

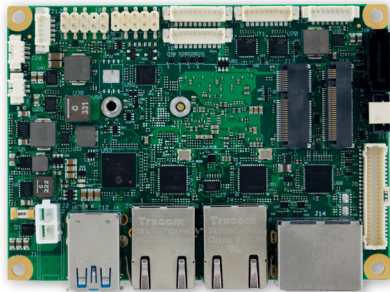
Single Board Computer



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

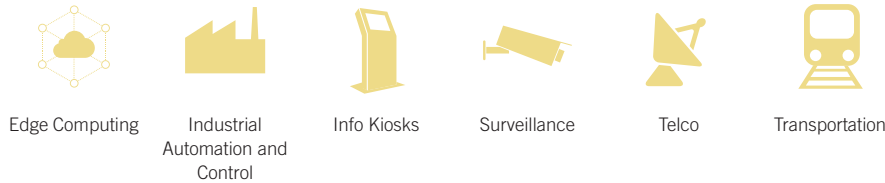
GRAPHICS
Integrated Intel® Gen11 UHD Graphics controller, up to 32 Execution Units

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

Available in Industrial Temperature Range



MAIN FIELDS OF APPLICATION



FEATURES

Processor	<p>Intel® Celeron® J6413 Quad Core @1.8GHz (3GHz Turbo) 10W TDP Intel® Celeron® N6211 Dual Core @1.2GHz (3GHz Turbo) 6.5W TDP Intel® Pentium® J6426 Quad Core @2.0GHz (3GHz Turbo) 10W TDP Intel® Pentium® N6415 Quad Core @1.2GHz (3GHz Turbo) 6.5W TDP Intel® Atom™ x6211E Dual Core @1.3GHz (3GHz Turbo) 6W TDP w/ IBECC and IHS - Industrial Intel® Atom™ x6413E Quad Core @1.5GHz (3GHz Turbo) 9W TDP w/ IBECC and IHS - Industrial Intel® Atom™ x6425E Quad Core @2.0GHz (3GHz Turbo) 12W TDP w/ IBECC and IHS - Industrial Intel® Atom™ x6212RE Dual Core @1.2GHz (no Turbo) 6W TDP w/ IBECC, IHS and TCC - Industrial Intel® Atom™ x6414RE Quad Core @1.5GHz (no Turbo) 9W TDP w/ IBECC, IHS and TCC - Industrial Intel® Atom™ x6425RE Quad Core @1.9GHz (no Turbo) 12W TDP w/ IBECC, IHS and TCC - Industrial</p> <p>(*) IHS: Integrated heat spreader; TCC: Time Coordinated Computing</p>	<p>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)</p>
Memory	<p>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)</p>	<p>USB Dual SuperSpeed USB 10Gbps Standard-A connector Dual USB 2.0 pin header</p>
Graphics	<p>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</p>	<p>Audio HD Audio codec / Cirrus Logic CS4207 Mic In, Line Out and S/PDIF Out, on pin header</p>
Video Interfaces	<p>2x Multimode DisplayPort 1.4, on Dual DP++ Connector 1x eDP 1.3 or Single/Dual-Channel 18-/24-bit LVDS interface</p>	<p>Serial Ports 2x RS-232/RS-422/RS-485 UARTs (software configurable) on pin header</p>
Video Resolution	<p>Up to 4096x2160 @60Hz</p>	<p>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</p>
Mass Storage	<p>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</p>	<p>Power Supply +12V_{DC} Cabled coin cell battery for RTC</p>
		<p>Operating System Microsoft® Windows 10 IoT Enterprise Linux Yocto</p>
		<p>Operating Temperature* 0°C - +60°C (Commercial version) -40°C - +85°C (Industrial version)</p>
		<p>Dimensions 100 x 72 mm (3,93" x 2,83")</p>

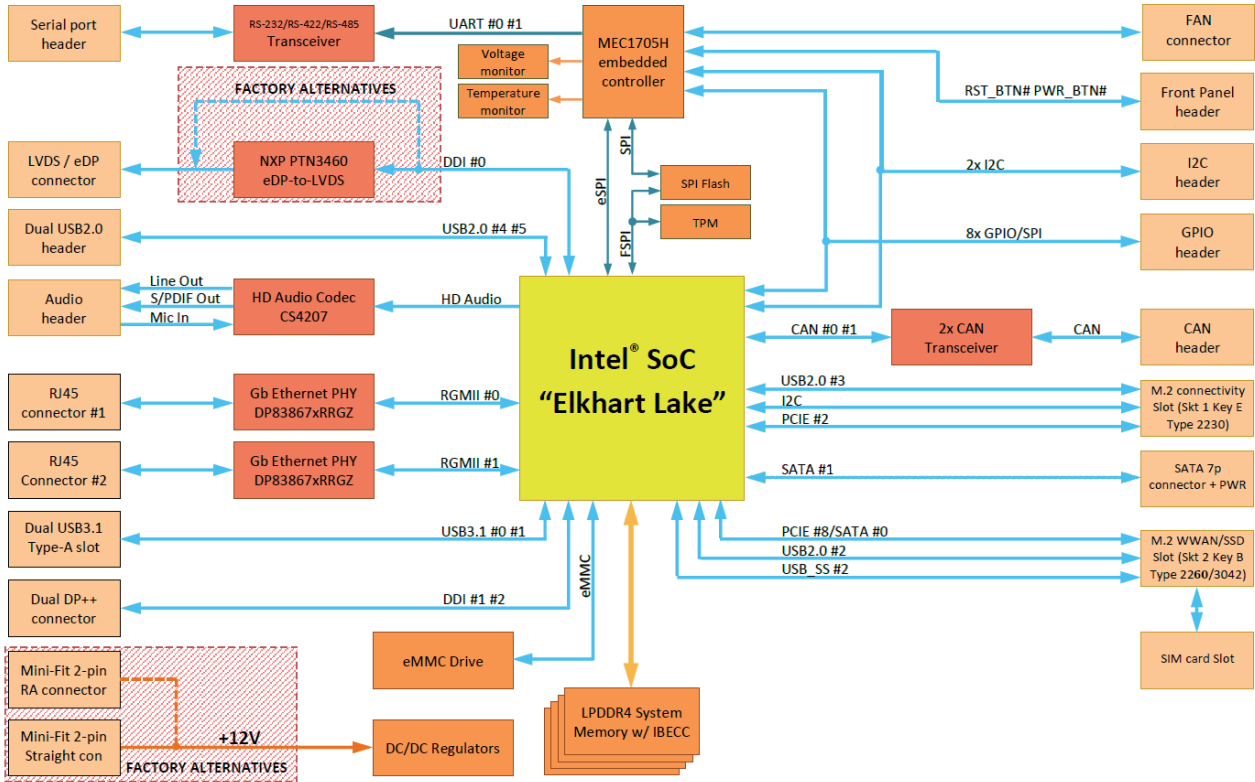
* Measured at any point of SECO standard heatspreader for this product, during any and all times (including start-up). Actual temperature will widely depend on application, enclosure and/or environment. Upon customer to consider application-specific cooling solutions for the final system to keep the 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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