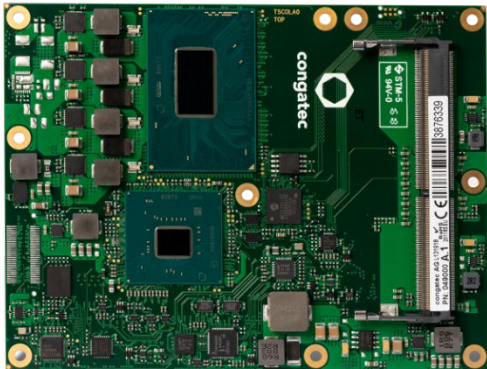


HIGH PERFORMANCE COMPUTING

conga-TS370



- 8th Generation Intel® Core™ processor series with up to 6 cores
- Intel® Xeon® processors for data center applications
- Support for USB 3.1 Gen2 with 10Gb/s
- Up to 64 GByte dual channel DDR4 memory
- ECC memory support

COM  **Express®**

Form factor

COM Express® Basic, (95 x 125 mm) | Type 6 connector pinout

Processor

| | | | | |
|------------------------|---------------------------|---------|-------------|----------------------|
| Intel® Core™ i7-9850HE | 2.7 GHz 4.4 GHz (boost) | 6 cores | 9 MB cache | 45 W TDP (35 W cTDP) |
| Intel® Core™ i7-9850HL | 1.9 GHz 4.1 GHz (boost) | 6 cores | 9 MB cache | 35 W TDP (25 W cTDP) |
| Intel® Core™ i3-9100HL | 1.6 GHz 2.9 GHz (boost) | 4 cores | 6 MB cache | 25 W TDP |
| Intel® Xeon® E-2276ME | 2.8 GHz 4.5 GHz (boost) | 6 cores | 12 MB cache | 45 W TDP (35 W cTDP) |
| Intel® Xeon® E-2276ML | 2.0 GHz 4.2 GHz (boost) | 6 cores | 12 MB cache | 35 W TDP (25 W cTDP) |
| Intel® Xeon® E-2254ME | 2.6 GHz 3.8 GHz (boost) | 4 cores | 8 MB cache | 45 W TDP (35 W cTDP) |
| Intel® Xeon® E-2254ML | 2.7 GHz 4.4 GHz (boost) | 4 cores | 8 MB cache | 35 W TDP (25 W cTDP) |
| Intel® Core™ i7-8850H | 2.6 GHz 4.3 GHz (boost) | 6 cores | 9 MB cache | 45 W TDP (35 W cTDP) |
| Intel® Core™ i5-8400H | 2.5 GHz 4.2 GHz (boost) | 4 cores | 8 MB cache | 45 W TDP (35 W cTDP) |
| Intel® Core™ i3-8100H | 3.0 GHz | 4 cores | 6 MB cache | 45 W TDP (35 W cTDP) |
| Intel® Xeon® E-2176M | 2.7 GHz 4.4 GHz (boost) | 6 cores | 12 MB cache | 45 W TDP (35 W cTDP) |
| Intel® Celeron® G4932E | 1.9 GHz | 2 cores | 2 MB cache | 25 W TDP |
| Intel® Celeron® G4930E | 2.4 GHz | 2 cores | 2 MB cache | 35 W TDP |

Intel® Turbo Boost Technology | Intel® Hyper-Threading Technology | Intel® Advanced Vector Extensions 2.0 (Intel® AVX2) | Intel® Advanced Encryption Standard New Instructions (Intel® AES-NI) | Integrated Intel® Gen 9 HD Graphics | Intel® Clear Video HD Technology | Intel® Virtualization Technology (Intel® VT) | Intel® Trusted Execution Technology (Intel® TXT) | Intel® Secure Key

DRAM

Dual channel DDR4 up to 2666 MT/s | 2x SO-DIMM | up to 2x 32 GByte (optionally with ECC support for Intel® Xeon®)

Chipset

Mobile Intel® PCH-H QM370 series or CM246 series for Intel® Xeon® processor

Ethernet

Intel® i219-LM GbE LAN controller with AMT 12.0 support

I/O Interfaces

8x PCI Express™ Gen 3.0 lanes | 1x PEG x16 Gen 3 | 4x SATA Gen 3 | 4x USB 3.1 Gen 2 @ 10 Gbit/s | 8x USB 2.0 | 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

Intel® Gen9 HD Graphics Engine with OpenCL 2.0, OpenGL 4.3/4.4 and DirectX 11/12 | up to three independent displays: HDMI 1.4a / DisplayPort 1.2 / eDP 1.4 | MPEG-2, WMV9 (VC-1), H.265 decoding | HEVC, VP9 encoding

LVDS / eDP

Dual channel LVDS transmitter, Supports flat panels 2x24 Bit interface | VESA and openLDI color mappings | resolutions up to 1920x1200 | Automatic Panel Detection via EDID/EPI | LVDS or eDP switchable in BIOS setup

Digital Display Interface

3x HDMI 1.4a / DisplayPort 1.2 with support for Multi-Stream Transport (MST) | resolutions up to 4k | VGA support

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 | 32 MByte serial SPI firmware flash

Security

TPM 2.0 Infineon SLB9665

Power Management

ACPI 4.0 with battery support, configurable TDP

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 to +60°C Storage: -40 to +85°C

Extended Temperature

Screening service on request: -25 to +80°C (burn-in & cold-soak)
-40 to +85°C (burn-in & cold-soak)

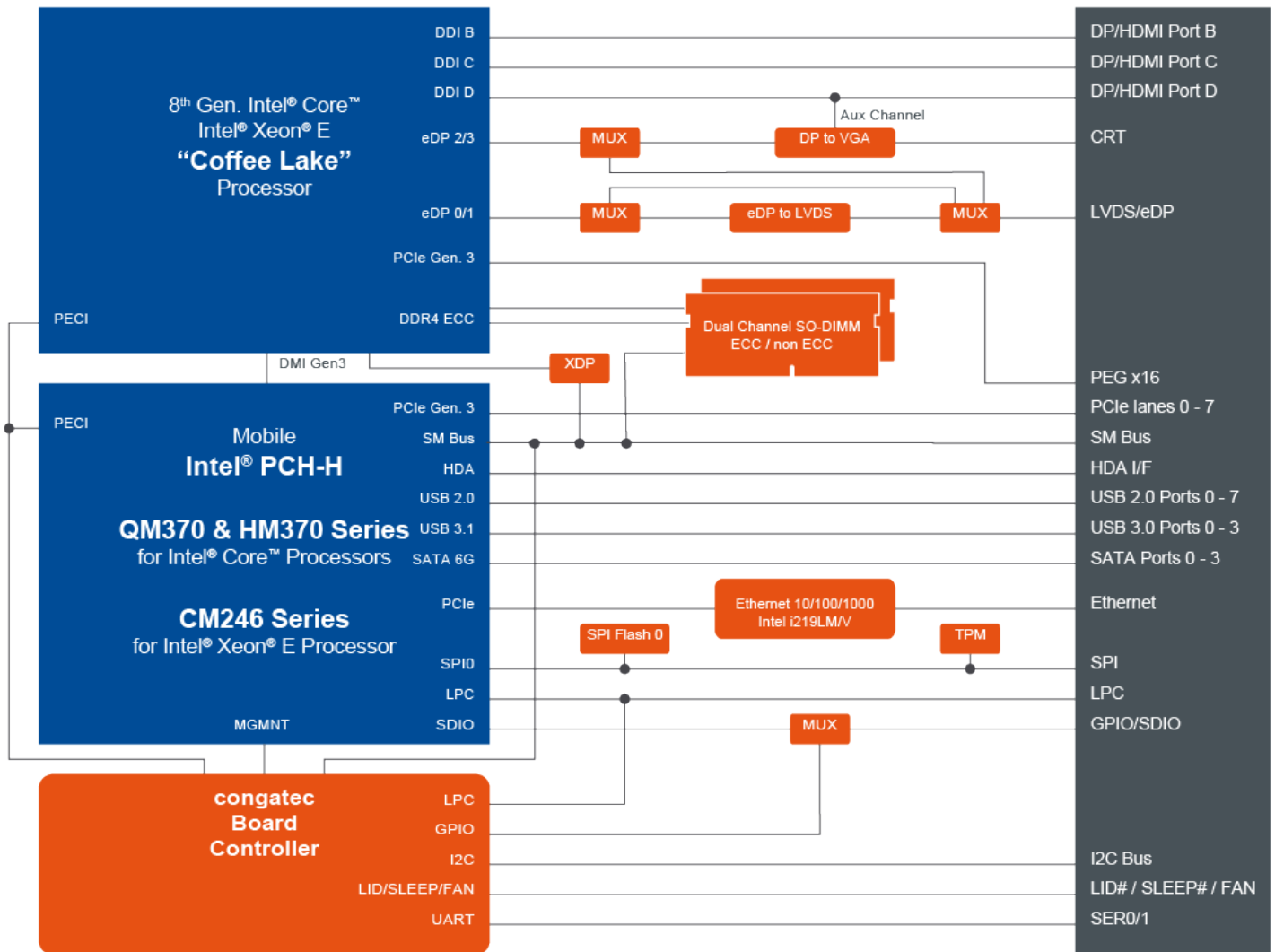
Humidity

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-TS370 | Block Diagram



conga-TS370 | Order Information – COM Express® Module

| Article | PN | Description |
|-----------------------|--------|---|
| conga-TS370/i7-9850HE | 049102 | COM Express Type 6 Basic module based on Intel® Core™ i7-9850HE 6-core processor with 2.7GHz up to 4.4GHz turbo boost, 12MB Intel® Smart Cache, Intel® UHD Graphics 630 and dual channel DDR4 2666 MT/s memory interface (formerly Coffee Lake-H Refresh). Chipset QM370. |
| conga-TS370/i7-9850HL | 049112 | COM Express Type 6 Basic module based on Intel® Core™ i7-9850LE 6-core processor with 1.9GHz up to 4.1GHz turbo boost, 12MB Intel® Smart Cache, Intel® UHD Graphics 630 and dual channel DDR4 2666 MT/s memory interface (formerly Coffee Lake-H Refresh). Chipset QM370. |
| conga-TS370/i3-9100HL | 049113 | COM Express Type 6 Basic module based on Intel® Core™ i3-9100HL 4-core processor with 1.6GHz up to 2.9GHz turbo boost, 12MB Intel® Smart Cache, Intel® UHD Graphics 630 and dual channel DDR4 2666 MT/s memory interface (formerly Coffee Lake-H Refresh). Chipset HM370. |
| conga-TS370/E-2276ME | 049100 | COM Express Type 6 Basic module based on Intel® Xeon® E-2276ME 6-core processor with 2.8GHz up to 4.5GHz turbo boost, 12MB Intel® Smart Cache, Intel® UHD Graphics P630 and dual channel DDR4 2666 MT/s ECC memory interface (formerly Coffee Lake-H Refresh). Chipset CM246. |
| conga-TS370/E-2276ML | 049110 | COM Express Type 6 Basic module based on Intel® Xeon® E-2276ML 6-core processor with 2.0GHz up to 4.2GHz turbo boost, 12MB Intel® Smart Cache, Intel® UHD Graphics P630 and dual channel DDR4 2666 MT/s ECC memory interface (formerly Coffee Lake-H Refresh). Chipset CM246. |
| conga-TS370/E-2254ME | 049101 | COM Express Type 6 Basic module based on Intel® Xeon® E-2254ME 4-core processor with 2.6GHz up to 3.8GHz turbo boost, 8MB Intel® Smart Cache, Intel® UHD Graphics P630 and dual channel DDR4 2666 MT/s ECC memory interface (formerly Coffee Lake-H Refresh). Chipset CM246. |
| conga-TS370/E-2254ML | 049111 | COM Express Type 6 Basic module based on Intel® Core™ E-2254ML 4-core processor with 1.7GHz up to 3.5GHz turbo boost, 8MB Intel® Smart Cache, Intel® UHD Graphics P630 and dual channel DDR4 2666 MT/s ECC memory interface (formerly Coffee Lake-H Refresh). Chipset CM246. |
| conga-TS370/G4930E | 049104 | COM Express Type 6 Basic module based on Intel® Celeron® Processor G4930E 2-core processor with 2.4GHz, 2MB Intel® Smart Cache, Intel® UHD Graphics 610 and dual channel DDR4 2400 MT/s memory interface (formerly Coffee Lake-H Refresh). Chipset HM370. |
| conga-TS370/G4932E | 049114 | COM Express Type 6 Basic module based on Intel® Celeron® Processor G4832E 2-core processor with 1.9GHz, 2MB Intel® Smart Cache, Intel® UHD Graphics 610 and dual channel DDR4 2400 MT/s memory interface (formerly Coffee Lake-H Refresh). Chipset HM370. |
| conga-TS370/i7-8850H | 049000 | COM Express Type 6 Basic module based on Intel® Core™ i7-8850H 6-core processor with 2.6GHz up to 4.3GHz turbo boost, 9MB Intel® Smart Cache, Intel® UHD Graphics 630 and dual channel DDR4 2666 MT/s memory interface (formerly Coffee Lake-H). Chipset QM370. |
| conga-TS370/i5-8400H | 049001 | COM Express Type 6 Basic module based on Intel® Core™ i5-8400H 4-core processor with 2.5GHz up to 4.2GHz turbo boost, 8MB Intel® Smart Cache, Intel® UHD Graphics 630 and dual channel DDR4 2666 MT/s memory interface (formerly Coffee Lake-H). Chipset QM370. |
| conga-TS370/i3-8100H | 049003 | COM Express Type 6 Basic module based on Intel® Core™ i3-8100H 4-core processor with 3.0GHz, 6MB Intel® Smart Cache, Intel® UHD Graphics 630 and dual channel DDR4 2666 MT/s memory interface (formerly Coffee Lake-H). Chipset HM370. |
| conga-TS370/E-2176M | 049002 | COM Express Type 6 Basic module based on Intel® Xeon® E-2176M 6-core processor with 2.7GHz up to 4.4GHz turbo boost, 12MB Intel® Smart Cache, Intel® UHD Graphics P630 and dual channel DDR4 2666 MT/s ECC memory interface (formerly Coffee Lake-H). Chipset CM246. |

conga-TS370 | Order Information – Accessory

| Article | PN | Description |
|-----------------------------|--------|---|
| 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. |
| 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/HSP-HP-B | 045934 | Standard heat spreader 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 heat spreader for high performance COM Express modules conga-TS170/TS175 with integrated heat pipes. All standoffs are M2.5mm thread. |
| DDR4-SODIMM-2666 (4GB) | 067780 | DDR4 SODIMM memory module with 2666 MT/s and 4GB RAM |
| DDR4-SODIMM-2666 (8GB) | 067781 | DDR4 SODIMM memory module with 2666 MT/s and 8GB RAM |
| DDR4-SODIMM-2666 (16GB) | 067782 | DDR4 SODIMM memory module with 2666 MT/s and 16GB RAM |
| DDR4-SODIMM-2666 (32GB) | 068806 | DDR4 SODIMM memory module with 2666 MT/s and 32GB RAM |
| DDR4-SODIMM-2666 ECC (4GB) | 067783 | DDR4 ECC SODIMM memory module with 2666 MT/s and 4GB RAM |
| DDR4-SODIMM-2666 ECC (8GB) | 067784 | DDR4 ECC SODIMM memory module with 2666 MT/s and 8GB RAM |
| DDR4-SODIMM-2666 ECC (16GB) | 067785 | DDR4 ECC SODIMM memory module with 2666 MT/s and 16GB RAM |
| DDR4-SODIMM-2666 ECC (32GB) | 068805 | DDR4 ECC SODIMM memory module with 2666 MT/s and 32GB RAM |