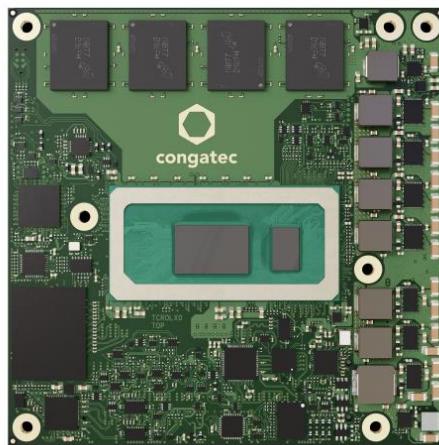


13th Gen Intel® Core™ Embedded mobile Processors

conga-TC675r

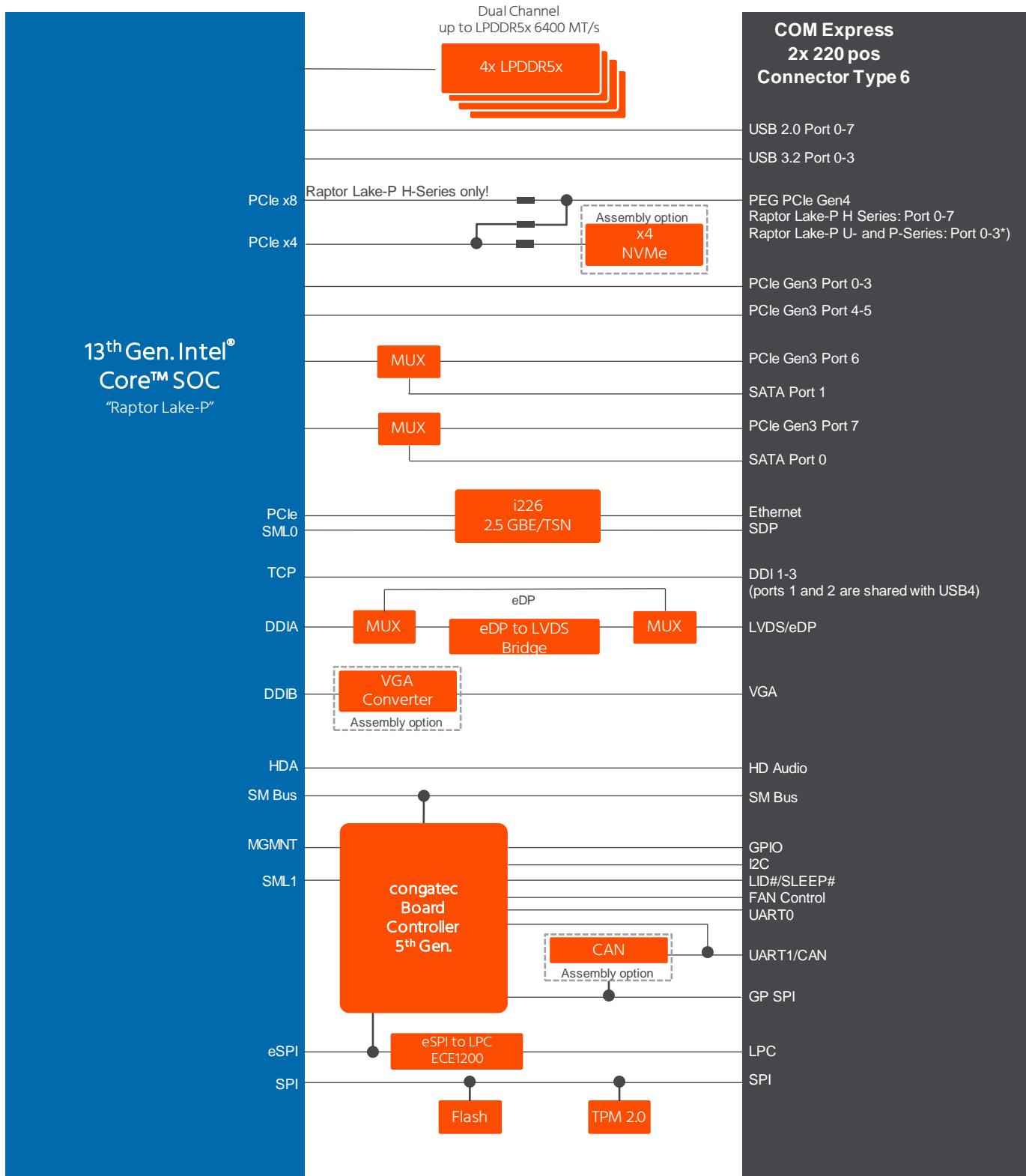


COM Express®

- 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)
- Options for Industrial Temperature Range -40°C up to +85°C

Form factor	COM Express® Compact Type 6 connector pinout	
CPUs	Intel® Core™ 13 th Gen Processors Raptor Lake-P (H-Series, P-Series, U-Series)	
DRAM	Up to 32 GB (optional 64GB) LPDDR5x with up to 6000 MT/s SDRAM memory down dual channel IBECC	
Mass Storage	NVMe x4 SSD (optional)	
Graphics	Intel® UHD Graphics or Intel® Iris® Xe Graphics architecture up to 96 EUs	
Display	Up to 3x DDI (2x shared with USB4) LVDS or eDP VGA (optional)	
Ethernet	2.5 GbE with TSN support via Intel® i226 Ethernet controller series	
I/O Interfaces	Up to 8 PCIe Gen4 PEG (H-Series) or up to 4 PCIe Gen4 PEG (P- and U-Series) up to 8 PCIe Gen3 up to 2x USB4 4x USB 3.2 Gen2 (incl. USB 2.0) + 4x USB 2.0 up to 2x SATA up to 2x UART CAN (opt.) 8x GPIOs GP SPI LPC SM Bus I2C	
Audio	HDA	
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 default settings LCD Control Display Auto Detection Backlight Control Flash Update	
Security	Trusted Platform Module (TPM 2.0)	
Power Management	Modern Standby	
Operating Systems	Microsoft® Windows 11 IoT Enterprise Microsoft® Windows 10 Microsoft® Windows 10 IoT Enterprise Linux Yocto	
Hypervisor	RTS Real-Time Hypervisor	
Temperature	Operation -40°C to 85°C	Storage -40°C to 85°C
Humidity	Operation 10% to 90% r. H. non cond.	Storage 5% to 95% r. H. non cond.
Size	95 x 95 mm	

conga-TC675r | Block Diagram



*) If Assembly option for NVMe is used there is no PCIe support on PEG Port

conga-TC675r | Modules Order Information

Article	PN	Description
conga-TC675r/i7-13800HRE-32G	045330	COM Express Type 6 Compact module based on Intel® Core™ i7-13800HRE processor with 6 P-cores 2.5GHz up to 5.0GHz Turbo and 8 E-cores 1.8GHz up to 4.0GHz Turbo 24MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 96 EU's 32 GByte dual channel LPDDR5x memory down Industrial grade temperature range from -40°C to +85°C Intel® code name Raptor Lake-P (H-Series)
conga-TC675r/i7-1370PRE-16G	045331	COM Express Type 6 Compact 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 EU's 16 GByte dual channel LPDDR5x memory down Industrial grade temperature range from -40°C to +85°C Intel® code name Raptor Lake-P (P-Series)
conga-TC675r/i7-1365URE-16G	045332	COM Express Type 6 Compact 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 EU's 16 GByte dual channel LPDDR5x memory down Industrial grade temperature range from -40°C to +85°C Intel® code name Raptor Lake-P (U-Series)
conga-TC675r/i5-13600HRE-16G	045333	COM Express Type 6 Compact module based on Intel® Core™ i5-13600HRE processor with 4 P-cores 2.7GHz up to 4.8GHz Turbo and 8 E-cores 1.9GHz up to 3.6GHz Turbo 18MB Intel® Smart Cache Intel® Iris® Xe Graphics architecture with 80 EU's 16 GByte dual channel LPDDR5x memory down Industrial grade temperature range from -40°C to +85°C Intel® code name Raptor Lake-P (H-Series)
conga-TC675r/i5-1350PRE-16G	045334	COM Express Type 6 Compact 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 EU's 16 GByte dual channel LPDDR5x memory down Industrial grade temperature range from -40°C to +85°C Intel® code name Raptor Lake-P (P-Series)
conga-TC675r/i3-1320PRE-16G	045337	COM Express Type 6 Compact 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 48EU's 16 GByte dual channel LPDDR5x memory down Industrial grade temperature range from -40°C to +85°C Intel® code name Raptor Lake-P (P-Series)

conga-TC675r | Accessories Order Information

Article	PN	Description
conga-TC675/CSA-HP-B	049750	Standard active cooling solution for high performance COM Express module conga-TC675 with integrated heat pipes, 25.5mm height and integrated 12V fan. All standoffs are with 2.7mm bore hole.
conga-TC675/CSA-HP-T	049751	Standard active cooling solution for high performance COM Express module conga-TC675 with integrated heat pipes, 25.5mm height and integrated 12V fan. All standoffs are M2.5mm threaded.
conga-TC675/CSP-HP-B	049752	Standard passive cooling solution for high performance COM Express module conga-TC675 with integrated heat pipes, 24.7mm height. All standoffs are with 2.7mm bore hole.
conga-TC675/CSP-HP-T	049753	Standard passive cooling solution for high performance COM Express module conga-TC675 with integrated heat pipes, 24.7mm height. All standoffs are M2.5mm threaded.
conga-TC675/HSP-HP-B	049754	Standard heatspreader for high performance COM Express module conga-TC675 with integrated heat pipes, 11mm height. All standoffs are with 2.7mm bore hole.
conga-TC675/HSP-HP-T	049755	Standard heatspreader for high performance COM Express module conga-TC675 with integrated heat pipes, 11mm height. All standoffs are M2.5mm threaded.
conga-TEVAL2	065810	Evaluation carrier board for COM Express Type6 rev3.0 modules.
conga-TEVAL/COMe 3.1	065820	Evaluation carrier board for COM Express Type6 rev3.1 modules.