

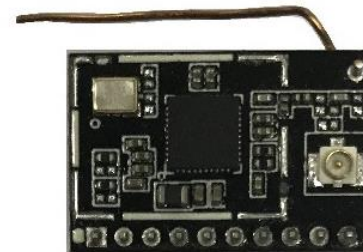
HF-LPX30 Series Wi-Fi Module Upgrade and Debug V1.3



HF-LPB130



HF-LPT230



HF-LPT130A

HF-LPX30 Wi-Fi module support upgrade via serial port and mass production tools via OTA

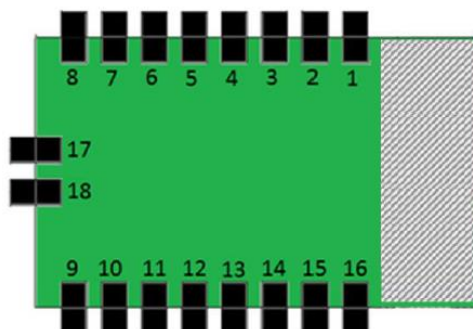
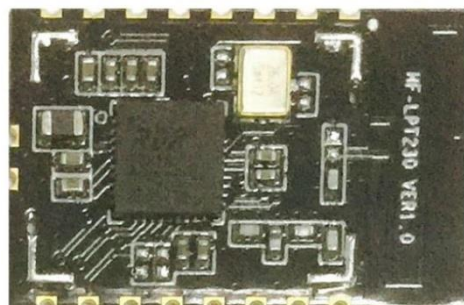
1. Upgrade application via UART0 or UART1
2. OTA(Over the air, wireless) upgrade with webpage.
3. OTA(Over the air, wireless) upgrade via HFUpdate tools:

The upgrade file is different via serial port or via OTA ways. We define file name with UPGRADE is used for OTA upgrade, for example:

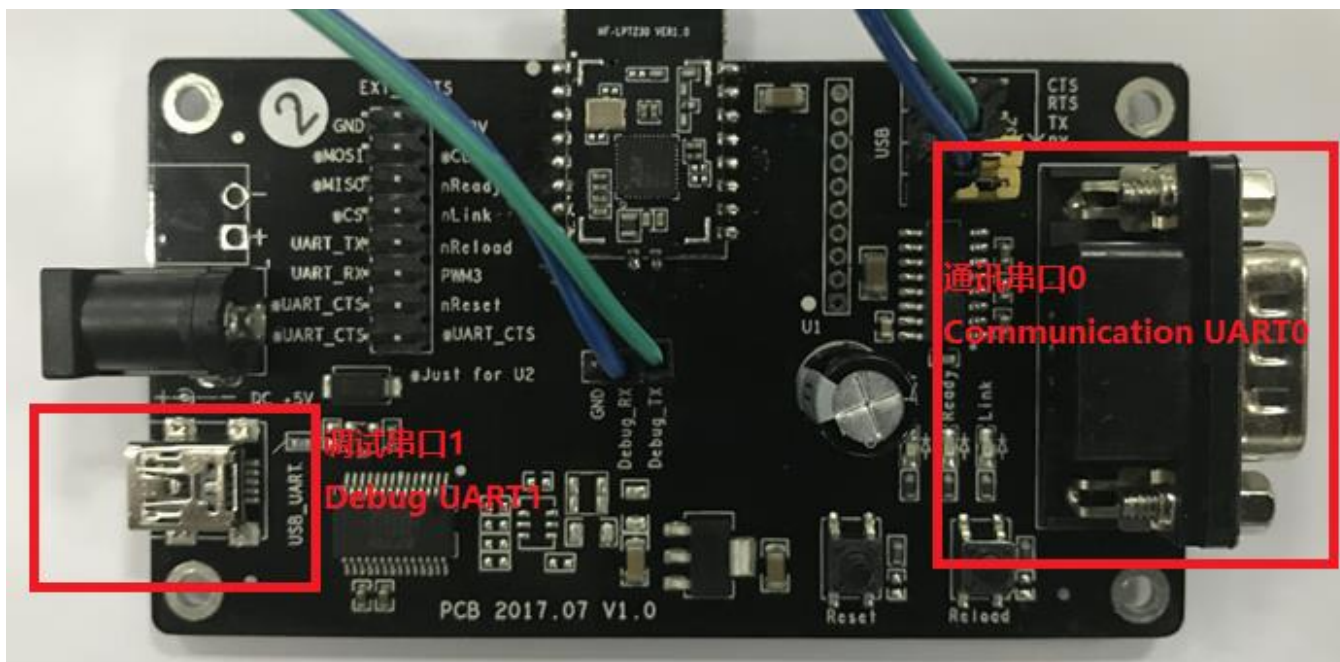
LPT230_HFV4.10.03_1MB : is for serial port upgrade

LPT230_ **UPGRADE** _HFV4.10.03_1MB : is for HFUpdate tools and OTA upgrade. It add CRC checksum which will check firmware valid for OTA upgrade application.

HF-LPT230 module EVK



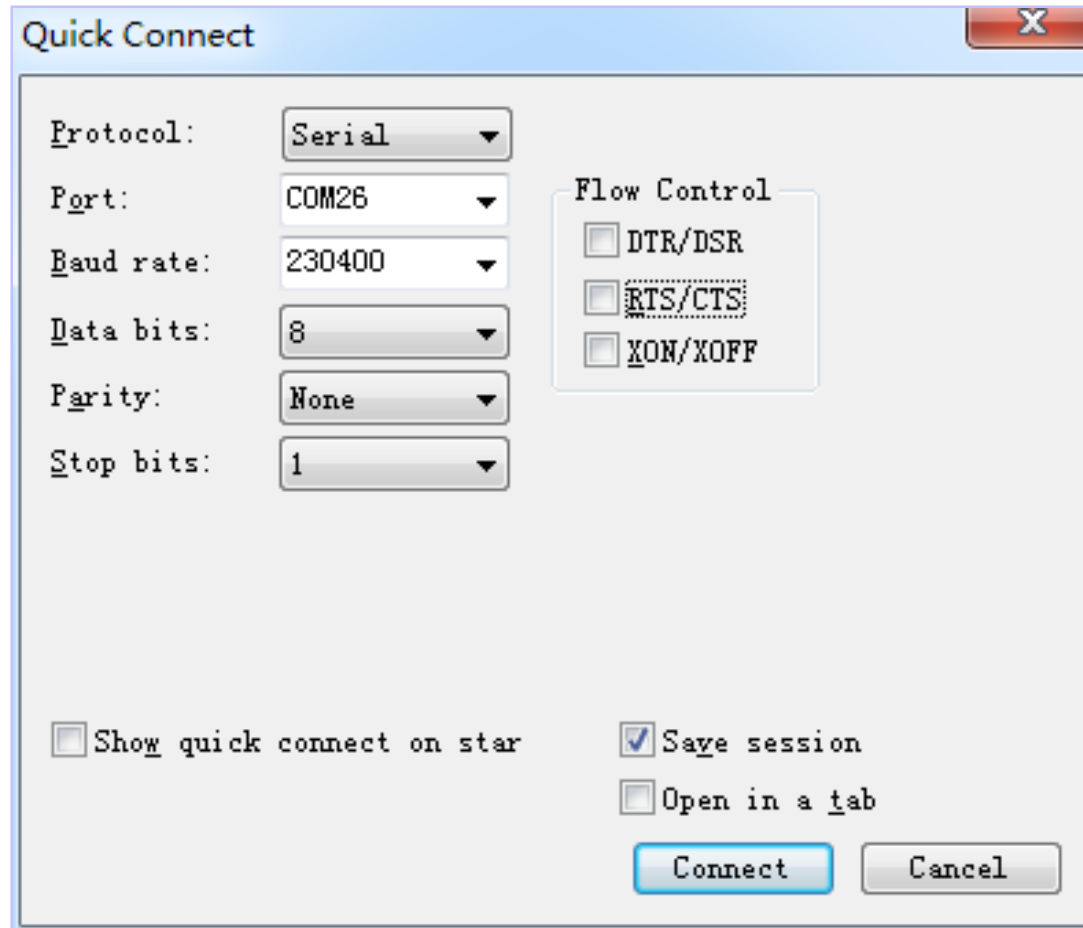
Pin	Function	Direction	IO Type	Notes
5	UART0	UART0_TX	O,PU	3.3V 通讯串口 0 输出 GPIO_2
6	UART0	UART0_RX	I	3.3V 通信串口 0 输入 GPIO_1
17	UART1_RX	UART1_RX	I	3.3V 调试串口 1 输入 GPIO26
18	UART1_TX	UART1_TX	O	3.3V 调试串口 1 输出 GPIO27



HF-LPT230 debug UART1 is fixed at 921600, must connect to USB UART channel, the RS232 chip can not deal with such high baud rate.

1. Upgrade application via UART0

Open SecureCRT and set serial port communication parameters: 230400,8,1,none



Quick Connect

Protocol: Serial

Port: COM26

Baud rate: 230400

Data bits: 8

Parity: None

Stop bits: 1

Flow Control

DTR/DSR

RTS/CTS

XON/XOFF

Show quick connect on star

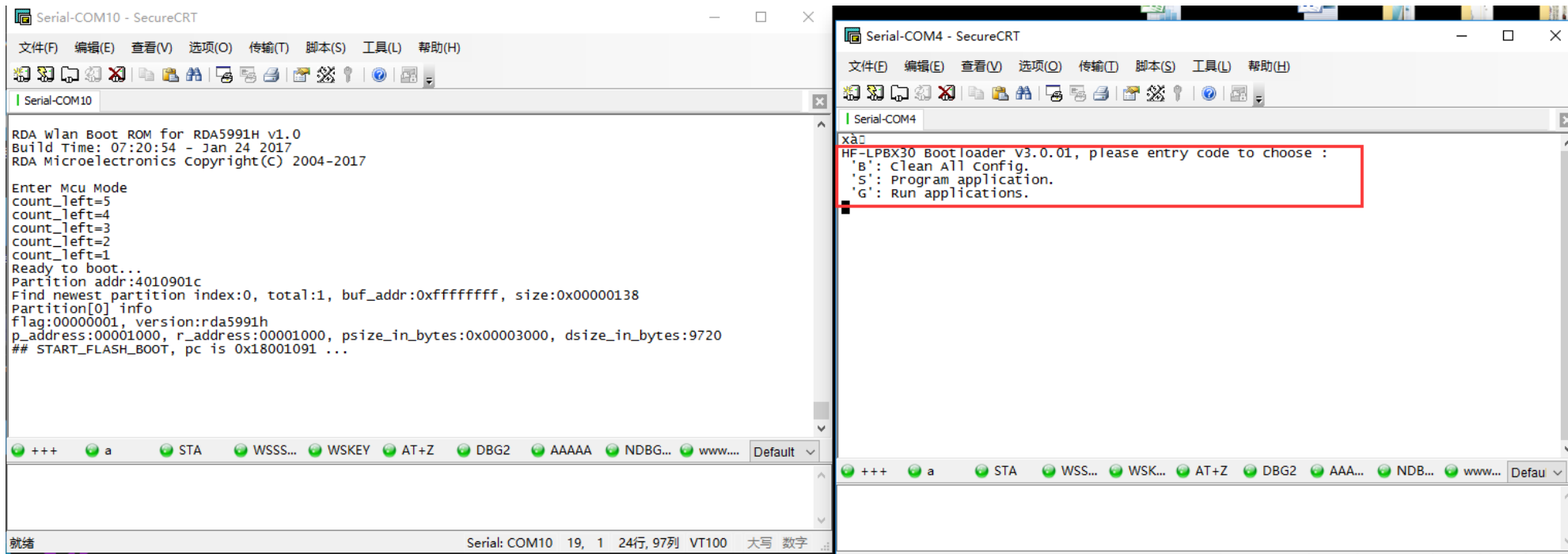
Save session

Open in a tab

Connect Cancel

Enter bootloader

Press down (Do not loose up) nReload Button on EVK and click nReset button or power up the module, then click space key on keyboard instantly continuously until it enter the bootloader.



The image shows two screenshots of a SecureCRT terminal window. The left window, titled 'Serial-COM10 - SecureCRT', displays the boot process of an RDA5991H module. The output includes: 'RDA wlan Boot ROM for RDA5991H v1.0', 'Build Time: 07:20:54 - Jan 24 2017', 'RDA Microelectronics copyright(C) 2004-2017', 'Enter Mcu Mode', a countdown from 5 to 1, 'Ready to boot...', 'Partition addr:4010901c', 'Find newest partition index:0, total:1, buf_addr:0xffffffff, size:0x00000138', 'Partition[0] info', 'flag:00000001, version:rda5991h', 'p_address:00001000, r_address:00001000, psize_in_bytes:0x00003000, dsize_in_bytes:9720', and '## START_FLASH_BOOT, pc is 0x18001091 ...'. The right window, titled 'Serial-COM4 - SecureCRT', shows the 'HF-LPBX30 Bootloader V3.0.01, please entry code to choose :'. The menu options are: 'B': Clean All Config.', 'S': Program application.', and 'G': Run applications. A red box highlights the menu options.

```
Serial-COM10 - 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-COM10
RDA wlan Boot ROM for RDA5991H v1.0
Build Time: 07:20:54 - Jan 24 2017
RDA Microelectronics copyright(C) 2004-2017
Enter Mcu Mode
count_left=5
count_left=4
count_left=3
count_left=2
count_left=1
Ready to boot...
Partition addr:4010901c
Find newest partition index:0, total:1, buf_addr:0xffffffff, size:0x00000138
Partition[0] info
flag:00000001, version:rda5991h
p_address:00001000, r_address:00001000, psize_in_bytes:0x00003000, dsize_in_bytes:9720
## START_FLASH_BOOT, pc is 0x18001091 ...

Serial-COM4 - 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-COM4
xà
HF-LPBX30 Bootloader V3.0.01, please entry code to choose :
'B': Clean All Config.
'S': Program application.
'G': Run applications.
```

Command List:

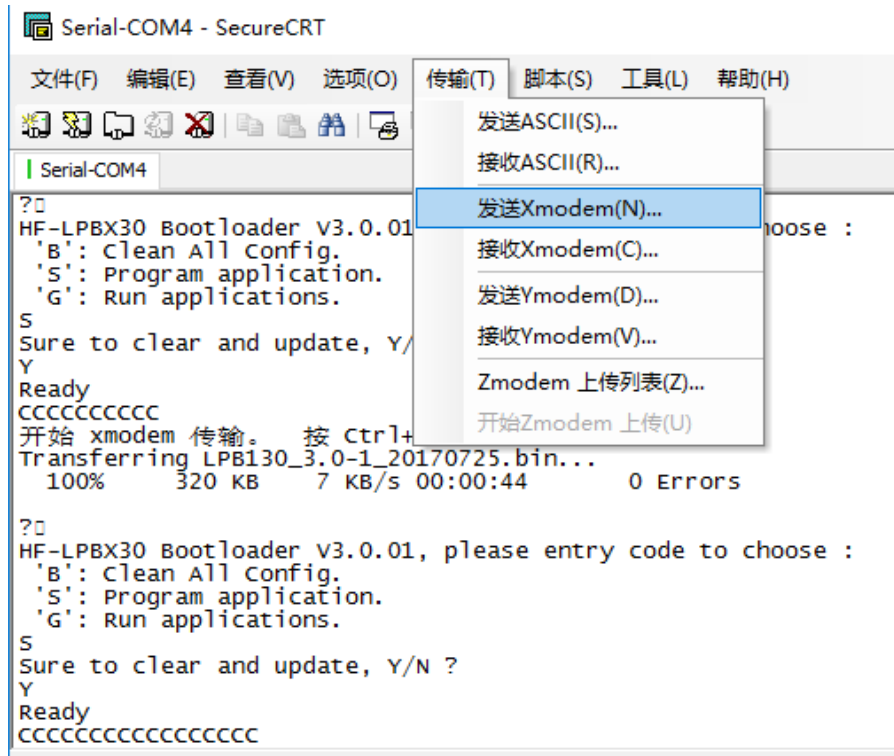
‘B’: Clear all setting parameter.

‘S’: Upgrade application; Usually only need to upgrade this. For example: HF-LPT230_3.0.1_20170725

‘G’: Run application.

Upgrade Process

Press 'S' to upgrade application, the screen show Ready, waiting for show 'C', then transfer upgrade file with Xmodem:HF-LPT230_3.0.1_20170725



Serial-COM4 - SecureCRT

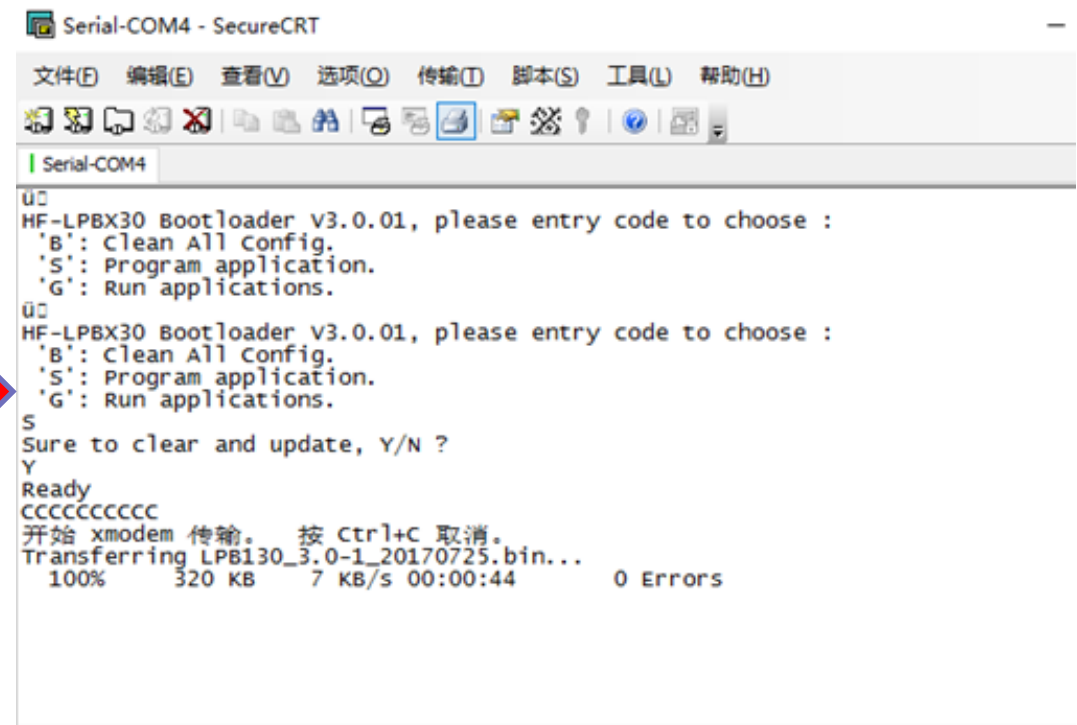
文件(F) 编辑(E) 查看(V) 选项(O) 传输(T) 脚本(S) 工具(L) 帮助(H)

Serial-COM4

```
?  
HF-LPBX30 Bootloader v3.0.01  
'B': Clean All Config.  
'S': Program application.  
'G': Run applications.  
S  
Sure to clear and update, Y/  
Y  
Ready  
CCCCCCCCCC  
开始 xmodem 传输。 按 Ctrl+  
Transferring LPB130_3.0-1_20170725.bin...  
100% 320 KB 7 KB/s 00:00:44 0 Errors
```

Choose :

- 发送ASCII(S)...
- 接收ASCII(R)...
- 发送Xmodem(N)...
- 接收Xmodem(C)...
- 发送Ymodem(D)...
- 接收Ymodem(V)...
- Zmodem 上传列表(Z)...
- 开始Zmodem 上传(U)



Serial-COM4 - 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)

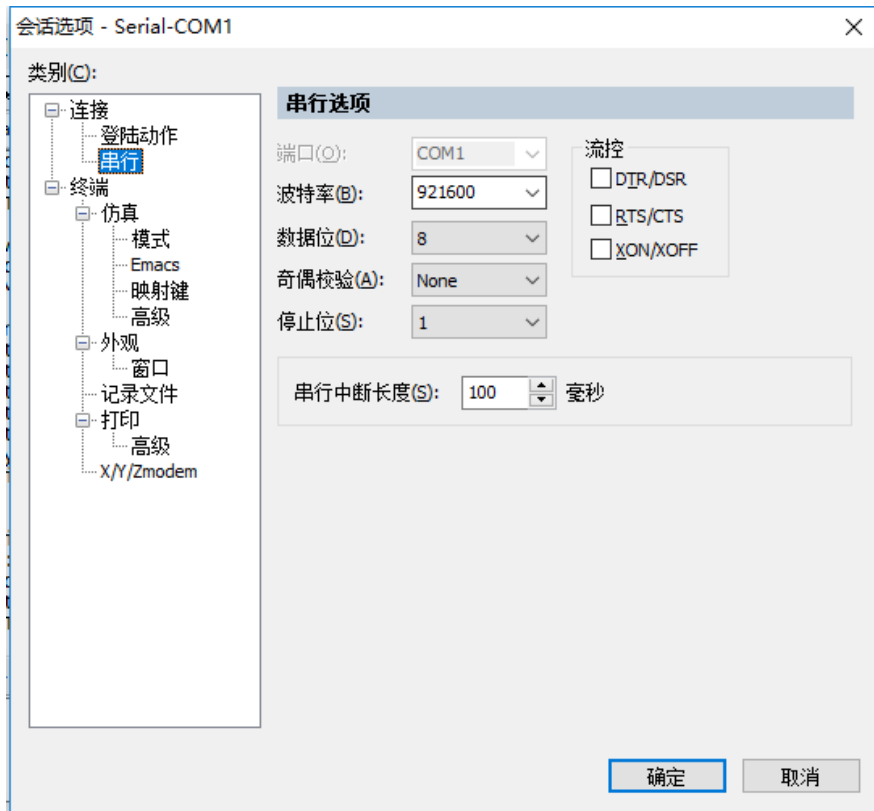
Serial-COM4

```
UD  
HF-LPBX30 Bootloader v3.0.01, please entry code to choose :  
'B': Clean All Config.  
'S': Program application.  
'G': Run applications.  
UD  
HF-LPBX30 Bootloader v3.0.01, please entry code to choose :  
'B': Clean All Config.  
'S': Program application.  
'G': Run applications.  
S  
Sure to clear and update, Y/N ?  
Y  
Ready  
CCCCCCCCCC  
开始 xmodem 传输。 按 Ctrl+C 取消。  
Transferring LPB130_3.0-1_20170725.bin...  
100% 320 KB 7 KB/s 00:00:44 0 Errors
```

2. Upgrade application via debug UART1

Open SecureCRT and set serial port communication parameters: 921600,8,1,none.

The way to enter bootloader is the same with UART0

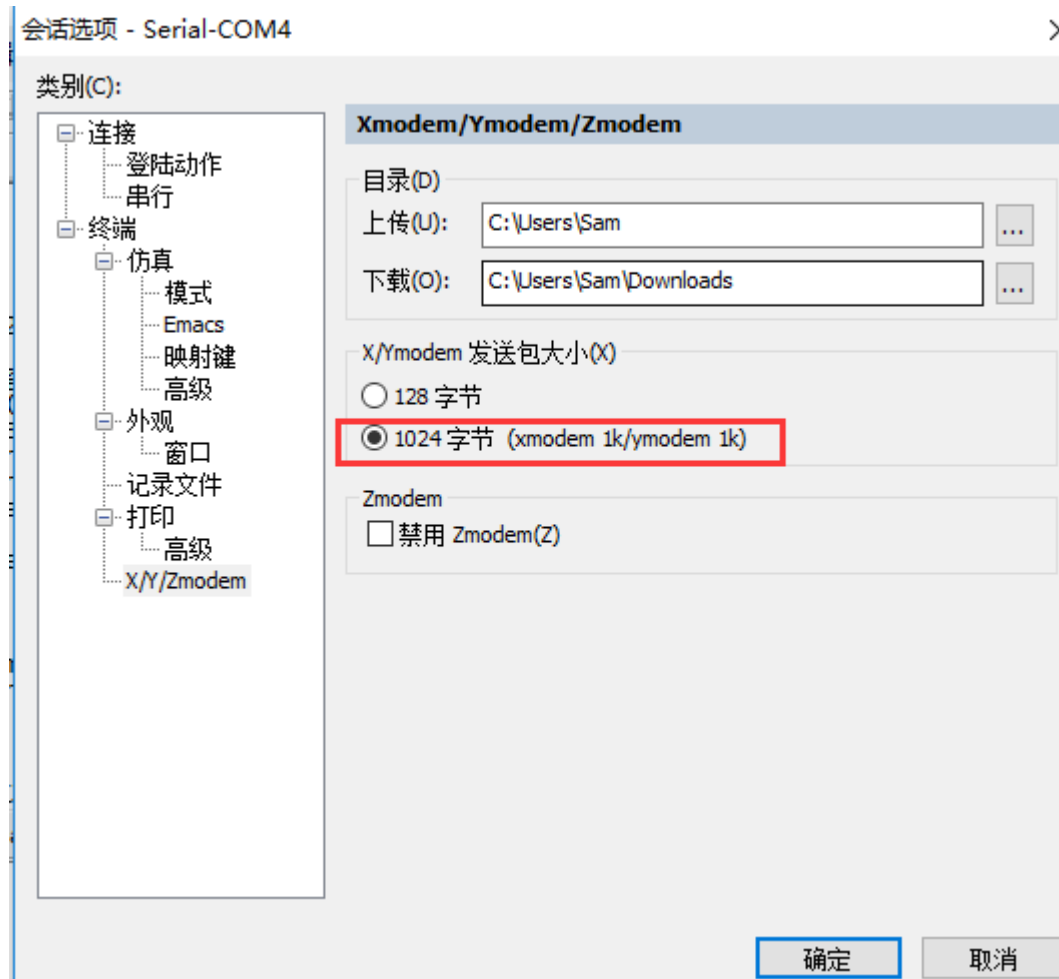


```
Serial-COM1 - SecureCRT
文件(F) 编辑(E) 查看(V) 选项(O) 传输(T) 脚本(S) 工具(L) 帮助(H)
Serial-COM1
Build Time: 07:20:54 - Jan 24 2017
RDA Microelectronics Copyright(C) 2004-2017

Enter Mcu Mode
count_left=5
count_left=4
count_left=3
count_left=2
count_left=1
Ready to boot...
Partition addr:4010901c
Find newest partition index:0, total:1, buf_addr:0xffffffff, size:0x00000138
Partition[0] info
flag:00000001, version:rda5991h
p_address:00001000, r_address:00001000, psize_in_bytes:0x00003000, dsize_in_bytes:9720
## START_FLASH_BOOT, pc is 0x18001091 ...

HF-LPBX30 Bootloader v3.0.01, please entry code to choose :
'B': Clean All Config.
'S': Program application.
'G': Run applications.
```


Can set the Xmodem packet size to 1024 to speed up the upgrade



3. Upgrade via webpage

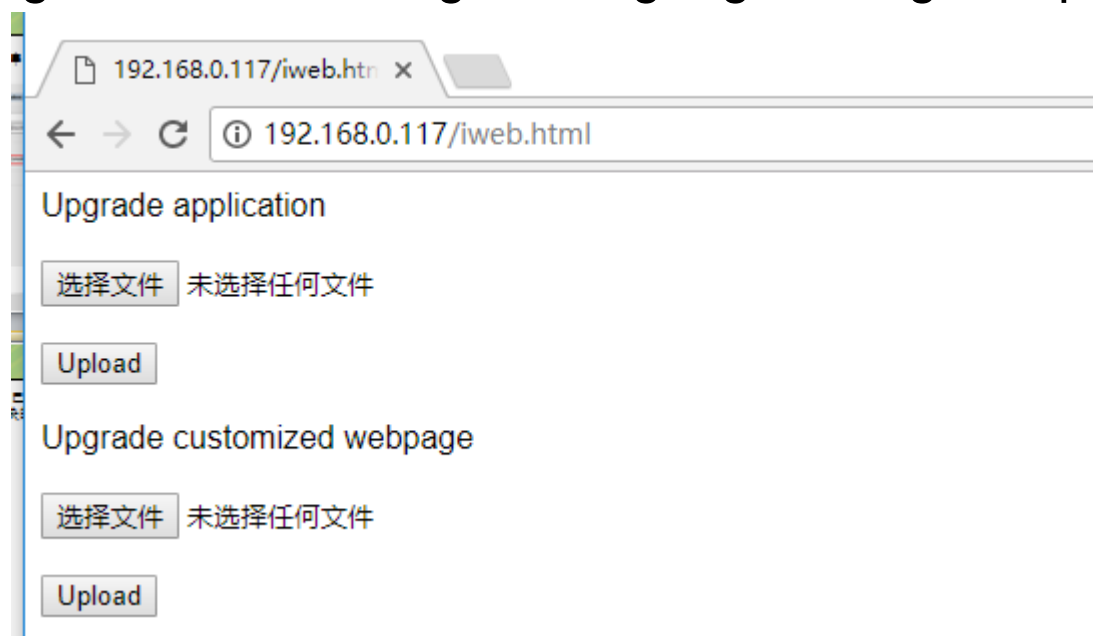
PC connect to module AP(IP: 10.10.100.254/iweb.html) or input the STA IP when module connect to the router.(Ex: <http://192.168.0.117/iweb.html>), to enter the internal webpage

1、 Upgrade Application: load LPT230_ **UPGRADE** _HFV4.10.03 to upgrade

2、 Upgrade customized webpage: Upgrade the config webpage with different language file

lpx30_webpage_2.0.0_cn: Chinese language configure upgrade file

lpx30_webpage_2.0.0_en: English language configure upgrade file



3. External config webpage

PC connect to module AP(IP: 10.10.100.254) or input the STA IP when module connect to the router.(Ex: <http://192.168.0.117>), to enter the external config webpage(If need English language, upgrade with that English version)



4. Upgrade application via HFUpdate tools

Download HFUpdate mass production tools from High-Flying website. Open the tools and load the upgrade file.

Method One: Config module and PC connecting to the same router(Use Smartlink V7 or AT command), input AT+OTA command to execute the upgrade process.

```
AT+WMODE=STA
```

```
AT+WSSSID=XXXXX
```

```
AT+WSKEY=WPA2PSK,AES,12345678
```

```
AT+Z
```

Then AT+WANN or AT+WSLK to check connection.

Method Two: PC connect to the predefined router(SSID:UPGRADE-AP, no key), press down the nReload button of module then reset or power on, then the module will execute upgrade process automatically.

Refer to the tools manual for the detailed operation.

4. Upgrade application via HFUpdate tools

Tools download address:

<http://www.hi-flying.com/download-center-1/applications-1/download-item-production-tool>

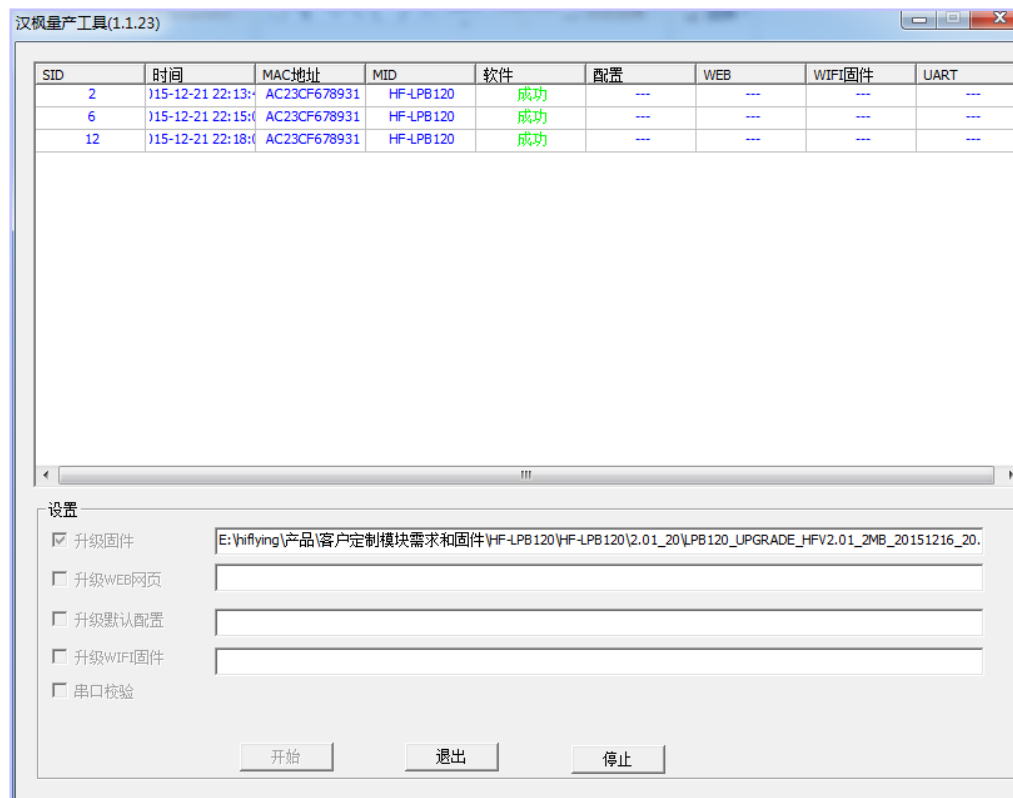
SmartLink V7 download address:

Android: <http://www.hi-flying.com/download-center-1/applications-1/app-smartlinkv7-android-1>

ios: <http://www.hi-flying.com/download-center-1/applications-1/download-item-smartlinkv7-ios>

Note:

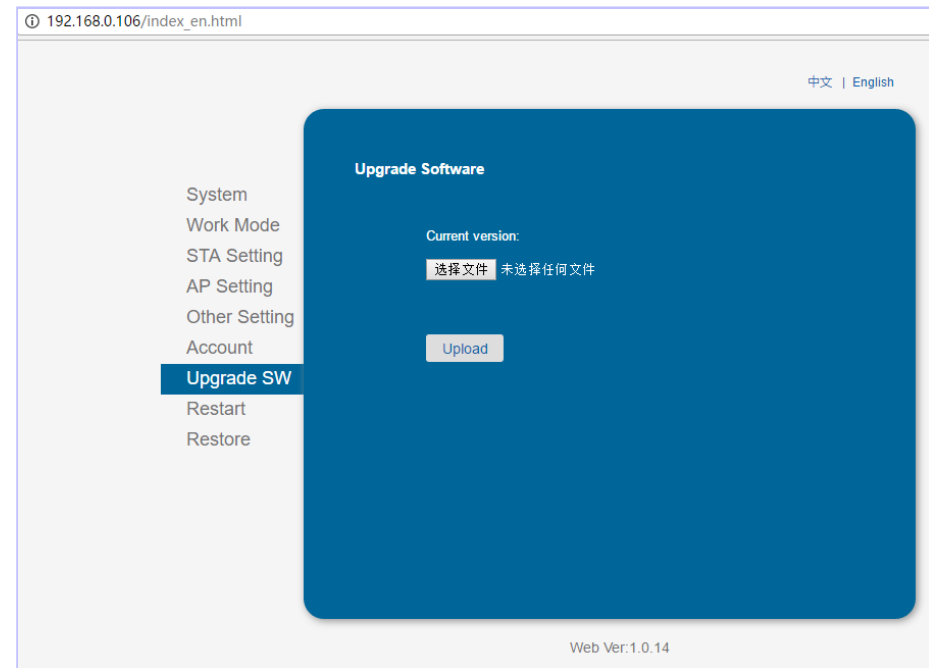
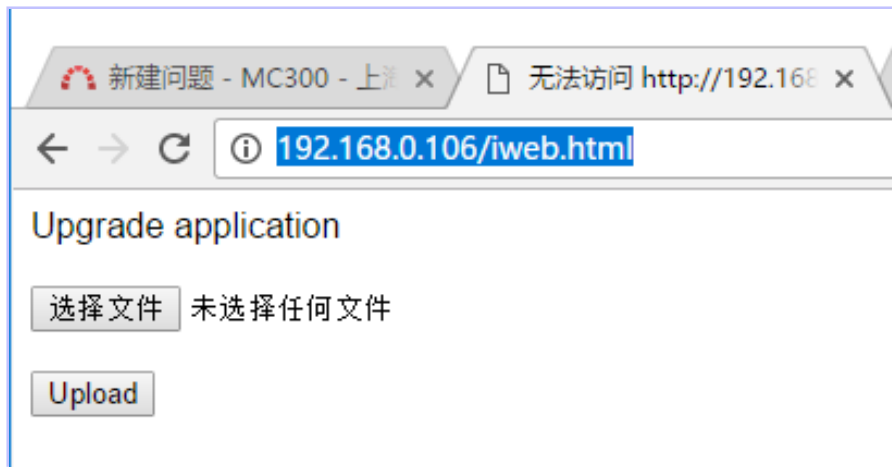
The PC network firewall must be turned off or using HFUpdate Tools.



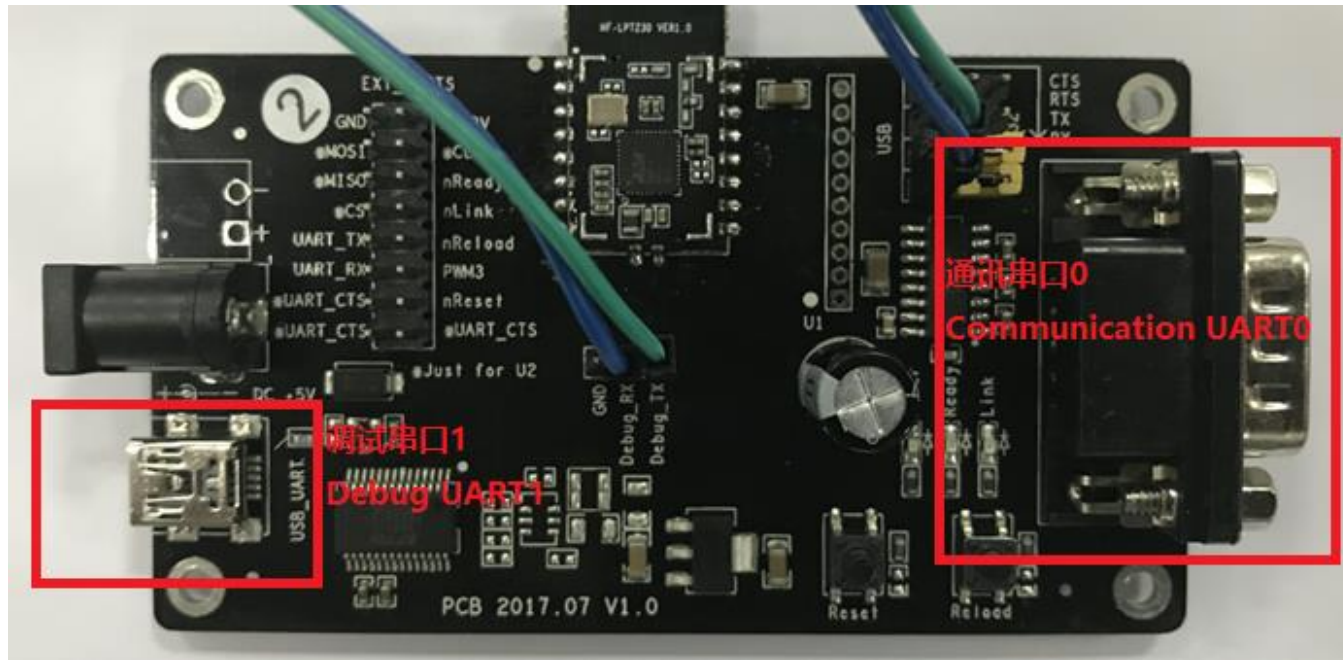
3.Webpage upgrade

Module firmware 2.0.09-6 support webpage config and upgrade.

- 1、 Connect to module AP(10.10.100.254) or use STA IP of module(connect to router already), input IP/iweb.html to enter the internal webpage to upgrade the external webpage(webpage.html file) or upgrade the firmware.
- 2、 Due to the previous version does not support webpage, so this webpage function must upgrade to 2.0.09 version via the previous way, then upgrade the external webpage to use this webpage function
- 3、 After upgrade success, manually reboot to make the new firmware or webpage valid



5.UART1 Debug Output



Connect the header as the above picture. The right side of RS232(UART0) is usually used for device communication, the left side USB(UART1) is used for debug information output(The FT232 driver can be download from our website http://www.hi-flying.com/download_detail_dc/downloadsId=108.html) AT+NDBGL=2,1 enable UART1 debug information output(May input AT command with UART1), AT+NDBGL=0 to turn off the debug information output.