

VT-SBC35-VOSM720

Single Board Computer



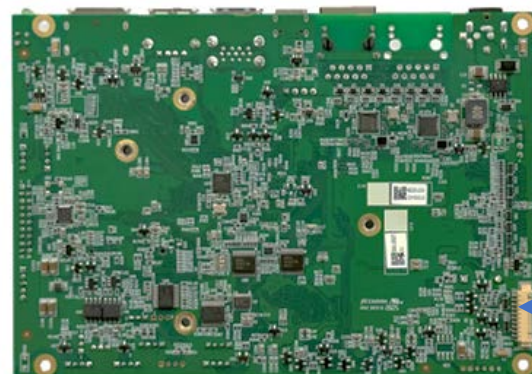
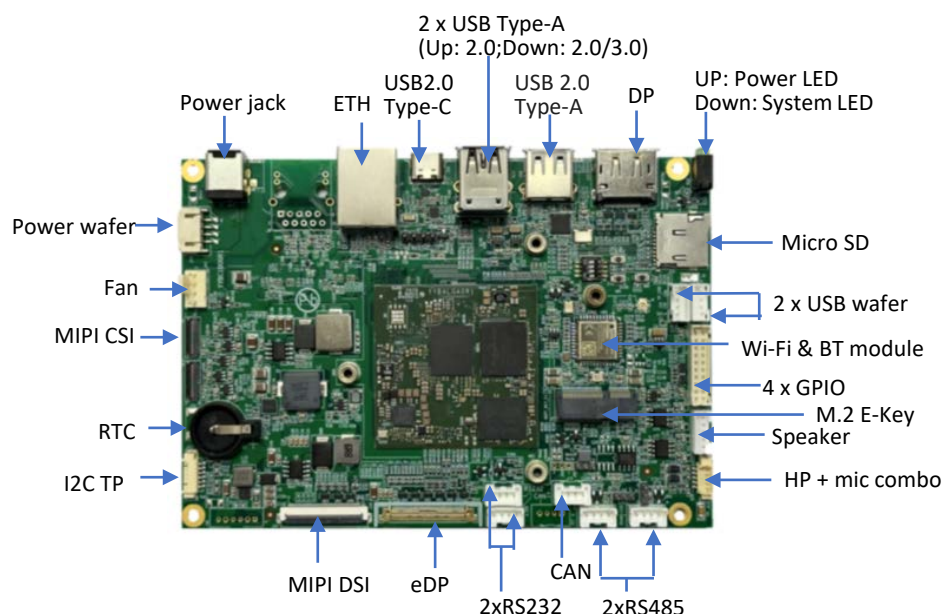
Product Brief

The VT-SBC35-VOSM720 Single Board Computer provides a complete, production-ready development ecosystem based on the VOSM720 system-on-module. Designed to accelerate time-to-market, it offers developers a fully integrated platform with standard connectors, robust power management, and signal protection—eliminating common hardware integration hurdles and ensuring reliable operation.

At its core is the powerful MediaTek MT8391 chipset, paired with 8GB LPDDR5 and 64GB UFS2.2. The board features an octa-core CPU and an Arm Mali-G57 MC2 GPU, enabling DP/eDP/MIPI DSI display and 4K video CODEC for optimal multimedia performance. The 8th-Gen NPU delivers up to 9 TOPS of computing power for efficient AI inference and on-device machine learning tasks. Connectivity options include Wi-Fi, Bluetooth, and Gigabit Ethernet, making it highly versatile for diverse IoT applications. A wide array of expansion interfaces further enables seamless peripheral integration to fully utilize the board's capabilities.

By offering a fully validated, application-ready hardware foundation, the VT-SBC35-VOSM720 dramatically shortens development cycles and mitigates project risks, allowing engineering teams to focus on vertical-specific customization rather than hardware challenges. It supports Android, Linux Yocto, Ubuntu, and Debian operating systems, making it ideal for a range of advanced applications, including smart retail, self-service terminals, industrial automation, and digital media.

Exterior and Features



4 x GPIO



High-performance, low-power edge AI CPU



8 GB LPDDR5, 64GB UFS2.2



Up to 9 TOPS NPU for AI acceleration



H.265/H.264 video codec



Rich interfaces, robust system performance

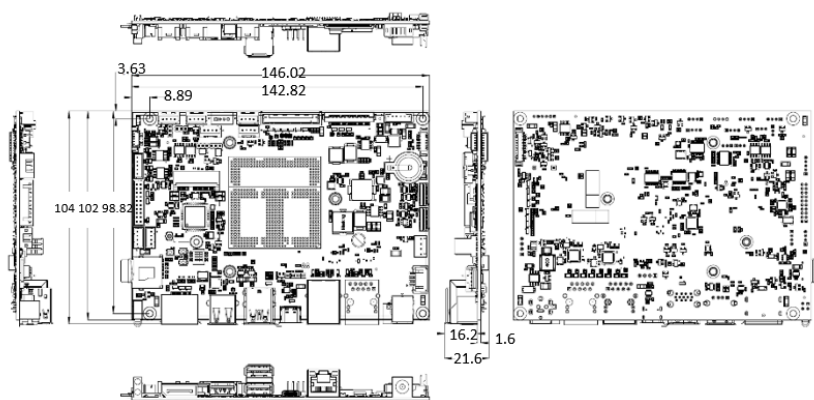


ETH, Wi-Fi & BT connectivity

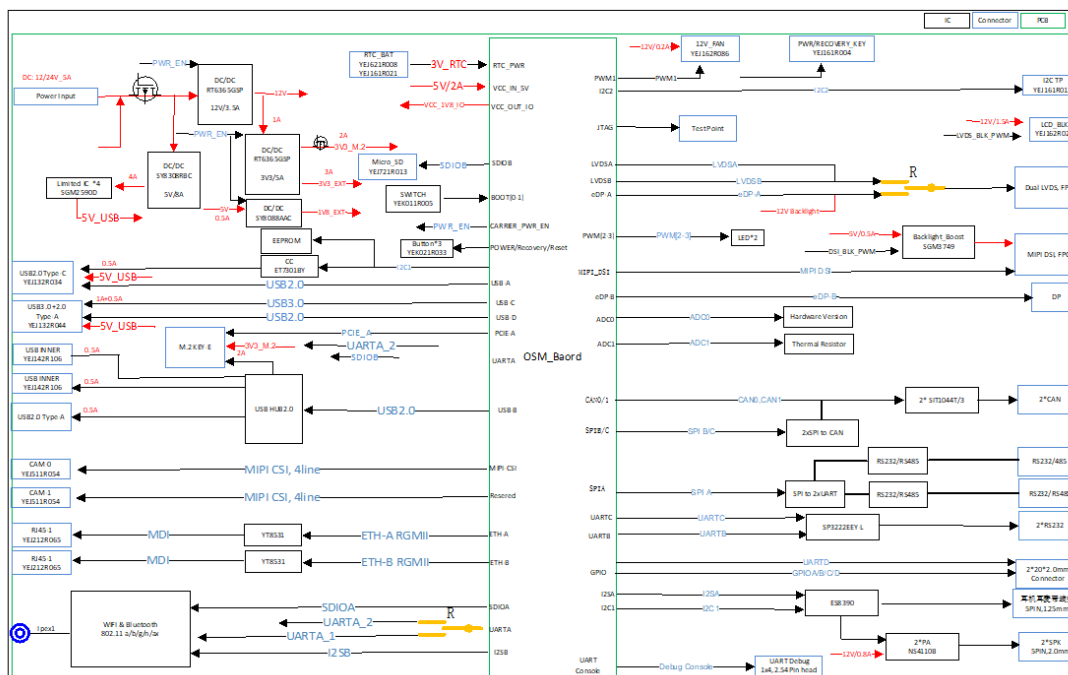
Specifications

VT-SBC35-VOSM720			
System	CPU	MediaTek MT8391, dual-core ARM Cortex-A78 (2.4~2.6GHz)+hexa-core ARM Cortex-A55 (2.0GHz)	
	GPU	ARM Mali-G57 MC2 GPU, 1.1GHz, supports OpenGL ES 3.2, Vulkan 1.1, OpenCL 2.2	
	NPU	MediaTek 8 th NPU (MDLA5.3, GenAI), up to 9 TOPS	
	Memory	8GB LPDDR5	
	Storage	64GB UFS 2.2 (Optional: 128GB)	
Communication	Ethernet	1 x RJ45, 10/100/1000Mbps	
	Wi-Fi & Bluetooth	Wi-Fi 802.11 a/b/g/n/ac/ax + Bluetooth 5.4	
Media	Video processing	4K@30Hz, H.265/H.264 video encoding 4K @60Hz, H.265/H.264/VP9/AV1 video decoding	
	Image processing	2 x ISP (3A, NR, AI-FD, LSC, HDR, Warp Engine)	
I/O	Display (Dual display support)	1 x 4-lane MIPI DSI, up to 3840 x 2160@60Hz	
		1 x 4-lane eDP 1.4, up to 3840 x 2160@60Hz	
		1 x 4-lane DP 1.4, up to 3840 x 2160@60Hz	
	Camera	1 x 4-lane MIPI CSI	
	Audio	1 x HP + mic combo header	1 x Speaker connector
	TP	1 x I2C TP connector	1 x USB2.0 TP connector
	USB	3 x USB Type-A (2 x USB 2.0 + 1 x USB 3.2) 1 x USB Type-C (USB 2.0 OTG)	
		2 x USB wafer (one muxed as TP connector)	
	Serial port	2 x RS232	2 x RS485
	Debug UART	1 x Debug UART, Baud rate: 115200	
	CAN	1 x CAN FD	
	GPIO	2 x GPIO expansion header, including 8 x GPIO, with 3.3V power supply	
	SD slot	1 x Micro SD slot	
	Button	1 x Power button	1 x Reset button
		1 x Forced download/Voice- button	
	Indicator	1 x Power LED	1 x System status LED (user-defined)
	Expansion	1 x M.2 E-Key (2230), PCIe Gen3 x1/USB2.0, for Wi-Fi modules	
	Fan	1 x Fan connector	
	RTC	1 x Cell battery holder (1225)	
Power	Input	12~24V / 3A DC input	1 x 5.5 x 2.5mm power jack; 1 x 4 x 2.0mm power connector
Software	Operating system	Android, Linux Yocto	
	Device management	BlueSphere MDM (Optional for Android version)	
Mechanical	Dimensions	149.65mm x 104mm x 21.6mm (SBC)	45mm x 45mm (SoM)
Environmental Conditions	Temperature	Operating: -20°C ~ +60°C (Optional: -40~ +80°C)	Storage: -40°C ~ +80°C
	Humidity	5%~ 95% RH (Non-condensing)	

Product Outlines



Block Diagram



Ordering Information

Ordering No.	Chipset	Memory	Storage	Description
VT-SBC35-VOSM720	MT8391	8GB LPDDR5	64GB UFS2.2 (Optional: 128GB)	VOSM720 + Carrier board (DP/eDP/MIPI DSI, MIPI CSI, UART, USB, CAN, GPIO)

Packing List				
VT-SBC35-VOSM720 Single Board Computer	1	12V power adapter	1	

Since its establishment in 2002 by two Silicon Valley entrepreneurs, Vantron Technology has been at the forefront of the connected IoT devices and IoT platform solutions. Today, Vantron boasts a global customer base that includes many Fortune Global 500 companies. Its product lines cover edge intelligent hardware, IoT communication devices, industrial displays, and BlueSphere cloud platforms.

With over 20 years of experience in R&D of intelligent edge hardware, Vantron has provided users with diverse embedded solutions featuring ARM and X86 architectures. Its offerings range from Linux, Android to Windows, from embedded to desktop level, and from gateways to servers. In addition, it provides users with system trimming, driver transplantation and more to cater to the unique needs of its users.