MIC-5602Rev2

Advanced Mezzanine Card Intel®
45 nm Core™ 2 Duo Processor AMC

NEW

Features

- Supports Intel® 45 nm Core™ 2 Duo Low Voltage processor
- Intel® 3100 chipset 400/533 MHz FSB
- Up to 4 GB DDRII 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 or onboard flash disk
- Supports IPMI v1.5 and Serial-over-LAN function
- AMC.0, AMC.1, AMC.2 and AMC.3 compliant

AdvancedMC™   PICMG   FCC   CE   RoHS COMPLIANT 2002/95/EC

Introduction

The MIC-5602Rev2 is a highly integrated single-width, full-size, processor AMC. Its design is based on the low-power, high-performance 45nm Intel® Core™2 Duo processors combined with the Intel 3100 chipset. The board includes 2 or 4 GB of soldered DDR2 400 MHz memory with ECC for higher MTBF and optimum cooling. To facilitate development, test and integration whilst 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 board can be configured with two PCI Express x4 ports or a single PCI Express x8 port to the edge connector. Two gigabit Ethernet ports provide AMC.2 compliance and 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.

While maintaining the functional features of the original MIC-5602, the Rev2 series offers a significant performance increase and memory size upgrade for applications such as dense computing, host media processing and protocol offload.

Specifications

Processor System	CPU	Intel® Core™ 2 Duo SL9380 (1.8 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	800 MHz
	PCI Express	PCI Express rev1.0a : one x8 and two x4 routed to AMC connector
Memory	Technology	DDRII 400 with ECC
	Max. Capacity	4 GB
Ethernet	Controller	Intel 82571EB dual-port Gigabit Ethernet controller (support 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
	Onboard	1GB industrial grade internal flash disk (used as NV storage, emergency boot disk or diagnostics boot media)
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 USB2.0 compliant host port (standard USB Connector) on front panel
	AMC edge connector	Two USB2.0 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	Full-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	Core™2 Duo SL9380 + 3100 + 2 GB on-board DDRII SDRAM
	Consumption	estimated 38.5 watts
Physical	Dimension	180.6 mm x 73.5 mm

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Block Diagram
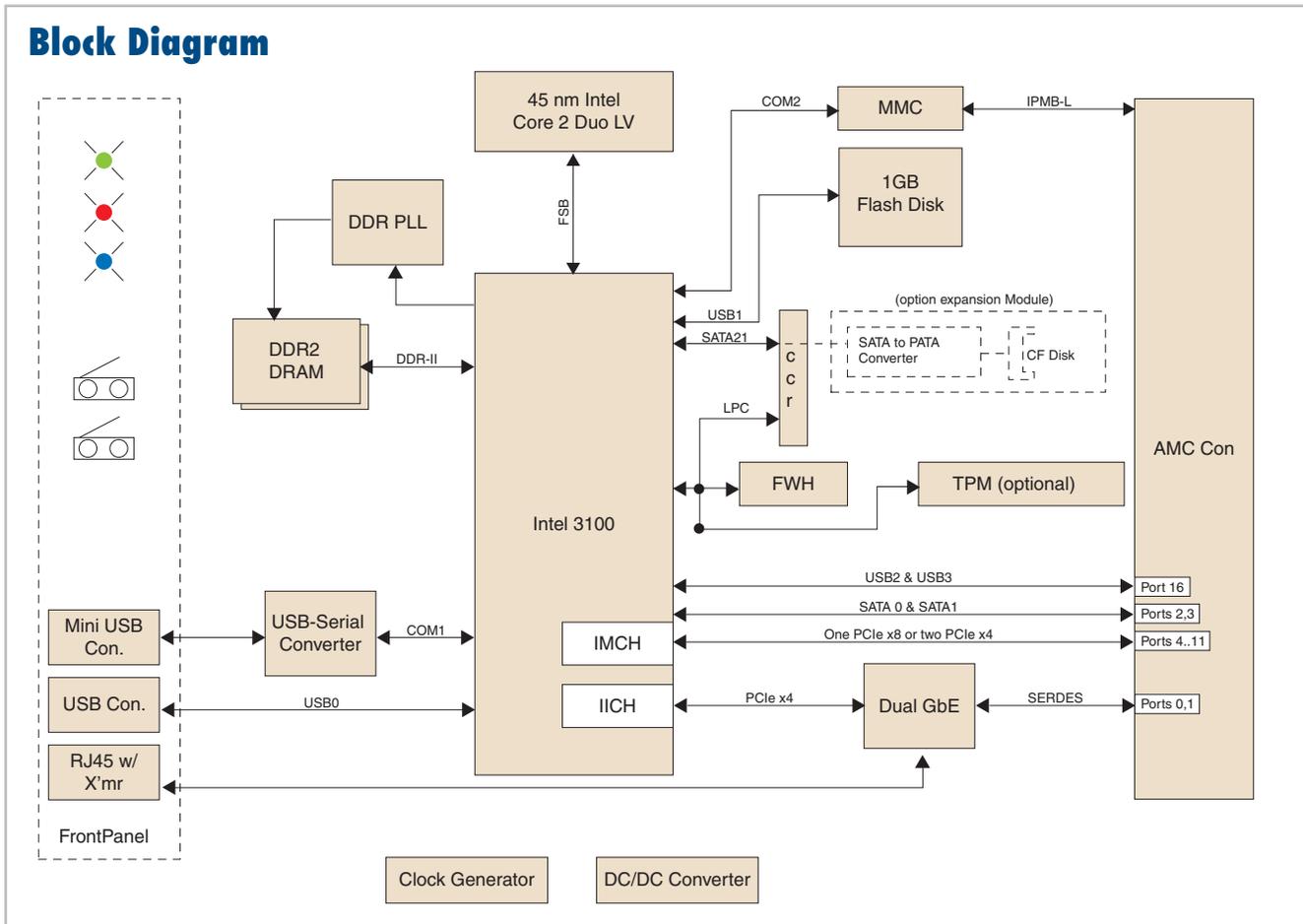
Environment		Operating	Non-operating
	Temperature	-5 ~ 55° C (23 ~ 122° F)	-40 ~ 70° C (-40 ~ 140° F)
	Humidity	IEC60068-2-78 (95%RH @ 40° C)	
	Vibration (5 ~ 500 Hz)	IEC60068-2-6 (0.002G²/Hz, 1Grms)	
	Shock	IEC60068-2-27 (10G, 11ms)	
	Altitude	sea level to 4,000 m above sea level	10,000 above sea level
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-5602A2-M2E	Core 2 Duo LV 1.8 GHz (SL9380)	2 GB DDR2 with ECC
MIC-5602A2-M4E	Core 2 Duo LV 1.8 GHz (SL9380)	4 GB DDR2 with ECC

Notes:

1. TPM option is available on request.
2. CF module option is available on request.
3. MIC-5602A2-M4E builds will depend on the availability of the 4 GB DDR2 SDRAM from the manufacturers. Check with your local Advantech sales ahead of time for information.

Figure 1: MIC-5602A2-M2E with Full-Size Front Panel