VPX765

Intel® Core™ Processor i7-1185GRE, VPX 3U (11th Generation Intel Core i7)

VPX765

Key Features

- 3U VPX Processor Intel® Core™ Processor i7-1185GRE (Tiger Lake)
- PCIe x4 Gen4 and PCIe x4 Gen3 to P1
- XMC with PCIe x4 Gen3
- XMC I/O routed to P2 as X24s +X8d + X12d Mapping per VITA 46.9
- Dual GbE, DP and USB 3.2 to P1
- 32GB of DDR4 with in-band ECC
- 64GB of SSD
- TPM (Trusted Platform Management)
- Health Management through dedicated Processor

Benefits

- 11th Gen i7 Intel® Core™ Processor
- Availability of chassis supporting PCIe Gen3/4-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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VPX765

The VPX765 is a processor module (VITA 46) for general purpose processing in embedded applications. The CPU is based on the 11th Generation of Intel® Core™ i-7Processor i7-1185GRE (Tiger Lake). The processor base frequency is a quad core 1.8 GHz with max turbo frequency of 4.4 GHz. VadaTech can support i5 and i3 with minimum order quantity conditions.

The VPX765 provides PCIe x4 Gen4, PCIe x4 Gen3, dual GbE, Display Port (DP), USB 3.2 and RS-232 to P1. The PCIe x4 Gen3 could be bifurcated to dual x2 or quad x1.

The module accepts an XMC slot and routes the XMC I/O per VITA 46.9 (X24s +X8d + X12d) to the P2 connector.

The VPX765 comes with 32GB of DDR4 memory with in-band ECC and 64GB of SSD for OS. The BIOS allows booting from onboard Flash, PXE, and/or USB.

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

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

Figure 1: VPX765 Front View

Figure 2: VPX765 Rear View

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Block Diagram

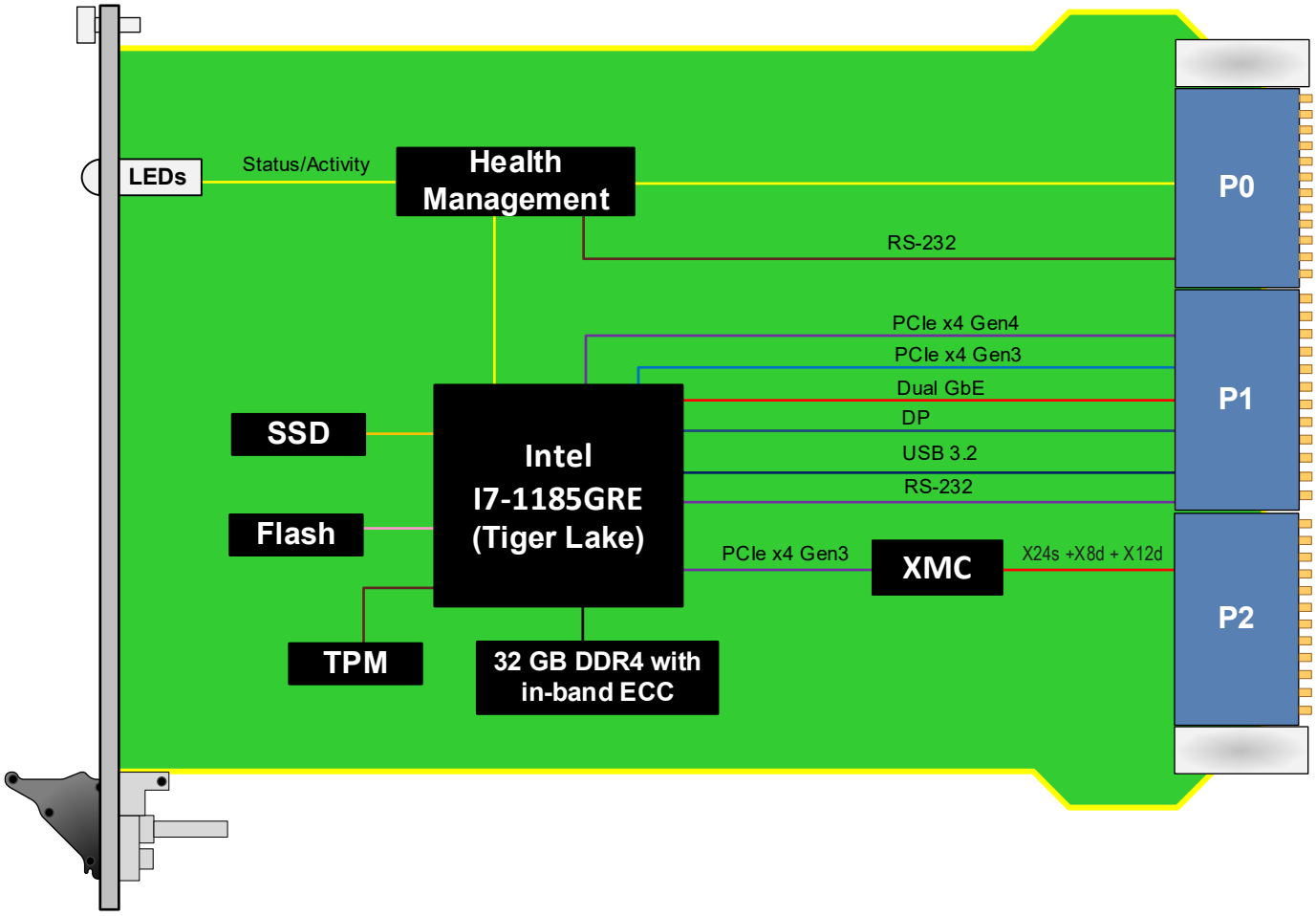

Figure 3: VPX765 Functional Block Diagram

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Pinout Block Diagram

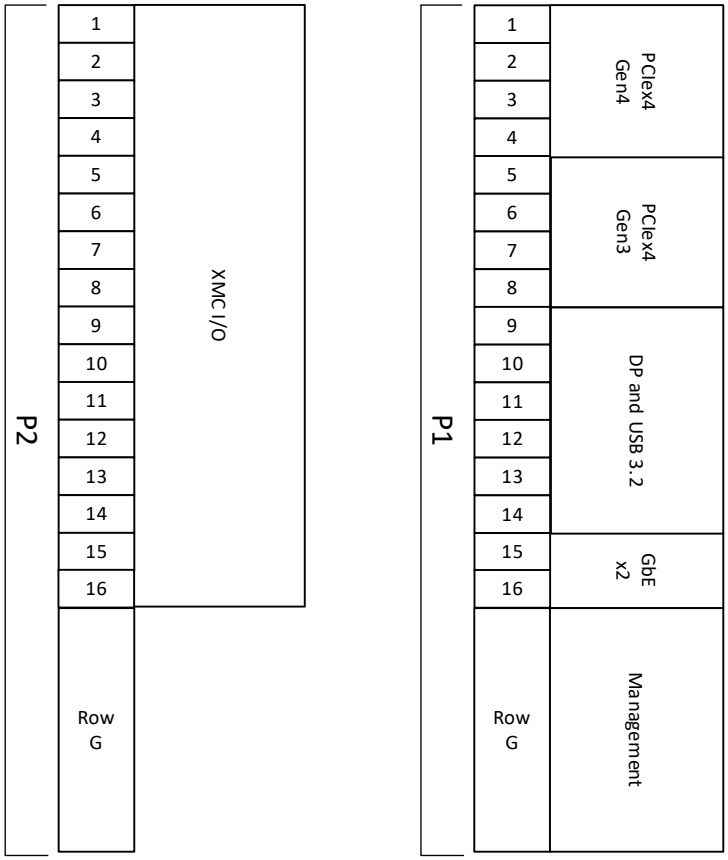

Figure 4: VPX765 Pinout Block Diagram

Specifications

Architecture		
Physical	**Dimensions**	3U, 1” pitch VITA 48.1
Configuration		
Power	**VPX765**	~35W without the XMC module installed
Processor	**CPU**	Intel® Core™ Processor i7-1185GRE (Tiger Lake); See option D
	Memory	DDR4 32GB with in-band ECC
	Storage	BIOS Flash; 64GB Flash;
PCIe	**Lanes**	PCIe x4 Gen4 and PCIe x4 Gen3
VPX Interfaces	**Slot Profiles**	See option G
	Payload Profile	See Figure 2
	XMC	VITA 46.9 (X24s +X8d + X12d)
	Power Supplies	On P0: +12V; +5V and +3.3V
Rear	**P1**	PCIe/GbE/DP/USB3.2/RS-232
	P2	XMC I/O
	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

VPX765 – ABC-DE0-GHJ

A = DDR4 Memory	D = CPU	G = Applicable Slot Profiles
0 = Reserved 1 = Reserved 2 = 32 GB	0 = i7-1185GRE 1 = i5-1145GRE (*) 2 = i3-1115GRE (*)	0 = 5HP, VITA48.1 1 = Reserved
B = Flash Storage	**E = RTC Battery**	**H = Environmental**
0 = Reserved 1 = 64 GB	0 = Installed 1 = Not Installed	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

(*) MOQ 10 units

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

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