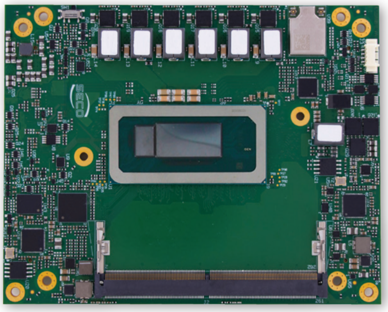
COM HPC®

SOM-COM-HPC-A-RPL

COM HPC® Client module Size A, with 13th Gen Intel® Core™ processors (Codename: Raptor Lake – H/P/U series)

13th Gen Core-i processing with AI accelerator for high performance industrial grade edge applications



HIGHLIGHTS

CPU
13th Gen Intel® Core™ processors (Codename: Raptor Lake – H/P/U 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 5.3

MEMORY
Two DDR5 SO-DIMM Slots supporting DDR5-5200 Memory

GRAPHICS
Intel® UHD graphics for 13th Gen processors (Iris® Xe eligible) with up to 96 EUs, up to 4 independent displays

COM-HPC PICMG intel partner Gold

Windows 10 IoT Enterprise Linux EDGEHOG ALL-IN-ONE IIoT PLATFORM

MAIN FIELDS OF APPLICATION

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

FEATURES

Processor	13th Generation Intel® Core™ Processors (Codename: Raptor Lake -H/-U/-P Series): · Intel® Core™ i7-13800HRE (Raptor Lake-H) 45W 14 cores (6P+8E), 96EU, 24M cache, up to 5.00 GHz, vPro™, IBECC, Industrial Extended Temp. · Intel® Core™ i5-13600HRE (Raptor Lake-H) 45W 12 cores (4P+8E), 80EU, 18M cache, up to 4.80 GHz, vPro™, IBECC, Industrial Extended Temp. · Intel® Core™ i3-1320PRE (Raptor Lake-P) 28W 8 cores (4P+4E), 48EU, 12M cache, up to 4.50 GHz, IBECC, Industrial Extended Temp. · Intel® Core™ i3-1315URE (Raptor Lake-U) 15W 6 cores (2P+4E), 64EU, 10M cache, up to 4.50 GHz, IBECC, Industrial Extended Temp. · Intel® Core™ i7-13800HE (Raptor Lake-H) 45W 14 cores (6P+8E), 96EU, 24M cache, up to 5.00 GHz, vPro™, Embedded Broad Market Commercial Temp. · Intel® Core™ i5-13600HE (Raptor Lake-H) 45W 12 cores (4P+8E), 80EU, 18M cache, up to 4.80 GHz, vPro™, Embedded Broad Market Commercial Temp. · Intel® Core™ i3-1320PE (Raptor Lake-P) 28W 8 cores(4P+4E), 48EU, 12M cache, up to 4.50 GHz, Embedded Broad Market Commercial Temp. · Intel® Core™ i3-1315UE (Raptor Lake-U) 15W 6 cores (2P+4E), 64EU, 10M cache, up to 4.50 GHz, Embedded Broad Market Commercial Temp. · Intel® Processor U300E (Raptor Lake-U) 15W 5 cores (1P+4E), 48EU, 8M cache, up to 4.30 GHz, Embedded Broad Market Commercial Temp.
Memory	2x DDR5-5200 SODIMM Slots, up to 64GB

Graphics	Integrated Intel® UHD Graphics for 13th Gen processors (Iris® Xe eligible with Core™ i5- and i7- CPUs + Dual Channel memory), 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
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
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)
Mass Storage	2x external SATA Gen3 Channels PCI-e x4 ports can be used to connect, on the carrier board, M.2 NVMe drives
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 5.3, external antennas* *Certification upon request
USB	Up to 4x USB 4.0 / USB 3.2 Host ports 4x USB 2.0 Host port

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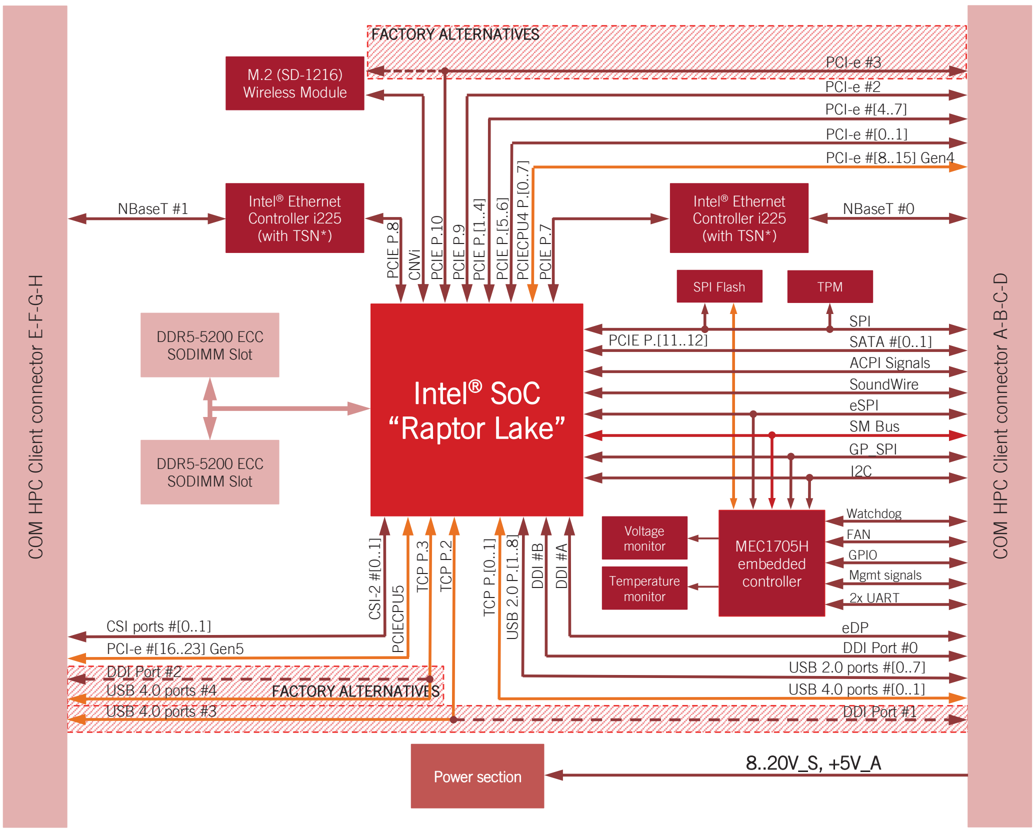
FEATURES

PCI-e	Up to 8x PCIe x1 Gen3 lanes 1x PCIe x8 Gen5 port (Gen4 port with Core™ i3- and U-series processors) 2x PCIe x4 Gen4 ports
Audio	HD Audio, Soundwire, I2S Audio interface Audio Interface
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
Other	AI engine: Intel® Gaussian & Neural Accelerator 3.0 (Intel® GNA) Can operate while the SOC is in lower power states

Power Supply	+8V_{DC} .. +20V_{DC} Main power supply +5V stand-by
Operating System	Windows 10 IoT Enterprise LTSC Linux Kernel LTS Edgehog OS (Yocto)
Operating Temperature*	0°C ÷ +60°C (Commercial) -40°C ÷ +85°C (Industrial)
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.

BLOCK DIAGRAM



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

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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

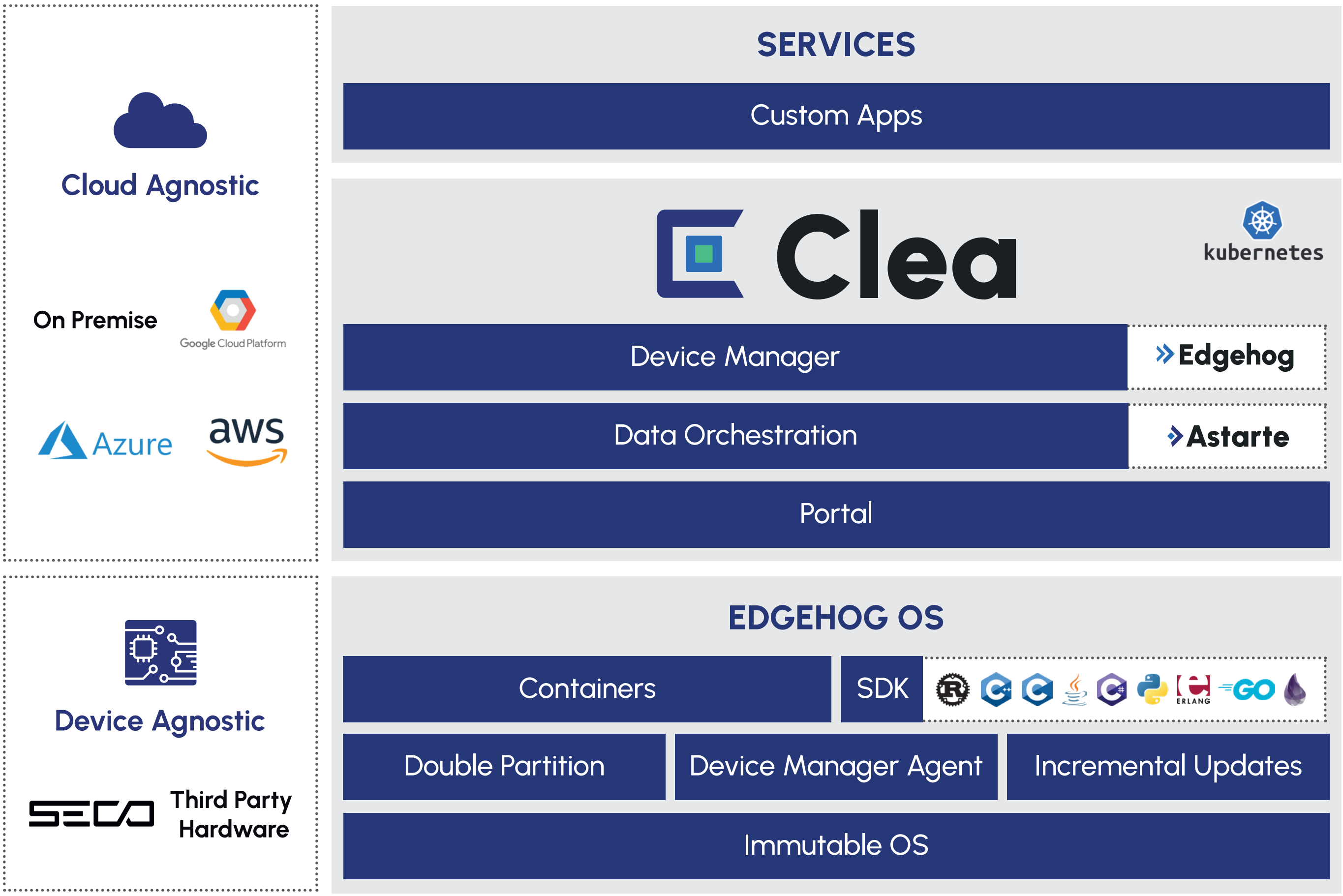
Update, configure, and manage remote devices. Optimize time and costs to maximize operational efficiency and security without the need for costly field interventions.

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

Scan to know more about our solution

EDGEHOG OS

CLEA DOCS