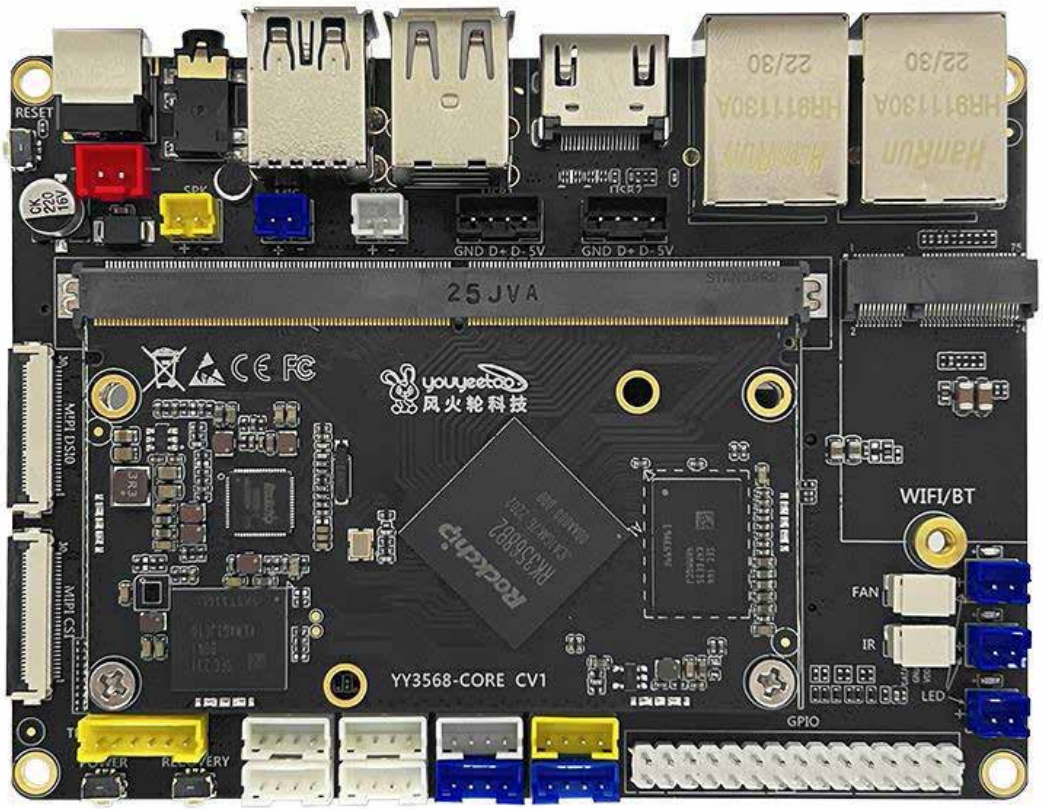
YY3568

RK3568(4 Core)



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Notice: The manuals of the motherboards on sale will be updated frequently, please download the latest manuals from the website without further notice.

Overview

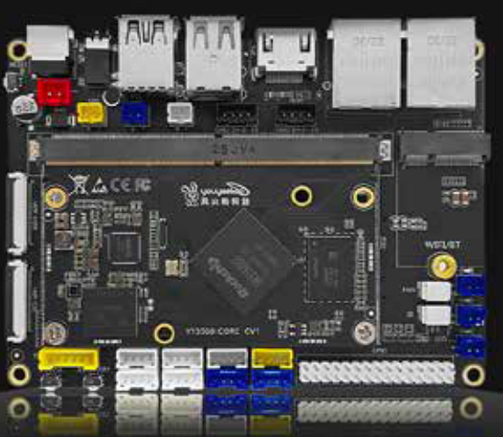

youyeetoo
DEVELOPER KIT
YY3568
AIoT/SBC/Robot
YY3568
COMPUTER
YY3568-CORE CV1
WIFI/BT
FAN
IR
LED
GPIO
Rich Interface
5 SERIAL PORTS,、2*I2C、
1*CAN、GPIO、ADC
Rich
Display interface
2*DSI、1*HDMI
1*eDP(supports touch)
Multiple
Network Interface
Dual Ethernet、
5G WIFI、BT5.0、4G LTE
Multiple
Memory Interface
SATA、SSD、TF card
Complete
audio interface
AMPLIFIER SPK、MIC、
HEADPHONE JACK
Reserved
MULTI_PHY interface
Bring out two
sets of buses


RK3568 is a mid- to High-end processor
RK3568 quad-core 64-bit Cortex-A55 processor, with brand new ARM v8.2-A architecture, has frequency up to 2.0GHz — the efficiency is greatly improved. With 22nm lithography process, it features low power consumption and high performance.
0.8Tops
NPU
2.0GHz
main frequency
Quad-Core 64-bit
architecture
Rockchip
RK3568

Product characteristics

Rich extension interface

With SATA3.0, PCIe3.0, I2C, CAN, UART, MIPI-CSI,MIPI-DSI, USB3.0, USB2.0, GPIO, and other expansion interfaces

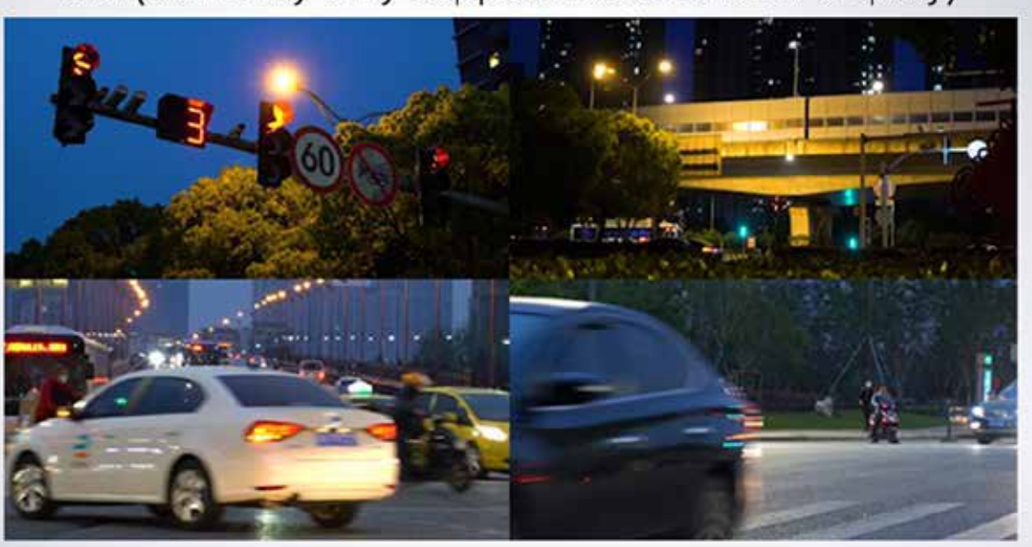


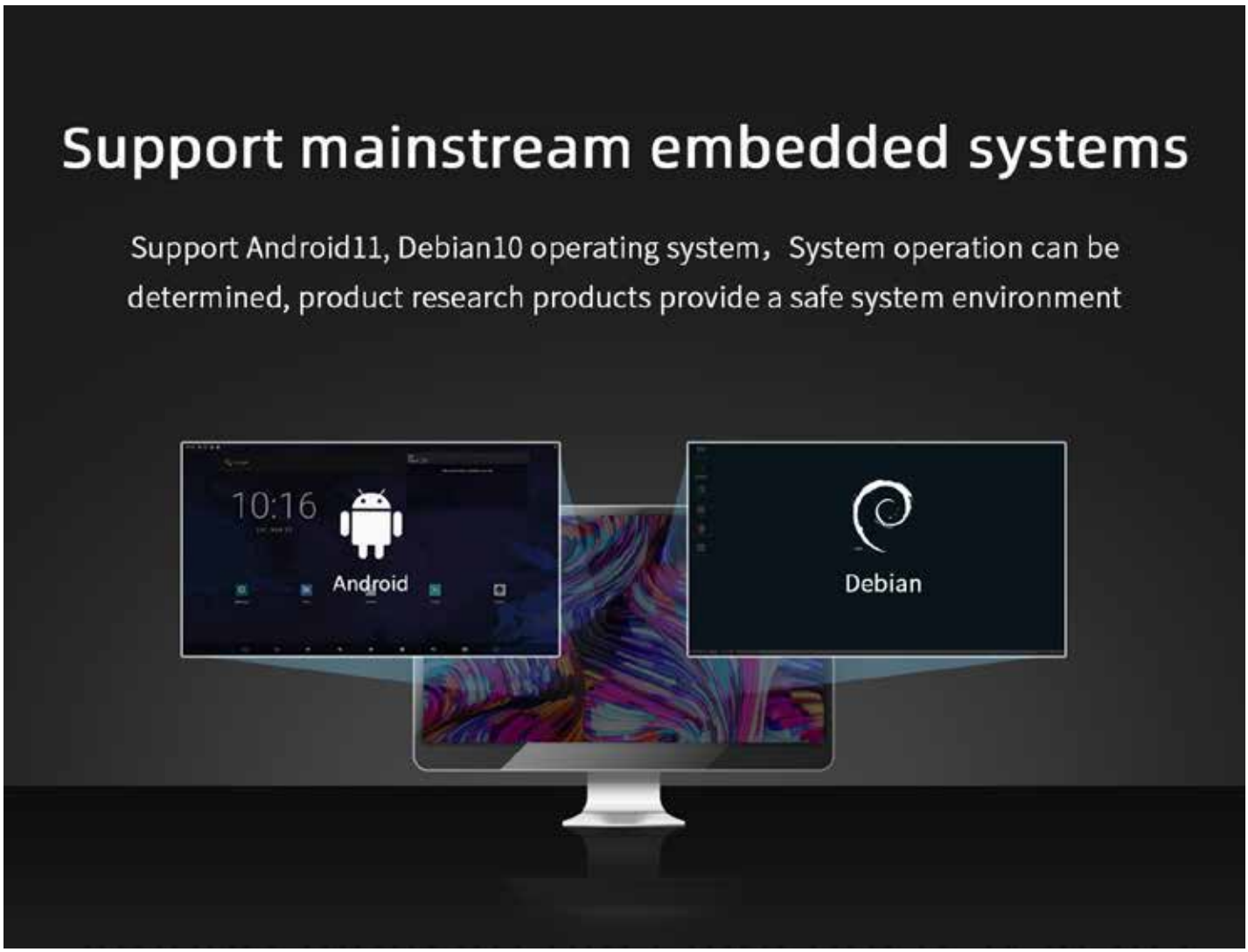
PCIE 3.0 | SATA 3.0 | UART | CAN | eDP

I2C | GPIO | MIPI-DSI | MIPI-CSI | USB 3.0

Different display on multiple screens

Onboard multi-channel display output interface can realize multi-screen different display2*DSI, 1*HDMI (4K@60fps), eDP(Currently only supports dual-screen display)



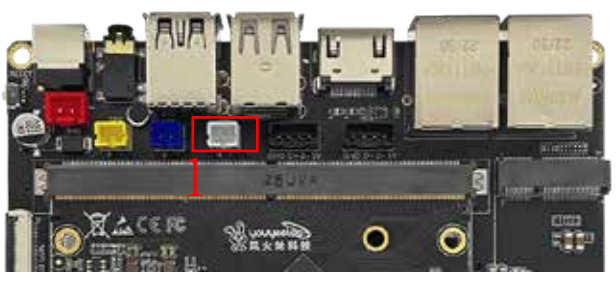

Support mainstream embedded systems
Support Android11, Debian10 operating system，System operation can be determined, product research products provide a safe system environment
10:16
Android
Debian

Interface definition

1.SATA

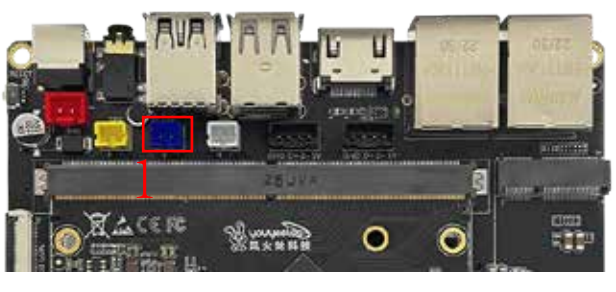
SATA					
Pin	Definition	Voltage	Pin	Definition	Voltage
1	GND		12	DC_5V	5V
2	SATA2_TXP	1.8V	13	DC_5V	5V
3	SATA2_TXN	1.8V	14	DC_5V	5V
4	GND		15	GND	
5	SATA2_RXN	1.8V	16	GND	
6	SATA2_RXP	1.8V	17	GND	
7	GND		18	SYS_12V	12V
8	SATA2_ACT_LED	3.3V	19	SYS_12V	12V
9	GND		20	SYS_12V	12V
10	GND		21	GND	
11	DC_5V	5V	22	GND	

2.RTC



RTC					
Pin	Definition	Voltage	Pin	Definition	Voltage
1	VCC_3V3	3.3V	2	GND	

3.MIC

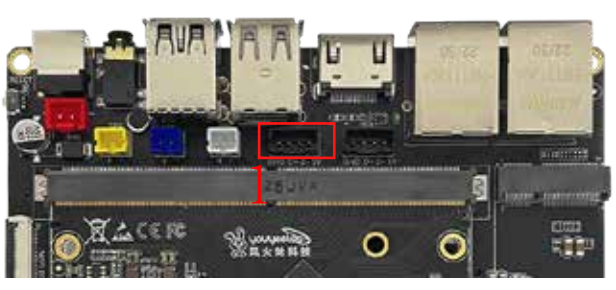


MIC					
Pin	Definition	Voltage	Pin	Definition	Voltage
1	MIC1_INP	3.3V	2	MIC1_INN	3.3V

4.SPK

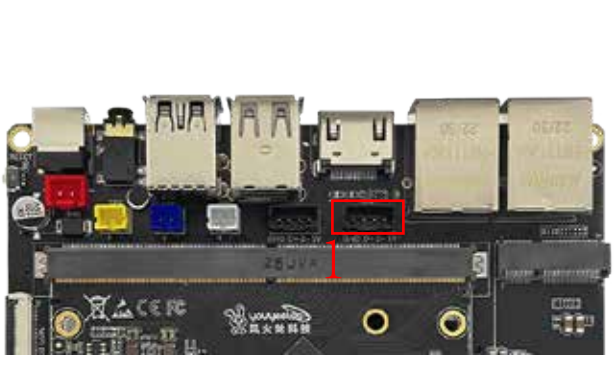
SPK					
Pin	Definition	Voltage	Pin	Definition	Voltage
1	SPKP_OUT	5V	2	SPKP_OUT	5V

5.USB1



USB1					
Pin	Definition	Voltage	Pin	Definition	Voltage
1	GND		3	DM3	3.3V
2	DP3	3.3V	4	DC_5V	5V

6.USB2



USB2					
Pin	Definition	Voltage	Pin	Definition	Voltage
1	GND		3	DM3	3.3V
2	DP3	3.3V	4	DC_5V	5V

7.IR

IR					
Pin	Definition	Voltage	Pin	Definition	Voltage
1	VCC_3V3	3.3V	3	PWM7_IR	3.3V
2	GND				

8.CAN

CAN

Pin Definition	Voltage	Pin Definition	Voltage
1 CAN_VSS		5 CANH	3.3V
2 CANL	3.3V	4 VCC5V0_SYS	5V

9.I2C 1

I2C1

Pin Definition	Voltage	Pin Definition	Voltage
1 GND		3 I2C1_SDA_TP	3.3V
2 I2C1_SCL_TP	3.3V	4 VCC3V3_SYS	3.3V

10.I2C 5

I2C5

Pin Definition	Voltage	Pin Definition	Voltage
1 GND		3 I2C5_SDA_WO	3.3V
2 I2C5_SCL_WO	3.3V	4 VCC3V3_SYS	3.3V

11.UART2

UART2

Pin Definition	Voltage	Pin Definition	Voltage
1 GND		3 UART2_RX_WO_DEBUG	3.3V
2 UART2_TX_WO_DEBUG	3.3V	4 VCC3V3_SYS	3.3V

12.UART3

UART3

Pin Definition	Voltage	Pin Definition	Voltage
1 GND		3 UART3_RX_W1	3.3V
2 UART3_TX_W1	3.3V	4 VCC3V3_SYS	3.3V

13.UART4

UART4

Pin Definition	Voltage	Pin Definition	Voltage
1 GND		3 UART4_RX_W1	3.3V
2 UART4_TX_W1	3.3V	4 VCC3V3_SYS	3.3V

14.UART8

UART8

Pin Definition	Voltage	Pin Definition	Voltage
1 GND		3 UART8_RX_WO	1.8V
2 UART8_TX_WO	1.8V	4 VCC3V3_SYS	3.3V

15.UART9

UART9

Pin Definition	Voltage	Pin Definition	Voltage
1 GND		3 UART9_RX_W1	3.3V
2 UART9_TX_W1	3.3V	4 VCC3V3_SYS	3.3V

16.EDP

EDP

Pin Definition	Voltage	Pin Definition	Voltage
1 NC		17 EDP_HPD	3.3V
2 GND		18 GND	
3 EDP_TX_D1N	1.8V	19 GND	
4 EDP_TX_D1P	1.8V	20 GND	
5 GND		21 GND	
6 EDP_TX_D0N	1.8V	22 GP103_A4	3.3V
7 EDP_TX_D0P	1.8V	23 EDP_BL_PWM14_WO	3.3V
8 GND		24 NC	
9 EDP_TX_AUXP	1.8V	25 NC	
10 EDP_TX_AUXN	1.8V	26 SYS_12V	12V
11 VCC_LCD	3.3V	27 SYS_12V	12V
12 VCC_LCD	3.3V	28 SYS_12V	12V
13 VCC_LCD	3.3V	29 SYS_12V	12V
14 NC		30 NC	
15 GND		31 GND	
16 GND		32 GND	

17.MIPI DSI1

MIPI DSI1

Pin Definition	Voltage	Pin Definition	Voltage
1 GND		17 GP103_A0	3.3V
2 MIPI_DSI_TX1_D3N	1.8V	18 GP103_A2	3.3V
3 MIPI_DSI_TX1_D3P	1.8V	19 LCD1_BL_PWM5	3.3V
4 GND		20 GP103_A5	3.3V
5 MIPI_DSI_TX1_D2N	1.8V	21 GP100_C1	3.3V
6 MIPI_DSI_TX1_D2P	1.8V	22 GP104_G2	3.3V
7 GND		23 I2C1_SCL_WO	3.3V
8 MIPI_DSI_TX1_CLKN	1.8V	24 I2C5_SDA_WO	3.3V
9 MIPI_DSI_TX1_CLKP	1.8V	25 VCC_3V3	3.3V
10 GND		26 GND	
11 MIPI_DSI_TX1_D1N	1.8V	27 GND	
12 MIPI_DSI_TX1_D1P	1.8V	28 LCD_5V	5V
13 GND		29 LCD_5V	5V
14 MIPI_DSI_TX1_D0N	1.8V	30 LCD_5V	5V
15 MIPI_DSI_TX1_D0P	1.8V	31 GND	
16 GND		32 GND	

18.MIPI DSI0

MIPI DSI0

Pin Definition	Voltage	Pin Definition	Voltage
1 GND		17 TP_RST_L_GP100_B6	3.3V
2 MIPI_DSI_TX0_D3N/LVDS_TX0_D3N	1.8V	18 GP100_C5	3.3V
3 MIPI_DSI_TX0_D3P/LVDS_TX0_D3P	1.8V	19 GP100_C3	3.3V
4 GND		20 GP100_B6	3.3V
5 MIPI_DSI_TX0_D2N/LVDS_TX0_D2N	1.8V	21 TP_INT_L_GP100_B5	3.3V
6 MIPI_DSI_TX0_D2P/LVDS_TX0_D2P	1.8V	22 GP100_C7	3.3V
7 GND		23 I2C1_SCL_TP	3.3V
8 MIPI_DSI_TX0_CLKN/LVDS_TX0_CLKN	1.8V	24 I2C1_SDA_TP	3.3V
9 MIPI_DSI_TX0_CLKP/LVDS_TX0_CLKP	1.8V	25 VCC_3V3	3.3V
10 GND		26 GND	
11 MIPI_DSI_TX0_D1N/LVDS_TX0_D1N	1.8V	27 GND	
12 MIPI_DSI_TX0_D1P/LVDS_TX0_D1P	1.8V	28 LCD_5V	5V
13 GND		29 LCD_5V	5V
14 MIPI_DSI_TX0_D0N/LVDS_TX0_D0N	1.8V	30 LCD_5V	5V
15 MIPI_DSI_TX0_D0P/LVDS_TX0_D0P	1.8V	31 GND	
16 GND		32 GND	

19.MIPI CAMERA

MIPI CAMERA

Pin Definition	Voltage	Pin Definition	Voltage
1 LCD_5V	5V	17 MIPI_CSI_RX_D1P	1.8V
2 LCD_5V	5V	18 GND	
3 GND		19 MIPI_CSI_RX_D0N	1.8V
4 MIPI_CSI_RX_CLK1N	1.8V	20 MIPI_CSI_RX_D0P	1.8V
5 MIPI_CSI_RX_CLK1P	1.8V	21 GND	
6 GND		22 REFCLK_OUT_CAM	1.8V
7 MIPI_CSI_RX_D3N	1.8V	23 MIPICAM1_RST_L_GP103_B5	1.8V
8 MIPI_CSI_RX_D3P	1.8V	24 CAMERA4_PDN_L_GP104_B5	1.8V
9 GND		25 CIF_CLKOUT	1.8V
10 MIPI_CSI_RX_D2N	1.8V	26 GND	
11 MIPI_CSI_RX_D2P	1.8V	27 GP103_D5	1.8V
12 GND		28 CAMERA0_PDN_L_GP104_B4	1.8V
13 MIPI_CSI_RX_CLK0N	1.8V	29 I2C4_SCL_WO	1.8V
14 MIPI_CSI_RX_CLK0P	1.8V	30 I2C4_SDA_WO	1.8V
15 GND		31 GND	
16 MIPI_CSI_RX_D1N	1.8V	32 GND	

20.TP

TP

Pin Definition	Voltage	Pin Definition	Voltage
1 VCC_3V3	3.3V	4 I2C1_SCL_TP	3.3V
2 GP100_A6	3.3V	5 I2C1_SDA_TP	3.3V
3 GP100_B7	3.3V	6 GND	

Technical Parameter

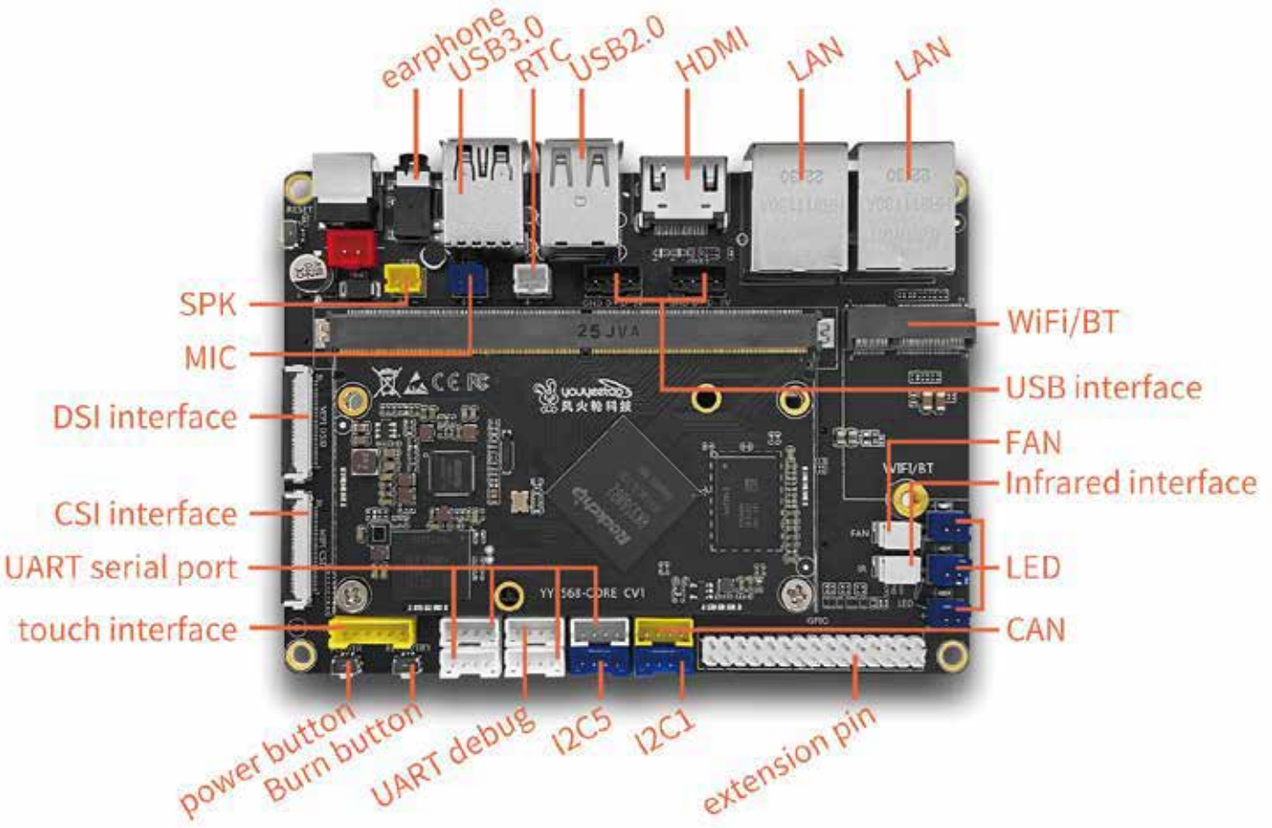
Specifications	
SOC	Rockchip RK3568
CPU	Quad-core 64-bit Cortex-A55, 22nm lithography process, frequency up to 2.0GHz
GPU	ARM G52 2EE Supports OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1 Embedded high-performance 2D acceleration hardware
NPU	0.8Tops@INT8,integrated high-performance AI accelerator RKNN NPU Supports one-click switching of Caffe/TensorFlow/ TFLite/ONNX/PyTorch/Keras/Darknet
VPU	Supports 4K 60fps H.265/H.264/VP9 video decoding Supports 1080P 60fps H.265/H.264 video encoding Supports 8M ISP, supports HDR
RAM	2GB / 4GB LPDDR4 (optional)
Storage	16GB / 32GB eMMC (optional)
Peripheral configuration	
Ethernet	Dual Gigabit Ethernet (1000Mbps)
WiFi	Expandable via M.2 interface: - 4G LTE (data Internet access)、 - "WiFi+Bluetooth" two-in-one module (2.4GHz / 5GHz dual-band WiFi, WiFi5, 802.11a/b/ g/n/ac/ protocol -- supports Bluetooth 5.0) (WIFI+BT, 4G LTE need to purchase accessories separately)
Display	1 x eDP: 2 x MIPI DSI、 1 x HDMI 2.0

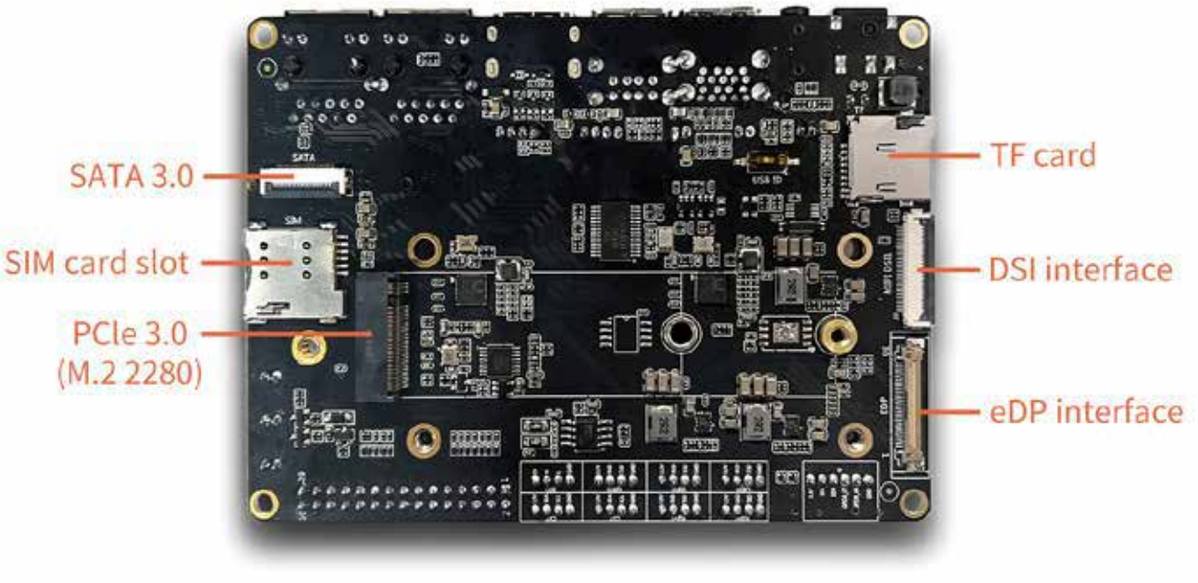
Camera	Support CSI camera, USB camera
Audio	1 × MIC audio input 1 x HDMI audio output 1 × power amplifier speaker speaker output (4 ohms 2 watts power) 1 × Phone headphone output (3-segment)
PCIE	1 x PCIe3.0
SATA	1 x SATA3.0(Need to purchase an adapter board)
USB	2 × USB 3.0、2 × USB 2.0(USB TYPE-A interface)、 OTG(dial switch)、2 x USB2.0(pin)
Interface	30Pin GPIO　5 x UART(serial port) 1 x SDMMC2　2 x I2C 4 x ADC　1 x CAN 2 x MULTI_PHY　2 x USB2.0(pin interface) 1 x SPDIF　1 x TP interface 3 x LED　1 x MIC(microphone)
power	1 x 12~19V DC Power Input Jack (5.5/2.1 mm)
OS/Software	
OS	Support Android11, Debian10 system
Others	
Size	120mm x 88mm x 19mm
Operating Temperature	-10℃ ~ 60℃
Storage Temperature	-20℃ ~ 70℃
Storage Humidity	10% ~ 80 %

Core board and backplane

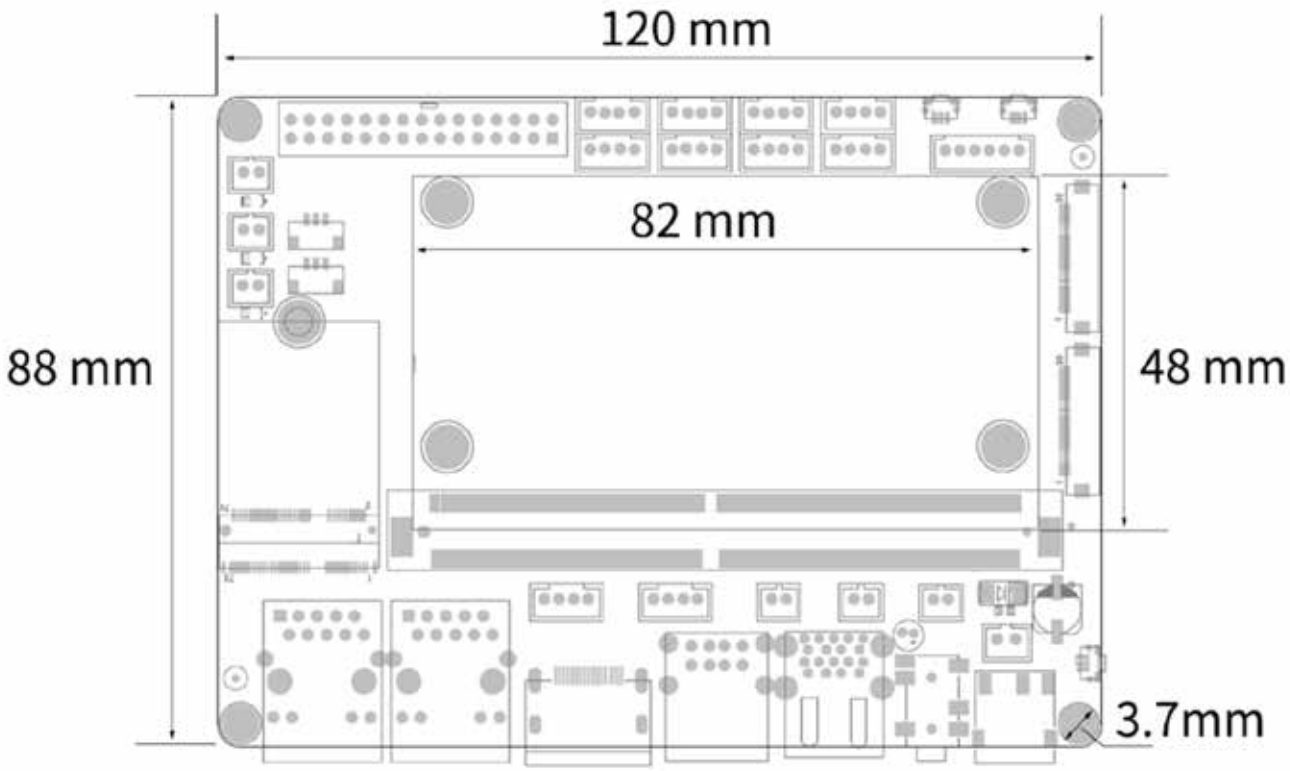
Rich extension interface

Dual Gigabit Ethernet, SATA3.0, PCIe3.0, DSI, EDP,
HDMI, CSI and other interfaces are readily available





Size



YY3568 Dimensions

About us

Shenzhen youyeetoo Tech is a company specializing in hardware and software technical services for IoT/Edge Computing/AI applications/Robots. We provide a wide range of products and services in these fields and provide customized designs.

Since its establishment, we have owned a lot of software copyrights and patents in the fields of embedded system applications, NFC near field communication and robotics. Focusing on technology and R&D is our fundamental.

We have also established global sales channels and china mainstream e-commerce platforms， such as JD.com, Tmall.com, Taobao are fully covered, In the main e-commerce platforms oversea of Amazon and AliExpress, we have 6 overseas warehouses in the UK, Russia, India and Japan, United States and Germany,covering major markets in North America, Europe, and Asia. We are outstanding.

Customers can purchase our products in the most convenient and comfortable way. At the same time, we ensure that the products can reach customers as quickly as possible.

youyeetoo
深圳风火轮科技

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aliexpress：https://smartfire.aliexpress.com/store/1100924668
Custom service： peter@youyeetoo.com