

INTEL ICE LAKE-D XEON PROCESSORS

conga-B7XI



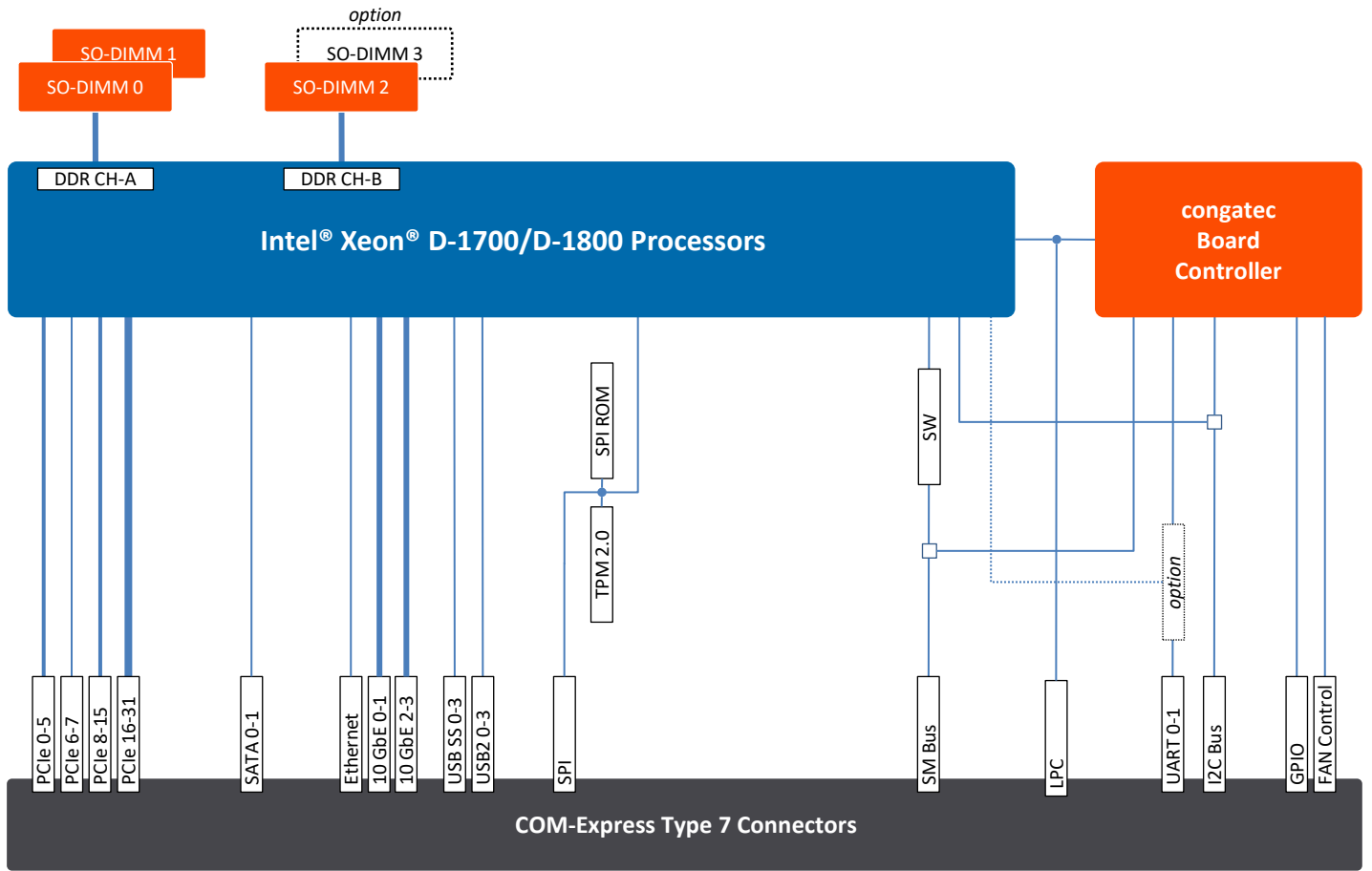
COM Express®

- Industrial Use Condition with extended Temperature options
- 32 PCIe Express lanes
- AI Capabilities with Intel® DL boost
- Real Time Capable Platform
- Supporting up to 128 GB DDR4 2666MT/s Memory

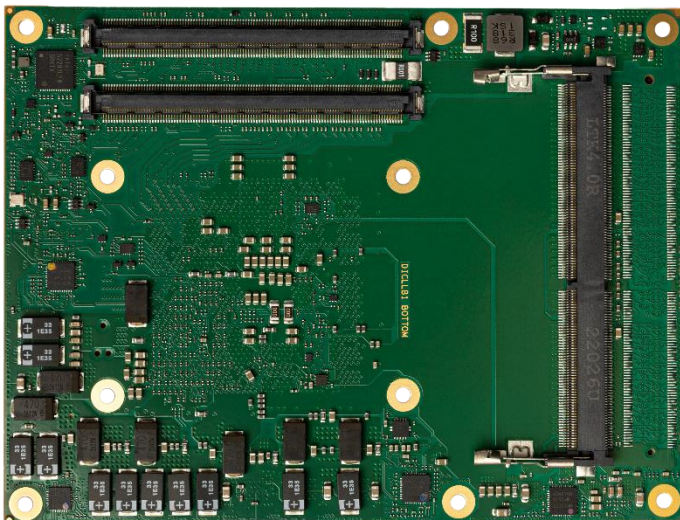
Form Factor	COM Express® Basic, (125 x 95 mm) Type 7 connector pinout					
CPU	Processor	Cores/Threads	Base Frequency	TDP	Cache	Intel Use Condition
	Xeon® D-1848TER	10C/20T	2.0GHz	57W	15MB	Industrial (Industrial Temp -40°C to 85°C)
	Xeon® D-1746TER	10C/20T	2.0GHz	67W	15MB	Industrial (Industrial Temp -40°C to 85°C)
	Xeon® D-1732TE	8C/16T	1.9GHz	52W	15MB	Industrial (Industrial Temp -40°C to 85°C)
	Xeon® D-1715TER	4C/8T	2.4GHz	50W	10MB	Industrial (Extended Temp -40°C to 78°C)
	Xeon® D-1735TR	8C/16T	2.2GHz	59W	15MB	Industrial (Commercial Temp 0°C to 60°C)
	Xeon® D-1712TR	4C/8T	2.0GHz	39W	10MB	Industrial (Commercial Temp 0°C to 60°C)
Chipset	Integrated in SoC					
DRAM	Up to 4x SO-DIMM sockets (on request) for DDR4 memory modules up to 32 GByte each (128 GByte total) with 2666 MT/s (optionally with ECC support)					
Ethernet	1x 2.5GbE TSN Ethernet 4x 10GbE supporting CEI/KR/SFI					
I/O Interfaces	16x PCIe Gen4 16x PCIe Gen3 4x USB 3.0 4x USB 2.0 2x SATA III (6Gb/s) SPI 2x UART 8x GPIO					
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	125 x 95 mm ²					

* Depending on CPU

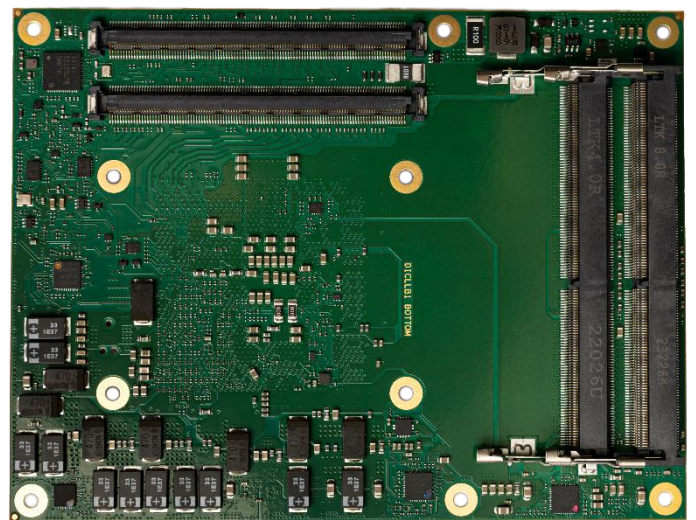
conga-B7XI | Block Diagram



conga-B7XI | Bottom Side View



3x SODIMM sockets



4x SODIMM sockets (PN 050220)

conga-B7XI | Order Information

Article	PN	Description
conga-B7XI/D1746TER	050200	COM Express Revision 3.0 Type 7 Basic module based on Intel® Xeon® D-1746TER 10-core processor with 2.0 GHz, 15MB cache and dual channel DDR4 2666 MT/s memory interface (formerly Ice Lake-D LCC). Industrial temperature range from -40°C to 85°C.
conga-B7XI/D1732TE	050201	COM Express Revision 3.0 Type 7 Basic module based on Intel® Xeon® D-1732TE 8-core processor with 1.9 GHz, 15MB cache and dual channel DDR4 2666 MT/s memory interface (formerly Ice Lake-D LCC). Industrial temperature range from -40°C to 85°C.
conga-B7XI/D1715TER	050202	COM Express Revision 3.0 Type 7 Basic module based on Intel® Xeon® D-1715TER 4-core processor with 2.4 GHz, 10MB cache and dual channel DDR4 2666 MT/s memory interface (formerly Ice Lake-D LCC). Industrial temperature range from -40°C to 78°C.
conga-B7XI/D1735TR	050210	COM Express Revision 3.0 Type 7 Basic module based on Intel® Xeon® D-1735TR 8-core processor with 2.2 GHz, 15MB cache and dual channel DDR4 2666 MT/s memory interface (formerly Ice Lake-D LCC). Commercial temperature range from 0°C to 60°C.
conga-B7XI/D1712TR	050211	COM Express Revision 3.0 Type 7 Basic module based on Intel® Xeon® D-1712TR 4-core processor with 2.0 GHz, 10MB cache and dual channel DDR4 2400 MT/s memory interface (formerly Ice Lake-D LCC). Commercial temperature range from 0°C to 60°C.
conga-B7XI/D1746TER-4S	050220	COM Express Revision 3.0 Type 7 Basic module based on Intel® Xeon® D-1746TER 10-core processor with 2.0 GHz, 15MB cache and dual channel DDR4 2666 MT/s memory interface (formerly Ice Lake-D LCC). Industrial temperature range from -40°C to 85°C. 4x SODIMM sockets.
conga-B7XI/D1848TER-4S	050221	COM Express Revision 3.1 Type 7 Basic module based on Intel® Xeon® D-1848TER 10-core processor with 2.0 GHz, 15MB cache and dual channel DDR4 2666 MT/s memory interface (formerly Ice Lake-D Refresh LCC). Industrial temperature range from -40°C to 85°C. 4x SODIMM sockets.
conga-B7XI/CSA-HP	050250	Standard active cooling solution for COM Express Basic modules conga-B7XI with integrated heat pipes, 39.5mm overall cooling height and integrated 12V fan.
conga-B7XI/CSP-HP	050252	Standard passive cooling solution for COM Express Basic modules conga-B7XI with integrated heat pipes, 23.3mm overall cooling height.
conga-B7XI/HSP-HP-B	050254	Standard heatspreader for COM Express Basic modules conga-B7XI with integrated heat pipes and 11mm overall cooling height. Through hole mounting with bore hole standoffs Ø2.7mm.
conga-B7XI/HSP-HP-T	050255	Standard heatspreader for COM Express Basic modules conga-B7XI with integrated heat pipes and 11mm overall cooling height. Threaded mounting with threaded standoffs M2.5.
conga-B7XI/HPA	050256	Heat pipe Adapter for COM Express Basic modules conga-B7XI. Suitable for standard 8 mm heat pipes to optimize heat distribution.
conga-X7EVAL	065420	Evaluation Carrier Board for COM Express Type 7 modules with up to four 10GbE SFP+ fiber/copper ports implemented via Intel Cortina 10GbE Phy's. The carrier features an Aspeed AST2500 Board Management Controller (BMC).

conga-B7XI | Order Information - DRAM

Article	PN	Description
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
DDR4-SODIMM-2666 (4GB) / i-temp	068819	Industrial DDR4 SODIMM memory module with 2666 MT/s and 4GB RAM
DDR4-SODIMM-2666 (8GB) / i-temp	068820	Industrial DDR4 SODIMM memory module with 2666 MT/s and 8GB RAM
DDR4-SODIMM-2666 (16GB) / i-temp	068821	Industrial DDR4 SODIMM memory module with 2666 MT/s and 16GB RAM
DDR4-SODIMM-2666 (32GB) / i-temp	068807	Industrial DDR4 SODIMM memory module with 2666 MT/s and 32GB RAM
DDR4-SODIMM-2666 ECC (4GB) / i-temp	068822	Industrial DDR4 ECC SODIMM memory module with 2666 MT/s and 4GB RAM
DDR4-SODIMM-2666 ECC (8GB) / i-temp	068823	Industrial DDR4 ECC SODIMM memory module with 2666 MT/s and 8GB RAM
DDR4-SODIMM-2666 ECC (16GB) / i-temp	068824	Industrial DDR4 ECC SODIMM memory module with 2666 MT/s and 16GB RAM
DDR4-SODIMM-2666 ECC (32GB) / i-temp	068808	Industrial DDR4 ECC SODIMM memory module with 2666 MT/s and 32GB RAM