Introduction:

This ESP-12S WiFi module has core processor ESP8266 in smaller sizes of the module encapsulates Tensilica L106 integrates industry-leading ultra low power 32-bit MCU micro, with the 16-bit short mode, clock speed support 80 MHz, 160 MHz, supports the RTOS, integrated Wi-Fi MAC/BB/RF/PA/LNA, on-board antennas. The module supports standard IEEE802.11 b/g/n agreement, complete TCP/IP protocol stack. Users can use the add modules to an existing device networking, or building a separate network controller. ESP8266 is high integration wireless SOCs, designed for space and power constrained mobile platform designers. It provides unsurpassed ability to embed Wi-Fi capabilities within other systems, or to function as a standalone application, with the lowest cost, and minimal space requirement.

Specification

802.11 b/g/n
Integrated low power 32-bit MCU
Integrated 10-bit ADC
Integrated TCP/IP protocol stack
Integrated TR switch, balun, LNA, power amplifier and matching network
Integrated PLL, regulators, and power management units
Supports antenna diversity
Wi-Fi 2.4 GHz, support WPA/WPA2
Support STA/AP/STA+AP operation modes
Support Smart Link Function for both Android and iOS devices
SDIO 2.0, (H) SPI, UART, I2C, I2S, IRDA, PWM, GPIO
STBC, 1x1 MIMO, 2x1 MIMO
A-MPDU & A-MSDU aggregation and 0.4s guard interval
Deep sleep power <10uA, Power down leakage current < 5uA
Wake up and transmit packets in < 2ms
Standby power consumption of < 1.0mW (DTIM3)
+20dBm output power in 802.11b mode
WiFi Protocles:802.11 b/g/n
Frequency Range:2.4GHz-2.5GHz (2400M-2483.5M)
Peripheral Bus:UART/HSPI/I2C/I2S/Ir Remote Contorl;GPIO/PWM
Operating Voltage :3.3V
Operating Current: Average value: 80mA
Operating Temperature Range: -40°~125°
Ambient Temperature Range: Normal temperature
Package Size: 18mm*20mm*3mm
External Interface: N/A`
Wi-Fi mode: station/softAP/SoftAP+station
Security: WPA/WPA2
Encryption: WEP/TKIP/AES
Firmware Upgrade: UART Download / OTA (via network) / download and write firmware via host
Support software Development: Supports Cloud Server Development / SDK for custom firmware development
Network Protocols: IPv4, TCP/UDP/HTTP/FTP
User Configuration: AT Instruction Set, Cloud Server, Android/iOS APP