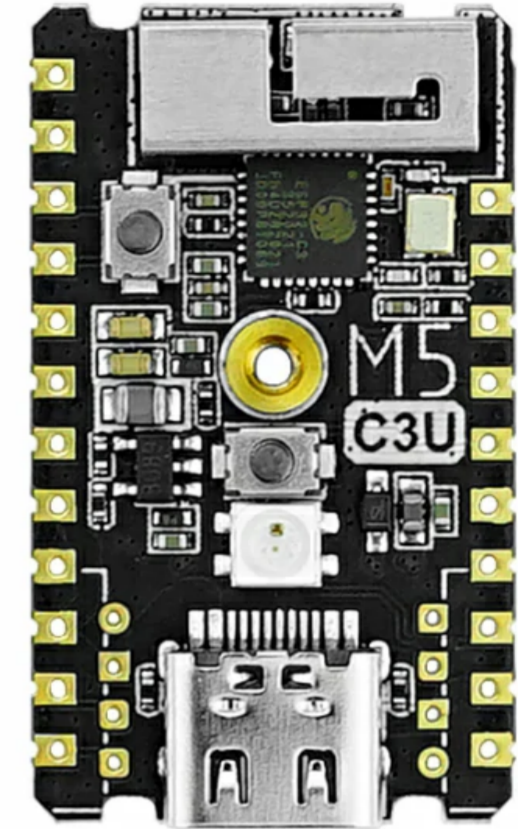
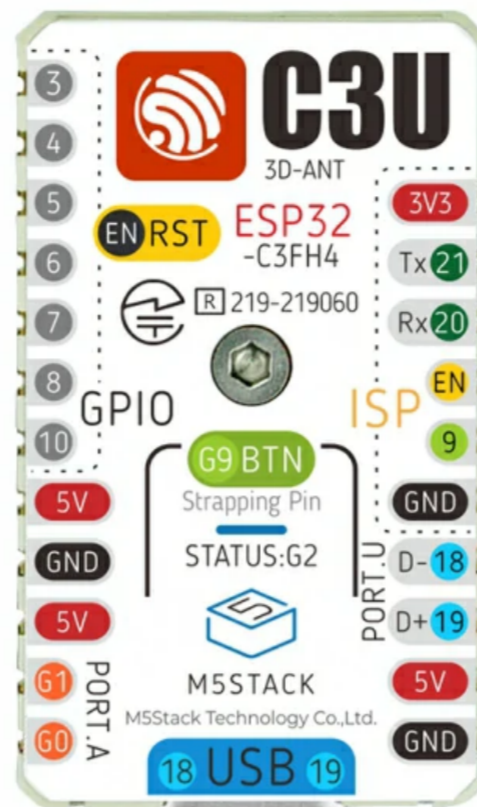


STAMP-C3U

SKU:C122-B, K122



Quick-Start

ESP-IDF

Description

The newly M5Stamp C3U featuring ESPRESSIF ESP32-C3 RISC-V MCU, with Wi-Fi and Bluetooth 5 (LE) connectivity, applicable for home appliances and Industrial Automation. By combining RSA-3072-based secure boot and the AES-128-XTS-based flash encryption, ESP32-C3 offers a more secure way to answer the Bluetooth security concerns. The compact size and powerful functions, make it applicable for multiple IoT scenarios.

The M5Stamp C3U is based on 32-bit RISC-V microcontroller, and operates at a maximum clock frequency of 160 MHz. With 400 KB of internal RAM and 4 MB Flash, it can facilitate many different use cases, involving connected devices. The M5Stamp C3U provides full Bluetooth 5.0 long-range (LR) support including long-range and mesh networking functions and achieves building devices with great coverage and improved usability. Furthermore, the exceptional heat resistance plastic enclosure is sustained at a higher operating temperature.

Product Features

- MULTIPLE STYLE:

- Three types soldering options are available (SMT, DIP, flywire).

- Three types soldering options are available (SMT, DIP, Jumper wire),
- High-temperature resistant plastic enclosure, Peak temperature = 230°C;
- HIGH INTEGRATION:
 - M5Stamp C3 contains 5V->3.3V DC/DC design, GPIOx14;
 - USB Type C port;
 - Programmable RGB LED x1, Reset button x1, button x1;
 - 3D antenna, providing stable and reliable wireless communication.
- DEVELOPMENT PLATFORM:
 - Arduino, ESP32-IDF (UIFlow support coming soon)

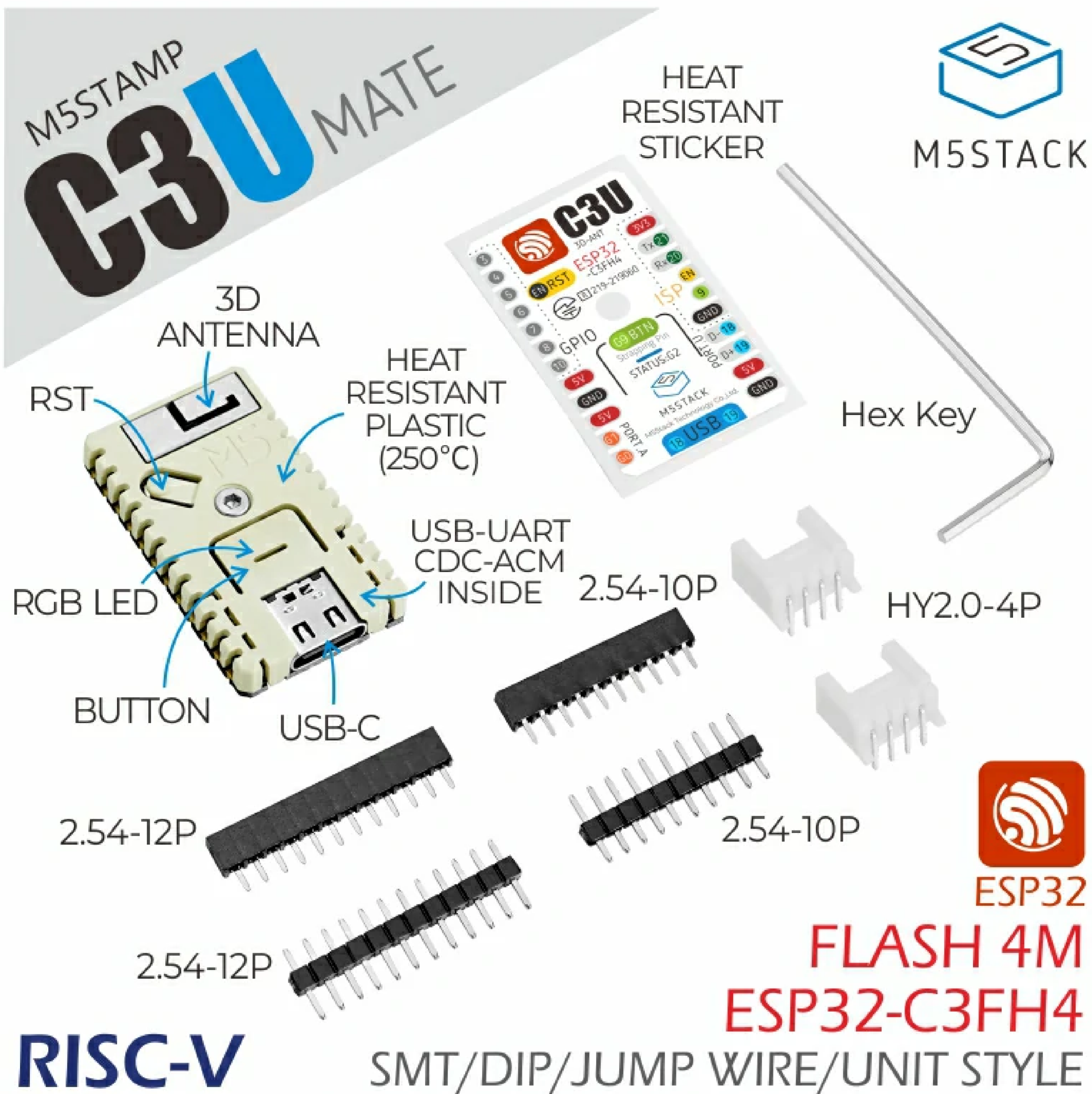
Include

- [Purchase link](#)
- M5Stamp C3U (5pcs):
 - 5 x M5Stamp C3U
 - 5 x Heat Resistant Sticker



- [Purchase link](#)
- M5Stamp C3U Mate:
 - 1 x M5Stamp C3U
 - 1 x Heat Resistant Sticker
 - 2 x 2.54-12P header
 - 2 x 2.54-10P header

- 2 x 2.54 10P Header
- 1 x M2 Hex Key



Application

- DIY, Prototyping
- Industrial Automation
- Smart Home
- Wearable Devices
- Medical Devices
- Consumer Electronics

Note: The newly updated C3U shares the same features as C3, but the difference is that M5Stamp C3U without the USB download chip and the program download method is different ((The C3U uses the ESP32-C3's built-in USB Serial for program download)) . If you are looking for a more affordable project, you can add this to your shopping list!

download mode

Enter program download mode:

1. Long press on the center button of the M5Stamp C3U when the power is off (G9)
2. After connecting to the computer and successfully identifying the port, it starts flashing programs.

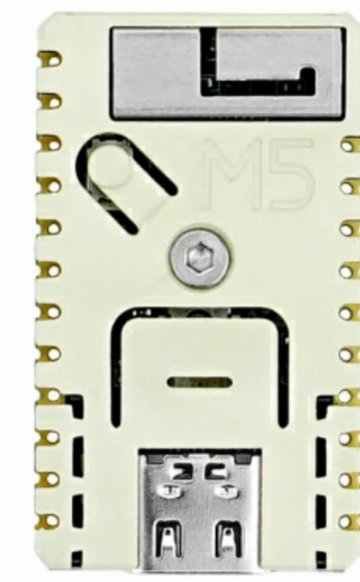
product comparison

Model	Master	IO quantity	Button IO	USB chip	USB interface function
STAMP-C3	ESP32-C3	13	G3	CH910 2	Download / Serial
STAMP-C3U	ESP32-C3	14	G9	/	Download / JTAG / CDC Serial

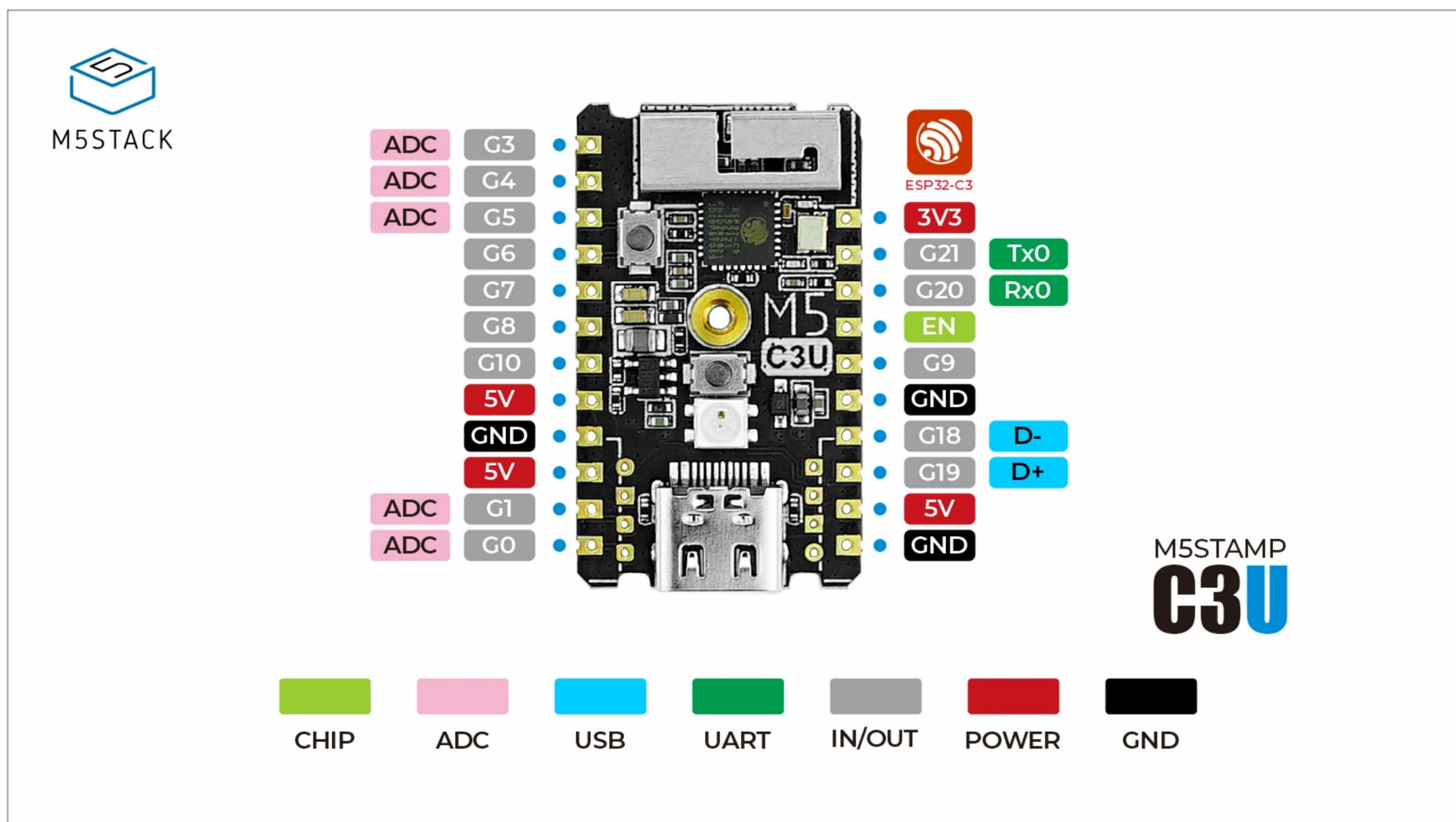
Specifications

Specifications	Parameters
ESP32-C3	32bit RISC-V single-core processor, clocked at 160 MHz
Storage	384KB ROM, 400KB SRAM, 8KB RTC SRAM, 4MB FLASH
Wi-Fi	2.4 GHz band supports 20 MHz and 40 MHz bandwidth, IEEE 802.11 b/g/n protocol, data rate up to 150 Mbps
Bluetooth	Bluetooth 5, Bluetooth mesh, rate support 125 Kbps, 500 Kbps, 1 Mbps, 2 Mbps
Input voltage	5V @ 500mA
HMI	Programmable physical button x 1, reset debugging button x 1, programmable RGB LED (SK6812) x 1
USB interface	TypeC x1
Antenna Type	2.4G 3D Antenna
Module peripheral	ADC, GPIO, SPI, UART, I2C, I2S, PWM, RMT, DMA, USB serial port,

Specifications	Parameters
interface resources	TWAI
IO interface x14	G0, G1, G3, G4, G5, G6, G7, G8, G9, G10, G18, G19, G21, G22
IO interface spacing	2.54mm
Net weight	3.8g
Product size	34 * 20 * 4.6mm
Packing size	85*55mm sealing bag (translucent)



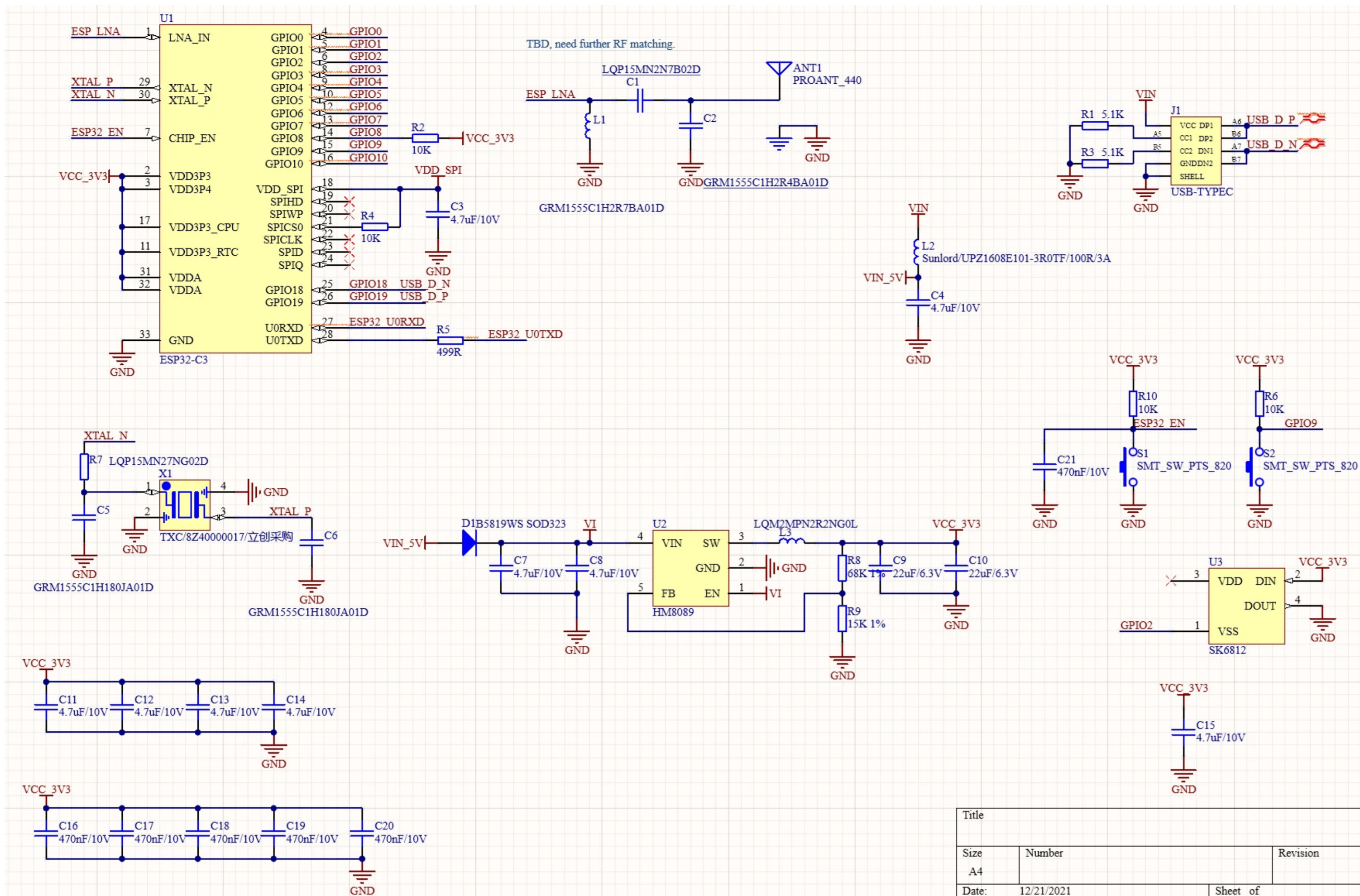
PinMap



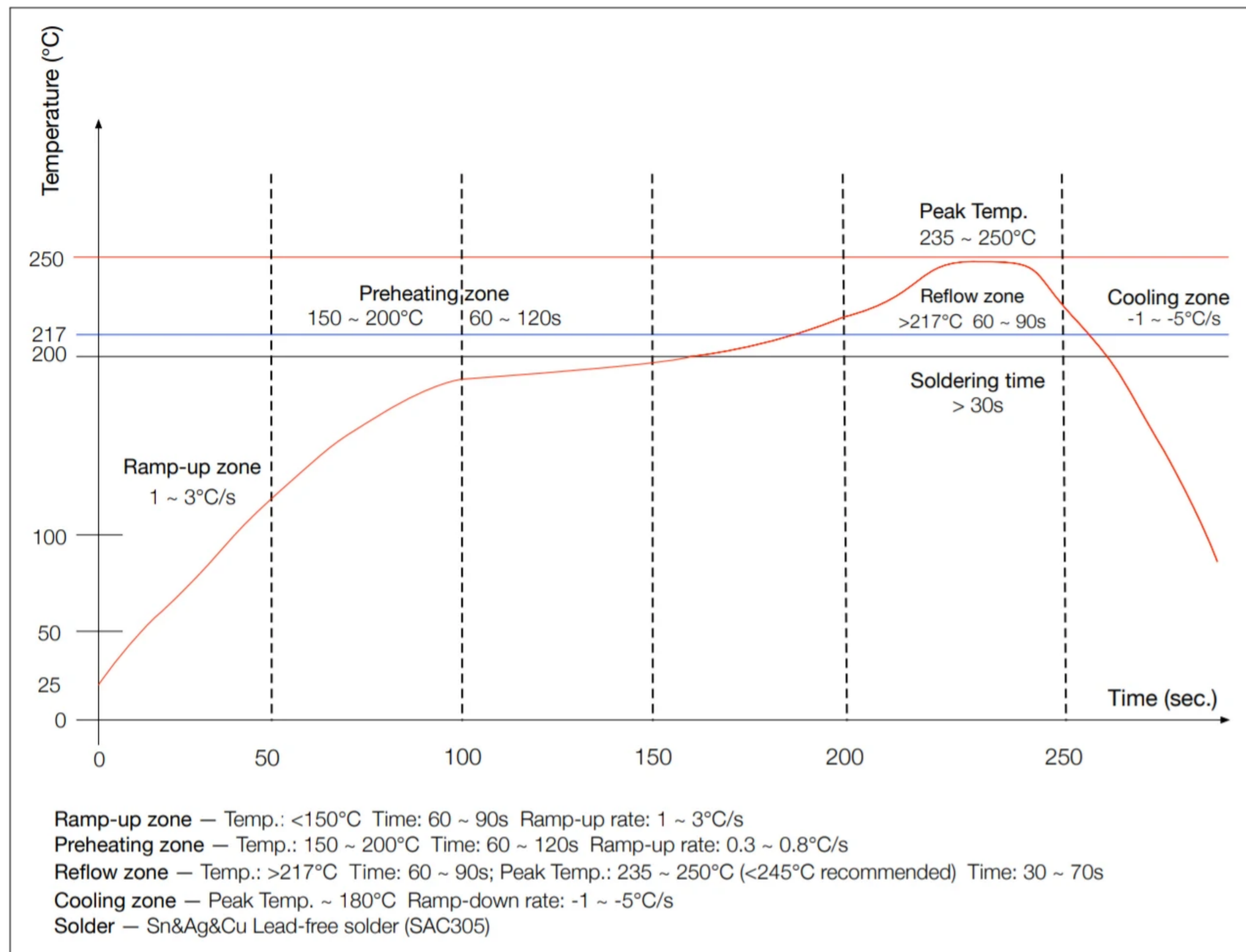
SK6812 (RGB LED) and Button

ESP32	GPIO2	GPIO9
SK6812	DI	/
Button	/	SW

Schematic



The shell supports Reflow Profile



Related Links

- **Datasheet**

- [ESP32-C3](#)

- **PCB**

- [LCEDA STAMP-C3U Component](#)

| Example

ESP-IDF

- [RGB LED Control](#)

| Video
