

VPX640

NVMe HBA, with Quad M.2 NVMe
Solid State Drives, 3U VPX

Key Features

- 3U VPX NVMe Host Bus Adapter with quad M.2 NVMe type SSD
- Allows for M.2 Type 2280 and/or 22110
- PCIe Gen3 x8 or dual x4 to the backplane
- PCIe x4 Gen3 to each M.2 Socket
- Health Management through dedicated Processor

Benefits

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



vadatech
THE POWER OF VISION

OpenVPX™



VPX640

The VPX640 is an M.2 Host Bus Adapter (HBA) which supports up to four M.2 type 2280 and/or 22110 style storage devices. The NVMe storage provides high speed and low latency read/write to the SSD devices.

The unit has PCIe Gen3 x8 or dual x4 routed to the P1 connector. Flexible user configuration allows each M.2 to be routed to Ports 0-3, 4-7 or 0-7 (as PCIe x8) on P1. The user can configure and route Ports 0-3 or 4-7 on P1 to any combination of the M.2 modules or to none (e.g. Ports 0-3 to one M.2 and 4-7 to P1 to three more M.2). When not used, Ports 0-3 or 4-7 on P1 can be disabled to avoid clashing with other fabrics in the system.

The VPX640 is available in both air-cooled and rugged conduction-cooled versions. Please contact sales for details.

Block Diagram

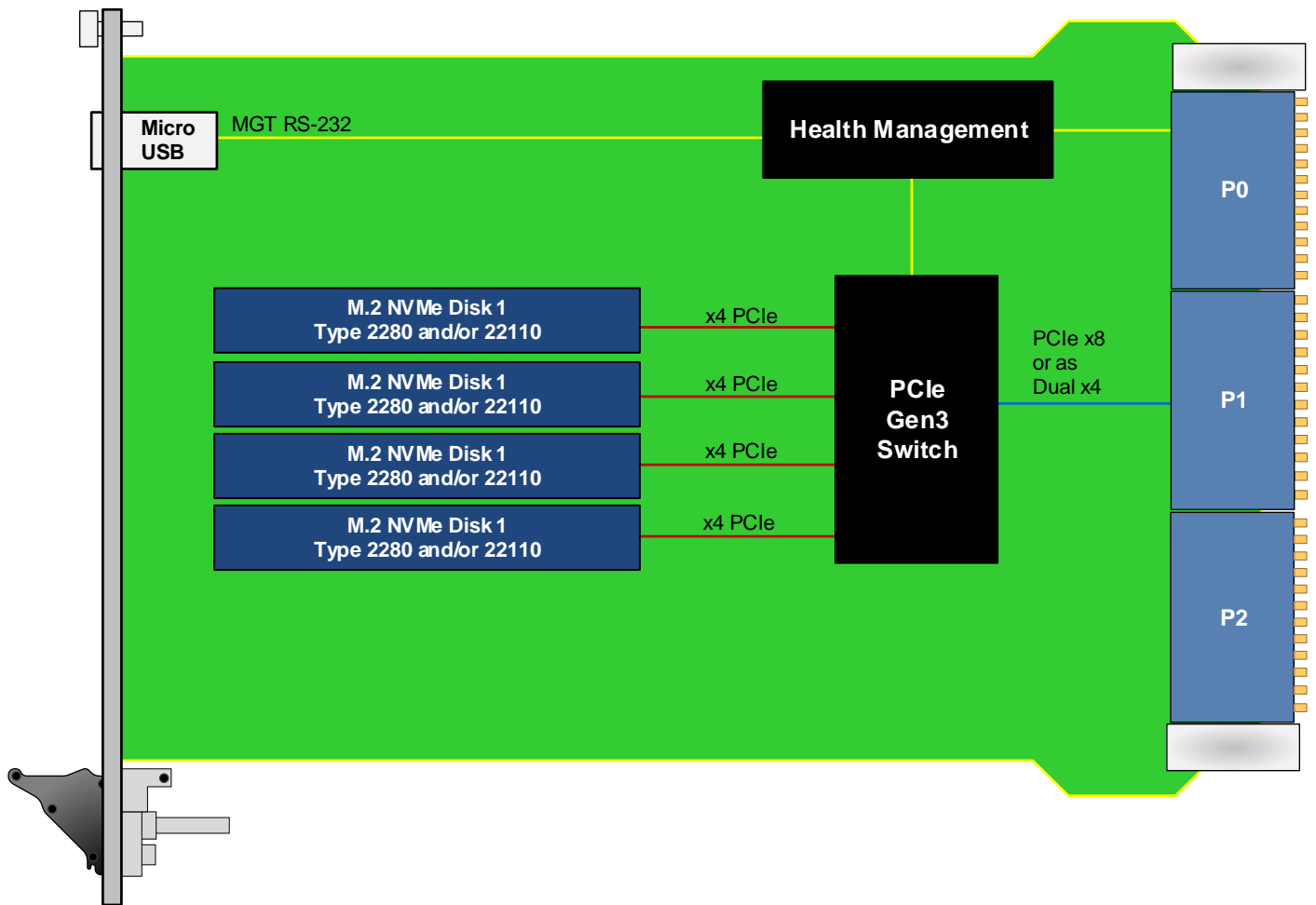


Figure 1: VPX640 Functional Block Diagram

Front Panel



Figure 2: VPX640 Front Panel

Specifications

Architecture		
Physical	Dimensions	3U, 1" Pitch
Type	VPX Storage	M.2 NVMe SSD
Standards		
VPX	Type	VITA 46.x
VPX	Type	VITA 65 OpenVPX
Module Management	IPMI	IPMI v2.0
PCIe	Lanes	Dual x4 or single x8 as PCIe
Storage	SSD	Up to four M.2 NVMe SSD
Configuration		
Power	VPX640	4W without SSD (with four 2 TB SSD: 25W)
Front Panel	Micro USB	RS-232 from Health Management
VPX Interfaces	Slot Profiles	See Ordering Options
	Rear IO	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

VPX640 – ABC-DEF-0HJ

A = M.2 NVMe SSD 1 0 = No SSD 1 1 = 512 GB 2 = 1 TB 3 = 2 TB	D = M.2 NVMe SSD 3 0 = No SSD 3 1 = 512 GB 2 = 1 TB 3 = 2 TB	
B = M.2 NVMe SSD 2 0 = No SSD 2 1 = 512 GB 2 = 1 TB 3 = 2 TB	E = M.2 NVMe SSD 4 0 = No SSD 4 1 = 512 GB 2 = 1 TB 3 = 2 TB	H = Environmental See Environmental Specification
C = VPX Connector Type 0 = Standard 50u Gold Rugged 1 = KVPX Connectors	F = PCIe Interface 0 = x4 1 = Dual x4 2 = Single x8	J = Conformal Coating 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

VPX004



- Unified 1 GHz quad-core CPU for, Shelf Manager, and Fabric management
- 1GbE base switch with dual 100/1000/10G uplink
- Full Layer 3 managed Ethernet switch

VPX754



- 3U VPX module Intel 5th Generation Xeon D-1577, D-1548 or D-1520 (Broadwell) SoC
- PCIe Gen3 dual x4 or single x8
- Front-panel video out via micro HDMI

VTX870



- OpenVPX benchtop development platform
- Up to five 3U VPX payload slots
- Compatible with 0.8-inch, 0.85-inch and 1.0-inch modules

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, Wenhua 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

Choose VadaTech

We are technology leaders

- First-to-market silicon
- Constant innovation
- Open systems expertise

We commit to our customers

- Partnerships power innovation
- Collaborative approach
- Mutual success

We deliver complexity

- Complete signal chain
- System management
- Configurable solutions

We manufacture in-house

- Agile production
- Accelerated deployment
- AS9100 accredited



vadatech
THE POWER OF VISION

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.

© 2019 VadaTech Incorporated. All rights reserved.
DOC NO. 4FM737-12 REV 01 | VERSION 1.0 – NOV/19