

User Manual and Test Guide

HF5111B

Operation Guide

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Version List:

2017-10-16 First Draft

1. SERIAL SERVER CONNECTION

1.1 HF5111B Connection

HF5111B connect with PC by Ethernet cable or router. Only retain network connect and forbid extra network connection. After the Link light on , then open IOTService. As a result, the IP address of HF5111B will be displayed. When HF5111B use Auto-IP function, the Ethernet interface is 169.254.173.207 .If the configuration product is connected to the PC through a router, the IP address is assigned by the router or can be set statically.





2. SERIAL SETTINGS

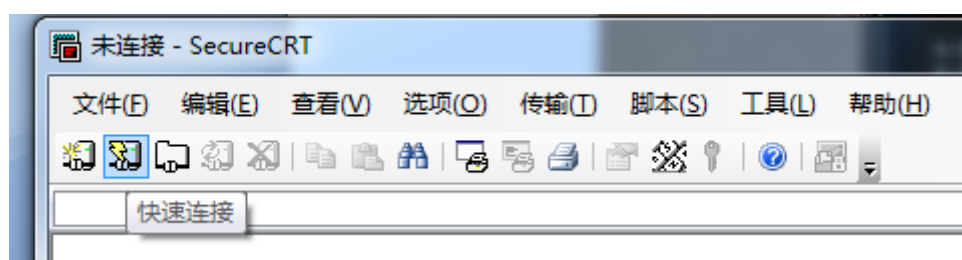
2.1. SecureCRT Serial Tool SecureCRT

Download address :

http://gb.hi-flying.com/download_detail_dc/downloadsId=22.html

Decompress file and find executable program,  SecureCRT.exe
SecureCRT Application
VanDyke Software, Inc. , then open.

Click quick start button  to create connection.

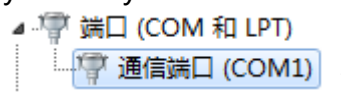


2.2. Configure Serial Parameter

Protocol : Serial

Port: Actual connection port(search by "My PC" -> "Device

Manager" -> "Port(COM and LPT)" . As figure:



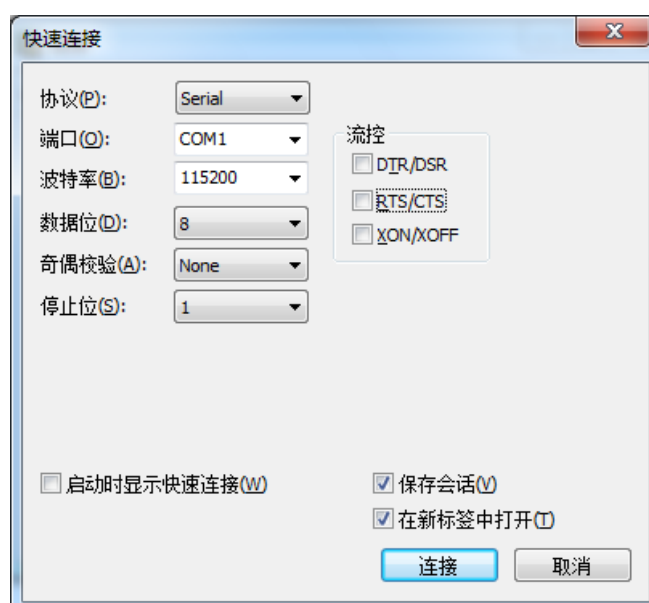
Baud Rate : 115200

Data Bits : 8

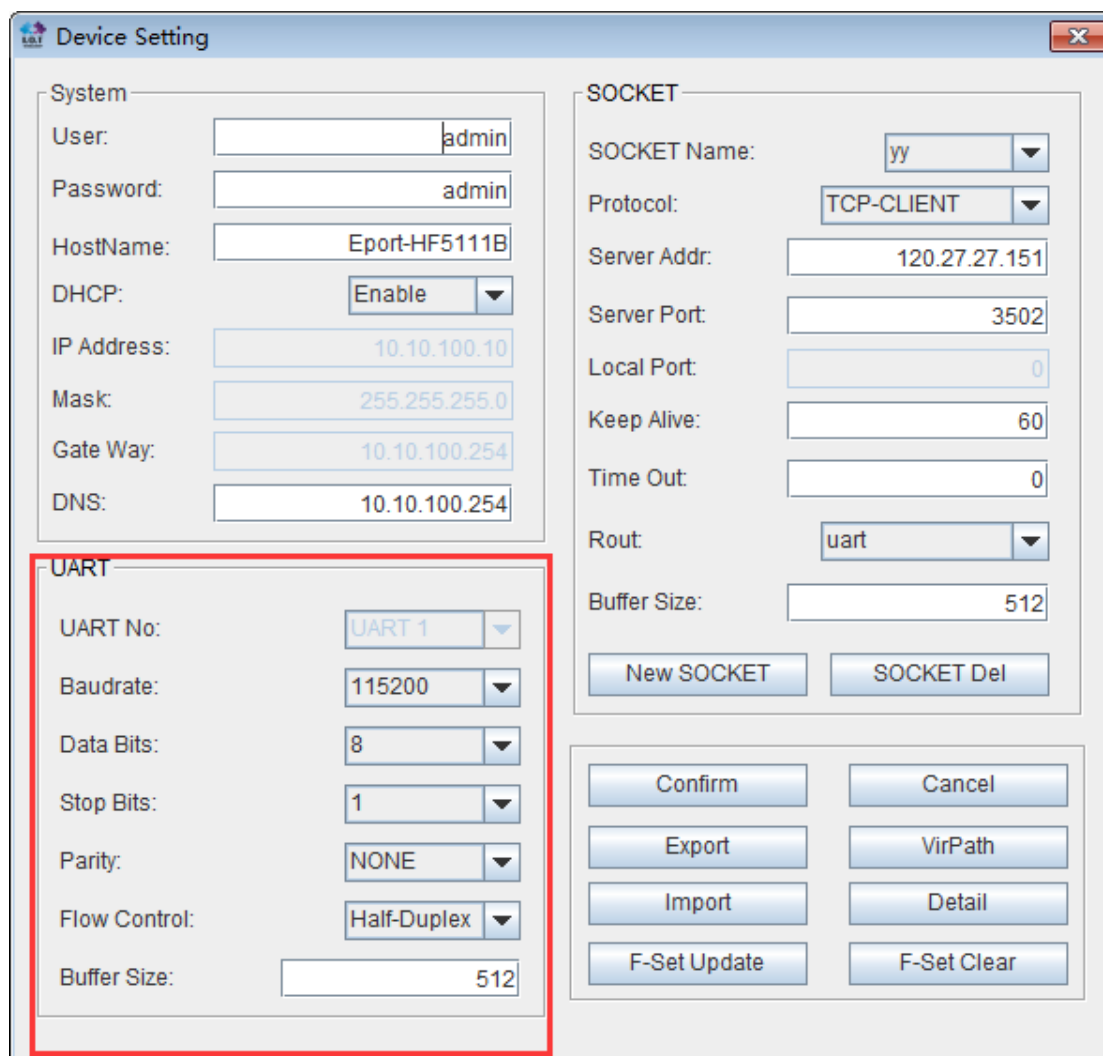
Parity Check Bit : None

Stop Bit : 1

Flow Control : None (Please tick off "√" before RTS/CTS)



Notes: HF5111B the default serial data is as above and user can modify device working parameter by IOTService.



Device Setting

System

User:

Password:

HostName:

DHCP:

IP Address:

Mask:

Gate Way:

DNS:

SOCKET

SOCKET Name:

Protocol:

Server Addr:

Server Port:

Local Port:

Keep Alive:

Time Out:

Rout:

Buffer Size:

UART

UART No:

Baudrate:

Data Bits:

Stop Bits:

Parity:

Flow Control:

Buffer Size:

3. HF5111B NETWORK CREATION

3.1. TCP/IP Principle and Test Purpose

Principle: Network use physical data link to build connection among each isolated station or host to combine data link. As a result, it achieves resource share and communication. It is the most important communication protocol in the process of network communication. HF5111B adopts TCP/IP protocol which contain TCP and UDP etc. IP address and port number are two important parameter during generating connection. First, server should make sure IP address and port number. Then client binds the same IP address and port with server to generate connection successfully.

Test purpose:

1. PC connects to HF5111B by serial cable. Open SecureCRT to verify if serial port can send and receive data normally.
2. HF5111B can connect to PC through the network when it works under STA mode. And it can also connect to PC in AP mode. After open tcpudpdbg tool, PC is recognized as client connected with serial side. Above two software can be used to verify data flow between HF5111B and PC.

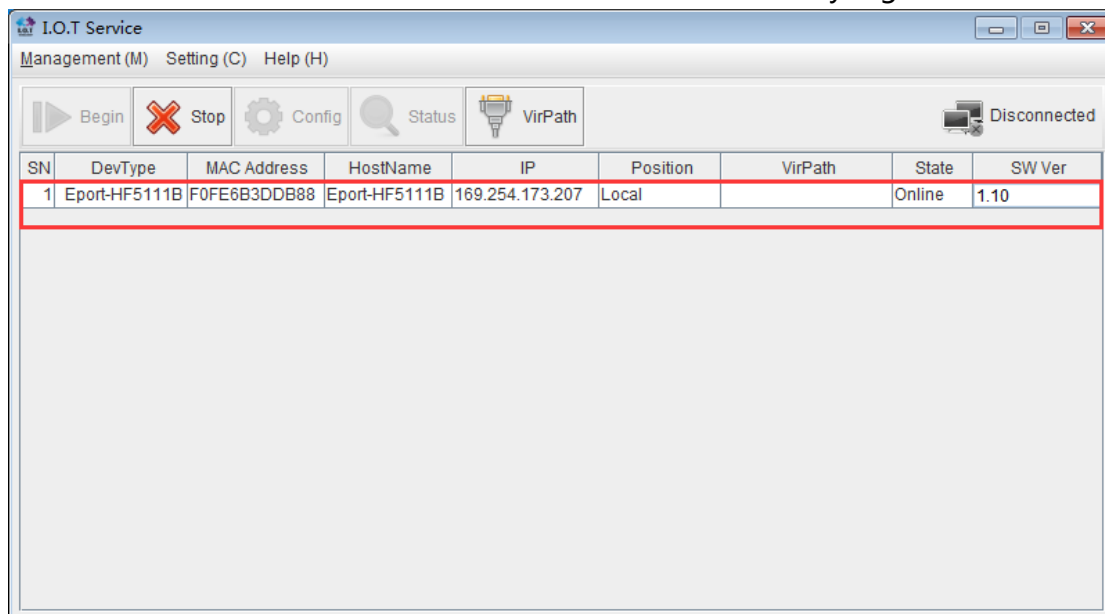
In following test, "TCP Server Test" -HF5111B as server and PC as client."
TCP Client Local Test" -HF5111B as client and PC as server.

3.2. Auto-IP Networking

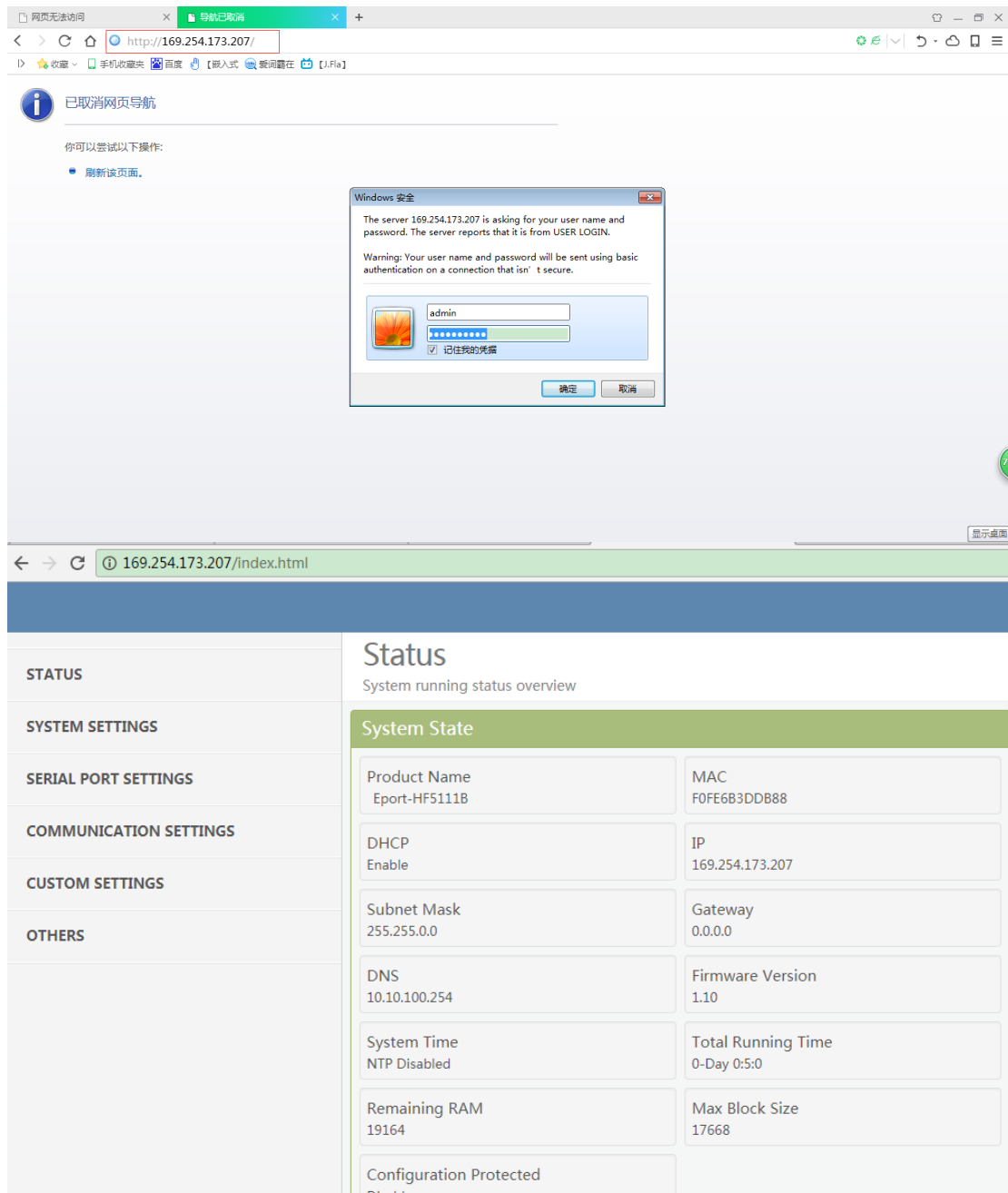
Device can directly connect to PC by Ethernet cable and module will use its default IP for PC directly visit or data transfer communication(approximately 15 seconds until PC use 169.254.XXX.XXX). For example, below module IP: 169.254.173.207(normally fixed IP, if conflicts, it will change to another IP automatically)



Step 1: Ethernet cable connects RJ45 ports between device and PC. Open IOTService and it will achieve device information automatically. Figure is as below:

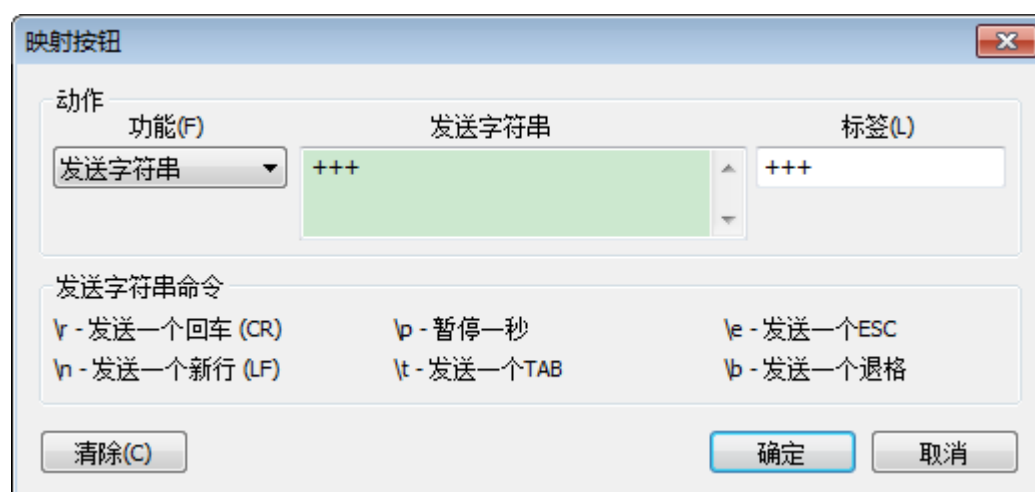
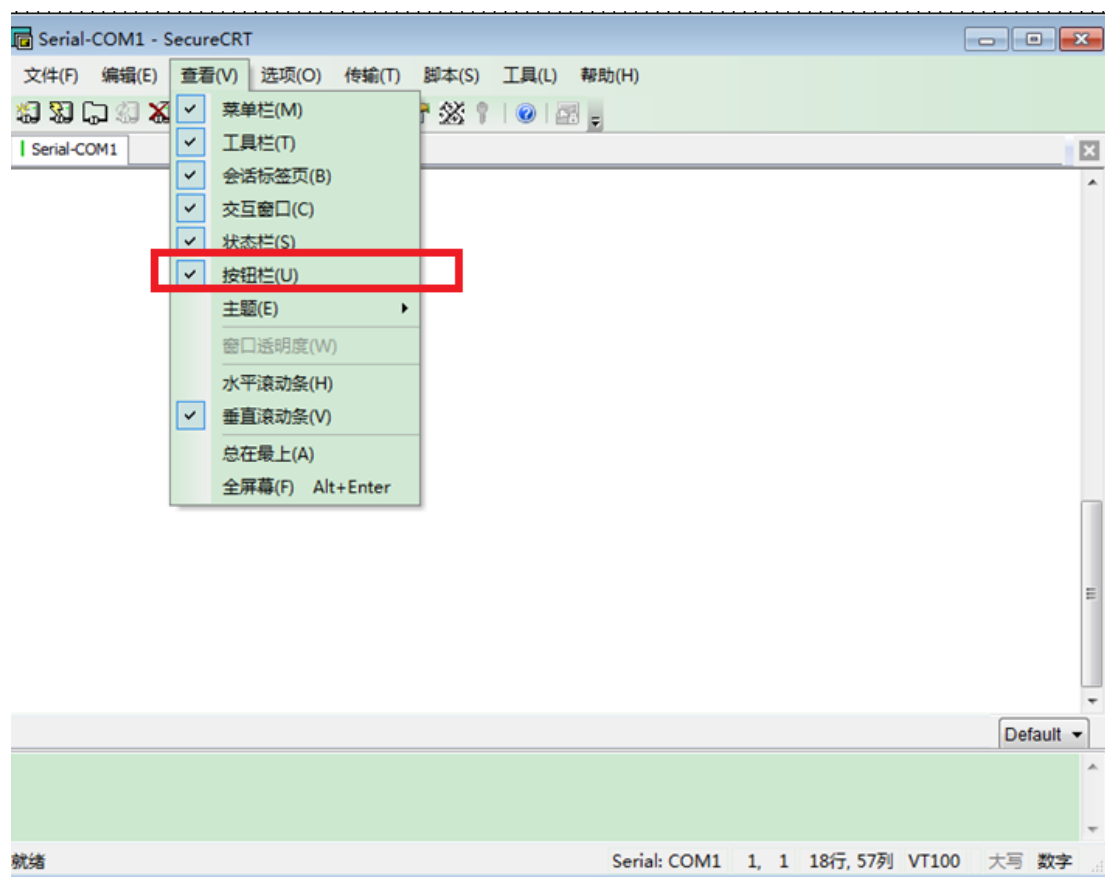


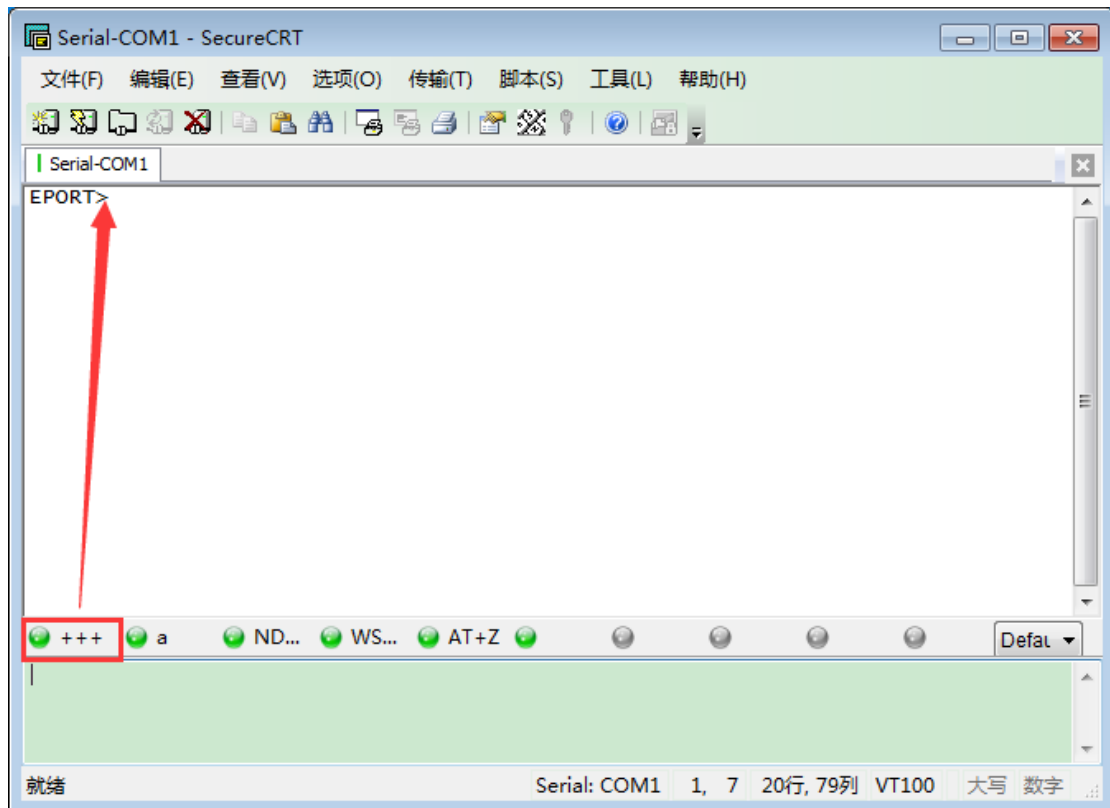
Step 2 : According to IP address above, it can be configured parameter by website. Username and password are both admin as default. As below figure:



Step 3 : HF5111B can connect PC to simulate serial signal from lower MCU by RS232. The connection method of RS485/422 can refer to chapter 2.3 and 2.4 from HF5111B user manual.

Step 4 : Open serial configure tool, SecureCRT is recommended(Others is ok but not convenient). Following test is under SecureCRT and serial parameter can refer to Chapter 2.1 and 2.2. The default state is transparent mode when open SecureCRT. If enter into command mode, it needs input three " +" sequently. Afterwards, screen appear "EPORT>". It can use CLI command to set the state of HF5111B after entering into command mode. Specific operation method can refer to HF5111B user manual.

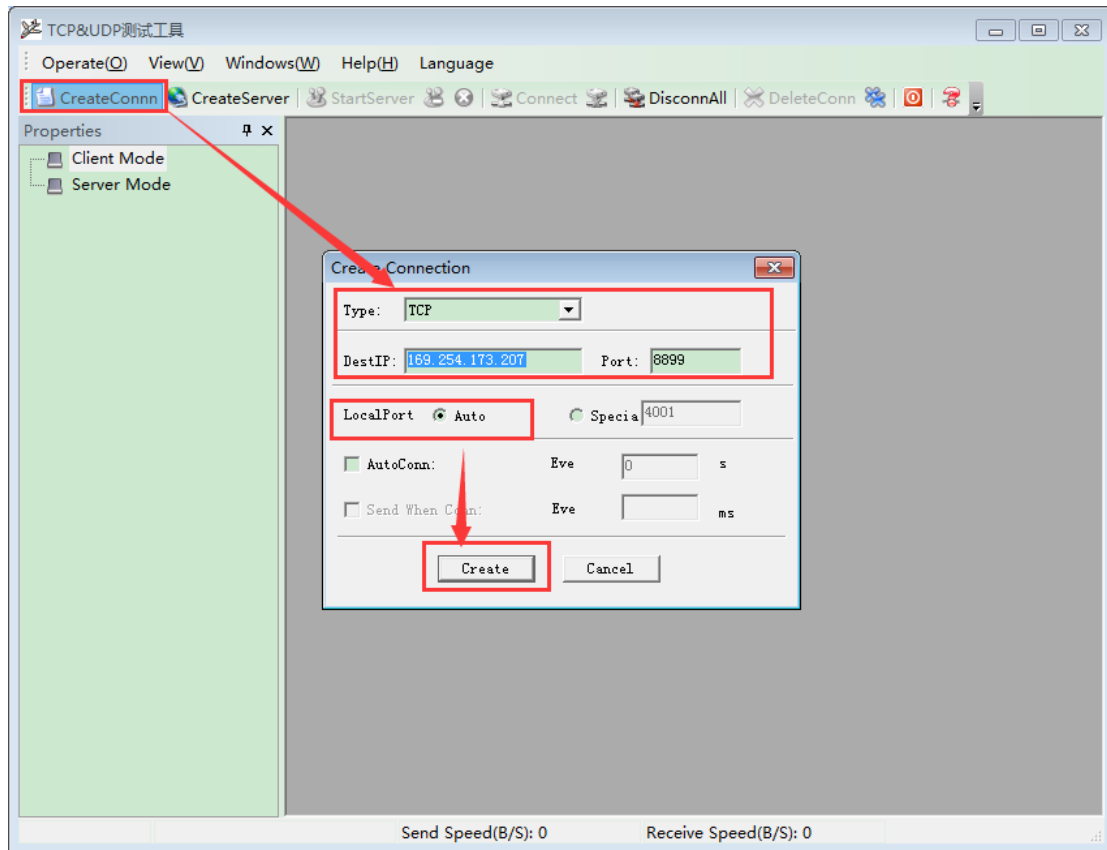


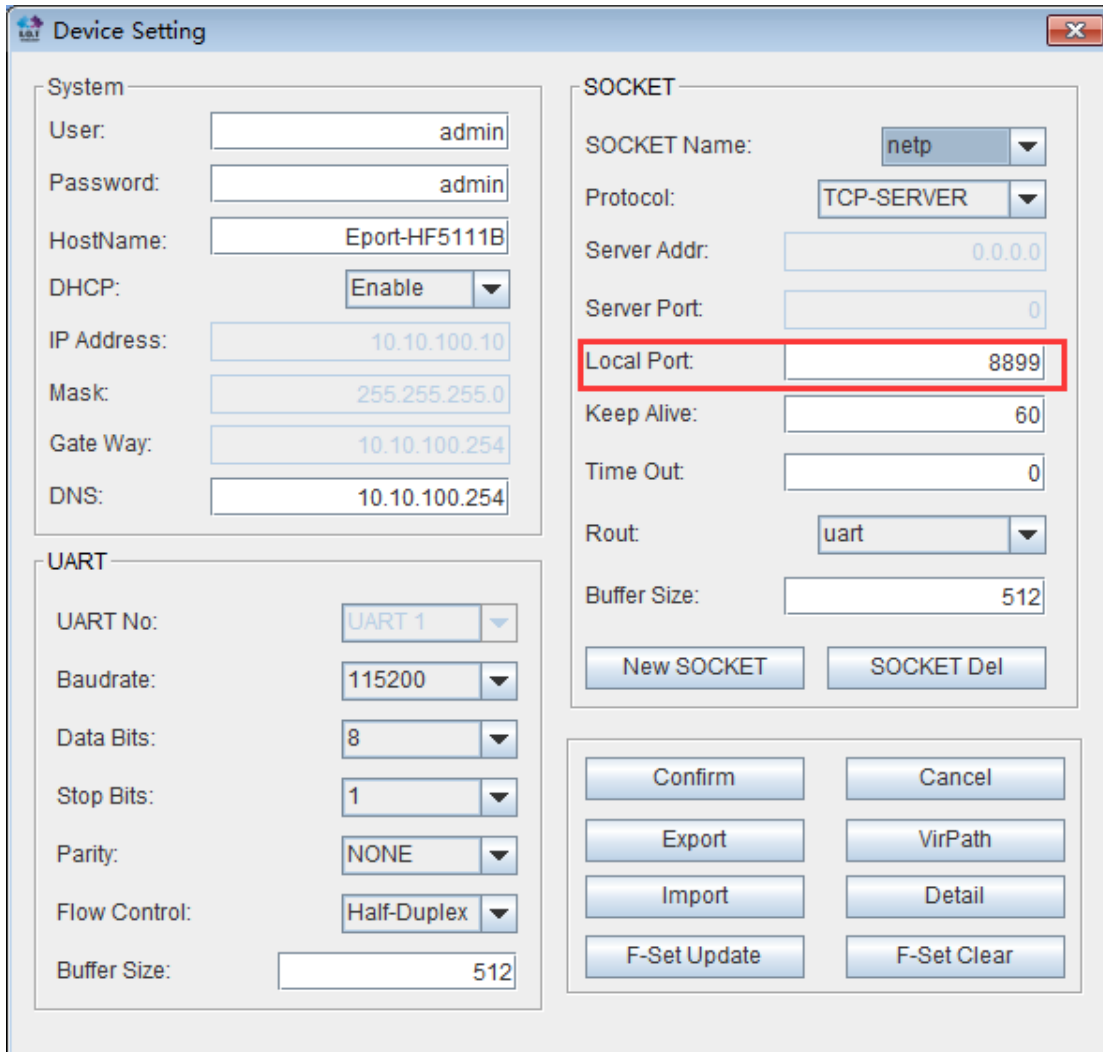


3.3. Auto-IP TCP Server Test

Step 1 : Open TCP&UDP test tool and generate TCP connection as following process.

- Product has already created a TCP Server(port 8899) for use.
- TCP&UDP test tool can be downloaded from official website:
http://gb.hi-flying.com/download_detail_dc/downloadsId=54.html
- DestIP :IP address of product, this address can be found by IOTService tool.
- Port : TCP Server port number,8899 default which can be modified by IOTService





System

User: admin
 Password: admin
 HostName: Eport-HF5111B
 DHCP: Enable
 IP Address: 10.10.100.10
 Mask: 255.255.255.0
 Gate Way: 10.10.100.254
 DNS: 10.10.100.254

UART

UART No: UART 1
 Baudrate: 115200
 Data Bits: 8
 Stop Bits: 1
 Parity: NONE
 Flow Control: Half-Duplex
 Buffer Size: 512

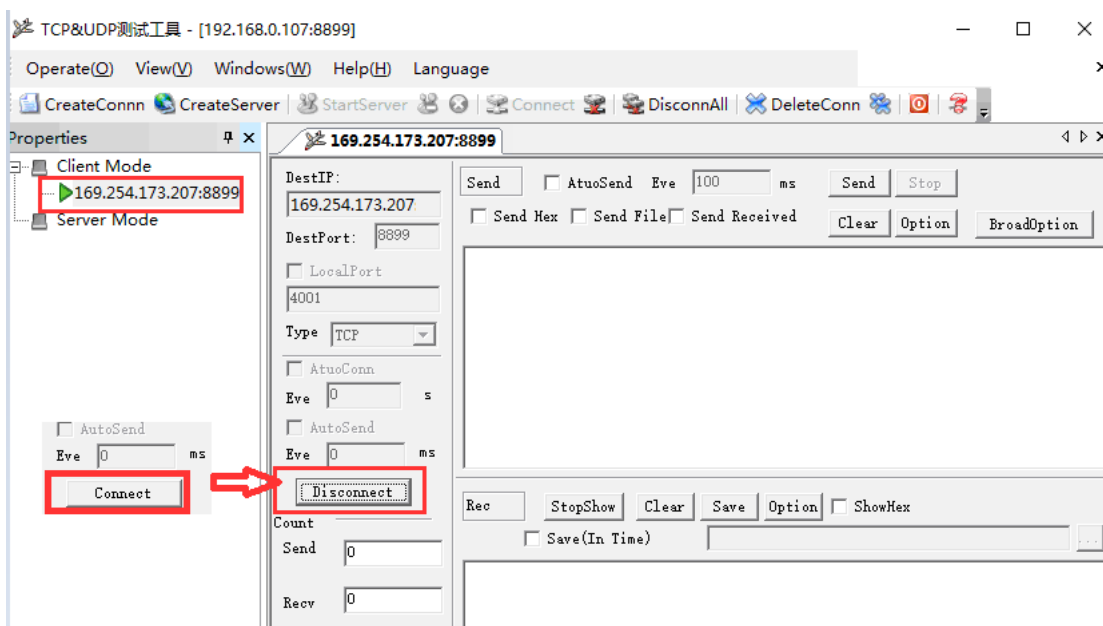
SOCKET

SOCKET Name: netp
 Protocol: TCP-SERVER
 Server Addr: 0.0.0.0
 Server Port: 0
Local Port: 8899
 Keep Alive: 60
 Time Out: 0
 Rout: uart
 Buffer Size: 512

Buttons: New SOCKET, SOCKET Del, Confirm, Cancel, Export, VirPath, Import, Detail, F-Set Update, F-Set Clear

Step 2 : Click Connect to build TCP connection

- After successful generation, left side turn to green arrow, yellow if fails.



TCP&UDP测试工具 - [192.168.0.107:8899]

Operate(O) View(V) Windows(W) Help(H) Language

CreateConnn CreateServer StartServer Connect DisconnAll DeleteConn

Properties 169.254.173.207:8899

Client Mode
 169.254.173.207:8899
 Server Mode

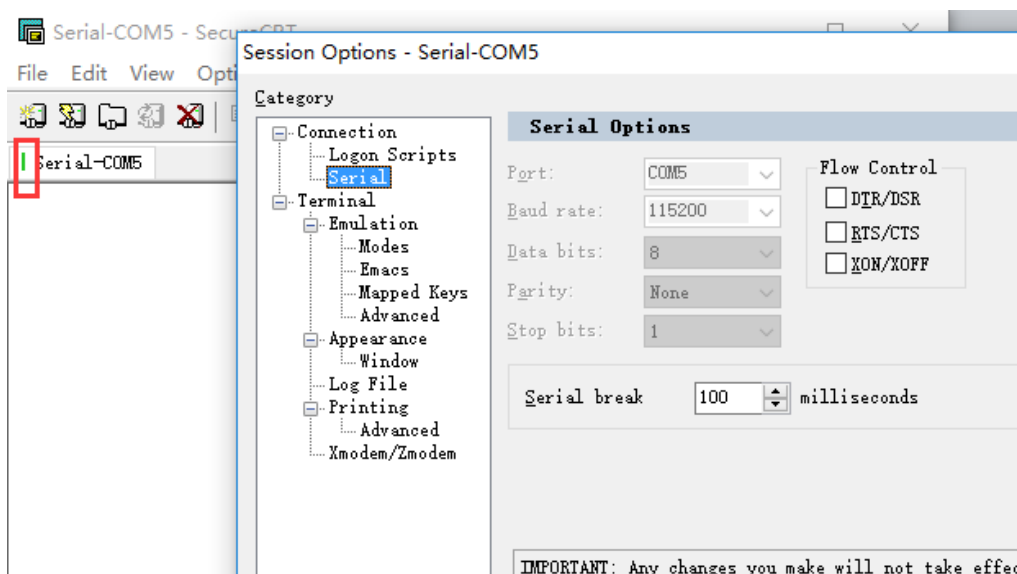
DestIP: 169.254.173.207
 DestPort: 8899
 LocalPort 4001
 Type: TCP
 AtuoConn
 Eve: 0 s
 AutoSend
 Eve: 0 ms

Buttons: Connect, Disconnect

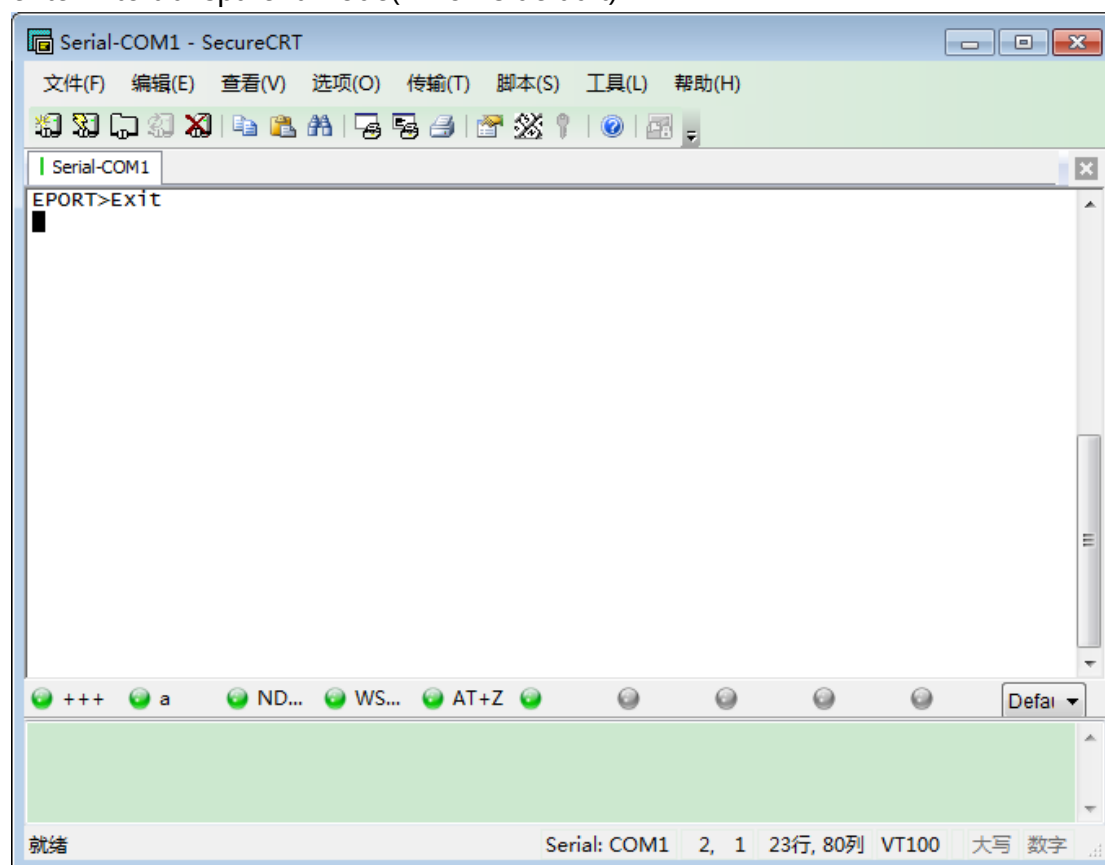
Count
 Send: 0
 Recv: 0

Buttons: Send, Stop, Send Hex, Send File, Send Received, Clear, Option, BroadOption, Rec, StopShow, Clear, Save, Option, ShowHex, Save(In Time)

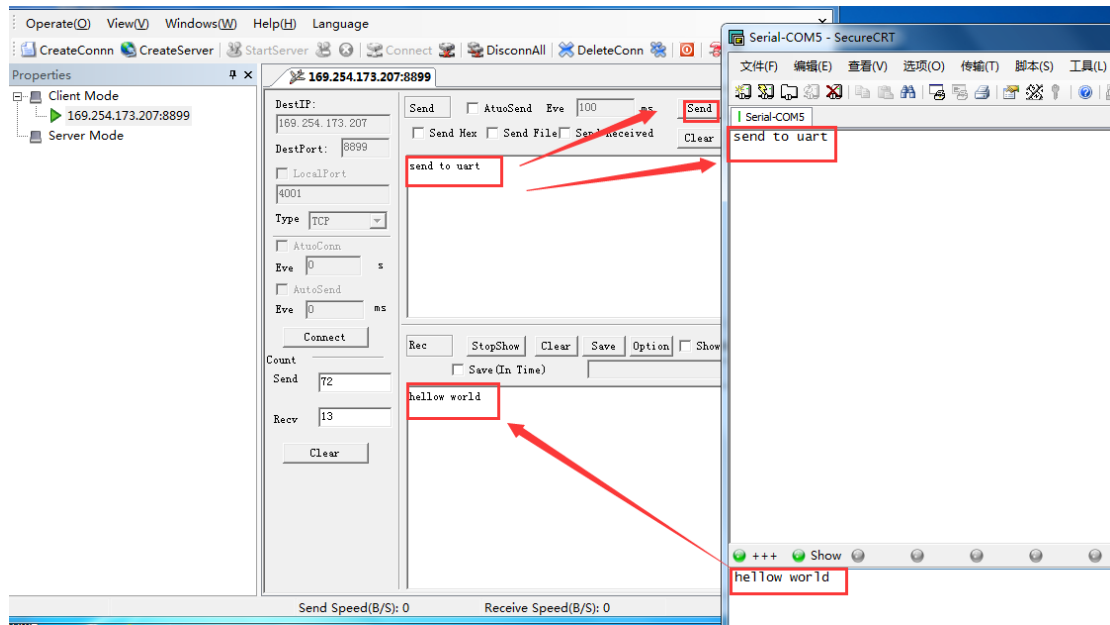
Step 3 : Open serial tool according to following parameter(115200 baud rate as default)



Step 4 : Make sure if serial tool is CMD mode. Input "Exit" to exit CMD mode and enter into transparent mode(which is default)

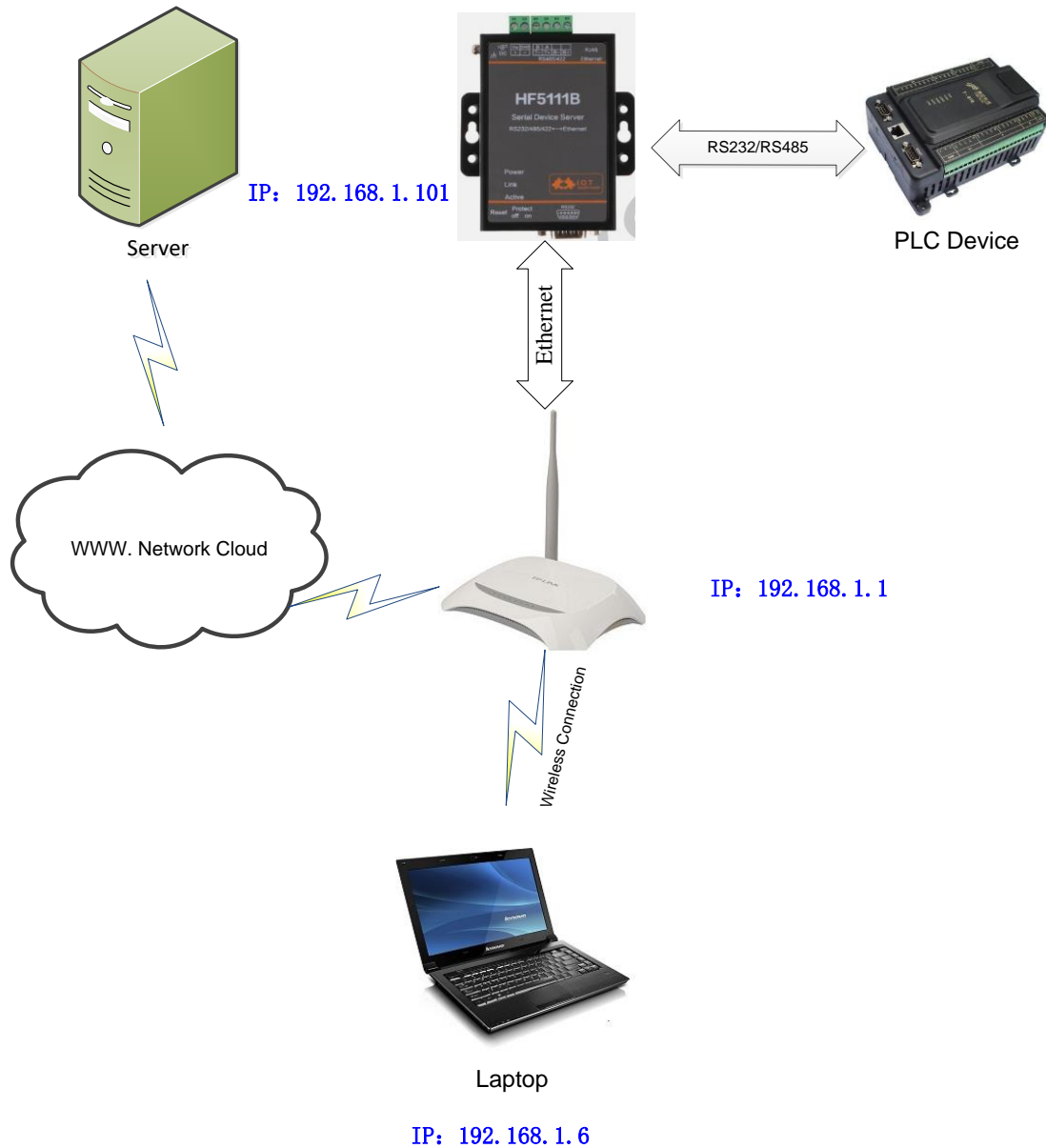


Step 5 : Mutual data transmission between TCP and serial port.



3.4. Networking by Router

After HF5111B has created network connection with router, any terminal can communicate with 5111B. As the figure shows, IP address will automatically change to the same IP segment 192.168.1.X with router.



Step 1 : If users want understand real-time IP address of 5111B, IOTService can be opened for searching or serial query.

I.O.T Service Management (M) Setting (C) Help (H)

Begin Stop Config Status VirPath Connected

SN	DevType	MAC Address	HostName	IP	Position	VirPath	State	SW Ver
1	Eport-HF5111B	F0FE6B3DDB...	Eport-HF5111B	192.168.1.101	Local		Online	1.10
2	HF5111B	ACCF230000...	Eport-E10	116.231.252.239	China.Shangh...		Online	1.10b
3	E10	F0FE6B524304	XY-CC	115.173.235.233	China.Shangh...		Offline	1.09j
4	E10	F0FE6B524306	XY-RC	115.173.235.233	China.Shangh...		Offline	1.09j
5	HF2211	F0FE6B5D73...	Eport-HF2211	180.175.212.233	China.Shangh...		Offline	1.10 New Ver
6	E30	F0FE6B50FE...	Eport-E30	183.63.126.227	China.Shangh...		Offline	1.09k
7	HF2211	F0FE6B536B...	Eport-HF2211	58.247.250.38	China.Shangh...		Offline	1.09g New Ver
8	HF2211	F0FE6B5D75...	Eport-HF2211	180.175.212.233	China.Shangh...		Offline	1.10 New Ver

Serial-COM1 - SecureCRT

文件(F) 编辑(E) 查看(V) 选项(O) 传输(T) 脚本(S) 工具(L) 帮助(H)

```

Serial-COM1
Config Protected:OFF
System time:NTP Disabled
Up Time: 0-Day 2:49:57
Total Free Memory: 20132
MAX Block size:18268

===NETWORK===
MAC:F0FE6B3DDB88
Ip Address:192.168.1.101
Ip subNetMask:255.255.255.0
Gateway:192.168.1.1

===UART Status===
Config:115200,8,1,NONE,Modbus
State:In CLI
Recv Bytes:6      Recv Frames:2
Send Bytes:192   Send Frames:24
Failed Bytes:0   Failed Frames:0

+++ a NDBGL WSC... AT+Z show 重启 Default
就绪 Serial: COM1 18, 7 18行, 57列 VT100 大写 数字
    
```

Step 2 : Product acquires IP address from upper router. If user need to modify it to static IP address, it can be configured by IOTService(as below). Restart after configured.

Device Setting

System

User:

Password:

HostName:

DHCP:

IP Address:

Mask:

Gate Way:

DNS:

UART

UART No:

Baudrate:

Data Bits:

Stop Bits:

Parity:

Flow Control:

Buffer Size:

SOCKET

SOCKET Name:

Protocol:

Server Addr:

Server Port:

Local Port:

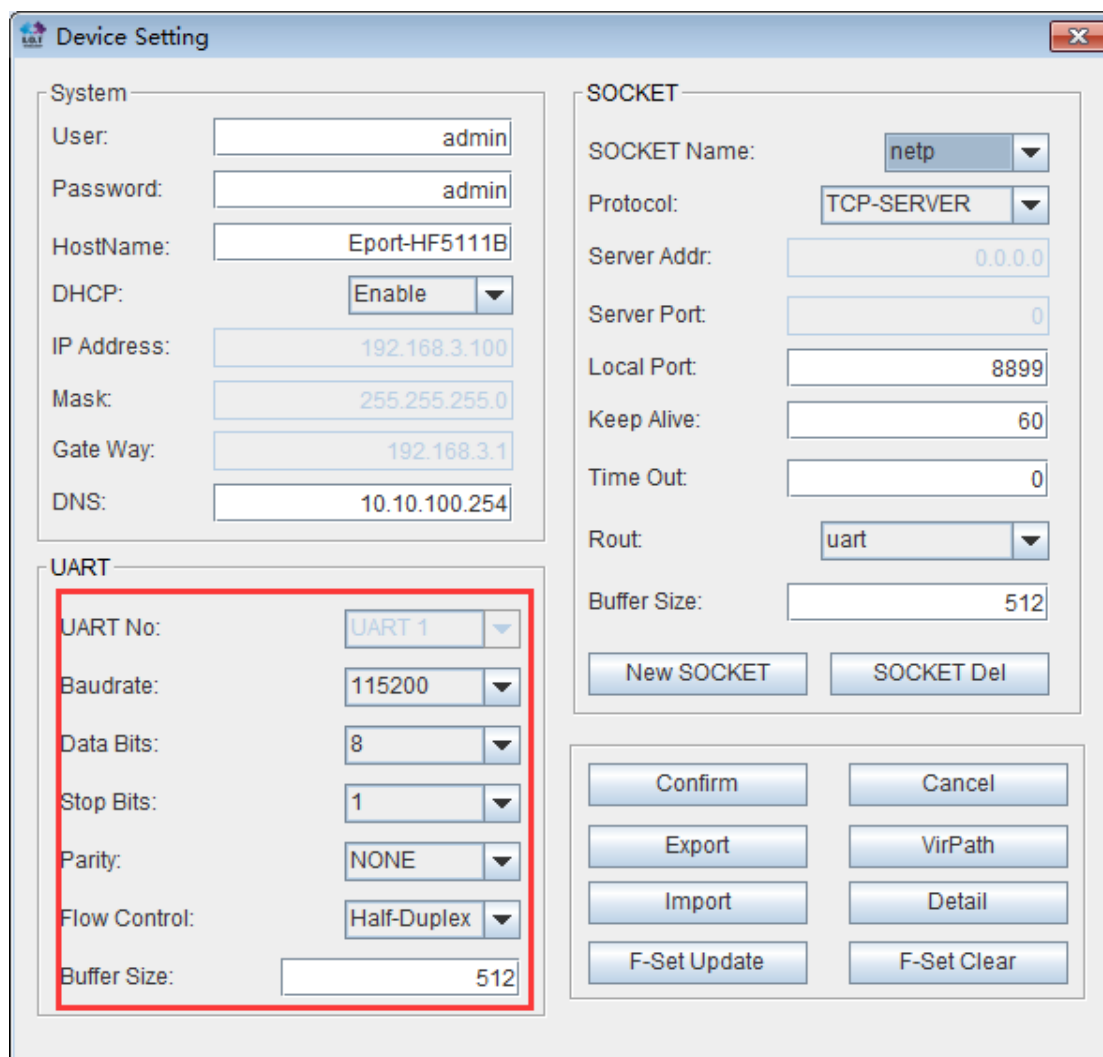
Keep Alive:

Time Out:

Rout:

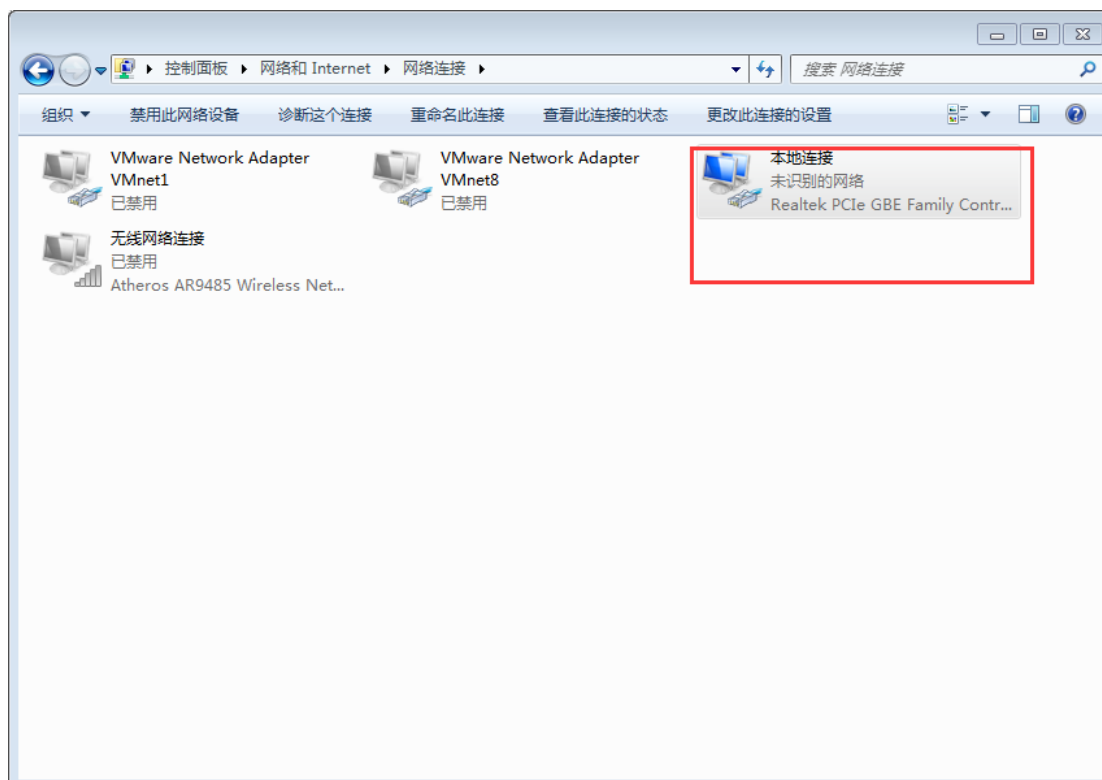
Buffer Size:

Step 3 : Configure relative serial parameter with MCU.

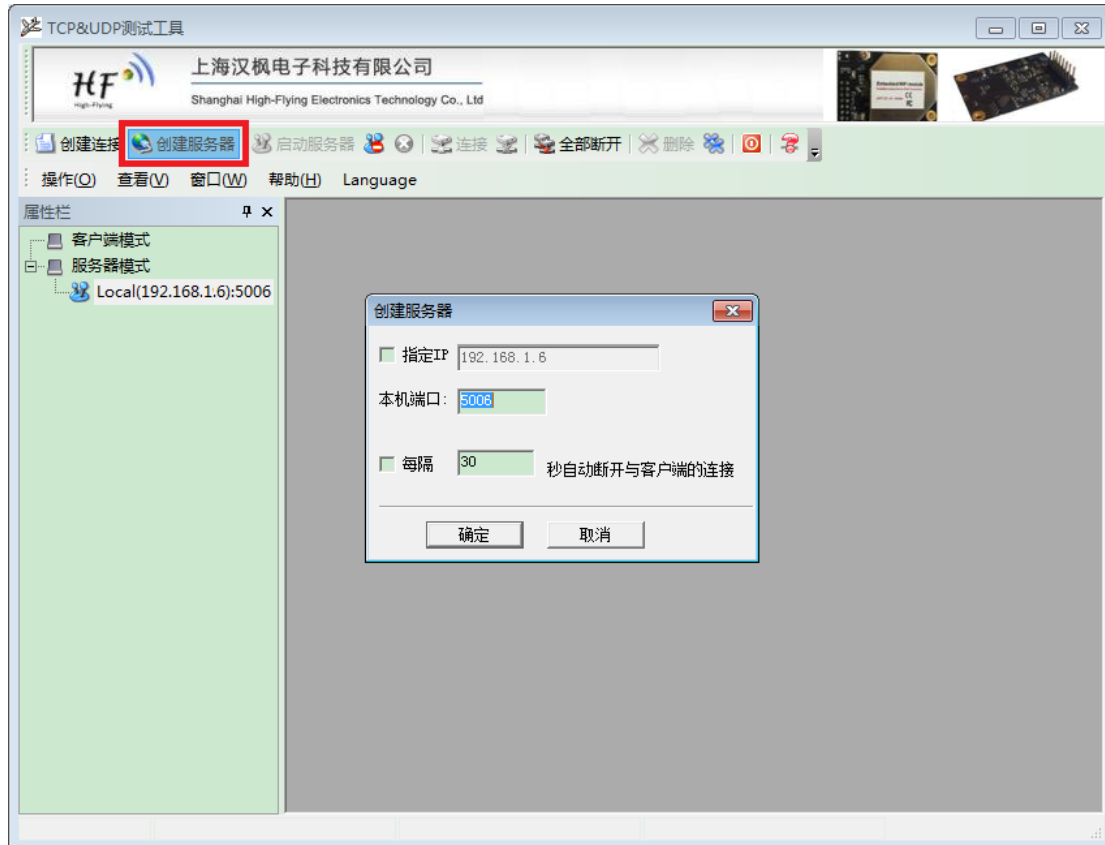


Step 4: Retain local connection and forbid extra network connection.

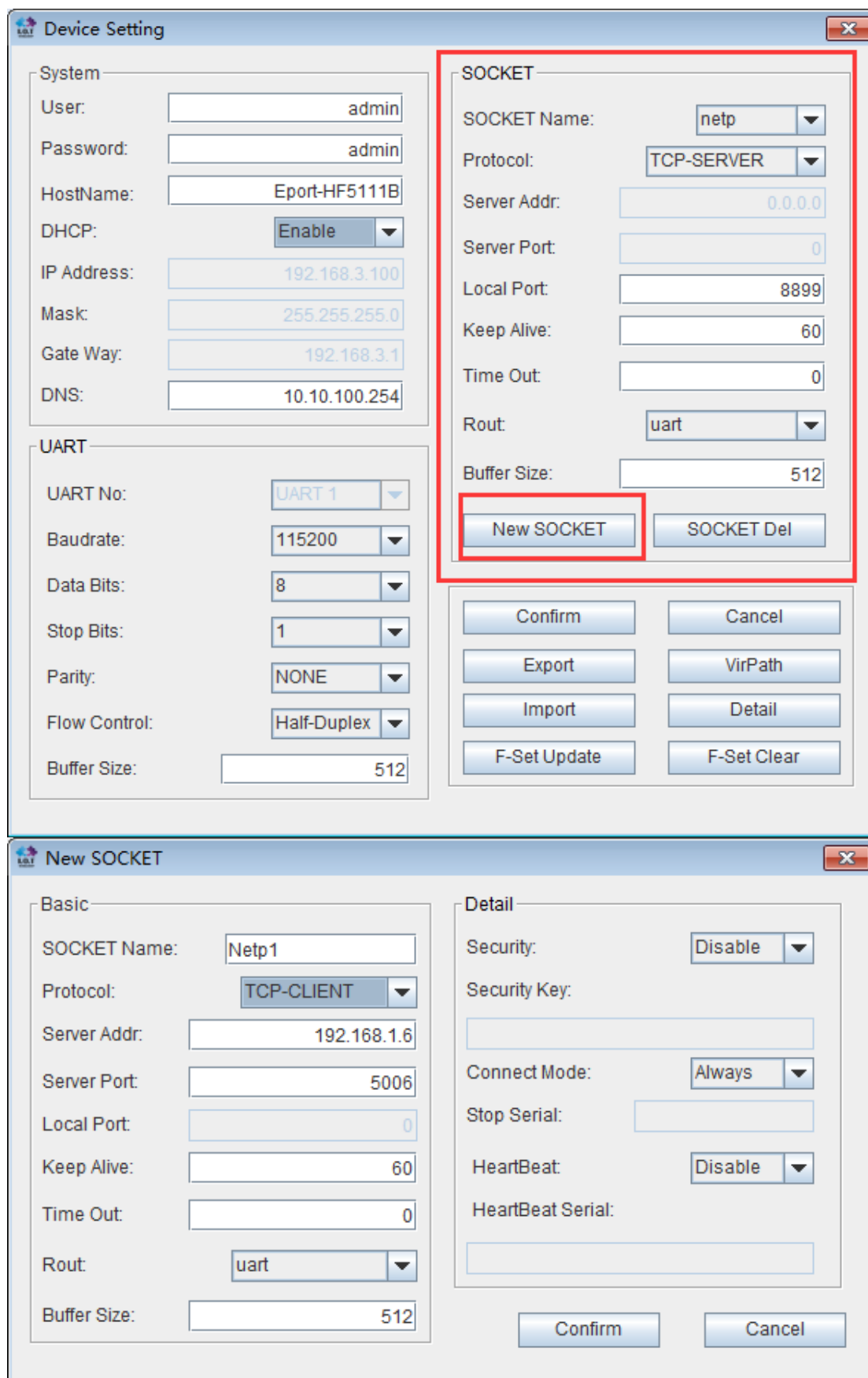




Step 5: Open TCP&UDP tool and create a server.(IP is PC local address, or default. Port is selected randomly as long as not occupied by extra network)



Step 6: Default parameter of socket is netp(name), Tcp Server, 8899(port). User can create a new socket according to demand.



Step 7 : After successfully created socket, restart product and open SecureCRT to simulate data transmission between serial port and terminal.

