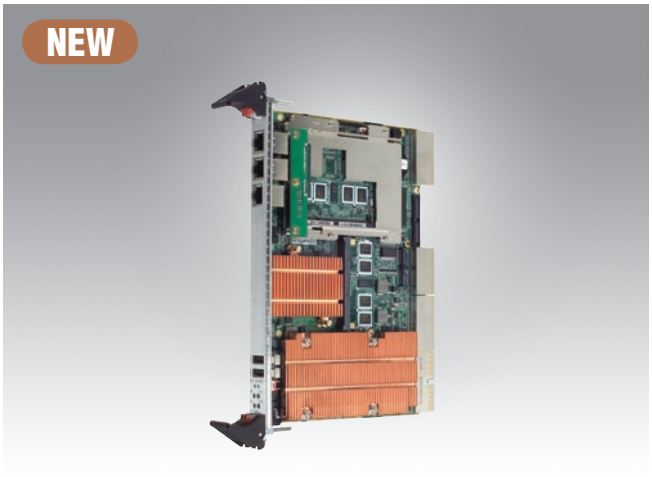
MIC-3393

6U CompactPCI Intel® Xeon® Quad/ Dual Core Processor Blade



Features

- Supports 45 nm Intel® Xeon® Low Voltage/Ultra Low Voltage processor
- Intel® 5100MCH chipset supports 1066/1333 MHz FSB
- Up to 4 GB (DDR2 533/667) ECC memory
- Optimized design in one or two slots SBC with USB Flash Drive, and 2.5" SATA HDD/CompactFlash socket
- Optional Extension Module on 8HP version supports two XMCs, PMCs or 2.5" SATA HDDs
- TPM, three GbE ports, six SATA ports, four USB 2.0 ports, one VGA port, three RS-232 ports, one PS/2 connector, and PCIe x1, PCIe x4 interfaces to the Rear Transition Module (RTM)
- Built-in Intel® I/OAT technology for enhanced I/O performance
- PICMG 2.16 R1.0, PICMG 2.9 R1.0, PICMG 2.1 R2.0 compliant

CompactPCI® FCC CE RoHS COMPLIANT 2002/95/EC

Introduction

Experience true server class performance on CompactPCI. Using Intel 45nm 64-bit Xeon technology with up to four cores at 2.33 GHz combined with the powerful San Clemente chipset, the MIC-3393 blade boosts computing and I/O performance deploying the latest virtualization, multi-threading and I/OAT acceleration techniques. Enhanced Xeon® packaging, front side bus parity, onboard, soldered DRAM with ECC support and RASUM features integrated in the 5100 MCH combined with PICMG2.9, IPMI-based management make the MIC-3393 a highly available and reliable high performance computing engine. The comprehensive I/O subsystem includes an onboard USB flash disk, a 2.5" SATA HDD or CompactFlash slot, three advanced Gigabit Ethernet controllers, two UARTs, USB ports and a TPM. The addition of PCIe links to the RTM further enhances versatility compared to previous generation blades resulting in best-in-class connectivity.

The RIO-3311 RTM module supports one PS/2 connector with both keyboard and mouse ports, three USB ports, two RS-232 ports, 2 SATA ports, a PCIe based server graphics controller with VGA port, a USB port for USB NAND flash module, and alternate cabling for the three Gigabit Ethernet ports of the MIC-3393. In case the SATA disk drives and SATA RAID support of the ICH9R do not meet performance and reliability requirements, the RIO-3311 SAS version supports a 4-port SAS controller with RAID and failover support.

The MIC-3393 is outfitted with single slot (4HP) or dual slot (8HP) front panels to match CPU performance, CPU power dissipation, and system cooling capabilities. The 8HP version of the blade can be extended with a MIC-3312 mezzanine module which can carry two XMCs/PMCs or two 2.5" SATA HDDs to support enhanced I/O modularity and additional mass storage options.

Specifications

Processor System	CPU	Quad-Core/Dual-Core Intel® Xeon® processor LV or Dual-Core Intel® Xeon® processor ULV up to 2.66 GHz
	Chipset	Intel® 5100MCH/ICH9R (San Clemente)
	Front Side Bus	1066/1333 MHz with parity protection
	BIOS	Redundant AMI 2MByte SPI flash
Memory	Technology	Dual channel DDR2 533/667 MHz with ECC
	Max. Capacity	2 GB onboard, max. 4 GB total
	Socket	SORDIMM x2
CompactPCI Interface	J1~J2 Connectors	64-bit/66 MHz PCI local bus + RTM
	J3 Connector	PICMG2.16 + RTM
	J5 Connector	RTM
	Bridge	Pericom PI7C9X130DNDE + PLX PCI 6540CB
	Mode	Sytem Master/Drone (Stand alone)
Ethernet	Controller	2 Intel® 82574L single-port Gigabit Ethernet controllers
	Interface	10/100/1000Base-TX Ethernet
	I/O Connector	PICMG2.16 x 1, RJ-45 x1 or RTM x 2
	Controller	Intel® ICH9R MAC and Intel® 82566DM Gigabit Ethernet PHY
	Interface	10/100/1000Base-TX Ethernet
	I/O Connector	RJ-45 x 1 or RTM x 1
Graphics (on RTM)	Controller	XGI Volari Z11 PCIe Server graphics with 32 MB VRAM
	Resolution	Up to 1600 x 1200, 64k hi-color at 70Hz
Storage	Type	SATA-II
	Channels	1 channel. to onboard SATA HDD carrier or CF disk carrier 2 channels. to RTM 2 channels to extension module (8HP only)
	Type	USB
	Channels	1 to onboard 1 GB flash disk

Specifications

Front I/O	USB 2.0	2 type A	
	COM	1 RS-232 on RJ-45	
	LAN	2 10/100/1000 Mbps on RJ-45	
	Front Panel LEDs	x 1 blue/yellow for Hot Swap/HDD, x 1 green for Master/Drone, x 1 yellow BMC Heartbeat, and x 1 green for Power	
	Buttons	CPU and BMC reset buttons	
Rear I/O	USB	4 ports	
	COM	2 ports	
	LAN	3 10/1000/1000 Mbps	
	SATA	2 ports	
	PCIe	1 PCIe x 1, 1 PCIe x 4	
	Others	PS/2 for keyboard & mouse	
BIOS	CMOS	Battery backed up with backup copy in EEPROM	
	Boot options	SATA, SAS, USB ports, USB flash disk, network (PXE)	
	Console	VGA or console redirection over COM Port, SoL supported by BMC	
	others	Supports operation without disk, keyboard, video	
Watchdog Timer	Output	Local Reset and Interrupt	
	Interval	Programmable 1s ~ 255s	
Hardware Monitor	Controller	Winbond® 83627DHG: voltages, CPU, chipset, board temperature	
BMC	Controller	Renesas® H8S 2167, IPMIv2.0 compliant	
Operating System	Compatibility	Windows® XP 32/64 bit, Linux	
Power Requirement	Configuration	4HP	8HP
	TDP (max./typ.)	60W / <50W	90W / <75W
Physical	Dimensions & Weight	6U /1 slot width (4HP), 233.35 x 160 x 20 mm (9.2" x 6.3" x 0.8"), 1.03 kg (2.27lb) 6U /2 slots width (8HP), 233.35 x 160 x 40 mm (9.2" x 6.3" x 1.6"), 1.42kg (3.14lb)	
Environment		Operating	Non-operating
	Temperature	0 ~ 55° C (32 ~ 122° F)	-40 ~ 85° C (-40 ~ 185° F)
	Humidity	95 %@ 40° C, non-condensing	95 %@ 60° C, non-condensing
	Vibration	5-500Hz, 2Grms	5 ~ 500Hz, 3.5Grms
	Bump	-	15G, 6ms (without on-board 2.5" SATA HDD)
	Altitude	4,000m above sea level	
Regulatory	Conformance	FCC Class A, CE, RoHS	
	NEBS Level 3	Designed for GR-63-CORE and GR-1089-CORE	
Compliance	Standards	PICMG2.0 R3.0, PICMG2.1 R2.0, PICMG2.9 R1.0, PICMG2.16 R1.0	

Supported CPU Configurations

Intel CPU Model Number	CPU architecture	# cores	Freq.	Cache	FSB	CPU TDP	Required airflow for single slot width	Required airflow for dual slot width
L5408	Harpertown (45 nm)	4	2.13 GHz	12 MB	1066 MHz	40W	50CFM	30CFM
L5238	Wolfdale (45 nm)	2	2.66 GHz	6 MB	1333 MHz	35W	40CFM	25CFM
L5215	Wolfdale (45 nm)	2	1.86 GHz	6 MB	1066 MHz	20W	20CFM	15CFM
L3014	Wolfdale (45 nm)	1	2.4 GHz	3 MB	1066 MHz	30W	50CFM*	30CFM

*Note: These CPUs support extended case temperature and are qualified for NEBS environments
**Note: Strong airflow required for the L3014 CPU is restricted to its thermal specification (Tc 60° C)

Recommended Configurations

CPU Board	Extension Module	Rear I/O Board	Enclosure
MIC-3393A Series	-	RIO-3311-A1E, RIO-3311-A2E	MIC-3042, MIC-3043 Series
MIC-3393B, MIC-3393C Series	MIC-3312-A1E, MIC-3312A-A2E	RIO-3311-A1E, RIO-3311-A2E	MIC-3042, MIC-3043 Series

Ordering Information

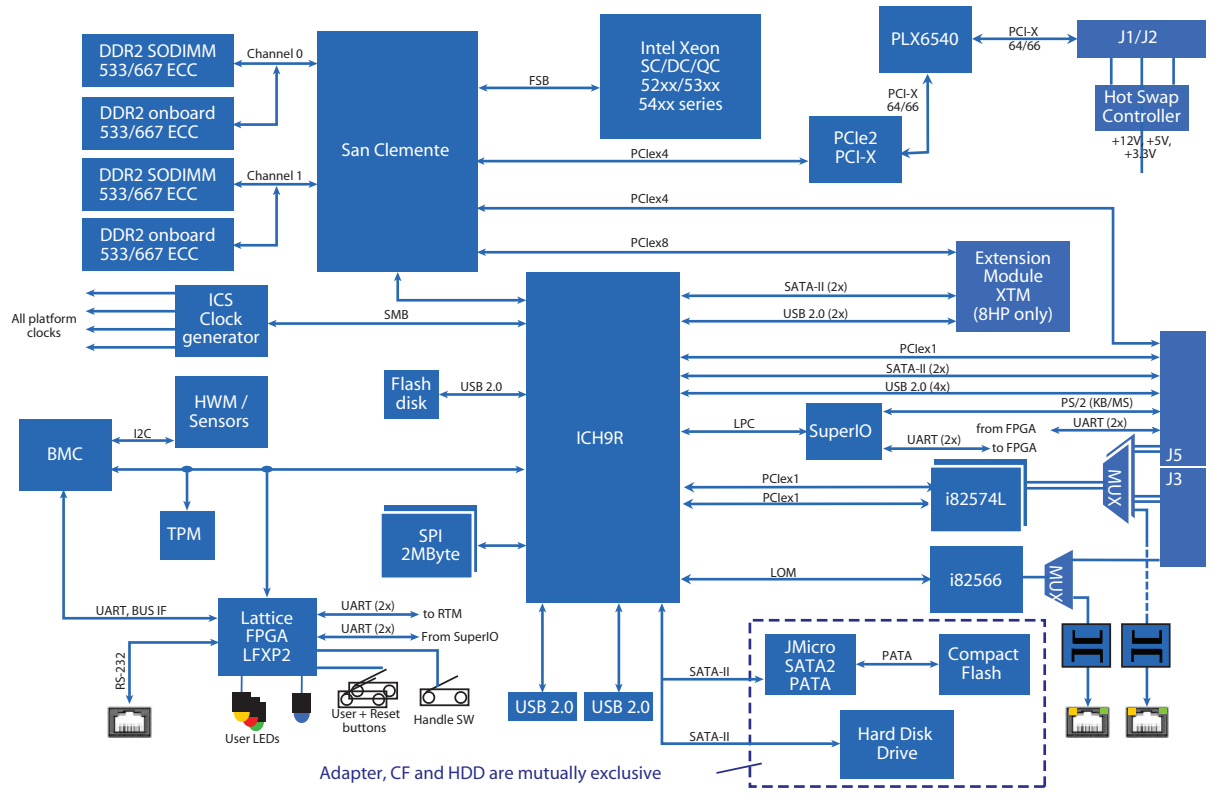
System Board	Front Panel				Main On-board Features			
	LAN	COM	USB	XMC/PMC Knockout	Memory	SATA HDD Socket	CF Socket	Slot Width
MIC-3393A-M2E	2	1	2	-	2 GB	1	1	1
MIC-3393B-M2E	2	1	2	2	2 GB	1	1	2
MIC-3393C-M2E	2	1	2	-	2 GB	1	1	2

*Note: Use of single rank, dual die package stack (3.8 mm) SORDIMM is advised
**Note: CF board is included as accessory

RTM Model Number	Rear Panel						On-board Header/Socket/Connector					
	LAN	COM	VGA	PS/2*	USB	MiniSAS	USB	USB Flash**	SATA	SAS (SATA interface)	Slot Width	Conn.
RIO-3311-A1E	3	2	1	1*	2	1	1	-	2	4	1	J1,J3,J5
RIO-3311-A2E	3	2	1	1*	2	-	1	1	2	-	1	J1,J3,J5

*Note: One PS/2 port carries the signals for both K/B and mouse. Y cable is included.
**Note: Use of Advantech EmbCore USB 2.0 Disk Module (Type C) recommended

Board Diagram



Ordering Information

XTM Model Number	On-board Header/Socket/Connector	
	XMC/PMC	SATA HDD
MIC-3312-A1E	2	-
MIC-3312-A2E	-	2