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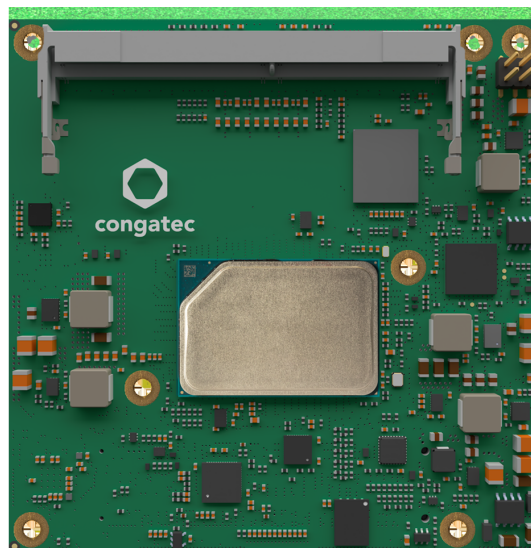


# Datasheet

## Congatec

### conga-TCA7

**COM Express® Compact Typ 6 Modul with Intel® Elkhart Lake  
Atom® x6000, Pentium® and Celeron® J-Serie Prozessor**



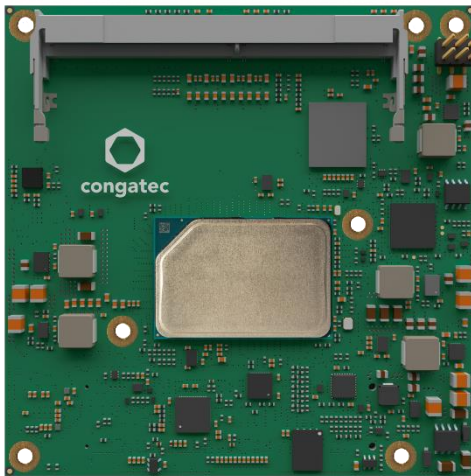
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# EMBEDDED COM EXPRESS® TYPE 6

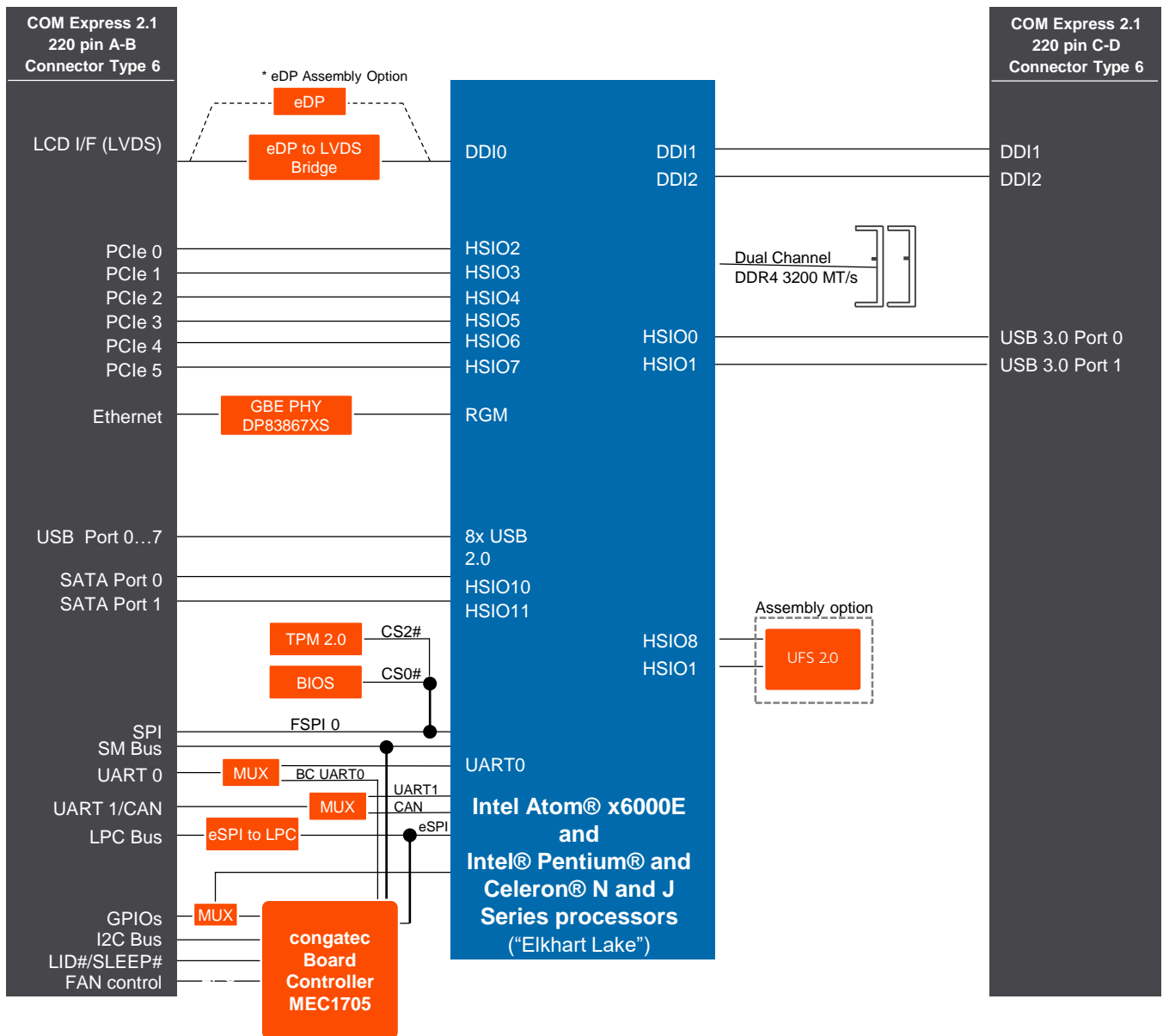
## conga-TCA7



- COM Express Type 6 Compact based on Intel® Atom® x6000E Series and Intel® Pentium® and Celeron® J Series processors (code-named Elkhart Lake)
- High performance Intel® UHD Graphics (Gen11)
- Options for Industrial Temperature Range -40°C to 85°C
- Time Sensitive Networking and Time Coordinated Computing for improved Realtime Capability
- Up to 3.200 MT/s DDR4 SODIMM Memory Support with Inband ECC
- UFS 2.0 for higher bandwidth and data processing (optional)

<b>Form Factor</b>	COM Express® Compact   Type 6   (95 x 95 mm)					
<b>CPU</b>	Processor	TDP	Cores/Threads	Base Frequ./Turbo	Gen 11 Gfx	Intel Use Condition
	J6413	10W	4 / 4	1.8 GHz / 3.0 GHz	16 EU	PC Client
	J6425	10W	4 / 4	1.8 GHz / 3.0 GHz	32 EU	PC Client
	x6211E	6W	2 / 2	1.2 GHz / 3.0 GHz	16 EU	Embedded
	x6413E	9W	4 / 4	1.5 GHz / 3.0 GHz	16 EU	Embedded
	x6425E	12W	4 / 4	1.8 GHz / 3.0 GHz	32 EU	Embedded
	x6212RE	6W	2 / 2	1.2 GHz / ---	16 EU	Industrial
	x6414RE	9W	4 / 4	1.5 GHz / ---	16 EU	Industrial
	x6425RE	12W	4 / 4	1.9 GHz / ---	32 EU	Industrial
<b>DRAM</b>	Support for 2x SO DIMM on socket (dual channel DDR4 up to 3.200 MT/s)   max. 32 GB system capacity					
<b>Ethernet</b>	Intel® GbE with TSN support and Out-Of-Band Management   real-time trigger					
<b>I/O Interfaces</b>	Up to 6x PCIe Gen3   2x USB 3.1 Gen2   up to 8x USB 2.0   2x SATA III   2x UART (UART1 muxed with CAN)   GPIO   I <sup>2</sup> C Bus   SMBus   SPI   LPC					
<b>Mass Storage</b>	Option for UFS 2.0 onboard flash up to 512 Gbyte					
<b>Sound</b>	HD Audio Intel® LPE Audio via I2S					
<b>Graphics</b>	Intel® UHD Graphics (Gen11)					
<b>LVDS</b>	Dual channel 18/24 bit LVDS interface up to 1920x1200@60Hz   shared with eDP up to 3840x2160@60Hz (option)					
<b>Digital Display Interface</b>	2x DisplayPort 1.4 4096x2160@60Hz or HDMI 2.0 4096x2160@60Hz					
<b>congatec Board controller</b>	Multistage watchdog   non-volatile user data storage   manufacturing and board Information   board statistics   fast mode and multi-master I <sup>2</sup> C bus   power loss control					
<b>Embedded BIOS Feature</b>	AMI Aptio® UEFI firmware   32 MByte serial SPI with congatec Embedded BIOS features   OEM Logo   OEM CMOS Defaults   LCD Control   Display Auto Detection   Backlight Control   Flash Update					
<b>Power Management</b>	ACPI 5.0 compliant   Smart Battery Management					
<b>Operating Systems</b>	Microsoft® Windows 10   Microsoft® Windows 10 IoT Enterprise   Microsoft® Windows IoT 10 Core   Linux (Yocto Project)   Android   RTS Hypervisor					
<b>Power Consumption</b>	Typ. Application: see manual for full details					
<b>Temperature Range</b>	Commercial: Operating Temperature: 0 to +60°C		Storage Temperature: -20 to +80°C			
	Industrial: Operating Temperature: -40 to +85°C		Storage Temperature: -40 to +85°C			
<b>Humidity</b>	Operating Humidity: 10 to 90% r. H. non cond. Storage Humidity: 5 to 95% r. H. non cond.					
<b>Size</b>	95 x 95 mm (approx. 3.74" x 3.74")					

# conga-TCA7 | Block Diagram



**Note:** Assembly options on request only

# conga-TCA7 | Order Information

Article	PN	Description
conga-TCA7/x6425E	049300	COM Express Compact module with Intel® Atom® x6425E quad core processor with 1.8GHz core frequency up to 3.0GHz, 1.5MB cache and up to 32GB 3200MT/s DDR4 SODIMM memory support
conga-TCA7/x6413E	049301	COM Express Compact module with Intel® Atom® x6413E quad core processor with 1.5GHz core frequency up to 3.0GHz, 1.5MB cache and up to 32GB 3200MT/s DDR4 SODIMM memory support
conga-TCA7/x6211E	049302	COM Express Compact module with Intel® Atom® x6211E dual core processor with 1.2GHz core frequency up to 3.0GHz, 1.5MB cache and up to 32GB 3200MT/s DDR4 SODIMM memory support
conga-TCA7/i-x6425RE	049310	COM Express Compact module with Intel® Atom® x6425RE quad core processor with 1.9GHz core frequency, 1.5MB cache and up to 32GB 3200MT/s DDR4 SODIMM memory support. Industrial grade temperature range from -40°C to 85°C.
conga-TCA7/i-x6414RE	049311	COM Express Compact module with Intel® Atom® x6414RE quad core processor with 1.5GHz core frequency, 1.5MB cache and up to 32GB 3200MT/s DDR4 SODIMM memory support. Industrial grade temperature range from -40°C to 85°C.
conga-TCA7/i-x6212RE	049312	COM Express Compact module with Intel® Atom® x6212RE dual core processor with 1.2GHz core frequency, 1.5MB cache and up to 32GB 3200MT/s DDR4 SODIMM memory support. Industrial grade temperature range from -40°C to 85°C.
conga-TCA7/J6425	049320	COM Express Compact module with Intel® Pentium® J6425 quad core processor with 1.8GHz core frequency up to 3.0GHz, 1.5MB cache and up to 32GB 3200MT/s DDR4 SODIMM memory support.
conga-TCA7/J6413	049321	COM Express Compact module with Intel® Celeron® J6413 quad core processor with 1.8GHz core frequency up to 3.0GHz, 1.5MB cache and up to 32GB 3200MT/s DDR4 SODIMM memory support

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