

Features

Performance for Industrial IoT

- Intel Atom® (formerly Elkhart Lake) x6413e Series Processor
 - x6413e 1.5 GHz (3.00 GHz) Quad-Core
- Up to 8GB LPDDR4 Onboard System RAM

Security

- TPM 2.0 Firmware Security

Connectivity and I/O for Embedded Systems

- 2x 2.5 Gbit Ethernet
- 5x USB 2.0
- 1x USB 3.2 Gen 1 (type C)
- 4x Serial Ports
- 4x Digital Inputs
- 4x Digital Outputs
- Audio with amplifier

Rugged Design

- -20°C to +70°C Operating Temperature Range
- 2.5" SBC Form Factor, 4" x 3.5" (102 x 88 mm)
- Wide Range Power Input (+9 ~ 36 VDC)

Display

- Intel® HD Graphics, Support DirectX 12.1 & OpenGL 4.5
- 4k resolution
- HDMI, eDP, and Dual Channel LVDS

Expansion and Storage

- 1x Mini PCIe (USB 2.0, PCIe)
- 1x SATA
- 1x Nano SIM slot
- 1x M.2 B Key 2242/ 3042 (SATA, USB 3.2 Gen 1, USB 2.0)



Product Description

WINSYSTEMS' SBC25-C466 single board computer packs an impressive feature set into a small form factor 2.5" SBC (4" x 3.5"). The SBC is based on the Intel® Atom® x6413E Processor and is a perfect choice for applications requiring low power and Intel performance in a small form factor package with industrial connectors and I/O.

The SBC25-C466 provides 8GB of LPDDR4 SDRAM soldered down to the board with a data transfer rate of 3200 MHz.

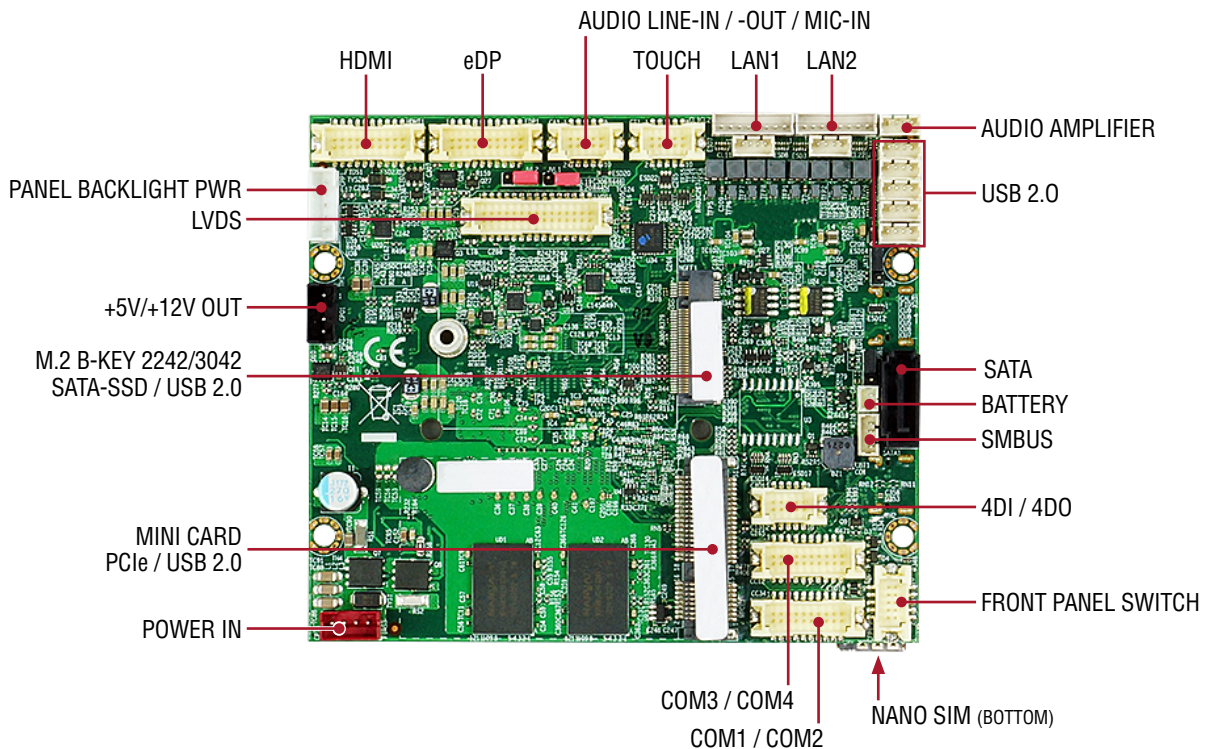
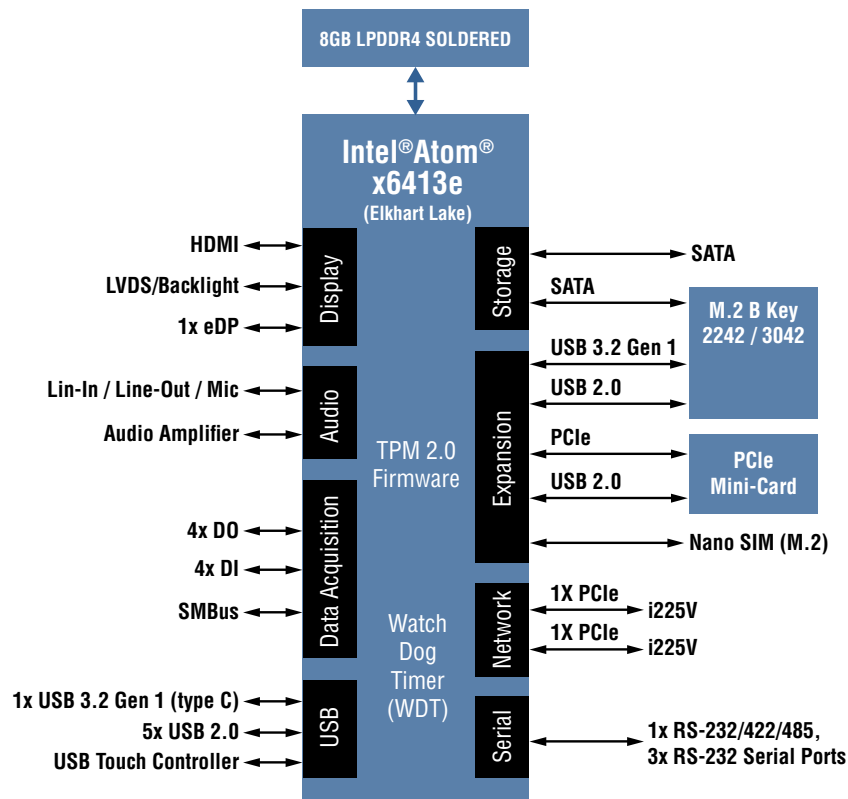
Considering the small size of the SBC25-C466, it is packed with I/O features often lacking from larger single board computers. It includes dual 2.5 Gbit Ethernet controllers based on the Intel i225V family with Wake On Lan and PXE capabilities, providing connectivity and control for network devices. Five USB 2.0 and one USB 3.2 Gen 1 (type-C) ports provide additional functionality and expansion options. Also on-board are three RS-232 ports and one multi-protocol RS-232/422/485 serial port.

Expansion options for the SBC25-C466 includes one full size PCIe Mini Card, one M.2 B Key 2242/3042, and six USB ports. The PCIe Mini Card slot supports PCIe and USB interfaces while the M.2 slot supports SATA and USB interfaces.

The compact all-in-one SBC25-C466 single board computer is fully compatible with industry standards featuring technical enhancements for industrial applications and high reliability. It can run Microsoft's Windows 10 IoT Enterprise, Linux, and real-time operating systems (RTOS).

The SBC25-C466 from WinSystems is a very compact, PC compatible single board computer which is a perfect fit for applications in UAV, energy, medical diagnostics, and industrial control.

Block Diagram



Technical Specifications

PROCESSOR	SBC25-C466-6413-8-0 Quad-Core Intel x6413e at 1.5GHz (3.00GHz burst)
MEMORY	<ul style="list-style-type: none">8GB LPDDR4 3200MHz
STORAGE	<ul style="list-style-type: none">1x SATA port1x M.2 B Key with SATA support
DISPLAY	<ul style="list-style-type: none">Intel's 10th generation (Gen 10) graphics and media encode/decode engine supports DirectX 12.1 & OpenGL 4.5Dual, simultaneous video output support<ul style="list-style-type: none">HDMIeDPLVDS (Supports 48bits / 2 channel LVDS up to 1920 x 1080 resolution)Touch Screen: Onboard USB touch controller
NETWORK INTERFACE	<ul style="list-style-type: none">2x 2.5 GBit Intel i225V Ethernet controllers<ul style="list-style-type: none">Supports Wake on LAN on both channelsStatus & Activity LEDs for both Ethernet controllersPXE support through BIOS
ONBOARD I/O	<ul style="list-style-type: none">1x RS-232/422/485, 3x RS-232 serial ports5x USB 2.0 internal headers1x USB 3.2 Gen 1 (type C)4x Digital inputs4x Digital outputsSMBusAudio<ul style="list-style-type: none">High definition audio codec, supports line-out / mic-inTwo channel Class D audio amplifierWatchdog timer adjustable from 1 second to 255 minutes
EXPANSION BUS	<ul style="list-style-type: none">1 x mPCIe Mini-Card slot with PCIe and USB interface1x M.2 B Key 2242/ 3042 slot with SATA, and USB 3.2 Gen 1, USB 2.0
POWER	<ul style="list-style-type: none">Wide Range VDC-in +9~36V
SOFTWARE	<ul style="list-style-type: none">Insyde UEFI BIOSSupports Windows 10, Windows 10 IoT Enterprise, Linux and real-time operating systems
ENVIRONMENTAL	<ul style="list-style-type: none">Operational temperature -20 to +70 CHumidity 5 - 95%, non-condensing
MECHANICAL	<ul style="list-style-type: none">Dimensions: 2.5" SBC<ul style="list-style-type: none">Length: 4.02 in. (102mm)Width: 3.46 in. (88mm)

Order Information

SBC PART NUMBER	SBC25-C466-6413-8-0 Quad-Core Intel x6413e at 1.5GHz (3.00GHz burst) with 8GB of LPDDR RAM
CABLES	CBL-SET-466-1 Includes: Power, Digital I/O, Ethernet, USB 2.0, USB 3.2 Gen 1, Serial, Audio, and Front Panel

Expansion and Customization Options

WinSystems provides additional cables, expansion cards, power supplies, and solid state drives to complete your embedded computing solution including data acquisition, communications, location, and other features. Our Application Engineers are available to guide you through product selection and customized options.