Wiring and Flashing ESP32-WROVER, ESP WROOM 32 with USB TTL UART and ESP32 Download Tool

ESP32 develop by ESPESSIF systems and some other development module and boards. The ESP32 WROOM 32 is a generic Wifi with Bluetooth, Bluetooth Low Energy Microcontroller module that provides a wide range of applications, from low-power networked sensors at the most advance task such voice encoding, music streaming, and Mp3 decoding at the core of ESP32-DOWDQ6 chip. These embedded chip is designed to be scalable and adaptable to a and variety of task, and the Core CPU can individually controlled along with the clock frequency can be adjust from 80 MHz to 240 Mhz. ESP32 can be switch off the CPU and make use of the low-power co-processor to constantly monitor the peripherals changes or crossing the thresholds. ESP32 integrates a rich set of peripherals ranging from capacitive touch sensors, hall sensors, low-noise sense amplifiers, SD card interface, Ethernet, high speed Serial peripheral interface (SPI), Universal Asynchronous Receiver/Transmitter (UART), Integrated Inter-IC Sound Bus (i2S) and Two Wire Interface / Inter-Integrated Circuit (i2C). For more details please refer to the datasheet and documentation below.

The integration of Bluetooth, Bluetooth Low Energy and Wifi ensured that the module has a physical direct connection to the internet through WiFi router, while the Bluetooth allows you to connect the smart phones or broadcast low energy beacons for detection. ESP32 sleep current is less than 5uA it's suitable for battery operated or wearable electronics projects. ESP32 supports a data rate up to 150Mbps, and 20.5 dBm output power to ensure the extensive physical range.

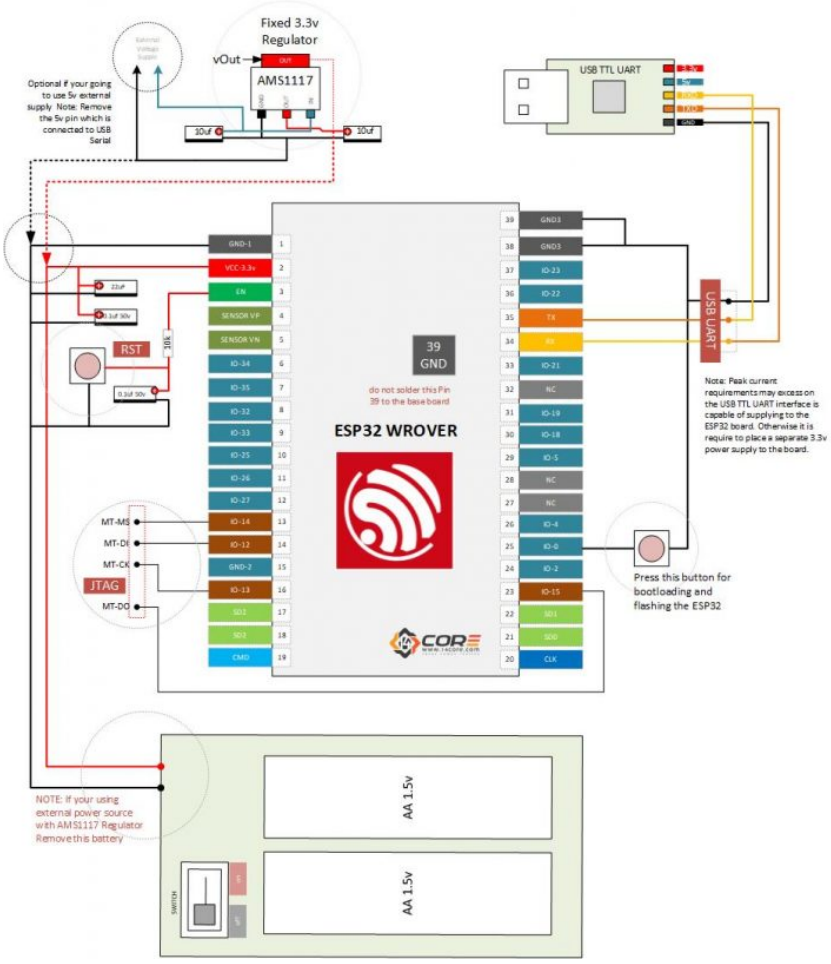
ESP32 runs on freeRTOS operating system with LwIP; LTS 1.2 with hardware acceleration builtin. Encrypted over the OTA upgrade is also supported.

Required Components

- ESP32-WROVER module
- USB TTL UART
- Capacitors
- Resistors
- Tactile / Push Button

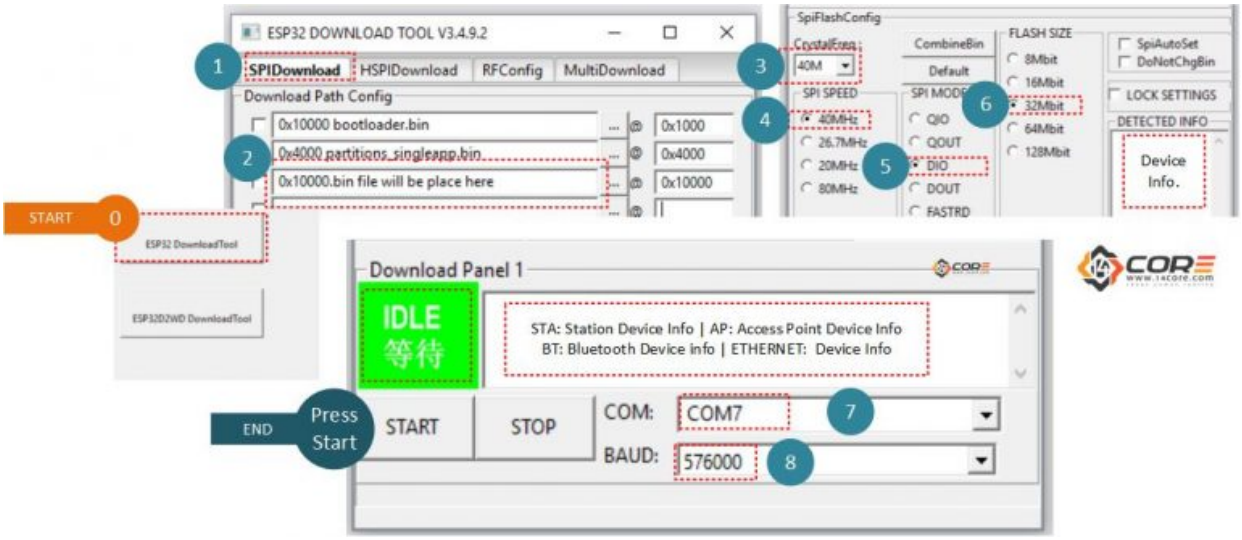
Wiring Guide

For flashing using USB TTL UART with Flash tool please refer to the step by step instruction below & Flash Download Tool and AT-Command Documentation can be downloaded below. If you don't want to use 2 AAA battery otherwise you can use MOSFET 2N7000, AN10441 / logic level converter or AMS7111 3.3v regulator please refer to the diagram below.



Bootloading & Flashing ESP WROOM- 32 / ESP32-WROVER

Note: Press the IO -0 Button and Reset the ESP32 by pressing the EN while holding the IO-o Button



Arduino Core ESP32 Pin Mapping

Download the ESP32 Arduino Core Here | From Github