

VPX645

NVMe HBA with RAID (0, 1, 5, 6, 10, 50 and 60), 3U VPX



VPX645

Key Features

- 3U VPX NVMe Host Bus Adapter with Full support for RAID
- Dual Core ARM A15 RAID On Chip (ROC)
- Onboard 8 GB of DDR4 Memory with ECC
- Hardware Engine for RAID 5 and RAID 6 acceleration
- PCIe Gen3 x8 or x4
- Health Management through dedicated Processor

Benefits

- Multi-Terabit storage capacity in a 3U VPX form factor
- NVMe performance with full RAID support
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company



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OpenVPX™



VPX645

The VPX645 is full ROC Host Bus Adapter (HBA) which supports RAID level 0, 1, 5, 6, 10, 50 and 60. The module supports End-to-End CRC (ECRC) and Advanced Error Reporting (AER). The NVMe storage provides high speed and low latency read/write to the SSD devices.

The module has up to 16 NVMe storage devices and an additional 8 GB of DDR4 with ECC.

The VPX645 has PCIe Gen3 x8 or single x4 routed to the P1 connector.

The Unit is available in both air-cooled and rugged conduction-cooled versions. Please contact sales for details.



Figure 1: VPX645

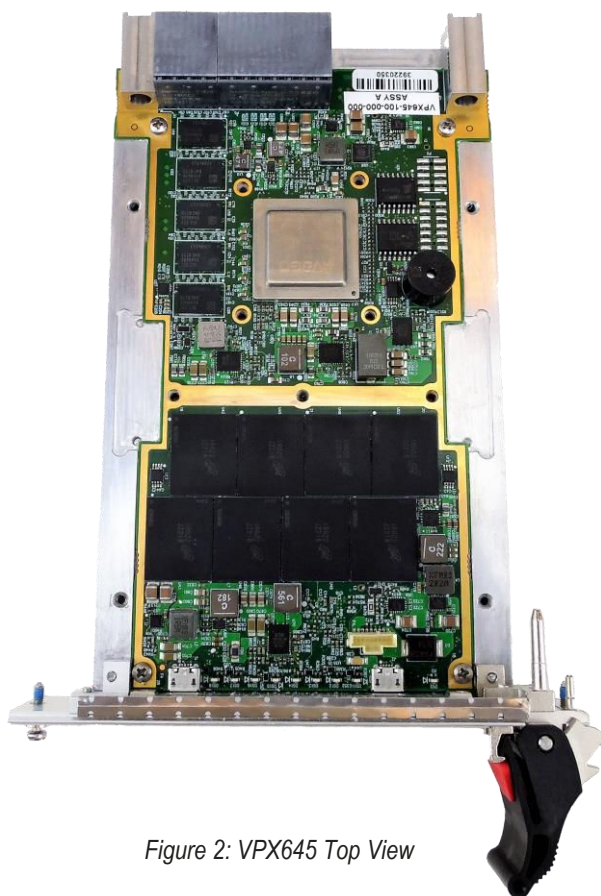


Figure 2: VPX645 Top View

Block Diagram

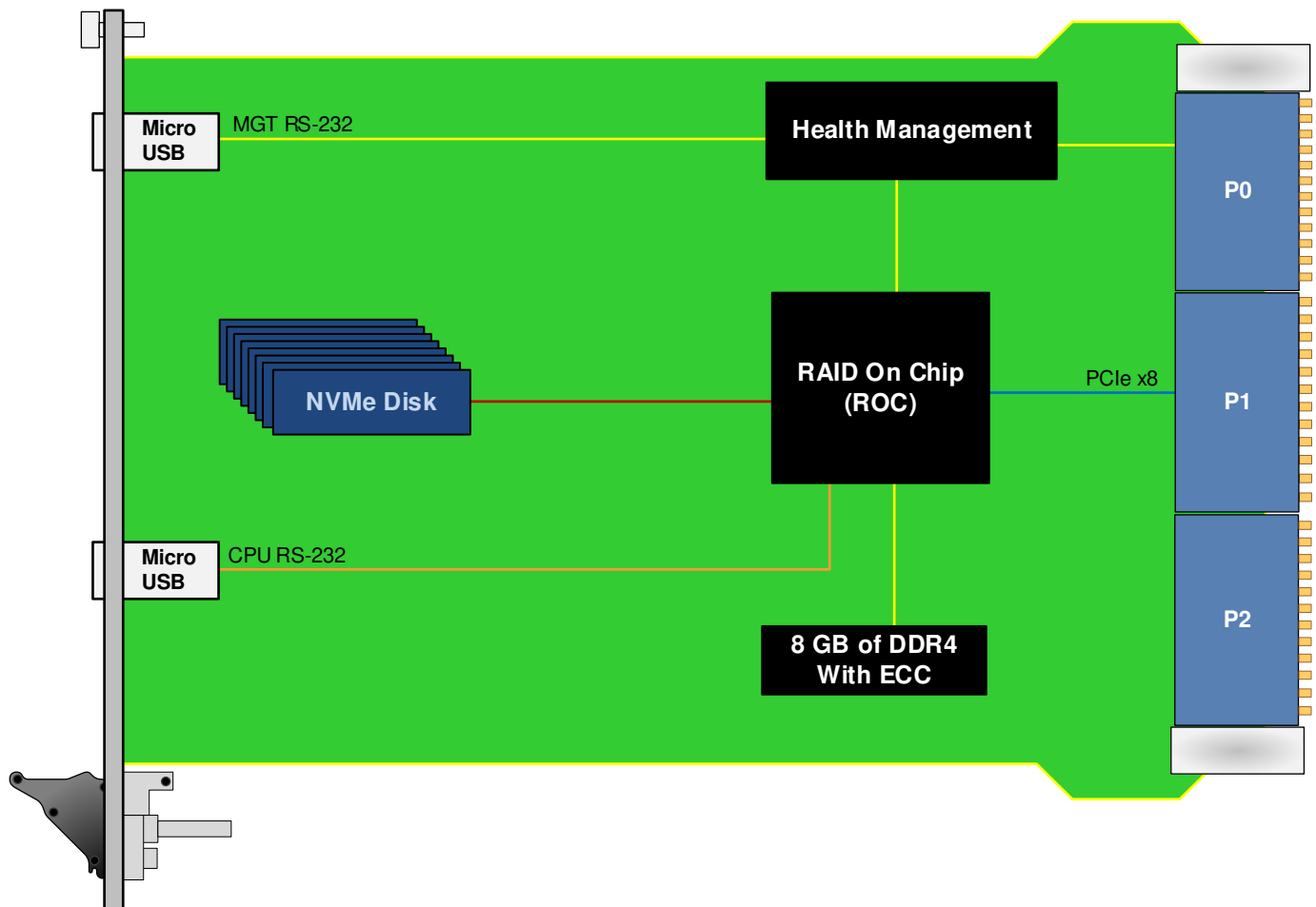


Figure 3: VPX645 Functional Block Diagram

Front Panel

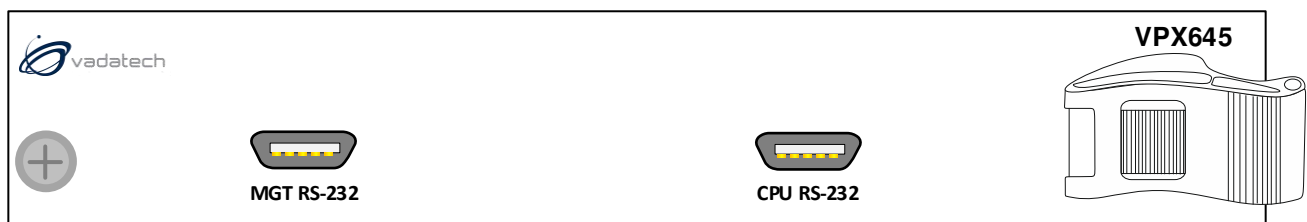


Figure 4: VPX645 Front Panel

Specifications

Architecture		
Physical	Dimensions	3U, 1" Pitch
Type	VPX Storage	NVMe SSD
Standards		
PCIe	Lanes	Single x8 or single x4
Storage	SSD	Up to 16 NVMe SSD
Configuration		
Power	VPX645	40W with 8 TB of Storage
Front Panel	Micro USB	RS-232 from CPU and RS-232 from Health Management
VPX Interfaces	Slot Profiles	See Ordering Options
	Rear IO	Dual Core ARM A15 RAID On Chip (ROC) PCIe Gen3 x8 or (optional x4)
Software Support	Operating System	Linux, Windows, Solaris and VxWorks
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

VPX645 – ABC-000-GHJ

A = NVMe Storage Capacity		G = Applicable Slot Profiles
0 = 4 TB 1 = 8 TB 2 = Reserved 3 = Reserved 4 = Reserved		0 = 5 HP
B = PCIe Interface		H = Environmental
0 = x4 to P1 1 = x8 to P1		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

Environmental Specification

Option H	Air Cooled		Conduction Cooled		
	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

VPX592



- 3U FPGA carrier for FPGA Mezzanine Card (FMC) per VITA 46 and VITA 57
- Xilinx Kintex UltraScale™ XCKU115 FPGA
- High-performance clock jitter cleaner

VPX599



- Xilinx Kintex UltraScale™ XCKU115 FPGA
- Dual ADC 12-bit @ 6.4 GSPS
- Dual DAC 16-bit @ 12 GSPS (AD9162 or AD9164)

VPX516



- 3U FPGA carrier for FMC per VITA 46 and VITA 57
- Xilinx Virtex-7 690T FPGA in FFG-1761 package
- High-performance clock jitter cleaner

Contact

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