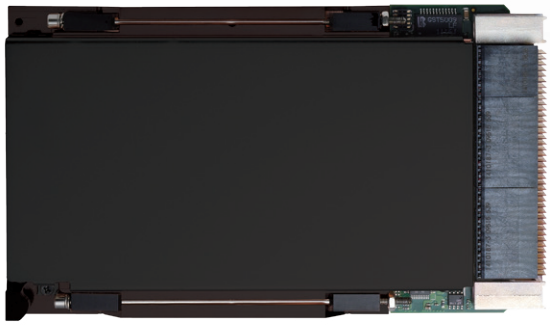
VPX3001 Series

Rugged 3U VPX 3rd Generation Intel® Core™ i7 Processor Blade for Radar or ISR



Features

- Quad-core 3rd Generation Intel® Core™ i7 processor with QM77 Express chipset
- DDR3-1333 soldered ECC SDRAM
- Two PCIe x4 Gen2 data plane to P1 with NTB
- Two 1000BASE-T or two 1000BASE-BX to P1
- One XMC.3 PCIe x8 Gen2 with Rear I/O to P2

VPX VPX REDI OpenVPX CONDUCTION COOLED

Specifications

Processor & System

CPU	Quad-core Intel® Core™ i7-3612QE 2.1GHz, 6MB LLC cache, 35W TDP
Chipset	Mobile Intel® QM77 Express Chipset
Memory	Dual channel DDR3-1333 ECC soldered SDRAM, up to 8GB
BIOS	AMI EFI on 64Mbit SPI flash
VITA Standards	VITA 46.0 VPX Base Standard
	VITA 46.4 PCI Express on VPX Fabric Connector
	VITA 46.6 Gigabit Ethernet Control Plane on VPX
	VITA 46.9 PMC/XMC/Rear IO Fabric Signal Mapping to 3U/6U VPX
	VITA 48.0 Ruggedized Enhanced Design Implementation Mechanical Base Specification
	VITA 65 OpenVPX Architecture Framework for VPX
Module Profile	MOD3-PAY-2F2T-16.2.5-3
	MOD3-PAY-2F2U-16.2.3-3 (BOM option)
Slot Profile	SLT3-PAY-2F2T-14.2.5
	SLT3-PAY-2F2U-14.2.3 (BOM option)

Connectivity

XMC	PCIe x8 Gen2 with rear IO to P2w1-X24s+X8d+X12d
Ethernet	Two 1000BASE-T to P1
	Two 1000BASE-BX to P1 (BOM option)
Graphics	Intel® HD Graphics 4000
	One VGA to P2
USB	Two USB 2.0 to P1
Serial Port	Two RS-232/422 to P1
	One RS-232/422 to P2
PCI Express	2x PCIe x4 Gen2 to P1, configurable to 1 x8 or 1 x4 + 4 x1
	Supports DMA and Non-transparent Bridge for peer to peer communication

Storage

SBC	Soldered 32GB SATA 3Gb/s boot flash
	One SATA 6Gb/s ports to P1

Operating System

OS	Red Hat Enterprise Linux 6.2
	Wind River VxWorks 6.9
	Microsoft Windows 7 32/64-bit
	Microsoft Windows 7 Embedded (Please contact ADLINK for other OS support)

Miscellaneous

GPIO	Six 5V tolerance PCH controlled GPIO to P1/P2
HW Monitor	CPU temperature and power rails
Watchdog Timer	System reset or NMI with programmable interval
LEDs	Power LED (green)
Reset Button	Board reset button on front panel

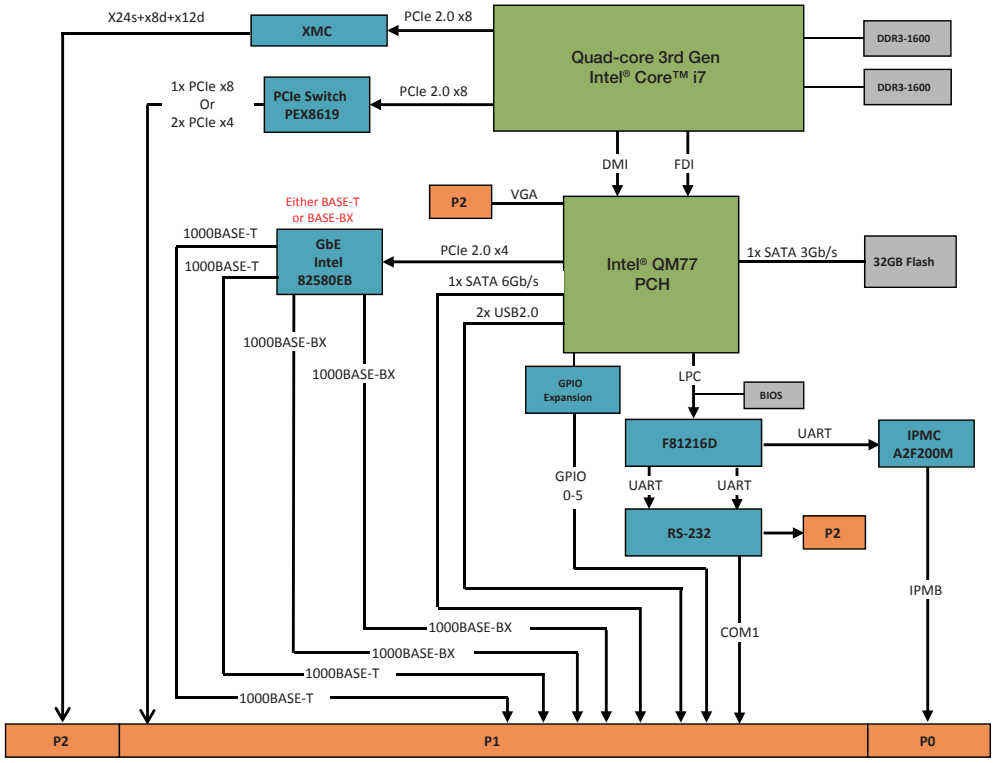
Mechanical & Environmental

Form Factor	3U VPX 0.8”
	100mm x 160mm x 20.3mm
Operating Temperature	-40°C to +75°C (at wedge lock)
Vibration	5Hz-2KHz, 12Grms, random, each axis, operating
Shock	Sawtooth 40G, 11ms, each axis, operating
Altitude	60,000 feet, operating
Power Consumption	100% CPU, memory, VGA, SSD stress
	3612QE/M8G 41.7W
	VS1 (12) 1.9A, VS2 (3.3): 0.8A, VS3 (5V): 3.2A
Weight	515g
EMI/EMC	CE, FCC Class A

Ordering Information

Model Number	Description/Configuration
Processor Blades	
VPX3001/3612/M8/S32-R1	Quad-core Core™ i7-3612QE 35W with 8GB DDR3 ECC and 32GB SATA SSD soldered, card edge operating temp. -40°C to +75°C
VPX-R3001	RTM for VPX3001 with 2x 1000BASE-BX and VGA on front panel; 2x 1000BASE-T, 2x USB 2.0, SATA, 2x RS-232, GPIO pin headers, SMBus, JTAG XMC onboard
VPX3G10-R	XMC NVIDIA GT745M GPU card, conduction cooled
XMC-G745-R	XMC NVIDIA GT745M GPGPU card, conduction cooled
3U Test Frame	3U VPX test frame with tBP-VPX3000 backplane for users to validate VPX3001 functionality

VPX3001 Block Diagram



VPX-R3001 3U RTM

Model Name	Location	GbE	Display	USB 2.0	SATA	XMC	COM	GPIO	Others
VPX-R3001	Rear I/O	2x 1000BASE-BX	VGA	-	-	-	-	-	-
	On Board	2x 1000BASE-T	-	2	1	1	2x RS-232	6	1x SMBus 1x JTAG

Companion Production Information

VPX 3U Graphics Card

VPX3G10

- NVIDIA GeForce GT 745M GPU (Kepler refresh)
- 384 CUDA cores for maximum processing power
- Dual channel GDDR5 soldered memory, 2GB
- 16-lanes PCIe Gen3 (x16/x8/x4/x1) to P1
- Four single link DVI and One VGA to P2
- Support OpenVPX Profile:
- MOD3-PER-2F-16.3.1-3 and MOD3-PER-1F-16.3.2-2

XMC Graphics Module

XMC-G745-R1

- NVIDIA GeForce GT 745M GPU (Kepler refresh)
- 384 CUDA cores for maximum processing power
- Dual channel GDDR5 soldered memory, 2GB
- 16-lanes PCIe Gen3 (x16/x8/x4/x1) on P15
- Four single link DVI and One VGA ON p16

3U VPX Test Frame

Product Type	Test Frame
Form Factor	VPX 3U
Dimensions	142.6mm (H) x 209.9mm (W) x 276.28mm (D)
Blade Support	Conduction cooled VPX 3U blades
Backplane Support	Up to 9 slots
RTM Support	Yes
Cooling	Passive fins
Power	User define

3U VPX Test Frame

VPX-R3001

Note: All specifications are subject to change without further notice.