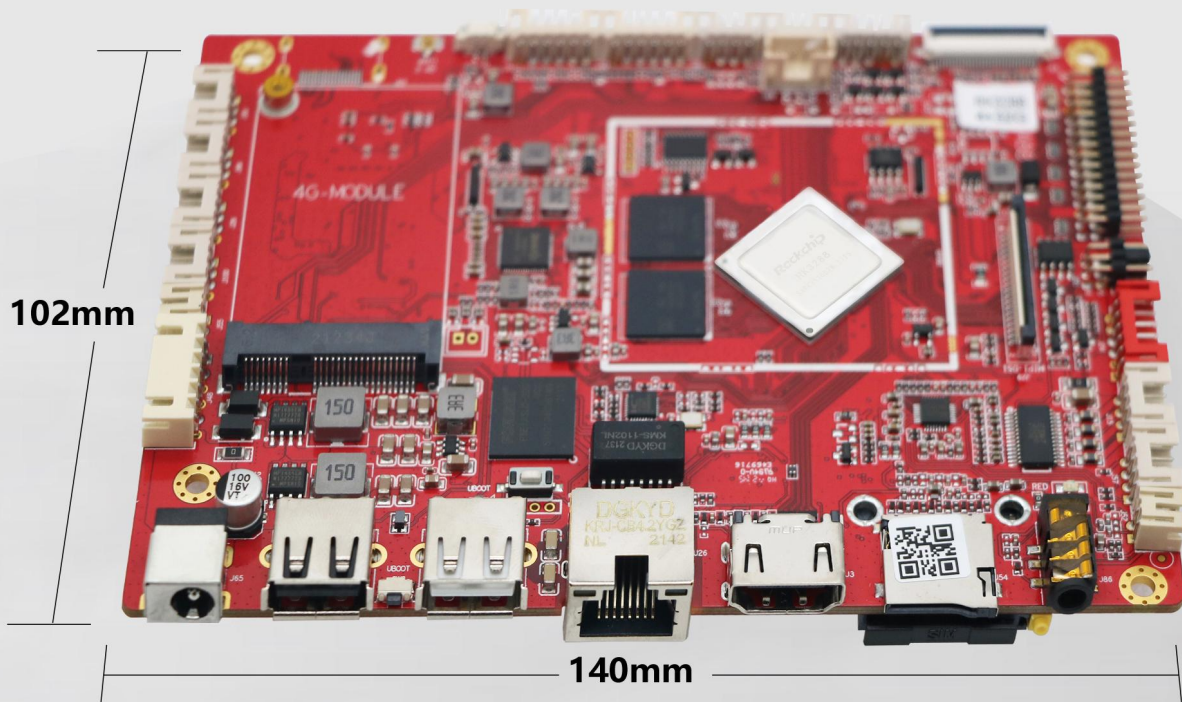


Specification

YS-A88

Intelligent Terminal



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Declaration

Images and specifications of YS-F3588 mentioned in this document are for reference only. Any further changes or updates will not be sent to you unless special contract signed. This document serves as a product guide and the statements made in it do not constitute any form of guarantee. Without the written permission of Yisheng Technology Co., Ltd., no individual or organization may reproduce any part of this document or engage in any form of dissemination for profit. In order to obtain the latest version of product information, please visit Yisheng Technology Co., Ltd.'s official website regularly or contact company staff for assistance. Thank you for your understanding and support!

Revision History

Version	Date	Author	Approver	Description
V1.0	2023.02.28	Zhang Wenjuan	Qin Yongling	Initial version
V1.1	2024.01.10	Zhang Wenjuan	Qin Yongling	Correct description error part

Chapter 1 Product Introduction

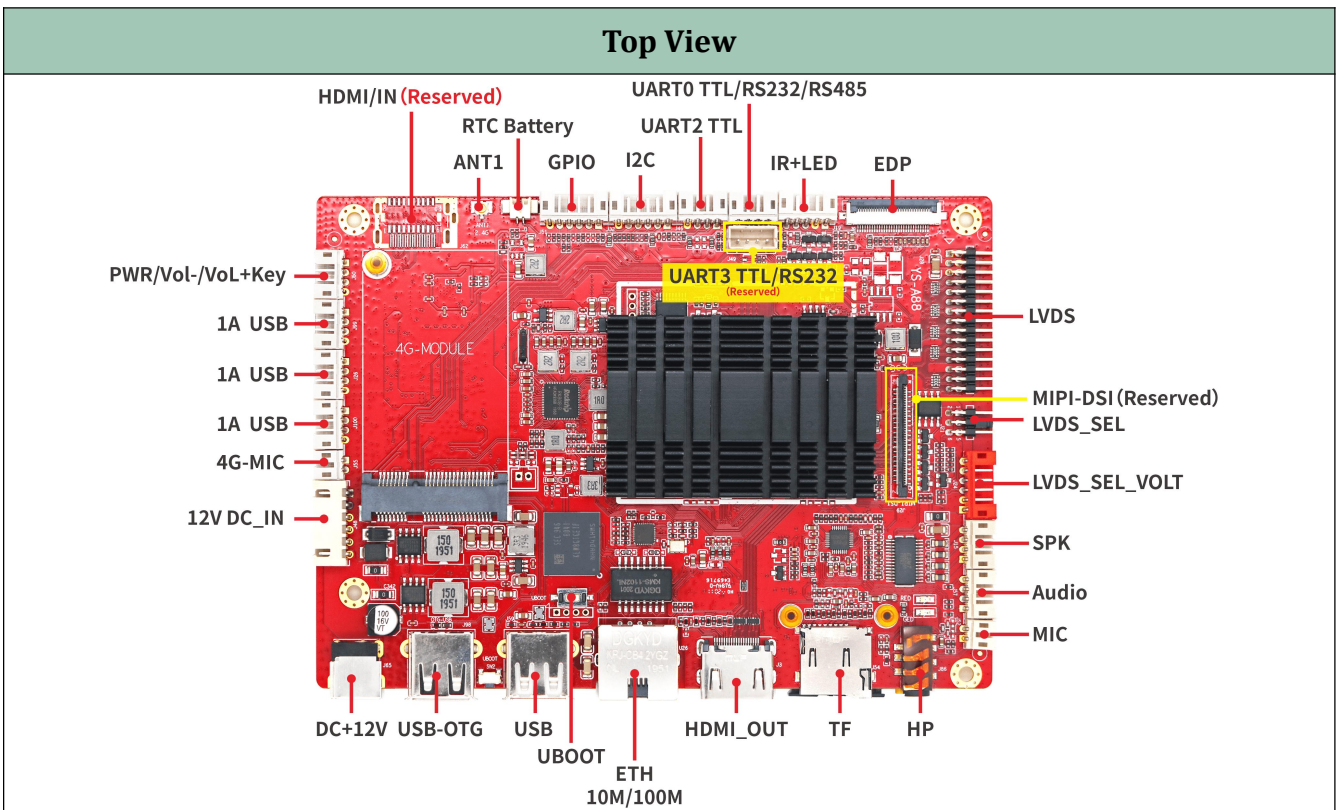
1.1 Overview



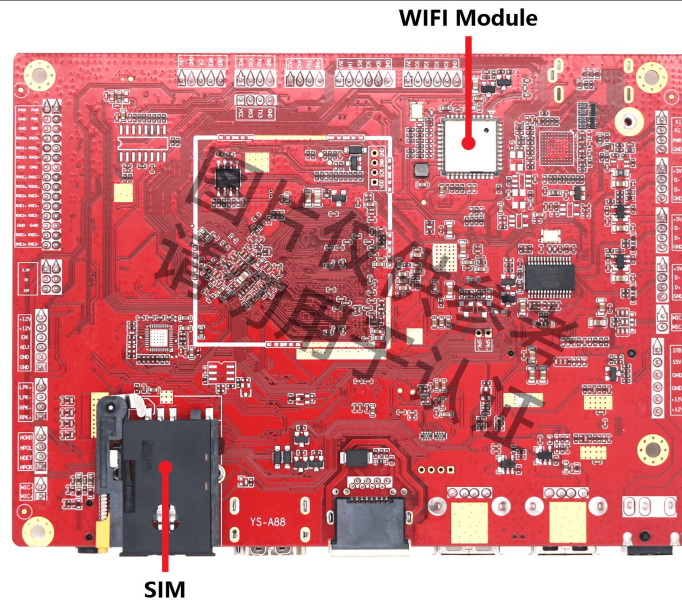
YS-A88 belongs to the intelligent Android motherboard, with rich control interface and extension interface, perfect support information release system, support remote production, release, management and real-time update program, support local/network timing switch; Equipped with industrial binocular camera and face recognition technology, as well as infrared human body temperature measurement module; It is an efficient, safe and highly reliable product.

The product has a wide range of applications in intelligent display terminal, industrial automation terminal and video terminal. Such as: digital signage, intelligent self-service terminal, new retail intelligent terminal, O2O intelligent equipment, intelligent display, building intercom, etc.

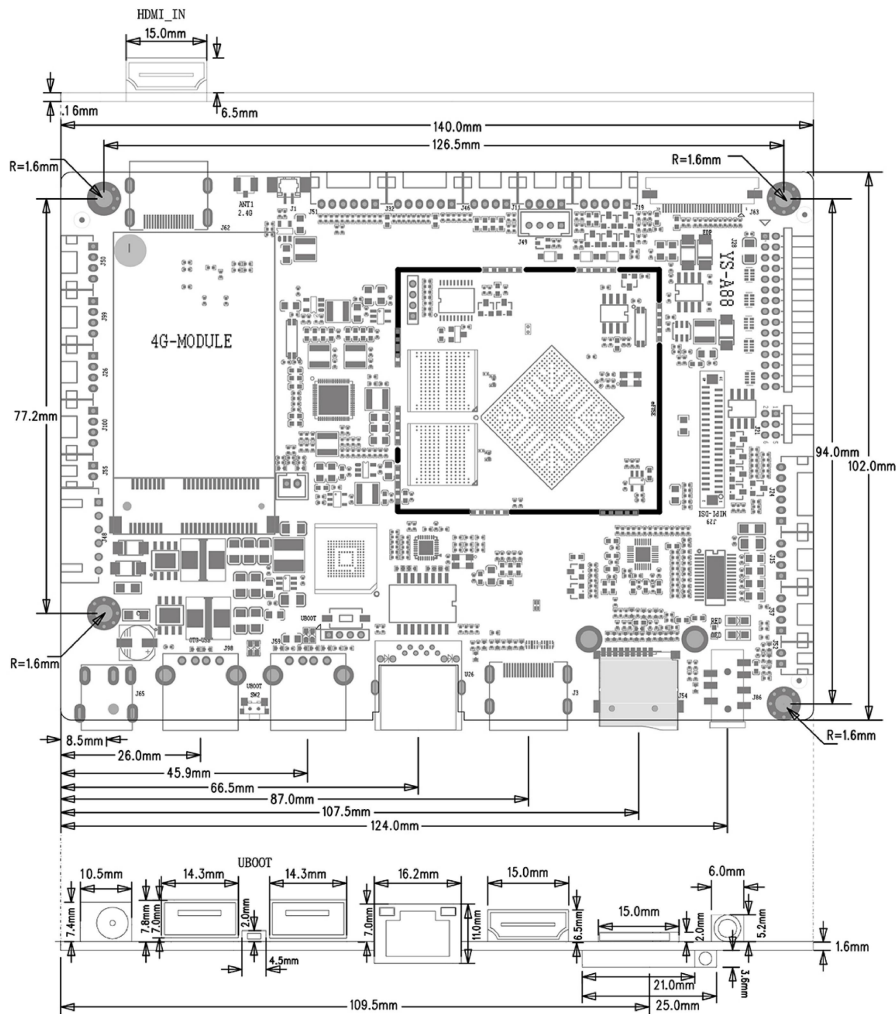
1.2 Pictures and Dimension



Bottom View



Dimension



*PCBA L: 140mm *PCBA W: 102mm *PCBA H: 12mm *PCBA Location Hole: $\Phi 3.2\text{mm} \times 4$

1.3 Product Detailed Parameters



Detail Specification

SOC	RockChip RK3288
CPU	Quad-core Cortex-A17 Main frequency 1.6GHz (up to 1.8GHz)
GPU	Mali-T764 Support for AFBC(Frame buffering compression) OpenGL ES 1.1/2.0/3.1 OpenCL DirectX 9.3 Special 2D hardware engine with MMU
OS	Android: Android 7.1/9.0/10.0
Video CODEC	Video Decoder 2160P@24 fps H.264 1080P@60fps MPEG-4/-2/-1/VP8/AVS/MVC 1080P@30fps VC-1 Video Encoder 1080P@30fps H.264/MVC/VP8
ROM	2GB/4GB (Up to 4GB) LPDDR4
Storage	8/16GB (Up to 64GB) EMMC
Display Output	1*HDMI2.0 (Up to 4K@60HZ) 1*LVDS (Up to 1920x1080) 1*MIPI_DSI-40PIN-FPC (Up to 1200x1920)
Audio	1*SPK (L&R audio-out, Up to 2*8Ω/5W speaker) 1*HP (CTIA) 1*MIC 1*4G MIC 1*4G SPK (Single Track)
Network	Ethernet: Support 10/100M GMAC WIFI: Support 2.4GHz Band, System: IEE Std.802.11b/g/n Bluetooth: 4.2(Up to 5.2) 4G LTE: Support Mini_PCIE Module
USB	1*Type-A USB2.0_OTG/HOST

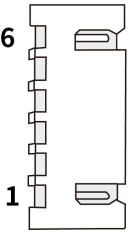
	1*Type-A USB2.0 HOST 3*USB2.0 HOST(4Pin*2.0mm Wafer)
UART	3*TTL UART
Other	1*I2C 4*GPIO 1*IR+LED 3*Key (1*PWR_Key,2*Vol_Key)

1.4 Configuration & General Precautions

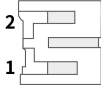
1. Relative humidity $\leq 85\%$
2. Storage temperature: $-30\text{ }^{\circ}\text{C}$ to $+70\text{ }^{\circ}\text{C}$
3. Operating temperature: $-15\text{ }^{\circ}\text{C}$ to $+60\text{ }^{\circ}\text{C}$
4. During the assembly of the whole machine, please do not operate the wiring with power to avoid short circuit between bare board and peripheral equipment.
5. Pay attention to the anti-static treatment during the assembly and transportation of the whole machine, and it is necessary to wear electrostatic protection tools such as electrostatic bracelet (sleeve).
6. When assembling the whole machine, it can be installed at the bottom or side, but do not deform or twist the board, and do not bear heavy pressure.
7. Proper distance shall be reserved at the wiring position of each terminal to avoid squeezing the terminal during installation.
8. The connecting line between this board and the supporting module board should not be too long, otherwise it may affect the image quality.
9. The internal wiring of the whole machine shall be reasonable, and the connecting wires shall not pass through the PCB board directly as far as possible.
10. In order to achieve better EMC effect for the whole machine, it is recommended that the screen wire between the main board and the screen should be shielded wire.
11. The specifications of the peripherals connected to the installation shall be confirmed with our company, including but not limited to: voltage limit, current limit, timing, power domain, etc.

Chapter 2 Interface Pin Name

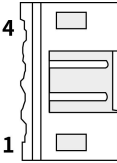
J48 (6PIN/2.54) 12V DC_IN

Exterior	Pin No.	Pin Name	Description
	1	STB	Power supply enable, connect to PSON
	2	S5V	5V constant power supply (standby)
	3	GND	Ground
	4	GND	Ground
	5	+12V	12V Power Input
	6	+12V	12V Power Input

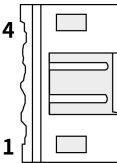
J55 (2PIN/2.0) 4G_MIC

Exterior	Pin No.	Pin Name	Description
	1	MIC+	Positive input for 4G microphone
	2	MIC-	Negative input for 4G microphone

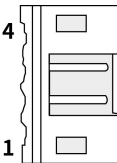
J100 (4PIN/2.0) USB

Exterior	Pin No.	Pin Name	Description
	1	+5V	USB Power Supply
	2	D-	USB data-
	3	D+	USB data+
	4	GND	Ground

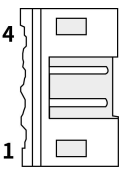
J26 (4PIN/2.0) USB (USB is directly controlled for the master)

Exterior	Pin No.	Pin Name	Description
	1	+5V	USB Power Supply
	2	D-	USB data-
	3	D+	USB data+
	4	GND	Ground

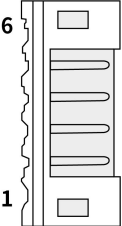
J99 (4PIN/2.0) USB

Exterior	Pin No.	Pin Name	Description
	1	+5V	USB Power Supply
	2	D-	USB data-
	3	D+	USB data+
	4	GND	Ground

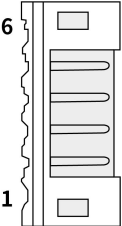
J50 (4PIN/2.0) PWR/VOL-/VOL+ Key

Exterior	Pin No.	Pin Name	Description
	1	K1	Volume up
	2	K2	Volume down
	3	PWR	Power on/off
	4	GND	Ground

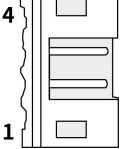
J51 (6PIN/2.0) GPIO

Exterior	Pin No.	Pin Name	Description
	1	3.3V	Power Supply
	2	IO1	GPIO1
	3	IO2	GPIO2
	4	IO3	GPIO3
	5	IO4	GPIO4
	6	GND	Ground

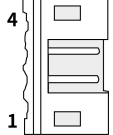
J32 (6PIN/2.0) IIC (Power Domain 3.3V)

Exterior	Pin No.	Pin Name	Description
	1	3.3V	Power Supply
	2	INT	Interrupt
	3	RST	Reset
	4	SCL	12C Clock
	5	SDA	12C Data
	6	GND	Ground

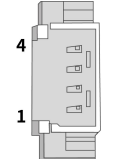
J46 (4PIN/2.0) UART 2 (Optional TTL, Power Domain 3.3V) (DEBUG)

Exterior	Pin No.	Pin Name	Description
	1	VCC	Power Supply 5V (Optional 3.3V)
	2	RX2	UART Receive
	3	TX2	UART Transmit
	4	GND	Ground

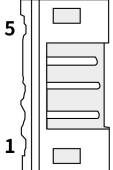
J11 (4PIN/2.0) UART 0 (Optional TTL/RS232/RS485 UART, Power Domain 3.3V)

Exterior	Pin No.	Pin Name	Description
	1	VCC	Power Supply 5V (Optional 3.3V)
	2	RX0	UART Receive
	3	TX0	UART Transmit
	4	GND	Ground


J49 (4PIN/2.0) UART 3 (Optional TTL/RS232 UART, Power Domain 3.3V)

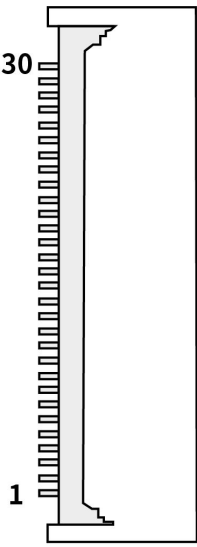
Exterior	Pin No.	Pin Name	Description
	1	VCC	Power Supply 5V (Optional 3.3V)
	2	RX3	UART Receive
	3	TX3	UART Transmit
	4	GND	Ground

J19 (5PIN/2.0) IR+LED

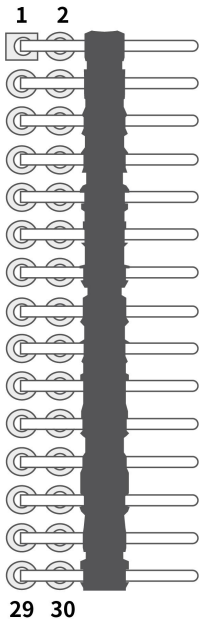
Exterior	Pin No.	Pin Name	Description
	1	5V	Power Supply
	2	GND	Ground
	3	IR	Remote Control Infrared
	4	RED	Red Light
	5	GED	Green light

J63 (30PIN/0.5mm) EDP (FPC)

Exterior	Pin No.	Pin Name	Description
	1	NC	Null
	2	GND	Ground
	3	TX1N	EDP Signal
	4	TX1P	EDP Signal
	5	GND	Ground
	6	TX0N	EDP Signal
	7	TX0P	EDP Signal
	8	GND	Ground
	9	AUXP	EDP Signal
	10	AUXN	EDP Signal
	11	GND	Ground
	12	VCC	3.3V Power Supply

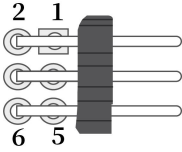
	13	VCC	3.3V Power Supply
	14	NC	Null
	15	GND	Ground
	16	GND	Ground
	17	HPD	Plug and Pull Detection
	18	GND	Ground
	19	GND	Ground
	20	GND	Ground
	21	GND	Ground
	22	EN	Backlight Control
	23	ADJ	Brightness Control
	24	NC	Null
	25	NC	Null
	26	VDD	12V Power Supply
	27	VDD	12V Power Supply
	28	VDD	12V Power Supply
29	VDD	12V Power Supply	
30	NC	Null	

J28(30PIN/2.0) LVDS

Exterior	Pin No.	Pin Name	Description
	1	PWR	Power Supply
	2	PWR	Power Supply
	3	PWR	Power Supply
	4	GND	Ground
	5	GND	Ground
	6	GND	Ground
	7	RX00-	LVDS Signal
	8	RX00+	LVDS Signal
	9	RX01-	LVDS Signal
	10	RX01+	LVDS Signal
	11	RX02-	LVDS Signal
	12	RX02+	LVDS Signal
	13	GND	Ground
	14	GND	Ground
	15	RXOC-	LVDS Signal
	16	RXOC+	LVDS Signal
	17	RX03-	LVDS Signal
	18	RX03+	LVDS Signal
	19	RXEO-	LVDS Signal

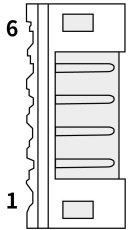
	20	RXEO+	LVDS Signal
	21	RXE1-	LVDS Signal
	22	RXE1+	LVDS Signal
	23	RXE2-	LVDS Signal
	24	RXE2+	LVDS Signal
	25	GND	Ground
	26	GND	Ground
	27	RXEC-	LVDS Signal
	28	RXEC+	LVDS Signal
	29	RXE3-	LVDS Signal
	30	RXE3+	LVDS Signal

J21 (6PIN/2.0) LVDS_SEL_VOLT

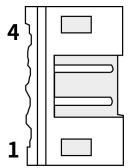
Exterior	Pin No.	Pin Name	Description
	1	12V	12V Power Supply
	2	VCC_LCD	Screen Voltage Port
	3	5V	5V Power Supply
	4	VCC_LCD	Screen Voltage Port
	5	3.3V	3.3V Power Supply
	6	VCC_LCD	Screen Voltage Port

Note: The LVDS screen uses a jumper cap to select the screen power supply. Connect 3.3V to VCC_LCD, then the screen voltage is 3.3V.

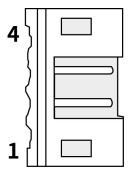
J24 (6PIN/2.0) LVDS_BL

Exterior	Pin No.	Pin Name	Description
	1	GND	Ground
	2	GND	Ground
	3	ADJ	Backlight Brightness Adjustment
	4	EN	Backlight On/Off Control
	5	+12V	Screen Backlight Power Supply
	6	+12V	Screen Backlight Power Supply

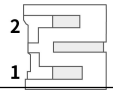
J15 (4PIN/2.0) SPK

Exterior	Pin No.	Pin Name	Description
	1	RPK+	Positive output for right Channel
	2	RPK-	Negative output for right Channel
	3	LPK-	Negative output for left Channel
	4	LPK+	Positive output for left Channel

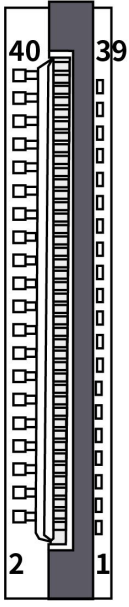
J57 (4PIN/2.0) Audio

Exterior	Pin No.	Pin Name	Description
	1	HPOL	Left Channel
	2	HDET	Test
	3	HPOR	Right Channel
	4	HGND	Ground

J52 (2PIN/2.0) 4G-MIC

Exterior	Pin No.	Pin Name	Description
	1	MIC+	Positive input for 4G microphone
	2	MIC-	Negative input for 4G microphone

J29 (40PIN/0.5mm) MIPI_DSI (FPC) (Optional)

Exterior	Pin No.	Pin Name	Description
	1	VDD1V8	+1.8V Power Supply
	2	VDD3V3	+3.3V Power Supply
	3	VDD3V3	+3.3V Power Supply
	4	NC	Null
	5	RESET	Reset
	6	NC	Null
	7	GND	Ground
	8	MIPI_D0-	MIPI Signal
	9	MIPI_D0+	MIPI Signal
	10	GND	Ground
	11	MIPI_D1-	MIPI Signal
	12	MIPI_D1+	MIPI Signal
	13	GND	Ground
	14	MIPI_CLK-	MIPI Signal
	15	MIPI_CLK+	MIPI Signal
	16	GND	Ground
	17	MIPI_D2-	MIPI Signal
	18	MIPI_D2+	MIPI Signal
	19	GND	Ground
	20	MIPI_D3-	MIPI Signal
	21	MIPI_D3+	MIPI Signal
	22	GND	Ground
	23	NC	Null
	24	NC	Null

	25	GND	Ground
	26	NC	Null
	27	NC	Null
	28	NC	Null
	29	NC	Null
	30	GND	Ground
	31	LEDK	Backlight Power Supply
	32	LEDK	Backlight Power Supply
	33	NC	Null
	34	NC	Null
	35	NC	Null
	36	NC	Null
	37	NC	Null
	38	NC	Null
	39	LEDA	Backlight Power Supply
	40	LEDA	Backlight Power Supply

Chapter 3 Electrical Characteristics

◆ Normal Operating Conditions

Interface Type		Min	Typ	Max
Standard power parameters	Vcc	11V	12V	13.5V
	Ripple	/	/	60mV
	Current	3A	3A	/

◆ Power Consumption

Interface Type		Min	Typ	Max
Power Supply Current (with no display)	Operation Current	/	200mA	450mA

connected)	STAND-BY CURRENT	/	18mA	20mA
	BATTERY OPERATION CURRENT	/	0.0024mA	/

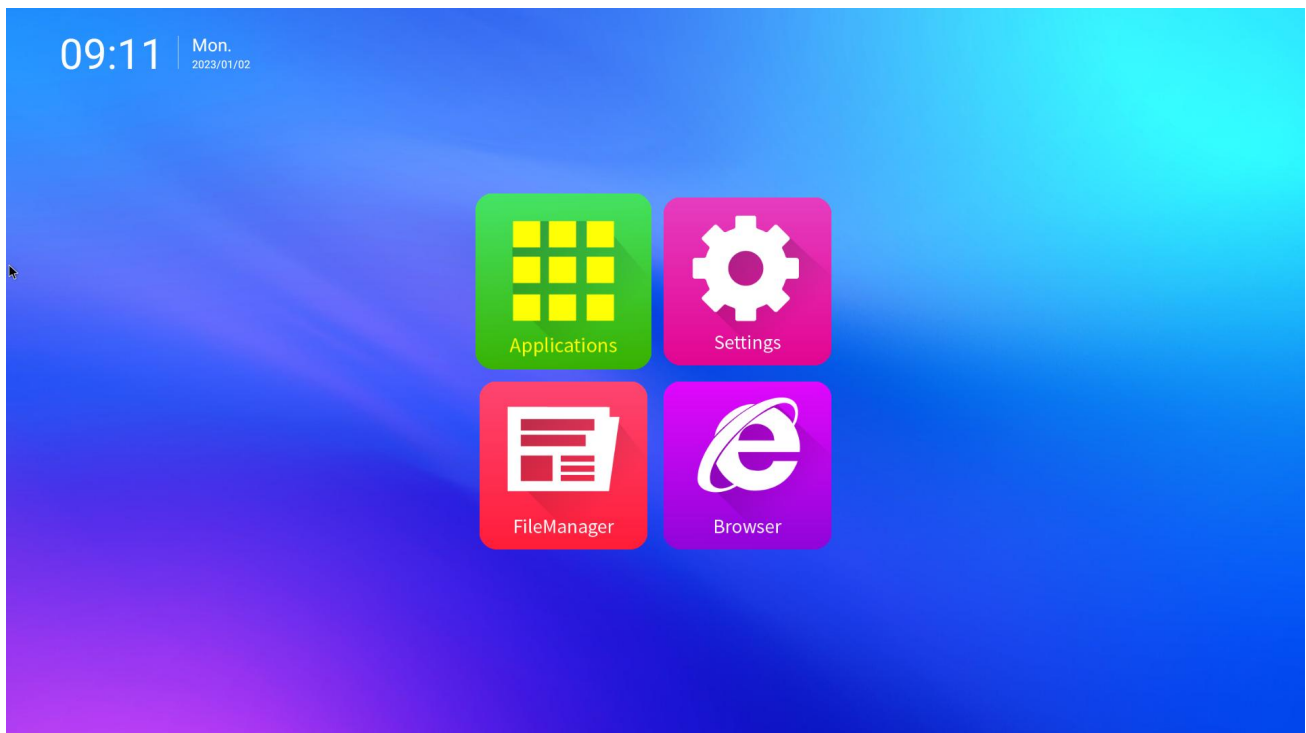
◆ USB Power Supply

USB Interface Type	Voltage	Typical Current	Max Current
OTG_USB	5V	500mA	1A
HOST_USB	5V	500mA	1A

Chapter 4 System Instruction

4.1 Android System Interface Description

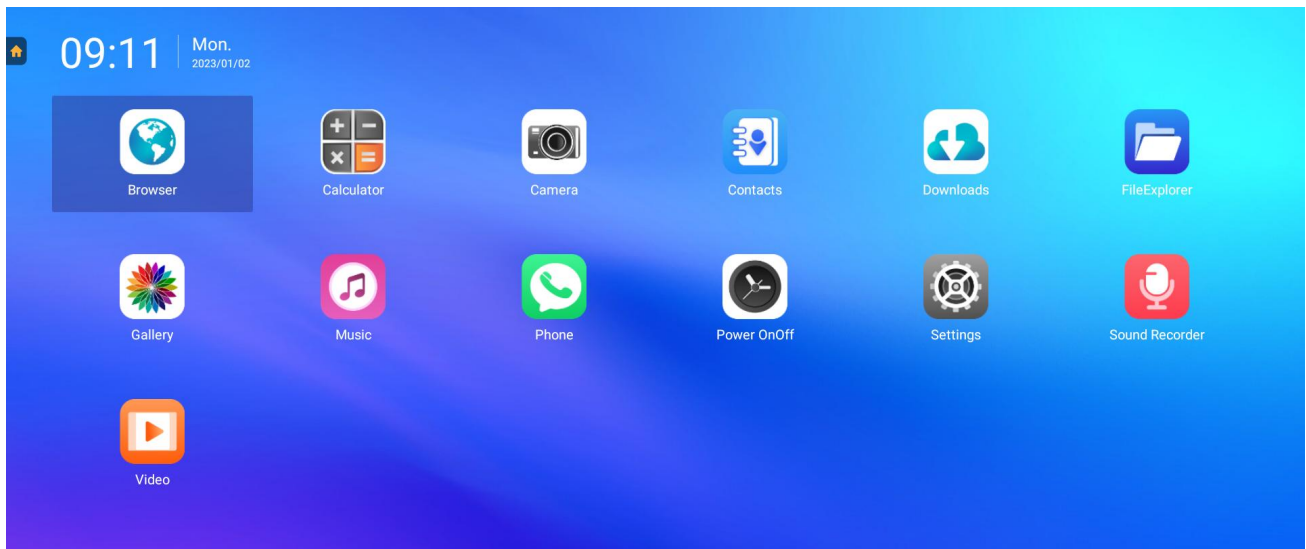
The main menu interface of Android system is divided into four categories: application, settings, file management and browser.



Homepage

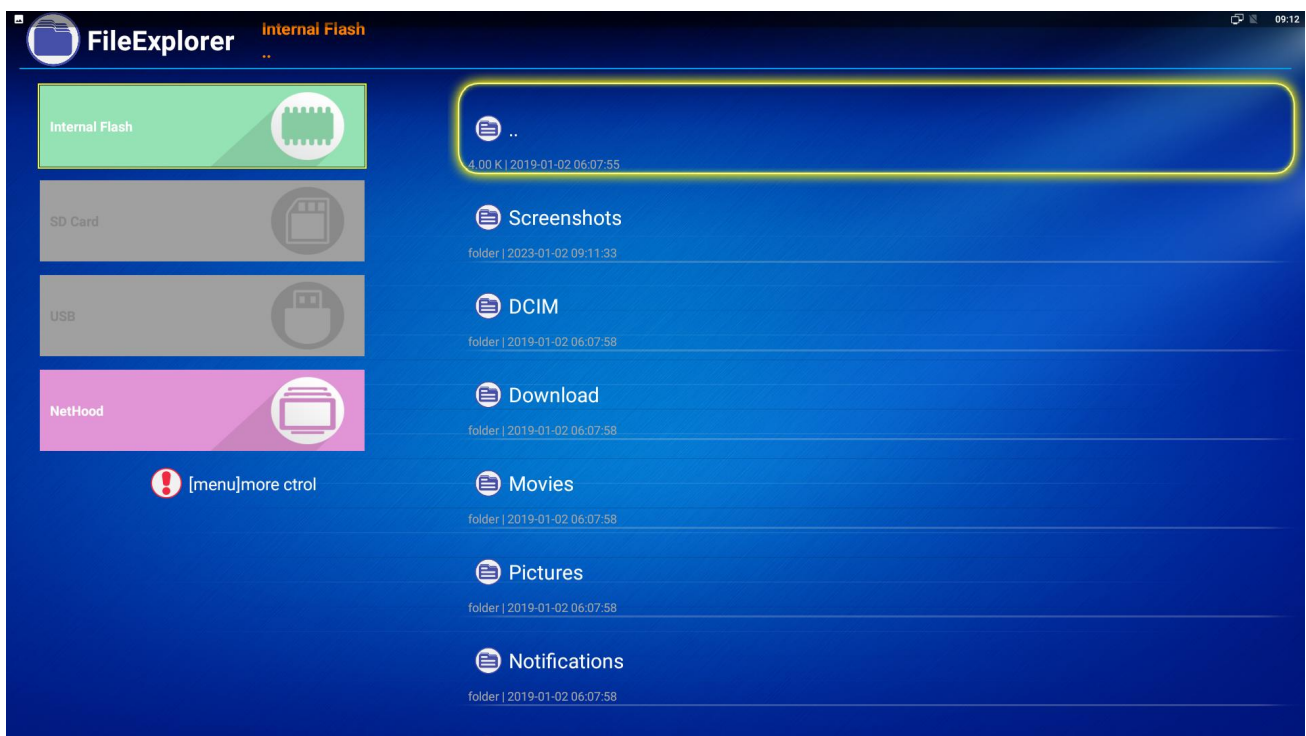
(1) Application interface

The application interface includes: Power on / off, settings, gallery, file, camera, music, explorer, browser, etc.



Application Interface

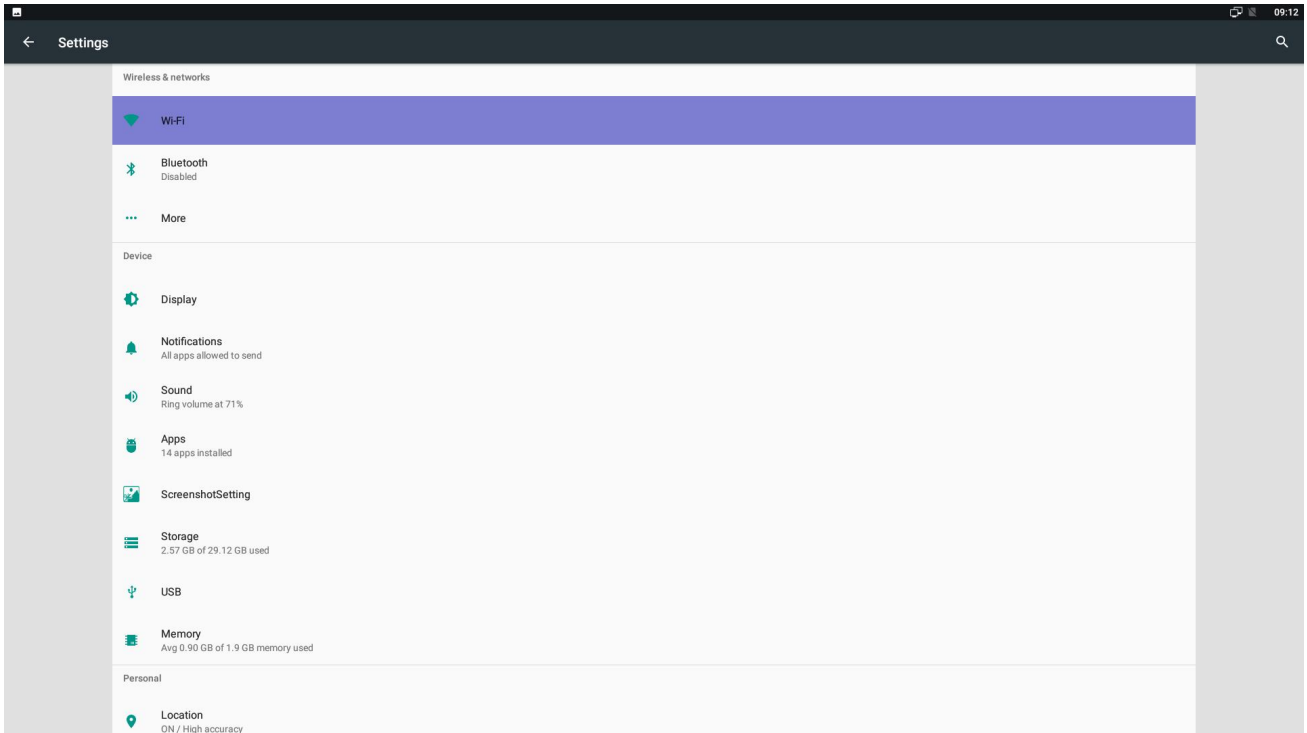
(2) File Management Interface



File Management Interface

(3) Setting Menu Interface

It supports the settings of wireless network and device display sound, and can also view the program applications installed on the device, storage memory, etc.

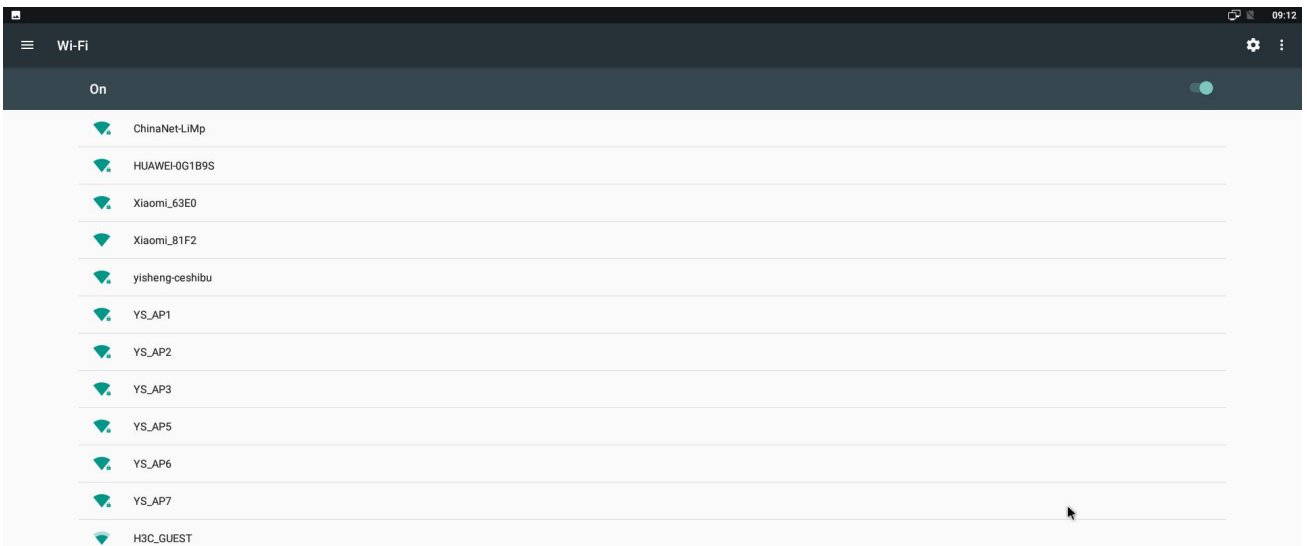


Setting Menu Interface

4.2 Network Interface Explanation

(1) WIFI Network Signal Connection

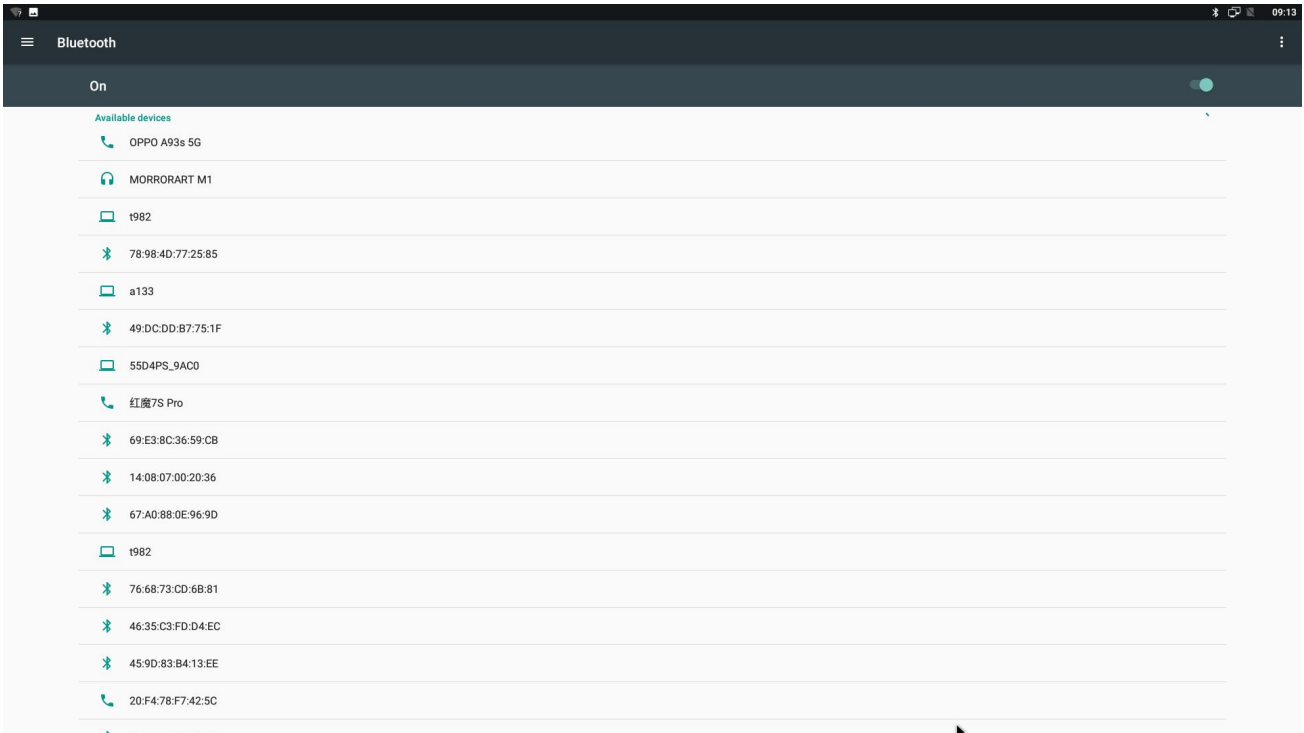
Turn on the WiFi switch in the "setting" interface, as shown in the following figure; Select the WiFi signal to be connected and enter the corresponding password to successfully connect.



WIFI Setting Interface

(2) Bluetooth Signal Connection

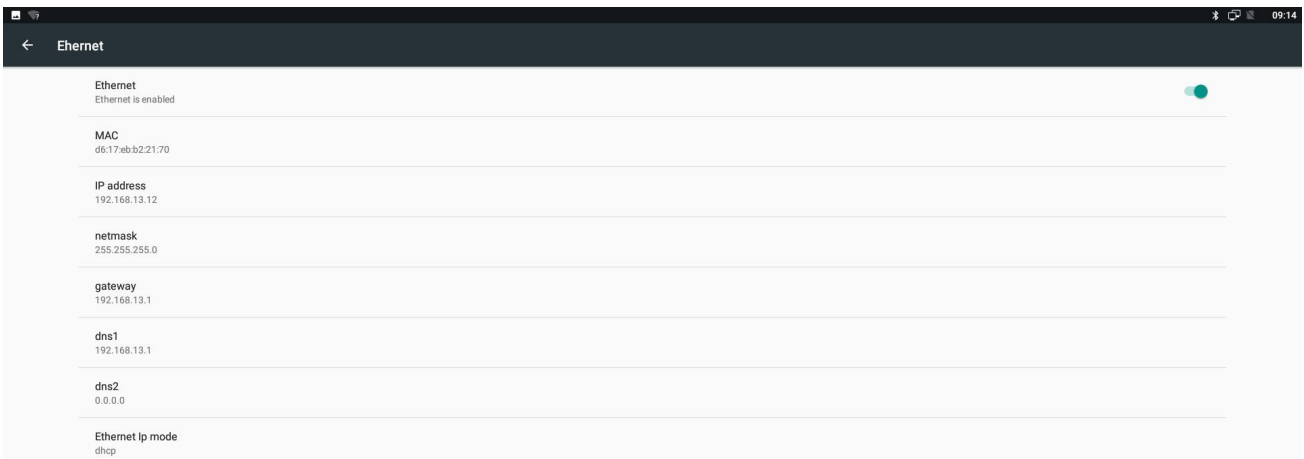
In the "Settings" interface, open the "Bluetooth" function and enter the "pairing with new devices" interface shown in the figure below to search for Bluetooth devices and pair them.



Bluetooth Setting Interface

(3) Ethernet Connection

In the "Settings" interface, open "More", turn on Ethernet, enter the page shown in the figure below, turn on the Ethernet switch, then plug in the network cable and automatically connect to Ethernet. You can view the IP address, Ethernet MAC address and other information in the interface shown in the figure below.



Ethernet Setting Interface

NOTICE:

- THE USE OF THE WIRELESS NETWORK MUST BE CONNECTED TO THE WIFI ANTENNA AT THE WIFI ANTENNA HOLDER
- THE AVAILABILITY AND COVERAGE OF WIFI SIGNALS DEPENDS ON THE NUMBER OF SIGNALS, ANTENNA PERFORMANCE AND EXTERNAL ENVIRONMENT.
- THE ETHERNET MAC ADDRESS IS THE ONLY PERMANENT AND VALID DEVICE ID FOR THIS SYSTEM.

THE NETWORK PRIORITY ORDER FOR ALL ANDROID DEVICES IS:

- 1. ETH Ethernet network
- 2. WIFI wireless network
- 3. 3G/4G/5G mobile network

4.3 Viewing Storage

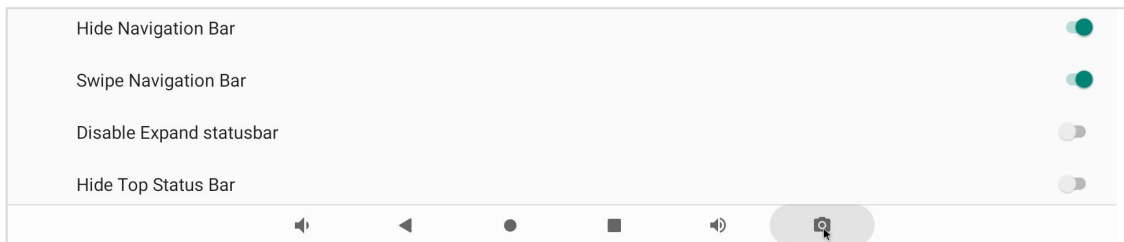
In settings, select "storage" to enter the following interface, where the storage information of the storage space will be displayed. The display of 2.57GB is the used storage space, and 29.12GB is the remaining storage space.



Viewing Storage Interface

4.4 Setting The Notification Bar And Navigation Bar

In the setting, select "display": check "hide navigation bar", and the navigation bar will be hidden; Check "swipe navigation bar", and the navigation bar can be slid out by sliding the mouse up from the bottom. The navigation bar will disappear 5 seconds after no operation. If disable expand statusbar is checked, expand statusbar cannot be pulled down; Check "hide top statusbar" to hide the top statusbar showing time and other statuses at the top of the interface.



Navigation Bar

NOTE:

"Hide navigation bar" must be selected before "swipe navigation bar" is selected;
When hide top statusbar is selected, expand statusbar is also forced to be hidden by default.

Chapter 5 Contact Us



Contact Information:

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Web: www.yishengtec.cn/en

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Guangzhou Branch: Room 318, Jiangrun Building, No. 565, Xingnan Avenue, Panyu District, Guangzhou

Looking forward to working with you, thank you