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, 2.00 GHz) 35 W
  - Intel® Core™ i7-620LE Processor (4M Cache, 1.06 GHz) 18 W
  - Intel® Core™ i3-330E Processor (2M Cache, 2.13 GHz) 35 W
  - Intel® Celeron® Processor P4505 (2M Cache, 1.86 GHz) 35 W
  - Intel® Celeron® Processor U3405 (2M Cache, 1.06 GHz) 18 W
- **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 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 7.5 with 12 execution units
- **Integrated Video Feature Support**
  - DirectX 10 and OpenGL 2.1
  - Intel® Dynamic Video Memory Technology (Intel® DVMT 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 G rms, 5-500 Hz, each axis
  - Operating: 0.5 G rms, 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

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

Accessories

<table>
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<tbody>
<tr>
<td>Heat Spreaders</td>
<td>Heat spreader with threaded standoffs for Express-CB/CBE</td>
</tr>
<tr>
<td>Thermals with Active Cooling</td>
<td>Heatsink with fan and threaded standoffs for Express-CB/CBE</td>
</tr>
</tbody>
</table>
Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

ADLINK Technology:
Express-CB-i5-520E