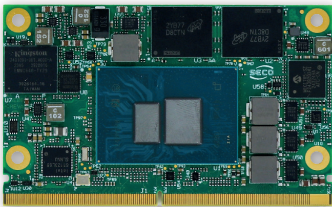




SOM-SMARC-ADL-N

SMARC® Rel. 2.1 compliant module with Intel® Atom® processors x7000E Series, Intel® Core™ i3 processor, Intel® Processors N Series (Codename: Alder Lake-N)

Power efficient deep learning inference and UHD media processing within a small footprint for video-and imaging-intensive applications



HIGHLIGHTS

CPU Intel® Atom® processors x7000E Series, Intel® Core™ i3 processor, Intel® Processors N Series (Codename: Alder Lake N) targeted for IoT and multimedia applications	CONNECTIVITY 2 x NBase-T (2.5GbE supported); 2x USB 3.2 Gen 2; 6x USB 2.0; 4x PCI-e Gen3 lanes with optional SERDES
GRAPHICS Integrated Intel® UHD Graphics driven by Intel® Xe architecture, supporting 3 independent displays each up to 4K resolution	MEMORY Quad Channel LPDDR5 soldered down with IBECC



MAIN FIELDS OF APPLICATION







FEATURES

Processor Intel® Atom® processors x7000E Series, Intel® Core™ i3 processor and Intel® Processors N Series (Codename: Alder Lake-N): <ul style="list-style-type: none"> Intel® Atom® x7213E, 2 Cores @1.7 GHz (3.2 GHz Turbo), 10W TDP, with TSN and TCC* Intel® Atom® x7425E, 4 Cores @1.5 GHz (3.4 GHz Turbo), 12W TDP, with TSN and TCC* Intel® Atom® x7211E, 2 Cores @1.0 GHz (3.2 GHz Turbo), 6W TDP, with TSN and TCC* Intel® Core™ i3-N305, 8 Cores @1.8 GHz (3.8 GHz Turbo), 15W TDP Intel® Processor N200, 4 Cores @1.0 GHz (3.7 GHz Turbo), 6W TDP Intel® Processor N97, 4 Cores @2.0 GHz (3.6 GHz Turbo), 12W TDP Intel® Processor N50, 2 Cores @1 GHz (3.4 GHz Turbo), 6W TDP * Time Sensitive Network and Time Coordinate Computing	Video Interfaces eDP 1.3 or Dual Channel 18/24bit LVDS interface (factory alternatives) 2x DP++ multimode DP 1.4 / HDMI® 2.1 interface 2x MIPI CSI-2 inputs (1x 2-lanes and 1x 4-lanes)
Memory Up to 16GB LPDDR5-4800 soldered down memory with IBECC (in-band error correction code)	Video Resolution Up to 4096x2160 @60Hz
Graphics Integrated Intel® UHD Graphics driven by Intel® Xe architecture: <ul style="list-style-type: none"> Intel® Atom® x7213E processors with 16 Execution Units Intel® Atom® x7425E processors with 24 Execution Units Intel® Atom® x7211E processors with 16 Execution Units Intel® Core™ i3-N305 processors with 32 Execution Units Intel® Processor N200 with 32 Execution Units Intel® Processor N97 with 24 Execution Units Intel® Processor N50 with 16 Execution Units AVX256 & VNNI support for faster AI inference and media transcoding Support with up to 3 independent 4K60 SDR displays	Mass Storage 1x external S-ATA Gen3.2 channel Optional eMMC 5.1 drive soldered on-board
	Networking 2x NBase-T Ethernet ports (2.5GbE supported) with Time-Sensitive Networking functionality, implemented using as many Intel® i225 Gigabit Ethernet controllers, managed by two integrated PCH PCI-e ports Optional SERDES (SGMII) interface for additional third Gigabit Ethernet (factory option, alternative to fourth PCI-e lane)
	USB 6x USB 2.0 host ports 2x USB 3.2 Gen2 ports
	PCI-e 4x PCIe Gen3 lanes Possible channel aggregations: <ul style="list-style-type: none"> 4 ports x1 lanes (4x1) 1 port x2 lanes + 2 ports x1 lane (1x2 + 2x1) or SERDES in place of fourth PCIe lane
	Audio HD Audio and Soundwire/i2S Audio interfaces
	Serial Ports 2x UARTs 2x HS-UARTs
	Other Interfaces Up to 14x GPIOs SM bus I2C bus 1x SPI interface for boot 1x General Purpose SPI or eSPI (factory alternatives) Power management signals, watchdog

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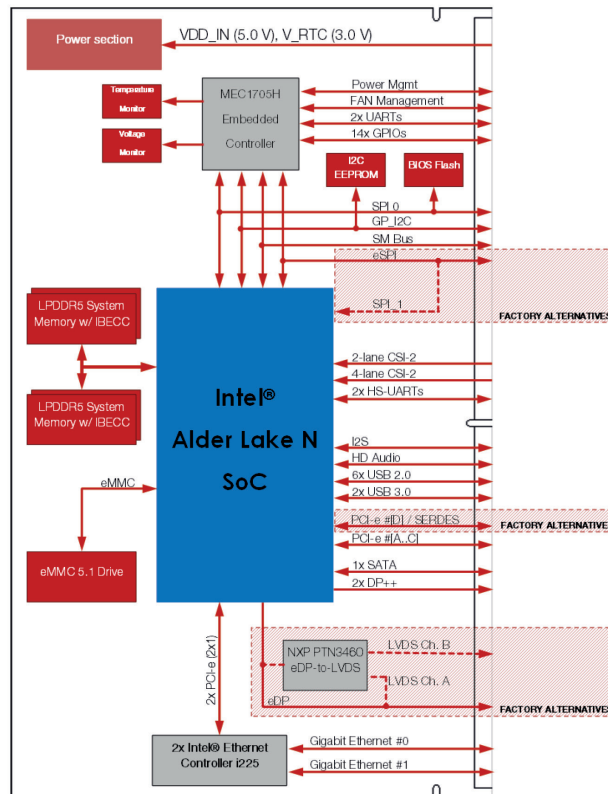
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FEATURES

 Power Supply	+5V _{DC} and +3V _{DC} for RTC	 Dimensions 50 x 82 mm
 Operating System	Microsoft® Windows IO Linux Kernel LTS	
 Operating Temperature*	0°C to +60°C (Commercial version)	

*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



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DATA ORCHESTRATION

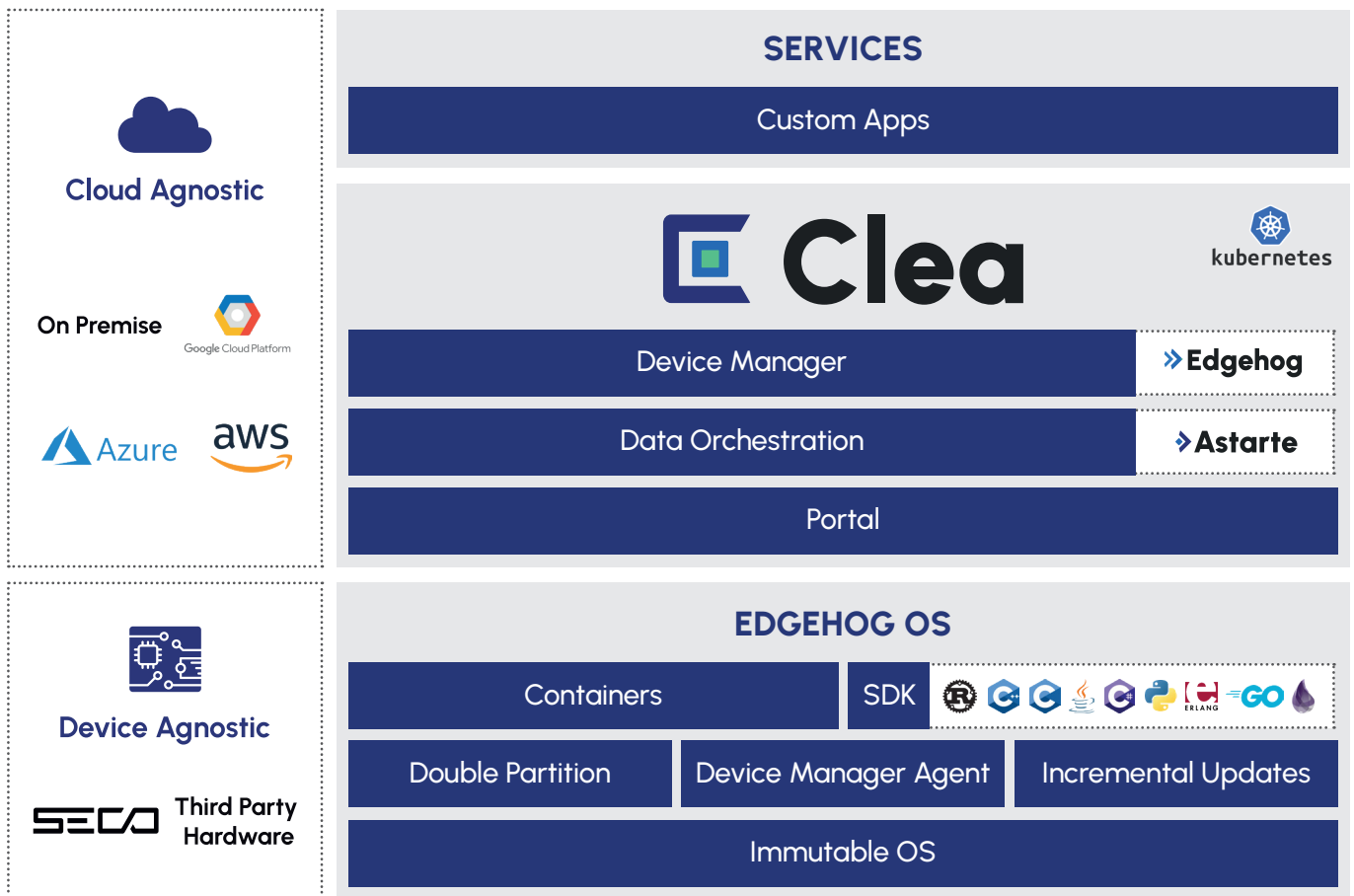
Integrate third-party services, simplify data flows and analysis, and enhance business efficiency by enabling easy and fast utilization of AI.

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