

VPX761

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



VPX761

Key Features

- 3U VPX Processor Intel® Xeon® Processor E-2176M (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 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 (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

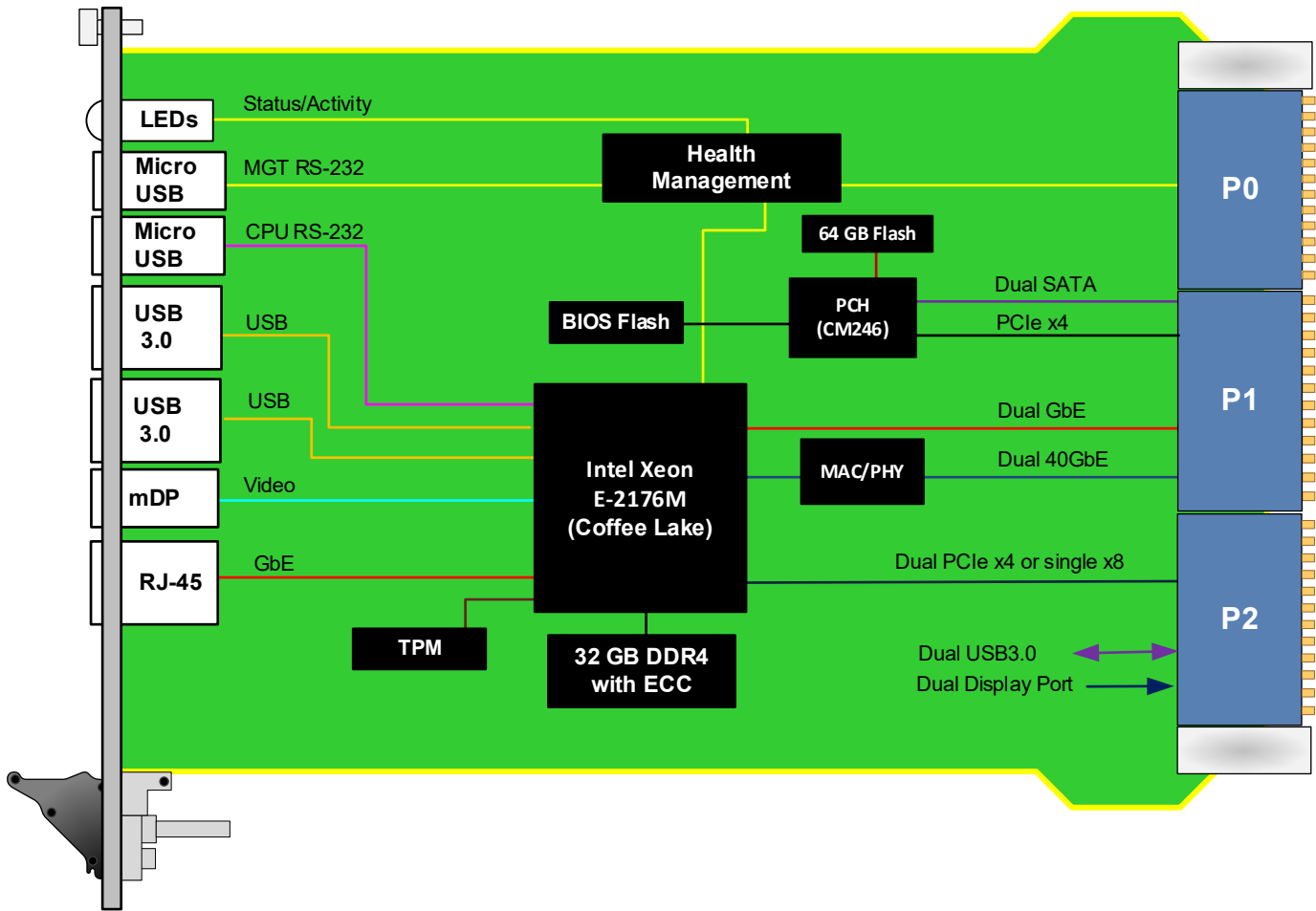


Figure 2: VPX761 Functional Block Diagram

Front Panel

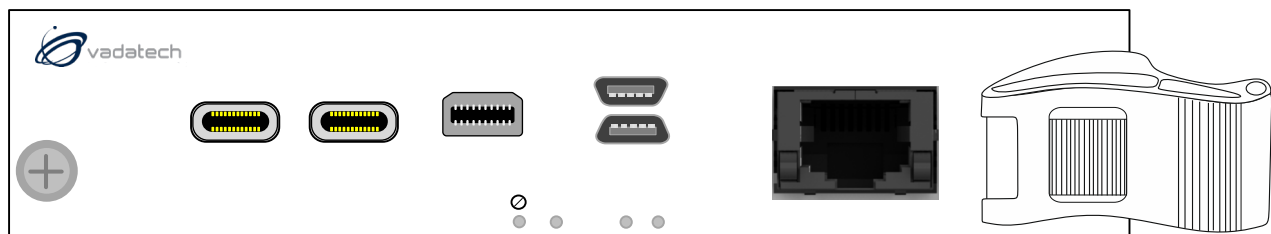


Figure 2: VPX761 Front Panel (preliminary)

Pinout Block Diagram

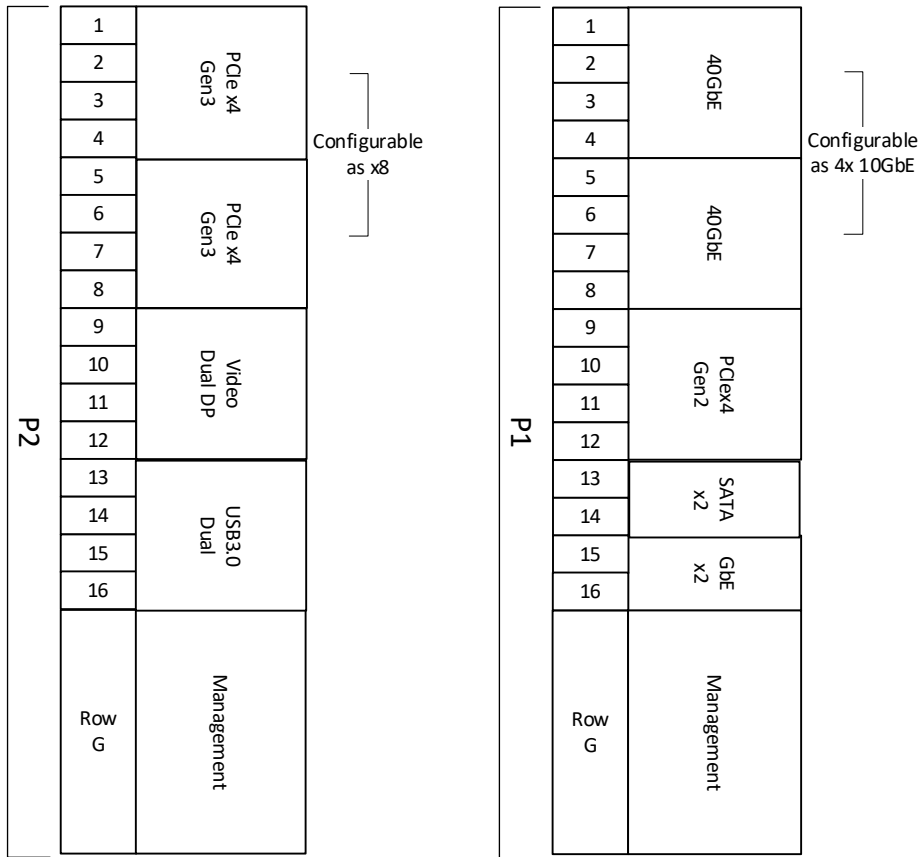


Figure 3 VPX761 Pinout Block Diagram

Specifications

Architecture	
Physical	Dimensions 3U, 1" pitch
Configuration	
Power	VPX761 ~58W
Processor	CPU Intel® Xeon® Processor E-2176M
	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 0 = Reserved 1 = 16 GB 2 = 32 GB	D = CPU 0 = E-2176M 1 = Reserved 2 = Reserved	G = Applicable Slot Profiles 0 = 5HP
B = Flash Storage 0 = Reserved 1 = 64 GB		H = Environmental See Environmental Specification
C = VPX Connector Type 0 = Standard 50u Gold Rugged 1 = KVPX Connectors		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

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

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DOC NO. 4FM737-12 REV 01 | VERSION 1.2 – DEC/20