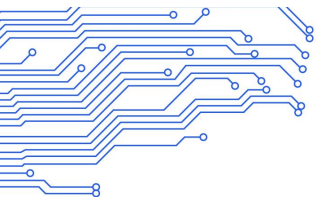


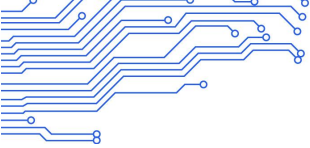
AIoT-3568SC V1.1



Specification

POS Device Mainboard





APPROVAL SHEET

PRODEUCT: _____

PRODEUCT SPEC: _____

PRODEUCT CODE: _____

SAMPLE DATE: _____

MADE	CHECK	APPROVED BY	PUBLISH SEAL

CUSTOMER: _____

PART CODE: _____

CUSTOMER APPROVER: _____

CHECKED BY	APPROVED BY	APPROVAL SEAL





Document modification history

Version	Revision content	Revision	Audit	Date
V1.0	Initial version	Li Lei	XXX	2021-04-20
V1.1		Huang Peng	XXX	2022-09-20
V1.1		Huang Peng	XXX	2023-04-12

Statement

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Chapter 1 Product Introduction

1.1 Scope of application

This product belongs to the commercial display self-service terminal motherboard, which is widely used in intelligent display terminal products, video terminal products, industrial automation terminal products, such as: advertising machine, digital signage, intelligent self-service terminal, intelligent retail terminal, O2O intelligent equipment, industrial control host, robot equipment, etc.

1.2 Product overview

This product uses Rockchip RK3568 (Cortex-A55x4) quad-core CPU, equipped with Android11 system, the main frequency is up to 2.0GHz, super performance, and rich interfaces. Whether it is benchmark or decoding, it is first-class, and it is your new choice in human-computer interaction and industrial control projects.

1.3 Product feature

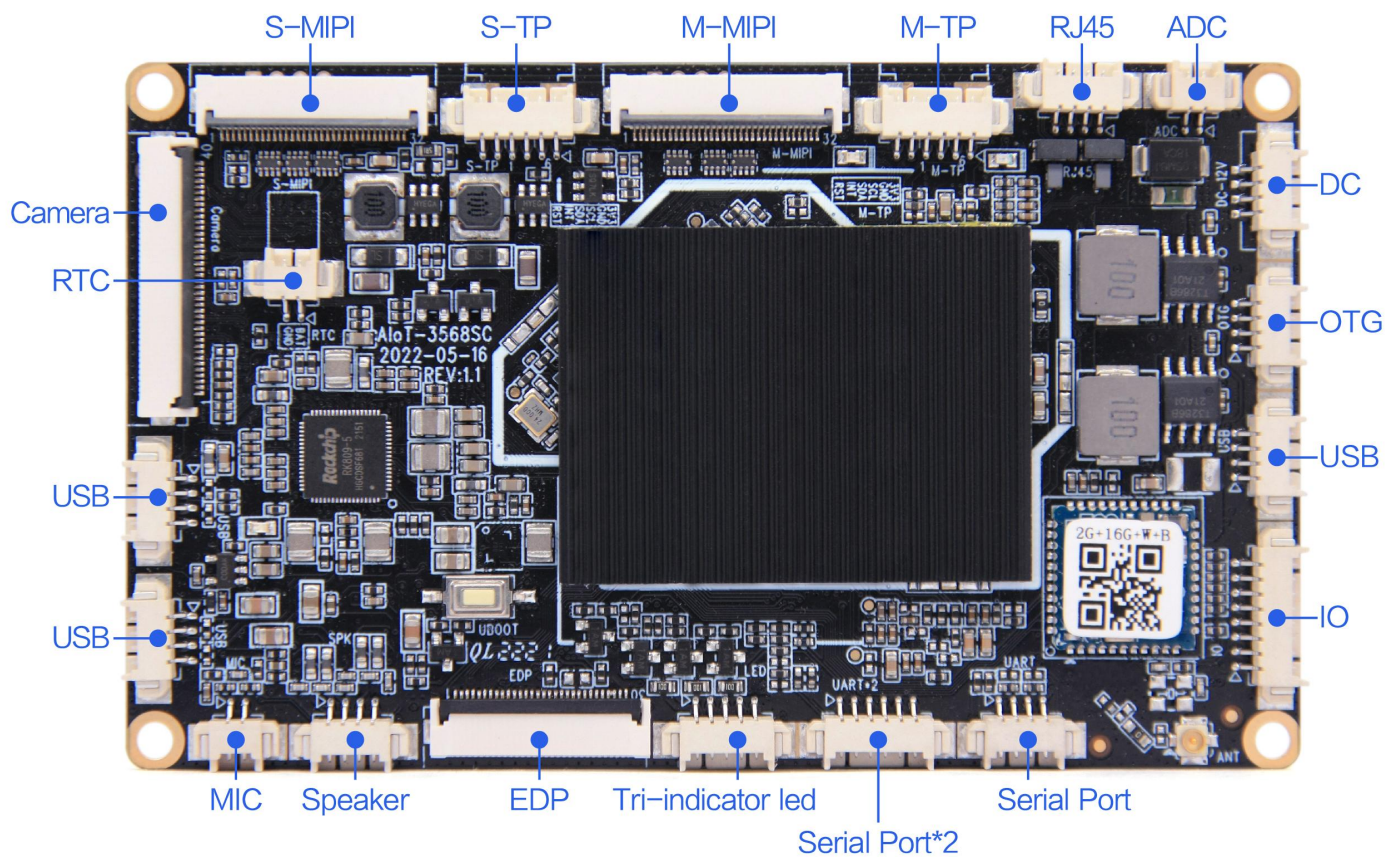
- ◆ High integration. Integrate multiple display interfaces/Ethernet /Wi-Fi/BT in one, simple and ultra-thin, outstanding.
- ◆ Rich expansion ports. 4 USB ports, three RS232 serial ports (The default is TTL, and 2 channels can be optionally configured as RS232), GPIO/ADC ports, can meet the requirements of various peripherals in the market.
- ◆ Support dual-screen different display. The EDP screen supports a maximum resolution of 1920*1080, and the MIPI screen supports a maximum resolution of 1920*1080.
- ◆ Support Android system customization, provide system call interface API reference code, and perfectly support customer upper-level application APP development.
- ◆ Support a variety of USB peripherals, such as USB camera, U disk, touch screen, code scanner, card reader, microphone, mouse, 4G module, etc..
- ◆ Support USB single-binocular camera, and MIPI camera, MIPI interface can support 1x4-lane/2x2-lane@2.5Gbps/lane, up to 13M pixels.
- ◆ It perfectly supports various mainstream touch screens such as infrared, optical, capacitive, resistive,



touch film, etc., and supports HID configuration of drive-free touch screens without debugging.

1.4 Appearance and interface diagram

Front/Back:



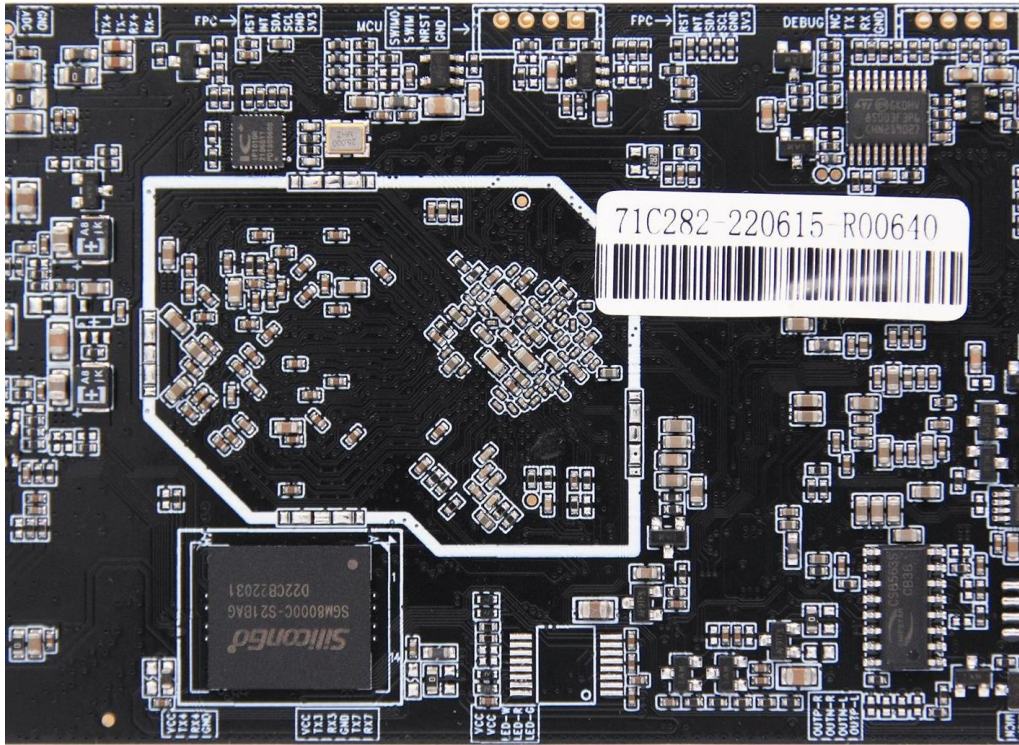


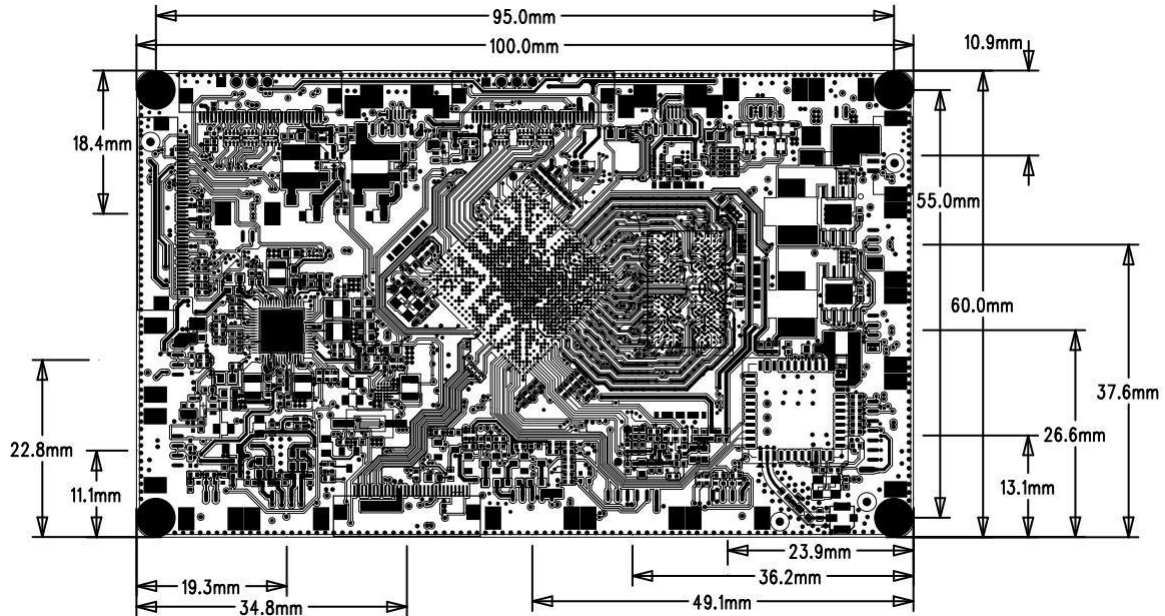
Photo statement: The above photos are taken from a certain batch of boards produced by our company. Due to the continuous maintenance of the product, the actual board cards shipped may not be consistent with the photos.

Chapter 2 List of Basic Functions

Main functional parameters	
Size	100*60mm
CPU	RK3568A, quad-core, main frequency up to 2.0GHz
Operating system	Android 11.0
RAM/Storage	Standard 2G (4G optional)/Standard 16G (32G/64G optional)
Built-in ROM	2KB EEPROM (not included by default, optional)
MIPI output	2 channels, can drive a variety of resolution MIPI LCD screen
eDP output	1 channel, can directly drive a variety of resolutions of the eDP interface LCD screen, the actual measurement has supported 1920*1080 resolution
Audio input/output	Speaker output (Support left and right channel output, maximum support double 3W/4R), MIC IN*1
USB port	1* USB OTG 3* USB2.0 HOST
Serial port	3 channels, TTL by default, of which 2 channels can be configured to 232
I2C port	2 channels, which can connect to TP or peripherals that can be connected to I2C interface
Network support	1. Support 10/100M adaptive Ethernet 2. Built-in Wi-Fi, support Bluetooth 4.2
RTC real-time clock	Support low power consumption
System upgrade	Supports local USB upgrade

Chapter 3 PCB Dimensions and Interface Layout

3.1 PCB size chart



PCB: 6 layers of board, 1.6mm board thickness


PCBA: L * W=100mm*60mm

Specification of screw hole: ϕ 3.2mm x 4

Note:

1. Heat dissipation design
2. Subject to the actual size of the product

3.2 Interface Parameter Description

Picture Annotation Notes: The “” in the circle on the socket interface picture indicates the first pin. (The “” of the red socket indicates the first pin)

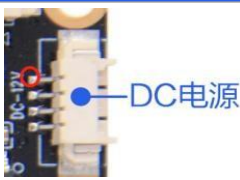
3.2.1 Power input interface (4pin/1.25mm)

Functional description:

The board is powered by a 12V DC power supply, and it is only allowed to supply power to the board subsystem from the DC socket and power socket. When no external load is connected, the 12V DC power supply needs to support a minimum current of 600mA.

The electrical definition of the power input socket is as follows:

Number	Definition	Attributes	Description
1	12V	Input	12V Input
2	12V	Input	12V Input
3	GND	Ground wire	Ground wire
4	GND	Ground wire	Ground wire



Note:

1. The voltage fluctuation of the power input port cannot exceed 10% of the standard input voltage of 12V. Otherwise, the stability of the mainboard may be affected.
2. It is recommended to use a power supply motherboard or adapter that meets the 3C standard, and the rated output power of the selected adapter can meet the motherboard and peripherals running at the same time and leave a margin of 30% -50%. That is, when the total current reaches 1.5A, the specification of 2.5A-3A should be selected.

3.2.2 ADC Interface (2pin/1.25mm)

Electrical definition:

Number	Definition	Attributes	Description
1	ADC	ADC Input	ADC signal input
2	GND	Ground wire	Ground wire



3.2.3 IO/KEY interface (8pin/1.25mm)

Function description:

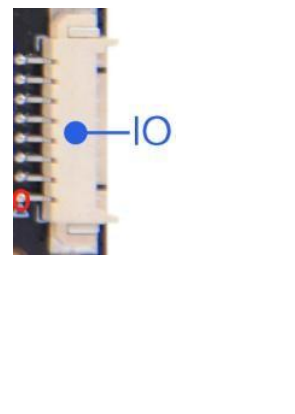
IO is used to provide the input/output of the control signal to the peripheral, and the level is 3.3V. The socket also leads to the switch button and the upgrade button interface.

Electrical definitions are as follows:

Number	Definition	Attributes	Description
1	VCC	Power supply	3.3V Output
2	I/O	Input	GPIO-1
3	I/O	Input	GPIO-2
4	I/O	Output	GPIO-3



5	I/O	Input	GPIO-4
6	GND	Ground wire	Ground wire
7	PWRON	Input	External power button
8	Uboot	Input	External upgrade button



Notes:

1. The IO level of the peripheral should not be higher than 3.3V. If the IO level of the docking device is higher than 3.3V, there should be an isolation circuit or a level conversion circuit, otherwise the main control and equipment will be burned out.
2. When using IO port, pay attention to whether IO port is input or output.
3. Note that the peripheral device is powered through this IO port (in the shutdown state, the multimeter should measure this IO to be 0V).

3.2.4 MIC interface (2pin/1.25mm)

Function description:

The mainboard has a MIC port for connecting to an external microphone.

Electrical definition:

Number	Definition	Attributes	Description
1	MIC+	Input	MIC+
2	MIC-	Input	MIC-



Notes:

1. Pay attention to the connection method of MIC positive and negative poles, do not reverse connection.
2. MIC wire length as far as possible not too long, MIC wire in the equipment to avoid high-speed signal line and power line layout, to avoid interference sound.

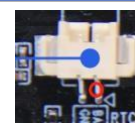
3.2.5 BAT2 RTC Battery Interface (2pin/1.25mm)

Functional description:

It adopts 2pin 1.25mm spacing Wafer socket interface, used to supply power to the system clock when the power is off.

Electrical definitions are as follows:

Number	Definition	Attributes	Description
1	RTC	input	3V input
2	GND	ground wire	ground wire



Note:

1. When using the RTC battery, check whether the positive and negative electrodes are correct. The reverse connection may cause a short circuit, which poses a risk of fire and explosion.

2. If you find that the RTC time is not accurate during use, please replace the RTC battery in time and choose the correct 3V, CR2036 button battery. If you need to use cable batteries, please contact FAE for the corresponding model specifications.

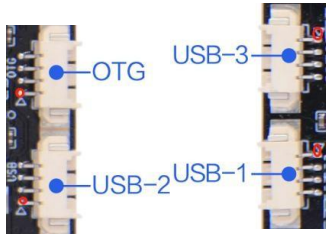
3.2.6 USB port (4pin/1.25mm*4)

Functional description:

The motherboard has 4 USB standard interfaces, which can be used for peripheral expansion, where the USB OTG port defaults to HOST, and the power supply current 1A.

Electrical definitions are as follows:

Number	Definition	Attributes	Description
1	VCC	power supply	5V Output
2	DM	input/output	DM
3	DP	input/output	DP
4	GND	Ground wire	Ground wire



Note:

1. Check the definition of the USB terminal cable before use to prevent the power supply from being reversed from the ground, which may burn peripherals and motherboards.
2. The length of USB peripheral cable should be as short as possible to meet the needs of use. Do not use too long a USB cable, otherwise it may cause stability problems during the use of peripherals.
3. The signal in the USB cable is a high-speed differential signal. USB wire as far as possible to use the wire with braided shielding layer, can greatly enhance the anti-interference force of the device and increase the stability of the device.

USB port description:

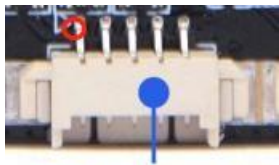
Number	Screen print/serial number	Default supply current	Whether the power supply is controllable	Corresponding nodes
1	USB OTG-1	1.44A	Controllable	OTG
2	USB -1	1.44A	Controllable	HOST-1
3	USB -2	1.44	Controllable	HOST-2
4	USB -3	/	Uncontrollable	HOST-3

3.2.7 Three-Color Indicator Port (5pin/1.25mm)

Functional description:

The board reserved a set of external interfaces that can be used as three-color indicators
Electrical definitions are as follows:



Number	Definition	Attributes	Description	
1	LED-G	output export	green light	 <div data-bbox="1018 376 1311 479" style="border: 1px solid black; padding: 5px; text-align: center;"> Three-Color Indicator </div>
2	LED-R	output export	red light	
3	LED-W-	output export	white light	
4	VCC	power supply	Power supply is 5V, 12V is optional	
5	VCC	power supply	Power supply is 5V, 12V is optional	

Notes:

1. The indicator light interface is the common anode indicator light interface, and the common anode indicator light is required by default.
2. The default limited current on the board, the current limiting resistance is 10R, the voltage is 5V(12V can be configured), the external indicator does not need to increase the resistance, otherwise the brightness may be too low.

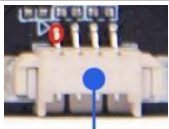
3.2.8 Serial socket interface (4pin/1.25mm+6pin/1.25mm)

Function description:

The board supports 3 common dual-wire serial ports, which can support common serial port devices in the market, and the level of serial ports is from 0V to 3.3V.

4pin/1.25m


Electrical definitions are as follows:

Number	Definition	Attributes	Description	
1	GND	Ground wire	Ground wire	 <div data-bbox="1177 1599 1251 1637" style="text-align: center;">串口</div>
2	RX4	Input	RX4	
3	TX4	Output	TX4	
4	VCC	Power supply	The default 3.3V output, can be configured with 5V output	

6pin/1.25mm

Electrical definitions are as follows:

Number	Definition	Attributes	Description
--------	------------	------------	-------------

6	VCC	Power supply	The default 3.3V output, can be configured with 5V output	
5	TX3	Output	TX3	
4	RX3	Input	RX3	
3	GND	Ground wire	Ground wire	
2	TX7	Output	TX7	
1	RX7	Input	RX7	

Notes:

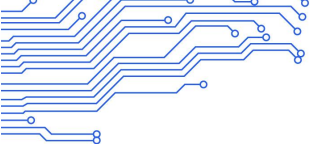
- 1, TTL serial port voltage match. Can not directly access RS232,RS485 equipment.
- 2, TX, RX connection method is correct.
3. If the level of the docking serial port is higher than 3.3V, there should be an isolation circuit or a level conversion circuit, otherwise the main control and equipment will be burned out. 4. In the process of software development, pay attention to the corresponding relationship between the system node and the hardware serial interface, refer to the following "Definition of Serial port and system Node".

Serial port configurations and nodes are as follows:

Number	Serial Number	Corresponding nodes	Default setting	Configurable or not
1	TTL port-3	TTYS3	TTL	TTL > RS232
2	TTL port-4	TTYS4	TTL	TTL > RS232
3	TTL port-7	TTYS7	TTL	Not

Notes:

1. Professionals are required to modify the configuration



3.2.9 I2C Port (6pin/1.25mm*2)

Functional description:

The board supports the TP screen connected to the I2C interface.

Electrical definitions are as follows:

Number	Definition	Attributes	Description	
1	VCC	Power supply	3.3V Output	
2	GND	Ground wire	Ground wire	
3	SCL	Output	I2C Clock	
4	SDA	Input/Output	I2C Data	
5	INT	Input	Interrupt	
6	RST	Output	Reset	

Notes:

1. The board supports the TP screen connected to the I2C interface. Before connecting the board, check whether the interface of the touch screen is I2C or USB.
2. The level of I2C, RST, and INT in the interface is 3.3V. If a 1.8V touch screen is connected, the level must be converted.
3. Please note that the electrical definition of the wire sequence matches before connecting. Connect the touch screen before powering it on. Do not plug it in when it is live.

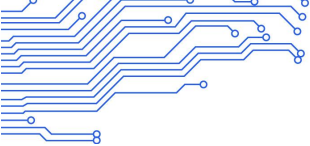
3.2.10 MIPI Screen Interface (32pin/0.5mm*2)

Function description:

The mainboard supports two mipi screen display ports in the form of 32pin 0.5mm spacing FPC sockets.

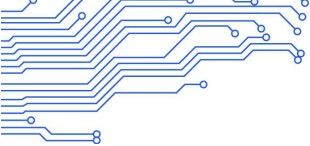
Electrical definition:

Number	Definition	Attributes	Description	Number
1	NC	--	Not connection	
2	NC	--		
3	VDD_1.8V	power supply	Power output, 1.8V	
4	VDD	power supply	Screen power output, 3.3V	
5	VDD	power supply		
6	Reset	output	Screen reset signal, high 3.3V	
7	GND	ground wire	ground wire	



8	MIPI_D0N	output	MIPI Port Lane 0 negative output
9	MIPI_D0P	output	MIPI Port Lane 0 positive output
10	GND	ground wire	ground wire
11	MIPI_D1N	output	MIPI Port Lane 1 negative output
12	MIPI_D1P	output	MIPI Port Lane 1 positive output
13	GND	ground wire	ground wire
14	MIPI_CKN	output	MIPI Port clock negative output
15	MIPI_CKP	output	MIPI Port clock positive output
16	GND	ground wire	ground wire
17	MIPI_D2N	output	MIPI Port Lane 2 negative output
18	MIPI_D2P	output	MIPI Port Lane 2 positive output
19	GND	ground wire	ground wire
20	MIPI_D3N	output	MIPI Port Lane 3 negative output
21	MIPI_D3P	output	MIPI Port Lane 3 positive output
22	GND	ground wire	ground wire
23	GND	ground wire	ground wire
24	BL-EN	output	Backlight enables signal output
25	PWM	output	Backlight pwm control
26	PWM OUT	input	On-screen PWM modulation backlight signal output
27	GND	ground wire	ground wire
28	LED-	power supply	LCD backlight power supply -
29	LED-	power supply	





30	NC	--	Not connection
31	LED+	power supply	LCD backlight power +
32	LED+	power supply	

1. Please confirm whether the screen power supply voltage and current and other parameters in the screen specification match the board. The default backlight drive current of the board is 90mA. If it does not match the current parameter requirements of the selected screen, you can seek support from our company's FAE, or adjust the Iled output current by adjusting the resistance value of R7431 and R9431. Formula: $I(\text{led})=200\text{mV}/R$.
2. Confirm that the line sequence electrical definition of the screen interface and the board interface are consistent, and the FPC screen line is selected correctly.
3. The signal level of I2C and RST in the interface is 1.8V. If the module with 3.3V level is connected, the level conversion should be done.
4. Before connection, please pay attention to whether the electrical definition of the wire sequence matches. It is necessary to connect the module before power on. Do not allow live plug.

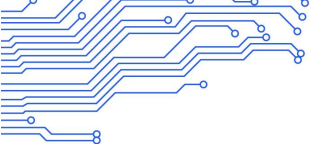
3.2.11 EDP screen interface (30pin/0.5mm)

Functional description:

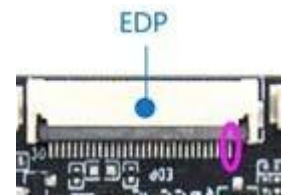
This interface is a 30pin screen interface. The default screen voltage is 3.3V screen power supply, and 5V output can be selected through the reserved resistance level R9042 on the board.

Electrical definitions are as follows:

Number	Definition	Attributes	Description
1	NC	--	Not connected
2	GND	ground wire	ground wire
3	D1-	output	Display Port Lane 1 negative output
4	D1+	output	Display Port Lane 1 positive output
5	GND	ground wire	ground wire
6	D0-	output	Display Port Lane 0 negative output
7	D0+	output	Display Port Lane 0 positive output
8	GND	ground wire	ground wire
9	AUX+	output	Display Port AUX+ chanenl positive singal
10	AUX-	output	Display Port AUX- chanenl negative singal
11	GND	ground wire	ground wire



12	PVCC	power supply	eDP LCD power output 3.3V
13	PVCC	power supply	eDP LCD power output 3.3V
14	NC	--	Not connected
15	GND	ground wire	ground wire
16	GND	ground wire	ground wire
17	eDP_HPD	input	Screen hot swap detection signal, screen output
18	GND	ground wire	ground wire
19	GND	ground wire	ground wire
20	GND	ground wire	ground wire
21	GND	ground wire	ground wire
22	BL-EN	output	Backlight enables control
23	BL-PWM	output	Backlight brightness pwm control
24	NC	--	Not connected
25	NC	--	Not connected
26	12V	power supply	12V output
27	12V	power supply	12V output
28	12V	power supply	12V output
29	12V	power supply	12V output
30	NC	--	Not connected

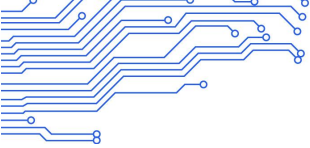


Note:

1. Please confirm whether the power supply voltage of the screen is correct in the specifications of the screen, and whether the corresponding power supply of the board can meet the maximum current of the screen.
2. Please use a multimeter to confirm whether the power supply selected by the jumper cap is correct.
3. Before connecting, check whether the electrical definition of the cable sequence matches. Connect the screen before powering on the device. Do not pull or plug the device when it is live.

3.2.12 Binocular MIPI Camera Interface (40pin/0.5mm)

Functional description:

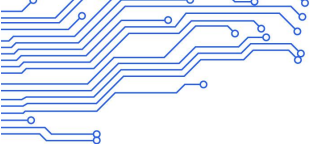


The board supports one mipi camera input.

Electrical definitions are as follows:

Number	Definition	Attributes	Description
1	VDD2V8	power supply	2.8V output
2	VDD3V3	power supply	3.3V output
3	IR-PWDN	output	IR_Camera Power failure control signal
4	IR-RST	output	IR_Camera reset signal
5	SCL	output	SCL signal
6	SDA	input/output	SDA signal
7	GND	ground wire	ground wire
8	IR-XCLK	output	IR_Camera master clock
9	GND	ground wire	ground wire
10	IR-MCP	input/output	The mipi clock channel of IR_Camera is positive
11	IR-MCN	input/output	The mipi clock channel of IR_Camera is negative
12	GND	ground wire	ground wire
13	IR-D0P	input/output	IR_Camera mipi data channel 0 positive
14	IR-D0N	input/output	IR_Camera mipi data channel 0 negative
15	GND	ground wire	ground wire
16	IR-D1P	input/output	IR_Camera mipi data channel 1 positive
17	IR-D1N	input/output	IR_Camera mipi data channel 1 negative
18	GND	ground wire	ground wire
19	DOVDD1V8	power supply	1.8V output
20	FSYC-IN	/	NC
21	LED-GPIO	/	NC
22	IR-DVDD1V2	power supply	1.2V output





23	RGB-DVDD1V2	power supply	1.2V output
24	RGB-PWDN	output	RGB_Camera Power off control signal
25	RGB-RST	output	RGB_Camera reset signal
26	GND	ground wire	ground wire
27	RGB-XCLK	output	RGB_Camera Master clock
28	GND	ground wire	ground wire
29	RGB-MCP	input/output	The mipi clock channel of the RGB_Camera is positive
30	RGB-MCN	input/output	The mipi clock channel of the RGB_Camera is negative
31	GND	ground wire	ground wire
32	RGB-D0P	input/output	RGB_Camera mipi data channel 0 positive

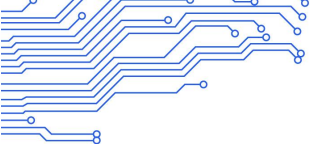
Notes:

1. The maximum supported resolution is: 4096X2304.
2. Cannot support binocular mipi camera module.
3. The signal level of I2C and RST in the interface is 1.8V. If the module with 3.3V level is connected, the level conversion should be done.
4. Before connection, please pay attention to whether the electrical definition of the wire sequence matches. It is necessary to connect the module before power on.

3.2.13 RJ45 port (4pin/1.25mm)

Function Description: This interface is used to connect to the external Ethernet, supporting 10/100M Ethernet

Electrical definition:



Number	Definition	Attributes	Description
1	TX+	output	Tranceive Data+
2	TX-	output	Tranceive Data-
3	RX+	input	Receive Data+
4	RX-	input	Receive Data-



Notes:

1. Ethernet signal for high-speed signal, TX+ and TX-,RX+ and RX- must be done respectively twisted pair.
2. TX,RX connection method is correct.
3. The connecting line needs to be shielded.

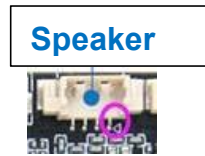
3.2.14 Speaker interface (4pin/1.25mm)

Functional description:

This port can be connected to an external speaker.

Electrical definition:

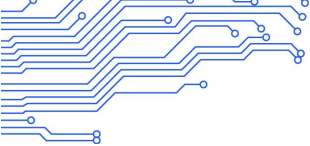
Number	Definition	Attributes	Description
1	OUTP-R	output	Audio Output Right+
2	OUTN-R	output	Audio Output Right -
3	OUTN-L	output	Audio Output Left -
4	OUTP-L	output	Audio Output Left+



Note:

1. This is a double horn connection. When a single horn is used, pin1 and pin2 are in a group, and pin3 and pin4 are in a group.
2. The use of the horn, need to connect the horn before starting, do not allow live plug and plug use.
3. The default output power of the horn interface is 6R/8W. If a 4R horn is used, the power should be reduced by half accordingly.
4. The power amplifier chip can support the maximum power to 8R/10W, requiring custom hardware implementation.
5. When using, be sure to measure the actual maximum output power should be less than the actual horn rated power.





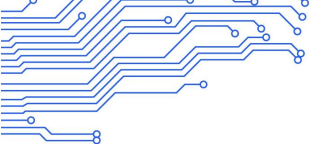
Chapter 4 Electrical performance

Items		Min	Typical	Max
Power parameter	Voltage	--	12V	--
	Ripple	--	--	50mV
	Current	2A		
Supply current(MIPI)	3.3V working current		400 mA	1.5A
Supply current (eDP)	3.3V working current		400 mA	1.5A
	5V working current		550 mA	2A
Total output	current	--	--	5A
Environment	Relative humidity	--	--	80%
	Operating temperature	-10℃	--	60℃
	Storage temperature	-40℃		80℃

Note 1: When the MIPI screen is connected, the test data is for a single screen. Select the backlight drive current corresponding to the screen to avoid burning the screen.

Note 2: When the eDP screen is connected, it is a single screen test data, and it is necessary to select the working voltage corresponding to the screen 3.3V or 5V to avoid burning the screen.



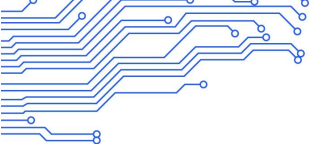


Chapter 5 Minimum test item of the whole machine

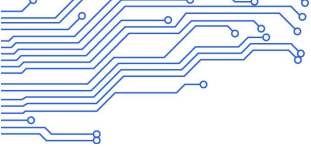
Description:

Minimum test item of stability and reliability of the whole machine		
Number	Test item	Test detail and description
1	Basic functional performance test	Test the main function performance of the whole machine, test wifi, Bluetooth, Ethernet, USB, serial port, video playback and other functions
2	Software upgrade function test	The whole product upgrade function verification, respectively test product line brush, U disk upgrade, and network remote upgrade function is normal
3	High temperature aging test	Test the high temperature resistance of the whole machine. After playing the aging work video in 60°C environment for 3 days, it can run normally and there are no bad electrical phenomena such as crash, abnormal painting and black screen
4	Low temperature power failure test	Test the anti-low temperature ability of the whole machine. After playing the aging work video in 0°C environment for 3 days, it can run normally and there are no bad electrical phenomena such as crash, abnormal painting and black screen
5	Short time timing switch at normal temperature	Test the product in the ability to withstand power on and off, programming 3 minutes to shut down, 7 minutes to start, after 7 days of normal operation, no crash, abnormal, black screen and other electrical adverse phenomena, abnormal record probability is not more than 4/10000
6	Electrostatic (ESD) test	The simulation test evaluates the anti-static discharge capability of the product. According to the IEC 61000-4-2 test standard, the product is discharged by contact $\pm 4\text{KV}$ and air $\pm 8\text{KV}$. Product validation must meet A Grade A or B to be accepted, and C and D grades are nonconformity
6	Low temperature power failure test	Test the product in the ability to withstand power on and off, programming 3 minutes to shut down, 7 minutes to start, after 7 days of normal operation, no crash, abnormal, black screen and other electrical adverse phenomena, abnormal record probability is not more than 4/10000
7	Sweep vibration test	Test the vibration resistance of the product through simulated transport tests and the bearing capacity of the board solder and parts to avoid potential problem points. The vibration tester was used to test the product. After the test, the structure of the test product was not loose and fell off, and it could operate normally. There was no crash, abnormal painting, black screen and





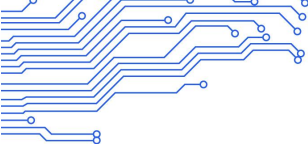
		other electrical defects and structural appearance damage, and it was judged to be OK
8	Free drop test	Simulation of the drop capacity of the transported product is used to determine the bearing capacity of the machine mechanism to avoid potential problems for design and process improvement. After the test is completed, the test product can run normally, no crash, abnormal display, black screen and other bad electrical and structural appearance damage phenomenon is determined as OK
9	Short power failure shock at normal temperature	Through this test, the ability of the product to withstand the power supply is tested
10	Long time timing switch machine at normal temperature	To verify the stability of MCU and the stability of system operation, the timing switch tool is set to start the machine at 9:30 am and shut down at 18:30 minutes, and the log records the same time interval for each startup. Turn on and off on time. If the error is less than 1min, it is judged to be qualified
11	Voltage overvoltage and undervoltage test	According to the power supply specification of the Android board, the voltage bearing capacity of the board is tested through the voltage change, and the whole machine is tested for 2 hours under the rated power supply of -20% +30%. After the test is carried out and completed, the test product can run normally, and no bad electrical phenomena such as crash, abnormal painting and black screen are judged to be OK



Chapter 6 Configurable parameter table (difference point)

Type	Standard		High configuration	
DDR	2G	<input checked="" type="checkbox"/>	2G	<input type="checkbox"/>
	4G	<input type="checkbox"/>	4G	<input checked="" type="checkbox"/>
	8G	<input type="checkbox"/>	8G	<input type="checkbox"/>
EMMC	16	<input checked="" type="checkbox"/>	16	<input type="checkbox"/>
	32	<input type="checkbox"/>	32	<input checked="" type="checkbox"/>
	64	<input type="checkbox"/>	64	<input type="checkbox"/>
Wi-Fi+BT	2.4G+BT	<input checked="" type="checkbox"/>	2.4G+BT	<input type="checkbox"/>
	5G+BT	<input type="checkbox"/>	5G+BT	<input type="checkbox"/>
4G/PCIE	<input type="checkbox"/>		<input type="checkbox"/>	
5G/M.2	<input type="checkbox"/>		<input type="checkbox"/>	
ETH/RJ45	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
SATA3.0	<input type="checkbox"/>		<input type="checkbox"/>	
MIPI*2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
eDP	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
HDMI	<input type="checkbox"/>		<input type="checkbox"/>	
USB*4	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
TTL*3	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
RS232*2	<input type="checkbox"/>		<input type="checkbox"/>	
RS485*1	<input type="checkbox"/>		<input type="checkbox"/>	
CAN*1	<input type="checkbox"/>		<input type="checkbox"/>	
Hdmi in	<input type="checkbox"/>		<input type="checkbox"/>	
TF	<input type="checkbox"/>		<input type="checkbox"/>	





Chapter 7 Assembly and Use Precautions

In the process of assembly and use, please pay attention to the following (and not limited to) problems.

1. Please ensure that the board card is not electrified for installation and installation of peripherals, and be sure to wear electrostatic bracelet and other anti-static tools during installation.
2. When connecting peripherals through wires, please ensure that the pin definition of each peripheral is corresponding to the socket of the main board to avoid short circuit caused by wire sequence error.
3. When fixing the main board with screws, pay attention to make the board card bear the force evenly, so as to avoid the PCB opening due to the deformation of the board car.
4. When installing interfaces with optional screen voltages (such as LVDS, eDP, etc.), please note that the voltage selected is consistent with the screen specifications.
5. When installing peripherals (USB, UART, IO .etc), pay attention to the level matching and current output capability of peripherals.
6. The 12V power supply in the backlight socket can only be used as backlight power output, and is strictly prohibited to be used as power input to the motherboard.The input power should be selected according to the general peripherals to evaluate whether the input power voltage and total current can meet the requirements.
7. The input power should be selected according to the general peripherals to evaluate whether the input power voltage and total current can meet the requirements.
8. When designing the whole product, the height limit and heat dissipation of the board should be considered.

