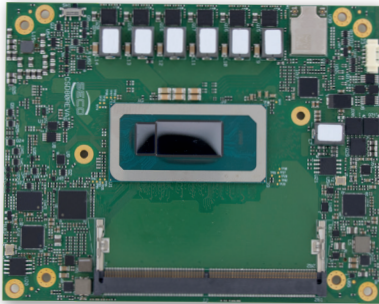




ORION

COM-HPC® Client module Size A with 12th Gen Intel® Core™ (formerly Alder Lake - P series) Processors

Immersive graphics, enhanced AI-performance and efficiency in a standard form factor

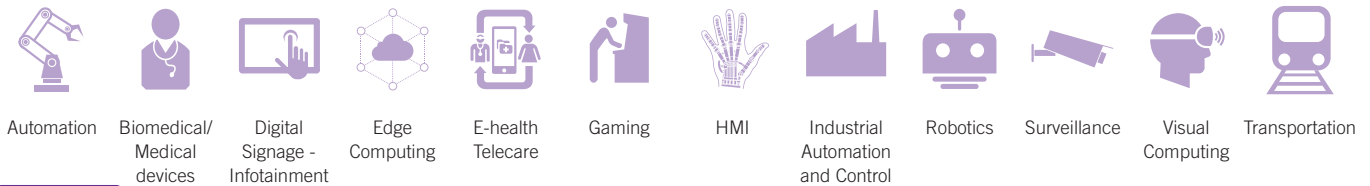


HIGHLIGHTS

CPU 12th Gen Intel® Core™ processors (Codename: Alder Lake - P series)	CONNECTIVITY 2x 2.5GbE; 4x USB4 Gen 2x2; 4x USB2.0; 8x PCIe x1 Gen3, 1x PCIe x8 or 2x PCIe x4 Gen4; Optional on-board WiFi 6E + BT 5.2
GRAPHICS Intel® Iris® Xe Architecture with up to 96 EUs, up to 4 independent displays	MEMORY Two DDR5 SO-DIMM Slots supporting DDR5-4800 Memory



MAIN FIELDS OF APPLICATION



FEATURES

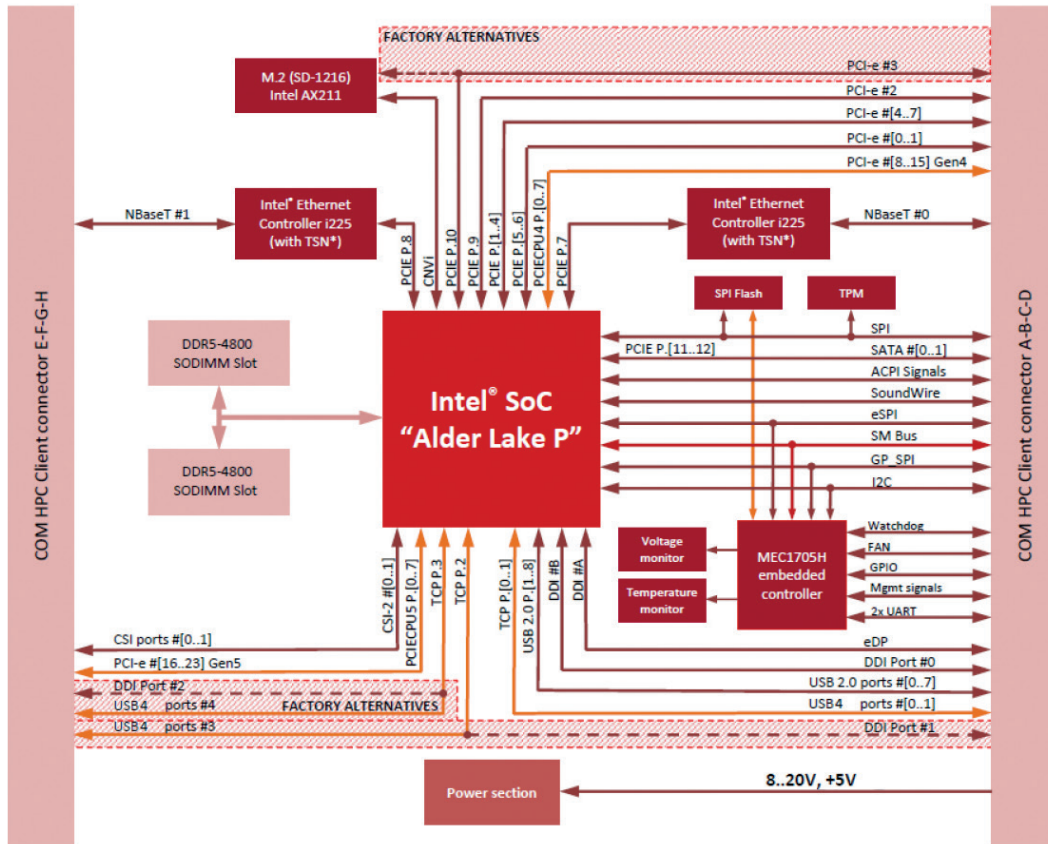
Processor	12th Gen Intel® Core™ processors, up to 14 cores & up to 20 threads, up to 24MB cache, 45W TDP (35W cTDP)	PCI-e	Up to 8x PCIe x1 Gen3 lanes 1x PCIe x8 Gen4 port 2x PCIe x4 Gen4 ports
System Memory	2x DDR5-4800 SODIMM Slots, up to 64GB	Audio	SoundWire and I2S Audio Interface
Graphics	Integrated Iris® Xe Architecture, up to 96 Execution Units Up to two video decode boxes (VDBoxes) for enhanced video stream capabilities Support for up to 48 simultaneous 1080p streams ingestion Support for up to four independent displays at up to 4K60 HDR resolution or one display at 8K resolution	Serial Ports	2 x UARTs 2x 4-lane CSI-2 interfaces SPI, SM Bus, 2x I2C, Watchdog timer, Carrier board FAN Control
Video Interfaces	3x DDI ports supporting DP 1.4, HDMI 2.0b (HDMI 2.1 via LSPCON) 1x eDP 1.4b interface 4x DP interface on USB Type-C connector (Alternate mode)	Other Interfaces	Management signals, ACPI signals, Safety Status signals Deep Sleep / Battery support Optional TPM 2.0 module on-board 12x GPIOs
Video Resolution	DP: Up to 5120x3200 @60Hz 24bpp / 7680x4320@60Hz 30bpp with DSC eDP: Up to 5120x3200 @60Hz 24bpp / 5120x3200@120Hz 30bpp with DSC HDMI 1.4: Up to 4Kx2K 24-30Hz 24bpp HDMI 2.1: Up to 4Kx2K 48-60Hz 24bpp / 4Kx2K 48-60Hz 12bpc (need dedicated redriver on carrier board)	Other	AI engine: Intel® Gaussian & Neural Accelerator 3.0 (Intel® GNA) Can operate while the SOC is in lower power states
Mass Storage	2x external SATA Gen3 Channels PCI-e x4 ports can be used to connect, on the carrier board, M.2 NVMe drives	Power Supply	+8V _{DC} .. +20V _{DC} Main power supply +5V _{DC} stand-by
Networking	2x NBase-T Ethernet interfaces, supporting 2.5Gb Ethernet connection, managed by as many Intel® i225 2.5GbE Controllers Optional on-board M.2 1216 module, supporting WiFi 802.11ax (WiFi 6E) MIMO 2x2 + MU-MIMO and Bluetooth 5.2, external antennas*	Operating System	Windows 10 IoT Enterprise LTSC Windows Server 2022 Wind River VxWorks 7.0 Linux Kernel LTS Wind River Linux Yocto Android
USB	Up to 4 x USB4 Gen 2x2 Host ports 4 x USB 2.0 Host port	Operating Temperature*	0°C ÷ +60°C (Commercial version)
	*Certification upon request	Dimensions	120 x 95 mm (COM-HPC® Size A Form factor, Client pinout)

*Measured at any point of SECO standard heatspreader for this product, during any and all times (including start-up). Actual temperature will widely depend on application, enclosure and/or environment. Upon customer to consider application-specific cooling solutions for the final system to keep the heatspreader temperature in the range indicated.

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BLOCK DIAGRAM



Information subject to change. Please visit www.edge.seco.com to find the latest version of this datasheet.

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