

# 深圳晨芯时代科技有限公司

SHENZHEN SUNCHIP TECHNOLOGY CO.,LTD



爱迪威主板 ADW Mainboard

八核 RK3576 安卓解码驱动一体板规格书

Octa-core RK3576 Android decoder drives all-in-one board  
specification

(产品型号: AD-C76)

(Model:AD-C76)

# 目录 Catalogue

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# 第一章 产品概述

## Unit 1 Summary of Product

### 概述 Summary

智能工业一体机大板，采用瑞芯微 RK3576 八核芯片方案。支持 Android 14 系统。加强型电源管理电路,支持常用外接设备。接口丰富、性能稳定。适用于智能远程网络控制：类工业、医疗、大型广告机、教育视频终端等设备。

Smart All-in-one Industrial mainboard, which is based on Rockchip RK3576 Octa-core chipset. It supports Android 14 OS. Reinforced power-management circuit, supports attached devices. Ample interfaces, steady performance. It can be used in smart remote control, such as Industrial, Medical, Advertise-machine, education video terminal etc.

### 特点 Feature

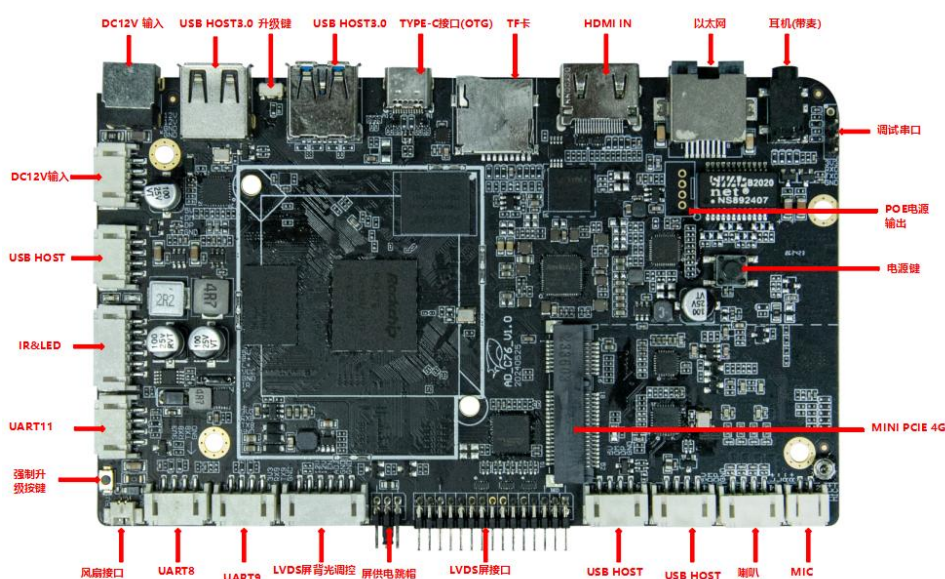
- ◆ 支持 LVDS、MIPI、EDP 接口显示屏。Support LVDS、MIPI、EDP interface display.
- ◆ 支持 HDMI IN（最高 4K@60FPS）。Support HDMI IN(up to 4K@60FPS).
- ◆ 多种交互模式接口：电容触摸、红外触摸、USB 键鼠、多点光学触摸。Multi-mode interface: capacitive touch, infrared touch, USB keyboard and mouse, multi-point optical touch.
- ◆ 多种网络接口：一路以太网（千兆）、无线 Wifi、蓝牙 5.2、4G。Multiple network interfaces: One Ethernet (Gigabit), wireless Wifi, Bluetooth 5.2, 4G.
- ◆ 7 路 USB 接口，包含 type-C，USB3.0，USB2.0（A 口，2.0mm 间距 4PIN，1.25MM 间距 4POIN）。7 pcs USB ports, including type-C, USB3.0, and USB2.0 (port A, 2.0mm spacing 4PIN, 1.25MM spacing 4POIN)
- ◆ 3 路 TTL 串口。Three TTL serial ports.
- ◆ 较强抗电磁干扰与电磁兼容性。Strong anti-electromagnetic interference and electromagnetic compatibility.

# 第一章 产品规格

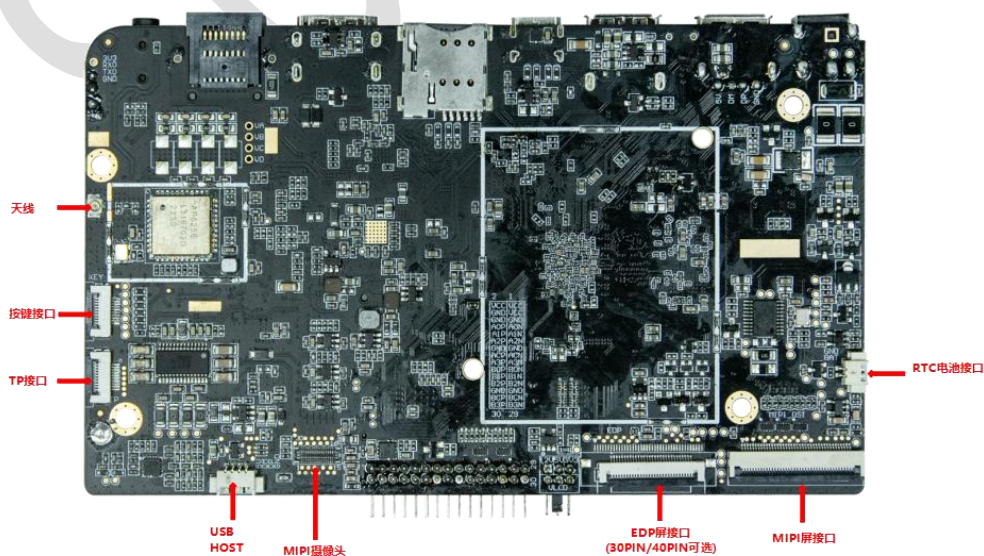
## Unit 2 Specification of Product

### 产品图片 Product Picture

正面 Front side



反面 Back side



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Bao'an,Shenzhen, China

## 基本硬件规格 Basic hardware specification

|                   |                                                                                                                                                                                              |                                                                                                           |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| CPU               | Rockchip RK3576 Octa-Core 64 bit , 4*Cortex-A72 + 4*Cortex-A53                                                                                                                               |                                                                                                           |
| Frequency         | Main frequency of the large core: 2.2GHz, Main frequency of the small core:1.8GHz                                                                                                            |                                                                                                           |
| GPU               | ARM Mali-G52 MC3                                                                                                                                                                             |                                                                                                           |
|                   | OpenGL ES 1.1/2.0/3.2                                                                                                                                                                        |                                                                                                           |
|                   | Vulkan 1.2                                                                                                                                                                                   |                                                                                                           |
|                   | OpenCL 2.1                                                                                                                                                                                   |                                                                                                           |
| NPU               | 6TOPS AI computing power, three core architecture, supports int4/int8/int16/FP16/BF16/TF32, empowering various AI scenarios                                                                  |                                                                                                           |
| RAM               | 2GB/4GB/8GB 32bit LPDDR4/LPDDR4x                                                                                                                                                             |                                                                                                           |
| Memory            | EMMC 32G/64G/128G/256G optional                                                                                                                                                              |                                                                                                           |
| Display interface | HDMI IN (Up to 4K@60FPS)                                                                                                                                                                     |                                                                                                           |
|                   | LVDS display interface (optional with MIPI)                                                                                                                                                  |                                                                                                           |
|                   | MIPI display interface (optional with LVDS)                                                                                                                                                  |                                                                                                           |
|                   | EDP display interface                                                                                                                                                                        |                                                                                                           |
| Display voltage   | Supports 3.3V/5V/12V optional (LVDS)                                                                                                                                                         |                                                                                                           |
| TP                | Provide I2C interface (can support multi-point resistive touch, multi-point capacitive touch).Support USB multi-point infrared touch, multi-point acoustic touch, multi-point optical touch. |                                                                                                           |
| Network           | RJ45 port, support 10/100/1000M Ethernet                                                                                                                                                     |                                                                                                           |
|                   | Equipped with WiFi&BT module, supporting Wi Fi 802.11a/b/g/n/ac protocol. Supports BT5.0                                                                                                     |                                                                                                           |
| Image rotation    | Support 0 degrees, 90 degrees, 180 degrees, 270 degrees manual/automatic rotation, support gravity sensing function                                                                          |                                                                                                           |
| RTC               | External real-time clock power supply battery                                                                                                                                                |                                                                                                           |
| Interfaces        | Support MIPI interface camera, up to 500W pixels                                                                                                                                             |                                                                                                           |
|                   | 3 个 USB HOST 2.0(4PIN 2.0 spacing connection seat)                                                                                                                                           | All support USB camera @500W USB printer, U disk, mouse, keyboard and other standard USB external devices |
|                   | 1 个 USB HOST 2.0(4PIN 2.0 spacing connection seat)                                                                                                                                           |                                                                                                           |
|                   | 1 个 USB HOST3.0 (Standard A interface)                                                                                                                                                       |                                                                                                           |
|                   | 1 个 USB HOST2.0 (Standard A interface)                                                                                                                                                       |                                                                                                           |
|                   | One full-function Type-C interface (OTG)                                                                                                                                                     |                                                                                                           |

|              |                                                                                                                    |
|--------------|--------------------------------------------------------------------------------------------------------------------|
|              | 3pcs serial ports, support external serial device modules (NFC module, printer, card reader, etc.)                 |
|              | TF card, up to 128GB                                                                                               |
|              | 4G module supporting mipi PCIE interface (default EC20)                                                            |
|              | Class D amplifier: 3W* 2pcs 8Ω, support microphone                                                                 |
| Audio format | MP3, WMA, WAV, APE, FLAC, AAC, OGG, M4A, 3GPP                                                                      |
| Video format | Decoding support 4K@120fps H.265/H.264/AV1/VP9/AVS2                                                                |
|              | Encoding support 4K@30fps H.264/H.265                                                                              |
|              | Encoding and decoding support 4K@30fps MJPG                                                                        |
| Image Format | Support JPG, BMP, PNG and other image formats browse and support rotation/slide play/image magnification function. |
| Power supply | Input: AC100-240V.50-60Hz, Output: DC12V 3A (internally positive and externally negative)                          |

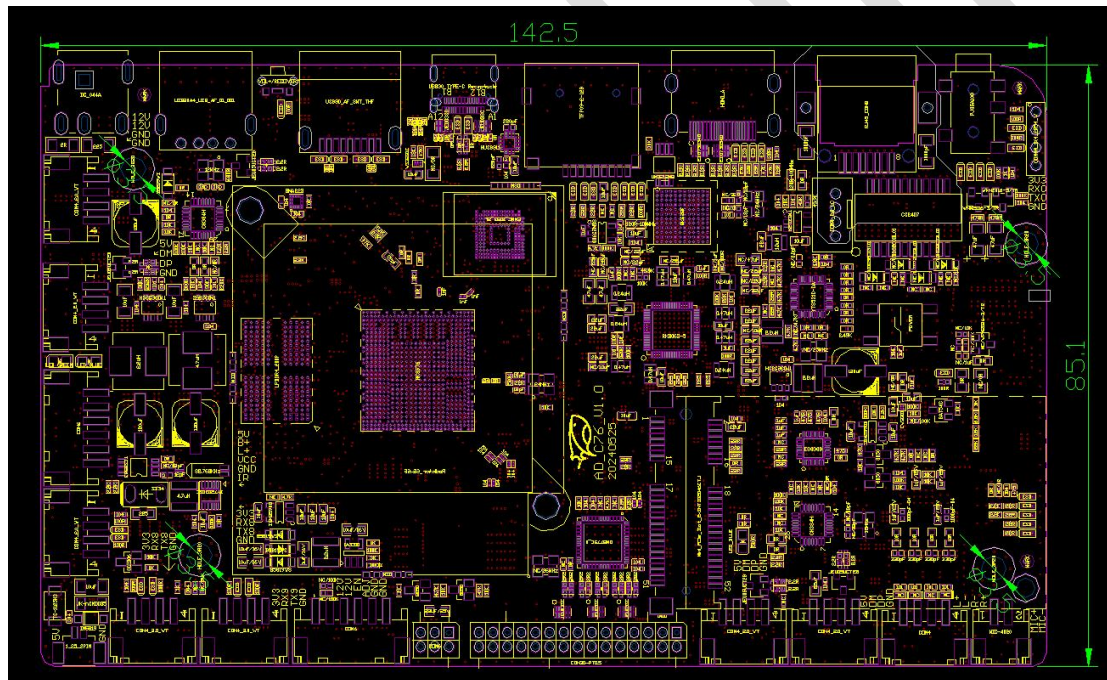
## 基本软件规格 Basic Software Specification

|                                |                                                                                                |
|--------------------------------|------------------------------------------------------------------------------------------------|
| 操作系统 OS                        | Android 14 and above                                                                           |
| 基本软件功能 Basic software function | Web browsing, web chat, email, e-books, explorer                                               |
| 音效模式 Sound mode                | Clock, Alarm Clock, Calculator, Recording                                                      |
| 语言支持 Language support          | Multiple languages                                                                             |
| 录音 Recording                   | Support MP3, WMA format recording                                                              |
| 工具 Tools                       | Calendar                                                                                       |
|                                | Alarm Clock                                                                                    |
|                                | calculator                                                                                     |
|                                | note                                                                                           |
|                                | weather+clock                                                                                  |
|                                | recording                                                                                      |
| 文书处理 Word processing           | EPUB, WORD, EXCEL, POWERPOINT, PDF, TXT                                                        |
| 电子书 E-book                     | PDF/TXT/CHM/DOC/EXCEL/EPUB/RTF/FB2                                                             |
| 日程 Schedule                    | Calendar                                                                                       |
| 输入法 Input                      | Standard Android keyboard, optional third-party input method (Chinese, Korean, Japanese, etc.) |
| 网络 Network                     | Browser -ChromeLite                                                                            |
|                                | GOOGLE Market                                                                                  |
|                                | Email                                                                                          |



|                        |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| 系统管理 System Management | Gmail                                                                                                         |
|                        | Google talk                                                                                                   |
|                        | Support OTA remote upgrade, U disk upgrade, SD upgrade (silent installation)                                  |
|                        | Original ecological Android system, open root permission, and can carry out product customization development |
|                        | Customizable local or remote server management system                                                         |
|                        | Support multiple third-party Android remote advertising publishing systems                                    |
|                        | Support multiple serial devices, USB devices, IO control devices                                              |

## PCBA 结构 Structure of PCBA



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 Bao'an,Shenzhen, China

## 电气正面 Electrical front side

- 电源接口 Power supply interface (DC IN 12V-J9947)

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description  |
|--------|---------------|-------------|-----------------|
| 1      | 12V_IN        | 电源 power    | 12V power input |
| 2      | 12V_IN        | 电源 power    | 12V power input |
| 3      | GND           | 地线 ground   | 地线 ground       |
| 4      | GND           | 地线 ground   | 地线 ground       |

- USB-HOST 接口 (USB\_HOST-J9943)

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description    |
|--------|---------------|-------------|-------------------|
| 1      | VCC_5V        | 输出 output   | 5V voltage output |
| 2      | HOST_DM       | 输出 output   | 数据 data           |
| 3      | HOST_DP       | 输入 input    | 数据 data           |
| 4      | GND           | 地线 ground   | 地线 ground         |

- IR&LED 接口 (IR&LED Receiver-J4)

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description        |
|--------|---------------|-------------|-----------------------|
| 1      | VCC_5V0       | 输出 output   | 5.0 V output          |
| 2      | LED_B+        | 输出 output   | blue light positive   |
| 3      | LED_R+        | 输出 output   | red light positive    |
| 4      | VCC_IR        | 输出 output   | 3.3 V output          |
| 5      | GND           | 地线 ground   | 地线 ground             |
| 6      | IR_OUT        | 输入 input    | infrared signal input |

- 串口接口 (UART11-J9960)

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description      |
|--------|---------------|-------------|---------------------|
| 1      | VCC_3V3       | 输出 output   | 3.3V voltage output |
| 2      | UART11_RX_M2  | 输入 input    | 接收 receive          |
| 3      | UART11_TX_M2  | 输出 output   | 发送 send             |
| 4      | GND           | 地线 ground   | 地线 ground           |

- 风扇接口 (FAN-U90119)

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description    |
|--------|---------------|-------------|-------------------|
| 1      | 5V            | 电源 power    | 5V voltage output |
| 2      | GND           | 地线 ground   | 地线 ground         |

- 串口接口 (UART8-J9959)

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| 序号 No. | 定义 Definition | 属性 Property | 描述 Description      |
|--------|---------------|-------------|---------------------|
| 1      | VCC_3V3       | 输出 output   | 3.3V voltage output |
| 2      | UART8_RX_M1   | 输入 input    | 接收 receive          |
| 3      | UART8_TX_M1   | 输出 output   | 发送 send             |
| 4      | GND           | 地线 ground   | 地线 ground           |

● 串口接口（UART9-J9952）

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description      |
|--------|---------------|-------------|---------------------|
| 1      | VCC_3V3       | 输出 output   | 3.3V voltage output |
| 2      | UART9_RX_M2   | 输入 input    | 接收 receive          |
| 3      | UART9_TX_M2   | 输出 output   | 发送 send             |
| 4      | GND           | 地线 ground   | 地线 ground           |

● LVDS 屏背光接口（LCD BL JACK-J9902）

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description            |
|--------|---------------|-------------|---------------------------|
| 1      | 12V           | 输出 output   | 12V voltage output        |
| 2      | 12V           | 输出 output   | 12V voltage output        |
| 3      | LCD-EN        | 输出 output   | 背光控制 backlight control    |
| 4      | LCD-ADJ       | 输出 output   | 背光调节 backlight adjustment |
| 5      | GND           | 地线 ground   | 地线 ground                 |
| 6      | GND           | 地线 ground   | 地线 ground                 |

● 屏电压跳帽接口（LCD JP JACK-J15）

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description    |
|--------|---------------|-------------|-------------------|
| 1      | 12V           | 输出 output   | 12V output        |
| 2      | VCC_LCD       | 输入 input    | LCD voltage input |
| 3      | 5.0V          | 输出 output   | 5.0 V output      |
| 4      | VCC_LCD       | 输入 input    | LCD voltage input |
| 5      | 3.3V          | 输出 output   | 3.3V output       |
| 6      | VCC_LCD       | 输入 input    | LCD voltage input |

● LVDS 接口（LVDS Panel-J9）

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description           |
|--------|---------------|-------------|--------------------------|
| 1      | VDD_LCD       | 输出 output   | 3.3V/5V/12V power output |
| 2      | VDD_LCD       |             |                          |
| 3      | VDD_LCD       |             |                          |
| 4      | GND           | 地线 ground   | 地线 ground                |

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|    |            |           |           |
|----|------------|-----------|-----------|
| 5  | GND        |           |           |
| 6  | GND        |           |           |
| 7  | LVDS0_D0N  | 输出 output | 数据 data   |
| 8  | LVDS0_D0P  | 输出 output | 数据 data   |
| 9  | VDS0_D1N   | 输出 output | 数据 data   |
| 10 | LVDS0_D1P  | 输出 output | 数据 data   |
| 11 | LVDS0_D2N  | 输出 output | 数据 data   |
| 12 | LVDS0_D2P  | 输出 output | 数据 data   |
| 13 | GND        | 地线 ground | 地线 ground |
| 14 | GND        |           |           |
| 15 | LVDS0_CLKN | 输出 output | 时钟 clock  |
| 16 | LVDS0_CLKP | 输出 output | 时钟 clock  |
| 17 | LVDS0_D3N  | 输出 output | 数据 data   |
| 18 | LVDS0_D3P  | 输出 output | 数据 data   |
| 19 | LVDS1_D0N  | 输出 output | 数据 data   |
| 20 | LVDS1_D0P  | 输出 output | 数据 data   |
| 21 | LVDS1_D1N  | 输出 output | 数据 data   |
| 22 | LVDS1_D1P  | 输出 output | 数据 data   |
| 23 | LVDS1_D2N  | 输出 output | 数据 data   |
| 24 | LVDS1_D2P  | 输出 output | 数据 data   |
| 25 | GND        | 地线 ground | 地线 ground |
| 26 | GND        |           |           |
| 27 | LVDS1_CLKN | 输出 output | 时钟 clock  |
| 28 | LVDS1_CLKP | 输出 output | 时钟 clock  |
| 29 | LVDS1_D3N  | 输出 output | 数据 data   |
| 30 | LVDS1_D3P  | 输出 output | 数据 data   |

● USB-HOST 接口(USB\_HOST-J9961)

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description    |
|--------|---------------|-------------|-------------------|
| 1      | VCC_5V        | 输出 output   | 5V voltage output |
| 2      | HOST_DM       | 输出 output   | 数据 data           |
| 3      | HOST_DP       | 输入 input    | 数据 data           |
| 4      | GND           | 地线 ground   | 地线 ground         |

● USB-HOST 接口(USB\_HOST-J9962)

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description    |
|--------|---------------|-------------|-------------------|
| 1      | VCC_5V        | 输出 output   | 5V voltage output |
| 2      | HOST_DM       | 输出 output   | 数据 data           |
| 3      | HOST_DP       | 输入 input    | 数据 data           |
| 4      | GND           | 地线 ground   | 地线 ground         |

● 喇叭输出接口（SPEAKER-J18）

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description                |
|--------|---------------|-------------|-------------------------------|
| 1      | LP            | 输出 output   | left channel output positive  |
| 2      | LN            | 输出 output   | left channel output negative  |
| 3      | RN            | 输出 output   | right channel output negative |
| 4      | RP            | 输出 output   | right channel output positive |

● 麦克风接口（MIC-MIC7000）

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description     |
|--------|---------------|-------------|--------------------|
| 1      | MIC2P         | 输入 input    | MIC positive input |
| 2      | MIC2N         | 输入 input    | MIC negative input |

● POE 电源输出接口(POE POWER OUT JACK-J9958)

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description |
|--------|---------------|-------------|----------------|
| 1      | VA            | 输出 output   | 电源 power       |
| 2      | VB            | 输出 output   | 电源 power       |
| 3      | VC            | 输出 output   | 电源 power       |
| 4      | VD            | 输出 output   | 电源 power       |

● 调试串口（UART0-J9800 DEBUG）

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description      |
|--------|---------------|-------------|---------------------|
| 1      | GND           | 地线 ground   | 地线 ground           |
| 2      | UART2_TX      | 输出 output   | 发送 send             |
| 3      | UART2_RX      | 输入 input    | 接收 receive          |
| 4      | VCC_3V3       | 输出 output   | 3.3V voltage output |

# 电气背面 Electrical back side

## ● 按键接口 (KEY -J8905)

| 序号 No. | 定义 Definition | 属性 Property      | 描述 Description                          |
|--------|---------------|------------------|-----------------------------------------|
| 1      | VOL+/RECOVER  | VOL+/Upgrade key | default high level power<br>VOL+key     |
| 2      | VOL-          | VOL-             | default high level power<br>VOL-key     |
| 3      | KEY1          | 输入 input         | ADC key                                 |
| 4      | KEY2          | 输入 input         | ADC key                                 |
| 5      | KEY3          | 输入 input         | ADC key                                 |
| 6      | PWRON_L       | 输入 input         | Power key (default high<br>level power) |
| 7      | GND           | 地线 ground        | 地线 ground                               |
| 8      | GND           | 地线 ground        | 地线 ground                               |
| 9      | GND           | 地线 ground        | 地线 ground                               |
| 10     | GND           | 地线 ground        | 地线 ground                               |

## ● TP 接口 (Touch Panel connector-J9903)

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description                   |
|--------|---------------|-------------|----------------------------------|
| 1      | GND           | 地线 ground   | 地线 ground                        |
| 2      | GND           | 地线 ground   | 地线 ground                        |
| 3      | VCC_TP        | 输出 output   | TP power (3.3V)                  |
| 4      | SDA           | 输出 output   | data (I2C5)                      |
| 5      | SCL           | 输出 output   | clock (I2C5)                     |
| 6      | GND           | 地线 ground   | 地线 ground                        |
| 7      | TP_INT_L      | 输入 input    | external interrupt<br>GPIO0_C5_d |
| 8      | TP_RST_L      | 输入 input    | external reset<br>GPIO0_D0_d     |
| 9      | GND           | 地线 ground   | 地线 ground                        |
| 10     | GND           | 地线 ground   | 地线 ground                        |

## ● USB-HOST 接口(USB\_HOST-J9963)

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description    |
|--------|---------------|-------------|-------------------|
| 1      | VCC_5V        | 输出 output   | 5V voltage output |

|   |         |           |           |
|---|---------|-----------|-----------|
| 2 | HOST_DM | 输出 output | 数据 data   |
| 3 | HOST_DP | 输入 input  | 数据 data   |
| 4 | GND     | 地线 ground | 地线 ground |

● MIPI 摄像头接口 (MIPI CAMERA JACK-J9950)

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description                                                                                                                |
|--------|---------------|-------------|-------------------------------------------------------------------------------------------------------------------------------|
| 1      | GND           | 地线 ground   | 地线 ground                                                                                                                     |
| 2      | MIPI_MCLK     | 时钟 clock    | clock signal interface                                                                                                        |
| 3      | GND           | 地线 ground   | 地线 ground                                                                                                                     |
| 4      | CIF_PDN1      | 输出 output   | camera control interface                                                                                                      |
| 5      | MIPI_RST      | 输出 output   | reset signal interface                                                                                                        |
| 6      | SDA           | 数据 data     | I2C data signal interface                                                                                                     |
| 7      | SCL           | 时钟 clock    | I2C clock signal interface                                                                                                    |
| 8      | GND           | 地线 ground   | 地线 ground                                                                                                                     |
| 9      | AVDD2V8_DVP   | 电源 power    | 2.8V power supply interface                                                                                                   |
| 10     | GND           | 地线 ground   | 地线 ground                                                                                                                     |
| 11     | VCC_2V8_CAM3  | 电源 power    | 2.8V power supply interface                                                                                                   |
| 12     | GND           | 地线 ground   | 地线 ground                                                                                                                     |
| 13     | VCC_1V8_CAM3  | 电源 power    | 1.8V power supply interface                                                                                                   |
| 14     | VCC_1V2_CAM3  | 电源 power    | Default 1.5V power supply interface (hardware peripheral compatibility 1.2V, 1.8V optional, can be specified before ordering) |
| 15     | GND           | 地线 ground   | 地线 ground                                                                                                                     |
| 16     | GND           | 地线 ground   | 地线 ground                                                                                                                     |
| 17     | MIPI_D0N      | 数据 data     | data signal interface                                                                                                         |
| 18     | MIPI_D0P      | 数据 data     | data signal interface                                                                                                         |
| 19     | GND           | 地线 ground   | 地线 ground                                                                                                                     |
| 20     | MIPI_D1N      | 数据 data     | data signal interface                                                                                                         |
| 21     | MIPI_D1P      | 数据 data     | data signal interface                                                                                                         |
| 22     | GND           | 地线 ground   | 地线 ground                                                                                                                     |
| 23     | MIPI_CLKN     | 时钟 clock    | clock signal interface                                                                                                        |
| 24     | MIPI_CLKP     | 时钟 clock    | clock signal interface                                                                                                        |
| 25     | GND           | 地线 ground   | 地线 ground                                                                                                                     |

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|    |          |           |                       |
|----|----------|-----------|-----------------------|
| 26 | MIPI_D2N | 数据 data   | data signal interface |
| 27 | MIPI_D2P | 数据 data   | data signal interface |
| 28 | GND      | 地线 ground | 地线 ground             |
| 29 | MIPI_D3N | 数据 data   | data signal interface |
| 30 | MIPI_D3P | 数据 data   | data signal interface |

● EDP 屏接口（EDP Panel-30PIN J9955，默认）

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description            |
|--------|---------------|-------------|---------------------------|
| 1      | NC            | 空 blank     | 空 blank                   |
| 2      | GND           | 地线 ground   | 地线 ground                 |
| 3      | EDP_TX_D1N    | 输出 output   | 数据 data                   |
| 4      | EDP_TX_D1P    | 输出 output   | 数据 data                   |
| 5      | GND           | 地线 ground   | 地线 ground                 |
| 6      | EDP_TX_D0N    | 输出 output   | 数据 data                   |
| 7      | EDP_TX_D0P    | 输出 output   | 数据 data                   |
| 8      | GND           | 地线 ground   | 地线 ground                 |
| 9      | EDP_AUXP      | 输出 output   | 数据 data                   |
| 10     | EDP_AUXN      | 输出 output   | 数据 data                   |
| 11     | GND           | 地线 ground   | 地线 ground                 |
| 12     | VCC3V3_LCD    | 输出 output   | 3.3V power output         |
| 13     | VCC3V3_LCD    | 输出 output   | 3.3V power output         |
| 14     | NC            | 空 blank     | 空 blank                   |
| 15     | GND           | 地线 ground   | 地线 ground                 |
| 16     | GND           | 地线 ground   | 地线 ground                 |
| 17     | EDP_HPD1      | 输入 input    | 数据 data                   |
| 18     | GND           | 地线 ground   | 地线 ground                 |
| 19     | GND           | 地线 ground   | 地线 ground                 |
| 20     | GND           | 地线 ground   | 地线 ground                 |
| 21     | GND           | 地线 ground   | 地线 ground                 |
| 22     | BL_EN         | 输出 output   | 背光控制 backlight control,   |
| 23     | BL_PWM        | 输出 output   | 背光调节 backlight adjustment |
| 24     | NC            | 空 blank     | 空 blank                   |
| 25     | NC            | 空 blank     | 空 blank                   |
| 26     | VCC12V_DCIN   | 输出 output   | 12V power output          |
| 27     | VCC12V_DCIN   | 输出 output   | 12V power output          |
| 28     | VCC12V_DCIN   | 输出 output   | 12V power output          |
| 29     | VCC12V_DCIN   | 输出 output   | 12V power output          |
| 30     | NC            | 空 blank     | 空 blank                   |



● EDP 屏接口（EDP Panel -40PIN-J9954 可选）

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description            |
|--------|---------------|-------------|---------------------------|
| 1      | NC            | 空 blank     | 空 blank                   |
| 2      | GND           | 地线 ground   | 地线 ground                 |
| 3      | EDP_TX_D3N    | 输出 output   | 数据 data                   |
| 4      | EDP_TX_D3P    | 输出 output   | 数据 data                   |
| 5      | GND           | 输出 output   | 数据 data                   |
| 6      | EDP_TX_D2N    | 输出 output   | 数据 data                   |
| 7      | EDP_TX_D2P    | 输出 output   | 数据 data                   |
| 8      | GND           | 地线 ground   | 地线 ground                 |
| 9      | EDP_TX_D1N    | 输出 output   | 数据 data                   |
| 10     | EDP_TX_D1P    | 输出 output   | 数据 data                   |
| 11     | GND           | 地线 ground   | 地线 ground                 |
| 12     | EDP_TX_D0N    | 输出 output   | 数据 data                   |
| 13     | EDP_TX_D0P    | 输出 output   | 数据 data                   |
| 14     | GND           | 地线 ground   | 地线 ground                 |
| 15     | EDP_AUXP      | 输出 output   | 数据 data                   |
| 16     | EDP_AUXN      | 输出 output   | 数据 data                   |
| 17     | GND           | 地线 ground   | 地线 ground                 |
| 18     | VCC3V3_LCD    | 输出 output   | 3.3V power output         |
| 19     | VCC3V3_LCD    | 输出 output   | 3.3V power output         |
| 20     | VCC3V3_LCD    | 输出 output   | 3.3V power output         |
| 21     | VCC3V3_LCD    | 输出 output   | 3.3V power output         |
| 22     | NC            | 空 blank     | 空 blank                   |
| 23     | GND           | 地线 ground   | 地线 ground                 |
| 24     | GND           | 地线 ground   | 地线 ground                 |
| 25     | GND           | 地线 ground   | 地线 ground                 |
| 26     | GND           | 地线 ground   | 地线 ground                 |
| 27     | EDP_HPD1      | 输入 input    | 数据 data                   |
| 28     | GND           | 地线 ground   | 地线 ground                 |
| 29     | GND           | 地线 ground   | 地线 ground                 |
| 30     | GND           | 地线 ground   | 地线 ground                 |
| 31     | GND           | 地线 ground   | 地线 ground                 |
| 32     | BL_EN         | 输出 output   | 背光控制 backlight control,   |
| 33     | BL_PWM        | 输出 output   | 背光调节 backlight adjustment |
| 34     | NC            | 空 blank     | 空 blank                   |
| 35     | NC            | 空 blank     | 空 blank                   |
| 36     | VCC12V_DCIN   | 输出 output   | 12V power output          |
| 37     | VCC12V_DCIN   | 输出 output   | 12V power output          |

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|    |             |           |                  |
|----|-------------|-----------|------------------|
| 38 | VCC12V_DCIN | 输出 output | 12V power output |
| 39 | VCC12V_DCIN | 输出 output | 12V power output |
| 40 | NC          | 空 blank   | 空 blank          |

● MIPI Panel interface (J9949)

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description     |
|--------|---------------|-------------|--------------------|
| 1      | NC            | 空 blank     | 空 blank            |
| 2      | VCC3V3_LCD1   | 电源 power    | 3.3V power output  |
| 3      |               |             |                    |
| 4      | NC            | 空 blank     | 空 blank            |
| 5      | RST           | 输出 output   | 复位 reset           |
| 6      | NC            | 空 blank     | 空 blank            |
| 7      | GND           | 地线 ground   | 地线 ground          |
| 8      | TX_D0N        | 输出 output   | 数据 data            |
| 9      | TX_D0P        | 输出 output   | 数据 data            |
| 10     | GND           | 地线 ground   | 地线 ground          |
| 11     | TX_D1N        | 输出 output   | 数据 data            |
| 12     | TX_D1P        | 输出 output   | 数据 data            |
| 13     | GND           | 地线 ground   | 地线 ground          |
| 14     | TX_CLKN       | 输出 output   | 时钟 clock           |
| 15     | TX_CLKP       | 输出 output   | 时钟 clock           |
| 16     | GND           | 地线 ground   | 地线 ground          |
| 17     | TX_D2N        | 输出 output   | 数据 data            |
| 18     | TX_D2P        | 输出 output   | 数据 data            |
| 19     | GND           | 地线 ground   | 地线 ground          |
| 20     | TX_D3N        | 输出 output   | 数据 data            |
| 21     | TX_D3P        | 输出 output   | 数据 data            |
| 22     | GND           | 地线 ground   | 地线 ground          |
| 23     | NC            | 空 blank     | 空 blank            |
| 24     | NC            | 输出 output   | 数据 data            |
| 25     | GND           | 地线 ground   | 地线 ground          |
| 26     | NC            | 空 blank     | 空 blank            |
| 27     | NC            | 空 blank     | 空 blank            |
| 28     | NC            | 空 blank     | 空 blank            |
| 29     | VCC_LCD1_18   | 电源 power    | 1.8V power output  |
| 30     | GND           | 地线 ground   | 地线 ground          |
| 31     | LED1-         | 电源 power    | Backlight negative |
| 32     | LED1-         | 电源 power    | Backlight negative |
| 33     | NC            | 空 blank     | 空 blank            |
| 34     | NC            | 空 blank     | 空 blank            |

|    |       |          |                               |
|----|-------|----------|-------------------------------|
| 35 | AVEE1 | 电源 power | 屏负压 display negative pressure |
| 36 | NC    | 空 blank  | 空 blank                       |
| 37 | NC    | 空 blank  | 空 blank                       |
| 38 | AVDD  | 电源 power | 屏正压 display positive pressure |
| 39 | LED1+ | 电源 power | backlight positive            |
| 40 | LED1+ | 电源 power | backlight positive            |

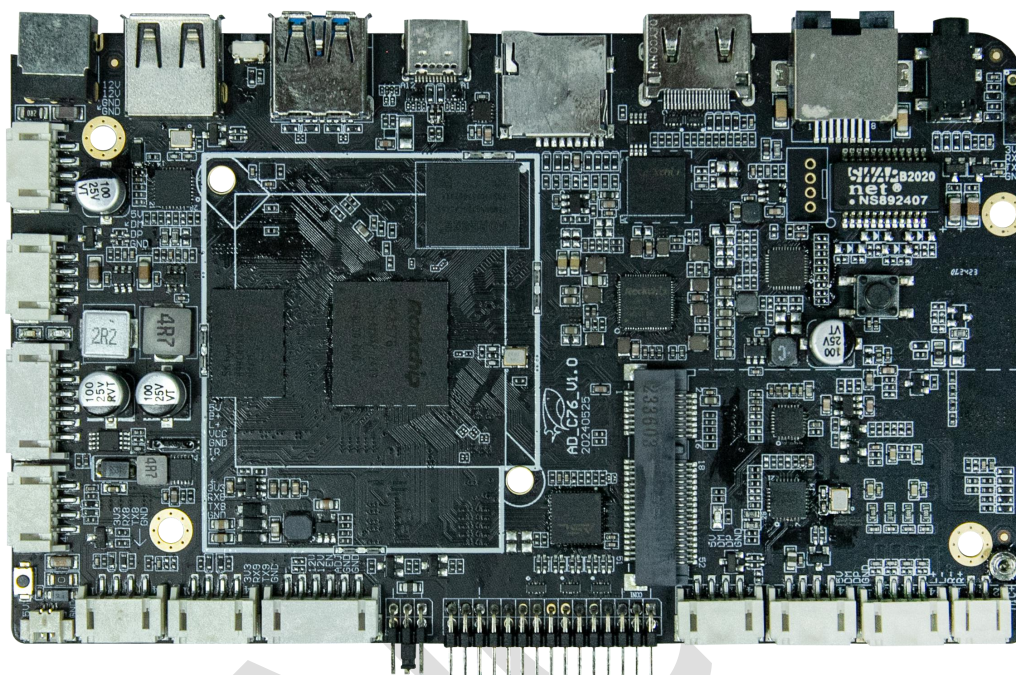
● RTC 电池接口 (RTC-J2400)

| 序号 No. | 定义 Definition | 属性 Property | 描述 Description       |
|--------|---------------|-------------|----------------------|
| 1      | BAT           | 电源 power    | RTC battery positive |
| 2      | GND           | 地线 ground   | RTC battery negative |

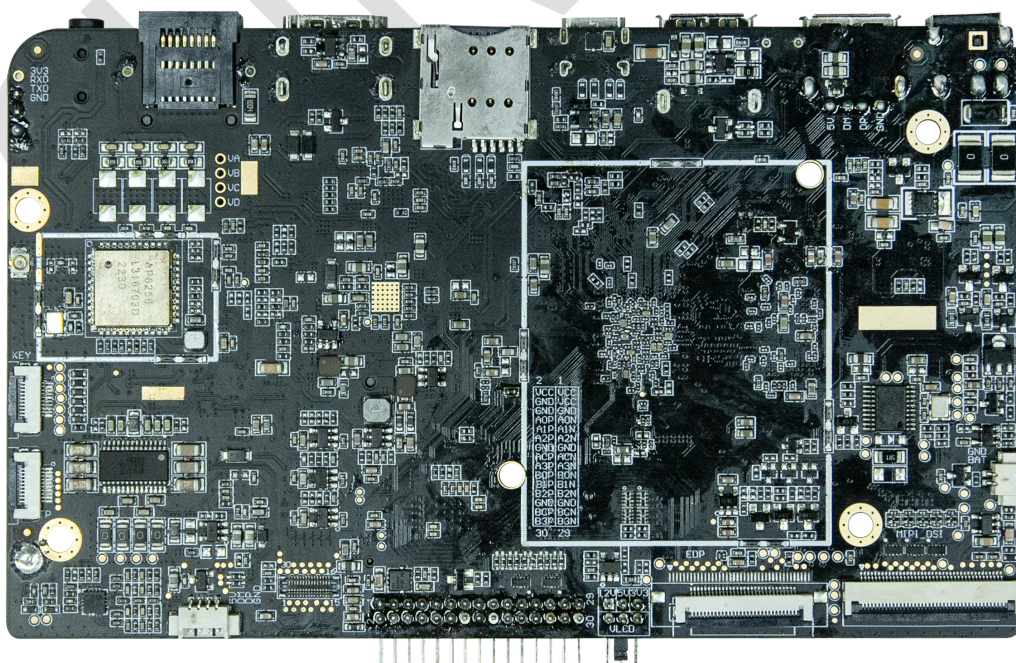
## 附录 Appendix

### ◆ 产品图片 Product picture

- 正面 Front side



- 背面 Back side



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## 主板安装说明 Mainboard installation instructions

1. 取板及安装佩戴手环，如果工作环境干燥，手上必须佩戴有线静电手环。

Wear a bracelet when removing and installing the mainboard. If the working environment is dry, wear a wired electrostatic bracelet on your hands.

2. 安装取板时需要注意手指应该放在板边，手指不要触碰到板中央，板中央都是重要器件及对 ESD 极其敏感的元器件，容易被 ESD 静电打坏。

When installing the mainboard, it is necessary to pay attention to the finger should be placed on the edge of the mainboard, and the finger should not touch the center of the mainboard. The center of the mainboard is an important device and an extremely sensitive component to ESD, which is easy to be damaged by ESD static electricity.

3. 在安装外围排针类接口设备时，应当手托主板下面，再插入；不能使劲强行插入，容易使主板变形，且容易损坏主板上 BGA 封装的元器件。

When installing peripheral pin header type interface devices, you should hold the bottom of the mainboard with your hands before inserting it; do not insert it forcefully, which will easily deform the mainboard and easily damage the BGA packaged components on the mainboard.

4. 打螺丝之前必须将主板放平，保证定位柱等高，否则容易使主板变形，导致锡珠裂开，损坏元器件。

Before screwing, the mainboard must be laid flat to ensure that the positioning column is equal to the height. otherwise, it is easy to deform the mainboard, resulting in tin beads splitting and damaging components.

### ◆ 温馨提示 Tips

特别注意主板使用的电源，我司主板电源供电电压要求是 DC\_12V，工作电压范围是 9V-15V，纹波小于 100mV，选用电源时注意电源 P-P 值要求不能超过 15V，一旦电源电压或电源 P-P 值超过主板电压所承受的范围 15V，主板将会永久性的烧坏或开路断路，电源纹波大于 100mV 容易对主板干扰或工作不稳定，特别对传感器件和触摸屏容易造成干扰跳点的现象，我司建议使用电源

12V/3A，如外设设备用的较多建议使用 12V/5A。主板通电前注意确保电源电压是否在要求的范围内，电源的接线是否正确，显示屏的屏线和电压跳帽是否正确及各个接插座子的接法和引脚是否正确，在确保各个电源电压及接插座子接线完全正确的情况下方可通电使用。

Pay more attention to the power supply used by the mainboard, our mainboard power supply voltage requirements: DC\_12V, the working voltage range is 9V-15V, ripple is less than 100mV, pay attention to the P-P value of the power supply requirements cannot exceed 15V, once the power supply voltage or the P-P value of the power supply exceeds the mainboard voltage range of 15V, The mainboard will be permanently burned out or open circuit, power ripple greater than 100mV is easy to interfere with the motherboard or work unstable, especially for the sensor parts and touch screen is easy to cause interference jump phenomenon, we recommend the use of power 12V/3A, such as peripheral equipment with more recommended use of 12V/5A. Before powering on the mainboard, pay attention to ensure that the power supply voltage is within the required range, the power connection is correct, the display cable and voltage jumper cap of the display are correct and the connection and pin of each socket are correct, and the power can be used under the condition that the power supply voltage and the connection of the socket are completely correct.