

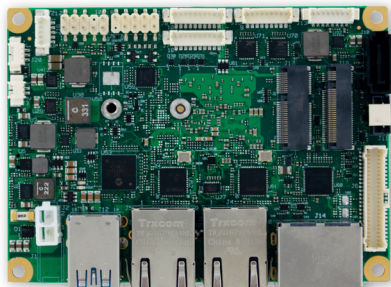
Single Board Computer



ICARUS

Pico-ITX SBC with the Intel® Atom™ X6000E Series, Intel® Pentium® and Celeron® N and J Series (formerly Elkhart Lake) SoCs

Compact Size & High Performance SBC with a multicore SoC



HIGHLIGHTS

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

CONNECTIVITY
2x GbE with precision time protocol IEEE 1588, M.2 WWAN and WLAN slots, dual SuperSpeed USB 10Gbps Standard-A connector

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

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

Available in Industrial Temperature Range



MAIN FIELDS OF APPLICATION



Edge Computing



Industrial Automation and Control



Info Kiosks



Internet of Things



Surveillance



Telco



Transportation

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 @ 2.0GHz (3GHz Turbo) 10W TDP Pentium® N6415 Quad Core @ 1.2GHz (3GHz Turbo) 6.5W TDP Atom™ x6211E Dual Core @ 1.3GHz (3GHz Turbo) 6W TDP w/ IBECC and IHS - Industrial Atom™ x6413E Quad Core @ 1.5GHz (3GHz Turbo) 9W TDP w/ IBECC and IHS - Industrial Atom™ x6425E Quad Core @ 2.0GHz (3GHz Turbo) 12W TDP w/ IBECC and IHS - Industrial Atom™ x6212RE Dual Core @ 1.2GHz (no Turbo) 6W TDP w/ IBECC, IHS and TCC - Industrial Atom™ x6414RE Quad Core @ 1.5GHz (no Turbo) 9W TDP w/ IBECC, IHS and TCC - Industrial Atom™ x6425RE Quad Core @ 1.9GHz (no Turbo) 12W TDP w/ IBECC, IHS and TCC - Industrial (* IHS: Integrated heat spreader; TCC: Time Coordinated Computing)	Networking	2x Gigabit Ethernet PHY with precision clock synchronization and synchronous Ethernet clock output for IEEE 1588 M.2 WWAN Slot for Modems (Socket 2 Key B Type 2242/3042) ** M.2 WLAN Connectivity Slot for Wi-Fi/Bluetooth (Socket 1 Key E Type 2230)
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)	USB	Dual SuperSpeed USB 10Gbps Standard-A connector Dual USB 2.0 pin header
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	Audio	HD Audio codec / Cirrus Logic CS4207 Mic In, Line Out and S/PDIF Out, on pin header
Video Interfaces	2x Multimode DisplayPort 1.4, on Dual DP++ Connector 1x eDP 1.3 or Single/Dual-Channel 18-/24-bit LVDS interface	Serial Ports	2x RS-232/RS-422/RS-485 UARTs (software configurable) on pin header
Video Resolution	Up to 4096x2160 @60Hz	Other Interfaces	8x GPIOs, I2C, SPI connectors 2x CAN connector Fan connector RST_BTN#, PWR_BTN# and activity LED signals on pin header Optional TPM 2.0 on-board
Mass Storage	Optional eMMC 5.1 drive soldered on-board M.2 SATA SSD slot (Socket 2 Key B Type 2242/3042) coupled to on-board Nano SIM slot. ** 1x SATA Gen3 7 pins M connector	Power Supply	+12V _{DC} Cabled coin cell battery for RTC
		Operating System	Microsoft® Windows 10 IoT Enterprise Linux Yocto
		Operating Temperature*	0°C - +60°C (Commercial version) -40°C - +85°C (Industrial version)
		Dimensions	100 x 72 mm (3,93" x 2,83")

* 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.
** SATA SSD and WWAN functionalities share the same slot and are therefore mutually exclusive.

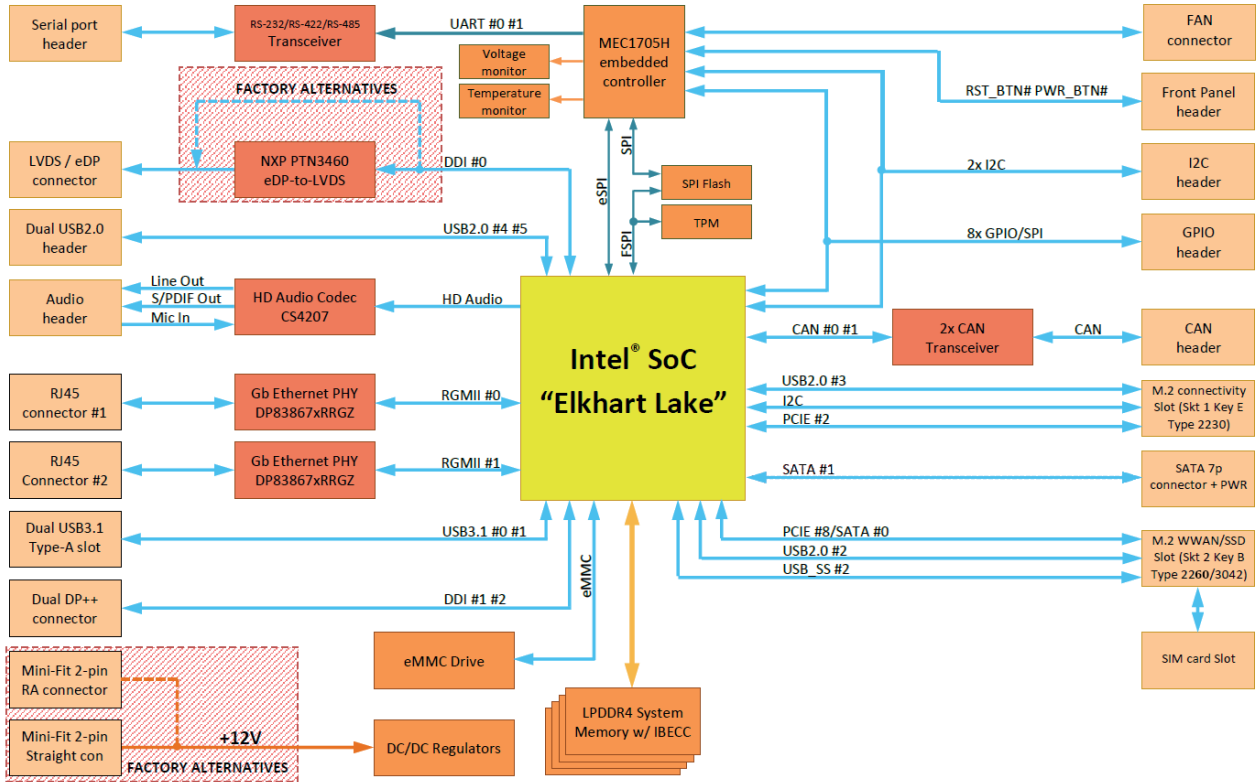


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BLOCK DIAGRAM



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

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