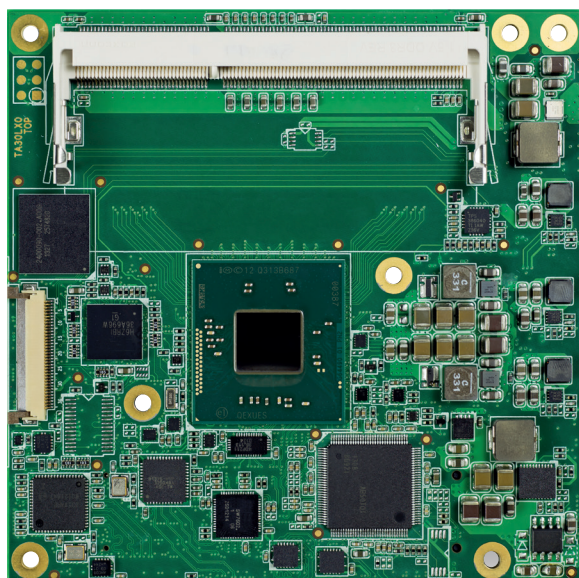


# LOW POWER CONSUMPTION

## conga-TCA3

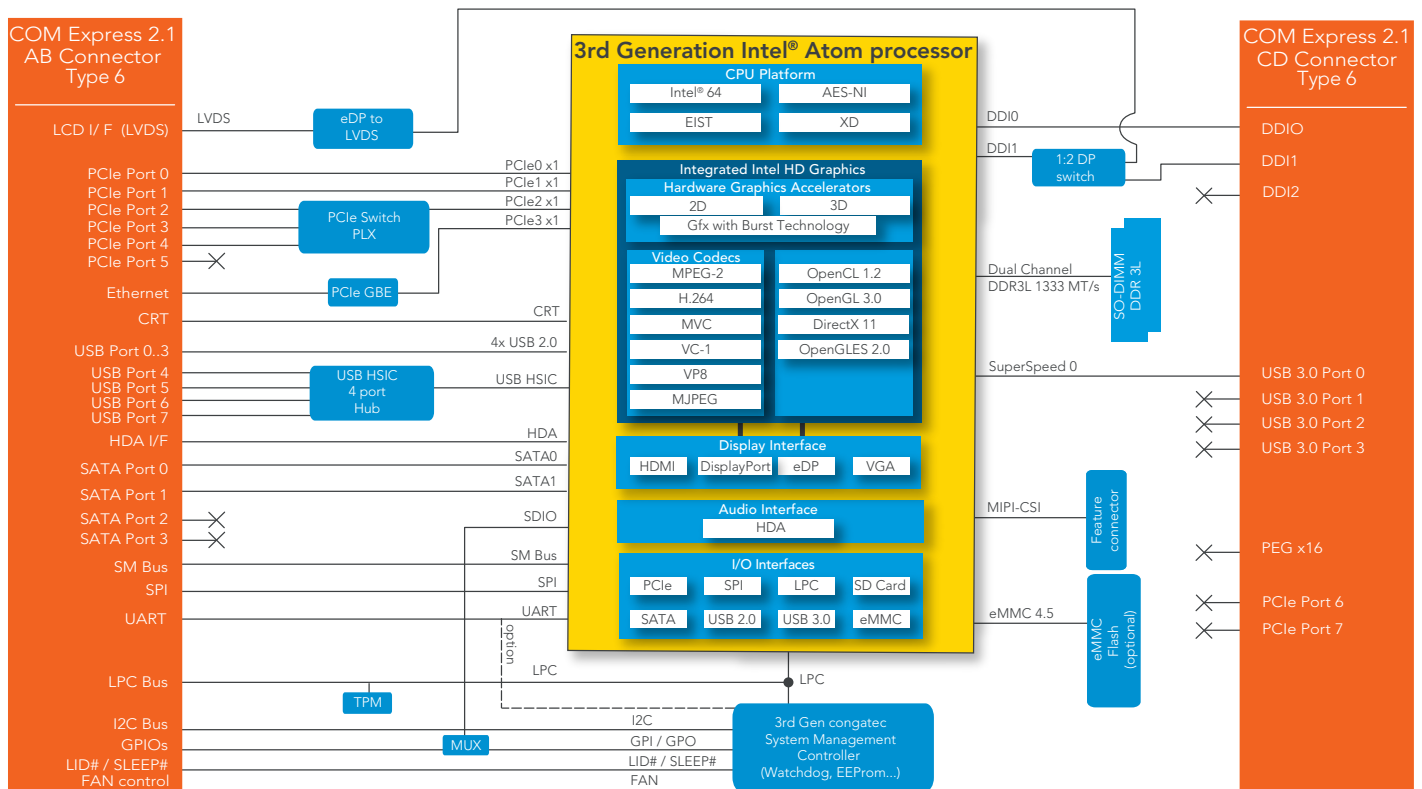


- 3<sup>rd</sup> Gen. Intel® Atom™ processor up to Quad Core
- COM Express Compact Type 6 module
- Temperature range up to -40°C .. +85°C



| Formfactor                      | Formfactor COM Express® Compact   (95 x 95 mm)   Type 6 Connector Layout                                                                                                                                                                                                        |                         |                       |          |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------|----------|
| CPU                             | Intel® Atom™ E3845                                                                                                                                                                                                                                                              | 1.91 GHz Quad Core      | L2 Cache 2MB          | 10W TDP  |
|                                 | Intel® Atom™ E3827                                                                                                                                                                                                                                                              | 1.75 GHz Dual Core      | L2 Cache 1MB          | 8W TDP   |
|                                 | Intel® Atom™ E3826                                                                                                                                                                                                                                                              | 1.46 GHz Dual Core      | L2 Cache 1MB          | 7W TDP   |
|                                 | Intel® Atom™ E3825                                                                                                                                                                                                                                                              | 1.33 GHz Dual Core      | L2 Cache 1MB          | 6W TDP   |
|                                 | Intel® Atom™ E3815                                                                                                                                                                                                                                                              | 1.46 GHz Single Core    | L2 Cache 512kB        | 5W TDP   |
|                                 | Intel® Celeron® J1900                                                                                                                                                                                                                                                           | 2.0 GHz Quad Core       | L2 Cache 2MB          | 10W TDP  |
|                                 | Intel® Celeron® N2930                                                                                                                                                                                                                                                           | 1.83 GHz Quad Core      | L2 Cache 2MB          | 7.5W TDP |
|                                 | Intel® Celeron® N2807                                                                                                                                                                                                                                                           | 1.58 GHz Dual Core      | L2 Cache 1MB          | 4.3W TDP |
| DRAM                            | 2 SO-DIMM sockets for DDR3L memory modules up to 8 GByte with 1333MT/s   Dual channel memory interface for increased graphics performance.                                                                                                                                      |                         |                       |          |
| Chipset                         | Integrated in SoC                                                                                                                                                                                                                                                               |                         |                       |          |
| Ethernet                        | Intel I210 Gigabit Ethernet                                                                                                                                                                                                                                                     |                         |                       |          |
| I/O Interfaces                  | Up to 5x PCIe x1   8x USB 2.0   1x USB 3.0   2x SATA   LPC   SPI   I²C bus (fast mode 400 kHz   multi-master)   SDIO                                                                                                                                                            |                         |                       |          |
| Sound                           | Digital High Definition Audio Interface                                                                                                                                                                                                                                         |                         |                       |          |
| Graphics                        | Intel® HD Grahpics Gen 7   Full hardware acceleration for MPEG2   H.264   DirectX11   OCL 1.1   OGL 3.2   WMV9 and VC1                                                                                                                                                          |                         |                       |          |
| 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 2x DisplayPort 1.1 (max. 2560x1600) or HDMI 1.4a (max. 1920x1200)                                                                                                                                                                                                         |                         |                       |          |
| CRT Interface                   | 320 MHz RAMDAC   resolutions up to 2560x1600                                                                                                                                                                                                                                    |                         |                       |          |
| congatec Board Controller       | Multi Stage Watchdog   non-volatile User Data Storage   Manufacturing and Board Information   Board Statistics   BIOS Setup Data Backup<br>I²C 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.<br>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 10 IoT Core   Microsoft® Windows 8  <br>Microsoft® Windows 7   Microsoft® Windows Embedded Standard   Microsoft® Windows 7 Embedded Compact   Android   Yocto  <br>MoonIsland / WindRiver IDP |                         |                       |          |
| Power Consumption               | Typ. application: see user's guide for full details   CMOS Battery Backup                                                                                                                                                                                                       |                         |                       |          |
| Temperature                     | Commercial :                                                                                                                                                                                                                                                                    | Operating: 0 to +60°C   | Storage: -20 to +80°C |          |
|                                 | Industrial :                                                                                                                                                                                                                                                                    | Operating: -40 to +85°C | Storage: -45 to +85°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-TCA3 | Block diagram



# conga-TCA3 | Order Information

| Article                            | PN     | Description                                                                                                                                                                       |
|------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| conga-TCA3/E3845                   | 047300 | Intel® Atom™ E3845 quad core processor with 1.91GHz, 2MB L2 cache and 1333MT/s dual channel DDR3L memory interface.                                                               |
| conga-TCA3/E3827                   | 047301 | Intel® Atom™ E3827 dual core processor with 1.75GHz, 1MB L2 cache and 1333MT/s dual channel DDR3L memory interface.                                                               |
| conga-TCA3/E3826                   | 047302 | Intel® Atom™ E3826 dual core processor with 1.46GHz, 1MB L2 cache and 1066MT/s dual channel DDR3L memory interface.                                                               |
| conga-TCA3/E3825                   | 047303 | Intel® Atom™ E3825 dual core processor with 1.33GHz, 1MB L2 cache and 1066MT/s single channel DDR3L memory interface.                                                             |
| conga-TCA3/E3815                   | 047304 | Intel® Atom™ E3815 single core processor with 1.46GHz, 512kB L2 cache and 1066MT/s single channel DDR3L memory interface.                                                         |
| conga-TCA3/i-E3845                 | 047310 | Intel® Atom™ E3845 quad core processor with 1.91GHz, 2MB L2 cache and 1333MT/s dual channel DDR3L memory interface. Industrial grade temperature range from -40°C to 85°C.        |
| conga-TCA3/i-E3827                 | 047311 | Intel® Atom™ E3827 dual core processor with 1.75GHz, 1MB L2 cache and 1333MT/s dual channel DDR3L memory interface. Industrial grade temperature range from -40°C to 85°C.        |
| conga-TCA3/i-E3826                 | 047312 | Intel® Atom™ E3826 dual core processor with 1.46GHz, 1MB L2 cache and 1066MT/s dual channel DDR3L memory interface. Industrial grade temperature range from -40°C to 85°C.        |
| conga-TCA3/i-E3815                 | 047314 | Intel® Atom™ E3815 single core processor with 1.46GHz, 512kB L2 cache and 1066MT/s single channel DDR3L memory interface. Industrial grade temperature range from -40°C to 85°C.  |
| conga-TCA3/J1900                   | 047305 | Intel® Celeron® J1900 quad core processor with 2.00GHz, 2MB L2 cache and 1333MT/s dual channel DDR3L memory interface.                                                            |
| conga-TCA3/N2930                   | 047307 | Intel® Celeron® N2930 quad core processor with 1.83GHz up to 2.16GHz, 2MB L2 cache and 1333MT/s dual channel DDR3L memory interface.                                              |
| conga-TCA3/N2807                   | 047308 | Intel® Celeron® N2807 dual core processor with 1.58GHz up to 2.16GHz, 1MB L2 cache and 1333MT/s single channel DDR3L memory interface. Ultra-low power consumption with 4.5W TDP. |
| 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                                                                                                               |
| DDR3L-SODIMM-1600 (2GB) industrial | 068782 | Industrial DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 2GB RAM                                                                                                    |
| DDR3L-SODIMM-1600 (4GB) industrial | 068783 | Industrial DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 4GB RAM                                                                                                    |
| DDR3L-SODIMM-1600 (8GB) industrial | 068784 | Industrial DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 8GB RAM                                                                                                    |
| Accessories                        |        |                                                                                                                                                                                   |
| conga-TEVAL                        | 065800 | 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                                                                                                     |