

VT-SBC-3588 Single Board Computer



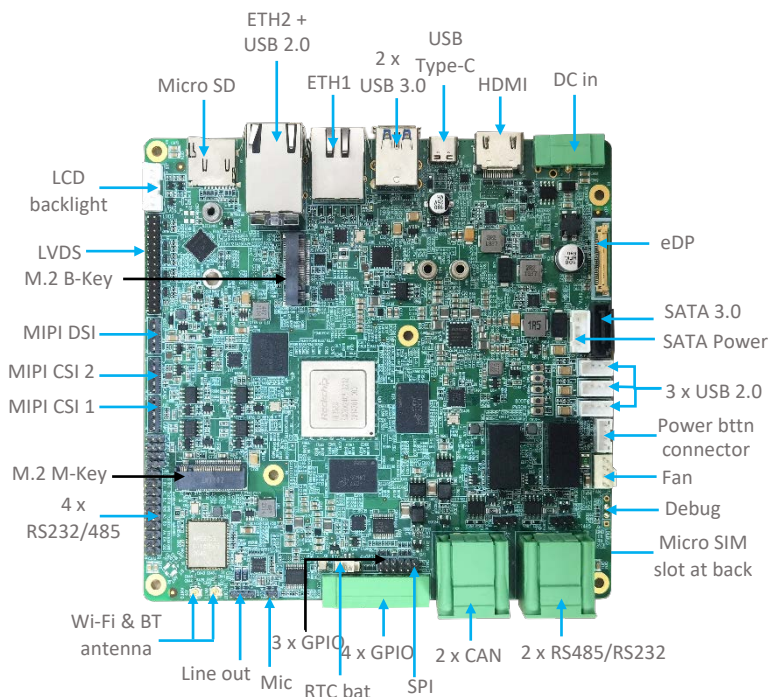
Product Brief









Vantron VT-SBC-3588 Single Board Computer is powered by Rockchip latest flagship RK3588 AIoT chipset that is equipped with an 8-core 64-bit CPU, an ARM Mali-G610 MP4 quad-core GPU, and a built-in AI acceleration NPU, capable of providing 6 TOPS computing power and supporting mainstream deep learning frameworks. With the development of the technology, there definitely will be a rising demand for AI-based products from the industrial control market, including but not limited to industrial robots, automated control, drones, etc., and VT-SBC-3588 comes into being.

The single board computer offers two Gigabit Ethernet ports, supports 2.4GHz/5GHz Wi-Fi 6 and Bluetooth 5.0, and provides an M.2 slot for 4G/5G expansion to keep communication uninterrupted. It also supports 8K video decoding and encoding to deliver optimized display performance.

Since the single board computer provides rich interfaces, a wide range of peripherals can be connected for extended applications like ARM PC, edge computing, cloud server, smart NVR, and other fields. Moreover, the different operating systems provide a stable and secure system environment for users.

Exterior and Features

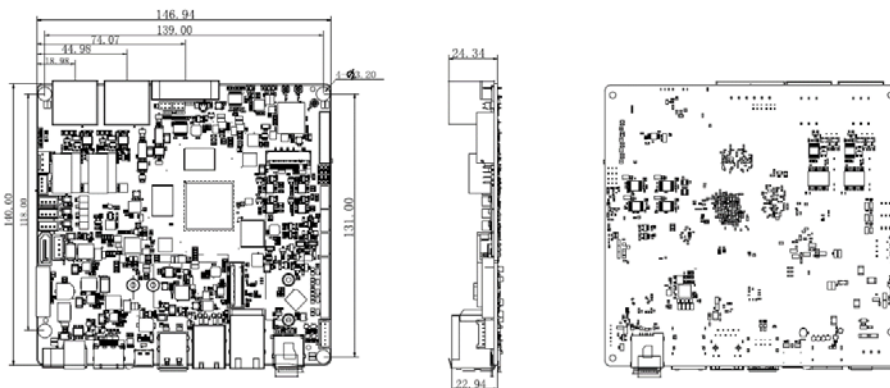


VT-SBC-3588	
	RK3588 Quad-core Cortex-A76 + Quad-core Cortex-A55 processor
	HDMI/eDP/MIPI DSI for high-quality display
	Rich interfaces for expansion
	Wi-Fi (6)/BT/4G/5G/ETH for communication
	Industrial-grade wide temperature design
	High computing power
	Deep learning acceleration
	Industrial longevity

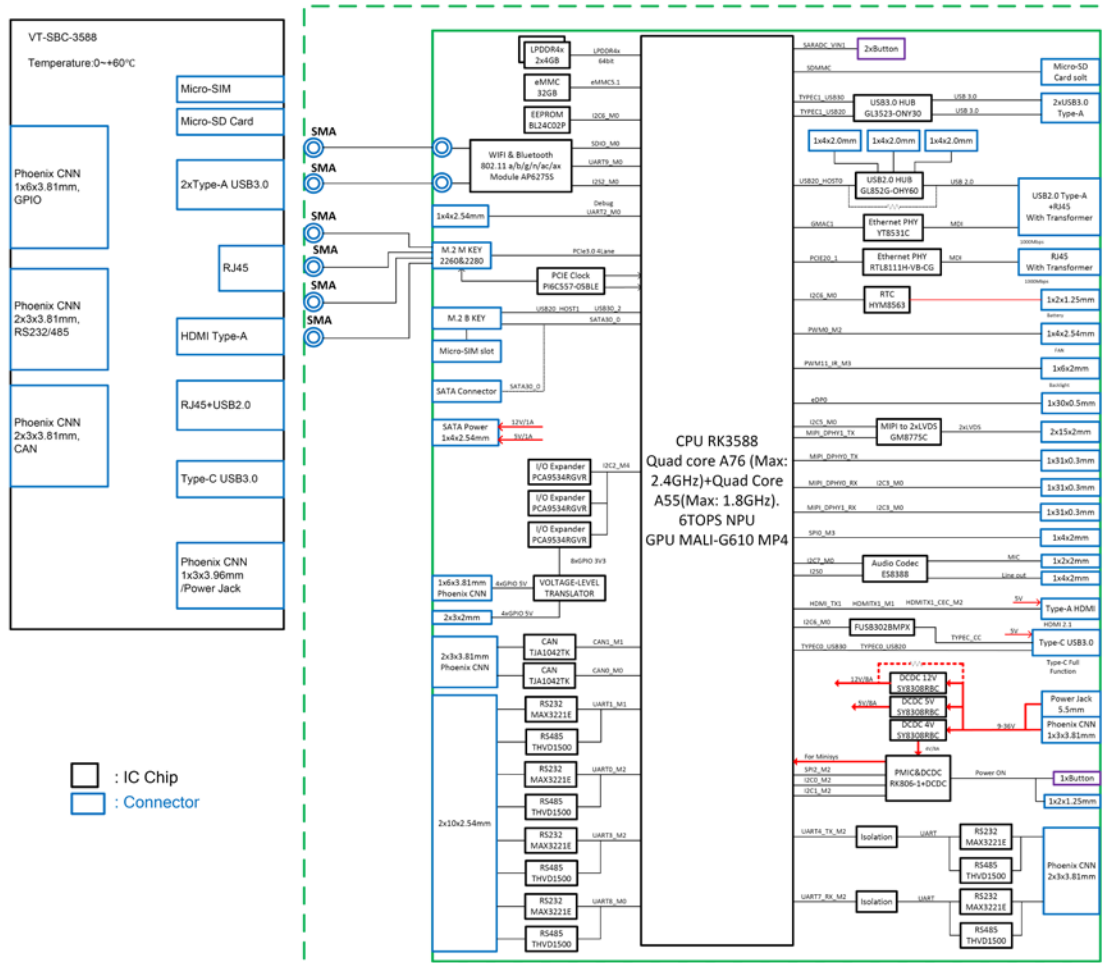
VT-SBC-3588 Single Board Computer Datasheet

VT-SBC-3588		
System	CPU	RK3588 Quad-core Cortex-A76 + Quad-core Cortex-A55, Max. 2.4GHz
	GPU	ARM Mali-G610 MC4, Max. 1GHz
	NPU	6 TOPS
	Memory	8GB LPDDR4 (Optional: 16GB)
	Storage	32GB eMMC V5.1, up to 128GB SSD supported by an M.2 M-Key/M.2 B-Key (256GB ~ 1TB)
Communication	Ethernet	2 x RJ45, 1000Mbps
	4G/5G	Optional (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 2.1 (4096 x 2160 @60Hz) 1 x Dual-channel LVDS (1920 x 1200 @60Hz)
	Camera	2 x MIPI CSI
	Audio	1 x Mic in connector 1 x Line out connector
I/Os	USB	2 x USB 3.0 Host, Type-A 1 x USB 2.0 Host, Type-A
	Serial port	2 x RS232/RS485 on the Phoenix terminal 1 x TTL, for debugging
	Fan	1 x CPU fan connector
	SIM slot	1 x Micro SIM slot
	RTC	Supported
	Watchdog	Supported
	Button	1 x Power button connector
	Expansion	1 x M.2 M-Key (2260/2280), PCIe 3.0 x 4, for SSD 1 x M.2 B-Key (2242/3052), USB3.0/SATA3.0, for 4G/5G/SSD
Expansion	GPIO	4 x GPIO on the Phoenix terminal 3 x GPIO connector
	SPI	1 x SPI
	CAN	2 x CAN on the Phoenix terminal
	Software	OS Debian, Android, Ubuntu
Software	Device management platform	BlueSphere MDM (Android version optional)
	OTA tool	BlueSphere OTA (optional)
	Power	Input 12V/5A, 24V/3A 1 x Power terminal
Mechanical	Dimensions	146.94mm x 140mm x 24.34mm
Environment condition	Temperature	Operating: 0°C ~ +60°C Storage: -40°C ~ +85°C
	Humidity	RH 0~95% (non-condensing)
	Certification	FCC, CCC

Product Outlines



Block Diagram



Company Profile

Since 2002 established by two Silicon Valley entrepreneurs, Vantron Technology has been a pioneer in connected IoT devices and IoT platform solutions. Today, Vantron serves countless customers all over the world, some of them are Fortune 500 companies. Products lines cover edge intelligent hardware, IoT communication devices, industrial displays and BlueSphere cloud device management platform.

Vantron has 20 years of experience in R&D of embedded edge intelligent hardware like SOM board and motherboard, and provided users with various embedded solutions with ARM and X86 architecture. From Linux to Windows, from embedded to desktop level, from gateway to server. At the same time, we provide our users with system clipping, driver transplantation and other services.

Vantron IoT communication devices support multi-protocol connection of industrial equipment, edge computing of local data. Abundant wired and wireless connectivity make remote operations and maintenance possible. From electricity and transportation to smart retail, medical and warehousing, Vantron IoT communication device can be deployed anywhere in any business section. Vantron believes its IoT solution to help many companies finish their digital transformation, efficiency of manufacturing and productivities have been improved significantly.

Vantron industrial display systems, ARM and X86 series, are equipped with Rockchip, NXP, MediaTek, Intel and other high-performance processors. It supports various operating systems such as Windows, Linux, and Android. Diverse wireless communications keep your device online all the time. Multiple installation methods make it suitable for a variety of application scenarios. Features like waterproof, dustproof, shatter resistant guarantee the best performance in any environment.

Vantron BlueSphere device management platform, a software product, is playing a big role in Vantron overall IoT solution. Today, Vantron puts more focus on offering complete cost effective, leading-edge yet reliable solutions to help customers carry out their visions.