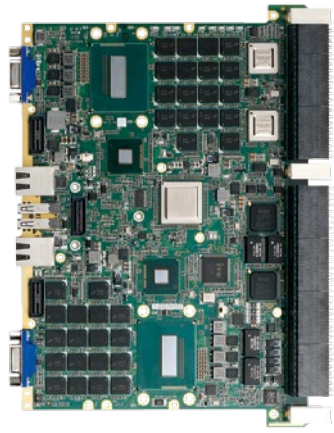
VPX6000 Series

Rugged 6U VPX 4th Generation Intel® Core™ i7 Processor Blade

Features

- Dual quad-core 4th Generation Intel® Core™ i7 processor with ECC
- Dual channel DDR3L ECC memory soldered, 16GB per CPU
- Supports PCIe non-transparent bridge (NTB) and 10GbE
- Supports storage upgrade via mezzanine card with scalable onboard SSD option
- Remote management with iAMT

VPX VPX REDI OpenVPX CONDUCTION COOLED



Specifications

Processor & System

CPU
Single or dual µFC-BGA quad-core Intel® Core™ i7-4700EQ processors, 2.4/1.7GHz, 6MB L3 cache, 47/37W TDP

Chipset
Intel® QM87 Express Chipset

Memory
Dual channel DDR3L-1600 SDRAM with ECC, 16GB per CPU

BIOS
AMI® EFI BIOS, 16MB SPI flash memory

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
MOD6-PAY-4F1Q2U2T-12.2.1-8

Slot Profile
SLT6-PAY-4F1Q2U2T-10.2.1

Connectivity

Ethernet
Four Fat Pipes 10GbE with RDMA to P1 for Data Plane by Mellanox ConnectX-3
Intel® 82580EB Quad GbE controller on PCIe 2.0 x4
Two 1000BASE-T to P4/P5 for CPU-A, two to P4/P6 for CPU-B
Two 1000BASE-BX/KX to P5 for CPU-A, two to P6 for CPU-B for Control Plane
Intel® I217-LM PHY controller, one GbE with iAMT to P4 per CPU

PCI Express
PCIe x8 or 2x PCIe 2.0 x4 (Gen2) with DMA to P2 data plane from IDT 32-lane Gen2 switch per CPU

Graphics
Integrated in Intel® processor with DX11.1 and OCL1.2
One VGA port on front panel (air cooled version only)
Two DVI/HDMI routed to rear per CPU
All graphics interfaces are independent channels
Supports three independent displays

USB
One USB 3.0 port on front panel (air cooled version only)
Two USB 3.0 and two USB 2.0 routed to rear per CPU

PS/2
PS/2 Keyboard Mouse to rear per CPU

Serial Port
One RJ-45 RS-232 port on front panel
One RS-232/422 serial port routed to rear per CPU

Audio
High Definition Audio Line-in and Line-out signals routed to rear per CPU

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Specifications

Storage

SBC

One SATA 6 Gb/s 32GB SLC NAND flash (removable), 64GB optional
Three SATA 6 Gb/s routed to rear per CPU

Operating System

OS

Microsoft Windows 7 32/64-bit
Red Hat Enterprise Linux 6.5
Wind River VxWorks 6.9.3
(Please contact ADLINK for other OS support)

Miscellaneous

LEDs

CPU, PCH, RAM, Port 80, P12V, P5V power good

Watchdog Timer

System Reset and NMI, with programmable interval, 1-65535 seconds or minutes

Hardware Monitor

Monitors CPU temperature, system temperature, Vcore and DC voltages

Mechanical & Environmental

Form Factor

6U VPX, 0.85”
233.35mm x 160mm (L x W)

Operating Temperature

Conduction-cooled -40°C to +75°C (at wedge-lock)
Air-cooled 0°C to +75°C (ambient temperature)

Storage Temperature

-50°C to +100°C

RH Humidity

95% non-condensing

Shock

Sawtooth 40G, 11ms, each axis, operating (conduction cooled)
Sawtooth 20G, 11ms, each axis, operating (air cooled)

Vibration

15Hz-2KHz, 12Grms, random, each axis, operating (conduction cooled)
10Hz-2KHz, random, sine: 2G, 5 to 500Hz (air cooled)
Power Consumption: Max 158W

Weight

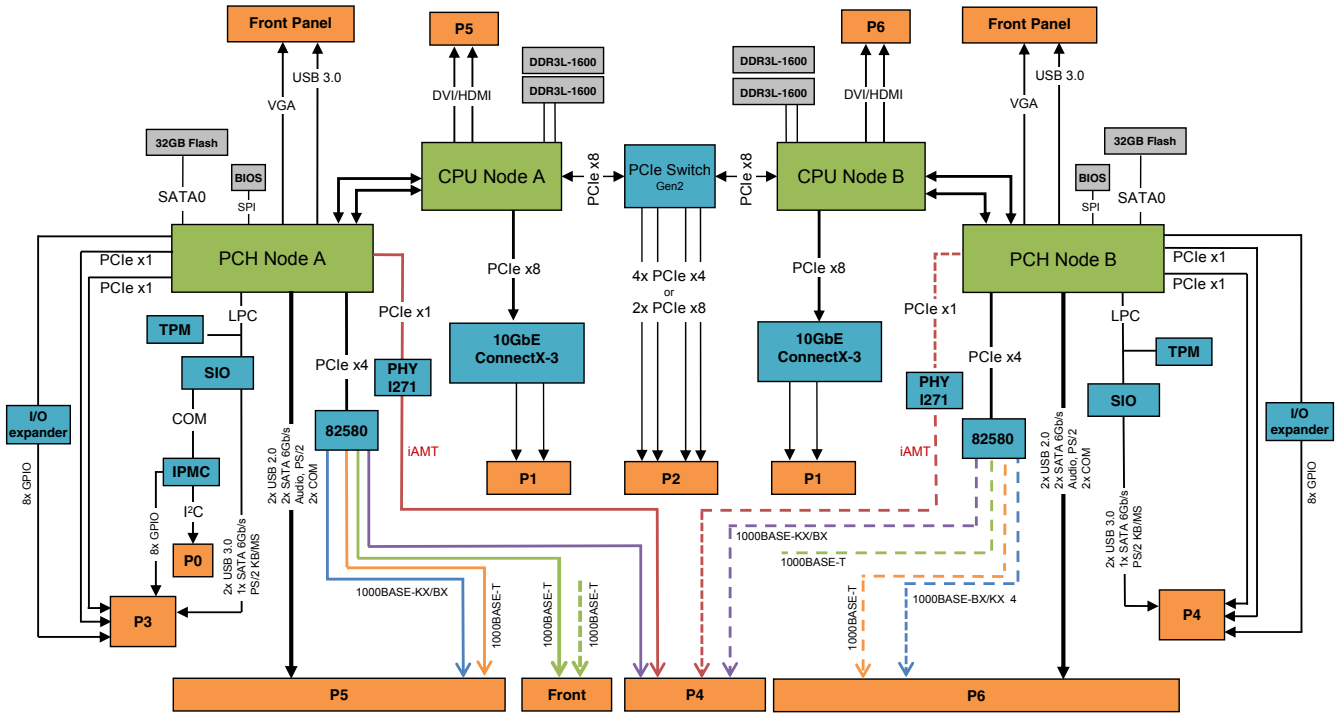
Conduction-cooled 1400g
Air-cooled dual CPU 770g
Air-cooled single CPU 620g

Safety & EMI

Certification

CE/ FCC Class A

VPX6000 Block Diagram



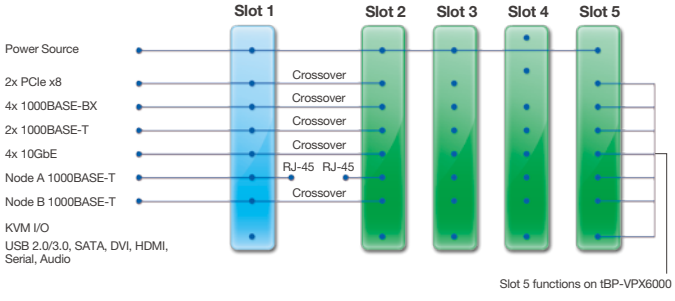
VPX-R6000 6U RTM

Model		10G	1000 BASE-BX	1000 BASE-T	HDMI	USB	Mini UART	SATA	RS-232/422	Audio	KB/MS	GPIO	BIOS	JTAG
VPX-R6000	Faceplate	2	2	2	2	2x 3.0	1							
	Onboard	2				4x 2.0		6	2	2	2	1	2	1

tBP-VPX6000 6U Backplane

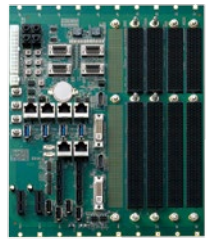
Model	Onboard Connectors	1000 BASE-BX/KX	1000 BASE-T	10G	DVI	HDMI	SATA	USB	RS-232/422	Audio (Line IN/ OUT)	BIOS	Battery	GPIO (LED)	PCIe x1	ATX connector	Power Terminal
tBP-VPX6000	For Slot 5 only	4	6	4	2	2	6	4x 3.0 4x 2.0	4	2	2	1	16	2	Yes	Yes

Block Diagram of tBP-VPX6000





tBP-VPX6000
Top View



tBP-VPX6000
Bottom View

Ordering Information

Processor Blades

- **VPX6000/D4700/M32/S64-R1**
  Dual Intel® Core™ i7-4700EQ processor and 32GB DDR3L-1600 ECC soldered memory and 64GB SSD with card edge operating temp. -40°C to +75°C, conduction cooled
- **VPX6000/S4700/M16/S32-A1**
  Single Intel® Core™ i7-4700EQ processor and 16GB DDR3L-1600 ECC soldered memory and 32GB SSD, air cooled, 0°C to +75°C ambient temp.
- **VPX6000/D4700/M32/S64-A1**
  Dual Intel® Core™ i7-4700EQ processor and 32GB DDR3L-1600 ECC soldered memory and 64GB SSD, air cooled, 0°C to +75°C ambient temp.

- **tBP-VPX6000**
  4x 1000BASE-BX/KX, each self loopback
  6x RJ45 jack 1000BASE-T
  6x SATA
  4x USB 2.0; 4x USB 3.0
  2x DVI; 2x HDMI
  2x Audio jack (LI/LO)
  4x RS-232/422 (PIN header)
  16x GPIO status LED
  4x 10G (Infiniband connector)
  2x PCIe x1 slot
- **VPX-R6000**
  VPX RTM for VPX6000 with 2x 10G (InfiniBand connectors), 2x USB 3.0, 2x 1000BASE-T, 2x 1000BASE-BX, 2x micro HDMI, mini UART on front panel; and Line-in, Line-out, RS-232, 6x SATA 3.0 onboard



VPX6000
conduction cooled



VPX6000
air cooled

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