

VT-SBC35-3576

Single Board Computer



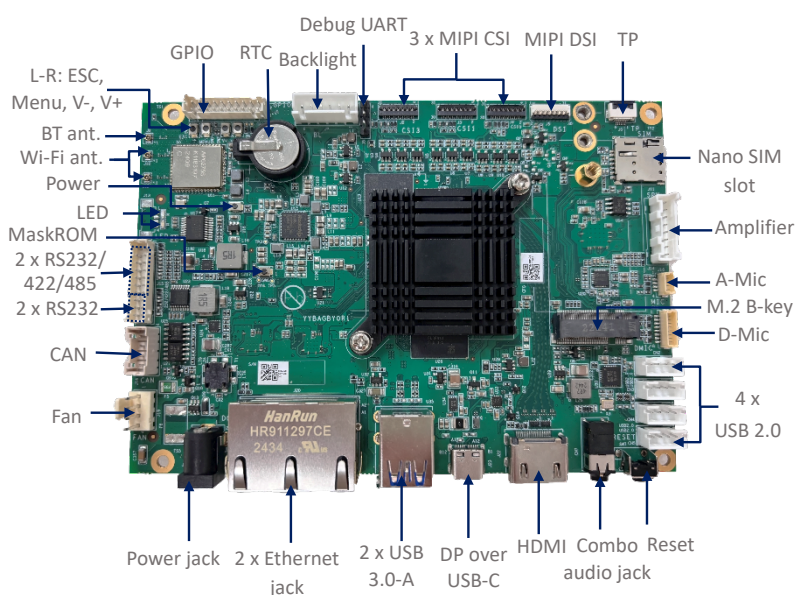
Product Brief

VT-SBC35-3576 single board computer comes in a 3.5-inch form factor that is ideal for integration into embedded devices. The board is powered by Rockchip RK3576 high-performance, low-power octa-core processor that integrates four Cortex-A72 cores and four Cortex-A53 cores, running at up to 2.2GHz. This processor also includes a NEON co-processor for efficient SIMD (Single Instruction, Multiple Data) operations. The Arm Mali-G52 MC3 GPU supports OpenGL ES1.1/2.0/3.2, OpenCL 2.1, and Vulkan 1.2 for enhanced 2D/3D graphic acceleration, along with H.264 and H.265 video codec support.

The built-in NPU offers 6 TOPS of processing performance, with support for mainstream deep-learning frameworks such as TensorFlow, TF-Lite, Pytorch, Caffe, Onnx NN, Android NN, etc. The board offers three MIPI CSI interfaces for camera use, supporting 16 Megapixel ISP.

For connectivity, VT-SBC35-3576 offers dual Gigabit Ethernet ports, a Wi-Fi 6 and Bluetooth 5.1 combo module, and optional 4G/5G cellular network for IoT applications. In addition, it provides rich peripherals for application in diverse settings, such as advertising HMIs, cash registers, smart whiteboards, gateways, industry-specific tablets, network video recorders, and Over the Top (OTT) services.

Exterior and Features



VT-SBC35-3576



Rockchip RK3576 octa-core processor



Ethernet, Wi-Fi 6, BT, optional 4G/5G



Supports up to three displays in extended mode



H.264/H.265 video codec



Three camera interfaces, 16MP ISP with HDR



Rich I/O for flexible user expansion



Powerful AI acceleration & graphic processing

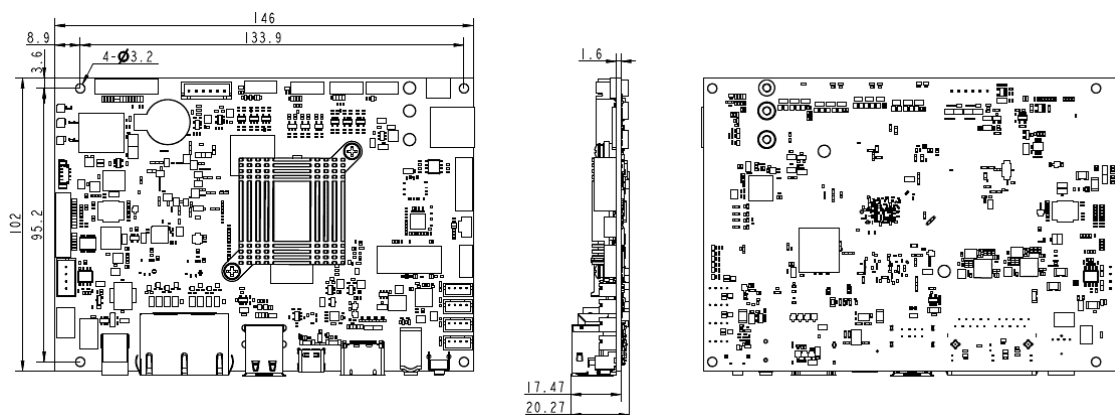


3.5-inch form factor

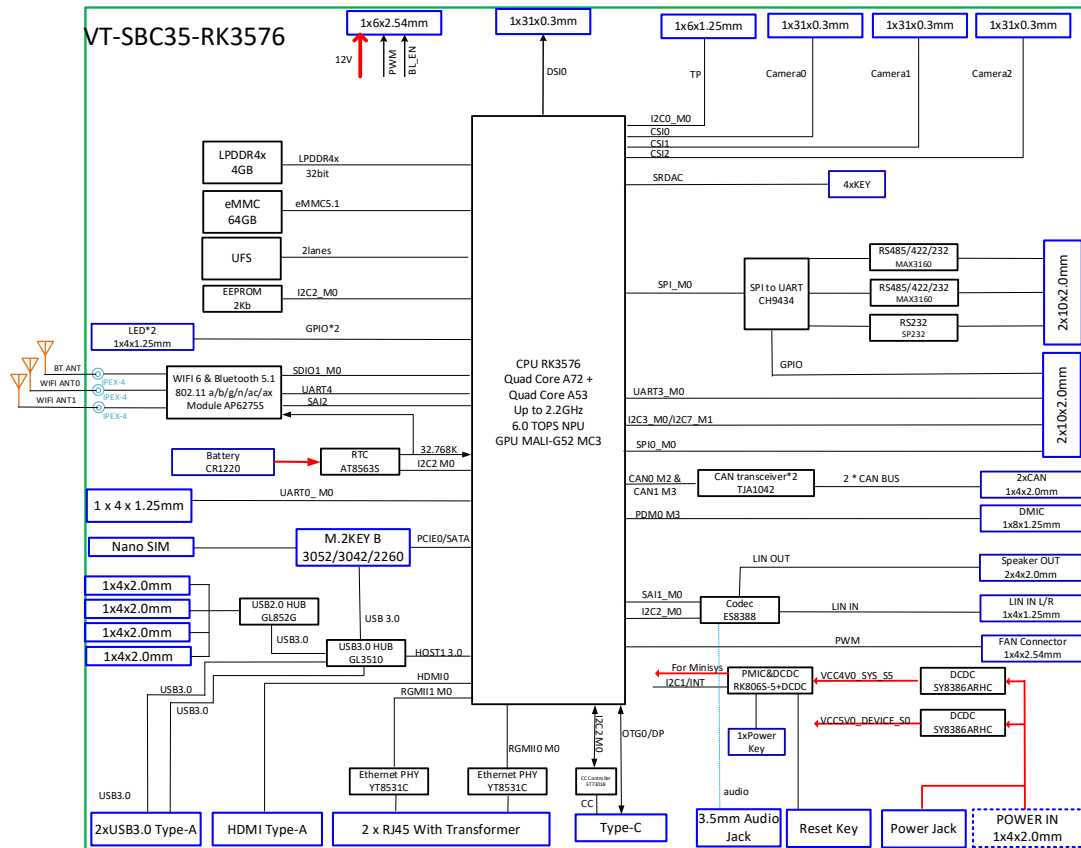
VT-SBC35-3576 Single Board Computer Datasheet

VT-SBC35-3576			
System	CPU	Rockchip RK3576, quad-core ARM Cortex-A72 + quad-core ARM Cortex-A53 processor, up to 2.2GHz	
	GPU	Arm Mali G52 MC3 GPU, OpenGL ES1.1/2.0/3.2, OpenCL 2.1, and Vulkan 1.2 supported	
	NPU	6 TOPS	
	Memory	4GB 32-bit LPDDR4x	
	Storage	128GB UFS 2.1 (UFS boot) 64GB eMMC 5.1	Optional: SATA SSD (M.2 B-Key), up to 1TB
Communication	Ethernet	2 x RJ45, 10/100/1000Mbps	
	Wi-Fi & Bluetooth	Wi-Fi 6: IEEE 802.11 a/b/g/n/ac/ax + BT 5.1	
	Cellular	Optional: 4G/5G (M.2 B-Key)	
Media	Video processing	8K@30 or 4K@120 H.265 or 4K@60 H.264 decoder, 4K@60 H.264/H.265 encoder	
	Camera ISP	16MP ISP for single-channel camera (HDR, 3A, CAC, 3DNR, 2DNR, Sharpening, Dehaze...)	
	Display (extended mode)	1 x MIPI DSI, up to 2560 x 1600 @60Hz 1 x HDMI 2.1, up to 4K @120Hz	1 x DisplayPort 1.4 over USB-C, up to 4K @120Hz
	Backlight	1 x Backlight connector (for LVDS converted from MIPI DSI)	
	Audio	4 x D-Mic with 2 PDM ports	1 x A-Mic
		1 x 3.5mm combo audio jack (CTIA standard)	1 x Power amplifier connector
	Camera	3 x 4-Lane MIPI CSI-2, up to 4672 x 3504	
	Touch	1 x I ² C TP connector	
I/O	Serial port	2 x RS232	2 x RS232/485/422
	USB	2 x USB 3.0 Type-A 4 x USB 2.0 connector	1 x USB 3.0 Type-C (OTG, DisplayPort 1.4)
	CAN	2 x CAN	
	GPIO	1 x GPIO header, including 1 x SPI, 1 x UART, 1 x I ² C, 2 x GPIO	
	Fan	1 x PWM fan connector (12V)	
	UART	1 x Debug UART (3.3V)	
	SIM	1 x Nano SIM slot	
	Antenna	2 x Wi-Fi antenna connector (IPEX-4)	1 x Bluetooth antenna connector (IPEX-4)
Miscellaneous	RTC	Supported	
	WDT	Supported	
Expansion	M.2 slot	1 x M.2 B-Key (2260, SATA/ PCIe 2.1 for SSD / 3042, USB 3.0 for 4G / 3052, USB 3.0/PCIe 2.1 for 5G)	
System Control	Key	1 x Reset key, 1 x MaskROM key, 1 x Power key, 4 x Key (Volume +/-, ESC, Menu)	
	LED indicator	2 x LED indicator (Red: Power on, Green: Normal operation; user definable)	
Power	Input	12V DC	1 x Power jack
	Consumption	Typical: 2.4W	Max.: 6W
Software	Operating system	Android 14, Debian 11, Ubuntu 22.04	
Mechanical	Dimensions	146mm x 102mm x 20.27mm	Heat dissipation: Heat sink
	Temperature	Operating: -20°C~+70°C (Optional: -40°C~+85°C)	Storage: -30°C~+80°C (Optional: -55°C~+85°C)
Environment Condition	Humidity	20%-80% RH (Non-condensing)	

Product Outlines



Block Diagram



Ordering Information

Nomenclature

VT-SBC35-3576-[OS-C-SSD]



Example Ordering No.	Operating System	Cellular Connectivity	SSD Expansion
VT-SBC35-3576	Android 14	-	-
VT-SBC35-3576-U4GSSD1	Ubuntu 22.04	4G	128GB M.2 SATA SSD
VT-SBC35-3576-DSSD2	Debian 11	-	256GB M.2 SATA SSD

Packing List	
VT- SBC35-3576 single board computer	1

Optional Accessories	
12V 3A power adapter & power cable	1 kit
Wi-Fi antenna	2
Bluetooth antenna	1