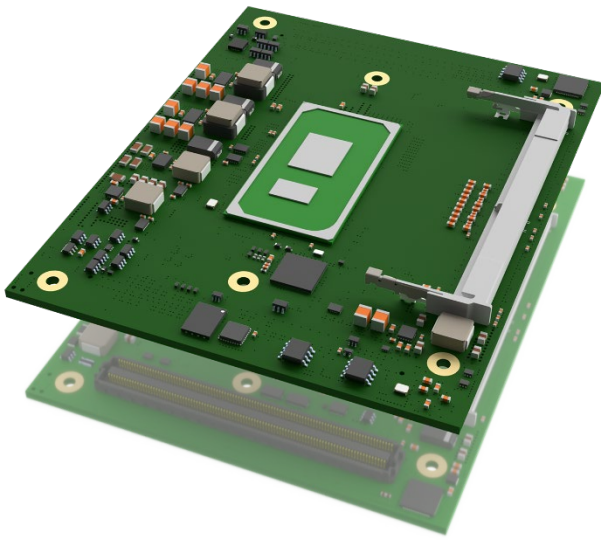


# COM HPC CLIENT MODULE

## conga-HPC/cTLU



- COM HPC Client Size A
- Intel® Tiger Lake-UP3 high performing and low power Intel® Core™ processor
- Embedded/Industrial use condition
- Extended temperature options available
- PCI Express Gen 4
- Integrated high performance Xe (Gen 12) graphics with 96 EU
- AI/DL Instruction Sets including VNNI

COM+HPC™

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                         |                                  |  |  |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------|--|--|
| Formfactor                | COM HPC, Size A (95 x 120 mm), Client Connector Pinout                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                         |                                  |  |  |
| CPU                       | <div>General Embedded Versions</div> <div>Intel® Core™ i7-1185G7E Processor4 Cores / 8 Threads12 MB cacheInt. Graphics with 96 EU12-28W TDP</div> <div>Intel® Core™ i5-1145G7E Processor4 Cores / 8 Threads8 MB cacheInt. Graphics with 80 EU12-28W TDP</div> <div>Intel® Core™ i3-1115G4E Processor2 Cores / 4 Threads6 MB cacheInt. Graphics with 48 EU12-28W TDP</div> <div>Industrial Versions</div> <div>Intel® Core™ i7-1185GRE Processor4 Cores / 8 Threads12 MB cacheInt. Graphics with 96 EU12-28W TDP</div> <div>Intel® Core™ i5-1145GRE Processor4 Cores / 8 Threads8 MB cacheInt. Graphics with 80 EU12-28W TDP</div> <div>Intel® Core™ i3-1115GRE Processor2 Cores / 4 Threads6 MB cacheInt. Graphics with 48 EU12-28W TDP</div> |                         |                                  |  |  |
| DRAM                      | Up to 2 SO-DIMM sockets for DDR4 memory modules up to 32 GByte each (64 GByte total) with 3200 MT/s ECC and non-ECC supported                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                                  |  |  |
| Graphics                  | Integrated Xe (Gen 12) graphics engine with up to 96 EU (Execution Units)   Supporting 4 independent display units (4x 4k/2x 8K)   Enhanced media (AV1/12b) with up to 2 Vdbox   Next Gen IPU6 with DPHY2.1   HDMI 2.0/2.1   DP 1.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                                  |  |  |
| Display                   | 3x DP/HDMI/DP++   1x eDP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                         |                                  |  |  |
| Ethernet                  | 2x 2,5 GbE TSN Ethernet via Intel® i225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                         |                                  |  |  |
| I/O Interfaces            | 4x PCIe Gen4   8x PCIe Gen3<br>2x USB 4.0   2x USB 3.2   8x USB 2.0<br>2x SATA III (6Gb/s)   SPI   2x UART   12x GPIO   2x MIPI-CSI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                                  |  |  |
| Audio                     | 1x I2S   2x Soundwire                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                         |                                  |  |  |
| congatec Board Controller | Multi Stage Watchdog   non-volatile User Data Storage   Manufacturing and Board Information   Board Statistics<br>I²C bus (fast mode, 400 kHz, multi-master)   Power Loss Control   Hardware Health Monitoring   POST Code redirection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                         |                                  |  |  |
| Embedded BIOS Features    | OEM Customization   Flash Update   based on AMI Aptio UEFI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                         |                                  |  |  |
| Security                  | Trusted Platform Module (TPM 2.0)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                         |                                  |  |  |
| Power Management          | ACPI 5.0 with battery support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                                  |  |  |
| Operating Systems         | tbd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                                  |  |  |
| Power Consumption         | See user's guide for full details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                         |                                  |  |  |
| Temperature               | Industrial:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Operating: -40 to +85°C | Storage: -40 to +85°C            |  |  |
|                           | Commercial:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Operating: 0 to +60°C   | Storage: -40 to +85°C            |  |  |
| Humidity                  | Operating: 10 - 90% r. H. non cond.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         | Storage: 5 - 95% r. H. non cond. |  |  |
| Size                      | 95 x 120 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                         |                                  |  |  |

# conga-HPC/cTLU | Order Information

| Article                   | PN     | Description                                                                                                                                                                                                                                                     |
|---------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| conga-HPC/cTLU-i7-1185G7E | 050600 | COM HPC Size A module based on Intel® Core™ i7-1185G7E 4-core processor with 1.8GHz up to 4.4GHz turbo boost, 12MB cache, Intel® Iris® Xe Graphics with 96EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake). Commercial temperature range. |
| conga-HPC/cTLU-i5-1145G7E | 050601 | COM HPC Size A module based on Intel® Core™ i5-1145G7E 4-core processor with 1.5GHz up to 4.1GHz turbo boost, 8MB cache, Intel® Iris® Xe Graphics with 80EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake). Commercial temperature range.  |
| conga-HPC/cTLU-i3-1115G4E | 050602 | COM HPC Size A module based on Intel® Core™ i3-1115G4E 2-core processor with 2.2GHz up to 3.9GHz turbo boost, 6MB cache, Intel® Iris® Xe Graphics with 48EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake). Commercial temperature range.  |
| conga-HPC/cTLU-i7-1185GRE | 050610 | COM HPC Size A module based on Intel® Core™ i7-1185GRE 4-core processor with 1.8GHz up to 4.4GHz turbo boost, 12MB cache, Intel® Iris® Xe Graphics with 96EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake). Industrial temperature range. |
| conga-HPC/cTLU-i5-1145GRE | 050611 | COM HPC Size A module based on Intel® Core™ i5-1145GRE 4-core processor with 1.5GHz up to 4.1GHz turbo boost, 8MB cache, Intel® Iris® Xe Graphics with 80EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake). Industrial temperature range.  |
| conga-HPC/cTLU-i3-1115GRE | 050612 | COM HPC Size A module based on Intel® Core™ i3-1115GRE 2-core processor with 2.2GHz up to 3.9GHz turbo boost, 6MB cache, Intel® Iris® Xe Graphics with 48EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake). Industrial temperature range.  |
| conga-HPC/cTLU-CSA-VC-B   | 050650 | Standard active cooling solution for high performance COM HPC module conga-HPC/cTLU with integrated vapor chamber, 45mm overall heat sink height and integrated 12V fan. All standoffs are with 2.7mm bore hole.                                                |
| conga-HPC/cTLU-CSA-VC-T   | 050651 | Standard active cooling solution for high performance COM HPC module conga-HPC/cTLU with integrated vapor chamber, 45mm overall heat sink height and integrated 12V fan. All standoffs are M2.5mm thread.                                                       |
| conga-HPC/cTLU-CSP-VC-B   | 050652 | Standard passive cooling solution for high performance COM HPC module conga-HPC/cTLU with integrated vapor chamber, 44mm overall heat sink height. All standoffs are with 2.7mm bore hole.                                                                      |
| conga-HPC/cTLU-CSP-VC-T   | 050653 | Standard passive cooling solution for high performance COM HPC module conga-HPC/cTLU with integrated vapor chamber, 44mm overall heat sink height. All standoffs are with M2.5mm thread.                                                                        |
| conga-HPC/cTLU-HSP-VC-B   | 050654 | Standard heatspreader for high performance COM HPC module conga-HPC/cTLU with integrated vapor chamber, 13mm overall heat sink height. All standoffs are with 2.7mm bore hole.                                                                                  |
| conga-HPC/cTLU-HSP-VC-T   | 050655 | Standard heatspreader solution for high performance COM HPC module conga-HPC/cTLU with integrated vapor chamber, 13mm overall heat sink height. All standoffs are with M2.5mm thread.                                                                           |
| conga-HPC/EVAL-Client     | 065600 | Evaluation Carrier Board for COM-HPC Client type Modules.                                                                                                                                                                                                       |



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