VPX761

Intel® Xeon® Processor E-2176M or E-2276ME 10GbE / 40GbE / PCIe, VPX 3U

VPX761

Key Features

- 3U VPX Processor Intel® Xeon® Processor E-2176M or E-2276ME (Coffee Lake)
- Dual 40GbE (configurable as 4x 10GbE) and PCIe Gen3 x4 on P1
- Dual GbE Ports and Dual SATA on P1
- PCIe Gen3 x8 on P2 and PCIe Gen2 x4 on P1
- Front-panel video and dual USB 3.0 connectors
- Dual Display Port and dual USB 3.0 on P2
- 32 GB of DDR4 with ECC and 64 GB of Flash
- TPM (Trusted Platform Management)
- Health Management through dedicated Processor

Benefits

- High performance Xeon® Processor E-2176M or E-2276ME with CM246 PCH
- Availability of chassis supporting 40G-capable backplanes
- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- RoHS compliant, AS9100 and ISO9001 certified company

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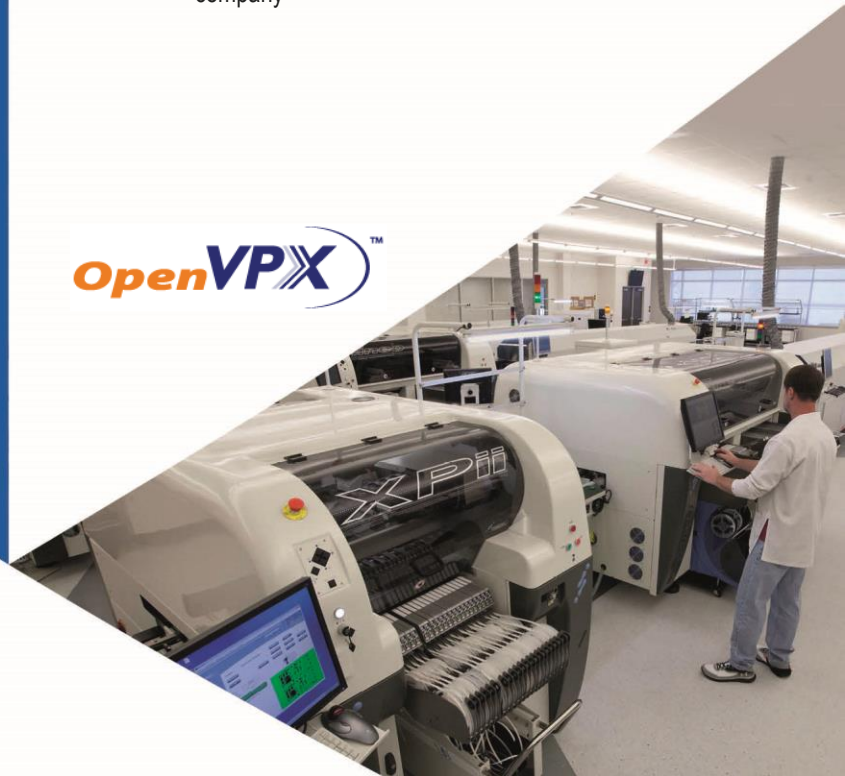
VPX761

The VPX761 is a processor module (VITA 46) for general purpose processing in demanding applications. Based on the Intel® Xeon® Processor E-2176M or E-2276ME (Coffee Lake) with CM246 PCH. The processor base frequency is 2.7 GHz with max turbo frequency of 4.4 GHz.

The unit provides dual 40GbE reconfigurable as 4x10GbE, PCIe Gen3 x4, dual GbE and Dual SATA Gen3 on P1. There is PCIe Gen3 x8 (or dual x4) on P2 and PCIe Gen2 x4 to P1.

It also provides GbE via RJ45, video via mini display and dual USB3.0 type C connectors for extended storage or peripherals on the front panel. Additional video display output and dual USB3.0 are also routed to P2.

The VPX761 has up to 32 GB of DDR4 memory with ECC and 64 GB of Flash for OS. The BIOS allows booting from onboard NAND, offboard SATA, PXE boot as well as USB.

The module provides TPM (Trust Management Platform) for secure boot.

Linux OS is standard on the VPX761, consult VadaTech for other options.

The unit is available in a range of temperature and shock/vib specifications per ANSI/VITA 47, up to V3 and OS2.
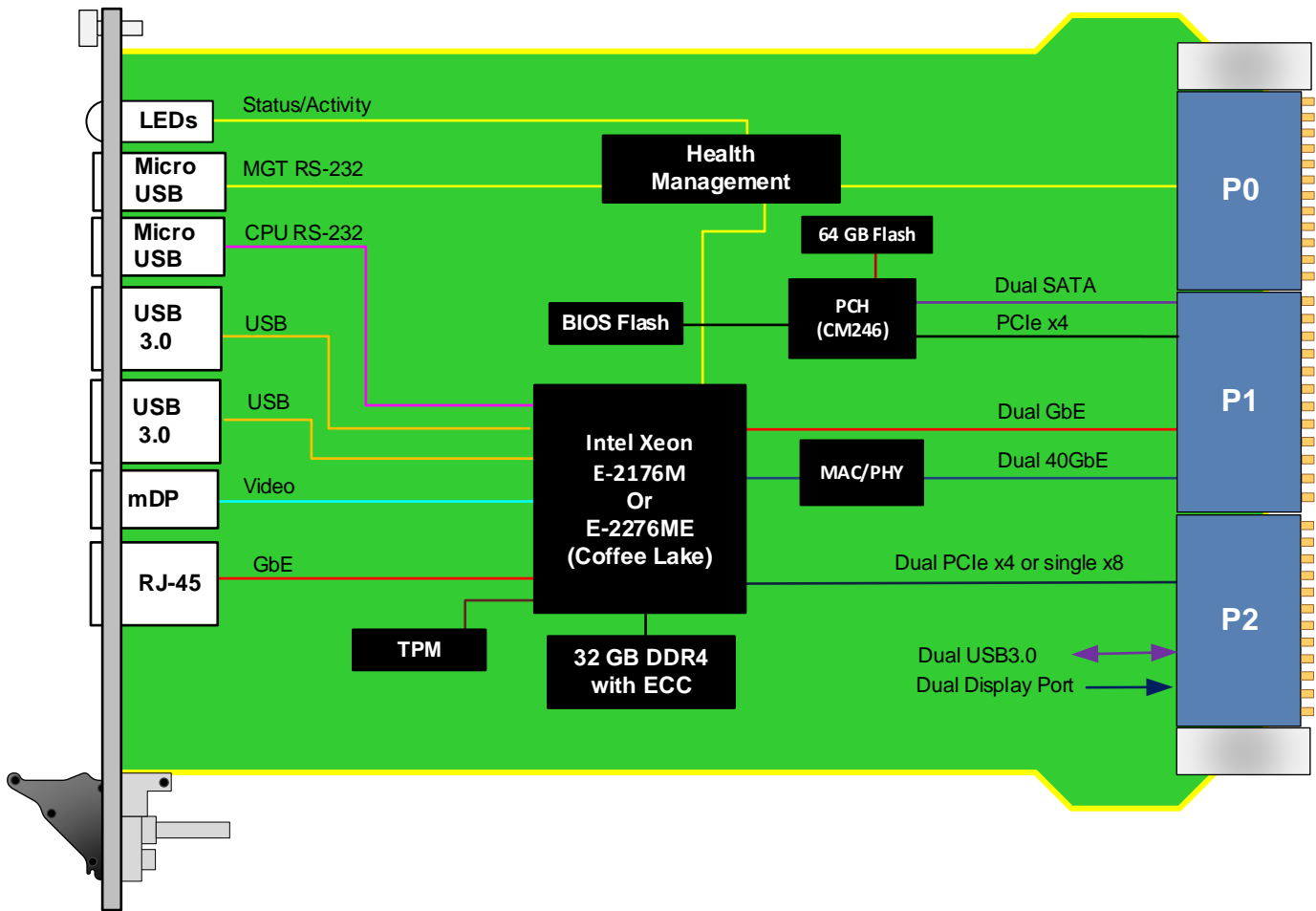

Figure 1: VPX761

Block Diagram

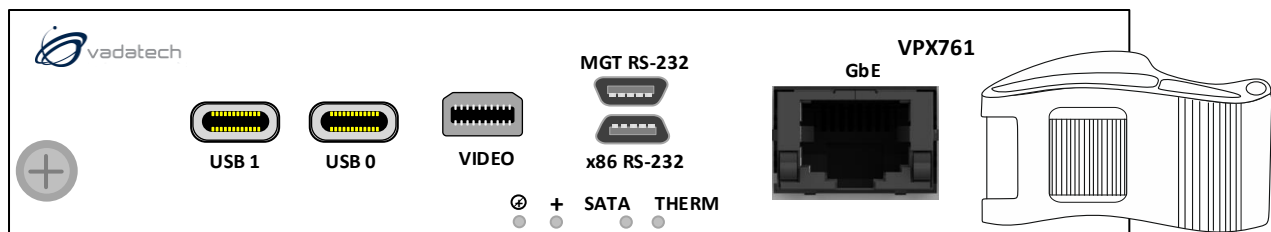*Figure 2: VPX761 Functional Block Diagram*

Front Panel

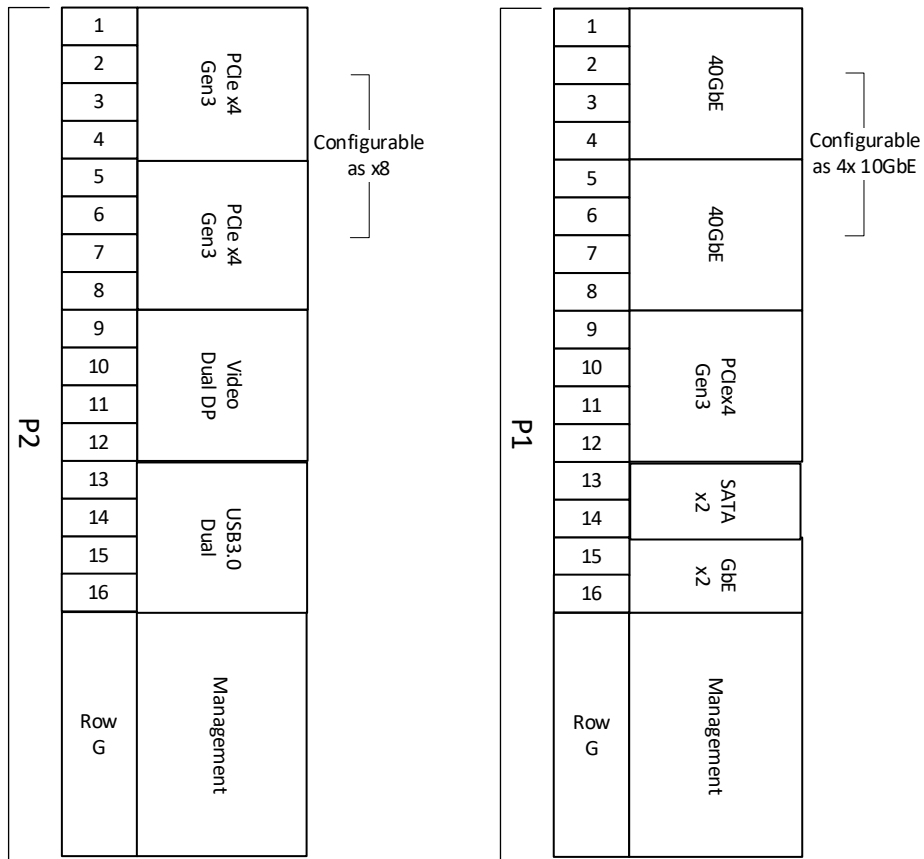*Figure 2: VPX761 Front Panel (preliminary)*

Pinout Block Diagram

Figure 3 VPX761 Pinout Block Diagram

VPX761 – Intel® Xeon® Processor E-2176M or E-2276ME 3U VPX, 10GbE /

Specifications

Architecture		
Physical	**Dimensions**	3U, 1" pitch
Configuration		
Power	**VPX761**	~58W
Processor	**CPU**	Intel® Xeon® Processor E-2176M or E-2276ME
	Memory	DDR4 32GB with ECC
	Storage	BIOS NAND Flash
		64GB Flash
10G/40G	**Lanes**	Dual x4
Platform Control Hub (PCH)		CM246
VPX Interfaces	**Slot Profiles**	See Ordering Options
	Payload Profile	See Figure 3
	Power Supplies	On P0: +12V; +5V and +3.3V
Front Panel	**Interface Connectors**	1x RJ-45 for GbE
		2x USB type C connectors for USB 3.0
		2x Micro USB for IPMI RS-232 and PCH RS-232
		1x Mini Display Port for graphics
	LEDs	IPMI, activity and user defined
Software Support	**Operating System**	Linux default, contact Sales for VxWorks and Windows support requirements
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

VPX761 – ABC-D00-GHJ

A = DDR4 Memory	D = CPU	G = Applicable Slot Profiles
0 = Reserved 1 = 16 GB 2 = 32 GB	0 = E-2176M 1 = E-2276ME 2 = Reserved	0 = 5 HP, IEEE 1101 1=5 HP, VITA 48.1
		H = Environmental
0 = Reserved 1 = 64 GB		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

	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

VPX516

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

VPX592

- 3U FPGA carrier for 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)

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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