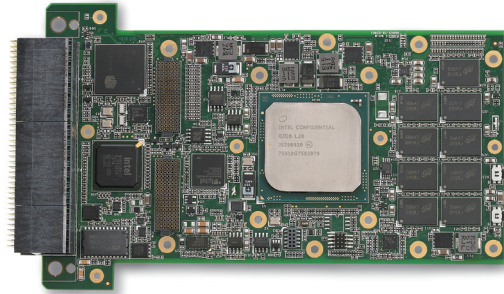


VPX3010 Series

Rugged 3U VPX Intel® Xeon® Processor D-1500 Processor Blade

Features

- Intel® Xeon® Processor D-1500 SoC up to 12 cores (formerly "Broadwell-DE")
- DDR4-2133 soldered ECC SDRAM up to 16GB
- Dual 10G-KR, up to three 1G Ethernet ports
- Up to PCIe x16 Gen3 interface supporting non-transparent bridge
- One XMC expansion slot, PCIe x8 Gen3 with Rear I/O to P2



Specifications

Processor & System

CPU	Intel® Xeon® D-1559 12-core, 45W TDP Intel® Xeon® D-1539 8-core, 35W TDP Intel® Pentium® D1519 4-core, 25W TDP
RAM	Dual channel DDR4-2133 ECC soldered SDRAM, up to 16GB
BIOS	AMI EFI on 64Mbit SPI flash
VITA Specifications	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 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-2F2T-16.2.5-3
Slot Profile	SLT3-PAY-2F2T-14.2.5

Connectivity

XMC	PCIe x8 Gen3 with Rear IO to P2 X8d+X12d
Ethernet	Dual 10G-KR to P2 Two 1000BASE-T to P1 (or one 1000BASE-T and two 1000BASE-BX by BOM option)
Graphics	SMI750 on PCIe x1 One VGA to P2
USB	One USB 3.0 to P1 and one to P2 One USB 2.0 to P1
Serial Port	One RS-232 to P1 One RS-232/422 to P1
PCI Express	PCIe x8 Gen3, configurable to 1 x8 or 2 x4 to P1, supports DMA and non-transparent bridge for peer-to-peer communication PCIe x8 Gen3 to P2 (combined with PCIe x8 Gen3 to P1 for PCIe x16 Gen3, no XMC BOM option) PCIe x1 Gen3 to P1 (no XMC BOM option)

Storage

SBC	Soldered SLC NAND Flash up to 64GB SATA 6Gb/s
RTM	One SATA 6Gb/s to P1 One SATA 6Gb/s to P2 (no XMC BOM option)

Security Mechanism

TPM	Atmel TPM version 1,2
IPMC	Smart Fusion A2F200 with VPX code base
BIOS	Dual BIOS mechanism

Operating System

OS	Red Hat Enterprise Linux 6.5 Wind River VxWorks 7.0 Microsoft Windows 7 32/64-bit Microsoft Windows 7 Embedded (Please contact ADLINK for other OS support)
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Miscellaneous

LEDs	Blade status LEDs on front and rear
Watchdog Timer	System reset or NMI with programmable interval
GPIO	Eight 5V tolerance GPIO to P1 and P2
Reset Button	Reset button on front panel

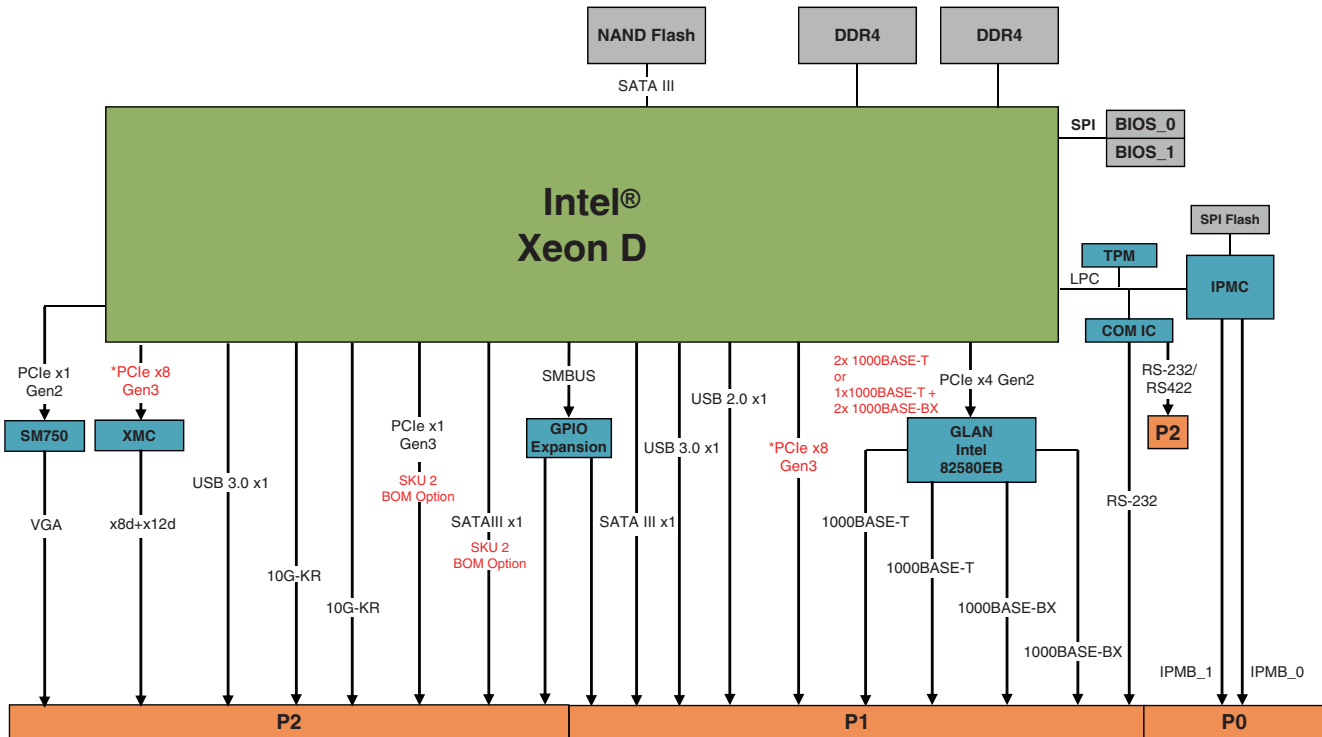
Mechanical & Environmental

Form Factor	3U VPX 1.0 in. pitch
Operating Temp.	-40°C to +85°C (at wedge locks)
Storage Temp.	-50°C to +100°C
Relative Humidity	95% non-condensing
Shock	5Hz-2KHz, 12Grms, random, each axis, operating
Vibration	Sawtooth 40G, 11ms, each axis, operating
Altitude	60,000 feet, operating
Power Consumption	TBD
Weight	TBD
Thermal Dissipation	Convection and conduction

Safety & EMI

Certifications	CE, FCC Class A
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VPX3010 Block Diagram



* Combined with PCIe x8 Gen3 to P1 and PCIe x8 to PCIe x16 Gen3, No XMC BOM option
 * The data transfer rate will be limited by device specification

Companion Production Information 3U VPX Test Frame

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

Product Type	9-slot 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	3-slot
RTM Support	Yes
Cooling	Passive fins
Power	User define

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

Ordering Information

Model Number	Description/Configuration
Processor Blades	
VPX3010/1559/M16/S32/ XMC-R1	3U VPX processor board Intel® Xeon® D-1559, DDR4 16GB, SLC 32GB, dual 10G-KR, dual GbE Base-T, VGA, 2x USB 3.0, XMC slot with coating & ETT -40°C to +75°C
VPX3010/1559/M16/S32/ P16-R1	3U VPX processor board Intel® Xeon® D-1559, DDR4 16GB, SLC 32GB, PCIe x16, dual 10G-KR, 1GbE Base-T and GbE Base-BX, VGA, 2x USB 3.0, with coating & ETT -40°C to +75°C
VPX3010/1559/M16/S64/ XMC-R1	3U VPX processor board Intel® Xeon® D-1559, DDR4 16GB, SLC 32GB, dual 10G-KR, dual GbE Base-T, VGA, 2x USB 3.0, XMC slot with coating & ETT -40°C to +75°C
VPX3010/1559/M16/S64/ P16-R1	3U VPX Processor Board Intel® Xeon® D-1559, DDR4 16GB, SLC 64GB, PCIe x16, dual 10G-KR, GbE Base-T and GbE Base-BX, VGA, 2x USB 3.0 with coating & ETT -40°C to +75°C

Rear Transition Modules

VPX-R3010	RTM for VPX3010 with GbE, SATA, USB 3.0/2.0, RS-232, GPIO
VPX-R3010L2	RTM for VPX-R3010 with PCIe x16 slot, PCIe x1 slot
VPX-R3010L2-1	RTM for VPX-R3010 with 10G SFP+ connector

Accessories

VPX3G10-R	3U VPX NVIDIA GT745M GPU blade, 384 CUDA GDDR5 2GB, conduction cooled
XMC-G745-R	XMC NVIDIA GT745M GPGPU module, 384 CUDA GDDR5 2GB, conduction cooled