# Ai-M64P-32S-Kit Specification

Version V1.0.0

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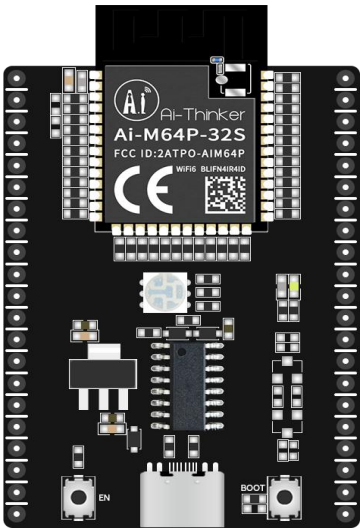


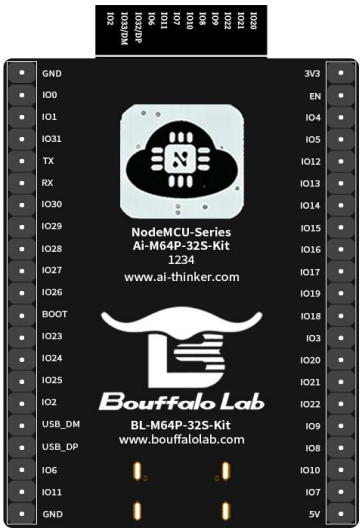

# Document Revision History

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# Contents

1 Product Overview ..... 5
1.1 Features ..... 6
1.2 Applications ..... 7
2 Main Parameters ..... 8
2.1 Power Supply Options ..... 8
3 Electrical Characteristics ..... 9
3.1 Recommended Operating Conditions ..... 9
3.2 I/O DC Electrical Characteristics ..... 9
3.3 Electrostatic Discharge ..... 9
3.4 Wi-Fi RF Performance ..... 10
3.5 BLE RF Performance ..... 11
3.6 Power Consumption ..... 12
4 Mechanical Specifications ..... 13
4.1 Development Board Dimensions ..... 13
5 LED Indicator and Button Description ..... 14
6 Pin Definition ..... 15
7 Schematic Diagram ..... 19
8 Packaging Information ..... 20
9 Contact Information ..... 20
Disclaimer and Copyright Notice ..... 21
Notice ..... 21
Statement ..... 22

# List of Figures

Figure 1 Main Chip Architecture Diagram ..... 5
Figure 2 ESD Protection Symbol ..... 9
Figure 3 Dimension Diagram ..... 13
Figure 4 LED Indicator and Button Location ..... 14
Figure 5 Pin Diagram (Top View) ..... 15
Figure 6 Pin Diagram (Bottom View) ..... 15
Figure 7 Schematic Diagram ..... 19

# List of Tables

Table 1 Main Parameter Specification ..... 8
Table 2 Recommended Operating Conditions ..... 9
Table 3 I/O DC Electrical Characteristics ..... 9
Table 4 Wi-Fi RF Performance ..... 10
Table 5 BLE RF Performance ..... 11
Table 6 Power Consumption ..... 12
Table 7 LED Indicator Status and Button Functions ..... 14
Table 8 Pin Function Definition ..... 15
Table 9 Packaging Information ..... 20

# 1 Product Overview

The Ai-M64P-32S-Kit is a development board developed based on the Ai-M64P-32S module. The Ai-M64P-32S is a standardized wireless module based on the Bouffalo Lab BL616CL RF chip, specifically designed for ultra-low power, high-performance, and high-security IoT scenarios. The module fully retains the chip-level RF performance and full-function peripherals, and it undergoes rigorous RF matching and reliability verification with plug-and-play capability, significantly reducing the development barriers and mass-production risks of end products. The product features five core features: strong signal performance, low power consumption, high integration, security and reliability, and ultra-compact package, while also supporting backward compatibility.

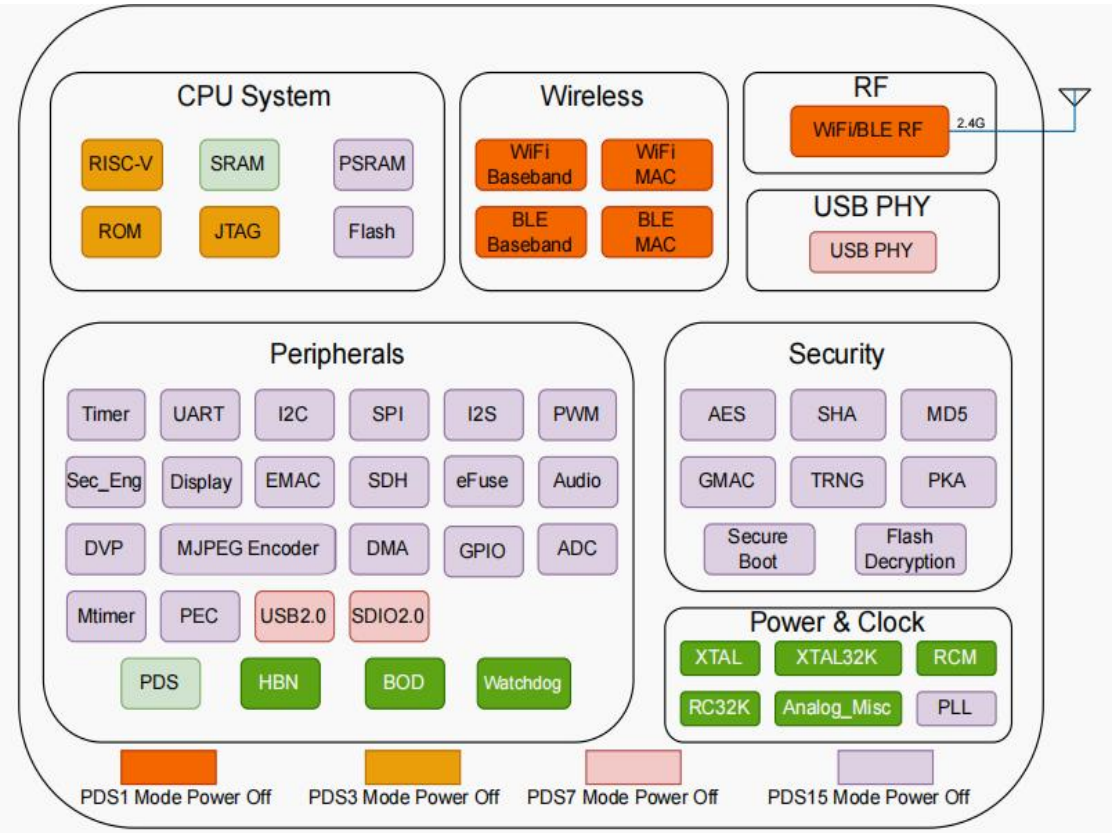


**Figure 1 Main Chip Architecture Diagram**

## 1.1 Features

- **Wi-Fi 6**

  ✧ Supports IEEE 802.11b/g/n/ax, 20MHz bandwidth, 1T1R

  ✧ Fully supports OFDMA, TWT, LDPC, STBC, Beamformee, and RX diversity, enabling more stable, longer-range, and more power-efficient concurrent connections for multiple devices

  ✧ Receiver sensitivity reaches -99dBm@1Mbps, providing superior wall penetration and long-range coverage compared with similar products

  ✧ Transmit power reaches 23dBm@1Mbps, providing sufficient link margin and no disconnection in weak network environments

- **BLE 5.3 Long Range and Low Latency**

  ✧ Supports BLE 5.3 with multiple data rates: 2Mbps, 1Mbps, 500kbps, and 125kbps

  ✧ Receiver sensitivity reaches -99dBm@125kbps

  ✧ Supports multi-connection, extended advertising, AOI/AOD, compatible with gateways and sensor nodes

- **Wi-Fi/BLE Coexistence**

  ✧ Built-in coexistence engine at chip level. No external switch is required, and dual-mode TDD operation is supported without interference

  ✧ Supports BLE-assisted Wi-Fi fast connection, with over 50% faster provisioning speed

- **High Computing Performance and Large Memory**

  ✧ 32-bit RISC-V CPU, up to 320MHz, with FPU and DSP, supporting edge computing

  ✧ Built-in 388KB SRAM, 224KB OCRAM, 160KB WRAM, 4KB HBN RAM, optional 2/4/8MB Flash and 4/8MB PSRAM

- **Full-Function Interfaces, One Module Replacing Multiple Chips**

  ✧ Integrated USB2.0 HS, EMAC 10/100M, DVP camera, DBI display, MJPEG codec

  ✧ Rich peripherals: 3*UART, 2*I2C, 2*SPI, 1*I2S, 1*PWM (4 channels), 1*16-bit GPADC (12 channels), and 1*Touch interface

- **Industrial-grade Low Power Consumption and Security**

  ✧ Supports PDS (Power Down Sleep) and HBN (Hibernate) modes. Sleep current is at the μA level, helping extend battery life

  ✧ Secure boot, firmware encrypt and sign, TrustZone, full hardware encryption with AES/SHA/PKA/TRNG, protecting against cracking and tampering

- **High Reliability and Easy Mass Production**

  ✧ Normal operating temperature: -40–85°C (customizable to -40–105°C )

  ✧ Pre-certified RF parameters shorten the certification cycle, plug-and-play

Note: For features not listed in this document, please refer to the BL616CL chip datasheet.

## 1.2 Applications

- Audio and Video Multimedia
- Internet of Things (IoT)
- Mobile Devices
- Smart Home
- Central Control Devices

# 2 Main Parameters

**Table 1 Main Parameter Specification**

| | |
|---|---|
| **Model** | Ai-M64P-32S-Kit |
| **Package** | DIP-42 |
| **Dimensions** | 53.5*38.1 (mm) |
| **Antenna Type** | On-board antenna |
| **Frequency Range** | 2400–2483.5 MHz |
| **Operating Temperature** | -40–85℃ |
| **Storage Conditions** | -40–125℃, <90% RH |
| **Power Supply Range** | Supply voltage: 3.3V or 5V; supply current>500mA |
| **Available I/Os** | 37 (default) |
| **UART Baud Rate** | 115200bps (default) |

## 2.1 Power Supply Options

The Ai-M64P-32S-Kit supports three power supply options:

- Type-C interface (recommended)
- 3V3 and GND pin header
- 5V and GND pin header

# 3 Electrical Characteristics

## 3.1 Recommended Operating Conditions

**Table 2 Recommended Operating Conditions**

| Parameter | Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Interface Power Supply | Type-C | 4.5 | 5 | 5.3 | V |
| Pin Header Power Supply | 3V3 | 2.97 | 3.3 | 3.63 | V |
| | 5V | 4.5 | 5 | 5.3 | V |

## 3.2 I/O DC Electrical Characteristics

**Table 3 I/O DC Electrical Characteristics**

| Symbol | Parameter | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| VIH | High-level Input Voltage | 2 | - | - | V |
| VIL | Low-level Input Voltage | - | - | 0.8 | V |
| VOH | High-level Output Voltage | - | 0.9 * VCC | - | V |
| VOL | Low-level Output Voltage | - | 0.1 * VCC | - | V |

## 3.3 Electrostatic Discharge

The Ai-M64P-32S-Kit is an ESD-sensitive device and requires special precautions during handling.

**Figure 2 ESD Protection Symbol**

## 3.4 Wi-Fi RF Performance

**Table 4 Wi-Fi RF Performance**

| Description | Typ | | | Unit |
|---|---|---|---|---|
| Frequency Range | 2400–2483.5 | | | MHz |
| **Output Power** | | | | |
| **Mode** | **Min** | **Typ** | **Max** | **Unit** |
| 802.11b, 11Mbps | - | 19 | 23 | dBm |
| 802.11g, 54Mbps | - | 18 | 20 | dBm |
| 802.11n, HT20 (MCS7) | - | 18 | 19 | dBm |
| 802.11ax, HE20 (MCS9) | - | 16 | 17 | dBm |
| **Receiver Sensitivity** | | | | |
| **Mode** | **Min** | **Typ** | **Max** | **Unit** |
| 802.11b, 1Mbps | -99 | - | - | dBm |
| 802.11b, 11Mbps | -90 | - | - | dBm |
| 802.11g, 6Mbps | -93 | - | - | dBm |
| 802.11g, 54Mbps | -78 | - | - | dBm |
| 802.11n, HT20 (MCS7) | -76 | - | - | dBm |
| 802.11ax, HE20 (MCS9) | -69 | - | - | dBm |

## 3.5 BLE RF Performance

**Table 5 BLE RF Performance**

| Description | Typ | | | Unit |
|---|---|---|---|---|
| Frequency Range | 2400–2483.5 | | | MHz |
| **Output Power** | | | | |
| **Data Rate Mode** | **Min** | **Typ** | **Max** | **Unit** |
| 1Mbps | - | 10 | 15 | dBm |
| 2Mbps | - | 10 | 15 | dBm |
| **Receiver Sensitivity** | | | | |
| **Data Rate Mode** | **Min** | **Typ** | **Max** | **Unit** |
| 1Mbps Sensitivity @ 30.8% PER | -99 | - | - | dBm |
| 2Mbps Sensitivity @ 30.8% PER | -97 | - | - | dBm |

## 3.6 Power Consumption

The following power consumption data are measured based on a 3.3V power supply and an ambient temperature of 25℃.

- The POUT power for all transmit modes is measured at the antenna interface.
- All transmission data are measured at 100% duty cycle in continuous transmit mode.

**Table 6 Power Consumption**

| Mode | Min | Avg | Max | Unit |
|---|---|---|---|---|
| TX 802.11b, 11Mbps, POUT = +23dBm | - | 435 | - | mA |
| TX 802.11g, 54Mbps, POUT = +20dBm | - | 352 | - | mA |
| TX 802.11n, MCS7, POUT = +19dBm | - | 338 | - | mA |
| TX 802.11ax, MCS9, POUT = +17dBm | - | 290 | - | mA |
| RX 802.11b, Packet Length 1500 bytes | - | 84.5 | - | mA |
| RX 802.11g, Packet Length 1500 bytes | - | 84.5 | - | mA |
| RX 802.11n, Packet Length 1500 bytes | - | 84.5 | - | mA |
| RX 802.11ax, Packet Length 1500 bytes | - | 84.5 | - | mA |
| PDS (Tickless 3), Wi-Fi Disconnected | - | 45 | - | μA |
| PDS (Tickless 3), Wi-Fi Connected | - | 256 | - | μA |
| PDS (Tickless 10), Wi-Fi Disconnected | - | 45 | - | μA |
| PDS (Tickless 10), Wi-Fi Connected | - | 90 | - | μA |
| HBN Mode | - | 5 | - | μA |

# 4 Mechanical Specifications

## 4.1 Development Board Dimensions

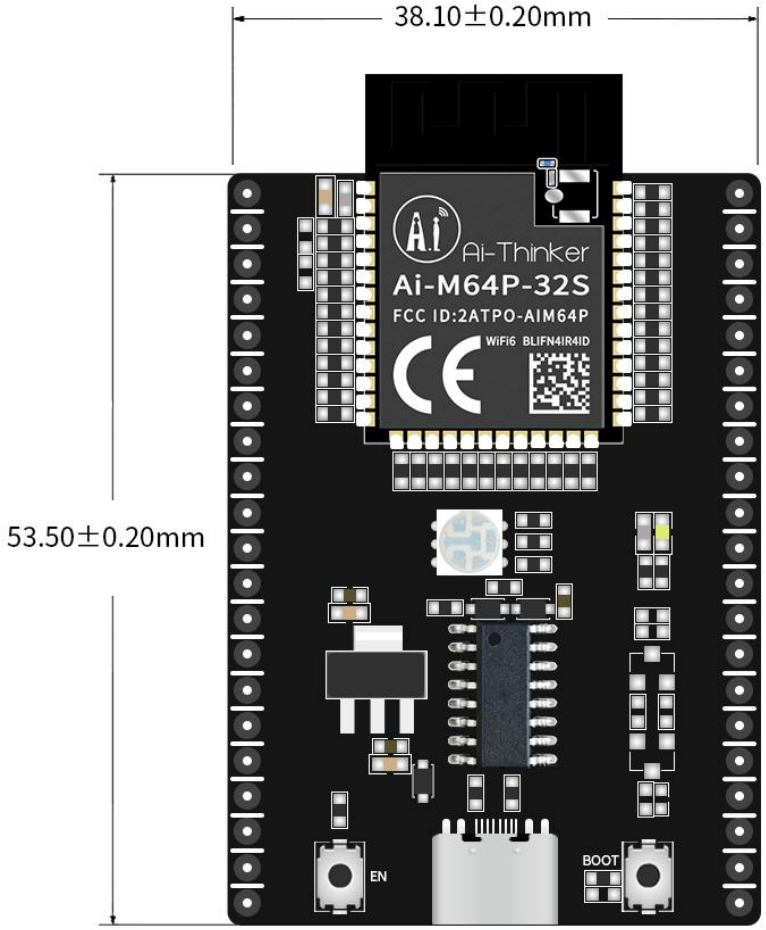


**Figure 3 Dimension Diagram**

# 5 LED Indicator and Button Description

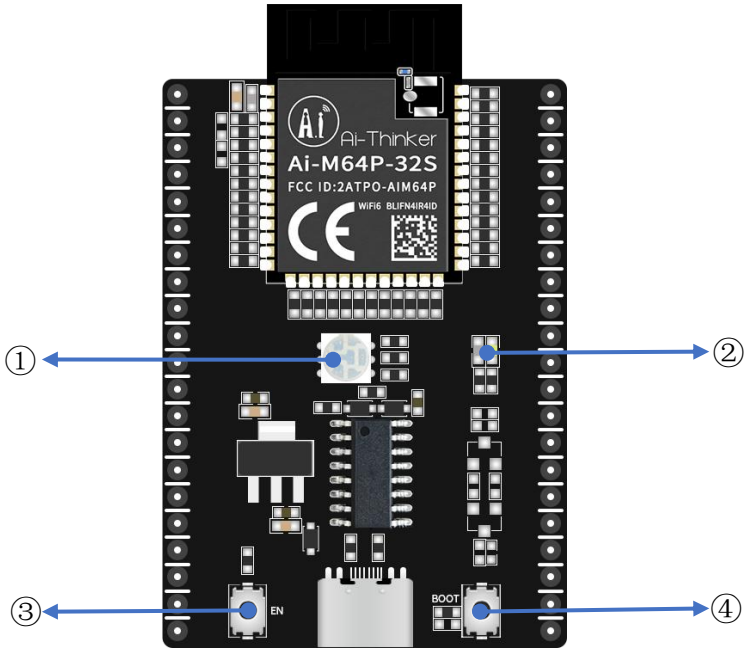


**Figure 4 LED Indicator and Button Location**

**Table 7 LED Indicator Status and Button Functions**

| | |
|---|---|
| ① | RGB LED (The red LED is connected to IO14, the green LED is connected to IO15, and the blue LED is connected to IO16. Active high.) |
| ② | LED lights. (The left cold LED is connected to IO28, and the right warm LED is connected to IO27. Active high.) |
| ③ | Reset button |
| ④ | Flash button. When flashing firmware, press and hold the flash button first, then briefly press the reset button at the same time. |

# 6 Pin Definition

The Ai-M64P-32S-Kit exposes a total of 42 pins, as shown in the pin diagram. The pin function definition table provides the detailed interface specifications.

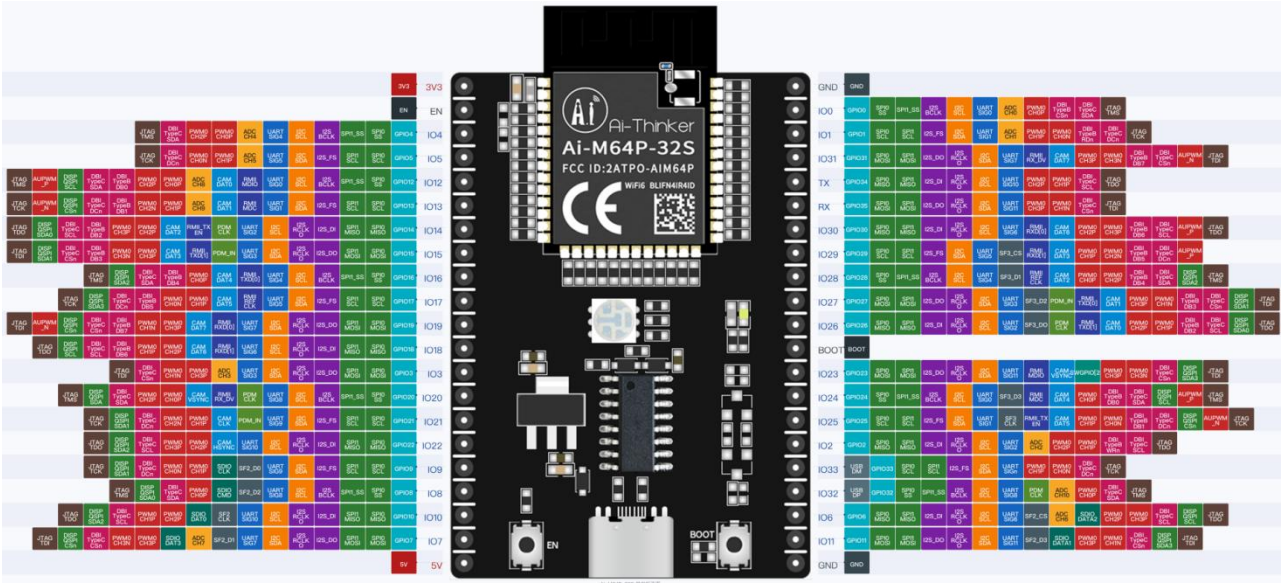


**Figure 5 Pin Diagram (Top View)**

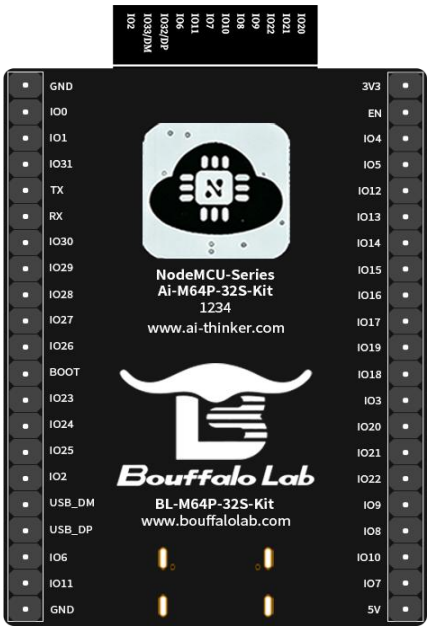


**Figure 6 Pin Diagram (Bottom View)**

**Table 8 Pin Function Definition**

| No. | Name | Function |
|---|---|---|
| 1 | 3V3 | 3.3V power supply; supply current recommended >500mA |

| | | |
|---|---|---|
| 2 | EN | Default chip enable pin, active-high |
| 3 | IO4 | GPIO4/SPI0_SS/SPI1_SS/I2S_BCLK/I2C_SCL/UART_SIG4/ADC_CH4/PWM0_CH0P/PWM0_CH2P/DBI_TypeC_SDA/JTAG_TMS<br>(Default available. This IO is shared with the module's internal 32.768kHz crystal input pin. If the module is customized with an internal mounted 32.768kHz crystal, this IO is NC.) |
| 4 | IO5 | GPIO5/SPI0_SCLK/SPI1_SCLK/I2S_FS/I2C_SDA/UART_SIG5/ADC_CH5/PWM0_CH1P/PWM0_CH2N/DBI_TypeC_DCn/JTAG_TCK<br>(Default available. This IO is shared with the module's internal 32.768kHz crystal output pin. If the module is customized with an internal mounted 32.768kHz crystal, this IO is NC.) |
| 5 | IO12 | GPIO12/SPI0_SS/SPI1_SS/I2S_BCLK/I2C_SCL/UART_SIG0/RMII_MDIO/CAM_DAT0/ADC_CH8/PWM0_CH0P/PWM0_CH2P/DBI_TypeB_DB0/DBI_TypeC_SDA/DISP_QSPI_SCL/AUPWM_P/JTAG_TMS |
| 6 | IO13 | GPIO13/SPI0_SCLK/SPI1_SCLK/I2S_FS/I2C_SDA/UART_SIG1/RMII_MDC/CAM_DAT1/ADC_CH9/PWM0_CH1P/PWM0_CH2N/DBI_TypeB_DB1/DBI_TypeC_DCn/DISP_QSPI_CSn/AUPWM_N/JTAG_TCK |
| 7 | IO14 | GPIO14/SPI0_MISO/SPI1_MISO/I2S_DI/I2S_RCLK_O/I2C_SCL/UART_SIG2/PDM_CLK/RMII_TX_EN/CAM_DAT2/PWM0_CH2P/PWM0_CH3P/DBI_TypeB_DB2/DBI_TypeC_SCL/DISP_QSPI_SDA0/JTAG_TDO |
| 8 | IO15 | GPIO15/SPI0_MOSI/SPI1_MOSI/I2S_DO/I2S_RCLK_O/I2C_SDA/UART_SIG3/PDM_IN/RMII_TXD[1]/CAM_DAT3/PWM0_CH3P/PWM0_CH3N/DBI_TypeB_DB3/DBI_TypeC_CSn/DISP_QSPI_SDA1/JTAG_TDI |
| 9 | IO16 | GPIO16/SPI0_SS/SPI1_SS/I2S_BCLK/I2C_SCL/UART_SIG4/RMII_TXD[0]/CAM_DAT4/PWM0_CH0P/DBI_TypeB_DB4/DBI_TypeC_SDA/DISP_QSPI_SDA2/JTAG_TMS |
| 10 | IO17 | GPIO17/SPI0_SCLK/SPI1_SCLK/I2S_FS/I2C_SDA/UART_SIG5/RMII_REF_CLK/CAM_DAT5/PWM0_CH1P/PWM0_CH0N/DBI_TypeB_DB5/DBI_TypeC_DCn/DISP_QSPI_SDA3/JTAG_TCK |
| 11 | IO19 | GPIO19/SPI0_MOSI/SPI1_MOSI/I2S_DO/I2S_RCLK_O/I2C_SDA/UART_SIG7/RMII_RXD[0]/CAM_DAT7/PWM0_CH3P/PWM0_CH1N/DBI_TypeB_DB7/DBI_TypeC_CSn/DISP_QSPI_CSn/AUPWM_N/JTAG_TDI |
| 12 | IO18 | GPIO18/SPI0_MISO/SPI1_MISO/I2S_DI/I2S_RCLK_O/I2C_SCL/UART_SIG6/RMII_RXD[1]/CAM_DAT6/PWM0_CH2P/PWM0_CH1P/DBI_TypeB_DB6/DBI_TypeC_SCL/DISP_QSPI_SCL/AUPWM_P/JTAG_TDO |
| 13 | IO3 | GPIO3/SPI0_MOSI/SPI1_MOSI/I2S_DO/I2S_RCLK_O/I2C_SDA/UART_SIG3/ADC_CH3/PWM0_CH3P/PWM0_CH1N/DBI_TypeB_DCn/DBI_TypeC_CSn/JTAG_TDI<br>(Default unavailable. This IO is internally connected to the module DC-DC for low-power use. If low power is not required and this IO needs to be used, please contact Ai-Thinker for customization.) |
| 14 | IO20 | GPIO20/SPI0_SS/SPI1_SS/I2S_BCLK/I2C_SCL/UART_SIG8/PDM_CLK/RMII_RX_DV/CAM_VSYNC/PWM0_CH0P/PWM0_CH2P/DBI_TypeC_SDA/DISP_QSPI_SDA0/JTAG_TMS |
| 15 | IO21 | GPIO21/SPI0_SCLK/SPI1_SCLK/I2S_FS/I2C_SDA/UART_SIG9/PDM_IN/CAM_CLK/PWM0_CH1P/PWM0_CH2N/DBI_TypeC_DCn/DISP_QSPI |

| | | |
|---|---|---|
| | | _SDA1/JTAG_TCK |
| 16 | IO22 | GPIO22/SPI0_MISO/SPI1_MISO/I2S_DI/I2S_RCLK_O/I2C_SCL/UART_SIG10/CAM_HSYNC/PWM0_CH2P/PWM0_CH3P/DBI_TypeC_SCL/DISP_QSPI_SDA2/JTAG_TDO |
| 17 | IO9 | GPIO9/SPI0_SCLK/SPI1_SCLK/I2S_FS/I2C_SDA/UART_SIG9/SF2_D0/SDIO_CLK/PWM0_CH1P/PWM0_CH0N/DBI_TypeC_DCn/DISP_QSPI_SDA1/JTAG_TCK<br>(Default available. This IO is shared with the module's internal Flash pin. If the module is customized with internal mounted Flash, this IO is NC.) |
| 18 | IO8 | GPIO8/SPI0_SS/SPI1_SS/I2S_BCLK/I2C_SCL/UART_SIG8/SF2_D2/SDIO_CMD/PWM0_CH0P/DBI_TypeC_SDA/DISP_QSPI_SDA0/JTAG_TMS<br>(Default available. This IO is shared with the module's internal Flash pin. If the module is customized with internal mounted Flash, this IO is NC.) |
| 19 | IO10 | GPIO10/SPI0_MISO/SPI1_MISO/I2S_DI/I2S_RCLK_O/I2C_SCL/UART_SIG10/SF2_CLK/SDIO_DAT0/PWM0_CH2P/PWM0_CH1P/DBI_TypeC_SCL/DISP_QSPI_SDA2/JTAG_TDO<br>(Default available. This IO is shared with the module's internal Flash pin. If the module is customized with internal mounted Flash, this IO is NC.) |
| 20 | IO7 | GPIO7/SPI0_MOSI/SPI1_MOSI/I2S_DO/I2S_RCLK_O/I2C_SDA/UART_SIG7/SF2_D1/ADC_CH7/SDIO_DAT3/PWM0_CH3P/PWM0_CH3N/DBI_TypeC_CSn/DISP_QSPI_CSn/JTAG_TDI<br>(Default available. This IO is shared with the module's internal Flash pin. If the module is customized with internal mounted Flash, this IO is NC.) |
| 21 | 5V | 5V power supply; supply current recommended >500mA |
| 22 | GND | Ground |
| 23 | IO0 | GPIO0/SPI0_SS/SPI1_SS/I2S_BCLK/I2C_SCL/UART_SIG0/ADC_CH0/PWM0_CH0P/DBI_TypeB_CSn/DBI_TypeC_SDA/JTAG_TMS |
| 24 | IO1 | GPIO1/SPI0_SCLK/SPI1_SCLK/I2S_FS/I2C_SDA/UART_SIG1/ADC_CH1/PWM0_CH1P/PWM0_CH0N/DBI_TypeB_RDn/DBI_TypeC_DCn/JTAG_TCK |
| 25 | IO31 | GPIO31/SPI0_MOSI/SPI1_MOSI/I2S_DO/I2S_RCLK_O/I2C_SDA/UART_SIG7/RMII_RX_DV/CAM_DAT7/PWM0_CH3P/PWM0_CH3N/DBI_TypeB_DB7/DBI_TypeC_CSn/AUPWM_N/JTAG_TDI |
| 26 | TX | GPIO34/SPI0_MISO/SPI1_MISO/I2S_DI/I2S_RCLK_O/I2C_SCL/UART_SIG10/PWM0_CH2P/PWM0_CH1P/DBI_TypeC_SCL/JTAG_TDO |
| 27 | RX | GPIO35/SPI0_MOSI/SPI1_MOSI/I2S_DO/I2S_RCLK_O/I2C_SDA/UART_SIG11/PWM0_CH3P/PWM0_CH1N/DBI_TypeC_CSn/JTAG_TDI |
| 28 | IO30 | GPIO30/SPI0_MISO/SPI1_MISO/I2S_DI/I2S_RCLK_O/I2C_SCL/UART_SIG6/RMII_RXD[0]/CAM_DAT6/PWM0_CH2P/PWM0_CH3P/DBI_TypeB_DB6/DBI_TypeC_SCL/AUPWM_P/JTAG_TDO |
| 29 | IO29 | GPIO29/SPI0_SCLK/SPI1_SCLK/I2S_FS/I2C_SDA/UART_SIG5/SF3_CS/RMII_RXD[1]/CAM_DAT3/PWM0_CH1P/PWM0_CH2N/DBI_TypeB_DB5/DBI_TypeC_DCn/DISP_QSPI_SDA3/JTAG_TCK |
| 30 | IO28 | GPIO28/SPI0_SS/SPI1_SS/I2S_BCLK/I2C_SCL/UART_SIG4/SF3_D1/RM |

| | | |
|---|---|---|
| | | II_REF_CLK/CAM_DAT2/PWM0_CH0P/PWM0_CH2P/DBI_TypeB_DB4/DBI_TypeC_SDA/DISP_QSPI_SDA2/JTAG_TMS |
| 31 | IO27 | GPIO27/SPI0_MOSI/SPI1_MOSI/I2S_DO/I2S_RCLK_O/I2C_SDA/UART_SIG3/SF3_D2/PDM_IN/RMII_TXD[0]/CAM_DAT1/PWM0_CH3P/PWM0_CH1N/DBI_TypeB_DB3/DBI_TypeC_CSn/DISP_QSPI_SDA1/JTAG_TDI |
| 32 | IO26 | GPIO26/SPI0_MISO/SPI1_MISO/I2S_DI/I2S_RCLK_O/I2C_SCL/UART_SIG2/SF3_D0/PDM_CLK/RMII_TXD[1]/CAM_DAT0/PWM0_CH2P/PWM0_CH1P/DBI_TypeB_DB2/DBI_TypeC_SCL/DISP_QSPI_SDA0/JTAG_TDO |
| 33 | BOOT | BOOT: NC by default. If required, please contact the business representative for control.<br>GPIO36/SPI0_SS/SPI1_SS/I2S_BCLK/I2C_SCL/UART_SIG0/PWM0_CH0P/PWM0_CH2P/DBI_TypeB_DCn/JTAG_TMS |
| 34 | IO23 | GPIO23/SPI0_MOSI/SPI1_MOSI/I2S_DO/I2S_RCLK_O/I2C_SDA/UART_SIG11/RMII_MDIO/CAM_VSYNC/SWGPIO[23]/PWM0_CH3P/PWM0_CH3N/DBI_TypeC_CSn/DISP_QSPI_SDA3/JTAG_TDI |
| 35 | IO24 | GPIO24/SPI0_SS/SPI1_SS/I2S_BCLK/I2C_SCL/UART_SIG0/SF3_D3/RMII_MDC/CAM_DAT4/PWM0_CH0P/DBI_TypeB_DB0/DBI_TypeC_SDA/DISP_QSPI_SCL/AUPWM_P/JTAG_TMS |
| 36 | IO25 | GPIO25/SPI0_SCLK/SPI1_SCLK/I2S_FS/I2C_SDA/UART_SIG1/SF3_CLK/RMII_TX_EN/CAM_DAT5/PWM0_CH1P/PWM0_CH0N/DBI_TypeB_DB1/DBI_TypeC_DCn/DISP_QSPI_CSn/AUPWM_N/JTAG_TCK |
| 37 | IO2 | GPIO2/SPI0_MISO/SPI1_MISO/I2S_DI/I2S_RCLK_O/I2C_SCL/UART_SIG2/ADC_CH2/PWM0_CH2P/PWM0_CH1P/DBI_TypeB_WRn/DBI_TypeC_SCL/JTAG_TDO<br>(Default unavailable. This IO is internally connected to the module DC-DC for low-power use. If low power is not required and this IO needs to be used, please contact Ai-Thinker for customization.) |
| 38 | IO33/DM | USB_DM/GPIO33/SPI0_SCLK/SPI1_SCLK/I2S_FS/I2C_SDA/UART_SIG9/PDM_IN/ADC_CH11/PWM0_CH1P/PWM0_CH0N/DBI_TypeC_DCn/JTAG_TCK |
| 39 | IO32/DP | USB_DP/GPIO32/SPI0_SS/SPI1_SS/I2S_BCLK/I2C_SCL/UART_SIG8/PDM_CLK/ADC_CH10/PWM0_CH0P/DBI_TypeC_SDA/JTAG_TMS |
| 40 | IO6 | GPIO6/SPI0_MISO/SPI1_MISO/I2S_DI/I2S_RCLK_O/I2C_SCL/UART_SIG6/SF2_CS/ADC_CH6/SDIO_DAT2/PWM0_CH2P/PWM0_CH3P/DBI_TypeC_SCL/DISP_QSPI_SCL/JTAG_TDO |
| 41 | IO11 | GPIO11/SPI0_MOSI/SPI1_MOSI/I2S_DO/I2S_RCLK_O/I2C_SDA/UART_SIG11/SF2_D3/SDIO_DAT1/PWM0_CH3P/PWM0_CH1N/DBI_TypeC_CSn/DISP_QSPI_SDA3/JTAG_TDI<br>(Default available. This IO is shared with the module's internal Flash pin. If the module is customized with internal mounted Flash, this IO is NC.) |
| 42 | GND | Ground |
| Note: Both BOOT and the test point on the back can be used as Bootstrap. If the level is high at the moment of power-on, the module enters flashing/download mode. If the level is low at the moment of power-on, the module boots normally. The module is internally pulled low by default. | | |

# 7 Schematic Diagram

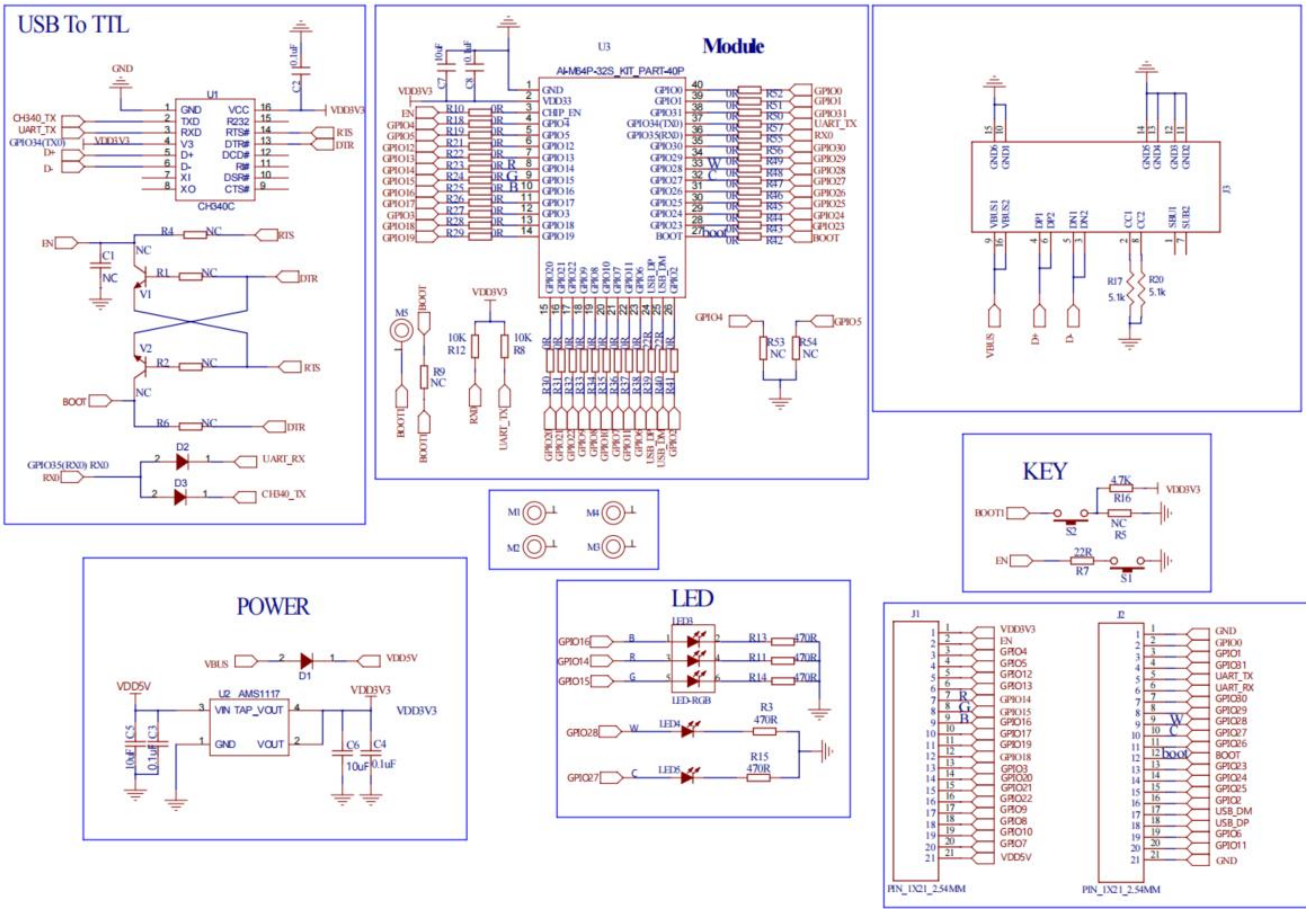


**Figure 7 Schematic Diagram**

# 8 Packaging Information

**Table 9 Packaging Information**

| Packing List | Packaging Method | Quantity per Bag (ESD Bag) | Quantity per Bag (Sealed Bag) |
|---|---|---|---|
| Ai-M64P-32S-Kit | Foam + ESD bag | 1pcs | 20pcs |

# 9 Contact Information

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