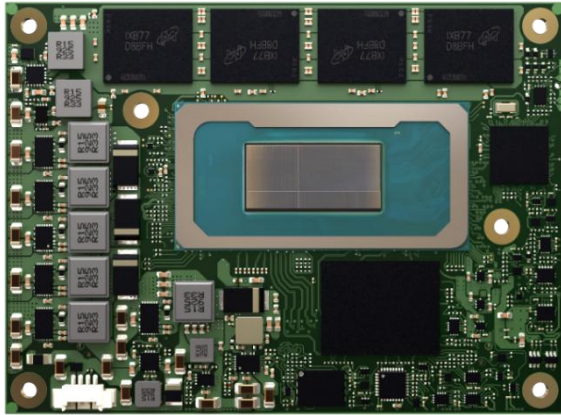


# Intel® Core™ Ultra Processors Series 3

## conga-HPC/mPTL



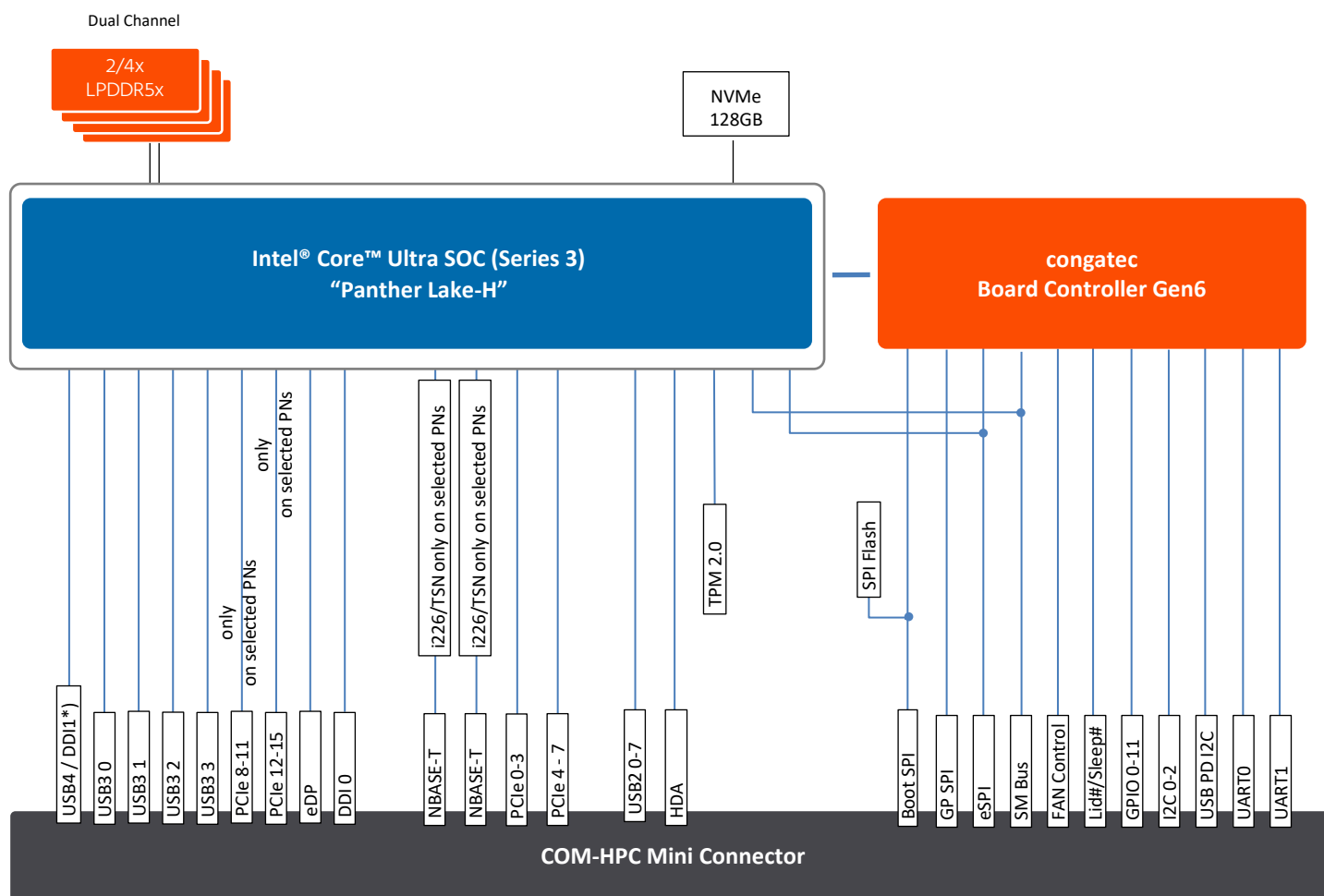
**aReady.COM**

- 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   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   Yocto		
Hypervisor	RTS Real-Time Hypervisor		
Temperature Range	Commercial variants	Operation: 0°C to 60°C	Storage: -20°C to 80°C
Humidity	Operation:	10 to 85% r. H. non cond.	
	Storage:	5 to 85% r. H. non cond.	
Size	95 x 70 mm²		

# conga-HPC/mPTL | Block Diagram



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

# conga-HPC/mPTL | 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   18 MB 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   18 MB 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   18 MB 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   18 MB 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   18 MB 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   12 MB Intel® Smart Cache LLC   Intel Graphics with 4Xe Cores   16GB onboard LPDDR5x memory   128GB onboard NVMe   Intel code name Panther Lake-H
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.