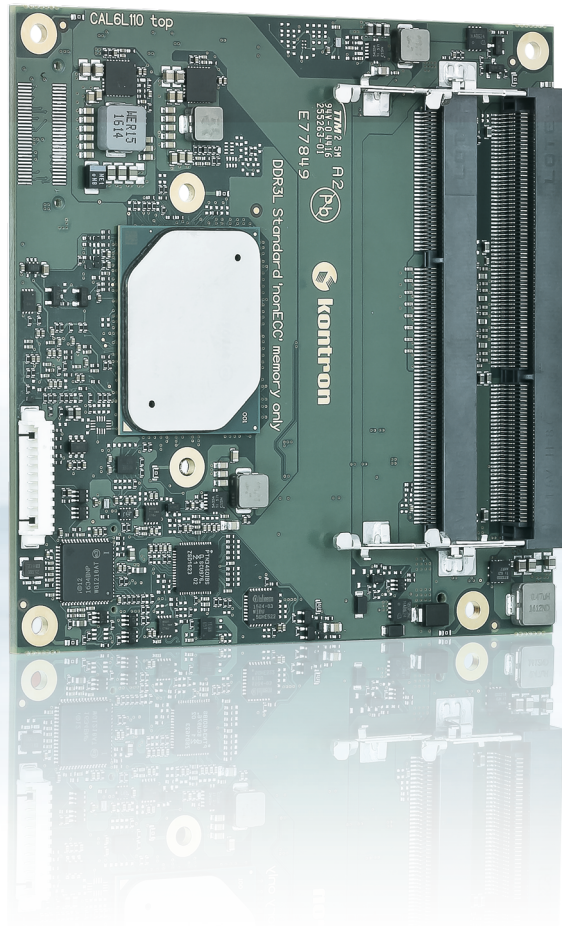


COMe-cAL6 (E2)



COM Express® Compact Type 6 with Intel Atom® E3900 Series, Pentium® and Celeron® Processors

- ▶ Low-power - performance/watt optimized form factor solution
- ▶ Up to 8 GByte DDR3L 1600/1866 Memory (2x SODIMM socket)
- ▶ 4x USB 3.0/2.0, 4x USB 2.0, 2x SATA, eMMC Flash
- ▶ Industrial grade temperature
- ▶ Support of Kontron's Embedded Security Solution - APPROTECT (optional)

POSSIBILITIES START HERE

► TECHNICAL INFORMATION

| | | | | | | | | | | | | | | | | | |
|----------------------------|---|-------------|---------------------------------------|-------------|-------------|---------|-----|----|------------|------------|-----|-----|---------------------------------------|------------|----|----|--------------------------|
| COMPLIANCE | COM Express® compact, Pin-out Type 6 | | | | | | | | | | | | | | | | |
| DIMENSIONS | 95 x 95 mm | | | | | | | | | | | | | | | | |
| CPU | Intel Atom® E3900E Series, Pentium® and Celeron® Processor For details see table (CPU variants) given below | | | | | | | | | | | | | | | | |
| CHIPSET | - | | | | | | | | | | | | | | | | |
| MAIN MEMORY | 2x SODIMM for DDR3L-1866 (non ECC) up to 8 GByte | | | | | | | | | | | | | | | | |
| GRAPHICS CONTROLLER | Intel HD Gfx Gen9: 1x LVDS/eDP (3840 x 2160 @ 60 Hz) 2x DP (++) on DDI1/DDI2 up to 4K | | | | | | | | | | | | | | | | |
| ETHERNET CONTROLLER | Intel® I210IT/I210AT (I211AT) | | | | | | | | | | | | | | | | |
| ETHERNET | 10/100/1000 MBit Ethernet | | | | | | | | | | | | | | | | |
| STORAGE | 2x SATA 6Gb/s, SDIO Interface (shared with GPIO) | | | | | | | | | | | | | | | | |
| FLASH ONBOARD | 32 GByte eMMC SLC on request: - up to 64 GByte eMMC SLC - up to 128 GByte eMMC MLC | | | | | | | | | | | | | | | | |
| PCI EXPRESS® | <table border="1"> <tr> <td></td> <td>LAN</td> <td>PCIe switch</td> <td>PCIe config</td> </tr> <tr> <td>default</td> <td>yes</td> <td>no</td> <td>3x PCIe x1</td> </tr> <tr> <td>on request</td> <td>yes</td> <td>yes</td> <td>5x PCIe x1 or 1x PCIe x2 + 3x PCIe x1</td> </tr> <tr> <td>on request</td> <td>no</td> <td>no</td> <td>2x PCIe x2 or 4x PCIe x1</td> </tr> </table> | | LAN | PCIe switch | PCIe config | default | yes | no | 3x PCIe x1 | on request | yes | yes | 5x PCIe x1 or 1x PCIe x2 + 3x PCIe x1 | on request | no | no | 2x PCIe x2 or 4x PCIe x1 |
| | LAN | PCIe switch | PCIe config | | | | | | | | | | | | | | |
| default | yes | no | 3x PCIe x1 | | | | | | | | | | | | | | |
| on request | yes | yes | 5x PCIe x1 or 1x PCIe x2 + 3x PCIe x1 | | | | | | | | | | | | | | |
| on request | no | no | 2x PCIe x2 or 4x PCIe x1 | | | | | | | | | | | | | | |
| DISPLAY | DDI 1/2: DP++, LVDS: Dual Channel up to 48-bit or eDP on request) | | | | | | | | | | | | | | | | |
| USB | 4x USB 3.0/2.0, 4x USB 2.0 (3x USB 2.0 w Security Chip) | | | | | | | | | | | | | | | | |
| SERIAL | 2x serial interface (RX/TX only) | | | | | | | | | | | | | | | | |
| AUDIO | Intel® High Definition Audio | | | | | | | | | | | | | | | | |
| COMMON FEATURES | SPI, LPC, SMB, Fast I ² C, Staged Watchdog, RTC | | | | | | | | | | | | | | | | |
| BIOS | AMI Aptio V | | | | | | | | | | | | | | | | |
| HUMIDITY | 93 % relative Humidity at 40 °C, non-condensing (according to IEC 60068-2-78) | | | | | | | | | | | | | | | | |
| FEATURES ON REQUEST | PCIe configurations w/ PCI hub and w/o LAN chip Security Chip (Support of Kontron APPROTECT) eMMC Flash configuration eDP instead of LVDS General Purpose SPI instead of Boot SPI USB client | | | | | | | | | | | | | | | | |
| POWER MANAGEMENT | ACPI 5.0 | | | | | | | | | | | | | | | | |
| POWER SUPPLY | 8.5 V – 20 V Wide Range, Single Supply Power | | | | | | | | | | | | | | | | |
| SPECIAL FEATURES | POSCAP capacitors, Trusted Platform Module TPM 2.0, microSD card socket 4k Resolutions, GPIO/SDIO Switch, Industrial grade temperature | | | | | | | | | | | | | | | | |
| OPERATING SYSTEM | Windows® 10, Enterprise, Windows 10 IoT, Linux, VxWorks 7.x | | | | | | | | | | | | | | | | |
| TEMPERATURE | COMe-cAL6 - commercial temperature: 0 °C to +60 °C operating, -30 °C to +85 °C non-operating COMe-cAL6 E2 - industrial temperature: -40 °C to +85 °C operating, -40 °C to +85 °C non-operating | | | | | | | | | | | | | | | | |

CPU VARIANTS

| BRAND | PROCESSOR NUMBER | TDP | CORES | THREADS | CACHE | BASE FREQ | MAX TURBO FREQ | GRAPHICS GEN 11 | ECC | USE CONDITION |
|-------------|------------------|-------|-------|---------|---------|-----------|----------------|-----------------|-----|---------------|
| Celeron® | N3350E | 6 W | 2 | 2 | 2 MByte | 1.1 GHz | 2.4 GHz | 12 | no | PC Client |
| Pentium® | N4200E | 6 W | 4 | 4 | 2 MByte | 1.1 GHz | 2.5 GHz | 18 | no | PC Client |
| Intel Atom® | x5-E3930 | 6.5 W | 2 | 2 | 2 MByte | 1.3 GHz | 1.8 GHz | 12 | yes | Embedded |
| Intel Atom® | x5-E3940 | 9.5 W | 4 | 4 | 2 MByte | 1.6 GHz | 1.8 GHz | 12 | yes | Embedded |
| Intel Atom® | x7-E3950 | 12 W | 4 | 4 | 2 MByte | 1.6 GHz | 2.0 GHz | 18 | yes | Embedded |

* The COMe-cAL6 doesn't support ECC memory

BLOCK DIAGRAM

