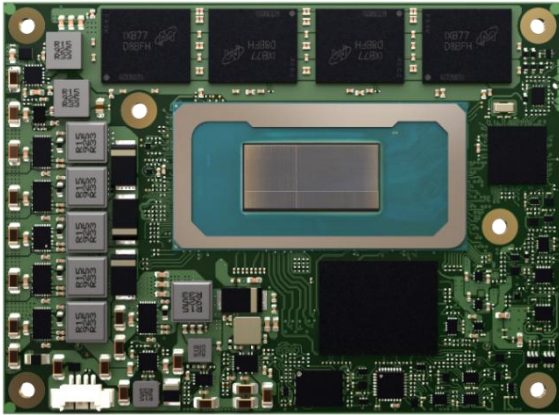


Intel® Core™ Ultra Processors Series 3

conga-HPC/mPTL



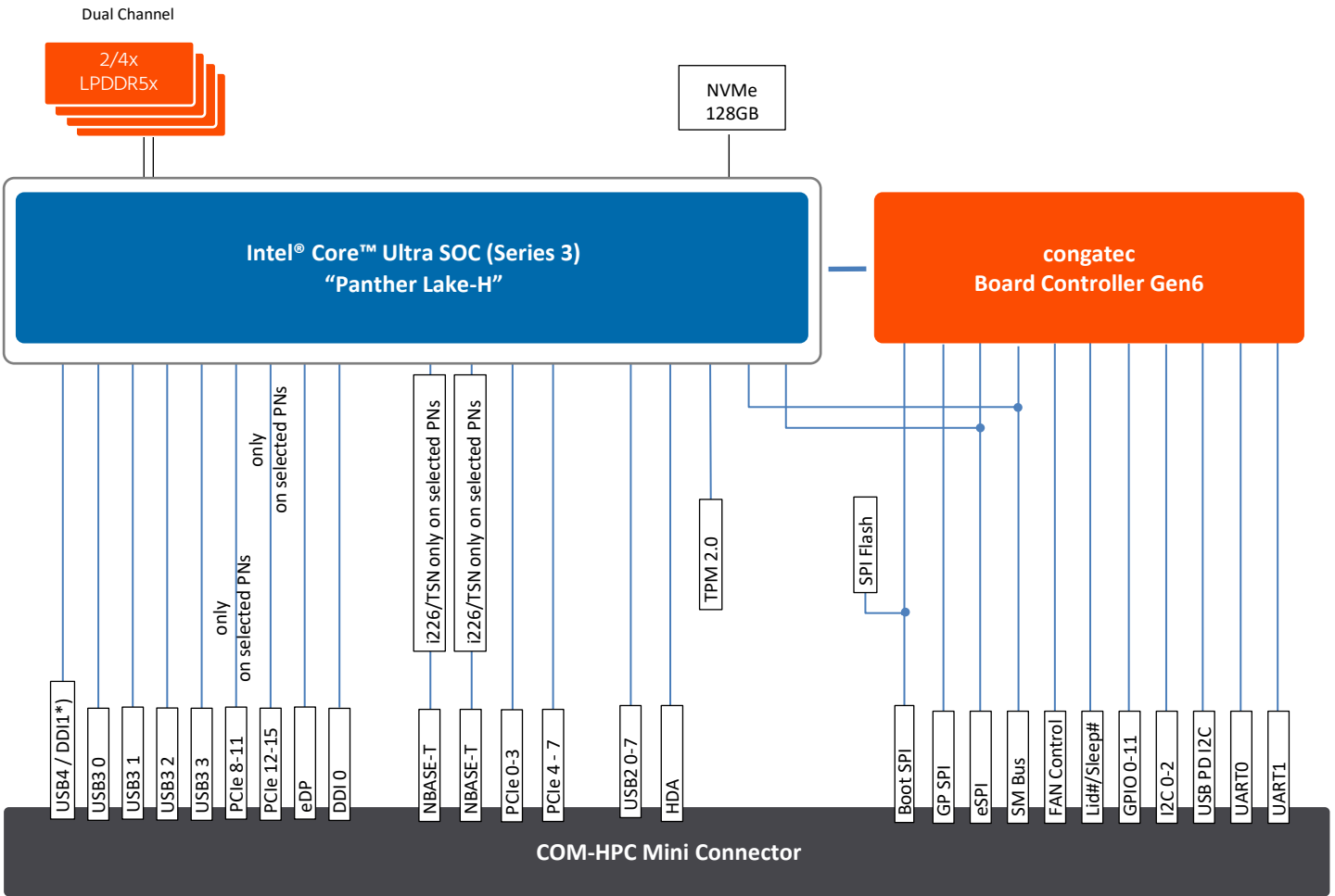
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- Intel® performance hybrid design with up to 16 cores
- Integrated NPU for dedicated AI acceleration
- Onboard LPDDR5x with in-band ECC on selected product variants
- Onboard NVMe SSD with 128GB

COM+HPC®

Form Factor	COM-HPC Mini	
CPUs	Intel® Core™ Ultra Processors (Series 3) Panther Lake-H	
DRAM	Up to 32 GB LPDDR5x soldered down (optional up to 96 GB) with max. 8.533 MT/s dual channel in-band ECC support on selected SKUs	
Graphics	Intel® Arc Graphics with up to 12 Xe cores or Intel Graphics with up to 4 Xe cores Intel® Xe Matrix Extensions	
AI Acceleration	Integrated NPU accelerator with up to 50 TOPS	
Display	DP/DP++ (adding second DP/DP++ would require separate BIOS which disables USB4) eDP	
Ethernet	2x 2.5 GbE with TSN support via Intel® i226 Ethernet controller series (TSN only on selected PNs)	
I/O Interfaces	4x x1 PCIe Gen4 1x x4 PCIe Gen5 2x x4 PCIe Gen5 on selected SKUs USB4 (USB4 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 2x UART GP_SPI eSPI SM Bus FAN Control 12x GPIO	
Audio	HDA	
Storage	NVMe SSD with 128GB (optional up to 1 TB capacity)	
congatec Board controller	Next Gen 6 congatec Board Controller Multi-stage Watchdog non-volatile User Data Storage Manufacturing and Board Information Board Statistics I ² C 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 Yocto	
Hypervisor	RTS Real-Time Hypervisor	
Temperature Range	Commercial variants	Operation: 0°C to 60°C Storage: -20°C to 80°C
	Industrial variants	Operation: -40°C to 85°C Storage: -40°C to 85°C
Humidity	Operation:	10 to 85% r. H. non cond.
	Storage:	5 to 85% r. H. non cond.
Size	95 x 70 mm ²	

conga-HPC/mPTL | Block Diagram



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

conga-HPC/mPTL | Modules Order Information

Article	PN	Description
conga-HPC/mPTL-9-386H-32G NVMe128	045800	COM-HPC Mini module based on Intel® Core™ Ultra 9 386H processor with 4 P-cores, 8 E-cores and 4 LPE Cores Integrated NPU 18MB Intel® Smart Cache LLC Intel Graphics with 4Xe Cores 32GB onboard LPDDR5x memory 128GB onboard NVMe Intel code name Panther Lake-H
conga-HPC/mPTL-X7-368H-32G NVMe128	045801	COM-HPC Mini module based on Intel® Core™ Ultra X7 368H processor with 4 P-cores, 8 E-cores and 4 LPE Cores Integrated NPU 18MB Intel® Smart Cache LLC Intel® Arc™ B390 Graphics with 12Xe Cores 32GB onboard LPDDR5x memory 128GB onboard NVMe Intel code name Panther Lake-H
conga-HPC/mPTL-7-366H-16G NVMe128	045802	COM-HPC Mini module based on Intel® Core™ Ultra 7 366H processor with 4 P-cores, 8 E-cores and 4 LPE Cores Integrated NPU 18MB Intel® Smart Cache LLC Intel Graphics with 4Xe Cores 16GB onboard LPDDR5x memory 128GB onboard NVMe Intel code name Panther Lake-H
conga-HPC/mPTL-7-356H-16G NVMe128	045803	COM-HPC Mini module based on Intel® Core™ Ultra 7 356H processor with 4 P-cores, 8 E-cores and 4 LPE Cores Integrated NPU 18MB Intel® Smart Cache LLC Intel Graphics with 4Xe Cores 16GB onboard LPDDR5x memory 128GB onboard NVMe Intel code name Panther Lake-H
conga-HPC/mPTL-5-336H-16G NVMe128	045804	COM-HPC Mini module based on Intel® Core™ Ultra 5 336H processor with 4 P-cores, 4 E-cores and 4 LPE Cores Integrated NPU 18MB Intel® Smart Cache LLC Intel Graphics with 4Xe Cores 16GB onboard LPDDR5x memory 128GB onboard NVMe Intel code name Panther Lake-H
conga-HPC/mPTL-5-325-16G NVMe128	045805	COM-HPC Mini module based on Intel® Core™ Ultra 5 325 processor with 4 P-cores and 4 LPE Cores Integrated NPU 12MB Intel® Smart Cache LLC Intel Graphics with 4Xe Cores 16GB onboard LPDDR5x memory 128GB onboard NVMe Intel code name Panther Lake-H
conga-HPC/mPTL-7-366HRE-32G NVMe128	045810	COM-HPC Mini module based on Intel® Core™ Ultra 7 366HRE processor with 4 P-cores, 8 E-cores and 4 LPE Cores Integrated NPU 18MB Intel® Smart Cache LLC Intel Graphics with 4Xe Cores 32GB onboard LPDDR5x memory 128GB onboard NVMe Industrial grade temperature range from -40°C to +85°C Intel code name Panther Lake-H
conga-HPC/mPTL-7-365RE-16G NVMe128	045811	COM-HPC Mini module based on Intel® Core™ Ultra 7 365RE processor with 4 P-cores and 4 LPE Cores Integrated NPU 12MB Intel® Smart Cache LLC Intel Graphics with 4Xe Cores 16GB onboard LPDDR5x memory 128GB onboard NVMe Industrial grade temperature range from -40°C to +85°C Intel code name Panther Lake-H
conga-HPC/mPTL-5-336HRE-32G NVMe128	045812	COM-HPC Mini module based on Intel® Core™ Ultra 5 336HRE processor with 4 P-cores, 4 E-cores and 4 LPE Cores Integrated NPU 18MB Intel® Smart Cache LLC Intel Graphics with 4Xe Cores 32GB onboard LPDDR5x memory 128GB onboard NVMe Industrial grade temperature range from -40°C to +85°C Intel code name Panther Lake-H
conga-HPC/mPTL-5-335RE-16G NVMe128	045813	COM-HPC Mini module based on Intel® Core™ Ultra 5 335RE processor with 4 P-cores and 4 LPE Cores Integrated NPU 12MB Intel® Smart Cache LLC Intel Graphics with 4Xe Cores 16GB onboard LPDDR5x memory 128GB onboard NVMe Industrial grade temperature range from -40°C to +85°C Intel code name Panther Lake-H

conga-HPC/mPTL | Accessories Order Information

Article	PN	Description
conga-HPC/EVAL-Mini	065640	Evaluation Carrier Board for congatec COM-HPC Mini modules.
conga-HPC/3.5-Mini	065630	3.5" Application Carrier Board suitable for congatec COM-HPC Mini Modules.
conga-HPC/mPTL-CSA-B	045850	Standard active cooling solution for COM-HPC module conga-HPC/mPTL with 24.8mm overall heat sink height and integrated 12V fan. All standoffs are with 2.7mm bore hole.
conga-HPC/mPTL-CSA-T	045851	Standard active cooling solution for COM-HPC module conga-HPC/mPTL with 24.8mm overall heat sink height and integrated 12V fan. All standoffs are M2.5 threaded.
conga-HPC/mPTL-CSP-B	045852	Standard passive cooling solution for COM-HPC module conga-HPC/mPTL with 24mm overall heat sink height. All standoffs are with 2.7mm bore hole.
conga-HPC/mPTL-CSP-T	045853	Standard passive cooling solution for COM-HPC module conga-HPC/mPTL with 24mm overall heat sink height. All standoffs are M2.5 threaded.
conga-HPC/mPTL-HSP-B	045854	Standard heatspreader for COM-HPC module conga-HPC/mPTL. All standoffs are with 2.7mm bore hole.
conga-HPC/mPTL-HSP-T	045855	Standard heatspreader for COM-HPC module conga-HPC/mPTL. All standoffs are M2.5 threaded.