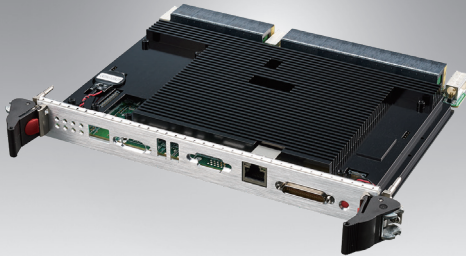


MIC-6315

OpenVPX CPU Blade with Intel® Xeon® D-1500 family Processor

Preliminary



Features

- 5th Generation Intel® Xeon® processor, up to 12 cores / 24 threads
- Customized from the OpenVPX MOD6-PAY-4F1Q profile
- Default 32GB/16GB DDR4 2133 onboard memory with ECC support, up to 64GB*
- High speed interfaces: Data Plane: Dual SRIO up to 5Gbps, Expansion plane: PCIe Gen3, and dual 40GBase-KR4 on user-define plane
- Two ruggedized connectors and common I/O port connectors available on the front panel
- 64GB onboard NAND flash, and 1x SATA M.2, 2x NVME M.2 storage options available



Introduction

The MIC-6315 is the 6U OpenVPX processor blade echoing to the customer's requirements. Based on the Intel® Xeon® D-1500 processor family, the MIC-6315 supports to 12 cores/ 24 threads, to fulfill the computing requirements from the customer. The MIC-6315 provides various high speed interfaces to communicate with the system: dual Serial Rapid I/O on the Data Plane, a configurable PCIe gen. 3 x 16 port on the Expansion Plane, with another x8 and x4 PCIe ports on the user-define plane, and there are two 40GBase-KR4 ports available on the user-define plane. These interfaces enable the possibility of high speed data communication to optimize the performance of the product. Serial Rapid I/O and PCI express have low latency, scalable, error recoverable deterministic interconnectivity to the mainstream peripherals and I/O cards to create a system with vast functions.

To maintain the maximum memory throughput in the different harsh environments, the Advantech R&D teams dedicate themselves to optimize the layout of the product. The MIC-6315 is capable to support ECC in a dual channel design running up to 2133MT/s with 64GB capacity*, and has the default capacity of the onboard DDR4 with 32GB or 16GB. The MIC-6315 offers three types of the storage options: A 64GB onboard NAND flash as the native storage, and three M.2 sites with 1x SATA M.2, 2x NVME M.2 interfaces are supported at the same time.

The MIC-6315 has a reinforced convection-cooled heatsink as the thermal solution. Two native ruggedized connectors are available on the front panel, and several common I/O port connectors can be used for debugging purpose at the same time.

Compliant with the IPMI 2.0, the MIC-6315 uses Advantech-code-based board management solution, and supports iKVM, remote control and upgrade. This Advantech BMC code uses the LTS kernel for stability and security, and enables the possibility of customization. The user can setup the PCIe switch configuration in the BIOS menu without any firmware or hardware modification.

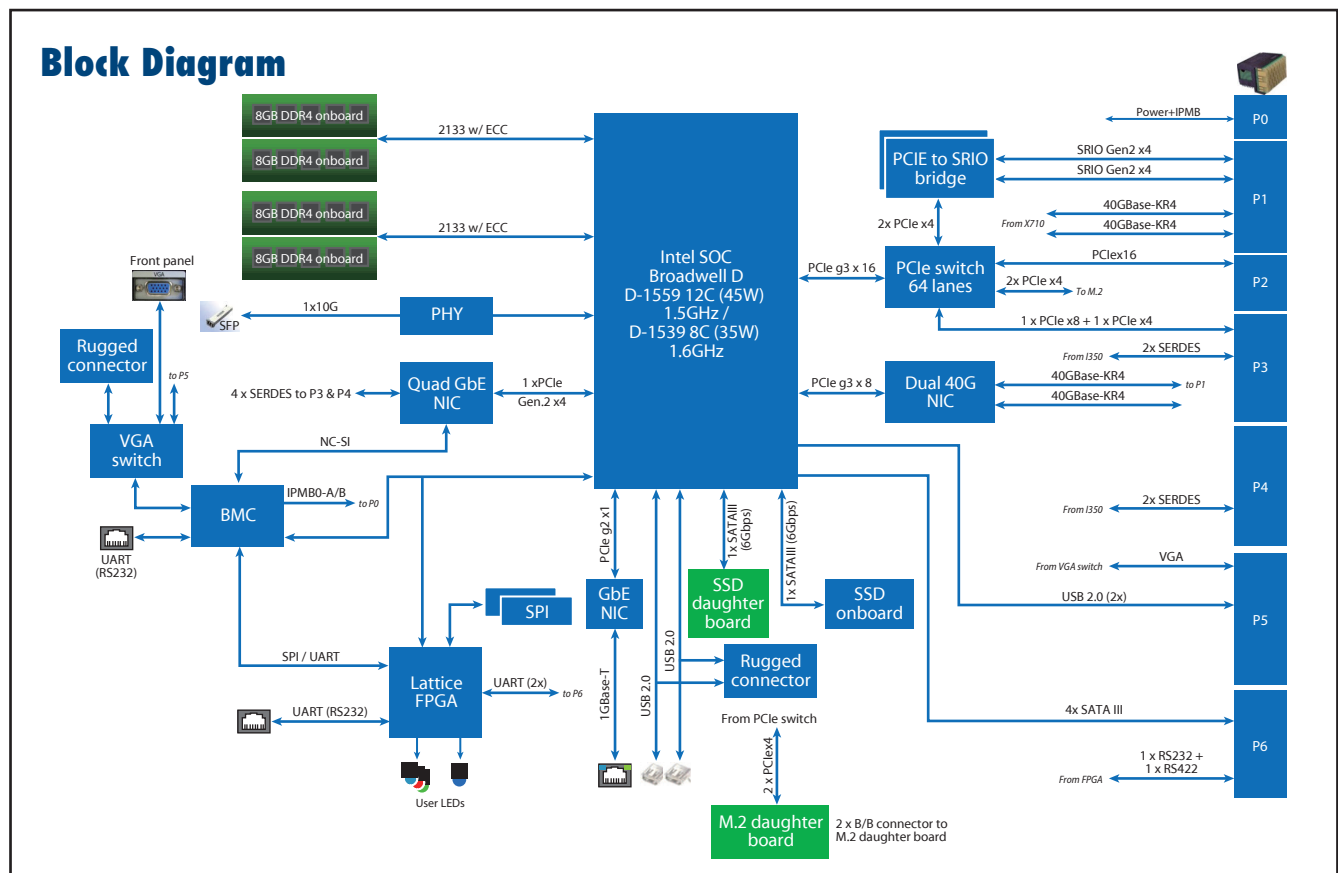
Specifications

Processor System	CPU	Intel® XEON® D-1559
	Max. Speed	2.1 GHz
	BIOS	Redundant AMI UEFI based 16MByte SPI flash
Memory	Technology	Dual channel DDR4 2133MHz w/ ECC
	Capacity	Default 32GB, up to 64GB with customized BOM*
VPX Interface	P1	2 x Serial Rapid I/O Gen2 x 4, and 2 x 40GBase-KR4
	P2	1 x PCIe x16 (configurable to 2x 8, 4x4; 1x 8 + 2x 4; 1x 8 + 4x 2)
	P3	1 x PCIe x 8 + 1 x PCIe x 4 (configurable to 3x4, 1x8 + 2x2, 2x4 + 2x2, 6x2), 2 x SERDES
	P4	2 x SERDES
	P5	2 x USB2.0; 1 x VGA
	P6	4 x SATA3, 1 x RS232, 1 x RS422
Ethernet	Controller	Intel® I350-AM4, Intel® XL710BM2 to backplane; 1 x Intel® I210 to front panel
Front I/O Interface	Ruggedized connector	Jonhon HJ30J-36ZKWP7 (36 pins) & HJ30J-18ZKWP7(18 pins)
	Serial (COM)	1 console (Tx, Rx) to BMC, 1 console (Tx, Rx) to x86 (in the ruggedized connectors)
	Ethernet	1 x RJ-45 10/100/1000BASE-T
	USB	2x USB 2.0, + 2x USB2.0 in the ruggedized connectors
	Miscellaneous	1x SFP+ and 1x VGA, the VGA signals are also available in a ruggedized connector in the ruggedized connector
Operating System	Compatibility	Linux (distribution & Kernel to be confirmed); Windows7, partially support Widows 10
Storage	Traditional storage	1x SATA III to external M.2, 4x SATA III to backplane
	High speed storage	2x external NVME M.2
	Onboard Flash	64G SATA
Power Requirement	Consumption	90 W total power envelope with D-1559 CPU
Physical Characteristics	PCB Dimensions	5HP, 233.35 x 160 mm (9.2" x 6.3") (W x D)
	Weight	0.95kg without peripherals

Specifications (Cont.)

Environment	Operating (with 30 CFM airflow)	Non-operating	
	Temperature	-40 ~ 55 °C	-55 ~ 105 °C
	Humidity	95% @ 40 °C, non-condensing	95% @ 60 °C, non-condensing
Compliance	Shock	VITA 47, OS2 VITA 47, OS1 (convection cooled)	
	Vibration	VITA 47, V2 (conduction cooled) 0.008 g ² /Hz, 2 Grms, 5-500Hz (convection cooled)	
	Altitude	50,000ft @ -40 °C above sea level	
	VPX	OpenVPX (VITA 65), REDI (VITA 48), IPMI 2.0	
	Safety	FCC class A, CE, RoHS	
	EMC	FCC47 CFR Part15, Class A, CE Mark (EN55022/EN55024/EN300386)	

Block Diagram



Part Number	Ruggedized connector		Front panel				Main On-board Features		
	Pins	Function	Common connector		USB	Ethernet	SFP+	VGA	CPU
MIC6315H1A4E-ES	36 (Default) 18 (Reserved)	UART; J-tag; VGA; 2 x USB2.0 UART; J-tag	2 x USB2.0	1 x RJ-45	1	1	Intel® XEON D-1559	32GB	

Ordering Information**

Model number	Configuration
MIC6315H1A4E-ES	MIC-6315 high density computing blade with D-1559

*: For the other configuration availability, please contact your local sales office.
 **: All specification listed above are preliminary, Advantech may modify them without notification because of the test result or business plan
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