

VPX980

Chassis Manager with JTAG Switch Module (JSM), 6U VPX



VPX980

Key Features

- Quad Core ARM Freescale processor @ 1 GHz per core
- One GB DDR3 memory with FRAM for log messages
- 32 GB of Flash, 8 GB of NAND Flash
- JSM with 16 JTAG ports
- I2C Real Time Clock with battery backup
- Low power (4 W)
- IPMI 2.0 compliant

Benefits

- Supports VITA 46.11 Tier-2 command set
- Utilizing VadaTech VT003 third generation Shelf
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company



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VPX980

The VadaTech VPX980 Chassis Manager is based on the VITA 46.11 specification. The VITA 46.11 leverages the Intelligent Platform Management Interface (IPMI) and AdvancedTCA Specification by the PICMG as its architectural foundation. The VadaTech Chassis Management solution is derived from our field proven VadaTech ATCA Shelf Manager utilizing core interfaces such as the Simple Network Management Protocol (SNMP), Remote Management Control Protocol (RMCP), Web Interface, System Management application (Scorpionware™), and a user-friendly Command Line Interface.

VadaTech VPX IPMC and Chassis Management solutions support VITA 46.11 Tier-2 command set, providing a higher level of functionality in the management layer and chassis cooling capabilities. Additionally, VadaTech VPX management solutions have taken advantage of the HPM.1 PICMG Specification providing a framework for upgrading the IPMC firmware.

The Module has GbE as 1000Base-TX from the front panel connecting to the Shelf Manager. It also has GbE to P1 as 1000Base-BX.

The module also has an option for JTAG Switch Module (JSM) and optional Virtual Probe, easing device access within the chassis for FPGA code developers. The JTAG ports from each VPX module are routed to the P3/P4 for a total of 16 modules. This allows max flexibility within the chassis. The Module JSM is configured via either the GbE ports (front or rear).

The JSM could also be used as a standalone module, so multiple JTAG dongles are not needed within the chassis.



Figure 1: VPX980

JTAG Master/JTAG via Ethernet Virtual Probe

The VPX980 provides JTAG Master Capability to send out configuration data streams via the chassis JSM to configure arbitrary JTAG Slave devices on the VPX cards. Virtual Probe services are also available to provide JTAG via Ethernet for Xilinx FPGAs. This allows for standard development tools such as Xilinx iMPACT/ChipScope to treat the MCH/JSM combination as if it was a standard JTAG probe. This approach frees the developer from having to attach JTAG probes directly to the VPX or JSM which can be difficult when systems are already fully assembled. It also allows for remote debugging across long distances when required without the need to install additional JTAG equipment on-site.

Scorpionware™ Software

VadaTech's Scorpionware™ software can be used to access information about the current state of the Shelf or the Carrier, obtain information such as the FRU population, or monitor alarms, power management, current sensor values, and the overall health of the Shelf. The software GUI is very powerful, providing a Virtual Carrier and FRU construct for a simple, effective interface.

IPMI Protocol Analyzer

VPX980 can be used as an IPMI protocol analyzer. Figure 2 shows the trace viewer output from VPX980.

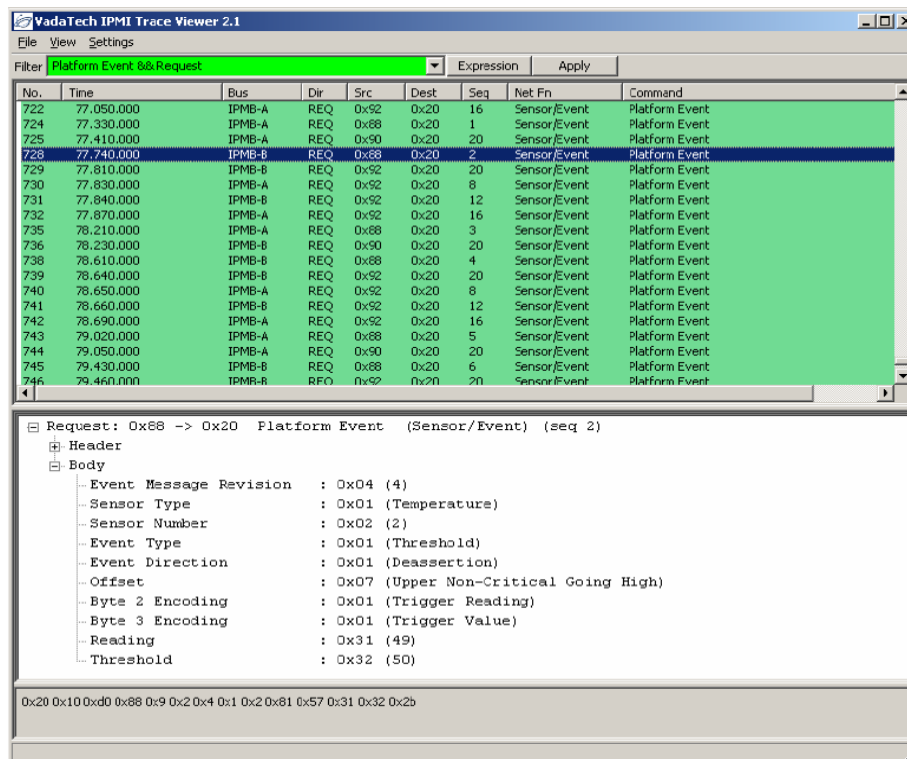


Figure 2: IPMI Protocol Analyzer Trace Viewer Output

Block Diagram

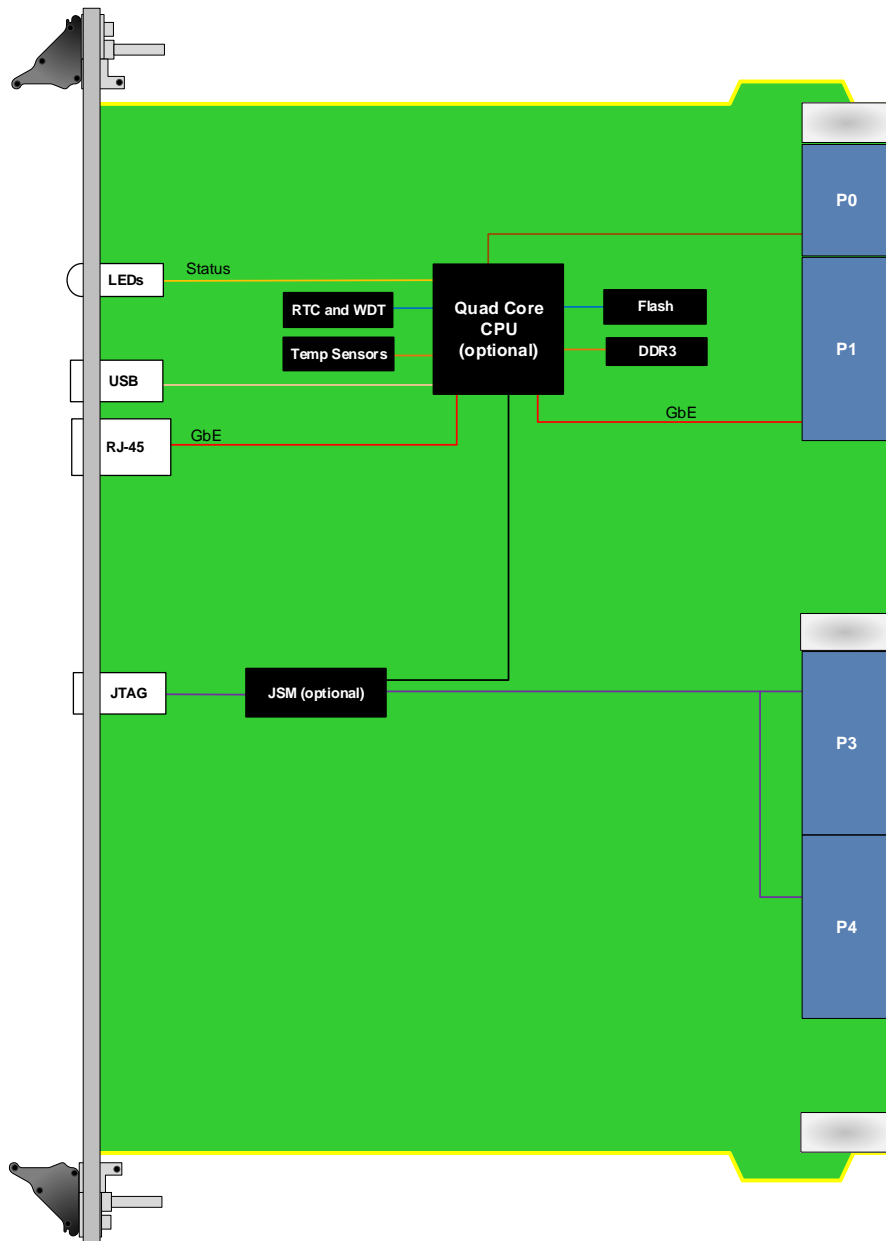


Figure 3: VPX980 Functional Block Diagram

Front Panel

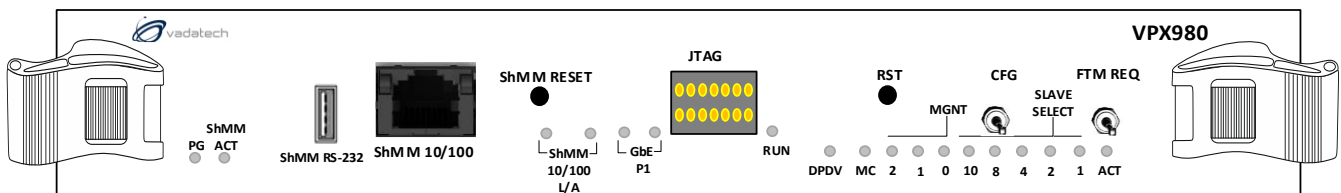


Figure 4: VPX980 Front Panel

Specifications

Architecture	
Physical	Dimensions 6U, 1" pitch
Standards	
Module Management	IPMI VadaTech VPX Shelf Manager and JTAG Switch Module
Configuration	
Power	VPX980 ~4 W
Environmental	Temperature See ordering options Storage Temperature: -40° to +90° C
	Vibration 1G, 5-500 Hz each axis
	Shock 30Gs on each axis
	Relative Humidity 5 to 95% non-condensing
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

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

VPX980 – AB0-00F-0HJ

A = VT003 (Shelf Manager)		
0 = No VT003 1 = VT003		
B = JSM		H = Operating Temperature
0 = No JSM 1 = JSM		0 = Commercial (-0° to 65°C) 1 = Industrial
F = JTAG Virtual Probe*		J = Conformal Coating
0 = No Virtual Probe 1 = Virtual Probe		0 = No coating 1 = Humiseal 1A33 Polyurethane 2 = Humiseal 1B31 Acrylic

Notes: If Option F=1 is required, Option A=1 and B=1 must also be ordered.

Related Products

VPX551



- Dual Kintex UltraScale™ XCKU115
- 16 GB of 64-bit wide DDR4 Memory to each FPGA
- Rear fibre I/O via VITA 66.5

VPX645



- 3U VPX NVMe Host Bus Adapter with Full support for RAID
- Dual Core ARM A15 RAID on Chip (ROC)
- On board 8 GB of DDR4 Memory with ECC

VPX752



- 6U VPX module Intel 5th Generation Xeon-D SoC
- PCIe Gen3 x16 (dual x8 or quad x4)
- Quad 10GbE XAUI

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