## 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

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**Formfactor**

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

<table>
<thead>
<tr>
<th><strong>CPU</strong></th>
<th>3.9 GHz (burst)</th>
<th>2.8 GHz Clock</th>
<th>Dual Core</th>
<th>4MB cache</th>
<th>15W TDP</th>
<th>7.5W cTDP</th>
<th>GT2</th>
<th>520</th>
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<tbody>
<tr>
<td>Intel® Core™ i7-7600U</td>
<td>3.9 GHz (burst)</td>
<td>2.8 GHz Clock</td>
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<td>4MB cache</td>
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<tr>
<td>Intel® Core™ i5-7300U</td>
<td>3.5 GHz (burst)</td>
<td>2.6 GHz Clock</td>
<td>Dual Core</td>
<td>3MB cache</td>
<td>15W TDP</td>
<td>7.5W cTDP</td>
<td>GT2</td>
<td>520</td>
</tr>
<tr>
<td>Intel® Core™ i3-7100U</td>
<td>2.4 GHz Clock</td>
<td>2.2 GHz Clock</td>
<td>Dual Core</td>
<td>2MB cache</td>
<td>15W TDP</td>
<td>7.5W cTDP</td>
<td>GT2</td>
<td>520</td>
</tr>
<tr>
<td>Intel® Celeron® 3965U</td>
<td>2.2 GHz Clock</td>
<td>2.0 GHz Clock</td>
<td>Dual Core</td>
<td>1MB cache</td>
<td>15W TDP</td>
<td>7.5W cTDP</td>
<td>GT2</td>
<td>510</td>
</tr>
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</table>

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

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**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) PC bus (last 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 2.1, 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/EPID

**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 (64bit only) | Fedora 24 | Ubuntu | SuSe | Red Hat Enterprise | Yocto Project v2.2 | Chromium 2 | Wind River VxWorks

**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 95 mm (3.74” x 3.74”)

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www.congatec.com
conga-TC175 | Block diagram

conga-TC175 | Order Information

<table>
<thead>
<tr>
<th>Article</th>
<th>PN</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>conga-TC175/7-7400U</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-TC175/5-7300U</td>
<td>045251</td>
<td>COM Express Type 6 Compact module with Intel® Core™ i5-7500U dual core processor with 3.2GHz 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-TC175/3-7100U</td>
<td>045252</td>
<td>COM Express Type 6 Compact module with Intel® Core™ i3-7100U dual core processor with 2.3GHz up to 3.5GHz, 4MB 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® J3965U dual core processor with 2.4GHz, 2MB Intel® Smart Cache, GT1 graphics and 2133MT/s dual channel DDR4 memory interface (Intel Kaby Lake-U)</td>
</tr>
<tr>
<td>conga-TC87/HSP-B*</td>
<td>046953</td>
<td>Standard heatspreader for COM Express modules conga-TC87, TC97, TC170 and TC175. All standoffs are with 2.7mm bore hole.</td>
</tr>
<tr>
<td>conga-TC87/HSP-T*</td>
<td>046954</td>
<td>Standard heatspreader for COM Express modules conga-TC87, TC97, TC170 and TC175. All standoffs are M 2.5 threaded.</td>
</tr>
<tr>
<td>conga-TC87/CSB-B*</td>
<td>046951</td>
<td>Standard passive cooling solution for COM Express modules conga-TC87, TC97, TC170 and TC175. All standoffs are 2.7mm bored.</td>
</tr>
<tr>
<td>conga-TC87/CSP-T*</td>
<td>046952</td>
<td>Standard passive cooling solution for COM Express modules conga-TC87, TC97, TC170 and TC175. All standoffs are M 2.5 threaded.</td>
</tr>
<tr>
<td>conga-TC87/CSA-B*</td>
<td>046955</td>
<td>Standard active cooling solution for COM Express Compact modules conga-TC87, TC97, TC170 and TC175 with 70m radial FAN. All stand-offs are 2.7mm bored.</td>
</tr>
<tr>
<td>conga-TC87/CSA-T*</td>
<td>046956</td>
<td>Standard active cooling solution for COM Express module conga-TC87, TC97 and TC175 with 70m radial 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>
</tr>
<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>
</tr>
</tbody>
</table>

* cooling solutions also for conga-TC175

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