Embedded System > Compact Size Embedded System > TANGO Series

TANGO-3010

Ultra Compact Size

Features

» Ultra-Compact Industrial Mini PC

» Fanless system

» Intel® Celeron™ J6412 2.0 GHz (up to 2.6 GHz, quad-core, TDP 10W)

» Triple 2.5GbE LAN

» Built-in Wi-Fi 6E & Bluetooth 5.2 module (internal antenna)

Specifications

Form factor	
SBC Form Factor	» CPU:
	Intel® Celeron J6412 2GHz (up to 2.6 GHz, quad-core, TDP 10W)
	» Chipset:
	SOC
	» System Memory:
	LPDDR4X on board 8GB (up to 16G)
	» Power:
	DC Jack: 12 V DC
	Consumption: +12V@2.95A (Intel® Celeron J6412 with 8GB memory)
I/O Interface	
I/O Ports	» USB:
	2 x USB 3.2 Gen2
	2 x USB 2.0
	» Ethernet:
	3 x RJ-45 2.5 GbE by I225V controller
	» Display:
	2 x HDMI
	» COM Port:
	1 x RS-232 (DB9)
	1 x RS-232/422/485 (DB9)
	» TPM:
	Support Intel PTT
	» Wireless/Bluetooth:
	INTEL AX210 WiFi 6E & Bluetooth 5.2 Module built-in 2T2R antenna
	» Watchdog Timer:
	Programmable 1 ~ 255 sec/min
Expansion Slots	
Expansion Slots	» M.2:
	1 x 2230 A-key (PCIe x1/USB2.0)(preinstalled WIFI Module)
	1 x 2280 M-key (PCIe x4)
System	
Cooling method / System Fan	Fanless
Drive Bays	1 x 2.5" SATA 6Gb/s HDD/SSD bay
	(support up to 9.5 mm SSD)

Indicator&Buttons	
Buttons	1 x Power button (with LED)
	1 x Reset button
Indicators	1 x Power LED
	1 x HDD LED
Physical Characteristics	
Construction	ABS Plastic + Aluminum
Color	
Color	Black C & grey (Pantone 430C)
Dimensions	
Dimensions	139 x 137 x 39.8 (mm)
Weight	
Weight	0.57/1.35 kg
Environment	
Operating Temperature	0°C ~ 40°C with air flow (SSD)
Humidity	10% ~ 95% non-condensing
Operating Vibration	10-500 Hz, 1.04 Grms, random, 1 hr/axis (SSD)
Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
Safety & EMC	CE/RED/FCC/UKCA/ compliant
OS Support	
OS Support	Microsoft® Windows® 10/11, Linux

Ordering Information

TANGO-3010-JWC-R10	Fanless System with Intel® Celeron® J6412 2.6 GHz (up to 2.6 GHz, quad core, TDP 10W), 8GB onboard memory, 3 x 2.5GbE LAN, 2 x HDMI, 4 x USB, 12V DC, Wifi-6E, RoHS

Packing List

1 x Mounting Screw	1 x VESA Mounting Kit
1 x Adapter	1 x Power Cord

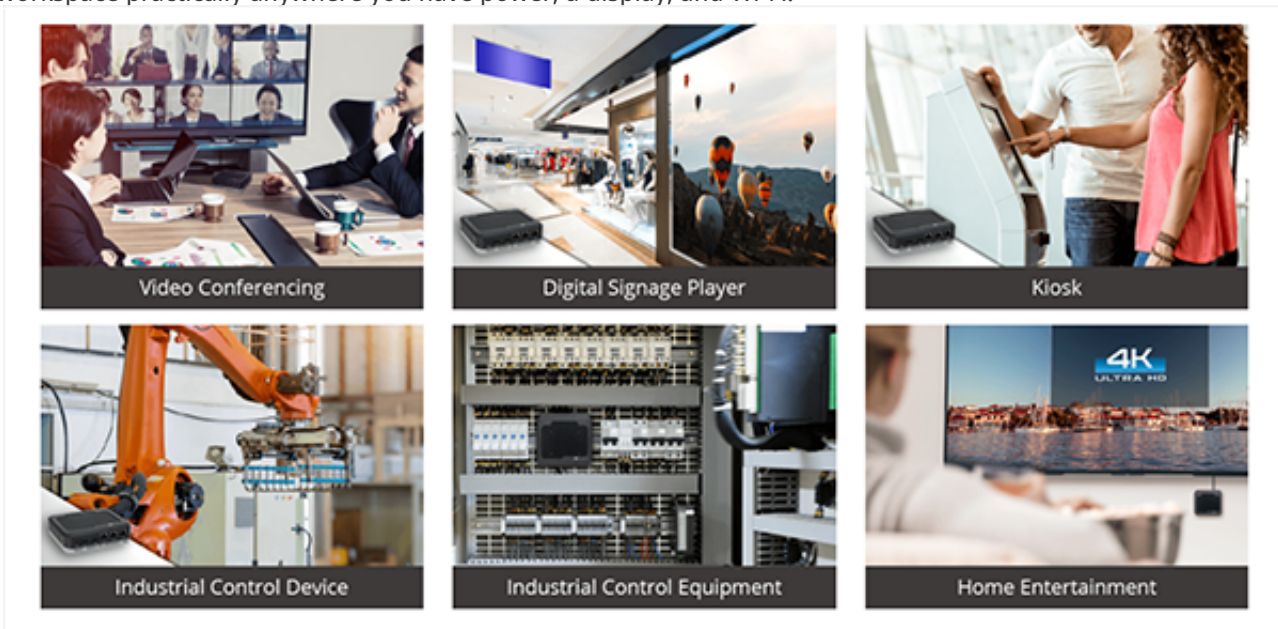## Next-Generation Industrial Mini PC

Palm-Sized Computer for Business and IIoT Deployments

The TANGO-3010 is an industrial mini PC with a space-saving chassis. Although it only measures 5.5 x 5.4 x 1.6 inches, the fanless mini PC can accommodate up to one 2.5-inch SSD and one PCIe® Gen3 x4 M.2 NVMe SSD. It is powered by a quad-core Intel® Celeron® J6412 processor with Intel® UHD graphics and on-board 8GB LPDDR4x to handle industrial and commercial tasks with ease. IEI TANGO features three Intel® 2.5 GbE LAN ports along with RS-232/422/485 serial ports to satisfy your industrial communication needs. With light, small but robust chassis ensuring durability and reliability, the mini PC can be set up in an instant and taken almost anywhere, even in harsh environments, making it ideal for enterprise, digital signage, industrial data transmission gateway and self-service applications.

Ready-to-Work, Space-Saving Design for Versatile Deployment

The ultra-compact system can fulfill every business need, from office mini computers that take up less space to industrial edge computing controller at the factory floor. With a TANGO mini PC, you can set up a stand-alone workspace practically anywhere you have power, a display, and Wi-Fi.

Get More Power in Less Space

Intel® Quad-Core Processor Burst up to 2.6 GHz

Powered by quad-core Intel® Celeron® J6412 processor with Intel® UHD Graphics, the TANGO-3010 can deliver high levels of CPU and graphics performance at low power. The integrated Intel processor can provide a maximum of up to 2.6 GHz burst frequency and up to 73% improved CPU performance from previous generation. It also takes a huge leap forward in graphics capabilities with Intel® UHD Graphics, having the ability to drive a maximum resolution of 4Kp30 on up to two simultaneous displays.

On-board 8GB LPDDR4x Memory

Rugged, Faster Speed, Less Power

8GB dual-channel LPDDR4x soldered memory brings the benefits with faster memory speeds at 4267MT/s, lower voltage and reliable hardware. It reduces the power consumption of the memory system by 18~20% through cutting output driver power by 50%, from 1.2 V to 0.6 V. It takes lesser space on-chip for better system airflow and shorten the trace for better signal transmission. Moreover, the soldered-on-board type enables the mini PC to deliver much more stable, solid operation compared to the socket-type memory for critical usage.

Portable, Space Saving in Compactness

The TANGO-3010 mini industrial PC is very compact in size and light in weight, therefore, it can be placed almost anywhere, and can be VESA-mounted on the back of a display.

Easily Expandable Storage

TANGO-3010 small form factor PC has several storage options. It has an M.2 2280 SSD that supports up to 1TB. Furthermore, its 2.5-inch SATA drive bay allows for up to 2TB of storage expansion.

1 Loosen Captive Rear Cover Screws

The four captive fasteners offer a high level of protection against vibrations. The screws will not fall off when loosened and it helps prevent screw missing or misplaced after maintenance.

2 PCIe Gen3 NVMe M.2 2280 SSD

An easy-access underside panel allows users to replace and upgrade NVMe SSD. All you need is a screwdriver.

3 Tool-less 2.5" HDD/SSD Installation

With a simple, intuitive step that requires no tool, the HDD/SSD can be securely installed into the mini PC. The 2.5-inch drive bay supports 5mm to 9.5mm HDD/SSD in height.
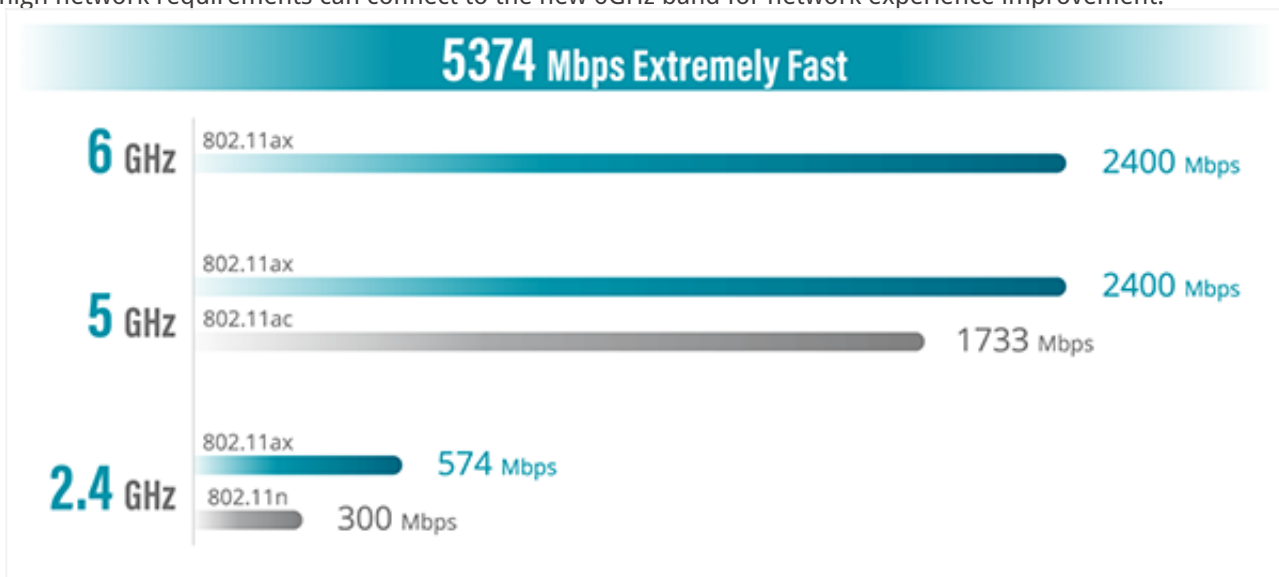
Tri-Band Wi-Fi 6E and Bluetooth 5.2 with Embedded Antennas

The mini PC is designed as a Wi-Fi 6E device with strong wireless network capability via a pre-installed Intel wireless network module. The latest Wi-Fi 6E and Bluetooth 5.2 technologies are provided to speed up data transmission through the internal 2T2R antennas, which eliminate cable interference while maintaining stable performance for high volume applications of smart cities.

Maximize speed, latency, and reliability benefits of WiFi-6E

With the popularity of IoT device connectivity, the number of devices connected wirelessly by Wi-Fi is increasing dramatically, which will lead to over congestion in the 2.4GHz and 5GHz bands, making it difficult for Wi-Fi to reach its full potential. The TANGO industrial mini PC adopts the latest Wi-Fi 6E (802.11ax) technology with a new 6GHz channel. Older devices with low network requirements can connect to the 2.4GHz and 5GHz bands, while devices with high network requirements can connect to the new 6GHz band for network experience improvement.
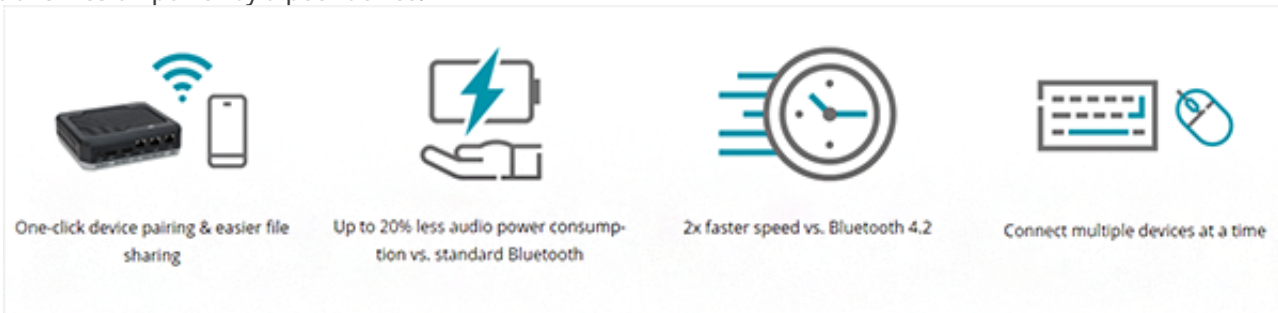
MU-MIMO

The equipped Intel® AX210 wireless module makes the TANGO carry with advanced OFDMA & MU-MIMO wireless technology to greatly provide connection efficiency and network capacity. MU-MIMO effectively improves signal gain when multiple users are sending and receiving at the same time. It delivers double throughput, from 80 MHz to 160 MHz, ultra-low latency and uninterrupted connectivity.
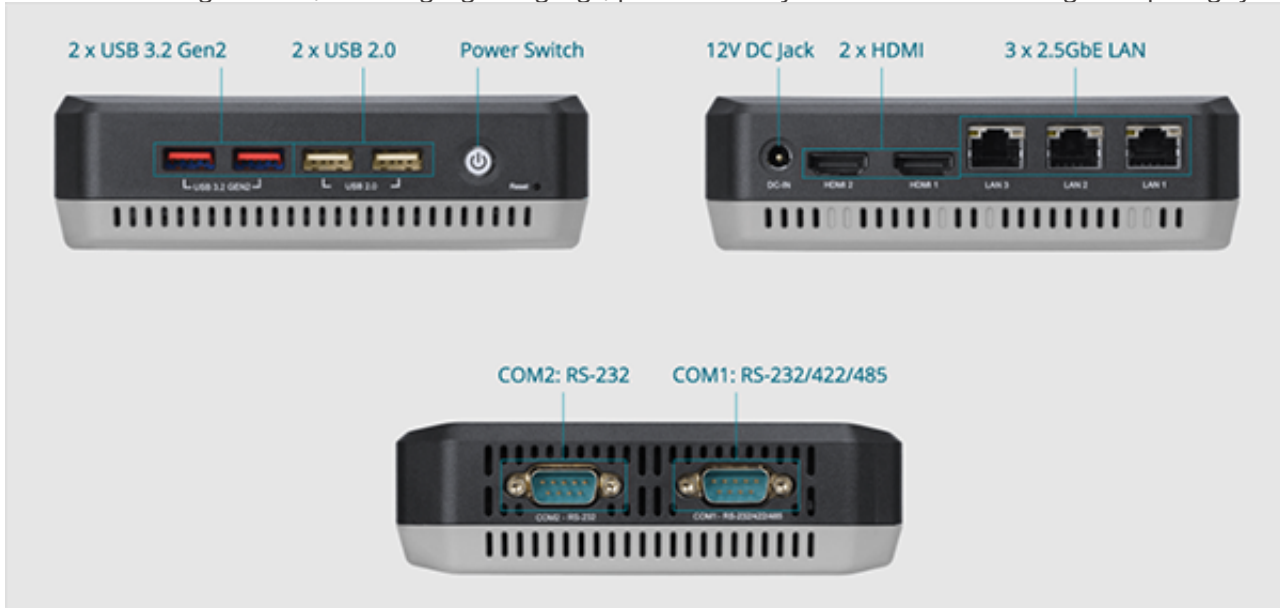

Bluetooth 5.2

The Bluetooth® 5.2 includes Isochronous Channel (ISOC) feature which lays the foundation for the implementation of next generation of Bluetooth® Audio – Low Energy Audio. In addition, LE Power Control (LEPC) offered by Bluetooth® 5.2 allows the transmitter to adjust its transmission power by itself or can be requested to change its transmission power by a peer device.

One-click device pairing & easier file sharing

Up to 20% less audio power consumption vs. standard Bluetooth

2x faster speed vs. Bluetooth 4.2

Connect multiple devices at a time

3-Side All Inclusive Connectivity

IEI TANGO-3010 is well-equipped for a wide range of functions. This gives TANGO-3010 the versatility to be deployed across a wide range of uses, including digital signage, point-of-sale systems and industrial edge computing systems.

Triple 2.5GbE Low Latency LAN Ports Boost for Your Applications

The three RJ45 LAN ports all provide 2.5 gigabit Ethernet connectivity that gives an immediate boost to overall network performance and improves the bandwidth required at large-scale workloads. Benefits of triple 2.5G LAN include
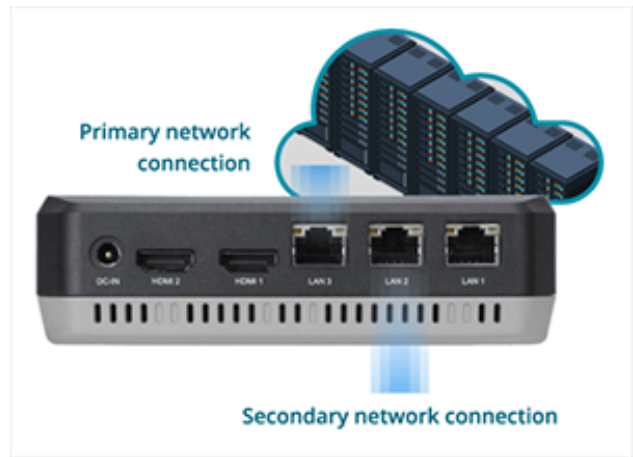
Multi-protocol Fieldbus Communication

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Network Redundancy

Network redundancy can be achieved through the addition of alternate network paths, which are implemented through redundant standby routers and switches. When the primary path is unavailable, the alternate path can be instantly deployed to ensure minimal downtime and continuity of network services.

Multiple Device Connections

More full-speed bandwidth can be provided to handle multiple connections. By connecting with a 2.5G network switch, it can form a solid, optimized infrastructure for the deployment of massive IoT devices, high-resolution cameras or sensors to deliver lightning-fast transmission speed between devices.

Get Your Office Ready with Compact Software Defined Router

The growing number of connected personal and edge devices has led to an overall increase in network density. The compact TANGO system could be used as a Software Defined Router. We offers a multi-LAN hardware platform allowing to install with firewall/router computer software such as OpenWrt and pfsense OS. It is ideally suited for a wide range of applications, such as SOHO and SMB networking infrastructure.

High Definition 4K Dual Screens with Built-in CEC

Remotely switch on/off mini PC by using HDMI monitor's remote control

Users can control the TANGO-3010 connected to an HDMI display/TV by using the TV remote control. When the user switch on the display/TV, it will be turned on along with the display/TV. With this function, it is easy to control the mini PC that is blocked from receiving IR commands due to its location.

*Only work with the HDMI-CEC display/TV

Independent dual 4K video playback

Featuring the latest Intel® UHD Graphics with 16 EUs, IEI mini PC provides outstanding 4K dual display via two HDMI 1.4b ports for immersive simultaneous visual experiences. It delivers powerful hard decoding capability for you, ensuring no delay on streaming 4K videos.

Ready for Any Scenario

Full-function PC in a small form factor that can mount alongside display or behind a display fits the varying needs of different projects in the field.
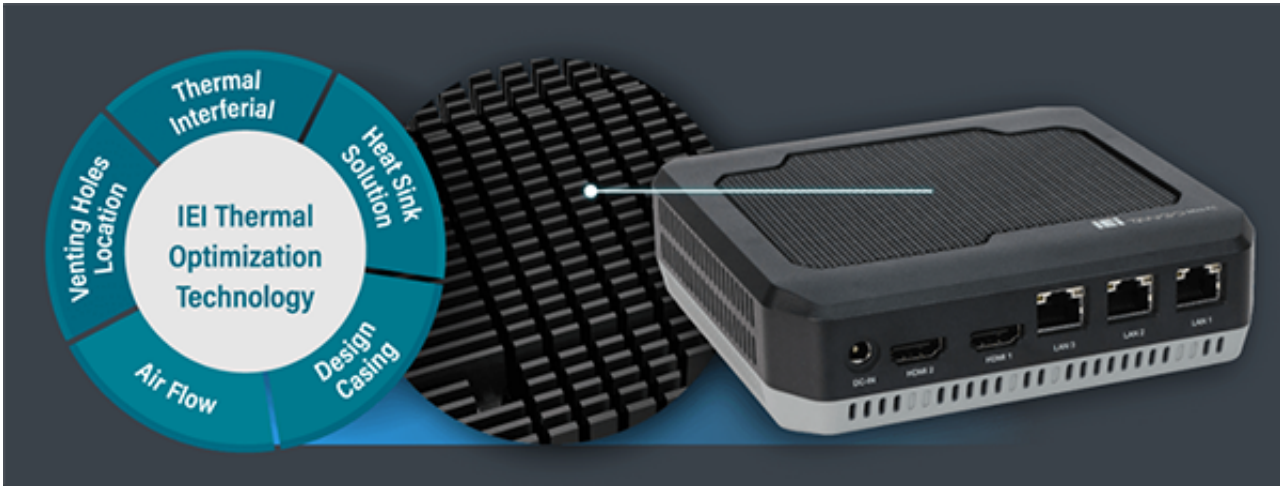

VESA Mount

Wall Mount

Desktop

Fanless Thermal Conductivity and Heat Dissipation at 40°C

The TANGO-3010 has unique cooling features, a new heat sink design for better heat dissipation and more efficient conductivity. This enhances two-dimensional heat conduction and reduces flow impedance for better heat dissipation in this fan-less system.

IEI thermal optimization technology provides valuable feasibility studies prior to the building of prototypes, assisting with the placement of optimized components and the design of heatsink pattern, thermal interface materials, as well as air flow and ventilation locations.

Proven Ruggedness

Warranty and Longevity Built
Unlike consumer grade, we provide a two-year warranty and at least two-year guaranteed life cycle that reduces equipment building costs accrued by maintenance and upgrade. Moreover, extended warranty is available for purchase.

24/7 Operation
Built for 24/7 operation, TANGO is durable and high-performance for commercial and industrial use cases.

High Vibration/Shock Tolerance
MIL-STD-810G compliance for shock and vibration tolerance, TANGO can withstand hours of extreme vibration to deliver stable operation during transport and ideal for in-vehicle application.

Shock and Vibration Test

Drop Test

Temperature and Humidity Cycle Test

LCD Compatibility Test

Port Test

Dimensions