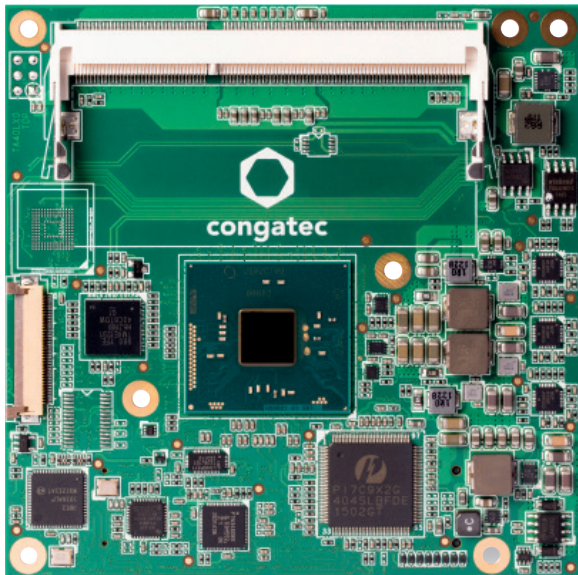


# LOW POWER CONSUMPTION

# conga-TCA4

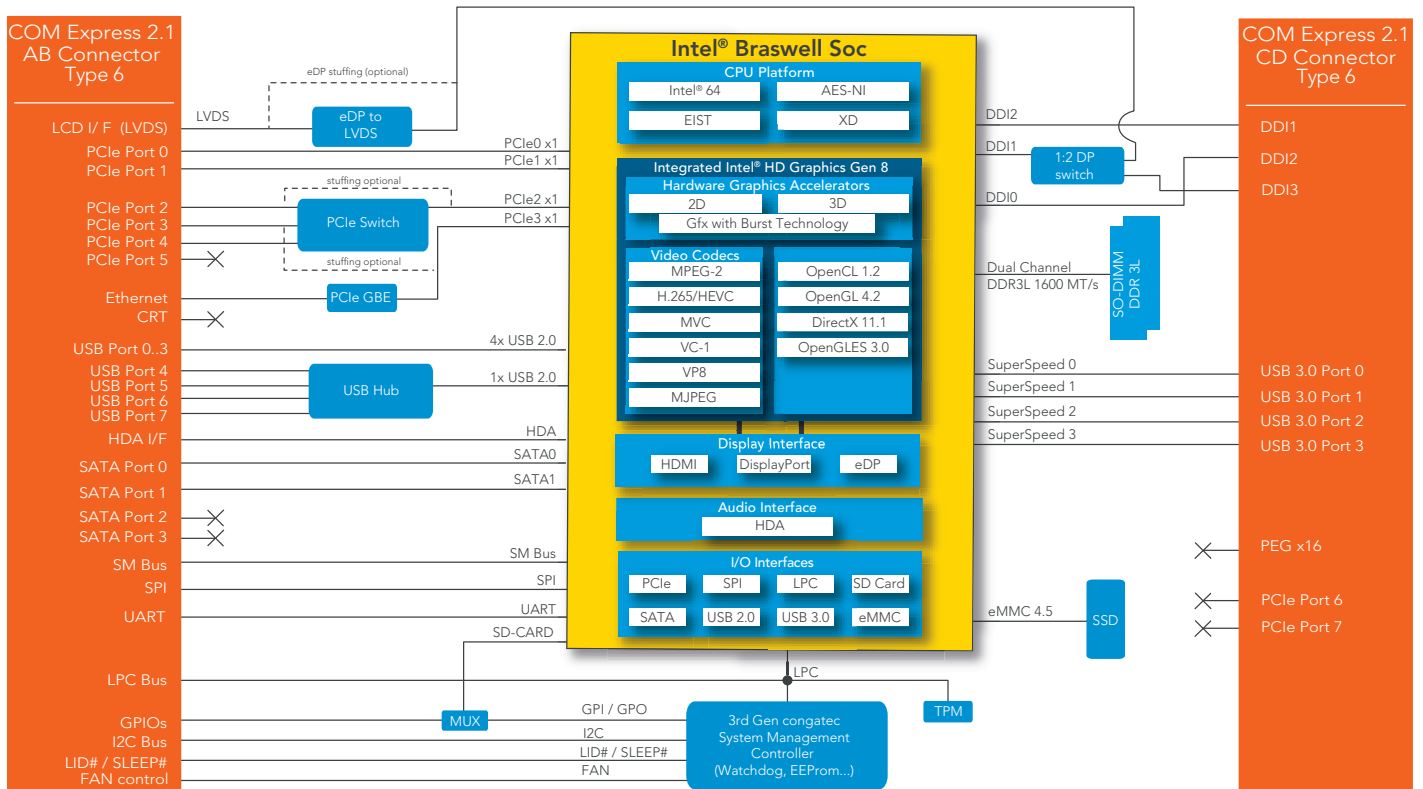


- First Intel® Pentium® Quad Core on COM Express
- High performance Intel® Gen. 8 graphics
- Up to 4k resolution (3840x2160px)
- 3x independent display support
- HW accelerating Video decoding with H.265/HEVC
- Fast I/Os SATA3, USB 3.0 and PCIe 2.0

**COM**  **Express®**

Formfactor	Formfactor COM Express® Compact   (95 x 95 mm)   Type 6 Connector Layout					
CPU	Intel® Pentium® N3710	2.56 GHz (Burst)   1.6 GHz Clock	Quad Core	L2 cache 2MB	4W SDP   6W TDP	
	Intel® Celeron® N3160	2.24 GHz (Burst)   1.6 GHz Clock	Quad Core	L2 cache 2MB	4W SDP   6W TDP	
	Intel® Celeron® N3060	2.48 GHz (Burst)   1.6 GHz Clock	Dual Core	L2 cache 2MB	4W SDP   6W TDP	
	Intel® Celeron® N3010	2.24 GHz (Burst)   1.04 GHz Clock	Dual Core	L2 cache 2MB	3W SDP   4W TDP	
	Intel® Atom™ X5-E8000	2.00 GHz (Burst)   1.04 GHz Clock	Quad Core	L2 cache 2MB	4W SDP   5W TDP	
DRAM	2 SO-DIMM sockets for DDR3L memory modules up to 8 GByte with 1600 MT/s   Dual channel memory interface for increased graphics performance					
Chipset	Integrated in SoC					
Ethernet	Intel I211 Gigabit Ethernet					
I/O Interfaces	5x PCIe x1   4x USB 3.0 (XHCI)   8x USB 2.0 (EHCI)   2x SATA III   LPC   SPI   I <sup>2</sup> C bus (fast mode 400 kHz   multi-master)   SDIO 2x UART (RX/TX)s   MIPI-CSI (optional)					
Sound	Digital High Definition Audio Interface					
Graphics	Intel® HD Graphics Gen 8   Full hardware acceleration for MPEG2   H.265/HEVC   DirectX11.1   OpenCL 1.2   OpenGL 4.2   OpenGL ES 3.0					
LVDS	Dual channel LVDS transmitter   support for flat panels with 2x24 bit data mapping up to a resolution of 1920x1200@60Hz.					
Digital Display Interface (DDI)	Up to 3x DisplayPort 1.1a or 2x HDMI 1.4b (max. 3840x2160 @ 30Hz)   1x eDP 1.4					
congatec Board Controller	Multi Stage Watchdog   non-volatile User Data Storage   Manufacturing and Board Information   Board Statistics   BIOS Setup Data Backup I <sup>2</sup> C bus (fast mode, 400 kHz, multi-master)   Power Loss Control					
Embedded BIOS Features	OEM Logo   OEM CMOS Defaults   LCD Control   Display Auto Detection   Backlight Control   Flash Update   based on AMI Aptio UEFI					
Security	Trusted Platform Module (TPM) optional. Hash and RSA algorithms   key lengths up to 2048 bits   real random number generator					
Power Management	ACPI 5.0 with battery support					
Operating Systems	Microsoft® Windows 10   Microsoft® Windows 10 IoT Enterprise   Microsoft® Windows 8   Microsoft® Windows 7   Linux   Microsoft® Windows Embedded Standard   Yocto					
Power Consumption	see user's guide for full details   CMOS Battery Backup					
Temperature	Commercial :	Operating: 0 to +60°C	Storage: -20 to +80°C			
Humidity	Operating: 10 - 90% r. H. non cond. Storage: 5 - 95% r. H. non cond.					
Size	95 x 95 mm (3.74" x 3.74")					

# conga-TCA4 | Block diagram



# conga-TCA4 | Order Information

Article	PN	Description
conga-TCA4/N3710	048310	Intel® Pentium® N3710 quad core with 1.60GHz (up to 2.56GHz)   2MB L2 cache   1600MT/s dual channel DDR3L memory interface
conga-TCA4/N3160	048311	Intel® Celeron™ N3160 quad core with 1.60GHz (up to 2.24GHz)   2MB L2 cache   1600MT/s dual channel DDR3L memory interface
conga-TCA4/N3060	048312	Intel® Celeron™ N3060 dual core with 1.60GHz (up to 2.48GHz)   2MB L2 cache   1600MT/s dual channel DDR3L memory interface
conga-TCA4/N3010	048313	Intel® Celeron™ N3010 dual core with 1.04GHz (up to 2.24GHz)   2MB L2 cache   1600MT/s dual channel DDR3L memory interface
conga-TCA4/E8000	048314	Intel® Atom™ X5-E8000 quad core with 1.04GHz (up to 2.00GHz)   2MB L2 cache   1600MT/s dual channel DDR3L memory interface
TCA3/HSP-T*	047350	Standard heatspreader for COM Express module conga-TCA3. All standoffs are M2.5 thread.
TCA3/HSP-B*	047351	Standard heatspreader for COM Express module conga-TCA3. All standoffs are 2.7mm bore hole.
TCA3/CSP-T*	047352	Standard passive cooling solution for COM Express module conga-TCA3 with 20mm overall heat sink height. All standoffs are M2.5mm thread.
TCA3/CSP-B*	047353	Standard passive cooling solution for COM Express module conga-TCA3 with 20mm overall heat sink height. All standoffs are 2.7mm bore hole.
DDR3L-SODIMM-1600 (2GB)	068755	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 2GB RAM
DDR3L-SODIMM-1600 (4GB)	068756	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 4GB RAM
DDR3L-SODIMM-1600 (8GB)	068757	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 8GB RAM

\* cooling solutions also for conga-TCA4

## Accessories

conga-TEVAL	065810	Evaluation carrier board for Type 6 COM-Express-modules
conga-LDVI/EPI	011115	LVDS to DVI converter board for digital flat panels with onboard EEPROM
COM-Express-carrier-board-Socket-5	400007	Connector for COM-Express carrier boards   height 5mm   packing unit 4 pieces
COM-Express-carrier-board-Socket-8	400004	Connector for COM-Express carrier boards   height 8mm   packing unit 4 pieces