VPX100

MXM GPGPU PCIe Gen4 Carrier for VPX 3U Systems

VPX100

Key Features

- 3U VPX module VITA 46.0
- MXM GPGPU form factor
- Multi source MXM module allows customers to select different GPGPU options
- Support for PCIe Gen4 x16 lanes (module could run at PCIe Gen1, 2, and 3)
- I/O Front or Rear (P2 connector)
- Health Management through dedicated Processor

Benefits

- Multi source MXM modules
- Standard PCIe Gen4 interface to backplane
- Standard flexible connectivity to backplane
- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

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VPX100

The VPX100 is a carrier module (VITA 46) for general purpose MXM modules which supports multiple GPGPU suppliers. The VPX100 can support PCIe Gen4 x16.

The module can be ordered with the PCIe x4, x8 or x16 routed to the P1 connector. This allows the most flexibility for custom backplane.

The VPX100 routes DP and I/O to the P2 connector or to the Front Panel.

The module supports Tier-1 and Tier-2 where the health management monitors the temperature of the module and reports to the higher-level shelf manager with a dedicated IPMI controller.

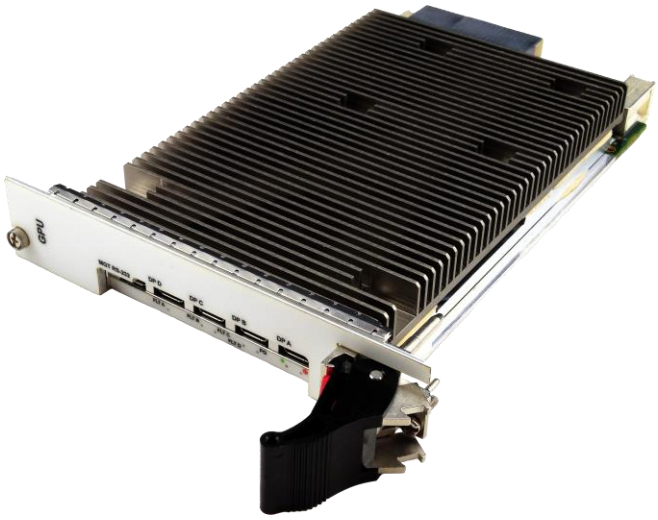

Figure 1: VPX100

Figure 2: VPX100 with Rear I/O

Block Diagram

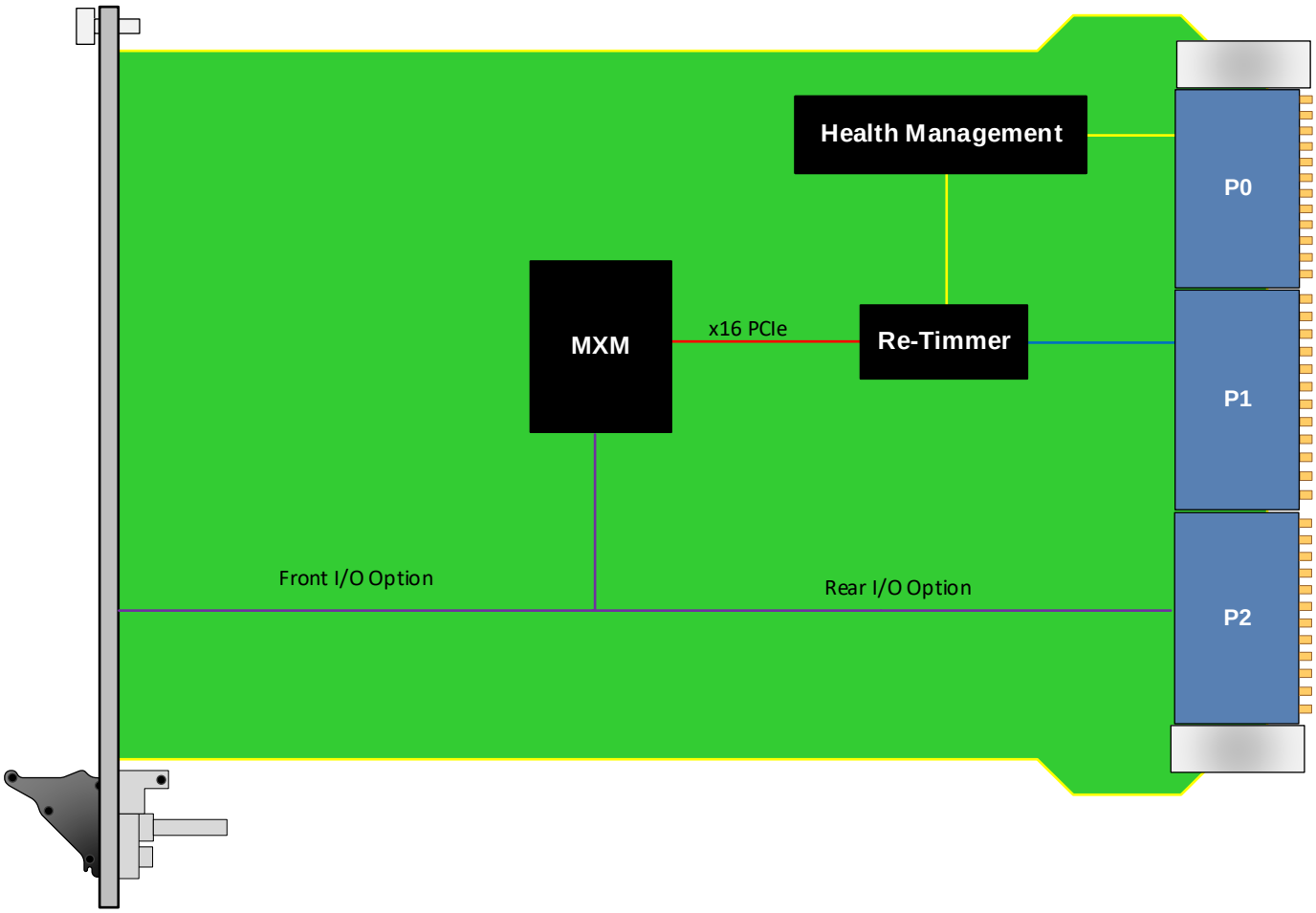

Figure 3: VPX100 Functional Block Diagram

Front Panel

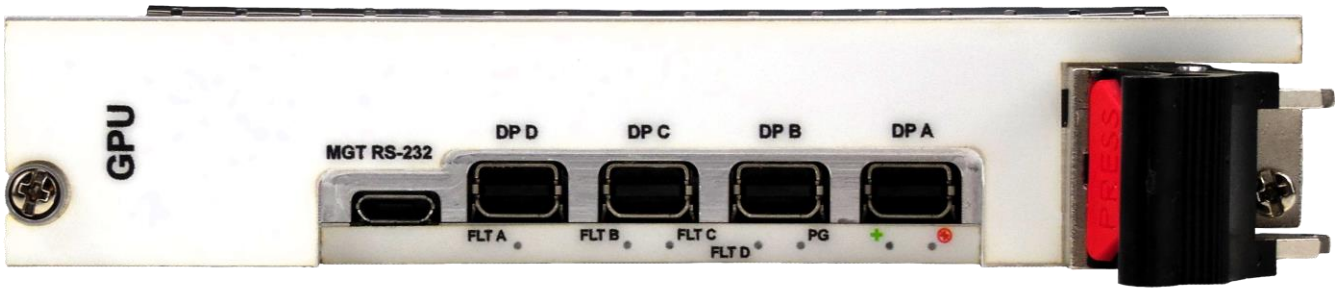

Figure 4: VPX100 Front Panel View, Front I/O

Specifications

Architecture		
Physical	**Dimensions**	3U, 1” pitch (for air-cooled version)
Configuration		
Power	**VPX100**	120W Application specific and MXM module specific (see ordering option)
Bridge	**PCIe**	Gen4 x16
Front Panel	**DP**	DP routed to the front or rear (P2)
	Micro USB	Front I/O option RS-232 for Health Management
	LEDs	User defined by Health Management
Onboard Interfaces		MXM
VPX Interfaces	**Slot Profiles**	See Ordering Options
	Rear IO	16x PCIe Gen4 to P1
	Power Supplies	On P0: VS1 = +12V, +5V, +3.3V
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 ISO9001:2015 and AS9100D 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

VPX100 – AB0-DE0-GHJ

A = MXM Module	D = PCIe Lanes	G = Applicable Slot Profiles
0 = No MXM 1 = NVDIA P3000 (75W) 2 = NVDIA P5000 (100W) 3 = AMD E9260 (50W) 4 = AETINA M3N1060-MN-DC (60W) 5 = NVIDIA Quadro RTX 5000 (110W) 6 = NVIDIA Quadro RTX 3000 (80W) 7 = NVIDIA T1000 (50W) 8 = NVIDIA RTX A2000 with 8GB (60W) 9 = NVIDIA RTX A4500 with 16GB (80W)	0 = x4 to P1 1 = x8 to P1 2 = x16 to P1 3 = Reserved 4 = Reserved	0 = 5HP VITA48 1 = 5HP IEEE1101.1
B = MXM Module	**E = I/O**	**H = Environmental**
0 = No MXM 1 = NVIDIA M3A500 with 4GB (45W)	0 = Rear (P2) * 1 = Front 2 = Reserved 3 = Reserved	See Environmental Specification
C = VPX Connector Type		**J = Conformal Coating**
0 = Standard 50u Gold Rugged 1 = KVPX Connectors		0 = No coating 1 = Humiseal 1A33 Polyurethane 2 = Humiseal 1B31 Acrylic

Notes:

* Please contact VadaTech Sales for any specific I/O load to the P2 connector

Environmental Specification

	Air Cooled		Conduction Cooled		
Option H	**H = 0**	**H = 1**	**H = 2**	**H = 3**	**H = 4**
Operating Temperature	AC1* (0°C to +55°C)	AC3* (-40°C to +70°C)	CC1* (0°C to +55°C)	CC3* (-40°C to +70°C)	CC4* (-40°C to +85°C)
Storage Temperature	C1* (-40°C to +85°C)	C3* (-50°C to +100°C)	C1* (-40°C to +85°C)	C3* (-50°C to +100°C)	C3* (-50°C to +100°C)
Operating Vibration	V2* (0.04 g2/Hz max)	V2* (0.04 g2/Hz max)	V3* (0.1 g2/Hz max)	V3* (0.1 g2/Hz max)	V3 (0.1 g2/Hz max)
Storage Vibration	OS1* (20g)	OS1* (20g)	OS2* (40g)	OS2* (40g)	OS2* (40g)
Humidity	95% non-condensing	95% non-condensing	95% non-condensing	95% non-condensing	95% non-condensing

Notes:

*Nomenclature per ANSI/VITA 47. Contact local sales office for conduction cooled (H = 2, 3, 4).

Related Products

VPX518

- 3U FPGA carrier for FMC per VITA 46 and VITA 57
- Xilinx Zynq-7000 FPGA in FFG-900 package (XC7Z100 or XC7Z045)
- High-performance clock jitter cleaner

VPX599

- 3U FPGA Dual DAC and dual ADC per VITA 46
- Xilinx Kintex UltraScale™ XCKU115 FPGA
- Dual ADC 12-bit @ 6.4 GSPS

VPX004

- Switch, PCIe Gen 3 with Integrated Health Management
- 1GbE base switch with dual 100/1000/10G uplink
- GPS/SyncE/IEEE1588 support

Contact

VadaTech Corporate Office

198 N. Gibson Road, Henderson, NV 89014
Phone: +1 702 896-3337 | Fax: +1 702 896-0332

Asia Pacific Sales Office

7 Floor, No. 2, Wenhu Street, Neihu District, Taipei 114, Taiwan
Phone: +886-2-2627-7655 | Fax: +886-2-2627-7792

VadaTech European Sales Office

VadaTech House, Bulls Copse Road, Southampton, SO40 9LR
Phone: +44 2380 016403

info@vadatech.com | www.vadatech.com

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