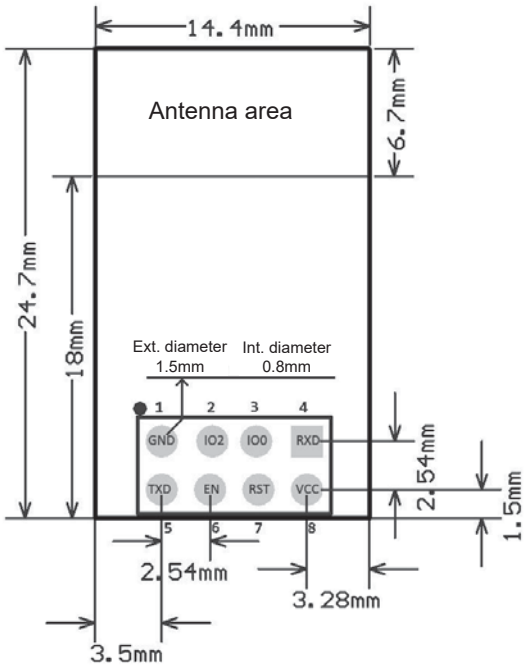
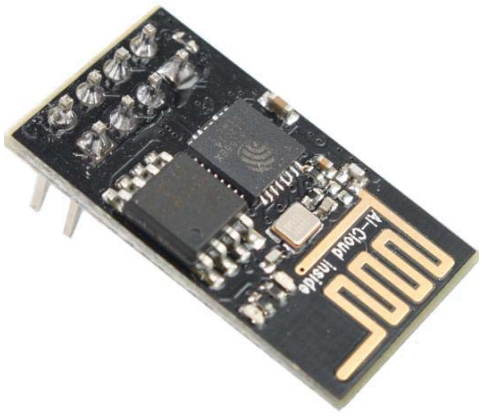
ESP-01 802.11 b/g/n Wi-Fi Module





Features

- The smallest 802.11b/g/n Wi-Fi SOC module
- Low power 32-bit CPU, can also serve as the application processor
- Up to 160MHz clock speed
- Supports UART/GPIO
- DIP-8 package for easy welding
- Integrated Wi-Fi MAC/BB/RF/PA/LNA
- Deep sleep current as low as 20uA
- Embedded lwIP protocol stack
- Supports STA/AP/STA + AP operation mode
- Support Smart Config/AirKiss technology
- UART baudrate up to 4Mbps
- General AT commands can be used quickly
- Supports remote firmware upgrade (FOTA)
- Work with functional individually when power on

Overview

ESP-01 has a highly competitive package size and ultra-low power technology.

ESP-01 can be widely used in a variety of networking, for home automation, industrial wireless control, baby monitors, wearable electronic products, wireless location sensing devices, wireless positioning system signals and other networking applications.

ESP-01 in DIP package, unique plug-in package design, it can be flexible access to existing products, especially for automation, large-scale, low-cost modern production methods, easy to apply to a variety of things networking hardware terminal occasions.

Product Specifications

Module Model	ESP-01
Package	DIP-8
Size	24.7*14.4*11.0（±0.2）mm
SPI Flash	Default 8Mbit
Interface	UART/GPIO
IO Port	2
UART Baudrate	Support 300 ~ 4608000 bps， Default 115200 bps
Frequency Range	2412 ~ 2462MHz
Antenna	PCB antenna, 2.29 dBi
Secondary Development	Support
Transmit Power	802.11b: 0±1 dBm (@11Mbps) 802.11g: 0±1 dBm (@54Mbps) 802.11n: 0±1 dBm (@HT20, MCS7)
Receiving Sensitivity	CCK, 1 Mbps : -90dBm CCK, 11 Mbps: -85dBm 6 Mbps (1/2 BPSK): -88dBm 54 Mbps (3/4 64-QAM): -70dBm HT20, MCS7 (65 Mbps, 72.2 Mbps): -67dBm
Power (Typical Values)	Continuous Transmission => Average: ~ 71mA, Peak: 300mA Modem Sleep: ~20mA Light Sleep: ~2mA Deep Sleep: ~0.02mA
Security	WEP/WPA-PSK/WPA2-PSK
Power Supply	Voltage 3.0V ~ 3.6V， Current >300mA
Operating Temperature	-20 ℃ ~ 85 ℃
Storage Environment	-40 ℃ ~ 90 ℃ , < 90%RH
Weight	0.65g

FCC WARNING

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The device has been evaluated to meet general RF exposure requirement.

The RF and modulation sections are protected as follows to prevent illegal modification:

1) Describe here all the methods used to protect the RF and modulation portions against easy modifications.

2) EUT shell sealed by the internal snap and glue, so that the product is difficult to open.EUT has an embedded radio IC that is contained within within the body of the device. It is not accessible to user at any time. All the high frequency and modulation is built inside the chipset. It is hard to modify. And there are not any adjustable part is exposed. The RF module is soldered to the PCB so it cannot be removed from the board.