



seeed studio
The IoT Hardware Enabler



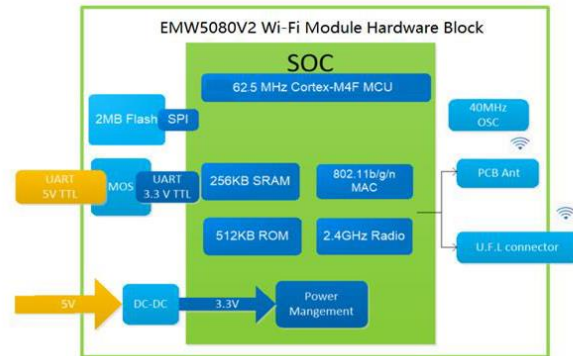
EMW5080V2 is a cost-effective embedded Wi-Fi module released by MXCHIP integrating ARMCM4F, WLAN MAC/Baseband/RF. Maximum frequency 62.5MHz with 256KB SRAM and 2MB FLASH. Power supply is DC 5.0V.

Hardware diagram is shown below with four main parts:

- CM4F main core
- WLAN MAC/BB/RF/ANT
- UART
- Power management

With:

- ARM CM4F CPU with 62.5MHz maximum frequency and 256KB SRAM and 2M FLASH.
- 2MB SPI Flash is used for custom firmware development
- Support PCB antenna and IPEX
- Input voltage: DC 4.5-5.5V



Features

- Support 802.11b/g/n, integrate 62.5MHz ARM-CM4F, WLAN MAC/Baseband/RF
- 256KB RAM/ 2MB FLASH
- Working Voltage: DC 5.0V
- Maximum transmission rate up to 72.2Mbps with 20 MHz bandwidth.
- Wi-Fi Features
 - 802.11b/g/n , HT-40
 - Station, Soft AP, Station+SoftAP
 - Supports EasyLink , Alink , Joinlink
- Peripherals :
 - 1x HS UART
- Operating Temperature :
 - PCBA: -20°C to +85°C
 - Plastic box: depends on detailed boxmodel
- Antenna: PCB or IPX (Optional)

Application

- Intelligent lighting
- Intelligent Transportation
- Smart Home Application
- industrial automation
- Intelligent Security

1.2 Dimension

EMW5080V2 uses a 4-pin connector for power supply and data transfer.

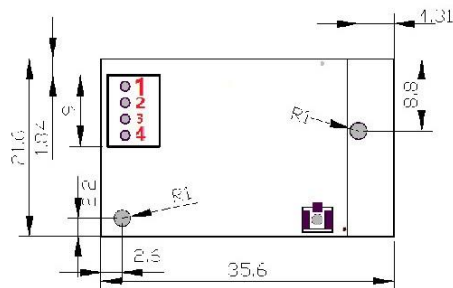


Figure 2 EMW5080V2 pins and size

1.3 Pin Definition

Table 1 EMW5080V2 Pin Definition

Pin NO.	Name	Function
1	VCC	Power supply
2	GND	Ground
3	RXD	UART Data Receive
4	TXD	UART Data Transmit

2. Electrical Parameters

2.1 Operating Conditions

EMW5080V2 would be unstable when input voltage is less than the lowest rated voltage.

Table 2 Range of input voltage

Symbol	Illustration	Condition	Details			
			Minimum	Typ	Maximum	Unit
VDD	Power Supply		4.5	5	5.5	V

Table 3 Current

Symbol	Note	Max	Unit
Ivcc	Current @VCC 5.0V	230	mA

There would be permanent damage in hardware if the device operates at the voltage over rated value. Meanwhile, reliability could be influenced when the device has a long-term operating at maximum voltage.

Table 3 Absolute maximum voltage rating

Symbol	Description	Minimum	Typ	Unit
VDD	Module input voltage	-0.3	5.5	V
VIN	GPIO input voltage	-0.3	5.5	V

2.2 Power Consumption

Table 4 EMW5080V2 Power Consumption

Mode	Current (5V)	Status
Monitor	96mA	WIFI config mode. Monitor SSID information, and connect to the router.
Idle	82mA	Keep connected to router. No data transfer.
Normal	207mA	Data transfer and receive at certain rate

Actual working current is variable at different operating mode. Maximum operating current 300 mA .

2.3 Working Environment

Table 5 Temperature and humidity condition

Symbol	Name	Maximum	Unit
TSTG	PCBA Storage Temperature	-40 to +125	℃
TA	PCBA Operation Temperature	-20 to +85	℃
Humidity	Non-condensing, Relative humidity	95	%

2.4 Electrostatic Discharge

Table 6 Electrostatic Discharge Parameters

Symbol	Name	Details	Level	Maximum	Unit
V _{ESD} (HBM)	Electrostatic discharge voltage (Human Body Model)	TA = +25 °C , JESD22-A114	2	2000	V
V _{ESD} (CDM)	Electrostatic discharge voltage (Charged Device Model)	TA = +25 °C , JESD22-C101	II	500	

ECCN/HTS

HSCODE	8517709000
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