# INTEL ICE LAKE-D XEON PROCESSORS

# conga-HPC/sILH

COM-HPC®

- Industrial Use Condition with extended Temperature options
- 48 PCIe Express lanes
- AI Capabilities with Intel® DL boost
- Real Time Capable Platform
- Supporting up to 1 TB DDR4 2933MT/s Memory

| | |
|---|---|
| **Form Factor** | COM-HPC, Size D/E (160 x 160/200 mm), Server Connector Pinout |

**CPU**

| Processor | Cores/ Threads | Base Frequency/max. Turbo | TDP | Cache | Ethernet Bandwidth | Intel Use Condition |
|---|---|---|---|---|---|---|
| Xeon® D-2796TE | 20C/40T | 2.0Ghz/3.1Ghz | 118W | 30MB | 100G | Industrial (Extended Temp) |
| Xeon® D-2775TE | 16C/32T | 2.0Ghz/3.1Ghz | 100W | 25MB | 100G | Industrial (Extended Temp) |
| Xeon® D-2752TER | 12C/24T | 1.8Ghz/2.8Ghz | 77W | 20MB | 50G | Industrial (Extended Temp) |
| Xeon® D-2733NT | 8C/16T | 2.1Ghz/3.2Ghz | 80W | 15MB | 50G | Industrial (Commercial Temp) |
| Xeon® D-2712T | 4C/8T | 1.9Ghz/3.0Ghz | 65W | 15MB | 50G | Industrial (Commercial Temp) |

| | |
|---|---|
| **Chipset** | Integrated in SoC |

**DRAM**

4/8x DIMM sockets for DDR4 memory modules | Max. capacity = 1TB

| Memory Type | DIMM Capacity | Max. DIMM Speed |
|---|---|---|
| RDIMM | 8GB – 64GB | 2933 MT/s |
| LRDIMM | 64GB – 128GB | 2933 MT/s |
| VLP RDIMM | 8GB – 64GB | 2400 MT/s |
| UDIMM (ECC) | 8GB – 32GB | 2666 MT/s |
| UDIMM (Non-ECC) | 4GB – 32GB | 2666 MT/s |

| | |
|---|---|
| **Ethernet** | 1x 2.5GbE TSN Ethernet<br>2x 40G / 4x 25G / 8x 10G/2.5G/1G/100M lanes \| Maximum total bandwidth 100Gb* |
| **I/O Interfaces** | 32x PCIe Gen4 \| 16x PCIe Gen3<br>4x USB 3.0 \| 4x USB 2.0<br>2x SATA III (6Gb/s) \| 2x UART \| 12x GPIO \| 2x SMBus \| 2x I2C |
| **congatec Board controller** | Multi-stage Watchdog \| non-volatile User Data Storage \| Manufacturing and Board Information<br>Board Statistics \| I²C bus (fast mode, 400 kHz, multi-master) \| Power Loss Control<br>Hardware Health Monitoring \| POST Code redirection |
| **Embedded BIOS Feature** | AMI Aptio® UEFI firmware \| 64 Mbyte serial SPI with congatec Embedded BIOS feature \| OEM Logo<br>OEM CMOS Defaults \| Flash Update |
| **Security** | Trusted Platform Module (TPM 2.0) |
| **Power Management** | ACPI 5.0 with battery support |
| **Operating Systems** | Microsoft® Windows 10 \| Microsoft® Windows 10 IoT Enterprise \| Microsoft® Windows IoT 10 Core<br>Linux \| Android \| Yocto \| RTS Hypervisor |

| | | |
|---|---|---|
| **Temperature Range** | Commercial: | Operating Temperature: 0 to +60°C — Storage Temperature: -20 to +80°C* |
| | Industrial: | Operating Temperature: -40 to +80°C* — Storage Temperature: -40 to +80°C* |
| **Humidity** | Operating: | 10 to 90% r. H. non cond. |
| | Storage | 5 to 95% r. H. non cond. |
| **Size** | 160 x 200 mm² (optional 160 x 160 mm²) | |

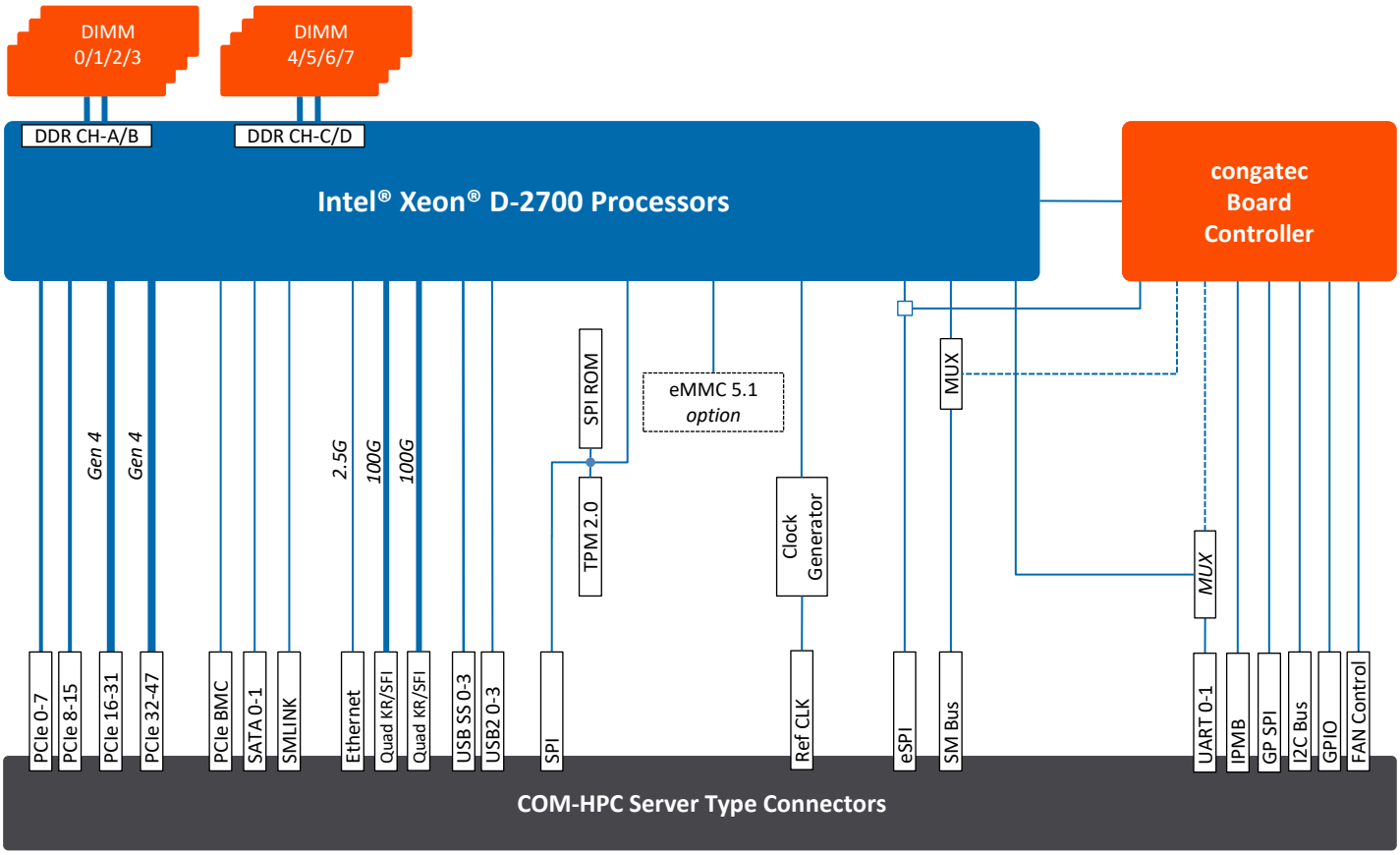
* Depending on CPU

congatec

intel partner Titanium

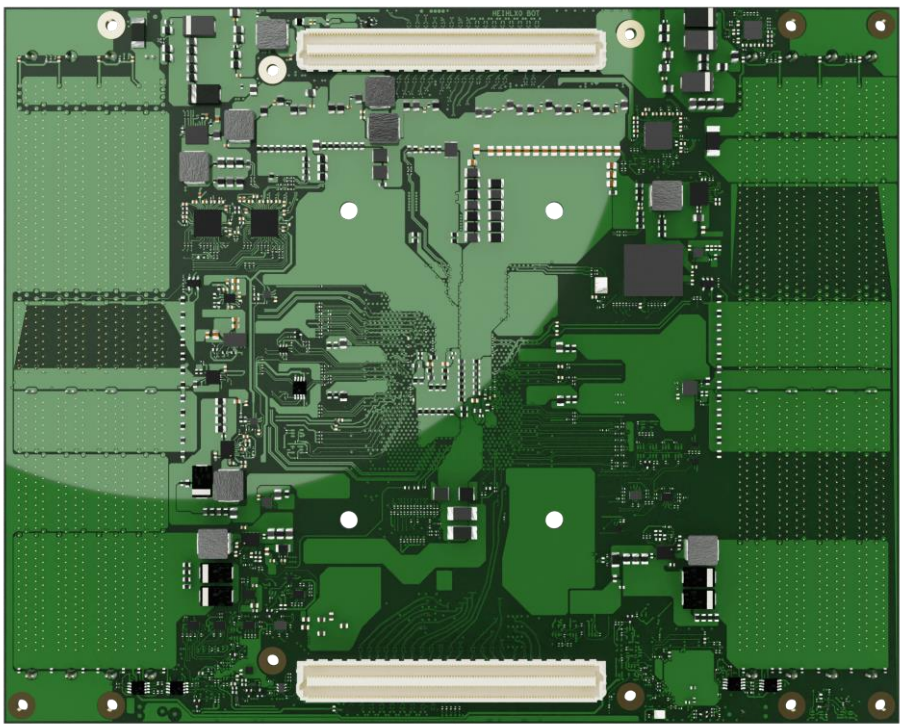
www.congatec.com

# conga-HPC/sILH | Block Diagram




* Maximum total bandwidth 100Gb*

# conga-HPC/sILH | Bottom Side View



congatec

# conga-HPC/sILH | Order Information

| Article | PN | Description |
|---|---|---|
| conga-HPC/sILH-D2796TE | 050900 | COM-HPC Size E module based on Intel® Xeon® D-2796TE 20-core processor with 2.0 GHz, 30MB cache and quad channel DDR4 2933 MT/s memory interface (formerly Ice Lake-D HCC). Industrial temperature range. |
| conga-HPC/sILH-D2775TE | 050901 | COM-HPC Size E module based on Intel® Xeon® D-2775TE 16-core processor with 2.0 GHz, 25MB cache and quad channel DDR4 2933 MT/s memory interface (formerly Ice Lake-D HCC). Industrial temperature range. |
| conga-HPC/sILH-D2752TER | 050902 | COM-HPC Size E module based on Intel® Xeon® D-2752TER 12-core processor with 1.8 GHz, 20MB cache and quad channel DDR4 2666 MT/s memory interface (formerly Ice Lake-D HCC). Industrial temperature range. |
| conga-HPC/sILH-D2733NT | 050910 | COM-HPC Size E module based on Intel® Xeon® D-2733NT 8-core processor with 2.1 GHz, 15MB cache and quad channel DDR4 2666 MT/s memory interface (formerly Ice Lake-D HCC). Commercial temperature range. |
| conga-HPC/sILH-D2712T | 050911 | COM-HPC Size E module based on Intel® Xeon® D-2712T 4-core processor with 1.9 GHz, 15MB cache and quad channel DDR4 2666 MT/s memory interface (formerly Ice Lake-D HCC). Commercial temperature range. |
| | | |
| conga-HPC/sILH-CSA-HP-B | 050950 | Standard active cooling solution for COM-HPC Server modules conga-HPC/sILH with integrated heat pipes, 32.9mm overall cooling height and integrated 12V fan. Through hole mounting with bore hole standoffs Ø2.7mm. |
| conga-HPC/sILH-CSA-HP-T | 050951 | Standard active cooling solution for COM-HPC Server modules conga-HPC/sILH with integrated heat pipes, 32.9mm overall cooling height and integrated 12V fan. Threaded mounting with threaded standoffs M2.5. |
| conga-HPC/sILH-HSP-HP-B | 050952 | Standard heatspreader for COM-HPC Server modules conga-HPC/sILH with integrated heat pipes and 11mm overall cooling height. Through hole mounting with bore hole standoffs Ø2.7mm. |
| conga-HPC/sILH-HSP-HP-T | 050953 | Standard heatspreader for COM-HPC Server modules conga-HPC/sILH with integrated heat pipes and 11mm overall cooling height. Threaded mounting with threaded standoffs M2.5. |
| conga-HPC/sILH-HPA-B | 050954 | Heat pipe Adapter for COM-HPC Server modules conga-HPC/sILH. Suitable for standard 8 mm heat pipes to optimize heat distribution. Through hole mounting with bore hole standoffs Ø2.7mm. |
| conga-HPC/sILH-HPA-T | 050955 | Heat pipe Adapter for COM-HPC Server modules conga-HPC/sILH. Suitable for standard 8 mm heat pipes to optimize heat distribution. Threaded mounting with threaded standoffs M2.5. |
| | | |
| conga-HPC/EVAL-Server | 065500 | conga-HPC/EVAL-Server |