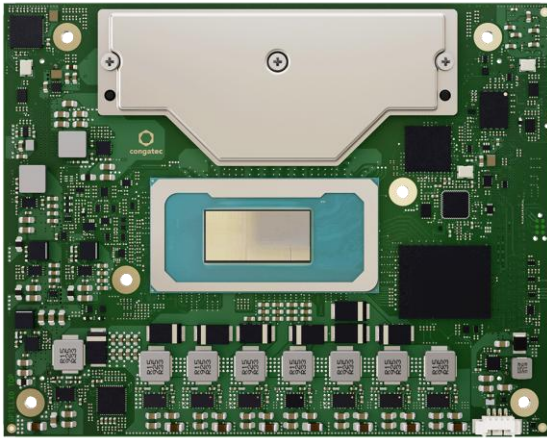


# Intel® Core™ Ultra Processors Series 3

## conga-HPC/cPTL



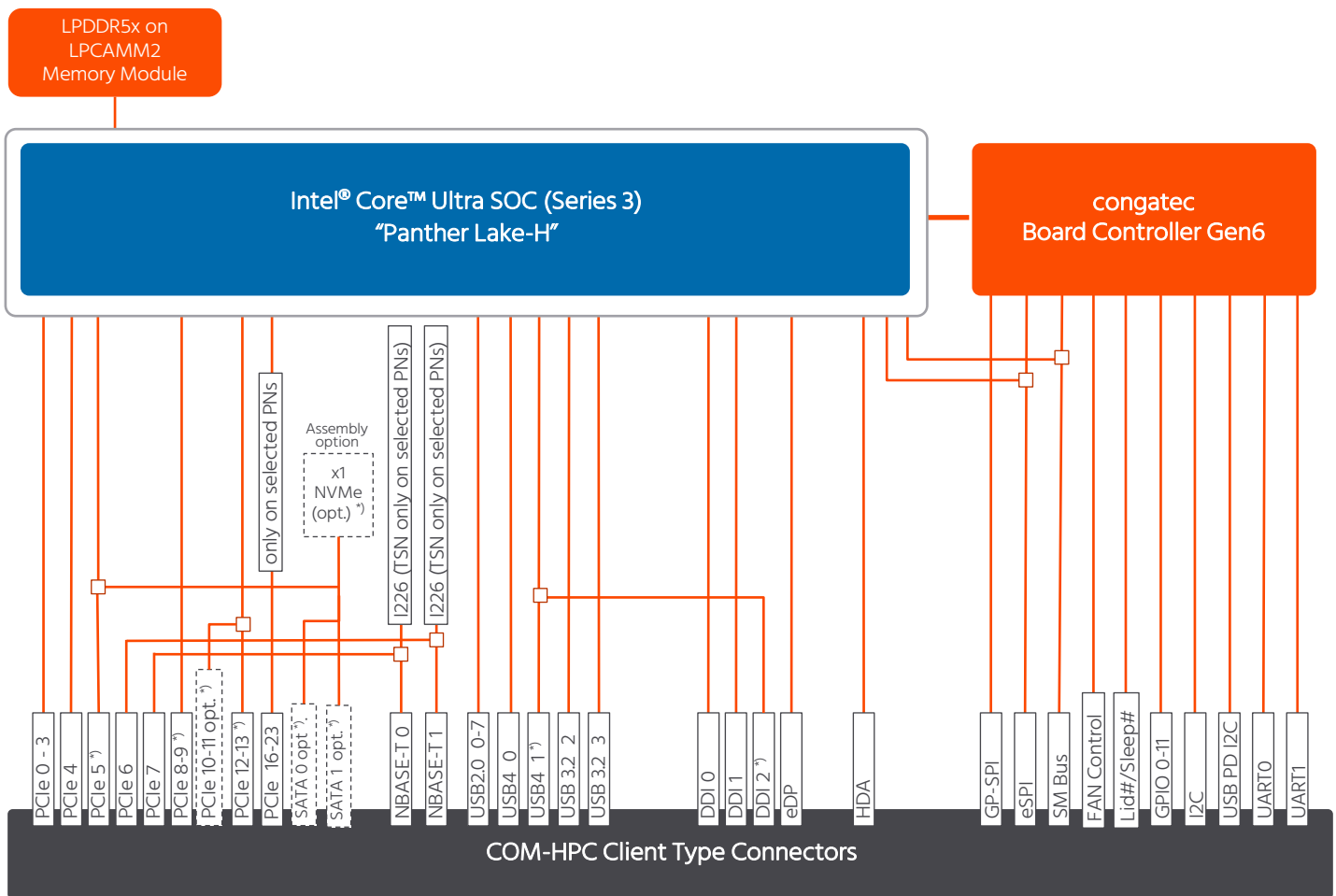
### aReady.COM

- Intel® performance hybrid design with up to 16 cores
- LPCAMM2 LPDDR5 memory
- Integrated NPU for dedicated AI acceleration
- Up to PCI Express Gen5

COM+HPC®

Form factor	COM-HPC Client Size A   Client Connector Pinout
CPUs	Intel® Core Ultra Processors (Series 3) Panther Lake-H
DRAM	LPCAMM2 socket for LPDDR5x memories up to 32GB RAM (optional up to 96GB RAM)   up to 7466 MT/s   inband-ECC on selected product variants
Mass Storage	Optional NVMe x1 SSD
Graphics	Intel® Arc Graphics with up to 12 Xe cores or Intel Graphics with up to 4 Xe cores   Intel® Xe Matrix Extensions
AI Accelerator	Integrated NPU accelerator with up to 50 TOPS
Display	Up to 3x DDI   eDP
Ethernet	2x 2.5 GbE with TSN support via Intel® i226 Ethernet controller series (TSN only on selected product variants)
I/O Interfaces	x8 PCIe Gen5 (only available on selected PNs)   2 x2 PCIe Gen5   up to 8 PCIe Gen4   up to 2x USB4   2x USB 3.2 Gen2x1   8x USB2.0   up to 2x SATA   2x UART   12x GPIO   eSPI   SM Bus   I2C   GP-SPI
Audio	HDA
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 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   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	120 x 95 mm

# conga-HPC/cPTL | Block Diagram



- \*) - DDI2/USB4 port 1 is an either-or option (the standard configuration supports USB4 port 1 only. If instead DDI2 should be supported, a customer specific variant would be required for this option).
- The x1 NVMe, SATA and PCIe 5 are either-or-options (standard configuration support PCIe 5 only. If instead SATA or NVMe should be supported, a customer specific variant would be required for this option).
- The default configuration supports PCIe on lane 8 - 9 and on lane 12 - 13 only, with no support on lane 10 - 11. There is an option to support lane 8 - 11 instead, which would mean no support on PCIe 12 - 13 (a customer specific variant would be required for this option).

Assembly option -  
only available on request

# conga-HPC/cPTL | Order Information

Article	PN	Description
conga-HPC/cPTL-X9-388H-32G NVMe128	055000	COM-HPC Size A module based on Intel® Core™ Ultra X9 388H 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 LPDDR5x on LPCAMM2 memory module   128GB onboard NVMe   Intel code name Panther Lake-H
conga-HPC/cPTL-9-386H-32G NVMe128	055001	COM-HPC Size A 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 LPDDR5x on LPCAMM2 memory module   128GB onboard NVMe   Intel code name Panther Lake-H
conga-HPC/cPTL-7-366H-16G NVMe128	055002	COM-HPC Size A 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 LPDDR5x on LPCAMM2 memory module   128GB onboard NVMe   Intel code name Panther Lake-H
conga-HPC/cPTL-7-356H-16G NVMe128	055003	COM-HPC Size A 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 LPDDR5x on LPCAMM2 memory module   128GB onboard NVMe   Intel code name Panther Lake-H
conga-HPC/cPTL-5-336H-16G NVMe128	055004	COM-HPC Size A 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 LPDDR5x on LPCAMM2 memory module   128GB onboard NVMe   Intel code name Panther Lake-H
conga-HPC/cPTL-5-325-16G NVMe128	055005	COM-HPC Size A 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 LPDDR5x on LPCAMM2 memory module   128GB onboard NVMe   Intel code name Panther Lake-H
conga-HPC/EVAL-Client	065600	COM-HPC Evaluation Carrier Board for congatec 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.
conga-HPC/cPTL-CSA-HP-B	055050	Standard active cooling solution for COM-HPC module conga-HPC/cPTL with integrated heat pipes, 29mm height and integrated 12V fan. All standoffs are with 2.7mm bore hole.
conga-HPC/cPTL-CSA-HP-T	055051	Standard active cooling solution for COM-HPC module conga-HPC/cPTL with integrated heat pipes, 29mm height and integrated 12V fan. All standoffs are M2.5mm threaded.
conga-HPC/cPTL-CSP-HP-B	055052	Standard passive cooling solution for COM-HPC module conga-HPC/cPTL with integrated heat pipes, 28.2mm height. All standoffs are with 2.7mm bore hole.
conga-HPC/cPTL-CSP-HP-T	055053	Standard passive cooling solution for COM-HPC module conga-HPC/cPTL with integrated heat pipes, 28.2mm height. All standoffs are M2.5mm threaded.
conga-HPC/cPTL-HSP-HP-B	055054	Standard heatspreader for COM-HPC module conga-HPC/cPTL with integrated heat pipes, 13mm height. All standoffs are with 2.7mm bore hole.
conga-HPC/cPTL-HSP-HP-T	055055	Standard heatspreader for COM-HPC module conga-HPC/cPTL with integrated heat pipes, 13mm height. All standoffs are M2.5mm threaded.