W0802P Specification

V1.0

Document History

Version	Complete Date	Revision Record	Author	Auditor
V1.0	2020-06-20	Initial Release	Linda	Ray

Content

1 Introduction

W0802P is the IoT Wirless module based on Wi-Fi SoC W800. It integrates stamp hole interface and PCB antenna. This module can be used for smart home, smart appliance, smart toy and industry field.

2 Product Feature

2.1 Interface

- ➢ Stamp hole interface with 1.5mm spacing
- ➢ Integrate 5 x UART ports, band rate 1200bps~2Mbps
- ➢ Integrate 2 channel 16bit ADC
- ➢ Integrate PWM
- ➢ 1 x I²C
- ➢ 1 x Duplex I²S
- ➢ Max 18 GPIO

2.2 Wireless

- ➢ Support GB15629.11-2006、IEEE802.11 b/g/ n standard
- ➢ Frequency range: 2.4~2.4835 GHz
- ➢ Support Wi-Fi WMM/WMM-PS/WPA/WPA2/WPS
- ➢ Support EDCA channel access
- ➢ Support 20/40M bandwidth
- ➢ Support STBC, GreenField, Short-GI and reverse transmission
- ➢ Support AMPDU, AMSDU

- Support IEEE802.11n MCS 0~7, MCS32 transmission rate is up to 150Mbps

- Support Short Preamble in 2/5.5/11 Mbps

- Support HT-immediate Compressed Block Ack, Normal Ack, No Ack

- Support CTS to self

- Support STA/AP/AP+STA function

- Support up to 32 multicast networks with different encryption methods in BSS

- As AP in BSS, the sum of sites and groups is up to 32 and in IBSS is up to 16

2.3 Others

- Support programmabel GPIO control

- Support AT+command protocol based on ASCII code trough UART interface

- Support multiple network protocols: TCP/UDP/ICMP/DHCP/DNS/HTTP

- Support DHCP Server, DNS Server

- Support extensible WEB server

- Support firmware online update

3 Product Specification

Table 3-1 Specification List

	Item	Parameter	Note
Wireless	Wi-Fi Mode	IEEE802.11b/g/n	
	RF Impedance	50Ω	
	SWR	<-10dB	
	Frequency Randge	2.4~2.4835 GHz	

Hardware	Reception Sensitivity	1Mbps@-93dBm； 11Mbps@-87dBm； 54Mbps@-73dBm； 20MHz MCS7@-71dBm；	
	Data Rate in PHY	802.11n MCS 0~7 150Mbps	
	Modulation Mode	DSSS、OFDM、DBPSK、DQPSK、CCK、QAM16/64	
	Output Power	IEEE802.11b, DSSS 1Mbps, POUT = 18±2dBm； IEEE802.11g, OFDM 54Mbps, POUT = 14±2dBm； IEEE802.11n, OFDM MCS7, POUT = 12±2dBm；	
	Interface	UART, SPI, GPIO, PWM, I²C, I²S	
	Interface Rate	2Mbps@UART (Max) 50Mbps@SPI (Max)	
	Working Voltage	3.0V – 3.6V	
	Working Humidity	5%~90%	
	Storage Temperature	-40~+125 ℃	
	Working Temperature	-40~+85℃	
	Size	16.0mm×24.0mm	
Software	Network Type	STA/AP/AP+STA	
	Authemtication	WEP/WPA-PSK/WPA2-PSK	
	Encryption	WEP64/WEP128/TKIP/CCMP(AES)	
	WPS	WPS	
	Energy Conservation	PS-POLL/Standby	

	Network Protocol	TCP/UDP/ARP/ICMP/DHCP/DNS/HTTP	
	Interface Protocol	AT+Command	

4 Interface

Module is shown in Figure4-1:
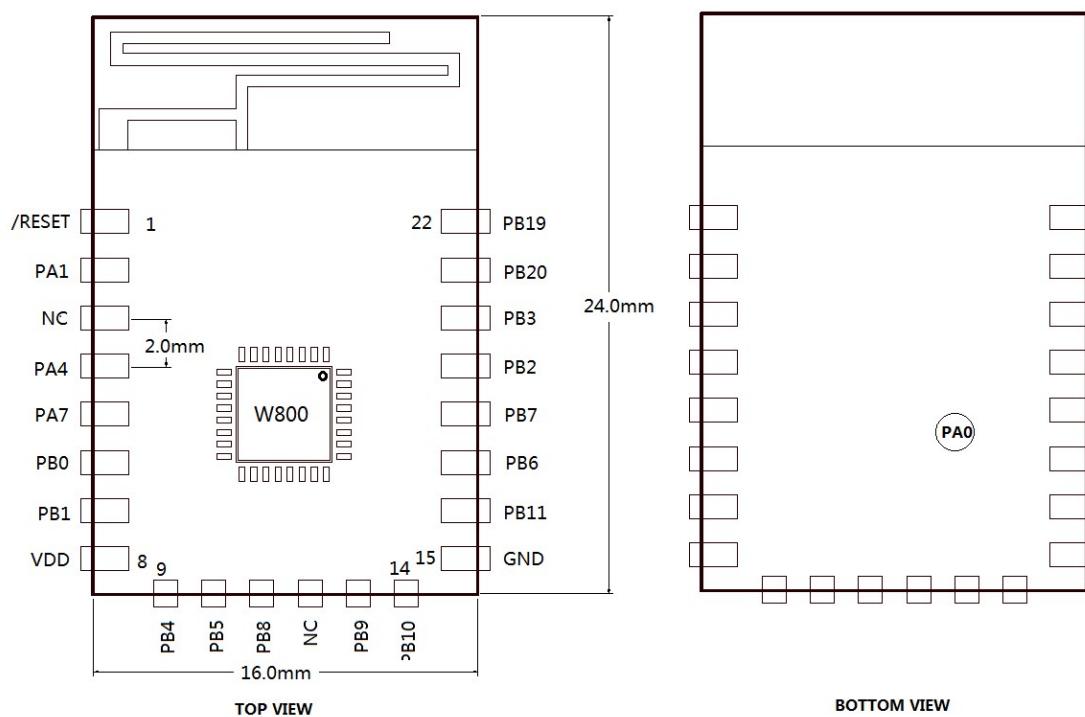
Figure 4-1 W0802P

Table 4-1 PIN Description

NO.	Name	Type	Default Function	Reuse Function
1	/RESET	I	RESET	
2	PA1	I/O	JTAG_CK	JTAG_CK/I²C_SCL/PWM3/I²S_LRCK/ADC0
3	NC			
4	PA4	I/O	JTAG_SWO	JTAG_SWO/I²C_SDA/PWM4/I²S_BCK/ADC1

| 5	PA7	I/O	GPIO,INPUT	PWM4/LSPI_MOSI/I²S_MCK/I²S_DI
6	PB0	I/O	GPIO, INPUT	PWM0/LSPI_MISO/UART3_TX
7	PB1	I/O	GPIO, INPUT	PWM1/LSPI_CK/UART3_RX
8	VDD	P	3.3V POWER	
9	PB4	I/O	GPIO, INPUT	LSPI_CS/UART2_RTS/UART4_TX/ SIM_CLK_2
10	PB5	I/O	GPIO, INPUT	LSPI_MOSI/UART2_CTS/UART4_RX
11	PB8	I/O	GPIO,INPUT	I²S_BCK/PWM_BREAK
12	NC			
13	PB9	I/O	GPIO, INPUT	I²S_LRCK
14	PB10	I/O	GPIO, INPUT	I²S_DI
15	GND	P	GND	
16	PB11	I/O	GPIO, INPUT	I²S_DO
17	PB6	I/O	GPIO, INPUT	UART1_TX
18	PB7	I/O	GPIO, INPUT	UART1_RX
19	PB2	I/O	GPIO, INPUT	PWM2/LSPI_CK/UART2_TX/SIM_DATA_2
20	PB3	I/O	GPIO, INPUT	PWM3/LSPI_MISO/UART2_RX
21	PB20	I/O	UART_RX	UART0_RX/PWM1/UART1_CTS/I²C_SCL
22	PB19	I/O	UART_TX	UART0_TX/PWM0/UART1_RTS/I²C_SDA

5　Reference Circuit Design
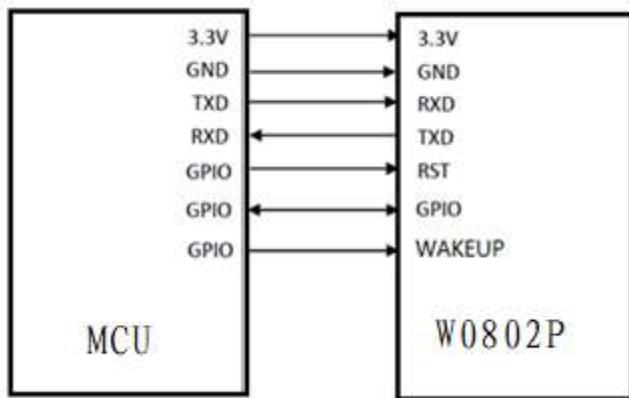
Figure 5-1 W0802P Reference Design

6　Appendix: Statement

Federal Communications Commission (FCC) Declaration of Conformity FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This device complies with Part 15 of the FCC Rules.Operation is subject to the following two conditions: 1. This device may not cause harmful interference, and 2. this device must accept any interference received, including interference that may cause un-desired operation. Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equip-ment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: —Reorient or relocate the receiving antenna. —Increase the separation between the equipment and receiver. —Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. —Consult the dealer or an experienced radio/TV technician for help. Radiation Exposure Statement This equipment complies with FCC radiation exposure limits set forth for an

uncontrolled rolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. Important Note：This radio module must not installed to co-locate and operating simultaneously with other radios in host system except in accordance with FCC multi-transmitter product procedures. Additional testing and equipment authorization may be required to operating simultaneously with other ra-dio. The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user. The host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. The final host product still requires Part 15 Subpart B compliance testing with the mod-ular transmitter installed. The end user manual shall include all required regulatory information/warning as shown in this manual, including: This product must be in-stalled and operated with a minimum distance of 20 cm between the radiator and user body. This device have got a FCC ID: 2AGQ7-W0802P.The final end product must be labeled in a visible area with the following: "Contains Transmitter Mod-ule FCC ID: 2AGQ7-W0802P" This device is intended only for OEM integrators under the following conditions: 1) The antenna must be installed such that 20cm is main-tained between the antenna and users, and 2) The transmitter module may not be co-located with any other transmitter or antenna. As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance require-ments required with this module installed. Declaration of Conformity European notice。