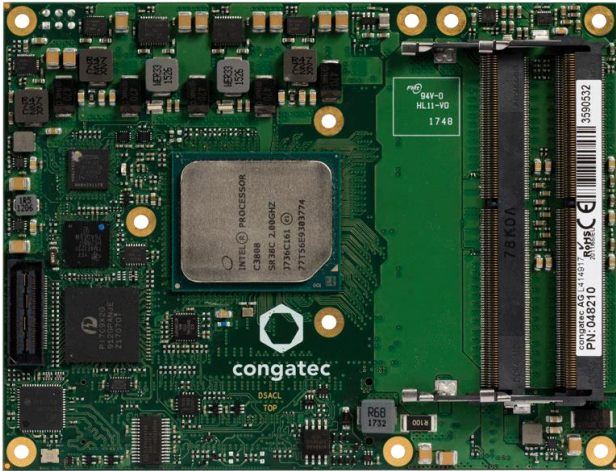


# SERVER ON MODULE

# conga-B7AC



- COM Express Type 7
- Up to Intel® Atom™ C3958 with 16 Cores and 16MB Cache
- 4x 10 Gigabit Ethernet KR Interface
- Up to 96 Gbyte DDR4 memory
- 20 PCI Express lanes
- Industrial grade variants
- Server Class Features (RAS, QoS, Virtualization, Security, Manageability)



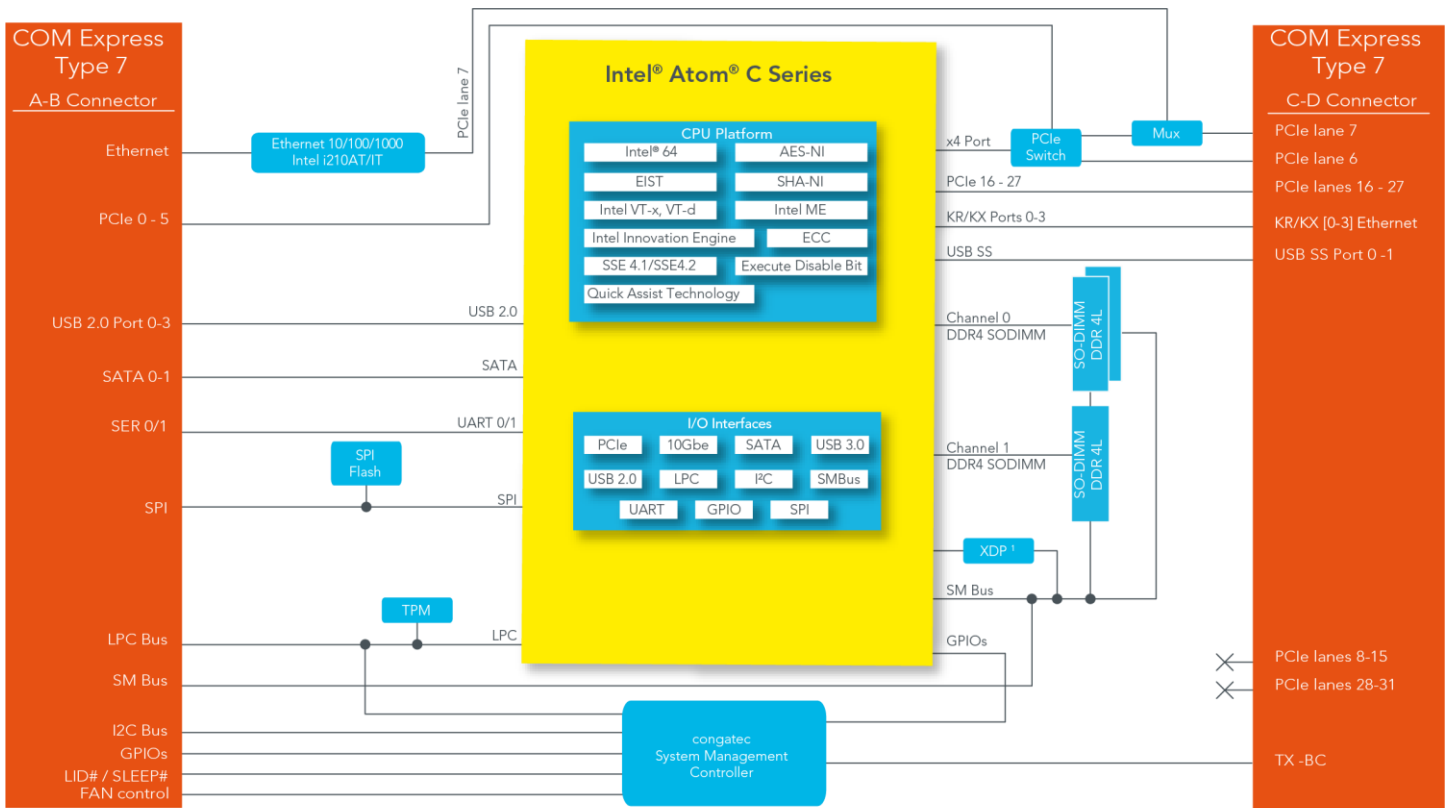
## Formfactor

COM Express® Basic, (95 x 125 mm) | Type 7 connector pinout

<b>CPU</b>	<b>Commercial Versions</b> Intel® Atom™ C3958                      16 Cores / 16 Threads                      2.0 / 2.0 GHz                      16 MB cache                      31W TDP Intel® Atom™ C3858                      12 Cores / 12 Threads                      2.0 / 2.0 GHz                      12 MB cache                      25W TDP Intel® Atom™ C3758                      8 Cores / 8 Threads                      2.2 / 2.2 GHz                      16 MB cache                      25W TDP Intel® Atom™ C3558                      4 Cores / 4 Threads                      2.2 / 2.2 GHz                      8 MB cache                      16W TDP Intel® Atom™ C3538                      4 Cores / 4 Threads                      2.1 / 2.1 GHz                      8 MB cache                      15W TDP Intel® Atom™ C3308                      2 Cores / 2 Threads                      1.6 / 2.1 GHz                      4 MB cache                      9.5W TDP  <b>Industrial Versions</b> Intel® Atom™ C3808                      12 Cores / 12 Threads                      2.0 / 2.0 GHz                      12 MB cache                      25W TDP Intel® Atom™ C3708                      8 Cores / 8 Threads                      1.7 / 1.7 GHz                      16 MB cache                      17W TDP Intel® Atom™ C3508                      4 Cores / 4 Threads                      1.6 / 1.6 GHz                      8 MB cache                      11.5W TDP			
<b>DRAM</b>	Dual channel DDR4 up to 2400 MT/s   3x SO-DIMM   up to 3x 32 GByte (optionally with ECC support)			
<b>Chipset</b>	Integrated in SoC			
<b>Ethernet</b>	Up to 4x 10GbE with KR interface support 1x Gigabit Ethernet			
<b>I/O Interfaces</b>	12x PCIe Gen3 max.   8x PCIe Gen2   2x USB 3.0   4x USB 2.0   2x SATA III (6Gb/s)   LPC   SPI   2x UART   SMBus			
<b>Storage</b>	eMMC 5.0 onboard flash up to 128 GByte (optional)			
<b>congatec Board Controller</b>	Multi Stage Watchdog   non-volatile User Data Storage   Manufacturing and Board Information   Board Statistics   I <sup>2</sup> C bus (fast mode, 400 kHz, multi-master)   Power Loss Control   Hardware Health Monitoring   POST Code redirection			
<b>Embedded BIOS Features</b>	OEM Customization   Flash Update   based on AMI Aptio UEFI			
<b>Security</b>	Trusted Platform Module (TPM 2.0)   Hash and RSA algorithms   key lengths up to 2048 bits   real random number generator			
<b>Power Management</b>	ACPI 5.0 with battery support			
<b>Operating Systems</b>	<b>Windows 64 bit OS</b> Microsoft® Windows Server 2016 Microsoft® Windows Server 2012 R2 Microsoft® Windows Server 2012	<b>Open Source OS &amp; Frameworks</b> RHEL 7.2 & 7.3 SuSE Linux Enterprise Server 12 SP1 Fedora 23 and 24 Ubuntu 16.04 LTS CentOS 7.2	<b>Other</b> VMWare ESXi 6.0 Hyper-V Linux KVM 6.8 & 7.3	
<b>Power Consumption</b>	See user's guide for full details   CMOS Battery Backup			
<b>Temperature</b>	Industrial:      Operating: -40 to +85°C	Storage: -40 to +85°C		
	Commercial:    Operating: 0 to +60°C	Storage: -40 to +85°C		
<b>Extended Temperature</b>	Screening service on request:		-25 to +80°C (burn-in & cold-soak) -40 to +85°C (burn-in & cold-soak)	
<b>Humidity</b>	Operating: 10 - 90% r. H. non cond.		Storage: 5 - 95% r. H. non cond.	
<b>Size</b>	95 x 125 mm (3.74" x 4.92")			



# conga-B7AC | Block diagram



# conga-B7AC | Order Information – COM Express® Module

Article	PN	Description
conga-B7AC/A-C3958	048200	COM Express Type 7 Basic module based on Intel® Atom™ C3958 16-core processor with 2.0 GHz, 16MB Cache and dual channel DDR4 2400 MT/s memory interface for up to 96 GByte (formerly Denverton). Features four 10GbE KR interface ports. Commercial temperature range.
conga-B7AC/A-C3858	048201	COM Express Type 7 Basic module based on Intel® Atom™ C3858 12-core processor with 2.0 GHz, 12MB Cache and dual channel DDR4 2400 MT/s memory interface for up to 96 GByte (formerly Denverton). Features four 10GbE KR interface ports. Commercial temperature range.
conga-B7AC/A-C3758	048202	COM Express Type 7 Basic module based on Intel® Atom™ C3758 8-core processor with 2.2 GHz, 16MB Cache and dual channel DDR4 2400 MT/s memory interface for up to 96 GByte (formerly Denverton). Features four 10GbE KR interface ports. Commercial temperature range.
conga-B7AC/A-C3558	048203	COM Express Type 7 Basic module based on Intel® Atom™ C3558 4-core processor with 2.2 GHz, 8MB Cache and dual channel DDR4 2133 MT/s memory interface for up to 96 GByte (formerly Denverton). Features two 2.5GbE KX and two 10GbE KR interface ports. Commercial temperature range.
conga-B7AC/A-C3538	048204	COM Express Type 7 Basic module based on Intel® Atom™ C3538 4-core processor with 2.1 GHz, 8MB Cache and dual channel DDR4 2133 MT/s memory interface for up to 96 GByte (formerly Denverton). Features two 2.5GbE KX and two 10GbE KR interface ports. Commercial temperature range.
conga-B7AC/A-C3308	048205	COM Express Type 7 Basic module based on Intel® Atom™ C3538 2-core processor with 1.6 GHz, 4MB Cache and dual channel DDR4 2133 MT/s memory interface for up to 64 GByte (formerly Denverton). Features four 2.5GbE KX interface ports. Commercial temperature range.
conga-B7AC/i-A-C3808	048210	COM Express Type 7 Basic module based on Intel® Atom™ C3808 12-core processor with 2.0 GHz, 12MB Cache and dual channel DDR4 2133 MT/s memory interface for up to 96 GByte (formerly Denverton). Features four 10GbE KR interface ports. Industrial temperature range.
conga-B7AC/i-A-C3708	048211	COM Express Type 7 Basic module based on Intel® Atom™ C3708 8-core processor with 1.7 GHz, 16MB Cache and dual channel DDR4 2133 MT/s memory interface for up to 96 GByte (formerly Denverton). Features four 10GbE KR interface ports. Industrial temperature range.
conga-B7AC/i-A-C3508	048213	COM Express Type 7 Basic module based on Intel® Atom™ C3508 4-core processor with 1.6 GHz, 8MB Cache and dual channel DDR4 1866 MT/s memory interface for up to 96 GByte (formerly Denverton). Features four 2.5GbE KX interface ports. Industrial temperature range.

# conga-B7AC | Order Information – Accessory

Article	PN	Description
conga-B7AC/HSP-Cu-B	048251	Standard heatspreader for COM Express Basic Type 7 module conga-B7AC with integrated copper plate. Intended for modules with TDP up to 17W (Cu = Copper plate   B = Bore hole standoffs)
conga-B7AC/HSP-Cu-T	048252	Standard heatspreader for COM Express Basic Type 7 module conga-B7AC with integrated copper plate. Intended for versions up to 17W TDP (Cu = Copper plate   T = M2.5 threaded standoffs)
conga-B7AC/CSA-Cu-B	048253	Standard active cooling solution for COM Express Basic Type 7 module conga-B7AC with integrated copper plate, 15mm fins, 20mm overall heat sink height and integrated 12V fan. (Cu = Copper plate   B = 2.7mm Bore hole standoffs)
conga-B7AC/CSA-Cu-T	048254	Standard active cooling solution for COM Express Basic Type 7 module conga-B7AC with integrated copper plate, 15mm fins, 20mm overall heat sink height and integrated 12V fan. (Cu = Copper plate   T = M2.5 threaded standoffs)
conga-B7AC/CSP-Cu-B	048255	Standard passive cooling solution for COM Express Basic Type 7 module conga-B7AC with integrated copper plate, 15mm fins and 20mm overall heat sink height. (Cu = copper plate   B = Bore hole standoffs)
conga-B7AC/CSP-Cu-T	048256	Standard passive cooling solution for high performance COM Express Basic Type 7 module conga-B7AC with integrated copper plate, 15mm fins and 20mm overall heat sink height. (Cu = copper plate   T = M2.5 Threaded standoffs)
DDR4-SODIMM-2400 (4GB)	068790	DDR4 SODIMM memory module with 2400 MT/s and 4GB RAM
DDR4-SODIMM-2400 (8GB)	068791	DDR4 SODIMM memory module with 2400 MT/s and 8GB RAM
DDR4-SODIMM-2400 (16GB)	068792	DDR4 SODIMM memory module with 2400 MT/s and 16GB RAM
DDR4-SODIMM-2666 (32GB)	068806	DDR4 SODIMM memory module with 2666 MT/s and 32GB RAM
DDR4-SODIMM-2400 ECC (4GB)	068795	DDR4 ECC SODIMM memory module with 2400 MT/s and 4GB RAM
DDR4-SODIMM-2400 ECC (8GB)	068796	DDR4 ECC SODIMM memory module with 2400 MT/s and 8GB RAM
DDR4-SODIMM-2400 ECC (16GB)	068797	DDR4 ECC SODIMM memory module with 2400 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-2400 (4GB)/ i-temp	068714	Industrial DDR4 SODIMM memory module with 2400 MT/s and 4GB RAM
DDR4-SODIMM-2400 (8GB)/ i-temp	068715	Industrial DDR4 SODIMM memory module with 2400 MT/s and 8GB RAM
DDR4-SODIMM-2400 (16GB)/ i-temp	068716	Industrial DDR4 SODIMM memory module with 2400 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-2400 ECC (4GB) / i-temp	068717	Industrial DDR4 ECC SODIMM memory module with 2400 MT/s and 4GB RAM
DDR4-SODIMM-2400 ECC (8GB) / i-temp	068718	Industrial DDR4 ECC SODIMM memory module with 2400 MT/s and 8GB RAM
DDR4-SODIMM-2400 ECC (16GB) / i-temp	068719	Industrial DDR4 ECC SODIMM memory module with 2400 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
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).

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