



### Features

- Intel® Core™ i7 Processor
- Dual Channel DDR3 SODIMM up to 8GB
- Onboard Gigabit Ethernet
- Embedded DisplayPort (eDP) or PCI Express x8
- Dual Channel 18/24-bit LVDS, VGA and SDVO

### Specifications

#### Core System

CPU	1st Generation Intel® Core™ i7, 35nm process, BGA type Intel® Core™ i7-620LE 2.0 GHz, 4MB L2 cache, 25W Intel® Core™ i7-620UE 1.06 GHz, 4MB L2 cache, 18W
Memory	Dual channel 800/1066 MHz DDR3 memory up to 8 GB in dual SODIMM sockets
BIOS	AMI EFI with CMOS backup in 16 Mb SPI flash
Hardware Monitor	Supply voltages and CPU temperature
Watchdog Timer	Programmable timer range to generate RESET
Expansion Busses	6 PCI Express x1, 32-bit PCI at 33MHz, LPC bus, SMBus, I <sup>2</sup> C, PCI Express x8 (multiplexed w/ eDP)

#### Video

Integrated in Processor	Gen5.75 with 12 execution units
Integrated Video Feature	DirectX 10 and OpenGL 2.1
Support	Intel® Dynamic Video Memory Technology (Intel DVM 5.0) High performance MPEG-2 decoding Hardware acceleration for MPEG-2 VLD/IDCT Blu-ray support @ 40 Mb/s WMV9 (VC-1) and H.264 (AVC) support
VGA Interface	Analog VGA support with 300 MHz DAC Analog monitor support up to QXGA (2048 x 1536)
LVDS Interface	Dual channel 18/24-bit LVDS
Digital Display Interface	Embedded DisplayPort (eDP) (multiplexed w/ PCI Express x8, SDVO)

#### Audio

Chipset	Integrated on Intel® PCH QM57
Audio Codec	Implemented on carrier board

#### Ethernet

Chipset	Intel® Gigabit LAN PHY 82574IT
Speed	10/100/1000 Mbps Ethernet

#### Multi I/O and Storage

Chipset	Integrated on QM57
USB	Eight USB 2.0 ports
SATA	Four SATA ports at 3 Gb/s

#### Super I/O

Connected to LPC bus on carrier if needed

#### TPM (optional)

Chipset	Atmel AT97SC3204-U1A190
Type	TPM 1.2

#### Power

Input Power	AT mode (12 V +/- 5%) and ATX mode (12 V and 5 Vsb +/- 5%)
Power States	Supports S0, S1, S3, S4, S5
Smart Battery Support	Yes

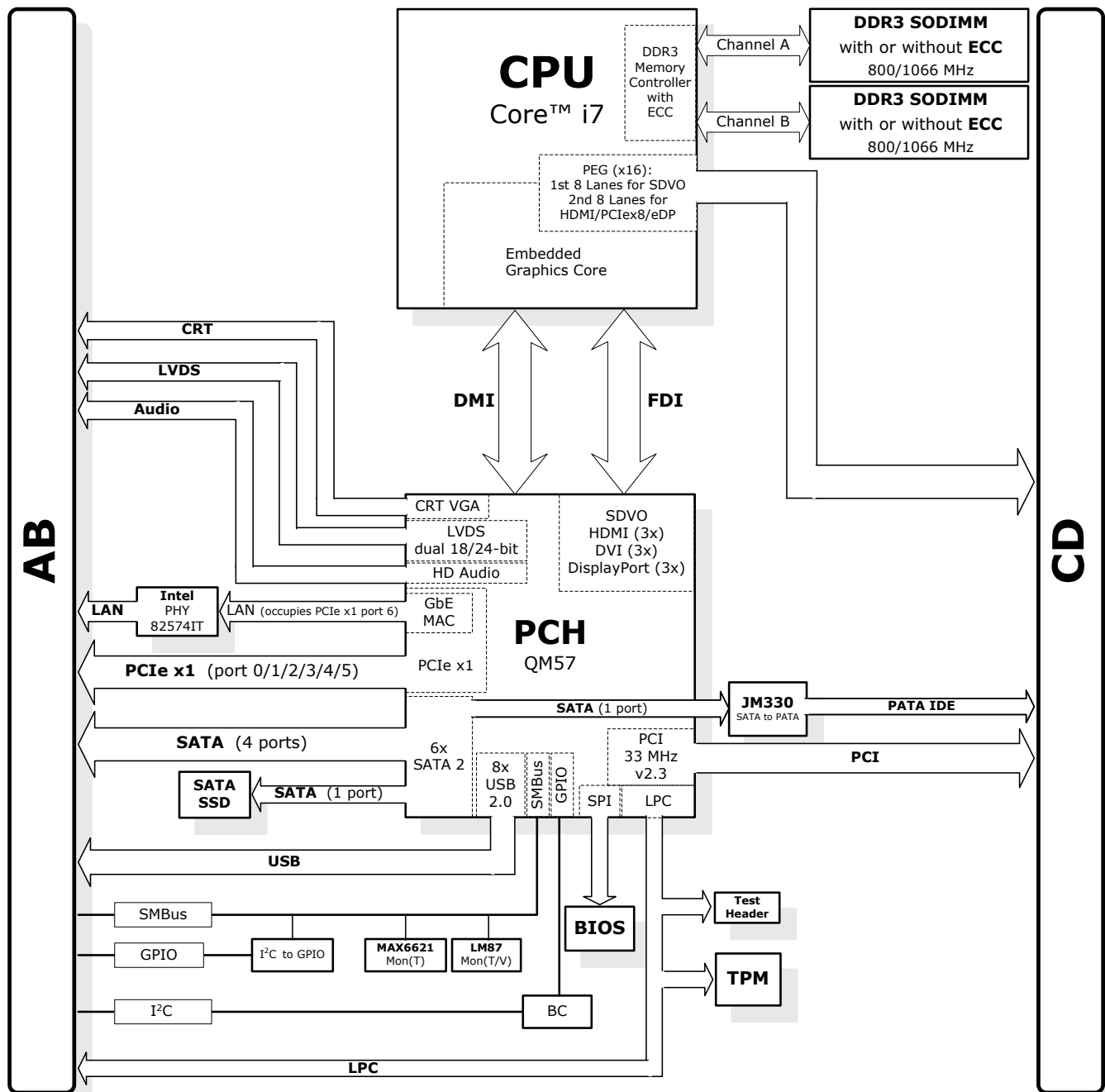
#### Mechanical and Environmental

Size	COM Express Basic, 125 mm x 95 mm
Board Thickness	0.093" (2.3mm)
Operating Temperature	Standard: 0°C to 70°C Extended: -40°C to 85°C
Storage Temperature	-55°C to 85°C
Humidity	90% at 60°C
Shock	50G peak-to-peak, 11ms duration, MIL-STD-202G Method 213B
Vibration	Operating: 11.96 Grms, 50-20,000 Hz, each axis, MIL-STD-202G Method 214A
Compatibility	PICMG COM Express Type 2
Certifications	CE, FCC, HALT

#### Operating Systems

Standard Support	Windows XPe, Windows 7, Linux
Extended Support (BSP)	Windows XP Embedded WinCE 6.0 VxWorks 6.x QNX AIDI Library

## Functional Diagram



## Ordering Information

### Modules

Model Number	Description/Configuration
Express-CBR-R-20	Express-CBR, Intel® Core™ i7-620LE, 2.0GHz, Dual Core, no RAM
Express-CBR-R-10	Express-CBR, Intel® Core™ i7-620UE, 1.06GHz, Dual Core, no RAM