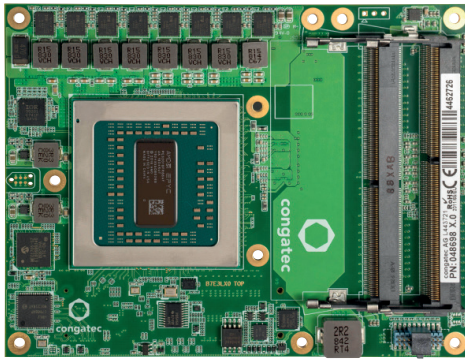


# SERVER-CLASS EMBEDDED PERFORMANCE

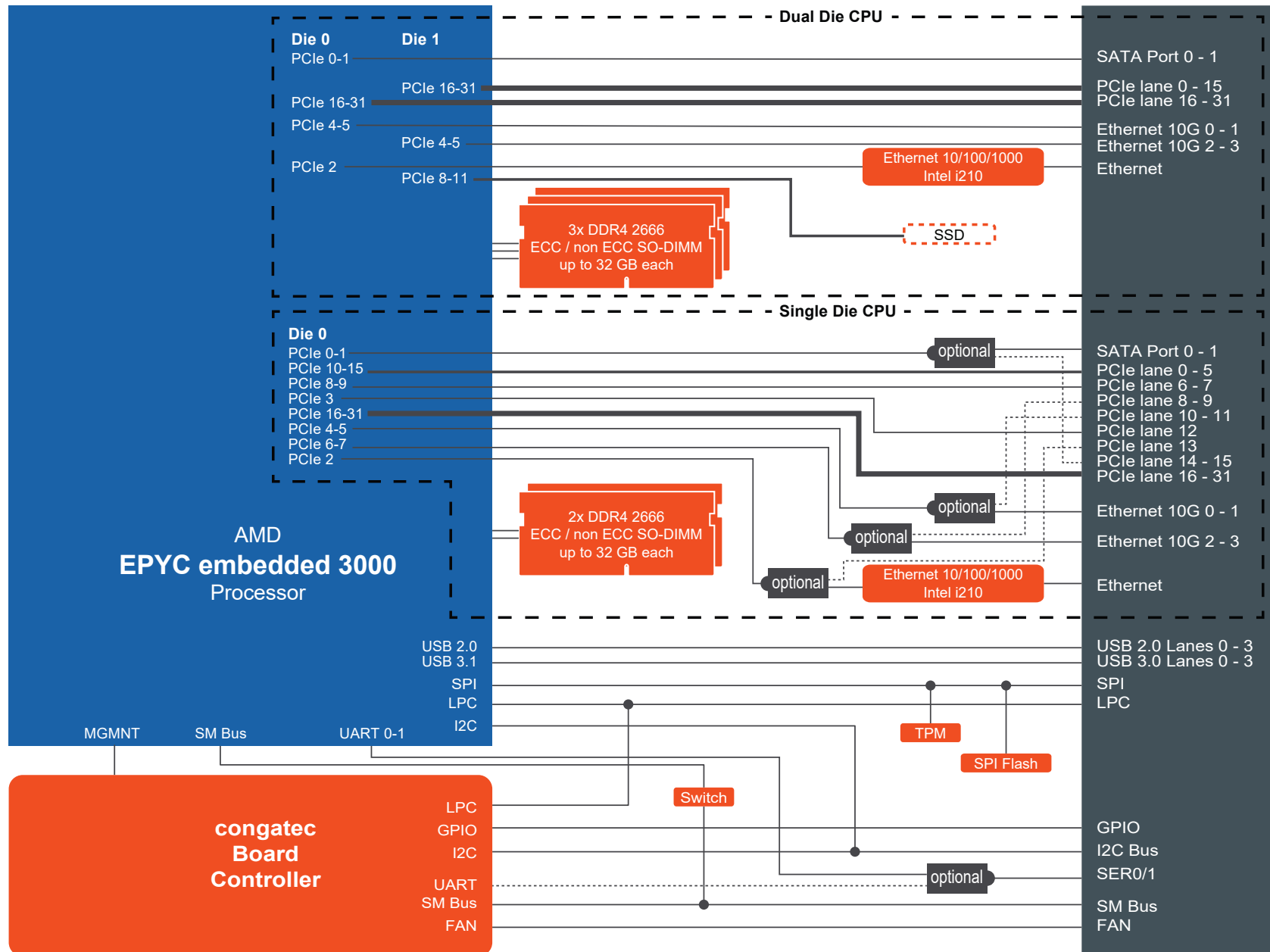
# conga-B7E3



- COM Express Type 7
- AMD EPYC™ Embedded 3000 Series up to 16 Cores, 32MB Cache and 30..100W TDP
- 4x 10 Gigabit Ethernet KR Interface
- Up to 32 PCI Express generation 3 lanes
- Industrial grade variant
- Optional Onboard NVMe SSD up to 1 TB capacity

Formfactor	COM Express® Rev. 3.0, Basic Formfactor (95 x 125 mm), Type 7 Connector Pinout																																																											
CPU	<p><b>Commercial Versions</b></p> <table border="1"> <tr> <td>AMD EPYC Embedded 3000 Model 3451</td> <td>16 Cores / 32 Threads</td> <td>Dual Die</td> <td>2.1 / 3.00 GHz</td> <td>32 MB cache</td> <td>100W TDP</td> </tr> <tr> <td>AMD EPYC Embedded 3000 Model 3401</td> <td>16 Cores / 16 Threads</td> <td>Dual Die</td> <td>1.8 / 3.00 GHz</td> <td>32 MB cache</td> <td>85W TDP</td> </tr> <tr> <td>AMD EPYC Embedded 3000 Model 3351</td> <td>12 Cores / 24 Threads</td> <td>Dual Die</td> <td>1.9 / 3.00 GHz</td> <td>32 MB cache</td> <td>80W TDP</td> </tr> <tr> <td>AMD EPYC Embedded 3000 Model 3301</td> <td>12 Cores / 12 Threads</td> <td>Dual Die</td> <td>2.0 / 3.00 GHz</td> <td>32 MB cache</td> <td>65W TDP</td> </tr> <tr> <td>AMD EPYC Embedded 3000 Model 3251</td> <td>8 Cores / 16 Threads</td> <td>Single Die</td> <td>2.5 / 3.10 GHz</td> <td>16 MB cache</td> <td>55W TDP</td> </tr> <tr> <td>AMD EPYC Embedded 3000 Model 3201</td> <td>8 Cores / 8 Threads</td> <td>Single Die</td> <td>1.5 / 3.10 GHz</td> <td>16 MB cache</td> <td>30W TDP</td> </tr> <tr> <td>AMD EPYC Embedded 3000 Model 3151</td> <td>4 Cores / 8 Threads</td> <td>Single Die</td> <td>2.7 / 2.90 GHz</td> <td>16 MB cache</td> <td>45W TDP</td> </tr> <tr> <td>AMD EPYC Embedded 3000 Model 3101</td> <td>4 Cores / 4 Threads</td> <td>Single Die</td> <td>2.1 / 2.90 GHz</td> <td>8 MB cache</td> <td>35W TDP</td> </tr> </table> <p><b>Industrial Versions</b></p> <table border="1"> <tr> <td>AMD EPYC Embedded 3000 Model 3255</td> <td>8 Cores / 16 Threads</td> <td>Single Die</td> <td>2.5 / 3.1 GHz</td> <td>32 MB cache</td> <td>55W TDP</td> </tr> </table>						AMD EPYC Embedded 3000 Model 3451	16 Cores / 32 Threads	Dual Die	2.1 / 3.00 GHz	32 MB cache	100W TDP	AMD EPYC Embedded 3000 Model 3401	16 Cores / 16 Threads	Dual Die	1.8 / 3.00 GHz	32 MB cache	85W TDP	AMD EPYC Embedded 3000 Model 3351	12 Cores / 24 Threads	Dual Die	1.9 / 3.00 GHz	32 MB cache	80W TDP	AMD EPYC Embedded 3000 Model 3301	12 Cores / 12 Threads	Dual Die	2.0 / 3.00 GHz	32 MB cache	65W TDP	AMD EPYC Embedded 3000 Model 3251	8 Cores / 16 Threads	Single Die	2.5 / 3.10 GHz	16 MB cache	55W TDP	AMD EPYC Embedded 3000 Model 3201	8 Cores / 8 Threads	Single Die	1.5 / 3.10 GHz	16 MB cache	30W TDP	AMD EPYC Embedded 3000 Model 3151	4 Cores / 8 Threads	Single Die	2.7 / 2.90 GHz	16 MB cache	45W TDP	AMD EPYC Embedded 3000 Model 3101	4 Cores / 4 Threads	Single Die	2.1 / 2.90 GHz	8 MB cache	35W TDP	AMD EPYC Embedded 3000 Model 3255	8 Cores / 16 Threads	Single Die	2.5 / 3.1 GHz	32 MB cache	55W TDP
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DRAM	Up to 3 SO-DIMM sockets for DDR4 memory modules up to 32 GByte each (96 GByte total) with 2666 MT/s ECC and non-ECC supported																																																											
Chipset	Integrated in SoC																																																											
Ethernet	4x 10GbE with KR interface support 1x Gigabit Ethernet																																																											
I/O Interfaces	32x PCIe Gen3 max. 4x USB 3.1 Gen 1   4x USB 2.0 2x SATA III (6Gb/s) LPC   SPI   2x UART   SMBus																																																											
Storage	Up to 1 TByte onboard NVMe storage																																																											
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 2.0), Secure Root of Trust, Secure Memory Encryption, Secure Encrypted Virtualization																																																											
Power Management	ACPI 5.0 with battery support																																																											
Operating Systems	tbd																																																											
Power Consumption	See user's guide for full details																																																											
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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Size	95 x 125 mm (3.74" x 4.92")																																																											

# conga-B7E3 | Block diagram



# conga-B7E3 | Order Information

Article	PN	Description
conga-B7E3/3451	048600	COM Express Type 7 Basic module with AMD embedded EPYC 3451 (Snowy Owl) 16 core / 32 threads processor with 2.15GHz up to 3.0GHz core frequency, 32MB L3 cache and 2666MT/s DDR4 SODIMM memory interface for up to 96GB. TDP 100W
conga-B7E3/3401	048601	COM Express Type 7 Basic module with AMD embedded EPYC 3401 (Snowy Owl) 16 core / 16 threads processor with 1.85GHz up to 3.0GHz core frequency, 32MB L3 cache and 2666MT/s DDR4 SODIMM memory interface for up to 96GB. TDP 85W
conga-B7E3/3351	048602	COM Express Type 7 Basic module with AMD embedded EPYC 3351 (Snowy Owl) 12 core / 24 threads processor with 1.90GHz up to 3.0GHz core frequency, 32MB L3 cache and 2666MT/s DDR4 SODIMM memory interface for up to 96GB. TDP 80W
conga-B7E3/3301	048603	COM Express Type 7 Basic module with AMD embedded EPYC 3301 (Snowy Owl) 12 core / 12 threads processor with 2.00GHz up to 3.0GHz core frequency, 32MB L3 cache and 2666MT/s DDR4 SODIMM memory interface for up to 96GB. TDP 65W
conga-B7E3/i-3255	048604	COM Express Type 7 Basic module with AMD embedded EPYC 3255(Snowy Owl) 8 core / 16 threads processor with 2.5GHz up to 3.1GHz core frequency, 16MB L3 cache and 2666MT/s DDR4 SODIMM memory interface for up to 64GB. TDP 55W
conga-B7E3/3251	048605	COM Express Type 7 Basic module with AMD embedded EPYC 3251 (Snowy Owl) 8 core / 16 threads processor with 2.5GHz up to 3.1GHz core frequency, 16MB L3 cache and 2666MT/s DDR4 SODIMM memory interface for up to 64GB. TDP 50W
conga-B7E3/3201	048606	COM Express Type 7 Basic module with AMD embedded EPYC 3201 (Snowy Owl) 8 core / 8 threads processor with 1.5GHz up to 3.1GHz core frequency, 16MB L3 cache and 2133MT/s DDR4 SODIMM memory interface for up to 64GB. TDP 30W
conga-B7E3/3151	048607	COM Express Type 7 Basic module with AMD embedded EPYC 3151 (Snowy Owl) 4 core / 8 threads processor with 2.7GHz up to 2.9GHz core frequency, 16MB L3 cache and 2666MT/s DDR4 SODIMM memory interface for up to 64GB. TDP 45W
conga-B7E3/3101	048608	COM Express Type 7 Basic module with AMD embedded EPYC 3101 (Snowy Owl) 4 core / 4 threads processor with 2.1GHz up to 2.9GHz core frequency, 8MB L3 cache and 2666MT/s DDR4 SODIMM memory interface for up to 64GB. TDP 35W
conga-B7E3/HSP	tbd	Heat Spreader
conga-B7E3/CSA	tbd	Active Cooling Solution
conga-B7E3/HPA	tbd	Heat Pipe Adapter
DDR4-SODIMM-2666 (32GB)	tbd	tbd
DDR4-SODIMM-2666 ECC (32GB)	tbd	tbd
DDR4-SODIMM-2666 (32GB) / i-temp	tbd	tbd
DDR4-SODIMM-2666 ECC (32GB) / i-temp	tbd	tbd
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	41500615	COM Express Carrier Board Connector AB, High Speed (10Gbs), Type 7