

TRIA HCA-PLH

Intel® Core™ Ultra Processors Series 3



120 x 95

⚡ tbd

🌡️ 0 +60

COM+HPC®



Highlights

- COM-HPC Client, Size A module
- Intel® Core™ Ultra Processors Series 3
- Up to sixteen cores
- Integrated AI accelerator (NPU)
- Up to 64GB LPDDR5x SDRAM, IB-ECC
- Intel Xe graphics, up to 12 Xe cores
- Three DisplayPort/HDMI interfaces
- Embedded DisplayPort interface
- Four independent display streams
- Up to twelve PCI Express® Gen 5 lanes and up to six PCI Express® Gen 4 lanes
- One USB4, two USB 3.2 Gen1/2 and eight USB 2.0 ports
- Two UARTs
- Up to two SATA 6Gb/s mass storage interfaces
- Two 1 / 2.5 Gb Ethernet ports (Intel® i226)
- Trusted Platform Module TPM 2.0
- Long-term product availability

Technical Data

Technology	x86
Formfactor	COM-HPC Size A
CPU	<p>Intel® Core™ Ultra Processors Series 3:</p> <p>Intel® Core™ Ultra X9 processor 388H 16 Cores, 2.1 GHZ, 12Xe, vPRO®, 25W BP, 12 PCIe</p> <p>Intel® Core™ Ultra 9 processor 386H 16 Cores, 2.1 GHZ, 4Xe, vPRO®, 25W BP, 20 PCIe</p> <p>Intel® Core™ Ultra X7 processor 368H 16 Cores, 2.0 GHZ, 12Xe, vPRO®, 25W BP, 12 PCIe</p> <p>Intel® Core™ Ultra 7 processor 366H 16 Cores, 2.0 GHZ, 4Xe, vPRO®, 25W BP, 20 PCIe</p> <p>Intel® Core™ Ultra X7 processor 358H 16 Cores, 1.9 GHZ, 12Xe, 25W BP, 12 PCIe</p> <p>Intel® Core™ Ultra 7 processor 356H 16 Cores, 1.9 GHZ, 4Xe, 25W BP, 20 PCIe</p> <p>Intel® Core™ Ultra 7 processor 365 8 Cores, 2.4 GHZ, 4Xe, vPRO®, 25W BP, 12 PCIe</p> <p>Intel® Core™ Ultra 7 processor 355 8 Cores, 2.3 GHZ, 4Xe, 25W BP, 12 PCIe</p> <p>Intel® Core™ Ultra 5 processor 338H 12 Cores, 1.9 GHZ, 10Xe, vPRO®, 25W BP, 12 PCIe</p> <p>Intel® Core™ Ultra 5 processor 336H 12 Cores, 1.9 GHZ, 4Xe, vPRO®, 25W BP, 20 PCIe</p> <p>Intel® Core™ Ultra 5 processor 335 8 Cores, 2.2 GHZ, 4Xe, vPRO®, 25W BP, 12 PCIe</p> <p>Intel® Core™ Ultra 5 processor 325 8 Cores, 2.1 GHZ, 4Xe, 25W BP, 12 PCIe</p> <p>Intel® Core™ Ultra 5 processor 332 6 Cores, 2.5 GHZ, 2Xe, vPRO®, 25W BP, 12 PCIe</p> <p>Intel® Core™ Ultra 5 processor 322 6 Cores, 2.5 GHZ, 2Xe, 25W BP, 12 PCIe</p> <p>Note: P core base frequency at processor base power (25W BP) shown, other clock frequencies at different power levels supported</p>
Chipset	Integrated into SoC
RAM	<p>LPDDR5x memory, up to 9600 MT/s; memory-down</p> <p>Capacity options: 16GB, 32GB, 64GB</p> <p>Inband ECC (IB-ECC) option (OS dependent)</p>
Storage Interfaces	2x SATA channels (up to 6Gb/s), optional
USB	<p>1x USB4 on COM-HPC USB0_SSTX/RX</p> <p>2x USB 3.2 (Gen 1 & 2) on COM-HPC USB[1:2]_SSTX/RX</p> <p>8x USB 2.0 on COM-HPC USB[0:7]</p>
Serial Interfaces	2x high-speed serial ports
Bus Interfaces	<p>PCI Express® Graphics Gen 5, 1x8 or 2x4 lanes on COM-HPC PCIe[16:23], optional¹</p> <p>PCI Express® Gen 5, 1x4 on COM-HPC PCIe[8:11]</p> <p>PCI Express® Gen 4, 6 lanes, flexible bifurcation options on COM-HPC PCIe[0:5]</p> <p>PCI Express® Gen 3, 2 lanes, COM-HPC PCIe[6:7], optional</p> <p>¹ Available on selected processor variants</p>
Display Controller	<p>Intel Xe graphics, up to 12 Xe cores</p> <p>H.264/AVC, H.265/HEVC, AV1, MJPEG encode/decode/transcode</p>
Display Interfaces	<p>Four independent display streams</p> <p>1x USB4/USB-C ports (DP tunneling)</p> <p>3x Digital Display Interface (DP 2.1, HDMI 2.1)</p> <p>1x Embedded DisplayPort 1.4b</p>
Network Interface	<p>Two 10/100/1000Base-TX, 2.5G² based on Intel i226-LM</p> <p>² Available bandwidths depending on carrier design</p>
Audio Interface	High Definition Audio
Security Device	TPM 2.0

Miscellaneous	<p>Watchdog Timer: Initiates system reset, programmable</p> <p>Fan Supply: 4-pin header for CPU fan, PWM speed controlled and PWM speed control for system fan supported</p> <p>RTC battery: external</p> <p>System Monitoring: voltage, temperature, CPU fan, system fan</p>
Feature Highlights	COM-HPC Client
Firmware	<p>UEFI Firmware: AMI Aptio® V</p> <p>Security: TPM 2.0 support, TCG compliant</p> <p>Power Management: ACPI Active fan control</p> <p>USB: USB legacy support (keyboard, mouse, storage)</p> <p>Monitoring: System Monitoring Health Monitoring</p> <p>Tria Adv. Boot Device Selection: Boot device priority setting based on physical interfaces</p>
OS Support	<p>Windows 11 IoT Enterprise LTSC BSP for Linux (Yocto)</p>
Power Requirement	<p>Voltage: +8V to +20V, +5V Stby optional, +3V RTC voltage</p> <p>Power Consumption: tbd W to tbd W (typ., variant dependent)</p>
Environment	<p>Ambient Temperature: 0° ... 60°C (operating) -25° ... 85°C (storage)</p> <p>Humidity: 5 ... 95% (operating, non-condensing), 5 ... 95% (storage, non-condensing)</p>
Dimensions	120 x 95

Technical Data for TRIA HCA-PLH

Order Reference

Order No.	Description	Reference	Status*
tdb	COM-HPC Client Size A module (120mm x 95mm); CPU: Intel Core Ultra 9 386H 16C, vPro, 25W BP; Graphics: Intel 4Xe; 3x DP/HDMI; 1x eDP; Ethernet: 2x Intel i226-LM Gbit, TSN; HD audio; TPM 2.0; 2x SATA, 1x USB4, 2x USB3, 8x USB2, PCIe G5 8+4, G4 4+2, G3 1; 32GB LPDDR5X memory; 0...+60°C.	MSC HCA-PLH-386H 5N0150C PCBFTX	OR
tdb	COM-HPC Client Size A module (120mm x 95mm); CPU: Intel Core Ultra 7 356H 16C, 25W BP; Graphics: Intel 4Xe; 3x DP/HDMI; 1x eDP; Ethernet: 2x Intel i226-LM Gbit, TSN; HD audio; TPM 2.0; 2x SATA, 1x USB4, 2x USB3, 8x USB2, PCIe G5 8+4, G4 4+2, G3 1; 16GB LPDDR5X memory; 0...+60°C.	MSC HCA-PLH-356H 4N0150C PCBFTX	OR
tdb	COM-HPC Client Size A module (120mm x 95mm); CPU: Intel Core Ultra 5 336H 12C, vPro, 25W BP; Graphics: Intel 4Xe; 3x DP/HDMI; 1x eDP; Ethernet: 2x Intel i226-LM Gbit, TSN; HD audio; TPM 2.0; 2x SATA, 1x USB4, 2x USB3, 8x USB2, PCIe G5 8+4, G4 4+2, G3 1; 16GB LPDDR5X memory; 0...+60°C.	MSC HCA-PLH-336H 4N0150C PCBFTX	OR

Ordering Information for TRIA HCA-PLH

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

Accessories

Carrier Options

Order No.	Description	Reference
114609	COM-HPC Client Carrier Board with 1x PEG x16, 1x PCIe x16, 3x PCIe x4 slots; 2x USB 4 Gen 2x2, 2x USB 3.2 Gen 2x1, 2x 1G/2.5G/10GBASE-T, 2x SATA; 3x DisplayPort, 1x eDP; audio module socket; 1x M.2 socket; 24pin ATX and ATX12V power connectors; Dimensions: 305mm x 244mm (ATX form factor);	MSC HC-MB-EV BRDFTX

Carrier Options for TRIA HCA-PLH/MLH/RLP/ALP

Cooling Options

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

Cooling Options for TRIA HCA-PLH

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

Fan Kit for COM-HPC Heatsinks

COM-HPC Client



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