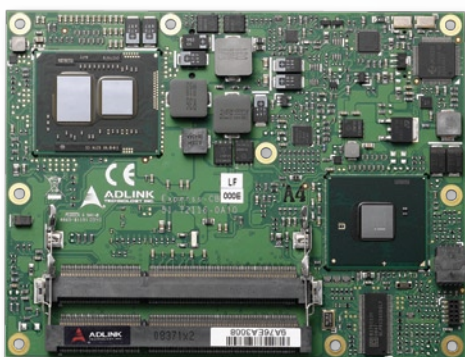


Express-CB/CBE

COM Express® Module with Intel® Core i7/i5/i3 Processor and QM57 Chipset



Features

- Intel® Core™ i7/i5/i3 Processor
- Intel® QM57 chipset
- Up to 8 GB Dual Channel DDR3 SDRAM at 1066 MHz (optional ECC)
- Six PCIe x1, one PCIe x16 for graphics (or general purpose x8/4/1)
- 18/24-bit LVDS and Embedded DisplayPort
- SATA 3 Gb/s IDE (PATA), Gigabit LAN, USB 2.0

Specifications

Core System

CPU	Arrandale BGA type Intel® Core™ i7-610E Processor (4M Cache, 2.53 GHz) 35 W Intel® Core™ i5-520E Processor (3M Cache, 2.40 GHz) 35 W Intel® Core™ i7-620LE Processor (4M Cache, 2.00 GHz) 25 W Intel® Core™ i7-620UE Processor (4M Cache, 1.06 GHz) 18 W Intel® Core™ i3-330E Processor (3M Cache, 2.13 GHz) 35W Intel® Celeron® Processor P4505 (2M Cache, 1.86 GHz) 35 W Intel® Celeron® Processor U3405 (2M Cache, 1.06GHz) 18W
Memory	Dual channel 800/1066 MHz DDR3 memory up to 8 GB in dual stacked SODIMM socket; ECC memory for CBE series only
Chipset	Intel® Mobile QM57
L2 Cache	2 MB (Celeron® M), 4/3 MB (Intel® Core™ i7 / i5)
BIOS	AMI EFI with CMOS backup in 16 Mbit SPI flash
Hardware Monitor	Supply voltages and CPU temperature
Watchdog Timer	Programmable timer ranges to generate RESET
Expansion Busses	PCI Express x16 bus for discrete graphics solution or general purpose PCI Express (2 x8 or 2 x4 or 2 x1) or Embedded Display Port (eDP) 7 PCI Express x1: Lanes 0/1/2/3/4/5 are free, lane 6 is occupied by GbE; can be optionally configured as 1 x4 (on 0/1/2/3) and 2 x1 (4/5) 32-bit PCI: PCI Rev. 2.3 at 33MHz, supporting 4 bus masters LPC bus, SMBus (system) , i2C (user)

Video

Integrated in Processor	Gen 5.75 with 12 execution units
Integrated Video Feature Support	DirectX 10 and OpenGL 2.1 Intel® Dynamic Video Memory Technology (Intel® DVM T 5.0) Video capture via x1 concurrent PCI Express port PAVP (Protected Audio-Video Path) support for Protected Intel HD Audio Playback High performance MPEG-2 decoding WMV9 (VC-1) and H.264 (AVC) support Hardware acceleration for MPEG2 VLD/IDCT Microsoft DirectX 10 support OpenGL 2.1 support Blu-ray support @ 40 Mb/s Hardware motion compensation Intermediate Z in classic rendering
VGA Interface	Analog VGA support by 300 MHz DAC Analog monitor support up to QXGA (2048 X 1536)
LVDS Interface	Single / Dual channel 18- or 24-bit panels

Audio

Chipset	Integrated on Intel® PCH QM57
Audio Codec	On Express-BASE carrier (ALC888)

LAN

Chipset	Integrated on QM57 with 82577LM PHY
Interface	10/100/1000 Mbps Ethernet

Multi I/O

Chipset	Integrated on Intel® PCH QM57
USB	Supports up to eight ports USB v. 2.0
SATA	Four ports SATA 3 Gb/s with optional support for RAID 0,1,5,10
SSD	Optional SATA based Solid State Disk 8/16/32 GB
PATA	SATA to PATA bridge on SATA channel 1, Master only

Super I/O

Connected to LPC bus on carrier if needed

TPM

Chipset	Infineon SLB9635TT1.2 (optional)
Type	TPM 1.2

Power Specifications

Input Power	AT mode (12 V +/- 5%) and ATX mode (12 V and 5 Vsb +/- 5%)
Power States	Supports S0, S1, S3, S4, S5
Power Consumption	21 W with Core™ i7-620UE at 1.2 GHz and 2 GB memory typical
Smart Battery Support	Yes

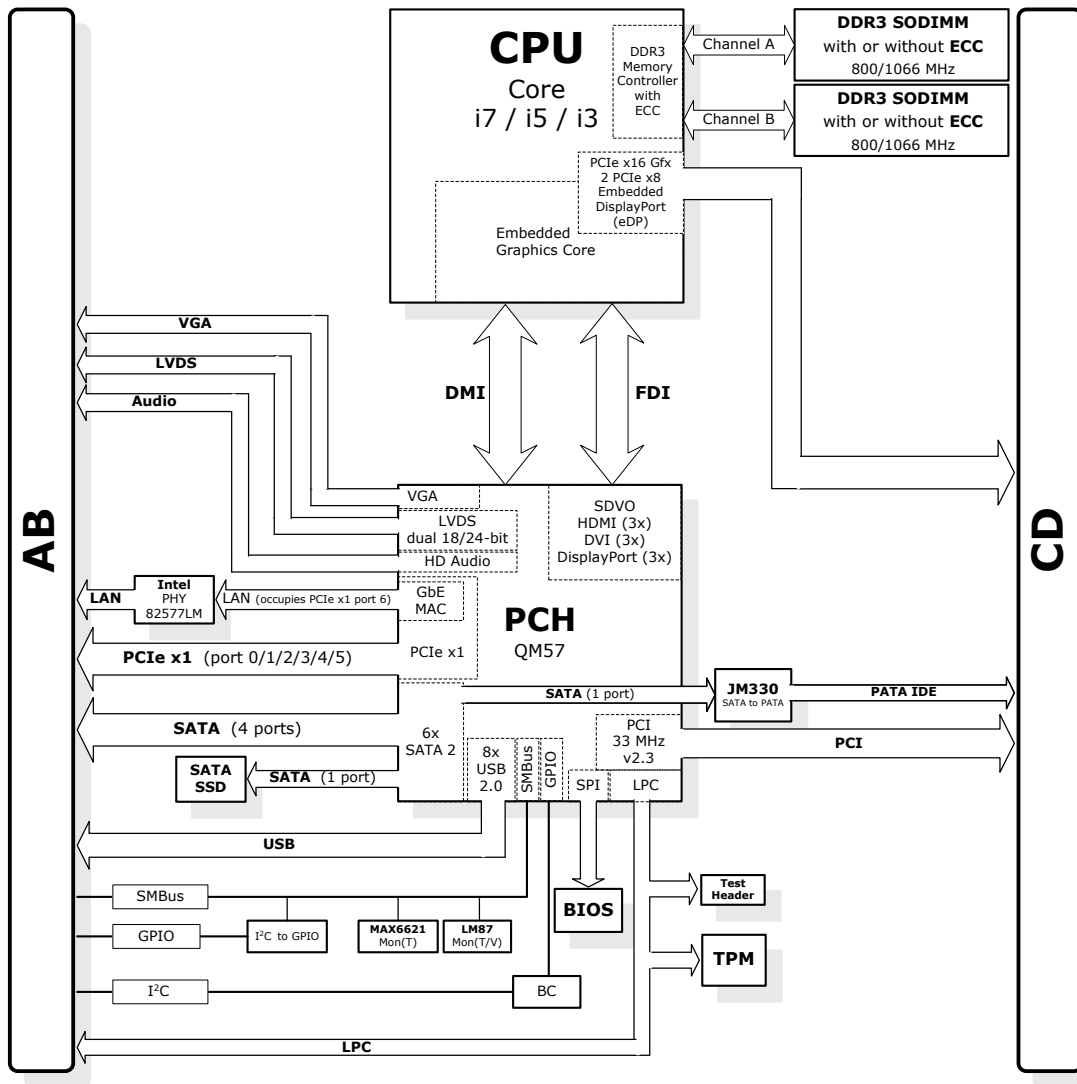
Mechanical and Environmental

Operating Temp	0°C to 60°C
Storage Temp	-20°C to 80°C
Humidity	90% at 60°C
Shock	15G peak-to-peak, 11ms duration, non-operation
Vibration	Non-operating: 1.88 Grms, 5-500 Hz, each axis Operating: 0.5 Grms, 5-500 Hz, each axis
Compatibility	COM Express® Type 2, Basic form factor 125 mm x 95 mm
Certification	CE, FCC

Operating Systems

Standard Support	Windows® XP(e) / Vista / Windows® 7 Linux®
Extended Support (BSP)	Embedded XP support package Linux® 2.6.x BSP VxWorks 6.x BSP AIDI Library for Windows® and Linux®

Functional Diagram



Ordering Information

Modules

Non-ECC Model Number	ECC Model Number	Description/Configuration
Express-CB-i7-610E	Express-CBE-i7-610E	COM Express® module with Intel® Core i7-610E SV processor at 2.53 GHz with QM57 chipset
Express-CB-i5-520E	Express-CBE-i5-520E	COM Express® module with Intel® Core i5-520 SV processor at 2.4 GHz with QM57 chipset
Express-CB-i7-620LE	Express-CBE-i7-620LE	COM Express® module with Intel® Core i7-620LE LV processor at 2.0 GHz with QM57 chipset
Express-CB-i7-620UE	Express-CBE-i7-620UE	COM Express® module with Intel® Core i7-620UE ULV processor at 1.07 GHz with QM57 chipset
Express-CB-i3-330E	Express-CBE-i3-330E	COM Express® module with Intel® Core i3-330E SV processor at 2.13 GHz with QM57 chipset
Express-CB-P4505	Express-CBE-P4505	COM Express® module with Intel® Celeron® P4505 SV processor at 1.86 GHz with QM57 chipset
Express-CB-U3405	Express-CBE-U3405	COM Express® module with Intel® Celeron® U3405 ULV processor at 1.06 GHz with QM57 chipset

Accessories

Model Number	Description/Configuration
Heat Spreaders	
HTS-CB-B	Heatspreader with threaded standoffs for Express-CB/CBE
Heatsink with Active Cooling	
THSF-CB-B	Heatsink with fan and threaded standoffs for Express-CB/CBE

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