



# congatec

the rhythm of embedded computing

## COM Express®

### conga-TS77

- Highest Performance COM Express® Type 6
- 3rd Generation Intel® Core™ processor-based platform
- Better transcode HD-HD, HD Video Conferencing
- Improved Graphics Performance, DirectX® 11



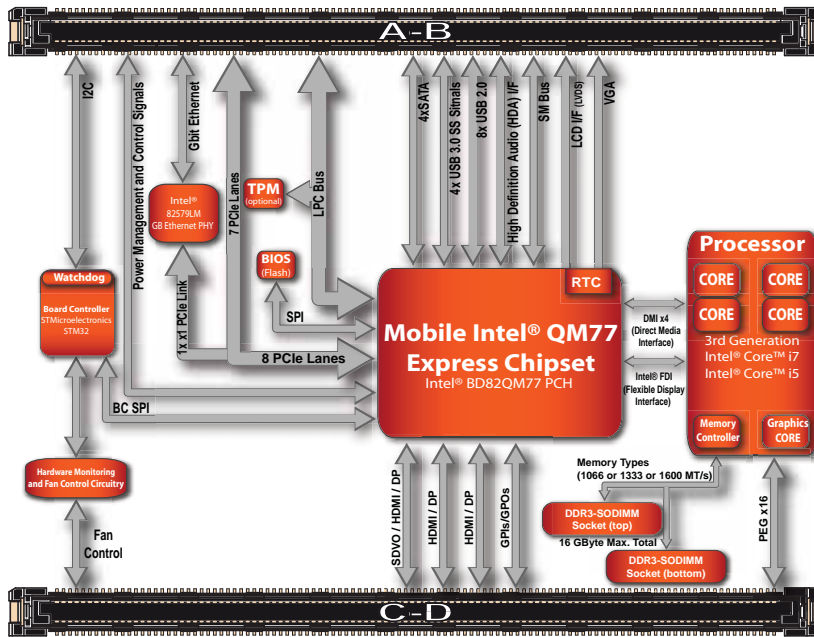
<b>Formfactor</b>	<b>Formfactor COM Express™ Basic, (95 x 125 mm), Type 6 Connector Layout</b>
<b>CPU</b>	Intel® Core™ i7-3615QE processor (4x 2.3 GHz, 6MB L2 cache, TDP 45W) Intel® Core™ i7-3612QE processor (4x 2.1 GHz, 6MB L2 cache, TDP 35W) Intel® Core™ i7-3555LE processor (2x 2.5 GHz, 4MB L2 cache, TDP 25W) Intel® Core™ i7-3517UE processor (2x 1.7 GHz, 4MB L2 cache, TDP 17W) Intel® Core™ i5-3610ME processor (2x 2.7 GHz, 3MB L2 cache, TDP 35W)  Intel® Turbo Boost Technology 2.0, Intel® Hyper-Threading Technology Integrated dual channel memory controller, up to 25.6 GByte/sec. memory bandwidth Integrated Intel® HD Graphics 4000 with dynamic frequency up to 1.0GHz, Intel® Clear Video HD Technology
<b>DRAM</b>	2 Sockets, SO-DIMM DDR3 up to 1600MT/s and 16 GByte
<b>Chipset</b>	Mobile Intel® 7 Series chipset: Mobile Intel® QM77 Express chipset
<b>Ethernet</b>	Intel® 82579 Gigabit Ethernet PHY with AMT 8.0 support
<b>I/O Interfaces</b>	7x PCI Express™ GEN. 2.0 lanes, 1x PEG, 4x Serial ATA® with 6 Gb/s, 2x Serial ATA® with 3 Gb/s (AHCI) RAID 0/1/5/10 support, 2x ExpressCard®, 4x USB 3.0 (XHCI), 8x USB 2.0 (EHCI), 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>	Intel® Flexible Display Interface (FDI), OpenCL 1.1, OpenGL 3.1 and DirectX11 support, Three simultaneous independent displays. High performance hardware MPEG-2 decoding, WMV9 (VC-1) and H.264 (AVC) support Blu-ray support @ 40 Mbit/s, hardware motion compensation
<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>Digital Display Interface (DDI)</b>	1x SDVO / DisplayPort 1.1 / TMDS (DVI, HDMI) 2x DisplayPort 1.1 / TMDS (DVI, HDMI)
<b>CRT Interface</b>	350 MHz RAMDAC, resolutions up to QXGA (2048x1536 @75Hz)
<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-TS77 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 4.0 with battery support
<b>Operating Systems</b>	Microsoft® Windows7, Microsoft® Windows XP, Microsoft® Windows® embedded Standard, Embedded POS Ready (WEPOS), Linux 3.0
<b>Power Consumption</b>	Typ. application: tbd., see manual for full details, CMOS Battery Backup
<b>Temperature:</b>	Operating: 0 .. +60°C Storage: -20 .. +80°C
<b>Humidity Operating:</b>	Operating: 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")

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Article	PN	Description
conga-TS77/i7-3615QE	046506	COM Express Type 6 Basic modul with quad-core Intel® Core™ i7-3615QE processor with 2.3GHz, 6MB L2 cache and 1600MT/s dual channel DDR3 memory interface. Processor TDP 45W.
conga-TS77/i7-3612QE	046501	COM Express Type 6 Basic modul with quad-core Intel® Core™ i7-3612QE processor with 2.1GHz, 6MB L2 cache and 1600MT/s dual channel DDR3 memory interface. Processor TDP 35W.
conga-TS77/i7-3555LE	046502	COM Express Type 6 Basic modul with dual-core Intel® Core™ i7-3555LE processor with 2.5GHz, 4MB L2 cache and 1600MT/s dual channel DDR3 memory interface. Processor TDP 25W.
conga-TS77/i7-3517UE	046503	COM Express Type 6 Basic modul with quad-core Intel® Core™ i7-3517UE processor with 2.3GHz, 6MB L2 cache and 1600MT/s dual channel DDR3 memory interface. Processor TDP 17W.
conga-TS77/i5-3610ME	046504	COM Express Type 6 Basic modul with dual-core Intel® Core™ i5-3610ME processor with 2.7GHz, 3MB L2 cache and 1600MT/s dual channel DDR3 memory interface. Processor TDP 35W.
DDR3-SODIMM (1GB)	068750	DDR3-SODIMM memory module with 1 GB RAM
DDR3-SODIMM (2GB)	068760	DDR3-SODIMM memory module with 2 GB RAM
DDR3-SODIMM (4GB)	068765	DDR3-SODIMM memory module with 4 GB RAM

Engineering Tools / Accessories		
conga-TEVAL	065800	Evaluation carrier board for Type 6 COM-Express-modules
conga-SBM <sup>2</sup> C-module	014141	SMART Battery Manager Module for COM Express
conga-SBM <sup>2</sup> C-kit	029874	Starterkit to evaluate SBM-Features for COM Express with SMART-Battery Manager Module and cable set
conga-SBM <sup>2</sup> C Licence and Design Kit	025478	SMART Battery Manager Module Design Kit for COM including licence agreement for customer 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
COM-Express-carrierboard-Socket-5	400007	Connector for COM-Express carrier boards, height 5mm, packing unit 4 pieces
COM-Express-carrierboard-Socket-8	400004	Connector for COM-Express carrier boards, height 8mm, packing unit 4 pieces

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