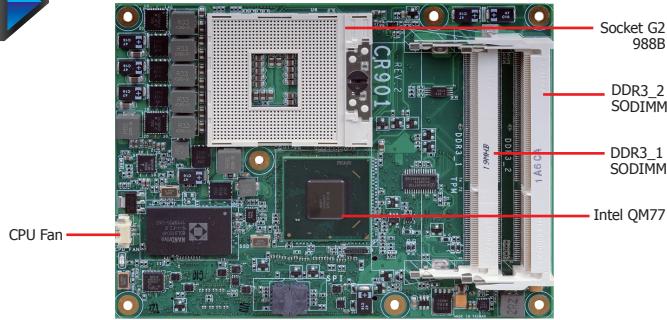




# CR901-B

QM77

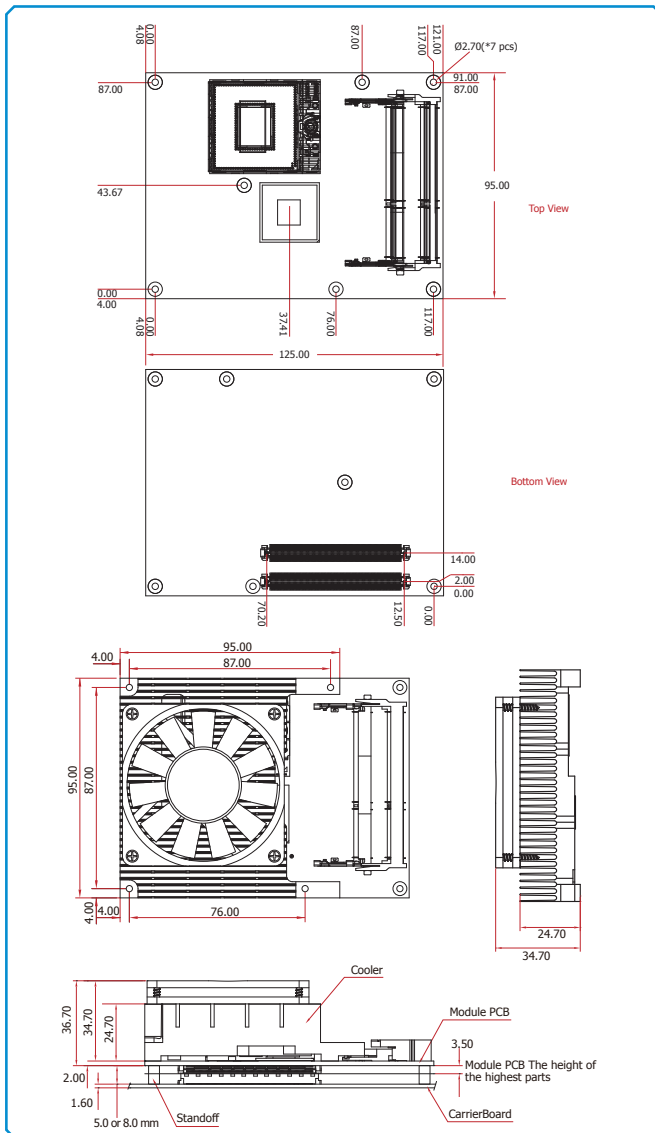


## Features

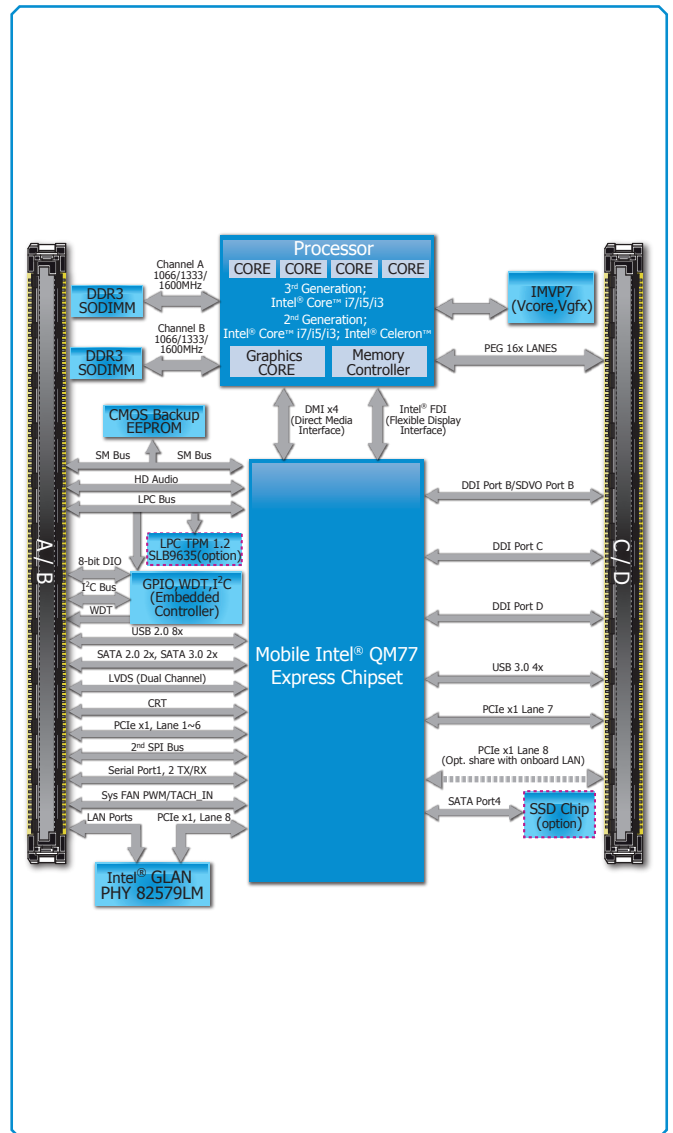
MEMORY	2 DDR3/DDR3L SODIMM up to 16GB
EXPANSION	1 PCIe x16, 7 PCIe x1 1 LPC, 1 SMBus, 1 I <sup>2</sup> C, 2 serial 1 VGA, 1 LVDS, 3 DDI (HDMI/DVI/DP/SDVO) 12 USB: 4 USB 3.0, 8 USB 2.0 4 SATA: 2 SATA 3.0, 2 SATA 2.0 4-bit input and 4-bit output GPIO
LAN	1 LAN
DIMENSIONS	COM Express® R2.1 Basic, Type 6 95mm x 125mm (3.74" x 4.9")



## Mechanical Drawing



## Block Diagram



# CR901-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 VGA, LVDS and DDI interfaces
- VGA: resolution up to 2048x1536 @ 75Hz
- LVDS: Single Channel - 18/24-bit; Dual Channel - 36/48-bit, resolution up to 1920x1200 @ 60Hz
- Digital Display Interfaces: HDMI, DVI, DP and SDVO (for Port B)
- HDMI, DVI, DP: 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

### USB INTERFACE

- XHCI Host Controller supports up to 4 super speed USB 3.0 ports

### 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 12 USB interfaces
  - 4 USB 3.0
  - 8 USB 2.0
- 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 x4 and 3 PCIe x1 (default); or 7 PCIe x1 interfaces
- Supports LPC interface
- Supports SMBus interface
- Supports I<sup>2</sup>C interface
- Supports 2 serial interfaces (TX/RX)
- Supports 4-bit input and 4-bit output GPIO

### DAMAGE FREE INTELLIGENCE

- Detects CPU temperature
- Detects CPU fan speed
- Detects Vcore/VGFX/DDR voltages
- Watchdog timer function

### BIOS

- 64Mbit SPI BIOS

### POWER CONSUMPTION

- 63.06 W with i7-3610QE at 2.30GHz and 2x 2GB 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 6

### CERTIFICATION

- CE, FCC Class B, UL, RoHS

## Ordering Information

Model Name	Part Number	Description
CR901-B	770-CR9011-000G	3rd/2nd generation Intel® Core™ processors

## Packing List

- 1 CR901-B board
- 1 DVD
- Heat sink with fan: 761-111007-000G

## Optional Items

- COM331-B carrier board kit: 770-COM331-000G
- Heat spreader: A71-011012-000G
- Heat spreader with heat sink and fan: 761-CR9000-000G