

# VPX766

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



VPX766

## Key Features

- 3U VPX Processor Intel® Core™ Processor i7-1185GRE (Tiger Lake)
- PCIe x4 Gen4 and PCIe x4 Gen3 to P1
- Dual GbE to P1 and a GbE to Front
- DP/USB3.2 and SATA to P2
- Dual USB 3.2, Dual RS-232 and Display Port (DP) to Front
- 32GB of DDR4 with in-band ECC
- 64GB of SSD
- TPM (Trusted Platform Management)
- Health Management through dedicated Processor

## Benefits

- 11<sup>th</sup> 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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# VPX766

The VPX766 is a processor module (VITA 46) for general purpose processing in embedded applications. The CPU is based on the 11<sup>th</sup> Generation of Intel® Core™ i-7 Processor i7-1185GRE (Tiger Lake). The processor base frequency is a quad core 1.8 GHz with max turbo frequency of 4.4 GHz.

The VPX766 provides PCIe x4 Gen4, PCIe x4 Gen3 and dual GbE to P1 connector. The PCIe x4 Gen3 could be bifurcated to dual x2 or four single x1.

There is Display Port (DP) and SATA which is routed to the P2. The front panel has dual USB 3.2, RS-232, GbE as well as DP.

The VPX766 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: VPX766



Figure 2: VPX766 Front Panel View



Figure 3: VPX766 Top View

# Block Diagram

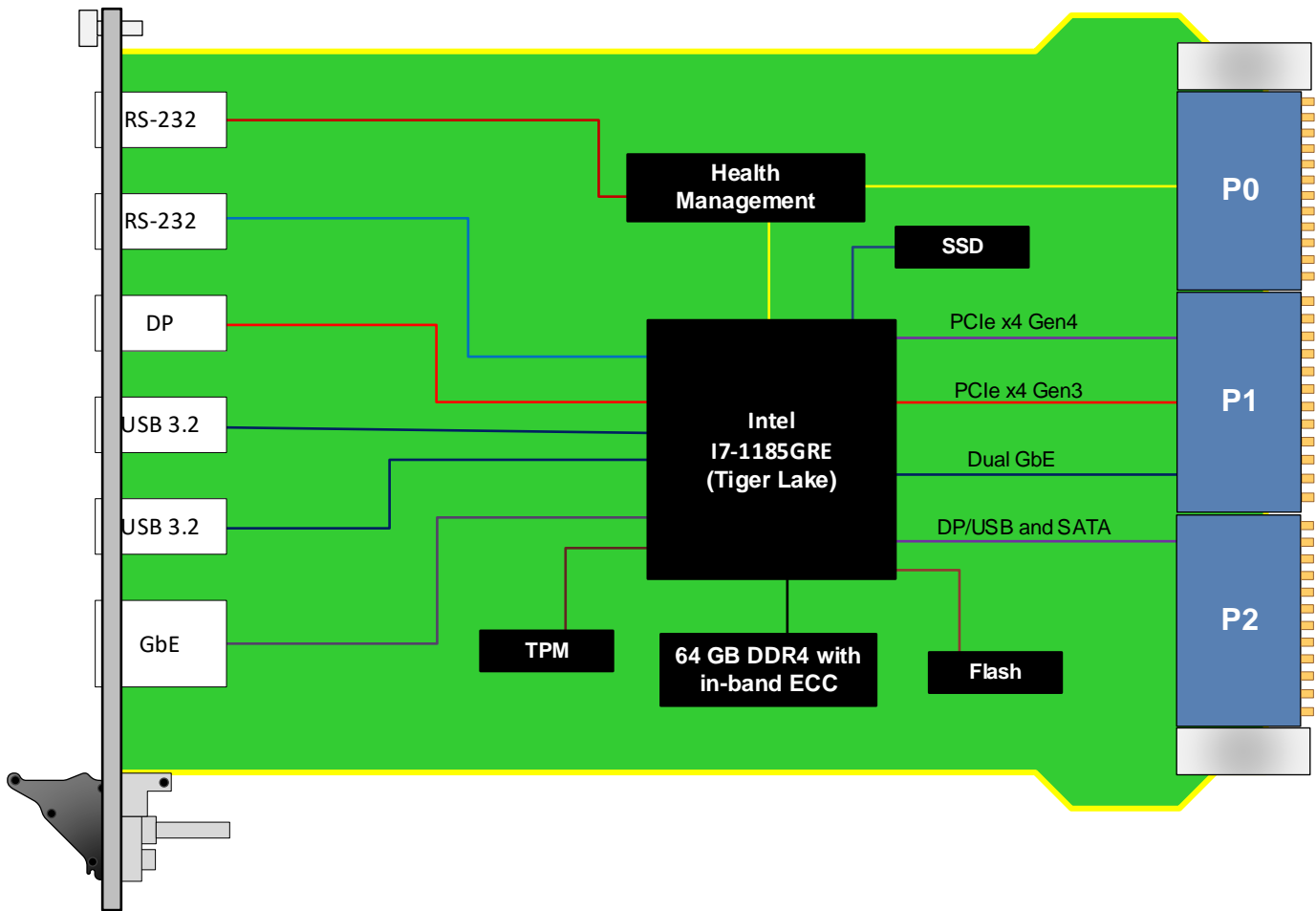


Figure 2: VPX766 Functional Block Diagram

# Pinout Block Diagram

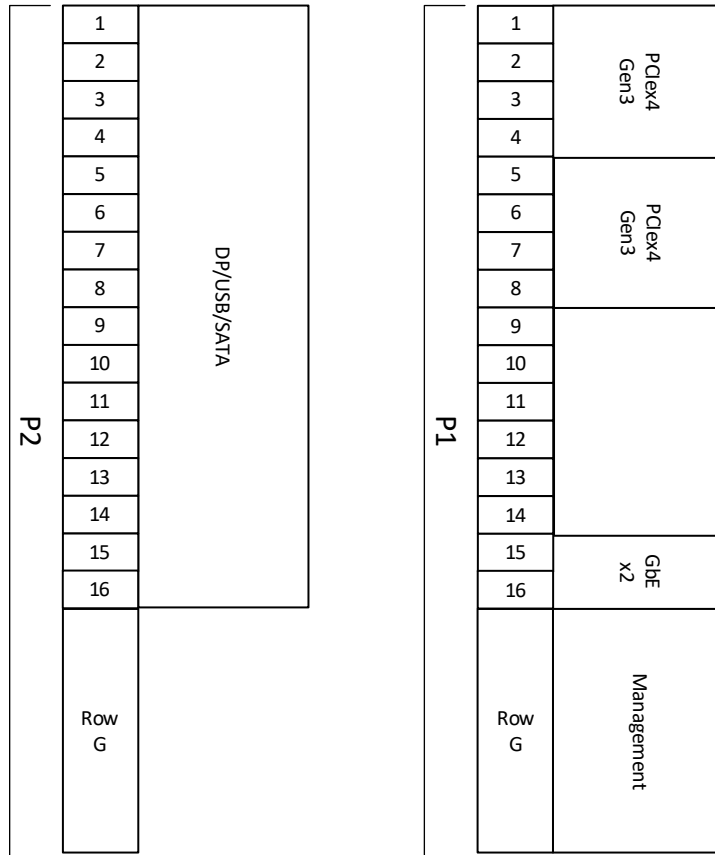


Figure 2: VPX766 Pinout Block Diagram

# Specifications

<b>Architecture</b>	
<b>Physical</b>	<b>Dimensions</b> 3U, 1" pitch VITA 48.1
<b>Configuration</b>	
<b>Power</b>	<b>VPX766</b> ~35W
<b>Processor</b>	<b>CPU</b> Intel® Core™ Processor i7-1185GRE (Tiger Lake); See option D
	<b>Memory</b> DDR4 32GB with in-band ECC
	<b>Storage</b> BIOS Flash; 64GB Flash;
<b>PCIe</b>	<b>Lanes</b> PCIe x4 Gen4 and PCIe x4 Gen3
<b>VPX Interfaces</b>	<b>Slot Profiles</b> See option G
	<b>Payload Profile</b> See Figure 2
	<b>XMC</b> None
	<b>Power Supplies</b> On P0: +12V; +5V and +3.3V
<b>Rear</b>	<b>P1</b> PCIe/GbE
	<b>P2</b> DP/USB/SATA
	<b>LEDs</b> IPMI, activity and user defined
<b>Software Support</b>	<b>Operating System</b> Linux default, contact Sales for VxWorks and Windows support requirements
<b>Other</b>	
<b>MTBF</b>	MIL Hand book 217-F@ TBD hrs
<b>Certifications</b>	Designed to meet FCC, CE and UL certifications, where applicable
<b>Standards</b>	VadaTech is certified to both the ISO9001:2015 and AS9100D standards
<b>Warranty</b>	Two (2) years, see <a href="#">VadaTech Terms and Conditions</a>

## 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

## VPX766 – ABC-D00-GHJ

<b>A = DDR4 Memory</b> 0 = Reserved 1 = Reserved 2 = 32 GB	<b>D = CPU</b> 0 = i7-1185GRE	<b>G = Applicable Slot Profiles</b> 0 = 5HP, VITA48.1 1 = Reserved
<b>B = Flash Storage</b> 0 = Reserved 1 = 64 GB		<b>H = Environmental</b> See Environmental Specification
<b>C = VPX Connector Type</b> 0 = Standard 50u Gold Rugged 1 = KVPX Connectors		<b>J = Conformal Coating</b> 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 (**)	
<b>Operating Temperature</b>	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)	
<b>Storage Temperature</b>	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)	
<b>Operating Vibration</b>	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)	
<b>Storage Vibration</b>	OS1* (20g)	OS1* (20g)	OS2* (40g)	OS2* (40g)	OS2* (40g)	
<b>Humidity</b>	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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