



Shenzhen Doctors of Intelligence & Technology

ESP8266 Serial-to-WiFi Transmission Firmware (V2.4.1)



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1. Firmware Features

Based on the ESP_IOT_SDK 1.4 version, using c language. After multiple versions of iteration, the reliability is high, the function is rich. The firmware is open and free to use.

- Support Web Configure.
- Support AT Command.
- Support UDP discovery.
- Compatible with nodemcu development board, esp8266 Arduino development board.
- Serial parameters can be set: baud rate, data bits, parity bit and stop bit
- Station (STA) mode can be set to: enable / disable STA mode, wireless router SSID, password, DHCP enabled client function, custom IP, subnet mask, gateway address etc.
- Network parameters: can set up TCP server / client, UDP server / client. Remote server address to support DNS domain name

2. How to use

2.1 Web configure parameters

After the firmware is powered up, the AP is automatically turned on. The SSID's name is **DoitWiFi_Config**, no encryption. Use a laptop or smart phone to connect the ssid. Enter "192.168.4.1" to access the built-in web page through the browser.



ESP8266 Serial WiFi Shield

Serial Setting:

Baud: 9600
Databits: 8
Parity: NONE
Stopbits: 1

Access Point(AP):

AP name: DoitWiFi_Config
AP Password: 12345678
Encrypt Method: OPEN
Hide AP: ☐ Yes ☒ No
AP IP address: 192.168.4.1
AP Netmask: 255.255.255.0
AP Gateway address: 192.168.4.1



Station :

Enable : ☒ Yes ☐ No

AP Name:

AP List:

AP Password:

DHCP Enable: ☒ Yes ☐ No

STA IP address:

STA Netmask:

STA Gateway address:

NetWork Setting:

Socket Type: ☒ Server ☐ Client

Transport Type: ☐ TCP ☒ UDP

Remote IP:

Local Port:

Version 2.4 based on ESP_IOT_SDK_v1.4.0

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QQ Group:453053759

2.2 LED Lamp indicator

ESP8266 development board of the LED GPIO16, through the control of the GPIO16 implementation:

- Press Key or Flash button ,more than three seconds to restore factory settings;
- Just in AP mode, the Led is always bright
- In ap+sta mode, the power of the slow flash; connect successfully after the wireless route and led is always bright.
- When the serial receive data, or the network receives data transmitted to the serial port, LED light flashes quickly.



2.3 Support AT command

Direction	Command (ASCII String)	Meaning
Query STA Stat		
MCU->ESP8266	AT+STASTATUS	Query sta stat
ESP8266->MCU	STA:OK	Connection succesfully
ESP8266->MCU	STA:DOWN	Close
Obtain ip and mac in Sta model		
MCU->ESP8266	AT+STAINFO	Get ip and mac
ESP8266->MCU	Mac IP, for examples: 5CCF7F116380 192.168.2.125	results
Query TCP Client stat		
MCU->ESP8266	AT+TCPCLIENT	Only in STA
ESP8266->MCU	TCP:OK	TCP client connction
ESP8266->MCU	TCP:OFF	TCP client close
Module restart		
MCU->ESP8266	AT+RST	restart
ESP8266->MCU	RST:OK	Ack
Restore Default Setting		
MCU->ESP8266	AT+RESTORE	Restore default setting
ESP8266->MCU	RESTORE:OK	ACK

2.4 UDP Discovey

The firmware is built in UDP server, the listener port is 3305, and the function of the device is realized by the external client UDP

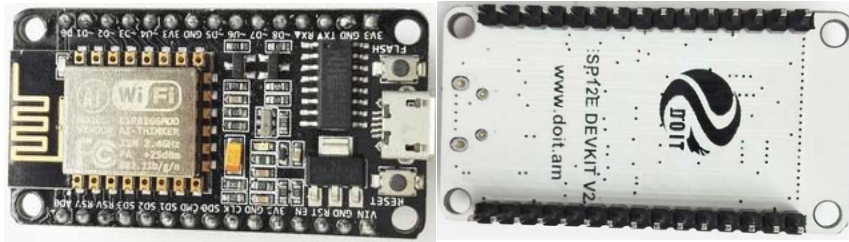
- In the Server/TCP Client/UDP Client TCP mode, the external client sends any UDP data packets to the 3305 port of the module, and the module will immediately return the MAC address and IP address of the STA as following:

5CCF7F116380|192.168.2.125

2.5 Method to restore factory settings

Long press Flash button or Key button more than 3 seconds to restore the factory settings.
The key in the process, the LED light will flash

3. How to download firmware



Download Tools:

FLASH_DOWNLOAD_TOOLS_v1.2_150512.zip

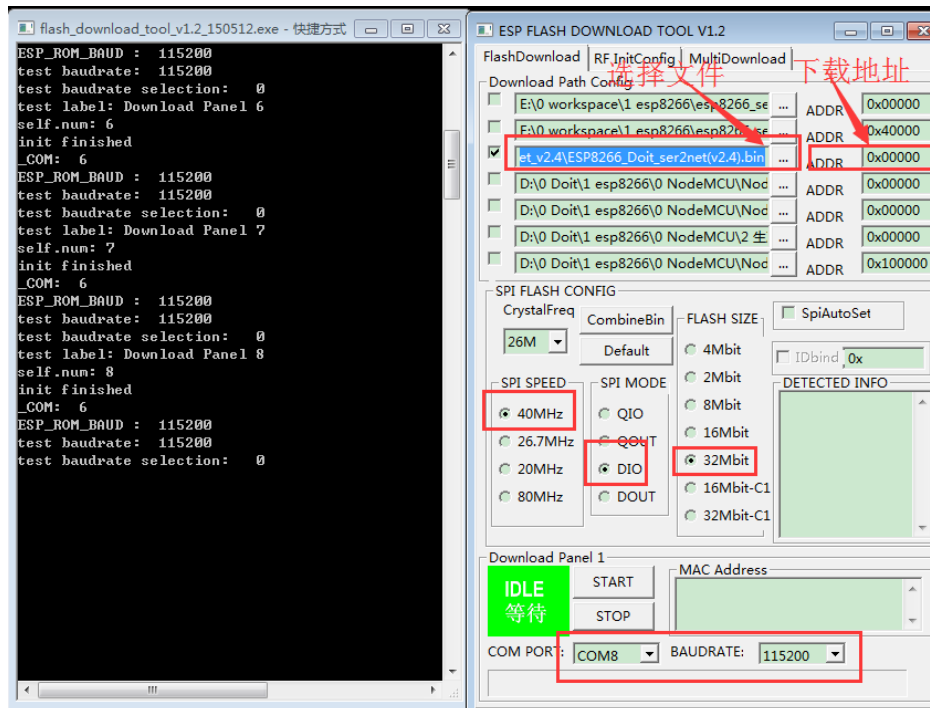
http://en.doit.am/FLASH_DOWNLOAD_TOOLS_v1.2_150512.zip

Step1: Plug ESP12E-devKit into USB port with microUSB.

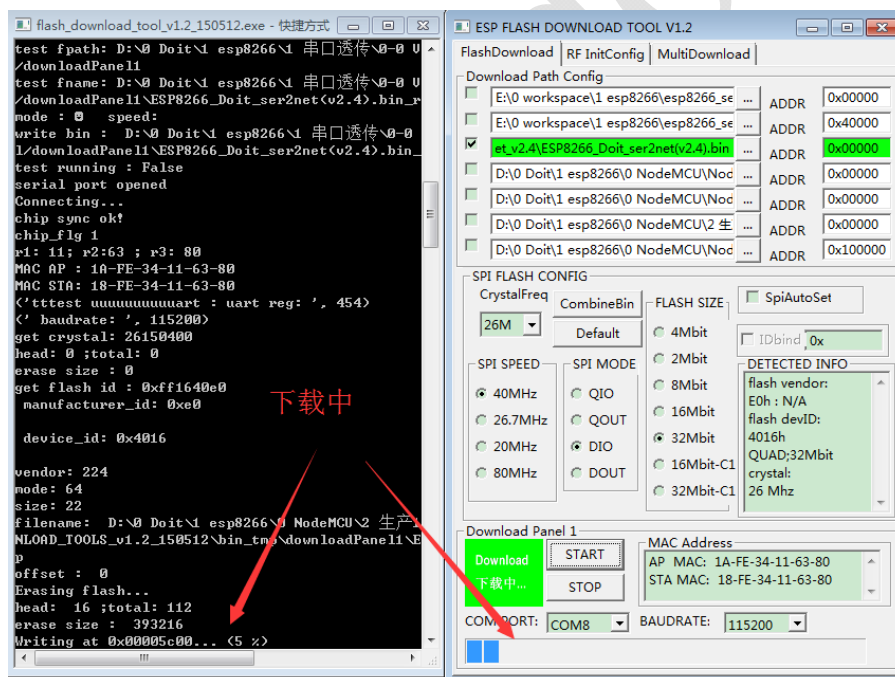


Step2: Open the ESP FLASH DOWNLOAD TOOL. And the configuration is shown as belows.

Attention: Choose correct Serial Port and correct firmware



Step3: Press "START". Keeping press "FLASH" button, then press "RESET" button. Then the downloading process begins:



Done. Reboot the Esp12E devKit. The blue light will be keep lighting

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Buy: <http://www.smartarduino.com/search.php?searchKeyword=esp8266>