

## Shelf Manager for LCR ATCA Chassis – VT004

LCR ATCA Shelf Manager



**AdvancedTCA®**

### KEY FEATURES

- 32-bit RISC processor @ 180 MHz
- 64 Mbytes of SDRAM
- 128 Mbytes of flash
- Dual 10/100 Ethernet ports
- RS-232 Debug port
- Linux release 2.6.15
- Field upgradable with dual Boot Flash
- IPMI 2.0 compliant
- Telco alarms
- Isolated DC/DC converter
- Active/standby redundancy when utilizing two VT004s in the system
- Rich set of management software (refer to the VT001 or VT003 specification for all software components) such as HPI, RMCP, SNMP, CLI, HTTP, etc.
- VT004 can run as an IPMI protocol analyzer to monitor the I2C busses

### Benefits of Choosing VadaTech

- 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
- Designed and manufactured in the USA
- AS9100 and ISO9001 certified company

The VT004 is a carrier which utilizes the VadaTech Shelf Manager. The carrier is designed to fit the LCR chassis. The carrier meets all the requirements per ATCA specification including Telco alarms, isolated DC/DC converter, LEDs, etc.

When two VT004s are in the system, they operate in redundant active/standby mode. During operation one VT004 is active while the second one is synchronized in hot standby mode. The VT004 is fully hot-swappable to minimize service down time.

Each IPMI bus has a 64-byte FIFO to allow for a full IPMI packet on each I<sup>2</sup>C bus so there is no packet loss during operation.

The VT004 can also run as a protocol analyzer to monitor, inject, capture and validate I<sup>2</sup>C traffic on the Intelligent Platform Management Bus (IPMB). A Graphical User Interface (GUI) validates and displays the IPMI packets or schedules IPMI messages for injection into the shelf. The GUI application communicates with the VT004 through the Ethernet port.

## INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of ATCA and  $\mu$ TCA 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.

## IPMI PROTOCOL ANALYZER

The screenshot displays the VadaTech IPMI Trace Viewer 2.1 interface. The main window shows a table of IPMI events with columns for No., Time, Bus, Dir, Src, Dest, Seq, Net Fn, and Command. A filter is applied: "Platform Event && Request". The selected event (No. 728) is highlighted in blue. Below the table, a detailed view of the selected event is shown, including its header and body fields.

No.	Time	Bus	Dir	Src	Dest	Seq	Net Fn	Command
722	77.050.000	IPMB-A	REQ	0x92	0x20	16	Sensor/Event	Platform Event
724	77.330.000	IPMB-A	REQ	0x88	0x20	1	Sensor/Event	Platform Event
725	77.410.000	IPMB-A	REQ	0x90	0x20	20	Sensor/Event	Platform Event
728	77.740.000	IPMB-B	REQ	0x88	0x20	2	Sensor/Event	Platform Event
729	77.810.000	IPMB-B	REQ	0x92	0x20	20	Sensor/Event	Platform Event
730	77.830.000	IPMB-A	REQ	0x92	0x20	8	Sensor/Event	Platform Event
731	77.840.000	IPMB-B	REQ	0x92	0x20	12	Sensor/Event	Platform Event
732	77.870.000	IPMB-A	REQ	0x92	0x20	16	Sensor/Event	Platform Event
735	78.210.000	IPMB-A	REQ	0x88	0x20	3	Sensor/Event	Platform Event
736	78.230.000	IPMB-B	REQ	0x90	0x20	20	Sensor/Event	Platform Event
738	78.610.000	IPMB-B	REQ	0x88	0x20	4	Sensor/Event	Platform Event
739	78.640.000	IPMB-B	REQ	0x92	0x20	20	Sensor/Event	Platform Event
740	78.650.000	IPMB-A	REQ	0x92	0x20	8	Sensor/Event	Platform Event
741	78.660.000	IPMB-B	REQ	0x92	0x20	12	Sensor/Event	Platform Event
742	78.690.000	IPMB-A	REQ	0x92	0x20	16	Sensor/Event	Platform Event
743	79.020.000	IPMB-A	REQ	0x88	0x20	5	Sensor/Event	Platform Event
744	79.050.000	IPMB-A	REQ	0x90	0x20	20	Sensor/Event	Platform Event
745	79.430.000	IPMB-B	REQ	0x88	0x20	6	Sensor/Event	Platform Event
746	79.460.000	IPMB-R	REQ	0x92	0x20	20	Sensor/Event	Platform Event

Request: 0x88 -> 0x20 Platform Event (Sensor/Event) (seq 2)

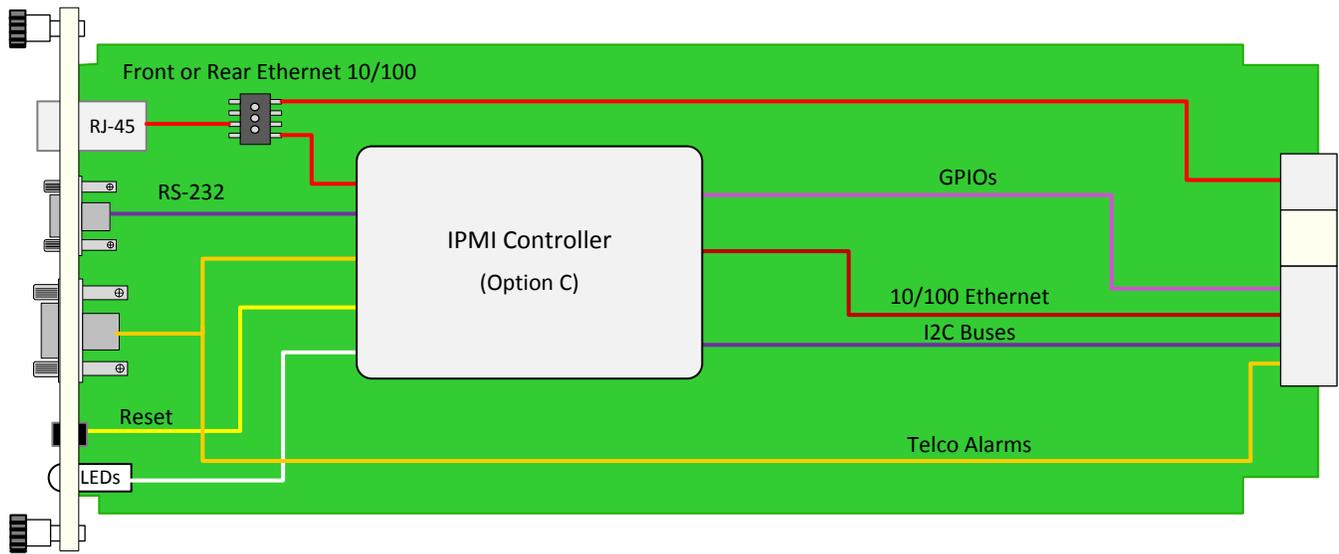
Header

Body

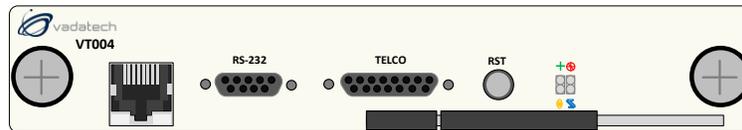
- Event Message Revision : 0x04 (4)
- Sensor Type : 0x01 (Temperature)
- Sensor Number : 0x02 (2)
- Event Type : 0x01 (Threshold)
- Event Direction : 0x01 (Deassertion)
- Offset : 0x07 (Upper Non-Critical Going High)
- Byte 2 Encoding : 0x01 (Trigger Reading)
- Byte 3 Encoding : 0x01 (Trigger Value)
- Reading : 0x31 (49)
- Threshold : 0x32 (50)

0x20 0x10 0xd0 0x88 0x9 0x2 0x4 0x1 0x2 0x81 0x57 0x31 0x32 0x2b

## BLOCK DIAGRAM



## FRONT PANEL



# Shelf Manager for LCR ATCA Chassis – VT004

## SPECIFICATIONS

Architecture		
Physical	Dimensions	Width: 3.937" (100 mm)
		Depth: 11.06" (280.7 mm)
Type	Shelf Manager	For LCR Chassis: 14 and 5 slot
Standards		
Module Management	IPMI	IPMI version 2.0 and PICMG 3.0
Configuration		
Power	VT004	4 W typical, 5 W max
Environmental	Temperature	Operating Temperature: 0° to 55° C, (Air flow requirement is to be greater than 100 LFM) Available in Industrial Temp
		Storage Temperature: -40° to +90° C
	Vibration	1G, 5 – 500 Hz on each axis
	Shock	30Gs on each axis
	Relative Humidity	5 to 95 percent, non-condensing
Front Panel	Interface Connectors	Micro DB-15 connector for telco alarm
		RS-232 via Micro DB-9
		10/100 Ethernet via RJ-45
	LEDs	IPMI Management
		Activity/Link and User LEDs
	Push Button	Reset switch
	Mechanical	Hot-swap extractor handle
Software	Operating Systems	Linux
Other		
MTBF	MIL Hand book 217-F @ 233,000 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	
Compliance	RoHS and NEBS	
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	

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## ORDERING OPTIONS

### VT004 – ABC – 000 – 0HJ

#### A = Software

- 1 = Shelf Manager
- 2 = IPMI Protocol Analyzer

#### B = Front Panel

- 1 = No Load
- 2 = Include RJ-45

#### C = IPMI Controller

- 0 = VT001
- 1 = VT003

#### H = Operating Temperature

- 1 = Commercial
- 2 = Industrial

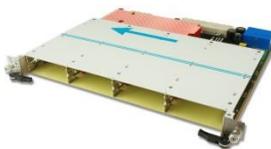
#### J = Conformal Coating

- 0 = None
- 1 = Humiseal 1A33 Polyurethane
- 2 = Humiseal 1B31 Acrylic

## RELATED PRODUCTS



VT830 5U ATCA  
SlotSaver Chassis



ATC133 ATCA  
Carrier Quad AMC



ART131 ATCA RTM  
Common Pinout

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