

INTEL ICE LAKE-D XEON PROCESSORS

conga-HPC/sILL



COM+HPC®

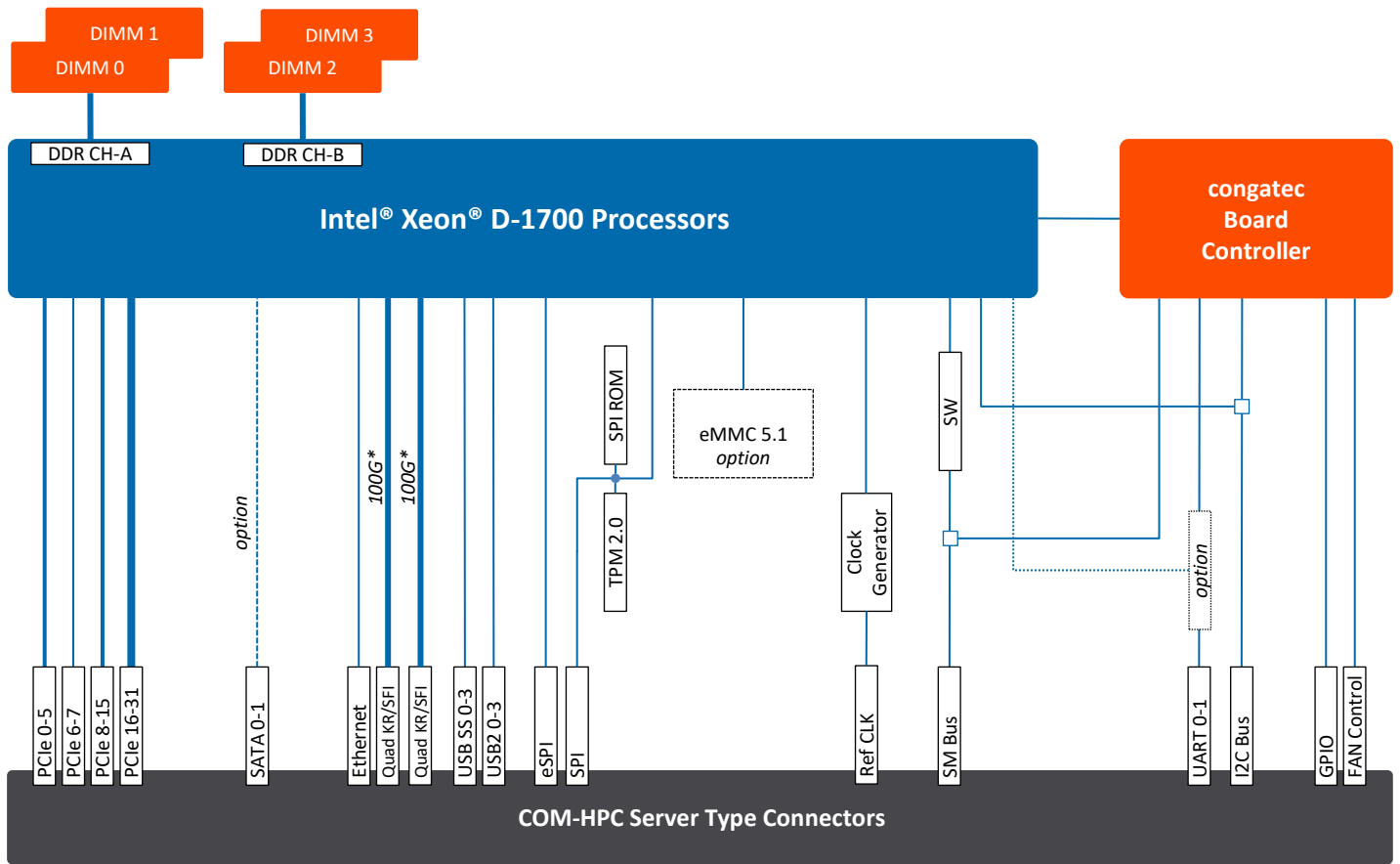
- Industrial Use Condition with extended Temperature options
- 32 PCIe Express lanes
- AI Capabilities with Intel® DL boost
- Real Time Capable Platform
- Supporting up to 256 GB DDR4 2933MT/s* Memory

Form Factor

COM-HPC, Size D (160 x 160 mm), Server Connector Pinout

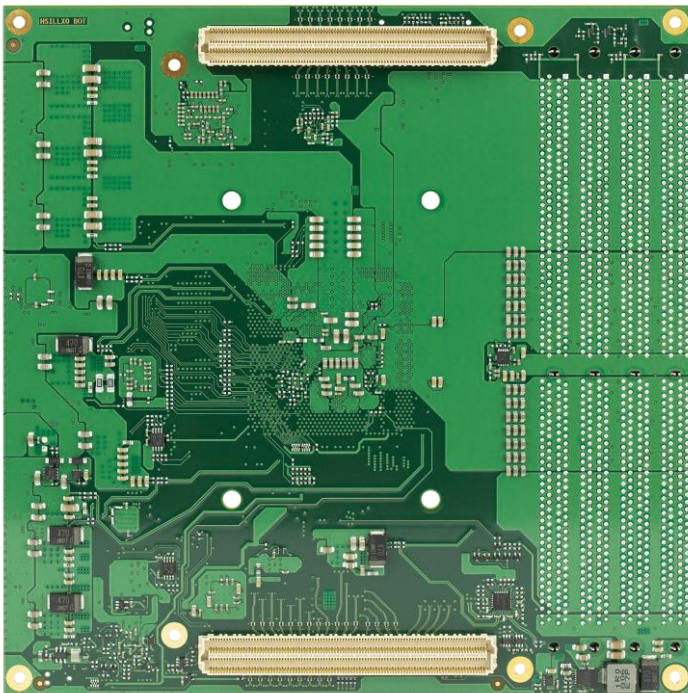
CPU	Processor	Cores/ Threads	Base Frequency/ max. Turbo	TDP	Cache	Ethernet Bandwidth	Intel Use Condition
	Xeon® D-1848TER	10C/20T	2.0GHz/3.1GHz	57W	15MB	100G	Industrial (Industrial Temp -40°C to 85°C)
	Xeon® D-1746TER	10C/20T	2.0GHz/3.1GHz	67W	15MB	100G	Industrial (Industrial Temp -40°C to 85°C)
	Xeon® D-1732TE	8C/16T	1.9GHz/3.0GHz	52W	15MB	50G	Industrial (Industrial Temp -40°C to 85°C)
	Xeon® D-1715TER	4C/8T	2.4GHz/3.5GHz	50W	10MB	50G	Industrial (Extended Temp -40°C to 80°C)
	Xeon® D-1735TR	8C/16T	2.2GHz/3.4GHz	59W	15MB	50G	Industrial (Commercial Temp 0°C to 60°C)
	Xeon® D-1712TR	4C/8T	2.0GHz/3.1GHz	40W	10MB	50G	Industrial (Commercial Temp 0°C to 60°C)
Chipset	Integrated in SoC						
DRAM	4x DIMM sockets for DDR4 memory modules Max. capacity = 256GB						
	Memory Type	DIMM Capacity	Max. DIMM Speed				
	RDIMM	8GB – 64GB	2933 MT/s				
	VLP RDIMM	8GB – 32GB	2666 MT/s				
	UDIMM (ECC)	8GB – 32GB	2666 MT/s				
	UDIMM (Non-ECC)	4GB – 32GB	2666 MT/s				
Ethernet	1x 2.5GbE TSN Ethernet 2x 40G / 4x 25G / 8x 10G/2.5G/1G/100M lanes Maximum total bandwidth 100Gb*						
I/O Interfaces	16x PCIe Gen4 16x PCIe Gen3 4x USB 3.0 4x USB 2.0 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 Board Statistics I ² C bus (fast mode, 400 kHz, multi-master) Power Loss Control Hardware Health Monitoring POST Code redirection						
Embedded BIOS Feature	AMI Aptio® UEFI firmware 64 Mbyte serial SPI with congatec Embedded BIOS feature OEM Logo 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 Linux Android Yocto RTS Hypervisor						
Temperature Range	Commercial:	Operating Temperature: 0 to +60°C			Storage Temperature: -20 to +85°C*		
	Industrial:	Operating Temperature: -40 to +85°C*			Storage Temperature: -40 to +85°C*		
Humidity	Operating:	10 to 90% r. H. non cond.					
	Storage	5 to 95% r. H. non cond.					
Size	160 x 160 mm ² * Depending on CPU						

conga-HPC/sILL | Block Diagram



* Maximum total bandwidth 100Gb*

conga-HPC/sILL | Bottom Side View



conga-HPC/sILL | Order Information

Article	PN	Description
conga-HPC/sILL-D1746TER	050400	COM-HPC Size D module based on Intel® Xeon® D1746TER 10-core processor with 2.0 GHz, 15MB cache and dual channel DDR4 up to 2667 MT/s memory interface (formerly Ice Lake-D LCC). Industrial temperature range from -40°C to 85°C.
conga-HPC/sILL-D1732TE	050401	COM-HPC Size D module based on Intel® Xeon® D1732TE 8-core processor with 1.9 GHz, 15MB cache and dual channel DDR4 up to 2667 MT/s memory interface (formerly Ice Lake-D LCC). Industrial temperature range from -40°C to 85°C.
conga-HPC/sILL-D1715TER	050402	COM-HPC Size D module based on Intel® Xeon® D1715TER 4-core processor with 2.4 GHz, 10MB cache and dual channel DDR4 up to 2667 MT/s memory interface (formerly Ice Lake-D LCC). Extended temperature range from -40°C to 80°C.
conga-HPC/sILL-D1735TR	050410	COM-HPC Size D module based on Intel® Xeon® D1735TR 8-core processor with 2.2 GHz, 15MB cache and dual channel DDR4 up to 2933 MT/s memory interface (formerly Ice Lake-D LCC). Commercial temperature range from 0°C to 60°C.
conga-HPC/sILL-D1712TR	050411	COM-HPC Size D module based on Intel® Xeon® D1712TR 4-core processor with 2.0 GHz, 10MB cache and dual channel DDR4 up to 2400 MT/s memory interface (formerly Ice Lake-D LCC). Commercial temperature range from 0°C to 60°C.
conga-HPC/sILL-D1848TER	050412	COM-HPC Size D module based on Intel® Xeon® D1746TER 10-core processor with 2.0 GHz, 15MB cache and dual channel DDR4 up to 2667 MT/s memory interface (formerly Ice Lake-D LCC). Industrial temperature range from -40°C to 85°C.
conga-HPC/sILL-CSA-HP	050450	Standard active cooling solution for COM-HPC Server modules conga-HPC/sILL with integrated heat pipes, 35.2mm overall cooling height and integrated 12V fan.
conga-HPC/sILL-CSP-HP	050451	Standard passive cooling solution for COM-HPC Server modules conga-HPC/sILL with integrated heat pipes, 18.2mm overall cooling height.
conga-HPC/sILL-HSP-HP-B	050452	Standard heatspreader for COM-HPC Server modules conga-HPC/sILL with integrated heat pipes and 11mm overall cooling height. Through hole mounting with bore hole standoffs Ø2.7mm.
conga-HPC/sILL-HSP-HP-T	050453	Standard heatspreader for COM-HPC Server modules conga-HPC/sILL with integrated heat pipes and 11mm overall cooling height. Threaded mounting with threaded standoffs M2.5.
conga-HPC/sILL-HPA	050454	Heat pipe Adapter for COM-HPC Server modules conga-HPC/sILL. Suitable for standard 8 mm heat pipes to optimize heat distribution.
conga-HPC/sILL-Retention Frame	050455	Retention frame for conga-HPC/sILL
conga-HPC/EVAL-Server	065500	conga-HPC/EVAL-Server

conga-HPC/sILL | Order Information - DRAM

Article	PN	Description
DDR4-UDIMM-3200 (16GB)	069000	DDR4 UDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-UDIMM-3200 ECC (16GB)	069003	DDR4 ECC UDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-UDIMM-3200 (16GB) / i-temp	069002	Industrial DDR4 UDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-UDIMM-3200 ECC (16GB) / i-temp	069004	Industrial DDR4 ECC UDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-UDIMM-3200 (32GB)	069001	DDR4 UDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-UDIMM-3200 ECC (32GB)	069006	DDR4 ECC UDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-UDIMM-3200 (32GB) / i-temp	069005	Industrial DDR4 UDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-UDIMM-3200 ECC (32GB) / i-temp	069007	Industrial DDR4 ECC UDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-RDIMM-3200 ECC (16GB)	069200	DDR4 ECC RDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-RDIMM-3200 ECC (16GB) / i-temp	069210	Industrial DDR4 ECC RDIMM memory module with 3200 MT/s and 16GB RAM
DDR4-RDIMM-3200 ECC (32GB)	069220	DDR4 ECC RDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-RDIMM-3200 ECC (32GB) / i-temp	069230	Industrial DDR4 ECC RDIMM memory module with 3200 MT/s and 32GB RAM
DDR4-RDIMM-3200 ECC (64GB)	069240	DDR4 ECC RDIMM memory module with up to 3200 MT/s and 64GB RAM
DDR4-RDIMM-3200 ECC (64GB) / i-temp	069250	Industrial DDR4 ECC RDIMM memory module with 3200 MT/s and 64GB RAM
VLP DDR4-RDIMM-3200 ECC (16GB)	069600	DDR4 ECC VLP RDIMM memory module with up to 3200 MT/s and 16GB RAM
VLP DDR4-RDIMM-3200 ECC (16GB) / i-temp	069610	Industrial DDR4 ECC VLP RDIMM memory module with up to 3200 MT/s and 16GB RAM
VLP DDR4-RDIMM-3200 ECC (32GB)	069620	DDR4 ECC VLP RDIMM memory module with up to 3200 MT/s and 32GB RAM



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