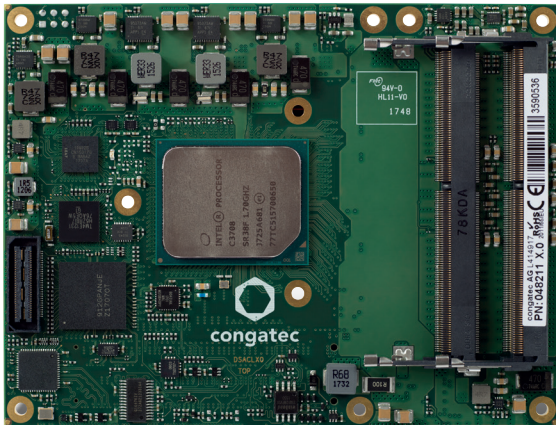


# SERVER ON MODULE

## conga-B7AC

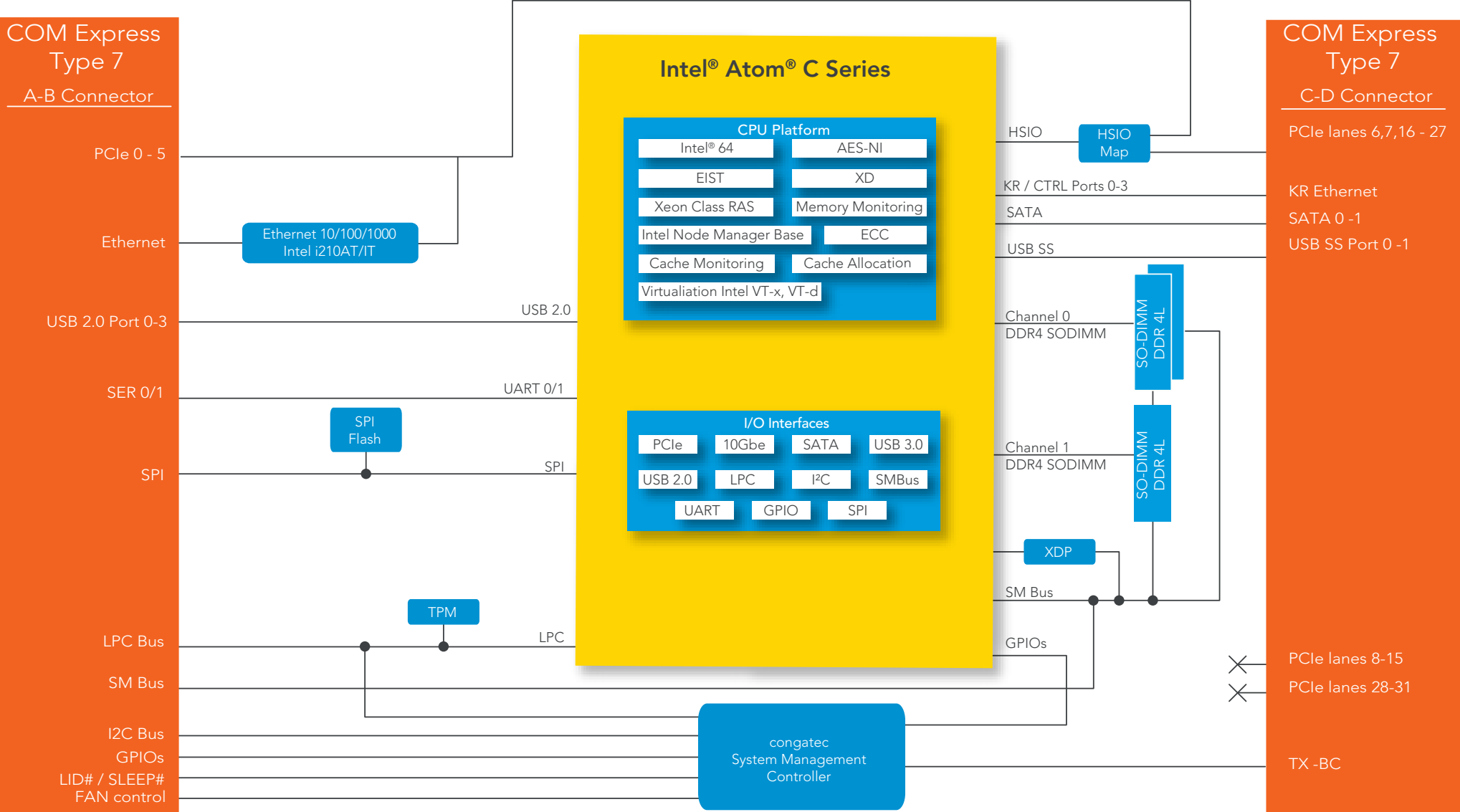


- COM Express Type 7
- Up to Intel® Atom™ C3958 with 16 Cores and 16MB Cache
- 4x 10 Gigabit Ethernet KR Interface
- 20 PCI Express lanes
- Industrial grade variants
- Server Class Features (RAS, QoS, Virtualization, Security, Manageability)

**COM**  **Express®**

Formfactor	Formfactor COM Express® Basic   (95 x 125 mm)   Type 7 Connector Pinout																																										
CPU	<p><b>Commercial versions</b></p> <table border="1"> <tr> <td>Intel® Atom™ C3958</td> <td>2.0 GHz</td> <td>16 Cores</td> <td>16MB cache</td> <td>31W TDP</td> </tr> <tr> <td>Intel® Atom™ C3858</td> <td>2.0 GHz</td> <td>12 Cores</td> <td>12MB cache</td> <td>25W TDP</td> </tr> <tr> <td>Intel® Atom™ C3758</td> <td>2.2 GHz</td> <td>8 Cores</td> <td>16MB cache</td> <td>25W TDP</td> </tr> <tr> <td>Intel® Atom™ C3558</td> <td>2.2 GHz</td> <td>4 Cores</td> <td>8MB cache</td> <td>16W TDP</td> </tr> <tr> <td>Intel® Atom™ C3538</td> <td>2.1 GHz</td> <td>4 Cores</td> <td>8MB cache</td> <td>15W TDP</td> </tr> </table> <p><b>Industrial versions</b></p> <table border="1"> <tr> <td>Intel® Atom™ C3808</td> <td>2.0 GHz</td> <td>12 Cores</td> <td>12 MB cache</td> <td>24W TDP</td> </tr> <tr> <td>Intel® Atom™ C3708</td> <td>1.7 GHz</td> <td>8 Cores</td> <td>16 MB cache</td> <td>17W TDP</td> </tr> <tr> <td>Intel® Atom™ C3508</td> <td>1.5 GHz</td> <td>4 Cores</td> <td>8 MB cache</td> <td>11W TDP</td> </tr> </table>			Intel® Atom™ C3958	2.0 GHz	16 Cores	16MB cache	31W TDP	Intel® Atom™ C3858	2.0 GHz	12 Cores	12MB cache	25W TDP	Intel® Atom™ C3758	2.2 GHz	8 Cores	16MB cache	25W TDP	Intel® Atom™ C3558	2.2 GHz	4 Cores	8MB cache	16W TDP	Intel® Atom™ C3538	2.1 GHz	4 Cores	8MB cache	15W TDP	Intel® Atom™ C3808	2.0 GHz	12 Cores	12 MB cache	24W TDP	Intel® Atom™ C3708	1.7 GHz	8 Cores	16 MB cache	17W TDP	Intel® Atom™ C3508	1.5 GHz	4 Cores	8 MB cache	11W TDP
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DRAM	up to 3 SO-DIMM sockets for DDR4 memory modules up to 16 GByte each (48 GByte total) with 2133 MT/s   ECC and non-ECC supported																																										
Chipset	Integrated in SoC																																										
Ethernet	4x 10GbE with KR interface support																																										
I/O Interfaces	12x PCIe Gen3   8x PCIe Gen2   2x USB 3.0   4x USB 2.0   2x SATA III (6Gb/s)   LPC   SPI   I <sup>2</sup> C bus (fast mode 400 kHz, multi-master)   2x UART   SMBus																																										
Mass Storage	eMMC 5.0 onboard flash up to 128 GByte (optional)																																										
congatec Board Controller	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																																										
Embedded BIOS Features	OEM Customization   Flash Update   based on AMI Aptio UEFI																																										
Security	Trusted Platform Module (TPM)   Hash and RSA algorithms   key lengths up to 2048 bits   real random number generator																																										
Power Management	ACPI 5.0 with battery support																																										
Operating Systems	<p><b>Windows 64 bit OS</b></p> <p>Microsoft® Windows Server 2016</p> <p>Microsoft® Windows Server 2012 R2</p> <p>Microsoft® Windows Server 2012</p> <p>Microsoft® Windows Server 2008 R2 SP1</p> <p>Microsoft® Windows 10 Enterprise</p> <p>Microsoft® Windows 8.1 64b</p>	<p><b>Open Source OS &amp; Frameworks</b></p> <p>RHEL 6.6 &amp; 7.1</p> <p>SuSE 11 SP4 &amp; 12 SP1</p> <p>Fedora 22</p> <p>Ubuntu 14.10</p> <p>CentOS 6.6 &amp; 7.1</p> <p>FreeBSD</p>	<p><b>Other</b></p> <p>VMware</p> <p>Hyper-V</p> <p>Xen</p> <p>ESXi</p>																																								
Power Consumption	see user's guide for full details   CMOS Battery Backup																																										
Temperature	<table border="1"> <tr> <td>Industrial:</td> <td>Operating: -40 to +85°C</td> <td>Storage: -40 to +85°C</td> </tr> <tr> <td>Commercial :</td> <td>Operating: 0 to +60°C</td> <td>Storage: -40 to +85°C</td> </tr> </table>			Industrial:	Operating: -40 to +85°C	Storage: -40 to +85°C	Commercial :	Operating: 0 to +60°C	Storage: -40 to +85°C																																		
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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 125 mm (3.74" x 4.92")																																										

# conga-B7AC Block diagram



# conga-B7AC | Order Information

Article	PN	Description
conga-B7AC/A-C3958	048200	COM Express Type 7 Basic module with Intel® Atom™ C3958 processor with 16 Cores, 2.0GHz core frequency, 16MB Cache and 2400 MT/s dual channel DDR4 memory interface for up to 48GB. Features four 10GbE KR interface ports. 31W TDP, commercial temperature range.
conga-B7AC/A-C3858	048201	COM Express Type 7 Basic module with Intel® Atom™ C3858 processor with 12 Cores, 2.0 GHz core frequency, 12MB Cache and 2400 MT/s dual channel DDR4 memory interface for up to 48GB. Features four 10GbE KR interface ports. 25W TDP, commercial temperature range.
conga-B7AC/A-C3758	048202	COM Express Type 7 Basic module with Intel® Atom™ C3758 processor with 8 Cores, 2.2 GHz core frequency, 16MB Cache and 2400 MT/s dual channel DDR4 memory interface for up to 48GB. Features four 10GbE KR interface ports. 25W TDP, commercial temperature range.
conga-B7AC/A-C3558	048203	COM Express Type 7 Basic module with Intel® Atom™ C3558 processor with 4 Cores, 2.2 GHz core frequency, 8MB Cache and 2133 MT/s dual channel DDR4 memory interface for up to 48GB. Features two 2.5GbE and two 10GbE KR interface ports. 16W TDP, commercial temperature range.
conga-B7AC/A-C3538	048204	COM Express Type 7 Basic module with Intel® Atom™ C3538 processor with 4 Cores, 2.1 GHz core frequency, 8MB Cache and 2133 MT/s dual channel DDR4 memory interface for up to 48GB. Features two 2.5GbE and two 10GbE KR interface ports. 15W TDP, commercial temperature range.
conga-B7AC/i-A-C3808	048210	COM Express Type 7 Basic module with Intel® Atom™ C3808 processor with 12 Cores, 2.0 GHz core frequency, 12MB Cache and 2133 MT/s dual channel DDR4 memory interface for up to 48GB. Features four 10GbE KR interface ports. 24W TDP, industrial temperature range.
conga-B7AC/i-A-C3708	048211	COM Express Type 7 Basic module with Intel® Atom™ C3708 processor with 8 Cores, 1.7 GHz core frequency, 16MB Cache and 2133 MT/s dual channel DDR4 memory interface for up to 48GB. Features four 10GbE KR interface ports. 17W TDP, industrial temperature range.
conga-B7AC/i-A-C3508	048213	COM Express Type 7 Basic module with Intel® Atom™ C3508 processor with 4 Cores, 1.5 GHz core frequency, 8MB Cache and 1866 MT/s dual channel DDR4 memory interface for up to 48GB. Features four 2.5GbE KR interface ports. 11W TDP, industrial temperature range.
conga-B7AC/HSP-Cu-B	048251	conga-B7AC/HSP-Cu-B 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. Intended for modules with TDP up to 17W (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. Intended for modules with TDP up to 17W (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. Intended for modules with TDP up to 17W (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. Intended for modules with TDP up to 17W (Cu = copper plate   T = M2.5 Threaded standoffs)
conga-B7AC/HSP-VC-B	048257	Standard heatspreader for high performance COM Express Basic Type 7 module conga-B7AC with integrated vapor chamber. Intended for modules with TDP higher than 17W (VC = Vapor Chamber   B = 2.7mm bore hole standoffs)
conga-B7AC/HSP-VC-T	048258	Standard heatspreader for high performance COM Express Basic Type 7 module conga-B7AC with integrated vapor chamber. Intended for modules with TDP higher than 17W (VC = Vapor Chamber   T = M2.5 threaded stand-offs)
conga-B7AC/CSA-VC-B	048259	Standard active cooling solution for high performance COM Express Basic Type 7 module conga-B7AC with integrated vapor chamber, 15mm fins, 20mm overall heat sink height and integrated 12V fan. Intended for modules with TDP higher than 17W (VC = Vapor Chamber   B = 2.7mm bore hole standoffs)
conga-B7AC/CSA-VC-T	048260	Standard active cooling solution for high performance COM Express Basic Type 7 module conga-B7AC with integrated vapor chamber, 15mm fins, 20mm overall heat sink height and integrated 12V fan. Intended for modules with TDP higher than 17W (VC = vapor Chamber   T = M2.5 threaded standoffs)
conga-B7AC/CSP-VC-B	048261	Standard passive cooling solution for high performance COM Express Basic Type 7 module conga-B7AC with integrated vapor chamber, 15mm fins and 20mm overall heat sink height. Intended for modules with TDP higher than 17W (VC = Vapor Chamber   B = 2.7mm bore hole standoffs)
conga-B7AC/CSP-VC-T	048262	Standard passive cooling solution for high performance COM Express Basic Type 7 module conga-B7AC with integrated vapor chamber, 15mm fins and 20mm overall heat sink height. Intended for modules with TDP higher than 17W (VC= Vapor Chamber   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
<b>Accessories</b>		
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).
COM Express Connector AB, High Speed, Type 7	41500615	COM Express Connector AB, High Speed (10Gbs), Type 7

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