

PRODUCT SPECIFICATION

LCD Android Board
HD-3566MV

Update History

Version	Release time	Description
V1.0	August 26, 2024	First official release.

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Chapter I Product Description

I. Overview

HD-3566MV is an Android motherboard with LCD display using RK3566 Quad-core chipset program, equipped with Android 11 system, the main frequency up to 1.8GHz, superb performance. Adopting Mali-G52 GPU, it supports 4K 60fps H.265/H.264/VP9 video decoding, IR remote control, Wi-Fi, RJ45 and other rich interfaces, making the product more versatile and widely used in intelligent control fields such as advertising machines, interactive all-in-one machines, security, medical, transportation, finance, industrial control, etc.

Due to the characteristics of its hardware platform and Android intelligence, it can be used on the main board of the smart terminal when human-computer interaction and network device interaction are required, and it can be your best choice.

II. Features

- Minimalist design. Reserved for common interfaces, extreme size for ultra-thin application scenarios.
- High performance. The RK3566 chip adopts Quad-core ARM Cortex-A55 architecture, main frequency up to 1.8GHz. It can play high-definition video in various formats and handle complex interactive operations.
- High stability. RK3566 Android all-in-one board adds unique technology to ensure product stability in terms of hardware and software, and can make the final product reach 7*24 hours unattended.
- High integration. RK3566 Android all-in-one board integrates V-By-One, Ethernet, Wi-Fi, audio power amplifier, USB expansion port, IR remote control function, backlight control and other functions.
- High scalability. 4 USB (2 pins, 2 USB 3.0 HOST), 2 serial ports + 1 scalable debug serial port + 1 MCU programming serial port, three IO expansion ports can expand more peripheral devices.
- High definition. Supports LCD displays with various V-By-One interfaces, and supports cutting screens of various sizes and resolutions.

Chapter II Specifications

I . Basic Parameters

1. Hardware Parameters

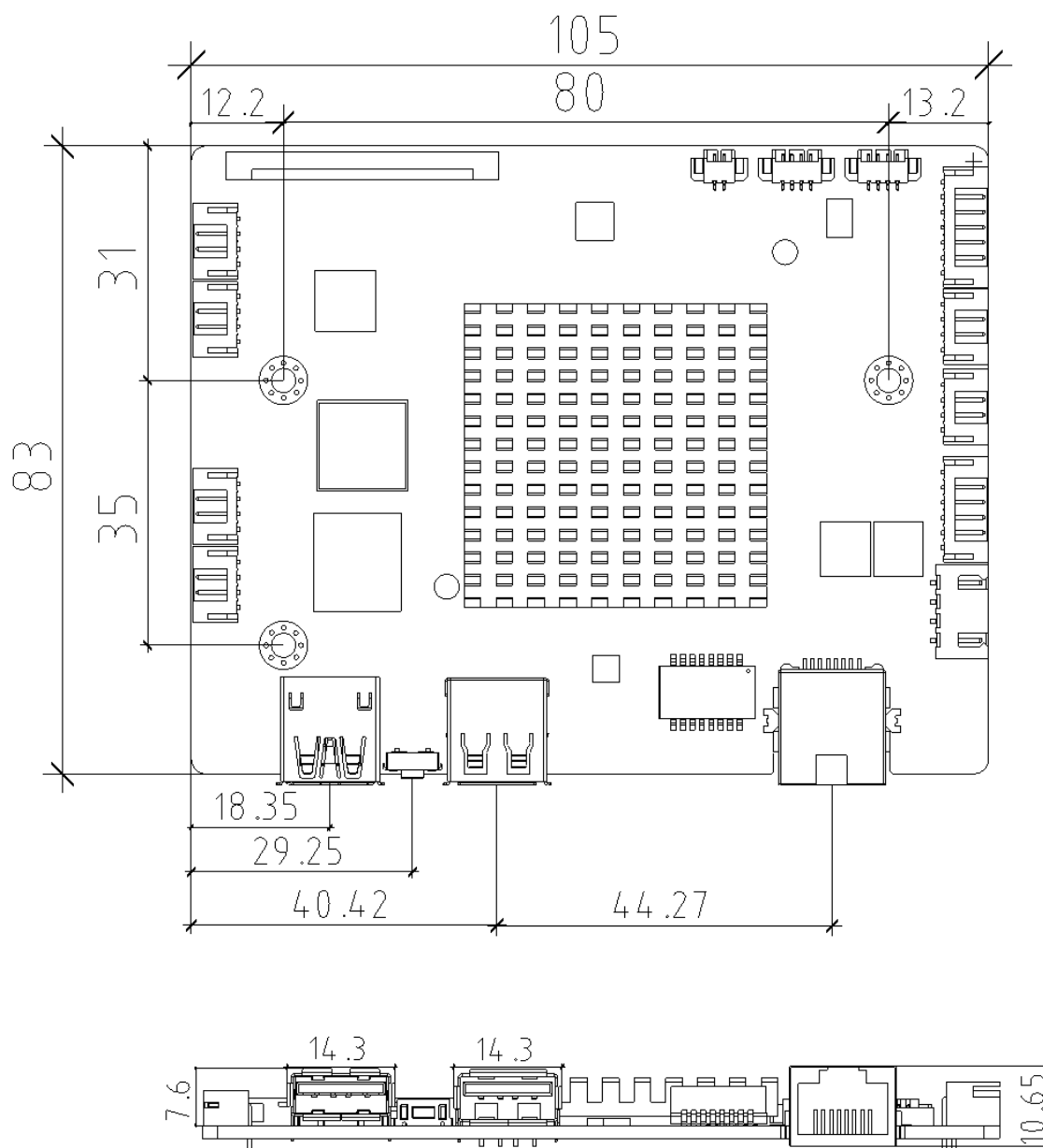
Hardware Specifications	
CPU	RK3566, Quad-core chip, quad-core up to 1.8GHz
GPU	ARM Mali-G52 GPU supports OpenGL ES 1.1/2.0/3.2, OpenCL 2.0 and Vulkan 1.1.
NPU	1TOPS
RAM/ Storage	2GB+32GB, 4GB+32GB
Network	Supports RJ45 R/A 100 Gigabit Ethernet; Support 2.4GHz/5GHz Wi-Fi; support Wi-Fi 802.11b/g/n/ax protocol (support Wi-Fi 6), Bluetooth 5.0, cell phone Bluetooth transfer files
Image rotation	Support 0 degree, 90 degree, 180 degree, 270 degree manual rotation
Display interface	1 V-By-One interface supports 4K 60Hz On-board backlight control supports 12V backlight power supply
Amplifier	2 channel output (default 8 ohm 5 watt, compatible with 8 ohm 10 watt dual audio amplifier outputs)
Touch screen	Support USB multi-point infrared touch, multi-point capacitive touch, multi-point Nano film touch, multi-point sound wave touch, multi-point optical touch and more.
RTC	Built-in real-time clock function
USB	1-way USB 3.0 HOST, 1-way USB 3.0 OTG, 2-way extended USB port
Infrared	Infrared receiving socket, support infrared remote control function
LED	Power light, power on green light is always on, power off red light is always on System running light, power on green light flashing, power off does not light up
Button	1*upgrade key
Serial port	2-way TTL serial port (optional RS232, RS485), 1-way DEBUG, 1-way MCU burning serial port
GPIO	3-way IO input and output control, can be used for key scanning control
Storage humidity	10%~90%, no condensation
Storage temperature	-40℃~70℃

Operating temperature	-20℃~70℃
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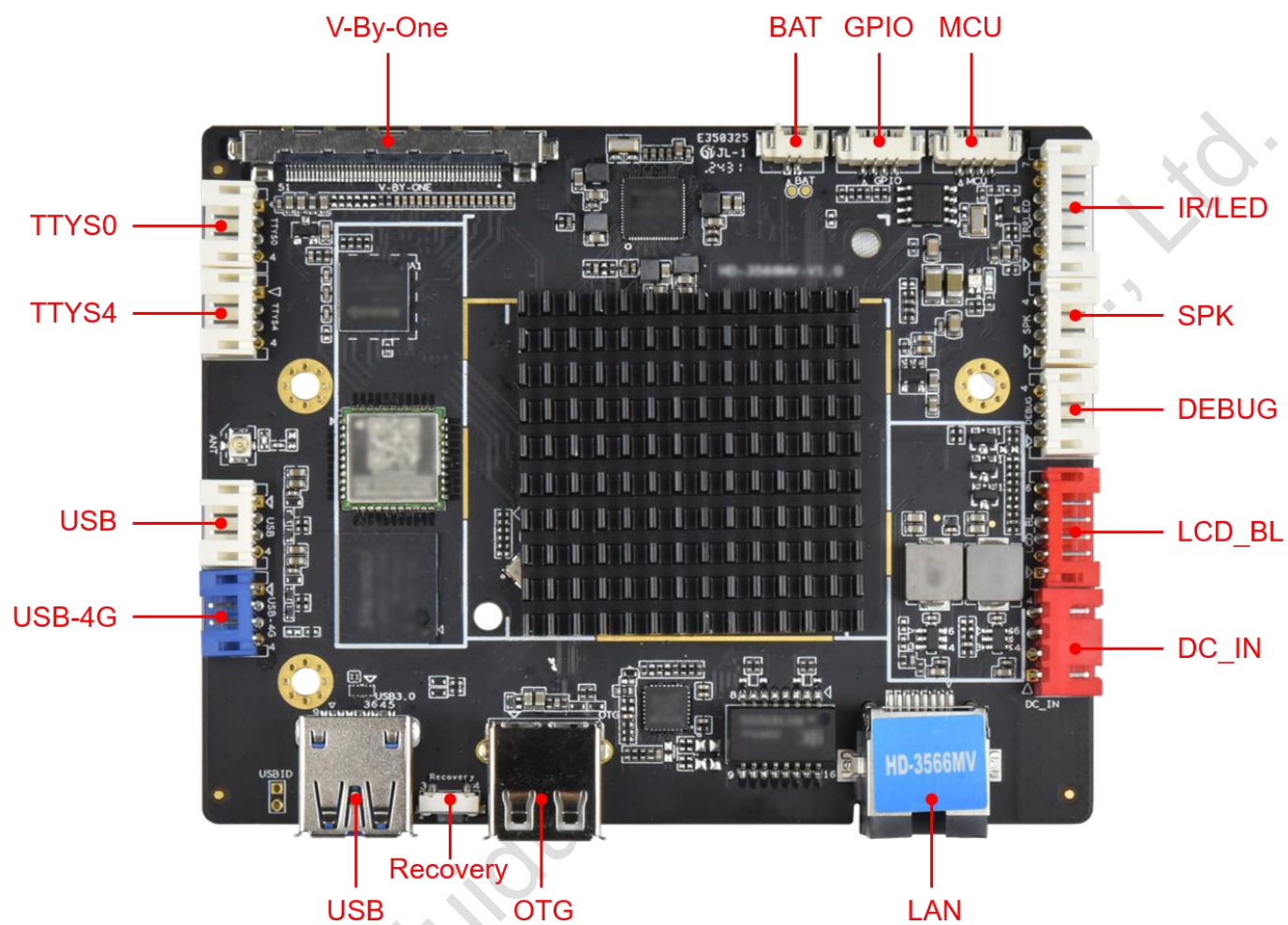
2. Software Parameters

Software Specifications	
Operating system	Android 11.0
Audio	MP3, WMA, WAV, APE, FLAC, AAC, OGG, M4A, 3GPP and other formats
Video	Support H.265, H.264, VP8, MAV, WMV, AVS, H.263, MPEG4 and other video formats
Picture	Support JPG, BMP, PNG and other image formats
Built-in APP default	Calculator, Voice Recorder, Calendar, Settings, Clock, Video Player, Gallery, Camera, Music, Explorer, Browser .etc
Language	Support multi-languages
Input method	Standard Android keyboard, optional third-party input method
System Management	Original ecological Android system, open root privileges, and can carry out product customization development
	Real-time remote monitoring, system crash self-recovery, 7*24 hours unattended
	Support OTA remote upgrade; support U disk upgrade
	Support boot animation definition
	Support server/standalone mode switching
	Support Wi-Fi hotspot
System watchdog	Support software watchdog

II. Dimensions



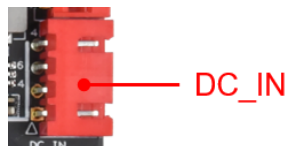
III. Product Interface Diagram



IV. Interface Parameter Description

1. Power Interface

12V DC power supply is used to power the board system from the DC block and power socket.



No.	Definition	Attributes	Description
3	GND	ground wire	ground wire
4	GND	ground wire	ground wire
5	12V	input	12V input
6	12V	input	12V input

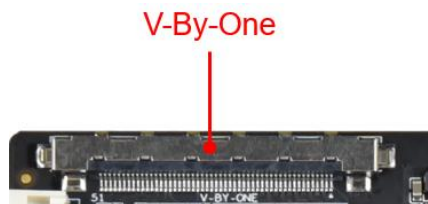
Note: The inner diameter of the DC power port is 2.0mm, and the outer diameter is 5.8mm.

2. LED/IR Interface (Remote control)



No.	Definition	Attributes	Description
1	RED	Output	Red light
2	3V3	power supply	3.3V output
3	GRN	output	green light
4	IO6	output	remote control signal output
5	INT	input	remote control signal input
6	GND	ground wire	ground wire
7	3V3	power supply	3.3V output

3. V-By-One Interface

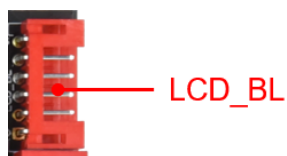


No.	Definition	Attributes	Description
1	GND	Ground wire	ground wire
2	VBX-7P	Output	Pixel0 Positive Data
3	VBX-7N	Output	Pixel0 Negative Data
4	GND	Ground wire	Ground wire
5	VBX-6P	Output	Pixel1 Positive Data
6	VBX-6N	Output	Pixel1 Negative Data
7	GND	Ground wire	Ground wire
8	VBX-5P	Output	Pixe2 Positive 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	Null	TCON
29	AGP	Null	TCON
30	SCN-EN	Null	TCON
31	Bit-SEL	Null	TCON
32	LD-EN2	Null	TCON
33	BOE-SCL	Null	TCON
34	BOE-SDA	Null	TCON
35	2D/3D	Null	TCON
36	L/R-IN	Null	TCON
37	L/R OUT	Null	TCON
38	Null	Null	NC

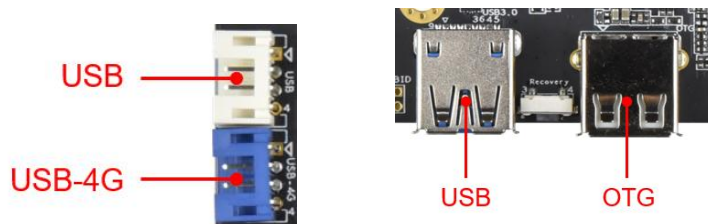
39	GND	Ground wire	Ground wire
40	GND	Ground wire	Ground wire
41	GND	Ground wire	Ground wire
42	GND	Ground wire	Ground wire
43	Null	Null	NC
44	VCC-VX1	Power	Power
45	VCC-VX1	Power	Power
46	VCC-VX1	Power	Power
47	VCC-VX1	Power	Power
48	VCC-VX1	Power	Power
49	VCC-VX1	Power	Power
50	VCC-VX1	Power	Power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

4. LCD_BL Interface (V-By-One Backlighting)



No.	Definition	Attributes	Description
1	GND	Ground	Ground
2	GND	Ground	Ground
3	ADJ	Output	Backlight brightness control
4	EN	Output	Backlight enable control
5	12V	Power	12V output
6	12V	Power	12V output

5. USB Interface



The board has two USB standard ports and 2 USB pins, 4G module access to designated USB-4G port.

No.	Definition	Attributes	Description
1	5V	power supply	5Voutput
2	DM	input/output	DM
3	DP	input/output	DP
4	GND	ground wire	ground wire

6. SPK Interface (Amplifier)



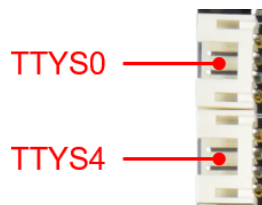
No.	Definition	Attributes	Description
1	SPKL+	output	right channel+
2	SPKL-	output	right channel-
3	SPKR-	output	left channel-
4	SPKR+	output	left channel+

7. GPIO Interface



NO.	Definition	Attributes	Description
2	GPIO5	IO5	IO5
3	GPIO4	IO4	IO4
4	GPIO3	IO3	IO3
5	GND	Ground wire	Ground wire

8. TTYS Interface



2 groups of ordinary two-wire serial ports, can support common serial devices on the market, the level of the serial port for 0V to 3.3 V. If the level of the docking serial port is higher than 3.3 V, there should be isolation circuits or level conversion circuits, otherwise it will be burned out of the main control and the device.

Precautions:

1. Whether the serial port voltage matches. It cannot be directly connected to RS232, RS485 serial devices.
2. Whether the connection of TX and RX is correct.

NO.	Definition	Attributes	Description
1	3v3	power supply	3.3V output
2	TX	output	TX
3	RX	input	RX
4	GND	ground wire	Ground wire

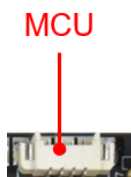
TTYS0 can adjust RS485 through hardware; TTYS4 can adjust RS232 through hardware.

9. 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

10. MCU Interface



No.	Definition	Attributes	Description
1	GND	Ground wire	Ground wire
2	SWCLK	Input	CLK
3	SWDIO	Output	DIO
4	3V3	Power	3.3V output

11. Other Interfaces

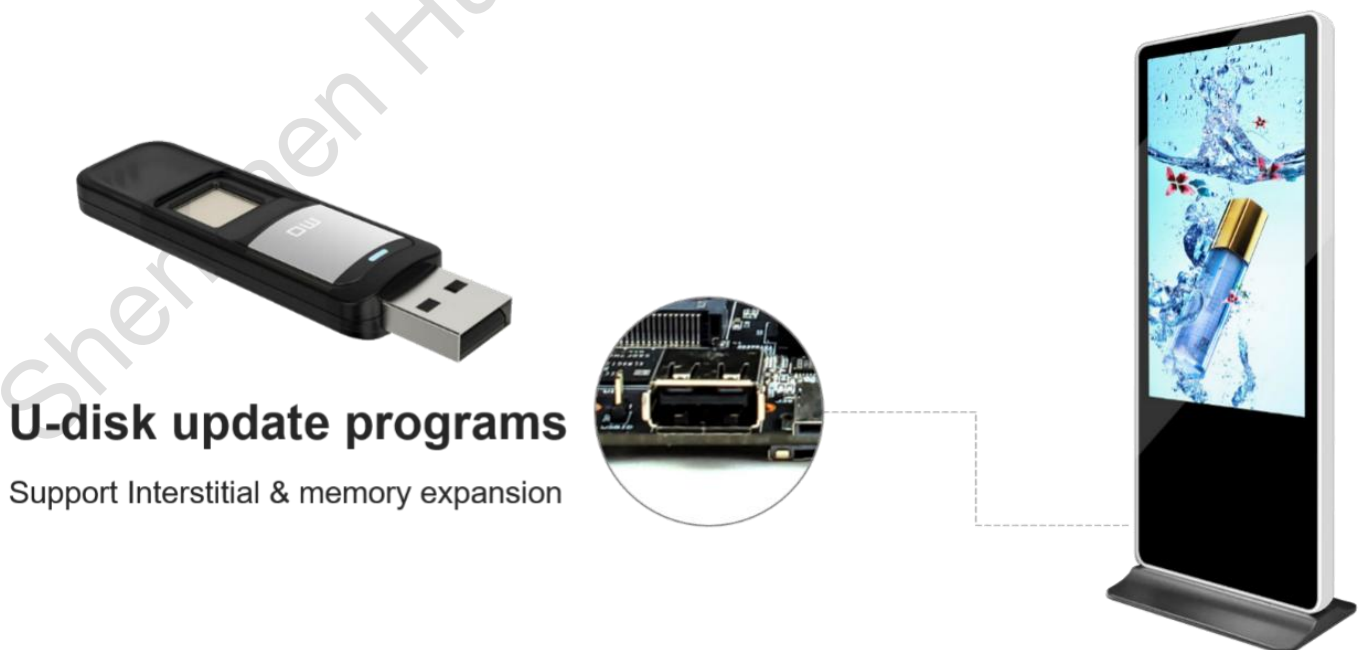
Storage Interface	USB	HOST interface, support data storage, data import, USB mouse keyboard, camera, touch screen, etc.
Ethernet interface	RJ45 interface	Support 1000Mbps wired network

Chapter III Communication Methods

I . Wi-Fi Update Program



II. U-disk update program

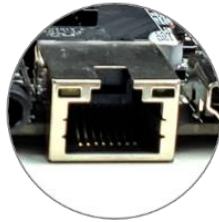


III. Ethernet cable to Update

LAN or Internet

Network cable connection

LAN & Internet integrated management



IV. Internet Update

Internet remote management

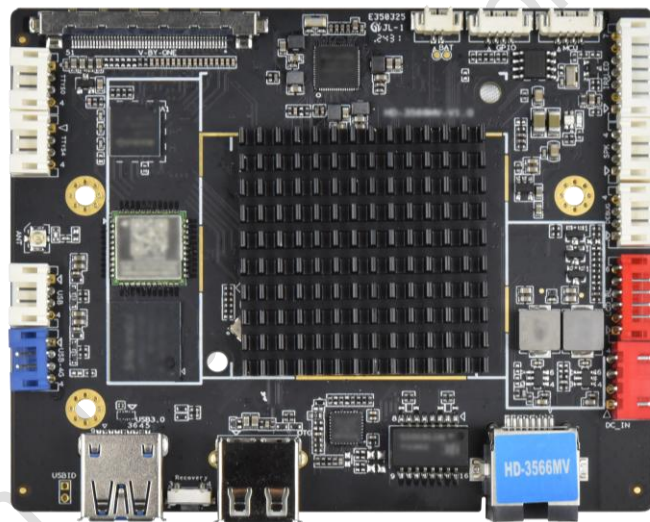
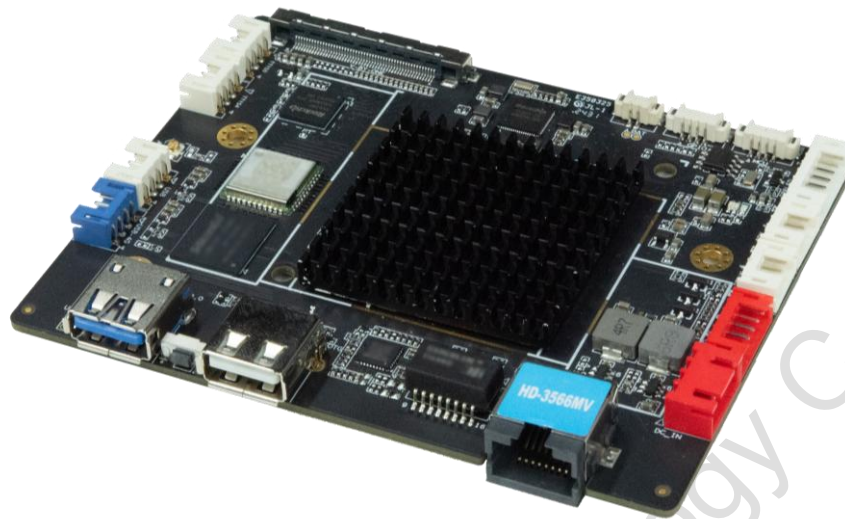
Anytime & anywhere operation available



4G/LAN/Wi-Fi



Chapter IV Appendix: Product Appearance



Note:

1. The model label is attached to the sales product. The product picture in the specification is different from the actual product. It is not a fake or inferior product. If you have any questions, please contact us for confirmation.

2. Do not operate with power on, Do not hot swap.