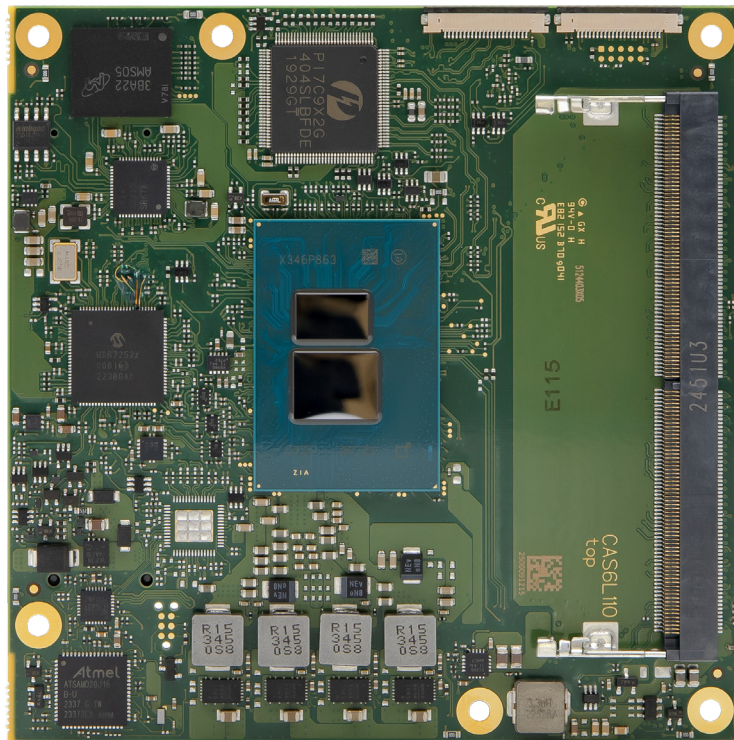


COMe-cAS6 (E2)



COM Express® compact Type 6 with Intel Atom® x7000E / x7000RE

- ▶ Low-Power – Performance/Watt optimized form factor solution
- ▶ Up to 16 GByte DDR5 4800 MT/s - In-Band ECC
- ▶ Up to 4x Graphics interfaces
- ▶ Up to 6x PCIe lanes, up to 4x USB 3.2/2.0, 6x USB 2.0
- ▶ 2.5 GbE with TSN support
- ▶ Industrial grade temperature

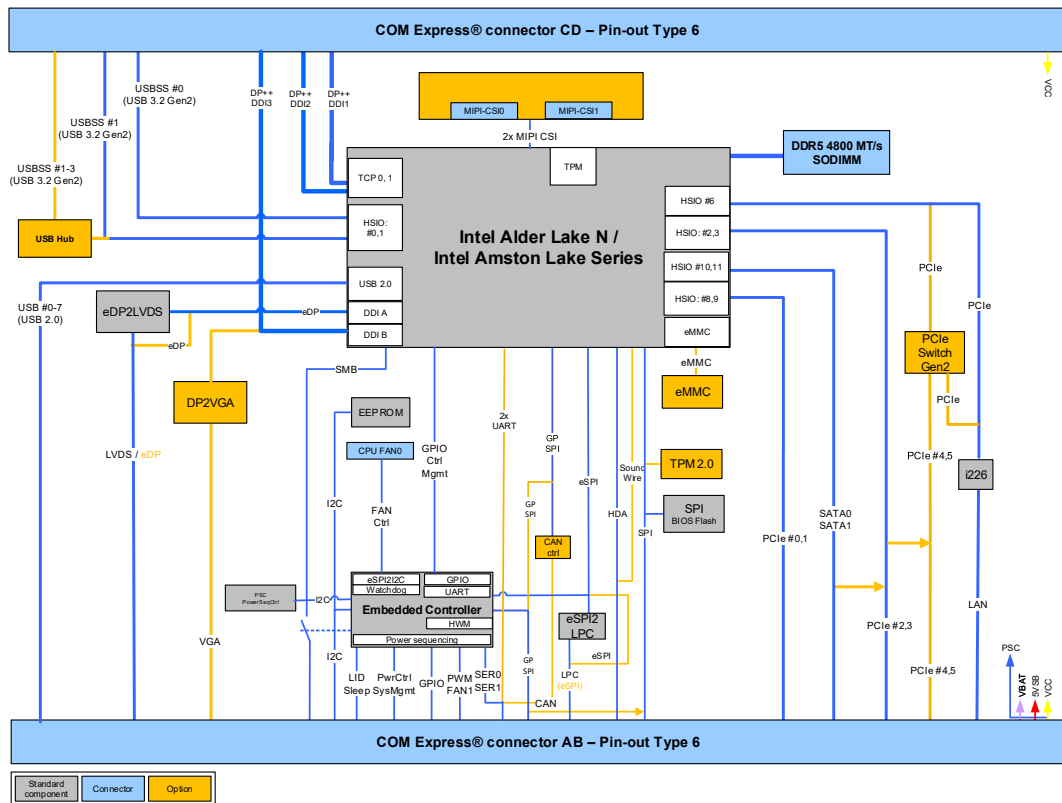


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Technical Information

FEATURES	DESCRIPTION
COMPLIANCE	COM Express® compact, Pin-out Type 6 according to COM.0 Rev 3.1
DIMENSIONS (H X W)	95 mm x 95 mm
CPU	Intel Atom® x7000E, x7000RE Series, Intel (Core) Processor N Series For details see table (CPU variants) given below
CHIPSET	Integrated in SOC
MAIN MEMORY	Up to 16 GByte DDR5 4800 MT/s via 1x SODIMM socket (In-Band ECC)
GRAPHICS CONTROLLER	SOC: Intel® HD Gfx Gen 12: LVDS/eDP, 2x DP
ETHERNET CONTROLLER	Intel® i226LM/i226IT
ETHERNET	Up to 2.5 Gb Ethernet with TSN support
STORAGE	2x SATA 6Gb/s
FLASH ONBOARD	eMMC option – up to 256 GByte eMMC TLC
PCI EXPRESS®	4x PCIe lanes: 4x 1 / 2x 2 (PCIe Gen3) optional 6x PCIe lanes w/o SATA-ports: 2 x2 / 1 x4 + 1 x2 / 2 x1 (PCIe Gen3, max 4 PCIe root ports) optional 6x PCIe lanes with Gen2 switch: 1 x2 / 2 x1 + 1 x2 / 2 x1 (PCIe Gen3) + 2 x1 (PCIe Gen2) - onboard i226 connected via PCIe Gen2 lane
DISPLAY	DDI1/DDI2/DDI3: DP++, LVDS: Dual Channel 18/24bit optional DDI3: VGA optional eDP instead of LVDS
USB	2x USB 3.2 Gen2 (incl. USB 2.0) + 6x USB 2.0 optional 4x USB3.2 Gen2 w/ add USB-Hub
SERIAL	2x serial interface (RX/TX only)
AUDIO	Intel® High Definition Audio
OTHER FEATURES	SPI, LPC, SMB, Fast I²C, Staged Watchdog, RTC
SPECIAL FEATURES	Industrial grade temperature
FEATURES ON REQUEST	eMMC up to 256 GByte TLC, eDP instead of LVDS; DDI3: VGA 4x PCIe lanes w/o SATA-ports : 4x 1 / 2x 2 / 1x 4 6x PCIe lanes with PCIe switch: 4x 1 / 2x 2 + 2x 1 / 1 x 2 4x USB3.2 w/ add USB-Hub instead of 2x USB 3.2 Discrete TPM 2.0 chip General Purpose SPI instead of Boot SPI De-populated LAN
POWER MANAGEMENT	ACPI 5.0
POWER SUPPLY	8.5 V – 20 V Wide Range, Single Supply Power
BIOS	AMI Aptio V
OPERATING SYSTEM	Windows® 10/11, LTSC, Linux
TEMPERATURE	COMe-cAS6- commercial temperature: 0 °C to +60 °C operating, -30 °C to +85 °C non-operating COMe-cAS6 E2 - industrial temperature: -40 °C to +85 °C operating, -40 °C to +85 °C non-operating
HUMIDITY	93% relative Humidity at 40°C, non-condensing (according to IEC 60068-2-78)

Block Diagram



CPU Variants

PROCESSOR NUMBER	STD FOR COME-CAS6	TDP W	CORES	EUS	BASE FREQ GHZ	1C TURBO FREQ GHZ	TJUNCTION MIN °C	TJUNCTION MAX °C	ECC IN-BAND	USE CONDITION
X7211E	on request	6	2	16	1,0	3,2	0	105	Yes	Embedded
X7213E	on request	10	2	16	1,7	3,2	0	105	Yes	Embedded
X7425E	on request	12	4	24	1,5	3,4	0	105	Yes	Embedded
X7211RE	standard	6	2	16	1,0	3,2	-40	105	Yes	Embedded/Industrial*
X7213RE	standard	9	2	16	2,0	3,4	-40	105	Yes	"Embedded/Industrial*"
X7433RE	standard	9	4	32	1,5	3,4	-40	105	Yes	"Embedded/Industrial*"
X7835RE	standard	12	8	32	1,3	3,6	-40	105	Yes	"Embedded/Industrial*"
N50	on request	6	2	16	1,0	3,4	0	105	Yes	PC Client
N97	on request	12	4	24	2,0	3,6	0	105	Yes	PC Client
N150	on request	6	4	24	0,8	3,6	0	105	Yes	PC Client
N200	on request	6	4	32	1,0	3,7	0	105	Yes	PC Client
N250	on request	6	4	32	1,3	3,8	0	105	Yes	PC Client
I3-N305	on request	9/15	8	32	1,0/1,8	3,8	0	105	Yes	PC Client
N355	on request	9/15	8	32	1,0/1,9	3,9	0	105	Yes	PC Client

Standard Variants

PART NO.	CPU	SODIMM	ETH	USB 3.2	FLASH - EMMC	VARIOUS	OP. TEMPERATURE
36039-0000-R1-2	x7211RE	Inband-ECC, 4800MT/s	2.5 GbE	2	No	LPC, LVDS	-40 °C up to +85 °C
36039-0000-R2-2	x7213RE	Inband-ECC, 4800MT/s	2.5 GbE	2	No	LPC, LVDS	-40 °C up to +85 °C
36039-0000-R2-4	x7433RE	Inband-ECC, 4800MT/s	2.5 GbE	2	No	LPC, LVDS	-40 °C up to +85 °C
36039-0000-R2-8	x7835RE	Inband-ECC, 4800MT/s	2.5 GbE	2	No	LPC, LVDS	-40 °C up to +85 °C

Carrier

ARTICLE	PART NO.	DESCRIPTION
COMe Eval Carrier2 Type 6	38116-0000-00-5	COM Express® Evaluation Carrier Type 6

Cooling

ARTICLE	PART NO.	DESCRIPTION
HSP COME-CAS6 (E2) THREAD	36039-0000-99-0	Heatspreader for COMe-cAS6 commercial and E2, threaded mounting holes
HSP COME-CAS6 (E2) THROUGH	36039-0000-99-1	Heatspreader for COMe-cAS6 commercial and E2, through holes
COME ACTIVE UNI COOLER2 (W/O HSP)	36099-0000-99-4	COM Express® Universal Active Cooler for Heatspreader Mounting (95 x 95 x 14.3) - 90° turnable
COME PASSIVE UNI COOLER2 (W/O HSP)	36099-0000-99-5	COM Express® Universal Passive Cooler for Heatspreader Mounting (95 x 95 x 14.3) - 90° turnable

Memory

PART NO.	MIN. SPEC.	SIZE	EXX/NON-ECC	OP. TEMPERATURE
97040-1648-CAS6	DDR5-4800	16 GByte	no	0 °C to +60 °C
97040-0848-CAS6	DDR5-4800	8 GByte	no	0 °C to +60 °C
97041-1648-CAS6	DDR5-4800	16 GByte	no	-40 °C to +85 °C
97041-0848-CAS6	DDR5-4800	8 GByte	no	-40 °C to +85 °C

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