VPX703

Freescale QorIQ T4241 or T4161 Processor, PCIe, 3U VPX

VPX703

Key Features

- Processor VPX (PrVPX) with QorIQ T4241 or T4161
- Three banks of 64-bit DDR3 memory with T4241 (up to 12 GB total)
- 64 GB of Flash
- 24 virtual cores (T4241) at up to 1.8 GHz
- PCIe Dual x4 or single x8
- Dual Redundant MIL-STD-1553A/B
- Health Management through dedicated Processor

Benefits

- Integrated control and data path processing in a single module
- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

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VPX703

The VPX703 is a Processor VPX (PrVPX) in 3U form factor based on the Freescale QorIQ T4241 or T4161 in a single-module. The PrVPX has 64 GB of onboard flash for storage. The module routes standard I/O such as SATA, USB, GPIO, RS232, etc. to the P1 connector.

The module also provides dual redundancy (four channels) MIL-STD-1553A/B and routes the I/O to the P2 connector. The MIL-STD-1553 is based on the Data Device Corporation (DDC) 1553 Devices.
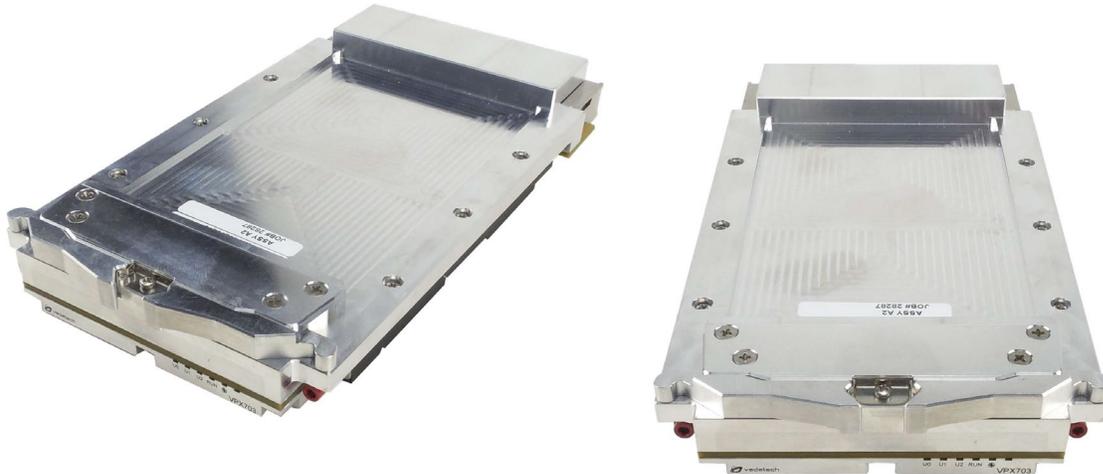

Figure 1: VPX703

Figure 2: VPX703 with the clam shell

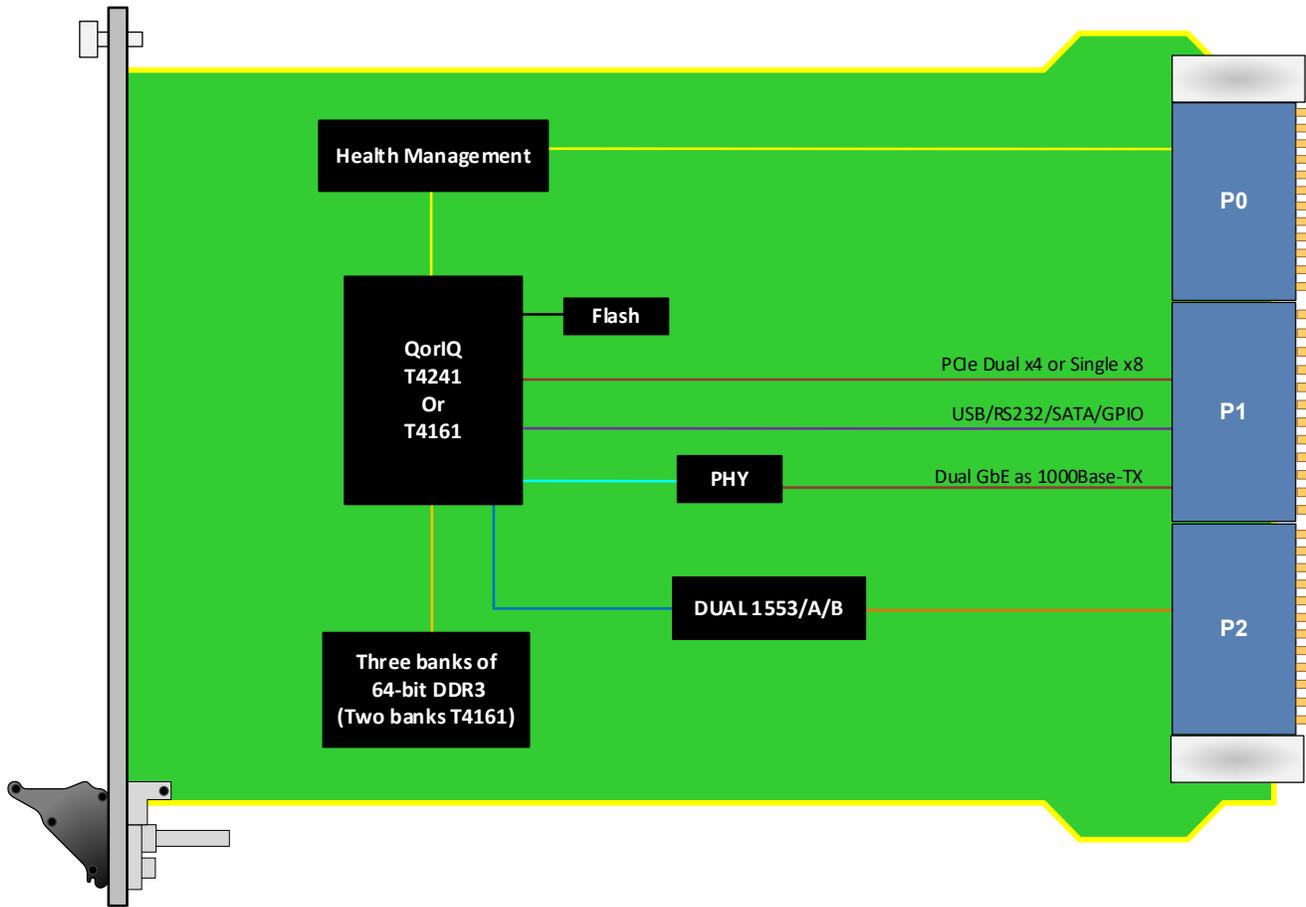VPX703 – Freescale QorIQ T4241 or T4161 Processor, PCIe, 3U VPX

Block Diagram

Figure 3: VPX703 Functional Block Diagram

VPX703 – Freescale QorIQ T4241 or T4161 Processor, PCIe, 3U VPX

Backplane Pinout

P2

#		
1	MIL-STD-1553A/B (four channels)	
2		
3		
4		
5		
6		
7		
8	N/C	
9		
10		
11		
12		
13		
14		
15	I/O	
16		
Row G	Management	

P1

#		
1	PCIe Gen3 x4	
2		
3		
4		
5	PCIe Gen3 x4	
6		
7		
8		
9	SATA SAS AB	
10	USB	
11	GPIO/ RS232	
12		
13	GbE x2 as 1000Base-TX	
14		
15		
16		
Row G	Management	

Configurable as dual x4 or single x8
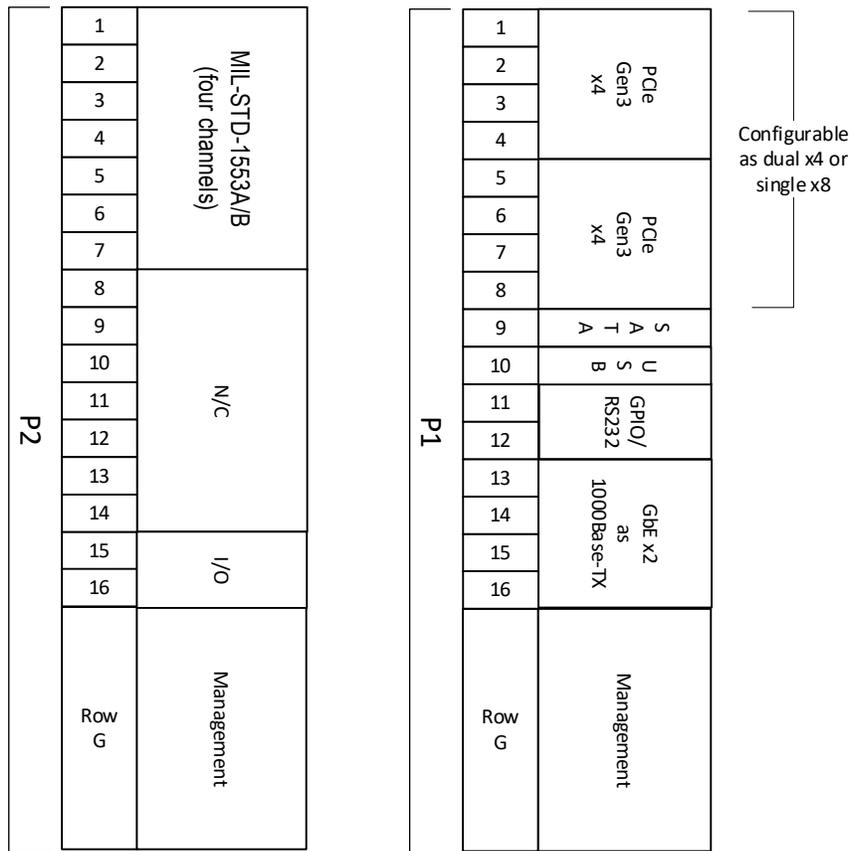
Figure 4: VPX703 Functional Block Diagram

Specifications

Architecture			
Physical	**Dimensions**	3U, 1" pitch	
Type	**VPX Processor**	NXP QorIQ T4241 or T4161	
Standards			
Module Management	**IPMI**	IPMI v2.0	
PCIe	**Lanes**	Dual x4 or single x8	
Configuration			
Power	**VPX703**	~CPU dependent and speed grade	
VPX Interfaces	**Slot Profiles**	See Ordering Options	
	Rear I/O	P0: IPMB Health Management	
		P1: Dual x4 PCIe or single x8; USB; RS232; SATA; GPIO; dual GbE 1000-BaseTX	
		P2: Dual 1553/A/B	
Software Support	**Operating System**	Linux (consult VadaTech for other options)	
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

VPX703 – ABC-D00-0HJ

A = Processor Option*	D = 1553 Option	G = Applicable Slot Profiles
0 = T4161 1.8 GHz with SE 1 = T4161 1.8 GHz without SE 2 = T4161 1.5 GHz with SE 3 = T4161 1.5 GHZ without SE 4 = T4241 1.8 GHz with SE 5 = T4241 1.8 GHz without SE 6 = T4241 1.5 GHz with SE 7 = T4241 1.5 GHZ without SE 8 = Reserved	0 = No 1553 1 = Dual DDC BU-65863I9-E00 2 = Single DDC BU-65863I9-E00 3 = Dual DDC BU-65863I8-E02 4 = Single DDC BU-65863I8-E02 5 = Dual DDC BU-65863I9-E02 6 = Single DDC BU-65863I9-E02 8 = Dual DDC BU-65863 with Magnetics 9 = Reserved	0 = 5 HP, VITA 48.1
B = DDR3 Memory		**H = Environmental**
0 = 6 GB (T4241)/4 GB (T4161) 1 = 12 GB (T4241)/8 GB (T4161)		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

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:

*MOQ applies to any option A except A=1

**Nomenclature per ANSI/VITA 47. Contact local sales office for conduction cooled (H = 2, 3, 4).

Related Products

VPX004

- Unified 1 GHz quad-core CPU for, Shelf Manager, and Fabric management
- Automatic fail-over with redundant VPX004
- 1GbE base switch with dual 100/1000/10G uplink

VPX570

- ADC 12-bit @ 5.4 GSPS (EV12AS350A)
- DAC 12-bit @ 6 GSPS (EV12DS460A)
- Xilinx UltraScale+ XCVU13P FPGA with 8 GB DDR4

VPX580

- Xilinx UltraScale+ XCZU19EG FPGA
- 8 GB of 64-bit wide DDR4 Memory (single bank) with ECC
- Dual FMC+ sites (16 SERDES to each) on a 6U VPX

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, Wenhu 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 | www.vadatech.com

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