SMARC

SOM-SMARC-APL

SMARC® Rel. 2.1.1 module with Intel® Atom® X Series, Intel® Celeron® J / N Series and Intel® Pentium® N Series (Codename: Apollo Lake) Processors

High performance, low power and feature-rich

HIGHLIGHTS

CPU
Intel® Atom® X Series, Intel® Celeron® J / N Series and Intel® Pentium® N Series (formerly Apollo Lake) Processors

CONNECTIVITY
2x GbE; 2x USB 3.0; 6x USB 2.0; 4x PCI-e

GRAPHICS
Intel® HD Graphics 500 series controller with up to 18 Execution Units

MEMORY
Dual Channel Soldered Down LPDDR4-2400 memory

Available in Industrial Temperature Range

MAIN FIELDS OF APPLICATION

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

FEATURES

Processor	Intel® Atom® **x7-E3950** Quad Core @1.6 GHz (Burst 2.0GHz), 2MB L2 Cache, 12W TDP Intel® Atom® **x5-E3940** Quad Core @1.6 GHz (Burst 1.8GHz), 2MB L2 Cache, 9.5W TDP Intel® Atom® **x5-E3930** Dual Core @1.3 GHz (Burst 1.8GHz), 2MB L2 Cache, 6.5W TDP Intel® Pentium® **N4200** Quad Core @1.1GHz (burst 2.5GHz), 2MB L2 Cache, 6W TDP Intel® Celeron® **N3350** Dual Core @1.1GHz (burst 2.4GHz), 2MB L2 Cache, 6W TDP Intel® Celeron® **J3455**, Quad Core @ 1.5GHz (Burst 2.3GHz), 2MB L2Cache, 10W TDP Intel® Celeron® **J3355**, Dual Core @ 2.0GHz (Burst 2.5GHz), 2MB L2Cache,10W TDP
Max Cores	4
Memory	Single- / Dual- / Quad- Channel Soldered Down LPDDR4-2400 memory, up to 8GB
Graphics	Up to 3 independent displays Integrated Intel® HD Grahpics 500 / 505 HD Graphics controller, with up to 18 Execution Units 4K HW decoding and encoding of HEVC(H.265), H.264, VP8, SVC, MVC
Video Interfaces	eDP interface or Dual Channel 18/24bit LVDS interface through eDP-to-LVDS bridge HDMI® or DP++ interface DP++ interface 2 x CSI interfaces
Video Resolution	HDMI®, eDP up to 3840 x 2160 (4K) DP++ Up to 4096 x 2160 LVDS Up to 1920 x 1200
Mass S torage	1 x external S-ATA Gen3 Channel SD interface Optional eMMC 5.0 drive soldered on-board
Networking	Up to 2 x Gigabit Ethernet interfaces Intel® I210 or I211 Controller (MAC + PHY)

USB	6 x USB 2.0 Host Ports 2 x USB 3.0 Host Ports
PCI-e	4 x PCI-e Root Ports
Audio	HD Audio interface I2S Audio interface
Serial Ports	2x 2-wire HS-UARTs 2x 4-wire UARTs
Other Interfaces	Up to 14x GPIOs I2C Bus SM Bus 1x SPI interfaces LPC Bus FAN management Optional TPM 1.2 / 2.0 Power Management Signals
Power Supply	+5V$_{DC}$ and +3.3V_RTC
Operating System	Microsoft® Windows 10 Enterprise (64 bit) Microsoft® Windows 10 IoT Core Linux Yocto Android
Operating Temperature*	0°C ÷ +60°C (Commercial version) -40°C ÷ +85°C (Industrial version)
Dimensions	50 x 82 mm

*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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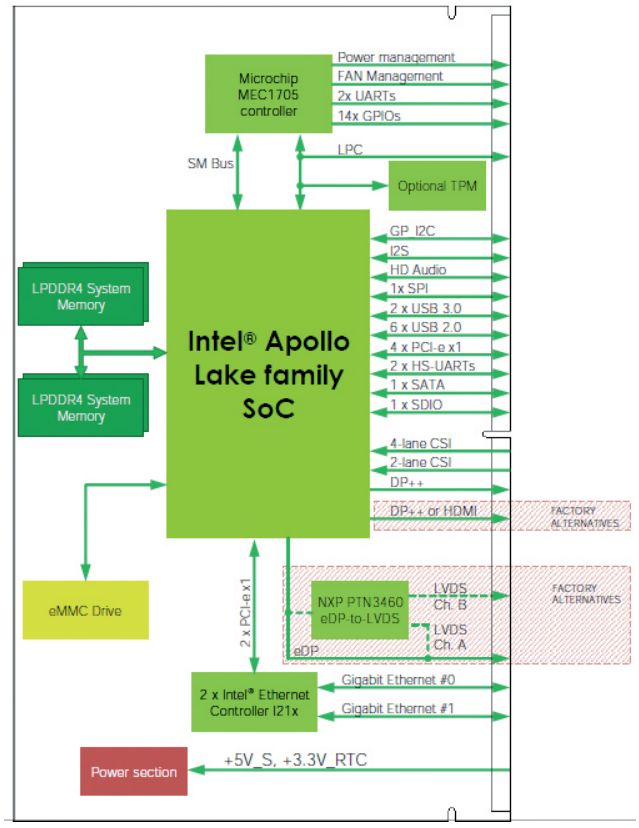
BLOCK DIAGRAM



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

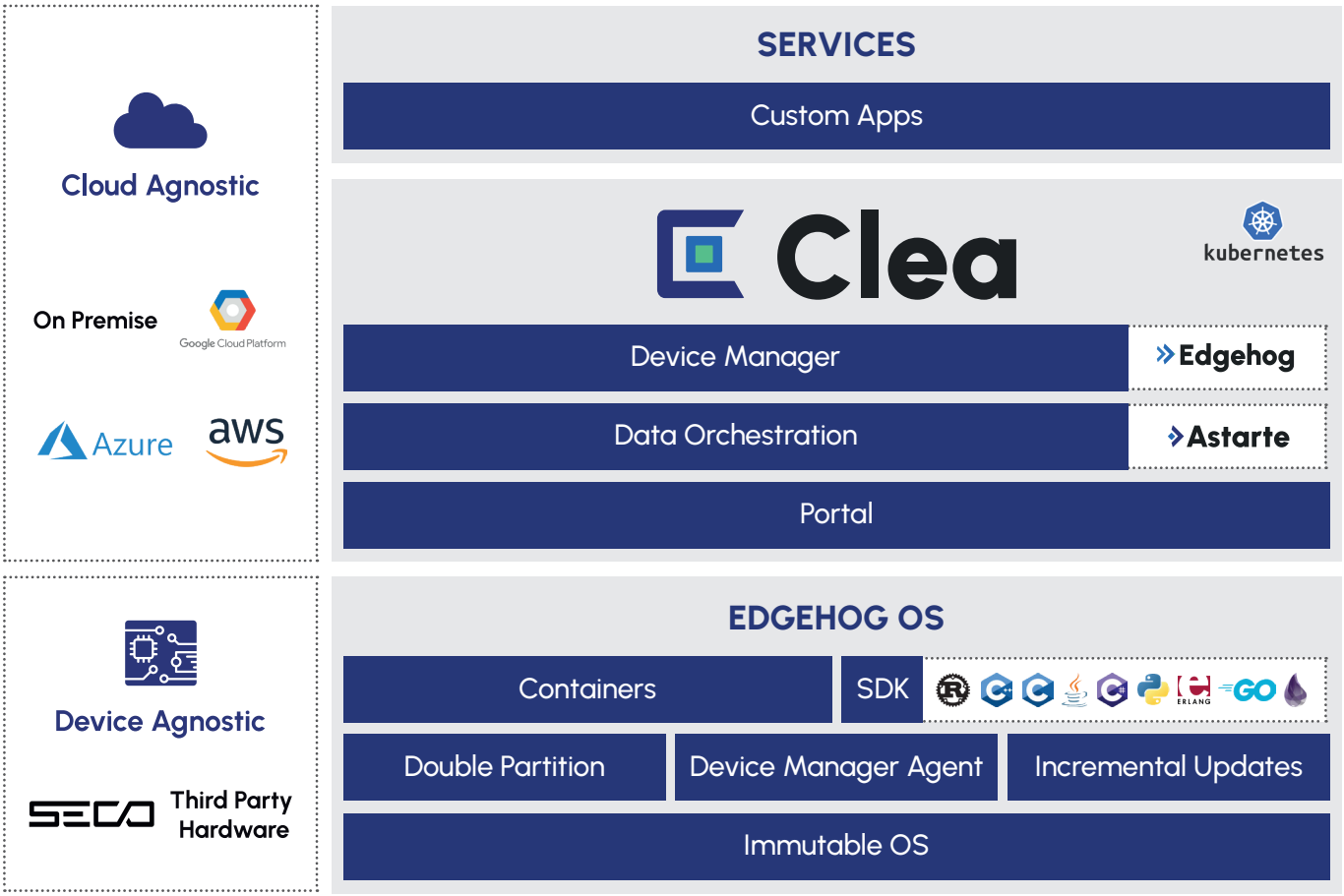
Update, configure, and manage remote devices. Optimize time and costs to maximize operational efficiency and security without the need for costly field interventions.

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.



Scan to know more about our solution

EDGEHOG OS

CLEA DOCS