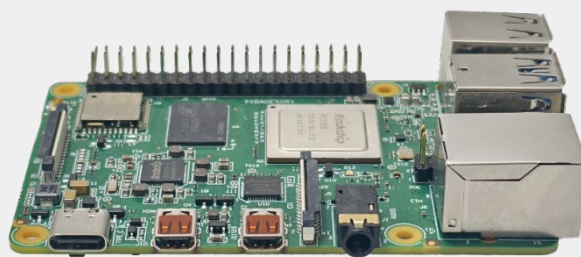


VT-SBC-RK3568-NT

Single Board Computer



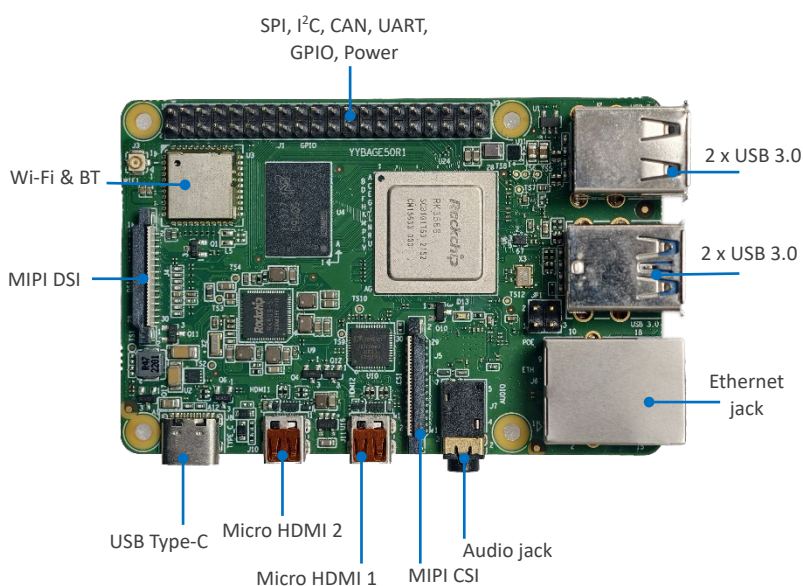
Product Brief Introduction

As a standout member of Vantron's embedded board family, the NicelIt series single board computers feature a compact, uniform profile. This series offers two Micro HDMI/Mini DP and MIPI DSI for display output, a MIPI CSI camera interface, multiple USB ports, a GPIO header, alongside Ethernet and Wi-Fi & Bluetooth for connectivity.

The VT-SBC-RK3568-NT single board computer is powered by Rockchip RK3568 processor that integrates a quad-core ARM Cortex-A55 CPU, an Arm Mali G52 GPU, and a 1 TOPS NPU to provide optimized performance at lower power consumption. Despite its compact footprint, the board provides a range of customer expansion options and supports different operating systems to meet the requirements of different application purposes.

VT-SBC-RK3568-NT offers two Micro HDMI ports that support extended mode with resolutions up to 4K + 1080P to offer optimized display performance. Targeting industrial customization markets, the NicelIt series is ideal for IoT endpoints and software platforms, including industrial panel PCs, trail transit, banking, and automotive control centers, among others.

Exterior and Features



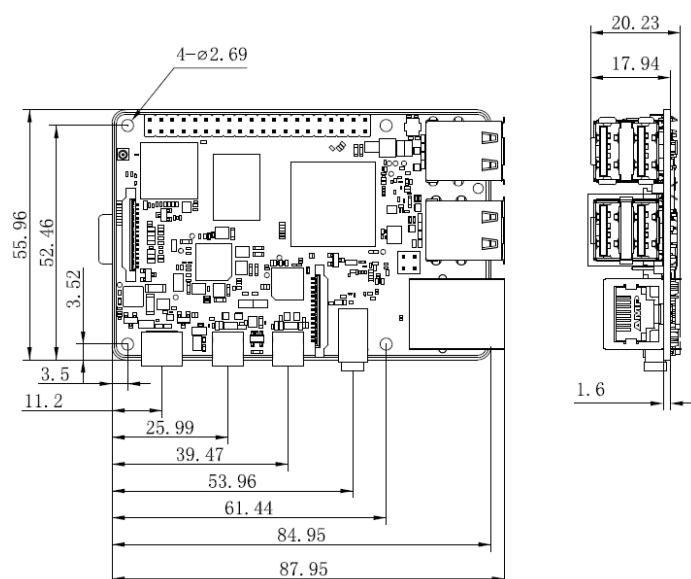
VT-SBC-RK3568-NT

-  Rockchip RK3568 Quad-core processor
-  H.265/H.264 video CODEC
-  Up to three displays, dual HDMI in extended mode
-  Rich interfaces for flexible expansion
-  Gigabit Ethernet port with PSE support
-  AI acceleration and edge computing
-  Low-power, high-efficiency design
-  Compact, scalable architecture

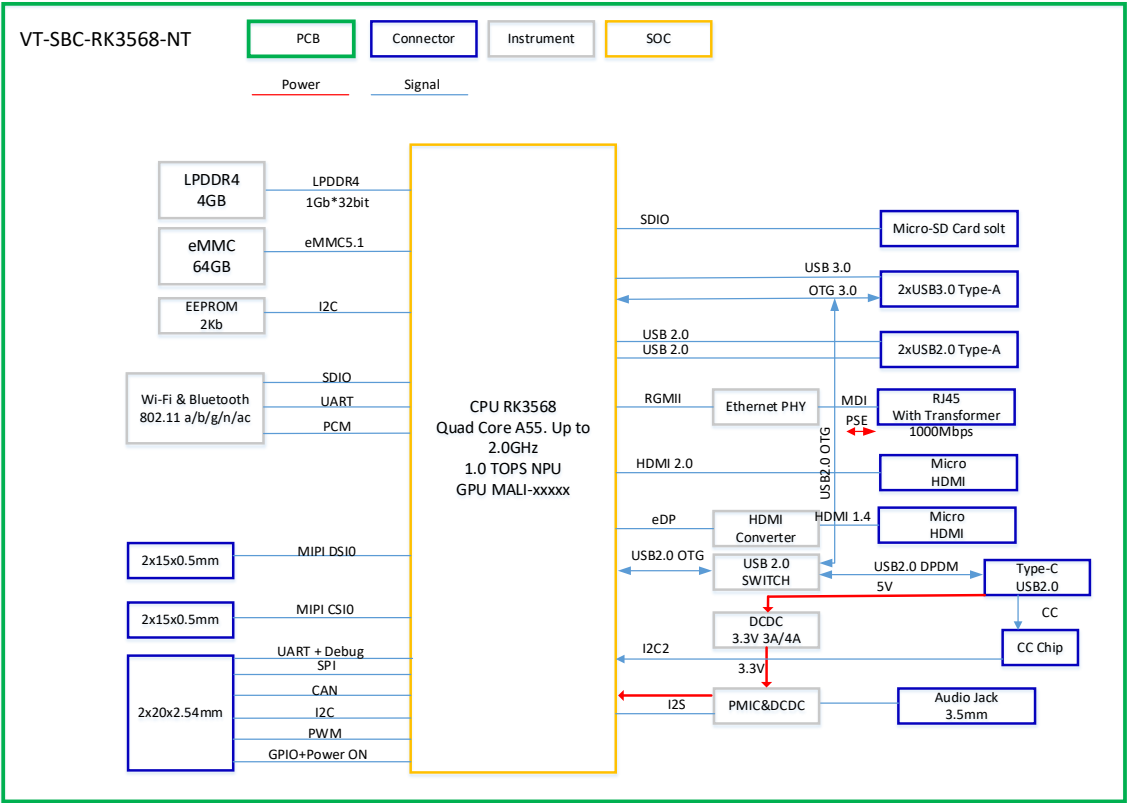
VT-SBC-RK3568-NT Single Board Computers Datasheet

VT-SBC-RK3568-NT			
System	CPU	Rockchip RK3568 Quad-core ARM Cortex-A55 MPCore processor, 2.0 GHz (Max.)	
	GPU	ARM Mali-G52, 600MHz	
		OpenGL ES1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1 supported	
	NPU	1 TOPS, int8/int16/FP16/BF16/BFP16 supported	
	Memory	4GB LPDDR4 (Optional: 8GB)	
	Storage	64GB eMMC V5.1	1 x Micro SD slot
Communication	Ethernet	1 x RJ45, 10/100/1000Mbps (PSE supported)	
	Wi-Fi & Bluetooth	Wi-Fi IEEE 802.11 a/b/g/n/ac + BT 5.0	
Media	Video Processing	4K @60fps H.265/H.264 decoder	1080P @60fps H.265/H.264 encoder
	Camera ISP	Up to 8MP: 4096 x2304@30fps (HDR, DRC, 2DNR)	
	Display	1 x 4-Lane MIPI DSI, up to 1920 x 1080 @60Hz	
		2 x Micro HDMI 2.0, up to 4K + 1080P (extended mode supported)	
	Camera	1 x 4-lane MIPI CSI	
	Audio	1 x 3.5mm Combo audio jack (CTIA)	
I/O	USB	2 x USB 3.0 Type- A	1 x USB 2.0 Type-C (power, data, OTG)
		2 x USB 2.0 Type- A	
	40-pin GPIO Header	1 x GPIO	2 x CAN
		2 x I ² C	5 x UART (1 x Debug UART)
		2 x SPI	
		1 x POWER_ON	
	Antenna	1 x Wi-Fi & Bluetooth antenna connector (U.FL)	
Power	Input	5V/3A DC, USB Type-C	
Software	Operating System	Android, Linux (Support upon request)	
	Device Management	BlueSphere MDM (Optional for Android version)	
Mechanical	Dimensions	87.95mm x 55.96mm x 20.23mm	
	Weight	55g (±5g)	
Environmental Conditions	Temperature	Operating temperature: -20°C ~ +70°C	Storage temperature: -40°C~+85°C
	Humidity	5%-95%RH (Non-condensing)	

Product Outlines



Block Diagram



Ordering Information

Ordering No.	Memory	Storage	Connectivity	Display
VT-SBC-RK3568-NT-L	4GB	64GB	Ethernet, Wi-Fi, Bluetooth	MIPI DSI, 2 x Micro HDMI
VT-SBC-RK3568-NT-H	8GB	64GB	Ethernet, Wi-Fi, Bluetooth	MIPI DSI, 2 x Micro HDMI

Packing List	
VT-SBC-RK3568-NT	1
5V==6A Power adapter	1

Optional Accessory	
Serial-to-USB adapter and cable	1 kit
USB-C to USB-C + USB-A extension cable	1
MIPI camera & cable	1 kit
Wi-Fi & Bluetooth antenna (U.FL)	1

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