Wiring Flashing / Programming ESP-32 / ESP32S with USB – TTL / UART and Integration with Arduino IDE

ESP32S Wifi Bluetooth combo module is ultra performance that is high ultra low-power consumption Wi-Fi and Bluetooth wireless platform based on ESPRESSIF ESP32 chipset. ESP-32S dual-core 448 KByte ROM | 520 KByte SRAM | 16 KByte SRAM in RTC | 802.11 b/g/n/e/I Wi-Fi | Bluetooth v4.2 BR | EDR & BLE | clocks & Times |peripheral Interfaces and security mechanism.

ESP-32S Wifi Bluetooth combo module provides SDK Firmware for fast programming that is on-line open source toolchains based on GCC for development support. It is designed for Generic power that is low sensor hub, loggers, video steaming for camera, Wi-Fi & Bluetooth enabled devices, Home automation and mesh network applications, aimed at makers, hardware engineers, software engineers and solution provides.and

ESP32 is a chip that is single GHz Wi-Fi and Bluetooth combo chip designed with TSMC ultra low power 40 nm technology. It is designed and optimized for the power performance that is best, RF performance, robustness, versatility, features and reliability, for a wide variety of applications, and different power profiles.

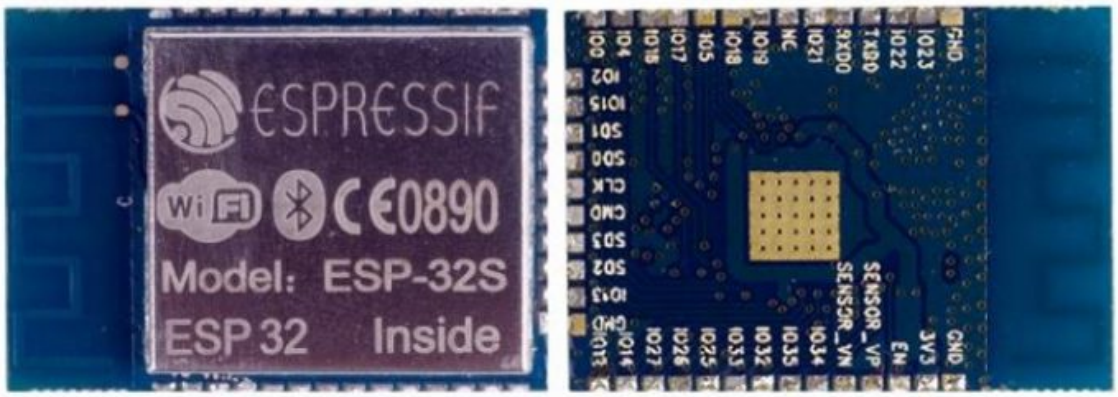
ESP32 is the most solution that is integrated Wi-Fi + Bluetooth applications in the industry with less than 10 external components. ESP32 integrates the antenna switch, RF balun, power amplifier, low noise receive amplifier, filters, and power management modules. As such, the solution that is entire minimal Printed Circuit Board (PCB) area.

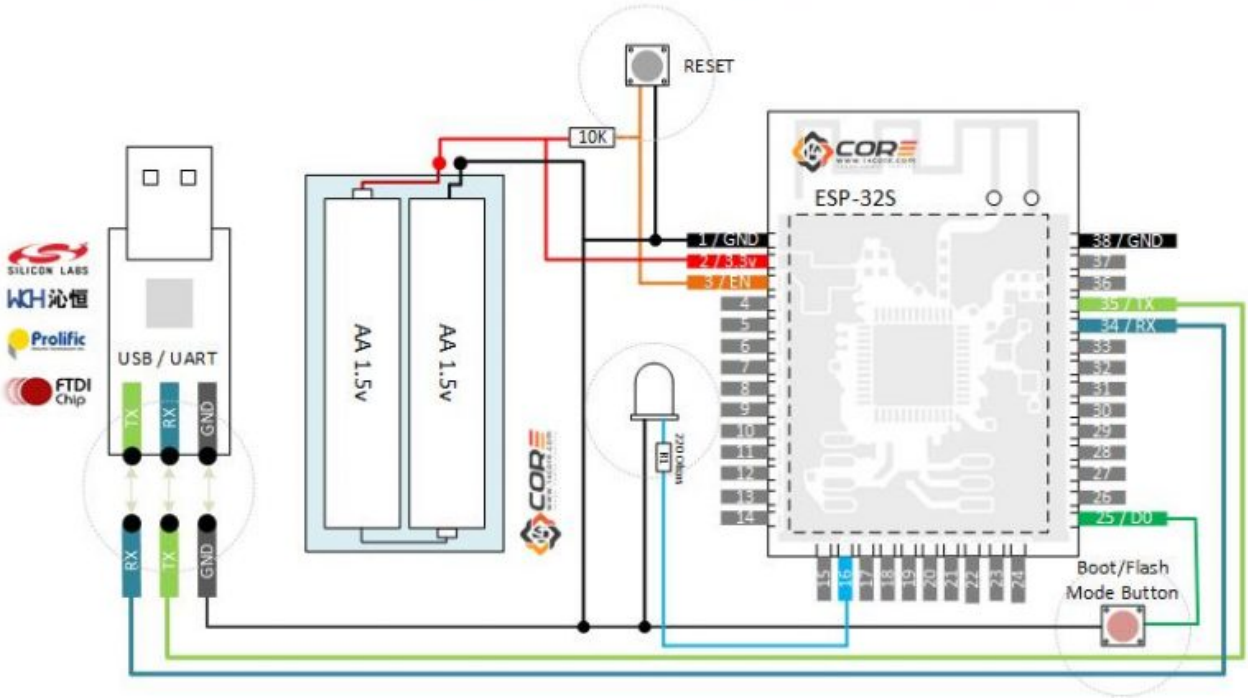
ESP32 is designed for mobile, wearable electronics, and Internet of Things (IoT) applications. It has many features of the state-of-the-art low power chips, including fine resolution clock gating, power modes, and power scaling that is dynamic.

Required Components

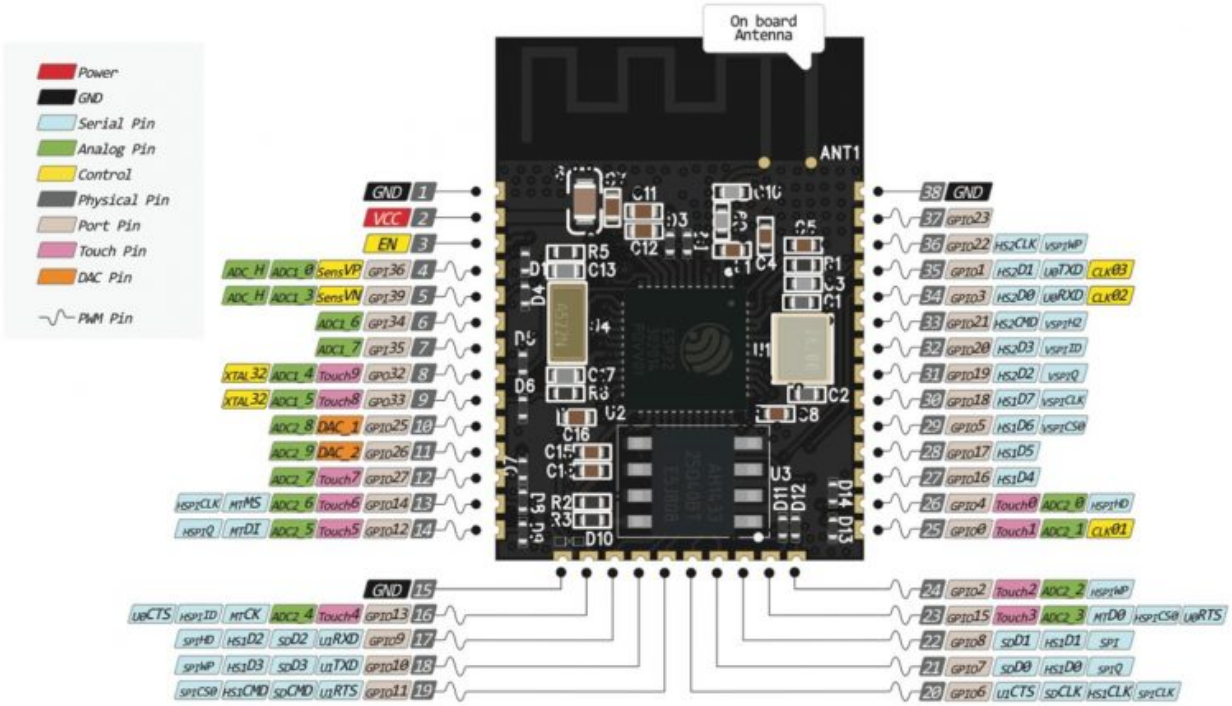
- ESP-32 / ESP-32S
- USB TTL / UART
- LED
- Tactile Switch Button
- Resistor (220 Ohms, 10k)
- Jumper Wires
- Solder Less Bread Board
- Double A 1.5v Battery + (Battery Case)

Wiring Guide

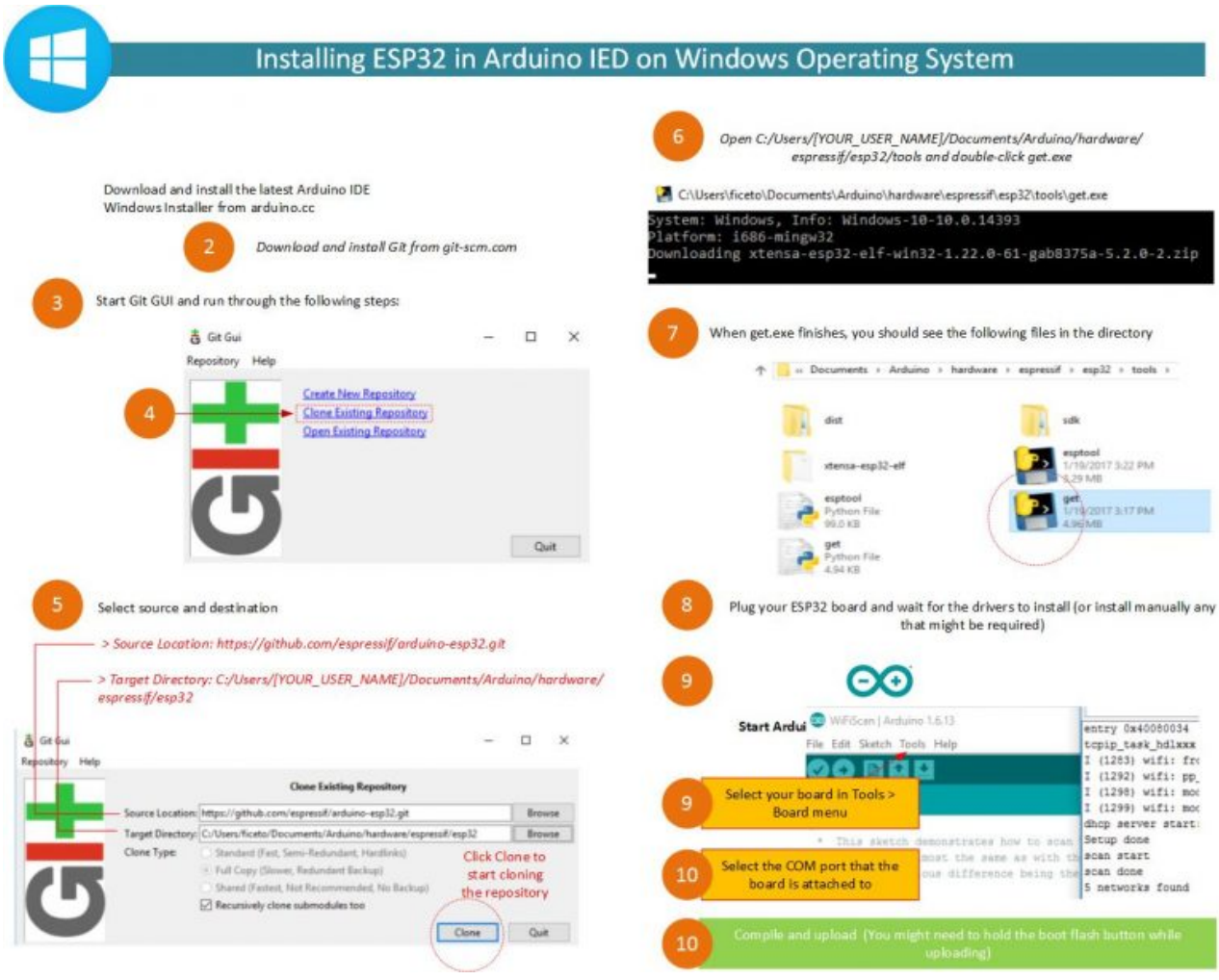




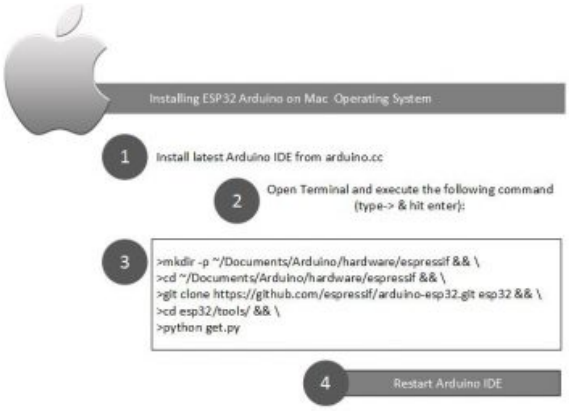
ESP32s Pin-out Diagram

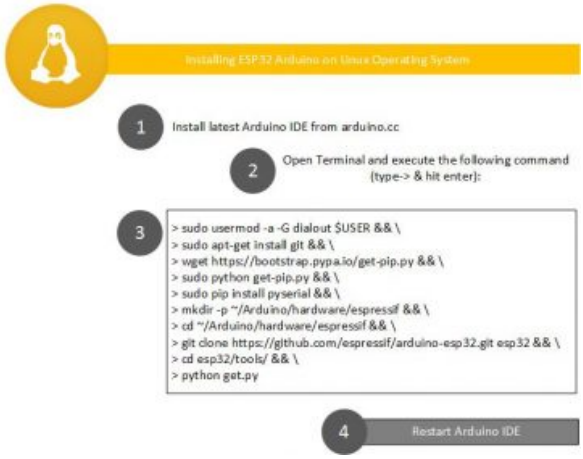


Installing Software Required for Windows (ESP32S on Windows Operating System)



Installing Software Required for Mac / Linux (ESP32S on Mac / Linux)





Test Code

```
1  void setup(){
2  Serial.begin(115200);
3  Serial.print("14CORE | TEST CODE FOR ESP32 BLINK");
4  pinMode(13, OUTPUT);
5  }
6
7  void loop(){
8  digitalWrite(13, HIGH);
9  delay(500);
10 digitalWrite(13, LOW);
11 delay(500);
12 }
```

Downloads

- Download Arduino IDE
- Download https://git-scm.com/download/win
- Download ESP 32S Bluetooth User Guide | PDF
- Download ESP 32S Datasheet | PDF
- Further Learning Using PlatformIO | Using as ESP-IDF component | Link
- Watson IoT Platform | NodeMCU Firmware | Link

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Wired Developer | Bluetooth, Communication, Internet of Things, TCP / IP Communication | 1 Comment

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