

AMD RYZEN™ AI EMBEDDED X100 Series

conga-HPC/cRX1



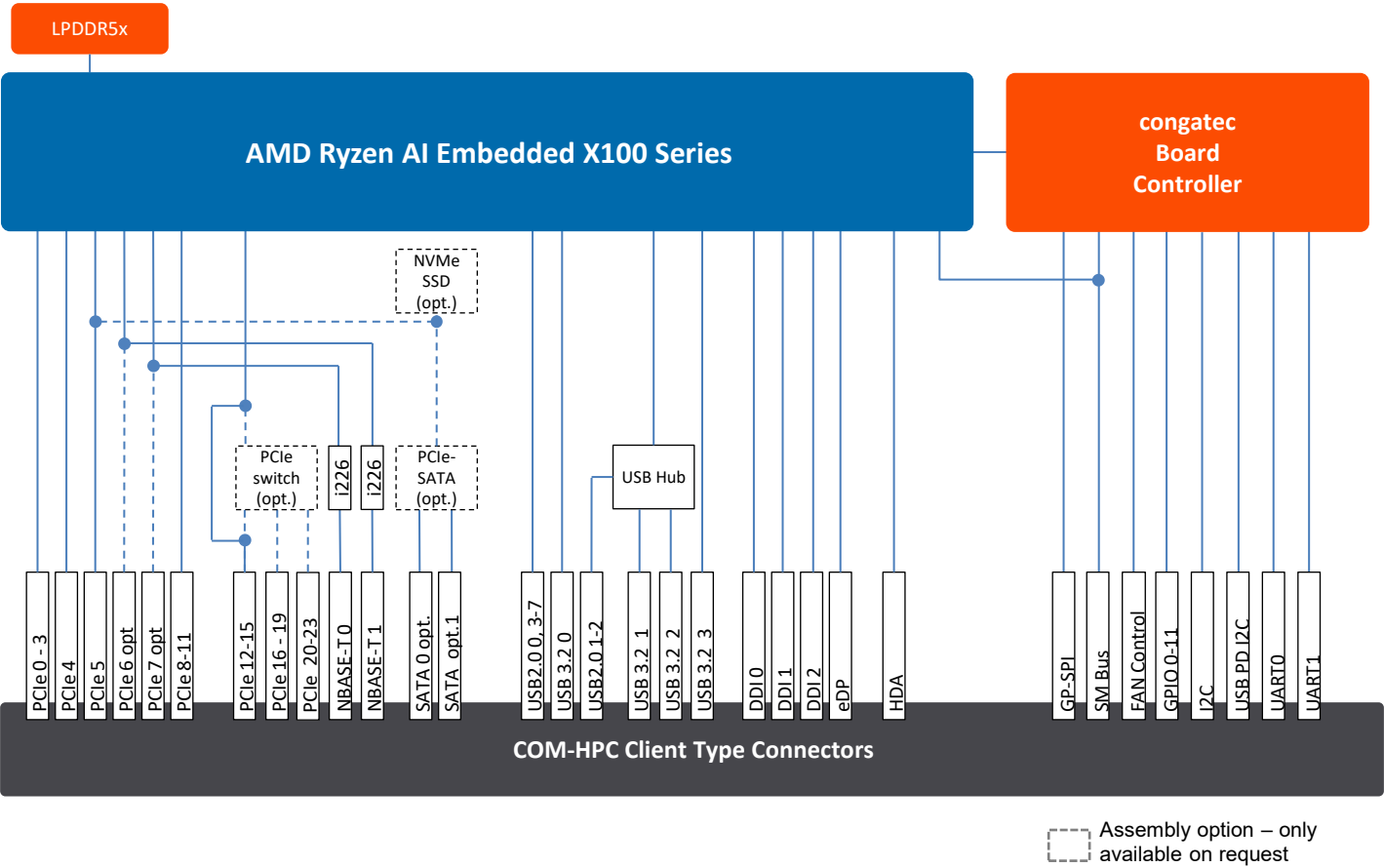
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- AMD Zen5 CPU Cores
- AMD Radeon™ RDNA™ 3.5 Graphics
- AMD XDNA™ 2 NPU
- TDP Range from 45W to 120W
- Onboard PCIe Switch (option)

COM+HPC®

Form Factor	COM-HPC Client Size C Client Connector Pinout	
CPUs	AMD Ryzen™ AI Embedded X100 Series Processors	
DRAM	Up to 128GB 256-bit LPDDR5x-8533	
Mass Storage	NVMe™ SSD up to 512 GB capacity (assembly option)	
Graphics	Integrated AMD Radeon™ RDNA™ 3.5 Graphics with up to 40x CUs (Compute Units)	
AI Acceleration	Integrated XDNA 2™ NPU with up to 50 TOPs	
Display	Up to 3x DDI 1x eDP Up to 4x independent displays	
Ethernet	2x 2.5 GbE via Intel® i226 Ethernet controller series	
I/O Interfaces	Up to 4x USB 3.2 Gen2 Up to 8x USB 2.0 2x SATA 6Gb/s (assembly option) Up to 24x PCIe Gen4 (assembly option) 2x I²C Bus 2x UART 12x GPIO 1x SMBus 1x GPSPi	
Audio	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 64 Mbyte serial SPI with congatec Embedded BIOS feature OEM Logo OEM CMOS default settings 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	120 x 160 mm	

conga-HPC/cRX1 | Block Diagram



conga-HPC/cRX1 | Order Information

Article	PN	Description
conga-HPC/cRX1-X199-128G	053700	COM-HPC Size C module based on AMD Ryzen™ AI Embedded X199 processor with 16 Zen5 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 40 CUs 128GB LPDDR5x onboard memory 64MB L3 Cache Scalable TDP from 45W up to 120W Commercial grade temperature range from 0°C to +60°C.
conga-HPC/cRX1-X188-64G	053701	COM-HPC Size C module based on AMD Ryzen™ AI Embedded X188 processor with 12 Zen5 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 32 CUs 64GB LPDDR5x onboard memory 64MB L3 Cache Scalable TDP from 45W up to 120W Commercial grade temperature range from 0°C to +60°C.
conga-HPC/cRX1-X168-32G	053702	COM-HPC Size C module based on AMD Ryzen™ AI Embedded X168 processor with 8 Zen5 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 32 CUs 32GB LPDDR5x onboard memory 32MB L3 Cache Scalable TDP from 45W up to 120W Commercial grade temperature range from 0°C to +60°C.
conga-HPC/cRX1-X199i-128G	053710	COM-HPC Size C module based on AMD Ryzen™ AI Embedded X199i processor with 16 Zen5 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 40 CUs 128GB LPDDR5x onboard memory 64MB L3 Cache Scalable TDP from 45W up to 120W Industrial grade temperature range from -40°C to +85°C.
conga-HPC/cRX1-X188i-64G	053711	COM-HPC Size C module based on AMD Ryzen™ AI Embedded X188i processor with 12 Zen5 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 32 CUs 64GB LPDDR5x onboard memory 64MB L3 Cache Scalable TDP from 45W up to 120W Industrial grade temperature range from -40°C to +85°C.
conga-HPC/cRX1-X168i-32G	053712	COM-HPC Size C module based on AMD Ryzen™ AI Embedded X168i processor with 8 Zen5 Cores Integrated XDNA 2™ NPU Integrated RDNA™ 3.5 Graphics with 32 CUs 32GB LPDDR5x onboard memory 32MB L3 Cache Scalable TDP from 45W up to 120W Industrial grade temperature range from -40°C to +85°C.
conga-HPC/cRX1-CSA-HP-B	053750	Standard active cooling solution for COM-HPC module conga-HPC/cRX1 with integrated heat pipes, overall height 40mm and integrated 12V fan. Standoffs are with 2.7mm borehole.
conga-HPC/cRX1-CSA-HP-T	053751	Standard active cooling solution for COM-HPC module conga-HPC/cRX1 with integrated heat pipes, overall height 40mm and integrated 12V fan. Standoffs are M2.5mm threaded.
conga-HPC/cRX1-HSP-HP-B	053754	Standard heatspreader for COM-HPC module conga-HPC/cRX1 with integrated heat pipes and 13mm height. Standoffs are with 2.7mm borehole.
conga-HPC/cRX1-HSP-HP-T	053755	Standard heatspreader for COM-HPC module conga-HPC/cRX1 with integrated heat pipes and 13mm height. Standoffs are M2.5mm threaded.
conga-HPC/EVAL-Client	065600	Evaluation Carrier Board for COM-HPC Client type Modules.
conga-HPC/uATX-Client	065620	COM-HPC Client µATX Application Carrier Board suitable for congatec COM-HPC modules with Size A,B and C.