STAMP-C3

SKU:C056-B, K056

Quick-Start

ESP-IDF

Description

M5Stack just added a new family to its popular series of modules with the Stamp-C3. the new Stamp-C3 featuring ESPRESSIF ESP32-C3 **RISC-V** MCU with **Wi-Fi** and **Bluetooth 5 (LE)** connectivity for IoT edge devices such as home appliances and Industrial Automation. By combining RSA-3072-based secure boot and the AES-128-XTS-based flash encryption, M5Stack offers a more secure way to answer the Bluetooth security concerns, while also make it optimal for industrial IoT equipment collecting sensor data within a factory or a building.

The Stamp-C3 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 Stamp-C3 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), with a high-temperature resistant plastic enclosure, Peak temperature = 230℃
- HIGH INTEGRATION:

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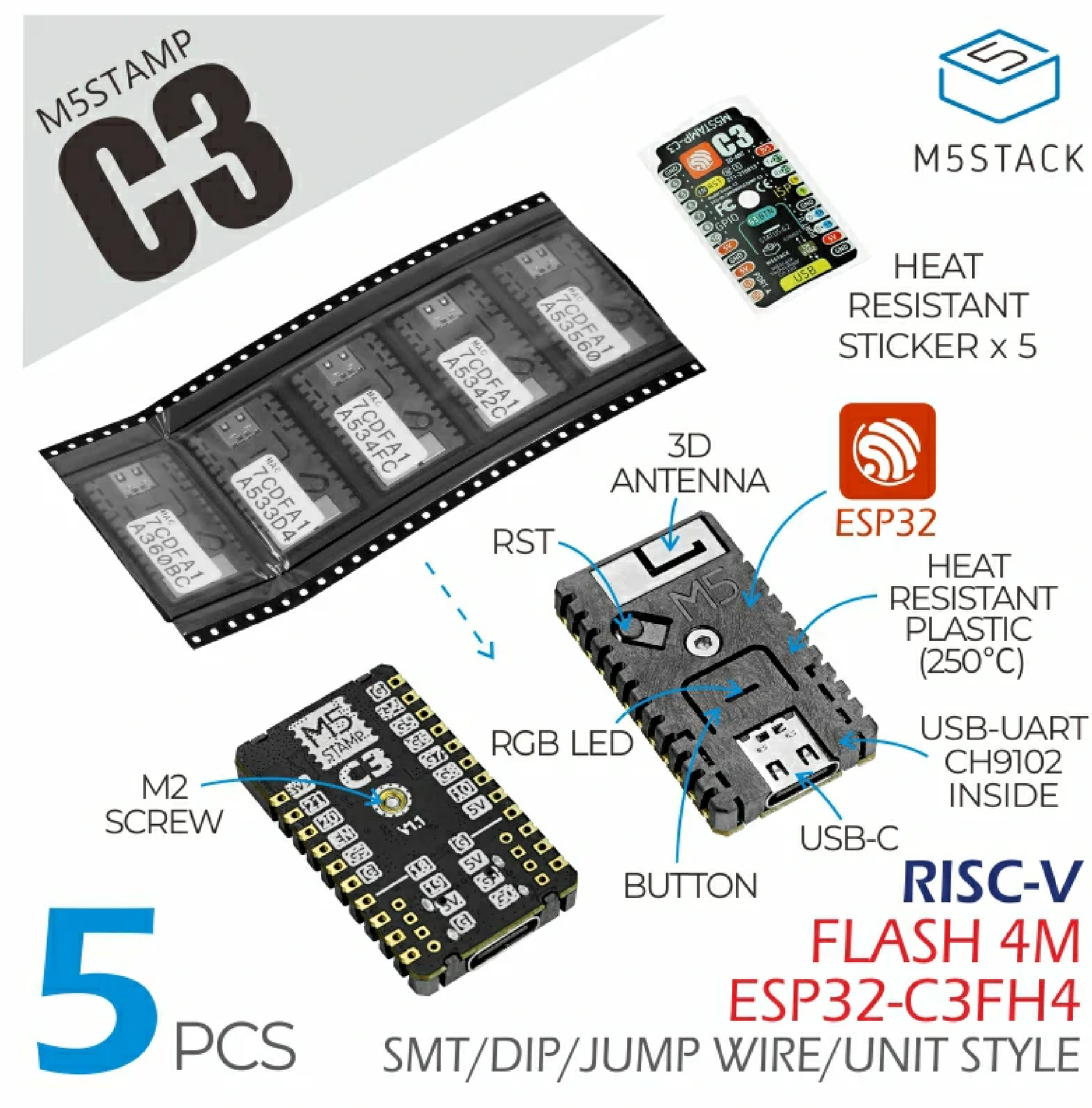
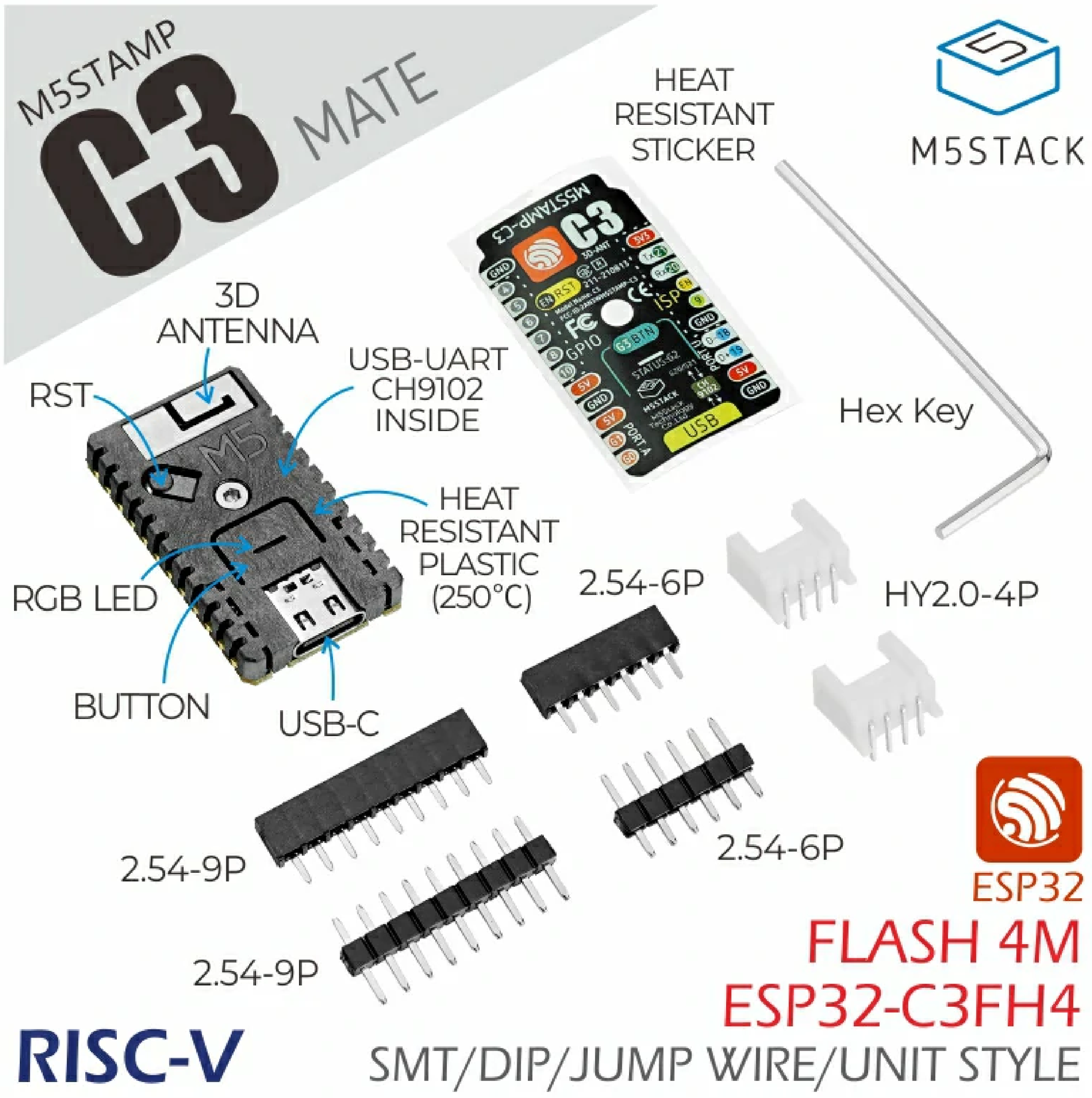
    - Stamp-C3 contains 5V->3.3V DC/DC design, GPIOx13, programmable RGB LED x1, Reset button x1, button x1, 3D antenna,providing stable and reliable wireless communication.
- LOW-CODE DEVELOPMENT:
    - Stamp-C3 fully compatible with Arduino, ESP32-IDF, and other mainstream development platforms to quickly build various applications. (UIFlow support coming soon)

Include

- Purchase link
- M5Stamp C3 (5pcs):
    - 5 x M5Stamp C3
    - 5 x Heat Resistant Sticker



- Purchase link
- M5Stamp C3 Mate:
    - 1 x M5Stamp C3
    - 1 x Heat Resistant Sticker
    - 2 x 2.54-9P Pin
    - 2 x 2.54-6P Pin
    - 2 x 90° Grove Connector
    - 1 x M2 Hex Key



Application

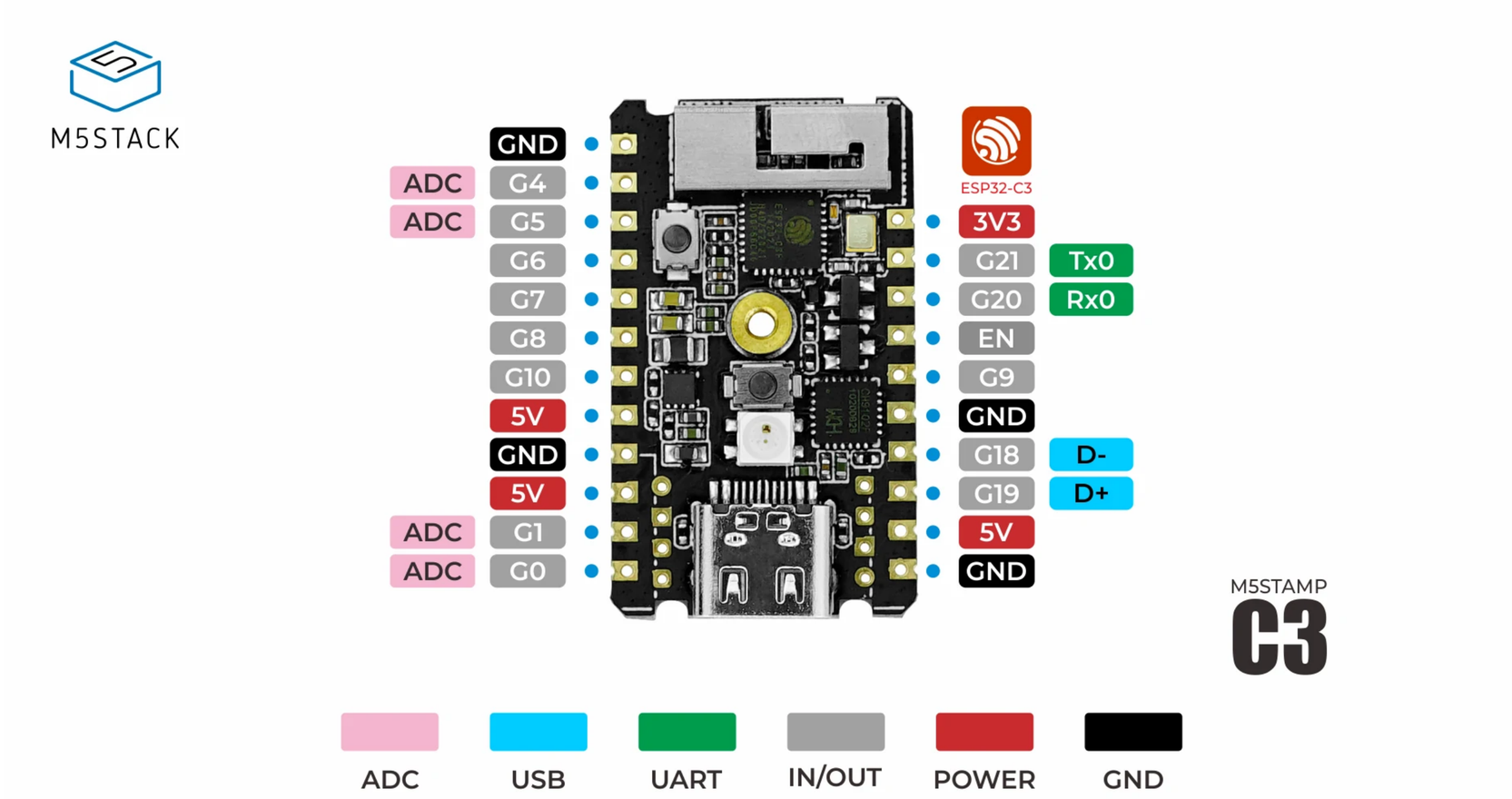
- DIY Prototyping
- Home Appliances
- Industrial Automation

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
	Programmable physical button x 1, reset debugging button

Specifications	Parameters
HMI	x 1, programmable RGB LED (SK6812) x 1
USB interface	TypeC x1
Antenna Type	2.4G 3D Antenna
Module peripheral interface resources	ADC, GPIO, SPI, UART, I2C, I2S, PWM, RMT, DMA, USB serial port, TWAI
IO interface x13	G21, G20, G9, G18, G19, G1, G0, G10, G8, G7, G6, G5, G4
IO interface spacing	2.54mm
Net weight	3.8g
Product size	34 * 20 * 4.5mm
Packing size	85*55mm sealing bag (translucent)

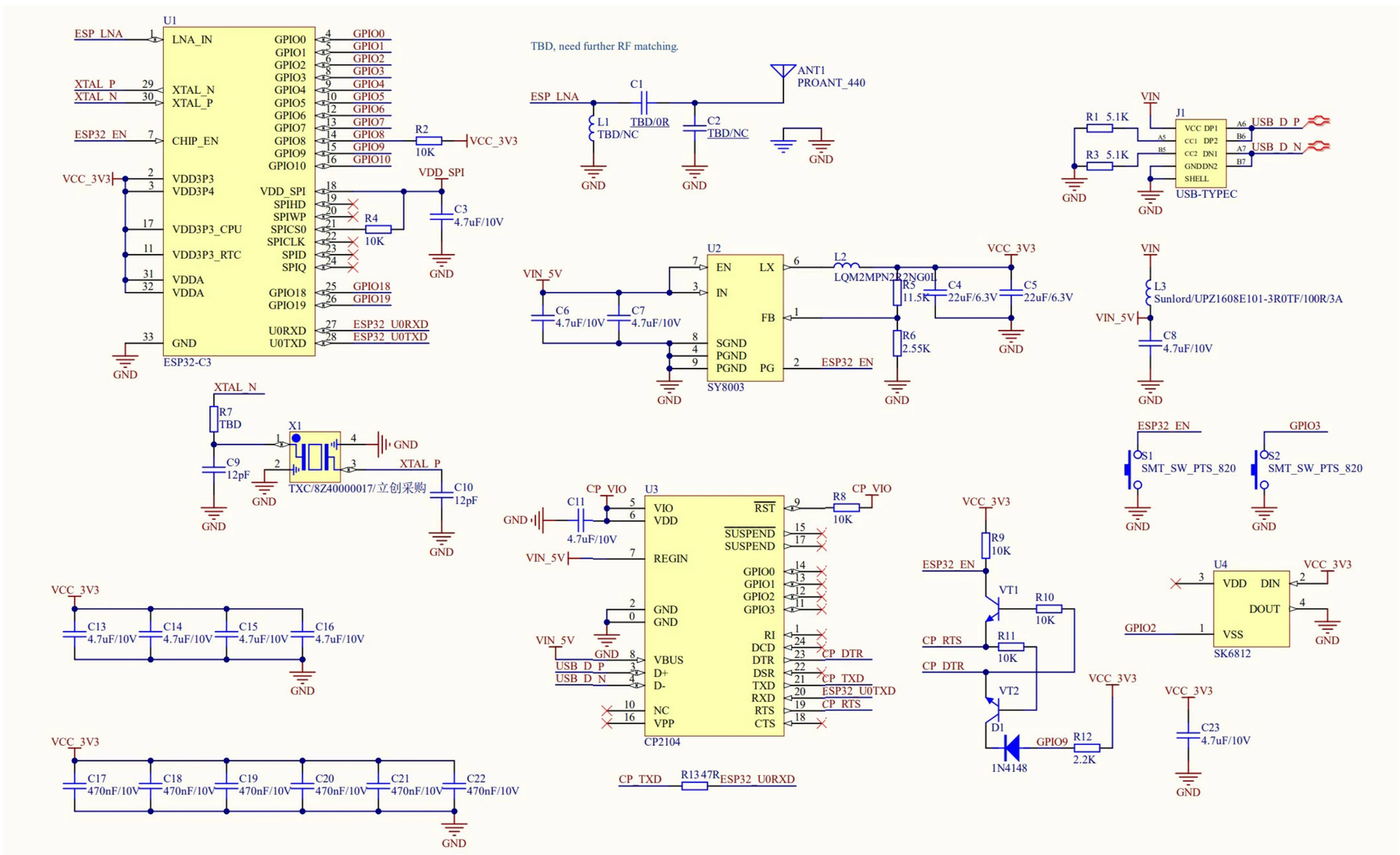
PinMap



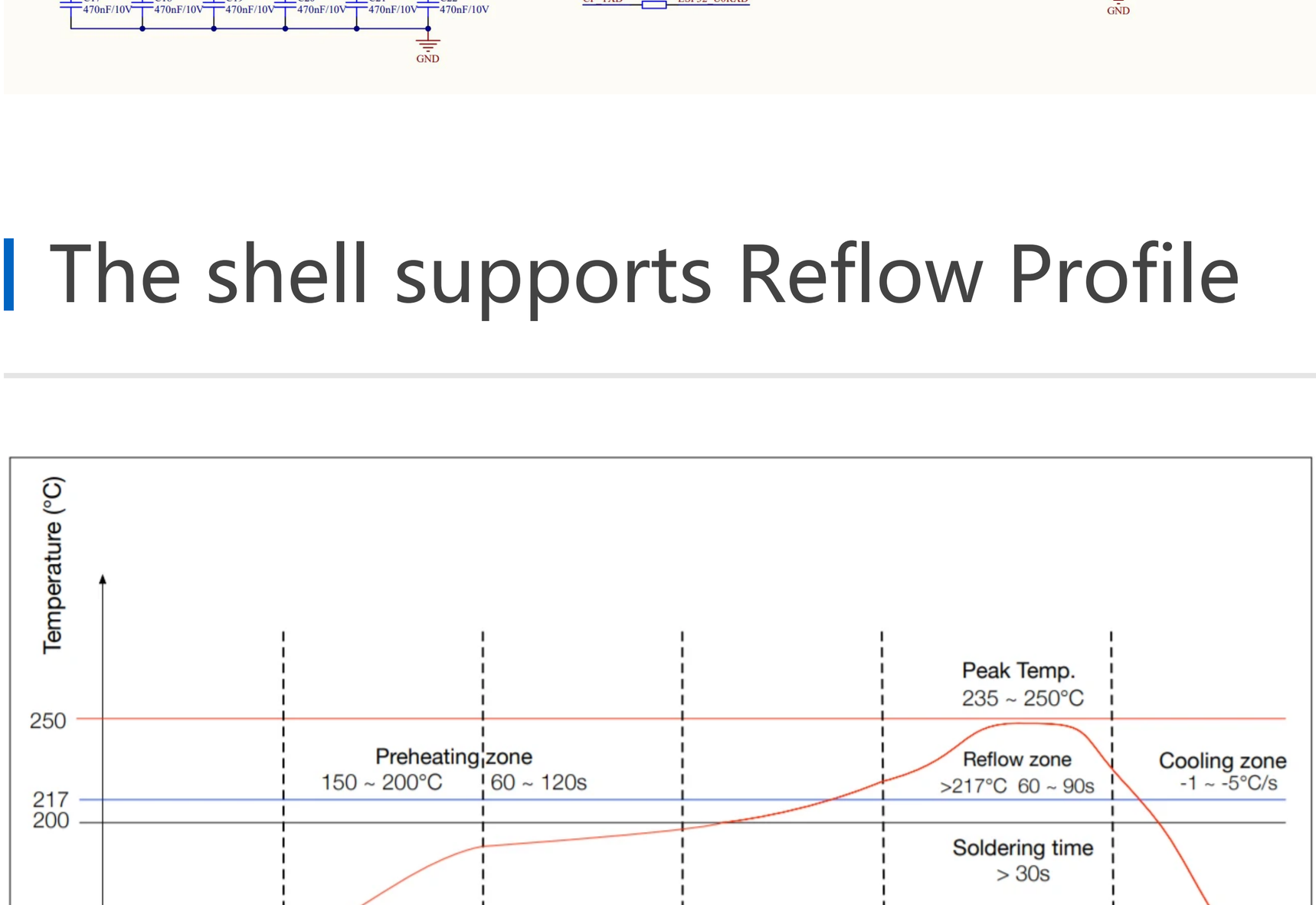
SK6812 (RGB LED) and Button

ESP32 ESP32	GPIO2 GPIO2	GPIO3 GPIO3
SK6812	DI	/
Button	/	SW

Schematic



The shell supports Reflow Profile



Related Links

- **Datasheet**

    - ESP32-C3
- **PCB**
    - LCEDA STAMP-PICO Component