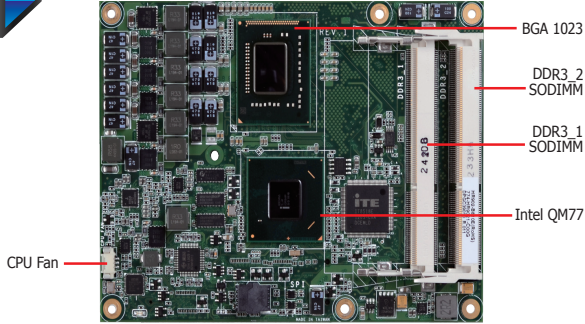




3rd/2nd Gen Intel® Core™
COM Express® Basic

CR902-B

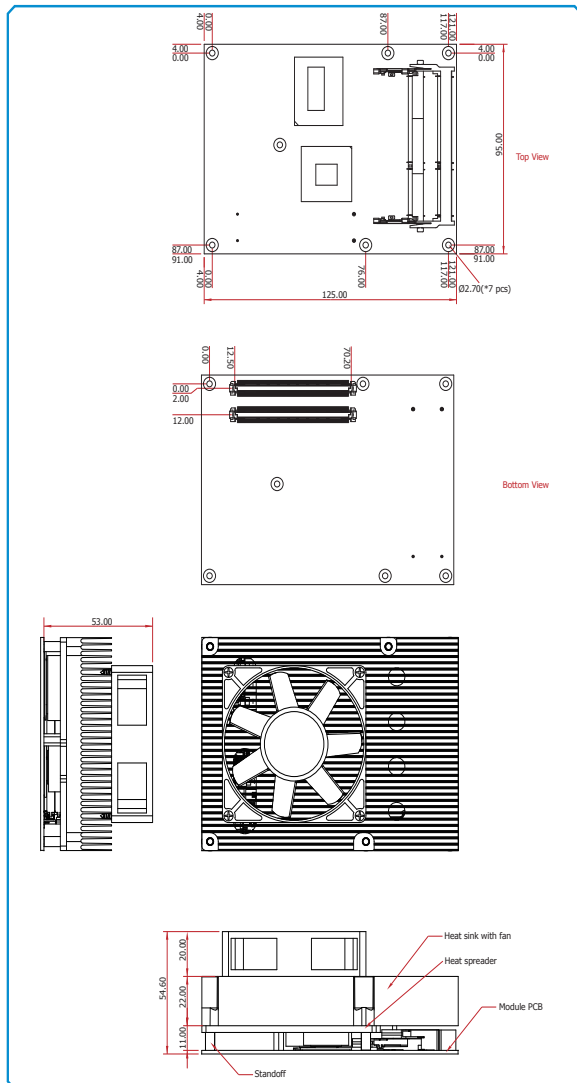


Features

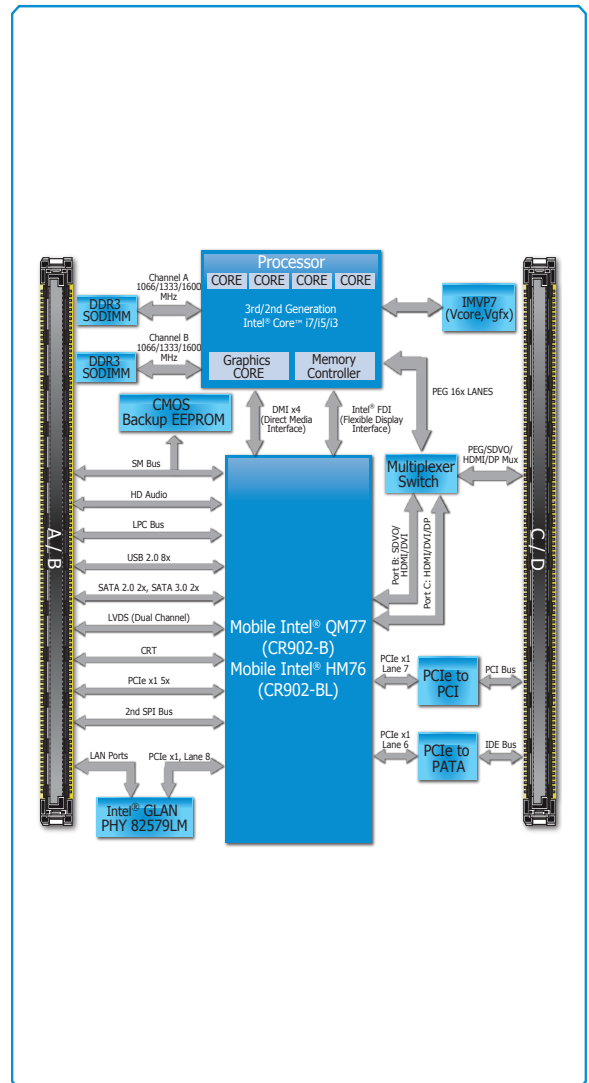
MEMORY	2 DDR3/DDR3L SODIMM up to 16GB
EXPANSION	1 PCIe x16, 1 PCIe x4 and 1 PCIe x1, 4 PCI 1 LPC, 1 SMBus, 1 IDE 1 VGA, 1 LVDS, 2 DDI (HDMI/DVI/DP/SDVO) 8 USB 2.0 4 SATA: 2 SATA 3.0, 2 SATA 2.0 8-bit DIO
LAN	1 LAN
DIMENSIONS	COM Express® R2.1 Basic, Type 2 95mm x 125mm (3.74" x 4.9")



Mechanical Drawing



Block Diagram



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



CR902-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

- Two 204-pin DDR3/DDR3L SODIMM sockets
- 3rd generation processors
 - Supports DDR3/DDR3L 1333/1600 MHz (i7/i5/i3)
 - Supports DDR3/DDR3L 1067/1333/1600 MHz (i7 Quad Core)
- 2nd generation processors
 - Supports DDR3 1066/1333 MHz (i7/i5/i3/Celeron)
 - Supports DDR3 1066/1333/1600 MHz (i7 Quad Core)
- 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 (3rd generation processors)
- Intel® HD Graphics 3000 (2nd generation processors)
- Intel® HD Graphics (Intel® Celeron™ processors)
- Supports LVDS, VGA 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 or SDVO
- HDMI, DVI, DP, SDVO: 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

EXPANSION INTERFACES

- Supports 8 USB 2.0 ports
- Supports 1 PCIe x16 interface (multiplex digital display interface)
- Supports 2 DDI (multiplex with PCIe x16)
 - Port B for SDVO/HDMI/DVI
 - Port C for HDMI/DVI/DisplayPort
- Supports 1 PCIe x4 and 1 PCIe x1 (default); or 5 PCIe x1 interfaces
- Supports 4 PCI interfaces (PCI 2.3 interface)
- Supports LPC interface
- Supports SMBus interface
- Supports IDE interface
- Supports 8-bit Digital I/O

IDE INTERFACE

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

DAMAGE FREE INTELLIGENCE

- Monitors CPU temperature and overheat alarm
- Monitors CPU fan speed and failure alarm
- Monitors Vcore/VCCRTC/DDR/+1.05V/VCCSA voltages and failure alarm
- Watchdog timer function

BIOS

- 64Mbit SPI BIOS

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

- 0°C to 60°C

HUMIDITY

- 10% to 90%

POWER

- Input: 5VSB*, 12V, VCC_RTC

PCB

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

CERTIFICATION

- CE, FCC Class B, RoHS

Ordering Information

Model Name	Processor	SODIMM	Power	Thermal	Temperature
CR902-B3517UE	Intel® Core™ i7-3517UE, 4M Cache, 1.7GHz (2.80GHz), 17W	2 (16GB DDR3/DDR3L)	ATX/AT	Cooler	0°C to 60°C
CR902-B3120ME	Intel® Core™ i3-3120ME, 3M Cache, 2.40GHz, 35W	2 (16GB DDR3/DDR3L)	ATX/AT	None	0°C to 60°C
CR902-B847E	Intel® Celeron® 847E, 2M Cache, 1.1GHz, 17W	2 (16GB DDR3)	ATX/AT	None	0°C to 60°C
CR902-B847E	Intel® Celeron® 847E, 2M Cache, 1.1GHz, 17W	2 (16GB DDR3)	ATX/AT	Cooler	0°C to 60°C
CR902-B827E	Intel® Celeron® 827E, 1.5M Cache, 1.4GHz, 17W	2 (16GB DDR3)	ATX/AT	None	0°C to 60°C
CR902-B827E	Intel® Celeron® 827E, 1.5M Cache, 1.4GHz, 17W	2 (16GB DDR3)	ATX/AT	Cooler	0°C to 60°C
CR902-B810E	Intel® Celeron® B810E, 2M Cache, 1.6GHz, 35W	2 (16GB DDR3)	ATX/AT	None	0°C to 60°C
CR902-B810E	Intel® Celeron® B810E, 2M Cache, 1.6GHz, 35W	2 (16GB DDR3)	ATX/AT	Cooler	0°C to 60°C

Packing List

- 1 CR902 board
- 1 DVD
- Heat spreader with heat sink and fan: 761-HR9020-300G

Optional Items

- COM330-B carrier board kit: 770-COM330-000G

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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