VT-SBC-3588 Single Board Computer

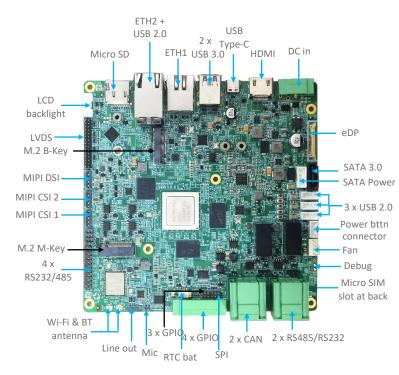


Product Brief

Vantron VT-SBC-3588 Single Board Computer is powered by Rockchip latest flagship RK3588 AIoT chipset that is equipped with an 8-core 64bit 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 AIbased 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

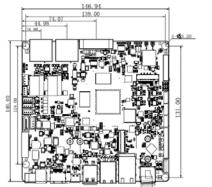
٥	RK3588 Quad-core Cortex-A76 + Quad- core Cortex-A55 processor
	HDMI/eDP/MIPI DSI for high-quality display
₽ <u></u> ₽	Rich interfaces for expansion
Ø	Wi-Fi (6)/BT/4G/5G/ETH for communication
₽	Industrial-grade wide temperature design
 الألى	High computing power
	Deep learning acceleration
	Industrial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

VT-SBC-3588

VT-SBC-3588 Single Board Computer Datasheet

Big RX358 Quad-core Cortex-A76 + Quad-core - U-X-S5, Max. 2.4GHz GPU RXM All-GG10 MC4, Max. 1GHz FNP 670F Memory 681 LPDDR4 (Optional: 1G6B) Big 2368 eMMCVS.1, up to 1286B 1 x Micro SD slot Big 2368 eMMCVS.1, up to 1286B 1 x Micro SD slot Memory 845 EO Supported by an M.2 M-Key/M.2 B-Key U-X-SF 7 Commission Memory 847 EO Supported by an M.2 M-Key/M.2 B-Key U-X-SF 7 Commission Memory 847 EO Supported by an M.2 M-Key/M.2 B-Key U-X-SF 7 Commission Memory 847 EO Supported by an M.2 M-Key/M.2 B-Key U-X-SF 7 Commission Memory 847 EO Supported by an M.2 M-Key (M.2 M-Key (M.2 M-Key (M.2 M-Key (M.2 M-KEY))) 7 Commission Memory 847 EO Supported by an M.2 M-Key (M.2 M-Key (M.2 M-Key (M.2 M-KEY)) 7 Commission Media 91S90 1 x MICRI Commission by an M.2 M-Key (M.2 M-Key (M.2 M-KEY)) 7 Commission by an M.2 M-Key (M.2 M-KEY) Media 91S90 2 x MIP (M.2 M-KEY (M.2 M-KEY)) 7 Commission by an MAX (M.2 M-KEY) Memory 2 x MIP (M.2 M-KEY (M.2 M-KEY)) 2 x MAX (M.2 M-KEY) 7 Commission by an MAX (M.2 M-KEY)
SystemNPU6 TOPSMemory8 GB LPDR4 (Optional: 16GB)32GB eMMC V5.1, up to 128 GB1 x Micro SD slotStorage32 GB eMMC V5.1, up to 128 GB1 x Micro SD slotKemore2 x RJ45, 1000Mbps4G/5GOptional (expansion by an M.2 B-Key)Wi-Fi & BluetoothWi-Fi 802.11 a/b/g/n/ac/ax + BT 5.0Media1 x HDM1 2.1 (4096 x 2160 @G0H2) 1 x Nulci channel LVDS (1920 x 1200 @G0H2) 1 x NUPI DSI (1920 x 1080 @G0H2) 1 x DSB 2.0 Host runctorIVINFIVINF IVINFIVINFIVINF IVINF IVINFIVINFIVINF IVINF IVINF
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Hamiltonia 32GB eMMC V5.1, up to 128GB 1 x Micro SD slot SD supported by an M.2 M-Key/M.2 B-Key (2556 × 1TB) SD supported by an M.2 M-Key/M.2 B-Key (2556 × 1TB) Communication 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 @60H2) 1 x Dual-channel LVDS (1920 x 1200 @60H2) 1 x Dual-channel LVDS (1920 x 1200 @60H2) 1 x MIPI DSI (1920 x 1080 @60H2) 1 x MIPI DSI (1920 x 1080 @60H2) 1 x dIP (1920 x 1080 @60H2) 1 x MIPI DSI (1920 x 1080 @60H2) Media Oisplay 1 x HDMI 2.1 (4096 x 2160 @60H2) 1 x Dual-channel LVDS (1920 x 1200 @60H2) 1 x eDP (1920 x 1080 @60H2) 1 x MIPI DSI (1920 x 1080 @60H2) Media Oisplay 1 x MIC in connector 1 x Line out connector Audio 1 x Micri Connector 1 x Line out connector Y USB 2 x USB 3.0 Host, Type-A 3 x USB 2.0 Host connector Y USB 2 x RS232/RS485 on the Phoenix terminal 4 x RS232/RS485 connector Y USB 1 x Micro SIM slot 1 x TL, for debugging 1 x TL, for debugging Y TTL, for debugging 1 x Micro SIM slot Y Y RTC Supported Supported Suported Y
Storage SSD supported by an M.2 M-Key/M.2 B-Key (25GB ~ 1TB) Ethernet 2 x RJ45, 1000Mbps Communication 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 1 x HDMI 2.1 (4096 x 2160 @60H2) 1 x Dual-channel LVDS (1920 x 1000 @60H2) 1 x Dual-channel LVDS (1920 x 1000 @60H2) 1 x MIPI DSI (1920 x 1080 @60H2) 1 x eDP (1920 x 1080 @60H2) 1 x MIPI DSI (1920 x 1080 @60H2) Media 2 x MIPI CSI 1 x uDal-channel LVDS (1920 x 1200 @60H2) 1 x Line out connector Audio 1 x Mic in connector 1 x Line out connector 1 x USB Type-C OTG 3 x USB 2.0 Host, Type-A 1 x USB Type-C OTG 3 x USB 2.0 Host connector Serial port 2 x RS232/RS485 on the Phoenix terminal 4 x RS232/RS485 connector 2 x RS232/RS485 on the Phoenix terminal 4 x RS232/RS485 connector Fan 1 x CPU fan connector 2 x RS232/RS485 on the Phoenix terminal 4 x RS232/RS485 connector Final port 1 x Micro SIM slot XIII or debugging XIII or debugging Final 1 x Micro SIM slot XIIII or debugging XIIII or debugging RTC Supported Supported XIIIII or debugging XIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
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M.2 slot 1 x M.2 B-Key (2242/3052), USB3.0/SATA3.0, for 4G/5G/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
OS Debian, Android, Ubuntu
Software Device management platform BlueSphere MDM (Android version optional)
OTA tool BlueSphere OTA (optional)
PowerInput12V/5A, 24V/3A1 x Power terminal
Mechanical Dimensions 146.94mm x 140mm x 24.34mm
TemperatureOperating: $0^{\circ}C \sim +60^{\circ}C$ Storage: $-40^{\circ}C \sim +85^{\circ}C$
Condition Humidity RH 0~95% (non-condensing)
Certification FCC, CCC

Product Outlines

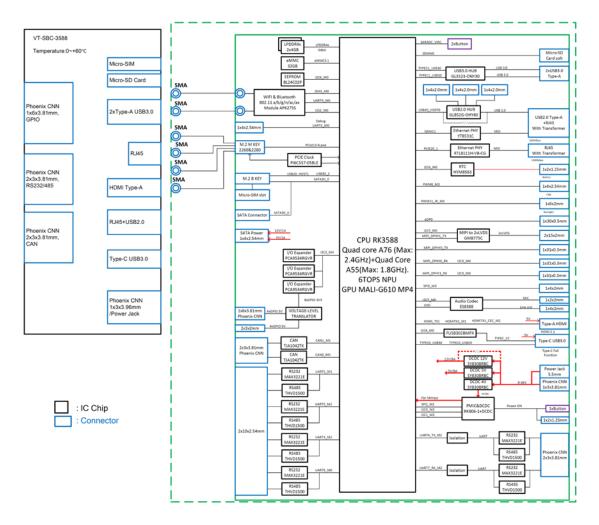






Vantron | Embedded in your success, Embedded in your better life World-leading provider of embedded/IoT products and solutions

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.

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