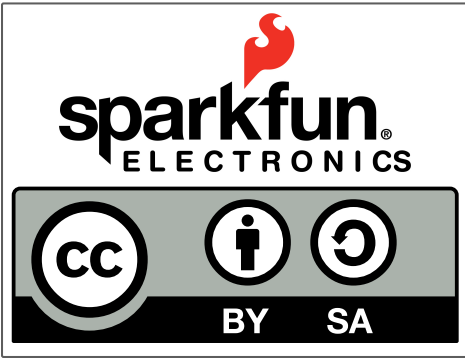
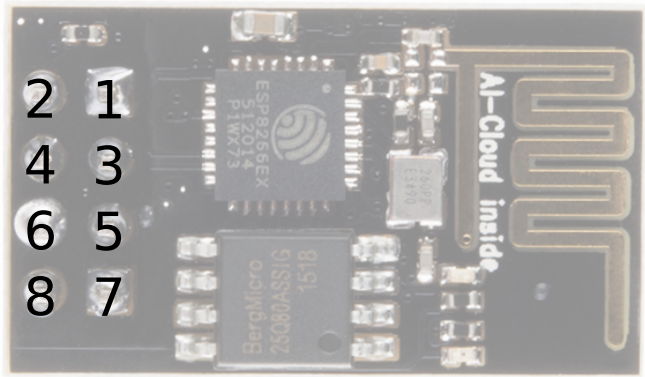


ESP8266 Module (WRL-13678)



D7	GPIO1	TX	2- TXO
		Chip Enable	4- CHPD
		Reset	6- RST
		3.3V	8- 3V
		GND	1- GND
	D2/SDA	GPIO2	3- GPIO2
	DO	GPIO0	5- GPIO0
D8	GPIO3	RX	7- RXI



PCB Antenna

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

+20dBm output power (802.11b)

I/O Features
 Integrated TCP/IP
 Integrated TR switch, LNA,
 balun

Memory/Speed Features
 80MHz
 64KB instruction RAM
 96KB data RAM
 64K boot ROM
 1MB* 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
 11520* 8N1

LEDs
 Red: Power
 Blue: TX

*milage 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 deprecated 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+CMR - 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
 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 multichannel 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 timeout 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+CWQAP //Disconnect from network (execute)
 AT+CWSAP="apoint","pass",11,0//Setup an open access point (set)
 AT+CWLIF //Show devices connected to access point