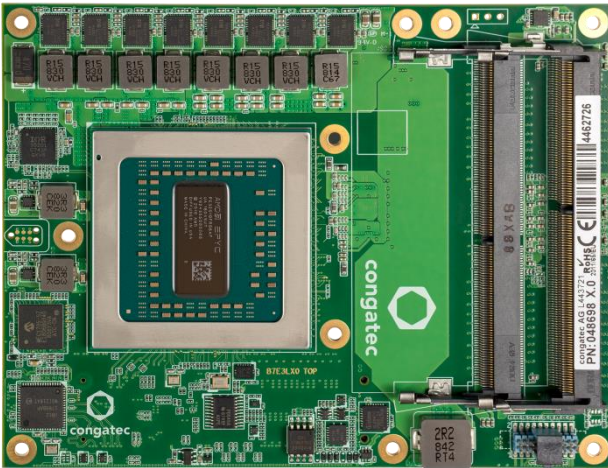


# SERVER-CLASS EMBEDDED PERFORMANCE

## conga-B7E3



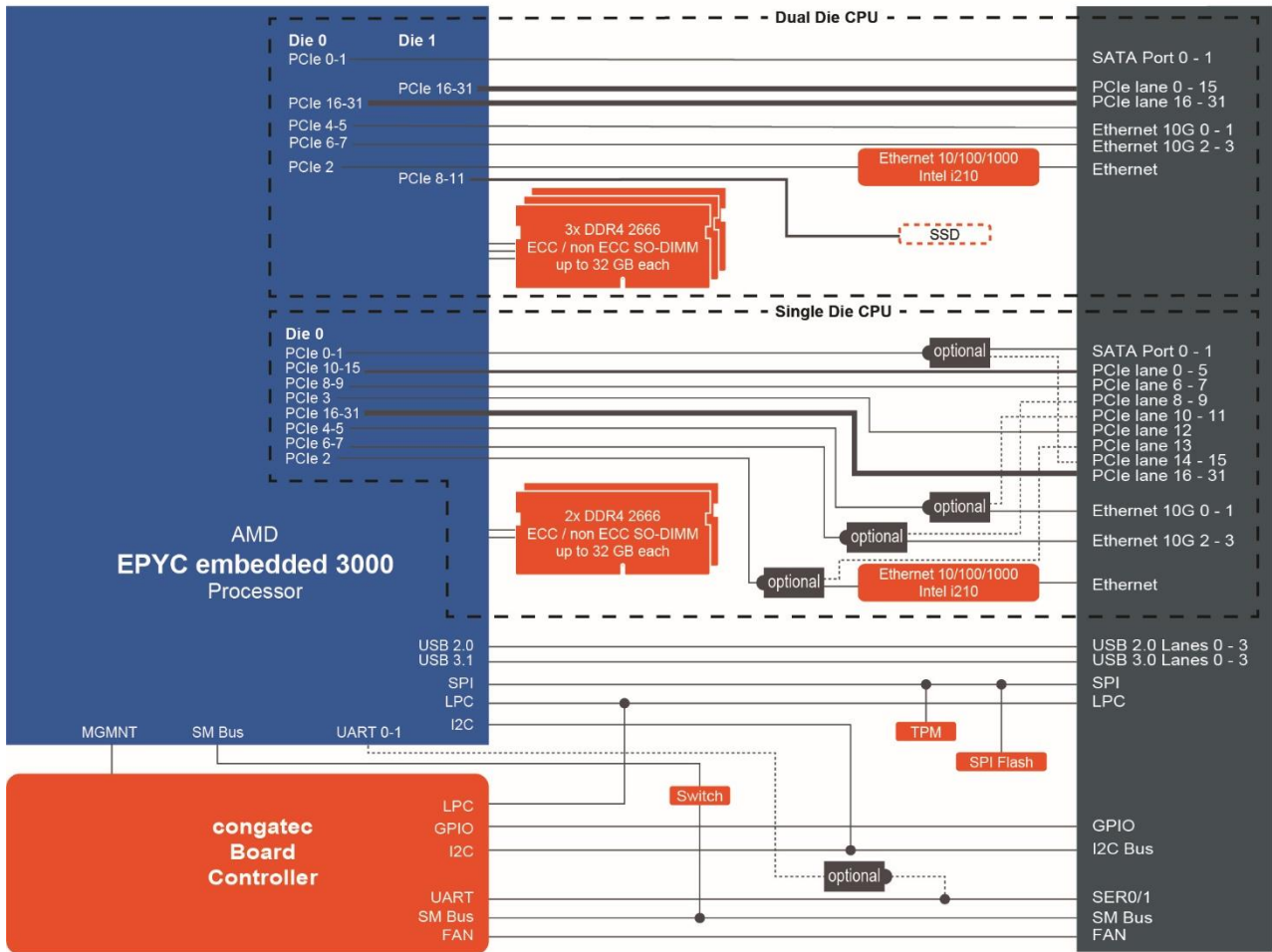
- COM Express Type 7
- AMD EPYC™ Embedded 3000 Series up to 16 Cores, 32MB Cache and 30..100W TDP
- 4x 10 Gigabit Ethernet KR Interface
- Up to 32 PCI Express generation 3 lanes
- Industrial grade variant
- Optional Onboard NVMe SSD up to 1 TB capacity



<b>Formfactor</b>	COM Express® Rev. 3.0, Basic Formfactor (95 x 125 mm), Type 7 Connector Pinout																																															
<b>CPU</b>	<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 / 3.0 GHz</td> <td>32 MB cache</td> <td>100W 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 / 3.0 GHz</td> <td>32 MB cache</td> <td>80W 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 / 3.1 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 / 3.1 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 / 2.9 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 / 2.9 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 / 3.0 GHz	32 MB cache	100W TDP	AMD EPYC Embedded 3000 Model 3351	12 Cores / 24 Threads	Dual Die	1.9 / 3.0 GHz	32 MB cache	80W TDP	AMD EPYC Embedded 3000 Model 3251	8 Cores / 16 Threads	Single Die	2.5 / 3.1 GHz	16 MB cache	55W TDP	AMD EPYC Embedded 3000 Model 3201	8 Cores / 8 Threads	Single Die	1.5 / 3.1 GHz	16 MB cache	30W TDP	AMD EPYC Embedded 3000 Model 3151	4 Cores / 8 Threads	Single Die	2.7 / 2.9 GHz	16 MB cache	45W TDP	AMD EPYC Embedded 3000 Model 3101	4 Cores / 4 Threads	Single Die	2.1 / 2.9 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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<b>DRAM</b>	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																																															
<b>Chipset</b>	Integrated in SoC																																															
<b>Ethernet</b>	4x 10GbE with KR interface support 1x Gigabit Ethernet																																															
<b>I/O Interfaces</b>	32x PCI Express™ Gen 3.0 lanes max.   4x USB 3.1 Gen 1   4x USB 2.0   2x SATA III (6Gb/s)   LPC   SPI   2x UART   SMBus																																															
<b>Storage</b>	Up to 1TByte onboard NVMe storage																																															
<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), Secure Root of Trust, Secure Memory Encryption, Secure Encrypted Virtualization																																															
<b>Power Management</b>	ACPI 5.0 with battery support Operating Systems																																															
<b>Operating Systems</b>	Windows 10 (64 Bit)   Windows Server 2016 (64 Bit)   Linux (Ubuntu 18.04, Ubuntu 19.04, Fedora 30) 64 Bit																																															
<b>Power Consumption</b>	See user's guide for full details																																															
<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-B7E3

COM Express Rev. 3.0, Basic Size, Type 7 Pinout



## conga-B7E3 | Order Information – COM Express® Module

Article	PN	Description
conga-B7E3/3451	048600	COM Express Type 7 Basic module based on AMD embedded EPYC 3451 16-core processor (dual die) with 2.15GHz up to 3.0 GHz turbo boost, 32MB L3 cache and quad channel DDR4 2666 MT/s memory interface (formerly Snowy Owl).
conga-B7E3/3351	048602	COM Express Type 7 Basic module based on AMD embedded EPYC 3351 12-core processor (dual die) with 1.9GHz up to 3.0 GHz turbo boost, 32MB L3 cache and quad channel DDR4 2666 MT/s memory interface (formerly Snowy Owl).
conga-B7E3/i-3255	048604	COM Express Type 7 Basic module based on AMD embedded EPYC 3255 8-core processor (single die) with 2.5GHz up to 3.1 GHz turbo boost, 16MB L3 cache and dual channel DDR4 2666 MT/s memory interface (formerly Snowy Owl).
conga-B7E3/3251	048605	COM Express Type 7 Basic module based on AMD embedded EPYC 3251 8-core processor (single die) with 2.5GHz up to 3.1 GHz turbo boost, 16MB L3 cache and dual channel DDR4 2666 MT/s memory interface (formerly Snowy Owl).
conga-B7E3/3201	048606	COM Express Type 7 Basic module based on AMD embedded EPYC 3201 8-core processor (single die) with 1.5GHz up to 3.1 GHz turbo boost, 16MB L3 cache and dual channel DDR4 2133 MT/s memory interface (formerly Snowy Owl).
conga-B7E3/3151	048607	COM Express Type 7 Basic module based on AMD embedded EPYC 3151 4-core processor (single die) with 2.7GHz up to 2.9 GHz turbo boost, 16MB L3 cache and dual channel DDR4 2666 MT/s memory interface (formerly Snowy Owl).
conga-B7E3/3101	048608	COM Express Type 7 Basic module based on AMD embedded EPYC 3101 4-core processor (single die) with 2.1GHz up to 2.9 GHz turbo boost, 8MB L3 cache and dual channel DDR4 2666 MT/s memory interface (formerly Snowy Owl).

## conga-B7E3 | Order Information – Accessory

Article	PN	Description
conga-B7E3/HSP-HP-B	048652	Standard heat spreader for high performance COM Express Type 7 module conga-B7E3 with integrated heat pipes. All stand-offs are bore hole. Suitable for all single die variants.
conga-B7E3/HSP-HP-T	048653	Standard heat spreader for high performance COM Express Type 7 module conga-B7E3 with integrated heat pipes. All stand-offs are M2.5 threaded. Suitable for all single die variants.
conga-B7E3/SP4-HSP-HP-B	048656	Standard heat spreader for high performance COM Express Type 7 module conga-B7E3 with integrated heat pipes. All stand-offs are bore hole. Suitable for all dual die variants.
conga-B7E3/SP4-HSP-HP-T	048657	Standard heat spreader for high performance COM Express Type 7 module conga-B7E3 with integrated heat pipes. All stand-offs are M2.5 threaded. Suitable for all dual die variants.
conga-B7E3/HPA	048660	Heat pipe Adapter for conga-B7E3 COM Express Type 7 module. This adapter can be used in combination with standard 8 mm heat pipes to optimize heat distribution. Suitable for all single die variants.
conga-B7E3/HPA SP4	048662	Heat pipe Adapter for conga-B7E3 COM Express Type 7 module. This adapter can be used in combination with standard 8 mm heat pipes to optimize heat distribution. Suitable for all dual die variants.
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
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).