



PRODUCT SPECIFICATION

LCD Android Controller
HD-982V

Version: V1.1

Update History:

Version	Release time	Description
V1.1	November 5, 2025	V-by-One screen maximum display effect update
V1.0	Mar.20.2025	First official release.

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Chapter I Product Description

I. Overview

HD-982V is a well-built all-in-one motherboard, adopting Amlogic T982 quad-core Cortex-A55 processor, equipped Android 14.0 system, the main frequency can reach up to 1.9 GHz, with super performance. Use Mali-G52 GPU, support AFBC (frame buffering from compression), 4K, H.265 hard decoding, 1080P video decoding, V-by-One interface 4K output, 4K level video playback. Support infrared remote control, Wi-Fi, RJ45 and so on. It is widely used in intelligent control fields such as advertising machines, interactive all-in-one machines, security, medical care, transportation, finance, industrial control, etc.

Due to its hardware platform, Android, Intelligent features can be used on the main board of the intelligent terminal when human-computer interaction and network device interaction are required, which can be your best choice.

II. Features

- High performance. T982 Chip with quad core, the main frequency can reach up to 1.9GHz, can play high-definition video in various formats, and can handle complex interactive operations.
- High stability. T982 Android integrated board, in terms of hardware and software, adds its own unique technology to ensure the stability of the product, which can make the final product reach 7*24 unattended hours.
- High integration. T982 Android integrated board integrates Ethernet, V-by-One, Wi-Fi, Amplifier, USB expansion port, IR remote control function, HDMI-IN, backlight control.
- High scalability. 6 USB ports (1 standard USB 3.0, 1 standard OTG 2.0, 4 pins USB 2.0). 2 channel TTL protocol serial ports + 1 expandable debugging serial port (TTYS2 Adjustable by hardware RS485, TTYS3 Adjustable by hardware RS232, 1 channel DEBUG), 5 IO expansion port can expand more peripheral devices.
- High definition. Supports a maximum 4K decoding resolution of 3840×2160, Support V-by-One interface screens of various sizes and resolutions
- Perfectly supports multi-point infrared touch, multi-point capacitive touch, multi-point nano-film touch, multi-point acoustic wave touch, multi-point optical touch.

Chapter II Product Specifications

I . Basic Parameters

1. Hardware Parameters

Hardware Specifications	
CPU	T982, Quad-core A55, Up to 1.9GHz
GPU	Mali-G52 GPU
RAM/ Storage	Standard 4GB+32GB
Network	Support RJ45 R/A 100 - Mbps Ethernet Support 2.4GHz+5GHz Wi-Fi 6; Support Wi-Fi 802.11 a/b/g/n/ac/ax protocol; Support Bluetooth 5.3 Support external 4G and 5G modules
Image rotation	Support 0°, 90°, 180°, 270° or manual rotation, optional gravity sensor module to achieve automatic rotation.
Display interface	1-channel V-by-One interface (maximum horizontal display effect up to 4K, maximum vertical display effect up to 1080P). Onboard backlight control supports 12V backlight power supply
HDMI IN	2 HDMI IN 2.0, Support 4K@60Hz input
Audio	Support standard left and right channel line output; support 3.5mm audio output interface
Amplifier	2 pcs output (8 Europe 5 watts[default] ,8 Euros and 10 Watts, dual studio amplifier output)
Touch screen	Support USB Multi-point infrared touch, multi-point nano-film touch, multi-point acoustic wave touch, multi-point optical touch and so on.
RTC	Built-in real-time clock function
USB	1 piece USB 3.0, 1 piece USB2.0, 4 pcs expansion USB 2.0 port
Infrared	Infrared receiver, support infrared remote control function

LED	1* Power Status LED (green), 1* System LED (green, blinking by default)
Button	1*Upgrade Button
Serial port	2 channel TTL protocol serial ports (TTYS2 Adjustable by hardware RS485,TTYS3 Adjustable by hardware RS232),1 channel DEBUG
IO□	5-way IO input and output control, can do key scanning control
Storage humidity	10% ~ 90%, no condensation
Storage temperature	-40°C~70°C
Operating temperature	-10°C~60°C
System watchdog	Supports hardware watchdog and software watchdog.

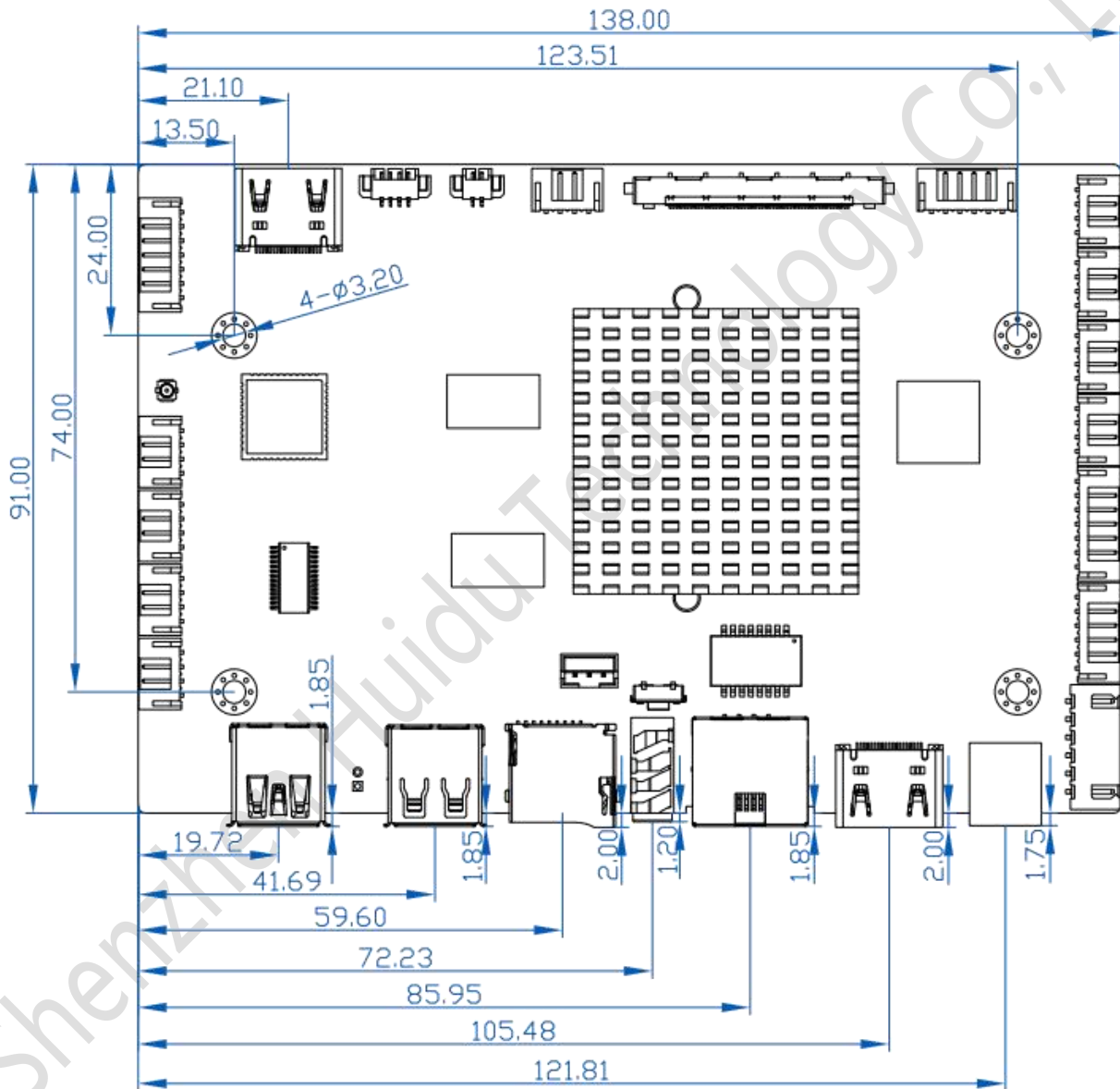
2. Software Parameters

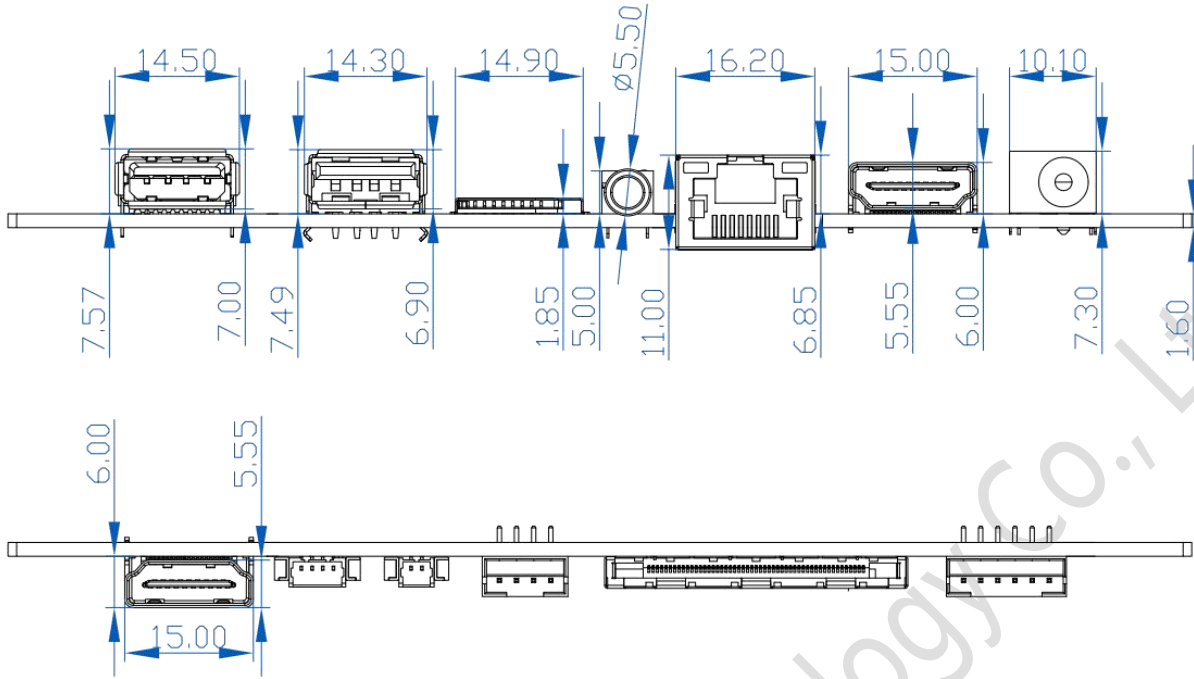
Software Specifications	
Operating System	Android 14.0
Audio	MP3,WMA,WAV, APE, FLAC, AAC, OGG,M4A,3GPP and other formats
Video	Support over 30 formats such as 3G2 (H263) , 3GP (MPEG-4 Visual, MPEG-4, H263, H264) , AVI (AVC,M-JPEG, RealMagic MPEG-4,H264, FF mpeg MPEG4) , DAT (MPEG-1) , EVO (VC- 1) , F4V (AVC(H264)) , FLV (Sorenson Spark, vp6) , MP4 (AVC(H264), HEVC(H265), 4K HEVC(4K H265), 8K HEVC(8K H265), AV1, 4K AV1, H263) , m2ts (AVC, VC- 1) , M2V (MPEG-2) , M4V (AVC) , MKV (WMV3, MPEG-4 Visual, AVC, 4K HEVC(4K H265), 8K HEVC(8K H265), VP8, VP9) , MOV (MPEG-4 Visual)
Image	Support various image formats such as JPG、 BMP、 PNG
System Comes with Application Software	Recorder, Media Center, Settings, Clock, Gallery, App Installation, File Explorer, AM Player, Google Chrome, HDMI IN
Language	support multi-language
Input	Standard Android keyboard with optional third-party input method
System Management	Original ecological Android system, open root permissions, and can customize product development
	Real-time remote monitoring, system crash self-recovery, unattended 7 * 24 hours
	Support OTA remote upgrade; support U-disk upgrade
	Support boot animation definition
	Support server / stand-alone mode switching
	Support Wi-Fi hotspot

II. Dimension Diagram

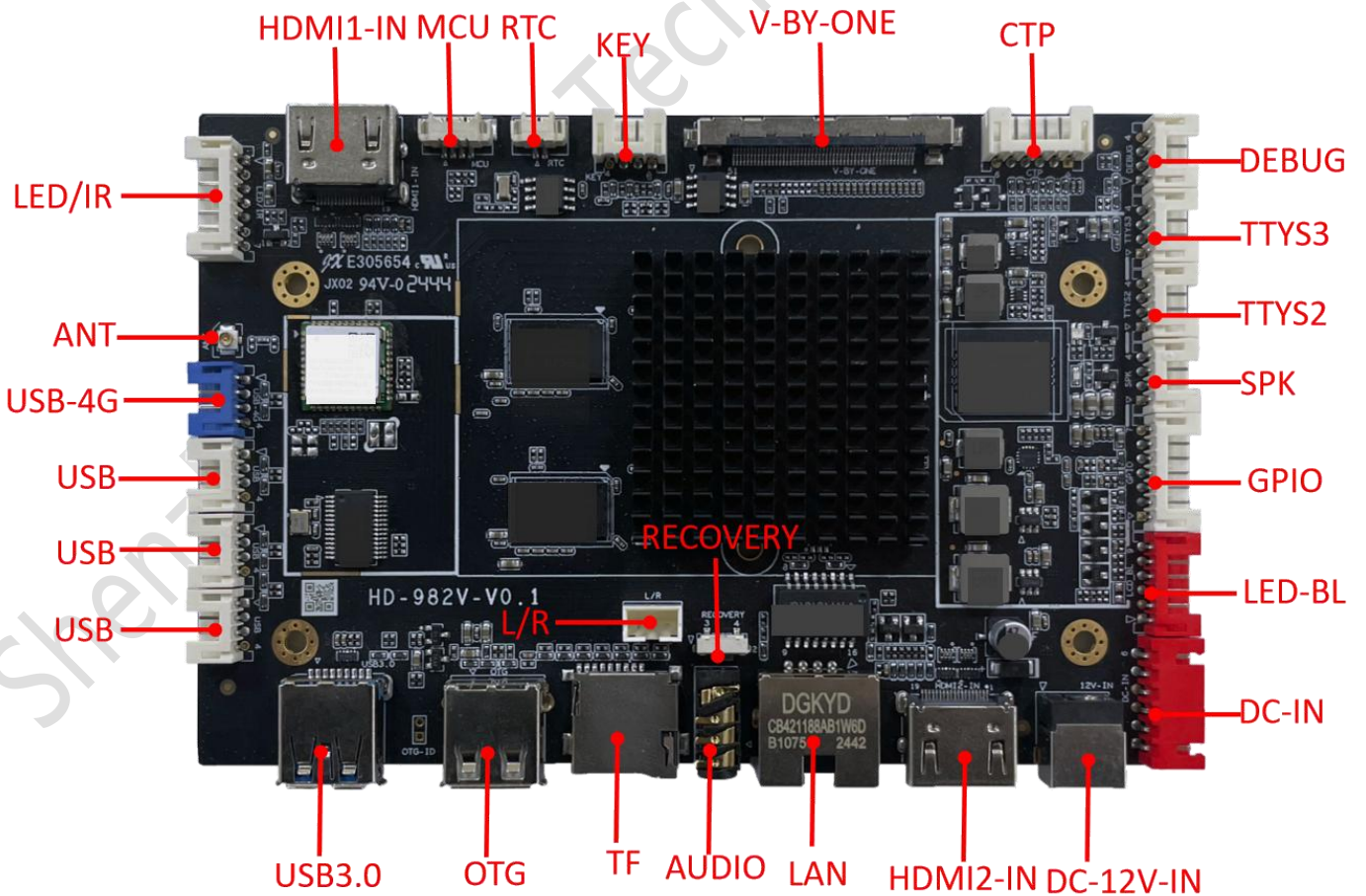
Bare board size specification, unit: mm (mm) ,Screw hole specifications: $\phi 3.5\text{mm} \times 4$,PCB layer count: 4 layers,

PCB board thickness: $1.6\text{mm} \pm 10\%$





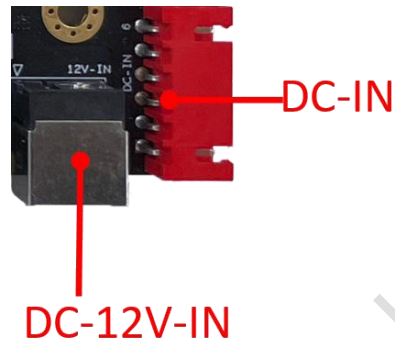
III. Product Diagram



IV. Interface Parameter Description

1. Power Interface Description

powered by a 12V DC power supply, and the motherboard is supplied with power from the DC socket and the 6-Pin power socket.



No.	Definition	Attribute	Description
1	STB	input	stand by signal output
2	5VB	output	stand by 5V input
3	GND	ground wire	ground wire
4	GND	ground wire	ground wire
5	12V	input	12V input
6	12V	input	12V input

Note: The inner diameter of the DC power port is 2.0mm, and the outer diameter is 5.8mm.

2. LED/IR (remote control) Interface Definition



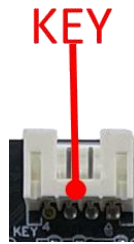
No.	Definition	Attribute	Description
1	RED	output	red indicator
2	3V3	power supply	3.3V output
3	GRN	output	green indicator
4	IO	input/output	supports function customization
5	IR	input	remote control signal input
6	GND	ground wire	ground wire
7	3V3	power supply	3.3V output

3. EDP_BL (EDP backlight) Interface and Definition



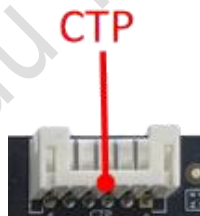
No.	Definition	Attributes	Description
1	GND	ground wire	ground wire
2	GND	ground wire	ground wire
3	ADJ	output	Backlight Brightness Control
4	EN	output	Backlight Enable Control
5	12V	power supply	12V output
6	12V	power supply	12V output

4. KEY Interface Description



No.	Definition	Attributes	Describe
1	PWRON	power switch	power switch,control the power-on and power-off by connecting an external button
2	RST	reset signal	Reset reboot function
3	KEY	ADC	ADC reservation
4	GND	ground wire	ground wire

5. CTP Interface Description



No.	Definition	Attributes	Describe
1	3V3	power supply	3.3V output
2	SCL	input/output	I2C clock
3	SDA	input/output	I2C data
4	INT	input/output	interrupt
5	RST	input/output	reset
6	GND	ground wire	ground wire

6. V-by-One Interface Description



No.	Definition	Attributes	Describe
1	GND	ground wire	ground wire
2	VBX-7P	output	Pixel0 Positive Data
3	VBX-7N	output	Pixel0 Negative Data
4	GND	ground wire	ground wire
5	VBX-6P	output	Pixel1 Positive Data
6	VBX-6N	output	Pixel1 Negative Data
7	GND	ground wire	ground wire
8	VBX-5P	output	Pixel2 Positive Data
9	VBX-5N	output	Pixel2 Negative Data
10	GND	ground wire	ground wire
11	VBX-4P	output	Pixel3 Positive Data
12	VBX-4N	output	Pixel3 Negative Data
13	GND	ground wire	ground wire
14	VBX-3P	output	Pixel4 Positive Data
15	VBX-3N	output	Pixel4 Negative Data
16	GND	ground wire	ground wire

17	VBX-2P	output	Pixel5 Positive Data
18	VBX-2N	output	Pixel5 Negative Data
19	GND	ground wire	ground wire
20	VBX-1P	output	Pixel6 Positive Data
21	VBX-1N	output	Pixel6 Negative Data
22	GND	ground wire	ground wire
23	VBX-0P	output	Pixel7 Positive Data
24	VBX-0N	output	Pixel7 Negative Data
25	GND	ground wire	ground wire
26	LOCKN-OUT	output	CLOCK
27	HTPDN	output	TCON
28	SEL		TCON
29	AGP		TCON
30	SCN-EN		TCON
31	Bit-SEL		TCON
32	LD-EN2		TCON
33	BOE-SCL		TCON
34	BOE-SDA		TCON
35	2D/3D		TCON
36	L/R-IN		TCON
37	L/R OUT		TCON
38			NC

39	GND	ground wire	ground wire
40	GND	ground wire	ground wire
41	GND	ground wire	ground wire
42	GND	ground wire	ground wire
43			NC
44	VCC-VX1	Power	Power
45	VCC-VX1	Power	Power
46	VCC-VX1	Power	Power
47	VCC-VX1	Power	Power
48	VCC-VX1	Power	Power
49	VCC-VX1	Power	Power
50	VCC-VX1	Power	Power
51	VCC-VX1	Power	Power

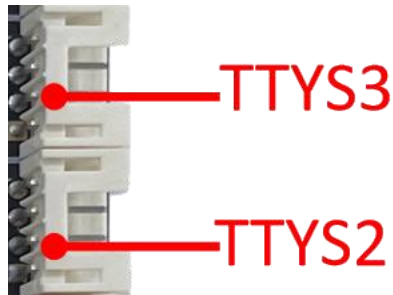
Note: Do not operate with power on, Do not hot swap

7. MCU Interface



NO.	Definition	Attributes	Description
1	3V3	power supply	3.3V output
2	SWDIO	output	TX
3	SWCLK	input	RX
4	GND	ground wire	ground wire

8. UART (Serial port) Interface



1 set of ordinary two-wire serial ports, which can support common UART serial port devices on the market. The level of the serial port is 0V to 3.3V. When the level of the connected serial port is higher than 3.3V, an isolation circuit or a level conversion circuit is required. Otherwise, the main control unit and the device will be burned out.

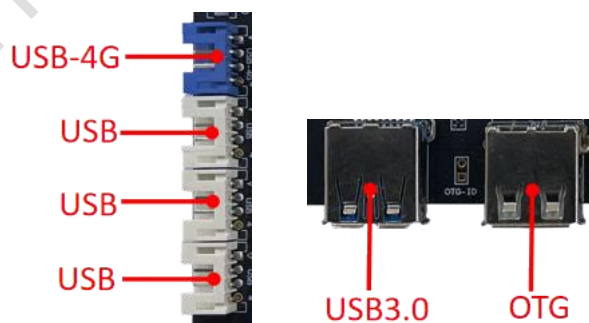
Tips:

1. Whether the serial port voltage matches. Cannot directly access RS232, RS485 serial device.
2. Whether the connection of TX and RX is correct.

No.	Definition	Attributes	Description
1	3V3	power supply	3.3Voutput
2	TX	output	TX
3	RX	input	RX
4	GND	ground wire	ground wire

TTY53 Adjustable by hardware RS232, TTY52 Adjustable by hardware RS485

9. USB Interface



The board has 2 USB 3.0 standard interfaces, and 4 USB 2.0 pins, which is shared with the 4G module.

NO.	Definition	Attributes	Description
1	5V	power supply	5V output

2	DM	input/output	DM
3	DP	input/output	DP
4	GND	ground wire	ground wire

Note: The standard interface and the built-in USB socket support a maximum current of 1A.

10. SPK Interface (Amplifier)

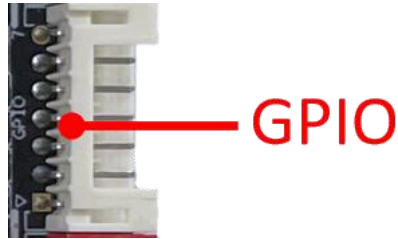


NO.	Definition	Attributes	Description
1	SPK+	output	left channel+
2	SPKR-	output	left channel-
3	SPKL-	output	right channel-
4	SPKL+	output	right channel+

11. AUDIO 3.5mm Interface



12. GPIO Interface



NO.	Definition	Attributes	Description
1	GND	Ground wire	Ground wire
2	IO5	IO5	volume-
3	IO4	IO4	volume+
4	IO3	IO3	return
5	IO2	IO2	return to the home page
6	IO1	IO1	Short press for 1 second: Turn the screen on/off. Long press for 3 seconds: Pop up the "Restart/Shut down" window. Long press for 6 seconds: Force shutdown.
7	3V3	Power	3.3V output

13. DEBUG Interface



No.	Definition	Attributes	Description
1	3V3	Power	3.3V output
2	TX	Output	TX
3	RX	Input	RX
4	GND	Ground wire	Ground wire

14. Other Interfaces

Storage interface	TF card	Data storage, maximum support 256G
	USB	Support USB mouse keyboard, camera, touch screen, etc.
以太网接口	RJ45 interface	Support 100Mbps wired network
HDMI IN 接口	Standard interface	Support HDMI output, maximum support 4K 60HZ

Chapter III Communication Methods

I . Wi-Fi Update Program

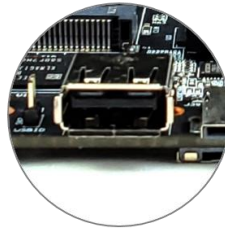


II. U-disk update program



U-disk update programs

Support Interstitial & memory expansion

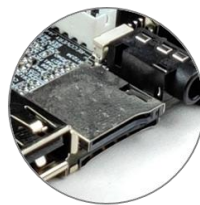


III. TF Card Update Program



TF card update programs

Support Interstitial & memory expansion

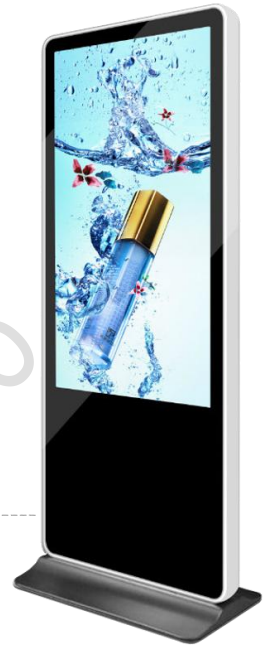
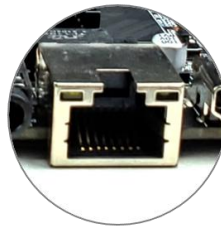


IV. Ethernet cable to Update

LAN or Internet

Network cable connection

LAN & Internet integrated management



V. Internet Update

Internet remote management

Anytime & anywhere operation available



LAN/Wi-Fi



Chapter IV Appendix: Product Appearance

