

ESP8266 ESP-03 Wifi Wireless Tranceiver Module



The ESP module is a Smart Connectivity Platform (ESCP) of high performance wireless SOCs, for mobile platform designers, provides unsurpassed ability to embed Wi-Fi capabilities within other systems, at the lowest cost with the greatest functionality.

SPECIFICATIONS:

- 802.11 b/g/n Wi-Fi Direct (P2P), soft-AP
- Integrated TCP/IP protocol stack
- Integrated TR switch, balun, LNA, power amplifier and matching network
- Integrated PLLs, regulators, DCXO and power management units
- +19.5dBm output power in 802.11b mode
- Power down leakage current of < 10uA
- Integrated low power 32-bit CPU could be used as application processor
- SDIO 1.1/2.0, SPI, UART
- STBC, 1×1 MIMO, 2×1 MIMO
- A-MPDU & A-MSDU aggregation & 0.4ms guard interval
- Wake up and transmit packets in < 2ms
- Standby power consumption of < 1.0mW (DTIM3)

- Dual 1x7 2 mm pitch castellated pads
- Built-in ceramic antenna
- 7 GPIOs: GPOI0/2/12/13/14/15/18
- UART URXD/UTXD
- RESET and CH_PD (powerdown)

CORRESPONDING INTERFACES:

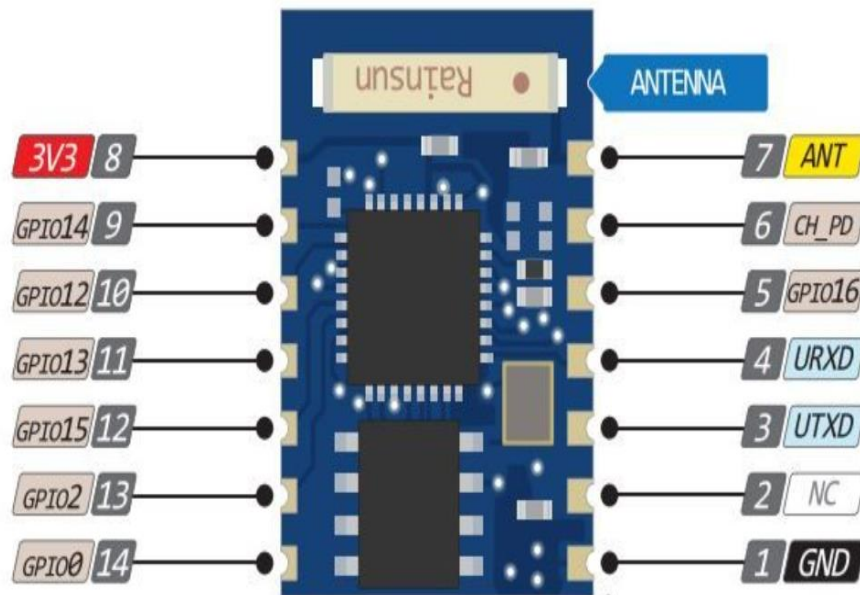
- SDIO 2.0, SPI, UART
- 32-pin QFN package
- Integrated RF switch, balun, 24dBm PA, DCXO, and PMU
- Integrated RISC processor, on-chip memory and external memory interfaces
- Integrated MAC/baseband processors
- Quality of Service management
- I2S interface for high fidelity audio applications
- On-chip low-dropout linear regulators for all internal supplies
- Proprietary spurious-free clock generation architecture
- Integrated WEP, TKIP, AES, and WAPI engines

FUNCTIONAL DESCRIPTION:

- This is WiFi serial transceiver module (ESP-03) , based on ESP8266 SoC. The SoC has Integrated TCP/IP protocol stack, making it highly useful in applications of Internet of Things (IoT). The range of operation of this module is almost up to a few kilometers making it a great solution for robot applications that need remote control.
- ESP-03 has a built-in ceramic antenna, 7 GPIO pins, and UART (Rx,Tx) pins for communication with other devices.
- ESP8266 is a highly integrated chip designed for the needs of a new connected world. It offers a complete and self-contained Wi-Fi networking solution, allowing it to either host

the application or to offload all Wi-Fi networking functions from another application processor. ESP8266 has powerful on-board processing and storage capabilities that allow it to be integrated with the sensors and other application specific devices through its GPIOs with minimal development up-front and minimal loading during runtime. Its high degree of on-chip integration allows for minimal external circuitry, and the entire solution, including front-end module, is designed to occupy minimal PCB area (about the same size as a penny and smaller than ESP-01 Module).

PIN DIAGRAM:



APPLICATIONS:

- Smart power plugs
- Home automation
- Mesh network
- Industrial wireless control
- Baby monitors
- IP Cameras
- Sensor networks
- Wearable electronics
- Wi-Fi location-aware devices
- Security ID tags
- Wi-Fi position system beacons

PACKAGE INCLUDES:

1*ESP8266 ESP-03 wifi wireless transceiver module

