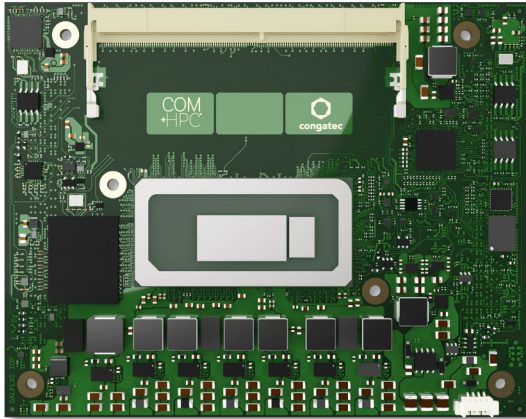


# 12<sup>th</sup> Gen Intel® Core™ Embedded mobile Processors

## conga-HPC/cALP

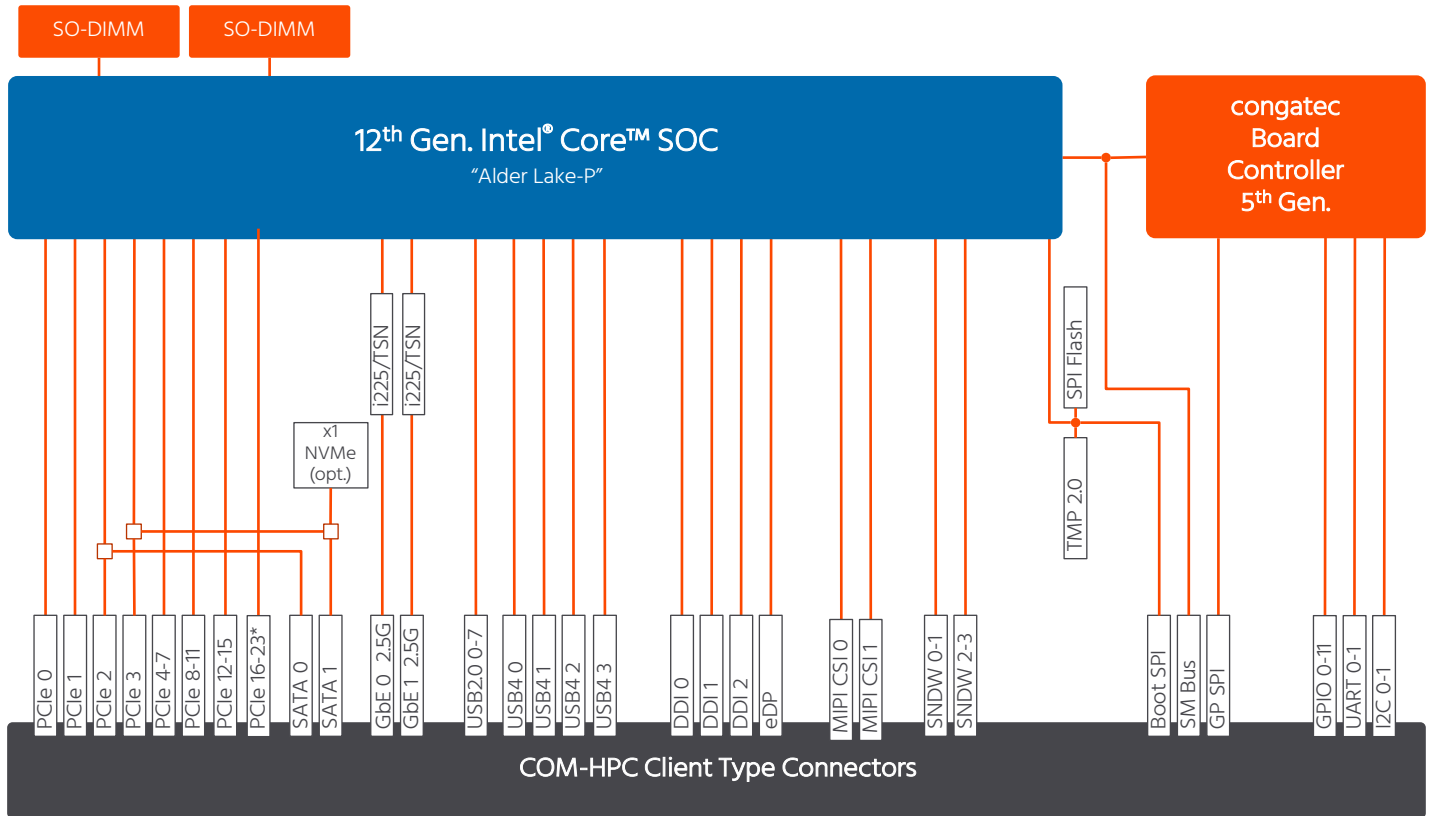


### COM+HPC®

- Intel® hybrid design combines Performance-cores with Efficient-cores
- UP to Intel® Iris® Xe Graphics architecture with up to 96 EUs
- PCI Express Gen 4 | USB 4
- AI Acceleration with Intel® Deep Learning Boost (VNNI)
- Embedded Use Condition SKUs

<b>Form factor</b>	COM-HPC Client Size A   Client Connector Pinout						
<b>CPU</b>	CPU	TDP Target	Cores count (P+E)	Processor Threads	P-cores Freq. GHz	E-cores Freq. GHz	Gfx Execution Units
	i7-12800HE	45W	14 (6+8)	20	2.4 / 4.6	1.8 / 3.5	96
	i5-12600HE	45W	12 (4+8)	16	2.5 / 4.5	1.8 / 3.3	80
	i3-12300HE	45W	8 (4+4)	12	1.9 / 4.3	1.5 / 3.3	48
<b>DRAM</b>	2 SO-DIMM sockets for DDR5 memory modules up to 32 GByte each (max. 64 GByte system capacity)   up to 4800 MT/s						
<b>Mass Storage</b>	NVMe x1 SSD (optional)						
<b>Graphics</b>	Intel® UHD Graphics or Intel® Iris® Xe Graphics architecture   up to 96 EUs						
<b>Display</b>	3x DDI (up to 8K support)   eDP						
<b>Ethernet</b>	2x 2.5 GbE TSN Ethernet (via Intel® i225 LM)						
<b>I/O Interfaces</b>	Up to x8 PCIe Gen4   2 x4 PCIe Gen4   up to 8 PCIe Gen3   up to 2x Thunderbolt   2x USB 3.2 Gen2x1   8x USB2.0   up to 2x SATA   2x UART   2x MIPI-CSI   12x GPIO   eSPI   SM Bus   I2C   GSPi						
<b>Audio</b>	2x Soundwire fixed   2x Soundwire or HDA or I2S (opt.)						
<b>congatec Board controller</b>	Multi Stage Watchdog   non-volatile User Data Storage   Manufacturing and Board Information   Board Statistics   I <sup>2</sup> C bus (fast mode, 400 kHz, multi-master)   Power Loss Control   Hardware Health Monitoring   POST Code Redirection						
<b>Embedded BIOS Feature</b>	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						
<b>Security</b>	Trusted Platform Module (TPM 2.0)						
<b>Power Management</b>	ACPI 6.0 with battery support						
<b>Operating Systems</b>	Microsoft® Windows 11   Microsoft® Windows 10   Microsoft® Windows 10 IoT Enterprise   Linux   Yocto   Real Time Systems Hypervisor						
<b>Temperature</b>	Operating.: 0°C ... +60°C			Storage.: -20°C ... +70°C			
<b>Humidity</b>	Operating.: 10% ... 90% r. H. non cond.			Storage.: 5% ... 95% r. H. non cond.			
<b>Size</b>	120 x 95 mm						

# conga-HPC/cALP | Block Diagram



\* available on selected SKUs

# conga-HPC/cALP | Bottom Side View

