Qseven®

Qseven® Rel. 2.1 compliant module with Intel® Atom® X6000E Series, Intel® Pentium® and Celeron® N and J Series SoCs (Codename: Elkhart Lake) with Time Coordinated Computing

High computing and graphics performance in Qseven® form factor

HIGHLIGHTS

CPU
Intel® Atom® x6000E Series and Intel® Pentium® and Celeron® N and J Series processors

CONNECTIVITY
1x GbE with precision time protocol IEEE 1588, 6x USB 2.0, 2x SuperSpeed USB 10Gbps, up to 4x PCI-e

GRAPHICS
Integrated Intel® Gen11 UHD Graphics controller, up to 32 Execution Units

MEMORY
Up to 16GB Quad-Channel LPDDR4 Soldered Down with IBECC

QSEVEN®

SGeT STANDARDIZATION GROUP FOR EMBEDDED TECHNOLOGIES

intel partner Gold

Windows 10 IoT Enterprise

yocto PROJECT

MAIN FIELDS OF APPLICATION

Coffee & Vending

Medical

Industrial Automation

Smart Devices

Digital Signage

FEATURES

Processor	Celeron® J6413 Quad Core @ 1.8GHz (3GHz Turbo) 10W TDP Celeron® N6211 Dual Core @1.2GHz (3GHz Turbo) 6.5W TDP Pentium® J6426 Quad Core @1.8GHz (3GHz Turbo) 10W TDP Pentium® N6415 Quad Core @1.2GHz (3GHz Turbo) 6.5W TDP Atom® x6211E Dual Core @1.2GHz (3GHz Turbo) 6W TDP, IBECC - Industrial Atom® x6413E Quad Core @1.5GHz (3GHz Turbo) 9W TDP, IBECC - Industrial Atom® x6425E Quad Core @1.8GHz (3GHz Turbo) 12W TDP, IBECC - Industrial Atom® x6212RE Dual Core @1.2GHz (no Turbo) 6W TDP, IBECC and TCC* – Industrial Atom® x6414RE Quad Core @1.5GHz (no Turbo) 9W TDP, IBECC and TCC* – Industrial Atom® x6425RE Quad Core @1.9GHz (no Turbo) 12W TDP, IBECC and TCC* – Industrial (*) TCC: Time Coordinated Computing	**Networking**	1x Gigabit Ethernet PHY with precision clock synchronization and synchronous Ethernet clock output for IEEE 1588
		USB	6x USB 2.0 Host ports 2x SuperSpeed USB 10Gbps Host ports (*) (*) Second SuperSpeed USB 10Gbps Host port can be utilized only via Qseven® Rel. 2.1 compliant carrier boards
		PCI-e	4x PCI-e x1 Gen3 lanes
		Audio	HD Audio interface
		Serial Ports	2x UARTs
Memory	Soldered down LPDDR4-3200 memory Up to 16GB with IBECC supported only with Atom™ Industrial SoCs Speed: 4267MT/s single rank (1GB / 2GB / 4GB / 8GB), 3733MT/s dual rank (16GB)	**Other Interfaces**	SPI, I2C, I2S, CAN, SM Bus, Thermal Management, FAN management Optional LPC bus Optional TPM 2.0 on-board Watchdog
		Power Supply	$+5V_{DC}$ and $+5V_{SB}$ (optional)
Graphics	Up to 3 independent displays Integrated Intel® Gen11 UHD Graphics controller with up to 32 EU 4K HW decoding and encoding of HEVC (H.265), H.264, VP8, VP9, WMV9/VC1 (decoding only) DirectX 12.1, OpenGL ES 3.1, OpenGL 4.5, OpenCL™ 1.2, Vulkan 1.0	**Operating System**	Microsoft® Windows 10 IoT Enterprise Yocto
		Operating Temperature*	0°C - +60°C (Commercial version) -40°C - +85°C (Industrial version)
Video Interfaces	1x eDP 1.3 or Single/Dual-Channel 18-/24-bit LVDS interface 1x DP++ 1.4 or HDMI® 1.4 interface	**Dimensions**	70 x 70 mm (2.76" x 2.76")
Video Resolution	Up to 4096x2160 @60Hz		
Mass Storage	2x S-ATA Gen3 Channels SDIO interface Optional eMMC 5.1 drive soldered on-board		

*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.
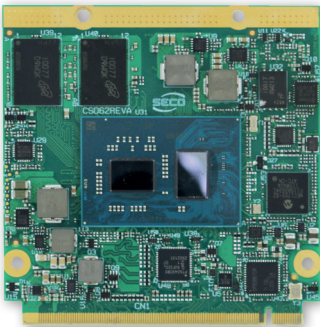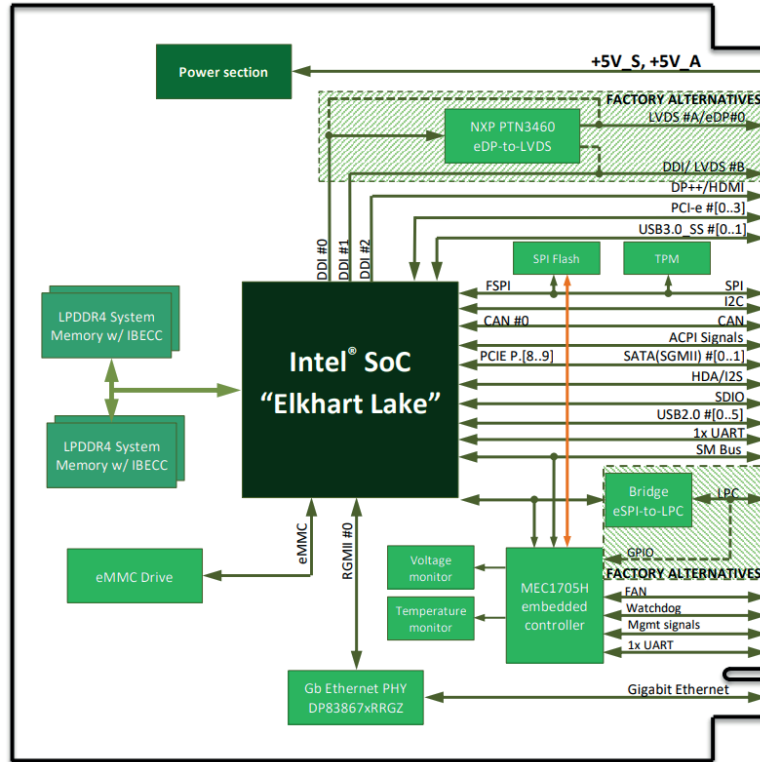
SECO

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SOM-Q7-EHL

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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

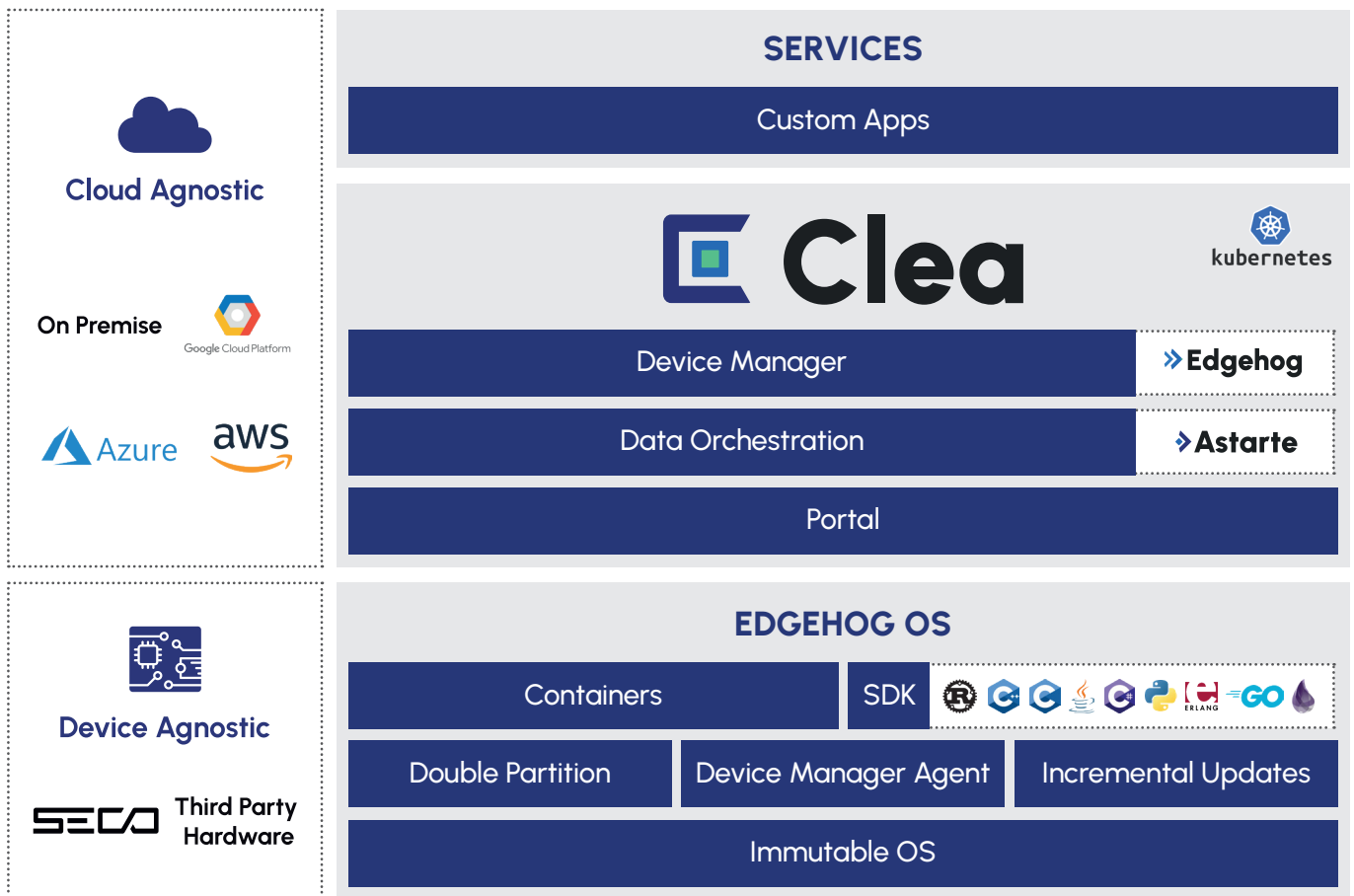Integrate third-party services, simplify data flows and analysis, and enhance business efficiency by enabling easy and fast utilization of AI.

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.

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

SECO

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