

## Flylink&WisCam Video Module Serial Port User Manual v1.0

This document is using for the following product.

TCP-80	TCP Protocol Port :80	720P WIFI Video Module	RAK5206,RAK5203,RAK520
		1080P WIFI Video Module	RAK5270,RAK5271
		CVBS Long Range WIFI Video Module	RAK553,RAK554,RAK5611,RAK5610
TCP-502	TCP Protocol Port : 502	WisCam Open Source WIFI Video Module	WisCam,RAK581
UDP-1008	UDP Protocol Port : 1008	HDMI HD Long Range WIFI Video Module	RAK566,RAK566+RAK554,RAK566+RAK567

### 1 Why to use

RAK Flylink&WisCam Video Module can transmit video to receiver or smartphone APP and transmit control data to Host MCU/CPU via UART. Such as control IPC PTZ, control sports cameras taking photo or recording,Get the parameters from the Host MCU/CPU.

You can use the third-party TCP&UDP tools or RAKVideo APP to test this function .

### 2 Transparent Network

The Transparent work based on the network with TCP/UDP protocol. The network have the following structure.

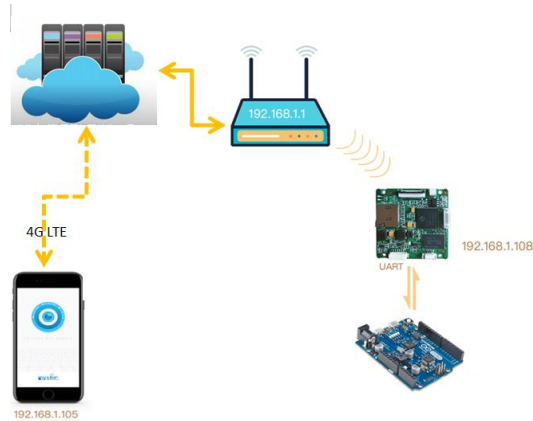
- 1) Module work as SoftAP , client ( Smartphone or PC which have wifi function, Hereinafter referred to as APPs ) connect the AP , then the network have completed .



- 2) Module work as client and connect the router .APPs connect the same router . the network have completed between module and APPs via local Router .



- 3) Module work as client and connect the router .APPs connect internet with 4G or a different router. the network have completed between module and APPs via internet. That will use Nabto P2P cloud server to interact data .



Note : Item 3 is only using for RAK5206,RAK5203,RAK520,RAK5270,RAK5271. And remote control via P2P cloud must use RAK APP or Customized APP based on RAK SDK.

### 3 Transparent Instructions

The following description use mobile phone as an example.

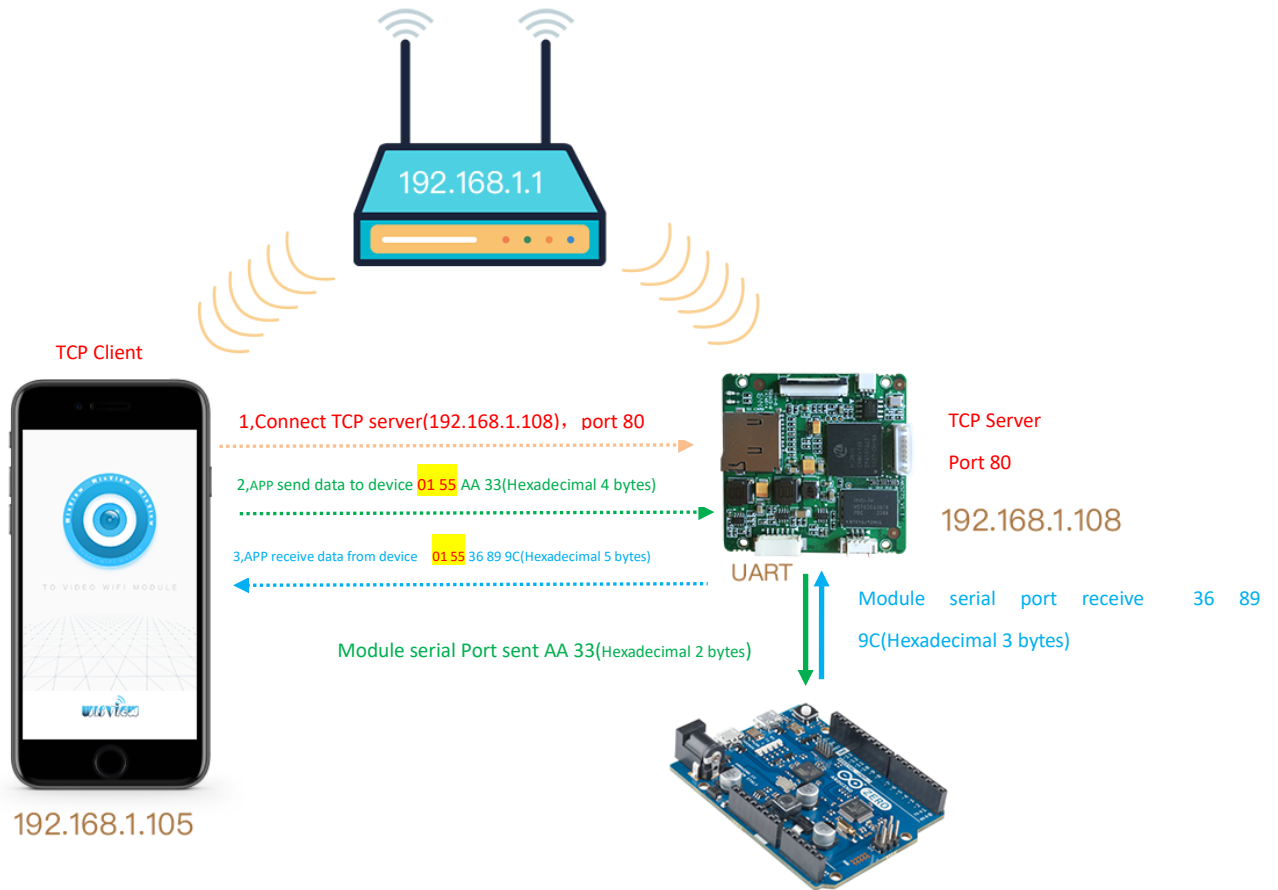
#### 3.1 TCP—80

Smart-phone and the module connect router at the same time,each get different IP address through DHCP dynamic as shown ( IP address will change with different router ) .Get module IP address through our AP when playing the video,the window will inform the IP address of the current transmitter.

Data interaction begins after smartphone connect to the TCP server of the device.When the modules communicate with Arduino board through the serial port,RAK video module will automatically filter or add protocol header 01 55 (hexadecimal data).

Smart-phone APP send control commands AA 33(hexadecimal data).APP needs to send 01 55 AA 33 (hexadecimal data) to TCP server , RAK module will filter protocol header 01 55(hexadecimal data) after receive the data , sent data AA 33(hexadecimal data) through serial port to execute control action with Arduino.Details please refer to the process with green font part.

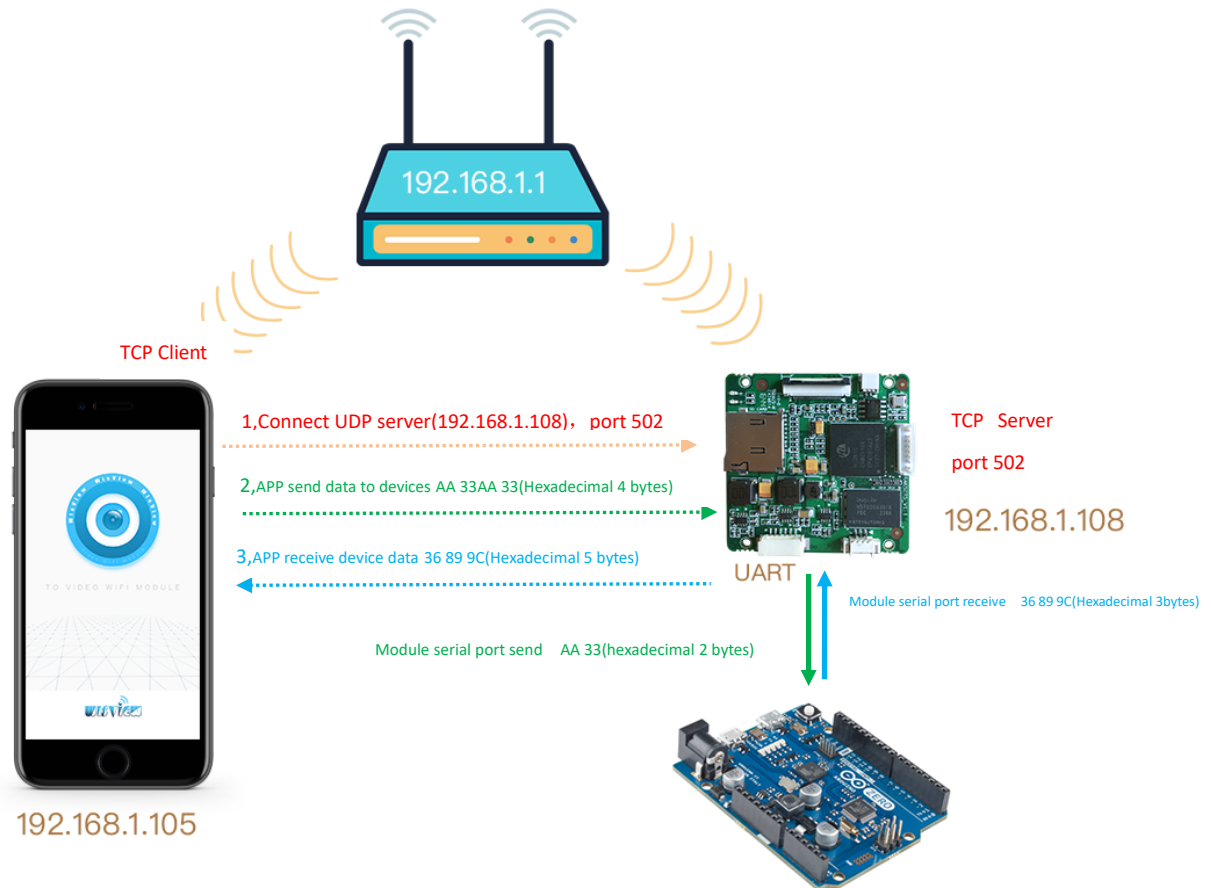
External Arduino master update status data to smartphone APP. Arduino master send status data36 89 9C(hexadecimal data) to TCP server through serial port. RAK modules will add protocol header 01 55(hexadecimal data) automatically after receive the data , and send to smart phone APPs, APPs receive data 01 55 36 89 9C (hexadecimal data) and analysis,please refer to the process with blue font.



### 3.2 TCP—502

Smartphone and the module connect router at the same time, each get different IP address through DHCP dynamic as shown ( IP address will change with different router ). Get module IP address through our AP when playing the video, the window will inform the IP address of the current transmitter.

Transparent of the module is totally transparent data without any protocol header.



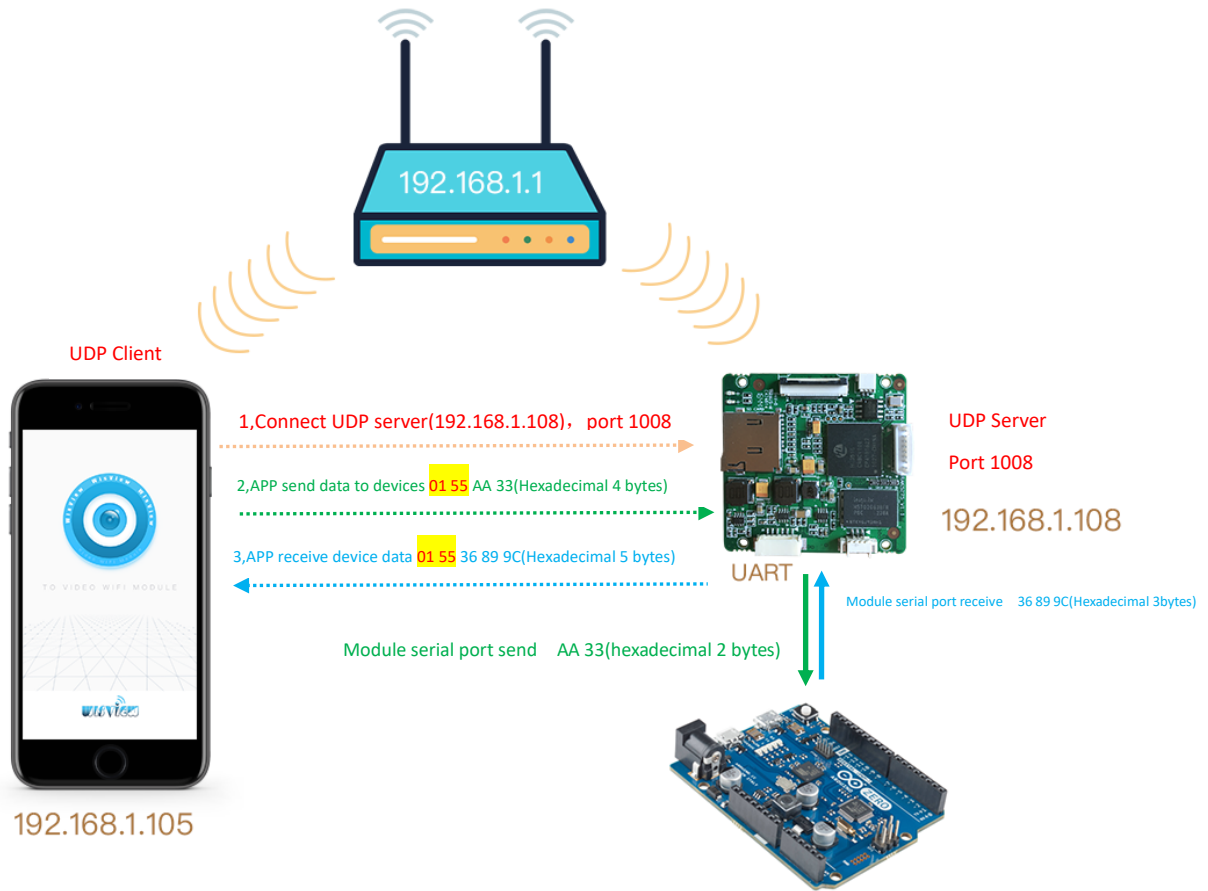
### 3.3 UDP—1008

Smartphone and the module connect router at the same time, each get different IP address through DHCP dynamic as shown ( IP address will change with different router ). Get module IP address through our AP when playing the video, the window will inform the IP address of the current transmitter.

Data interaction begins after smartphone connects to the UDP server of the device. When the modules communicate with Arduino board through the serial port, RAK video module will automatically filter or add protocol header 01 55 (hexadecimal data).

Smart phone APPs send control commands AA 33(hexadecimal data). APP needs to send 01 55 AA 33 (hexadecimal data) to UDP server, RAK module will filter protocol header 01 55(hexadecimal data) after receive the data, then send data AA 33(hexadecimal data) through serial port to execute control action with Arduino. Details please refer to the process with green font.

External Arduino master update status data to smartphone APP. Arduino master send status data 36 89 9C(hexadecimal data) to UDP server through serial port. RAK modules will add protocol header 01 55(hexadecimal data) automatically after receive the data, and send to smart phone APPs, APPs receive data 01 55 36 89 9C (hexadecimal data) and analysis, please refer to the process with blue font.



### 3 Modify the serial port baud rate

Serial port default parameter is 115200-8-1-n.

First,connect RAK module WIFI with smartphone or computer , or with a router , insure the smartphone or computer and the RAK module within one network.

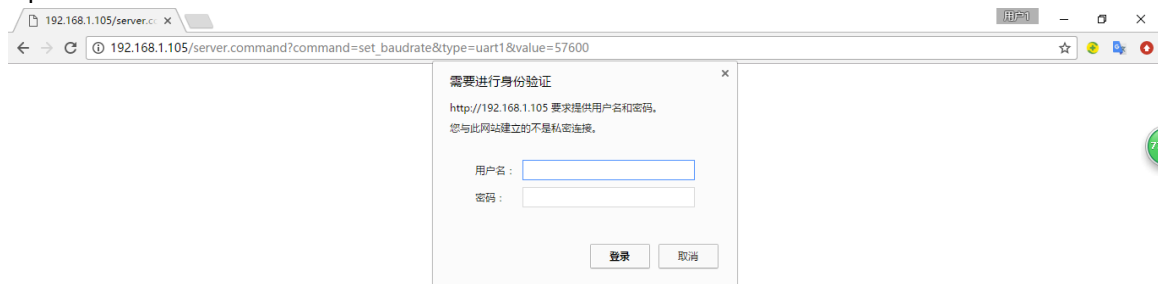
Second,get the IP address of the device( You can get the IP address through the APP when playing the video ) , then modify the baud rate with AT commands

Value : Baud rate needs to be set , it can be: 9600,19200,57600,115200.

192.168.100.1/server.command?command=set\_baudrate&type=uart1&value=9600

OR 192.168.1.105/server.command?command=set\_baudrate&type=uart1&value=57600

Open the browser enter the address above :



Enter user name: **admin** and password : **admin** .

Return value is 0 ,means the configuration is succeed.



You can obtain the current configuration parameters with the following commands.

**192.168.100.1**/server.command?command=get\_baudrate&type=uart1

Or **192.168.1.105**/server.command?command=get\_baudrate&type=uart1

