# 4K USB to WIFI HD video transmission module

## User's Manual

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## 1. Overview

SM-61 is a set of image transmission module specially based on the traditional wired USB camera to wireless point-to-point, which realizes that the USB camera does not need to be connected to the computer through wired, and solves the problems of wiring and inconvenient movement. The wireless principle uses the WIFI protocol of the standard 5.8G frequency band (conforming to the a/an international wireless standard) to realize the module of wireless point-to-point video transmission. The module includes two parts, namely the transmitting end (SM-61-TX) and the receiving end (SM-61-RX). A transmitting end is connected with a USB camera to acquire an MJPEG/YUV format lens, a high-speed wireless chip is adopted, a video stream is sent to a designated receiving end module in an automatic network distribution mode, and after the receiving end module receives the video stream, the video stream is quickly converted into a standard USB2.0 UVC video stream to be driven and output, Output to a computer or a display terminal supporting a standard USB camera, completely driver-free, plug and play, and the display terminal completes the processing work of application functions such as real-time video display, video recording, photographing, two-way data transmission and the like.

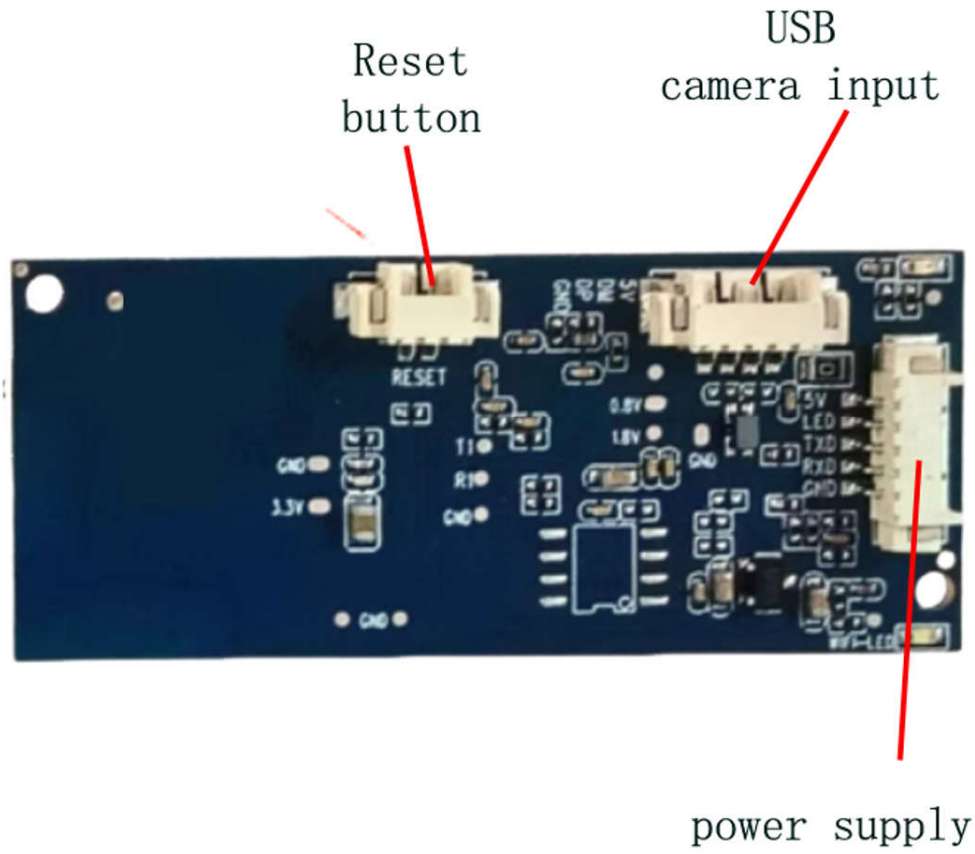
- High-speed, stable video transmission
  - ✓ MJPEG/YUV to wireless point-to-point video streaming
  - ✓ Video wireless transmission, to achieve terminal equipment for photography and video recording and playback and other functions
  - ✓ High-resolution video display, supporting 1080P/4K 60FPS and other high-speed transmission, no delay and no stutter
  - ✓ In the point-to-point operation mode, the transmission does not need to go through the external network.
  - ✓ Support bidirectional serial communication

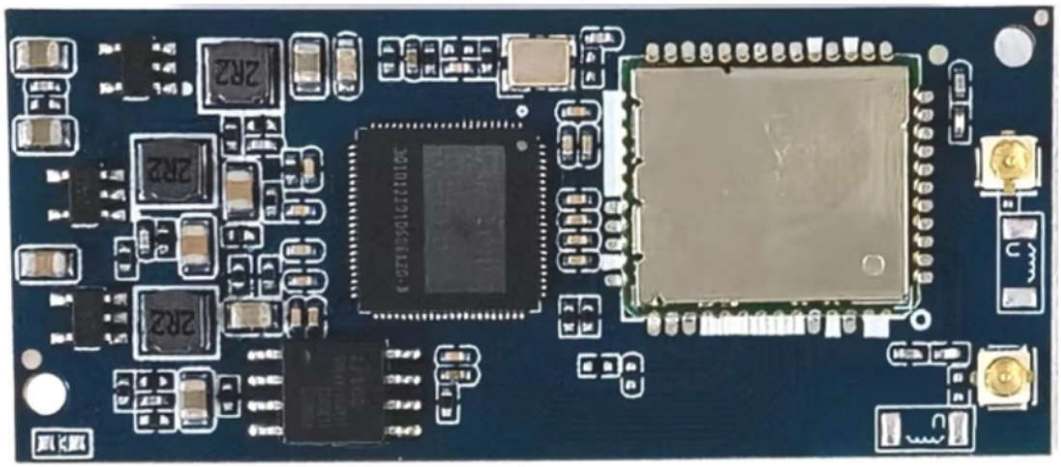
- Multi-platform and multi-terminal video display and control
  - ✓ Windows video display
  - ✓ Large-screen intelligent terminal video display
  - ✓ Smart phone video display

- Easy to use, low power consumption and convenient power supply
  - ✓ 3.3-5V power supply
  - ✓ Low power consumption, the power consumption of the transmitter is about 2.5 W in normal operation, and the power consumption of the receiver is about 2 W
  - ✓ Simple operation, support fast one-to-one pairing, mutual non-interference, after the completion of pairing, plug and play, to solve the complex operation of wired connection

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## 2. Module Product description



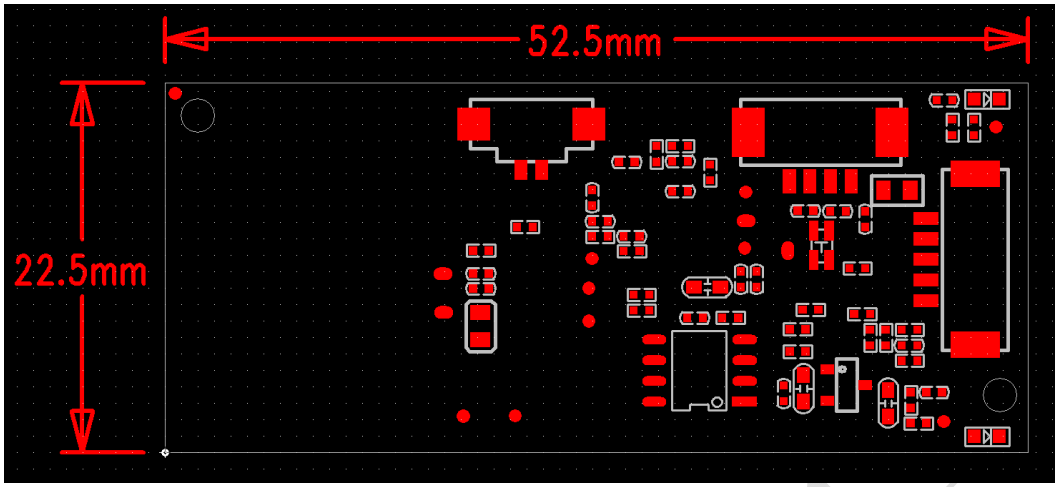



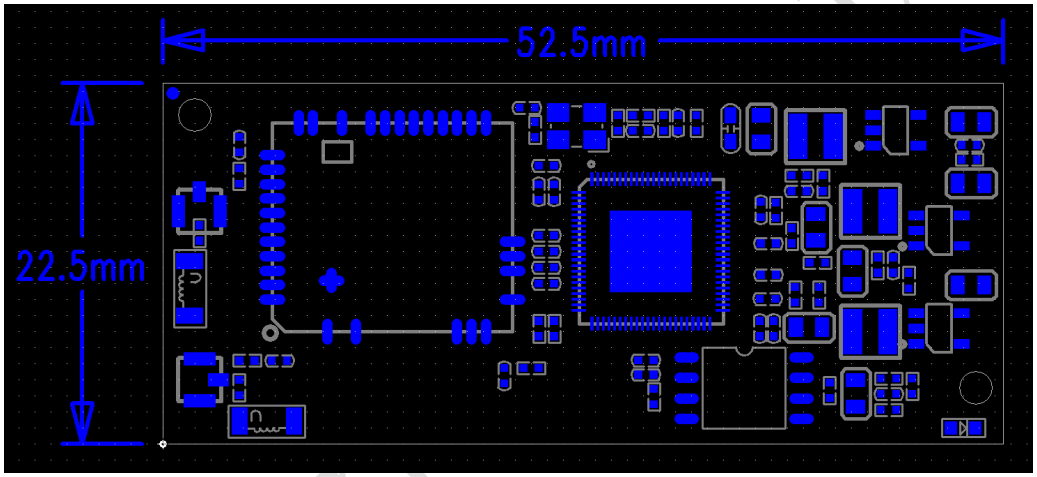
| Interface description | Interface definition | | |
|---|---|---|---|
| Card holder 1 | Specification size | **4pin** **1.25mm** Lying paste | |
| | Interface function | USB2.0 lens input interface | |
| | Interface ordering | From left to right: V +/DM/DP/GND | |
| | | | |
| | Specification | **5pin** **1.25mm** Lying paste | |

| | | |
|---|---|---|
| Card holder 2 | size | |
| | Interface function | USB2.0 power input interface |
| | Interface ordering | Communication interface from bottom to top V +/WIFI-LED/TXD/RXD/GND, positive input of power supply, 3.3-5v, WIFI-LED (LED 1): WIFI indicator output (not connected) TXD (LED2): serial port output port (need to develop custom, can not be connected) RXD (key): serial input port or camera key, video (need to develop custom, can not be connected) combined with software, this pin and GND short connection, can implement photography, (grounding more than 2S long can achieve video recording function). (May For industrial endoscope) Grounding: grounding, negative input of power supply |
| | | Hardware photography: external pads are reserved on the motherboard |
| | Note description | **VDD (3.3~5V)** |
| Card holder 3 | Reset | 2 Pin 1.25 mm horizontal patch Two feet short circuit for 6 seconds to reset wifi |
| Antenna | Specification | **5.8G 103MM** Black **2PCS** |
| | Interface | **IPEX** |
| | Antenna application | |
| | Power | |
| | Resistance | |

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### 3. Module Structure Size (front Reverse Height Limit 3mm)



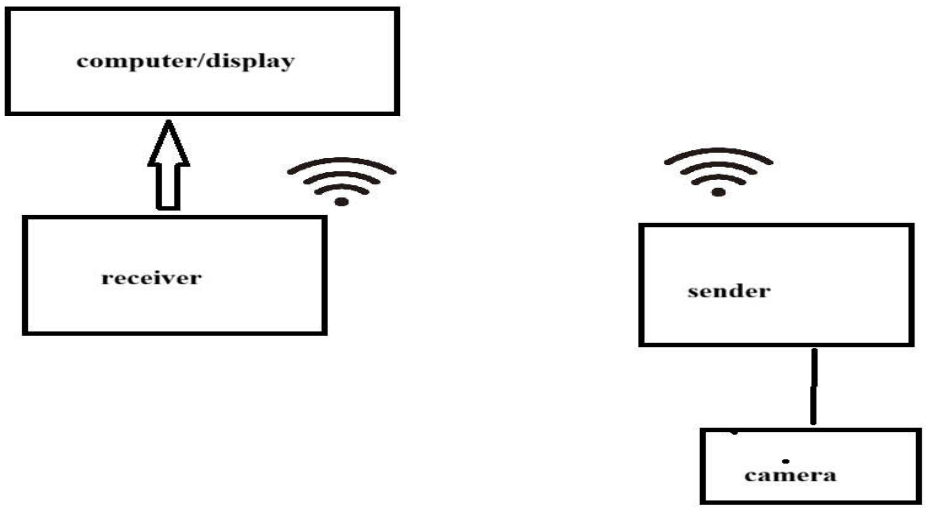

### 4. Module parameters

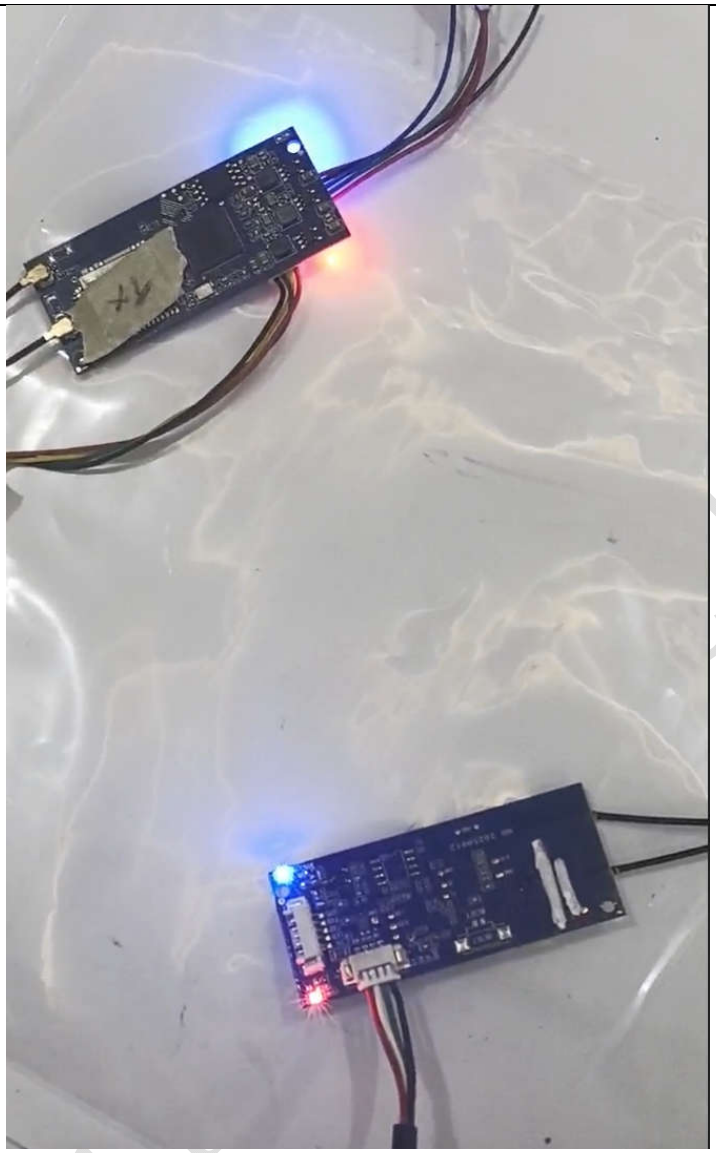
| | |
|---|---|
| Electrical characteristics (electrical) | |
| Power supply range (Power) | 3.3V-5V |
| Average power consumption (Power waste) | 2.5W |
| Operating temperature (Temperature) | **-10°C ~ +70°C** |
| Wireless parameters (wireless) | |
| Working mode | AP Mode/sta mode |
| Working freq | **5725MHz~5850MHz** |
| Network protocol | **802.11ac** |
| Transmission speed | 100MBPS |
| Transmit power | Greater than 13 DBM |
| Antenna (antenna) | External 2.5DB |
| Video parameters (video) | |

| | |
|---|---|
| Encoding format | MJPEG |
| Resolution | Support multiple (VGA/YUV//720P/1080P/4K) |
| Transmission frame rate (frame) | 30 Fps |
| USB Camera Support Parameters (USB CAMERA) | |
| USB Format | MJPEG USB 2.0 / YUV |
| Resolution | Up to 4208 * 3120 |
| Photo Resolution | Up to 4208 * 3120 |
| Video Resolution | VGA |
| Recording Format | *.AVI/mp4 |
| Browse Mode | APP |
| Storage frame rate (Recording frame) | 20 Fps |
| Video File Size | 400MB/min (400MB/min) |
| Recording Loop | Support (support) |
| Video File Named | Named at the current time (Time Named) |
| Other Parameters (Other) | |
| External communication interface (communication) | Serial port (UART) |
| Start-up Time | 10S |
| Support mobile phone (Phone) | Android/10S |
| Weight (weight) | 10g |
| Application field (Application) | Industrial, medical, toy, high-speed camera and other intelligent industries |

## 5. Operating mode:

1. Transmitting module + receiving module mode
In this mode, you need to use two SM-61 modules at the same time, one as the generating end and the other as the receiving end, which use different firmware





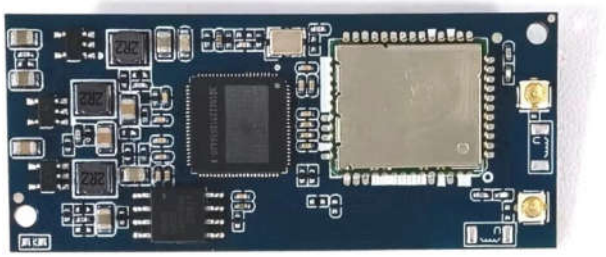
2. Mobile phone app as the receiving end

In this mode, APP needs to be installed on the mobile phone, as shown in the figure below

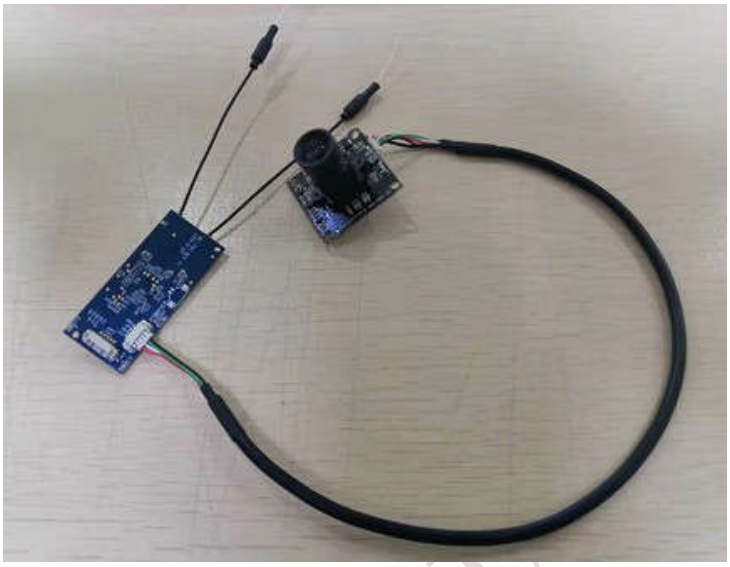




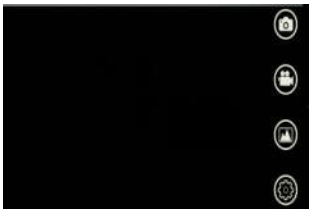
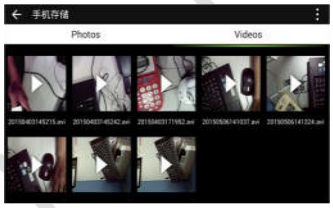
## 1.Operation Steps

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|---|---|
| T Step 1: Understand the module<br>1 、 **WIFI** Video module board<br>2. External antenna |  |

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|---|---|
| Step 2: Module power supply (test) 1. Power supply: lithium battery or USB cable power supply. 2. The module interface is connected to the peripheral equipment, as shown in the right figure. The camera shown in the figure is provided by itself (the camera can support 300000, 1000000, 130000, 2000000, 5000000, 8000000).<br>Million, 13 million options |  |
| Step 3: Install the software (WIFI view) Installation method: Download the Hdview app and install it on the Android phone.<br>HDview.apk | |

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|---|---|
| You can see a new WIFI name "HDAV + random number default" or "Jetion + random number" after entering the WIFI search bar of the mobile phone. The names of different production batches are different. Each module corresponds to a WIFI name. The name of the software can be modified through the software setting menu. If you don't have a WIFI password (or password: 12345678), just click Connect. |  |
| Step 5: Open the software. If the WIFI is connected correctly, open the software to see the image in real time. | <br>Main interface<br><br>Video playback interface<br><br>Picture playback interface<br><br>Set up |

## 2.Cause of abnormality

**a. WIFI not found:**

**Most of the reasons are caused by the power supply, please check whether the power supply is normal, 3.3 v-5v input requirements, drive current 500MA above the power supply, check whether the positive and negative power supply are connected, and pay attention to the WIFI name, different batches of WIFI names are different, for example, Which WIFI can be added when the list is connected and not connected.**

**b.WIFI has a password:**

**If there's a password, it's a 12345678. In the software, please feel free to change the password, forget the password can only**

**Return to the factory for repair**

**C. Software does not see images:**

**Look at the software of the main interface, the upper left corner shows U, if so, it is generally the wrong connection of the lens, note**

**Meaning Digital D +/D — No error, the lens is an MJPEG/YUV lens**

**d.** Module hot:

Whether the work is normal: for the normal phenomenon, the working time is long, the temperature will be a little high, the normal surface temperature is about 60-70 degrees, can work for a long time.

**e.** Image card:

Normal transmission distance is 30-40 meters, and different environments may cause interference, especially in exhibitions.

Or WIFI, especially a large number of local interference, try to avoid complex environment.

**f.** Other causes: Contact a technician to resolve

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