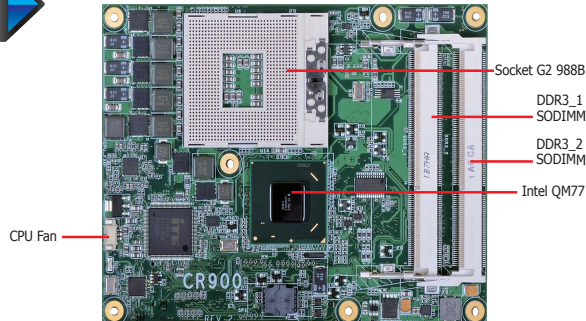




3rd/2nd Gen Intel[®] Core™
COM Express[®] Basic

CR900-B

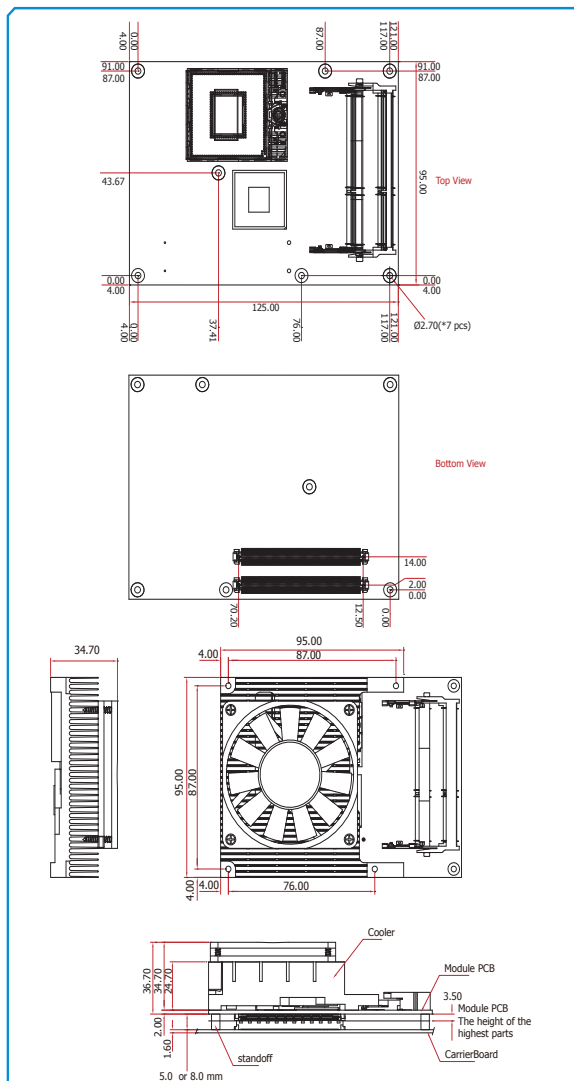
QM77



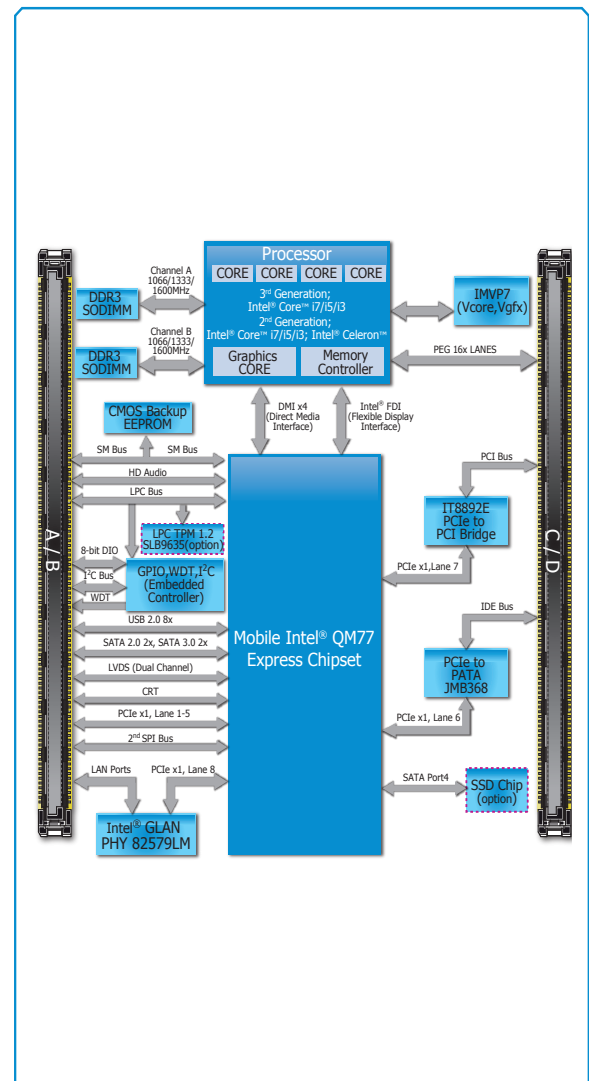
Features

MEMORY	2 DDR3/DDR3L SODIMM up to 16GB
EXPANSION	1 PCIe x16, 5 PCIe x1, 4 PCI 1 LPC, 1 SMBus, 1 I ² C, 1 IDE 1 VGA, 1 LVDS 8 USB 2.0 4 SATA: 2 SATA 3.0, 2 SATA 2.0 4-bit input and 4-bit output GPIO
LAN	1 LAN
DIMENSIONS	COM Express [®] R2.1 Basic, Type 2 95mm x 125mm (3.74" x 4.9")

Mechanical Drawing



Block Diagram



3rd/2nd Gen Intel® Core™ COM Express® Basic



CR900-B

Specifications * Optional and is not supported in standard model. Please contact your sales representative for more information.

PROCESSOR

- Socket G2 988B for:
 - 3rd Generation Intel® Core™ processors (22nm process technology)
 - : Intel® Core™ i7-3610QE (6M Cache, up to 3.3 GHz); 45W
 - : Intel® Core™ i5-3610ME (3M Cache, up to 3.3 GHz); 35W
 - : Intel® Core™ i3-3120ME (3M Cache, 2.4 GHz); 35W
 - 2nd Generation Intel® Core™ processors (32nm process technology)
 - : Intel® Core™ i7-2710QE (6M Cache, up to 3.0 GHz); 45W
 - : Intel® Core™ i5-2510E (3M Cache, up to 3.1 GHz); 35W
 - : Intel® Core™ i3-2330E (3M Cache, 2.2 GHz); 35W
 - : Intel® Celeron® B810 (2M Cache, 1.6 GHz); 35W

CHIPSET

- Intel® QM77 Express Chipset

SYSTEM MEMORY

- Two 204-pin SODIMM sockets
- Supports DDR3 SODIMM

3rd Generation Processors	2nd Generation Processors
DDR3 1066/1333/1600MHz	DDR3 1066/1333MHz (i5/i3/Celeron)
	DDR3 1600MHz (i7)

- Supports DDR3L SODIMM
 - 1066/1333MHz when operating at 1.35V
 - 1066/1333/1600MHz when operating at 1.5V
- Supports dual channel memory interface
- Supports up to 16GB system memory
- DRAM device technologies: 1Gb, 2Gb and 4Gb DDR3 DRAM technologies are supported for x8 and x16 devices, unbuffered, non-ECC

ONBOARD GRAPHICS FEATURES

- Intel® HD Graphics 4000
- Supports LVDS and VGA interfaces
- VGA: resolution up to 2048x1536 @ 75Hz
- LVDS: Single Channel - 18/24-bit; Dual Channel: 36/48-bit, resolution up to 1920x1200 @ 60Hz
- Intel® Clear Video Technology
- DirectX Video Acceleration (DXVA) for accelerating video processing
 - Full AVC/VC1/MPEG2 HW Decode
- Supports DirectX 11/10.1/10/9 and OpenGL 3.0

ONBOARD AUDIO FEATURES

- Supports High Definition Audio interface

ONBOARD LAN FEATURES

- Intel® 82579LM Gigabit Ethernet PHY
- Integrated 10/100/1000 transceiver
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

SERIAL ATA (SATA) INTERFACE

- Supports 4 Serial ATA interfaces
- 2 SATA 3.0 with data transfer rate up to 6Gb/s
- 2 SATA 2.0 with data transfer rate up to 3Gb/s
- Integrated Advanced Host Controller Interface (AHCI) controller
- Supports RAID 0/1/5/10

IDE INTERFACE

- Supports up to two IDE devices
- DMA mode: Ultra ATA up to 100MB/s
- PIO mode: up to 16MB/s

WATCHDOG TIMER

- Watchdog timeout programmable via software from 1 to 255 seconds

SSD*

- 4GB/8GB/16GB/32GB
- Write: 30MB/sec (max), Read: 70MB/sec (max)
- SATA to SSD onboard

TRUSTED PLATFORM MODULE (TPM)*

- Provides a Trusted PC for secure transactions
- Provides software license protection, enforcement and password protection

EXPANSION INTERFACES

- Supports 8 USB 2.0/1.1 interfaces
- Supports 4 PCI slots (PCI 2.3 interface)
- Supports 1 PCIe x16 interface
 - Supports Gen 3.0 (3rd generation processors)
 - Supports Gen 2.0 (2nd generation processors)
 - Configurations (supported only via a riser card):
 - : One x8 (GFX) and two x4 (I/O)
 - : Two x8 (GFX, I/O)
 - : One x16 (GFX, I/O)
- Supports 1 PCIe x1 and 1 PCIe x4 (default); or 5 PCIe x1 interfaces
- Supports LPC interface
- Supports SMBus interface
- Supports I²C interface
- Supports IDE interface
- Supports 4-bit input and 4-bit output GPIO

DAMAGE FREE INTELLIGENCE

- Monitors CPU temperature
- Monitors CPU fan speed
- Monitors Vcore/VGFX/DDR/1.05V/VCCSA voltages
- Watchdog timer function

BIOS

- 64Mbit SPI BIOS

POWER CONSUMPTION

- 59.78 W with i7-3610QE at 2.30GHz and 2x 1GB DDR3 SODIMM

OS SUPPORT

- Windows XP Professional x86 & SP3 (32-bit)
- Windows XP Professional x64 & SP2 (64-bit)
- Windows 7 Ultimate x86 & SP1 (32-bit)
- Windows 7 Ultimate x64 & SP1 (64-bit)
- Windows 8 Enterprise x86 (32-bit)
- Windows 8 Enterprise x64 (64-bit)

TEMPERATURE

- Operating: 0°C to 60°C
- Storage: -20°C to 85°C

HUMIDITY

- 10% to 90%

POWER

- Input: 5VSB*, 12V, VCC_RTC

PCB

- Dimensions
 - COM Express® Basic
 - 95mm (3.74") x 125mm (4.9")
- Compliance
 - PICMG COM Express® R2.1, Type 2

CERTIFICATION

- CE
- FCC Class B
- RoHS
- UL

Ordering Information

Model Name	Part Number	Description
CR900-B	770-CR9001-000G	3rd/2nd generation Intel® Core™ processors

Packing List

- 1 CR900-B board
- 1 DVD
- Heat sink with fan: 761-111007-000G

Optional Items

- COM330-B carrier board kit: 770-COM330-000G
- Heat spreader: A71-011012-000G
- Heat spreader with heat sink and fan: 761-CR9000-000G

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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