MIC-3390

6U CompactPCI® Low Power Intel® Pentium® M Processor Board with PCIe Dual GbE/DDR2/SATA/PMC

CE FCC

Features

- Low-power Intel® Pentium® M processor with speeds of up to 2.0 GHz and above, u-FCPGA package Socket 479 with u-FCPGA package design
- PCI Express Dual Gigabit Ethernet on board
- Dual channel DDR2 400/533 MHz SDRAM up to 2 GB
- PICMG 2.16 (CompactPCI® Packet Switching Backplane) compliance
- PICMG 2.9 (CompactPCI System Management) (IPMI 2.0) compliance
- PICMG 2.1 (CompactPCI Hot Swap) compliance
- Onboard SATA 2.5" HDD PMC connector and CompactFlash socket

Introduction

The MIC-3390 Onboard-based single-board computer is designed to offer embedded system builders with the best available value in high-performance Intel Pentium M computing at low power. Using the latest Intel Pentium M processors combined with the Mobile Intel 915GM Express chipset and Intel I/O Controller Hub ICH6M, the MIC-3390 supplies unprecedented performance, connectivity and throughput without compromising system thermal design. The MIC-3390 Graphic Memory Controller Hub, along with the ICH6M, gives an optimized integrated memory, graphics, and I/O solution. The chipset features a low-power design, validated on the MIC-3390 with all Intel Pentium M processors, and supports up to 2 GB of DDR2 system memory at 400/533 MHz on dual-channel SODIMM banks.

The MIC-3390 maximizes on I/O throughput by taking full advantage of the ICH6-M's PCI Express (PCIe) root ports. Two single-lane PCIe links connect the Intel 82573E controllers directly to the root ports, providing bi-directional 2 Gbps peak bandwidth for Gigabit Ethernet support at wire speed. An additional PCIe lane connects to a PCIe-to-PCI-X Bridge to provide a 64-bit/100 MHZ data path to the onboard PMC site and a 64-bit/66 MHz data path to the CompactPCI Bridge. The flexibility of the bridge allows the MIC-3390 to be used in a system slot or a peripheral slot as an intelligent I/O processor or as an application blade in a multi-processor or clustered architecture.

In addition to a full array of industry standard I/O features, the Serial ATA Host Controller in the ICH6-M provides two ports for high speed data transfers up to 150 MB/s. One port is routed to rear I/O and the other port is routed to both the onboard 2.5" SATA drive and rear I/O for a greater choice of connectivity. With an optional mezzanine card, the MIC-3390 provides a fully compatible IPMI 2.0 interface with LAN and serial port support for out-of-band management. The MIC-3390 provides a solid, cost-effective foundation for cross-platform management.

The MIC-3390 architecture delivers the performance and high scalability required for today's cutting-edge embedded computing applications. It enables fast deployment of next-generation platforms to maximize competitive advantage while minimizing development risks.

Specifications

Processor System	CPU	Intel Pentium M Processor (Socket 479)
	Max. Speed	2.0 GHz (2 MB L2 cache)
	Chipset	Intel 915 GM
	BIOS	Award 4 Mb Flash
Bus	Front Side Bus	400/533 MHz
	PCI	Up to 64-bit/100 MHz (PCI-X support)
Memory	Technology	DDR2 400/533 MHz SDRAM
	Max. Capacity	2 GB
	Socket	SODIMM
Graphic	Controller	Integrated in Intel 915GM
	VRAM	Dynamic
	Resolution	Up to 2048 x 1536 64 k color/75 Hz
Ethernet	Interface	10/100/1000Base-TX Gigabit Ethernet
	Controller	Intel 82573E x 2
	I/O Connector	RJ-45 x 2 (front)
Storage	Mode	SATA
	Channels	2
	Storage site	One SATA connector and space reserved for embedded 2.5" HDD
Bridge	Bus	PCI 64-bit/66 MHz
	Interface	Universal (System/Peripheral mode capability)
I/O Interface	Serial (COM1)	RJ-45 x1 (front)
Operating System	Compatibility	Windows® XP/2000/NT 4.0, Red Hat Fedora Core 3
Hardware Monitor	Controller	Winbond W83782D
	Monitor	CPU temperature, +3.3 V/+5 V/+12 V

Specifications Cont.

Watchdog Timer	Output	Interrupt, system reset, NMI			
	Interval	Programmable, 0 ~ 255 sec.			
PMC	Site	1			
	Interface	PCI Mezzanine (IEEE1386.1 compliant)			
	Signal	+5 V/+3.3 V compliant			
Miscellaneous	Solid State Disk	One CompactFlash socket			
	LED Indicator	HDD, power, hot swap			
	USB (2.0)	2 channels			
	Real Time Clock	Built-in			
Power Requirement (Intel1.8 GHz with 1 GB memory)	Voltage	+3.3 V	+5 V	+12 V	-12 V
	Typical	4 A	4 A	< 12 mA	< 65 mA
	Maximum	4.2 A	6.2 A	<20 mA	< 57 mA
Physical Characteristics	Dimensions (W x D)	233.35 x 160 mm (9.19" x 6.3"), 1-slot width			
	Weight	0.8 kg (1.76 lb)			
Environment		Operating		Non-Operating	
	Temperature	0 ~ 65 °C (32 ~ 149 °F)		-40 ~ 70 °C (-40 ~ 140 °F)	
	Humidity	-		95 % @ 60 °C (non-condensing)	
	Shock	20 G		50 G	
	Vibration (5-500 Hz)	1.5 Grms		2.0 G	
	Altitude	60 m below sea level to 4000 m above sea level			
	Airflow	300 LFM=1.54 m/s			
Regulatory	Conformance	FCC Class A, CE			
	NEBS Level 3	Design for GR-63-core & GR-1089-core			
Compliance	PICMG 2.0 R3.0 CompactPCI Specification PICMG 2.1 R2.0 CompactPCI Hot Swap Specification PICMG 2.9 R1.0 CompactPCI System Management Specification PICMG 2.16 R1.0 CompactPCI Packet Switching Backplane Specification				

Recommended Configurations

CPU Board	PMC Module	Rear I/O Board	Enclosure
MIC-3390, MIC-3390-A	MIC-3665-A, MIC-3665-B	RIO-3310S-A1, RIO-3310S-A2	MIC-3039-B, MIC-3036-A/S2, MIC-3056A, MIC-3038A/C, MIC-3041A/B/C/CW/L, MIC-3042A/B, MIC-3043A/B/C, MIC-3081B, MIC-3082A, CP-150

Rear Transition Board

Part Number	Rear Panel							Onboard Header/Socket/Connector								Slot Width
	KB & Mouse	COM2*	GbE LAN	VGA	USB	10/100 Base-T LAN	SCSI**	IDE	SATA	FDD	COM1	SCSI**	PRT	USB	Conn.	
RIO-3310S	1	1	2	1	1	1	1	1	1	1	1	1	1	1	J3/J5	1

* Option for 3rd LAN from MIC-3390 but occupies the I/O for COM2

** SCSI controller (Ultra 320) on board and optional for rear panel I/O out

Ordering Information

Part Number	Front Panel I/O						Onboard Main Features					
	LAN	COM	PMC	USB	PMC	VGA	CPU	Memory	CF Socket	IDE Channel	Slot Width	IPMI BMC Module
MIC-3390	2	1	1	2	1	1	-	-	1	2.5" SATA HDD	1	-
MIC-3390-A	2	1	1	2	1	1	-	-	1	2.5" SATA HDD	1	1