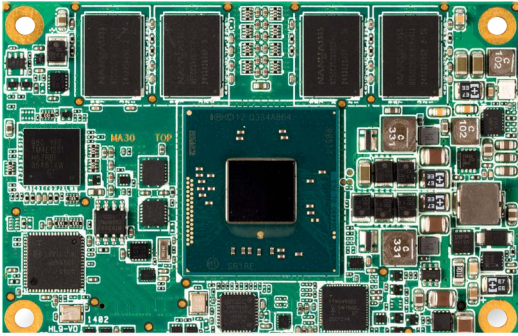


# POWERFUL AND SMALL

## conga-MA3

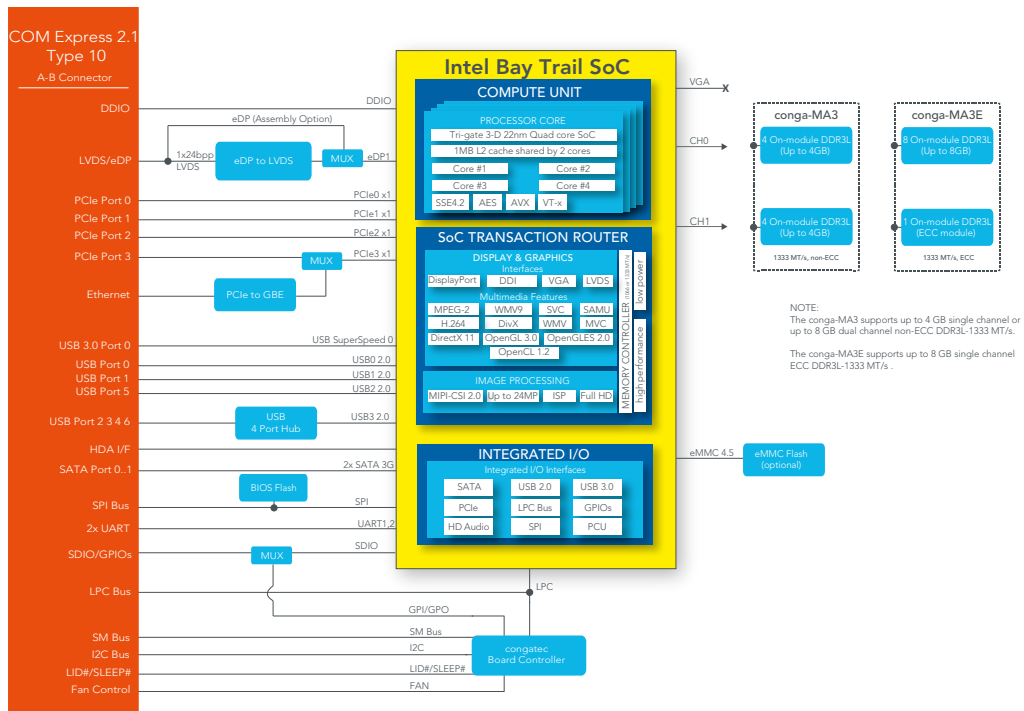


- 3<sup>rd</sup> Gen. Intel® Atom™ | Intel® Celeron® processor family
- COM Express Mini Type 10 module
- High resolution Intel® Gen. 7 graphics
- Temperature range up to -40°C .. +85°C



|                           |   |                     |                |          |
|---------------------------|---|---------------------|----------------|----------|
| Formfactor                | Formfactor COM Express® Mini   (55 x 84 mm)   Type 10   |                     |                |          |
| CPU                       | Intel® Atom™ E3845  | 1.91GHz Quad Core   | L2 cache 2MB   | 10W TDP  |
|                           | Intel® Atom™ E3827  | 1.75GHz Dual Core   | L2 cache 1MB   | 8W TDP   |
|                           | Intel® Atom™ E3826  | 1.46GHz Dual Core   | L2 cache 1MB   | 7W TDP   |
|                           | Intel® Atom™ E3815  | 1.46GHz Single Core | L2 cache 512kB | 5W TDP   |
|                           | Intel® Celeron® N2807   | 1.58GHz Single Core | L2 cache 1MB   | 4.3W TDP |
|                           | Intel® Celeron® N2930   | 1.86GHz Quad Core   | L2 cache 2MB   | 7.5W TDP |
| DRAM                      | Onboard DDR3L memory support for up to 8 GByte with 1333MT/s  |                     |                |          |
| Chipset                   | Integrated in SoC   |                     |                |          |
| Onboard storage           | eMMC 4.51 interface   up to 64GB of MLC NAND   up to 4GB of SLC NAND  |                     |                |          |
| Ethernet                  | Intel I210 Gigabit Ethernet   |                     |                |          |
| I/O Interfaces            | Up to 4x PCIe x1 lanes with 5 Gb/s PCI Express 2.0   2x SATA 2.0 3Gb/s ports   7x USB 2.0   1x USB 3.0   LPC   SPI   I <sup>2</sup> C bus (fast mode 400 kHz, multi-master)   SDIO  |                     |                |          |
| Sound                     | Digital High Definition Audio Interface   |                     |                |          |
| Graphics                  | Intel® HD Graphics Gen 7   Full hardware acceleration for MPEG2   H.264   DirectX11   OCL 1.2   OGL 3.2   WMV9 and VC1  |                     |                |          |
| LVDS                      | Single channel LVDS transmitter   support for flat panels with 1x18 bit/1x24 bit data mapping up to a resolution of 1920x1200@60Hz.   |                     |                |          |
| Digital Display Interface | Displayport 1.1 up to 2560x1600 or DDI / DVI up to 1920x1200  |                     |                |          |
| congatec Board Controller | Multi Stage Watchdog   non-volatile User Data Storage   Manufacturing and Board Information   Board Statistics   BIOS Setup Data Backup<br>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  |                     |                |          |
| 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   Microsoft® Windows® 7   Linux   Microsoft® Windows® Embedded Standard   Microsoft® Windows® 7 Embedded Compact   Android   Yokto   MoonIsland / WindRiver IDP |                     |                |          |
| Power Consumption         | Typ. application: see user's guide for full details   |                     |                |          |
| Temperature               | Commercial : Operating: 0 to +60°C   Storage: -20 to +80°C<br>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                      | 55 x 84 mm (2.17" x 3.31")  |                     |                |          |

# conga-MA3 | Block diagram



# conga-MA3 | Order Information

| Article                    | PN     | Description   |
|----------------------------|--------|---|
| conga-MA3/E3845-4G eMMC8   | 047400 | Intel® Atom™ E3845 quad core processor with 1.91GHz   2MB L2 cache   4GB 1333MT/s DDR3L onboard memory and 8GB eMMC onboard flash.  |
| conga-v MA3/E3827-2G eMMC4 | 047401 | Intel® Atom™ E3827 dual core processor with 1.75GHz   1MB L2 cache   2GB 1333MT/s DDR3L onboard memory and 4GB eMMC onboard flash.  |
| conga-MA3/E3826-2G eMMC4   | 047402 | Intel® Atom™ E3826 dual core processor with 1.46GHz   1MB L2 cache   2GB 1066MT/s DDR3L onboard memory and 4GB eMMC onboard flash.  |
| conga-MA3/E3815-2G         | 047404 | Intel® Atom™ E3815 single core processor with 1.46GHz   512kB L2 cache   2GB 1066MT/s DDR3L onboard memory.   |
| conga-MA3/N2930-2G         | 047406 | Intel® Celeron® N2930 quad core processor with 1.83GHz up to 2.16GHz   2MB L2 cache and 2GB 1333MT/s DDR3L onboard memory. Low power consumption with 7.5W TDP                            |
| conga-MA3/N2807-2G         | 047407 | Intel® Celeron® N2807 single core processor with 1.58GHz up to 2.16GHz   1MB L2 cache and 2GB 1333MT/s DDR3L onboard memory. Low power consumption with 4.3W TDP                          |
| conga-MA3/i-E3845-4G eMMC8 | 047410 | Intel® Atom™ E3845 quad core processor with 1.91GHz   2MB L2 cache   4GB 1333MT/s DDR3L onboard memory and 8GB eMMC onboard flash. Industrial grade temperature range from -40°C to 85°C. |
| conga-MA3/i-E3827-2G eMMC4 | 047411 | Intel® Atom™ E3827 dual core processor with 1.75GHz   1MB L2 cache   2GB 1333MT/s DDR3L onboard memory and 4GB eMMC onboard flash. Industrial grade temperature range from -40°C to 85°C  |
| conga-MA3/i-E3845-2G eMMC4 | 047413 | Intel® Atom™ E3845 quad core processor with 1.91GHz   2MB L2 cache   2GB 1333MT/s DDR3L onboard memory and 4GB eMMC onboard flash. Industrial grade temperature range from -40°C to 85°C. |
| conga-MA3/i-E3815-2G       | 047414 | Intel® Atom™ E3815 single core processor with 1.46GHz   512kB L2 cache   2GB 1066MT/s DDR3L onboard memory. Industrial grade temperature range from -40°C to 85°C.                        |
| conga-MA30/HSP-T           | 047450 | Standard heatspreader for COM Express Type 10 module conga-MA3. All standoffs are M2.5 thread.  |
| conga-MA30/HSP-B           | 047451 | Standard heatspreader for COM Express Type 10 module conga-MA3. All standoffs are 2.7mm bore hole.  |
| conga-MA30/CSP-T           | 047452 | Standard passive cooling solution for COM Express Type 10 module conga-MA3 with fins. All standoffs are M2.5mm thread.  |
| conga-MA30/CSP-B           | 047453 | Standard passive cooling solution for COM Express Type 10 module conga-MA3 with fins. All standoffs are 2.7mm bore hole.  |
| <b>Accessories</b>         |        |   |
| conga-MEVAL                | 065400 | Evaluation carrier board for Type 10 COM-Express-modules  |
| conga-LDVI/EPI             | 011115 | LVDS to DVI converter board for digital flat panels with onboard EEPROM   |