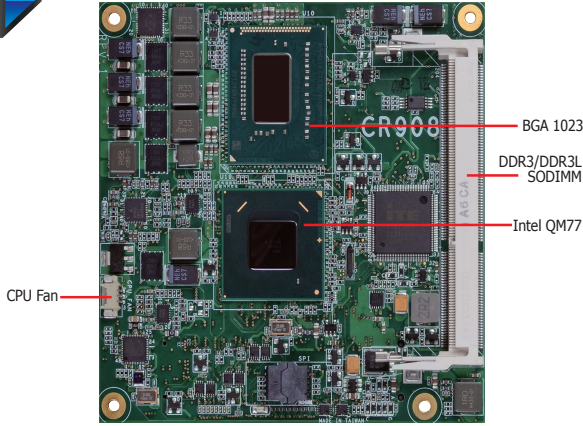


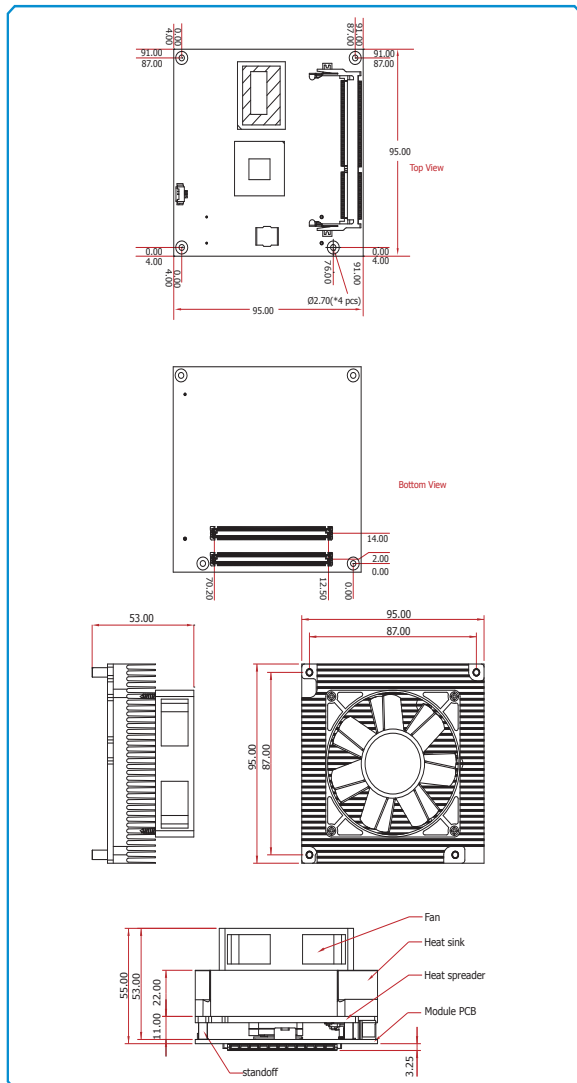


**3rd/2nd Gen Intel® Core™  
COM Express® Basic**

**CR908-B**



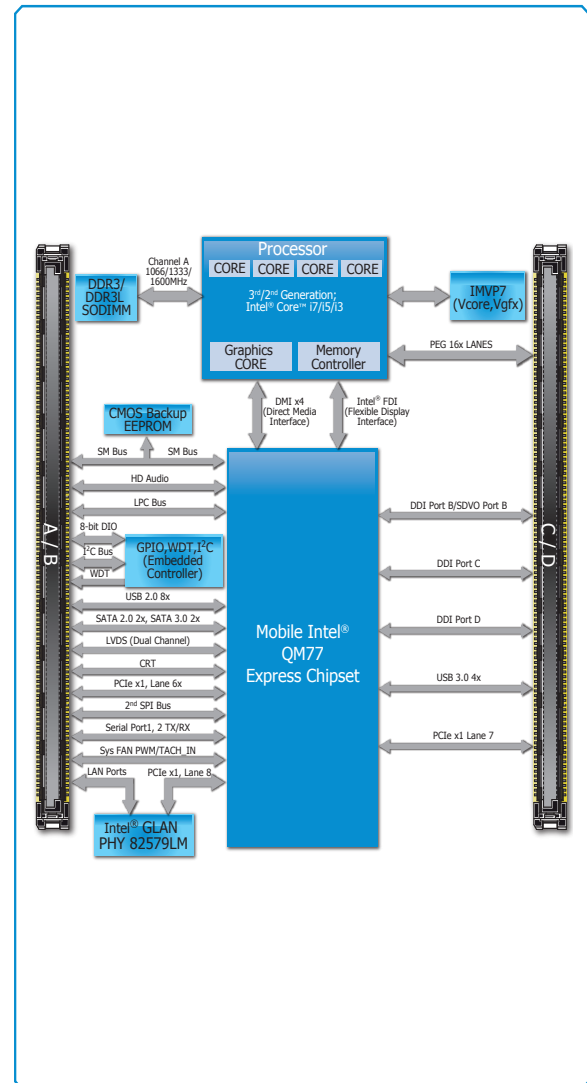
**Mechanical Drawing**



**Features**

MEMORY	1 DDR3/DDR3L SODIMM up to 8GB
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) 8 USB: 4 USB 3.0/2.0, 4 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 Compact, Type 6 95mm x 95mm (3.74" x 3.74")

**Block Diagram**





# CR908-B

## Specifications

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

### PROCESSOR

- BGA 1023 packaging technology
  - 3rd generation Intel® Core™ processors (22nm process technology)
  - 2nd generation Intel® Core™ processors (32nm process technology)
- Please refer to the Ordering Information below

### CHIPSET

- Intel® QM77 Express chipset

### SYSTEM MEMORY

- One 204-pin SODIMM socket
- 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 up to 8GB 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 (3rd generation processors)
- Intel® HD Graphics 3000 (2nd generation processors)
- Intel® HD Graphics (Intel® Celeron™ processors)
- Supports VGA, LVDS and DDI interfaces
- VGA: resolution up to 1920x1200 @ 60Hz
- LVDS: Single Channel - 18/24-bit; Dual Channel - 36/48-bit, resolution up to 1920x1200 @ 60Hz
- Digital Display Interfaces: HDMI, DVI, DP and SDVO
- 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 (3rd generation processors)
- Supports DirectX 10.1/10/9 and OpenGL 3.0 (2nd generation processors)

### 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

## Ordering Information

	Model Name	Part Number	Description
3rd Gen Processors	CR908-B3612QE	770-CR9081-000G	Intel® Core™ i7-3612QE, 6M Cache, up to 3.10 GHz, 35W
	CR908-B3615QE	770-CR9081-600G	Intel® Core™ i7-3615QE, 6M Cache, up to 3.30 GHz, 45W
	CR908-B3555LE	770-CR9081-100G	Intel® Core™ i7-3555LE, 4M Cache, up to 3.20 GHz, 25W
	CR908-B3517UE	777-CR9081-200G	Intel® Core™ i7-3517UE, 4M Cache, up to 2.80 GHz, 17W, w/o cooler
	CR908-B3517UE	770-CR9081-200G	Intel® Core™ i7-3517UE, 4M Cache, up to 2.80 GHz, 17W
	CR908-B3610ME	770-CR9081-300G	Intel® Core™ i5-3610ME, 3M Cache, up to 3.30 GHz, 35W
	CR908-B3120ME	770-CR9081-400G	Intel® Core™ i3-3120ME, 3M Cache, 2.40 GHz, 35W
	CR908-B3217UE	777-CR9081-500G	Intel® Core™ i3-3217UE, 3M Cache, 1.60 GHz, 17W, w/o cooler
	CR908-B3217UE	770-CR9081-500G	Intel® Core™ i3-3217UE, 3M Cache, 1.60 GHz, 17W

The following processors will be available upon request. Please contact your sales representative for more information.

	Model Name	Part Number	Description
3rd Gen Processors	CR908-B1020E	770-CR9081-I00G	Intel® Celeron® 1020E, 2M Cache, 2.20 GHz, 35W
	CR908-B1047UE	770-CR9081-J00G	Intel® Celeron® 1047UE, 2M Cache, 1.40 GHz, 17W
	CR908-B927UE	770-CR9081-K00G	Intel® Celeron® 927UE, 1M Cache, 1.50 GHz, 17W
2nd Gen Processors	CR908-B2715QE	770-CR9081-800G	Intel® Core™ i7-2715QE, 6M Cache, up to 3.00 GHz, 45W
	CR908-B2655LE	770-CR9081-900G	Intel® Core™ i7-2655LE, 4M Cache, up to 2.90 GHz, 25W
	CR908-B2610UE	770-CR9081-A00G	Intel® Core™ i7-2610UE, 4M Cache, up to 2.40 GHz, 17W
	CR908-B2515E	770-CR9081-B00G	Intel® Core™ i5-2515E, 3M Cache, up to 3.10 GHz, 35W
	CR908-B2310E	770-CR9081-C00G	Intel® Core™ i3-2310E, 3M Cache, 2.10 GHz, 35W
	CR908-B2340UE	770-CR9081-D00G	Intel® Core™ i3-2340UE, 3M Cache, 1.30 GHz, 17W
	CR908-B807UE	770-CR9081-G00G	Intel® Celeron® 807UE, 1M Cache, 1.00 GHz, 10W

## Packing List

- 1 CR908 board
- 1 DVD
- Heat sink with fan:A71-111008-000G

### WATCHDOG TIMER

- Watchdog timeout programmable via software from 1 to 255 seconds

### EXPANSION INTERFACES

- Supports 8 USB 2.0 interfaces (4 supports USB 3.0)
- Supports 1 PCIe x16 interface
  - Supports Gen 3.0
  - 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

### BIOS

- 64Mbit UEFI SPI BIOS

### DAMAGE FREE INTELLIGENCE

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

### POWER CONSUMPTION

- 35.42 W with i7-3612QE at 2.1GHz and 1x 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: 12V, 5VSB, VCC\_RTC

### PCB

- Dimensions
  - COM Express® Compact
  - 95mm (3.74") x 95mm (3.74")
- Compliance
  - PICMG COM Express® R2.1 Compact form factor, Type 6

### CERTIFICATION

- CE, FCC Class B, UL, RoHS

## 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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