

# Core2 v1.1

SKU:K010-V11



## Description

**Core2 V1.1** is an iterative version of Core, with upgraded power IC and a continuation of the classic design of Core2. It is a powerful and user-friendly development board. Core2 V1.1 is equipped with ESP32-D0WDQ6-V3, featuring two independent Xtensa® 32-bit LX6 processors with a clock frequency of up to 240MHz. It supports WiFi functionality and has onboard 16MB Flash and 8MB PSRAM, and supports program downloading via the TYPE-C interface. Its strong configuration can meet the requirements of complex applications.

**Core2 V1.1** is equipped with a 2.0-inch integrated capacitive touch screen. The three dots on the front of the screen are part of the touch screen. Users can set the hot zone mapping as three virtual buttons through programming, enabling diverse human-machine interaction experiences. Additionally, Core2 V1.1 has a built-in vibration motor for haptic feedback and vibration alert functionality.

**Core2 V1.1** has an integrated RTC module and a dedicated battery for RTC power supply, providing accurate timing functionality. Furthermore, the AXP2101 power management chip effectively controls the power consumption of the device. Core2 V1.1 also has a built-in blue power indicator light, which can be used to implement specific functions or status indications according to the user's application needs. Core2 V1.1 is also equipped with a MicroSD card slot, speaker, and a high-quality I2S digital audio interface power amplifier chip. The expansion board on the back of the device integrates a 6-axis IMU sensor and a microphone, providing additional functionality and possibilities.

The differences between Core2 and Core2 v1.1 are as follows:

- 1.The power management scheme is iterated from Core2(AXP192) to Core2 v1.1(AXP2101+INA3221). The ID of AXP192 and AXP2101 is different, and the program uses this as a sign to distinguish the versions;
- 2.The power indicator is changed from green to blue;
- 3.Add RTC chip power supply battery to ensure timing when power is off.

## Power Management

### Operations:

Power on: One click the power button on the left  
Power off: Long press the left power button for 6 seconds  
Reset: Click the RST button on the bottom side

## | USB drive

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Before using, please go to [download page](#) to download the USB driver that matches your operating system, and install it.  
Note: **Core2** currently has two CH9102F A USB chip version, users can install the drivers ( **CH9102** ) that are compatible with two ICs at the same time to ensure that the device drivers work normally.

## Extensions

To stack Core2 V1.1 with M5 modules, you need to remove/eliminate the battery bottom of Core2 V1.1; If you wish to keep I2S Mic, IMU and Battery functions, a [M5GO Bottom2](#) is required.

The vibration sensor of Core2 V1.1 and M5 Base series are incompatible in mechanical design. Please do not stack them together.

Some of the screen edges will have touch non-linearity problem, you can try to use [M5Tool](#) to upgrade the screen firmware to solve this problem.

This product contains batteries that are non-replaceable.

## | Features

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- ESP32-based, built-in Wi-Fi
- 16M Flash,8M PSRAM
- Built-in speaker, power indicator, vibration motor, RTC, I2S amplifier, capacitive touch screen, power button, reset button
- TF card slot (16G Maximum size)
- Built-in lithium battery, equipped with power management chip
- Independent small board built-in 6-axis IMU, PDM microphone
- M-Bus Socket & Pins
- Compatible with multi-platform development:
  - UIFlow
  - MicroPython
  - Arduino
  - .NET nanoFramework
  - Operating System (RTOS):zephyr

## | Includes

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- 1x Core2 V1.1
- 1x Type-C USB(20cm)
- 1x HEX KEY

## Specification

Resources	Parameters
ESP32-D0WDQ6-V3	240MHz dual core, 600 DMIPS, 520KB SRAM, Wi-Fi
Flash	16MB
PSRAM	8MB
Input Voltage	5V @ 500mA
Interface	TypeC x 1, GROVE(I2C+I/O+UART) x 1
IPS LCD Screen	2.0" @ 320*240 ILI9342C
Touch Screen	FT6336U
Speaker	1W(SIZE:0928)
LED	Green power indicator light
Button	Power button, RST button, Virtual screen button*3
Vibration reminder	Vibration motor
MIC	SPM1423
I2S Power Amplifier	NS4168
6-axis IMU	MPU6886
RTC	BM8563
PMU	AXP2101
Current Meter	INA3221
USB Chip	CH9102F
DC-DC Boost	SY7088
TF card slot	16G Max
Lithium Battery	500mAh @ 3.7V
Antenna	2.4G 3D antenna
Operating temperature	0°C to 60°C
Base screw specifications	Hexagon socket countersunk head M3
Internal PCB board reserved interface	Battery interface (specification: 1.25mm-2P) USB line interface (specification: 1.25mm-4P)
Case Material	Plastic ( PC )
Product Size	54 x 54 x 16.5mm
Package Size	75 x 60 x 20mm
Product Weight	54.8g
Package Weight	83.9g