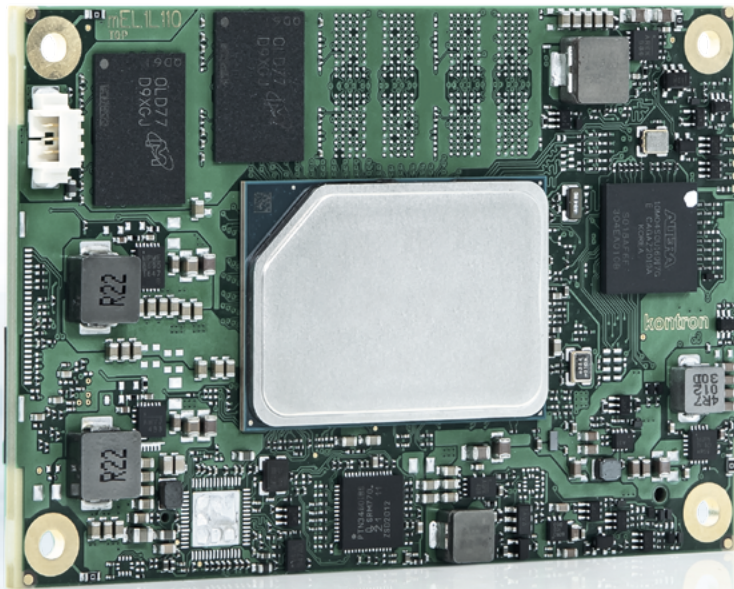


# COMe-mEL10 (E2)

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## COM Express® mini Type 10 with Intel Atom® x6000E, Pentium® and Celeron® Series

- ▶ Low-Power – Performance/Watt optimized form factor solution
- ▶ Up to 16 GByte LPDDR4 memory down (In-Band ECC)
- ▶ 2x USB 3.1/2.0, 6x USB 2.0, USB client optional, 2x SATA, eMMC Flash
- ▶ 1 GbE (optional 2.5 GbE) with TSN support
- ▶ Industrial grade temperature

POSSIBILITIES START HERE

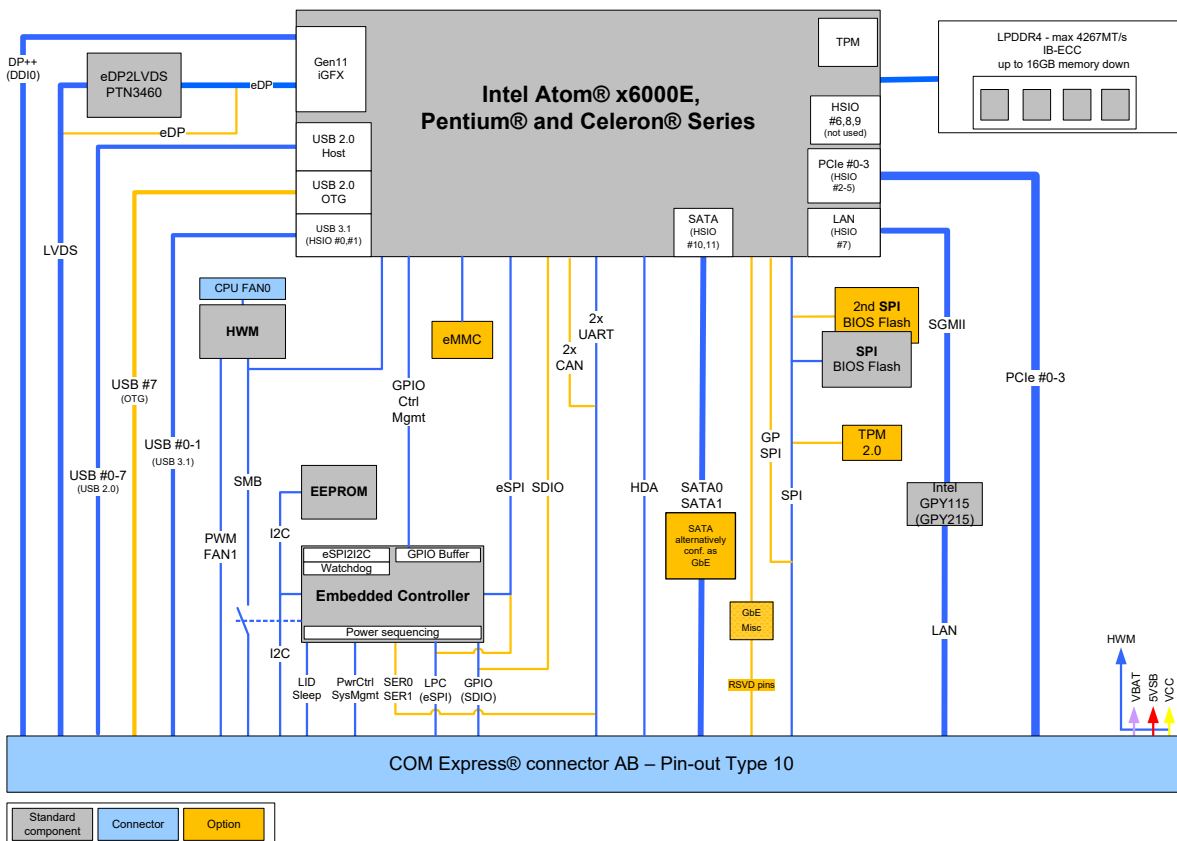
## ► TECHNICAL INFORMATION

<b>COMPLIANCE</b>	COM Express® mini, Pin-out Type 10
<b>DIMENSIONS (H x W)</b>	84 x 55 mm
<b>CPU</b>	Intel Atom® x6000E Series, Pentium® and Celeron® Processors For details see table (CPU variants) given below
<b>CHIPSET</b>	-
<b>MAIN MEMORY</b>	Up to 16 GByte LPDDR4-4267 memory down (In-Band ECC)
<b>GRAPHICS CONTROLLER</b>	SOC: Intel® HD Gfx Gen11: LVDS/eDP, 1x DP++, up to 4K
<b>ETHERNET CONTROLLER</b>	SOC + LAN PHY GPHY115 (GPHY215 on request) + 2x optional as SGMII instead of SATA
<b>ETHERNET</b>	1 GBit Ethernet (2.5 GBit on request with GPHY215) + 2x optional 2.5 GBit
<b>STORAGE</b>	2x SATA 6Gb/s, SDIO Interface (shared with GPIO)
<b>FLASH ONBOARD</b>	eMMC option – up to 128 GByte eMMC MLC
<b>PCI EXPRESS®</b>	PCIe Gen 3.0 - PCIe lane configurations: 4 x1, 2 x1 + 1 x2, 2 x2
<b>DISPLAY</b>	DDI: DP++, LVDS: Single Channel 18/24 bit or eDP 1.3
<b>USB</b>	2x USB 3.1 (incl. USB 2.0) + 6x USB 2.0, Port 7 is dual role (Client/Host)
<b>SERIAL</b>	2x serial interface (RX/TX only), optional CAN
<b>AUDIO</b>	Intel® High Definition Audio
<b>OTHER FEATURES</b>	SPI, LPC, SMB, Fast I <sup>2</sup> C, Staged Watchdog, RTC
<b>SPECIAL FEATURES</b>	Industrial grade temperature
<b>FEATURES ON REQUEST</b>	eMMC Flash configuration (up to 64 GByte pSLC, up to 128 GByte MLC) eDP instead of LVDS General Purpose SPI instead of Boot SPI USB client, Trusted Platform Module TPM 2.0, de-populated LAN PHY
<b>POWER MANAGEMENT</b>	ACPI 6.0
<b>POWER SUPPLY</b>	4.75 V – 20 V Wide Range, Single Supply Power
<b>BIOS</b>	AMI Aptio V
<b>OPERATING SYSTEM</b>	Windows® 10, Linux, VxWorks
<b>TEMPERATURE</b>	COMe-mEL10- commercial temperature: 0 °C to +60 °C operating, -30 °C to +85 °C non-operating COMe-mEL10 E2 - industrial temperature: -40 °C to +85 °C operating, -40 °C to +85 °C non-operating
<b>HUMIDITY</b>	93 % relative Humidity at 40 °C, non-condensing (according to IEC 60068-2-78)

## CPU VARIANTS

BRAND	PROCESSOR NUMBER	TDP	CORES	THREADS	CACHE	BASE FREQ	MAX TURBO FREQ	GRAPHICS GEN 11	ECC	PREMIUM IO	FUNCTIONAL SAFETY CERTIFIED	USE CONDITION
Intel® Celeron® Processor	J6413	10 W	4	4	1.5 MByte	1.8 GHz	3.0 GHz	16 EU	no	Intel® PSE	no	PC Client
Intel® Pentium® Processor	J6426	10 W	4	4	1.5 MByte	2.0 GHz	3.0 GHz	32 EU	no	Intel® PSE	no	PC Client
Intel® Celeron® Processor	N6211	6.5 W	2	2	1.5 MByte	1.2 GHz	3.0 GHz	16 EU	no	Intel® PSE	no	PC Client
Intel® Pentium® Processor	N6415	6.5 W	4	4	1.5 MByte	1.2 GHz	3.0 GHz	16 EU	no	Intel® PSE	no	PC Client
Intel Atom® processor	x6211E	6 W	2	2	1.5 MByte	1.3 GHz	3.0 GHz	16 EU	Yes– In Band	Intel® PSE	no	Embedded
Intel Atom® processor	x6413E	9 W	4	4	1.5 MByte	1.5 GHz	3.0 GHz	16 EU	Yes– In Band	Intel® PSE	no	Embedded
Intel Atom® processor	x6425E	12 W	4	4	1.5 MByte	2.0 GHz	3.0 GHz	32 EU	Yes– In Band	Intel® PSE	no	Embedded
Intel Atom® processor	x6212RE	6 W	2	2	1.5 MByte	1.2 GHz	n/a	16 EU	Yes– In Band	Intel® PSE, Intel® TCC	no	Industrial
Intel Atom® processor	x6414RE	9 W	4	4	1.5 MByte	1.5 GHz	n/a	16 EU	Yes– In Band	Intel® PSE, Intel® TCC	no	Industrial
Intel Atom® processor	x6425RE	12 W	4	4	1.5 MByte	1.9 GHz	n/a	32 EU	Yes– In Band	Intel® PSE, Intel® TCC	no	Industrial

## BLOCK DIAGRAM



## ▶ VARIANTS

PART NO.	CPU	MEMORY	ETH PHY (1 GbE OR 2.5 GbE)	FLASH - eMMC	VARIOUS	OP. TEMPERATURE
34012-0416-N1-2	N6211	4 GByte, 3200 MT/s	1 GbE	16 GByte MLC	LPC, LVDS	0 °C - 60 °C
34012-0432-J2-4	J6426	4 GByte, 3733 MT/s	1 GbE	32 GByte MLC	LPC, LVDS	0 °C - 60 °C
34013-0416-R1-2	x6212RE	4 GByte, 3200 MT/s	1 GbE	16 GByte MLC	LPC, LVDS	-40 °C - 85 °C
34013-0432-R1-4	x6414RE	4 GByte, 3200 MT/s	1 GbE	32 GByte MLC	LPC, LVDS	-40 °C - 85 °C
34013-0832-R2-4	x6425RE	8 GByte, 4267 MT/s	1 GbE	32 GByte MLC	LPC, LVDS	-40 °C - 85 °C

Please contact your sales representative for other versions.

## ▶ CARRIER

ARTICLE	PART NO.	DESCRIPTION
COME EVAL CARRIER T10 GEN2	34101-0000-00-2	COM Express® Eval Carrier Type 10 Gen 2
COME REFCARRIER-I T10 TNIP	34105-0000-00-0	COM Express® Reference Carrier-i Type 10 Thin-nanoITX Professional

## ▶ COOLING

ARTICLE	PART NO.	DESCRIPTION
HSP COMe-mEL10 (E2) THREAD	34013-0000-99-0	Heatspreader for COMe-mEL10 commercial and E2, threaded mounting holes
HSP COMe-mEL10 (E2) THROUGH	34013-0000-99-1	Heatspreader for COMe-mEL10 commercial and E2, through holes
HSP COMe-mEL10 (E2) SLIM THREAD	34013-0000-99-2	Heatspreader for Slimline 6.5 mm for COMe-mEL10 commercial and E2, threaded mounting holes
HSP COMe-mEL10 (E2) SLIM THROUGH	34013-0000-99-3	Heatspreader for Slimline 6.5 mm for COMe-mEL10 commercial and E2, through holes

## ▶ GLOBAL HEADQUARTERS

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