

VT-SBC35-3576

Single Board Computer



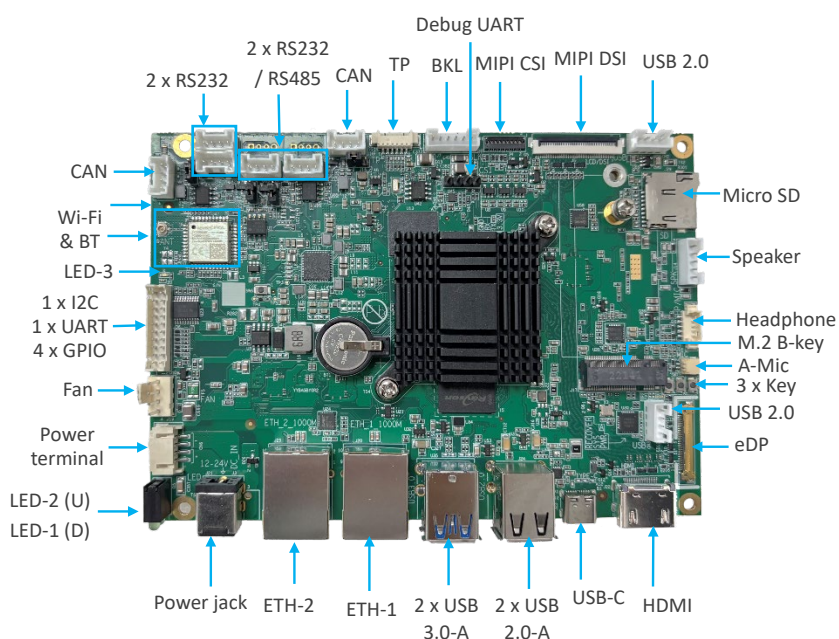
Product Brief

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 supports 16 Megapixel ISP; delivers up to 4K video output via MIPI DSI, HDMI/eDP, and DP across up to three displays.

For connectivity, VT-SBC35-3576 offers dual Gigabit Ethernet ports, a Wi-Fi 6 and Bluetooth 5.4 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



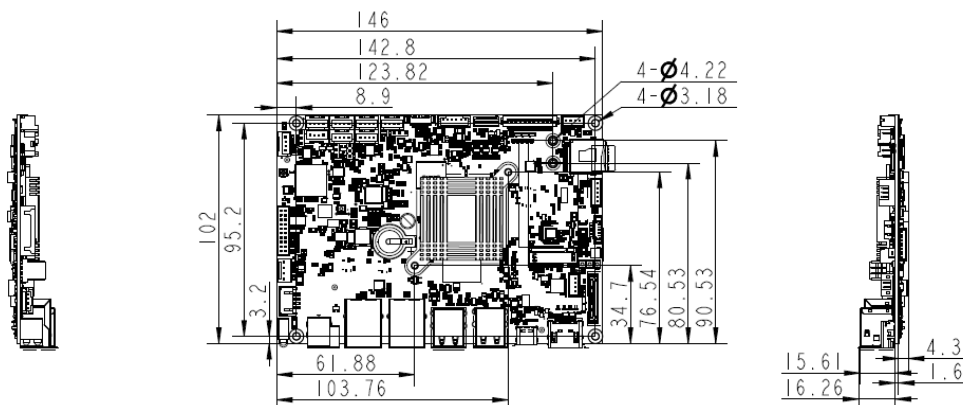
VT-SBC35-3576

- Rockchip RK3576 octa-core processor
- Ethernet, Wi-Fi 6, BT, optional 4G/5G
- Supports up to three independent displays
- H.264/H.265 video codec
- 16MP ISP with HDR
- Rich I/O for flexible user expansion
- Powerful AI acceleration & graphic processing
- 3.5-inch form factor

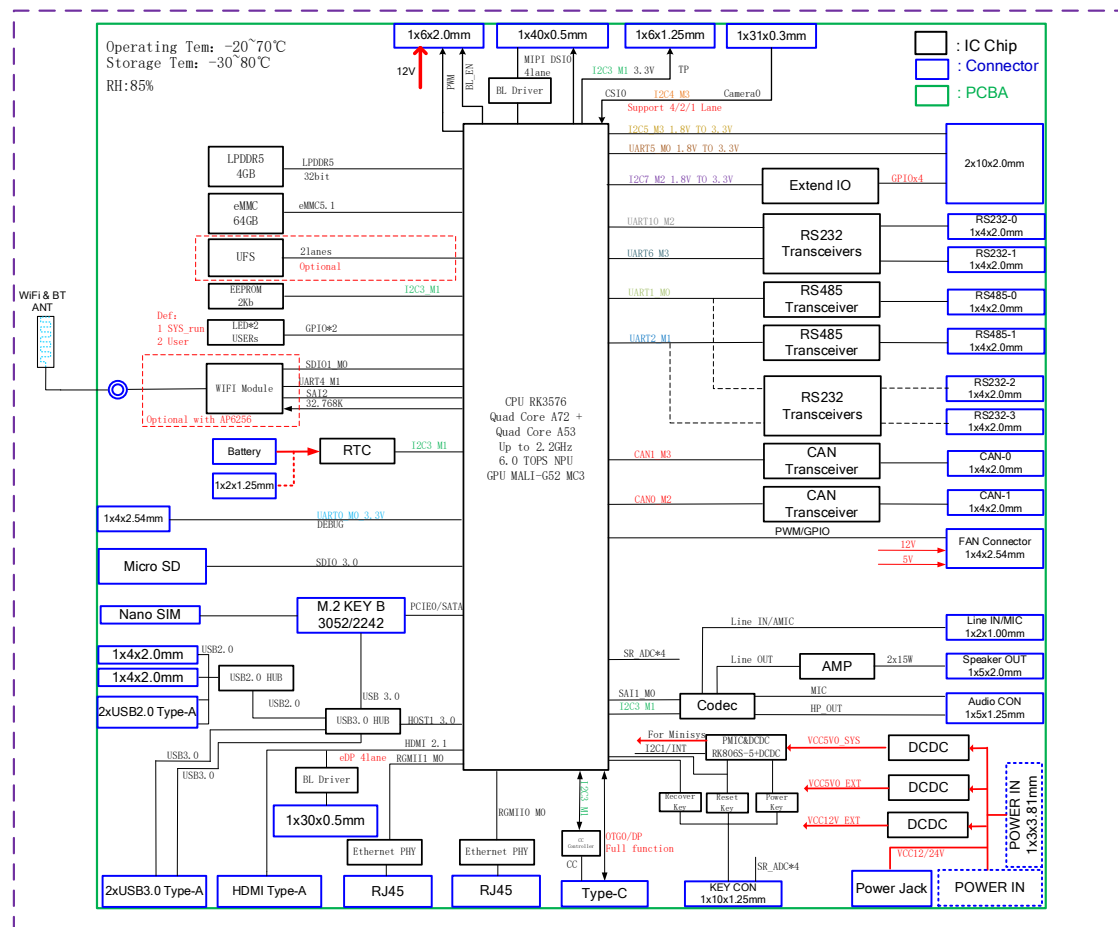
VT-SBC35-3576 Single Board Computer Datasheet

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 LPDDR5
	Storage	64GB eMMC 5.1; 1 x Micro SD slot, SDIO 3.0 Optional: 128GB UFS 2.1; 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 5.4
	Cellular	Optional: 4G LTE/5G (M.2 B-Key)
Media	Video processing	4K@120fps H.264/H.265/VP9/AV1/AVS2 decoder, 4K@60fps H.264/H.265 encoder
	Camera ISP	16MP ISP (HDR, 3A, CAC, 3DNR, 2DNR, Sharpening, Dehaze...)
	Display (Up to 3 independent displays)	1 x MIPI DSI, up to 2560 x 1600 @60Hz 1 x HDMI 2.1, up to 4K @120Hz / 1 x 4-Lane eDP, up to 4K@60Hz
	Backlight	1 x Backlight output (12V)
	Audio	2 x 8W/8Ω speaker connector 1 x Headphone connector
	Camera	1 x 4-Lane MIPI CSI-2
	Touch	1 x I ² C TP connector (3.3V)
	1/O	2 x RS232 2 x RS232/485
I/O	Debug	1 x Debug UART (3.3V)
	USB	2 x USB 3.0 Type-A 4 x USB 2.0 connector 2 x USB 2.0 Type-A 1 x USB 3.0 Type-C (OTG, DisplayPort 1.4)
	CAN	2 x CAN FD
	GPIO	1 x GPIO header, including 1 x TTL UART, 1 x I2C, 4 x GPIO
	Fan	1 x PWM fan connector (12V)
	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 (integrated; discrete)
Expansion	M.2 slot	1 x M.2 B-Key (2260, SATA/ PCIe 2.1 for SSD; 3042, USB 3.0 for 4G LTE; 3052, USB 3.0/PCIe 2.1 for 5G)
System Control	Key	1 x Reset key, 1 x Recovery key, 1 x Power key (Optional: 1 x Home key)
	LED indicator	3 x LED indicator (LED-1 &2: lit at power-up, configurable; LED-3: lit at power-up)
Power	Input	12V/24V @3A DC 1 x Power jack
	Consumption	Max.: 10W (full load)
Software	Operating system	Android 14, Ubuntu 22.04
Mechanical	Dimensions	146mm x 102mm x 22.16mm Heat dissipation: Heat sink
Environment Condition	Temperature	Operating: -20°C~+70°C (Optional: -40°C~+85°C) Storage: -30°C~+80°C (Optional: -55°C~+85°C)
	Humidity	5%-85% RH (Non-condensing)

Product Outlines



Block Diagram



Ordering Information

Nomenclature: VT-SBC35-3576-[OS-S-M2]

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

S (Storage expansion): Null -NA; S-128GB UFS 2.1

M2 (M.2expansion): Null -NA; 4G-4G LTE; 5G-5G; SSD1-128GB; SSD2-256GB; SSD3-512GB; SSD4-1TB

Example Ordering No.	Operating System	Storage Expansion	Cellular Connectivity	SSD Expansion
VT-SBC35-3576	Android	-	-	-
VT-SBC35-3576-US4G	Ubuntu	128GB UFS 2.1	4G	-
VT-SBC35-3576-SSD2	Android	-	-	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 & Bluetooth antenna	1