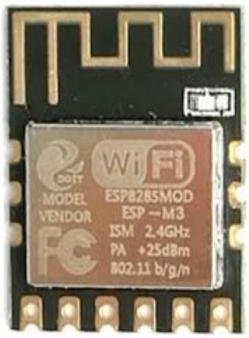
ESP8285 M3 WIFI Module



An ESP8285 module is an ESP8266 Module with additional 1 MB of Flash memory and the ESP8285 can even bear high temperature upto 125℃ (the one for ESP8266 is just 85℃). More important, the code programmed in ESP8266 can also be used for ESP8285.The ESP8285 M3 WiFi Module is a highly technological electronic component especially designed to connect robotic or home automation projects to the World Wide Web with greater ease and cost.It is composed of the ESP8285 chip, supporting the most commonly used networks (802.11 b / g / n), prepared for low-power wireless communication, operating with the Wi-Fi network at 2.4GHz frequency, supporting WPA, PA2PSK and WPS.

FEATURES:

- ESP8285 M3 WiFi module
- 32-bit Tensilica L106 microcontroller
- Ultra low 16 bit RISC
- Fully Compatible with ESP8266
- Embedded TCP protocol
- 1 channel high-precision 10-bit ADC
- Supporting the most commonly used networks (802.11 b / g / n)
- Support WPA, PA2PSK and WPS
- Low consumption
- Easy access to the pins

SPECIFICATIONS:

- Model: ESP8285 ESP-M3
- Working temperature: -40 ℃ - + 125 ℃
- Clock Speed: 80 MHz; (max 160 MHz)
- Flash memory: 1 MB
- Interface: HSPI, UART, I2C, I2S, Remote Control IR Controk, PWM, GPIO
- Network Support: 802.11 b / g / n / e / I
- Direct WiFi Support (P2P)
- Support mode: CCMP, TKIP (MIC, RC4), WAPI (SMS4), WEP (RC4), CRC etc
- Microcontroller: Tensilica L106 32-bit (MCU) and ultra-low 16-bit RISC

SOC characteristics:

- Built-in Tensilica L106 ultra-low power 32-bit microprocessor, supporting 80MHz and 160MHz at the main frequency, supporting RTOS
- Built-in TCP / IP protocol stack
- Built channel 1 10 bit high precision ADC
- Peripheral interface HSPI, UART, I2C, I2S, IR Remote Control, PWM, GPIO
- Deep sleep keeps current at 10uA and shutdown current is less than 5uA
- Wake up, connect and pass packets within 2 mS
- Standby power consumption is less than 1.0mW (DTIM3)
- Built-in 1M byte SPI Flash

WiFi characteristics:

- Support 802.11 b/g/n/e/I
- Support Station, Soft AP, Soft AP+STA mode
- Support WiFi Direct (P2P)
- Support hardware acceleration of CCMP (CBC-MAC, counter mode), TKIP (MIC, RC4), WAPI (SMS4), WEP (RC4), CRC
- P2P finding, P2P GO mode/ GC mode and P2P power manage

- WPA/PA2PSK and WPS
- 802.11 securitycertification: pre-certification and TSN
- Support 802.11n (2.4GHz)
- 802.1h/RFC1042 frame encapsulation
- Support seam less roaming
- Support AT remote update and cloud update (OTA)
- Support Smart Config function (including Android and Ios device)

Module interfaces:

- 2x UART
- 1x ADC
- 1x En
- 1x wake-up pin
- 1x HSPI
- 1x I2C
- 1x I2S
- More than 10x GPIOs
- Working temperature: -40℃-+125℃
- Module size: 26.8mm*16mm

ELECTRONICS CHARACTERISTICS:

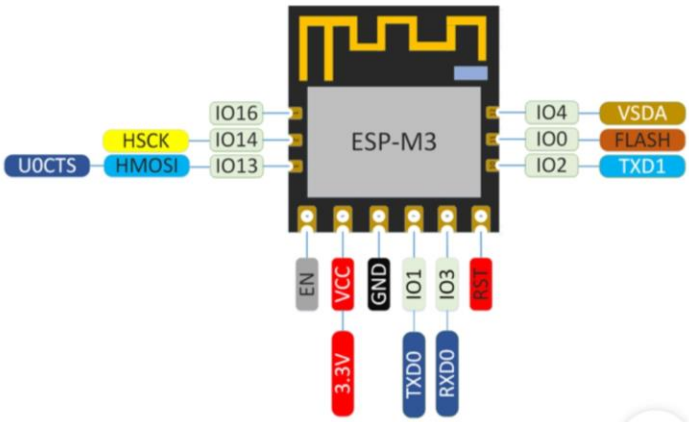
Parameters		**Conditions**	**Min**	**Classical**	**Max**	**Unit**
Store Temperature		-	-40	Normal	125	℃
Sold Temperature		IPC/JEDEC J-STD-020	-	-	260	℃
Working Voltage		-	2.5	3.3	3.6	V
I/O	VIL/VIH	-	-0.3/0.75VIO	-	0.25VIO/3.6	V

	VOL/VOH	-	N/0.8VIO	-	0.1VIO/N	
	IMAX	-	-	-	12	mA
Electrostatic release quantity (Human model)		TAMB=25 ℃	-	-	2	KV
Electrostatic release quantity (Human model)		TAMB=25 ℃	-	-	0.5	KV

POWER CONSUMPTION:

Parameters	**Min**	**Classical**	**Max**	**Unit**
Tx802.11b, CCK 11Mbps, POUT=+17dBm	-	170	-	mA
Tx802.11g, OFDM 54 Mbps, POUT =+15dBm	-	140	-	mA
Tx802.11n,MCS7,POUT =+13dBm	-	120	-	mA
Rx 802.11b, 1024 Bytes, -80dBm	-	50	-	mA
Rx 802.11g, 1024 Bytes, -70dBm	-	56	-	mA
Rx 802.11n, 1024 Bytes, -65dBm	-	56	-	mA

PIN DIAGRAM:



APPLICATIONS:

- Smart power plug, smart light
- Infant monitor
- Sensor networks
- Security ID label
- Wireless location beacon
- Home automation
- Mesh networks
- IP video camera
- Wearable electronics
- Wireless location recognition
- Industrial wireless control
- Electronic appliance

DIMENSION:


16mm
20mm
Wi Fi
ESP8266MOD
ESP-M3
ISM 2.4GHz
PA +25dBm
802.11 b/g/n