

Shenzhen Shangyuan Technology Co., LTD

Acknowledgment of the cable

Customer name: Vigo		Project Name: FA85
Working frequency band: WIFI2.4/5.8		
Motherboard version:		
Shangyuan material specifications		
specifications and models	Shangyuan Far Number	Customer material number
WIFI antenna	SZ24469IB77-2	39600842

Change of history			
Date of preparation/revision	Changes	Changer	edition
2024.11.10	editio princeps	MEDAHENG	R.A
2025.07.09	The length of the line is extended	MEDAHENG	R.B

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	

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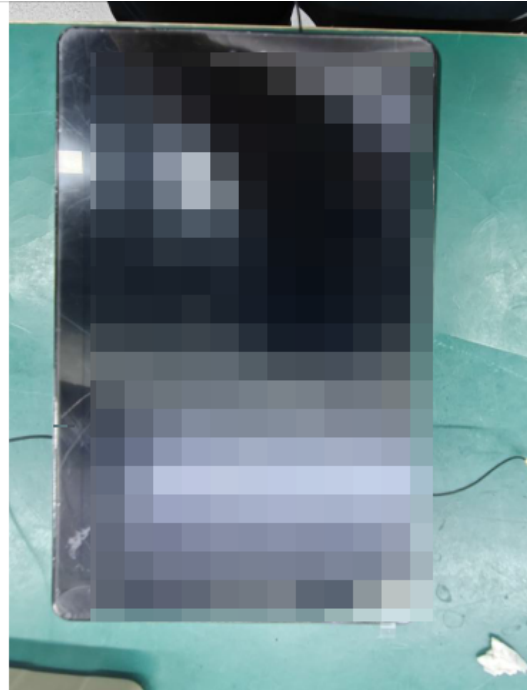
Shenzhen R&D Center: Room 405,4th Floor, Jinke Building, No.8 Qiongyu Road, Nanshan District, Shenzhen

catalogue

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1. Project pictures

Project pictures are as follows:



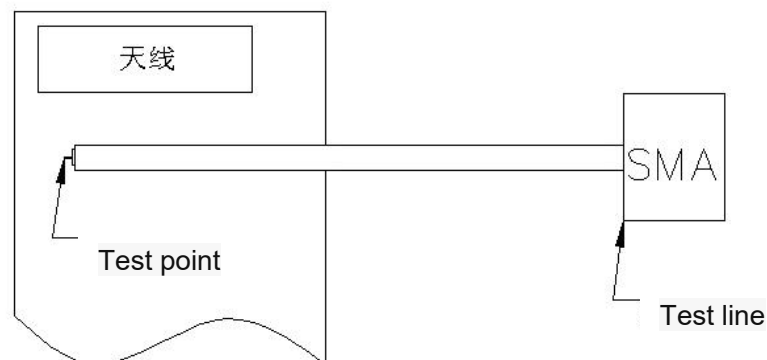
explain :

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 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 was not changed

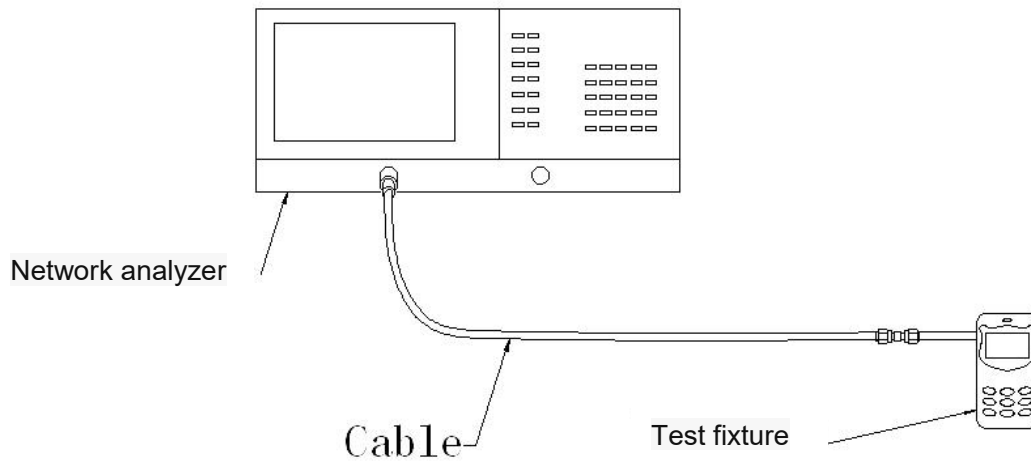
4.S11 test

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

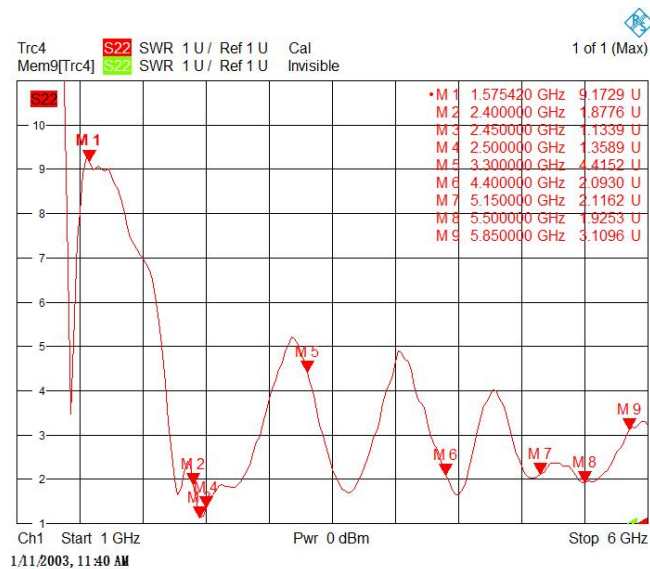
4.2 S11 parameters

WIFI antenna :

frequency (MHZ)	2400	2450	2500	5150	5500	5850
standing-wave ratio	1.8	1.1	1.3	2.1	1.9	3.1

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

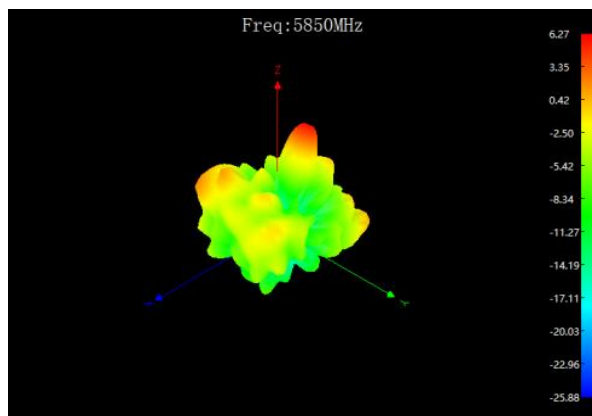
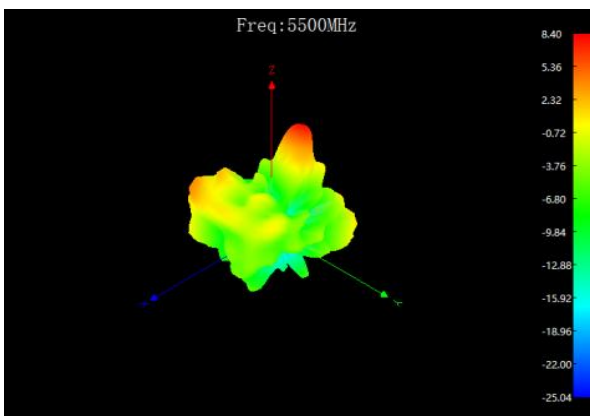
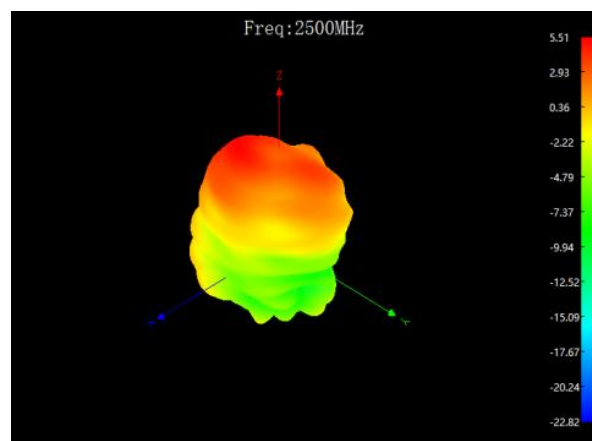
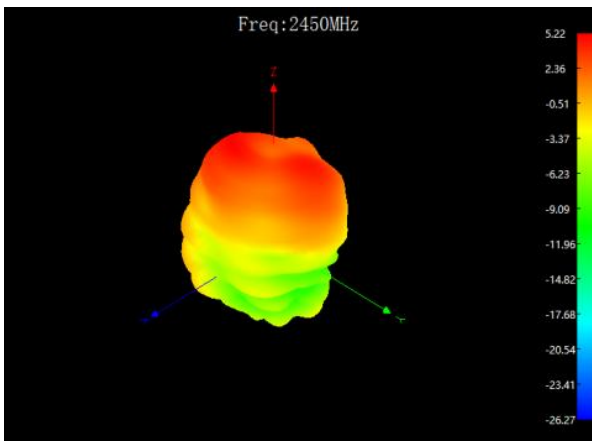
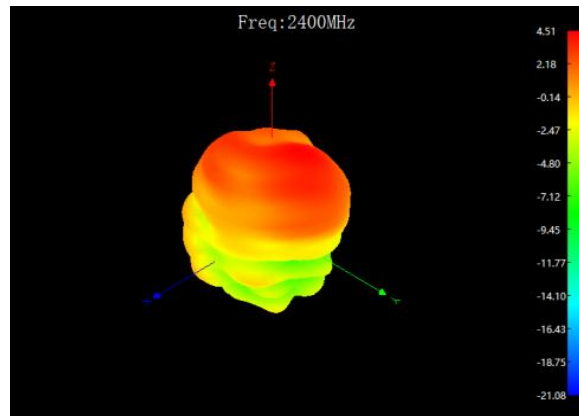
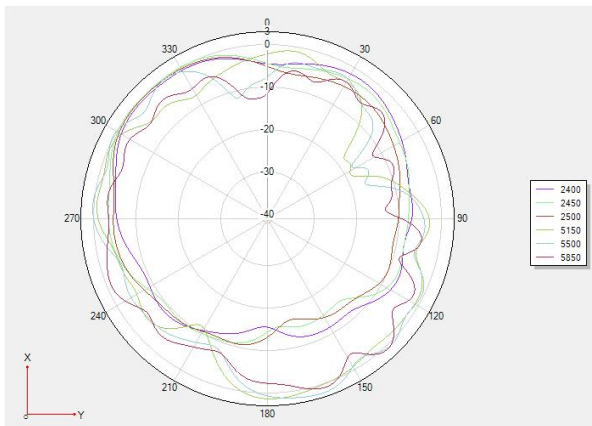
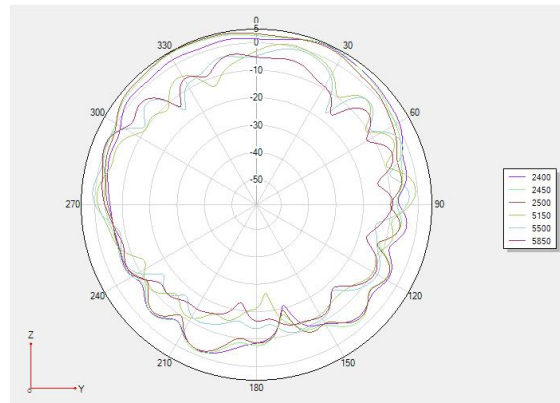
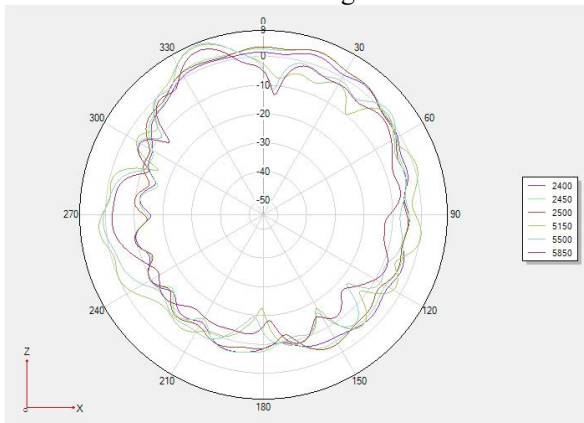
WiFi antenna test data:

productiveness :

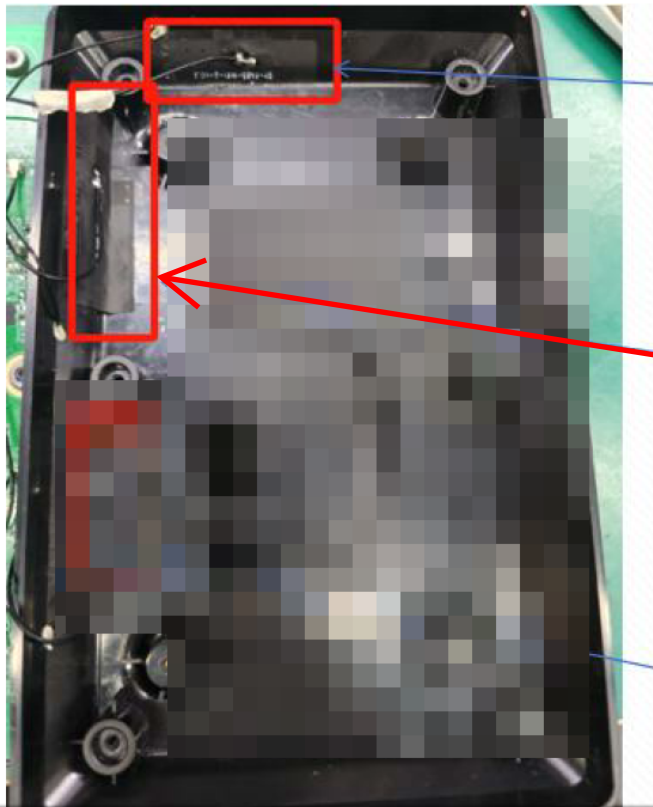
Frequency/Mhz	Efficiency / %	MaxGain/dBi
2400	61.52	2.51
2410	60.53	2.9
2420	63.53	2.37
2430	63.39	3.05
2440	65.31	2.55
2450	63.97	3.22
2460	66.53	2.81
2470	65.61	3.58
2480	66.37	2.22
2490	65.31	3.93
2500	66.53	3.51
5150	44.26	4.94
5200	44.16	5.09
5250	43.35	5.13
5300	43.55	5.07
5350	45.08	5.27
5400	44.46	5.23
5450	46.99	5.24
5500	47.64	5.4
5550	48.31	5.44
5600	46.67	5.37
5650	46.77	5.25
5700	42.85	4.92
5750	40.08	4.36
5800	38.65	3.78
5850	35.36	3.27

Shenzhen Shangyuan Technology Co., Ltd. Antenna Acknowledgment letter

2D/3D direction diagram:



6. Machine assembly pictures



WIFI and Bluetooth
antenna location

GPS antenna location

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) ± 0.3

8. Structural drawings

