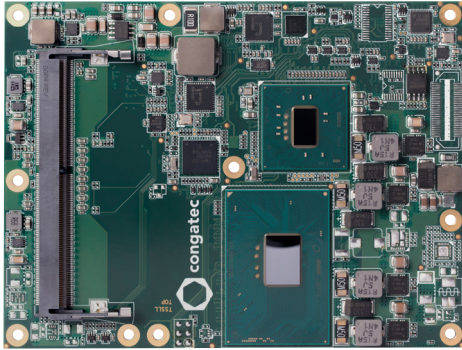


SERVER-CLASS EMBEDDED PERFORMANCE

conga-TS170

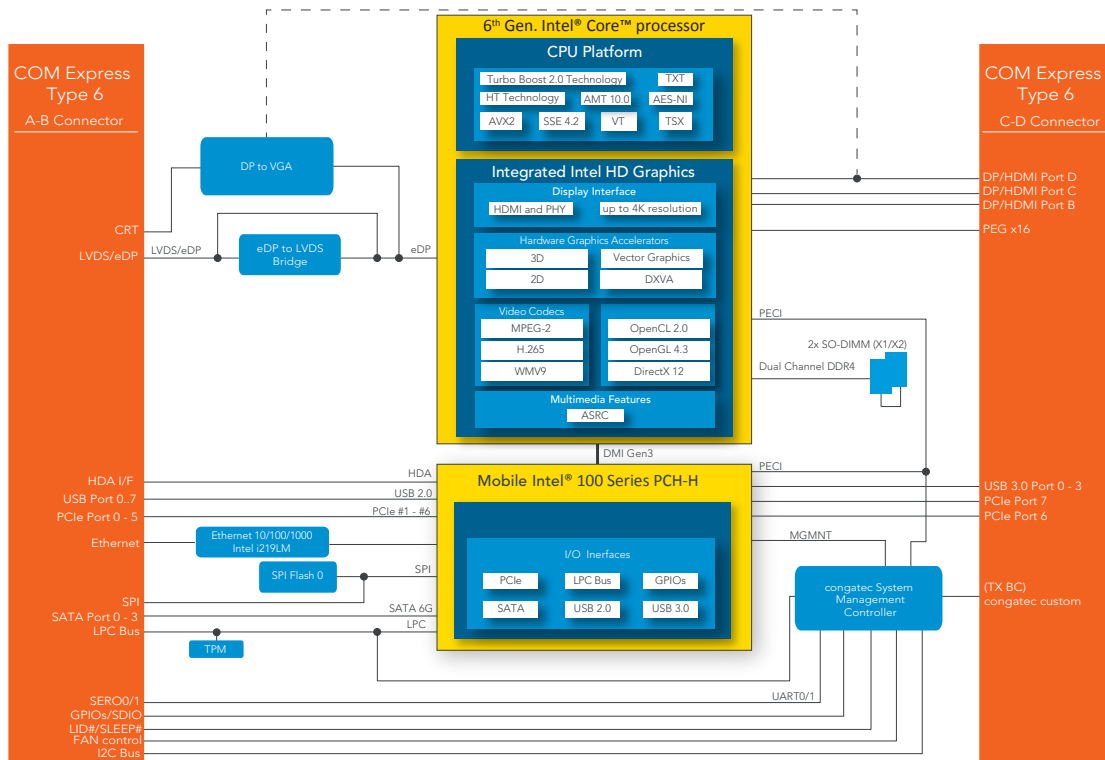


- 6th Generation Intel® Core™ processor
- Intel® Gen9 HD Graphics with HEVC (H.265) support
- ECC memory support
- Up to 32GByte dual channel DDR4 memory
- XEON processors for data center applications



Formfactor	COM Express® Basic, (95 x 125 mm), Type 6 Connector Pinout					
CPU	Intel® Core™ i7-6820EQ	2.8 GHz Quad Core	Turbo Boost 3.5 GHz	8 MB L2 Cache	TDP 45W	GT2
	Intel® Core™ i7-6822EQ	2.0 GHz Quad Core	Turbo Boost 2.8 GHz	8 MB L2 Cache	TDP 25W	GT2
	Intel® Core™ i5-6440EQ	2.7 GHz Quad Core	Turbo Boost 3.4 GHz	6 MB L2 Cache	TDP 45W	GT2
	Intel® Core™ i5-6442EQ	1.9 GHz Quad Core	Turbo Boost 2.7 GHz	6 MB L2 Cache	TDP 25W	GT2
	Intel® Core™ i3-6100E	2.7 GHz Dual Core		3 MB L2 Cache	TDP 35W	GT2
	Intel® Core™ i3-6102E	1.9 GHz Dual Core		3 MB L2 Cache	TDP 25W	GT2
	Intel® Xeon™ E3-1505M V5	2.8 GHz Quad Core	Turbo Boost 3.7 GHz	8 MB L2 Cache	TDP 45W	GT2
	Intel® Xeon™ E3-1505L V5	2.0 GHz Quad Core	Turbo Boost 2.8 GHz	8 MB L2 Cache	TDP 25W	GT2
	Intel® Turbo Boost Technology Intel® Hyper-Threading Technology (Intel® HT Technology) Intel® Advanced Vector Extensions 2.0 (Intel® AVX2) Intel® Advanced Encryption Standard New Instructions (Intel® AES-NI) Integrated dual channel memory controller up to 34,1 GByte/sec. memory bandwidth Integrated Intel® Gen9 HD Graphics with frequency up to 1GHz Intel® Clear Video HD Technology Intel® Virtualization Technology (Intel® VT) Intel® Trusted Execution Technology (Intel® TXT) Intel® Secure Key					
DRAM	2 Sockets, SO-DIMM DDR4 up to 2133 MT/s and 32GByte dual channel					
Chipset	Mobile Intel® 100 Series Chipset					
Ethernet	Intel® i219-LM GbE LAN Controller with AMT 11 support					
I/O Interfaces	8x PCI Express™ GEN. 3.0 lanes 4x Serial ATA® Gen 3 4x USB 3.0 (XHCI) 8x USB 2.0 (XHCI) 1x PEG x16 Gen 3 LPC bus (no DMA) I²C 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 WMMV9 (VC-1) and H.265 (HEVC) support Blu-ray support @ 40 MBit/s HEVC, VP8, VP9 and VDENC encoding					
LVDS	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)	3x TMDS (HDMI) / DisplayPort 1.2 with support for Multi-Stream Transport (MST) resolutions up to 4k 1x eDP 1.3 VGA (optional)					
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 8/16 MByte serial SPI firmware flash					
Security	The conga-TS170 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 125 mm (3.74" x 4.92")					

conga-TS170 | Block diagram



conga-TS170 | Order Information

Article	PN	Description
conga-TS170/i7-6820EQ	045900	COM Express Type 6 Basic module with Intel® Core™ i7-6820EQ quad core processor with 2.8GHz up to 3.5GHz, 8MB L2 cache, GT2 graphics and 2133MT/s dual channel DDR4 memory interface, Chipset QM170
conga-TS170/i7-6822EQ	045901	COM Express Type 6 Basic module with Intel® Core™ i7-6822EQ quad core processor with 2.0GHz up to 2.8GHz, 8MB L2 cache, GT2 graphics and 2133MT/s dual channel DDR4 memory interface, Chipset QM170
conga-TS170/i5-6440EQ	045902	COM Express Type 6 Basic module with Intel® Core™ i5-6440EQ quad core processor with 2.7GHz up to 3.4GHz, 6MB L2 cache, GT2 graphics and 2133MT/s dual channel DDR4 memory interface, Chipset QM170
conga-TS170/i5-6442EQ	045903	COM Express Type 6 Basic module with Intel® Core™ i5-6442EQ quad core processor with 1.9GHz up to 2.7GHz, 6MB L2 cache, GT2 graphics and 2133MT/s dual channel DDR4 memory interface, Chipset QM170
conga-TS170/i3-6100E	045904	COM Express Type 6 Basic module with Intel® Core™ i3-6100E dual core processor with 2.7GHz, 3MB L2 cache, GT2 graphics and 2133MT/s dual channel DDR4 memory interface, Chipset HM170
conga-TS170/i3-6102E	045905	COM Express Type 6 Basic module with Intel® Core™ i3-6102EQ dual core processor with 1.9GHz, 3MB L2 cache, GT2 graphics and 2133MT/s dual channel DDR4 memory interface, Chipset HM170
conga-TS170/i3-6100E ECC	045908	COM Express Type 6 Basic module with Intel® Core™ i3-6100E dual core processor with 2.7GHz, 3MB L2 cache, GT2 graphics and 2133MT/s dual channel DDR4 memory interface, Chipset CM236 with ECC memory support
conga-TS170/i3-6102E ECC	045909	COM Express Type 6 Basic module with Intel® Core™ i3-6102EQ dual core processor with 1.9GHz, 3MB L2 cache, GT2 graphics and 2133MT/s dual channel DDR4 memory interface, Chipset CM236 with ECC memory support
conga-TS170/E3-1505MV5	045906	COM Express Type 6 Basic module with Intel® Xeon™ E3-1505M V5 quad core processor with 2.8GHz up to 3.7GHz, 8MB L2 cache, GT2 graphics and 2133MT/s dual channel DDR4 memory interface, Chipset CM236 with ECC memory support
conga-TS170/E3-1505LV5	045907	COM Express Type 6 Basic module with Intel® Xeon™ E3-1505L V5 quad core processor with 2.0GHz up to 2.8GHz, 8MB L2 cache, GT2 graphics and 2133MT/s dual channel DDR4 memory interface, Chipset CM236 with ECC memory support

conga-TS170 | Accessories

Article	PN	Description
conga-TS67/HSP-HP-B	046450	Standard heatspreader for high performance COM Express modules conga-TS170, conga-TS67 and TS77 with integrated heat pipes. All standoffs are with 2.7mm bore hole
conga-TS67/HSP-HP-T	046451	Standard heatspreader for high performance COM Express modules conga-TS170, conga-TS67 and TS77 with integrated heat pipes. All standoffs are M2.5mm thread
conga-TS67/CSP-HP-B	046452	Standard passive cooling solution for high performance COM Express modules conga-TS170, conga-TS67 and 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 high performance COM Express modules conga-TS170, 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 high performance COM Express modules conga-TS170, conga-TS67 and 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 high performance COM Express modules conga-TS170, conga-TS67 and TS77 with integrated heat pipes 15mm silver fins 20mm overall heat sink height and integrated 12V fan. All standoffs are M2.5mm thread
DDR4-SODIMM-2400 (4GB)	068790	DDR4 SODIMM memory module with 2400 MT/s and 4GB RAM
DDR4-SODIMM-2400 (8GB)	068791	DDR4 SODIMM memory module with 2400 MT/s and 8GB RAM
DDR4-SODIMM-2400 (16GB)	068792	DDR4 SODIMM memory module with 2400 MT/s and 16GB RAM
DDR4-SODIMM-2400 ECC (4GB)	068790	DDR4 ECC SODIMM memory module with 2400 MT/s and 4GB RAM
DDR4-SODIMM-2400 ECC (8GB)	068791	DDR4 ECC SODIMM memory module with 2400 MT/s and 8GB RAM
DDR4-SODIMM-2400 ECC (16GB)	068792	DDR4 ECC SODIMM memory module with 2400 MT/s and 16GB RAM
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-board-socket-5	400007	Connector for COM-Express carrier boards, height 5mm, packing unit 4 pieces
COMe-carrier-board-socket-8	400004	Connector for COM-Express carrier boards, height 8mm, packing unit 4 pieces