



深圳市尚远科技有限公司

Shenzhen Sunnyway Technology Co.Ltd.

Antenna SPEC

Customer: YUNJIA		Project Name: v113
Working Band: WiFi2.4 B/G/N		
Mainboard Version:		
Sunnyway BOM		
SPEC-Type	Sunnyway Antenna	Customer Part Number
WIFI Antenna	SZ233071B77	2. 1. 09. 12. 005801

Change history			
Preparation/change date	change content	Changed by	version
2024.07.23	First edition	XU	A

Sunnyway Countersign Column				
R&D	ME:	Audit:	Quality Engineer:	Approval:
	RF:	Audit:		
Customer Countersign Column				
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ITEM

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1. PROJECT PICTURES

project pictures shown below:



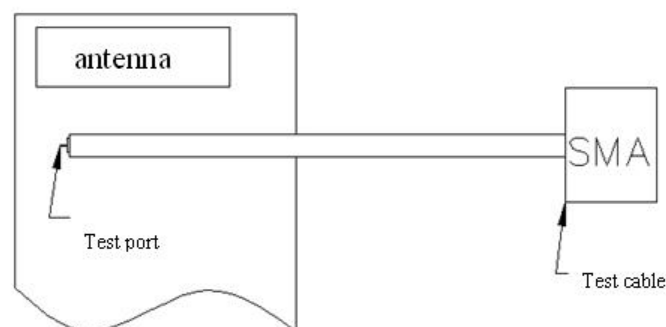
PS:

To ensure that the antenna shipment quality, the final prototype Clients validated the antenna's performance, should be kept in our company for at least a year time, facilitate solving antenna amount during abnormal situation,

2. TEST FIXTURE

Purpose: To test antenna passive parameters as accurately as possible.

methods: the fixture is to use a 50 ohm coaxial cable, one end is connected to the pad after the antenna's matching circuit (the front of the antenna switch) , and the other end is connected to the SMA connector.



3. MATCHING CIRCUIT

Antenna matching did not modify

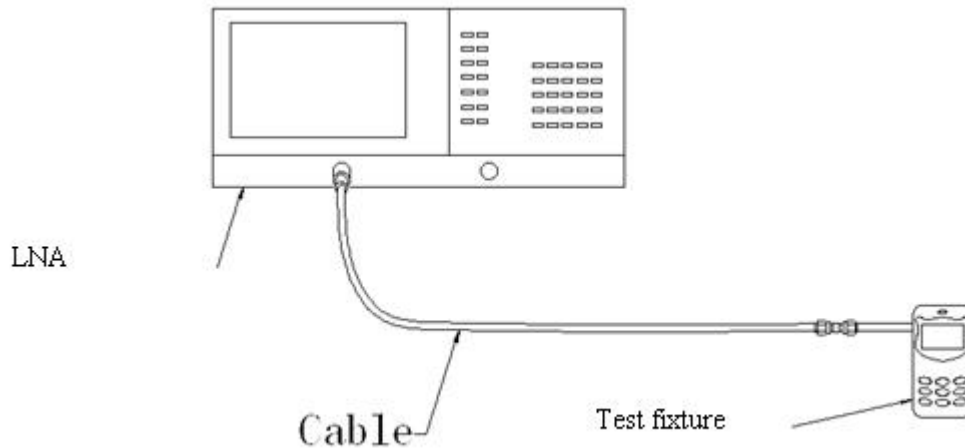
4. S11 test

4.0 S11 test method instructions

Test equipment: LNA (Agilent E5071B)

Test method: With a 50 ohm CABLE ,CABLE export from instrument testing port , After the calibration with calibration Key, connected to the SMA connector, Records the return loss and VSWR of the related frequency points.

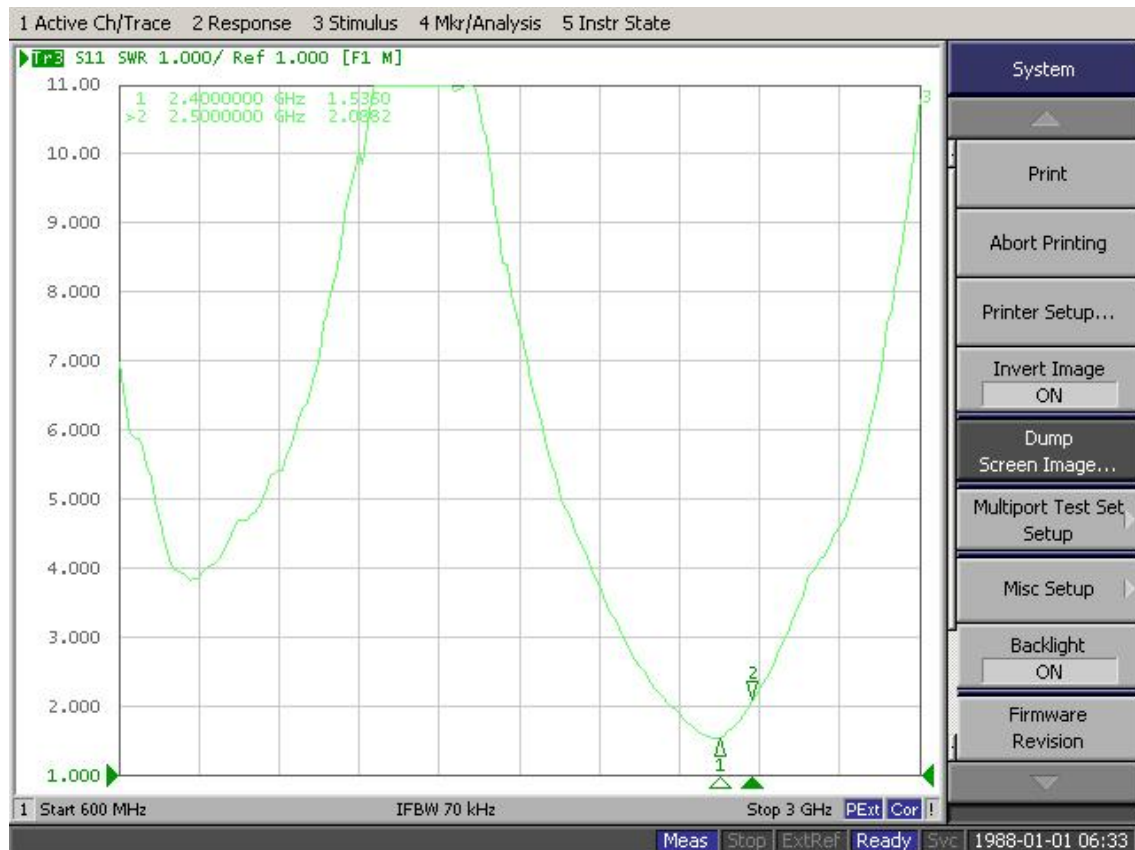
Test schematic diagram is as follows:



Test schematic diagram

4.1 S11 parameter

WIFI ANT VSWR



5 CHAMBER TEST DATA

Test equipment

Test system: chamber

Test environment: the temperature of 22 °C + 3 °C, humidity of 50% plus or minus 15%

Test equipment: to test passive status , use Agilent 8960 Agilent E5071B to
test active status, use CMW500

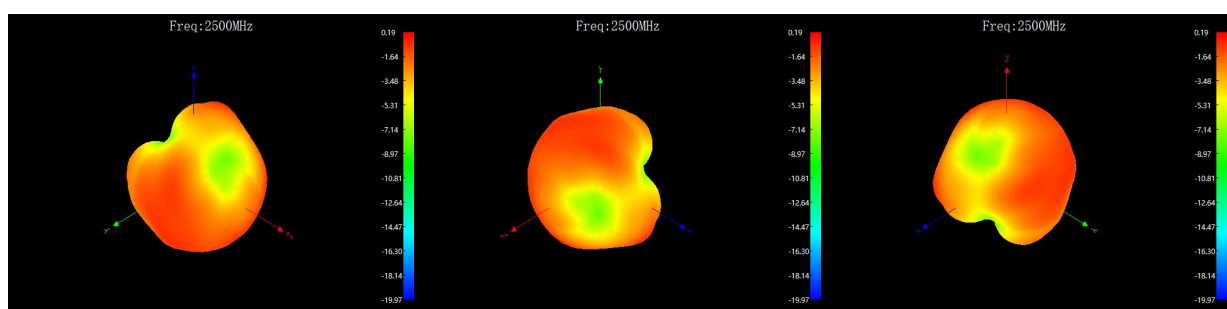
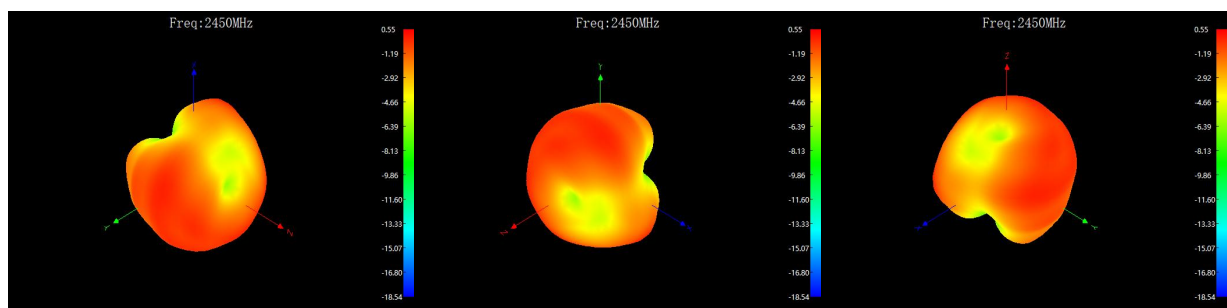
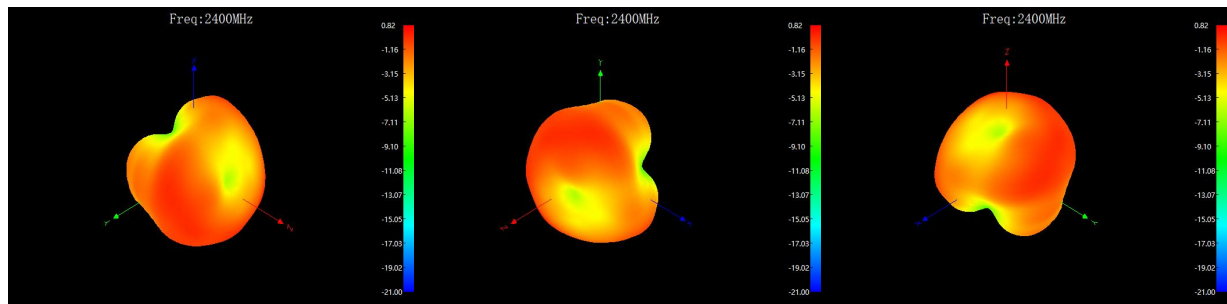
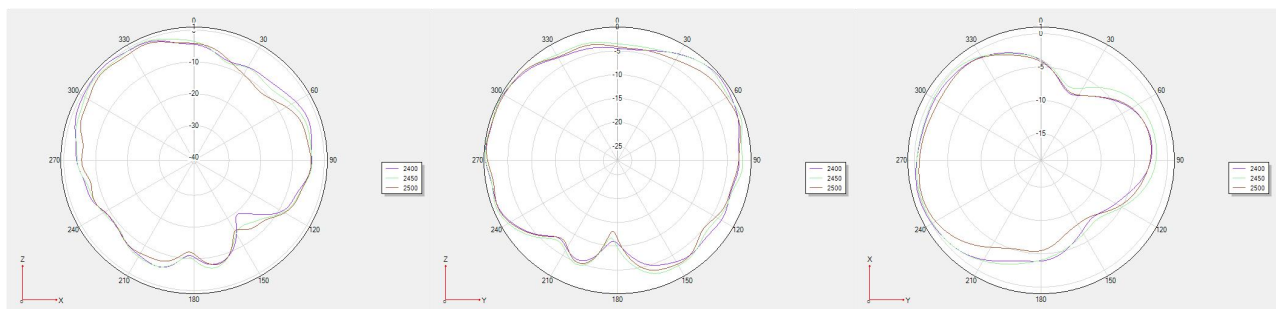
Test data

Item	Measurement	Band	Channel	Total
1	TRP	WIFI_B (11M)	1	13.3
2	TRP	WIFI_B (11M)	6	13.52
3	TRP	WIFI_B (11M)	11	13.4
4	TIS(EIRP)	WIFI_B (11M)	11	-84.83
5	TRP	WIFI_G (54M)	1	13.78
6	TRP	WIFI_G (54M)	6	13.65
7	TRP	WIFI_G (54M)	11	12.97
8	TIS(EIRP)	WIFI_G (54M)	11	-71.52

Passive efficiency

Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	0.82	47.7
2410	0.62	47.58
2420	0.61	48.83
2430	0.57	48.33
2440	0.56	49.08
2450	0.55	48.33
2460	0.53	47.95
2470	0.48	45.88
2480	0.43	46.58
2490	0.38	45.42
2500	0.19	44.13

Radiation Apple Figure 2.4G



6. Antenna loading position



7. Mass production antenna Spec

During Mass production, to test VSWR as production test standard

According to the difference of the project itself, the following specification:

Frequency	SPEC , Mass Production
2400-2500MHz	VSWR (MP performance) <VSWR(Verify performance)+0.5

Version		Revision Content		Revised By	
Version		Revision Content		Revised By	

*11.5±0.15

End facing TAP
No. ANCZ113L-3C1

50.00±3.00

OSP antioxidant zone

Pattern zone

Release paper area

Technical requirement

- Packaging requirements for shipment: (Single PCS shipment)
- Apply black matte ink on the surface of the copper pool;
- The ink should be uniform;
- The size with the “*” symbol is the key size;
- 3M 467MP for adhesive backing;
- Use PI half in half for the substrate;
- OSP treatment, welding of coaxial lines;
- Undeclared chamfers are all 0.2, and the process edge is 0.2mm;
- Unmarked tolerances shall be in accordance with the general tolerance table;
- The product complies with RoHS2.0&REACH requirements.

尚远科技(中国)有限公司

		PART NAME: WIFI ANT (V113)		DATE: 2024-07-23	
TOLERANCE	X.X ±0.20	PART NO:	SZ233071B77	DRAWN:	Xuwei
.XX ±0.10		MATERIAL:	FPC+Coaxial line	CHECKED:	
.XXX ±0.05		FINISHING:		APPROVED:	
ANGULAR <±0.5°		UNIT: mm	COLOUR: BLACK	SCALE: 1:1	REV: TA

9. Environmental testing report



Sunnyway Technology (China) Co., Ltd.

Antenna Environment Test Report

Customer Name: YUJIA entry name: V113 sunnyway NO: SZ233071B77

Number of samples: 5PCS		Test time: 2024/07/10						
Test time	测试项目Test items	测试条件和需求Test conditions and requirements	测试设备Test equipment	测试结果test result				
2024.07.10	low temperature storage	Store in a incubator (-40 ℃ ± 5) for 24 hours, and then let it dry at room temperature for 2 hours before testing. The electrical performance (VSWR) and structural appearance are good	Standard temperature and humidity	1	2	3	4	5
2024.07.11				-40℃ OK	-40℃ OK	-40℃ OK	-40℃ OK	-40℃ OK
2024.07.10	高温存储high temperature	Store in a temperature box (80 ℃ ± 5) for 24 hours, and then let it dry at room temperature for 2 hours before testing. The electrical performance (VSWR) and structural appearance are	Standard temperature and humidity	1	2	3	4	5
2024.07.11				+85℃ OK	+85℃ OK	+85℃ OK	+85℃ OK	+85℃ OK
2024.07.11	Constant temperature and humidity	The temperature is 60 ℃ ± 5, the humidity is 90%~95% RH, and after 24 hours, it is required that the structure is undamaged and the humidity electrical performance remains unchanged.	Standard temperature and humidity	1	2	3	4	5
2024.07.12				60℃/95% OK	60℃/95% OK	60℃/95% OK	60℃/95% OK	60℃/95% OK
2024.07.13	耐盐雾实验Salt spray	NaCl solution with salt spray concentration of 5%, spray the antenna for 24 hours continuously at 35 ℃, then remove it for cleaning and dry it. The surface of the antenna should be free of	Salt mist machine	1	2	3	4	5
2024.07.14				35℃/5% OK	35℃/5% OK	35℃/5% OK	35℃/5% OK	35℃/5% OK

审核 to examine: 林长青

确认confirm: 陈小平

测试 test: 韦月丽