



Flash General Firmware to Third-Party Chips

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Tuya opens up the general firmware used for connecting some of Tuya's modules to third-party chips. This way, you can flash Tuya's general firmware to your chips with Tuya's authorization tool and third-party official firmware flashing tool.

This topic has stopped updating, and the content is for your reference only. For more information about firmware flashing, see [Flash and Authorize](#).

This topic describes how to flash Tuya's firmware to your ESP8266. After flashing the firmware, your ESP8266 can transmit raw data to an MCU with Tuya's [Serial Port Protocol](#).

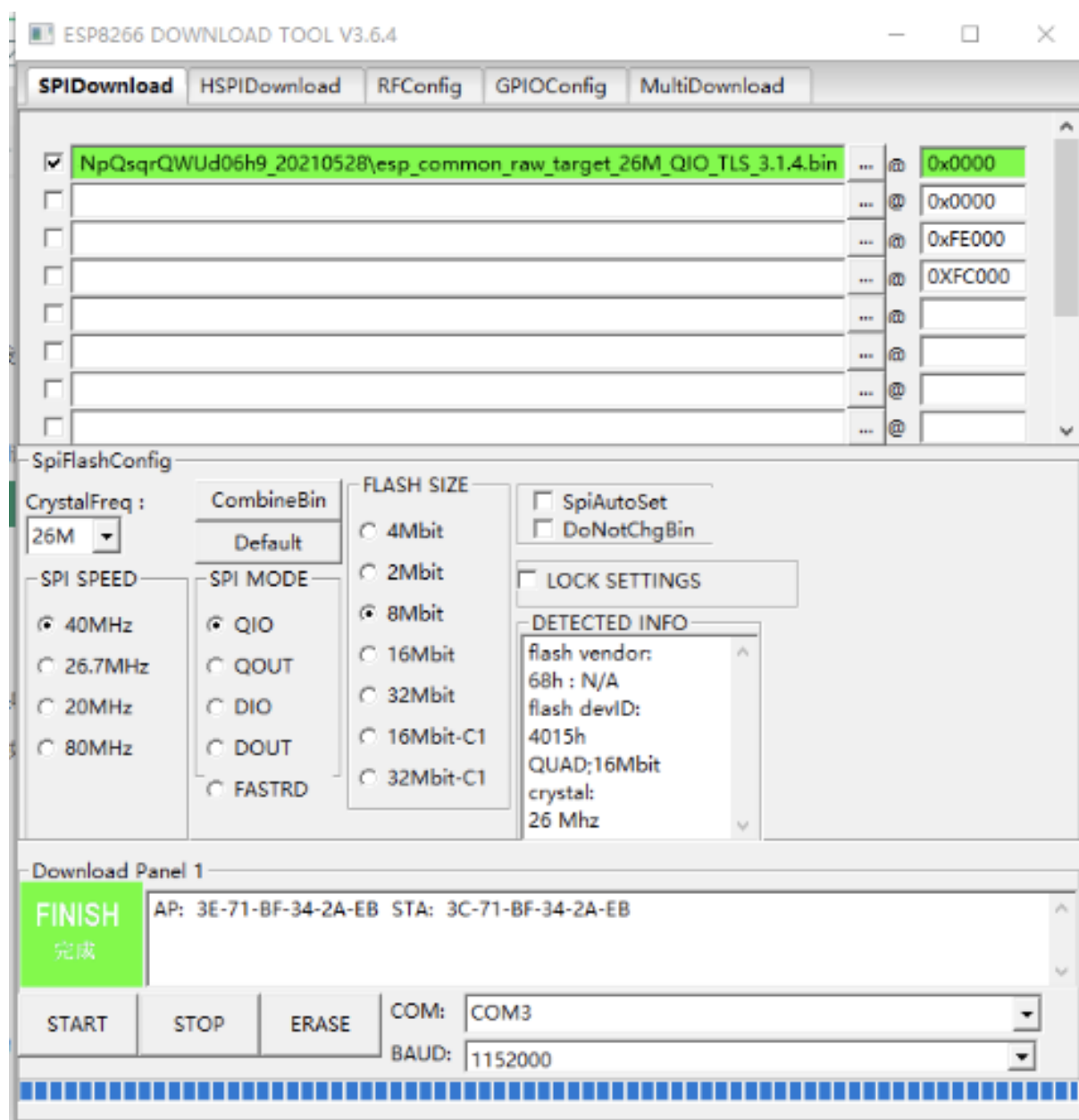
1 Preparation

We have two steps to complete firmware flashing. First, flash your ESP8266 with Tuya's firmware. Then, authorize your ESP8266 with a Tuya license. Before you get started, install the following tools and download the firmware.

- [Espressif's Flash Download tool](#)
- [Tuya's Independent Authorization tool](#)
- [Tuya's general firmware](#) `esp_common_raw.bin`

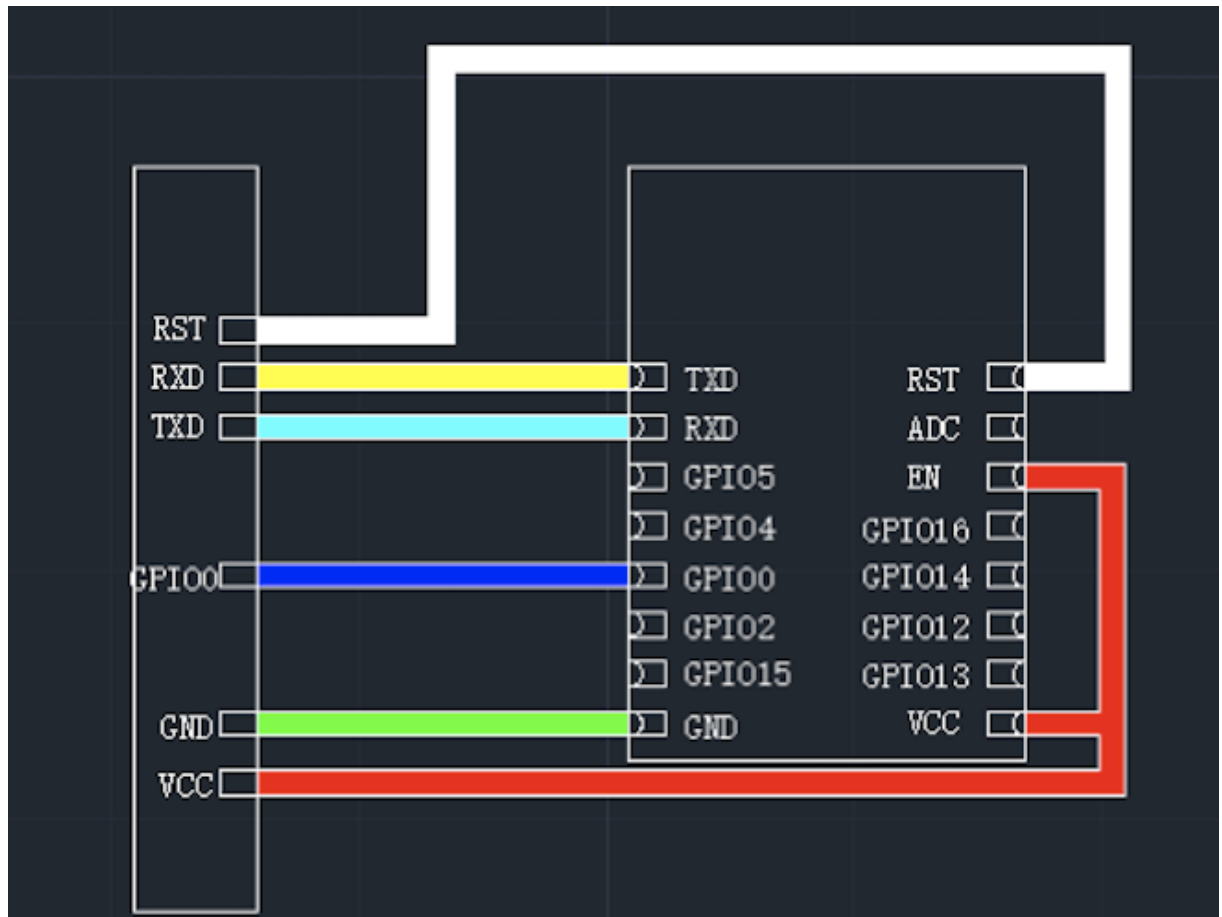
2 Step 1: Flash firmware

1. Open Espressif's Flash Download tool.
2. `esp_common_raw.bin` is the combination of all binaries, so you can download it to the address `0x0000`.



We use Tuya's TYWE3S module as an example to show how to connect ESP8266

to a USB-to-TTL serial adapter. You can change the pin connection based on your hardware.



3 Step 2: Authorize chip

To connect ESP8266 to the Tuya Cloud, we need to flash the chip with the Tuya license.

1. Go to the [Tuya Developer Platform](#) and create a product to get the license.

This section briefly describes how to create a product. For more information, see [Create Products](#).

2. Scroll down the page and click **Can't find the category?** in the lower-left corner. Complete the required information and select **Wi-Fi** as the protocol.

:::info

You must click **Can't find the category?** for product creation because only this item supports independent authorization.

:::

3. **Function Definition** and **Device Panel** are optional so you can just leave them as they are and directly click the **Hardware Development** tab.

- Click **Tuya Standard Module SDK** and select **TYWE1S** or **TYWE3S**. Both these two modules use the ESP8266 chip.



Function Definition
Device Panel
Hardware Development
Product Configuration
Device Debugging
Testing Service
Development Guide

Select a module and firmware based on the integration method, download the SDK, and purchase modules for debugging. [How to develop firmware?](#)

Integration Method

Self-developed Module SDK
Tuya Standard Module SDK

Select Module

Module	Chip/Dimensions/Applicable Scenarios	Debugging Price	Operation
 TYWE3S Wi-Fi Module	Chip: ESP8266 / Size: 16×24×3.5mm / Fit for: MCU,Socket,Light	¥18.00	Details Select
 TYWE1S-IPEX Wi-Fi Module	Chip: ESP8266 / Size:18×23.5×4.1mm / Fit for: Home Appliance, IPEX Connector	¥18.00	Details Select

- Select the module and add custom firmware, then click **Get 10 Free Licenses**.

Edit Firmware



Basic Information

* Firmware Identifier ⓘ:

* Firmware Name (in Chinese) ⓘ:

* Firmware Name (in English) ⓘ:

* Firmware Type ⓘ:

* Update Channel ⓘ:

* Flash Size:

* Protocol Type ⓘ:

* Update Timeout ⓘ:

* Chipset Platform:

Remarks:

Production Configuration

Firmware flashing by Tuya ⓘ: ☒ Yes

 This chip supports firmware flashing by Tuya. [View Help](#)

Function Definition Device Panel **Hardware Development** Product Configuration Device Debugging Testing Service [Development Guide](#)

① Modify firmware and configuration during product development, production data will not be modified, necessary to reconfirm production data

Different access modes for different categories, Self-develop SDK and Tuya Standard Module SDK merge into TuyaOS Access [How to develop hardware?](#)

① SelectedCloud AccessMode ②

MCU SDK **TuyaOS**

② SelectedCloud Access hardware [Change Hardware](#)

Hardware Name	Chip platform	Firmware Type	Firmware Name/Firmware Key	Current Version	Operation
TYWE3S Wi-Fi Module module Chip: ESP8266Size: 16x24x3.5mmFit for: MCU,Socket,Light Hardware details>>	ESP8266	Module Firmware	123 key9nrehq839dfk Edit Firmware More >	No production version New firmware version	¥18.00 Buy now Get 10 Free Licenses

6. Select **Production Certificate - Authorization Only** as the **Delivery form** and submit the order. Click **View Order List** and download the production certificate.

① You can get 10 free licenses (worth ¥70.00) for debugging purposes. Click Confirm and get them.

Generic License

Purchase Purpose: **Debugging**

Applicable category: Others

Communication Method: Wi-Fi

Select Product: 3nte9xnl3yoa1vbb-1

Delivery Mode: **Credential (Authorization Only)**

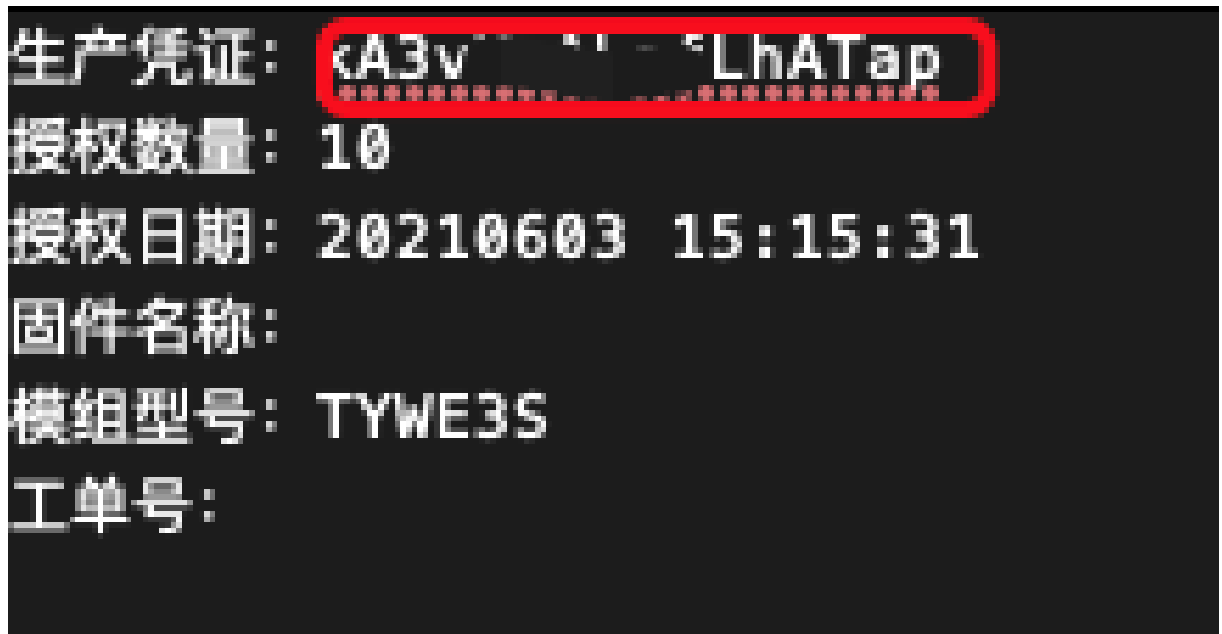
Unit Price: ¥7.00

Quantity: 10

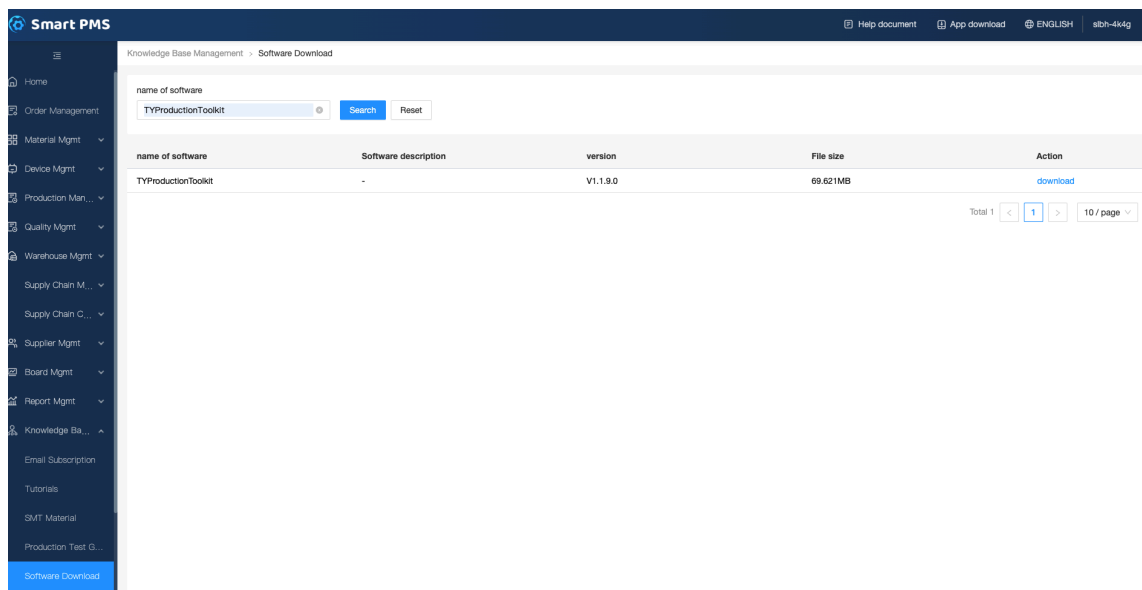
[Buy Now](#)

2021-06-17 20:16 Commodity Type:License	
Order Id:YL2106171020102S Debugging	
<div> <p>Generic License</p> <p>Product: ESP8266</p> </div>	¥0.00 10 ¥0.00 Order completed details
Download Production Certificate	
Total: ¥0.00 Paid:¥0.00 No pay:¥0.00	

7. Unzip the file and copy the production certificate (that is the license).



8. Apply for a [PMS system](#) account to use the Independent Authorization tool.



Open the tool and enter your PMS account and password, and token (the license). Plug the USB-to-TTL serial adapter into your computer. Select the correct COM port, set the baud rate to 9600, and click **Independent Authorization**.

独立授权调试工具 V1.0.0.6 (仅供开发测试使用, 不可用于生产)

设置

账号: 密码: ☐ 分配mac

Token: 通讯方式:

串口: 波特率: SN:

运行信息:

授权成功 100%

4 Operation result

After you finish the above steps, you can develop with Tuya MCU SDK and connect your ESP8266-based project to the Tuya Cloud.

For more information, see [Wi-Fi Common Solution](#).