

Description

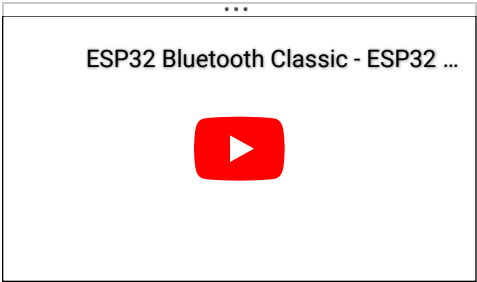
23 January 2024 13:04

[Why ESP32's Are The Best Microcontrollers \(ESP32 + Arduino series\)](#)  
<https://www.espressif.com/en/products/socs/esp32/resources>

V1	<ul style="list-style-type: none"><li>• ESP32 is Wifi , BLE enabled(2.4 -2.5 ghz).</li><li>• Similar to Arduino</li><li>• We can connect external memory also(4-8 MB).</li><li>• 80,160,240 MHz clocked dual core CPU processor chip is present</li><li>• It also has a Ultra- low power co-processor(for smaller purposes) used when CPU is in sleep mode(<b>means user can power off the CPU and make use of the low power co- processor to constantly monitor the peripherals for changes or crossing of thresholds</b>).</li><li>• 512 KB SRAM(for data and program)</li><li>• Upto 34 GPIO's, 12 bit ADC, 10 Capacitive touch sensor, Hall effect sensor, SD card GPIO 6,7,8,9,10,11- cannot be used as regular GPIO's because these pins are connected to 4 MB SPI flash.</li><li>• ESP32 supports UART, SPI, I2C, PWM, etc</li><li>• All the Arduino libraries that already exist will also be work with ESP32 also.</li><li>• Over the air (OTA) upgrade is also supported.</li><li>• Sleep current of ESP32 is less than 5 MicroAmps, making it suitable for low powered devices(battery operated)- <b>lower sleep current reduce overall power consumption.</b></li></ul> <p><b>MTDI pin in ESP32- Microcontroller Test Data Input(which is a signal used in JTAG-Joint Test Action Group)-used for sending the test data into the microcontroller for testing purposes.</b></p> <p><b>ESP32 has many modes like Active mode, sleep mode, hibernation mode</b></p>
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Data rate	Upto 150 Mbps
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[ESP32 Bluetooth Classic - ESP32 Beginner's Guide](#)




OS	freeRTOS with LwIP and TLS 1.2 with hardware acceleration
Wifi_ Protocol	802.11 b/g/n
Wifi_ Freq range	2.4-2.5 GHz (approx)
Bluetooth_Protocol	Version 4.2 BR/EDR and BLE
Operating voltage	3.0-3.6v
Operating current	80 mA(~)

Real time clock: [ESP32 NTP Server - Real Time Clock \(NO RTC Module\)](#)

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ESP32 NTP Server - Real Time Clock (NO RTC Module)



Package for esp8266: [https://arduino.esp8266.com/stable/package\\_esp8266com\\_index.json](https://arduino.esp8266.com/stable/package_esp8266com_index.json)  
Package for esp8266: [https://dl.espressif.com/dl/package\\_esp32\\_index.json](https://dl.espressif.com/dl/package_esp32_index.json)  
Package for esp32: [https://espressif.github.io/arduino-esp32/package\\_esp32\\_index.json](https://espressif.github.io/arduino-esp32/package_esp32_index.json)