PRODUCT SPECIFICATION

6222B-SRC

Wi-Fi Dual-band 2X2 11ac + Bluetooth 5.0/4.2

Combo Module

Version:v2.9

Customer: _____

Customer P/N: _____

Signature: _____

Date: _____

Office: 14th floor, Block B, phoenix zhigu, Xixiang Street, Baoan District, Shenzhen

Factory: NO.8, Litong RD., Liuyang Economic & Technical Development Zone, Changsha, CHINA

TEL:+86-755-2955-8186 Website:www.fn-link.com

6222B-SRC Module Datasheet

	Part NO.	Description
Ordering Information	FG6222BSRC-00	RTL8822CS-VS-CG, a/b/g/n/ac, Wi-Fi+BT5.0, 2T2R, SDIO+UART, PCB V3.0, 3antenna type
	FG6222BSRC-01	RTL8822CS-VL-CG, a/b/g/n/ac, Wi-Fi+BT4.2, 2T2R, SDIO+UART, PCB V3.0, 3antenna type
	FG6222BSRC-02	RTL8822CS-VL-CG, a/b/g/n/ac, Wi-Fi+BT4.2, 2T2R, SDIO+UART, PCB V3.0, 2antenna type
	FG6222BSRC-03	RTL8822CS-VS-CG, a/b/g/n/ac, Wi-Fi+BT5.0, 2T2R, SDIO+UART, PCB V3.0, 2antenna type
	FG6222BSRC-04	RTL8822CS-VL-CG, a/b/g/n/ac, Wi-Fi+BT4.2, 2T2R, SDIO+UART, PCB V3.0, 3antenna type, no shielding
	FG6222BSRC-05	RTL8822CS-VL-CG, a/b/g/n/ac, Wi-Fi+BT4.2, 2T2R, SDIO+UART, PCB V3.0, 3antenna type, 01005 版本
	FG6222BSRC-Z6	RTL8822CS-VS-CG, a/b/g/n/ac, Wi-Fi+BT5.0, 2T2R, SDIO+UART, PCB V3.0, 3antenna type,no shielding
	FG6222BSRC-07	RTL8822CS-VS-CG, a/b/g/n/ac, Wi-Fi+BT5.0, 2T2R, SDIO+UART, PCB V3.0, 2antenna type,no shielding
	FG6222BSRC-08	RTL8822CS-VH-CG, a/b/g/n/ac, Wi-Fi+BT5.0, 2T2R+BT, SDIO+Uart, PCB V3.0,3antenna type
	FG6222BSRC-K0	RTL8822CS-VS-CG, a/b/g/n/ac, Wi-Fi+BT5.0, 2T2R, SDIO+UART, PCB V3.0, 3antenna type,客供 IC
	FG6222BSRC-K1	RTL8822CS-VL-CG, a/b/g/n/ac, Wi-Fi+BT4.2, 2T2R, SDIO+UART, PCB V3.0, 3antenna type,客供 IC
	FG6222BSRC-K3	RTL8822CS-VS-CG, a/b/g/n/ac, Wi-Fi+BT5.0, 2T2R, SDIO+UART, PCB V3.0, 2antenna type,客供 IC

	FG6222BSRC-K4	RTL8822CS-VL-CG, a/b/g/n/ac, Wi-Fi+BT4.2, 2T2R, SDIO+UART, PCB V3.0, 3antenna type, no shielding,客供 IC
	FG6222BSRC-K7	RTL8822CS-VS-CG, a/b/g/n/ac, Wi-Fi+BT5.0, 2T2R, SDIO+UART, PCB V3.0, 2antenna type,no shielding,客供 IC
	FG6222BSRC-D0	RTL8822CS-VBS-CG,a/b/g/n/ac,WiFi+BT5.0, 2T2R,SDIO+Uart, PCB V3.0,2antenna type
	FG6222BSRC-T0	RTL8822CS-VBS-CG,a/b/g/n/ac,WiFi+BT5.0, 2T2R, SDIO+Uart, PCB V3.0,3antenna type
	FG6222BSRC-H0	RTL8822CS-VBS-CG ,a/b/g/n/ac +BT5.0,2T2R,13*15 ,SDIO3.0/Uart,3antenna type (Hisense,appointed chip vendor)
	FG6222BSRC-HD	RTL8822CS-VBS-CG ,a/b/g/n/ac +BT5.0,2T2R,13*15 ,SDIO3.0/Uart,2antenna type (Hisense,appointed chip vendor)
	FG6222BSRC-C4	RTL8822CS-VL-CG ,a/b/g/n/ac,WiFi+BT4.2,2T2R,SDIO+UART,3antenna type,no shielding,（创维专案,指定芯片供应商）
	FG6222BSRC-Z8	RTL8822CS-VH-CG, a/b/g/n/ac +BT5.0,2T2R+BT,13*15 ,SDIO3.0/Uart,3antenna type（中兴专案,指定芯片供应商）
	FG6222BSRC-H1	RTL8822CS-VE-CG, 802.11a/b/g/n/ac+BT5,2T2R+BT ANT, 13*15 ,SDIO3.0/Uart,3antenna ,(Hisense,appointed chip vendor)

Target power:

2.4G : 17/15/14

5G ： 15/14/13

CONTENTS

Revision History

Version	Date	Contents of Revision Change	Preparde	Checked	Approved
V1.0	2020/06/09	New version	LXY	LXY	SZS
V1.1	2020/11/26	Update pin15 pin44 using guide	LXY	LXY	SZS
V1.2	2020/12/21	Added model type -05,-06,-07,-k1,-k2,-k3,-k4	LXY	LXY	SZS
V1.3	2021/06/09	Added model type -D0,-T0	LXY	LXY	SZS
V1.4	2021/08/12	Added model type -K7	LXY	LXY	QJP
V1.5	2022/01/11	1.Update the specification format 2.change the standaard to ±2dbm 3.-08/K0 PCB version updated to V3.0	FC	LXY	QJP
V1.6	2022/05/17	Modify 38pin description Update packaging information	FC	LXY	QJP
V1.7	2022/07/26	Update material list. Update reflow profile	LXY	LXY	QJP
V1.8	2022/08/19	Added -H0,-C4,-Z8 type model	LXY	LXY	QJP
V1.9	2022/09/28	Update SDIO timing description	LXY	LXY	QJP
V2.0	2023/05/25	Update SDIO Pin Description,Bluetooth Specification Format and package	Fc	LXY	QJP
V2.1	2023/07/20	Added model type -E1,H1	TZQ	LXY	QJP
V2.2	2023/07/25	Added model type -HD	LXP	LXY	QJP
V2.3	2023/11/28	Add Certificate No Add Part No. FG6222BSRC-Z6	LXP	LXY	QJP
V2.4	2024/09/24	Update Marking Description	LXP	LXY	QJP
V2.5	2024/10/23	Update Module picture	LXP	LXY	QJP
V2.6	2024/10/30	Update -Z6 Module picture and Marking Description	LXP	LXY	QJP
V2.7	2024/11/14	Delete Part No. -E1	LXP	LXY	QJP
V2.8	2024/11/22	Update -H0&-T0 Marking Description	LXP	LXY	QJP
V2.9	2025/07/25	Update Reel	LXP	LXY	QJP

1. General Description

1.1 Introduction

Fn-Link Technology would like to announce a low-cost and low-power consumption module which has all of the Wi-Fi functionalities. It is a highly-integrated IEEE 802.11 a/b/g/n/ac MAC/Baseband/RF WLAN single chip. For Wireless LAN operation. The integrated module provides SDIO interface for Wi-Fi . The module provides simple legacy and 20MHz/40MHz/80MHz co-existence mechanism to ensure backward and network compatibility

The wireless module complies with IEEE 802.11 a/b/g/n/ac 2x2 MIMO standard and the speed can achieve up to 867Mbps with dual stream in 802.11n. The integrated module provides SDIO interface for Wi-Fi, UART / PCM interface for Bluetooth.

This combo module is a total solution for a combination of Wi-Fi and Bluetooth V5.0 /4.2 technologies. The module is specifically developed for all portable devices.

1.2 Description

Model Name	6222B-SRC
Product Description	Support Wi-Fi/Bluetooth functionalities
Dimension	L x W x H: 15 x 13 x 2.15 mm (typical)
Wi-Fi Interface	Support SDIO V3.0/V2.0/V1.1
BT Interface	UART / PCM
OS supported	Android /Linux/ Win CE /iOS /XP/WIN7/WIN10
Operating temperature	0°C to 70°C
Storage temperature	-40°C to 85°C

2. Features

General

- Highly integrated wireless local area network(WLAN) system-on-chip (SOC) for 5 GHZ 802.11ac, or 2.4G/5G 802.11n WLAN applications
- Dual-stream spatial multiplexing up to 867 Mbps data rate
- Supports 20/40MHz at 2.4GHz and supports 20/40/80MHz at 5GHz
- Supports Bluetooth for class1 and class2 power level transmissions without requiring an external PA

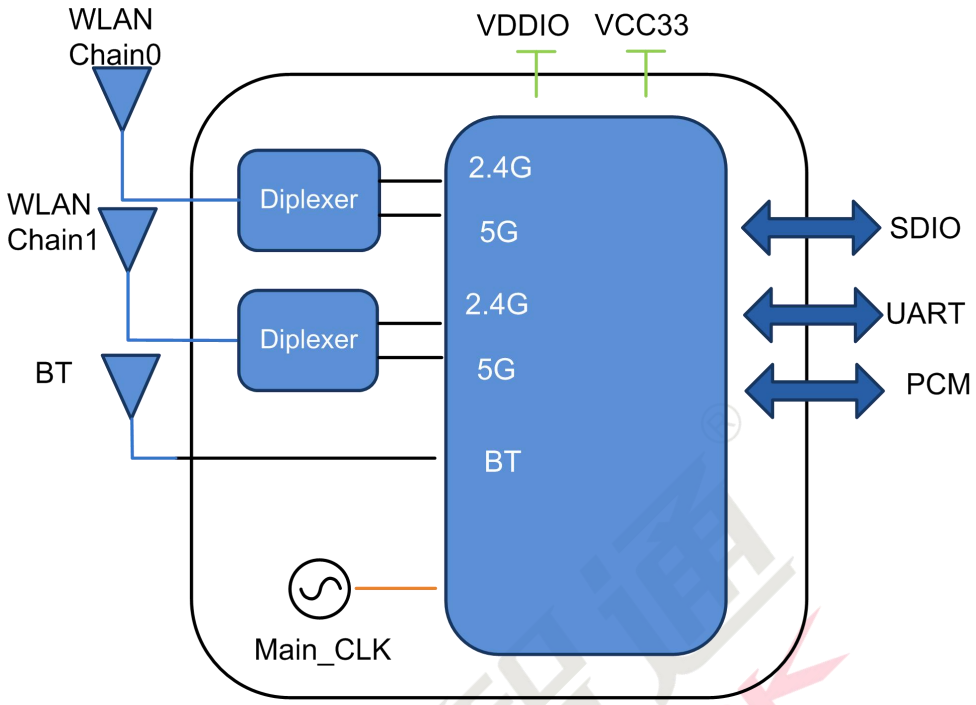
Host Interface

- Supports low power SDIO3.0 interface for WLAN and UART/PCM interface for Bluetooth

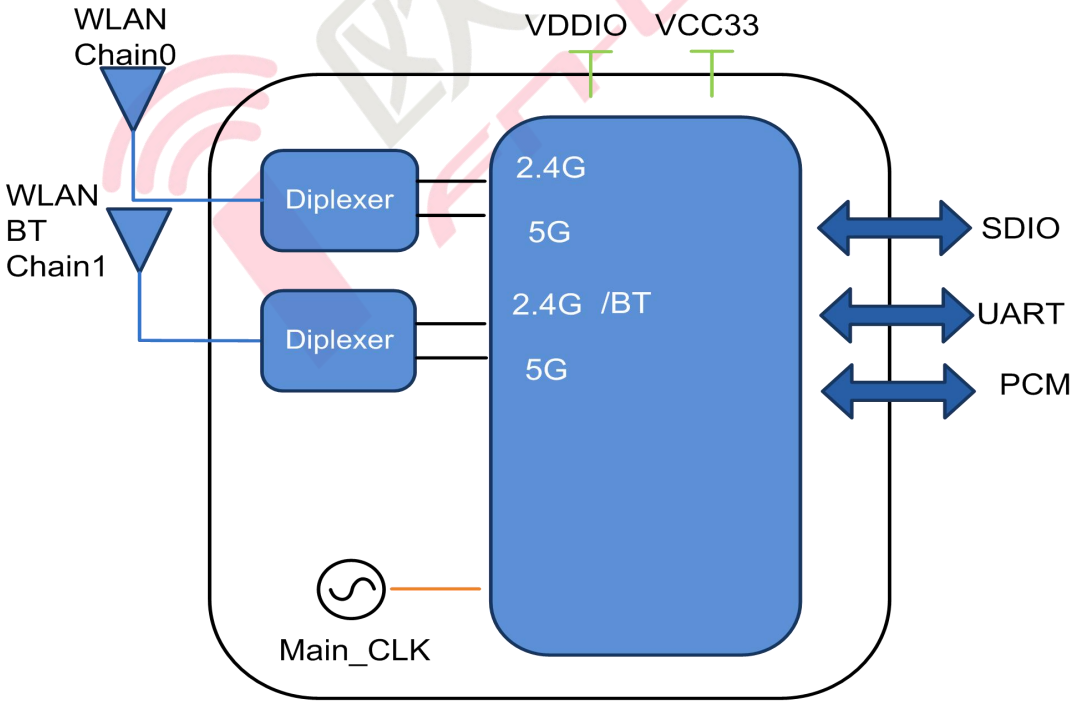
Bluetooth Features

- Supports Bluetooth V5.0/4.2 system
- Supports WLAN-Bluetooth coexistence
- RTL8822CS-VBS support BT privacy 1.2
- BT host digital interface:
  - -- HCI UART (up to 4 Mbps)
  - -- PCM for audio data
- Module have muti applications:
  - -- 3 antenna type /BT5.0 or BT4.2 version
  - -- 2 antenna type /BT5.0 or BT4.2 version

3. Block Diagram



3 antenna type



2 antenna type

4. General Specification

4.1 2.4GHz RF Specification

Feature	**Description**	
WLAN Standard	IEEE 802.11 b/g/n Wi-Fi compliant	
Frequency Range	2.400 GHz ~ 2.4835 GHz (2.4 GHz ISM Band)	
Number of Channels	2.4GHz：Ch1 ~ Ch14	
Test Items	**Typical Value**	**EVM**
Output Power	802.11b /11Mbps : 17dBm ± 2 dB	EVM ≤ -9dB
	802.11g /54Mbps : 15dBm ± 2 dB	EVM ≤ -25dB
	802.11n /MCS7 : 14dBm ± 2 dB	EVM ≤ -28dB
Spectrum Mask	Meet with IEEE standard	
Freq. Tolerance	±20ppm	
SISO Receive Sensitivity (11b,20MHz) @8% PER	- 1Mbps PER @ -92 dBm	≤-83
	- 2Mbps PER @ -90 dBm	≤-80
	- 5.5Mbps PER @ -87 dBm	≤-79
	- 11Mbps PER @ -85 dBm	≤-76
SISO Receive Sensitivity (11g,20MHz) @10% PER	- 6Mbps PER @ -89 dBm	≤-85
	- 9Mbps PER @ -88 dBm	≤-84
	- 12Mbps PER @ -87 dBm	≤-82
	- 18Mbps PER @ -84 dBm	≤-80
	- 24Mbps PER @ -81 dBm	≤-77
	- 36Mbps PER @ -78 dBm	≤-73
	- 48Mbps PER @ -73 dBm	≤-69
	- 54Mbps PER @ -71 dBm	≤-68
SISO Receive Sensitivity (11n,20MHz) @10% PER	- MCS=0 PER @ -89 dBm	≤-85
	- MCS=1 PER @ -86 dBm	≤-82
	- MCS=2 PER @ -84 dBm	≤-80
	- MCS=3 PER @ -80 dBm	≤-77
	- MCS=4 PER @ -77 dBm	≤-73
	- MCS=5 PER @ -72 dBm	≤-69
	- MCS=6 PER @ -71 dBm	≤-68
	- MCS=7 PER @ -69 dBm	≤-67
SISO Receive Sensitivity (11n,40MHz) @10% PER	- MCS=0, PER @ -88 dBm	≤-82
	- MCS=1, PER @ -85 dBm	≤-79
	- MCS=2, PER @ -83 dBm	≤-77

	- MCS=3, PER @ -79 dBm	≤-74
	- MCS=4, PER @ -76 dBm	≤-70
	- MCS=5, PER @ -71 dBm	≤-66
	- MCS=6, PER @ -70 dBm	≤-65
	- MCS=7, PER @ -68 dBm	≤-64
Maximum Input Level	802.11b : -10 dBm	
	802.11g/n : -20 dBm	
Antenna Reference	Small antennas with 0~2 dBi peak gain	

4.2 5GHz RF Specification

Conditions : VBAT=3.3V ; VDDIO=3.3V ; Temp:25°C

Feature	**Description**	
WLAN Standard	IEEE 802.11a/n/ac 2x2, Wi-Fi compliant	
Frequency Range	5.150 GHz ~ 5.850 GHz	
Number of Channels	5.8GHz：Please see the table	
Test Items	**Typical Value**	**EVM**
Output Power	802.11a /54Mbps : 15 dBm ± 2 dB	EVM ≤ -25dB
	802.11n /MCS7 : 14 dBm ± 2 dB	EVM ≤ -28dB
	802.11ac /MCS9 : 13 dBm ± 2 dB	EVM ≤ -32dB
Test Items	**Test Value**	**Standard Value**
SISO Receive Sensitivity (11a,20MHz) @10% PER	- 6Mbps PER @ -88 dBm	≤-85
	- 9Mbps PER @ -87 dBm	≤-84
	- 12Mbps PER @ -86 dBm	≤-82
	- 18Mbps PER @ -83 dBm	≤-80
	- 24Mbps PER @ -80 dBm	≤-77
	- 36Mbps PER @ -77 dBm	≤-73
	- 48Mbps PER @ -72 dBm	≤-69
	- 54Mbps PER @ -70 dBm	≤-68
SISO Receive Sensitivity (11n,20MHz) @10% PER	- MCS=0 PER @ -88 dBm	≤-85
	- MCS=1 PER @ -85 dBm	≤-82
	- MCS=2 PER @ -83 dBm	≤-80
	- MCS=3 PER @ -80 dBm	≤-77
	- MCS=4 PER @ -76 dBm	≤-73
	- MCS=5 PER @ -71 dBm	≤-69
	- MCS=6 PER @ -70 dBm	≤-68

	- MCS=7 PER @ -69 dBm	≤-67
SISO Receive Sensitivity (11n,40MHz) @10% PER	- MCS=0 PER @ -85 dBm	≤-82
	- MCS=1 PER @ -82 dBm	≤-79
	- MCS=2 PER @ -80 dBm	≤-77
	- MCS=3 PER @ -77 dBm	≤-74
	- MCS=4 PER @ -73 dBm	≤-70
	- MCS=5 PER @ -69 dBm	≤-66
	- MCS=6 PER @ -68 dBm	≤-65
	- MCS=7 PER @ -67 dBm	≤-64
SISO Receive Sensitivity (11ac,20MHz) @10% PER	- MCS=0, NSS1 PER @ -86 dBm	≤-82
	- MCS=1, NSS1 PER @ -84 dBm	≤-80
	- MCS=2, NSS1 PER @ -82 dBm	≤-77
	- MCS=3, NSS1 PER @ -79 dBm	≤-73
	- MCS=4, NSS1 PER @ -75 dBm	≤-69
	- MCS=5, NSS1 PER @ -70 dBm	≤-68
	- MCS=6, NSS1 PER @ -69 dBm	≤-67
	- MCS=7, NSS1 PER @ -68 dBm	≤-62
	- MCS=8, NSS1 PER @ -65 dBm	≤-60
SISO Receive Sensitivity (11ac,40MHz) @10% PER	- MCS=0, NSS1 PER @ -84 dBm	≤-79
	- MCS=1, NSS1 PER @ -81 dBm	≤-77
	- MCS=2, NSS1 PER @ -79 dBm	≤-74
	- MCS=3, NSS1 PER @ -76 dBm	≤-70
	- MCS=4, NSS1 PER @ -73 dBm	≤-66
	- MCS=5, NSS1 PER @ -68 dBm	≤-65
	- MCS=6, NSS1 PER @ -67 dBm	≤-64
	- MCS=7, NSS1 PER @ -66 dBm	≤-59
	- MCS=8, NSS1 PER @ -65 dBm	≤-57
	- MCS=9, NSS1 PER @ -64 dBm	≤-55
SISO Receive Sensitivity (11ac,80MHz) @10% PER	- MCS=0, NSS1 PER @ -81 dBm	≤-79
	- MCS=1, NSS1 PER @ -78 dBm	≤-76
	- MCS=2, NSS1 PER @ -76 dBm	≤-74
	- MCS=3, NSS1 PER @ -72 dBm	≤-71
	- MCS=4, NSS1 PER @ -69 dBm	≤-67
	- MCS=5, NSS1 PER @ -66 dBm	≤-63
	- MCS=6, NSS1 PER @ -64 dBm	≤-62
	- MCS=7, NSS1 PER @ -62 dBm	≤-61
	- MCS=8, NSS1 PER @ -58 dBm	≤-56

	- MCS=9, NSS1 PER @ -60 dBm	≤-54
Maximum Input Level	802.11a/n : -30 dBm	
Antenna Reference	Small antennas with 0~2 dBi peak gain	

[1]5GHz(20MHz) Channel table

Band range	Operating Channel Numbers	Channel center frequencies(MHz)
5150MHz~5250MHz	36	5180
	40	5200
	44	5220
	48	5240
5250MHz~5350MHz	52	5260
	56	5280
	60	5300
	64	5320
5470MHz~5725MHz	100	5500
	104	5520
	108	5540
	112	5560
	116	5580
	120	5600
	124	5620
	128	5640
	132	5660
	136	5680
	140	5700
5725MHz~5850MHz	149	5745
	153	5765
	157	5785
	161	5805
	165	5825

4.3 Bluetooth Specification

Feature	Description
General Specification	
Bluetooth Standard	BDR,EDR(1Mbps & 2Mbps & 3Mbps),LE(1Mbps),2LE(2Mbps)
Host Interface	UART
Frequency Band	2402 MHz ~ 2483.5 MHz
Number of Channels	79 channels for classic,40 channels for BLE
Modulation	GFSK, π/4-DQPSK,8DPSK
RF Specification	
Output Power , tolerance ±3 dB	
	CL1(dBm)
BDR Output Power	5
EDR Output Power	5
BLE Output Power	5
Sensitivity, tolerance : /	
Sensitivity @ BER=0.1% for GFSK (1Mbps)	-92
Sensitivity @ BER=0.01% for π/4-DQPSK (2Mbps)	-86
Sensitivity @ BER=0.01% for 8DPSK (3Mbps)	-85
Sensitivity @ BLE=30.8% for LE (1Mbps)	-90
Sensitivity @ BLE=30.8% for 2LE (2Mbps)	-90
Maximum Input Level	GFSK (1Mbps):-20dBm
	π/4-DQPSK (2Mbps) :-20dBm
	8DPSK (3Mbps) :-20dBm

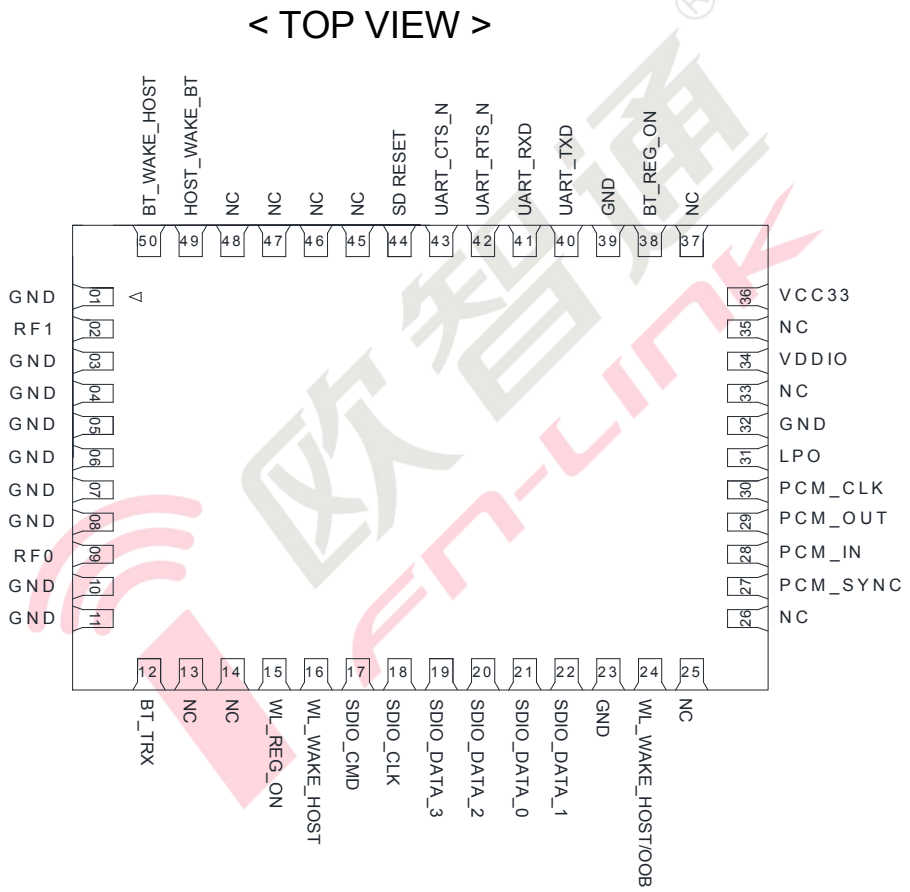
5. ID setting information

WI-FI

Vendor ID	8129
Product ID	-

6. Pin Definition

6.1 Pin Outline



6.2 Pin Definition details

NO.	Name	Type	Description	Voltage
1	GND	—	Ground connections	
2	RF1	I/O	WLAN RF I/O port chain1 (2antenna type BT&WLAN port)	
3	GND	—	Ground connections	
4	GND	—	Ground connections	

5	GND	—	Ground connections	
6	GND	—	Ground connections	
7	GND	—	Ground connections	
8	GND	—	Ground connections	
9	RF0	I/O	WLAN RF I/O port chain0	
10	GND	—	Ground connections	
11	GND	—	Ground connections	
12	BT_TRX	I/O	RF I/O port (2antenna type NC this pin)	
13	NC	—	GPIO6. If not used keep NC Do not connect to GND.	
14	NC	—	GPIO5. G_BT If not used keep NC. Do not connect to GND.	
15	WL_REG_ON	I	Enable pin for WLAN device ON: pull high ; OFF: pull low External pull low to shut down WL If Pin44 connected this pin can NC.	VDDIO
16	WL_WAKE_HOST	O	GPIO10. WLAN to wake-up HOST	VDDIO
17	SDIO_CMD	I/O	SDIO command line	1.8V or 3.3V
18	SDIO_ CLK	I/O	SDIO clock line	1.8V or 3.3V
19	SDIO_DATA_3	I/O	SDIO data line 3	1.8V or 3.3V
20	SDIO_DATA_2	I/O	SDIO data line 2	1.8V or 3.3V
21	SDIO_DATA_0	I/O	SDIO data line 0	1.8V or 3.3V
22	SDIO_DATA_1	I/O	SDIO data line 1	1.8V or 3.3V
23	GND	—	Ground connections	
24	OOB/ WL_WAKE_HOST	O	GPIO10. SDIO interrupt	VDDIO
25	NC	—	GPIO7. If not used keep NC. Do not connect to GND.	
26	NC	—	No connect	
27	PCM_SYNC	I/O	PCM sync signal	VDDIO
28	PCM_IN	I	PCM data input	VDDIO
29	PCM_OUT	O	PCM Data output	VDDIO
30	PCM_CLK	I/O	PCM clock	VDDIO

31	LPO	I	External Low Power Clock input (32.768KHz) If not used keep NC	
32	GND	—	Ground connections	
33	NC	—	No connect	
34	VDDIO	P	I/O Voltage supply input 1.8V or 3.3V	1.8V or 3.3V
35	NC	—	No connect	
36	VCC33	P	Main power voltage source input 3.3V	3.3V
37	NC	—	No connect	
38	BT_REG_ON	I	Enable pin for Bluetooth device ON: pull high ; OFF: pull low External pull low to shut down BT，recommended 10K pull high.	VDDIO
39	GND	—	Ground connections	
40	UART_TXD	O	Bluetooth UART interface	1.8V or 3.3V
41	UART_RXD	I	Bluetooth UART interface	1.8V or 3.3V
42	UART_RTS_N	O	Bluetooth UART interface	1.8V or 3.3V
43	UART_CTS_N	I	Bluetooth UART interface	1.8V or 3.3V
44	SD RESET	I	GPIO9, SD RESET This pin can externally shut down WLAN function when pulled low.	1.8V or 3.3V
45	NC	—	GPIO4, G_WL If not used keep NC. Do not pull high.	
46	NC	—	Module ground connection. Can keep NC.	
47	NC	—	No connect	
48	NC	—	Module ground connection. Can keep NC.	
49	HOST_WAKE_BT	I	HOST wake-up Bluetooth device	VDDIO
50	BT_WAKE_HOST	O	Bluetooth device to wake-up HOST	VDDIO

P:POWER I:INPUT O:OUTPUT VDDIO:1.8V or 3.3V

7. Electrical Specifications

7.1 Power Supply DC Characteristics

	MIN	TYP	MAX	Unit
Operating Temperature	0	25	70	deg.C
VCC33	3.15	3.3	3.45	V
VDDIO	1.7	1.8 or 3.3	3.45	V

3.3V GPIO DC characteristics

Symbol	Parameter	Min.	Nor.	Min.	Units
V_{IH}	Input high voltage	2.0	3.3	3.6	V
V_{IL}	Input low voltage	-	0	0.9	V
V_{OH}	Output high voltage	2.97	-	3.3	V
V_{OL}	Output low voltage	0	-	0.33	V

1.8V GPIO DC characteristics

Symbol	Parameter	Min.	Nor.	Min.	Units
V_{IH}	Input high voltage	1.7	1.8	3.6	V
V_{IL}	Input low voltage	-	0	0.8	V
V_{OH}	Output high voltage	1.62	-	1.8	V
V_{OL}	Output low voltage	0	-	0.18	V

7.2 Power Consumption

		VCC33 = 3.3V(Unit:mA)
Power Consumption	Wi-Fi off	1.1
	Idle DTIM=1	5G: 4 2.4G: 6
	TX (2.4G 11n HT40)	615
	RX (2.4G 11n HT40)	235
	TX (2.4G 11n HT20)	578
	RX (2.4G 11n HT20)	187
	TX (5G VHT80)	562
	RX (5G VHT80)	312
	TX (5G VHT20)	589

	RX (5G VHT20)	210
	BT OPP TX	36.8
	BT OPP RX	22.3
	BT LPS	1.8
	Power down	0.4

7.3 Interface Circuit time series

7.3.1 power up timing

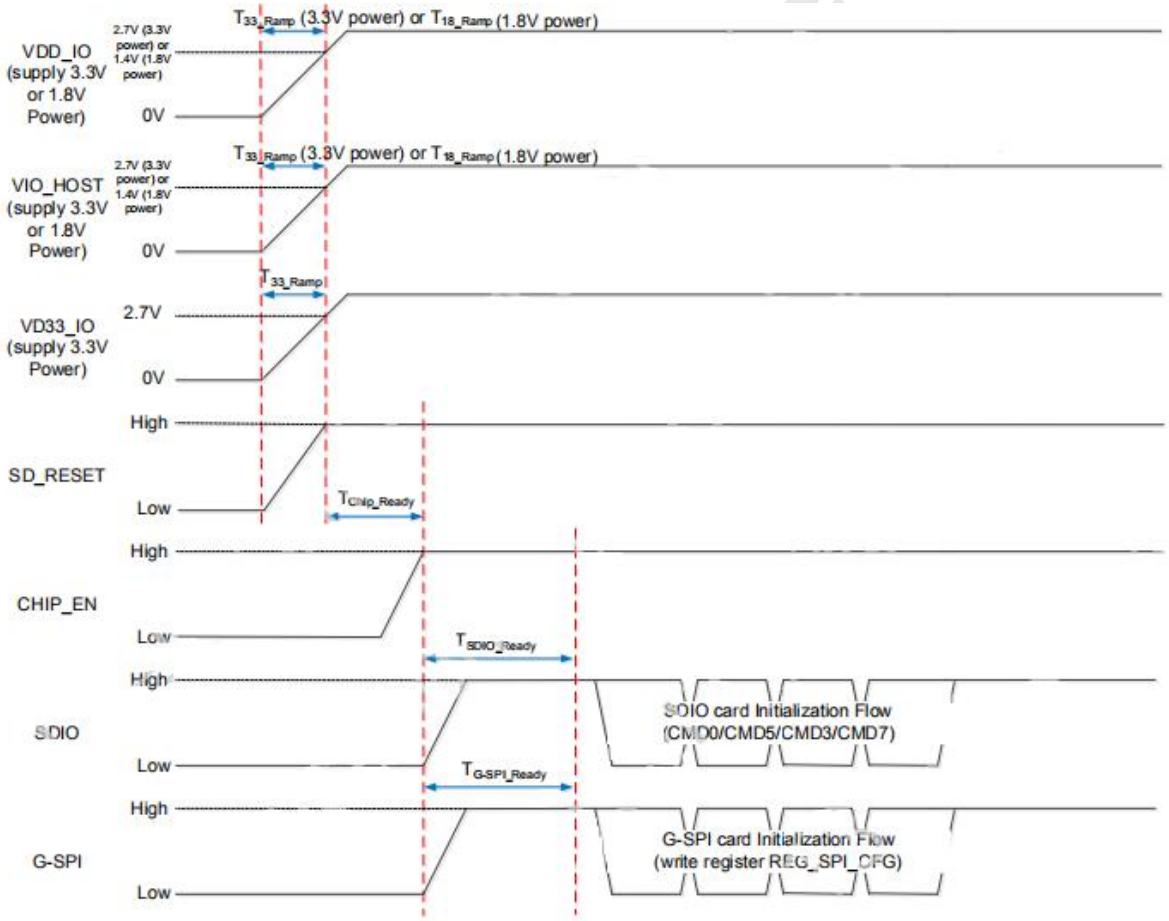


Figure 6. System Power-On Sequence

Table 21. System Power on Timing Parameters

	Min.	Typical	Max.	Unit	Description
T_{18_Ramp}	0.1	0.5	2.5	ms	The 1.8V power ramp up duration.
T_{33_Ramp}	0.1	0.5	2.5	ms	The 3.3V power ramp up duration.
T_{Chip_Ready}	0	10	X	ms	CHIP_EN pull high timing
T_{SDIO_Ready}	1	2	10	ms	SDIO Not Ready Duration. In this state, the RTL8822CS-VL-CG may respond to commands without the ready bit being set. After the

7.3.2 SDIO Pin Description

Module supports SDIO version 3.0. SDIO Pin Description as below.

SDIO Pin Description

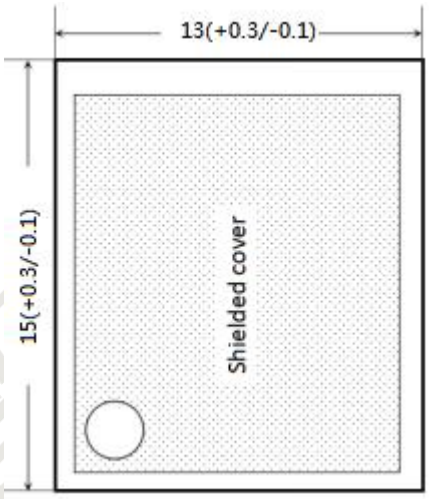
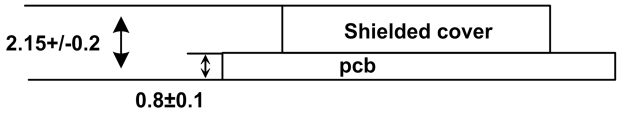
SD 4-Bit Mode	
DATA0	Data Line 0
DATA1	Data Line 1 or Interrupt
DATA2	Data Line 2 or Read Wait
DATA3	Data Line 3
CLK	Clock
CMD	Command Line

7.3.3 SDIO Timing Diagram

For timing criteria, please check specification in “SD specification Part1 Physical Layer Specification Version 3.01”

8. Size reference

8.1 Module Picture

<table>
<tr>
<td>L x W : 15 x 13 (+0.3/-0.1) mm
  
 
   </td>
<td>  </td>
</tr>
<tr>
<td>With shoelding H: 2.15 (+/-0.2) mm
No shielding H:1.8(+/-0.2) mm</td>
<td>  </td>
</tr>
<tr>
<td>Weight</td>
<td>0.85g</td>
</tr>
</table>

8.2 Marking Description

< TOP VIEW >

备注：
二维码内容：112233445566;FG6222BSRC-00
1.Fn-Link 商标 logo
2.机型：6222B-SRC
3. 二维码：编码规则为“wifi mac 地址;成品料号”
例如：112233445566;FG6222BSRC-00（MAC 地址以实际为准）
-----BT MAC 在 WIFI MAC 基础上+1（WIFI 地址需跳 1，不能与 BT 地址重复），二维码中不显示此内容。
4.V/N 00（V/N 到 00 之间是两个空格，00 为成品料号后缀，与二维码右对齐。）

备注：
二维码内容：112233445566;FG6222BSRC-03
1.Fn-Link 商标 logo
2.机型：6222B-SRC
3. 二维码：编码规则为“wifi mac 地址;成品料号”
例如：112233445566;FG6222BSRC-03（MAC 地址以实际为准）
-----BT MAC 在 WIFI MAC 基础上+1（WIFI 地址需跳 1，不能与 BT 地址重复），二维码中不显示此内容。
4.V/N 03（V/N 到 03 之间是两个空格，03 为成品料号后缀，与二维码右对齐。）

备注：
二维码内容：112233445566;FG6222BSRC-Z6
1. 二维码：编码规则为“wifi mac 地址;成品料号”
例如：112233445566;FG6222BSRC-Z6（MAC 地址以实际为准）
----BT MAC 在 WIFI MAC 基础上+1（WIFI 地址需跳 1，不能与 BT 地址重复），二维码中不显示此内容。

备注：
二维码内容：112233445566;FG6222BSRC-H0
1.Fn-Link 商标 logo
2.机型：6222B-SRC
3. 二维码：编码规则为“wifi mac 地址;成品料号”
例如：112233445566;FG6222BSRC-H0（MAC 地址以实际为准）
----BT MAC 在 WIFI MAC 基础上+1（WIFI 地址需跳 1，不能与 BT 地址重复），二维码中不显示此内容。

备注：
二维码内容：112233445566;FG6222BSRC-T0
1.Fn-Link 商标 logo
2.机型：6222B-SRC
3. 二维码：编码规则为“wifi mac 地址;成品料号”
例如：112233445566;FG6222BSRC-T0（MAC 地址以实际为准）
----BT MAC 在 WIFI MAC 基础上+1（WIFI 地址需跳 1，不能与 BT 地址重复），二维码中不显示此内容。

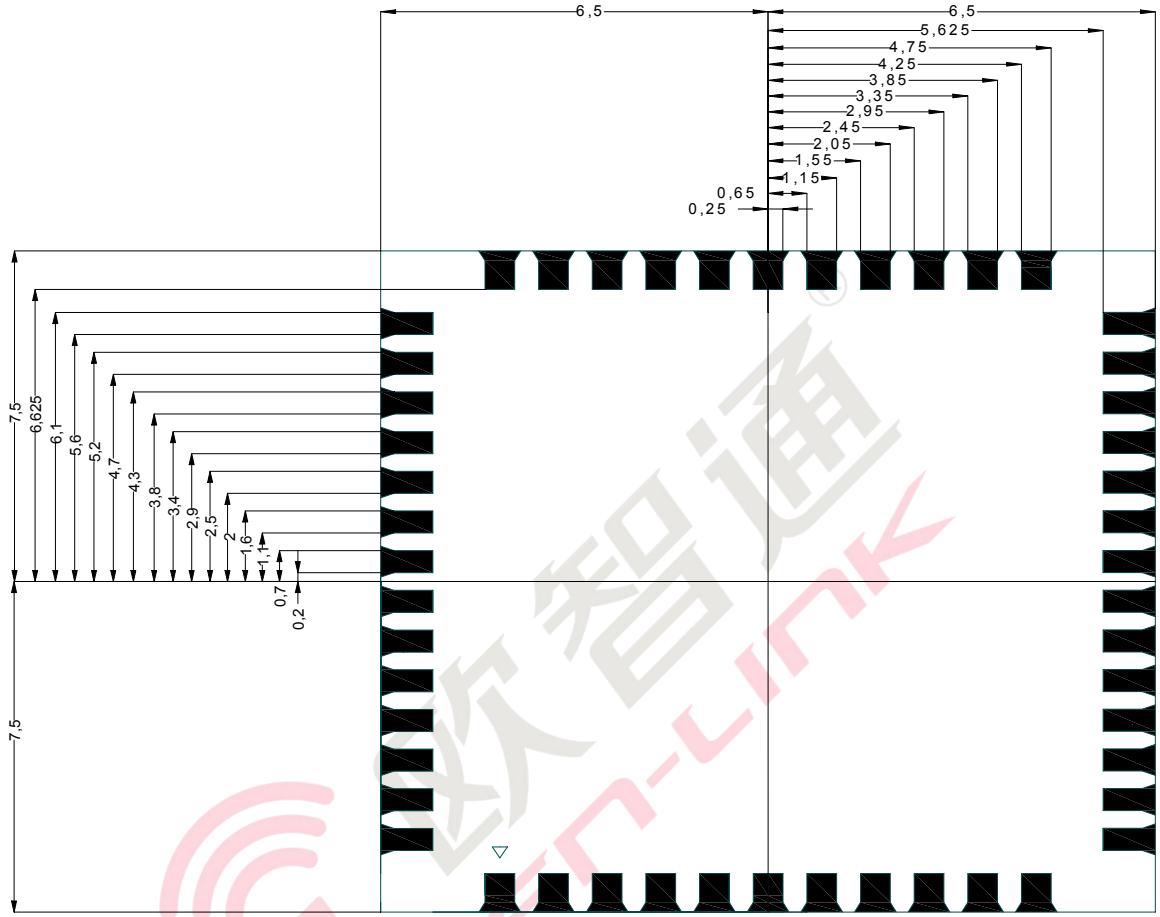
8.3 List of certified information

Certification project	Certificate number
SRRC	24J43T23K408(M)
FCC	2AATL-6222B-SRC
CE	BLA-EMC-201910-A49-06
IC	TBD
NCC	TBD
KCC	R-R-OZT-6222B-SRC
TELEC	TBD
Brazil	TBD
Argentina	TBD
Japan	TBD
BQB	D053233

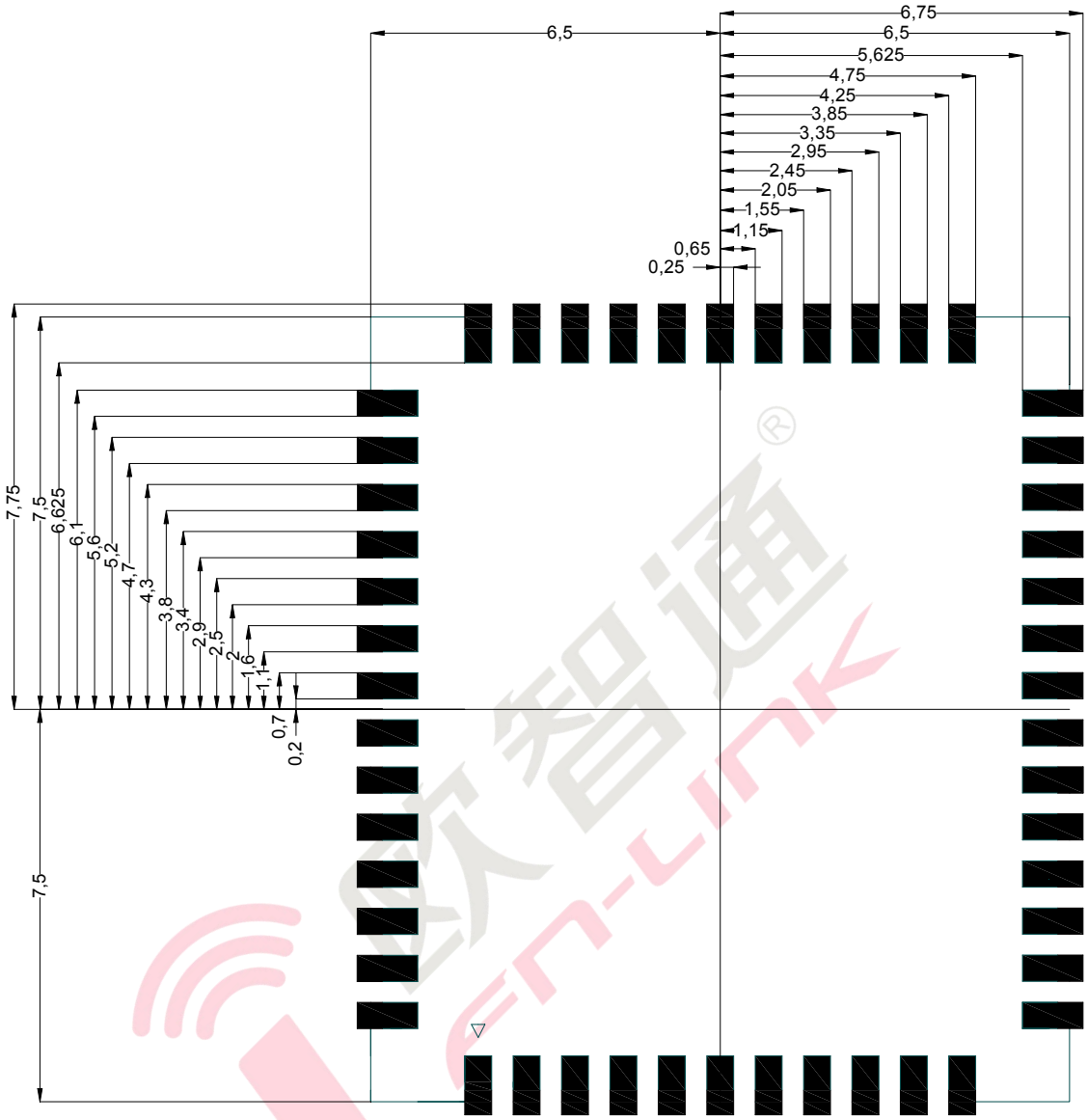
WPC	ETA-SD-20220100907

8.4 Physical Dimensions

<TOP View>



8.5 Layout Recommendation

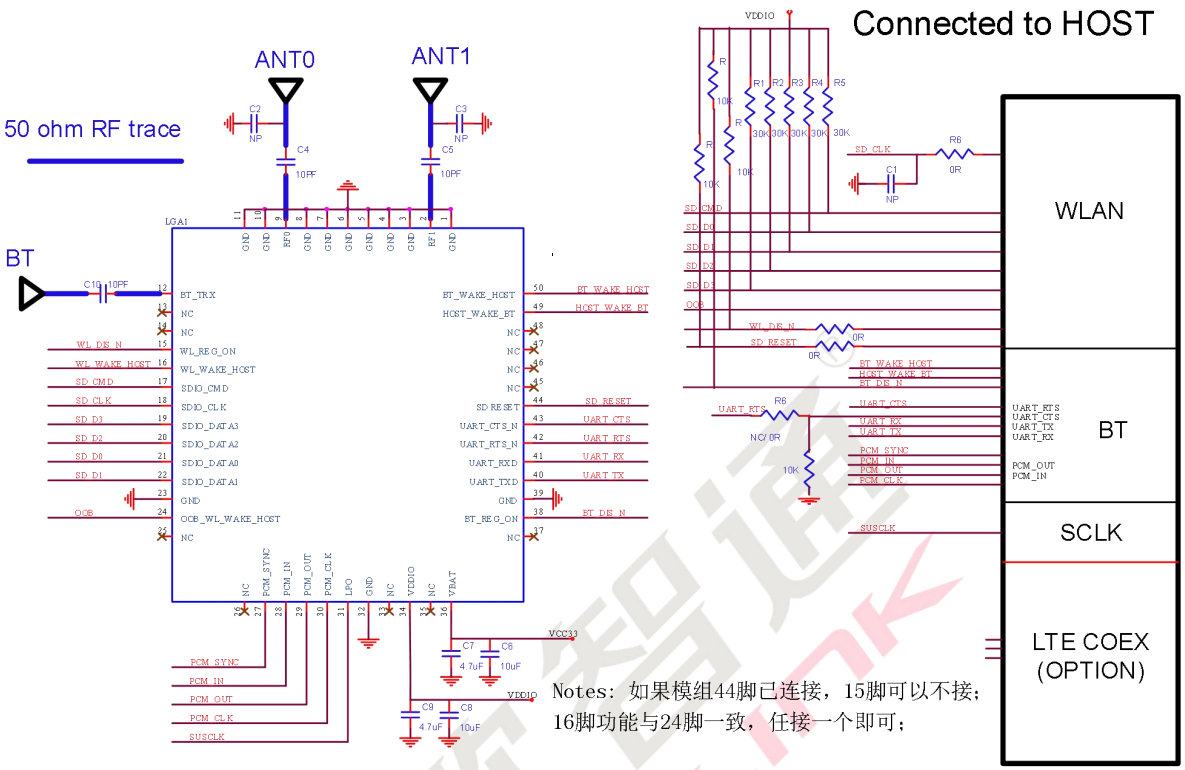


9. The Key Material List

Item	Part Name	Description	Manufacturer
1	Inductor	2012/2016 1uH/1.5uH±20%,Irms>0.8A	MURATA,microgate,cenke,ceaiya,GK,Chilisin,INPAQ
2	Diplexer	1608 2.4G/5.8G diplexer	TDK,GLEAD,Walsin,Murata,ACX,FTR
3	Shielding cover	6222B-SRC-V3.0 shielding	Suntech,Jlitong,卓益
4	Crystal	2520 40MHz 10ppm 12pF	HOSONIC,ECEC,TKD,JWT
5	Chipset	RTL8822CS-VS-CG RTL8822CS-VL-CG RTL8822CS-VH-CG RTL8822CS-VBS-CG 9X9mm RTL8822CS-VE-CG	Realtek
6	PCB	6222B-SRC-V3.0 6222B-SRC-V1.0 PCB 13x15x0.8mm	XY-PCB,KX-PCB,Sunlord,SL-PCB,Truly

10. Reference Design

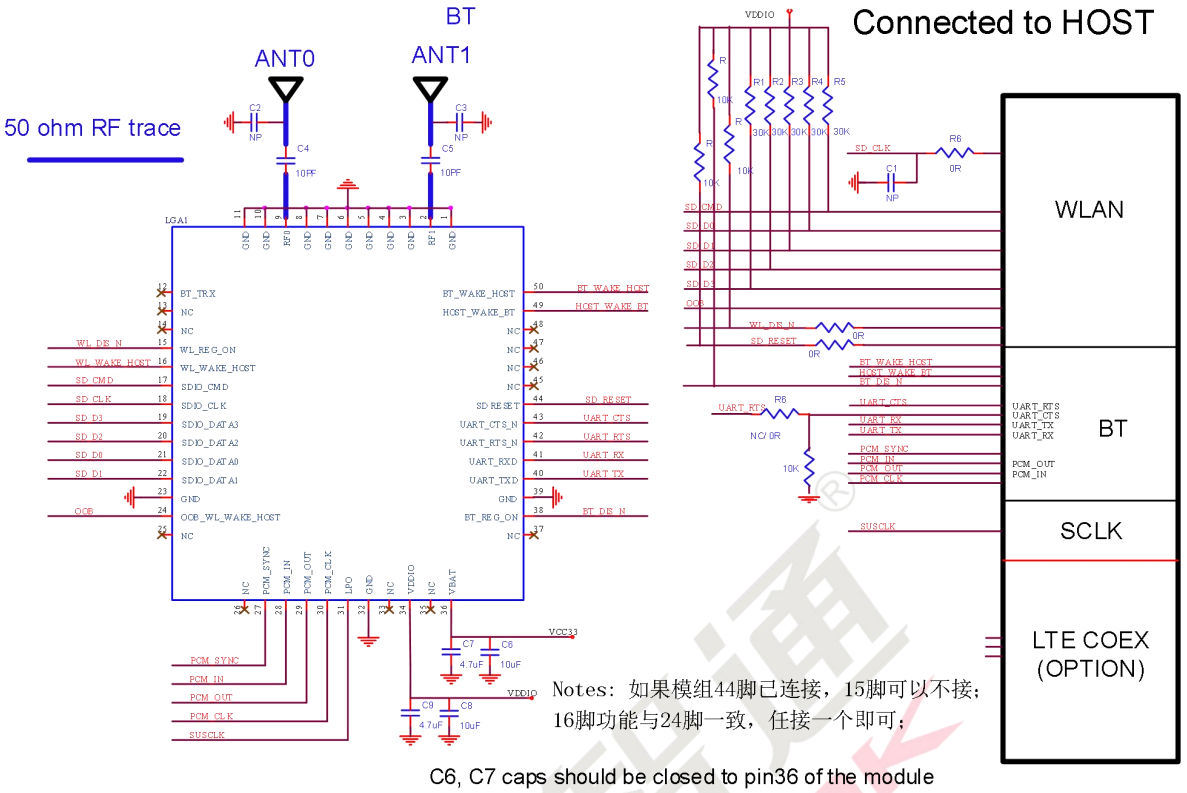
3antenna type reference shown:



C6, C7 caps should be closed to pin36 of the module

C8, C9 caps should be closed to pin34 of the module

2antenna type reference shown:



Notes: 如果模组44脚已连接，15脚可以不接；
16脚功能与24脚一致，任接一个即可；

C6, C7 caps should be closed to pin36 of the module

C8, C9 caps should be closed to pin34 of the module

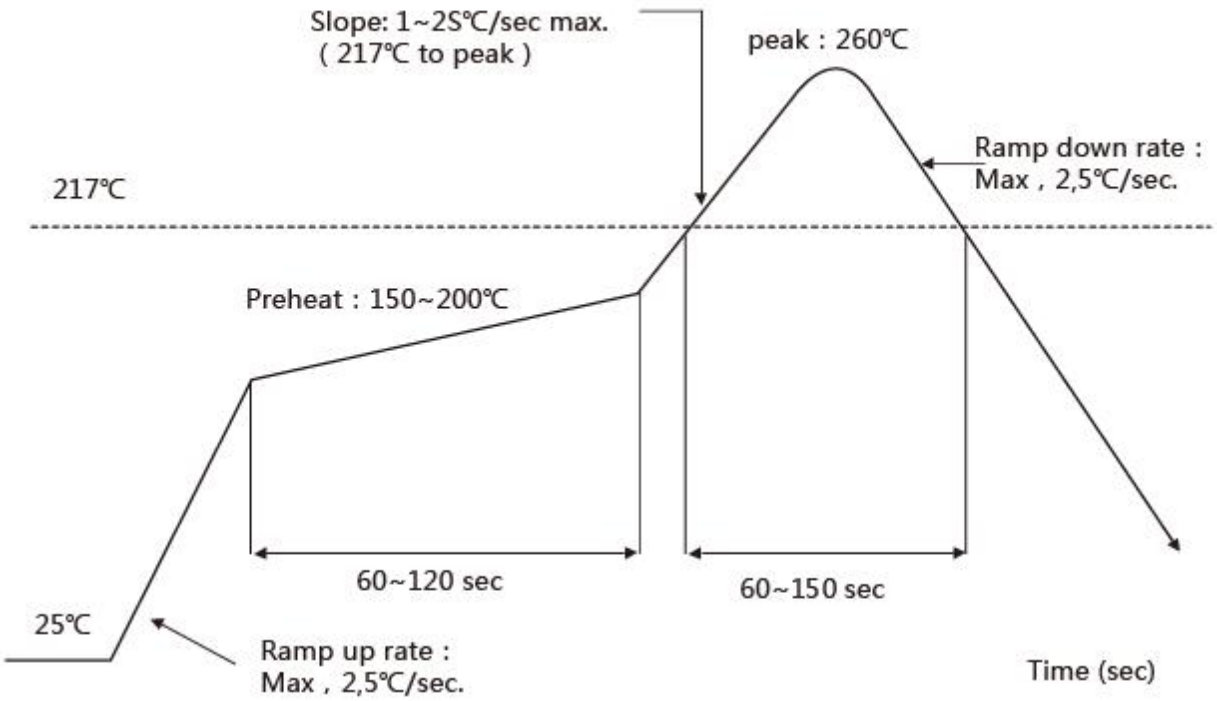
11. Recommended Reflow Profile

Referred to IPC/JEDEC standard.

Peak Temperature: ≤260°C

Time within 5°C of peak temperature：≥10s

Number of Times: ≤2 times



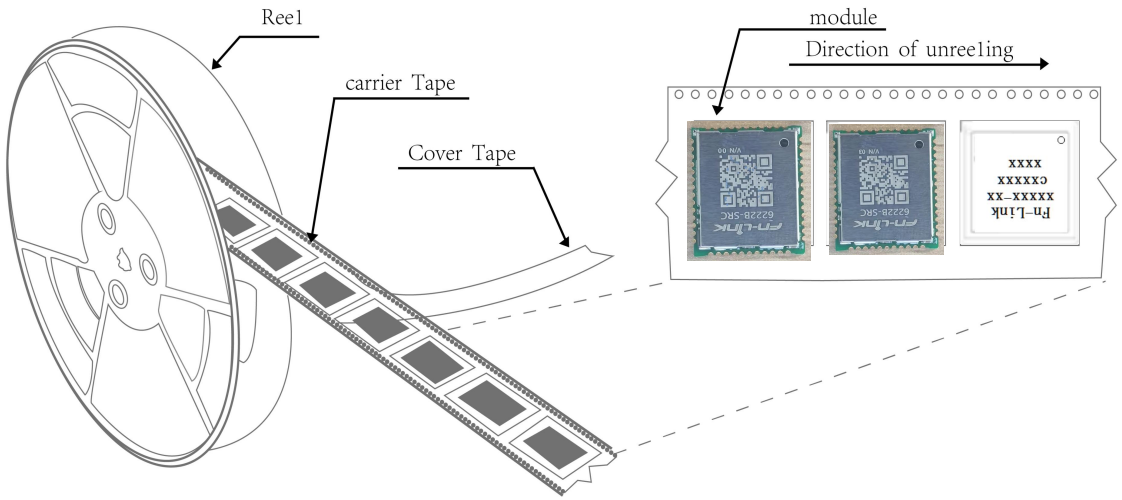
12. RoHS compliance

All hardware components are fully compliant with EU RoHS directive

13. Package

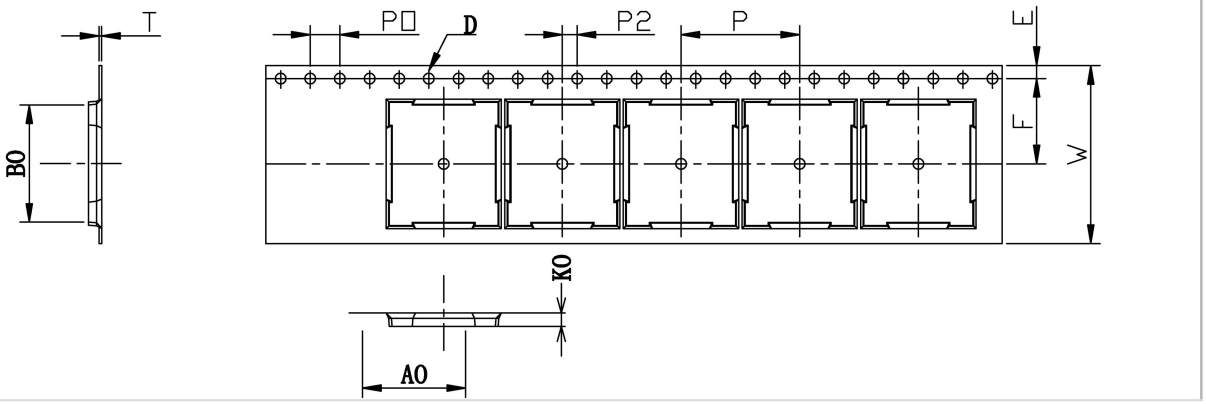
13.1 Reel

A roll of 1500pcs



13.2 Carrier Tape Detail

ITEM	W	A0	B0	D	F	E	K0	P0	P2	P	T
DIM	24	13.40	15.40	1.50	11.5	1.75	2.65	4.0	2.0	16.0	0.30
TOLE	+0.3 -0.3	±0.15	±0.15	+0.1 -0.0	+0.1 -0.1	±0.1	±0.10	±0.1	±0.1	±0.1	±0.05



13.3 Packaging Detail

the take-up package

Using self-adhesive tape

Size of black tape: 24mm*24.4m the cover tape :21.3mm*32.6m

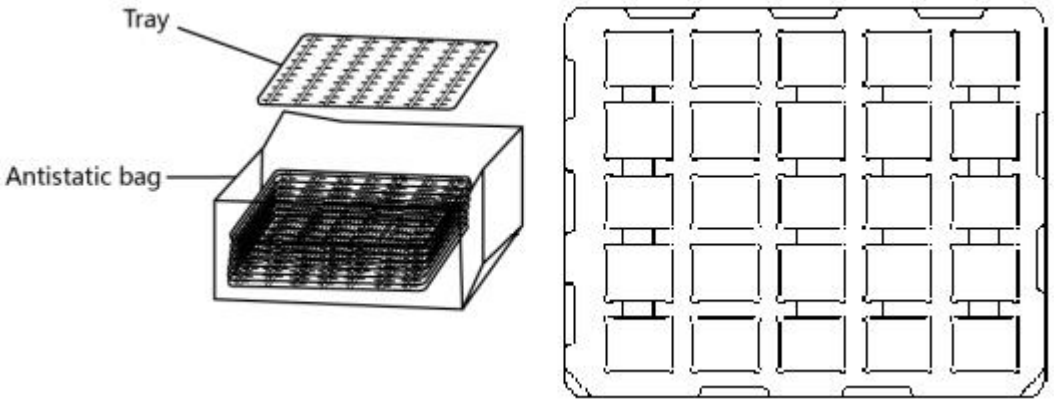
Color of plastic disc: blue

NY bag size:450mm*415mm size ： 350*350*35mm

The packing case size:360*210*370mm

13.4 Tray

Use pallet packaging for less than 300 pieces



14. Moisture sensitivity

The Modules is a Moisture Sensitive Device level 3, in according with standard IPC/JEDEC J-STD-020, take care

all the relatives requirements for using this kind of components.

Moreover, the customer has to take care of the following conditions:

a) Calculated shelf life in sealed bag: 12 months at <40°C and <90% relative humidity (RH)

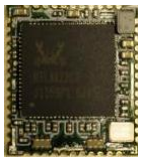
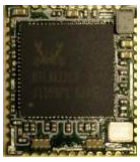
b) Environmental condition during the production: 30°C / 60% RH according to IPC/JEDEC J-STD-033A paragraph 5

c) The maximum time between the opening of the sealed bag and the reflow process must be 168 hours if condition b) "IPC/JEDEC J-STD-033A paragraph 5.2" is respected

d) Baking is required if conditions b) or c) are not respected

e) Baking is required if the humidity indicator inside the bag indicates 10% RH or more

Part No.	Diagram	Part No.	Diagram
FG6222BSRC-00		FG6222BSRC-08	
FG6222BSRC-01		FG6222BSRC-K0	

FG6222BSRC-02		FG6222BSRC-K1	
FG6222BSRC-03		FG6222BSRC-K3	
FG6222BSRC-04		FG6222BSRC-K4	
FG6222BSRC-05		FG6222BSRC-K7	
FG6222BSRC-06		FG6222BSRC-D0	
FG6222BSRC-07		FG6222BSRC-T0	
FG6222BSRC-H0		FG6222BSRC-H1	
FG6222BSRC-HD