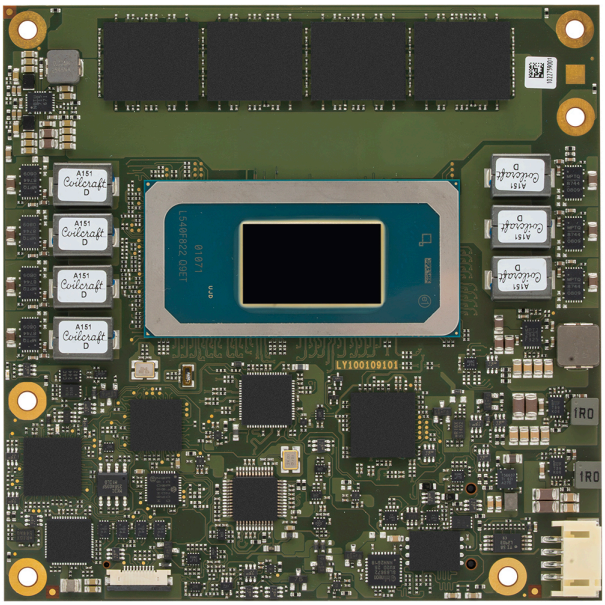
COM Express Type 6

TRIA C6C-PLH

Intel® Core™ Ultra Series 3 Processors



95 x 95

tbd

-40 - +85°C

Highlights

- COM Express Type 6, Compact formfactor
- Intel® Core™ Ultra Series 3 processors
- Up to sixteen cores
- Industrial grading options (Intel® TCC, TSN, IBECC, ind. Temp., 24/7)
- Integrated AI accelarator (NPU)
- Up to 96GB LPDDR5x SDRAM, IBECC
- Intel® Iris® X^e graphics, up to 12 X^e cores
- Three DisplayPort/HDMI interfaces
- LVDS and Embedded DisplayPort interface
- Four independent display streams
- Up to eighteen PCI Express® Gen 4 lanes and up to to two PCI Express® Gen 3 lanes
- Up to two USB4, up to four USB 3 and eight USB 2.0 ports
- Two UARTs
- Up to two SATA 6Gb/s mass storage interfaces
- 1 Gb / 2.5 Gb Ethernet port (Intel® i226)
- Trusted Platform Module TPM 2.0
- Long-term product availability

COM Express Type 6

Technical Data

Technology	x86
Formfactor	COM Express Compact
CPU	Intel® Core™ Ultra Series 3 processors: Intel® Core™ Ultra X9 processor 388H 16 Cores, 2.1 GHZ, 12Xe, vPRO®, 25W BP, 12 PCIe Intel® Core™ Ultra X9 processor 378H 16 Cores, 2.1 GHZ, 12Xe, 25W BP, 12 PCIe Intel® Core™ Ultra 9 processor 386H 16 Cores, 2.1 GHZ, 4Xe, vPRO®, 25W BP, 20 PCIe Intel® Core™ Ultra X7 processor 368H 16 Cores, 2.0 GHZ, 12Xe, vPRO®, 25W BP, 12 PCIe Intel® Core™ Ultra 7 processor 366H 16 Cores, 2.0 GHZ, 4Xe, vPRO®, 25W BP, 20 PCIe Intel® Core™ Ultra 7 processor 365 8 Cores, 2.4 GHZ, 4Xe, vPRO®, 25W BP, 12 PCIe Intel® Core™ Ultra X7 processor 358H 16 Cores, 1.9 GHZ, 12Xe, 25W BP, 12 PCIe Intel® Core™ Ultra 7 processor 356H 16 Cores, 1.9 GHZ, 4Xe, 25W BP, 20 PCIe Intel® Core™ Ultra 7 processor 355 8 Cores, 2.3 GHZ, 4Xe, 25W BP, 12 PCIe Intel® Core™ Ultra 5 processor 338H 12 Cores, 1.9 GHZ, 10Xe, vPRO®, 25W BP, 12 PCIe Intel® Core™ Ultra 5 processor 336H 12 Cores, 1.9 GHZ, 4Xe, vPRO®, 25W BP, 20 PCIe Intel® Core™ Ultra 5 processor 335 8 Cores, 2.2 GHZ, 4Xe, vPRO®, 25W BP, 12 PCIe Intel® Core™ Ultra 5 processor 325 8 Cores, 2.1 GHZ, 4Xe, 25W BP, 12 PCIe Intel® Core™ Ultra 5 processor 332 6 Cores, 2.5 GHZ, 2Xe, vPRO®, 25W BP, 12 PCIe Intel® Core™ Ultra 5 processor 322 6 Cores, 2.5 GHZ, 2Xe, 25W BP, 12 PCIe Intel® Core™ Ultra X7 processor 358HR 16 Cores, x.x GHZ, 12Xe, vPRO®, 25W BP, 12 PCIe Intel® Core™ Ultra 7 processor 366HRE 16 Cores, x.x GHZ, 4Xe, vPRO®, 25W BP, 20 PCIe, ind. T. Intel® Core™ Ultra 7 processor 365RE 8 Cores, x.x GHZ, 4Xe, vPRO®, 25W BP, 20 PCIe, ind. T. Intel® Core™ Ultra 5 processor 336HRE 12 Cores, x.x GHZ, 4Xe, vPRO®, 25W BP, 20 PCIe, ind. T. Intel® Core™ Ultra 5 processor 335RE 8 Cores, x.x GHZ, 4Xe, vPRO®, 25W BP, 20 PCIe, ind. T. Note: P core base frequency at processor base power (25W BP) shown, other clock frequencies at different power levels supported
Chipset	Integrated into SoC
RAM	LPDDR5 memory, up to 9600 MT/s; memory-down Capacity options: 16GB, 32GB, 64GB, 96GB Inband ECC (IBECC) option (OS dependent)
Storage Interfaces	2x SATA channels (up to 6Gb/s), optional
USB	Up to 2x USB4 Gen 2, shared with COMe DDI1, DDI2 Up to 4x USB 3 8x USB 2.0 Note: capabilities depending on carrier design
Serial Interfaces	2x high-speed serial ports
Bus Interfaces	PCI Express® Gen 4, 1x8 or 2x4 lanes on COMe PCIe[20:27], optional[1] PCI Express® Gen 4, 1x4 on COMe PCIe[16:19] PCI Express® Gen 4, 6 lanes, flexible bifurcation options on COMe PCIe[0:5] PCI Express® Gen 3, 2 lanes, COMe PCIe[6:7], optional [1] Available on select processor variants
Display Controller	Intel® Iris® X^e graphics, up to 12 X^e cores H.264/AVC, H.265/HEVC, AV1, MJPEG encode/decode/transcode
Display Interfaces	Four independent display streams 2x USB4/USB-C ports (DP Tunneling, DP Alt Mode) on DDI 1, 2 3x Digital Display Interface (DP 2.1, HDMI 2.1) on DDI 1, 2, 3 1x Embedded DisplayPort 1.5 (mutually exclusive with LVDS) 1x LVDS 24bit, dual-channel (mutually exclusive with eDP);
Network Interface	10/100/1000Base-TX, 2.5G[2] based on Intel i226, TSN support [2] Available bandwidths depending on carrier design I-Temp variants: Intel® i226-IT C-Temp variants: Intel® i226-LM
Audio Interface	High Definition Audio

COM Express Type 6

Security Device	TPM 2.0
Miscellaneous	Watchdog Timer: Initiates system reset, programmable Fan Supply: 4-pin header for CPU fan, PWM speed controlled and PWM speed control for system fan supported RTC battery: external System Monitoring: voltage, temperature, CPU fan, system fan
Feature Highlights	COM Express Type 6 pin-out
Firmware	UEFI Firmware: AMI Aptio® V Security: TPM 2.0 support, TCG compliant Power Management: ACPI Active fan control USB: USB legacy support (keyboard, mouse, storage) Monitoring: System Monitoring Health Monitoring Tria Adv. Boot Device Selection: Boot device priority setting based on physical interfaces
OS Support	Windows 11 IoT Enterprise LTSC 2024 BSP for Linux (Yocto)
Power Requirement	Voltage: +8.5V to +20V, +5V Stby optional Power Consumption: tbd W to tbd W (typ., variant dependent)
Environment	Ambient Temperature: 0° ... 60°C (operating) -25° ... 85°C (storage) Industrial temperature variants: -40 ... +85°C (operating) Humidity: 5 ... 95% (operating, non-condensing), 5 ... 95% (storage, non-condensing)
Dimensions	95mm x 95mm

Technical Data for TRIA C6C-PLH

Order Reference

Order No.	Description	Reference	Status*
-	-	-	-

Ordering Information for TRIA C6C-PLH

*PV = Preferred variant; OR = on Request (in OEM quantities only)

Accessories

Carrier Boards

Order No.	Description	Reference
111650	COM Express Type 6 Evaluation Carrier Board with various PCI Express x1, x4 and x16 slots, USB 3.0/2.0, GbE, M.2, SD card socket, SATA, DisplayPort, LVDS, eDP, VGA, HD audio interfaces; ATX power connector. Dimensions: 305 x 244 mm (ATX form factor)	MSC C6-MB-EV4 PCBFTX
119830	COM Express Type 6 Evaluation Carrier Board with PCI Express x4 and x16 slots, USB 3.0/2.0, USB4 Type-C, GbE, M.2, SATA, DisplayPort, LVDS, eDP; ATX power connector. Dimensions: 170 x 170 mm (Mini-ITX form factor)	MSC C6-MB-EV4M BRDFTX

Carrier Boards TRIA C6-MB-EV4/EV4M

Cooling Solutions

Order No.	Description	Reference
tbd	Passive Heatsink for C6C-PLH consisting of a single-piece aluminum profile with fins, standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to major devices.	MSC C6C-PLH-01 HSI-001
tbd	Passive Heatsink / heat pipe for C6C-PLH consisting of a single-piece aluminum profile with fins and embedded heatpipe, standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to major devices.	MSC C6C-PLH-01 HSI-HP-001
tbd	Heatspreader for C6C-PLH. Single-piece aluminum profile, standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to major devices.	MSC C6C-PLH-01 HSP-001
tbd	Heatspreader / heat pipe for C6C-PLH. Single-piece aluminum profile with embedded heat pipe, standoffs without thread (2.7mm inner diameter), screws and thermopad for the thermal contact to major devices.	MSC C6C-PLH-01 HSP-HP-001
tbd	Heatspreader for C6C-PLH. Single-piece aluminum profile, standoffs with M2.5 thread, screws and thermopads for the thermal contact to major devices.	MSC C6C-PLH-02 HSP-001

Cooling Devices for TRIA C6C-PLH

Order No.	Description	Reference
79809	Fan kit for Heatsink MSC HCA-ALP/RLP/MLH/PLH-0x HSI-xxx, MSC C6B-TLH/ALP/RLP/MLH-0x HSI-xxx, MSC C6C-WLU/TLU/ALP/RLP/PLH-0x HSI-xxx, MSC C6C-EL/ALN/ASL-0x HSI-xxx, MSC C6C-RYZx-0x HSI-xxx, PWM fan 80x80x15mm.	MSC C6C-FANKIT-01-HSF-001

Fan Kit for COM Express Heatsinks

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