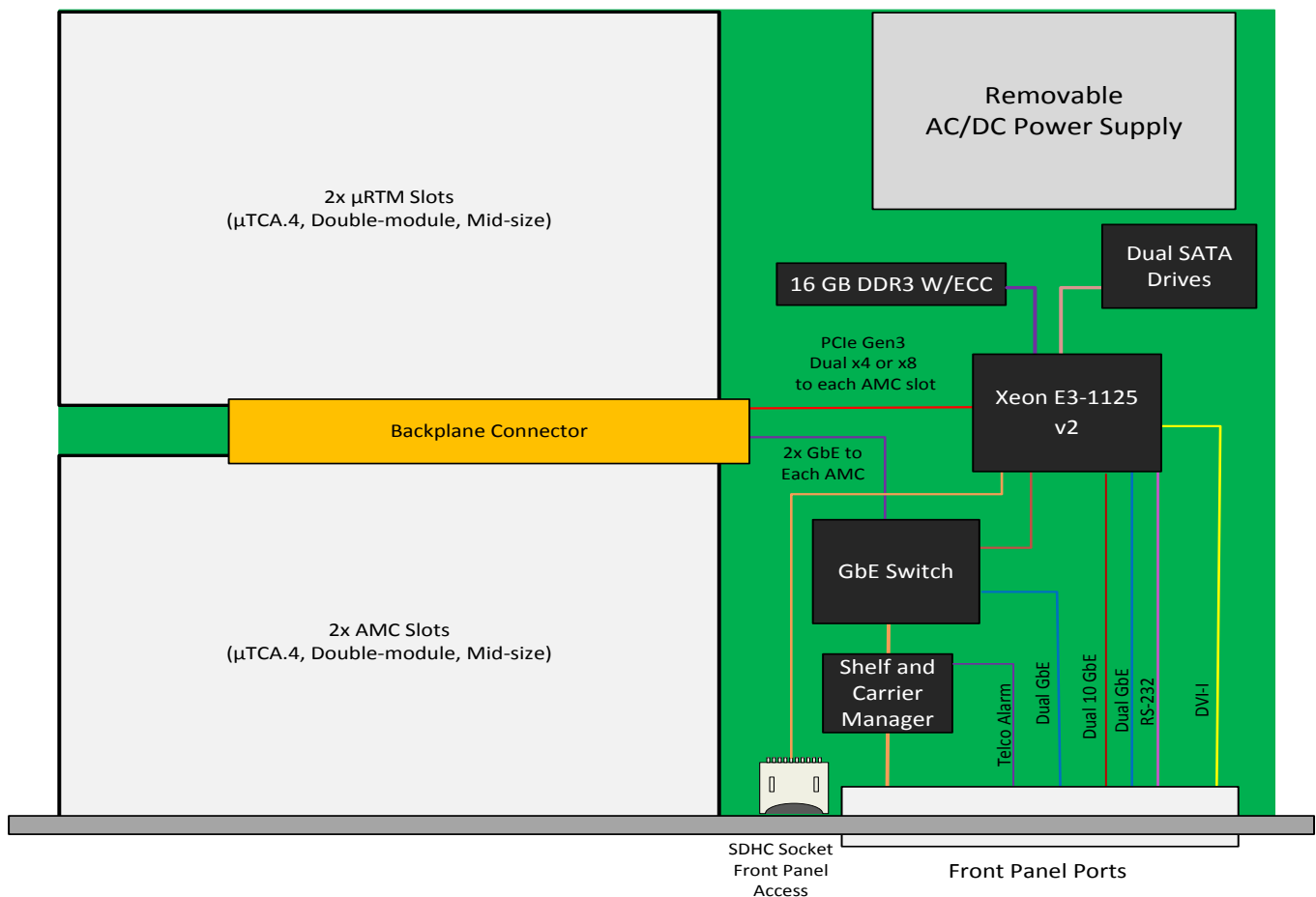
BLOCK DIAGRAMS

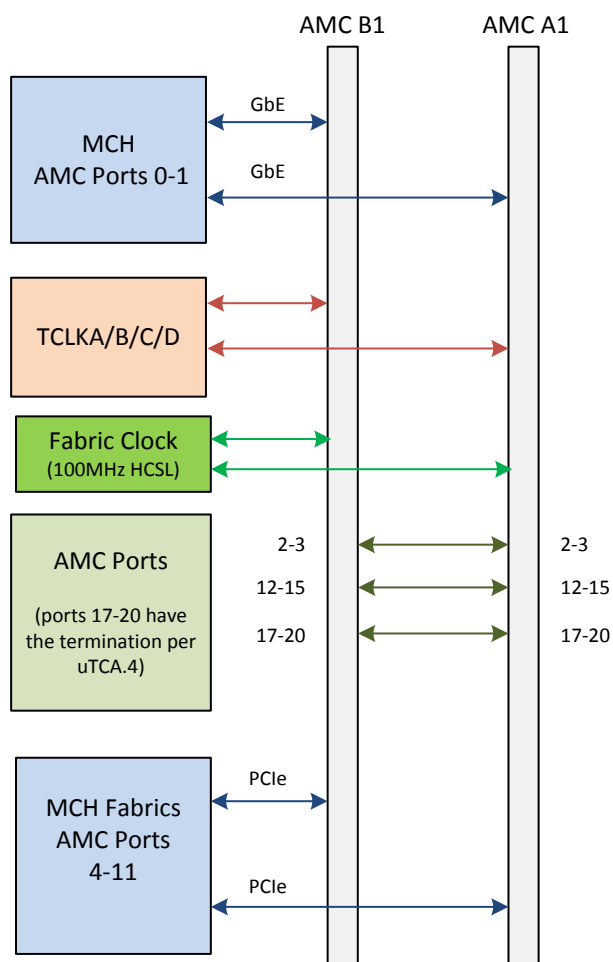

Figure 1: Functional Block Diagram

BACKPLANE CONNECTIONS

Figure 2: Backplane Connections

SPECIFICATIONS

Architecture		
Physical	Dimensions	Height 1U
		Width 19"
		Depth 14.2"
Type	µTCA.4 Chassis	Two µTCA.4 Slots with µRTMs (double module, mid-size)
Standards		
AMC	Type	AMC.0, AMC.1, AMC.2, AMC.3 and AMC.4
µTCA	µTCA.4	Single MCH, Single Power Module and Intelligent Cooling Unit
Power	VT816	400W AC or 460W DC -36 to -75V
		90-264VAC with frequency from 47-63Hz or -36 to -75VDC
Environmental	Temperature	Operating Temperature: 0° to 55° C
		Storage Temperature: –40° to +70° C
	Altitude	10,000 ft operating
		40,000 ft non-operating
	Relative Humidity	5 to 95 percent, non-condensing
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	Two (2) years	
Trademarks and Disclaimer	The VadaTech logo is a registered trademark of VadaTech, Inc. Other registered trademarks are the property of their respective owners. AdvancedTCA™ and the AdvancedMC™ logo are trademarks of the PCI Industrial Computers Manufacturers Group. All rights reserved. Specification subject to change without notice	

CHASSIS CONFIGURATION

Rear View

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ORDERING OPTIONS

VT816 – ABC – DEF – GHJ

A = Power
0 = AC (400W)
1 = DC -36 to -75V (460W)

B = SATA Drive Capacity Disk 1
0 = None
1 = Single 480 GB SSD
2 = Dual 480 GB SSD
3 = Single 800 GB SSD (min order required)
4 = Dual 800 GB SSD (min order required)
5 = Reserved

C = Module Slot Size
0 = Dual double module mid-size slots
1 = One full-size double module slot
(slot A1 not used)
3 = Dual single module mid-size slots
4 = One full-size single module slot
(slot A1 not used)

D = CPU Type
0 = Xeon E3-1125 v2 with 16GB of ECC
1 = Reserved

E = Telecom/GPS Clock
0 = None
1 = Telecom TCXO[2]
2 = GPS VCTCXO[2] (30.72 MHz)[3]
3 = GPS VCTCXO[2] (10.00 MHz)[3]
4 = Clock distribution only
5 = GPS VCTCXO[2] (50.00 MHz)[3]
6 = Reserved

F = JTAG Switch Module (JSM)
0 = None
1 = Included

G = SFP+ Transceivers
0 = None
1 = Dual 10GBASE-SR transceivers
2 = Dual 10GBASE-LR transceivers

H = SDHC Memory Size
0 = 32 GB
1 = Reserved
2 = Reserved

J = Temperature Range and Coating
0 = Commercial, No coating
1 = Commercial, Humiseal 1A33 Polyurethane
2 = Commercial, Humiseal 1B31 Acrylic
3 = Industrial, No coating
4 = Industrial, Humiseal 1A33 Polyurethane
5 = Industrial, Humiseal 1B31 Acrylic

[2] The Crystal Oscillator is Stratum-3; for lower cost solution contact VadaTech Sales.

[3] Frequencies from 8MHz to 52MHz are available.

RELATED PRODUCTS

**AMC520 10 Channel
A/D Converter**

**MRT520 RTM
For AMC520**

**CM045 Data
Processing AMC**

CONTACT US

VadaTech Corporate Office

198 N. Gibson Rd.
Henderson, NV 89014
Email: info@vadatech.com
Telephone: +1 702 896-3337
Fax: +1 702 896-0332

Asia Pacific Sales Office

7 Floor, No. 2, Wenhu Street, Neihu District,
Taipei 114,Taiwan
Email: info@vadatech.com
Telephone: +886-2-2627-7655
Fax: +886-2-2627-7792

VadaTech European Sales Office

VadaTech House, Bulls Copse Road,
Southampton, SO40 9LR
Email: info@vadatech.com
Telephone: +44 2380 016403

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www.vadatech.com

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info@vadatech.com