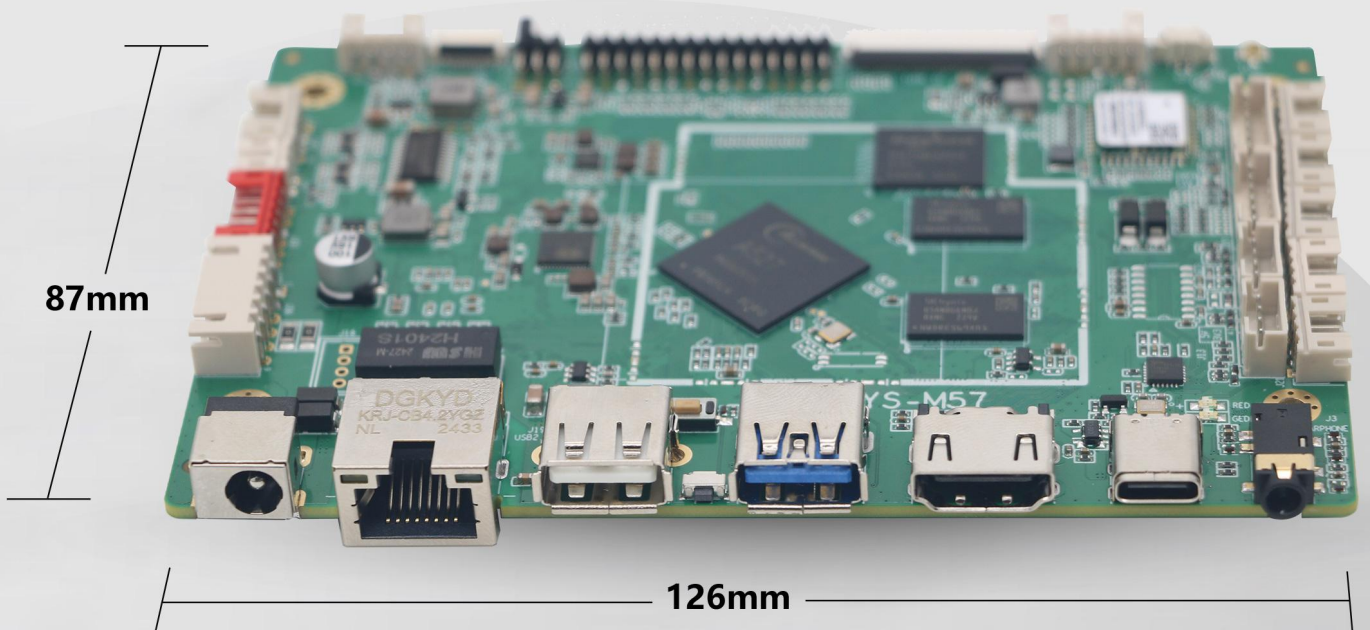


Specification

YS-M57

Digital Signage board



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Declaration

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Revision History

Version	Date	Author	Approver	Description
V1.0	2024.01.23	Zhang Wenjuan	Qin Yongling	Initial version
V2.1	2024.11.06	Zhang Wenjuan	Li Quan	Change the motherboard type

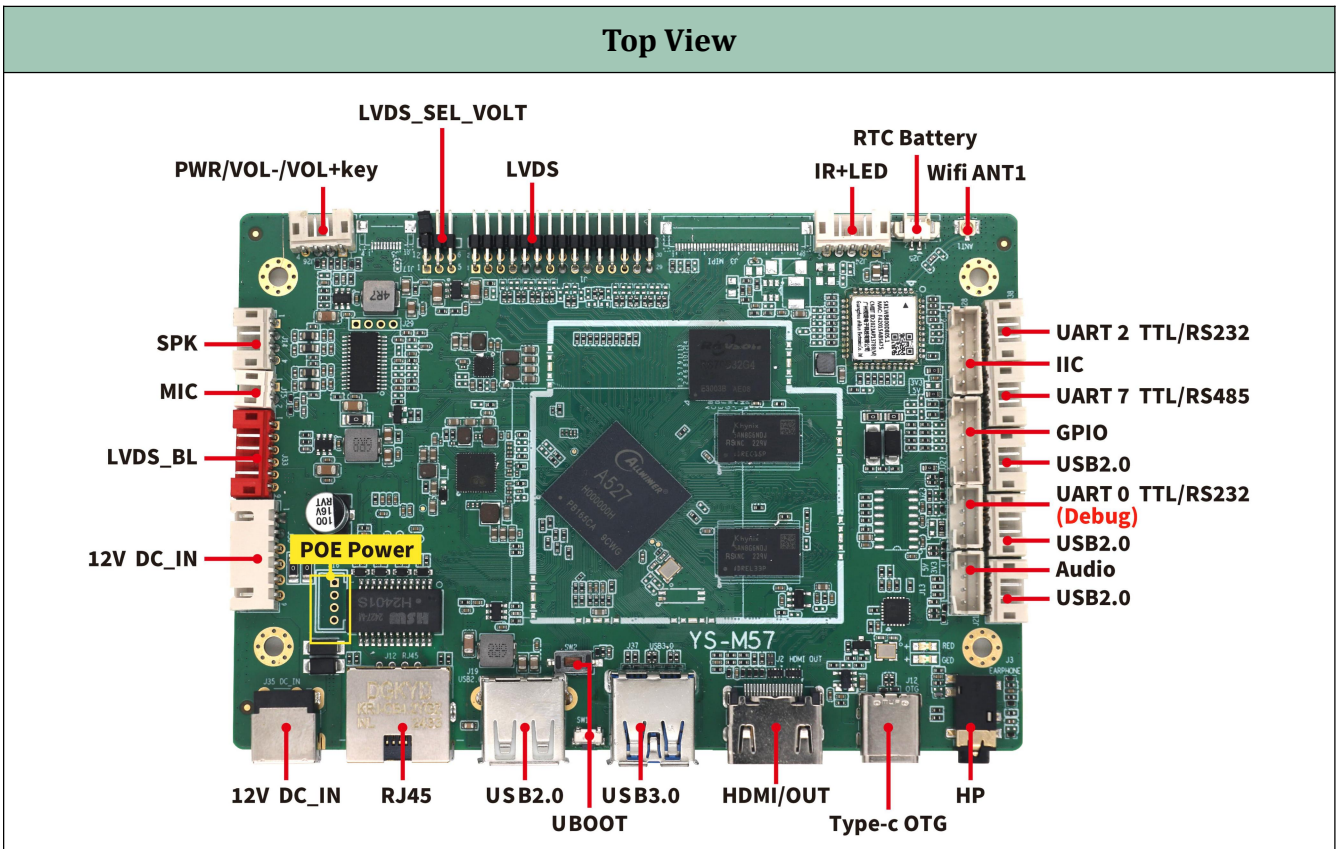
Chapter 1 Product Introduction

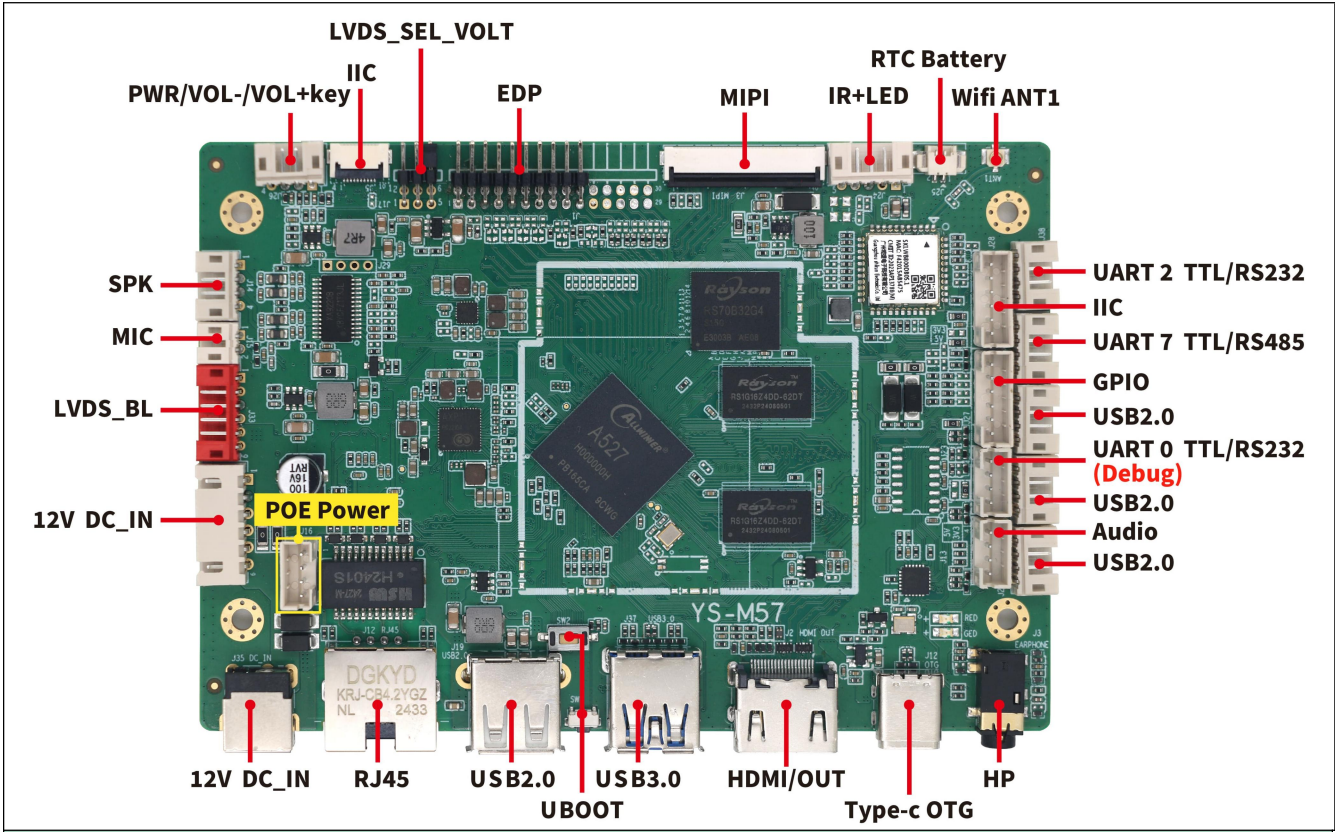
1.1 Overview



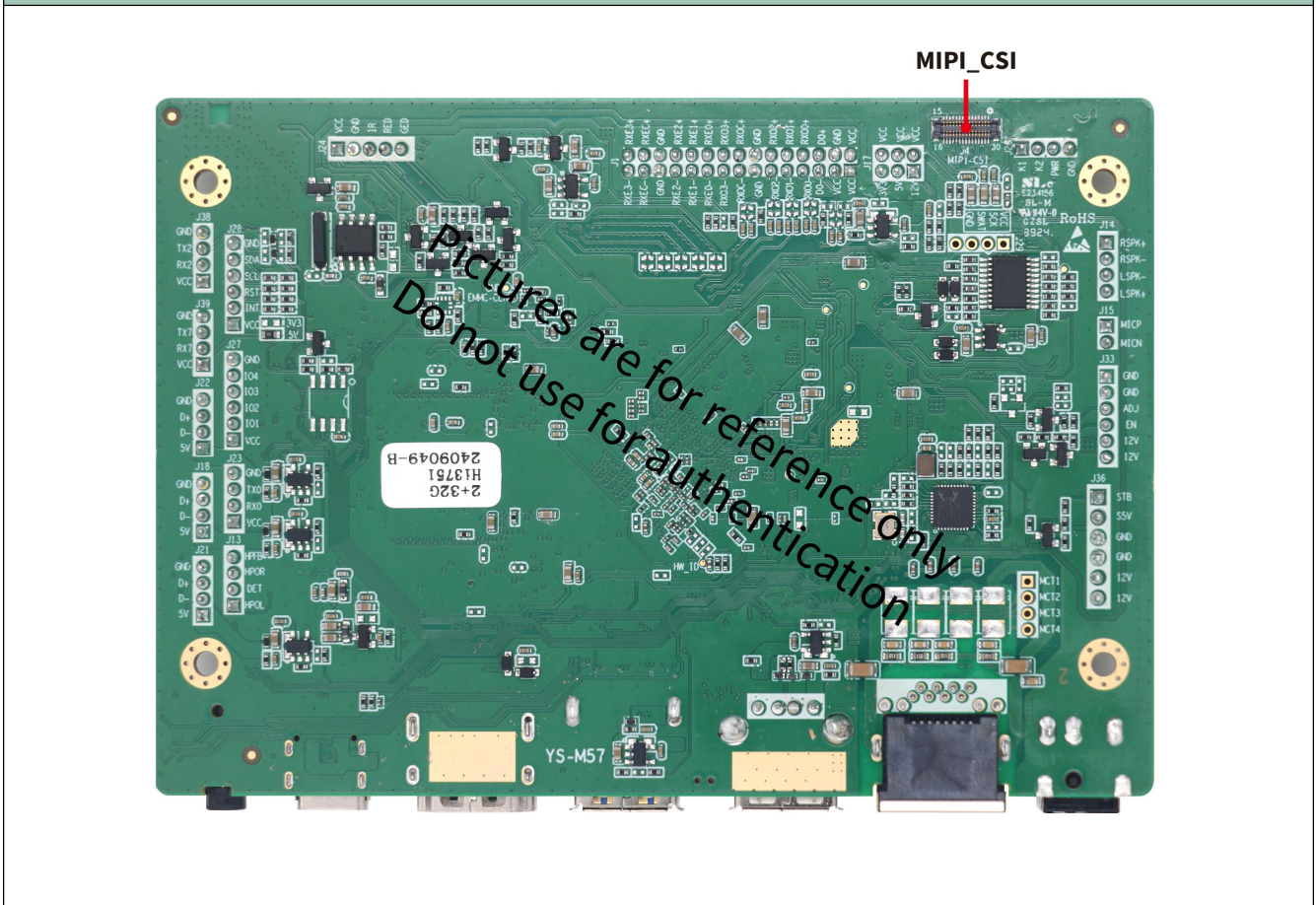
YS-M57 is powered by Allwinner A527 chip, the CPU is octa-core Cortex-A55, CUP frequency up to 2.0GHz, with rich peripheral interfaces, supporting LVDS, EDP, HDMI2.0 output, GPIO, I2C, UART and so on. It can be widely used in AIoT devices.

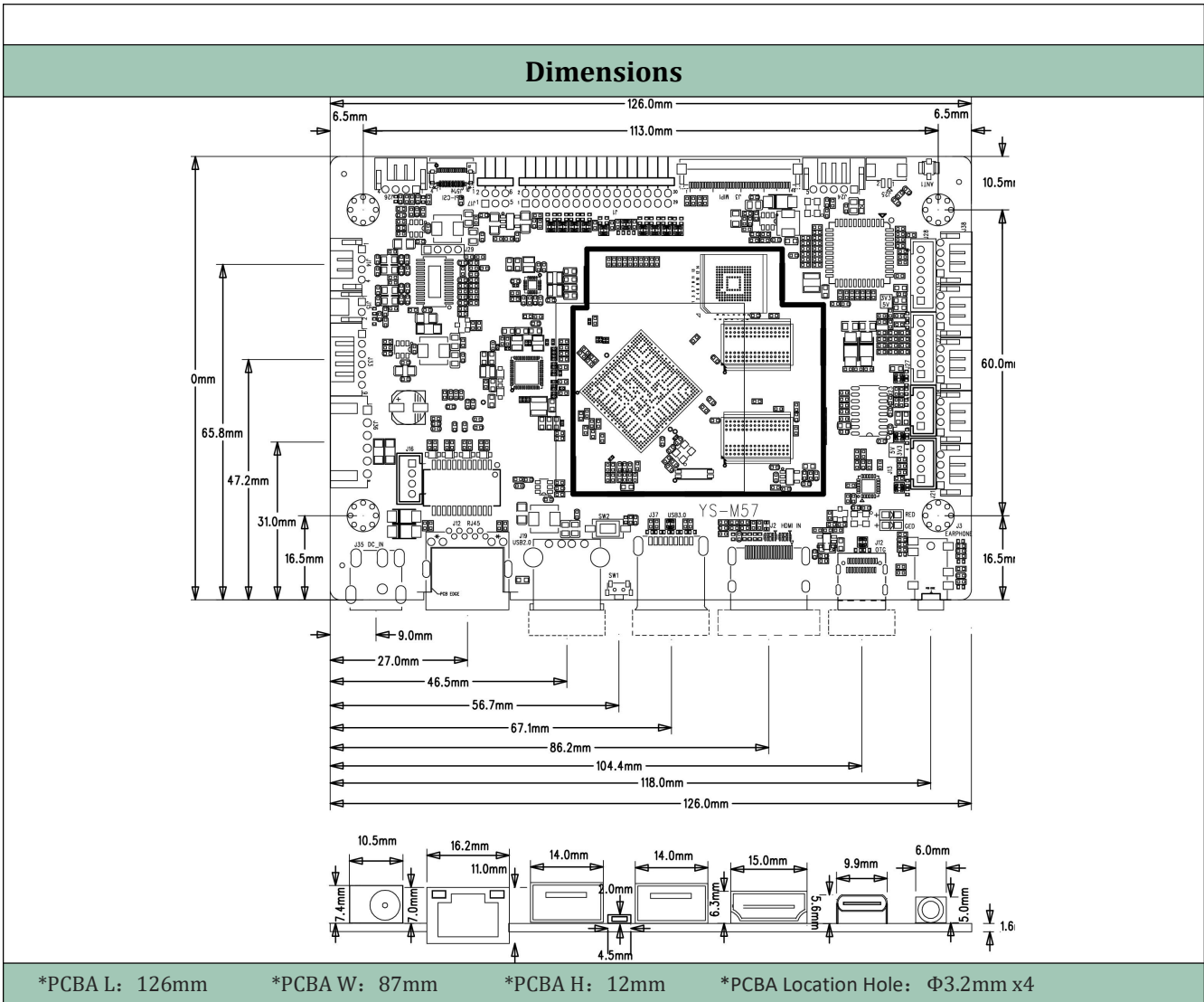
1.2 Pictures and Dimensions








Bottom View





1.3 Product Detailed Parameters

 Allwinner A527	 Android 13.0	 1*USB3.0 Host 4*USB2.0 Host 1*Type-C OTG/Host	 4G LTE Dual-band WIFI6, BT-5.4 10/100/1000M Ethernet	 LVDS/EDP MIPI/HDMI Display Output
---	---	--	--	---

Detail Specification

SOC	Allwinner A527
CPU	Octa-core Cortex-A55 64 Bit Max CPU frequency: 2.0GHz
GPU	ARM G57 MC01 OpenGL ES 1.1/2.0/ 3.2

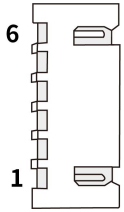
	OpenCL 2.2 Vulkan 1.1/1.2/1.3
OS	Android 13.0
Video CODEC	Video Decoder 4K@60fps VP9&H.265, 4K@30fps H.264 Video Encoder 4K@25fps H.264, 4K@15fps MJPEG
ROM	2GB/4GB DDR
Storage	8GB/16GB(Up to 256GB) eMMC
Display Output	1*HDMI2.0(Up to 2160P@60fps) 1*LVDS(Up to 1920x1080) 1*EDP(Up to 1920x1080) 1*MIPI-DSI-40PIN-FPC (Up to 1200*1920) LVDS and EDP can't be displayed simultaneously
Audio	1*SPK(L&R audio-out, up to 2*8Ω/5W speaker) 1*HP(CTIA) 1*MIC
Network	Ethernet: Support 10/100/1000M GMAC WIFI: Support Dual-band WiFi6 Bluetooth: 5.4
USB	1*Type-A USB2.0 (OTG or Host) 1*Type-A USB3.0 Host 4*USB2.0 Host
UART	3*TTL(1*TTL/RS485, 2*TTL/RS232, 1* Debug TTL/RS232)
Other	1*I2C 4*GPIO 1*IR+LED 3*Key(1*PWR_Key,2*Vol_Key)

1.4 Configuration & General Precautions

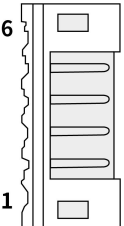
1. Relative humidity $\leq 85\%$
2. Storage temperature: $-30\text{ }^{\circ}\text{C}$ to $+70\text{ }^{\circ}\text{C}$
3. Operating temperature: $-15\text{ }^{\circ}\text{C}$ to $+60\text{ }^{\circ}\text{C}$
4. During the assembly of the whole machine, please do not operate the wiring with power to 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


J36(4PIN/2.54) 12V PWR IN interface(Horizontal connector)

Exterior	Pin	Definition	Description
	1	STB	Power supply enable, connect to PSON
	2	S5V	5V constant power supply (standby), connect to 5VS
	3	GND	Ground
	4	GND	Ground
	5	+12V	12V PWR
	6	+12V	12V PWR

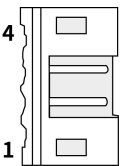
J33(6PIN/2.0) Backlight interface(Horizontal connector)

Exterior	Pin	Definition	Description
	1	GND	Ground
	2	GND	Ground
	3	ADJ	Backlight brightness adjustment
	4	EN	Backlight On/Off control
	5	+12V	Screen backlight power
	6	+12V	Screen backlight power

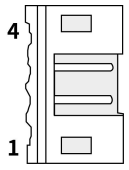
J13(2PIN/2.0) MIC interface(Horizontal connector)

Exterior	Pin	Definition	Description
	1	MICP	MIC positive
	2	MICN	MIC negative

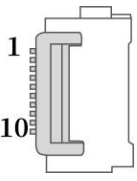
J14(4PIN/2.0) SPK interface(Horizontal connector)

Exterior	Pin	Definition	Description
	1	RSPK+	Right channel+
	2	RSPK-	Right channel-
	3	LSPK-	Left channel-
	4	LSPK+	Left Channel+

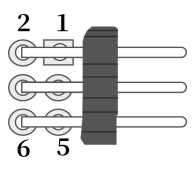
J26(4PIN/2.0) PWR ON/OFF Key interface(Horizontal connector)

Exterior	Pin.	Definition	Description
	1	K1	Key1(Reserved)
	2	K2	Key2(Reserved)
	3	PWR	Power on/off
	4	GND	Ground

J5(10PIN/FPC) IIC interface(FPC connector)

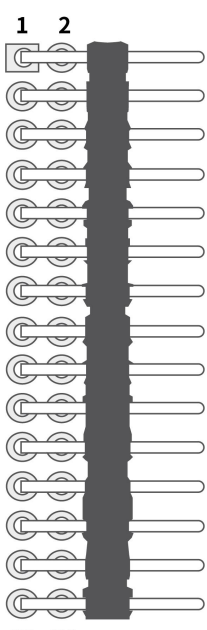
Exterior	Pin	Definition	Description
	1	GND	Ground
	2	GND	Ground
	3	RST	Reset
	4	INT	Interrupt data
	5	GND	Ground
	6	SCL	IIC clock
	7	SDA	IIC data
	8	VCC	PWR
	9	GND	Ground
	10	GND	Ground

J17(6PIN/2.0) LCD Screen Voltage interface(Horizontal connector)

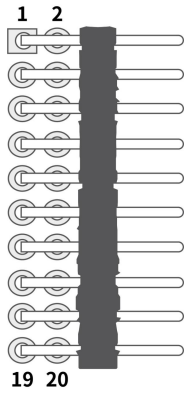
Exterior	Pin	Definition	Description
	1	12V	12V PWR
	2	VCC_LCD	Screen voltage port
	3	5V	5V PWR
	4	VCC_LCD	Screen voltage port
	5	3.3V	3.3V PWR
	6	VCC_LCD	Screen voltage port

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.

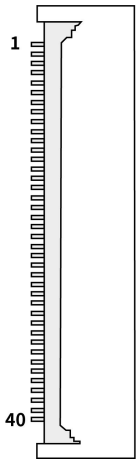
J1(30PIN/2.0) LVDS interface(Horizontal connector)

Exterior	Pin	Definition	Description
	1	VCC	PWR
	2	VCC	PWR
	3	VCC	PWR
	4	GND	Ground
	5	GND	Ground
	6	GND	Ground
	7	D0-	LVDS signal
	8	D0+	LVDS signal
	9	D1-	LVDS signal
	10	D1+	LVDS signal
	11	D2-	LVDS signal
	12	D2+	LVDS signal
	13	GND	Ground
	14	GND	Ground
	15	CKO-	LVDS signal
	16	CKO+	LVDS signal
	17	D3-	LVDS signal
	18	D3+	LVDS signal
	19	D5-	LVDS signal
	20	D5+	LVDS signal
	21	D6-	LVDS signal
	22	D6+	LVDS signal
	23	D7-	LVDS signal
	24	D7+	LVDS signal
	25	GND	Ground
	26	GND	Ground
	27	CK1-	LVDS signal
	28	CK1+	LVDS signal
	29	D8-	LVDS signal
	30	D8+	LVDS signal

J5(20PIN/2.0) EDP interface(Horizontal connector)

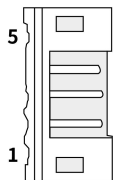
Exterior	Pin	Definition	Description
	1	VCC	3.3V PWR
	2	VCC	3.3V PWR
	4	GND	Ground
	5	GND	Ground
	7	TXON	EDP signal
	8	TXOP	EDP signal
	9	TX1N	EDP signal
	10	TX1P	EDP signal
	11	TX2N	EDP signal
	12	TX2P	EDP signal
	13	TX3N	EDP signal
	14	TX3P	EDP signal
	15	GND	Ground
	16	GND	Ground
	17	AUXN	EDP signal
	18	AUXP	EDP signal
	19	GND	Ground
	20	GND	Ground

J3 (40PIN/0.5) MIPI-DSI (FPC connector)


Exterior	Pin	Definition	Description
	1	VDD1V8	+1.8V PWR
	2	VDD3V3	+3.3V PWR
	3	VDD3V3	+3.3V PWR
	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 PWR
	32	LEDK	Backlight PWR
	33	NC	Null
	34	NC	Null
	35	NC	Null
	36	NC	Null
	37	NC	Null
	38	NC	Null
	39	LEDA	Backlight PWR
	40	LEDA	Backlight PWR

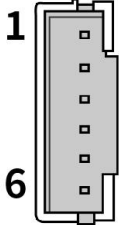
J24(5PIN/2.0) IR+LED

Exterior	Pin	Definition	Description
	1	VCC	+5V PWR
	2	GND	Ground
	3	IR	Remote control
	4	RED	Red indicator
	5	GED	Green indicator

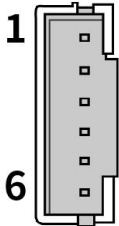
J25(2PIN/2.0) RTC Battery

Exterior	Pin	Definition	Description
	1	BAT-	Battery negative
	2	BAT+	Battery positive

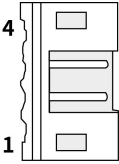
J28(6PIN/2.0) IIC (Power domain 3.3V)

Exterior	Pin	Definition	Description
	1	VCC	3.3V PWR
	2	INT	Interrupt data
	3	RST	Reset
	4	SCL	12C data
	5	SDA	12C clock
	6	GND	Ground

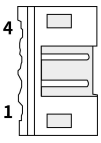
J27(6PIN/2.0) GPIO (Power domain 3.3V)

Exterior	Pin	Definition	Description
	1	VCC	3.3V PWR
	2	IO1	IO1
	3	IO2	IO2
	4	IO3	IO3
	5	IO4	IO4
	6	GND	Ground

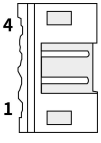
J23(4PIN/2.0) UART0 (Debug,default TTL , RS232 optional, 3.3V power domain)

Exterior	Pin	Definition	Description
	1	VCC	3.3V PWR, (5V optional)
	2	RX0	Receive0
	3	TX0	Transmit0
	4	GND	Ground

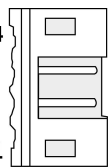
J38(4PIN/2.0) UART2 (Default TTL, RS232 optional, TTL 3.3V power domain)

Exterior	Pin	Definition	Description
	1	VDD	5V PWR, (3.3V optional)
	2	RX2	Receive2
	3	TX2	Transmit2
	4	GND	Ground

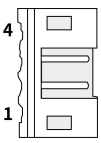
J39(4PIN/2.0) UART7 (Default TTL, RS485 optional, TTL 3.3V power domain)

Exterior	Pin	Definition	Description
	1	VCC	5V PWR, (3.3V optional)
	2	RX7/485A	Receive7
	3	TX7/485B	Transmit7
	4	GND	Ground


J13(4PIN/2.0) Headphone interface(Horizontal connector)

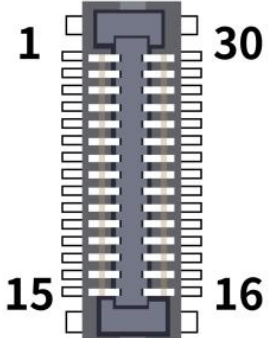
Exterior	Pin	Definition	Description
	1	HPOL	Left channel
	2	HDET	Test
	3	HPOR	Right channel
	4	HGND	Ground

J22、J18、J21(4PIN/2.0) (J22 is master USB)

Exterior	Pin	Definition	Description
	1	+5V	PWR
	2	D-	DM
	3	D+	DP
	4	GND	Ground

J4(30PIN/0.4) MIPI-CSI interface(BTB connector socket)

Exterior	Pin	Definition	Description
	1	GND	Ground
	2	MIPI_MCLK	MIPI signal
	3	GND	Ground

	4	GIF_PDN1	GIF_PDN1
	5	MIPI_RST	Reset
	6	SDA	IIC data
	7	SCL	IIC clock
	8	GND	Ground
	9	VCC_DVP	2.8V PWR
	10	GND	Ground
	11	VCC	2.8V PWR
	12	GND	Ground
	13	VCC	1.8V PWR
	14	VCC	1.8V PWR
	15	GND	Ground
	16	GND	Ground
	17	MIPI_DON	MIPI signal
	18	MIPI_DOP	MIPI signal
	19	GND	Ground
	20	MIPI_D1N	MIPI signal
	21	MIPI_D1P	MIPI signal
	22	GND	Ground
	23	MIPI_CLKN	MIPI signal
	24	MIPI_CLKP	MIPI signal
	25	GND	Ground
	26	MIPI_D2N	MIPI signal
	27	MIPI_D2P	MIPI signal
	28	GND	Ground
	29	MIPI_D3N	MIPI signal
	30	MIPI_D3P	MIPI signal

Chapter 3 Electrical Characteristics

◆ Standard Operating Conditions

Type		Min	Typ	Max
Standard Power Parameters	Vcc	11V	12V	13.5V
	Ripple	/	/	±3%
	Current	2A	3A	/

◆ Power Consumption

Interface Type		Min	Typ	Max
Power Supply Current (with no display connected)	Operation Current	/	180mA	250mA
	Stand by Current	/	10mA	30mA
	Battery Operation Current	/	0.0024mA	/

◆ USB Power Supply

Type	Voltage	Typical Current	Max Current
USB_OTG	5V	500mA	1.5A
USB_HOST	5V	500mA	1.5A

Note: It is recommended that the total current of USB peripheral should not exceed 3000 mA, otherwise the machine will be unable to operate normally.

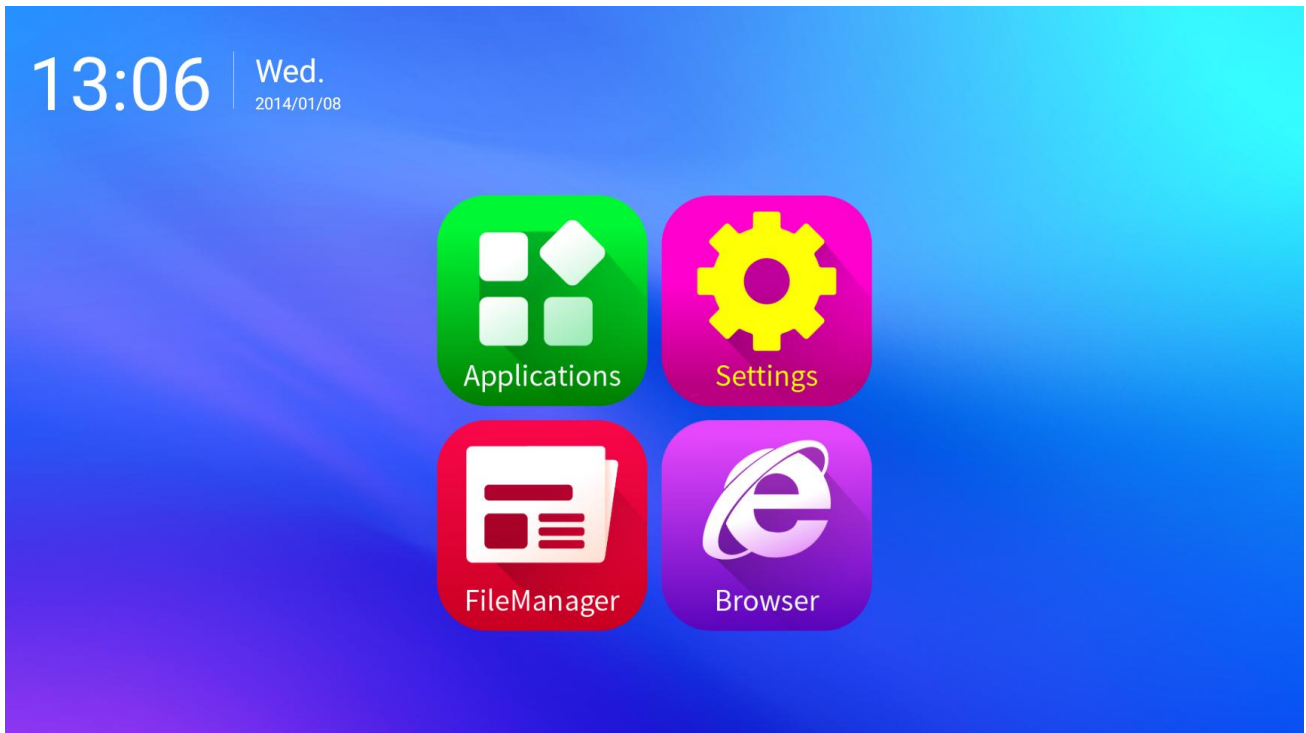
◆ Other

Type	Rated Current	Max Current	Max Current
EXT 5V	/	3000mA	
EXT 3.3V	/	3000mA	
MIPI_DSI_BL	150mA	/	

Chapter 4 System Instruction

4.1 Android System Interface Description

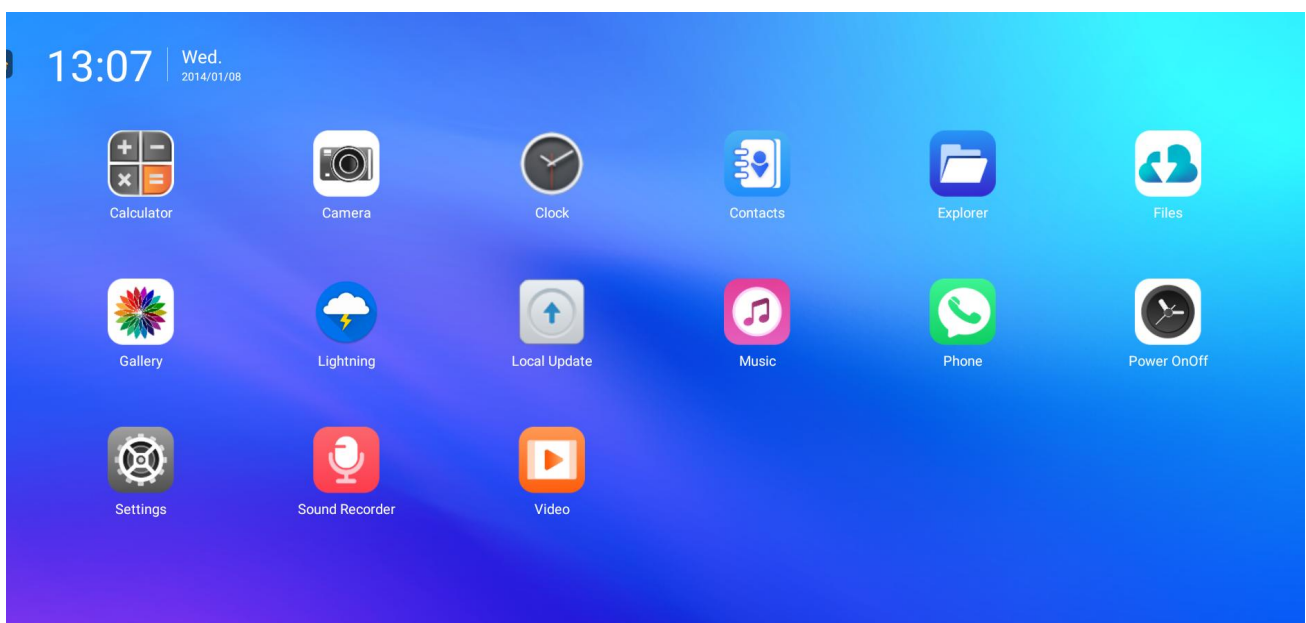
The main menu interface of Android system is divided into four categories: Applications, Settings, FileManager and browser.



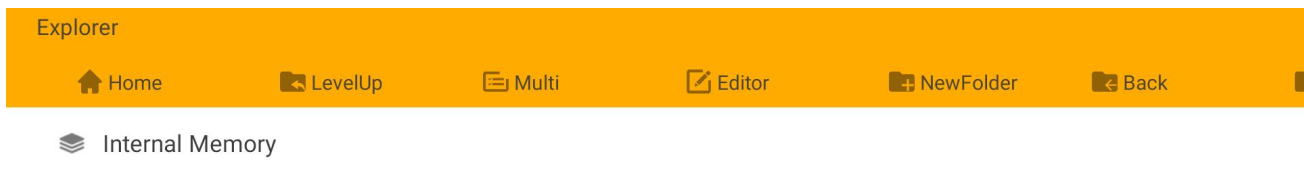
Homepage

(1) Applications interface

The Applications interface includes: Power on / off, Settings, Gallery, Files, Camera, Music, Explorer, Browser, etc.



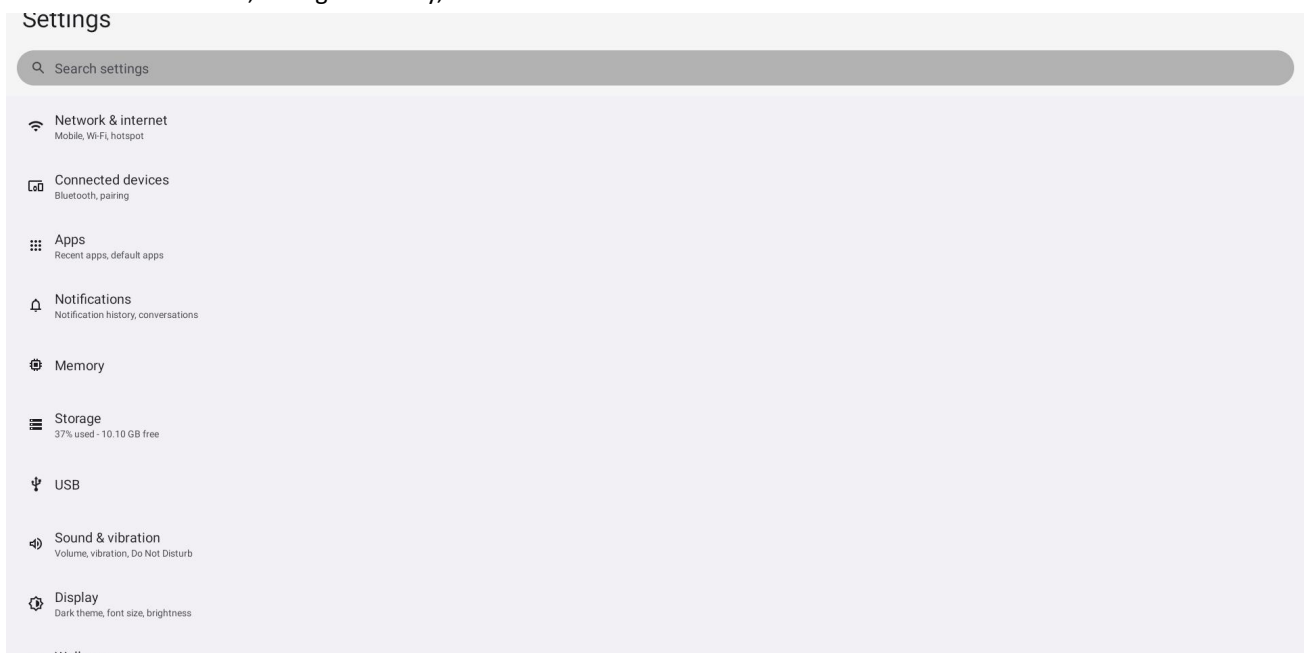
(2) FileManager interface



FileManager Interface

(3) Settings 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.

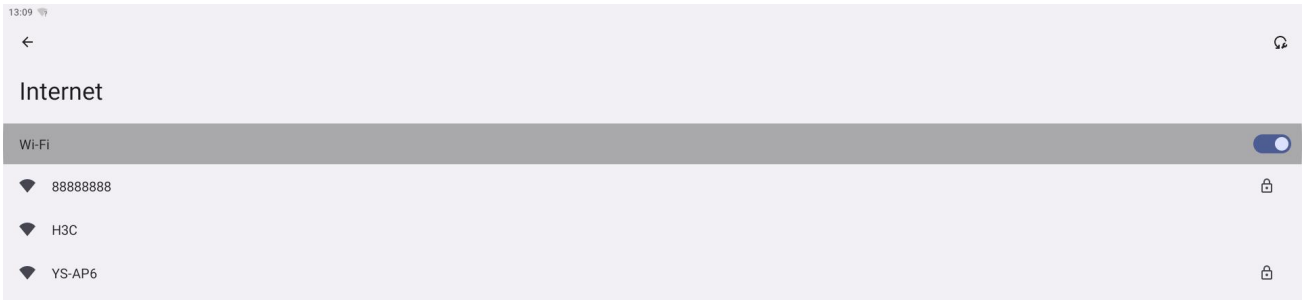


Settings Interface

4.2 Network Connection Explanation

(1) WIFI Signal Connection

Enter the 'Settings>Internet>WiFi' interface to turn on the WiFi switch, as shown below, select the WiFi signal that needs to be connected, and enter the corresponding password, you can successfully connect.



WIFI Setting Interface

(2) WiFi Hotspot Connection

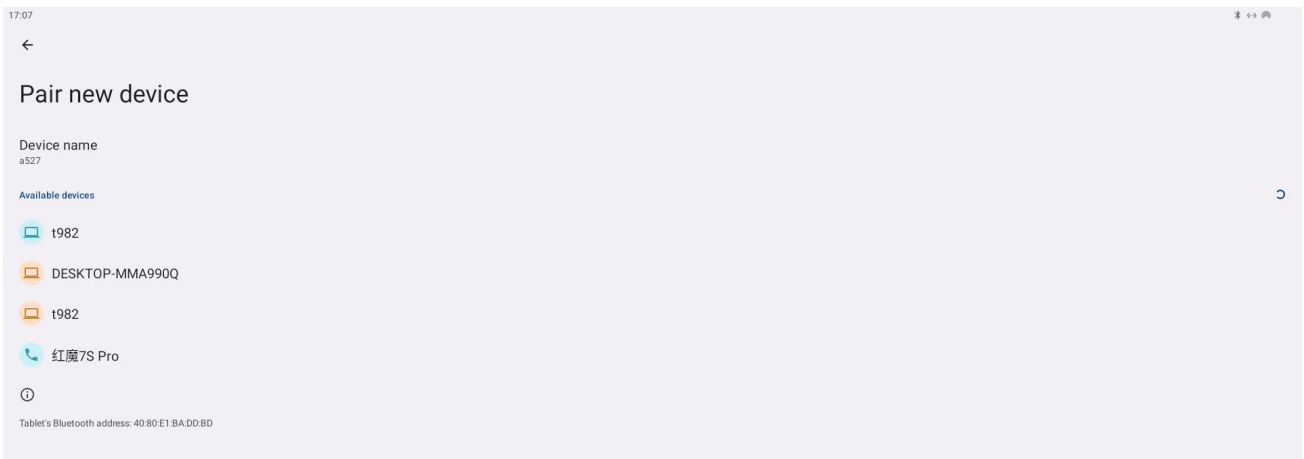
As shown in the following figure, in the “Settings” interface, turn on the “WIFI hotspot” function, enter the interface shown in the figure below, you can send WiFi signals, and the device can successfully connect to the hotspot by entering the password.



WIFI Hotspot connection interface

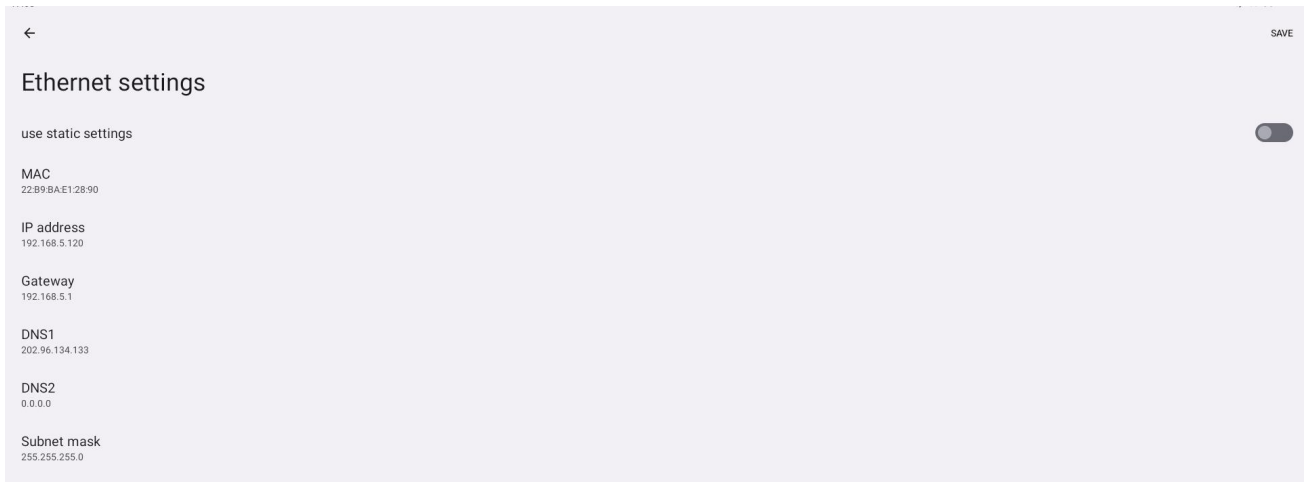
(3) Bluetooth Signal Connection

In the “Settings > Connected devices > Pair new device” interface, you can search for Bluetooth devices, as shown in the figure below, find the Bluetooth device that needs to be paired and click pairing.



(4) Ethernet Connection

In the "Settings" interface, enter "network and Internet", 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:

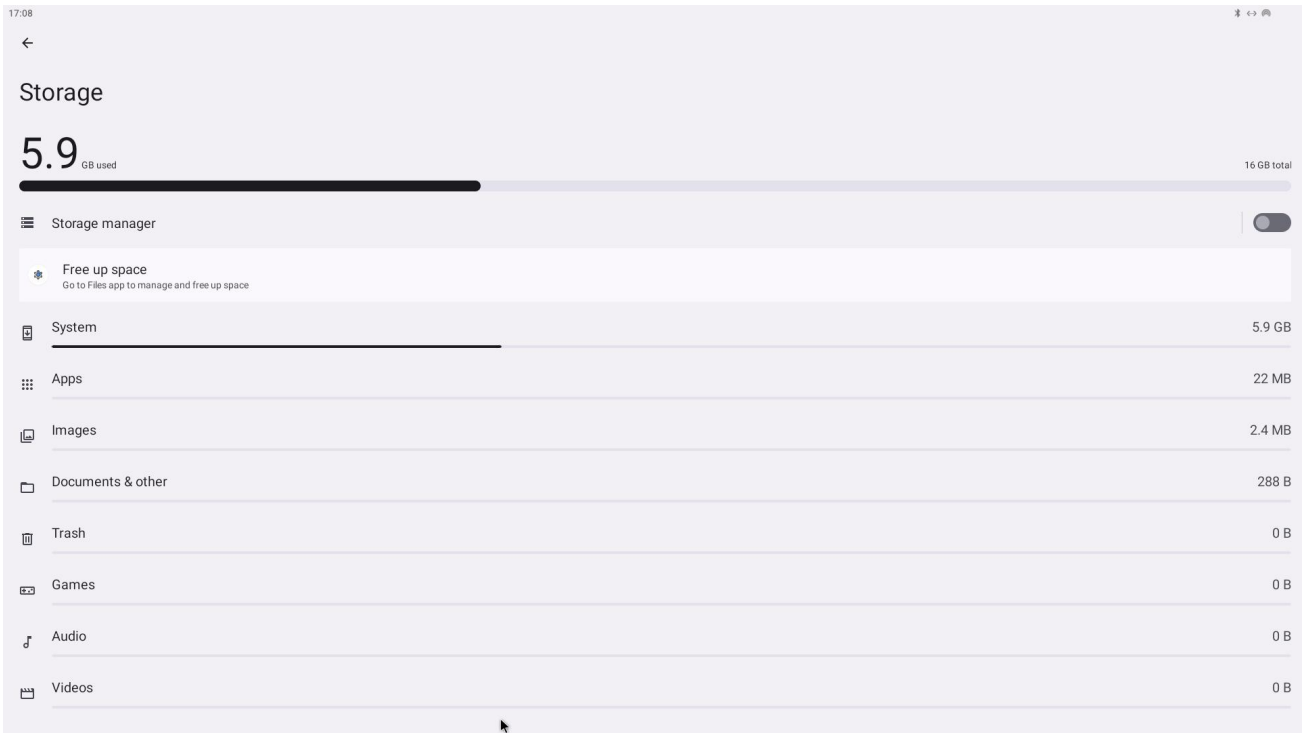
- THE USE OF THE WIRELESS NETWORK MUST BE CONNECTED TO THE WIFI ANTENNA AT THE WIFI ANTENNA HOLDER
- THE AVAILABILITY AND COVERAGE OF WIFI SIGNALS DEPENDS ON THE NUMBER OF SIGNALS, ANTENNA PERFORMANCE AND EXTERNAL ENVIRONMENT.
- THE ETHERNET MAC ADDRESS IS THE ONLY PERMANENT AND VALID DEVICE ID FOR THIS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

In settings, select "storage" to enter the following interface, where the storage information of the storage space will be displayed. The display of 5.9GB capacity is the remaining available storage capacity of the board, and the display of "Total used 16GB" is the total storage capacity of the hardware.



Viewing Storage Interface

In the Setting, select "Memory" to enter the interface below to display the internal storage information. The display of 1.4GB is the amount of memory already used by the board.

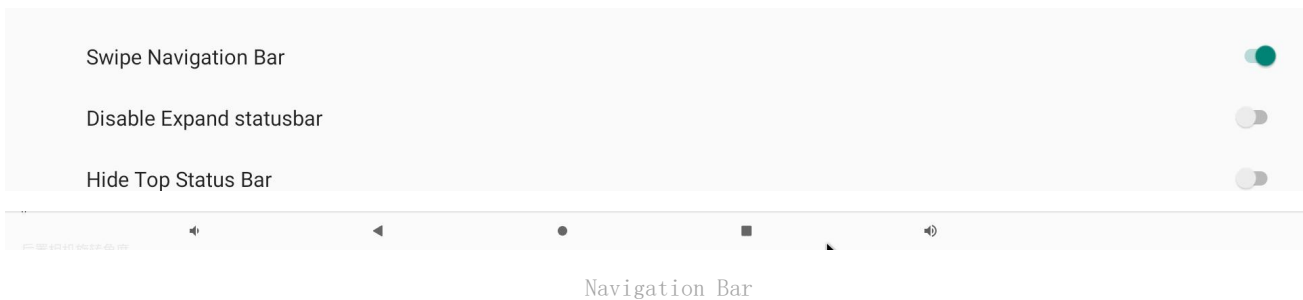


View Memory Interface

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.



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



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[Looking forward to working with you, thank you](#)