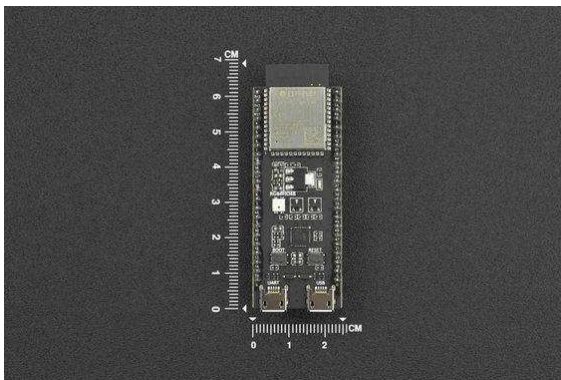
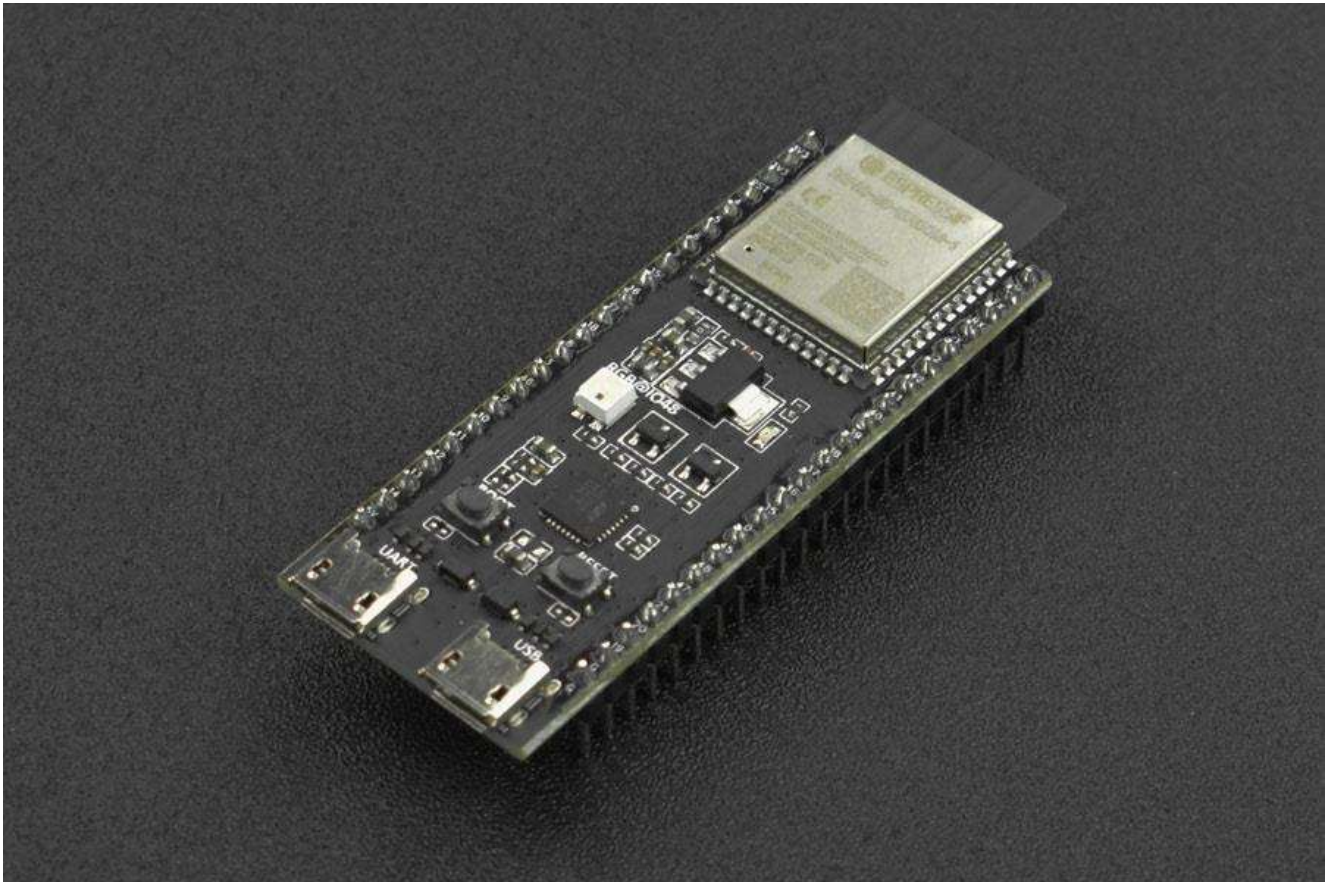




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# ESP32-S3-DevKitC-1 Development Board

SKU: DFR0895

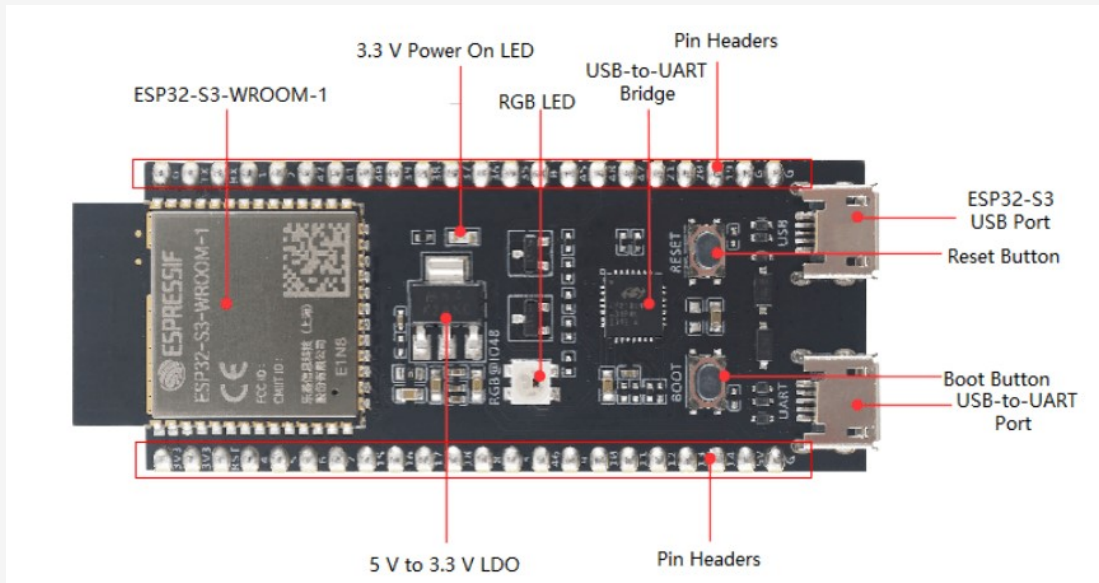


# INTRODUCTION

The ESP32-S3-DevKitC-1 is an entry-level development board equipped with ESP32-S3-WROOM-1, a general-purpose Wi-Fi + Bluetooth® LE MCU module that integrates complete Wi-Fi and Bluetooth LE functions. Most of the I/O pins on the module are broken out to the pin headers on both sides of this board for easy interfacing. Developers can either connect peripherals with jumper wires or mount ESP32-S3-DevKitC-1 on a breadboard.

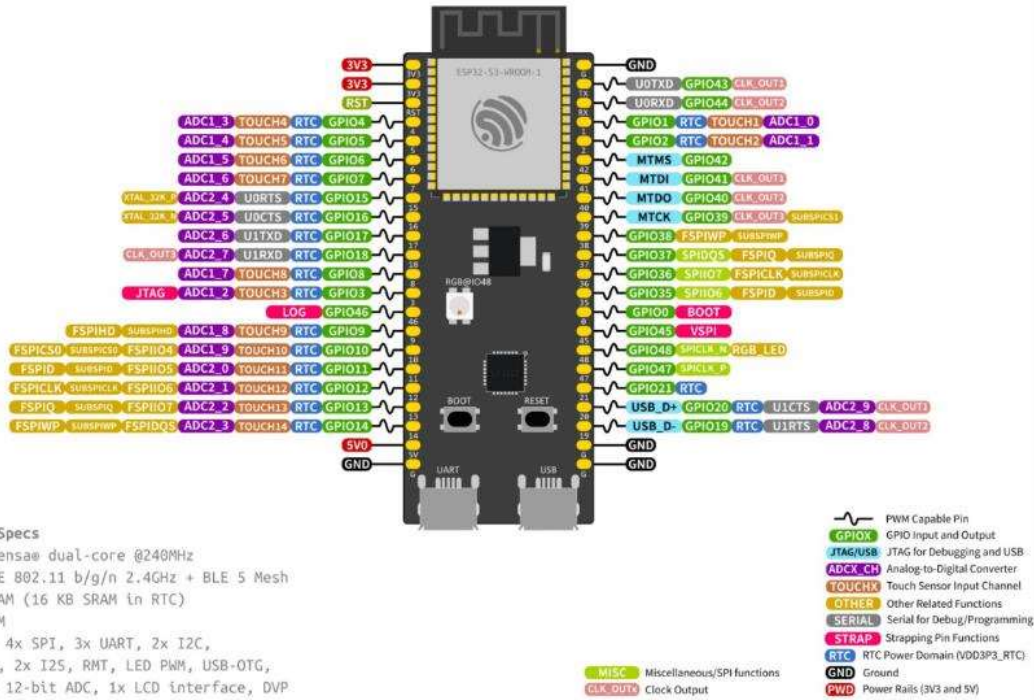
ESP32-S3-WROOM-1 is a powerful, generic Wi-Fi+ Bluetooth LE MCU module built around the ESP32-S3 series of SoCs. On top of a rich set of peripherals, the acceleration for neural network computing and signal processing workloads provided by the SoC makes the module an ideal choice for a wide variety of application scenarios related to Artificial Intelligence of Things (AIoT), such as wake word detection, speech commands recognition, face detection, and recognition, smart home, smart appliances, smart control panel, smart speaker, etc.

## Description of Components



Key Component	Description
ESP32-S3-WROOM-1/1U/2	ESP32-S3-WROOM-1 are powerful, generic Wi-Fi + Bluetooth LE MCU modules that have a rich set of peripherals. They provide acceleration for neural network computing and signal processing workloads.
5 V to 3.3 V LDO	Power regulator that converts a 5 V supply into a 3.3 V output.
Pin Headers	All available GPIO pins (except for the SPI bus for flash) are broken out to the pin headers on the board for easy interfacing and programming.
USB-to-UART Port	A Micro-USB port used for power supply to the board, for flashing applications to the chip, as well as for communication with the chip via the on-board USB-to-UART bridge.
Boot Button	Download button. Holding down Boot and then pressing Reset initiates Firmware Download mode for downloading firmware through the serial port.
Reset Button	Press this button to restart the system.
ESP32-S3 USB Port	ESP32-S3 full-speed USB OTG interface, compliant with the USB 1.1 specification. The interface is used for power supply to the board, for flashing applications to the chip, for communication with the chip using USB 1.1 protocols, as well as for JTAG debugging.
USB-to-UART Bridge	Single USB-to-UART bridge chip provides transfer rates up to 3 Mbps.
RGB LED	Addressable RGB LED, driven by GPIO48.
3.3 V Power On LED	Turns on when the USB power is connected to the board.

# ESP32-S3-DevKitC-1



## FEATURES

- Integrates complete Wi-Fi and Bluetooth LE functions

## APPLICATIONS

- Wake word detection
- Speech commands recognition
- Face detection and recognition
- Smart home
- Smart appliances
- Smart control panel
- Smart speaker

## SPECIFICATION

- ESP32-S3 series of SoCs embedded, Xtensa® dual-core 32-bit LX7 microprocessor (support single-precision floating-point units), support the clock frequency of up to 240MHz
- 384 KB ROM
- 512 KB SRAM
- 16 KB RTC SRAM
- 4 MB SPI flash
- Bluetooth LE: Bluetooth 5, Bluetooth mesh
- 40MHz crystal oscillator
- Operating Temperature: -40~85°C

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