

# FAST AND COMPACT

# conga-TC170



- 6<sup>th</sup> Generation Intel® Core™ SOC processor
- Intel® Gen9 HD Graphics with HEVC (H.265) support
- Low power consumption (TDP 15W, cTDP 8.5W)
- Up to 32 GByte dual channel DDR4 memory
- COM Express Compact Type 6 module 95x95 mm<sup>2</sup>

**COM**  **Express®**

Formfactor	COM Express® Compact, (95 x 95 mm), Type 6 Connector Pinout					
CPU	Intel® Core™ i7-6600U	2.6 GHz Dual Core	Turbo Boost 3.4 GHz	4 MB Cache	TDP 15W	GT2
	Intel® Core™ i5-6300U	2.4 GHz Dual Core	Turbo Boost 3.0 GHz	3 MB Cache	TDP 15W	GT2
	Intel® Core™ i3-6100U	2.3 GHz Dual Core		3 MB Cache	TDP 15W	GT2
	Intel® Celeron® 3955U	2.0 GHz Dual Core		2 MB Cache	TDP 15W	GT1
	Intel® Turbo Boost Technology   Intel® Hyper-Threading Technology (HT)   Intel® Advanced Vector Extensions 2.0 (AVX2) Intel® Advanced Encryption Standard New Instructions (AES-NI)   Integrated dual channel memory controller up to 34,1 GByte/sec. memory bandwidth   Integrated Intel® Gen9 HD Graphics with frequency up to 1.05 GHz   Intel® Clear Video HD Technology   Intel® Virtualization Technology (VT)   Intel® Trusted Execution Technology (TXT)   Intel® Secure Key					
DRAM	2 Sockets, SO-DIMM DDR4 up to 2133 MT/s and 32 GByte dual channel					
Chipset	Integrated PCH-LP					
Ethernet	Intel® i219-LM GbE LAN Controller with AMT 11 support					
I/O Interfaces	8x PCI Express GEN. 3.0 lanes   3x Serial ATA® Gen 3   4x USB 3.0 (XHCI)   8x USB 2.0 (XHCI)   LPC bus (no DMA)   I <sup>2</sup> C bus (fast mode, 400 kHz, multi-master)   2x UART					
Sound	Digital High Definition Audio Interface with support for multiple audio codecs					
Graphics	Intel® Gen9 HD Graphics Engine with OpenCL 2.0, OpenGL 4.3 and DirectX12 (for Windows 10) support   up to three independent displays: HDMI 1.4a / DisplayPort 1.2 / eDP 1.3   High performance hardware MPEG-2 decoding   WMV9 (VC-1) and H.265 (HEVC) support Blu-ray support @ 40 MBit/s   HEVC, VP8, VP9 and VDENC encoding					
LVDS (eDP optional)	Dual channel LVDS transmitter, Supports flat panels 2x24 Bit interface   VESA and openLDI colour mappings   resolutions up to 1920x1200 Automatic Panel Detection via EDID/EPI					
Digital Display Interface (DDI)	2x TMDS (HDMI) / DisplayPort 1.2 with support for Multi-Stream Transport (MST)   resolutions up to 4k   VGA (optional)					
congatec Board Controller	Multi Stage Watchdog   non-volatile User Data Storage   Manufacturing and Board Information   Board Statistics   BIOS Setup Data Backup   I <sup>2</sup> C bus (fast mode, 400 kHz, multi-master)   Power Loss Control					
Embedded BIOS Features	AMI Aptio® UEFI 2.x firmware   8/16 MByte serial SPI firmware flash					
Security	The conga-TC170 can be optionally equipped with a discrete "Trusted Platform Module" (TPM 1.2 / 2.0). 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 10   Microsoft® Windows 8.1   Microsoft® Windows 7   Linux   Microsoft® Windows embedded Standard					
Power Consumption	See User's Guide for full details					
Temperature	Operating: 0 .. +60°C Storage: -20 .. +80°C					
Humidity	Operating: 10 - 90% r. H. non cond. Storage: 5 - 95% r. H. non cond.					
Size	95 x 95 mm (3.74" x 3.74")					

# conga-TC170 | Block diagram



# conga-TC170 | Order Information

Article	PN	Description
conga-TC170/i7-6600U	045200	COM Express Type 6 Compact module with Intel® Core™ i7-6600U dual core processor with 2.6GHz, 4MB L2 cache, 2133MT/s dual channel DDR4 memory interface
conga-TC170/i5-6300U	045201	COM Express Type 6 Compact module with Intel® Core™ i5-6300U dual core processor with 2.4GHz, 3MB L2 cache, 2133MT/s dual channel DDR4 memory interface
conga-TC170/i3-6100U	045202	COM Express Type 6 Compact module with Intel® Core™ i3-6100U dual core processor with 2.3GHz, 3MB L2 cache, 2133MT/s dual channel DDR4 memory interface
conga-TC170/3955U	045203	COM Express Type 6 Compact module with Intel® Celeron® 3955U dual core processor with 2.0GHz, 2MB L2 cache, 2133MT/s dual channel DDR4 memory interface
conga-TC87/HSP-B*	046953	Standard heatspreader for COM Express module conga-TC170, all standoffs are with 2.7mm bore hole
conga-TC87/HSP-T*	046954	Standard heatspreader for COM Express module conga-TC170, all standoffs are M 2.5 threaded
conga-TC87/CSP-B*	046951	Standard passive cooling solution for COM Express module conga-TC170, all standoffs are with 2.7mm bore hole
conga-TC87/CSP-T*	046952	Standard passive cooling solution for COM Express module conga-TC170, all standoffs are M 2.5 threaded
DDR4-SODIMM-2400 (4GB)	068790	4 GByte DDR4 SODIMM memory module with 2400 MT/s
DDR4-SODIMM-2400 (8GB)	068791	8 GByte DDR4 SODIMM memory module with 2400 MT/s
DDR4-SODIMM-2400 (16GB)	068792	16 GByte DDR4 SODIMM memory module with 2400 MT/s

\* cooling solutions also for conga-TC170

Article	PN	Description
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
COMe-carrier-socket-5	400007	Connector for COM-Express carrier boards, height 5mm, packing unit 4 pieces
COMe-carrier-socket-8	400004	Connector for COM-Express carrier boards, height 8mm, packing unit 4 pieces

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