Features
- Quad/dual core 3rd Generation Intel® Core™ Processor with Mobile Intel® QM77 Express Chipset
- Up to 16GB ECC 1600MHz DDR3 memory in two SODIMM sockets
- Three Digital Display Interfaces (DDI) for DisplayPort /HDMI/DVI/SDVO
- Seven PCIe x1 (Gen 2), one PCIe x16 (Gen 3) for graphics (or general purpose x8/x4)
- 2x SATA 6 Gb/s, 2x SATA 3 Gb/s, Gigabit Ethernet, USB 2.0, 4 USB 3.0
- 50% Thicker PCB for high vibration environments
- Extreme Rugged™ operating temperature: -40°C to +85°C (optional)

Specifications

Core System
- CPU: 3rd Generation Intel® Core™ i7/i3, 22nm process, BGA type
  - i7-3615QE 2.3GHz, 6MB L3 cache, 45W, quad core
  - i7-3612QE 2.1GHz, 6MB L3 cache, 35W, quad core
  - i7-3555LE 2.5GHz, 4MB L3 cache, 25W, dual core
  - i7-3517UE 1.7GHz, 4MB L3 cache, 17W, dual core
- Memory: Dual channel ECC 1600 MHz DDR3 memory up to 16 GB in two dual SODIMM sockets
- BIOS: AMI EFI with CMOS backup in 16 Mb SPI flash
- Hardware Monitor: Supply voltages and CPU temperature
- Debug Interface: XDP SFF-26 extension for ICE debug
- Watchdog Timer: Programmable timer range to generate RESET
- Expansion Busses: PCI Express x16 (Gen3) bus for discrete graphics solution or general purpose PCI Express (2 x8 or 1 x8 with 2 x4)
- LPC bus, SMBus (system), I2C (user)

Video
- Integrated in Processor: Intel® HD Graphics 4000 at 650-1300 MHz
- Integrated Video: DirectX 11.0, OpenGL 3.1, and OCL 1.1
- Media Processing: Decode (HW JPEG & MJPEG decode), encode (full HW MPEG2 encode), transcode
- Intel® Clear Video HD Technology + enhanced media processing
- VGA Interface: Analog VGA support with 300 MHz DAC
- Analog monitor support up to QXGA (2048 x 1536) and VGA hot plug
- LVDS Interface: Dual channel 18/24-bit LVDS
- Digital Display Interface: Three DDI ports supporting HDMI / DVI / DisplayPort or SDVO

Audio
- Chipset: Integrated in Mobile Intel® QM77 Express chipset
- Audio Codec: Implemented on carrier board

Ethernet
- Chipset: Intel® Gigabit LAN PHY WG82579LM
- Speed: 1G/100/1000 Mbps Ethernet

I/O Interfaces
- Chipset: Integrated in Mobile Intel® QM77 Express chipset
- USB: Supports up to eight ports USB 2.0, 4 USB 3.0
- SATA: Two SATA 6 Gb/s, two SATA 3 Gb/s with support for RAID 0,1,4,10

Super I/O
- Connected to LPC bus on carrier if needed (BIOS supports W83627DH3)

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
- Power Consumption: 12W typical (>3.6WxQE)
- 8W typical (3-3555LE/i7-3517UE/i3-3217UE)
- S3: 0.85W
- S5: 0.55W
- Smart Battery Support: Yes (BIOS supports LTC4100 and LTC1760)

Mechanical and Environmental
- Form Factor: PICMG COM.0: Rev 2.1 Type 6
- Dimension: Basic size: 125 mm x 95 mm
- 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 non-condensing
- Vibration: Operating: 11.96 G rms, 50-200,000 Hz, each axis, MIL-STD-202G Method 214A
- Compatibility: PICMG COM Express COM.0 R2.1 Type 6
- Certifications: CE, FCC, HALT

Operating Systems
- Standard Support: Windows 7, Linux
- Extended Support (BSP): Windows XPe/7, WEC 7, Linux, VxWorks 6.9, QNX 6.5, AIDI Library

http://www.adlinktech.com/Computer-on-Module
**Functional Diagram**

**Ordering Information**

**Modules**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description/Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Express-IBR-i3-R-3217UE</td>
<td>COM Express® Basic Size Type 6 Module with Intel® Core™ i3-3217UE 1.6GHz 17W Dual Core CPU, two DDR3 ECC SODIMMs supported</td>
</tr>
<tr>
<td>Express-IBR-i7-R-3517UE</td>
<td>COM Express® Basic Size Type 6 Module with Intel® Core™ i7-3517UE 1.7GHz 17W Dual Core CPU, two DDR3 ECC SODIMMs supported</td>
</tr>
<tr>
<td>Express-IBR-i7-R-3555LE</td>
<td>COM Express® Basic Size Type 6 Module with Intel® Core™ i7-3555LE 2.5GHz 25W Dual Core CPU, two DDR3 ECC SODIMMs supported</td>
</tr>
<tr>
<td>Express-IBR-i7-R-3612QE</td>
<td>COM Express® Basic Size Type 6 Module with Intel® Core™ i7-3612QE 2.1GHz 35W Quad Core CPU , two DDR3 ECC SODIMMs supported</td>
</tr>
<tr>
<td>Express-IBR-i7-R-3615QE</td>
<td>COM Express® Basic Size Type 6 Module with Intel® Core™ i7-3615QE 2.3GHz 45W Quad Core CPU, two DDR3 ECC SODIMMs supported</td>
</tr>
</tbody>
</table>

**Accessories**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description/Configuration</th>
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<tbody>
<tr>
<td>Heat Spreaders</td>
<td></td>
</tr>
<tr>
<td>HTS-IBR-B</td>
<td>Heat-spreaders for Express-IBR with threaded standoffs for bottom-mounting</td>
</tr>
<tr>
<td>HTS-IBR-BTF</td>
<td>Heat-spreaders for Express-IBR with through-hole standoffs for top-mounting</td>
</tr>
<tr>
<td>Passive Heatsinks</td>
<td></td>
</tr>
<tr>
<td>THSH-IBR-BTL</td>
<td>Heatsink for Express-IBR with through-hole standoffs for top-mounting</td>
</tr>
<tr>
<td>Active Heatsink</td>
<td></td>
</tr>
<tr>
<td>THSF-IBR-BTL-CU</td>
<td>Heatsink with FAN for Express-IBR with through-hole standoffs for top-mounting</td>
</tr>
</tbody>
</table>

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