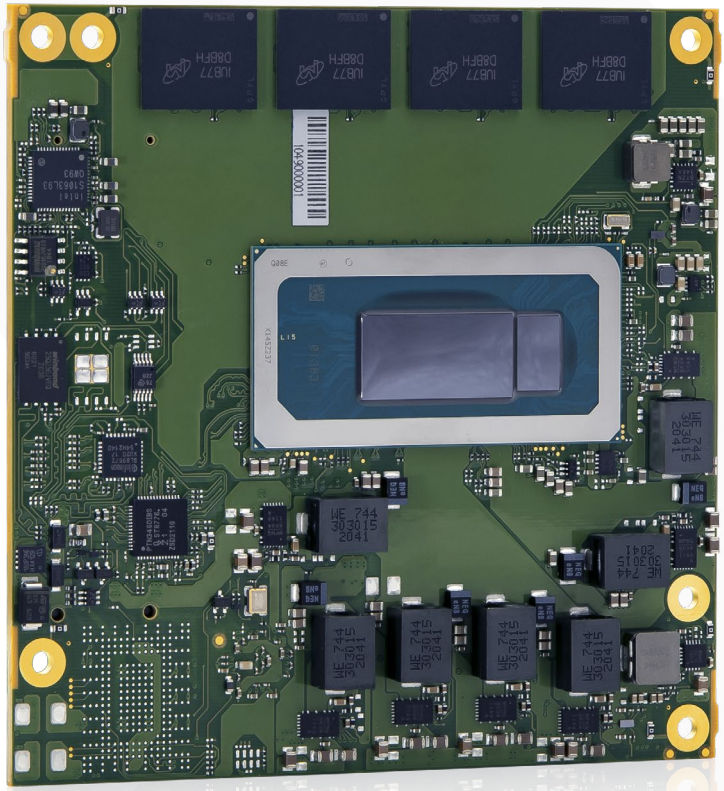
COMe-cRP6 (E2)



COM Express® Compact Type 6 with 13th Generation Intel® Core™ Processors

- Up to 64 GByte LPDDR5 memory down
- Up to 2.5 Gb Ethernet with TSN support
- Optional NVMe SSD onboard
- Industrial grade versions

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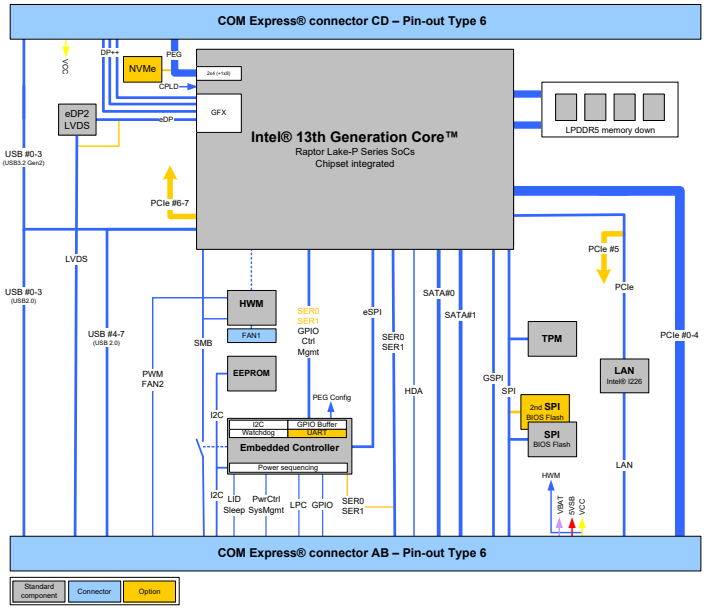
Technical Information

COMPLIANCE	COM Express® Compact Pin-out Type 6
DIMENSIONS (H x W)	95 x 95 mm
CPU	Intel® 13th 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 processors
ETHERNET CONTROLLER	Intel® I226IT
ETHERNET	Up to 2.5Gb Ethernet with TSN support
STORAGE	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 (H-series only)
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	Intel® High Definition Audio
OTHER FEATURES	(G) SPI, LPC, SMB, Fast I²C, Staged Watchdog, RTC
SPECIAL FEATURES	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	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

	13TH GEN RAPTOR LAKE H-SERIES (45 W)		
CPU	i7-13800HRE	i5-13600HRE	i3-13300HRE
CORES	14	12	8
NUMBER OF P-CORES	6	4	4
FREQUENCY BASE /TURBO (P-CORES)	2.5/5.0 GHz	2.7/4.8 GHz	2.1/4.6 GHz
NUMBER OF E-CORES	8	8	4
FREQUENCY BASE /TURBO (E-CORES)	1.8/4.0 GHz	1.9/3.6 GHz	1.5/3.4 GHz
TDP	45/35 W	45/35 W	45/35 W
CACHE	24 MByte	18 Mbyte	12 Mbyte
IBECC	yes	yes	yes
TCC/TSN	yes	yes	yes

	13TH GEN RAPTOR LAKE P-SERIES (28 W)		
CPU	i7-1370PRE	i5-1350PRE	i3-1320PRE
CORES	14	12	8
NUMBER OF P-CORES	6	4	4
FREQUENCY BASE /TURBO (P-CORES)	1.9/4.8 GHz	1.8/4.6 GHz	1.7/4.5 GHz
NUMBER OF E-CORES	8	8	4
FREQUENCY BASE /TURBO (E-CORES)	1.2/3.7 GHz	1.3/3.4 GHz	1.2/3.3 GHz
TDP	28/20 W	28/20 W	28/20 W
CACHE	24 MByte	12 Mbyte	12 Mbyte
IBECC	yes	yes	yes
TCC/TSN	yes	yes	yes

	13TH GEN RAPTOR LAKE U-SERIES (15 W)		
CPU	i7-1365URE	i5-1345URE	i3-1315URE
CORES	10	10	6
NUMBER OF P-CORES	2	2	2
FREQUENCY BASE /TURBO (P-CORES)	1.7/4.9 GHz	1.4/4.6 GHz	1.2/4.5 GHz
NUMBER OF E-CORES	8	8	4
FREQUENCY BASE /TURBO (E-CORES)	1.2/3.7 GHz	1.1/3.4 GHz	0.9/3.3 GHz
TDP	15/12 W	15/12 W	15/12 W
CACHE	12 MByte	12 Mbyte	10 Mbyte
IBECC	yes	yes	yes
TCC/TSN	yes	yes	yes

Variants

PART NO.	CPU	PCH	MEM. DOWN	SO-DIMM	FLASH	OP. TEMPERATURE
36037-6400-25-7	i7-13800HRE	-	64 GByte	-	-	-40 °C – 85 °C
36037-3200-25-7	i7-13800HRE	-	32 GByte	-	-	-40 °C – 85 °C
36037-3200-27-5	i5-13600HRE	-	32 GByte	-	-	-40 °C – 85 °C
36037-1600-27-5	i5-13600HRE	-	16 GByte	-	-	-40 °C – 85 °C
36037-1600-21-3	i3-13300HRE	-	16 GByte	-	-	-40 °C – 85 °C
36037-3200-19-7	i7-1370PRE	-	32 GByte	-	-	-40 °C – 85 °C
36037-1600-18-5	i5-1350PRE	-	16 GByte	-	-	-40 °C – 85 °C
36037-1600-17-3	i3-1320PRE	-	16 GByte	-	-	-40 °C – 85 °C
36037-1600-17-7	i7-1365URE	-	16 GByte	-	-	-40 °C – 85 °C
36037-1600-14-5	i5-1345URE	-	16 GByte	-	-	-40 °C – 85 °C
36037-8000-12-3	i3-1315URE	-	8 GByte	-	-	-40 °C – 85 °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

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