

Shanghai Sunnyway Communication Technology Co., LTD

Antenna Testing Specification

Customer name: jimi	Project name: WS04	
Working frequency band: BT		
Hardware version:		
Hardware version:		
Sunnyway material specifications		
specifications and models	Sunnyway material number	Customer material number
WIFI ant	SZ24201IB74	

Change the resume			
Preparation / change date	Change the content	Change the person	edition
2024.06.24	A new release	XUWEI	A

Sunnyway will sign the column				
research and development	structure:	examine and verify:	Quality Engineer:	ratify:
	radio frequency:	examine and verify:		
The customer will sign the column				
electronic engineer	project manager	construction engineer	Quality engineer	

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一、 item information

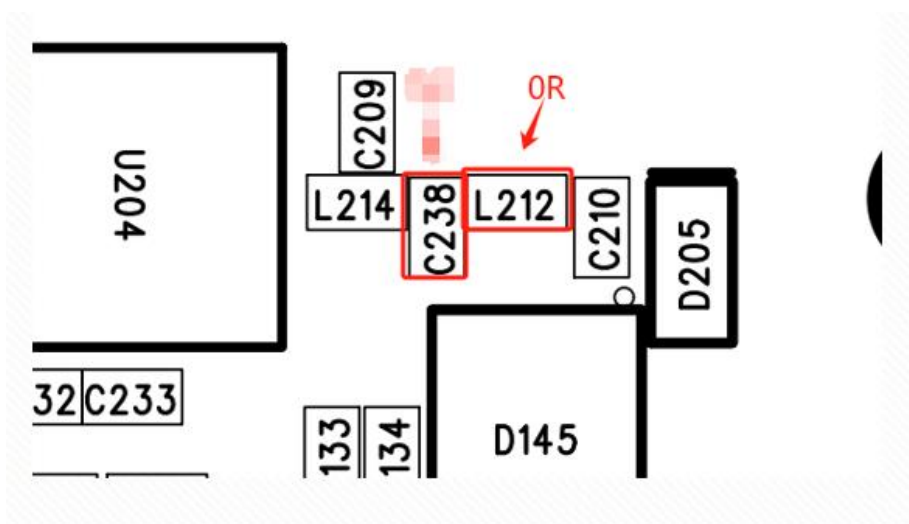
.11 Schematic diagram



.21 Antenna product diagram



二、 Antenna matching circuit



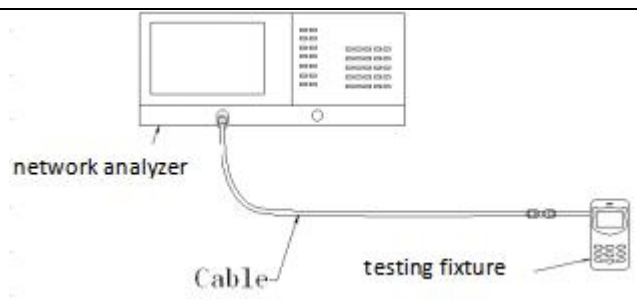
三、 Complete machine test data

3.1 S11 Description of the test method

Test Equipment: Network Analyzer (Agilent E5071C)

Test method: Export a 50 Ohm CABLE cable from the instrument test port, connect the SMA connector of the test device after the calibrator, and record the echo loss and standing wave ratio corresponding to the relevant frequency point.

The test schematic diagram is as follows:



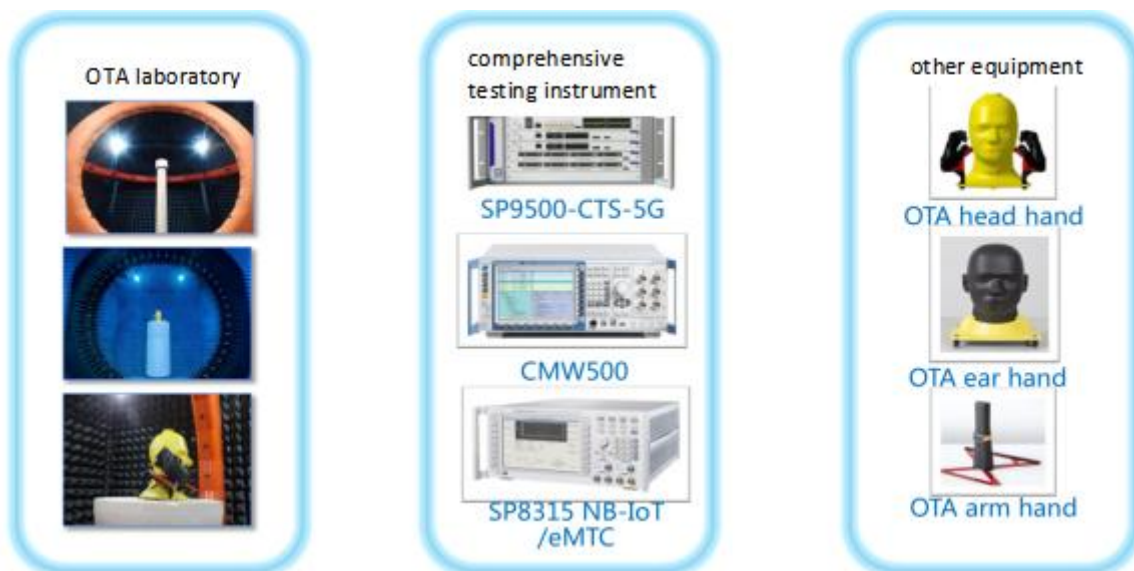
Schematic diagram of the test

3.2 Test environment

Test System: MPS 6450 Multi-sensor OTA Measurement System (XH-IoT)

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

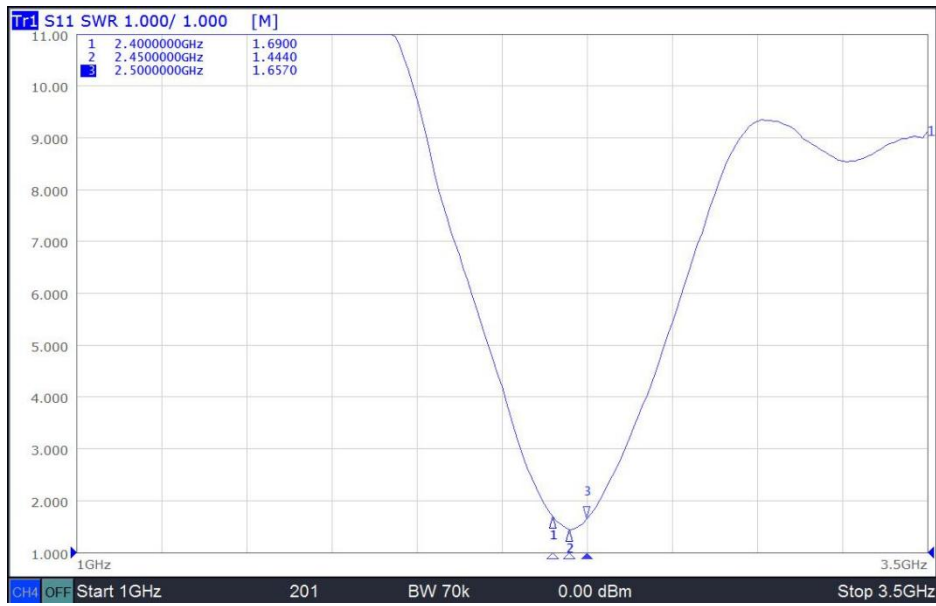
Test equipment: Use the network analyzer R & S ZND / Agilent E5071C when testing the passive data
 When testing active data, use the comprehensive meter Agilent 8960 / CMW500 / S P9500E / SP 8315



3.3 The passive test parameters

standing-wave ratio VSWR

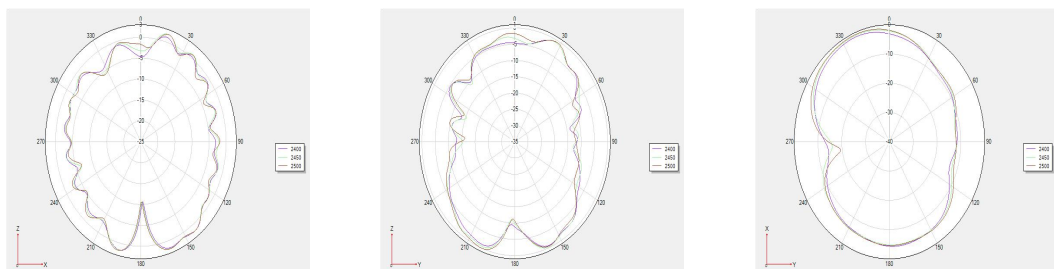
Frequency (GHZ)	2400	2450	2500
standing-wave ratio	1.69	1.44	1.67



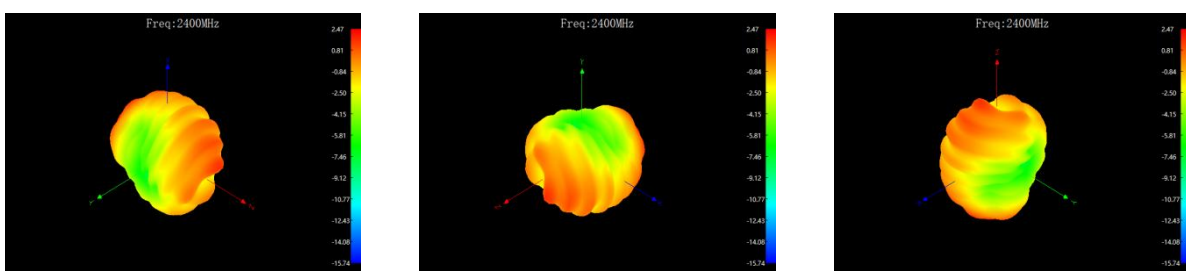
Passive efficiency

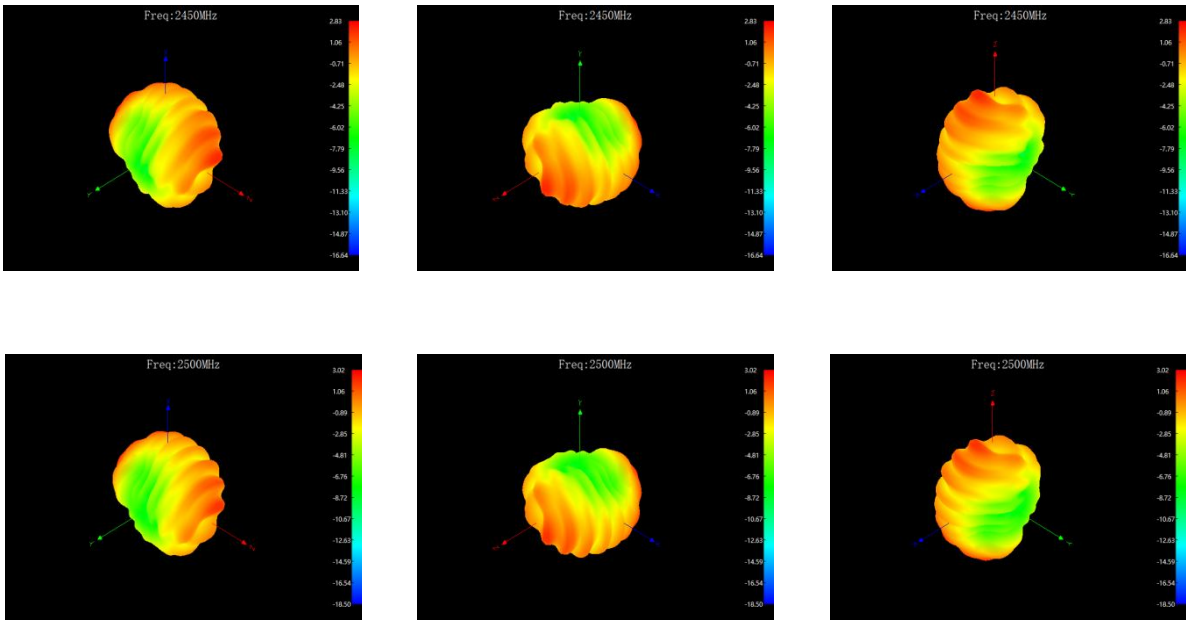
Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	2.73	45.21
2410	2.66	46.64
2420	2.38	46.03
2430	2.39	47.08
2440	2.47	47.55
2450	2.61	47.89
2460	2.63	48.64
2470	2.8	48.35
2480	2.84	48.58
2490	2.61	47.2
2500	2.54	46.42

Passive direction diagram



Radiation Apple Figure





3.4 Active test data

Measurement	Band	Channel	Total
TRP	BLUETOOTH	0	18.46
TRP	BLUETOOTH	39	18.56
TRP	BLUETOOTH	78	18.69
TIS(EIRP)	BLUETOOTH	0	-90.74
TIS(EIRP)	BLUETOOTH	39	-91.14
TIS(EIRP)	BLUETOOTH	78	-91.38

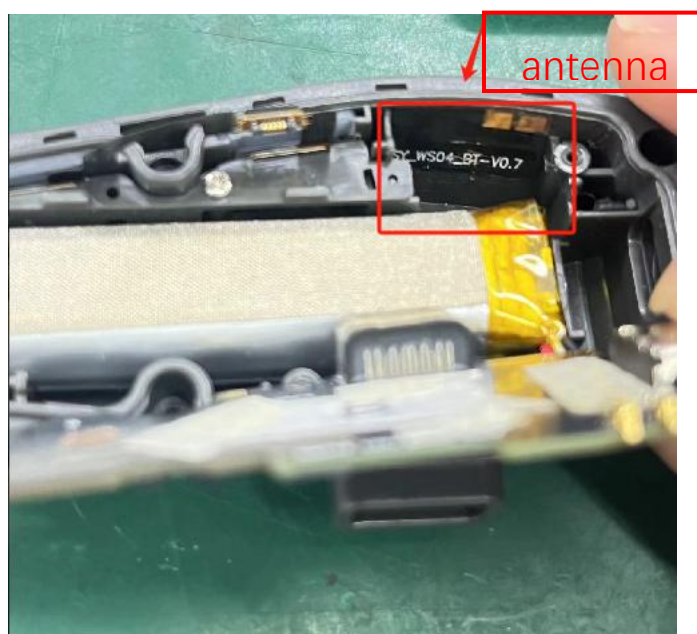
四、 The prototype environment processing mode





五、 Antenna loading position

The antenna is assembled in the following figure



六、 Mass production antenna index

When the antenna is in mass production, the standing wave ratio is used as the test standard for mass production.

Based on the differences of the project itself, the following criteria are given:

Frequency (MHz)	Mass production standards
2400-2500MHz	VSWR (mass production performance) <VSWR (recognized performance) ± 0.5

七、 schedule drawing

