COM HPC®
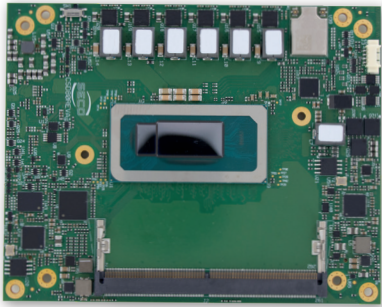
SOM-COM-HPC-A-ADL-P
COM HPC® Client module Size A, with 12th Gen Intel® Core™ processors (Codename: Alder Lake - P series)

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 USB4.0 / USB 3.2; 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
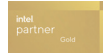
MAIN FIELDS OF APPLICATION

| Coffee & Vending | Medical | Transportation | Safety & Surveillance | Industrial Automation | Smart Devices | Digital Signage |

FEATURES
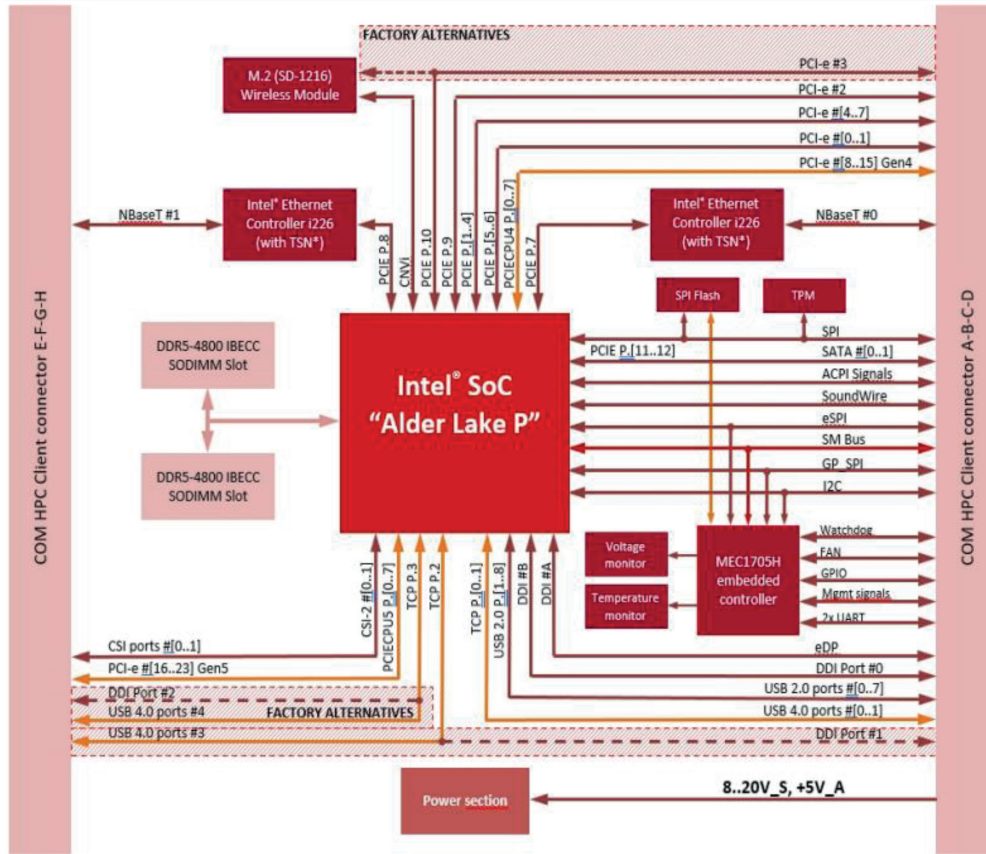
Processor	12th Gen Intel® Core™ processors, up to 14 cores & up to 20 threads, up to 24MB cache, 15/45W TDP	**PCI-e**	Up to 8x PCIe x1 Gen3 lanes 1x PCIe x8 Gen4 port 2x PCIe x4 Gen4 ports	
System Memory	2x DDR5-4800 SODIMM Slots, up to 64GB	**Audio**	SoundWire and I2S Audio Interface	
Graphics	Integrated 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	
		Other Interfaces	2x 4-lane CSI-2 interfaces SPI, SM Bus, 2x I2C, Watchdog timer, Carrier board FAN Control Management signals, ACPI signals, Safety Status signals Deep Sleep / Battery support Optional TPM 2.0 module on-board 12x GPIOs	
Video Interfaces	Up to 3x DDI ports supporting DP 1.4, HDMI® 2.0b (HDMI 2.1 via LSPCON) Up to 2x DP++ interfaces over USB 4.0 (Factory alternatives to 2x DDI ports) 1x eDP 1.4b interface	**Other**	AI engine: Intel® Gaussian & Neural Accelerator 3.0 (Intel® GNA) Can operate while the SOC is in lower power states	
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)	**Power Supply**	+8V$_{DC}$ .. +20V$_{DC}$ Main power supply +5V stand-by	
Mass Storage	2x external SATA Gen3 Channels PCI-e x4 ports can be used to connect, on the carrier board, M.2 NVMe drives	**Operating System**	Windows 10 IoT Enterprise LTSC Windows Server 2022 Wind River VxWorks 7.0 Linux Kernel LTS (Ubuntu) Wind River Linux Yocto Android	
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 BT 5.2, external antennas* *Certification upon request	**Operating Temperature***	0°C ÷ +60°C (Commercial version)	
		Dimensions	120 x 95 mm (COM-HPC® Size A Form factor, Client pinout)	
USB	Up to 4 x USB 4.0 / USB 3.2 Host ports 4 x USB 2.0 Host port			

*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.

BLOCK DIAGRAM

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

www.seco.com

Streamline and expedite your edge computing implementations

EDGEHOG OS

A flexible operating system that adapts to your needs, thanks to the customization tool and Docker support. Reliability and security are built-in through a dual-partition system and native integration with Exein's robust AI-based protection.

DEVICE MANAGER

Update, configure, and manage remote devices. Optimize time and costs to maximize operational efficiency and security without the need for costly field interventions.

DATA ORCHESTRATION

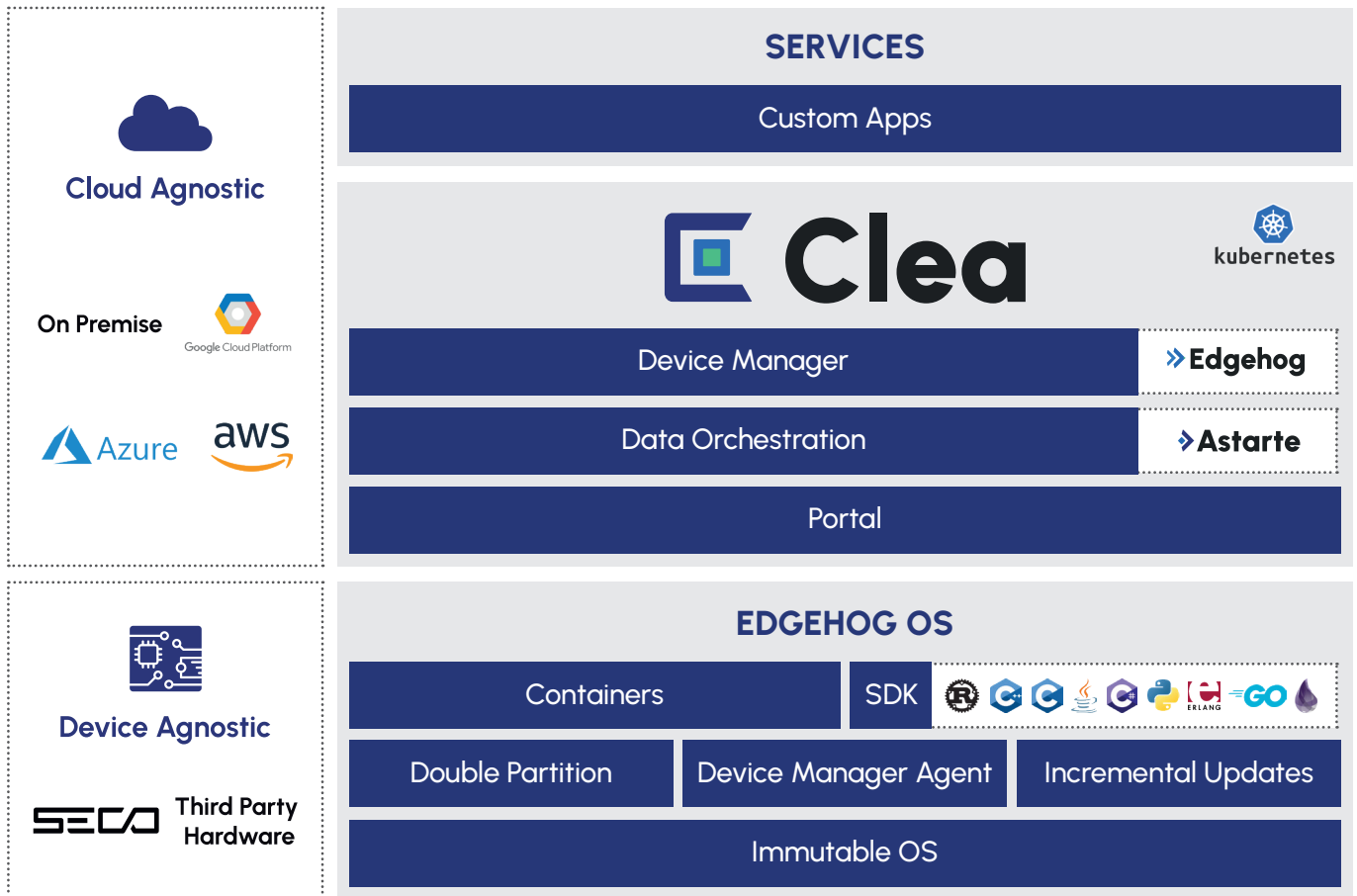Integrate third-party services, simplify data flows and analysis, and enhance business efficiency by enabling easy and fast utilization of AI.

PORTAL

Analyze data from remote devices, customize the user experience with applications tailored to user needs, and manage user rights, company access, and tenant privileges.

Cloud Agnostic

On Premise — Google Cloud Platform

Azure — aws

SERVICES

Custom Apps

Clea — kubernetes

Device Manager — ≫ Edgehog

Data Orchestration — ◈ Astarte

Portal

Device Agnostic

SECO — Third Party Hardware

EDGEHOG OS

Containers — SDK

Double Partition | Device Manager Agent | Incremental Updates

Immutable OS

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EDGEHOG OS

CLEA DOCS