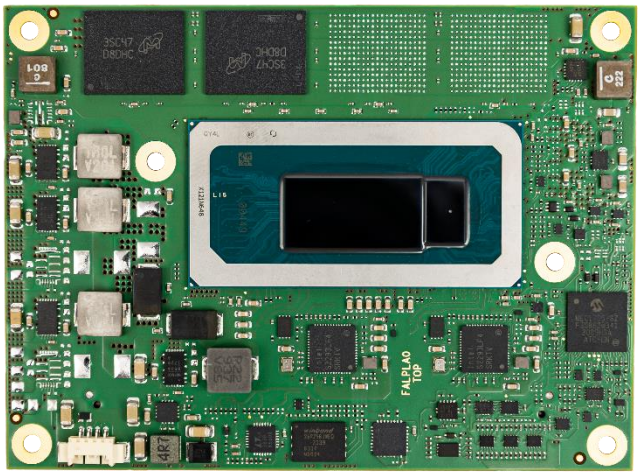
13th Gen Intel® Core™ Embedded mobile Processors

conga-HPC/mRLP



COM-HPC®

VIRTUALIZATION READY

- Intel® hybrid design combines Performance- cores with Efficient–cores
- Options with Integrated high performance Iris Xe graphics architecture with up to 96 EU
- PCI Express Gen 4
- Options for Industrial Temperature Range -40°C to +85°C

Form Factor	COM-HPC Mini		
CPUs	Intel® Core™ 13th Gen Processors Raptor Lake-P (U-Series, P-Series)		
DRAM	Up to 64 GB LPDDR5x max. 6000 MT/s SDRAM | soldered down | dual channel | IBECC on industrial SKUs (IBECC not supported on product variant 045603)		
Graphics	Integrated Iris® Xe graphics architecture with up to 96 EUs or Intel® UHD Graphics with 48 EUs		
Display	DP/DP++ (adding second DP/DP++ would require separate BIOS which disables USB4.0) | eDP		
Ethernet	2x 2.5 GbE with TSN support via Intel® i226 Ethernet controller series		
I/O Interfaces	2x 4 PCIe Gen4 | up to 8x PCIe Gen3 | USB4.0 (USB4.0 would be disabled if second DP/DP++ was enabled by separate BIOS) | up to 4x USB 3.2 Gen2x1 | up to 8x USB 2.0 | up to 2x SATA III | SPI | 2x UART | 12x GPIO		
Audio	HDA		
Storage	NVMe SSD with 128GB (optional up to 1 TB capacity)		
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 | Microsoft® Windows 10 | Microsoft® Windows 10 IoT Enterprise | Linux | Yocto		
Hypervisor	RTS Real-Time Hypervisor		
Temperature Range	Commercial variants Industrial variants	Operation: 0°C to 60°C Operation: -40°C to 85°C	Storage: -20°C to 80°C Storage: -40°C to 85°C
Humidity	Operation: Storage:	10 to 85% r. H. non cond. 5 to 85% r. H. non cond.	
Size	95 x 70 mm²		

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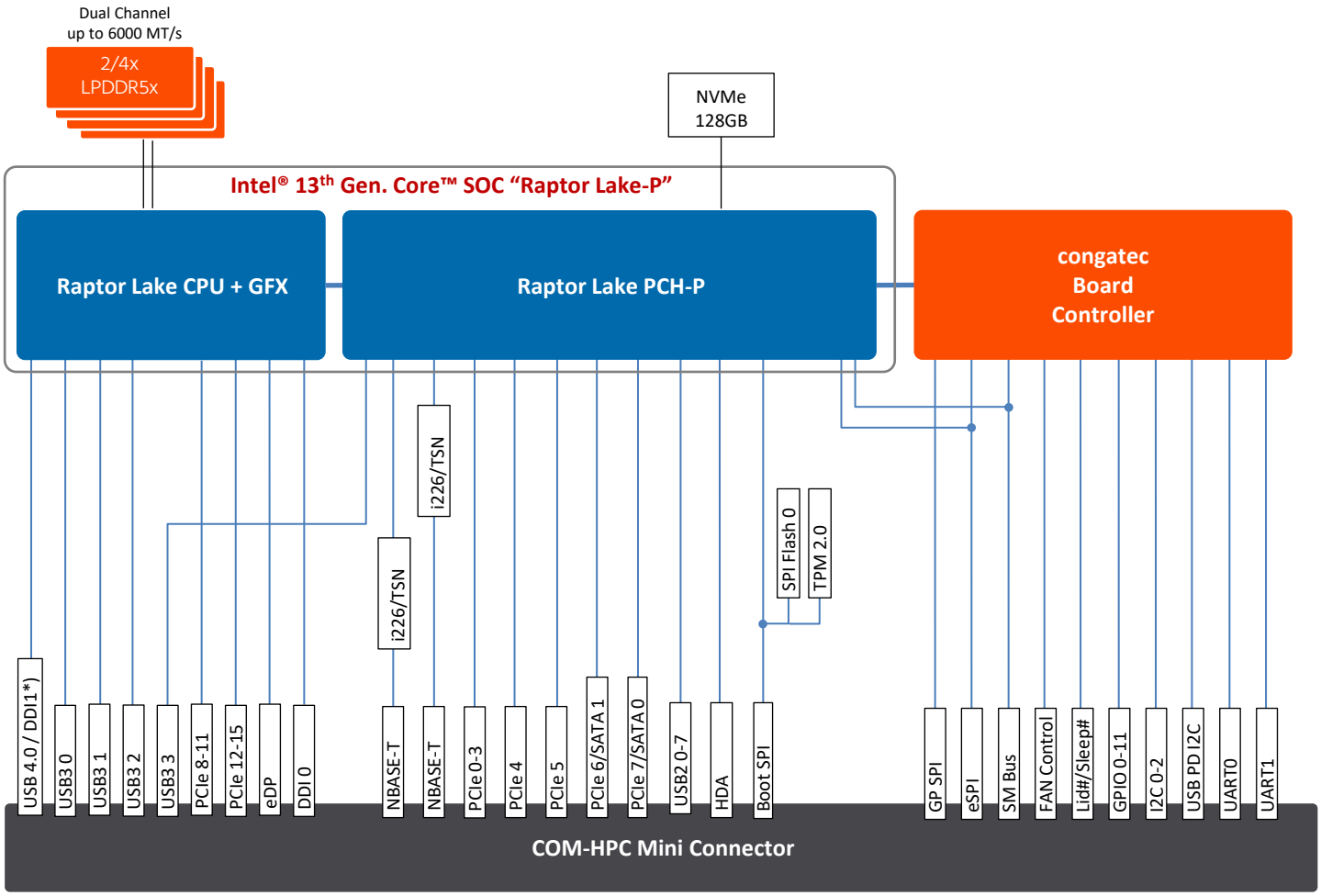
intel partner Titanium

www.congatec.com

conga-HPC/mRLP | Block Diagram



*) adding second DP/DP++ would require separate BIOS which disables USB4.0

conga-HPC/mRLP | Order Information

Article	PN	Description
conga-HPC/mRLP-i7-1365URE-32G NVMe128	045600	COM-HPC Mini module based on Intel® Core™ i7-1365URE processor with 2 P-cores 1.7GHz up to 4.9GHz Turbo and 8 E-cores 1.2GHz up to 3.7GHz Turbo | 12MB Intel® Smart Cache | Intel® Iris® Xe Graphics architecture with 96 EUs | 32GB onboard LPDDR5x memory | 128GB onboard NVMe | Industrial grade temperature range from -40°C to +85°C | Intel® code name Raptor Lake-P (U-Series)
conga-HPC/mRLP-i5-1345URE-16G NVMe128	045601	COM-HPC Mini module based on Intel® Core™ i5-1345URE processor with 2 P-cores 1.4GHz up to 4.6GHz Turbo and 8 E-cores 1.1GHz up to 3.4GHz Turbo | 12MB Intel® Smart Cache | Intel® Iris® Xe Graphics architecture with 80 EUs | 16GB onboard LPDDR5x memory | 128GB onboard NVMe | Industrial grade temperature range from -40°C to +85°C | Intel® code name Raptor Lake-P (U-Series)
conga-HPC/mRLP-i3-1315URE-16G NVMe128	045602	COM-HPC Mini module based on Intel® Core™ i3-1315URE processor with 2 P-cores 1.2GHz up to 4.5GHz Turbo and 4 E-cores 0.9GHz up to 3.3GHz Turbo | 10MB Intel® Smart Cache | Intel® UHD Graphics with 64EUs | 16GB onboard LPDDR5x memory | 128GB onboard NVMe | Industrial grade temperature range from -40°C to +85°C | Intel® code name Raptor Lake-P (U-Series)
conga-HPC/mRLP-U300E-16G NVMe128	045603	COM-HPC Mini module based on Intel® processor U300E with 1 P-core 1.1GHz up to 4.3GHz Turbo and 4 E-cores 0.9GHz up to 3.2GHz Turbo | 8MB Intel® Smart Cache | Intel® UHD Graphics with 48 EUs | 16GB onboard LPDDR5x memory | 128GB onboard NVMe | Intel® code name Raptor Lake-P (U-Series)
conga-HPC/mRLP-i7-1370PRE-32G NVMe128	045604	COM-HPC Mini module based on Intel® Core™ i7-1370PRE processor with 6 P-cores 1.9GHz up to 4.8GHz Turbo and 8 E-cores 1.2GHz up to 3.7GHz Turbo | 24MB Intel® Smart Cache | Intel® Iris® Xe Graphics architecture with 96 EUs | 32GB onboard LPDDR5x memory | 128GB onboard NVMe | Industrial grade temperature range from -40°C to +85°C | Intel® code name Raptor Lake-P (P-Series)
conga-HPC/mRLP-i5-1350PRE-16G NVMe128	045605	COM-HPC Mini module based on Intel® Core™ i5-1350PRE processor with 4 P-cores 1.8GHz up to 4.6GHz Turbo and 8 E-cores 1.3GHz up to 3.4GHz Turbo | 12MB Intel® Smart Cache | Intel® Iris® Xe Graphics architecture with 80 EUs | 16GB onboard LPDDR5x memory | 128GB onboard NVMe | Industrial grade temperature range from -40°C to +85°C | Intel® code name Raptor Lake-P (P-Series)
conga-HPC/mRLP-i3-1320PRE-16G NVMe128	045606	COM-HPC Mini module based on Intel® Core™ i3-1320PRE processor with 4 P-cores 1.7GHz up to 4.5GHz Turbo and 4 E-cores 1.2GHz up to 3.3GHz Turbo | 12MB Intel® Smart Cache | Intel® UHD Graphics with 48EUs | 16GB onboard LPDDR5x memory | 128GB onboard NVMe | Industrial grade temperature range from -40°C to +85°C | Intel® code name Raptor Lake-P (P-Series)
conga-HPC/3.5-Mini	065630	COM-HPC Client 3.5" carrier board suitable for congatec COM-HPC Mini modules
conga-HPC/mRLP-CSA-B	049250	Standard active cooling solution for COM-HPC module conga-HPC/mRLP with 25mm overall heat sink height and integrated 12V fan. All standoffs are with 2.7mm bore hole.
conga-HPC/mRLP-CSA-T	049251	Standard active cooling solution for COM-HPC module conga-HPC/mRLP with 25mm overall heat sink height and integrated 12V fan. All standoffs are M2.5mm threaded.
conga-HPC/mRLP-CSP-B	049252	Standard passive cooling solution for COM-HPC module conga-HPC/mRLP with 24.2mm overall heat sink height. All standoffs are with 2.7mm bore hole.
conga-HPC/mRLP-CSP-T	049253	Standard passive cooling solution for COM-HPC module conga-HPC/mRLP with 24.2mm overall heat sink height. All standoffs are M2.5mm threaded.
conga-HPC/mRLP-HSP-B	049254	Standard heatspreader for COM-HPC module conga-HPC/mRLP. All standoffs are with 2.7mm bore hole.
conga-HPC/mRLP-HSP-T	049255	Standard heatspreader for COM-HPC module conga-HPC/mRLP. All standoffs are M2.5mm threaded.

Preliminary Revision 0.9 – June 27th 2024