SUNNYWAY TECHNOLOGY(CHINA)

ANTENNA SPEC

Customer name: Apical	Entry name: GL10
Working band: WIFI 2.4/5.8G	
Motherboard version:	

Sunnyway Material specification		
Specification type	Sunnyway number	Customer number
WIFI Antenna	SZ25521IB75	

Revision history			
Date of preparation/change	Change content	Altered person	Edition
2026.06.16	New issue	Kunxiaong Xiao	A

Sunnyway Countersign column				
R&D	ME:	To examine:	QE:	Approval:
	RF:	To examine:		

Customer will sign the column			
Electronic Engineer	Project manager	Structural Engineer	Quality Engineer

Sunnyway Technology(CHINA)

Add: 1F, Building 4, No.215-99, GaoGuang Road, QingPu District, Shanghai, China

Tel: +86-021-6083 5368 Fax: +86-021-6484 2328

Email: sales@sunnyway-iot.com Web: www.sunnyway-iot.com

目录 Directory

ANTENNA SPEC 1

1. Project information 3

1.1 Mockup picture 3

1.2 Antenna product picture 3

2. Matching circuit 3

3. Antenna passive testing data 3

3.1 S11 Description of the test method 3

3.2 S11 Test parameters 4

3.3 Antenna efficiency and gain 5

4. Antenna active testing data 6

4.1 Test the environment 6

4.2 OTA Active test data 6

5. Environmental treatment methods 7

6. Standard for mass production antennas 7

7. Engineering drawings 8

8. Packaging method 9

1. Project information

1.1 Mockup picture

1.2 Antenna product picture

2. Matching circuit

Antenna matching has not been changed

3. Antenna passive testing data

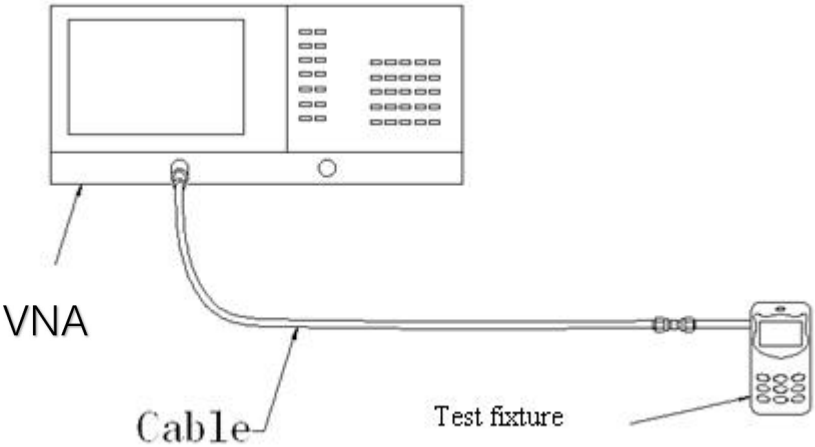
3.1 S11 Description of the test method

Test the equipment: Vector network analyzer (Agilent E5071C)

Test methodology: Use a 50 ohm CABLE cable to export from the instrument test port, use the calibration

piece to calibrate and connect the SMA connector of the test fixture, and record the return loss and standing wave ratio corresponding to the relevant frequency point.

Below is a schematic picture of the test:

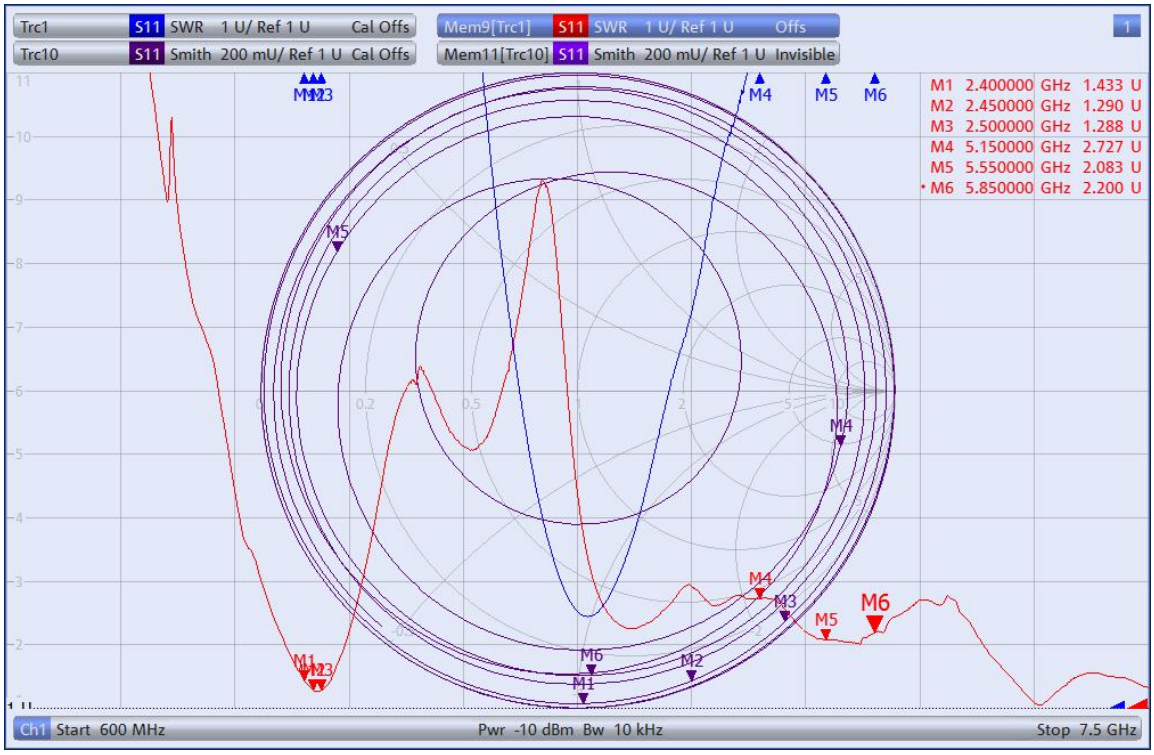


Test schematic diagram

3.2 S11 Test parameters

(Freq.) MHz	2400	2450	2500	5150	5500	5850
VSWR	1.43	1.29	1.29	2.72	2.08	2.20

VSWR：

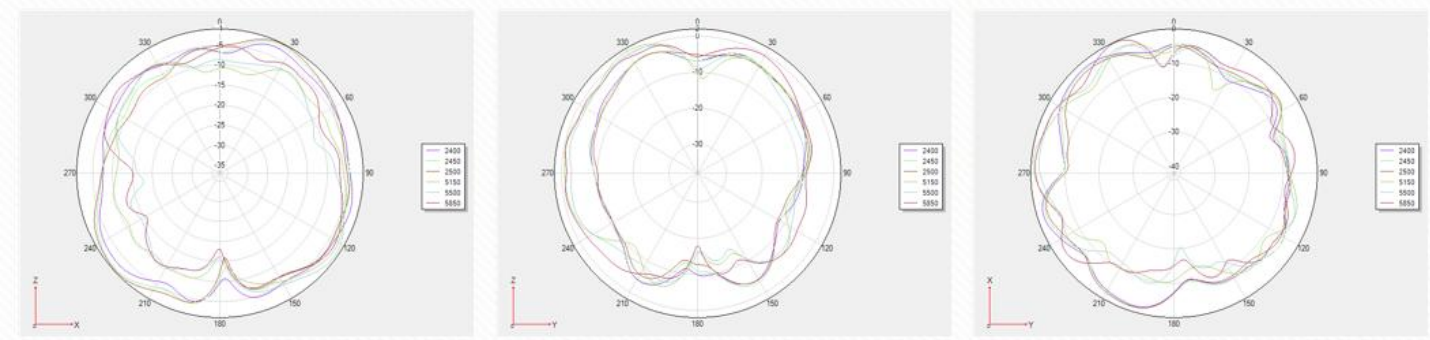


3.3 Antenna efficiency and gain

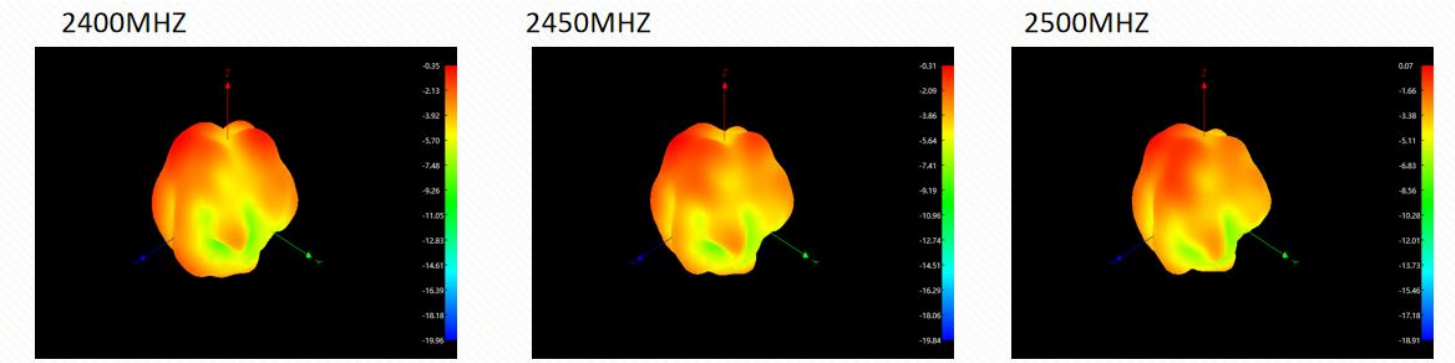
Frequency/Mhz	Efficiency / %	MaxGain/dBi
2400	44.21	-0.35
2410	45.97	0.27
2420	43.63	-0.41
2430	45.9	-0.67
2440	45.02	-0.44
2450	41.21	-0.03
2460	43.5	-0.33
2470	45.08	-0.71
2480	43.19	-0.2
2490	41.4	0.35
2500	41.37	0.07
5150	39.4	1.93
5200	39.08	1.4
5250	40.31	1.01
5300	41.73	1.51
5350	40.26	1.42
5400	40.17	1
5450	40.9	1.85
5500	41.34	1.38
5550	41.28	1.39
5600	41.36	1.29
5650	41.76	1.46
5700	42.36	0.61
5750	39.38	-0.06
5800	40.31	1.32
5850	39.67	1.66

WiFiAntenna Radiation Pattern：

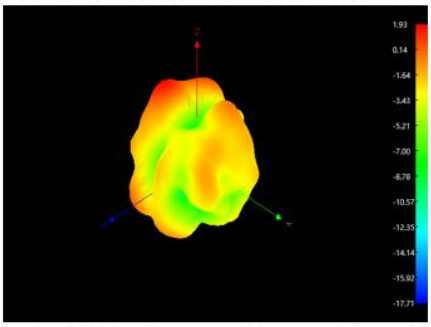
2D:



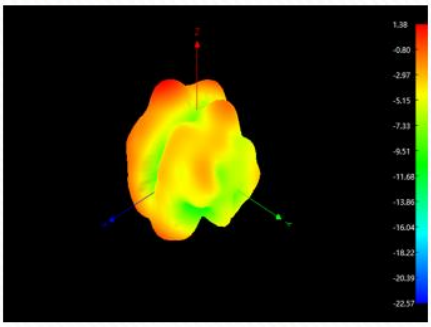
3D:



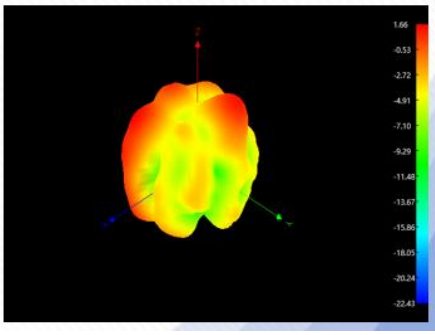
5150MHZ



5550MHZ



5850MHZ



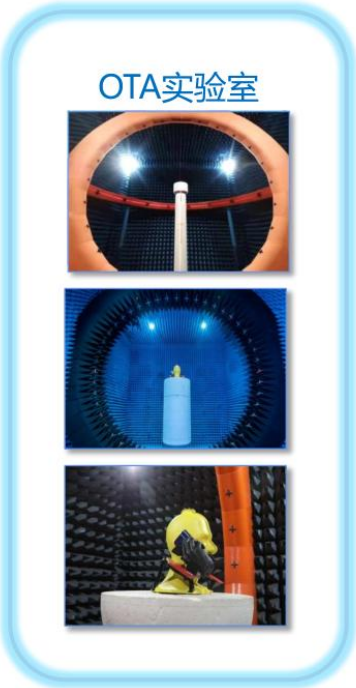
4. Antenna active testing data

4.1 Test the environment

Test the system：Multi-probe OTA measurement system（XH-IoT）

Test the environment：Temperature 22°C±3°C, humidity 50%±15%

Test the equipment：When testing passive data, use the network analyzer R&S ZND/ Agilent E5071C
When testing active data, use the Agilent 8960/CMW500/SP9500E/SP8315



4.2 OTA Active test data

Measurement	Band	Channel	Total
TRP	WIFI_B (1M)	1	14.38
TRP	WIFI_B (1M)	6	14.49
TRP	WIFI_B (1M)	11	14.86
TIS(EIRP)	WIFI_B (11M)	1	-80.87
TIS(EIRP)	WIFI_B (11M)	6	-80.98
TIS(EIRP)	WIFI_B (11M)	11	-80.55
TRP	WIFI_G (6M)	1	13.97
TRP	WIFI_G (6M)	6	14.32
TRP	WIFI_G (6M)	11	14.64
TIS(EIRP)	WIFI_G (54M)	1	-70.61
TIS(EIRP)	WIFI_G (54M)	6	-70.8
TIS(EIRP)	WIFI_G (54M)	11	-70.57
TRP	WIFI_N_ISM (6.5M)	1	13.88
TRP	WIFI_N_ISM (6.5M)	6	14.13
TRP	WIFI_N_ISM (6.5M)	11	14.18
TIS(EIRP)	WIFI_N_ISM (65M)	1	-68.67
TIS(EIRP)	WIFI_N_ISM (65M)	6	-68.44
TIS(EIRP)	WIFI_N_ISM (65M)	11	-68.84
TRP	WIFI_A (6M)	36	14.88
TRP	WIFI_A (6M)	149	13.62
TRP	WIFI_A (6M)	165	13.38
TIS(EIRP)	WIFI_A (54M)	36	-70.2
TIS(EIRP)	WIFI_A (54M)	149	-70.99
TIS(EIRP)	WIFI_A (54M)	165	-70.35
TRP	WIFI_N_UNII (6.5M)	36	13.73
TRP	WIFI_N_UNII (6.5M)	149	12
TRP	WIFI_N_UNII (6.5M)	165	12.33
TIS(EIRP)	WIFI_N_UNII (65M)	36	-65.66
TIS(EIRP)	WIFI_N_UNII (65M)	149	-66.76
TIS(EIRP)	WIFI_N_UNII (65M)	165	-66.75

5. Environmental treatment methods

Antenna environment processing not added

6. Standard for mass production antennas

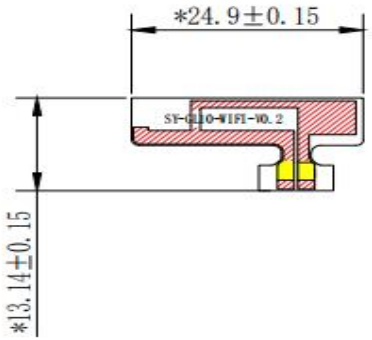
When the antenna is mass-produced, the VSWR is used as the mass production test standard.

According to the differences in the project itself, the following criteria are given:

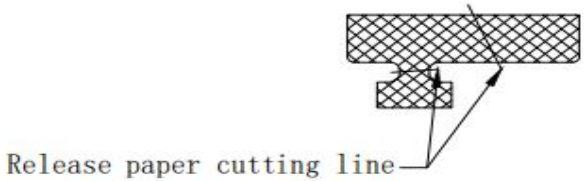
Freq. (MHz)	Mass production standards
2400-2500	VSWR (Production performance)<VSWR(Confirmed performance)+0.5
5150-5850	VSWR (Production performance)<VSWR(Confirmed performance)+0.5

7. Engineering drawings

Version	Revision content	Modifier	Date



Front



Adhesive surface

technical requirement
1. Shipping packaging requirements: (single PCS shipment)
2. The surface of black matte copper foil;
3. Ink to uniform;
4. With "*" symbol size is the key size;
5. Back adhesive 3M9471;
6. Substrate using T=0.5Mil PI;
7. Copper foil thickness 0.5oz;
8. Gold Finger Gold Plated 0.5U", Salt Spray Test 24H;;
9. The fillet was 0.2, along the border for 0.2mm process;
10. General tolerance table;
11. Products meet RoHS requirements.

Gold plated area

Line area

Adhesive backing area

Sunnyway Technology(china)Co. , LTD.			
TOLERANCE X.X ±0.20 .XX ±0.10 .XXX±0.05 ANGULAR ∠±0.5°	PART NAME: WIFI Antenna (GL10)	DATE:	2026-06-16
	PART NO: SZ25521IB75	DRAWN:	Kunxiong Xiao
	MATERIAL: FPC	CHECKED:	
	FINISHING:	APPROVED:	
UNIT: mm	COLOUR: Black	SCALE: 1:1	REV: TA

8. Packaging method

Sunnyway Technology (China) Co. Ltd.

Product packaging operation specifications

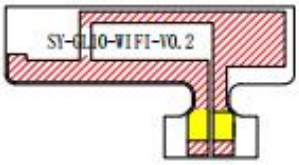
Customer: APIOL	Packaging product name: CLIO	Packaging Number :SYC-BZ-001	Packaging version:TEST:A

Serial number	Product name	Specification	Dosage
PE	Ziplock bag		
SYC-BZ-01	Carton		

Work steps

1. Prepare the required packaging materials and place them in a favorable position for work.
2. According to the packaging specification of SYC-BZ01, it is packed in cartons and ziplock bag
3. Keep filling each box until it is full. Seal the box with transparent tape

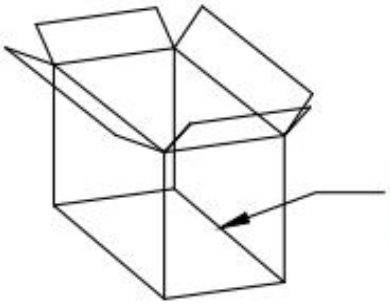
Shipping label



Precautions

1. Operators must wear gloves when operating.
2. Pay attention to the quantity of packing. Do not overpack or underpack. The last number of boxes must be indicated
3. Cartons should not be stacked too high to prevent glue overflow due to heavy pre

Illustration



Note: The quantity is subject to the actual packaging.
This is the reference quantity.

Approval	Review	Production	Date
		Xiaoping Chen	2026.06.16

Number: ED-QR-09-20 Version/Edition: A/0 Page 1, total 1 page

The electronic address of this form is at: Sunny way New Version System /... This record shall be retained for at least one year