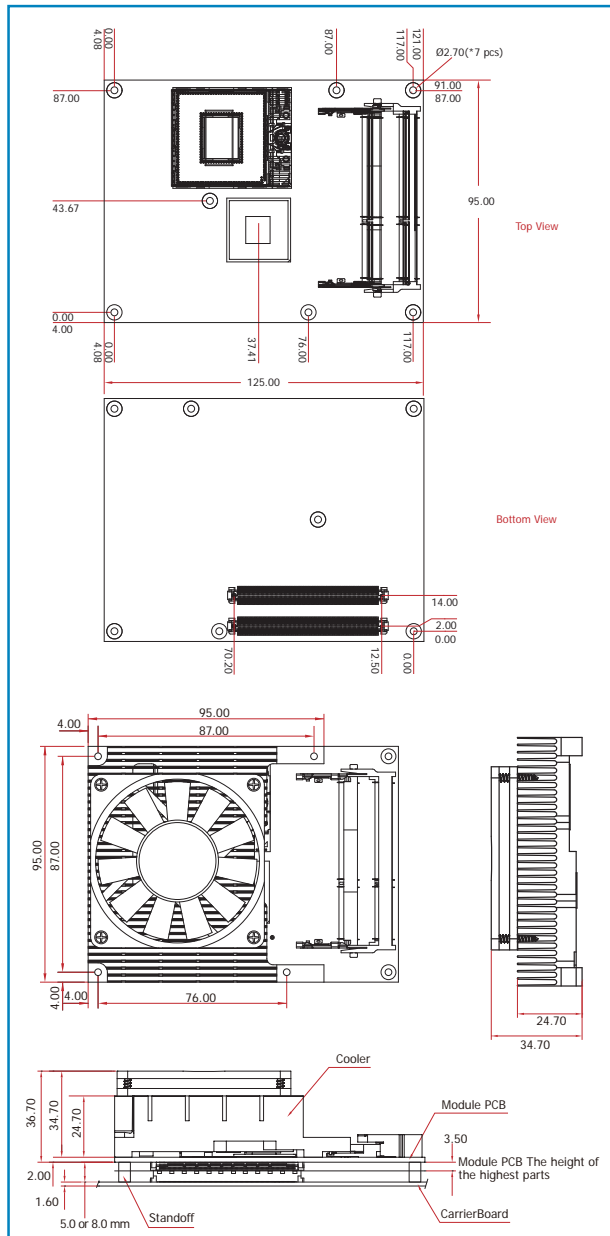


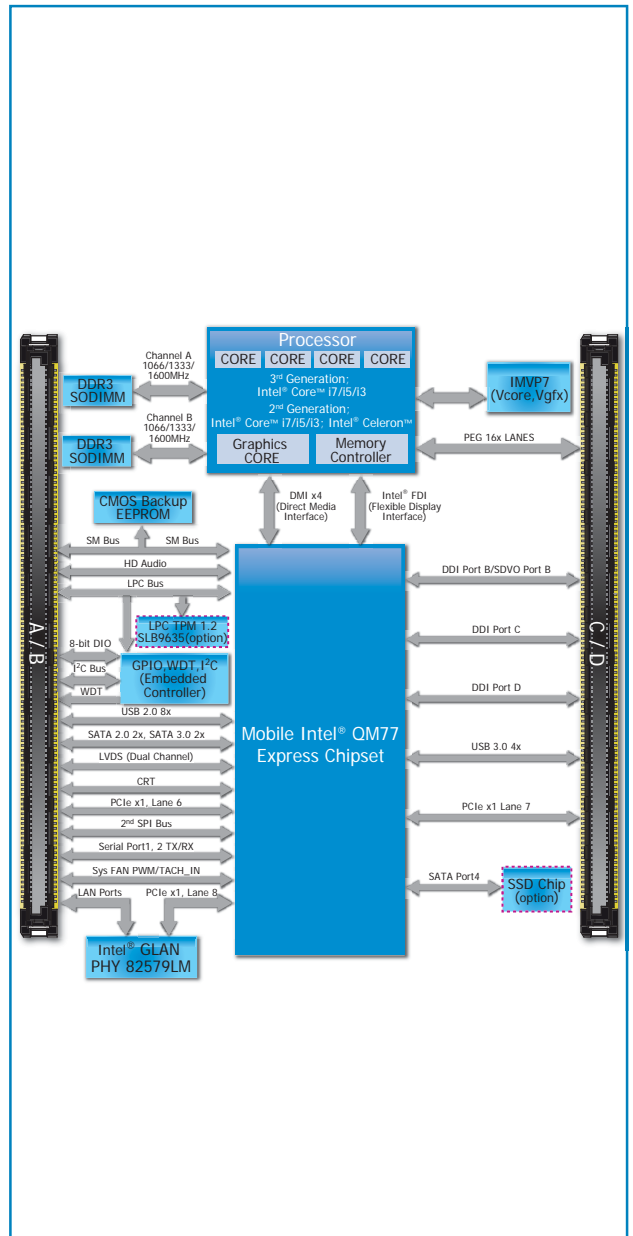
Features

CHIPSET	Intel® QM77
CPU	3rd Generation Intel® Core™ processors 2nd Generation Intel® Core™ processors
MEMORY	2 DDR3/DDR3L SODIMM up to 16GB
EXPANSION	1 PCIe x16, 7 PCIe x1 1 LPC 1 VGA, 1 LVDS, DDI
LAN	1 Gigabit LAN interface
DIMENSIONS	95mm x 125mm (3.74" x 4.9")

Mechanical Drawing



Block Diagram



3rd Generation Intel[®] Core[™] Processors
Support 3 Independent Displays

Specifications

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
- Display resolution up to 1920x1200
- LVDS: Single Channel - 18/24-bit; Dual Channel - 36/48-bit
- 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

DIGITAL DISPLAY INTERFACE (DDI)

- Digital Display Interfaces: HDMI, DVI, DisplayPort, and SDVO

WATCHDOG TIMER

- Watchdog timeout programmable via software from 1 to 255 seconds

SSD (optional)

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

TRUSTED PLATFORM MODULE (TPM) - optional

- 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 Digital Display Interfaces: HDMI, DVI, DisplayPort, and SDVO
- Supports LPC interface
- 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 2GHz DDR3 SODIMM

TEMPERATURE

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

HUMIDITY

- 10% to 90%

POWER

- Input: 5VSB (option), 12V, VCC_RTC

PCB

- Dimensions
 - COM Express[®] Basic
 - 95mm (3.74") x 125mm (4.9")
- Compliance
 - PICMG COM Express[®] R2.1 basic form factor, Type 6

CERTIFICATIONS

- CE
- FCC Class B
- RoHS
- UL

Packing List

- 1 CR901-B board
- 1 Heat sink kit
- 1 QR (Quick Reference)
- 1 DVD

Optional Items

- COM331-B carrier board kit
- Cable kit for carrier board