Feasycom BT909C Application Manual

Firmware version： +VER=BT909C,V2.1.2,20220809

Application scenarios: audio transceiver, data transceiver

Protocol：AGHFP、HFP、A2DP-SRC、A2DP-SNK、AVRCP、SPP、BLE

In the demonstration, use DB008 development board, Type C data cable, computer,
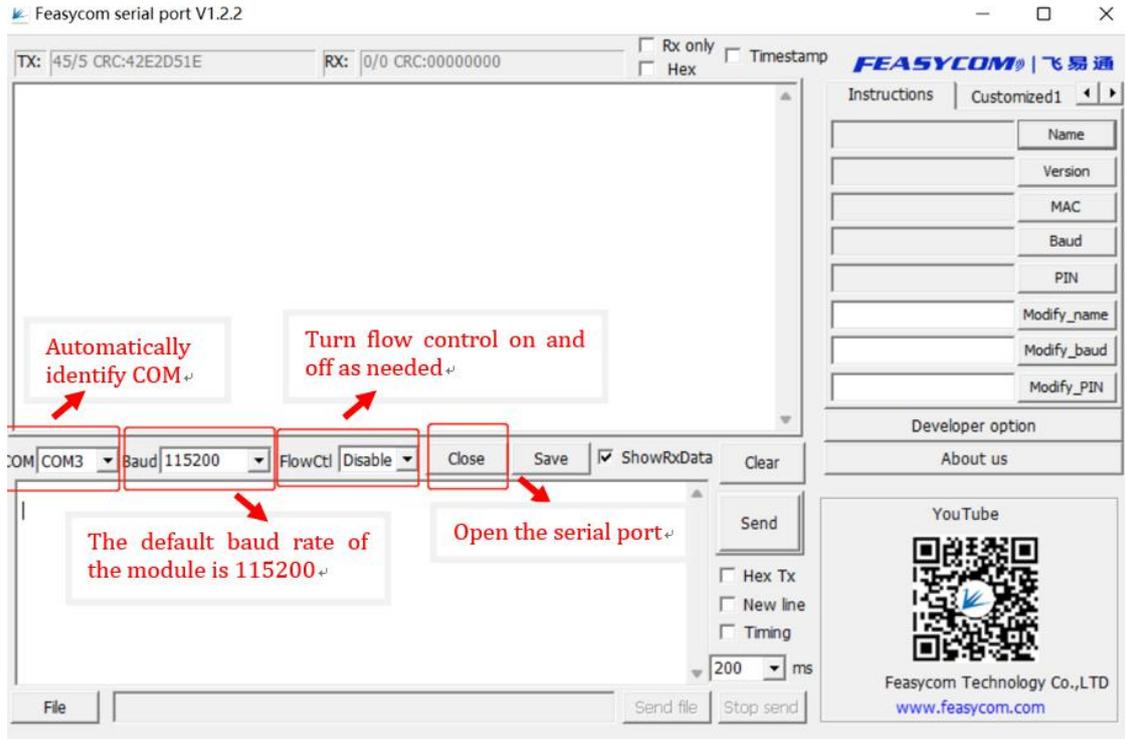
mobile, phone, earphone.

1) Preparation:

1. Connect the computer and the Dev-board with a Type C data cable

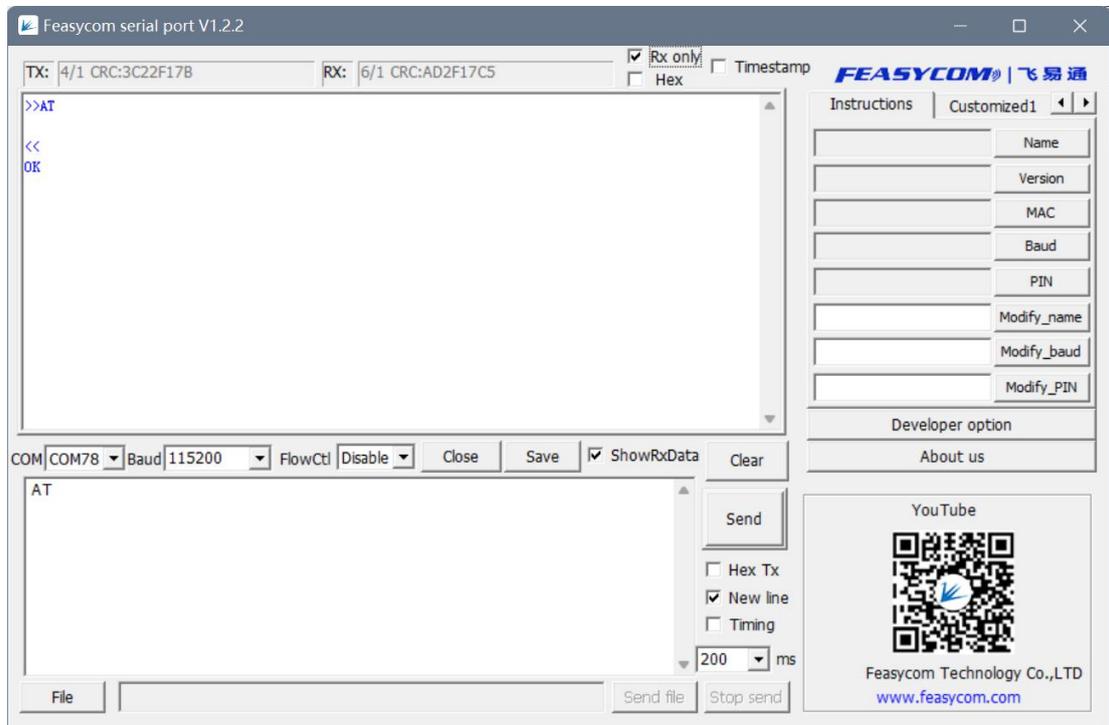2. Check if the corresponding port number appears in the device manager.

3. If it does not appear, the computer needs to install the driver, please contact Feasycom support

4. If the driver is installed, please open the PC serial port assistant software, it is recommended to use the Feasycom serial port assistant

4. Start the serial port assistant, the interface is as follows

Automatically identify COM

Turn flow control on and off as needed

The default baud rate of the module is 115200

Open the serial port

5. AT command test to check whether the module is normal

Note：AT+ Command {=Param1{, Param2{, Param3...}}} <CR><LF>

● All commands start with "AT" and end with <CR><LF>

● <CR> stands for "carriage return", the corresponding HEX is 0x0D

● <LF> stands for "carriage return", the corresponding HEX is 0x0A

● If the command has set parameters, add "=" before the parameter

● If the command has multiple parameters, each parameter must be separated by ","

● If the command has feedback response, the feedback starts with <CR><LF> and ends with <CR><LF>

● Module feedback "OK" for success / "ERROR" for failure

Automatically added 0x0D, 0x0A after the command using Feasycom serial port

2） **Set the module to audio sink mode, instruction configuration steps**

1. Reset to factory settings

>>AT+RESTORE

<<

OK

+DEVSTAT=0

+PWRSTAT=1

+SPPSTAT=1

+GATTSTAT=1

+VER=BT909C,V2.1.2,20220809

+PROFILE=1195

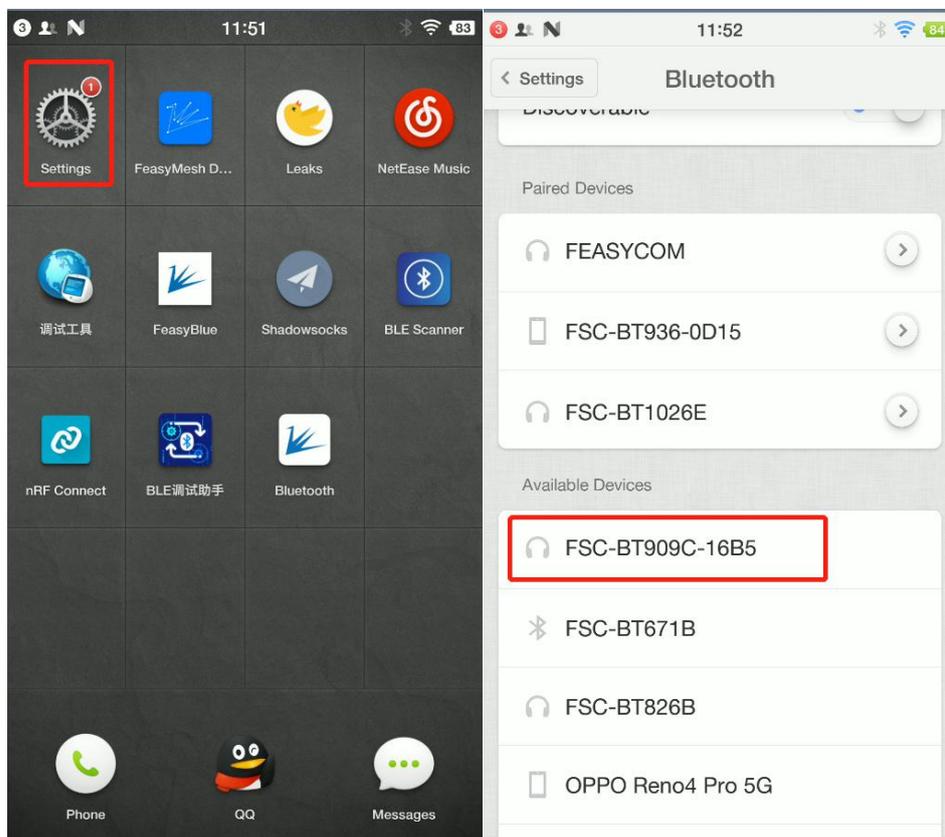+A2DPMUTED=0

+A2DPSTAT=1

+AVRCPSTAT=1

+HFPSTAT=1

+PBSTAT=1

+DEVSTAT=1

+DEVSTAT=7

When +PROFILE=1195, the module is already in audio sink mode, and directly use the audio source device (such as a mobile phone) to establish a connection with the module.

2. Connect the mobile phone to BT909C

3. After the connection is successful, the LED status light on the development board will be always on, and the module serial port will also print the connection status

information.
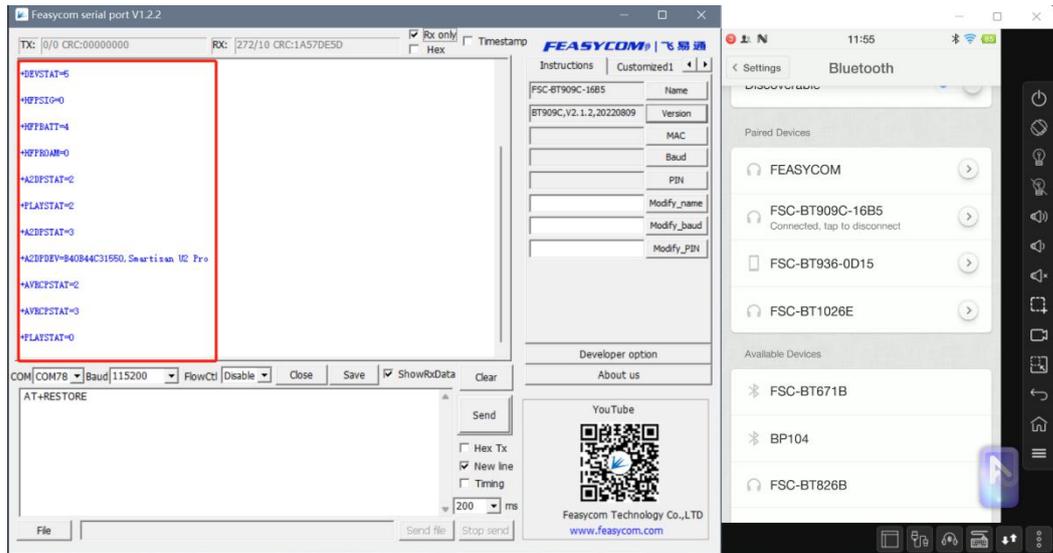
4. The Dev board is connected to the headset, the mobile phone plays music, and

you can hear the music

3)　Set the module to audio source mode, instruction configuration steps

1. Reset to factory settings

>>AT+RESTORE

<<

OK

2. Configure PROFILE

>>AT+PROFILE=339

<<

OK

3. Scan peripheral equipment

>>AT+SCAN=1

<<

+DEVSTAT=5

+DEVSTAT=13

OK

+SCAN=1,-54,0,DC0D300016DC,FSC-BT986,240404

+SCAN=2,-46,0,DC0D300003E4,FSC-BT826B,240404

+SCAN=3,-63,0,DC0D30000400,M4202,000680

+SCAN=4,-32,0,B40B44C31550,Smartisan U2 Pro,5A020C

+SCAN=5,-55,0,8803E938E76A,OPPO Reno4 Pro 5G,5A420C

+SCAN=6,-61,0,DC0D3000119C,CVR-100B,240404

+SCAN=7,-50,0,DC0D300016CC,FSC-BT930-16CC,240408

+SCAN=8,-44,0,**4142968271CF**,TWS_p10 xsp,240418

+DEVSTAT=5

+SCAN=E

+DEVSTAT=7

4. Establish an audio connection

>>AT+A2DPCONN=4142968271CF

<<

OK

+A2DPSTAT=2

+PAIRREQ=686125,4142968271CF,TWS_p10 xsp

+PAIRED=0,4142968271CF,TWS_p10 xsp

+A2DPSTAT=3

+A2DPDEV=4142968271CF,TWS_p10 xsp

+DEVSTAT=5

+AVRCPSTAT=3

+PLAYSTAT=2

+HFPSTAT=2

+HFPSTAT=3

+HFPDEV=4142968271CF,TWS_p10 xsp

+HFPVGS=16

5. Open audio playback channel

>>AT+AUDROUTE

<<

+AUDROUTE=0

OK

>>AT+AUDROUTE=1

<<

+AUDROUTE=1

OK

+PLAYSTAT=1

+A2DPSTAT=5

+AUDMODE

2.1.30.   AT+AUDROUTE *Audio Route Manager*

Format: AT+AUDROUTE{=Param}
Param: Audio route
Note: HF1 & HF2 means peer Bluetooth headphones
     0   Stop audio routing
     1   Route music (a2dp streaming) from Module to HP1/HP2 simultaneously
     2   Route voice call (hfp sco) between Module and HP1
     3   Route voice call (hfp sco) between Module and HP2
     4   Route voice call (hfp sco) between HP1 and HP2 (intercom mode)
     5   Route voice call (hfp sco) from Module to HP1/HP2 simultaneously
     6   Route music (a2dp streaming) from Module to HP1 only
     7   Route music (a2dp streaming) from Module to HP2 only

Description: Some route mode require specify firmware version, refer to application note for more description
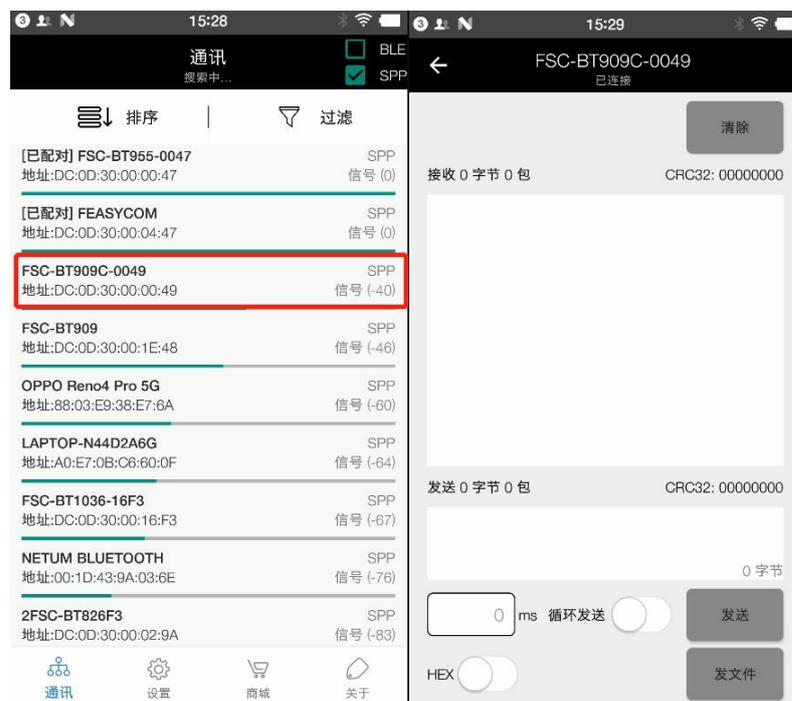
3) data transmission

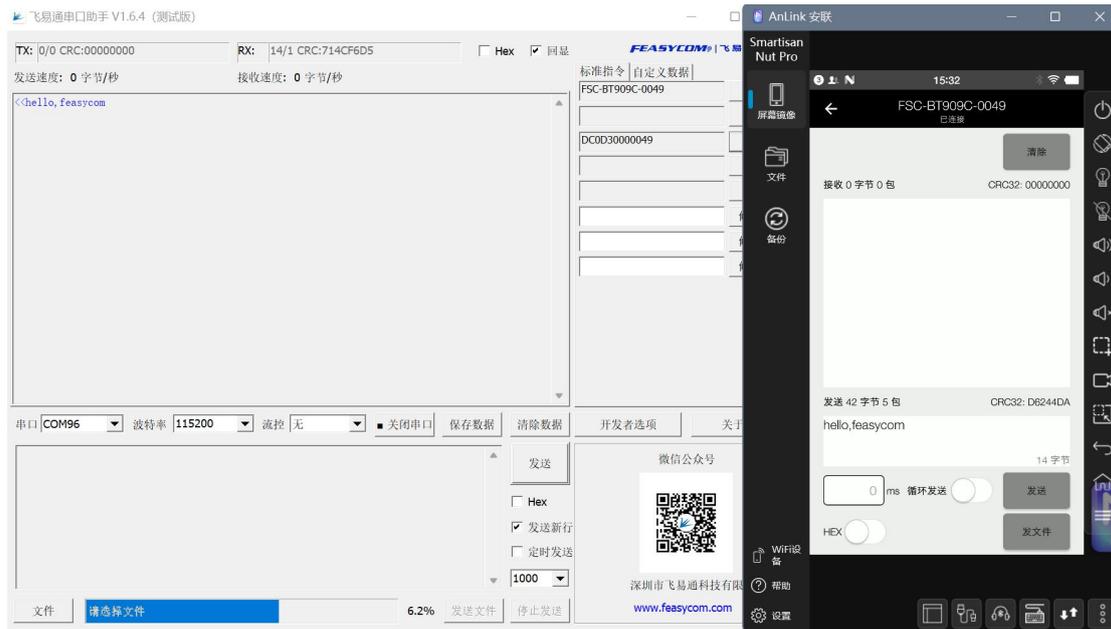## 1. Read Bluetooth name, firmware version, MCA address
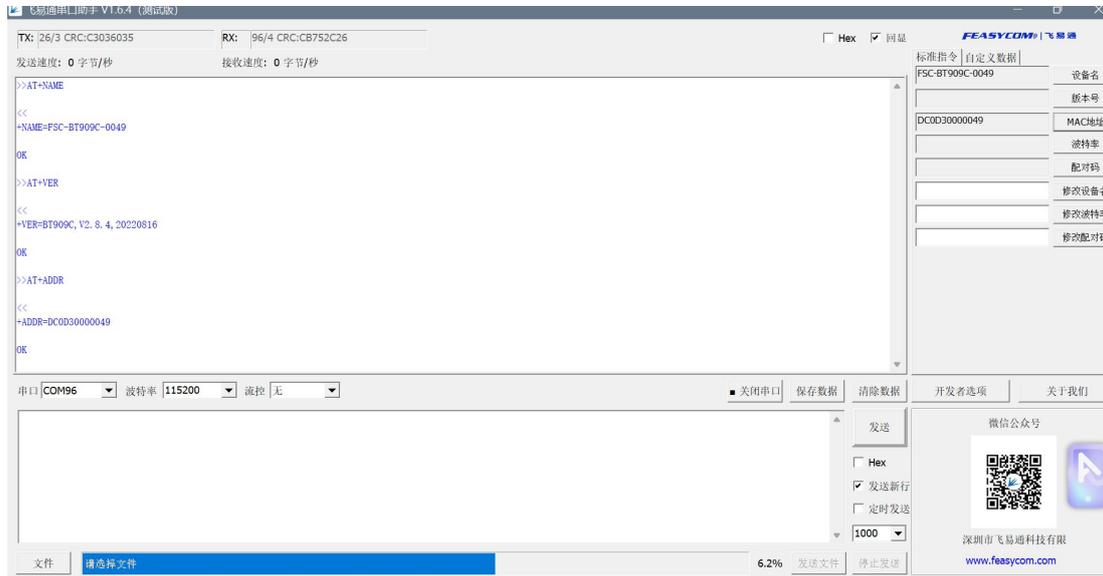
2. FeasyBlue APP communicates with BT909C
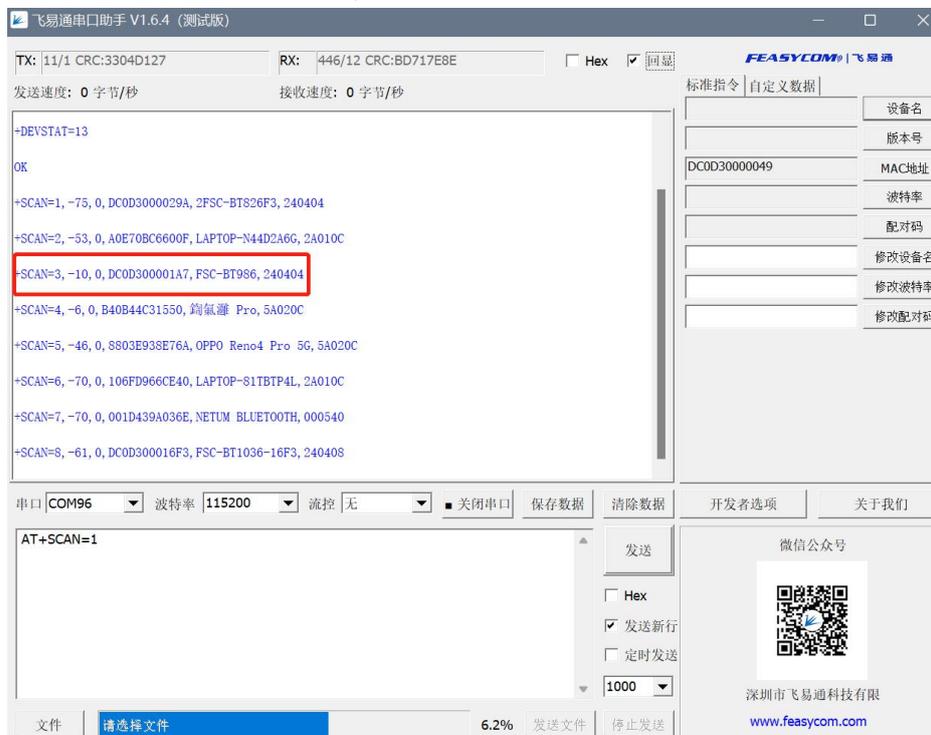
2.1 establish connection

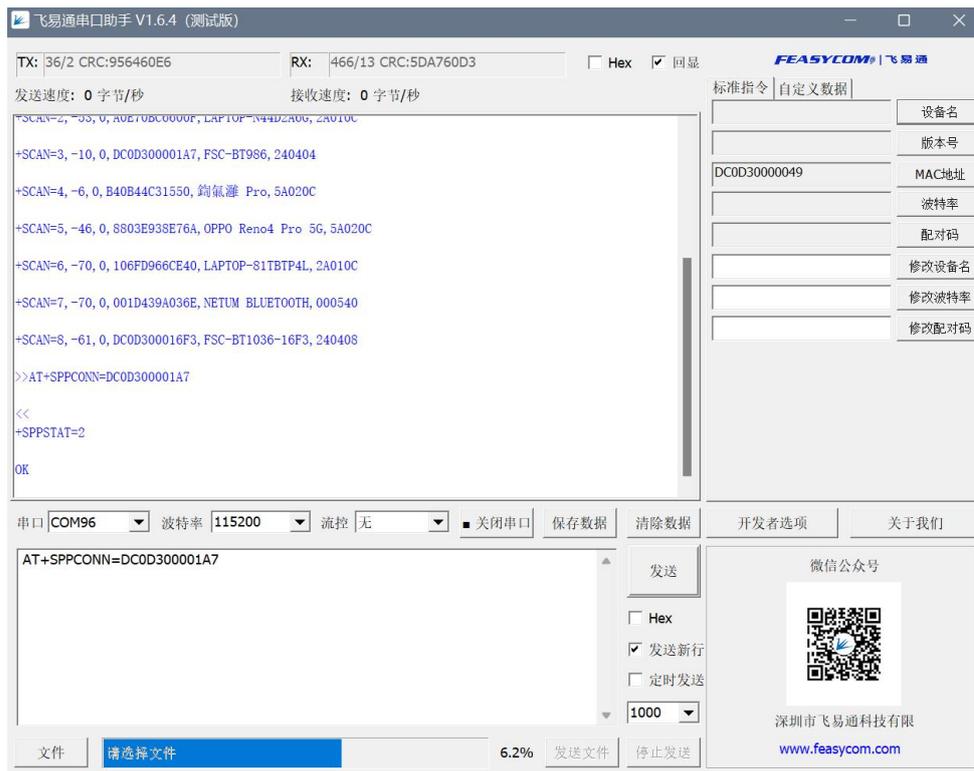## 2.2 Send data, the module is in transparent mode by default

3. BT909C initiates the connection as master

3.1 AT+SCAN=1 scan for nearby devices

3.2 AT+SPPCONN=MAC, BT909C establish connection with slave device

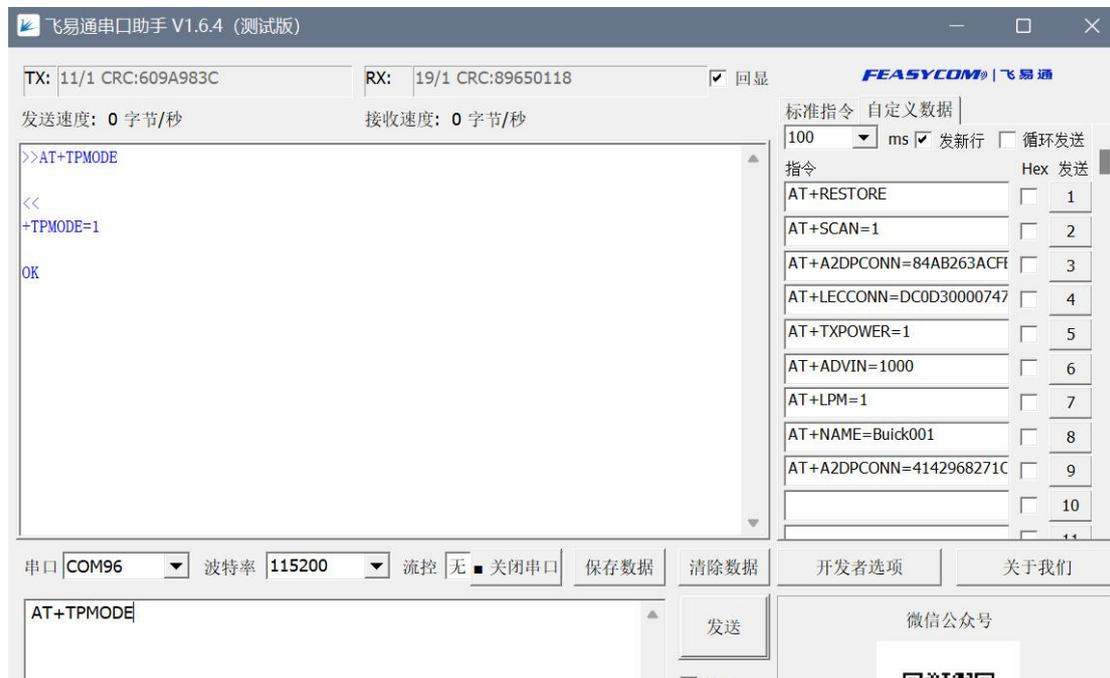## 3.3 BT909C communicates with slave device

BT909C sends data to BT986: hello, I'm BT909C

BT986 sends data to BT909C: Hi, 909C, I'm BT986

4. Transparent mode, AT command mode

Before BT909 establishes a connection, use the AT+TPMODE command to query

the transmission mode

+TPMODE=1, indicates that the module is configured as transparent mode. In this mode, after the module establishes a connection, both data and commands will be sent out as ordinary data.

4.1 AT+TPMODE=0 configure the module as AT command mode, and use AT+REBOOT soft reset

Sending data in this mode must use AT command format.

BT909C still establishes a connection with BT986. If you send"hello, I'm BT909C" directly, the data will not be sent out.

4.2 With command AT+SPPSEND command, send data

AT+SPPSEND=Param1,Param2

Param1: payload length (1~180)

Param2: Payload (1~180Bytes UTF8)

For more usage methods, please check the AT command manual.