

Shenzhen Shangyuan Technology Co., LTD

Acknowledgment of the cable

Customer name: tianyouwei		Project Name: TYW-9AY4
Working frequency band: WIFI2.4/5.8		
Motherboard version:		
Shangyuan material specifications		
specifications and models	Shangyuan Far Day	Customer material number
WIFI antenna components	SZ25404IB77-1	31920001

Change of history			
Date of preparation/revision	Changes	Changer	edition
2025.07.09	editio princeps	XUWEI	A

Shangyuan's signature panel				
research and development	structure :	examine and verify :	Quality Engineer:	ratify :
	radio frequency :	examine and verify :		
Customer signature column				
electronic engineer	project manager	construction engineer	Quality engineer	

Tel: +86-021-64842326 (Shanghai); +86-0755-82504258 (Shenzhen)

Fax: + 86-021 - 64842328

Shanghai R&D Center: 1st Floor, Building 4, No.99, Lane 215, Gaoguang Road, Qingpu District, Shanghai

Shenzhen R&D Center: Room 405,4th Floor, Jinke Building, No.8 Qiongyu Road, Nanshan District, Shenzhen

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1. Project pictures

Project pictures are as follows:



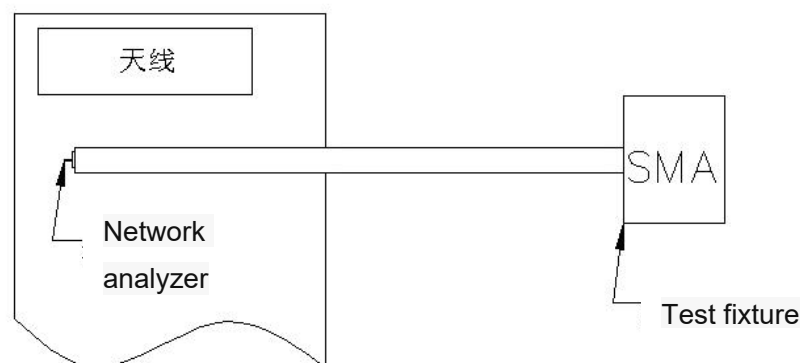
explain :

The customer's final verification antenna performance machine will be kept in our company for at least one year, so as to analyze and solve the abnormal situation in the mass production of antenna and ensure the quality of antenna shipment.

2. Test equipment

Purpose: To test the passive parameters of the antenna as accurately as possible;

Making method: The machine tool is a 50 ohm coaxial cable, one end connected to the test point at the back of the matching circuit on the machine motherboard (front end of the RF test hole), and the other end connected to the SMA connector. The schematic diagram is as follows:



3. Matching circuit

The match has not been changed

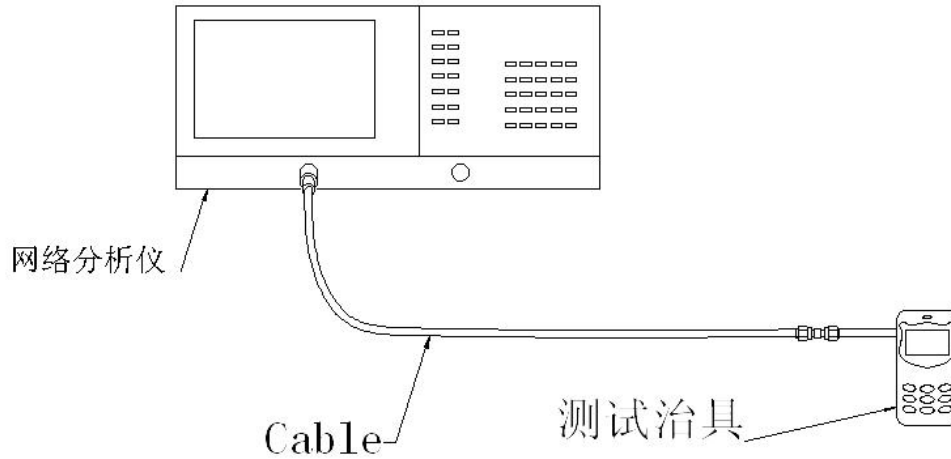
4.S11 test

4.1 S11 test method description

Test equipment: network analyzer (HP 8753E);

Test method: Use a 50 ohm CABLE cable to export from the test port of the instrument, use the calibration piece to calibrate and connect the SMA connector of the machine tool, and record the corresponding echo loss and VSWR at relevant frequency points;

The test diagram is as follows:



Schematic diagram of test

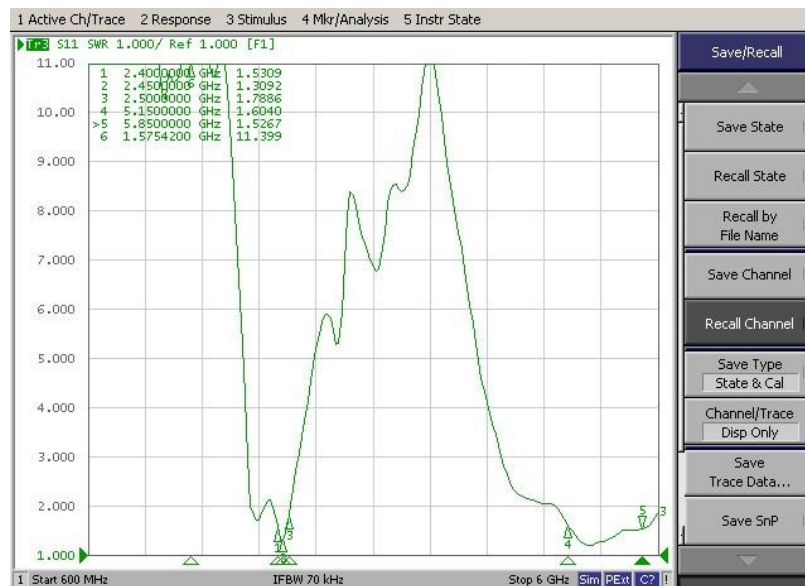
4.2 S11 parameters

WIFI antenna :

frequency (MHZ)	2400	2500	5150	5850
standing-wave ratio	1.5	1.78	1.6	1.5

4.3 Parameter pictures

S11: WIFI



5. Darkroom test data

5.1 Test equipment

Test system: shielded anechoic chamber

Test environment: temperature $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$, humidity $50\% \pm 15\%$

Test equipment: When testing passive data, use network analyzer AgilentE5062C

When testing active data, use the Agilent8960 CMW500 comprehensive tester



5.2 Passive test data

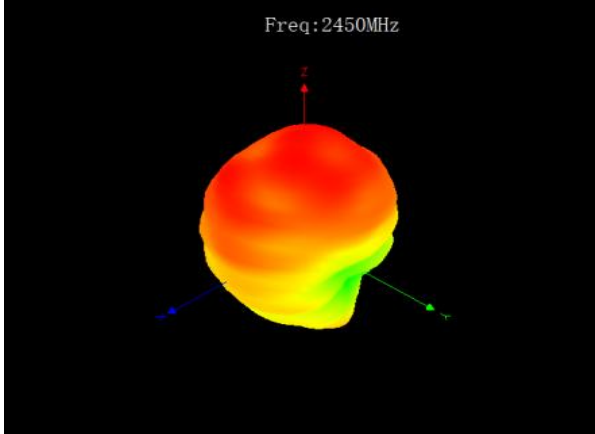
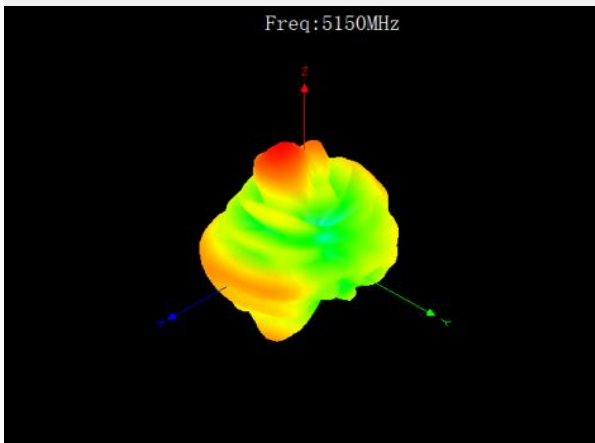
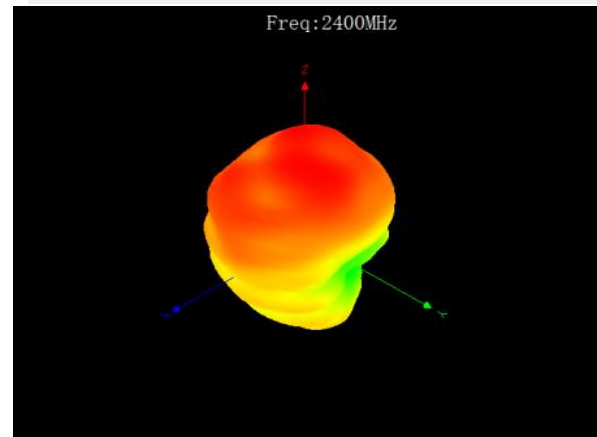
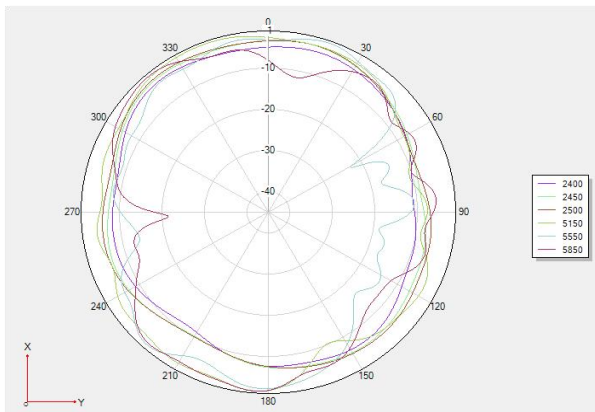
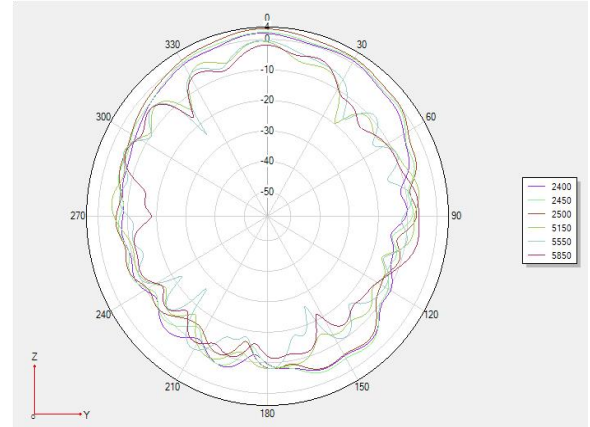
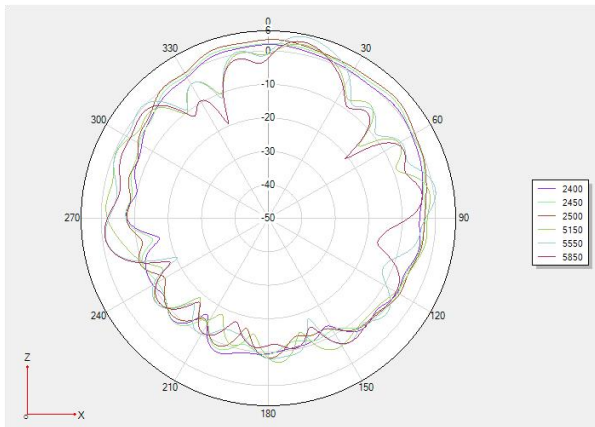
WiFi antenna test data:

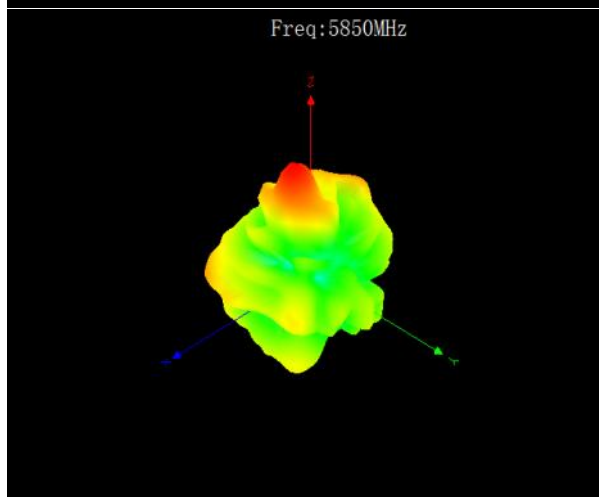
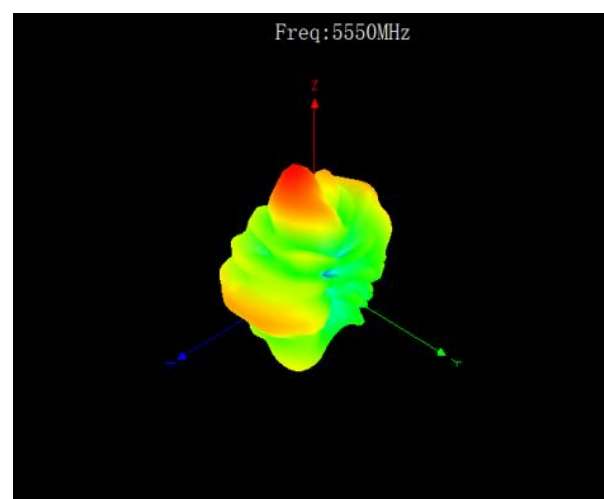
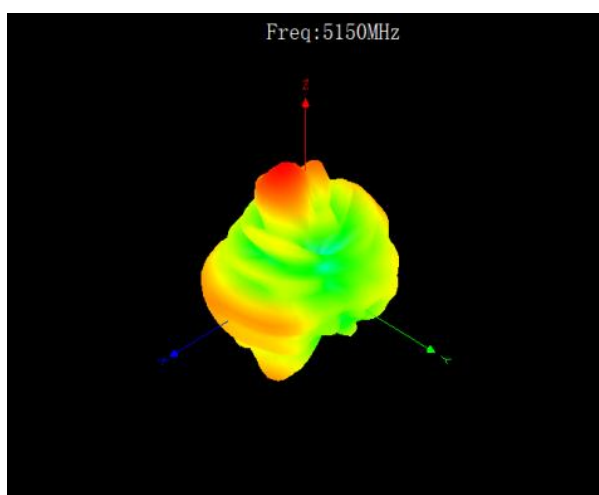
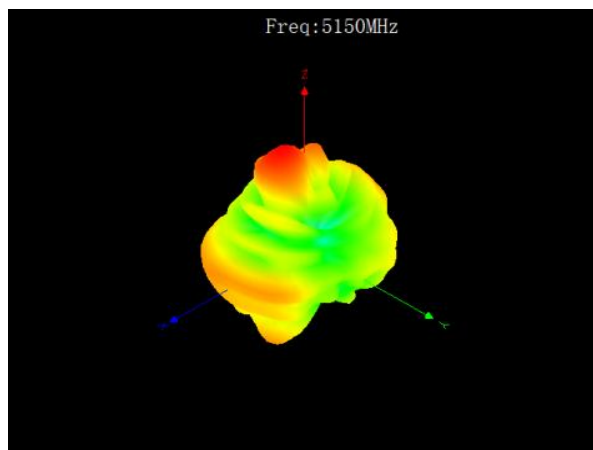
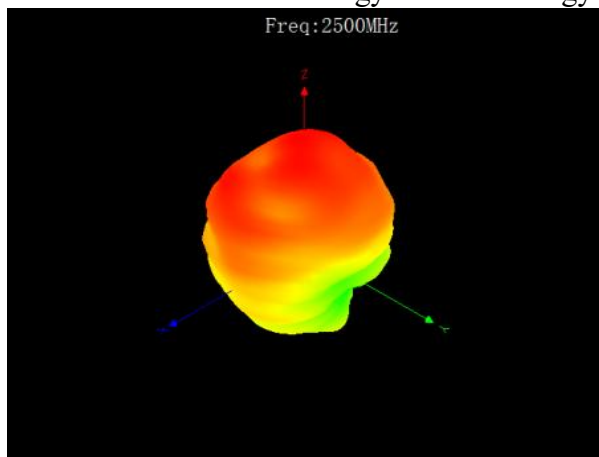
productiveness :

Frequency/Mhz	MaxGain/dBi	Efficiency / %	Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	2.05	61.64	5150	4.99	54.08
2410	2.82	62.36	5200	4.62	51.81
2420	2.61	61.67	5250	4.78	51.08
2430	2.38	62.56	5300	4.11	52.43
2440	2.25	63.7	5350	4.34	54.88
2450	2.41	64.33	5400	4.87	53.53
2460	2.94	64.58	5450	4.9	52.29
2470	2.66	63.09	5500	5.07	54.57
2480	2.25	65.46	5550	5.28	54.02
2490	2.95	62.48	5600	5.03	54.95
2500	2.48	64.7	5650	4.84	56.1
			5700	4.69	54.08
			5750	4.38	52.97
			5800	4.19	54.45
			5850	4.77	51.64

Shenzhen Shangyuan Technology Co., Ltd. Antenna Acknowledgment letter

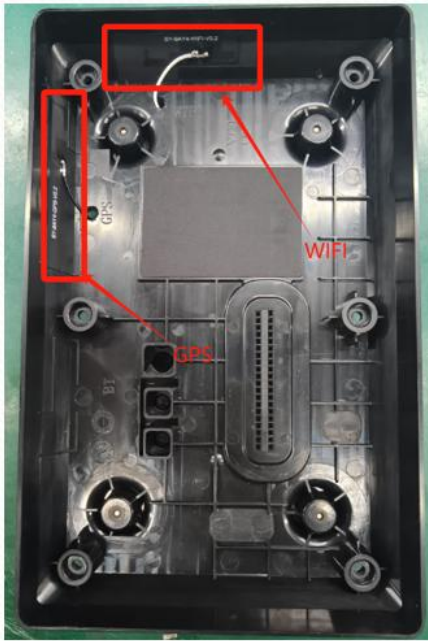
2D/3D direction diagram:





6. Machine assembly pictures

Schematic diagram of antenna



WiFi Antenna White RF
Lines GPS Antenna Black
RF Cables

The antenna position is
assembled according to
the above figure

7. Production antenna indicators

In antenna mass production, the VSWR is used as the mass production test standard.

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

frequency	Production standards
2400-2500Mhz	VSWR (mass production performance) <VSWR (acceptance performance) ± 0.5
5150-5850Mhz	VSWR (mass production performance) <VSWR (acceptance performance) ± 0.5

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