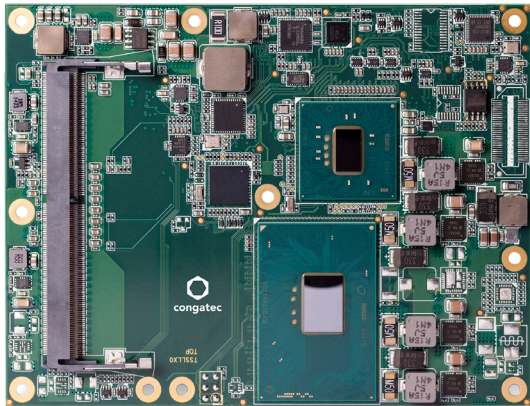


# SERVER-CLASS EMBEDDED PERFORMANCE

# conga-TS175

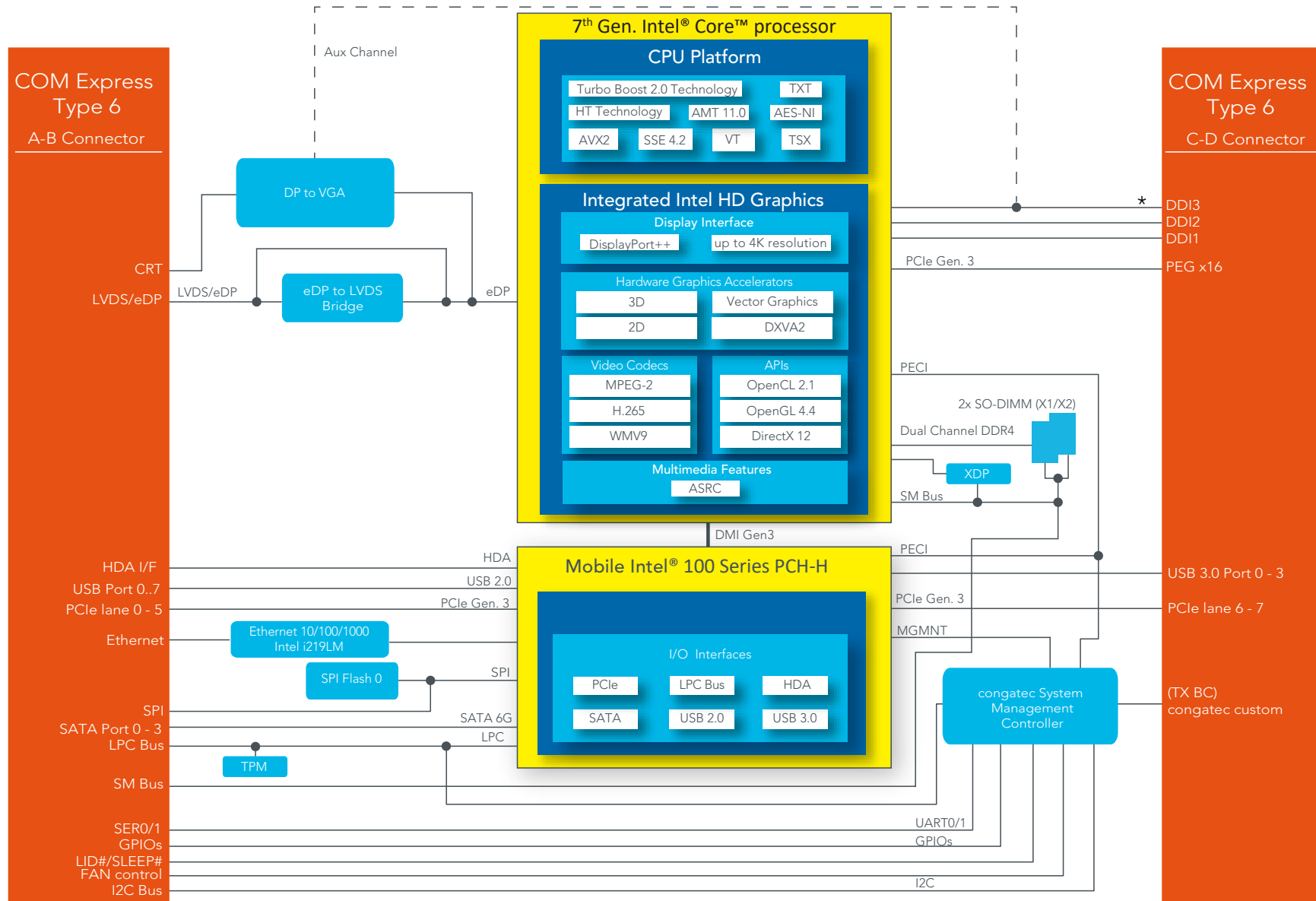


- 7<sup>th</sup> Generation Intel® Core™ processor
- Intel® Xeon® processors for data center applications
- Intel® Optane™ memory can be connected via PCI Express Gen 3.0
- ECC memory support
- Up to 32 GByte dual channel DDR4 memory



Formfactor	COM Express® Basic, (95 x 125 mm), Type 6 Connector Pinout					
CPU	Intel® Xeon® E3-1505M v6	4.0 GHz (Burst)   3.0 GHz Clock	Quad Core	8MB cache	45W / 35W TDP	
	Intel® Xeon® E3-1505L v6	3.0 GHz (Burst)   2.2 GHz Clock	Quad Core	8MB cache	25W TDP	
	Intel® Core™ i7-7820EQ	3.7 GHz (Burst)   3.0 GHz Clock	Quad Core	8MB cache	45W / 35W TDP	
	Intel® Core™ i5-7440EQ	3.6 GHz (Burst)   2.9 GHz Clock	Quad Core	6MB cache	45W / 35W TDP	
	Intel® Core™ i5-7442EQ	2.9 GHz (Burst)   2.1 GHz Clock	Quad Core	6MB cache	25W TDP	
	Intel® Core™ i3-7100E	2.9 GHz Clock	Dual Core	3MB cache	35W TDP	
	Intel® Core™ i3-7102E	2.1 GHz Clock	Dual Core	3MB cache	25W TDP	
	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 2400 MT/s and 32GByte dual channel, optionally with ECC support					
Chipset	Mobile Intel® 100 Series Chipset					
Ethernet	Intel® 219-LM GbE LAN Controller with AMT 11.6 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   I²C bus (fast mode, 400 kHz, multi-master)   2x UART					
Sound	Digital High Definition Audio Interface with support for multiple audio codecs					
Graphics	OpenCL 2.0/2.1, OpenGL 4.4/4.5 and DirectX12 (for Windows 10) support   up to three independent displays: 3x DDI   High performance hardware MPEG-2 decoding   WMV9 (VC-1) and H.265 (HEVC) support Blu-ray support @ 40 MBit/s   HEVC, 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)	3x TMDS/DisplayPort 1.2 with support for Multi-Stream Transport (MST)   resolutions up to 4k   VGA					
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-TS175 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 (64bit only)   Microsoft® Windows 10 IoT Enterprise (64bit only)   Linux					
Power Consumption	See User's Guide for full details					
Temperature	Operating: 0 .. +60°C Storage: -40 .. +85°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-TS175 | Block diagram



\* See manual for limitations.

# conga-TS175 | Order Information

Article	PN	Description
conga-TS175/i7-7820EQ	045950	COM Express Type 6 Basic module with Intel® Core™ i7-7820EQ quad core processor with 3GHz up to 3.7GHz, 8MB Intel® Smart Cache, GT2 graphics and 2400MT/s dual channel DDR4 memory interface (Intel Kaby Lake-H). Chipset QM175 with support for Intel® Optane™ memory.
conga-TS175/i5-7440EQ	045951	COM Express Type 6 Basic modul Intel® Core™ i5-7440EQ quad core processor with 2.9GHz up to 3.6GHz, 6MB Intel® Smart Cache, GT2 graphics and 2400MT/s dual channel DDR4 memory interface (Intel Kaby Lake-H). Chipset QM175 with support for Intel® Optane™ memory.
conga-TS175/i5-7442EQ	045952	COM Express Type 6 Basic module with Intel® Core™ i5-7442EQ quad core processor with 2.1GHz up to 2.9GHz, 6MB Intel® Smart Cache, GT2 graphics and 2400MT/s dual channel DDR4 memory interface (Intel Kaby Lake-H). Chipset QM175 with support for Intel® Optane™ memory.
conga-TS175/i3-7100E	045953	COM Express Type 6 Basic module with Intel® Core™ i3-7100E dual core processor with 2.9GHz, 3MB Intel® Smart Cache, GT2 graphics and 2400MT/s dual channel DDR4 memory interface (Intel Kaby Lake-H). Chipset HM175 with support for Intel® Optane™ memory.
conga-TS175/i3-7102E	045954	COM Express Type 6 Basic module with Intel® Core™ i3-7102E dual core processor with 2.1GHz, 3MB Intel® Smart Cache, GT2 graphics and 2400MT/s dual channel DDR4 memory interface (Intel Kaby Lake-H). Chipset HM175 with support for Intel® Optane™ memory.
conga-TS175/E3-1505MV6	045955	COM Express Type 6 Basic module with Intel® Xeon® E3-1505M V6 quad core processor with 3GHz up to 4GHz, 8MB Intel® Smart Cache, GT2 graphics and 2400MT/s dual channel DDR4 memory interface (Intel Kaby Lake-H). Chipset CM238 with ECC memory support.
conga-TS175/E3-1505LV6	045956	COM Express Type 6 Basic module with Intel® Xeon® E3-1505L V6 quad core processor with 2.2GHz up to 3GHz, 8MB Intel® Smart Cache, GT2 graphics and 2400MT/s dual channel DDR4 memory interface (Intel Kaby Lake-H). Chipset CM238 with ECC memory support.

Article	PN	Description
conga-TS170/HSP-HP-B	045934	Standard heatspreader for high performance COM Express modules conga-TS170/TS175 with integrated heat pipes. All standoffs are with 2.7mm bore hole.
conga-TS170/HSP-HP-T	045935	Standard heatspreader for high performance COM Express modules conga-TS170/TS175 with integrated heat pipes. All standoffs are M2.5mm thread.
conga-TS170/CSP-HP-B	045932	Standard passive cooling solution for high performance COM Express modules conga-TS170/TS175 with integrated heat pipes, 15mm silver fins and 21mm overall heat sink height. All standoffs are with 2.7mm bore hole.
conga-TS170/CSP-HP-T	045933	Standard passive cooling solution for high performance COM Express modules conga-TS170/TS175 with integrated heat pipes, 15mm silver fins and 21mm overall heat sink height. All standoffs are M2.5mm thread.
conga-TS170/CSA-HP-B	045930	Standard active cooling solution for high performance COM Express modules conga-TS170/TS175 with integrated heat pipes, 15mm silver fins, 21mm overall heat sink height and integrated 12V fan. All standoffs are with 2.7mm bore hole.
conga-TS170/CSA-HP-T	045931	Standard active cooling solution for high performance COM Express modules conga-TS170/TS175 with integrated heat pipes, 15mm silver fins, 21mm overall heat sink height and integrated 12V fan. All standoffs are M2.5mm thread.
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
DDR4-SODIMM-2400 ECC (4GB)	068795	4 GByte DDR4 ECC SODIMM memory module with 2400 MT/s
DDR4-SODIMM-2400 ECC (8GB)	068796	8 GByte DDR4 ECC SODIMM memory module with 2400 MT/s
DDR4-SODIMM-2400 ECC (16GB)	068797	16 GByte DDR4 ECC SODIMM memory module with 2400 MT/s
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