MXCHIP®

Datasheet

EMC3080 Wi-Fi/BLE Module

Built-in Cortex-M33 MCU

2.4GHz IEEE 802.11 b/g/n, BLE 4.2, ultra-high integration, rich peripherals

version：1.1　　data：2020-08-26　　Number：DS0156EN

Abstract

- **Input Voltage：3.0V~3.6V**
- **Operating Temperature：** -20℃ to +85℃
- **Processor: Cortex-M33 Processor Core MX1300CF**
  - MX1300CF: Main frequency up to 100MHz
  - SWD/JTAG simulation debugger interface
- **Memory**
  - 256K bytes SRAM
  - 384 bytes OTP memory area
  - 2M bytes XIP flash
- **Wi-Fi**
  - IEEE 802.11 b/g/n 1T1R 2.4GHz Single Frequency
  - Support HT20, up to 65Mbps@MCS7
  - Support 802.11e QoS enhancement (WMM)
  - Support WPA/WPA2 PSK，Open/WEP/ TKIP/CCMP
  - Support WPA/WPA2 Enterprise
  - Support WPS，Wi-Fi Direct
  - Support IEEE Power Save mode
- **Bluetooth**
  - Bluetooth Low Energy BLE compliant with the 4.2 standard
  - Wi-Fi and BLE time division multiplexing, sharing the same PA and antenna
  - Support Bluetooth slave mode, can be used for Bluetooth distribution network
- **Rich Peripherals**
  - 14 x GPIO
  - 1 x SPI, 2 x I2C
  - 8 x PWM
  - 3 x UART，support hardware flow control
  - Low-energy RTC

- **Interface and Dimension**
  - Maintain pin compatibility with similar package modules
  - RF Interface: PCB antenna, IPEX connector antenna
  - 18mm x 33mm, stamp hole or pin
- **Application Functions**
  - Support AliOS and MXOS operating system
  - Provide major cloud platforms access SDK
  - Mass production firmware for typical applications
- **Typical applications**
  - smart home appliances
  - smart electric equipment
  - Industrial automation
- **Ordering Code**

Ordering Code	Notes
EMC3080-PZI5	PCB antenna, MX1300CF processor
EMC3080-EZI5	IPEX antenna, MX1300CF processor

Order Code

For example, **EMC 3 08 0 -P I 5 -xxx**

Product Series

EMC=IoT Wi-Fi/BLE Module

Product Type

3=Welding type wireless module

Typical target applications and features

08=IOT Application 8 Series

Dimensions, enhancements

18mm x 33mm, 2 x 6pin 2.0 Spacing double row stamp hole + 9 pin 2.0 Spacing stamp hole or pin 2.0 Spacing stamp hole or pin

RF Interface

P=2.4GHz On-Board PCB Antenna

E=2.4GHz External Antenna IPEX Connector

Flash capacity

I = 2M bytes of flash storage

Temperature range

5 = Industrial grade temperature range, -20 ° C ~ 85 ° C

Option

TR = tape and reel（default package is tray）

For a list of all relevant features (such as packaging, minimum order quantity, etc.) and other information, please contact the nearest MXCHIP sales point and agent.

Accessories

Order Code	Description
MXKIT-Base	Development board for all EMC3080 modules
MXKIT-Core-3080	The development board core board for the EMC3080, used with MXKIT-Base
FX-3080	EMC3080 production fixture with accompanying test board：MXKIT-Base, MXKIT-Core-3080

Version Update Instructions

Date	Version	Update Contents
2019-12-06	0.1	First edition
2020-01-08	0.2	Improve power consumption parameters and RF parameters
2020-03-12	0.3	Pin definition update
2020-04-22	0.4	Label update, power consumption data update
2020-05-13	0.5	Update RF parameters
2020-08-10	1.0	Updated pin arrangement, assembly dimensions, ordering code
2020-08-26	1.1	Update Order Code Information

Copyright Notice

Contents

Table Catalog

Figure Catalog

1. Introduction

The EMC308x series modules are mainly used for IoT data communication. Data collection and control are realized through a rich peripheral interface, and data can be transmitted to the Internet of Things cloud service platform through a Wi-Fi network connection to realize the Internet of Everything. This series of modules is used in a wide range of IoT applications through a variety of different form factors, interface types, antenna interfaces and temperature range.

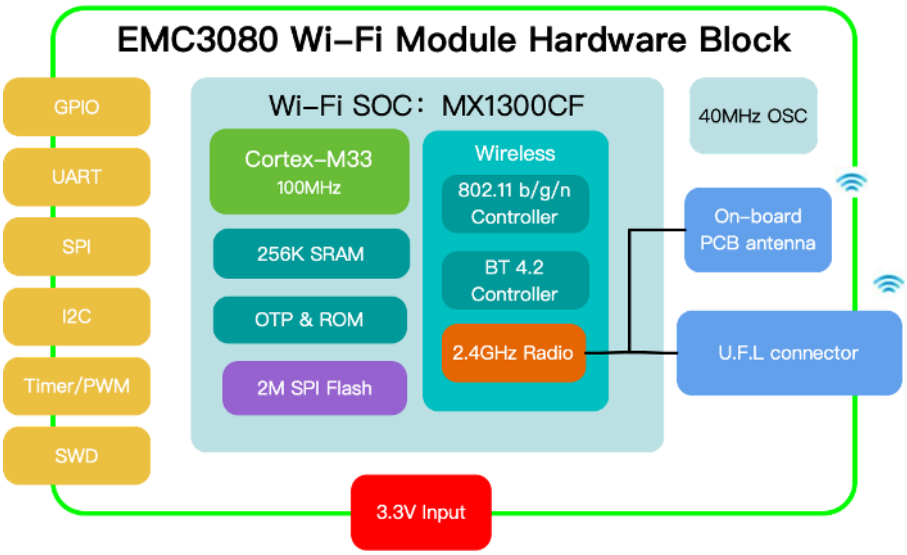
The module includes a super-integrated Wi-Fi microcontroller MX1300CF that integrates a Cortex-M33 core up to 125MHz, 256K bytes of SRAM, 2M bytes of Flash memory, and IEEE 802.11 b/g/ n Standard 2.4 GHz RF. Streamlined peripheral circuitry makes the overall module size and interface design more flexible and easier to control costs. The high-performance processing core and security module greatly improve the speed of networking interaction and reduce the overall power consumption while ensuring data security.

Shanghai MXCHIP provides MXOS and AliOS software platforms to support the development of EMC3080 series modules, providing an efficient development environment, access protocol stacks for various IoT cloud services, rich sample programs and various typical applications.

The following figure shows the hardware block diagram of the EMC3080 module, which mainly includes:

- Cortex-M33 core clocked up to 100MHz
- 256K bytes of SRAM
- 2M bytes XIP Flash
- 2.4GHz Wi-Fi controller conforming to IEEE 802.11 b / g / n standard
- Bluetooth Low Energy Controller that complies with BT4.2 BQB specifications

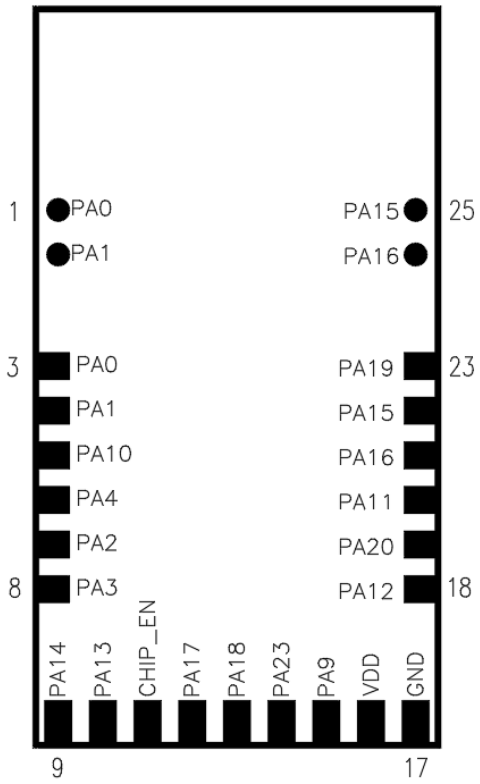
Figure 1 EMC3080 Hardware Block Diagram



2. Pin Definition

2.1. Pin Arrangement

Figure 2 Pin Arrangement



2.2. Pin Definition

Table 1 pin definition

Pin No.	Name	I/O Type	Function	Recommended function 1	Recommended function 2
1	PA0	I/O	PA0/SWD_CLK		
2	PA1	I/O	PA1/SWD_DIO		
3	PA0	I/O	PA0/SWD_CLK		
4	PA1	I/O	PA1/SWD_DIO		
5	PA10	I/O	PA10		
6	PA4	I/O	PA4/PWM4		
7	PA2	I/O	PA2/I2C_SCL		
8	PA3	I/O	PA3/I2C_SDA		
9	PA14	I/O	PA14/UART_TXD		
10	PA13	I/O	PA13/UART_RXD		
11	CHIP_EN(3) (5)	I/O	RESET		
12	PA17(5)	I/O	PA17/PWM5		
13	PA18	I/O	PA18/PWM6		
14	PA23	I/O	PA23/PWM7		
15	PA9	I/O	PA9/SPIM_D2		

16	VDD	I/O	VDD		
17	VSS	I/O	GND		
18	PA12	I/O	PA12		
19	PA20(1)	I/O	PA20/PWM0		
20	PA11	I/O	PA11/SPIM_D0		
21	PA16	I/O	PA16/DBG_TXD		
22	PA15	I/O	PA15/DBG_RXD		
23	PA19	I/O	PA19		
24	PA16	I/O	PA16/DBG_TXD		
25	PA15	I/O	PA15/DBG_RXD		

Notes:

1. Module working mode selection signal. During the startup phase, the module detects the level of these pins and enters a specific working state. The correspondence between level and working mode is shown in Table 3:

Table 2 operation mode

Operation mode		**PA_0 Default: 0**	**PA_13 Default: 0**	**PA_20 (BOOT) Default: 1**	**PA_19 (EASYLINK) Default: 1**
ISP Program Mode		1	1	not detect	not detect
Test mode		1	0	not detect	not detect
Normal	QC	0	not detect	0	0
	ATE			0	1
	APP			1	not detect

(1). ISP Program Mode, Test mode and Normal mode are detected by hardware at startup. PA_0 and PA_13, because it is a function of hardware solidification, it cannot be modified.

(2). QC, ATE and APP modes are judged by the firmware provided by MXCHIP, and the detection conditions and functions can be adjusted by modifying the firmware.

(3). ISP Program Mode function contempt: In the startup phase, if the processor hardware detects that the levels of PA_0 and PA_13 are high, it enters ISP programming mode. In the ISP programming mode, the flash of the module can be programmed through UART2 (PA_16, PA_15).

(4). Test mode is the reserved mode of the chip and will not be used.

(5). After the startup is completed, when the processor runs the firmware provided by MXCHIP, the firmware detects the status of PA_20 and PA_19 to enter the corresponding working mode. among them:

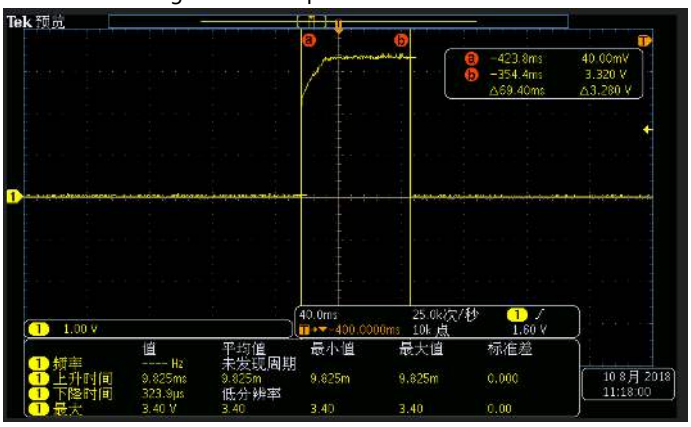
- QC mode is used to self-check the hardware during production, and generate QC information for the production device to check the quality of the module.
- In the ATE mode, a series of serial commands are provided to make the radio frequency in a specific transceiver mode, so that the instrument can be tested and calibrated.
- APP is the normal working mode for running applications.

2. The UART2 serial port is used for the input / output of debugging information. Do not use it

during design and provide as easy a way as possible to facilitate software development.

3. The CHIP_EN pin is an enable reset pin, which is active low and can be left floating if not used. Or pull up 3.3V.
4. Please keep the unused pins floating. It should be noted that the IO port is in a floating state at startup. If you need to configure the state of the pin through software, you need to wait until the code in the bootloader starts to execute. The time from when the module is powered on to when the code in the bootloader is executed will be affected by the flash startup time. Therefore, if you need IO to be in a certain level state at startup, you need to use a 100k resistor on the pin to pull up and down. Figure 3 shows the level change of the IO port whose software is configured as a low level after being pulled up by an external 100K resistor in the floating state. It can be seen that the time from the power-on of the module to the controllable IO port software is 69.4ms, and the time during which the IO is pulled to the high level is about 20ms.

Figure 3 IO The power-on state interface



5. The processing of chip pins inside the module is as follows:
    - PA_0, PA_1, PA_23: 10K pull-down resistor.
    - CHIP_EN: 100K pull-up resistor and 22nF capacitance to ground.

3. Electric Parameter

3.1. Absolute Maximum Parameters

Operation of the module outside of its absolute maximum ratings may result in permanent damage. At the same time, long-term exposure to the maximum rated conditions will affect the reliability of the module.

Table 3 Absolute Maximum Parameter: Voltage

Symbol	Ratings	Min	Max	Unit
V_{DD}–V_{SS}	Voltage	–0.3	3.6	V
V_{IN}	Input voltage on any other pin	V_{SS}–0.3	V_{DD}+0.3	V

3.2. Operating Voltage and Current

Table 4 Absolute Maximum Parameter: Current

Symbol	Note	Specification			
		Min.	Typical	Max.	Unit
V_{DD}	Voltage	3.0	3.3	3.6	V
I_{VDD}	3.3V inrush current			400	mA
I_{VDD}	3.3V，RF Tx CCK 11M 21dBm，peak current			600	mA

Table 5 operation parameter: Typical RF power consumption

Symbol	Note		Specification			
	CPU	Wi-Fi	Min.	Typical	Max.	Unit
I_{VDD}	Shut Down	Wi-Fi OFF		10		μA
I_{VDD}	Deep Sleep	Wi-Fi OFF		30		μA
I_{VDD}	Standby	Wi-Fi OFF		200		μA
I_{VDD}	Sleep	Wi-Fi OFF		450		μA
I_{VDD}	Active	Wi-Fi OFF		9		mA
I_{VDD}	Active	TX@MCS7/HT20，14dBm		198		mA
I_{VDD}	Active	TX@MCS7/HT20，16dBm		218		mA
I_{VDD}	Active	TX@OFDM54M, 15dBm		207		mA
I_{VDD}	Active	TX@OFDM54M, 17dBm		230		mA
I_{VDD}	Active	TX@CCK11M, 18dBm		249		mA
I_{VDD}	Active	TX@CCK11M, 21dBm		315		mA
I_{VDD}	Active	RX@MCS7, HT20 (Pin= -60dBm)		67		mA
I_{VDD}	Active	RX@OFDM54M (Pin= -60dBm)		TBD		mA
I_{VDD}	Active	RX@CCK11M (Pin= -60dBm)		61		mA
I_{VDD}	Active	RF Standby		33		mA
I_{VDD}	Active	RF disable		24		mA

(1). The above parameters are measured in the laboratory wireless shielding environment. Refer to Table 8 for actual application power consumption.

(2). Flash power consumption is not included in the data in Table 6. When reading code or reading and

writing data from the Flash, the power consumption of the Flash is not higher than 20mA, and the power consumption of the Flash in standby mode (CS signal is pulled high) is not higher than 50mA.

3.3. General I/O interface

Table 6 DC current: digital I/O

Symbol	Note	Conditions	Specification			
			Min.	Typical	Max.	Unit
V_{IH}	Input-High Voltage	LVTTL	2.0	-	-	V
V_{IL}	Input-Low Voltage	LVTTL	-	-	0.8	V
V_{OH}	Output-High Voltage	LVTTL	2.4	-	-	V
V_{OL}	Output-Low Voltage	LVTTL	-	-	0.4	V
I_{T+}	Schmitt-trigger High Level		1.78	1.87	1.97	V
I_{T-}	Schmitt-trigger Low Level		1.36	1.45	1.56	V
I_{IL}	Input-Leakage Current	V_{IN}=3.3V or 0	-10	±1	10	μA

3.4. Typical Application Power Consumption

The module current test environment is based on VDD=3.3V. Test under common office application environment (values measured under different test environments will be different).

Table 7 Typical application power consumption

Mode	Average	Max.	Unit	Note
Wi-Fi off	18.2	20	mA	CPU Active
Wi-Fi off	TBD	TBD	mA	CPU Sleep
Wi-Fi initialization	TBD	TBD	mA	CPU Active, Wi-Fi initialization is in standby
Keep Wi-Fi connected	82.4	97.4	mA	Turn off Wi-Fi and MCU low power consumption
Keep Wi-Fi connected	35.6	97.4	mA	Turn on Wi-Fi low power consumption, turn off MCU low power consumption, DTIM = 1
Keep Wi-Fi connected	TBD	TBD	mA	Turn on Wi-Fi low power consumption, turn off MCU low power consumption, DTIM = 3
Keep Wi-Fi connected	TBD	TBD	mA	Turn on Wi-Fi low power consumption and MCU low power consumption, DTIM = 1
Keep Wi-Fi connected	TBD	TBD	mA	Turn on Wi-Fi low power consumption and MCU low power consumption, DTIM = 3
SoftAP mode	67.9	244.6	mA	SoftAP networking status
Monitor mode	86.4	101.5	mA	Distribution process, in RX state
Iperf performance mode	TBD	TBD	mA	Turn off the low power consumption of Wi-Fi and MCU, iperf sends at full speed

3.5. Temperature

Table 8 Temperature and humidity parameters

Symbol	Ratings	Max	Unit
T_{STG}	Storage temperature	–55 to +125	℃
T_{work}	Ambient Operating Temperature	-20 to +85	℃
T_{Jun}	Junction Temperature	0 to +125	℃

3.6. ESD

Table 9 Electrostatic discharge parameters

Symbol	Name	Name	Level	Max.	Unit
V_{ESD}(HBM)	Electrostatic discharge voltage (Human body model)	TA= +25 °C comply with JESD22-A114	2	2000	V
V_{ESD}(CDM)	Electrostatic discharge voltage (Discharge equipment model)	TA = +25 °C comply with JESD22-C101	II	500	

3.7. RF Parameter

Table 10 RF Parameter

Item	Specification
Operating Frequency	2.412~2.484GHz
Channel BW	20MHz
Antenna Interface	1T1R, Single stream
Wi-Fi Standard	IEEE 802.11b/g/n
Modulation Type	11b: DBPSK, DQPSK, CCK for DSSS 11g: BPSK, QPSK, 16QAM, 64QAM for OFDM 11n: MCS0~7, OFDM
Data Rates	802.11b: 1, 2, 5.5 and 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps 802.11n: MCS0~7, up to 65Mbps
Antenna type	One U.F.L connector for external antenna PCB printed ANT (Reserve)

Note: The typical values of the following Tx test data are recorded under normal temperature environment and Tx lasts about 20s.

TX performance

Table 11 Output Power

TX Characteristics	Min.	Typical	Max.	Unit
Power@11Mbps, 802.11b	14	16.5	18	dBm
Power@54Mbps, 802.11g	13	14.5	16	dBm
Power@HT20, MCS7,802.11n	11	12.5	14	dBm

Table 12 Frequency error

TX Characteristics	Min.	Typical	Max.	Unit
Frequency Error	-15	-	+15	ppm

Table 13 EVM

TX Characteristics	Min.	Typical	Max.	Unit
EVM@11Mbps, 802.11b	-	-20	-10	dB
EVM@54Mbps, 802.11g	-	-29	-25	dB
EVM@HT20, MCS7,802.11n	-	-31	-27	dB

RX performance

Table 14 RX sensitivity

RX Characteristics	Min.	Typical	Max.	Unit
Minimum Input Level Sensitivity				
PER≦8%@11Mbps,802.11b	-	-88	-	dBm
PER≦10%@54Mbps,802.11g	-	-75	-	dBm
PER≦10%@HT20, MCS7, 802.11n	-	-72	-	dBm

3.8. EMC3080 Bluetooth RF Parameters

Table 15 EMC3080 BLE4.2 TX/RX Parameters

Item	DataRate	Min	Typical	Max	Unit
POWER_AVERAGE	LE_1M	6	8	10	dBm
Frequency Drift Error	LE_1M	-50	-5	50	KHz
Carrier frequency offset and drift at NOC:					
ΔFn max	LE_1M	-150	6.1	150	KHz
|F0-Fn|	LE_1M		2.37	50	KHz
|F1-F0|	LE_1M		2.1	20	KHz
|Fn-Fn5|	LE_1M		0.89	20	KHz
Modulation characteristics:					
ΔF1avg	LE_1M	225	249	275	KHz
ΔF2avg	LE_1M	185	238	275	KHz
ΔF2avg/ΔF1avg	LE_1M	0.8	0.96		KHz
ΔF2max	LE_1M	185	245		KHz
In-Band Emissions					
OFFSET_-2	LE_1M		-44.3	-20	dBm
OFFSET_-3	LE_1M		-46.6	-30	dBm
OFFSET_-4	LE_1M		-46.5	-30	dBm
OFFSET_-5	LE_1M		-50.6	-30	dBm
OFFSET_2	LE_1M		-46.1	-20	dBm
OFFSET_3	LE_1M		-45.7	-30	dBm
OFFSET_4	LE_1M		-44.4	-30	dBm
OFFSET_5	LE_1M		-50.2	-30	dBm
RX Characteristics					
Minimum Sensitivity PER ≤30.8%	LE_1M	-	-98	-97	dBm

4. Antenna Information

EMC3080 has two specifications: PCB antenna and external antenna, please refer to the order code for order. IPX antenna connectors are not soldered on the modules using PCB antennas. By connecting an external antenna through an IPX connector, you can get better RF performance.

4.1. PCB antenna parameters and use

4.1.1. On-board PCB parameter

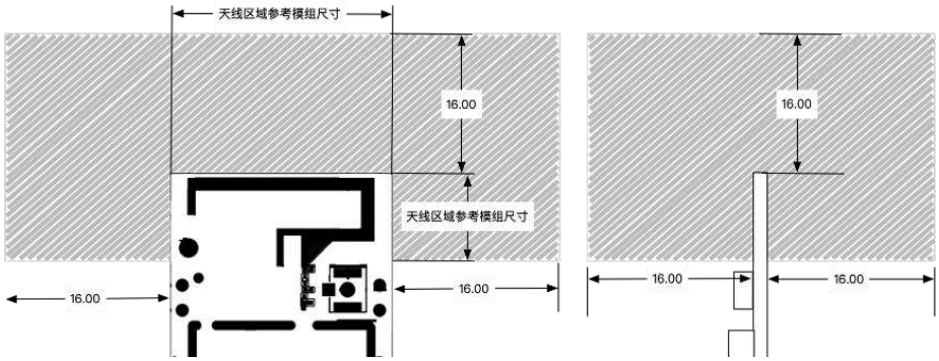
Table 16 On-board PCB parameter

Item	Min.	Typical	Max.	Unit
Frequency	2400		2500	MHz
Impedance		50		Ω
VSWR			2	
Gain	≤2dBi			
Efficiency	>70% or >-1.54dB			

4.2. PCB Antenna Clearance

When using PCB antenna in WIFI module, it is necessary to ensure that PCB and other metal devices are at least 16 mm away from the motherboard. The shaded areas in the figure below need to be far away from metal devices, sensors, interference sources and other materials that may cause signal interference.

Figure 4 Antenna minimum clearance area (unit: mm)



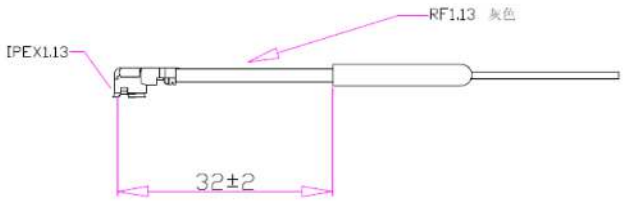
4.3. External antenna parameters and use

Users can choose different 2.4G antennas with different external dimensions and gains not greater than 2dBi according to the application environment.

When using an external antenna, it should be noted that the module must be powered on after the antenna is connected, because the module will perform IQ calibration after power on, and send a single carrier through the PA to pass the RX loop detection signal. If the load is not loaded (the antenna is not connected), it will cause calibration errors, which will make the PA output power abnormal, and a large standing wave will be formed at the PA output, which may damage the internal devices.

The following is a copper tube antenna with an IPEX connector commonly used by MXCHIP:

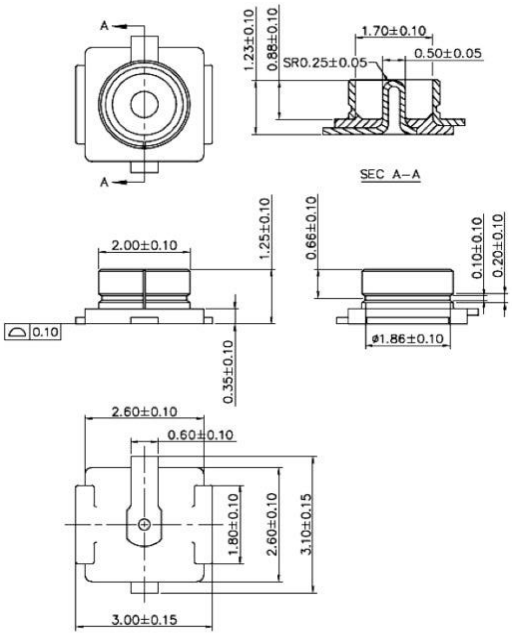
Figure 5 Copper tube antenna size



- Frequency range：2400-2500 MHz
- Input impedance：50 OHM
- VSWR：< 2.0
- Gain：2.0DBI
- Polarization: vertical
- Directivity: Omnidirectional
- Copper tube: 4.4 * 23mm
- Wire: 1.13 gray wire L-82mm

External antenna IPEX seat size:

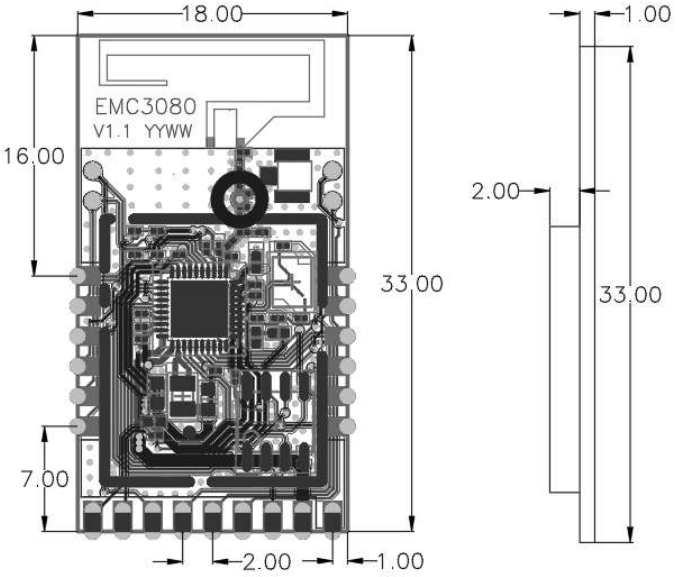
Figure 6 Dimension drawing of external antenna connector



5. Dimensions and Production Guidance

5.1. Assembly Dimension Diagram

Figure 7 Assembly Dimension Diagram（unit: mm, tolerance: ±0.1, outside tolerance±0.2）)



5.2. Recommended Package Drawing

The solder resist window and the pad size are the same. SMT recommends a steel mesh thickness of 0.12mm-0.14mm.

Figure 8 DIP package dimension(unit: mm)

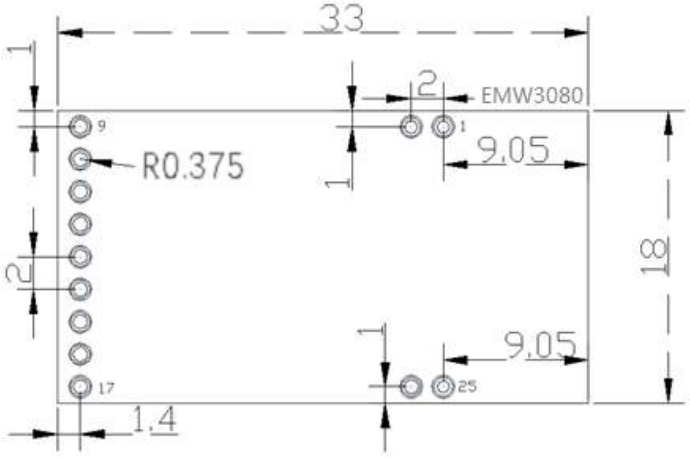


Figure 9 Stamp hole package size (mounting pad, unit: mm)

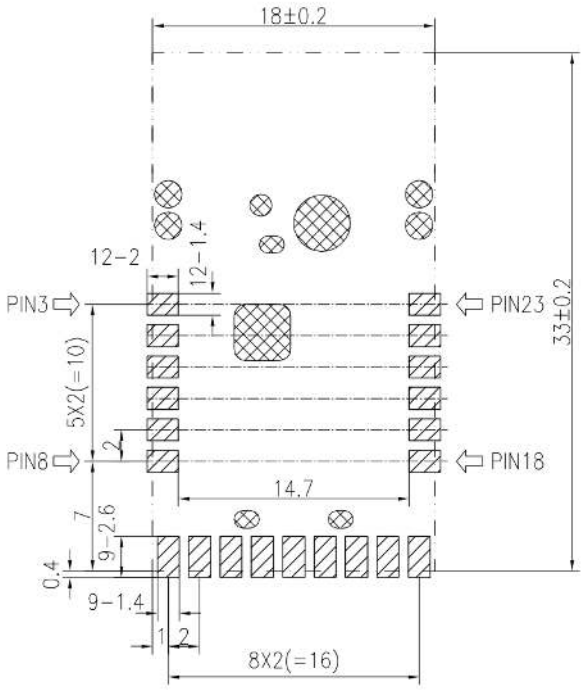
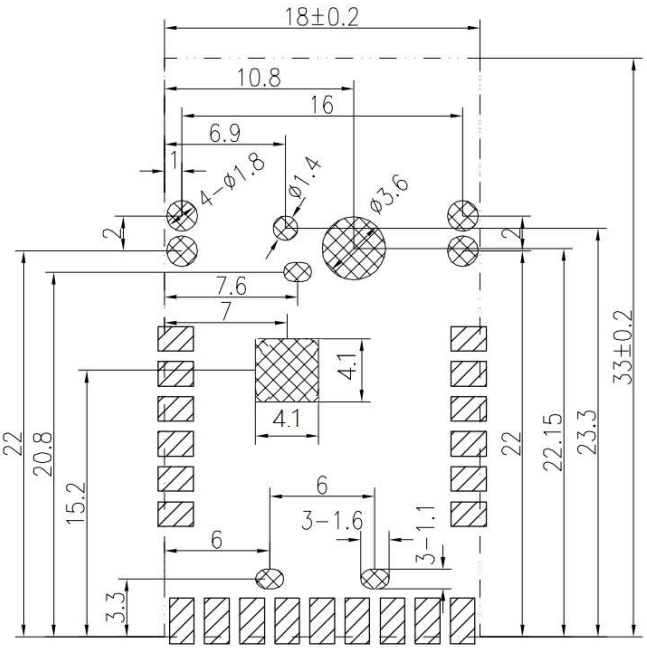


Figure 10 Stamp hole package size (no mounting pad, unit: mm)



Notes:

The two-dot chain line indicates the outline of the module, and components cannot be arranged on the main board in the outline.

The hatching in the middle oblique line indicates the mounting pad of the module on the main board and expresses the size of the mounting position of the module on the main board.

The medium meshed wire frame indicates the place where the pad cannot be placed on the main board, and expresses the position size of the prohibited pad on the motherboard.

6. Production Guidelines

MXCHIP stamp port packaging module must be SMT machine patches, module humidity sensitivity grade MSL3, after unpacking more than a fixed time patches to bake module.

- SMT patches require instruments
  - Reflow bonding machine
  - AOI detector
  - 6-8mm suction nozzle
- Baking requires equipment:
  - Cabinet oven
  - Anti-static, high temperature tray
  - Antistatic and heat resistant gloves

The storage conditions of MXCHIP module are as follows:

- Moisture-proof bags must be stored in an environment with temperature < 30 degree C and humidity < 85% RH.
- A humidity indicator card is installed in the sealed package.

Figure 11 Humidity Card

After the module is split, if the humidity card shows pink, it needs to be baked.

The baking parameters are as follows:

- The baking temperature is 120℃±5℃ and the baking time is 4 hours.
- The alarm temperature is set to 130℃.
- SMT patches can be made after cooling < 36℃ under natural conditions.
- Drying times: 1 time.
- If there is no welding after baking for more than 12 hours, please bake again.

If the disassembly time exceeds 3 months, SMT process is forbidden to weld this batch of modules, because PCB gold deposition process, over 3 months, pad oxidation is serious, SMT patch is likely to lead to virtual welding, leak welding, resulting in various problems, our company does not assume the corresponding responsibility;

Before SMT patch, ESD (Electrostatic Discharge, Electrostatic Release) protection should be applied to the module.

SMT patches should be made according to the reflow curve. The peak temperature is 250 C.

In order to ensure the qualified rate of reflow soldering, 10% of the first patches should be taken for visual inspection and AOI testing to ensure the rationality of furnace temperature control, device adsorption mode and placement mode, and 5-10 patches per hour are recommended for visual inspection and AOI testing in subsequent batch production.

6.1. Precautions

- Operators of each station must wear static gloves during the entire production process.
- Do not exceed the baking time when baking.
- It is strictly forbidden to add explosive, flammable, or corrosive substances during baking.
- When baking, the module uses a high temperature tray to be placed in the oven to keep the air circulation between each module while avoiding direct contact between the module and the inner wall of the oven.
- When baking, please close the oven door to ensure that the oven is closed to prevent temperature leakage and affect the baking effect.
- Try not to open the door when the oven is running. If it must be opened, try to shorten the time for opening the door.
- After baking, the module should be naturally cooled to <36°C before wearing the static gloves to avoid burns.
- When operating, strictly guard against water or dirt on the bottom of the module.

The temperature and humidity control level of MXCHIP factory module is Level3, and the storage and baking conditions are based on IPC/JEDEC J-STD-020.

6.2. Secondary reflow temperature curve

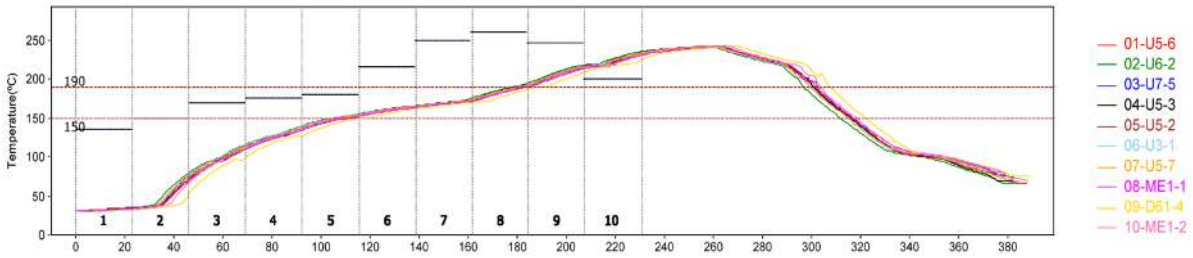
Recommended solder paste type: SAC305, lead free. No more than 2 reflow cycles. Peak temperature not to exceed 245°C. The following is a typical furnace temperature profile setting.

Table 17 Typical furnace temperature settings

Furnace settings	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Z9	Z10

Upper temperature zone setting	135	150	170	175	180	215	250	260	247	200
Lower temperature zone setting	135	150	170	175	180	215	250	260	247	200

Figure 12 Typical secondary reflux temperature profile



- 30℃～150℃ preheating temperature rise: 0-3℃/s, typical value: 1.2℃/s
- 150℃～190℃ immersion time: 60-100second, typical value：72second
- Peak temperature: 245°C, typical value: 242°C
- Time above 220°C: 50 sec. to 90 sec. Typical value: 70 sec
- 217℃cooling speed: -3～0℃/s, typical value：-2.0℃/s

6.3. Storage Condition

Figure 13 Storage Conditions Diagram

7. Label Information

Figure 14 Label Diagram

1. MXCHIP: Company Logo
2. EMC3080-P: Product Main Type.
3. CMIIT ID: SRRC Model Authorization ID, 10 bits
4. FCC ID: FCC Model Authorization ID
5. ZI5: Product Auxiliary Model
6. X1952: Production serial number
7. B0F89379A30C: MAC Address

8. Sales and Technical Support Information

If you need to consult or purchase this product, please call Shanghai MXCHIP Information Technology Co., Ltd. during office hours.

Office hours: Monday to Friday morning: 9:00-12:00, afternoon: 13:00-18:00

Contact Tel: +86-21-52655026

Address: 9th Floor, Lane 5, 2145 Jinshajiang Road, Putuo District, Shanghai

Zip code: 200333

Email: sales@mxchip.com