

# COM Express® Basic Type 6 Module

## conga-TS77

Highest Performance COM Express Type 6

3rd Generation Intel® Core™ processor-based platform

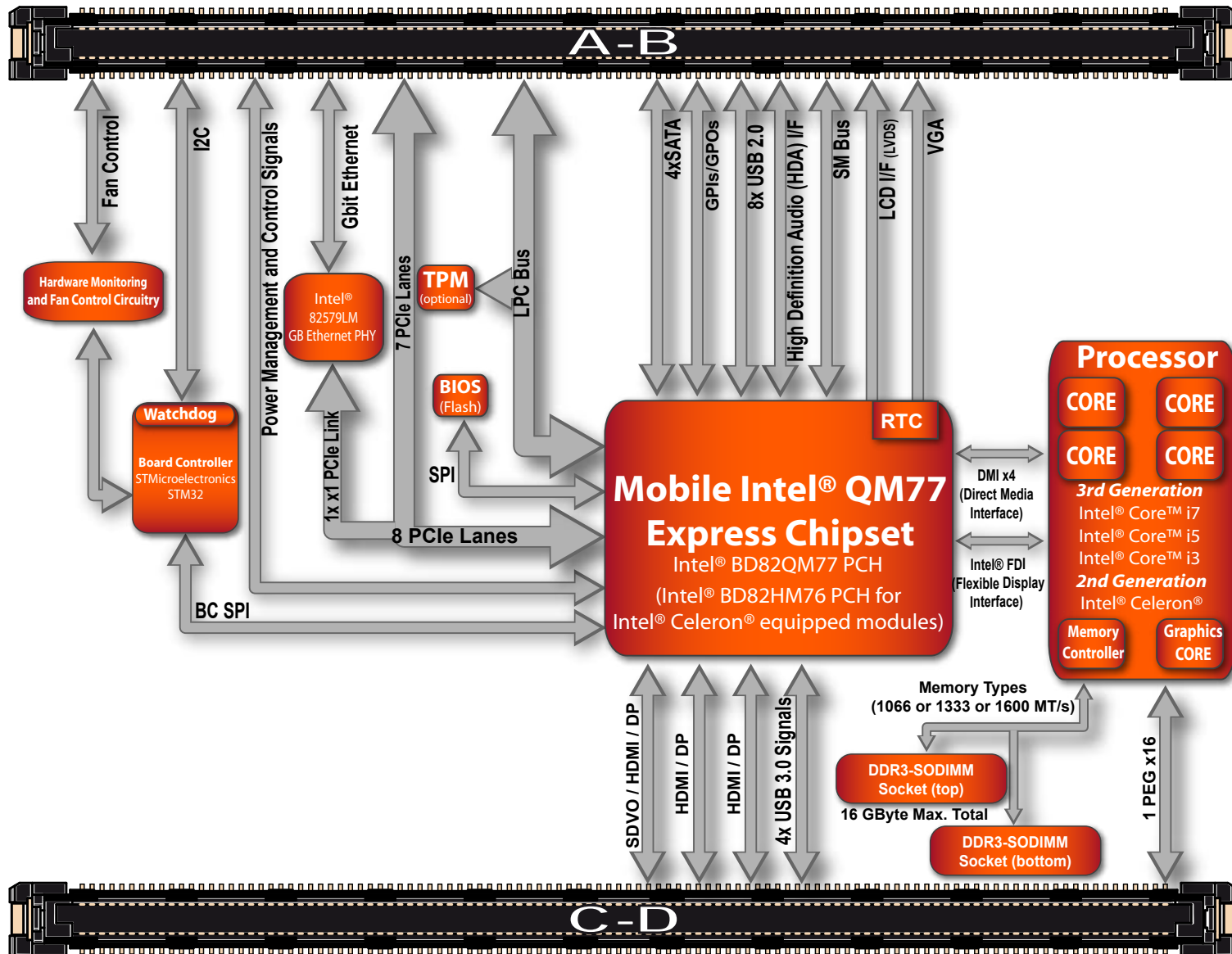
Better transcode HD-HD, HD Video Conferencing

Improved Graphics Performance, DirectX®11



Formfactor	Formfactor COM Express™ Basic, (95 x 125 mm), Type 6 Connector Layout
CPU	Intel® Core™ i7-3615QE (4x 2.3 GHz, 6MB Cache, TDP 45W) Intel® Core™ i7-3612QE (4x 2.1 GHz, 6MB Cache, TDP 35W) Intel® Core™ i7-3555LE (2x 2.5 GHz, 4MB Cache, TDP 25W) Intel® Core™ i7-3517UE (2x 1.7 GHz, 4MB Cache, TDP 17W) Intel® Core™ i5-3610ME (2x 2.7 GHz, 3MB Cache, TDP 35W) Intel® Core™ i3-3120ME (2x 2.4 GHz, 3MB Cache, TDP 35W) Intel® Core™ i3-3217UE (2x 1.6 GHz, 3MB Cache, TDP 17W) Intel® Celeron® 847E (2x 1.1 GHz, 2 MB Cache, 17 W) Intel® Celeron® 827E (1x 1.4 GHz, 1.5 MB Cache, 17 W) Intel® Celeron® 1020E (2x 2.2 GHz, 2 MB Cache, 35 W) Intel® Celeron® 1047UE (2x 1.4 GHz, 2 MB Cache, 17 W) Intel® Celeron® 927UE (1x 1.5 GHz, 1 MB Cache, 17 W) 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
DRAM	2 Sockets, SO-DIMM DDR3 up to 1600MT/s and 16 GByte
Chipset	Mobile Intel® 7 Series Chipset: Intel® BD82QM77 PCH (Intel® BD82HM76 PCH for Intel® Celeron® equipped modules)
Ethernet	Intel® 82579 GbE LAN Controller with AMT 8.0 support
I/O Interfaces	7x PCI Express™ GEN. 2.0 lanes, 1x PEG GEN 3.0 (8GT/s), 2x Serial ATA® with 6 Gb/s, 2x Serial ATA® with 3 Gb/s, 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)
Sound	Digital High Definition Audio Interface with support for multiple audio codecs
Graphics	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
LVDS	Dual channel LVDS transmitter, Supports flat panels 2x24 Bit interface, VESA mappings, resolutions up to 1920x1200, Automatic Panel Detection via EDID/EPI
Digital Display Interface (DDI)	1x SDVO / DisplayPort 1.1 / TMDS (DVI, HDMI) 2x DisplayPort 1.1 / TMDS (DVI, HDMI)
CRT Interface	340.4 MHz RAMDAC, resolutions up to QXGA (2048x1536 @75Hz)
congatec Board Controller	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
Embedded BIOS Features	AMI Aptio® UEFI 2.x firmware, 8 MByte serial SPI firmware flash
Security	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.
Power Management	ACPI 4.0 with battery support
Operating Systems	Microsoft® Windows 8, Microsoft® Windows 7, Linux, Microsoft® Windows® embedded Standard
Power Consumption	Typ. application: tbd., see manual for full details, CMOS Battery Backup
Temperature:	Operating: 0 .. +60°C Storage: -20 .. +80°C
Humidity Operating:	Operating: 10 - 90% r. H. non cond. Storage: 5 - 95% r. H. non cond.
Size	95 x 125 mm (3.74" x 4.92")

# conga-TS77 - Block diagram



# conga-TS77 - Order information

Article	PN	Description
conga-TS77/i7-3615QE	046506	COM Express Type 6 Basic modul with Intel® Core™ i7-3615QE quad core processor with 2.3GHz, 6MB L2 cachea and Processor TDP 45W.
conga-TS77/i7-3612QE	046501	COM Express Type 6 Basic modul with Intel® Core™ i7-3612QE quad core processor with 2.1GHz, 6MB L2 cache andProcessor TDP 35W.
conga-TS77/i7-3555LE	046502	COM Express Type 6 Basic modul with Intel® Core™ i7-3555LE dual core processor with 2.5GHz, 4MB L2 cache and Processor TDP 25W.
conga-TS77/i7-3517UE	046503	COM Express Type 6 Basic modul with Intel® Core™ i7-3517UE dual core processor with 1.7 GHz, 4MB L2 cache and Processor TDP 17W.
conga-TS77/i5-3610ME	046504	COM Express Type 6 Basic modul with Intel® Core™ i5-3610ME dual core processor with 2.7GHz, 3MB L2 cache and Processor TDP 35W.
conga-TS77/i3-3120ME	046507	COM Express Type 6 Basic module with Intel® Core™ i3-3120ME dual core processor with 2.4GHz, 3MB L2 cache and Processor TDP 35W.
conga-TS77/i3-3217UE	046505	COM Express Type 6 Basic module with Intel® Core™ i3-3217UE dual core processor with 1.6GHz, 3MB L2 cache and Processor TDP 17W.
conga-TS77/827E	046508	COM Express Type 6 Basic module with Intel® Celeron™ 827E single core processor with 1.4GHz and 1.5MB L3 cache.
conga-TS77/847E	046509	COM Express Type 6 Basic module with Intel® Celeron™ 847E dual core processor with1.1GHz and 2MB L2 cache.
conga-TS77/1020E	046511	COM Express Type 6 Basic module with Intel® Celeron™ 1020E dual core processor with 2.2GHz and 2MB L2 cache.
conga-TS77/1047UE	046510	COM Express Type 6 Basic module with Intel® Celeron™ 1047UE dual core processor with 1.4GHz and 2MB cache.
conga-TS77/927UE	046512	COM Express Type 6 Basic module with Intel® Celeron™ 927UE single core processor with 1.5GHz, 1MB cache and without PEG port.
conga-TS67/HSP-HP-B	046450	Standard heatspreader for conga-TS77 with integrated heat pipes. 2.7mm bore hole standoffs.
conga-TS67/HSP-HP-T	046451	Standard heatspreader for conga-TS77 with integrated heat pipes. M2.5mm thread standoffs.
conga-TS67/CSP-HP-B	046452	Standard passive cooling solution for conga-TS77 with integrated heat pipes, 15mm silver fins and 20mm overall heat sink height. All standoffs are with 2.7mm bore hole.
conga-TS67/CSP-HP-T	046453	Standard passive cooling solution for conga-TS67 and TS77 with integrated heat pipes, 15mm silver fins and 20mm overall heat sink height. All standoffs are M2.5mm thread.
conga-TS67/CSA-HP-B	046454	Standard active cooling solution for conga-TS77 with integrated heat pipes, 15mm silver fins, 20mm overall heat sink height and integrated 12V fan. All standoffs are with 2.7mm bore hole.
conga-TS67/CSA-HP-T	046455	Standard active cooling solution for conga-TS77 with integrated heat pipes, 15mm silver fins, 20mm overall heat sink height and integrated 12V fan. All standoffs are M2.5mm thread.
DDR3L-SODIMM-1600 (2GB)	068755	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 2GB RAM
DDR3L-SODIMM-1600 (4GB)	068756	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 4GB RAM
DDR3L-SODIMM-1600 (8GB)	068757	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 8GB RAM

## Engineering Tools / Accessories for COM Express\*

conga-TEVAL	065800	Evaluation carrier board for Type 6 COM-Express-modules
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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