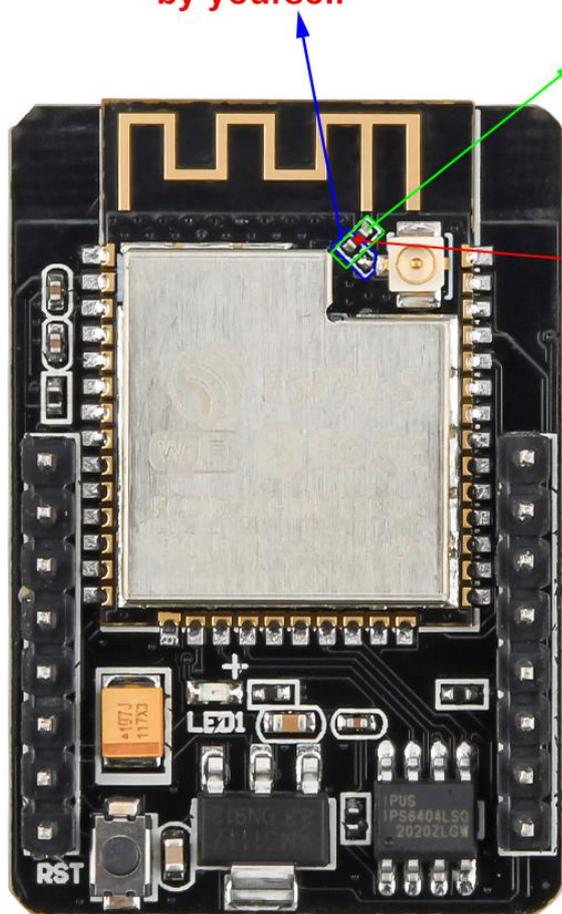# Manual

ESP32-CAM-MB MICRO USB ESP32 Serial to WiFi ESP32 CAM Development Board CH340 CH340G
5V Bluetooth+OV2640 Camera+2.4G Antenna IPX

This product has built-in antenna,if you need to use external antenna,you should resoldering resistance with soldering iron by yourself

Step 1: To weld this two parts in blue box

Step 2:
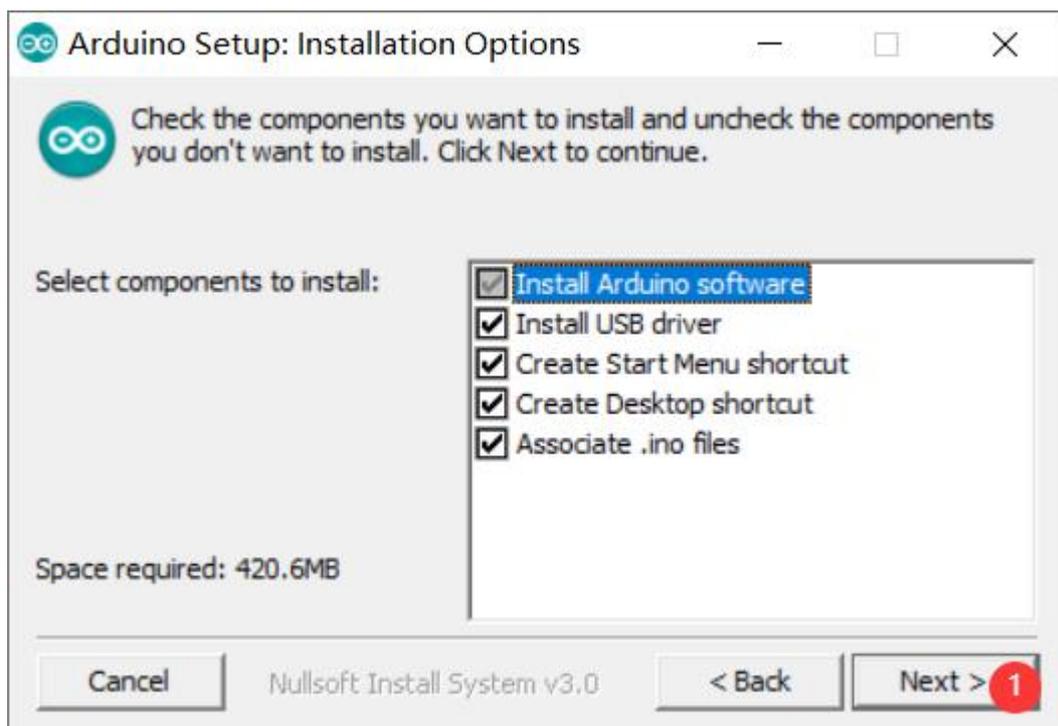   to Fuse the two positions selected by the green boxes in the picture

Step 3:
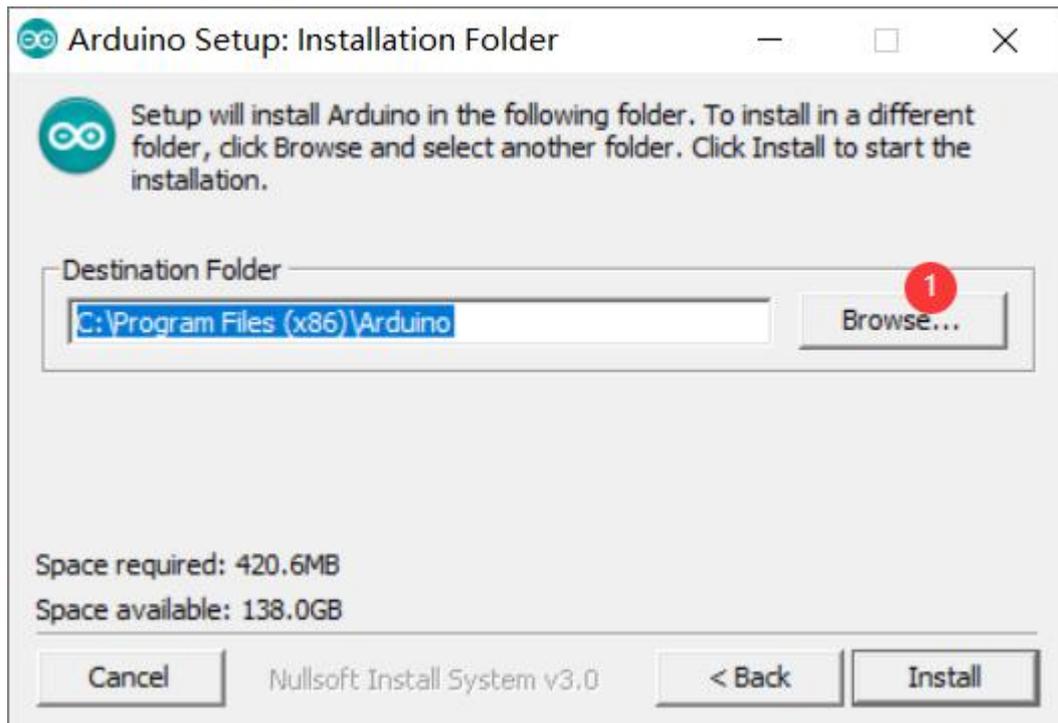   to weld a Resistor

The results are as follows
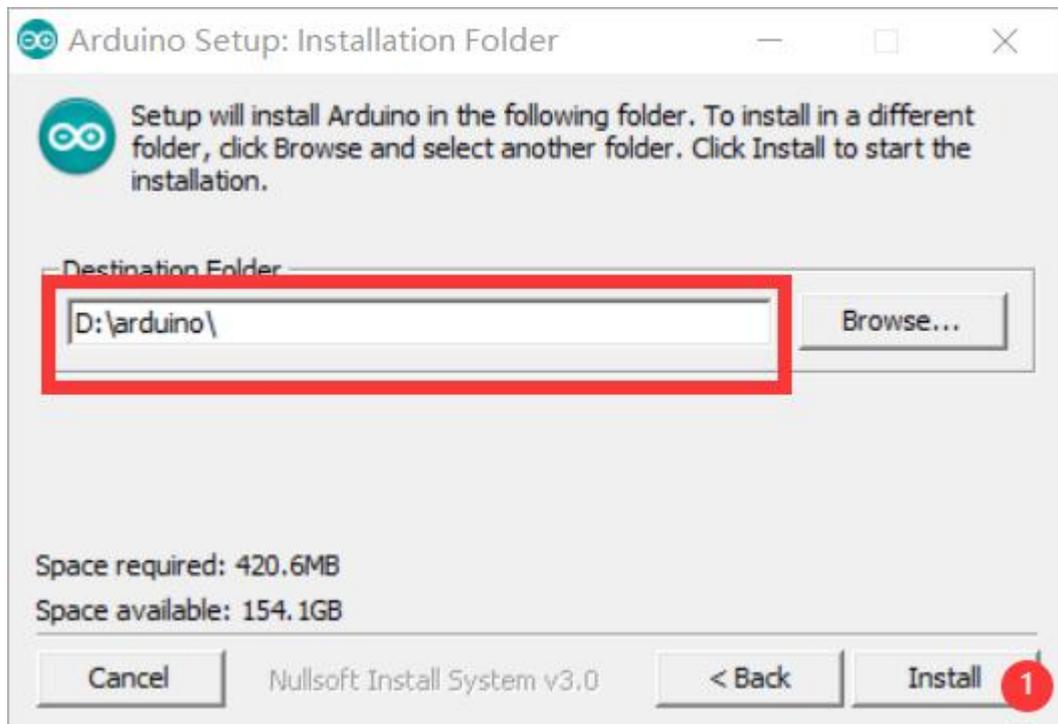
1. Arduino development environment construction

(1) Download the Arduino IDE on the Arduino official website
(2) Click "I agree", click Next

(3) The default is to install on the c drive, you can click Browse to change the installation location.

(4) Here I installed it in the arduino folder of drive d (remember this installation path)

(5) Wait for the installation to complete, open the hardware under the installation path

(6) Unzip the file "espressif"

After the download is complete, unzip it to the hardware directory

(7) Open ArduinoIDE and select the corresponding development board
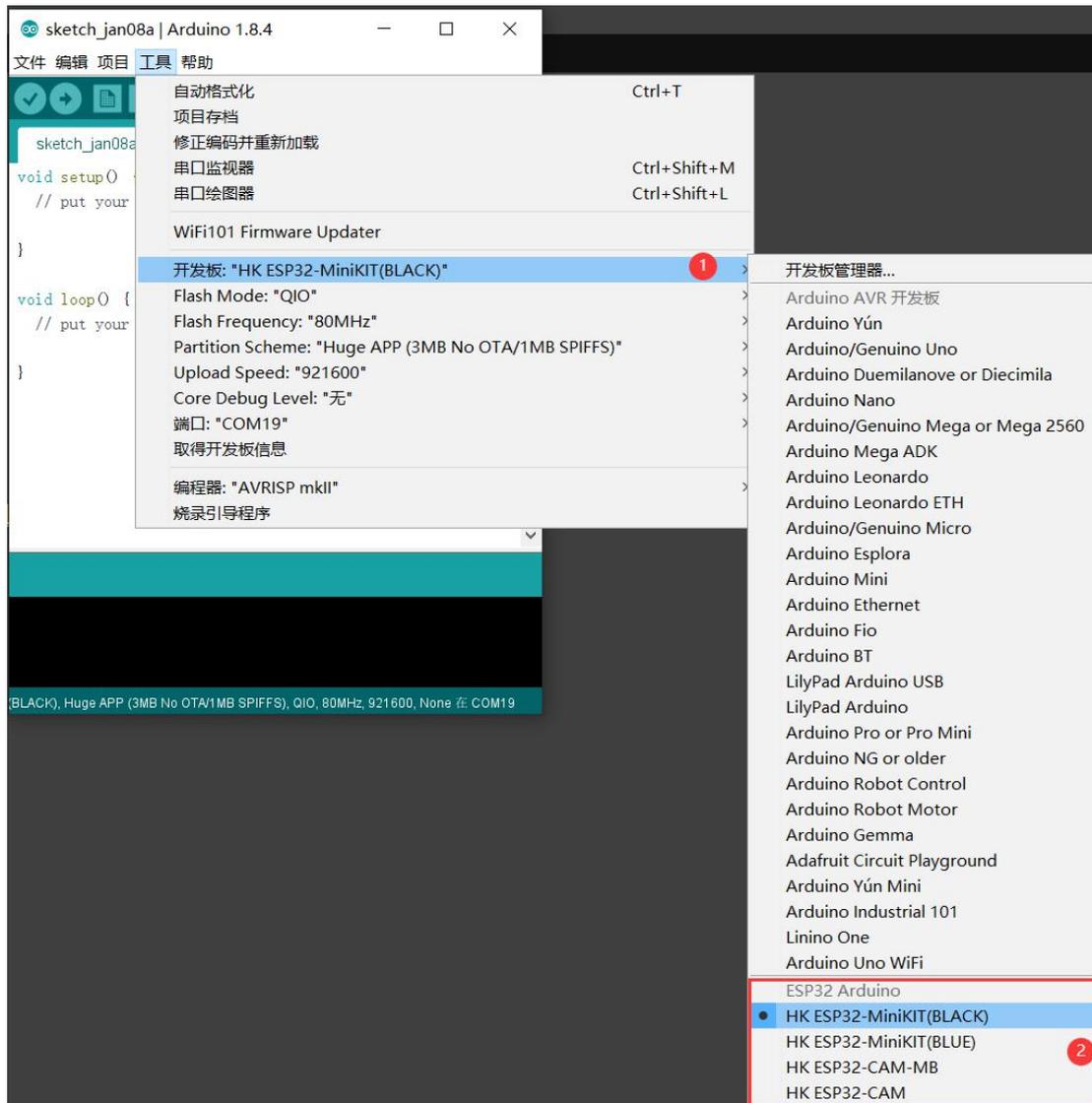
At this point, the Arduino IDE development platform is set up. Here is how to use the example

2. ESP-CAM video stream and photo examples

(1) Open Camera file
(2) After the download is complete, enter the "Camera" directory and double-click to open "Camera.ino"
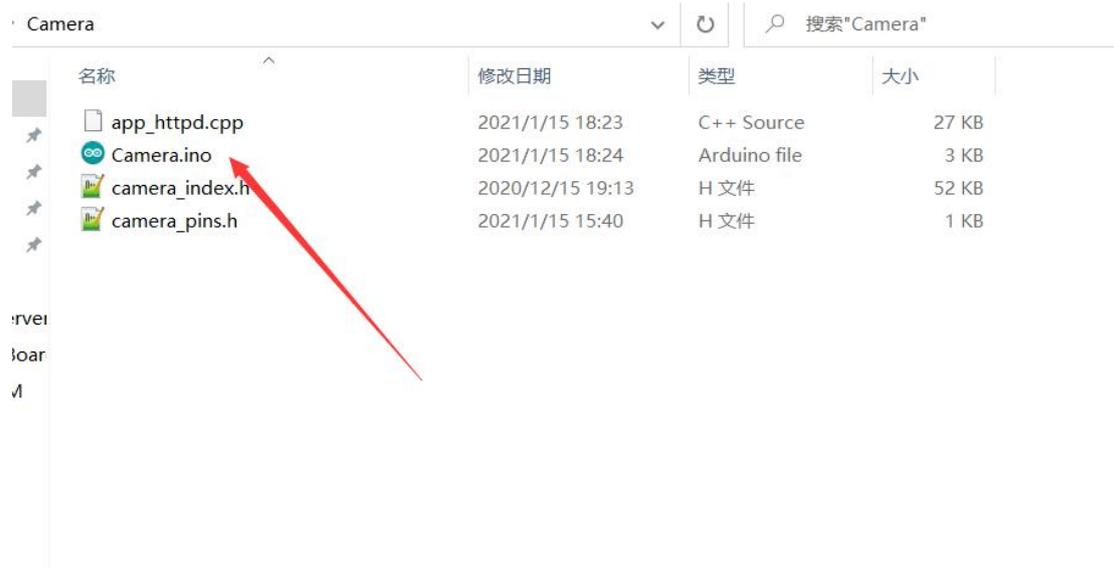
(3) Select the development board, select the port, upload the code

(4) **Open the serial port, select the baud rate 115200, reset the development board, and check the serial port output**
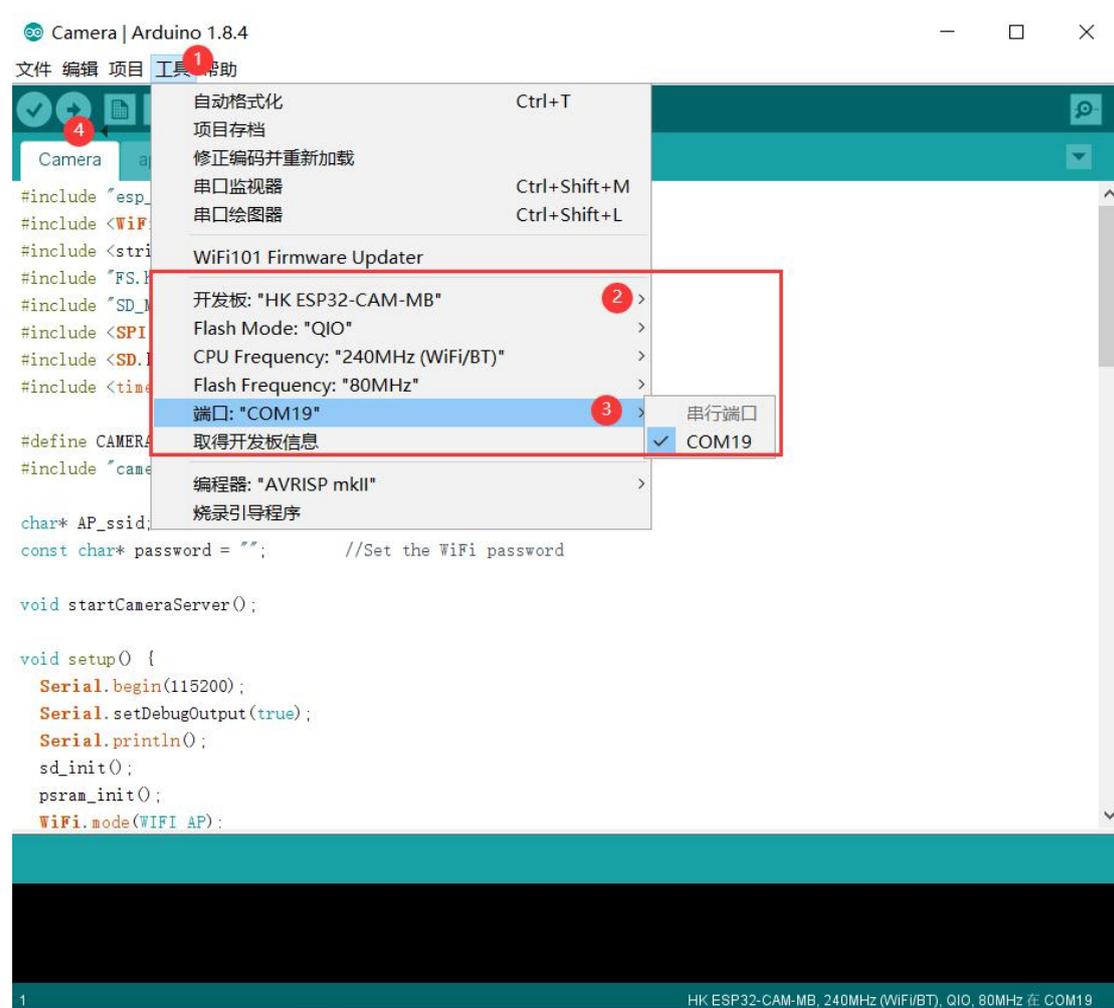
```
ets Jun  8 2016 00:22:57

rst:0x1 (POWERON_RESET),boot:0x13 (SPI_FAST_FLASH_BOOT)
flash read err, 1000
ets_main.c 371
ets Jun  8 2016 00:22:57

rst:0x10 (RTCWDT_RTC_RESET),boot:0x13 (SPI_FAST_FLASH_BOOT)
configsip: 0, SPIWP:0xee
clk_drv:0x00,q_drv:0x00,d_drv:0x00,cs0_drv:0x00,hd_drv:0x00,wp_drv:0x00
mode:DIO, clock div:1
load:0x3fff0018,len:4
load:0x3fff001c,len:1216
ho 0 tail 12 room 4
load:0x40078000,len:10920
ho 0 tail 12 room 4
load:0x40080400,len:6388
entry 0x400806b4

SD Size: 7680MB  OK
PSRAM OK
AP_ssid:CAM-7C:9E:BD:ED:2F:8D
AP_password:
```

(5) Visit the video streaming server

You can turn on the WIFI of your mobile phone and connect to "ESP-xx:xx:xx:xx:xx:xx" (each development board has a different suffix). Open the browser and type the 192.168.4.1 address. Press the Start Streaming button to start video streaming. Press Get Still to take a photo, the photo is stored in the SD card, and the photo is named randomly

Contrast   -2 ———————— 2

Saturation   -2 ———●——— 2

Special Effect   [No Effect ▼]

AWB   🔴

AWB Gain   🔴

WB Mode   [Auto ▼]

AEC SENSOR   🔴

AEC DSP   ⚪

AE Level   -2 ———●——— 2

AGC   🔴

Gain Ceiling   2x ●——————— 128x

BPC   ⚪

WPC   🔴

Raw GMA   🔴

Lens Correction 🔴

H-Mirror   ⚪

V-Flip   ⚪

DCW (Downsize EN) 🔴

Color Bar   ⚪

Face Detection ⚪

Face Recognition ⚪

[Get Still]   [Start Stream]   [Enroll Face]

②

ESP32-CAM
interfaces

ESP32-CAM-MB

Download button

Power indicator

Reset button

USB to Serial Port