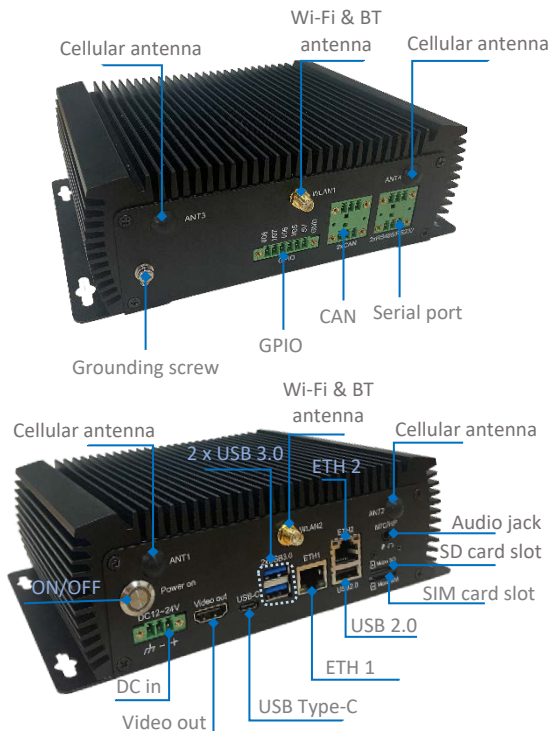# IBOX3588 Edge AI

Embedded Industrial Computer

Product Brief

Vantron IBOX3588 Edge AI Embedded Industrial Computer is powered by Rockchip's latest flagship RK3588 AIoT chipset. The innovative chipset is equipped with an 8-core 64-bit CPU, an ARM Mali-G610 MP4 quad-core GPU, and a built-in AI acceleration NPU, providing 6 TOPS computing power. Furthermore, it supports mainstream deep learning frameworks to allow a wide range of AI-based applications. As technology continues to advance, there definitely will be a rising demand for AI-based products in the industrial control market, making IBOX3588 the ideal choice for businesses looking to stay ahead of the curve.

The industrial computer boasts an impressive array of features including two Gigabit Ethernet ports, support for Wi-Fi 6 and Bluetooth 5.0, and even an M.2 slot for expanding to 4G/5G connectivity, ensuring your communication is uninterrupted. IBOX3588 also supports 8K video decoding and encoding for exceptional display performance.

IBOX3588 offers rich peripheral interfaces, allowing businesses to connect a wide range of peripherals for extended applications, making customers rest assured of a reliable and consistent user experience.
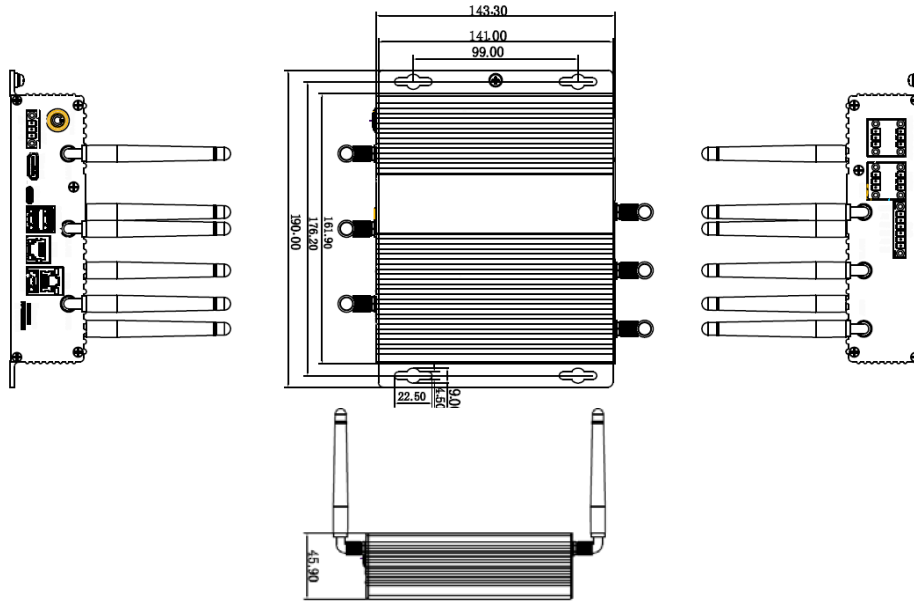

Exterior and Features

IBOX3588
RK3588 Quad-core Cortex-A76 + Quad-core Cortex-A55 processor
High-quality video output
Rich interface for expansion
Wi-Fi (6)/BT/4G/5G/ETH for communication
Industrial-grade wide temperature design
High computing power
Deep learning acceleration
Industrial longevity

IBOX3588 Edge AI Embedded Industrial Computer Datasheet

IBOX3588		
System	CPU	Rockchip RK3588, Quad-core Cortex-A76 + Quad-core Cortex-A55 processor, 2.4GHz (Max.)
	GPU	ARM Mali-G610 MC4, 1GHz (Max.)
	NPU	6 TOPS
	Memory	8GB LPDDR4, up to 32GB
	Storage	32GB eMMC, up to 128GB SSD supported by an M.2 M-Key/M.2 B-Key (256GB ~ 1TB)
Communication	Ethernet	2 x RJ45, 10/100/1000Mbps
	Cellular	4G/5G (expansion by an M.2 B-Key)
	Wi-Fi & Bluetooth	Wi-Fi 802.11 a/b/g/n/ac/ax + BT 5.0
Media	Display	1 x HDMI (4096 x 2160 @60Hz)
	Video	1 x Video out port
	Audio	1 x Combo audio jack
I/Os	USB	2 x USB 3.0 Host, Type-A 1 x USB 2.0 Host, Type-A 1 x USB 3.0 Type-C (OTG supported)
	Serial port	2 x RS232/RS485 on the Phoenix terminal
	Fan	1 x Built-in CPU fan connector
	SIM card slot	1 x SIM card slot
	Micro SD card slot	1 x Micro SD card slot
	RTC	Supported
	Watchdog	Supported
Expansion	M.2 slot	1 x M.2 M-Key 2260/2280, PCIe 3.0 x 4, for SSD 1 x M.2 B-Key 2242/3052, USB 3.0/SATA 3.0, for 4G/5G/SSD
	GPIO	4 x GPIO on the Phoenix terminal
	CAN	2 x CAN on the Phoenix terminal
System Control	Button	1 x ON/OFF button (long press to reset)
	LED	1 x LED indicator for power and system status
Software	OS	Android 12, Debian, Ubuntu
	Language	English (default), Chinese
	Device management platform	BlueSphere MDM (Android version only)
	OTA tool	BlueSphere OTA
Power	Input	1 x Power distribution block (12V/5A, 24V/3A)
Mechanical	Dimensions	161.9mm x 141mm x 45.9mm (enclosure only) 190mm x 141mm x 45.9mm (with brackets)
	Enclosure	Aluminum + metal plate, black
	Weight	750g
	Shock test	IEC 60068-2-27
	Water and dust resistance	IP40
Environment Condition	Temperature	Operating: -20℃ ~ +70℃ Storage: -40℃ ~ +85℃
	Humidity	RH 0~95% (non-condensing)
	Certification	FCC, CCC, UL

Product Outlines

Ordering Information

Ordering No.	Memory	Storage	Cellular network	Wi-Fi & Bluetooth
IBOX3588-L4	4GB	32GB	4G	Yes
IBOX3588-M4	8GB	32GB	4G	Yes
IBOX3588-M	8GB	32GB	-	Yes
IBOX3588-H4	8GB	32GB + 256GB (SSD)	4G	Yes
IBOX3588-H	8GB	32GB + 256GB (SSD)	-	Yes
IBOX3588	8GB	32GB	-	Yes

* More variants are available, please contact the sales executive for details.

Packing list	
IBOX3588 Embedded industrial computer	1
Wi-Fi & Bluetooth antenna	2

Optional accessories	
12V DC Adapter	1
Power cord	1
DC power connector	1
4G antenna	2
5G antenna	2

Since its establishment in 2002 by two Silicon Valley entrepreneurs, Vantron Technology has been at the forefront of the connected IoT devices and IoT platform solutions. Today, Vantron boasts a global customer base that includes several Fortune 500 companies. Its product lines cover edge intelligent hardware, IoT communication devices, industrial displays and BlueSphere cloud device management platform.

With over 20 years of experience in R&D of embedded edge intelligent hardware, Vantron has provided users with diverse embedded solutions featuring ARM and X86 architectures. Its offerings range from Linux to Windows, from embedded to desktop level, and from gateway to server. In addition, it provides users with system clipping, driver transplantation and other related services.