Previous Versions

ESP32 WROOM MCU Module - 16MB (PCB Antenna)

WRL-17830 ROHS

$9.95

Shipping outside of the US? Click here for info

We have an order limit of 5 per customer on this product.

- 1 + ADD TO CART

Stock availability

DESCRIPTION | FEATURES | DOCUMENTS

The ESP32-WROOM-32E is a powerful, generic Wi-Fi+BT+BLE MCU module that targets a wide variety of applications, ranging from low-power sensor networks to the most demanding tasks, such as voice encoding, music streaming and MP3 decoding.

At the core of this module is the ESP32-D0WDQ6 chip. The chip embedded is designed to be scalable and adaptive. There are two CPU cores that can be individually controlled, and the CPU clock frequency is adjustable from 80 MHz to 240 MHz. The user may also power off the CPU and make use of the low-power co-processor to constantly monitor the peripherals for changes or crossing of thresholds. ESP32 integrates a rich set of peripherals, ranging from capacitive touch sensors, Hall sensors, SD card interface, Ethernet, high-speed SPI, UART, I²S and I²C.

The integration of Bluetooth, Bluetooth LE and Wi-Fi ensures that a wide range of applications can be targeted, and that the module is all-around: using Wi-Fi allows a large physical range and direct connection to the Internet through a Wi-Fi router, while using Bluetooth allows the user to conveniently connect to the phone or broadcast low energy beacons for its detection. The sleep current of the ESP32 chip is less than 5 μA, making it suitable for battery powered and wearable electronics applications. The module supports a data rate of up to 150 Mbps, and 20 dBm output power at the antenna to ensure the widest physical range. As such the module does offer industry-leading specifications and the best performance for electronic integration, range, power consumption, and connectivity.

The operating system chosen for ESP32 is freeRTOS with LwIP; TLS 1.2 with hardware acceleration is built in as well.

Note: This MCU is used on a umber of high demand SparkFun Original boards. Because of this we have put an order limit of five units on this product. Please contact sales@sparkfun.com for sourcing higher quantities.

Tags

16MB | BLUETOOTH | CHIP ANTENNA | ESP32 | ESP32 WROOM | ESPRESSIF | IC | MODULE | SMD | WIFI | WIRELESS | WROOM

Hookup Accessories for ESP32 WROOM MCU Module - 16MB (PCB Antenna)

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ESP-PROG
PGM-19099
$12.00

Similar Items for ESP32 WROOM MCU Module - 16MB (PCB Antenna)

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WRL-17746
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ESP32-C3 WROOM Module - 4MB (PCB Antenna)
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$3.95

SparkFun Thing Plus - ESP32 WROOM (Micro-B)
WRL-15663
$22.50
10

ESP32 WROOM MCU Module - 16MB (PCB Antenna) Product Help and Resources

SKILLS NEEDED

Core Skill: Soldering

This skill defines how difficult the soldering is on a particular product. It might be a couple simple solder joints, or require special reflow tools.

Skill Level: Experienced - You might be required to do some reflow or basic rework with SMD components. A heat gun, Heaterizer or other tools might be required, and a good understanding of SMD soldering as well as PTH soldering are required.
See all skill levels

Core Skill: Programming

If a board needs code or communicates somehow, you're going to need to know how to program or interface with it. The programming skill is all about communication and code.

Skill Level: Competent - The toolchain for programming is a bit more complex and will examples may not be explicitly provided for you. You will be required to have a fundamental knowledge of programming and be required to provide your own code. You may need to modify existing libraries or code to work with your specific hardware. Sensor and hardware interfaces will be SPI or I2C.
See all skill levels

Core Skill: Electrical Prototyping

If it requires power, you need to know how much, what all the pins do, and how to hook it up. You may need to reference datasheets, schematics, and know the ins and outs of electronics.

Skill Level: Experienced - You will need to consult a datasheet for calculations to determine a components output format, linearity, and do a little math to get what you need. You will be using a datasheet or schematic beyond basic pinouts.
See all skill levels

Frequently Bought Together

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ESP32-S2 WROOM Module - 4MB (PCB Antenna)
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$3.50

ESP32-C3 Mini Development Board
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ESP32-C3 WROOM Module - 4MB (PCB Antenna)
WRL-18034
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SparkFun Thing Plus - ESP32 WROOM (Micro-B)
WRL-15663
$22.50
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COMMENTS 1 | REVIEWS 0

Comments

Looking for answers to technical questions?

We welcome your comments and suggestions below. However, if you are looking for solutions to technical questions please see our Technical Assistance page.

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Ashley Baker / about 2 years ago * / ★ 1

Great! Thanks!