



M5STACK

Unit CardKB2

1. Description

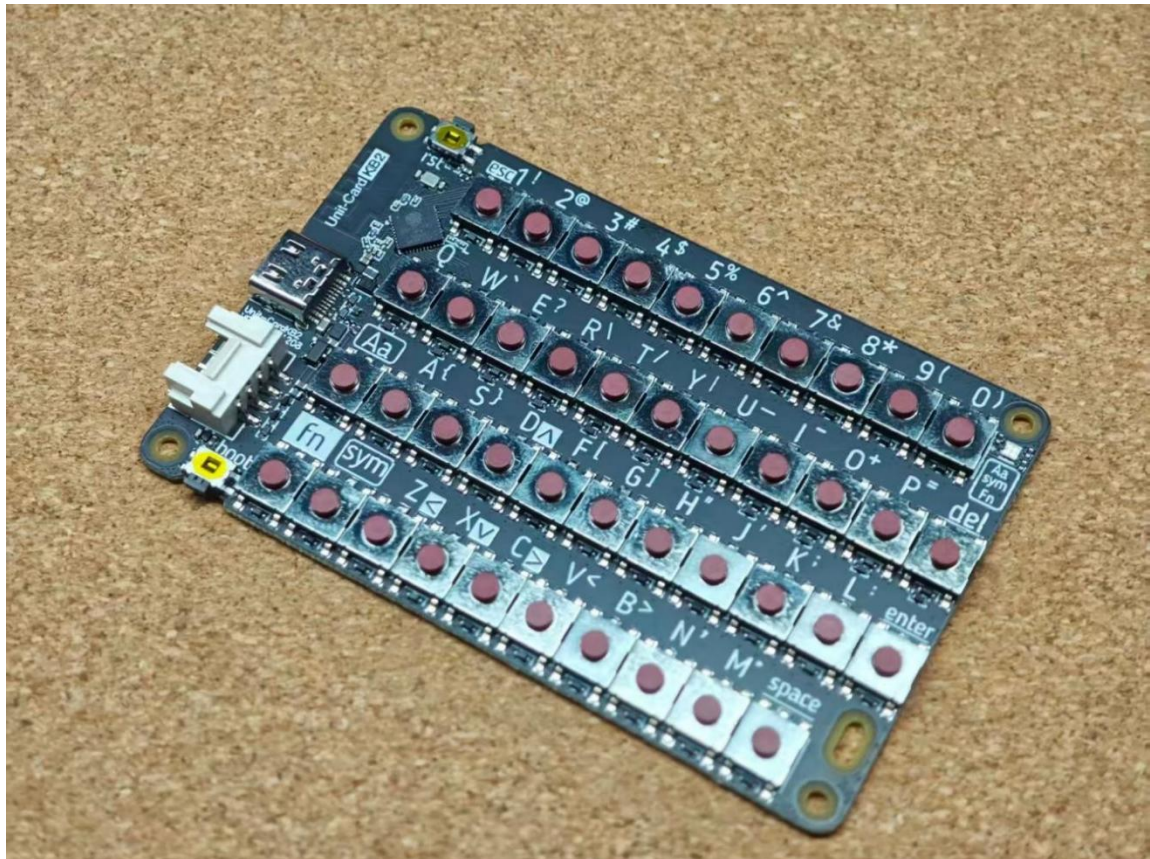
Warning: The high-frequency section and modulation section (except for the antenna system) shall not be capable of being opened easily.

Unit CardKB2 is a card-sized 42-key keyboard input unit. Its compact and lightweight design makes it ideal for on-the-go use and embedded system integration.

It features an onboard ESP32-C61HF4 controller with support for 2.4 GHz Wi-Fi 6. The preloaded firmware allows flexible configuration of multiple communication interfaces, including I2C, UART, BLE HID, and ESP-NOW, enabling seamless connection with host devices.

The unit includes an onboard HY2.0-4P expansion connector and a USB Type-C port for power supply and firmware programming.

Additionally, Unit CardKB2 is equipped with a programmable RGB LED, Reset and Boot buttons, and input power over-voltage protection, making it well suited for wireless input, interactive control, and a wide range of portable applications.



2. Specifications

Specification	Parameters
SoC	ESP32-C61HF4 @ RISC-V 32-bit single-core, up to 160 MHz
Flash	4 MB
Wi-Fi	2.4GHz Wi-Fi 6
Button	42 × keyboard keys, 1 × Reset button, 1 × Boot button
USB Type-C	Device power supply / firmware programming; default firmware log output: 115200 bps @ 8N1
RGB LED	1 × RGB LED
Expansion Interface	1 × HY2.0-4P
Frequency Range for CE	2.4G Wi-Fi: 2412-2472MHz BLE: 2402-2480MHz
Maximum EIRP for CE	2.4G Wi-Fi: 18.11dBm BLE: 8.99dBm
Antenna Type:	2.4G Wi-Fi/BLE: PCB Antenna
Maximum Antenna Gain:	2.4G Wi-Fi/BLE: 2.49dBi
Modulation Type:	2.4G Wi-Fi: DSSS, OFDM, OFDMA; BLE: GFSK;
Hardware version NO.	V1.0
Software version NO.	V1.0
Manufacture	M5Stack Technology Co., Ltd Block A10, Expo Bay South Coast, Fuhai Street, Bao'an District, Shenzhen, China

3. Quick Start

3.1 Preparation

1. Reference the ESP-IDF documentation to set up the ESP32-C61 development environment and flash the Wi-Fi / BLE test program.

<https://github.com/espressif/esp-idf>

4. FCC Warning

FCC Caution:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna. — Increase the separation between the equipment and receiver. — Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.