FAST AND COMPACT
conga-TC175

- 7th Generation Intel® Core™ SOC processor
- Intel® Gen9 HD Graphics with HEVC (H.265) support
- Intel® Optane™ memory can be connected via PCI Express Gen 3.0
- Low power consumption (TDP 15W, cTDP 7.5W)
- Up to 32 GByte dual channel DDR4 memory
- COM Express Compact Type 6 module 95x95 mm²

Formfactor
COM Express® Compact, (95 x 95 mm), Type 6 Connector Pinout

CPU
- Intel® Core™ i7-7600U 3.9 GHz (Burst)  |  2.8 GHz Clock Dual Core 4MB cache 15W TDP 7.5W cTDP
- Intel® Core™ i5-7300U 3.5 GHz (Burst)  |  2.6 GHz Clock Dual Core 3MB cache 15W TDP 7.5W cTDP
- Intel® Core™ i3-7100U 2.4 GHz Clock Dual Core 3MB cache 15W TDP 7.5W cTDP
- Intel® Celeron® 3965U 2.2 GHz Clock Dual Core 2MB cache 15W TDP 10W cTDP

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 11.6 support

I/O Interfaces
8x PCI Express GEN. 3.0 lanes  |  3x Serial ATA® Gen 3 (can be configured as RAID)  |  4x USB 3.0 (XHCI)  |  8x USB 2.0 (XHCI)  |  LPC bus (no DMA)  |  2x UART

Sound
Digital High Definition Audio Interface with support for multiple audio codecs

Graphics
Intel® Gen9 HD Graphics Engine with OpenCL 2.1, OpenGL 5.0 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, 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 PC 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-TC175 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 10 IoT Enterprise  |  Linux

Power Consumption
See User’s Guide for full details

Temperature
Operating: 0...+60°C  |  Storage: -40...+85°C

Humidity
Operating: 10...95% r. H. non cond.  |  Storage: 5...95% r. H. non cond.

Size
95 x 95 mm (3.74” x 3.74”)

www.congatec.com
### conga-TC175 | Order Information

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<thead>
<tr>
<th>Article</th>
<th>PN</th>
<th>Description</th>
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<tbody>
<tr>
<td>conga-TC175/i7-7600U</td>
<td>045250</td>
<td>COM Express Type 6 Compact module with Intel® Core™ i7-7600U dual core processor with 2.8GHz up to 3.9GHz, 4MB Intel® Smart Cache, GT2 graphics and 2133MT/s dual channel DDR4 memory interface (Intel Kaby Lake-U)</td>
</tr>
<tr>
<td>conga-TC175/i5-7300U</td>
<td>045251</td>
<td>COM Express Type 6 Compact module with Intel® Core™ i5-7300U dual core processor with 2.6GHz up to 3.5GHz, 3MB Intel® Smart Cache, GT2 graphics and 2133MT/s dual channel DDR4 memory interface (Intel Kaby Lake-U)</td>
</tr>
<tr>
<td>conga-TC175/i3-7100U</td>
<td>045252</td>
<td>COM Express Type 6 Compact module with Intel® Core™ i3-7100U dual core processor with 2.4GHz, 3MB Intel® Smart Cache, GT2 graphics and 2133MT/s dual channel DDR4 memory interface (Intel Kaby Lake-U)</td>
</tr>
<tr>
<td>conga-TC175/3965U</td>
<td>045253</td>
<td>COM Express Type 6 Compact module with Intel® Celeron® 3965U dual core processor with 2.2GHz, 2MB Intel® Smart Cache, GT1 graphics and 2133MT/s dual channel DDR4 memory interface (Intel Kaby Lake-U)</td>
</tr>
<tr>
<td>conga-TC170/HSP-B</td>
<td>045230</td>
<td>Standard heatspreader for COM Express modules conga-TC97, TC170 and TC175. All standoffs are with 2.7mm bore hole.</td>
</tr>
<tr>
<td>conga-TC170/HSP-T</td>
<td>045231</td>
<td>Standard heatspreader for COM Express modules conga-TC97, TC170 and TC175. All standoffs are M 2.5 threaded.</td>
</tr>
<tr>
<td>conga-TC170/CSP-B</td>
<td>045232</td>
<td>Standard passive cooling solution for COM Express modules conga-TC97, TC170 and TC175. All standoffs are with 2.7mm bore hole.</td>
</tr>
<tr>
<td>conga-TC170/CSP-T</td>
<td>045233</td>
<td>Standard passive cooling solution for COM Express modules conga-TC97, TC170 and TC175. All standoffs are M 2.5 threaded.</td>
</tr>
<tr>
<td>conga-TC170/CSA-B</td>
<td>045234</td>
<td>Standard active cooling solution for COM Express modules conga-TC97, TC170 and TC175. All standoffs are with 2.7mm bore hole, 15mm fins, 18mm overall heat sink height and integrated 12V fan.</td>
</tr>
<tr>
<td>conga-TC170/CSA-T</td>
<td>045235</td>
<td>Standard active cooling solution for COM Express modules conga-TC97, TC170 and TC175. All standoffs are M 2.5 threaded, 15mm fins, 18mm overall heat sink height and integrated 12V fan.</td>
</tr>
<tr>
<td>DDR4-SODIMM-2400 (4GB)</td>
<td>068790</td>
<td>4 GByte DDR4 SODIMM memory module with 2400 MT/s</td>
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<tr>
<td>DDR4-SODIMM-2400 (8GB)</td>
<td>068791</td>
<td>8 GByte DDR4 SODIMM memory module with 2400 MT/s</td>
</tr>
<tr>
<td>DDR4-SODIMM-2400 (16GB)</td>
<td>068792</td>
<td>16 GByte DDR4 SODIMM memory module with 2400 MT/s</td>
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