MIC-5601

Advanced Mezzanine Card
Intel® Pentium® M Processor AMC



Features

- Supports Intel® Pentium® M processor Low Voltage or Celeron® M processor Ultra Low Voltage
- Intel® 3100 chipset 400/533 MHz FSB
- 1 GB DDR2 400 MHz SDRAM with ECC
- One Gigabit Ethernet (RJ-45), one USB 2.0 port, and one console port (mini-USB) to front panel
- AMC connector routes dual Gigabit Ethernet SerDes (x2), SATA (x2), USB (x2), dual PCIe x4, or single PCIe x8
- Boot from network, CompactFlash, SATA, USB
- Supports IPMI v1.5 and Serial-over-LAN function
- AMC.0, AMC.1, AMC.2 and AMC.3 compliant

Introduction

The MIC-5601 is a highly integrated single-width, mid-size, processor AMC. Its design is based on the low-power, high-performance Intel® Celeron M ULV and Pentium M LV processors combined with the high-performance Intel® 3100 chipset. The board includes 1 GB of soldered DDR2 400 MHz memory with ECC for higher MTBF and optimum cooling. To facilitate development, test and integration while offering typical network connectivity once deployed, the front panel provides a gigabit Ethernet connector, a serial port and a USB 2.0 host port.

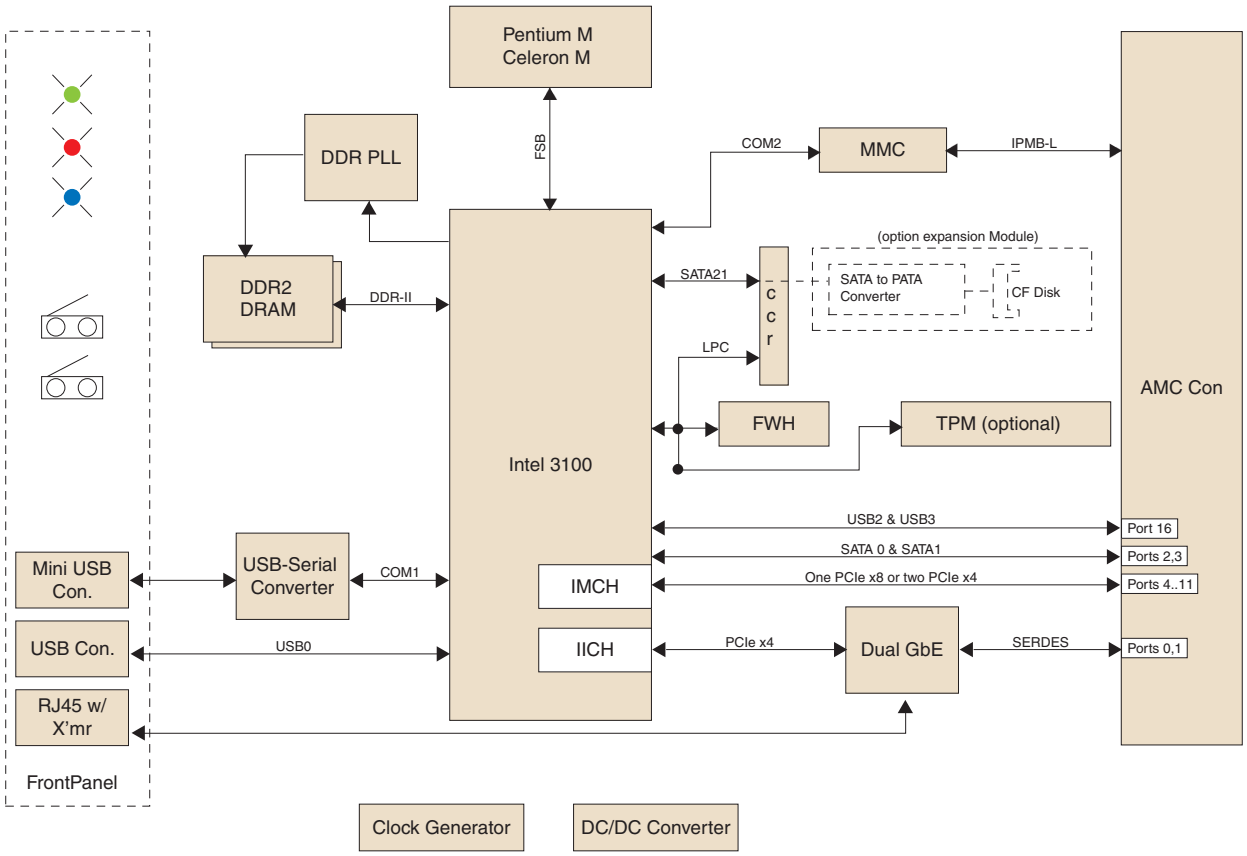
The MIC-5601 maximizes AMC edge connector connectivity for the best design flexibility. When redundancy or two separate interconnects are required, the board can be configured with two PCI Express x4 ports or with a single PCI Express x8 port when throughput is essential. Two gigabit Ethernet ports provide AMC.2 compliance and offer control and data plane connectivity to facilitate the migration of existing applications. Both ports connect to the 3100 chipset via PCI Express for maximum data throughput. Dual SATA interfaces provide AMC.3–compliant storage and two USB ports offer further connectivity opportunities.

A dedicated Module Management Controller (MMC) monitors onboard conditions and manages hot swap operation for field upgrades or module replacement without the need to power down the underlying system.

Specifications

Processor System	CPU	Intel® Celeron M ULV (373) or Pentium M LV (738) up to 1.4 GHz
	Chipset	Intel® 3100
	BIOS	AMI (1. Dual images with update rollback, 2. CMOS settings can be changed over IPMI, and 3. CMOS backup works without battery)
Bus	Front Side Bus	400/533 MHz
	PCI Express	PCI Express rev1.0a : one x8 and two x4 routed to AMC connector
Memory	Technology	DDR2 400 with ECC
	Max. Capacity	1 GB
Ethernet	Controller	Intel® 82571EB dual-port Gigabit Ethernet controller (supports 802.3d compliant link aggregation)
	Interface	One GbE accessible on front panel via RJ-45 and two SerDes links to AMC common options region ports 0 and 1
Mass Storage	CompactFlash	Optional expansion board with CF type-1 socket
SATA Interface	AMC Edge Connector	Two SATA interfaces to common ports region 2-3
	Other	One SATA routed to CF daughter board
Serial Interface	I/O	Routed to front panel as USB Slave interface through onboard USB to Serial converter
USB Interface	I/O	One USB 2.0 compliant host port (standard USB Connector) on front panel
	AMC Edge Connector	Two USB 2.0 ports connect to rear AMC edge connector
Watchdog Timer		AMC compliant watchdog
Hardware Monitor	Controller	IPMI v1.5 compatible MMC
Firmware	Source Code	Pigeon Point System-based
	Update Standard	HPM.1 compliant
Operating System	Compatibility	Carrier Grade Linux (Wind River Platform for Network Equipment, Linux Edition 2.0)
Form Factor	AMC	Mid-size, single width
	Interface	AMC.0 compliant
Miscellaneous	LEDs	x1 blue for hot swap, x1 red/amber for failure and OOS, x1 green for general purpose
Power Requirement	Configuration	Pentium M 738 LV + 3100 + 1 GB on-board DDR2 SDRAM
	Consumption	31.2 watts
Physical	Dimensions	180.6 mm x 73.5 mm

Block Diagram



Environment		Operating	Non-operating
	Temperature	-5 ~ 55° C (23 ~ 122° F) Note 4	-40 ~ 70° C (-40 ~ 140° F)
	Humidity	IEC60068-2-78 (95%RH @ 40° C)	
	Vibration (5 ~ 500 Hz)	IEC60068-2-6 (0.002 G2/Hz, 1 Grms)	
	Shock	IEC60068-2-27 (10 G, 11 ms)	
	Altitude	300 m below sea level to 4,000 m above sea level	10,000 above sea level
Regulatory	Conformance	UL94V0, FCC Class B, CE, RoHS & WEEE Ready	
	NEBS Level 3	Designed for GR-63-Core and GR-1089-Core	
Compliance	Standards	PICMG AMC.0, AMC.1, AMC.2, AMC.3, IPMI v1.5, HPM.1	

Ordering Information

Model Number	On-Board Option	
	CPU	Memory
MIC-5601A-M1E	Pentium M LV 1.4 GHz (738)	1 GB DDR2 with ECC
MIC-5601B-M1E	Celeron M ULV 1 GHz (373)	1 GB DDR2 with ECC

Notes:

1. TPM support will be available as an option.
2. Full size front panel design will be available upon request.
3. CF module available as an option.
4. Operating Temperature: depending on the actual air flow through the AMC slot