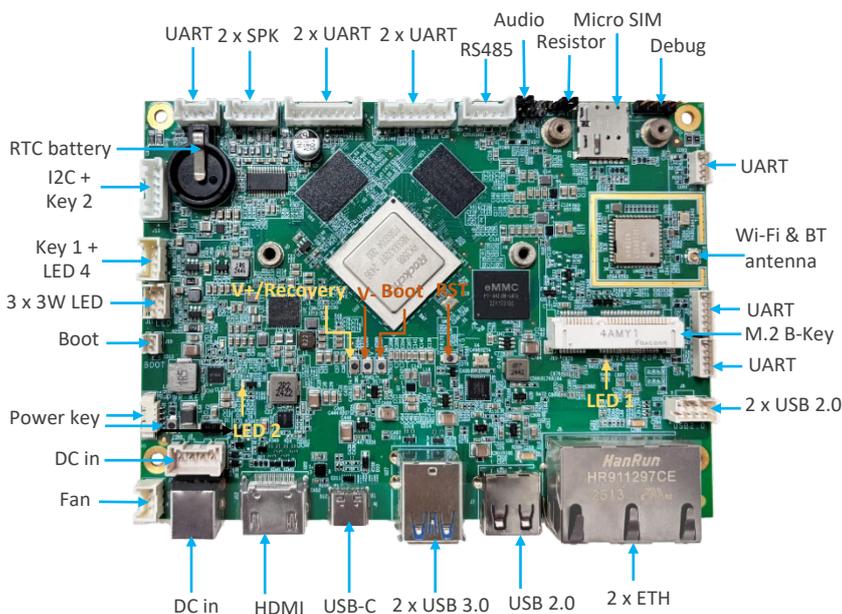# VT-SBC-3588-L

Single Board Computer

Product Brief

The VT-SBC-3588-L Single Board Computer is driven by Rockchip's flagship RK3588 AIoT chipset, integrating an 8-core 64-bit CPU, an ARM Mali-G610 MP4 quad-core GPU, and an integrated AI-accelerated NPU. Boasting up to 6 TOPS of computing power, this chipset natively supports all mainstream deep learning frameworks, delivering robust AI inference capabilities for industrial scenarios.

Equipped with dual Gigabit Ethernet ports, the SBC supports dual-band 2.4GHz/5GHz Wi-Fi and Bluetooth 5.0 for seamless wireless connectivity. It also features an M.2 expansion slot dedicated to 4G modules, ensuring uninterrupted high-speed data transmission even in mission-critical environments. Additionally, the board offers hardware-accelerated 8K video encoding and decoding, enabling ultra-high-definition display performance for video-intensive applications.

With its extensive array of I/O interfaces, the VT-SBC-3588-L enables flexible integration with a broad spectrum of peripherals, unlocking diverse use cases including ARM-based PCs, edge computing nodes, lightweight cloud servers, and intelligent NVR systems. Compatibility with Android and support for Linux distros upon request further ensures a stable, secure, and customizable software environment tailored to users' specific application requirements.

Exterior and Features

VT-SBC-3588-L
Rockchip RK3588 octa-core flagship processor
8GB RAM + 64GB storage, both expandable
Up to 4K UHD video output
Rich industrial interfaces for flexible expansion
ETH, Wi-Fi, BT, optional 4G connectivity
Powerful AI acceleration & graphic processing
Multi-OS support: Android, Ubuntu
Industrial longevity

VT-SBC-3588-L Single Board Computer Datasheet

VT-SBC-3588-L			
System	CPU	RK3588 Quad-core Cortex-A76 (Max. 2.4GHz) + Quad-core Cortex-A55 (Max. 1.8GHz) Optional: RK3588J Quad-core Cortex-A76 (Max. 2.0GHz) + Quad-core Cortex-A55 (Max. 1.7GHz)	
	GPU	ARM Mali-G610 MC4, Max. 1GHz	
	NPU	6 TOPS	
	Memory	8GB LPDDR4, up to 32GB	
	Storage	64GB eMMC V5.1, up to 128GB	
Communication	Ethernet	2 x RJ45, 1000Mbps	
	4G	Optional (via M.2 B-Key)	
	Wi-Fi & Bluetooth	Wi-Fi 802.11 a/b/g/n/ac + BT 5.0	
Media	Display	1 x HDMI 2.1 (3840 x 2160@30Hz/3840 x 1440@60Hz)	
	Audio	2 x Speaker connector	1 x Audio connector (Mic & headphone)
I/O	USB	2 x USB 3.0 Type-A	1 x USB Type-C (OTG, debug)
		1 x USB 2.0 Type-A	2 x USB 2.0 Host connector
	Serial port	8 x UART connector	1 x RS485 connector
	Debug	1 x Debug UART (3.3V)	
	I^{2}C	1 x I^{2}C	
	Fan	1 x PWM fan connector	
	SIM slot	1 x Micro SIM slot	
	Boot	1 x Boot connector	
	RTC	Supported	
	Watchdog	Supported	
Expansion	M.2 slot	1 x M.2 B-Key (2242/3052), USB2.0, for 4G expansion	
System Control	Button/key	SW1: Volume+/Recovery key	SW2: Reset key
		SW3: Volume - key	SW4: Power key
		SW5: Boot key	2 x User-defined key connector
	LED	2 x LED indicator	4 x LED connector
Software	OS	Android, Ubuntu, Other Linux distros upon request	
	Device management	BlueSphere MDM (Android version optional)	
Power	Input	12V~24V DC	1 x 4-Pin DC connector; 1 x DC jack
Mechanical	Dimensions	135mm x 100mm x 34.6mm	
Environmental condition	Temperature	Operating: 0℃ ~ +60℃ (Optional: -20℃~70℃)	Storage: -40℃ ~ +85℃
	Humidity	5%~95% RH (Non-condensing)	

Product Outlines

Block Diagram

VT-SBC-RK3588-L
Operating Temperature: 0~+60℃
Optional: -20~70℃

□ : IC Chip
□ : Connector

Ordering Information

Nomenclature

VT-SBC-3588-L-[OS-C-T-OB]

OS (Operating system): **Null**-Android; **U**-Ubuntu

C (Cellular): **Null**-NA; **4G**-4G

T (Operating temperature): **Null**-0~60℃; **E**- -40℃~85℃

OB (On-board capacity): **Null**-8GB + 64GB, **M1**-16GB + 64GB; **M2**-32GB+64GB; **H1**-8GB + 128GB; **H2**-16GB+128GB; **H3**-32GB+128GB

Example Ordering No.	Operating System	Cellular	Operating Temp.	On-board Capacity
VT-SBC-3588-L	Android	-	0~60℃	8GB + 64GB
VT-SBC-3588-L-UEM1	Ubuntu	-	-20℃~70℃	16GB + 64GB
VT-SBC-3588-L-4GEH1	Android	4G	-20℃~70℃	8GB + 128GB

Packing List	
VT- SBC-3588 single board computer	1

Optional Accessories	
12V power adapter & power cable	1 kit
Wi-Fi & Bluetooth antenna	1