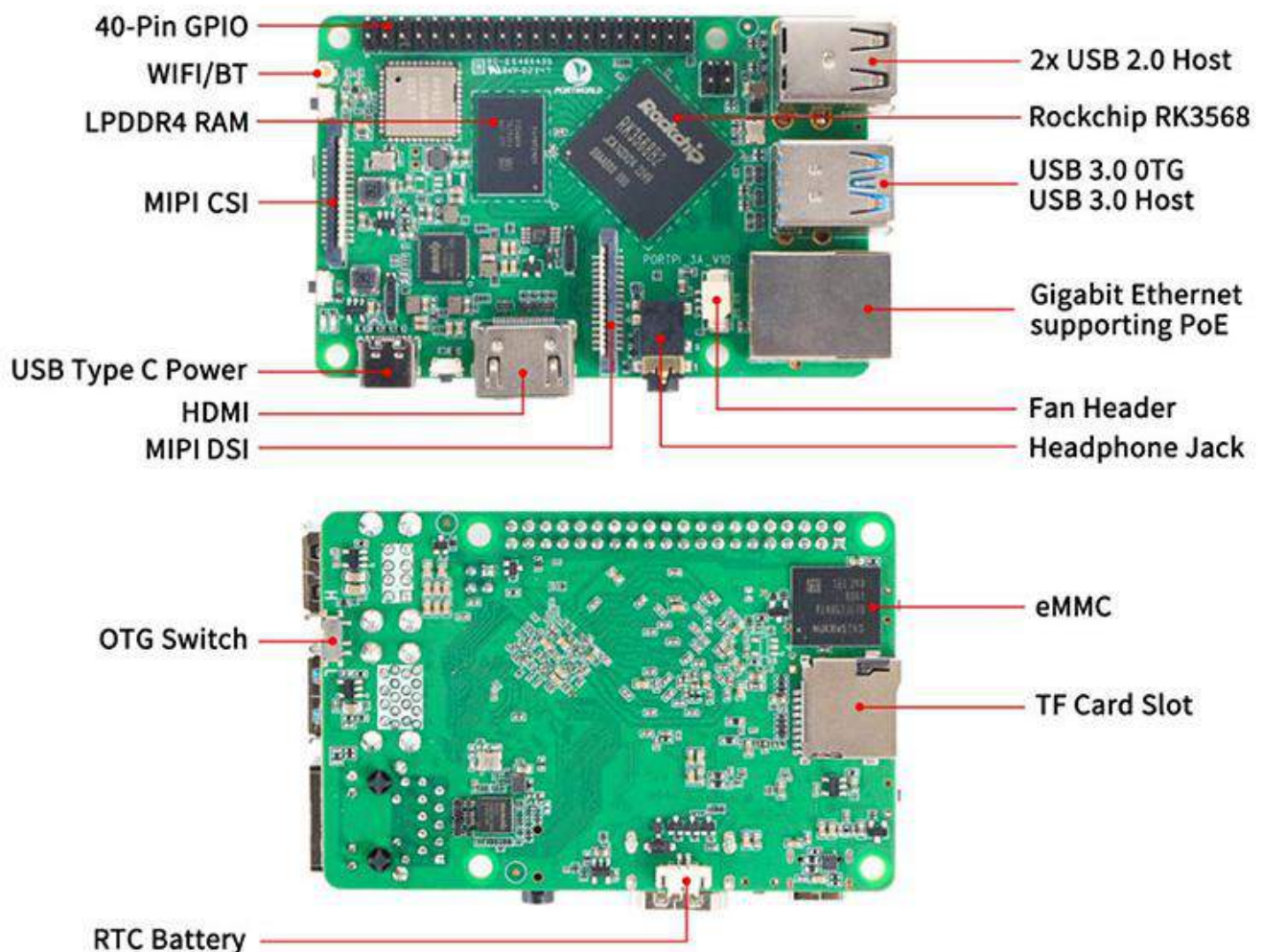


Product Specification Sheet

Model number: PORTPI 3A

Effective Date: September 26, 2024



Portpi3A, a compact and powerful platform designed to streamline your development experience. Engineered for efficiency, Portpi stands out with its built-in storage options, allowing for customizable RAM and ROM configurations, eliminating the hassle of external SD cards. Our platform supports multiple operating systems, including Android, Ubuntu, Debian, and Buildroot, and we ensure you stay up-to-date with the latest firmware.

Elevate your development journey with Portpi, where convenience meets performance. Discover the future of embedded computing today!

Key Features

SOC	Rockchip RK3568 SoC
CPU	Rockchip RK3568, Quad-core Cortex-A55 (ARM v8) 64-bit SoC running at 2.0GHz
GPU	Arm Mali-G52
NPU	0.8 TOPS NPU
RAM	2GB LPDDR4 (Optional: 4GB / 8GB)
ROM	32GB EMMC (Optional: 64GB / 128GB)
Dimension	85mm× 56mm× 21.7mm
Video Support	-Able to provide 2 display outputs via 1 HDMI 2.0 port and 1 MIPI DSI interface. - H.265/H.264 and VP9 video decoder supporting up to 4K @ 60fps - H.264/H.265 video encoder supporting up to 1080p @ 60fps
Graphics Support	- OpenGL ES 1.1/2.0/3.2 - OpenCL 2.0 - Vulkan 1.1
WIFI	2.4 GHz, IEEE 802.11 b/g/n (Optional: 5.0 GHz IEEE 802.11 b/g/n/ac)
Bluetooth	Bluetooth 5.2, BLE
Networking	Gigabit Ethernet PHY supporting IEEE 802.3

Peripheral Interfaces	- 1x Micro SD card slot - 2x USB 2.0 HOST ports - 1x USB 3.0 HOST port - 1x USB 3.0 OTG/HOST port - 1x Gigabit Ethernet port (supports PoE with add-on PoE HAT) - 1x Camera port with 2-lane MIPI CSI - 1x 3.5mm Headphone Jack with mic - 40x user GPIO supporting various interface options: - 5x UART - 1x SPI bus - 2x I2C bus - 1x CAN - 6x PWM - 1x ADC - 6x GPIO - 2x 5V DC power in - 1x 3.3V power pin
Display Interfaces	- 1x HDMI 2.0 port supporting displays up to 4K @ 60fps resolution - 1x Display port with 2-lane MIPI DSI
Power Requirements	- USB Type-C® 5V 3A - 5V Power from the GPIO PIN 2 & 4

System&Software

- Debian/Ubuntu Linux support
- Android 11/13 support
- Hardware access/control library for Linux/Android

GPIO Voltage Levels

GPIO	Voltage Level	Tolerant
All GPIO	3.3V	3.63V
ADC_IN5	1.8V	1.98V

GPIO Alternate Functions

Function4	Function3	Function2	Function1	Pin#	Pin#	Function1	Function2	Function3	Function4
			+3.3V	1	2	+5.0V			
CAN1_RX_M0	UART3_RX_M0	I2C3_SDA_M0	GPIO1_A0	3	4	+5.0V			
CAN1_TX_M0	UART3_TX_M0	I2C3_SCL_M0	GPIO1_A1	5	6	GND			
	UART3_TX_M1	PWM12_M0	GPIO3_B7	7	8	GPIO0_D1	UART2_TXD		
			GND	9	10	GPIO0_D0	UART2_RXD		
	UART7_TX_M1	PWM14_M0	GPIO3_C4	11	12	GPIO3_A3			
	UART7_RX_M1	PWM15_IR_M0	GPIO3_C5	13	14	GND			
	UART0_RX	PWM1_M0	GPIO0_C0	15	16	GPIO3_A1	SPI1_CS0_M1		
	UART0_TX	PWM2_M0	GPIO0_C1	17	18	GPIO3_B2	UART4_TX_M1	PWM9_M0	
CAN1_TX_M1	SPI3_MOSI_M1	PWM15_IR_M1	GPIO4_C3	19	20	GND			
UART9_TX_M1	SPI3_MISO_M1	PWM12_M1	GPIO4_C5	21	22	ADC_IN5			
CAN1_RX_M1	SPI3_CLK_M1	PWM14_M1	GPIO4_C2	23	24	GPIO4_C6	PWM13_M1	SPI3_CS0_M1	UART9_RX_M1
			GND	25	26	GPIO4_D1	SPI3_CS1_M1		
PWM2_M1	SPI0_MOSI_M0	I2C2_SDA_M0	GPIO0_B6	27	28	GPIO0_B5	I2C2_CLK_M0	SPI0_CLK_M0	PWM1_M1
	UART8_TX_M1	SPI2_MISO_M1	GPIO2_D7	29	30	GND			
	UART8_RX_M1	SPI2_CLK_M1	GPIO3_A0	31	32	GPIO3_C2	SPI1_MISO_M1	UART5_TX_M1	
	UART5_RX_M1	SPI1_CLK_M1	GPIO3_C3	33	34	GND			
			GPIO3_A4	35	36	GPIO3_A2			
	UART3_RX_M1	PWM13_M0	GPIO3_C0	37	38	GPIO3_A6			
			GND	39	40	GPIO3_A5			