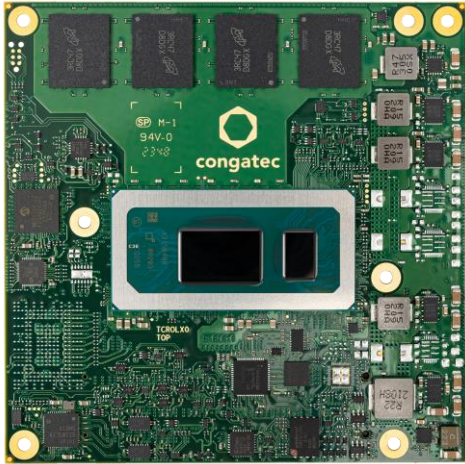


# 13<sup>th</sup> Gen Intel® Core™ Embedded mobile Processors

## conga-TC675r



**COM**  **Express®**

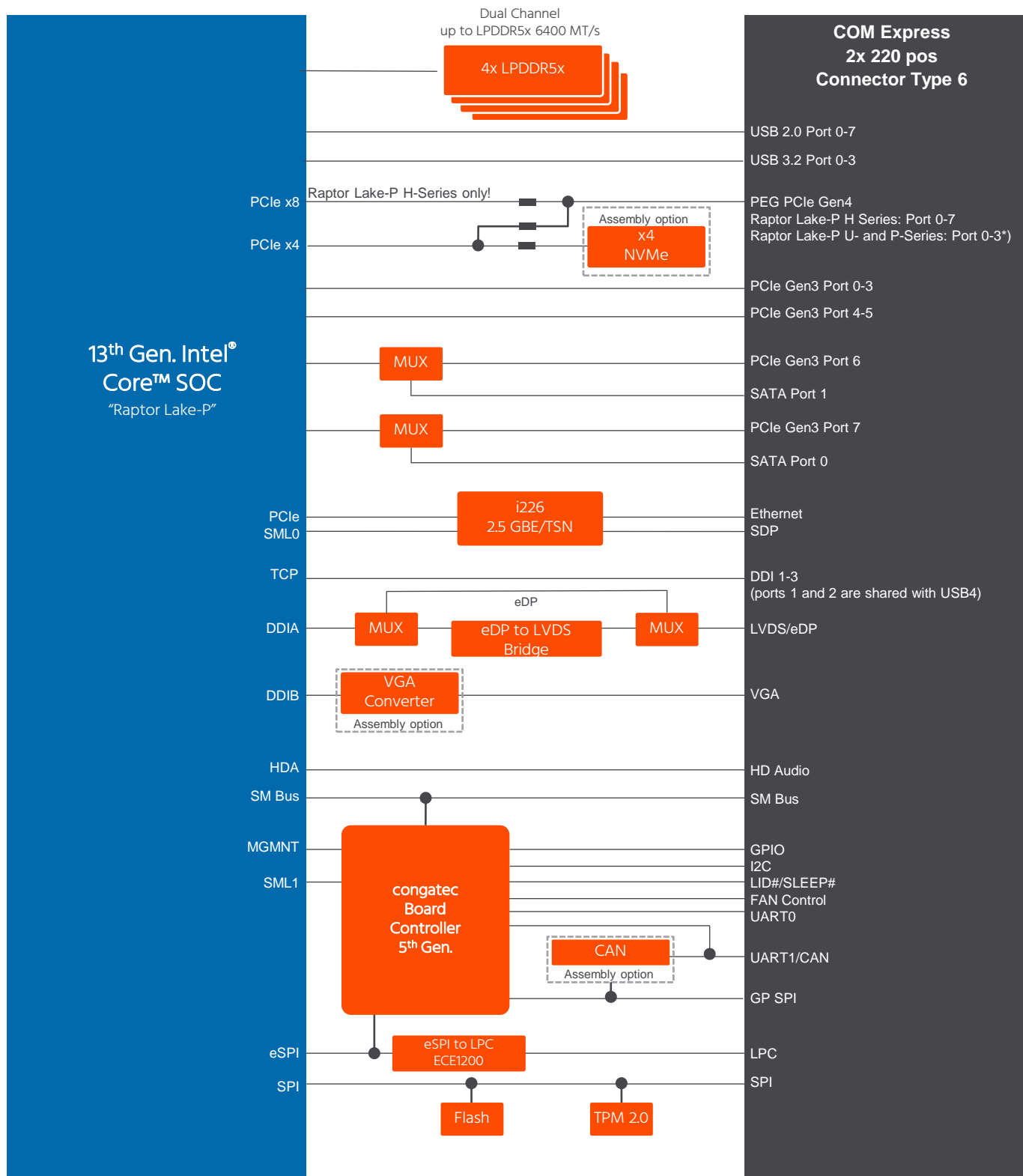



**VIRTUALIZATION READY**

- Intel® hybrid design combines Performance-cores with Efficient-cores
- Onsoldered LPDDR5x with up to 6400 MT/s
- PCI Express Gen 4 | up to USB 4
- Options for Industrial Temperature Range -40°C to +85°C

Form factor	COM Express® Compact   Type 6 connector pinout	
CPU	Intel® Core™ 13 <sup>th</sup> Gen Processors Raptor Lake-P (H-Series, P-Series, U-Series)	
DRAM	Up to 32 GB (optional 64GB) LPDDR5x with up to 6400 MT/s SDRAM   memory down   dual channel   IB ECC	
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 <sup>2</sup> 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	ACPI 5.0a with battery support	
Operating Systems	Microsoft® Windows 11   Microsoft® Windows 11 IoT Enterprise   Microsoft® Windows 10   Microsoft® Windows 10 IoT Enterprise   Linux   Yocto	
Hypervisor	RTS Real-Time Hypervisor	
Temperature Range	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 95 mm	

# conga-TC675r | Block Diagram



 Assembly option – only available on request

\*) If Assembly option for NVMe is used there is no PCle 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® X <sup>e</sup> Graphics architecture with 96 EUs   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® X <sup>e</sup> Graphics architecture with 96 EUs   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® X <sup>e</sup> Graphics architecture with 96 EUs   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® X <sup>e</sup> Graphics architecture with 80EUs   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® X <sup>e</sup> Graphics architecture with 80 EUs   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 48EUs   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-TEVAL3/COMe 3.1	065820	Evaluation carrier board for COM Express Type6 rev3.1 modules.