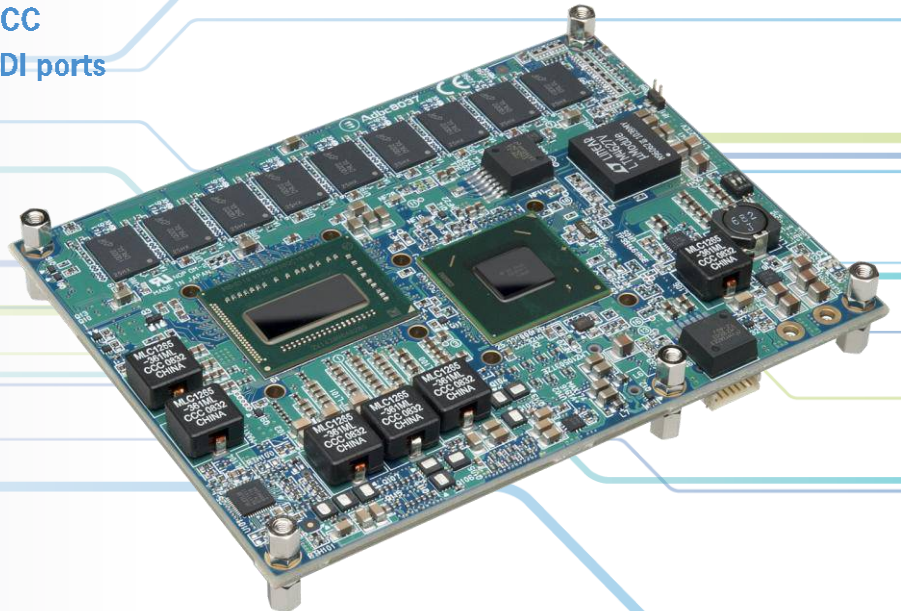


# COM Express CPU Module with 3<sup>rd</sup> Generation Intel® Core™ Processor

## Adbc8037

- 3<sup>rd</sup> Generation Intel® Core™ i7
- Faster, Smarter, More Efficient Performance
- Direct mounted Memory with ECC
- Powerful Graphics with three DDI ports
- High Speed Interface
- Wind River Linux and Windows



## FEATURES

**More CPU Performance and More Graphics Performance** – The Adbc8037 equipped with the 3<sup>rd</sup> Generation Intel® Core™ i7 processors with the Mobile Intel® QM77 Express chipset delivering unparalleled computing power for high-end application users. The combination of 22nm process technology and 3-D tri-gate transistor technology of the 3<sup>rd</sup> Generation Intel® Core™ processor achieves dramatic performance improvement of graphics / media processing and power consumption reduction at the same time.

**High Reliability for Critical Application** – The Adbc8037 has soldered down processor and memory, ensuring critical operation; moreover, ECC support adds further reliability.

**Powerful Graphics** – The Adbc8037 provides PCI Express Graphics, VGA and three DDI ports (DisplayPort / HDMI / DVI / SDVO) which are utilized by newly-defined PICMG COM Express Rev2.0, Type 6 pinout.

**Feature Rich, High Speed Interface** – The Adbc8037 delivers a broad range of peripherals, such as one x16 Gen3 PCI Express interface, total of six lanes of Gen2 PCI Express (configurable), 4 SATA ports (including 2 SATA-600 interfaces), two USB 3.0 and two USB 2.0 ports and one 10/100/1000 Ethernet interface.

The Adbc8037 packs the unparalleled performance and power efficiency of the latest Intel® Core™ i7 processors with the features of the Mobile Intel® QM77 Express chipset in a 125x95mm COM Express basic form factor.

The Adbc8037 has been designed to deliver superior performance and reliability, in particular for all those applications where uptime and availability are a must.

Standard configurations support the Intel® Core™ i7-3615QE (2.3GHz, Quad Core), i7-3612QE (2.1GHz, Quad Core), i7-3555LE (2.5GHz, Dual Core), and i7-3517UE (1.7GHz, Dual Core) processors.

With support for up to 8GB soldered DDR3-1333/1600 ECC memory configurations, the Adbc8037 is ideal to design systems that have to be very resilient to harsh operating conditions.

The pinout of the Adbc8037 can be switched from Type 6 to Type 2, allowing users to employ a single platform across a number of applications with the maximum efficiency.

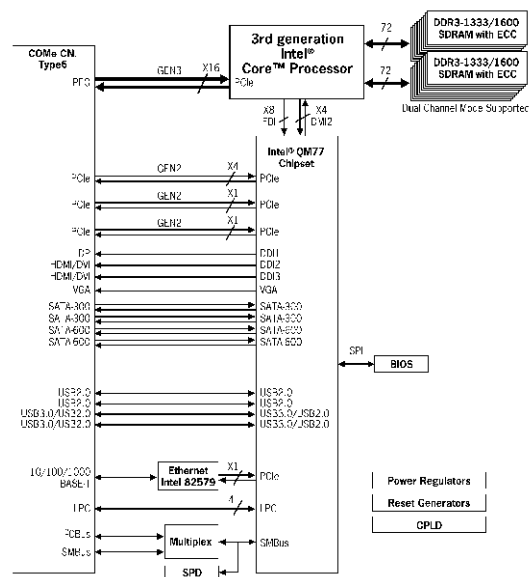
The Adbc8037 supports most major operating systems, including Windows® 7, Windows® Embedded Standard 7 and Wind River Linux.

## System Architecture



PROCESSOR	<p>3<sup>rd</sup> Generation Intel® Core™ Processor family</p> <ul style="list-style-type: none"> <li>SV: Intel® Core™ i7-3615QE(Quad Core / 2.3GHz / 45W)</li> <li>SV: Intel® Core™ i7-3612QE(Quad Core / 2.1GHz / 35W)</li> <li>LV: Intel® Core™ i7-3555LE(Dual Core / 2.5GHz / 25W)</li> <li>ULV: Intel® Core™ i7-3517UE(Dual Core / 1.7GHz / 17W)</li> </ul> <p>Cache Memory: SV=6MB, LV=4MB, ULV=4MB                  Intel® Technologies: Intel® Turbo Boost Technology, Intel® Hyper Threading Technology, Intel® Virtualization Technology, Intel® 64                  Chipset: Mobile Intel® QM77</p>
MEMORY	<p>SV: Direct-mounted DDR3-1600 4GB, ECC supported                  LV &amp; ULV: Direct-mounted DDR3-1333 2GB, ECC supported                  Boot ROM: SPI Flash 8MB</p>
COM EXPRESS	<ul style="list-style-type: none"> <li>PICMG COM.0 COM Express Module Base Specification Rev 2.0</li> <li>Basic Module size (125mm x 95mm)</li> <li>Type 6 &amp; Type 2 Pinout (without PCIbus, IDE port)</li> </ul>
SYSTEM I/O	<ul style="list-style-type: none"> <li>PCI Express Graphics (Gen3): one x16 or two x8 (configurable)</li> <li>PCI Express (Gen2): one x4 or two x2 (configurable) + two x1</li> <li>3x Graphic DDI (DisplayPort / HDMI / DVI)</li> <li>1x Graphic VGA</li> <li>2x SATA-300 + 2x SATA-600</li> <li>2x USB 2.0 + 2x USB 3.0</li> <li>1x Ethernet 10/100/1000Base-T</li> <li>1x LPC</li> <li>4x GPI + 4x GPO</li> <li>1x SMBus</li> <li>1x I2C Bus</li> </ul>
POWER	<p>DC 12V (VCC_12V) 12.0V, ±5%                  DC 5V (VCC_5VSBY) 5.0V, ±5%                  DC 3V (VCC_RTC) 2.0V - 3.0V</p>
MECHANICAL	<ul style="list-style-type: none"> <li>125mm (W) x 95mm (L) x 21mm (H) (incl. 8mm height for heat spreader and spacers)</li> <li>Weight: TBD</li> </ul>
ENVIRONMENTAL	<ul style="list-style-type: none"> <li>Operating Temperature: 0°C to +60°C</li> <li>*Cooling mechanism such as heatsink is required on the heat spreader for heat dissipation during operation.</li> <li>Storage Temperature: -10°C to +70°C</li> <li>Humidity: up to 85%RH (no condensation)</li> <li>RoHS compliant</li> </ul>
SOFTWARE	<p>OS: Windows® 7, Windows® Embedded Standard 7, Wind River Linux                  BIOS: Phoenix</p>

## Block Diagram



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