

MIC-330

3U CompactPCI® Serial Intel® 9th Gen. Processor Blade



Features

- Intel® 9th Gen 14nm Xeon®/Core™ processor with CM246 PCH
- Up to 32GB DDR4 by two channels, with ECC or Non-ECC options
- 2 x RJ45 GbE LAN, 2 x USB3.0, 2 x DP on front 4HP panel
- 2 x M12 X-Coding GbE LAN, 1 x DB9 COM on MIC-330 8HP panel
- Up to two onboard 2280 M.2 sockets at SATAIII speed on MIC-330 with Mezzanine-1 card
- One onboard 2280 M.2 socket at SATAIII speed, and Fe-RAM function, reserved super cap. on MIC-330 with Mezzanine-2 card
- Designed to meet EN50121-4 and EN50155
- PICMG CompactPCI Serial (CPCI-S.0 R2.0) compliant

Compliant with
EN 50121-4

Compliant with
EN 50155

CE FCC

RoHS
COMPLIANT
PRODUCT

Introduction

Advantech MIC-330 series, using Intel® 9th Gen. 14nm technology provides significant performance and power efficiency. MIC-330 is a 3U CompactPCI® serial processor blade with 6 cores/12 thread Core™ i7 and Xeon® processor and configured with Intel® CM246 PCH to support dual-channel 32GB DDR4-2666, up to 16GB onboard memory for rugged applications, and another 16GB are available via the SO-DIMM socket for expansion.

Onboard mass storage is based on a low profile mezzanine expansion card, which accommodates one or two 2280 M.2 style sockets at high speed SATAIII. The host board front I/O is equipped with two Gigabit Ethernet ports, two USB 3.0 ports, and two DisplayPort connectors. In addition, one VGA port is reserved as an alternative option with DP on a configuration-one mezzanine card (M-1). Also extra two M12 X-code GbE, one DB9 non-isolated COM port and Fe-RAM function are provided by the configuration-two mezzanine card(M-2).. The super capacitor is reserved on M-2 per user request.

The MIC-330 series also offers some high speed I/O resources, up to 2 x PCIe x8, 2 x PCIe x4, 2 x PCIe x1, 8 x USB2.0, 2 x USB3.0, 4 x SATA, 2 x or 5 x GbE to the CompactPCI® Serial backplane for peripheral high-speed I/O expansion like storage, graphics, Ethernet, etc. To optimize the thermal solution, the board is equipped with a 4HP height heatsink and max 16GB onboard memory support. There is an 8HP height heatsink with 8HP height front panel for a SO-DIMM extension slot up to max 32GB memory. Its excellent thermal and EMC design makes it suitable for harsh environments and provides an ideal solution for railway rolling stock and high-performance computing applications.

Specifications

Processor System	CPU	Intel® Xeon® E-2276ML, 6C/12T, 2.0GHz, TDP 25W, ECC Intel® Core™ i7-9850HL, 6C/12T, 1.9GHz, TDP 25W, Non ECC Intel® Core™ i3-9100HL, 4C/4T, 1.6GHz, TDP 25W, ECC
	BIOS	AMI 128 Mb SPI flash
Memory	Technology	Dual Channel DDR4 2666 MHz
	Max. Capacity	Max 32GB, 16GB soldered, 16GB SO-DIMM
CompactPCI® Serial Backplane Resources	PCIe	PCIe GenIII, 2 x PCIe x8, 2 x PCIe x4, 2 x PCIe x1
	SATAIII	4 x SATA 3.0
	USB	2 x USB3.0; 8 x USB2.0
	GbE	2 x GbE to P6 on low profile mezzanine-1 card; 3 x GbE to P6 on low profile mezzanine-2 card
Graphics	Chipset	Integrated on processor
	I/O Connector	2 x DP (1 x VGA reserved for option)
	Resolution	DP: 4096 x 2304 @ 60Hz VGA: 1920 x 1080 @ 60Hz
Ethernet	Controller	Intel® WGI210 Gigabit Ethernet Controller
	Interface	10/100/1000 Base-T Ethernet
	I/O Connector	2 x RJ45 to 4HP front, 2 x M12 X-coding to 8HP(M-2) front
Storage	Mode	SATA-III
	Channels	Up to 2 channels to onboard 2280 M.2 type module 4 channels to CPCI-S backplane
Front I/O	USB	2 x USB3.0 type A
	Display	2 x DP (VGA per request)
	LAN	2 x RJ45 GbE on 4HP, 2 x M12 GbE on 8HP M-2 card
	COM	1 x DB9 COM port on 8HP M-2 card, RS232/422/485
	Front Panel LEDs	1 x blue/orange for hot swap/ HDD, 1 x green for PWR, 1 x green for master/drone
	Buttons	System reset button
To P1-P6 Signal	P1	PCIE x4; 1 x USB3.0 (1 x USB2.0)
	P2	PCIE x4, PCIE x8, 3 x USB2.0
	P3	4 x SATA, 1 x USB3.0, 4 x USB2.0
	P4	2 x PCIE x4, 2 x PCIE x1
	P5	Clock
	P6	Up to 5 x GbE (2 GbE on M-1; max 5 GbE to P6 on M-2, Among them, 2 GbE switched with 2x GbE LAN to 8HP front)
BIOS	Boot Options	SATA, USB, network (PXE)

Specifications (Cont.)

Watchdog Timer	Output Interval	Local reset Programmable 1s ~ 255s
Operating System	Compatibility	Windows10, Linux, Vxworks
Physical	Dimension & Weight	4HP or 8HP, 160.00 x 100.00 mm
Environment	Temperature	Operating (depending on forced airflow) Non-operating 0 ~ 55 °C (32 ~ 122 °F) -40 ~ 85° C (-40 ~ 185° F)
	Humidity	95 % @ 40° C, non-condensing 95 % @ 60° C, non-condensing
	Vibration	2Grms
	Shock	10 G, 11ms, each axis three times, operation mode
	Regulatory	Conformance
Compliance	Standards	PICMG® CompactPCI® Serial

Supported CPU Configurations

Intel® CPU Model Number	# Cores	Base Freq.	Cache	Memory Types	ECC Support	CPU TDP
Intel® Xeon® E-2276ML	6	2.0GHz	12 MB	DDR4-2666	Yes	25W
Intel® Core™ i7-9850HL	6	1.9GHz	9 MB	DDR4-2666	No	25W
Intel® Core™ i7-9850HE	6	2.7GHz	9 MB	DDR4-2666	No	45W
Intel® Core™ i3-9100HL	4	1.6GHz	6 MB	DDR4-2666	Yes	25W

Ordering Information

System board	Front Panel					Onboard Features					Others	
	4HP LAN (RJ45)	USB3.0	DP ⁽¹⁾	8HP LAN (M12)	COM ⁽²⁾	CPU	Memory OnBoard	So-DIMM Socket	ECC ⁽³⁾	SATA (M.2)	Height	To P6 Conn.
MIC-330-A1S1	2	2	2	-	-	i7-9850HL	16GB	-	No	2	4HP	2
MIC-330-A2D1	2	2	2	-	-	i7-9850HL	16GB	Yes	No	2	8HP	2
MIC-330-A3D1	2	2	2	2	1	i7-9850HL	16GB	Yes	No	1	8HP	max 5 ⁽⁴⁾
MIC-330-B1D1	2	2	2	2	1	E-2276ML	16GB	Yes	Yes	1	8HP	max 5 ⁽⁴⁾

Note:

- (1) VGA port is available per request
- (2) DB9 port by cable from onboard pin head, RS232/422/485 support
- (3) Core/i3/Xeon CPUs with ECC support are available per request
- (4) Among 5 x GbE Signals to P6, 2 x GbE switched with 2 x GbE LAN to 8HP front

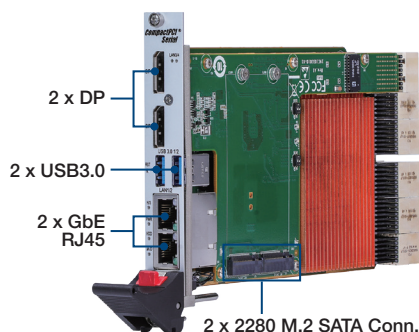
Related 3U Compact PCI Serial Products

Peripheral board	Description
MIC-300 series	3U height 19inch chassis with 9 slots CPCI-S backplane & mini fan
MIC-3954D series	3U CPCI-Serial, quad Mini-PCIe carrier board
MIC-3954E series	3U CPCI-Serial, quad M.2 carrier board for LTE module
MIC-3810 series	3U CPCI-Serial PCIe x8/x16 carrier board
MIC-3820 series	3U CPCI-Serial 2.5" SSD carrier board
MIC-3811 series	3U CPCI-Serial dual mini PCIe carrier for wifi/BT/i-door module
MIC-3860 series	3U CPCI-Serial 4 RJ45/4 M12 GbE LAN board
MIC-3812 series	3U CPCI-Serial MXM carrier board
MIC-3821 series	3U CPCI-Serial 4 NVMe carrier board

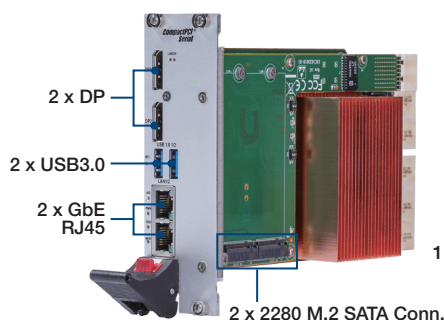
Note: Please contact local sales for more 3U CPCI-Serial peripheral I/O & chassis information.

Storage & I/O

MIC-330 4HP height with M-1(mezzanine) board without SO-DIMM extension



MIC-330 8HP height with M-1(mezzanine) board with SO-DIMM extension



MIC-330 8HP height with M-2(Mezzanine) board with SO-DIMM extension

