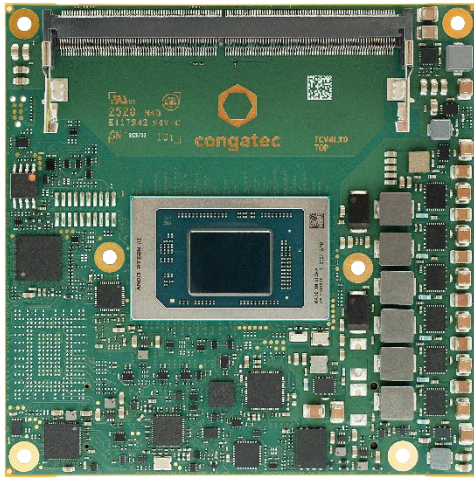


AMD RYZEN™ AI EMBEDDED P100 Series

conga-TCRP1



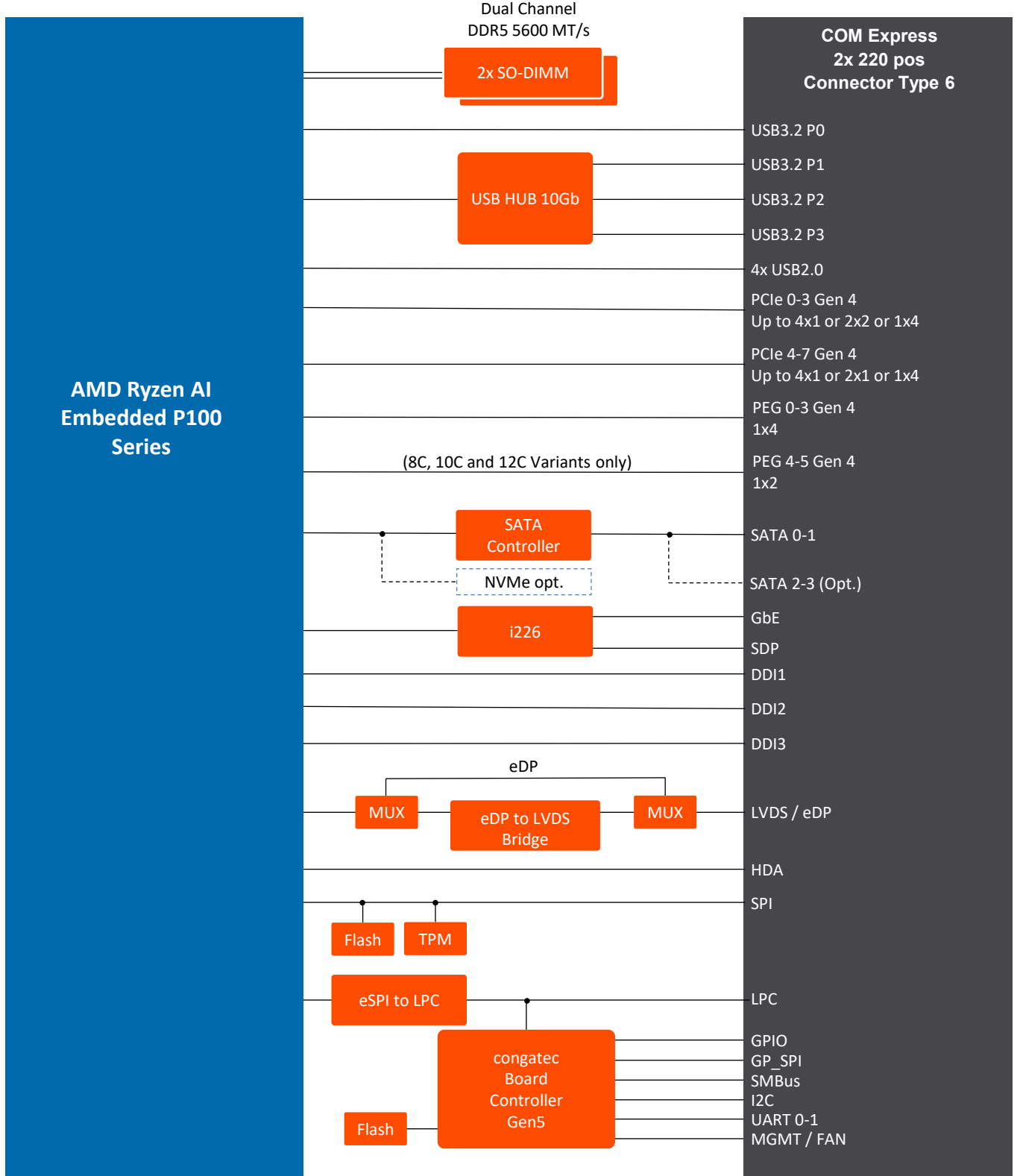
aReady.COM

- AMD Zen5/5c CPU Cores
- AMD Radeon™ RDNA™ 3.5 Graphics
- AMD XDNA™ 2 NPU
- TDP Range from 15W to 54W
- Onboard NVMe™ SSD (option)

COM  **Express®**

Form Factor	COM Express® Compact Type 6 connector pinout	
CPUs	AMD Ryzen™ AI Embedded P100 Series Processors	
DRAM	2 SODIMM sockets for DDR5 memory modules up to 48 GB each (max. 96 GB RAM system capacity) up to 5600 MT/s ECC supported	
Mass Storage	NVMe™ SSD up to 512 GB capacity (option instead of SATA ports)	
Graphics	Integrated AMD Radeon™ RDNA™ 3.5 Graphics with up to 16x CUs (Compute Units)	
AI Acceleration	Integrated XDNA 2™ NPU with up to 50 TOPs	
Display	Up to 3x DDI LVDS or eDP 4x independent displays	
Ethernet	2.5 GbE via Intel® i226 Ethernet controller series	
I/O Interfaces	4x USB 3.2 Gen2 4x USB 2.0 2x SATA 6Gb/s (if NVMe™ SSD option is not used) 8x PCIe Gen4 PEG x4 Gen4 additional PEG x2 Gen4 (8C, 10C and 12C Variants only) 1x I²C Bus 1x GPSPi 2x UART 8x GPIO 1x SMBus 1x LPC	
Audio	HD-Audio over DDI ports HDA interface	
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 Feature	AMI Aptio® UEFI firmware 32 Mbyte serial SPI with congatec Embedded BIOS feature OEM Logo OEM CMOS Defaults LCD Control Display Auto Detection Backlight Control Flash Update	
Security	Trusted Platform Module (TPM 2.0)	
Power Management	ACPI 6.0 with battery support	
Operating Systems	Microsoft® Windows 11 Microsoft® Windows 11 IoT Enterprise Linux	
Hypervisor	conga-zones (formerly known as RTS Hypervisor)	
Temperature	Commercial Temp.: Operating 0°C to 60°C Industrial Temp.: Operating -40°C to +85°C	Commercial Temp.: Storage -20°C to 80°C Industrial Temp.: Storage -40°C to 85°C
Humidity	Operating 10% to 85% r. H. non cond.	Storage 5% to 85% r. H. non cond.
Size	95 x 95 mm	

conga-TCRP1 | Block Diagram



conga-TCRP1 | Order Information (1/3)

Article	PN	Description
conga-TCRP1/P185	051800	COM Express Compact module based on AMD Ryzen™ AI Embedded P185 processor with 12 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 16 CUs Dual channel SODIMM DDR5 5600 MT/s memory interface Commercial grade temperature range from 0°C to +60°C
conga-TCRP1/P174	051801	COM Express Compact module based on AMD Ryzen™ AI Embedded P174 processor with 10 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 12 CUs Dual channel SODIMM DDR5 5600 MT/s memory interface Commercial grade temperature range from 0°C to +60°C
conga-TCRP1/P164	051802	COM Express Compact module based on AMD Ryzen™ AI Embedded P164 processor with 8 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 12 CUs Dual channel SODIMM DDR5 5600 MT/s memory interface Commercial grade temperature range from 0°C to +60°C
conga-TCRP1/P132	051803	COM Express Compact module based on AMD Ryzen™ AI Embedded P132 processor with 6 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 4 CUs Dual channel SODIMM DDR5 5600 MT/s memory interface Commercial grade temperature range from 0°C to +60°C
conga-TCRP1/P121	051804	COM Express Compact module based on AMD Ryzen™ AI Embedded P121 processor with 4 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 2 CUs Dual channel SODIMM DDR5 5600 MT/s memory interface Commercial grade temperature range from 0°C to +60°C
conga-TCRP1/P185i	051810	COM Express Compact module based on AMD Ryzen™ AI Embedded P185i processor with 12 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 16 CUs Dual channel SODIMM DDR5 5600 MT/s memory interface Industrial grade temperature range from -40°C to +85°C
conga-TCRP1/P174i	051811	COM Express Compact module based on AMD Ryzen™ AI Embedded P174i processor with 10 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 12 CUs Dual channel SODIMM DDR5 5600 MT/s memory interface Industrial grade temperature range from -40°C to +85°C
conga-TCRP1/P164i	051812	COM Express Compact module based on AMD Ryzen™ AI Embedded P164i processor with 8 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 12 CUs Dual channel SODIMM DDR5 5600 MT/s memory interface Industrial grade temperature range from -40°C to +85°C
conga-TCRP1/P132i	051813	COM Express Compact module based on AMD Ryzen™ AI Embedded P132i processor with 6 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 4 CUs Dual channel SODIMM DDR5 5600 MT/s memory interface Industrial grade temperature range from -40°C to +85°C
conga-TCRP1/P121i	051814	COM Express Compact module based on AMD Ryzen™ AI Embedded P121i processor with 4 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 2 CUs Dual channel SODIMM DDR5 5600 MT/s memory interface Industrial grade temperature range from -40°C to +85°C

conga-TCRP1 | Order Information (2/3)

Article	PN	Description
conga-TCRP1/CSA-HP-B	051850	Standard active cooling solution for high performance COM Express module conga-TCRP1 with integrated heat pipes and 12V fan. All standoffs are with 2.7mm bore hole. This cooling is compatible with conga-TCRP1 based on the following processors variants: P185, P174, P164, P185i, P174i, P164i.
conga-TCRP1/CSA-HP-T	051851	Standard active cooling solution for high performance COM Express module conga-TCRP1 with integrated heat pipes and 12V fan. All standoffs are M2.5mm threaded. This cooling is compatible with conga-TCRP1 based on the following processors variants: P185, P174, P164, P185i, P174i, P164i.
conga-TCRP1/CSP-HP-B	051852	Standard passive cooling solution for high performance COM Express module conga-TCRP1 with integrated heat pipes. All standoffs are with 2.7mm bore hole. This cooling is compatible with conga-TCRP1 based on the following processors variants: P185, P174, P164, P185i, P174i, P164i.
conga-TCRP1/CSP-HP-T	051853	Standard passive cooling solution for high performance COM Express module conga-TCRP1 with integrated heat pipes. All standoffs are M2.5mm threaded. This cooling is compatible with conga-TCRP1 based on the following processors variants: P185, P174, P164, P185i, P174i, P164i.
conga-TCRP1/HSP-HP-B	051854	Standard heatspreader for high performance COM Express module conga-TCRP1 with integrated heat pipes. All standoffs are with 2.7mm bore hole. This cooling is compatible with conga-TCRP1 based on the following processors variants: P185, P174, P164, P185i, P174i, P164i.
conga-TCRP1/HSP-HP-T	051855	Standard heatspreader for high performance COM Express module conga-TCRP1 with integrated heat pipes. All standoffs are M2.5mm threaded. This cooling is compatible with conga-TCRP1 based on the following processors variants: P185, P174, P164, P185i, P174i, P164i.
conga-TCRP1/K2e-CSA-HP-B	051860	Standard active cooling solution for high performance COM Express module conga-TCRP1 with integrated heat pipes and 12V fan. All standoffs are with 2.7mm bore hole. This cooling is compatible with conga-TCRP1 based on the following processors variants: P132, P121, P132i, P121i.
conga-TCRP1/K2e-CSA-HP-T	051861	Standard active cooling solution for high performance COM Express module conga-TCRP1 with integrated heat pipes and 12V fan. All standoffs are M2.5mm threaded. This cooling is compatible with conga-TCRP1 based on the following processors variants: P132, P121, P132i, P121i.
conga-TCRP1/K2e-CSP-HP-B	051862	Standard passive cooling solution for high performance COM Express module conga-TCRP1 with integrated heat pipes. All standoffs are with 2.7mm bore hole. This cooling is compatible with conga-TCRP1 based on the following processors variants: P132, P121, P132i, P121i.
conga-TCRP1/K2e-CSP-HP-T	051863	Standard passive cooling solution for high performance COM Express module conga-TCRP1 with integrated heat pipes. All standoffs are M2.5mm threaded. This cooling is compatible with conga-TCRP1 based on the following processors variants: P132, P121, P132i, P121i.
conga-TCRP1/K2e-HSP-HP-B	051864	Standard heatspreader for high performance COM Express module conga-TCRP1 with integrated heat pipes. All standoffs are with 2.7mm bore hole. This cooling is compatible with conga-TCRP1 based on the following processors variants: P132, P121, P132i, P121i.
conga-TCRP1/K2e-HSP-HP-T	051865	Standard heatspreader for high performance COM Express module conga-TCRP1 with integrated heat pipes. All standoffs are M2.5mm threaded. This cooling is compatible with conga-TCRP1 based on the following processors variants: P132, P121, P132i, P121i.
conga-TEVAL/COMe 3.0	065821	Evaluation carrier board for COM Express Type 6 revision 3.0 modules.

conga-TCRP1 | Order Information (3/3)

Article	PN	Description
DDR5-SODIMM-5600 (8GB)	068930	DDR5 SODIMM memory module with up to 5600 MT/s and 8GB RAM, commercial temp 0°C to +60°C
DDR5-SODIMM-5600 (16GB)	068931	DDR5 SODIMM memory module with up to 5600 MT/s and 16GB RAM, commercial temp 0°C to +60°C
DDR5-SODIMM-5600 (32GB)	068932	DDR5 SODIMM memory module with up to 5600 MT/s and 32GB RAM, commercial temp 0°C to +60°C
DDR5-SODIMM-5600 (48GB)	068933	DDR5 SODIMM memory module with up to 5600 MT/s and 48GB RAM, commercial temp 0°C to +60°C
DDR5-SODIMM-5600 ECC (16GB)	068941	DDR5 SODIMM memory module with up to 5600 MT/s and 16GB RAM with ECC, commercial temp 0°C to +60°C
DDR5-SODIMM-5600 ECC (32GB)	068942	DDR5 SODIMM memory module with up to 5600 MT/s and 32GB RAM with ECC, commercial temp 0°C to +60°C
DDR5-SODIMM-5600 ECC (48GB)	068943	DDR5 SODIMM memory module with up to 5600 MT/s and 48GB RAM with ECC, commercial temp 0°C to +60°C
DDR5-SODIMM-5600 (8GB) / i-temp	068935	DDR5 SODIMM memory module with up to 5600 MT/s and 8GB RAM, industrial temp -40°C to +85°C
DDR5-SODIMM-5600 (16GB) / i-temp	068936	DDR5 SODIMM memory module with up to 5600 MT/s and 16GB RAM, industrial temp -40°C to +85°C
DDR5-SODIMM-5600 (32GB) / i-temp	068937	DDR5 SODIMM memory module with up to 5600 MT/s and 32GB RAM, industrial temp -40°C to +85°C
DDR5-SODIMM-5600 (48GB) / i-temp	068938	DDR5 SODIMM memory module with up to 5600 MT/s and 48GB RAM, industrial temp -40°C to +85°C
DDR5-SODIMM-5600 ECC (16GB) / i-temp	068946	DDR5 SODIMM memory module with up to 5600 MT/s and 16GB RAM with ECC, industrial temp -40°C to +85°C
DDR5-SODIMM-5600 ECC (32GB) / i-temp	068947	DDR5 SODIMM memory module with up to 5600 MT/s and 32GB RAM with ECC, industrial temp -40°C to +85°C
DDR5-SODIMM-5600 ECC (48GB) / i-temp	068948	DDR5 SODIMM memory module with up to 5600 MT/s and 48GB RAM with ECC, industrial temp -40°C to +85°C