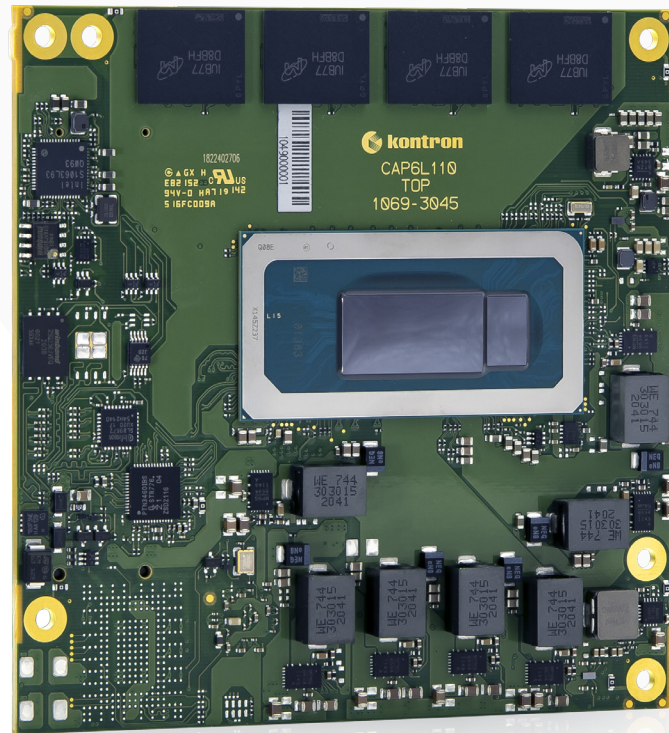


# COMe-cAP6

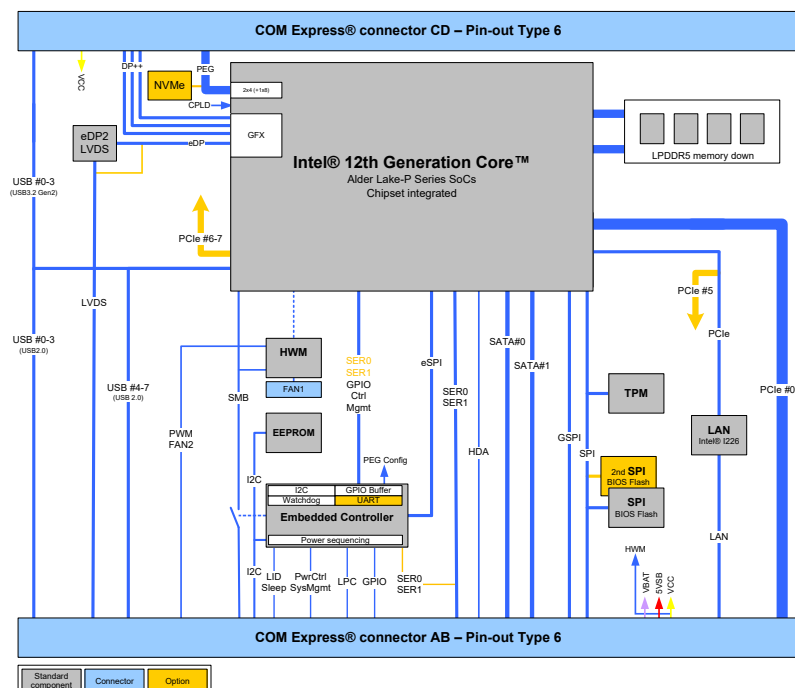


## COM Express® compact Type 6 with 12th Generation Intel® Core™ Processors

- ▶ Up to 64 GByte LPDDR5 memory down
- ▶ Up to 2.5 Gb Ethernet
- ▶ Quad independent display support (up to 8k)
- ▶ Optional NVMe SSD onboard

COMPLIANCE	COM Express® Compact Pin-out Type 6
DIMENSIONS (H x W)	95 x 95 mm
CPU	Intel® 12th Generation Core™ family For details see table (CPU variants) given below
CHIPSET	Integrated SoC
MAIN MEMORY	Dual-Channel LPDDR5 memory down up to 64 GByte
GRAPHICS CONTROLLER	Intel® Iris® Xe Graphics on i7/i5 processors Intel® UHD Graphics on i3/Celeron® processors
ETHERNET CONTROLLER	Intel® i226LM/i226IT
ETHERNET	Up to 2.5Gb Ethernet
STORAGE	Up to 2x SATA 6Gb/s
FLASH ONBOARD	Up to 1 TByte NVMe SSD (on request)
PCI EXPRESS®	5x PCIe 3.0 (On request: 6x without Ethernet, up to 8x without Ethernet & SATA) 2x 4 PCIe 4.0 on PEG Lanes #0-7 1x 8 PCIe 4.0 on PEG Lanes #8-15 (depending on SKU)
DISPLAY	DDI1: DP++, DDI2: DP++, DDI3: DP++, VGA: -, LVDS: Dual Channel 18/24bit
USB	4x USB 3.2 Gen2 (incl. USB 2.0) + 4x USB 2.0
SERIAL	2x serial interface (RX/TX only)
AUDIO	High Definition Audio interface
OTHER FEATURES	(G)SPI, LPC, SMB, Fast I <sup>2</sup> C, Staged Watchdog, RTC
SPECIAL FEATURES	POSCAP capacitors, Trusted Platform Module TPM 2.0
FEATURES ON REQUEST	vPRO (AMT/TXT/AES Support), eDP instead of LVDS, USB-C, up to 3x PCIe x1 additional w/o Ethernet & SATA, NVMe SSD, Fail Safe via 2nd SPI Flash
POWER MANAGEMENT	ACPI 6.0
POWER SUPPLY	8.5 V – 20 V Wide Range, Single Supply Power
BIOS	AMI Aptio V
OPERATING SYSTEM	Windows®10, Linux, VxWorks (project based)
TEMPERATURE	0 °C to +60 °C operating, -30 °C to +85 °C non-operating
HUMIDITY	93 % relative Humidity at 40 °C, non-condensing (according to IEC 60068-2-78)

## Block Diagram



	12th GEN ALDER LAKE H-SERIES (45 W)		
CPU	i7-12800HE	i5-12600HE	i3-12300HE
CORES	14	12	8
NUMBER OF P-CORES	6	4	4
FREQUENCY BASE /TURBO (P-CORES)	2.4/4.6 GHz	2.5/4.5 GHz	1.9/4.3 GHz
NUMBER OF E-CORES	8	8	4
FREQUENCY BASE /TURBO (E-CORES)	1.8/3.5 GHz	1.8/3.3 GHz	1.5/3.3 GHz
TDP	45/35 W	45/35 W	45/35 W
CACHE	24 MByte	18 Mbyte	12 Mbyte
IBECC	no	no	no
TCC/TSN	no	no	no

	12th GEN ALDER LAKE P-SERIES (28 W)		
CPU	i7-1270PE	i5-1250PE	i3-1220PE
CORES	12	12	8
NUMBER OF P-CORES	4	4	4
FREQUENCY BASE /TURBO (P-CORES)	1.8/4.5 GHz	1.7/4.4 GHz	1.5/4.2 GHz
NUMBER OF E-CORES	8	8	4
FREQUENCY BASE /TURBO (E-CORES)	1.2/3.3 GHz	1.2/3.2 GHz	1.1/3.1 GHz
TDP	28/20 W	28/20 W	28/20 W
CACHE	18 MByte	12 Mbyte	12 Mbyte
IBECC	no	no	no
TCC/TSN	no	no	no

	12th GEN ALDER LAKE U-SERIES (15 W)			
CPU	i7-1265UE	i5-1245UE	i3-1215UE	Celeron® 7305E
CORES	10	10	6	5
NUMBER OF P-CORES	2	2	2	1
FREQUENCY BASE /TURBO (P-CORES)	1.7/4.7 GHz	1.5/4.4 GHz	1.2/4.4 GHz	1.0/- GHz
NUMBER OF E-CORES	8	8	4	4
FREQUENCY BASE /TURBO (E-CORES)	1.2/3.5 GHz	1.1/3.3 GHz	0.9/3.3 GHz	0.9/- GHz
TDP	15/12 W	15/12 W	15/12 W	15/12 W
CACHE	12 MByte	12 Mbyte	10 Mbyte	8 Mbyte
IBECC	no	no	no	no
TCC/TSN	no	no	no	no

PART NO.	CPU	PCH	MEM. DOWN	SO-DIMM	FLASH	OP. TEMPERATURE
36035-6400-18-7	i7-12800HE	-	64 GByte	-	-	0 °C - 60 °C
36035-3200-18-7	i7-12800HE	-	32 GByte	-	-	0 °C - 60 °C
36035-3200-18-5	i5-12600HE	-	32 GByte	-	-	0 °C - 60 °C
36035-1600-18-5	i5-12600HE	-	16 GByte	-	-	0 °C - 60 °C
36035-1600-15-3	i3-12300HE	-	16 GByte	-	-	0 °C - 60 °C
36035-3200-12-7	i7-1270PE	-	32 GByte	-	-	0 °C - 60 °C
36035-1600-12-5	i5-1250PE	-	16 GByte	-	-	0 °C - 60 °C
36035-1600-11-3	i3-1220PE	-	16 GByte	-	-	0 °C - 60 °C
36035-1600-12-7	i7-1265UE	-	16 GByte	-	-	0 °C - 60 °C
36035-1600-11-5	i5-1245UE	-	16 GByte	-	-	0 °C - 60 °C
36035-8000-09-3	i3-1215UE	-	8 GByte	-	-	0 °C - 60 °C
36035-8000-09-1	7305E	-	8 GByte	-	-	0 °C - 60 °C

## Carrier

ARTICLE	PART NO.	DESCRIPTION
COME EVAL CARRIER2 T6	38116-0000-00-5	COM Express® Evaluation Carrier Type 6

## Cooling

ARTICLE	PART NO.	DESCRIPTION
HSP COME-CAP6 CU-CORE THREADED	36035-0000-99-0	Heatspreader for COMe-cAP6, Cu-core, threaded mounting holes
HSP COME-CAP6 CU-CORE THROUGH	36035-0000-99-1	Heatspreader for COMe-cAP6, Cu-core, through mounting 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

## Your Contact

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