ESP8266 Module (WRL-13678)

sparkfun ELECTRONICS

CC BY SA

Name	Power
Ground	Control
Serial	GPIO
Arduino	

D7	GPIO1	TX	2- TXO
	Chip Enable		4- CHPD
	Reset		6- RST
	3.3V		8- 3V
		GND	1- GND
D2/SDA	GPIO2		3- GPIO2
D0	GPIO0		5- GPIO0
D8	GPIO3	RX	7- RXI

PCB Antenna

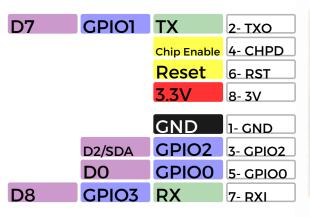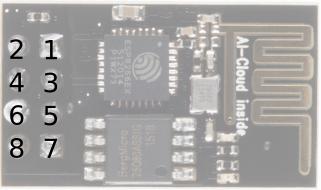## Power

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 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
 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+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

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