

# High Performance COM Express®

## Dramatically Increased Graphics Performance

### conga-BM67

Up to Intel® Core™ i7-2710QE  
quad core processor

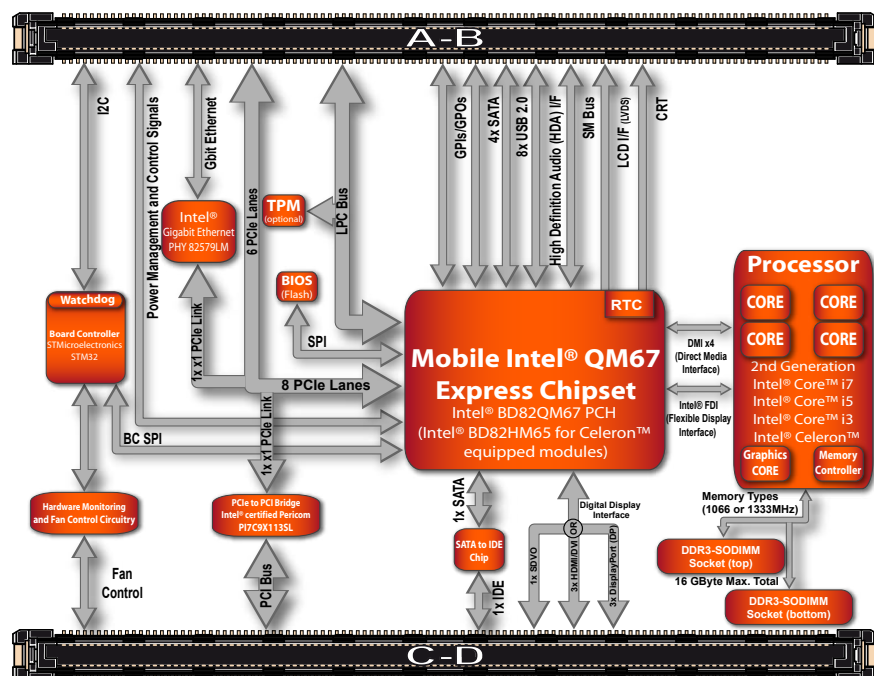
Extreme graphics performance

COM Express™ Type 2 module  
featuring DisplayPort and HDMI



Formfactor	Formfactor COM Express™ Basic, (95 x 125 mm), Type II Connector Layout
<b>CPU</b>	Intel® Core™ i7-2710QE (SV), 2.1 GHz (32 nm process, 6MB cache, 1333 MHz, TDP 45 W, 989 rPGA package) Intel® Core™ i5 -2510E (SV), 2.5 GHz (32 nm process, 3MB cache, 1333 MHz, TDP 35 W, 989 rPGA package) Intel® Core™ i3-530, 2.93 GHz (32 nm process, 4MB cache, 1333 MHz, TDP 35, 989 rPGA package) Intel® Core™ i3-2330E, 2.2 GHz, (32 nm process, 3MB cache, 1333 MHz, TDP 35W, 989 rPGA package) Intel® Celeron® B810, 1.6 GHz (32nm process, 2MB cache, TDP 35W, 989 rPGA package)  Integrated dual channel memory controller, up to 25,6 GByte/sec. memory bandwidth, Integrated Intel® HD Graphics with dynamic frequency up to 1100 MHz, Intel® Clear Video HD Technology
<b>DRAM</b>	2 Sockets, SO-DIMM DDR3 1600 MHz, up to 16 GByte
<b>Chipset</b>	Mobile Intel® 6 Series Chipset, Intel® QM67 Platform Controller Hub
<b>Ethernet</b>	Gigabit Ethernet, Intel® Ethernet PHY with AMT support
<b>I/O Interfaces</b>	6x PCI Express™ lanes, 4x Serial ATA® (AHCI) with RAID support, 1x EIDE (UDMA-66/100) optional, 8x USB 2.0 (EHCI), PCI Bus 33 MHz Rev. 2.3, LPC bus, I²C bus (fast mode, 400 kHz, multi-master)
<b>Sound</b>	Digital High Definition Audio Interface with support for multiple audio codecs
<b>Graphics</b>	Processor integrated Mobile Intel® 6 Series HD graphics, OpenGL 3.0 and DirectX 10.1 support, Two independent pipelines for full dual view support, High performance hardware MPEG-2 decoding, WMV9 (VC-1) and H.264 (AVC) support Blu-ray support @ 40 Mbit/s, hardware motion compensation (using HDMI 1.4 with 3D), no PEG support
<b>LVDS</b>	Dual channel LVDS transmitter, Supports flat panels 2x24 Bit interface, VESA mappings, resolutions up to 1920x1200, Automatic Panel, Detection via EDID/EPI
<b>Display Port (DP)</b>	3x DisplayPorts 1.1, max. resolution 2560x1600
<b>HDMI or DVI</b>	3x ports shared
<b>CRT Interface</b>	350 MHz RAMDAC, resolutions up to QXGA (2048x1536)
<b>SDVO</b>	1 x Intel compliant SDVO ports with 200MPixel/sec. Supports external DVI, TV and LVDS transmitter
<b>congatec Board Controller</b>	Multi Stage Watchdog, non-volatile User Data Storage, Manufacturing and Board Information, Board Statistics, BIOS Setup Data Backup, I²C bus (fast mode, 400 kHz, multi-master), Power Loss Control
<b>Embedded BIOS Features</b>	AMI Aptio® UEFI 2.x firmware, 8 MByte serial SPI firmware flash
<b>Security</b>	The conga-BM67 can be optionally equipped with a discrete "Trusted Platform Module" (TPM). It is capable of calculating efficient hash and RSA algorithms with key lengths up to 2,048 bits and includes a real random number generator. Security sensitive applications such as gaming and e commerce will benefit also with improved authentication, integrity and confidence levels.
<b>Power Management</b>	ACPI 3.0 with battery support
<b>Operating Systems</b>	Microsoft® Windows 7 (embedded), Microsoft® Windows XP (embedded), Linux
<b>Power Consumption</b>	Typ. application: Processor TDP: 35 .. 45 W, see manual for full details
<b>Temperature:</b>	Operating: 0 .. +60°C Storage: -20 .. +80°C
<b>Humidity Operating:</b>	10 - 90% r. H. non cond. Storage: 5 - 95% r. H. non cond.
<b>Size</b>	95 x 125 mm (3.74" x 4.92")

## Block Diagram conga-BM67



## Order Information conga-BM67

Article	PN	Description
conga-BM67/i7-2710QE	046101	Intel® Core™ i7-2710QE Quad Core Processor 2.1GHz, 6MByte L2 cache and 1600MT/s dual channel DDR3 memory interface
conga-BM67/i5-2510E	046102	Intel® Core™ i5-2510E dual core processor 2.5GHz, 3MByte L2 cache and 1333MT/s dual channel DDR3 memory interface
conga-BM67/i3-2330E	046104	Intel® Core™ i3-2330E dual core processor 2.2GHz, 3MByte L2 cache and 1333MT/s dual channel DDR3 memory interface
conga-BM67/B810	046105	Intel® Celeron™ B810 dual core processor 1.6GHz, 2MByte L2 cache and 1333MT/s dual channel DDR3 memory interface
conga-BM57/CSP-HP-B	046022	Standard passive cooling solution with integrated heat pipes, 15mm fins and 20mm overall heat sink height. All stand-offs are with 2.7mm bore hole.
conga-BM57/CSP-HP-T	046023	Standard passive cooling solution with integrated heat pipes, 15mm fins and 20mm overall heat sink height. All stand-offs are M2.5mm threaded.
conga-BM57/CSA-HP-B	046024	Standard active cooling solution with integrated heat pipes, 15mm fins, 20mm overall heat sink height and integrated 12V fan. All stand-offs are with 2.7mm bore hole.
conga-BM57/CSA-HP-T	046025	Standard active cooling solution with integrated heat pipes, 15mm fins, 20mm overall heat sink height and integrated 12V fan. All stand-offs are M2.5mm threaded.
conga-BM57/HSP-HP-B	046020	Standard heatspreader with integrated heat pipes. All stand-offs are with 2.7mm bore hole.
conga-BM57/HSP-HP-T	046021	Standard heatspreader with integrated heat pipes. All stand-offs are M2.5mm threaded.
DDR3-SODIMM-1066 (1GB)	068750	DDR3-SODIMM memory module 1GByte RAM (1066 MT/s)
DDR3-SODIMM-1066 (2GB)	068760	DDR3-SODIMM memory module 2GByte RAM (1066 MT/s)
DDR3-SODIMM-1066 (4GB)	068765	DDR3-SODIMM memory module 4GByte RAM (1066 MT/s)

### Engineering Tools / Accessories for COM Express®

conga-CEVAL	065749	Evaluation carrier board for COM-Express-modules
conga-Cdebug	047854	COM-Express debugging platform. Including cable for COM, PS/2 and VGA.
conga-CKIT	064714	COM-Express-Starterkit, incl. conga-CEVAL, conga-CDEBUG, conga-FPA1 (PN: 024241), Dual DVI-D ADD2 card, Power supply, USB-Stick, ... Without COM Express-module
conga-SBM²C-module	014141	SMART Battery Manager Module for COM Express
conga-SBM²C-kit	029874	Starterkit to evaluate SBM-Features for COM Express with SMART-Battery Manager Module and cable set
conga-SBM²C Licence and Design Kit	025478	SMART Battery Manager Module Design Kit including licence agreement for costumer integration, Hardware design files (Schematics, Bill of Material), Battery Manager Firmware (incl. commented source code), AVR-Programming Tool AT90 JTAG ICE MKII
conga-LDVI/EPI	011115	LVDS to DVI converter board for digital flat panels with onboard EEPROM
conga-HDMI/Display Port adapter	500014	The conga-HDMI/DisplayPort adapter is used to convert the chipset graphic ports Port-B, Port-C and Port-D to the HDMI or DisplayPort Interface
DVI-D ADD2 Card	058500	ADD2 display adapter card with single DVI-D digital output. Suitable for all Intel based platforms that support Serial Digital Display Outputs (SDVO) on the standard, x16 PCI Express Graphics (PEG) port.
Dual DVI-D ADD2 Card	013226	ADD2 display adapter card with dual independent DVI-D output. Suitable for all Intel based platforms that support Serial Digital Display Outputs (SDVO) on the standard, x16 PCI Express Graphics (PEG) port.
conga-FPA2	047250	Flatpanel prototype adapter to develop your own flatpanel adapter including cables set.



#### Headquarter:

**congatec AG**  
Auwiesenstraße 5  
94469 Deggendorf,  
Germany  
Phone +49 (991) 2700-0  
Fax +49 (991) 2700-111  
info@congatec.com  
www.congatec.de

#### Subsidiaries:

**congatec AG Asia Pacific**  
11F-2, 341, Sec 4,  
Zhong Xiao E. Rd.  
106 Taipei City, Taiwan  
Phone +886 2 2775 4645  
Fax +886 2 2775 3263  
sales-asia@congatec.com  
www.congatec.tw

**congatec, Inc.**  
2187 Newcastle Ave, Suite 201  
Cardiff by the Sea,  
CA 92007 USA  
Phone +1 760-635-2600  
Fax +1 760-635-2601  
sales-us@congatec.com  
www.congatec.us

**congatec s.r.o.**  
Brojova 16  
PS 326 00 Plzeň  
Czech Republic

**www.congatec.com**

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#### Vendite e supporto tecnico Italia

**Contradata Milano S.r.l.**  
Via Solferino 12  
20052 Monza (MB) Italy  
Tel. (+39) 039.2301492  
Fax (+39) 039.2301489  
info@contradata.it  
www.contradata.it



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