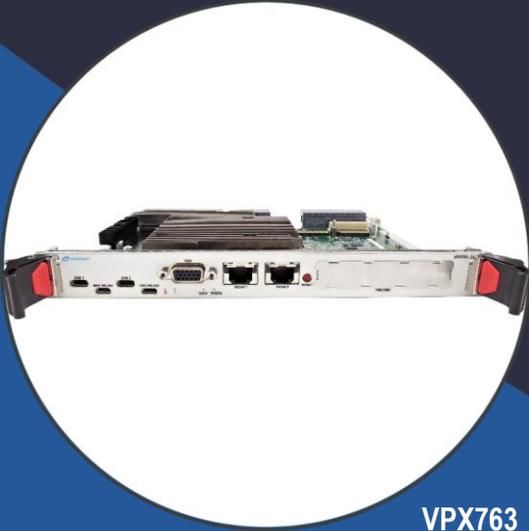


VPX763

Intel® Xeon™ D SoC (Skylake-D),
PCIe Gen3, XMC carrier, 6U VPX



VPX763

Key Features

- 6U VPX module Xeon-D SoC (Skylake-D) 6th-Generation
- D-2183IT (16 core @ 2.2 GHz Turbo 3 GHz) or D-2143IT (8 core @ 2.2 GHz Turbo 3 GHz)
- PCIe Gen3 x16 (bifurcation to dual x8 or quad x4) on P1/P2, PCIe Gen3 x8 (or dual x4) on P2 and PCIe Gen3 x4 on P3
- 64GB of DDR4 with ECC
- Dual 10G-BaseT to the front
- Dual GbE to the rear
- Six SATA Ports to the rear
- M.2 NVMe SSD
- 64 GB SSD
- Front-panel video out via DB15
- Single XMC site with I/O expansion going to P5/P6 per VITA46.9 Pin Field P5W1-P64s+X12d+X8d
- Dual RS-232 Port
- Health Management through dedicated Processor

Benefits

- High-density low-power System-on-Chip (SoC)
- Integrated Platform Controller Hub (PCH)
- 4 channels of 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

OpenVPX™



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VPX763

The VPX763 is a processor module (VITA 46) for general purpose processing in demanding applications. Based on the Intel Xeon D-21831T or D-21431T processor, the efficient SoC design has low power consumption and integrated PCH technology.

The module provides PCIe Gen3 x16 (dual x8 or quad x4) on P1/P2, PCIe Gen3 x8 or dual x4 on P2 and PCIe Gen3 x4 on P3, six SATA Ports, dual GbE and XMC I/O to the rear on P1/P2/P3/P5 and P6. It also provides Dual 100/1000/10Gbase-T to the front panel, together with video out and dual USB 3.0 which can be used to implement a user interface for ease of maintenance.

The VPX763 provides four channels DDR4 (total of 64GB) with Error Correction Code (ECC), Flash for the OS, and an optional NVMe module. The BIOS allows booting from onboard Flash, offboard SATA, PXE boot and USB. The module has a single XMC slot for additional I/O. The XMC I/O (J6/J5) is routed to P5/P6 per VITA46.9 Pin Field P5w1-P64s+X12d+X8d. The XMC VPWR is +12V

The Health Management is one of the most sophisticated offered on the market with Server Management capabilities. It allows for Remote Management via ethernet, redirect of the video over IP to monitor the boot process remotely, Serial Over LAN (SOL), etc. It also meets Tier two support per VITA specification.

Linux and Windows are OS on the VPX763, 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: VPX763



Figure 2: VPX763 Top View



Figure 3: VPX763 without Heatsink

Block Diagram

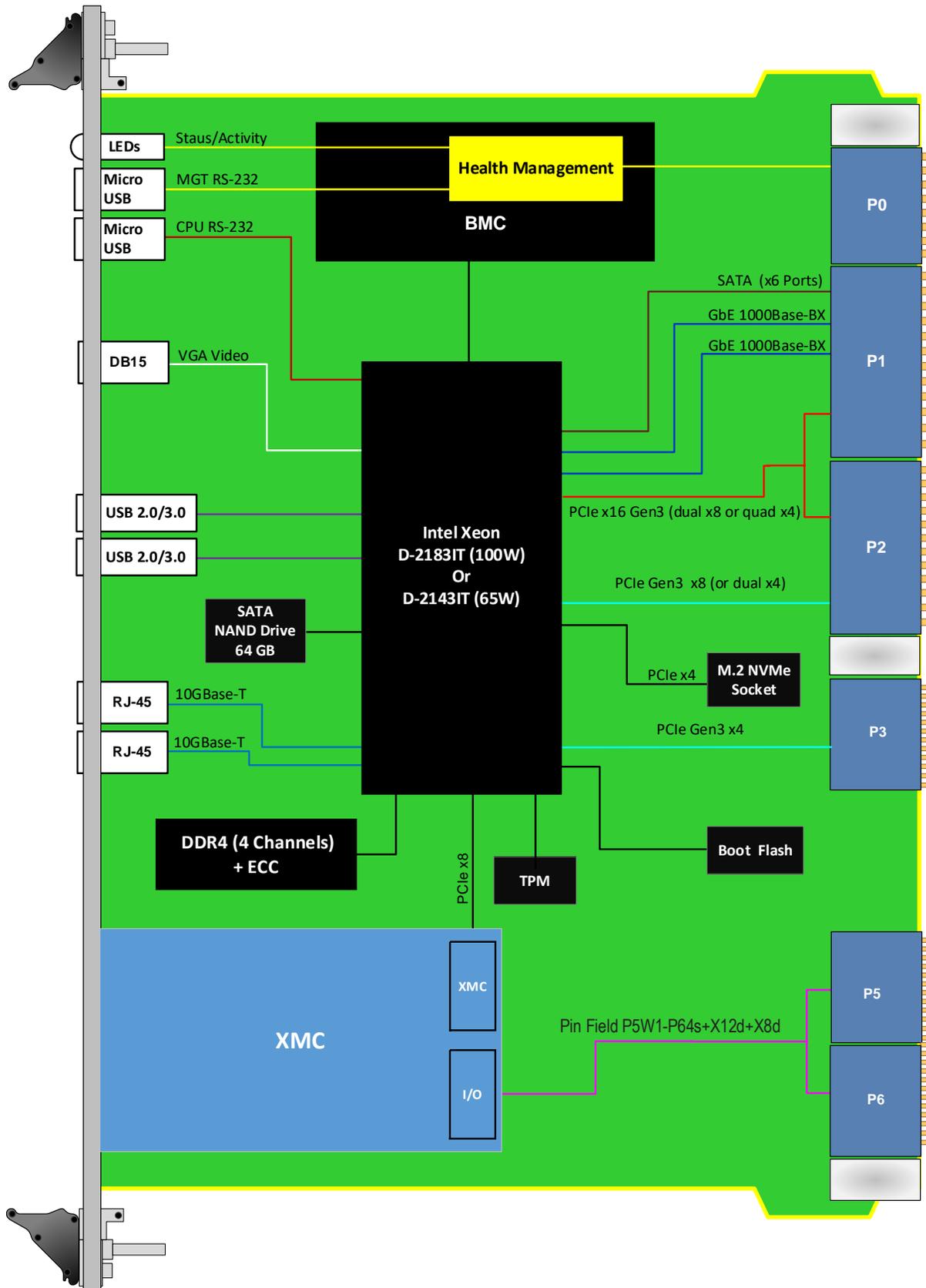


Figure 1: VPX763 Functional Block Diagram

Pinout Block diagram

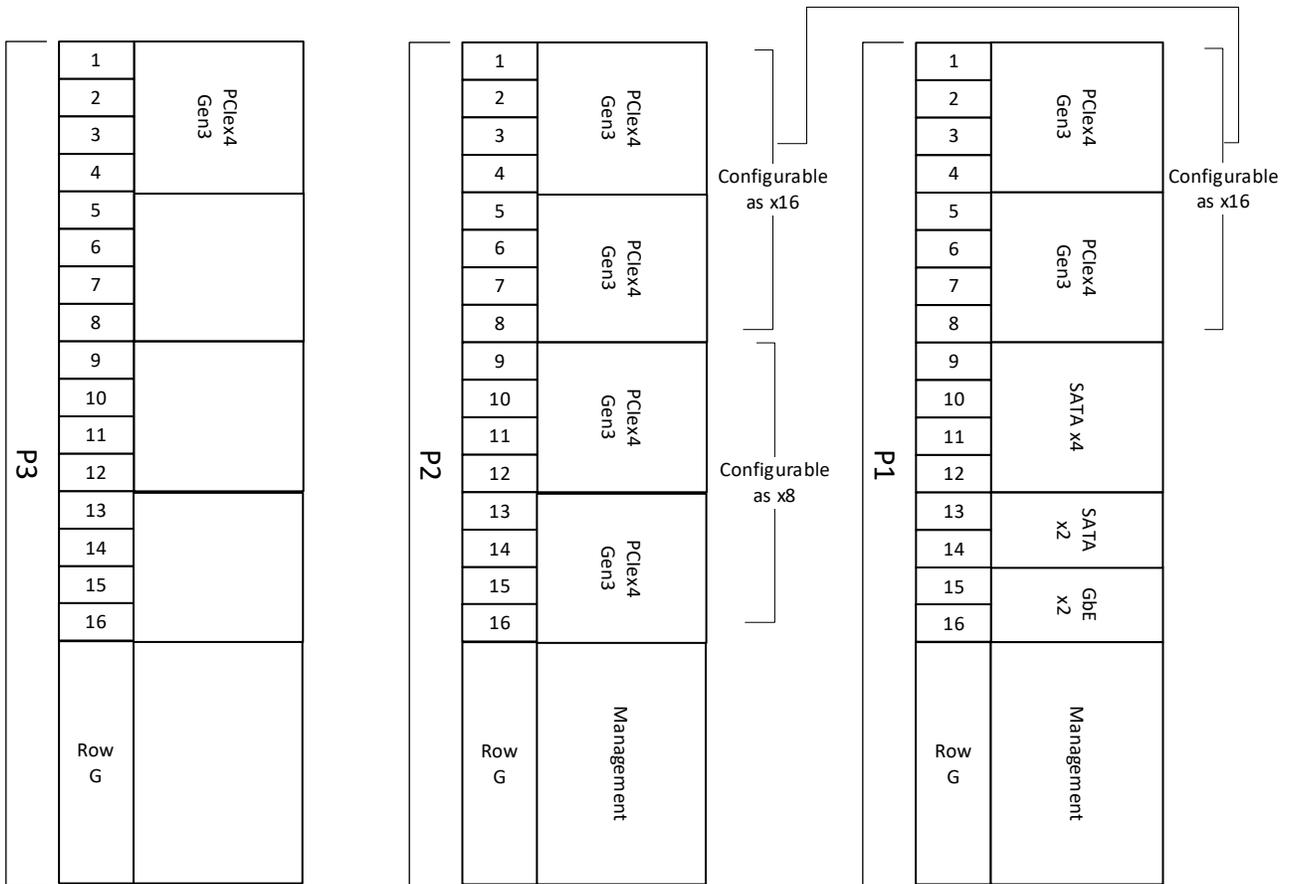


Figure 2: VPX763 Pinout Block Diagram to P1/P2

Specifications

Architecture		
Physical	Dimensions	6U, 1" pitch
Configuration		
Power	VPX763	85W to 120W (CPU dependent)
Processor	CPU	Intel 6th Generation Xeon D-SoC
	Memory	Four banks of DDR4 with ECC
PCIe	Lanes	Gen3 x16 (bifurcation dual x8 or quad x4), Gen3 x8 (or dual x4) and Gen3 x4
PCH		Integrated
	Memory	BIOS flash
Front Panel	10GbE	100/1000/10GbE via x 2 RJ-45
	Video	1x DB15
	Serial	CPU RS-232 via micro USB
	USB	2x USB 2.0/3.0
	Micro USB	RS-232 for Health Management
	LEDs	User defined by Health Management
On-board Interfaces		XMC site
VPX Interfaces	Slot Profiles	See Ordering Options
	Rear IO	SATA (x6 Ports), GbE SerDes, Dual GbE and PCIe
		PCIe x16 (bifurcation dual x8 or quad x4) on P1/P2, x8 on P2 and x4 on P3
	Power Supplies	Power +12V and +5V; XMC VPWR = +12V
Software	OS Support	Linux and Windows by default
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

VPX763 – ABC-DEF-GHJ

A = Processor 0 = Xeon D-2183IT 1 = Xeon D-2143IT	D = Memory (four banks) 0 = 8 GB/bank (32 GB total) 1 = 16 GB/bank (64 GB total)	G = Applicable Slot Profile 0 = 5 HP VITA 48.1
B = Trusted Platform Manager (TPM) 0 = No TPM 1 = TPM	E = NVMe 0 = No NVMe 1 = 1TB NVMe 2 = 2TB NVMe 3 = Reserved	H = Environmental See Environmental Specification
C = XMC Connectors 0 = VITA 42 1 = VITA 61	F = 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

VPX551



- Dual Kintex UltraScale™ XCKU115
- 16 GB of 64-bit wide DDR4 Memory to each FPGA
- Rear fibre I/O via VITA 66.5

VPX980



- Quad Core ARM Freescale processor @ 1 GHz per core
- One GB DDR3 memory with FRAM for log messages
- 32 GB of Flash, 8 GB of NAND Flash

VTX990



- One slot benchtop 6U VPX development platform
- P0 to P6 connectors are installed
- Variable fan speed control for front and rear

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