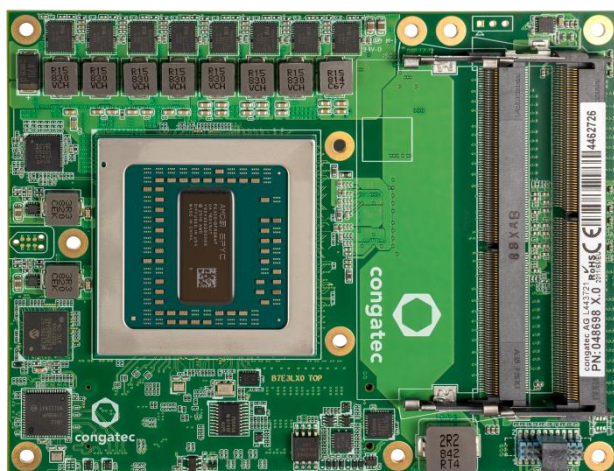


SERVER-CLASS EMBEDDED PERFORMANCE

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

Commercial Versions

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

Industrial Versions

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 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

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
I²C 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

Operating Systems

Windows 10 (64 Bit) | Windows Server 2016 (64 Bit) | Linux (Ubuntu 18.04, Ubuntu 19.04, Fedora 30) 64 Bit

Power Consumption

See user's guide for full details

Temperature

Industrial:	Operating: -40 to +85°C	Storage: -40 to +85°C
Commercial:	Operating: 0 to +60°C	Storage: -40 to +85°C

Extended Temperature

Screening service on request:	-25 to +80°C (burn-in & cold-soak)
	-40 to +85°C (burn-in & cold-soak)

Humidity

Operating: 10 - 90% r. H. non cond.	Storage: 5 - 95% r. H. non cond.
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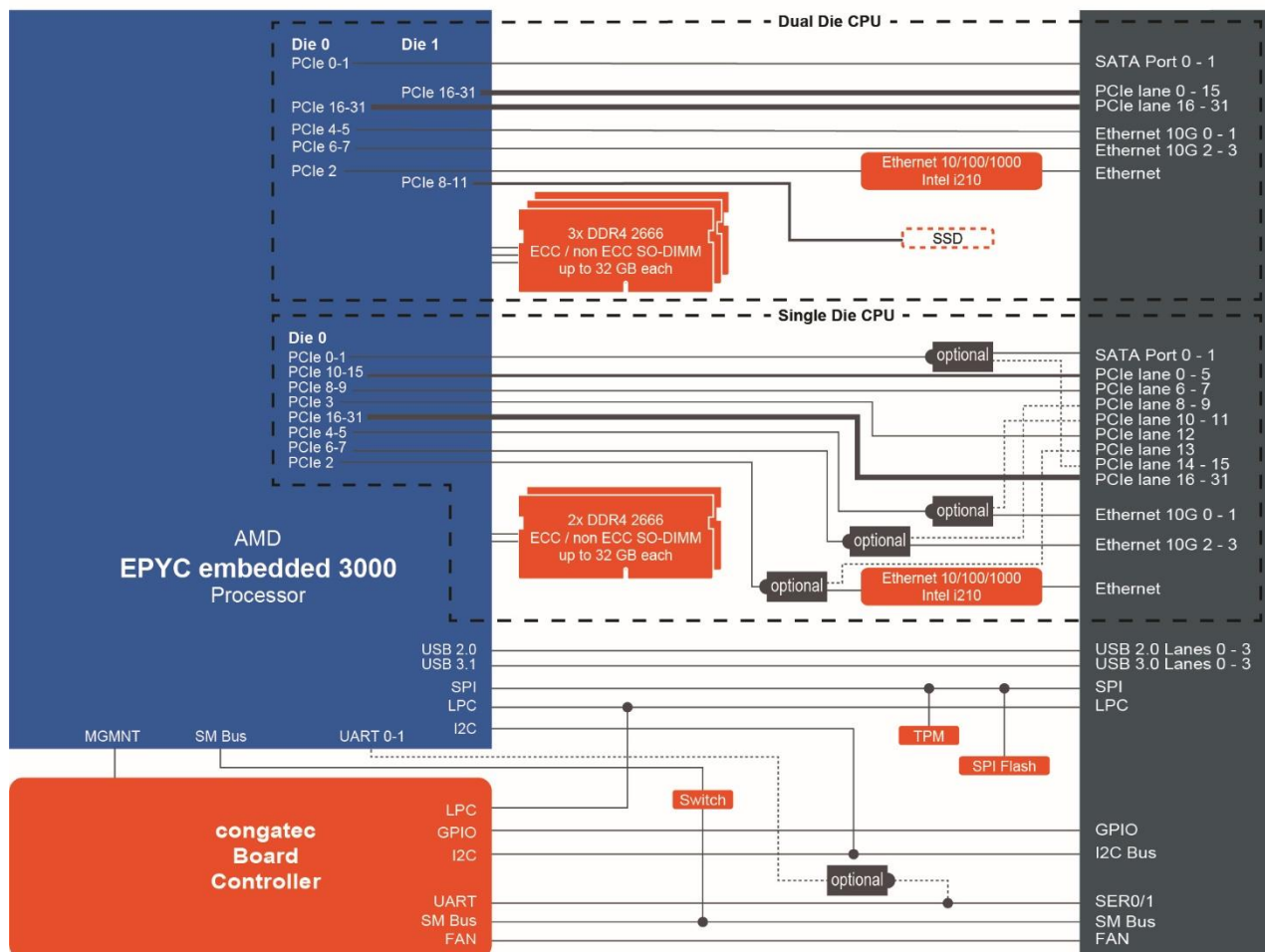
Size

95 x 125 mm (3.74" x 4.92")

conga-B7E3 | Block diagram

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/CSA-HP-B	048650	Standard active cooling solution for high performance COM Express Type 7 module conga-B7E3 with 4x heat pipes, 14mm fins, 27.4mm overall cooler height and integrated 12V PWN control fan. All stand-offs are with diameter 2.7mm bore hole. Suitable for all single die variants.
conga-B7E3/CSA-HP-T	048651	Standard active cooling solution for high performance COM Express Type 7 module conga-B7E3 with 4x heat pipes, 14mm fins, 27.4mm overall cooler height and integrated 12V PWN control fan. All stand-offs are with M2.5x0.45 threaded hole. Suitable for all single die variants.
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).

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