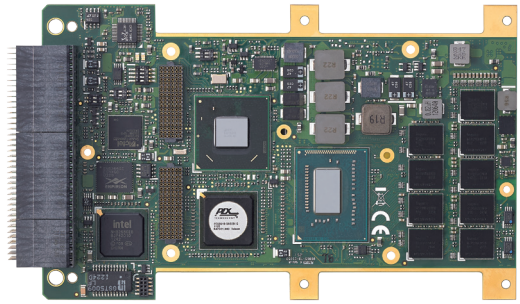
VPX3000 Series

Rugged 3U VPX 3rd Generation Intel® Core™ i7 Processor Blade for Military Storage and Data Processing

Features

- Quad-core 35w 3rd Generation Intel® Core™ i7 processor with QM77 Express chipset
- DDR3-1333 soldered ECC SDRAM
- Two PCIe x4 Gen2 data plane with NTB
- Two 1000BASE-BX and one 1000BASE-T
- One XMC expansion slot, PCIe x8 Gen2 with Rear I/O



VPX VPX REDI OpenVPX CONDUCTION COOLED

Specifications

Processor & System

CPU
Quad-core Intel® Core™-i7-3612QE 2.1GHz, 6MB LLC cache, TDP=35w

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/Ethernet Signal Mapping to 3U/6U VPX
VITA 46.10 Rear transition module on VPX
VITA 46.11(draft) System Management on VPX
VITA 48.0 Ruggedized Enhanced Design Implementation Mechanical Base Specification
VITA 65 OpenVPX Architecture Framework for VPX

Module Profile
MOD3-PAY-2F2U-16.2.3-3
MOD3-PAY-1F1F2U-16.2.4-4

Slot Profile
SLT3-PAY-2F2U-14.2.3
SLT3-PAY-1F1F2U-14.2.4

Connectivity

XMC
PCIe x8 Gen2 with RIO to P2-X8d+X12d

Ethernet
Two 1000BASE-BX to P1
One 10/100/1000BASE-T to P1

Graphics
Single channel DVI+RGB to P2

USB
One USB 3.0 and one USB 2.0 to P1

Serial Port
One RS-232 (RTS#,CTS#, SIN, SOUT) and one RS-422 to P2

Audio
Intel® HDA Line-in, Line-out to P2

PCI Express
2x PCIe x4 Gen2 to P1, configurable to 1x8 or 1x4+4x1
Supports DMA and Non Transparent Bridge for peer to peer communication

Storage

SBC
Soldered 32GB SATA 3Gb/s boot flash
Two SATA 6Gb/s ports to P1 and one SATA 3Gb/s port to P2

Operating System

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

Specifications

Miscellaneous

GPIO
Four PCH controlled GPIO to P1/P2

HW monitor
CPU temperature and Power rails

Watchdog Timer
System reset or NMI with programmable interval

LED
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

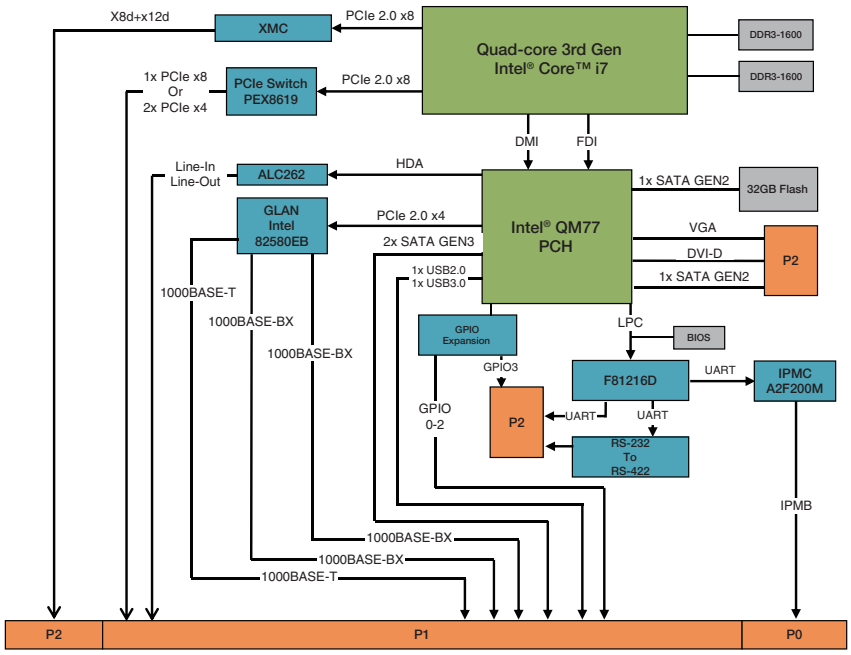
Altitude
60,000 feet, operating

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

VPX3000 Block Diagram



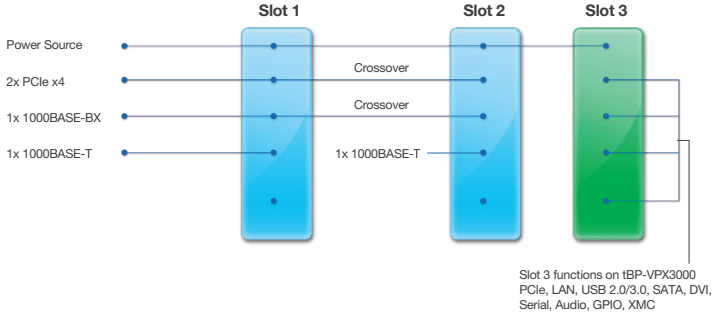
VPX-R300 RTM

Model Name	Location	GbE	Display	USB 3.0	USB 2.0	SATA	XMC	COM	GPIO	Audio
VPX-R300	Rear I/O	1x 1000BASE-T	DVI-I	1	1	-	-	-	-	-
	On Board	1x 1000BASE-T	-	-	-	2	1	1x RS-232 1x RS-422	4	Line-In/Out

tBP-VPX3000 3U Backplane

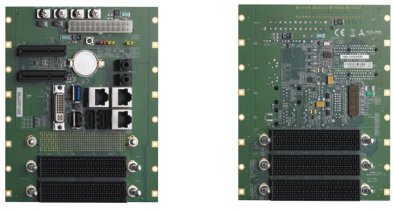
Model Name	Onboard Connectors	GbE	PCIe	Display	USB 3.0	USB 2.0	SATA	XMC	COM	Audio	Power
tBP-VPX3000	For Slot 3 only	1x 1000BASE-T	2x PCIe x4	1x DVI-I	1	1	2	1x XMC I/Ox8d + x12d	1x RS-232 1x RS-422	1x Line-In 1x Line-Out	1x 24 pin ATX 12V/5V/3.3V power terminals

Block Diagram of tBP-VPX3000



VPX3U 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
Backplane support: Up to 9 slots with VPX 3U Blade
RTM Support: Yes
Cooling: Passive Fin
Power: User define



tBP-VPX3000

VPX3U Test Frame

VPX-R300

Ordering Information

Processor Blades

- **VPX3000/3612/M8/S32-R1**
  Quad-core i7-3612QE 35W with 8GB DDR3 ECC and 32GB SATA SSD soldered, card edge operating temp. -40°C to 75°C, conduction cooled
- **VPX-R300**
  RTM for VPX3000 with DVI-I, USB 2.0, USB 3.0, 1000BASE-T on front panel and Line-in, Line-out, RS-232, RS-422, 2x SATA 3.0, GPIO pin headers, XMC port onboard
- **tBP-VPX3000**
  3-slot testbed for VPX-3000; SLT1-2: VITA65 SLT3-PAY-2F2U-14.2.3, BKP3-DIS02-15.2.8-1 SLT3 I/O:
  2x COM-RJ45, 1x GbE-RJ45, 1x DVI-I, 2x USB,
  2x SATA 6G, 2x PCIex4, Line-in/out Jacks
- **VPX3G10-R**
  3U VPX NVIDIA GT745M GPU card, conduction cooled
- **XMC-G745-R**
  XMC NVIDIA GT745M GPGPU card, conduction cooled
- **VPX-TF3090**
  3U VPX conduction cooled test frame with tBP-VPX3000