

Technical Specification

H9360 Android IPC Board

- Rockchips RK3568
- 2GB DDR + 8G EMMC
- 1 100M LAN port
- 4 serial data ports (2 RS232, 2 RS485)
- 1 custom button
- 1 micro USB OTG upgrade interface
- 1 speaker port
- 5 USB2.0 ports

... ..

cc 目 录

1. Product overview.....	3
2. Product specifications.....	3
3. Structural dimensions and interface definitions.....	4
3.1 Structural dimension diagram.....	4
3.2 Panel interface diagram.....	4
3.3 Interface definition.....	5
3.4 Interface Definition Usage Instructions.....	5
4. Panel indicator status.....	12

revision history

Version	Date	Revised by	modify the content
V1.0	2022.03.30	Xiaobo He	new version

1. Product overview

H9360 Android IPC industrial computer adopts RK3568 high-performance processor and Android operating system to design high reliability and high stability intelligent industrial control equipment. It provides Android 11 and other operating environments, supports 4G full Netcom real-time communication, and the city service and commercial networking application APP can directly run in the industrial computer system to provide end-users with convenient interactive services. Its rich peripheral interfaces and super image processing capabilities can be widely used in urban services and new retail fields, and can meet the needs of smart food pickup cabinets, smart coffee machines, face payment smart vending machines, smart express cabinets, robots, and the Internet of Things. , vehicle control, medical and other industry application needs.

2. Product specifications

Processor	CPU	Rockchips based on RK3568 Quad Core 2.0 GHz
Memory	Architecture	2GB onboard
OS	EMMC	8G eMMC
System	Android	Android 11
Network	WIFI+Bluetoo	WIFI IEEE802.11b/g/n 150Mbps, BT4.0
	RJ45	1 100M LAN port
	4G	4G full Netcom, drawer SIM card holder
Hardware monitoring	watchdog timer	0~255 seconds, provide watchdog routine
LED	LED	PWR、SYS、4G
Button	button	1 custom button
Input/Output	Onboard interface	1 PH2.0-10P serial data interface (2 RS232 + 2 RS485)
		1 PH2.0-4P Speaker interface
		1 PH2.0-2P MIC interface
		2 double-layer USB2.0 ports
		1 PH2.0-4P USB expansion interface
Display	HDMI	1 HDMI interface, the highest resolution is 4K@30Hz, supports audio output
	MIPI	1 MIPI interface
Power	Power Type	+12V DC input
	Max power consumption	+12V DC@1.5A

Working environment	Operating temperature	0° C ~ 70° C
	Storage temperature	-40° C ~ 80° C
	Working humidity	0% ~ 90% relative humidity, no condensation
Size	Size	150*92.0mm

3. Structural dimensions and interface definitions

3.1 Structural dimension diagram

The structural dimensions are shown in Figures 3-1 and 3-2, and the unit corresponding to the actual size of the equipment is millimeters.

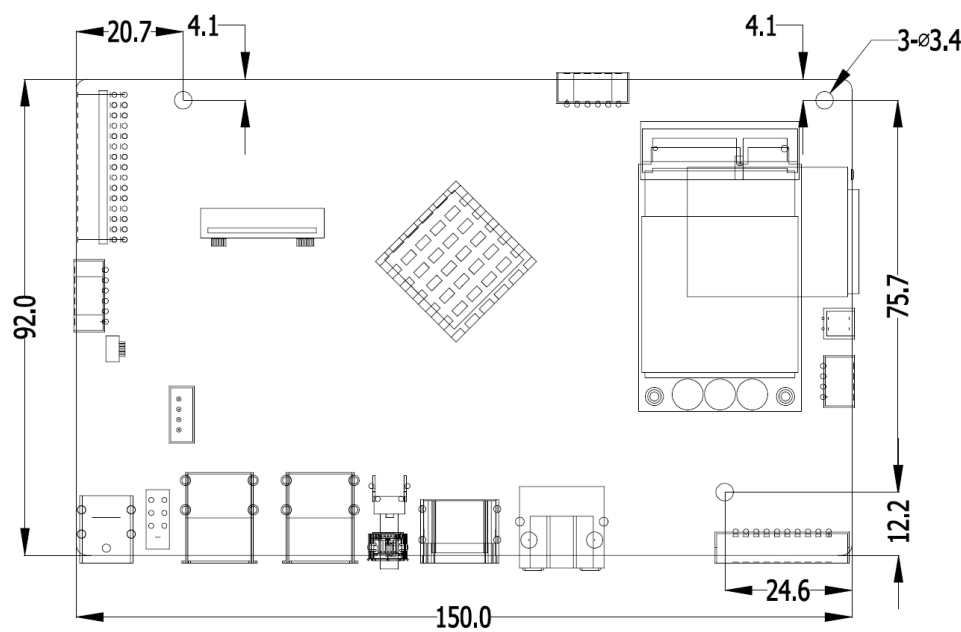


图 3-2 PCBA 结构尺寸图

3.2 Panel interface diagram

The panel interface diagram is shown in Figure 3-2-1.

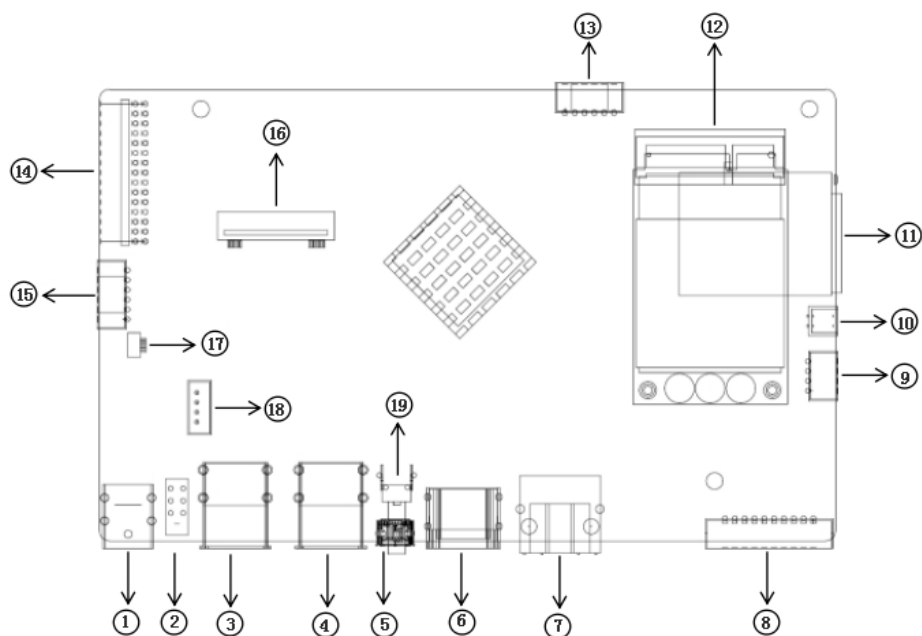


Figure 3-2-1 Panel Interface Table

3.3 Interface definition

The panel interface diagram is shown in Table 3-3-1.

Number	Function Description	Number	Function Description
①	+12V DC power input interface	⑪	Drawer SIM card holder
②	Signal indicator (Top: 4G light Middle: SYS light	⑫	PCIE module
③	Double-layer USB2.0 interface	⑬	I/O user interface terminal
④	Double-layer USB2.0 interface	⑭	LVDS display interface
⑤	OTG upgrade interface	⑮	LVDS backlight interface
⑥	HDMI display interface	⑯	MIPI display interface
⑦	RJ45 Fast Ethernet port	⑰	I2C touch screen interface
⑧	Serial line data interface	⑱	PH2.0-4P USB expansion
⑨	PH2.0-4P Speaker interface	⑲	Button (custom: can be the main APP startup and exit, upgrade, maintenance mode, etc.)
⑩	PH2.0-2P MIC interface		

Table 3-3-1 Interface Definition

3.4 Interface Definition Usage Instructions

3.4.1 On-board MIPI interface definition

Material description Flip cover FPC connector 40PIN//0.5 pitch



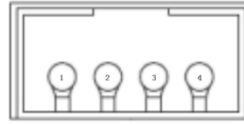
Figure: mipi interface diagram

Mipi interface pin table

pin number	Pin Definition	pin number	Pin Definition
1	NC	2	VDDIN1
3	VDDIN2	4	GND
5	RESET	6	NC
7	GND	8	MIPI_TDN0
9	MIPI_TDPO	10	GND
11	MIPI_TDN1	12	MIPI_TDP1
13	GND	14	MIPI_TCN
15	MIPI_TCP	16	GND
17	MIPI_TDN2	18	MIPI_TDP2
19	GND	20	MIPI_TDN3
21	MIPI_TDP3	22	GND
23	NC	24	NC
25	GND	26	NC
27	NC	28	NC
29	NC	30	GND
31	LEDK1	32	LEDK2
33	NC	34	NC
35	NC	36	NC
37	NC	38	NC
39	LEDA1	40	LEDA2

3.4.2 SPK amplifier interface definition

Material Description 1X4Pin 2.0mm Holder



R+ R- L- L+

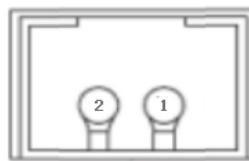
Figure: Speaker Interface Diagram

Speaker interface pin table

pin number	Pin Definition	illustrate
PIN 1	R+	Right channel positive
PIN 2	R-	Right channel negative
PIN 3	L-	Left channel negative
PIN 4	L+	Left channel positive

3.4.3 MIC interface definition

Material Description 1X2Pin 2.0mm Holder



INN INP

Figure: MIC interface diagram

MIC Interface Pin Table

pin number	Pin Definition	illustrate
PIN 1	MIC1_INN	Audio input negative
PIN 2	MIC1_INP	Audio input positive

3.4.4 On-board expansion of USB interface definition

Material Description 1X4P PH-2.0MM 180°

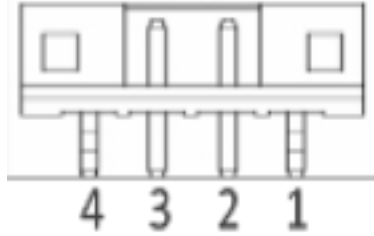


Figure: Extended USB interface diagram

Extended USB interface pin table

pin number	Pin Definition	illustrate
PIN 1	USB_5V	External USB2.0 device expansion interface
PIN 2	USB_DM	
PIN 3	USB_DP	
PIN 4	GND	

3.4.5 Definition of USB OTG interface

Material Description CONN MICRO USB 5S SMD

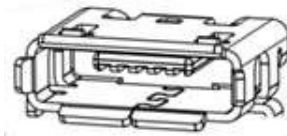


Figure: USB OTG interface diagram

USB OTG interface pin table

pin number	Pin Definition	pin number	Pin Definition
PIN 1	NC	PIN 2	USB_OTG _DN
PIN 3	USB_OTG _DP	PIN 4	USB_OTG_ID
PIN 5	GND	PIN 6	CHASSISGND2
PIN 7	CHASSISGND2		

This is a precision device, please do not use excessive force when plugging and unplugging the data cable. The OTG interface can be used for system update and programming.

3.4.6 Definition of double-layer USB interface

Material Description USB2.0 Double Layer×2 AF90° Horizontal 8P+4 DIP-12 NPB

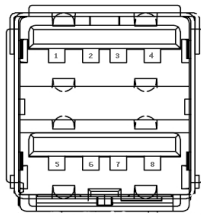


Figure: Double-layer USB interface diagram

Double-layer USB interface pin table

pin number	Pin Definition	pin number	Pin Definition
PIN 1	USB VCC1	PIN 2	USB_DM1
PIN 3	USB_DP1	PIN 4	GND1
PIN 5	USB VCC2	PIN 6	USB_DM2
PIN 7	USB_DP2	PIN 8	GND2
1. Supports full plug-and-play and hot-plug capabilities. The USB interface conforms to the USB UHCI, Rev. 2.0 standard. 2. The USB port provides a maximum current load capacity of 1A.			

3.4.7 On-board 10Pin serial data interface definition

Material Description CONN WAFER 1X10P 2.0MM 90° DIP-10P NPB

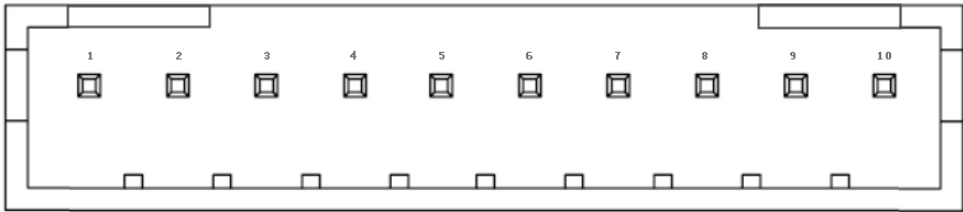


Figure: Serial Data Interface Diagram

Serial Data Interface Pin Table

pin number	Pin Definition	illustrate	
PIN 1	RS232_RX1	RS232 reception	Optional TTL interface
PIN 2	RS232_TX1	RS232 send	
PIN 3	RS232_RX2	RS232 reception	
PIN4	RS232_TX2	RS232 send	
PIN5	GND	signal ground	
PIN6	RS485_B3	RS485 reception	Optional RS232

PIN7	RS485_A3	RS485 send	
PIN8	RS485_B4	RS485 reception	
PIN9	RS485_A4	RS485 send	
PIN10	GND	signal ground	

3.4.8 HDMI Display Interface Definition

Material Description HDMI Port D-Sub 15Pin Female DIP



Figure: HDMI interface diagram

HDMI interface pin table

pin number	Pin Definition	pin number	Pin Definition
1	HDMI_D2P	2	GND
3	HDMI_D2N	4	HDMI_D1P
5	GND	6	HDMI_D1N
7	HDMI_D0P	8	GND
9	HDMI_D0N	10	HDMI_CLKP
11	GND	12	HDMI_CLKN
13	HDMI_CEC_IN	14	NC
15	HDMI_SCL	16	HDMI_SDA
17	GND	18	VDD_5V
19	HPD	20	CHASSISGND
1. Provides an integrated 19-pin socket interface HDMI Type A that supports HDMI 1.4A standard.			

3.3.9 On-board LVDS backlight interface

Material Description CONN Wafer 1X6 2.0mm 90° DIP-6P

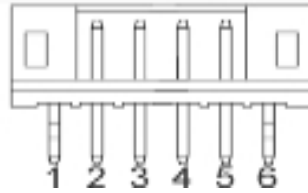


Figure: LVDS backlight interface diagram

HDMI interface pin table

pin number	Pin Definition	illustrate
PIN 1	12V	Backlight supply voltage
PIN 2	12V	Backlight supply voltage
PIN 3	EN	Backlight enable terminal
PIN 4	PWM	Backlight brightness control terminal
PIN 5	GND	ground
PIN 6	GND	ground

3.4.10 On-board LVDS signal interface

Material Description CONN Header 2X15P 2.0mm 90° DIP-30

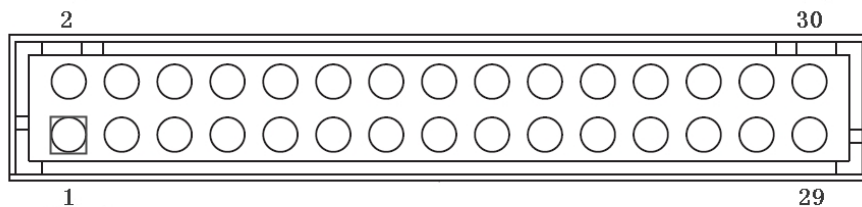


Figure: LVDS signal interface diagram

LVDS pin table

pin number	Pin Definition	illustrate
PIN 1、PIN 2、PIN 3	VCC	3V3 power supply positive pin
PIN 4、PIN 5、PIN 6	GND	ground pin
PIN 7	P0_TX0_N	
PIN 8	P0_TX0_P	
PIN 9	P0_TX1_N	

PIN 10	P0_TX1_P	
PIN 11	P0_TX2_N	
PIN 12	P0_TX2_P	
PIN 13、PIN 14	GND	ground pin
PIN 15	P0_CLK_N	
PIN 16	P0_CLK_P	
PIN17	P0_TX3_N	
PIN18	P0_TX3_P	
PIN19	P1_TX0_N	
PIN20	P1_TX0_P	
PIN21	P1_TX1_N	
PIN22	P1_TX1_P	
PIN23	P1_TX2_N	
PIN24	P1_TX2_P	
PIN25、PIN26	GND	ground pin
PIN27	P1_CLK_N	
PIN28	P1_CLK_P	
PIN29	P1_TX3_N	
PIN30	P1_TX3_P	

4. Panel indicator status

Q6101 intelligent industrial control touch display all-in-one machine has 3 LED indicators, indicating the working status and network status of Q6101. The description of the indicator light status is shown in the table below.

LED	Always bright	extinguished	flicker
PWR	System power supply is normal	System power failure	None
SYS	System exception	System exception	Flash (0.2S): The system starts normally
4G Network	4G dialing success	No dial up/module not found	