



SoC development-free solution

Device Development > Tuya Development Boards > Tuya Sandwich

Evaluation Kits > Development Guide

Version: 20200310

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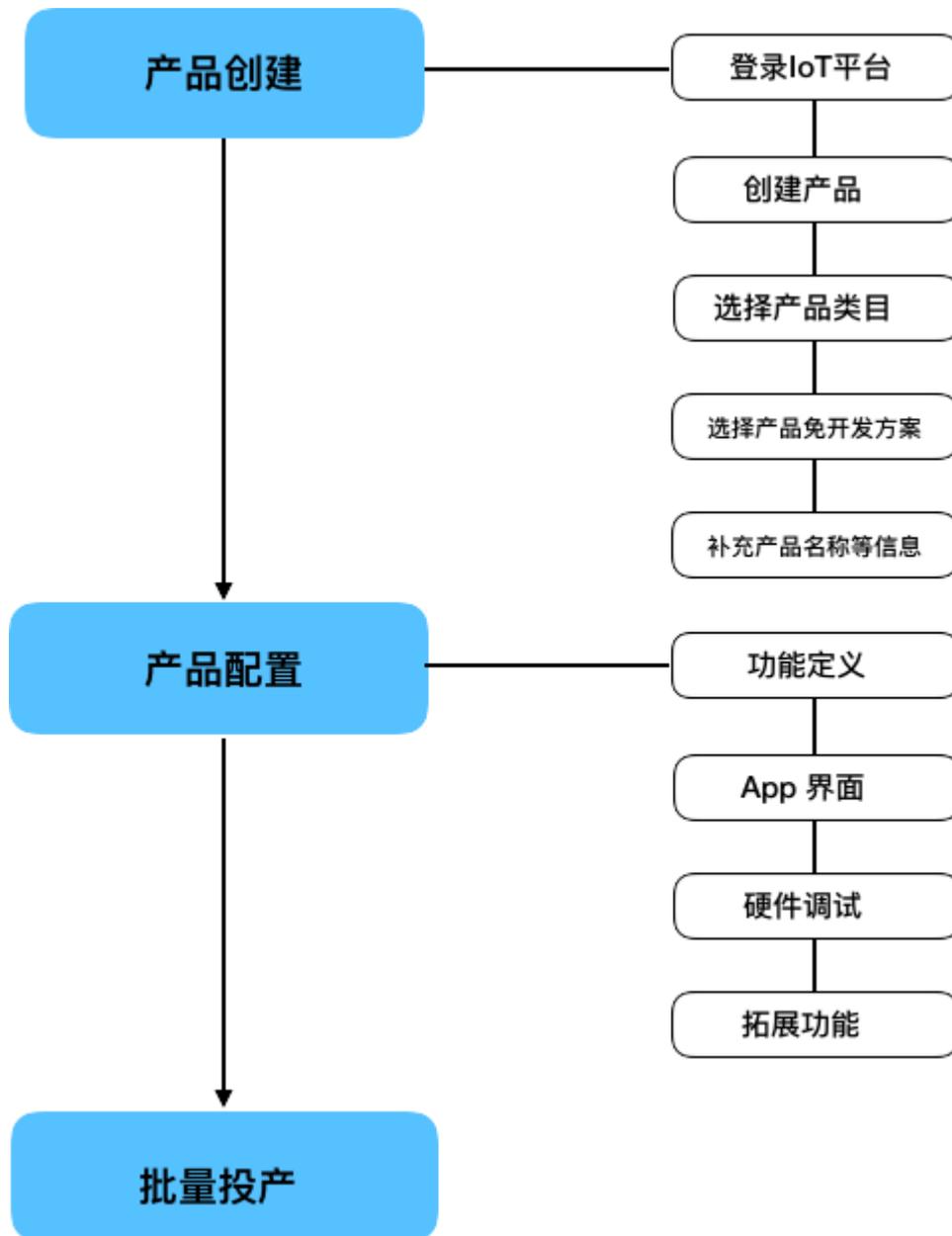
1 Introduction

SoC development-free solution: Tuya Smart outputs dozens of development-free mature solutions for electricians and lighting products based on common functions and common equipment types of electrician lighting. You only need to click on the solution online. Information to send you the networking module. By connecting the received networking module to your product, you can realize the function parameters you configure online without any development steps.

The SoC solution is a low-cost, high-efficiency development method for you to quickly complete the intelligentization of equipment and realize the mass production of equipment.

Currently, SoC products support switches for electrical lighting, sockets, bulbs, and security sensors. If you have higher requirements for the development and configuration of the above categories of products, please choose the MCU development mode.

flow



1.1 Product Creation

1.1.1 Login to the developer platform

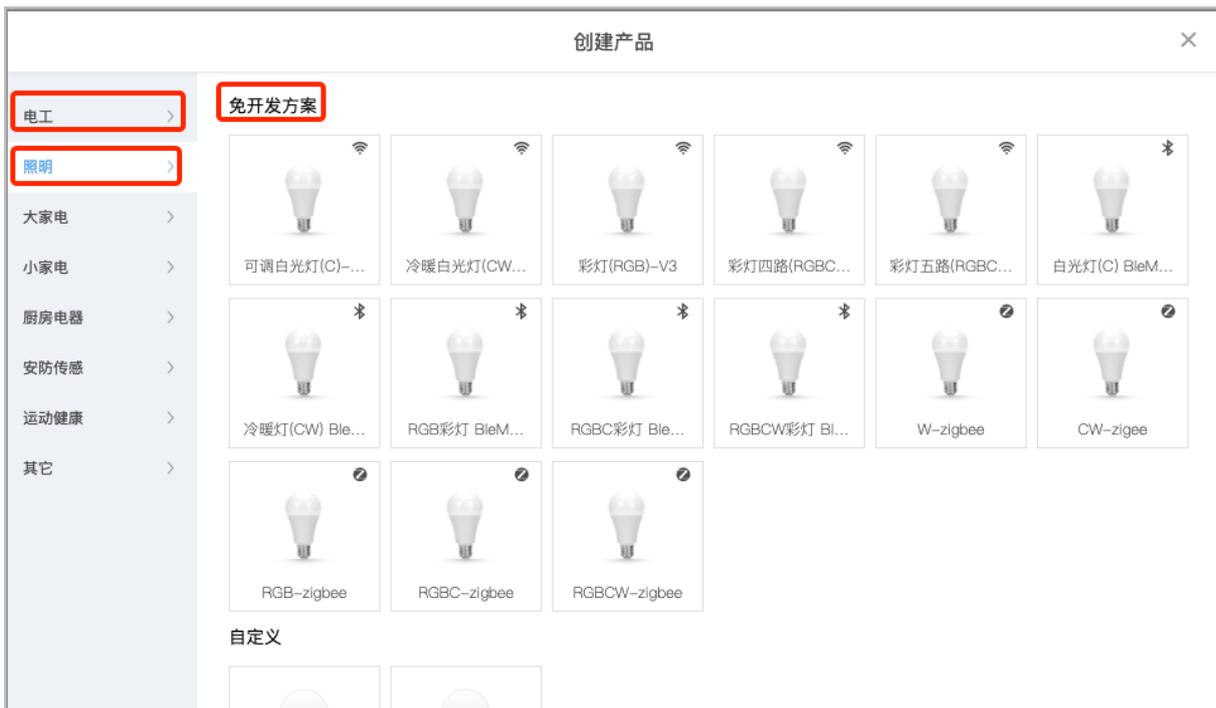
Please log in to the developer platform: iot.tuya.com. If not, please register first. If you have already registered, please log in directly.

1.1.2 Product Creation

Enter the developer platform and find the “create product” entry.



Please make clear your initial requirements for the product, and select your product category under the free development plan. If your product is a switch or socket, please choose an electrician; if your product is a bulb lamp, please choose lighting.



Please confirm the networking mode and basic specifications of the product, and click the corresponding picture click box to start creating your product.

1.1.3 basic product info

Please enter the product name (required) according to the prompt box, the name can be self-selected;

** Format example: XXX (brand) + XXX (product) + XXX (module model) **

Enter the product model (optional) as information to distinguish your different products, we suggest you add;

** Format example: XXX (AE1123) **

Please further confirm the communication type of your product. By default, it is the development-free solution you chose when you created the product in the previous step. This will affect the module communication method sent to you at the end. Please confirm it.

创建电量统计插座类产品
重选类别

* 产品名称: 品牌+产品名,将在用户App界面上显示
产品名称不能为空

产品型号: 请输入您的产品型号, 多个以,隔开

* 通信类型: Wi-Fi

确定

1.2 Online Product Settings



1.2.1 Function definition interface

1. Product setup progress

The top tap indicates the progress of your current product setup. Please follow the steps one by one to set up the product without development plan.

2. Issue submission module

Any issues during development can be submitted through this area.

3. Product Information View

Thumbnail: Product type created for you PID: It is the unique ID of the product and is one of the most important information of the product. It covers your information about product configuration, App, module, etc. It is recommended that you save this information, which is equivalent to the product's ID card. Edit product information: You can further add product information, you can edit product name, product model, product remarks, etc. After editing, please remember to save.

4. View Product Features

Click to see the features of the product you created. At this step, Tuya Smart has defined the functional scheme for smart switches, smart sockets, and smart bulb products. You can confirm your product features. If you think that the product features do not meet your needs for the product, we recommend that you Define product creation without SoC solution.

If you can confirm that the above product information and product functions are correct, then click Next.

1.2.2 App interface

Select App interface template All smart products need an App as a control terminal to control various functions of the product. In this step, please select the App interface that controls your product and enter the next step.



Confirm the App and product compatibility Please download the “Tuya Smart” App or “Smart Life” App, use this App to scan the QR code of your product App interface,

and you can experience the real effect of the App interface of your choice. If you are not satisfied, please go back to the previous step and choose again; if you are satisfied, please choose the next step.



Scan code to download Tuya Smart App



Scan code to download Smart Life App



1.2.3 Hardware debugging

Optional Module You can view “Module Details” and “Replace Module” at this step. Select the corresponding module according to the evaluation kit in your hand.

SoC免开发方案

在线配置固件并购买调试模块(适合生产厂商)

对于有硬件开发能力的厂商，可选择模块，参考电路设计，在线配置IO信息，自动生成模块固件。模块下单后，我们将直接寄出烧入该固件的模块供测试。

选用模块：WR3 Wi-Fi模块 [更换模块](#)



芯片：RTL8710BN
尺寸：16*24*3.5mm
适用：家电、电工、照明驱动

[模块详情](#)

电路参考图





Module firmware IO port configuration The corresponding diagram of the module's IO port will be displayed here, please refer to the IO definition of the function board and the main control board in the sandwich development kit. Please carefully check the firmware configuration information, modify and save it according to actual needs. The IO configuration information of different products is different, including power statistics version, plug-in version, panel switch version, and bulb lamp version. Please fill in the information according to different versions.

模块固件IO信息配置

[恢复默认配置](#)

通道1

开关按键1: GPIO19 低电平驱动

默认通电状态1: 断电

继电器1: GPIO14 高电平驱动

电源指示灯1: 空

配网设置

Wi-Fi指示灯: GPIO22 低电平驱动

复位长按秒数:

未联网时WiFi灯状态: 指示继电器状态

已联网时WiFi灯状态: 指示继电器状态

首次配网触发方式: 长按至网络灯闪烁

电量统计

计量芯片选择: 贝岭0937芯片

IO序号与模块丝印IO口名称对应图

IO id **须知**

I00	上电过程中, 需要低电平
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#Need to be modified here for token binding instructions

Order modules online for product debugging. This module has recorded your specific information about product configuration above, which can be used for product commissioning after placing an order.

电流电压切换(SEL): 且连

校准电压(V):

过流保护电流值 (mA):

配网相关

购买数量: ^ v

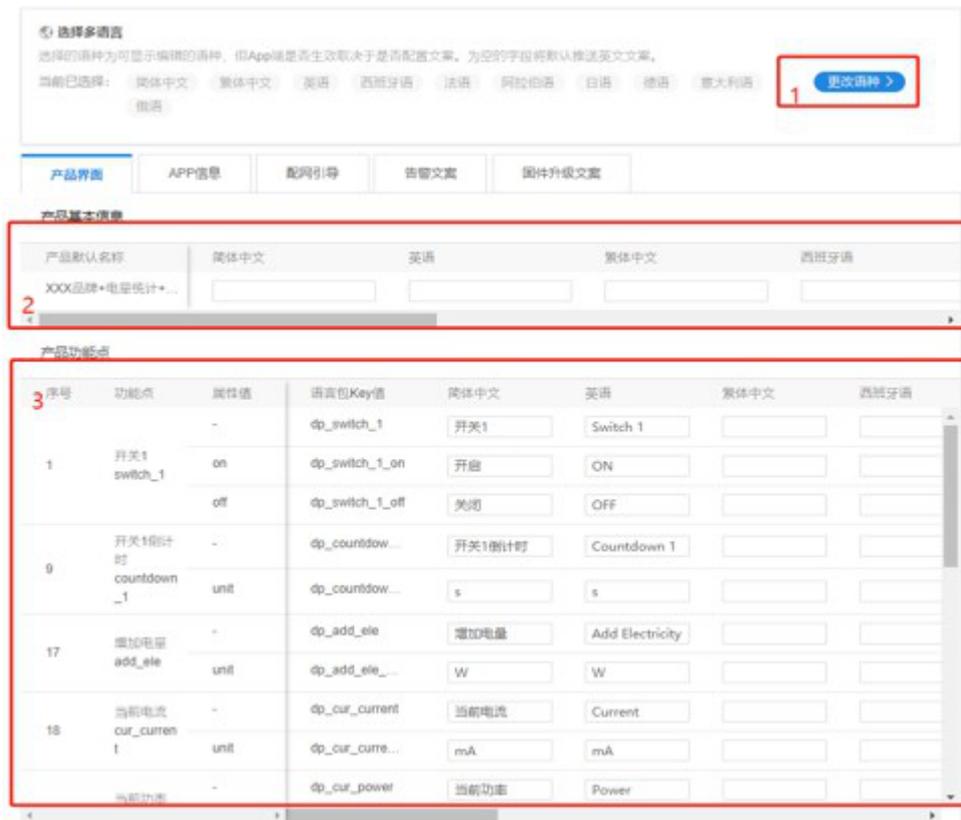
¥ 19.00/片, 调试模块最多可购买100片

购买调试模块 ¥ 190.00

Expanded functions After completing the basic set of product functions, you can also polish the details of the product. Here you can further manage multi-language management, firmware upgrades, distribution network information, scene linkage settings, and shortcut switch configuration.



Multilingual Management Entry to show device language changes on the App



1. Change language Select the corresponding voice type displayed on the product panel of the App. App display: language type follows system language
2. Change the product name App display:
3. Panel field language display field App display: Such as fields: switch, timing, countdown, etc. to any text !

Firmware upgrade The MCU upgrade and SoC solution for MCU docking do not need to be operated.

Distribution Network Information The current custom product distribution network manual is only applicable to OEM App products. If you choose the Tuya public version of the App or your OEM App does not set the distribution network manual, the Tuya universal manual is used by default. Be sure to synchronize your last confirmed network configuration information to your copybook to avoid users not using the product.

Scene linkage settings In the scene linkage setting, you can customize whether the function points support smart scene trigger conditions and perform tasks. Select the check box to support users to set corresponding functions in the smart scene of the App in the future.

Shortcut switch configuration In the “Quick switch configuration”, check “Switch”, the product will not only display the key on the App home page but also display and control in the widget.

快捷操作设置

快捷开关配置

开关1 开关2

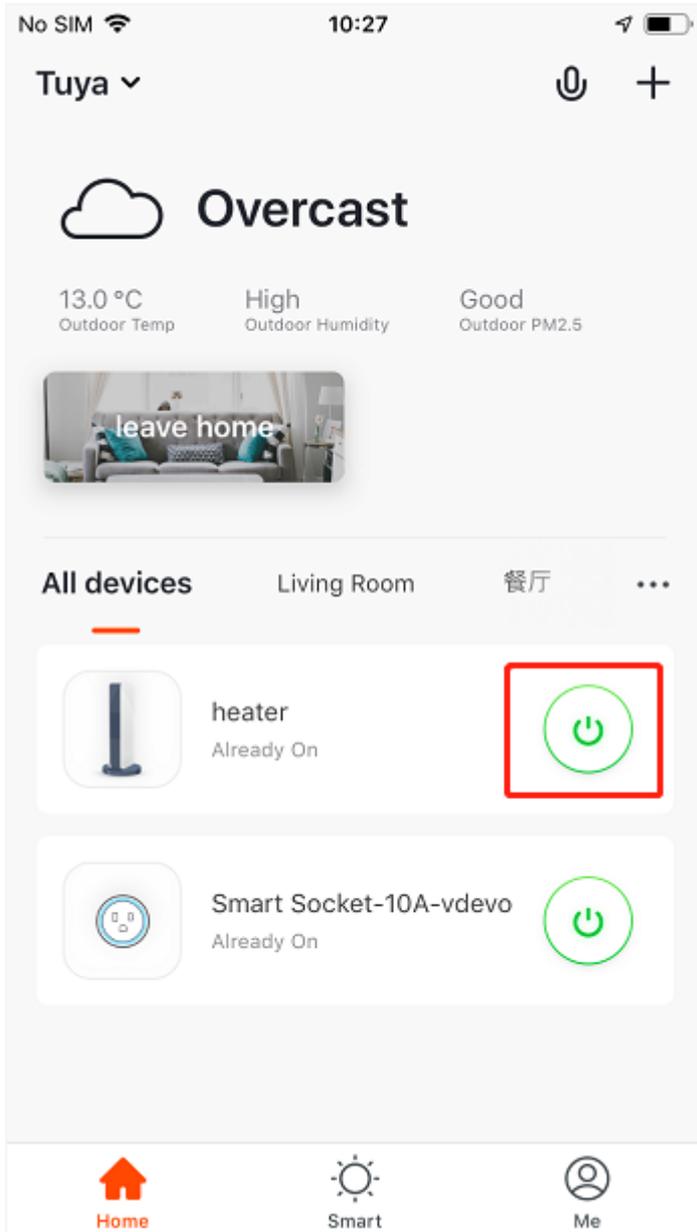
常用功能配置

开关1 Bool 开关2 Bool

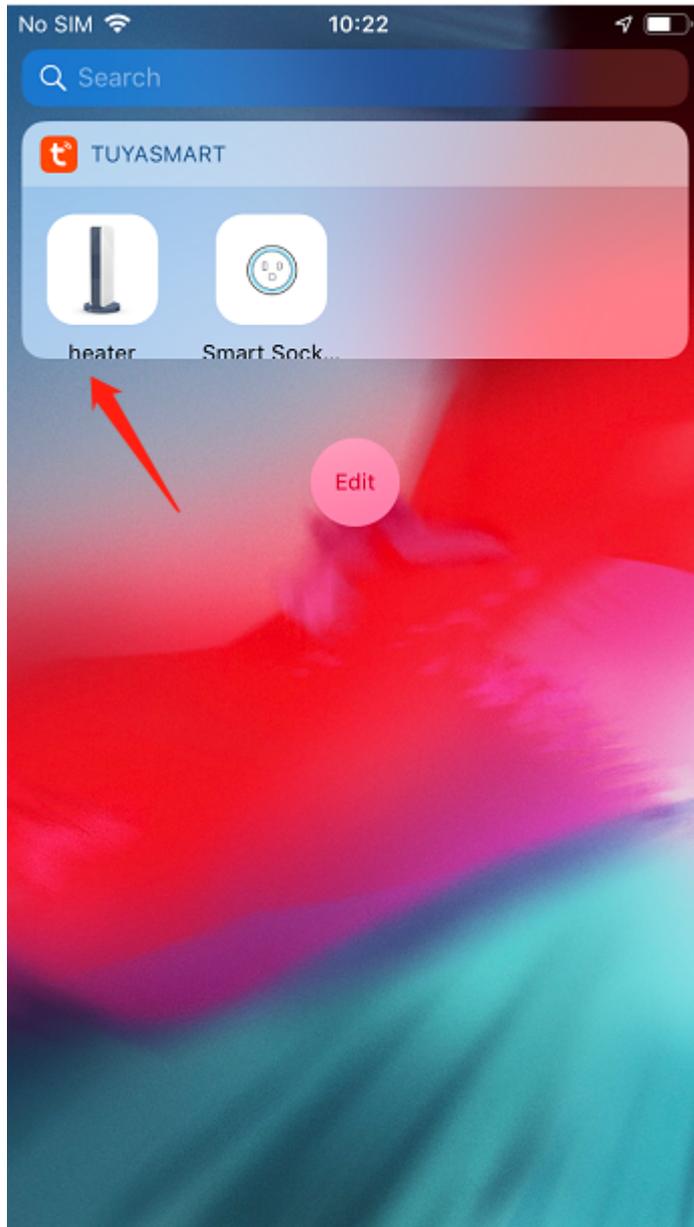
开关1倒计时 Value 开关2倒计时 Value

保存

App display:

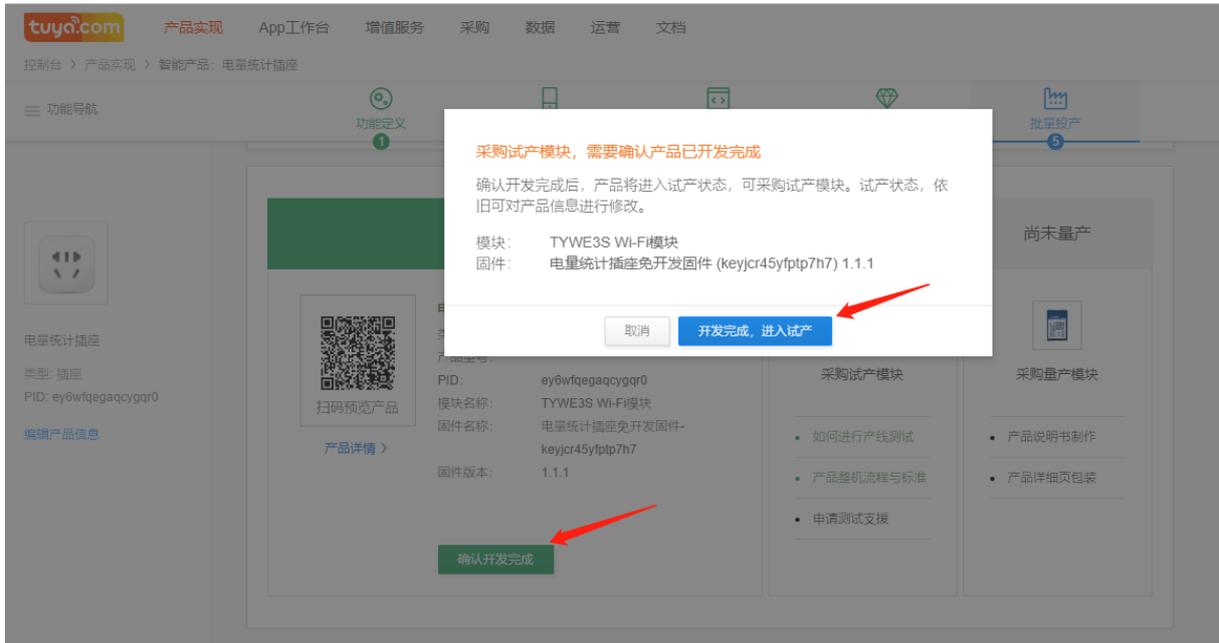


The corresponding widget shows:



1.3 Mass production

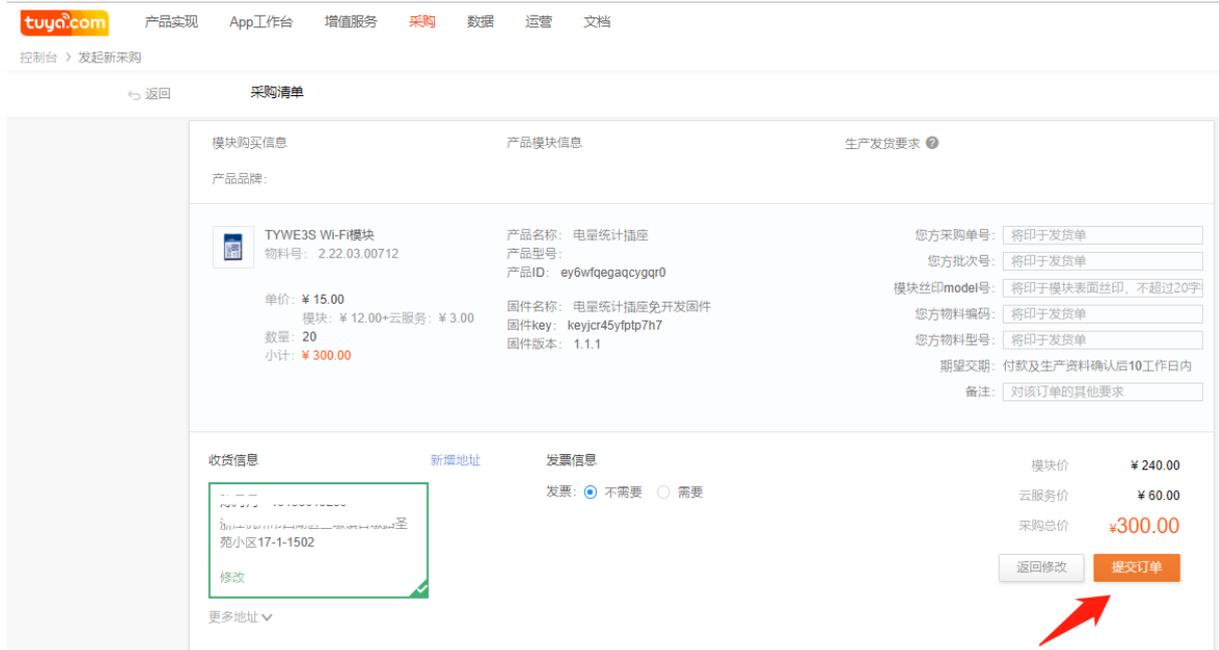
If your product has been debugged, you can click “Confirm Development Complete” on the page to enter the trial production stage.



The firmware, dp points, panels, and modules of the trial production stage cannot be modified. If you need to modify, you can click “Return to Development Status” to modify.



Click “Purchase Trial Production Module” on the page, the page will jump to the purchasing center, enter your corresponding receiving information and production delivery requirements, and then click Submit Order.



Before mass production, please click “apply” on the page to submit the application for product testing assistance, and mail samples to Tuya according to the page address. Tuya will have a professional test team to check it for you and output a professional test report for you. After the test is passed, click “Test Pass to Start Mass Production” on the page. After the product is released, you can also click the purchase mass production module to mass-produce your product.



2 Development-free experience

As mentioned earlier, Tuya 's SoC solution is the accumulation of intelligent successful experiences of tens of thousands of customers. The development-free solution is currently only aimed at electrical lighting products. The following is a summary of the functions of the development-free solution:

电工类

名称	功能	名称	功能	名称	功能	名称	功能
电量统计插座	开关	多路排插	每一路, 开关	多路开关	每一路, 开关	单插	开
	定时		每一路, 定时		每一路, 定时		关
	倒计时		每一路, 倒计时		每一路, 倒计时		定时
	电量统计		全开		全开		倒计时
	过流保护		全关		全关		

照明类

名称	功能	名称	功能	名称	功能	名称	功能	名称	功能
单路C球泡灯	开关	两路CW球泡灯	开关	三路RGB球泡灯	开关	四路RGB球泡灯	开关	五路RGBW球泡灯	开关
	定时		定时		定时		定时		定时
	白光灯珠亮度调节		冷暖灯珠亮度调节		色盘选色 256*256*256		白光灯珠亮度调节		冷暖灯珠亮度调节
			冷暖灯珠冷暖调节		RGB灯珠亮度调节		色盘选色 256*256*256		冷暖灯珠冷暖调节
					RGB灯珠饱和度调节		RGB灯珠亮度调节		色盘选色 256*256*256
							RGB灯珠饱和度调节		RGB灯珠亮度调节
									RGB灯珠饱和度调节

You can use the Tuya Smart or Smart Life App to scan the code to experience some product solution features: Please scan the code to experience the power statistics socket



Please scan the code to experience multi-channel power strip



Scan the code to experience the five-way bulb

