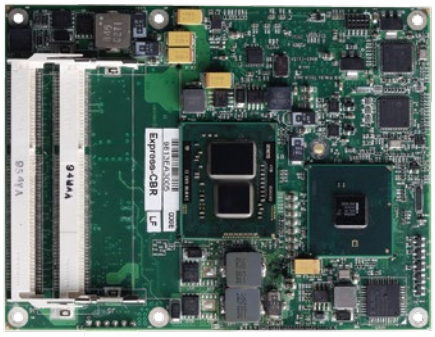
Express-CBR

Extreme Rugged™ COM Express® Basic Size Type 2 Module with Intel® Core™ i7 Processor

Type 2



Features

- Intel® Core™ i7 Processor with Mobile Intel® QM57 Express Chipset
- 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
- Extreme Rugged™ operating temperature: -40°C to +85°C (optional)

Specifications

Core System

CPU	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, I²C, 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® DVMT 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 in Mobile Intel® QM57 Express Chipset
Audio Codec	Implemented on carrier board

Ethernet

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

I/O Interfaces

Chipset	Integrated in Mobile Intel® 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

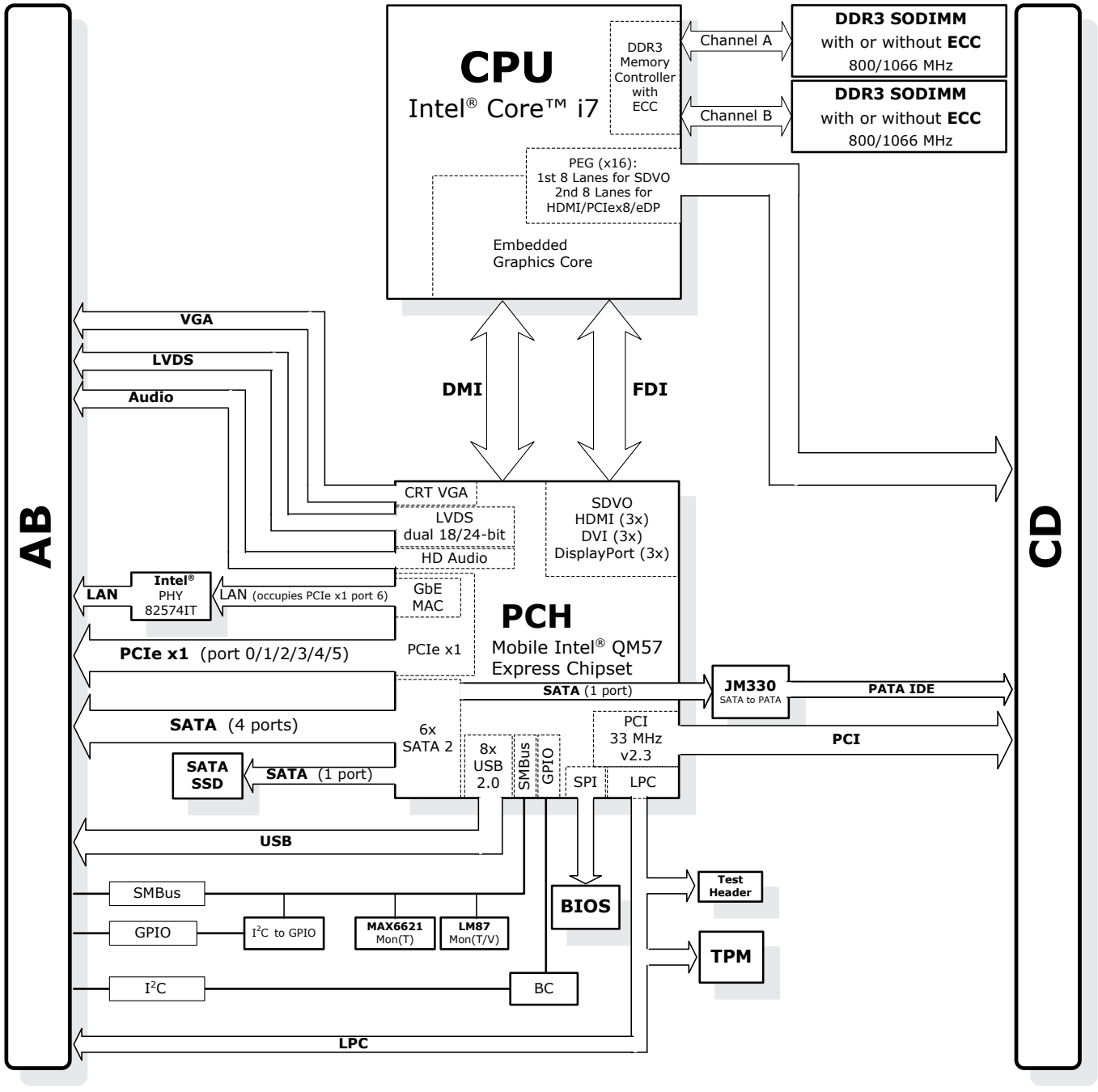
Mechanical and Environmental

Dimension	Basic size: 125 mm x 95mm
Board Thickness	0.093" (2.3mm)
Operating Temperature	Standard: 0°C to +60°C
	Extreme Rugged™: -40°C to +85°C (optional)
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-10	COM Express® Basic Size Type 2 Module with Intel® Core™ i7-620UE, 1.06GHz, Dual Core, no RAM
Express-CBR-R-20	COM Express® Basic Size Type 2 Module with Intel® Core™ i7-620LE, 2.0GHz, Dual Core, no RAM

Note: All specifications are subject to change without further notice.