

# VPX754

Intel® Xeon™ SoC, PCIe Gen3,  
3U VPX



VPX754

## Key Features

- 3U VPX module Intel® 5th Generation Xeon N, D-1539, D-1548 or D-1577 (Broadwell) System-on-Chip (SoC)
- PCIe Gen3 dual x4 or single x8
- Front-panel video out via micro HDMI
- Dual GbE Ports
- Dual SATA Gen3 Ports
- Health Management through dedicated Processor

## Benefits

- High-density low-power SoC
- Integrated Platform Controller Hub (PCH)
- 16 GB DDR4 with Error Correction Code (ECC) for enhanced reliability, availability and serviceability
- 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™**



# VPX754

The VPX754 is a processor module (VITA 46) for general purpose processing in demanding applications. Based on the Intel® 5<sup>th</sup> generation Xeon 4-core, 8-core or 16-core Processors (Broadwell). The efficient SoC design has low power consumption and integrated PCH technology.

The module provides PCIe Gen3 dual x4 or single x8, dual GbE and SATA on P1. It also provides 10GbE to the front panel.

The VPX754 provides 16 GB of DDR4 memory with ECC and Flash for the OS. The BIOS allows booting from onboard Flash, offboard SATA, PXE boot and USB. A USB for extended storage or peripherals is provided to the front panel.

Linux OS is standard on the VPX754, 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: VPX754

## Block Diagram

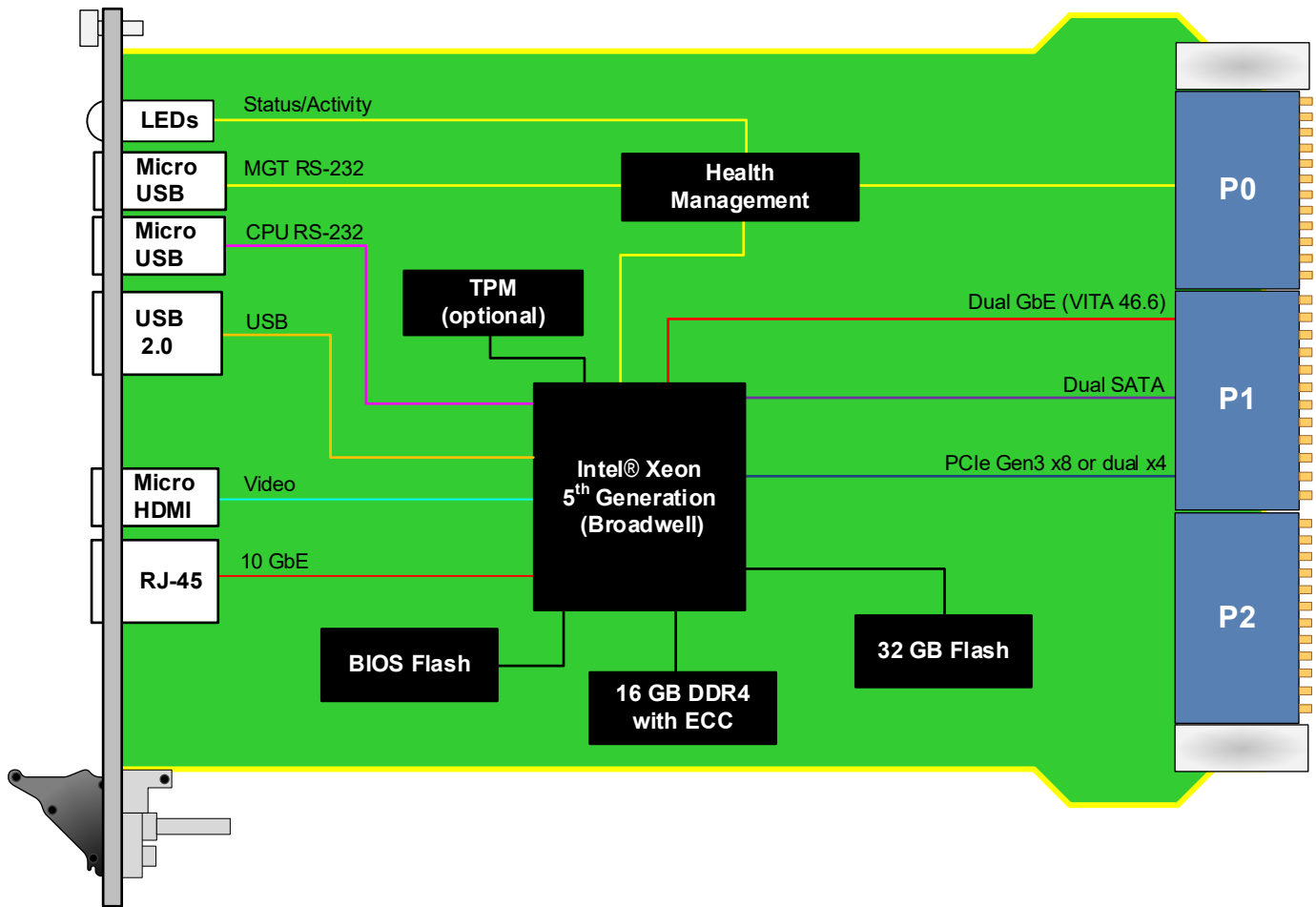


Figure 2: VPX754 Functional Block Diagram

## Front Panel

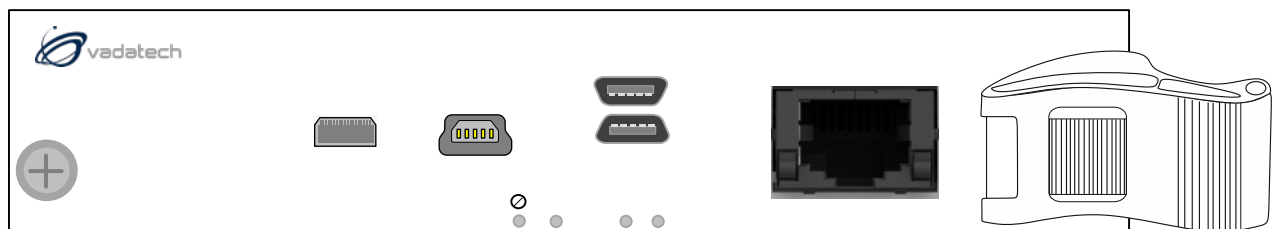


Figure 3: VPX754 Front Panel

# Pinout Block Diagram

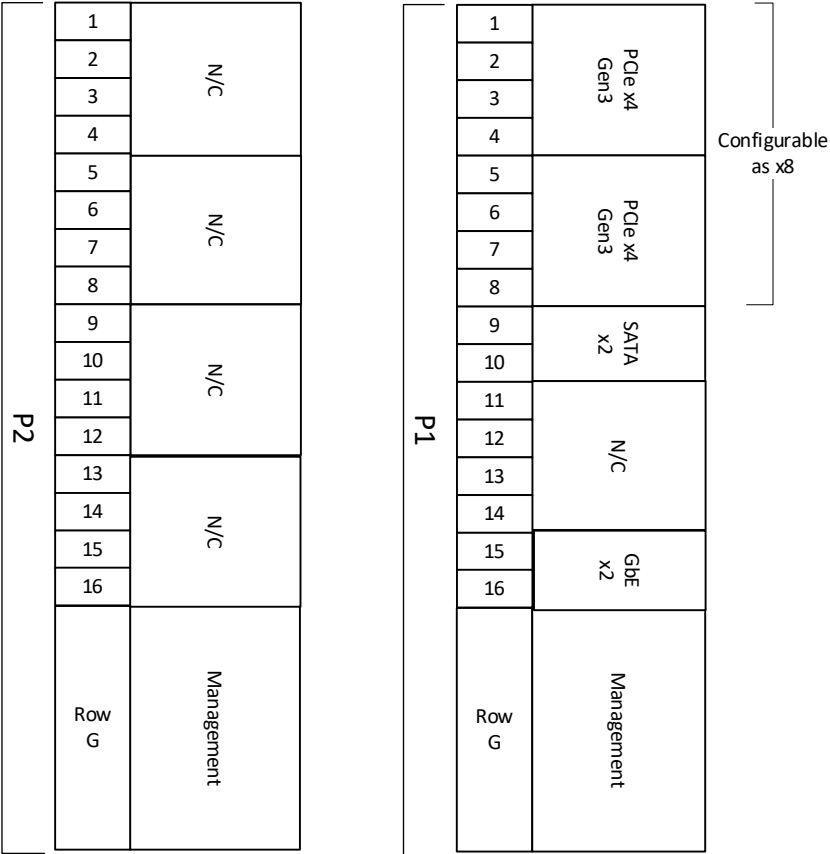


Figure 4: Pinout Block Diagram

# Specifications

Architecture		
Physical	Dimensions	3U, 1" pitch
Configuration		
Power	VPX754	~55W
Processor	CPU	Intel® 5th Generation Xeon D-1539, D-1548 or D-1577
	Memory	DDR4 16 GB with ECC, Flash
PCIe	Lanes	Gen3 dual x4 or single x8
Platform Control Hub (PCH)		Integrated
	Memory	BIOS flash
Front Panel	10GbE	1x 10GbE via RJ-45
	Video	1x micro HDMI
	Micro USB	RS-232 from CPU and RS-232 from Health Management
	USB	1x USB 2.0
	LEDs	User defined by CPU and Health Management
VPX Interfaces	Slot Profiles	See <a href="#">Ordering Options</a>
	Rear IO	PCIe Gen3 x8 on P1, configurable as 1 x8 or 2 x4
		Dual SATA on P1
		Dual GbE on P1
	Power Supplies	On P0: VS1 = 12V
Software	OS Support	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 <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

## VPX754 – ABC-000-GHJ

<b>A = Processor</b> 0 = Reserved 1 = 8C, 2 GHz, 12 MB LLC, Xeon D-1548 2 = 16C, 1.3 GHz, 24 MB LLC, Xeon D-1577 3 = 8C, 1.6 GHz, 12 MB LLC, Xeon D-1539 4 = Reserved		<b>G = Applicable Slot Profiles</b> 0 = 5 HP, IEEE 1101
<b>B = Trusted Platform Manager (TPM)</b> 0 = No TPM 1 = TPM		<b>H = Environmental</b> See <a href="#">Environmental Specification</a>
<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

	Air Cooled		Conduction Cooled		
Option H	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

## 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](mailto:info@vadatech.com) | [www.vadatech.com](http://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



## 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.

© 2020 VadaTech Incorporated. All rights reserved.

DOC NO. 4FM737-12 REV 01 | VERSION 2.3 – JUL/21



**vadatech**  
THE POWER OF VISION