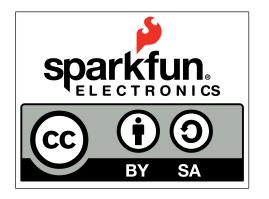
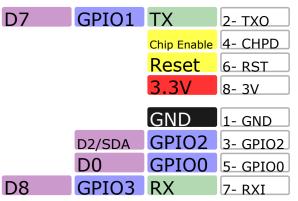
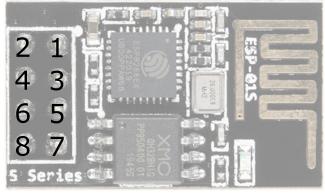
ESP8266 WiFi Module (WRL-17146)









Power

VCC-3.0-3.6V Standby ~ 0.9uA Running ~60-215mA, Average ~ 80mA

Wifi Features

802.11 b/g/n 2.4GHz WPA/WPA2 Wifi Direct

I/O Features

Integrated TCP/IP Integrated TR switch, LNA, balun

Memory/Speed Features

80MHz 64KB instruction RAM 96KB data RAM 64K boot ROM 4MB* Flash Memory

Basic Connection

VCC - 3.3V

GND - GND

TX - RX on Arduino or FTDI

RX - TX on ARduino or FTDI

Chip Enable - 3.3V

Default Baud Rate

115200* 8N1

LEDs

Blue: TX

*mileage may vary on different version of the board

AT Command Usage Commands are case sensitive and should end with /r/n

Commands may use 1 or more of these types Set = AT+<x>=<...> - Sets the value Inquiry = AT+<x>? - See what the value is set at Test = AT+<x>=? - See the possible options Execute = AT+<x> - Execute a command

Commands with * have been depreciated in favor of COMMAND_CUR and COMMAND_DEF. CUR will not write the value to flash, DEF will write the value to flash and be used as the default in the future.

AT Command List

AT - Attention

AT+RST - Reset the board

AT+GMR - Firmware version

AT+CWMODE* - Operating Mode

- 1. Client
- 2. Access Point
- 3. Client and Access Point

AT+CWJAP*=<ssid>,<pwd> - Join network

AT+CWLAP - View available networks

AT+CWQAP - Disconnect from network

AT+CWSAP*=<ssid>,<pwd><chl><ecn> - Set up access point

- 0. Open. No security
- 1. WEP

PCB

Antenna

- 2. WPA PSK
- 3. WPA2 PSK
- 4. WPA WPA2 PSK

AT+CWLIF - Show assigned IP addresses as access point

AT+CIPSTATUS - Show current status as socket client or server

AT+CIPSTART=<type>,<addr>,<port> - Connect to socket server

IP is fixed at 192.168.4.1, mask is fixed at 255.255.255.0 if CIPMUX is set to multichanel add <id> to beginning of string

AT+CIPCLOSE - Close socket connection

AT+CIFSR - Show assigned IP address when connected to network

AT+CIPMUX=<mode> - Set connection

- 0. Single Connection
- 1. Multi-Channel Connection

AT+CIPSERVER=<mode>[,<port>](AT+CIPMUX=1) - Default port is 333

- 0. Close the Socket Server
- 1. Open the Socket Server

AT+CIPMODE=<mode> - Set transparent mode

Data received will be sent to serial port as

- 0. +IPD,<connection channel>,<length>format (AT+CIPMUX=[0,1])
- 1. Data stream (AT+CIPMUX=0)

AT+CIPSTO=<time> - Set auto socket client disconnect timout from 1-28800s

Example commands

AT+CWMODE=? //View options for mode (test)

AT+CWMODE=3 //Set mode to client and access modes (set)

AT+CWLAP //View available networks (execute)

AT+CWJAP = "ssid", "password" //Join network (set)

AT+CWJAP? //View the current network (inquiry)

AT+CIFSR //Show IP address (execute)

AT+CWOAP //Disconnect from network (execute)

AT+CWSAP="apoint", "pass", 11,0//Setup an open access point (set)

AT+CWLIF //Show devices connected to access point

+20dBm output power (802.11b)