

SUNNYWAY TECHNOLOGY(CHINA)

ANTENNA SPEC

Customer name: Yuanding		Entry name: W2 Surface base station
Working band: WIFI2.4G 2400~2500MHZ		
Motherboard version:		
Sunnyway Material specification		
Specification type	Sunnyway number	Customer number
WIFI Antenna	SZ24516IB97-2	011502.0004

Revision history			
Date of preparation/change	Change content	Altered person	Edition
2025.01.22	New issue	Chenmin	A

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

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1. Project information

1.1 Mockup picture



1.2 Antenna product picture



2. Matching circuit

No changes

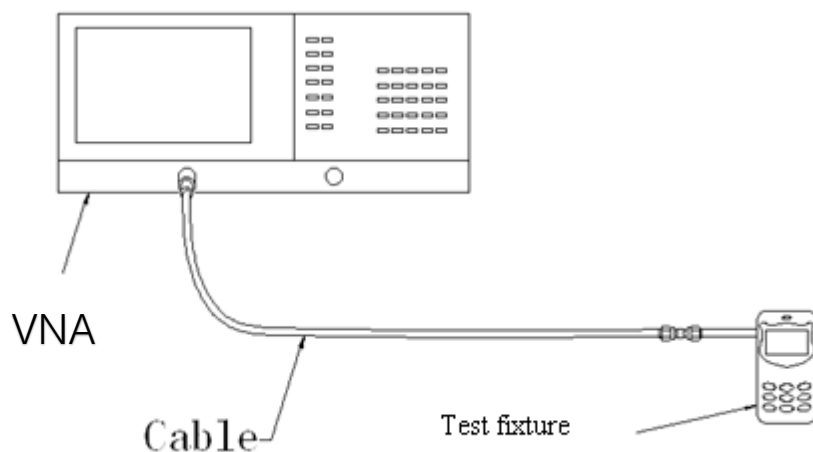
3. Antenna passive testing data

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:



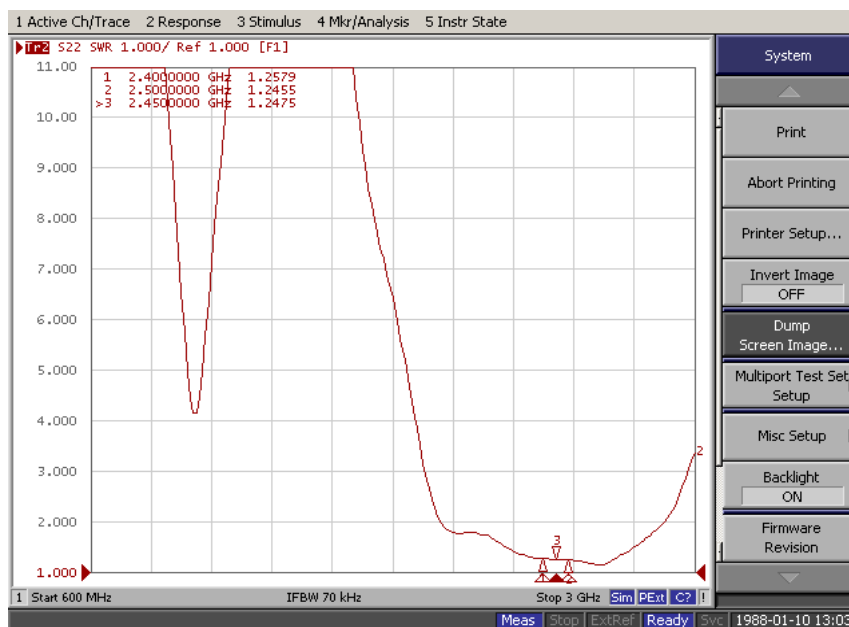
Test schematic diagram

3.2 S11 Test parameters

WIFI 天线:

频率 (MHZ)	2400	2450	2500
驻波比	1.2	1.2	1.2

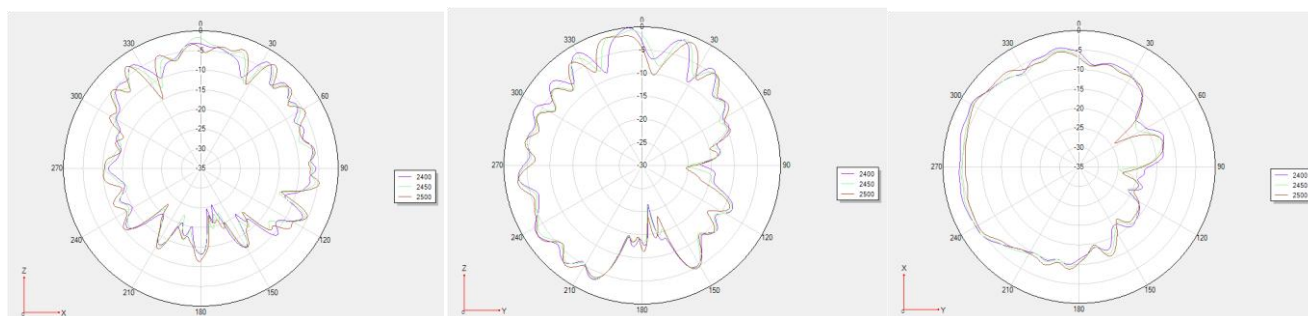
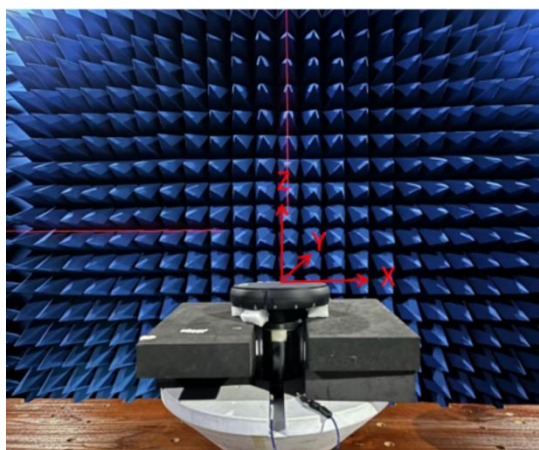
WIFI Passive VSWR



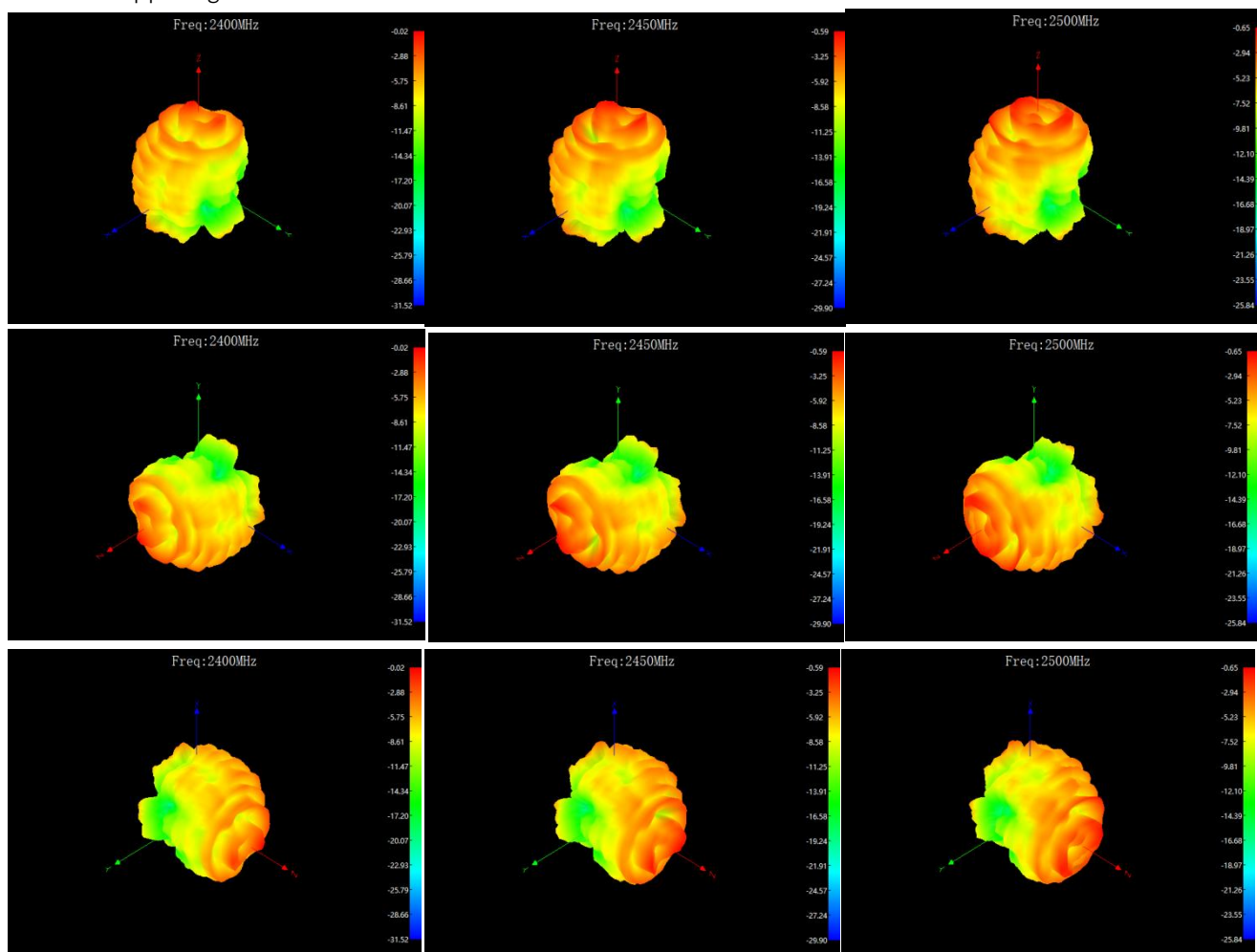
3.3 Antenna efficiency and gain

Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	-0.02	51.76
2410	-0.12	51.29
2420	0.49	52.6
2430	-0.47	50.12
2440	-0.36	51.17
2450	-0.59	51.4
2460	-1.22	49.55
2470	-0.85	51.64
2480	-1.19	48.87
2490	-1.4	49.43
2500	-0.65	51.4

Passive direction diagram



Radiation Apple Figure



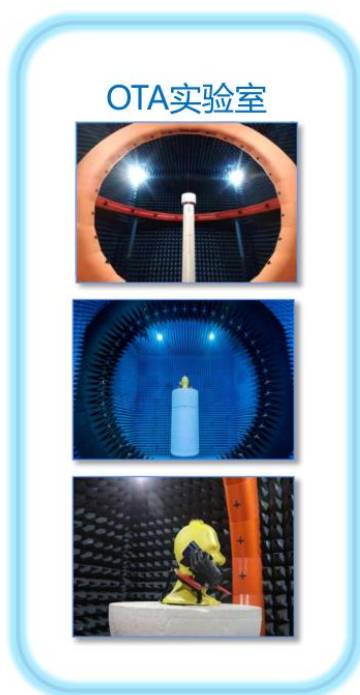
4. Antenna active testing data

4.1 Test the environment

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

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

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



5. Environmental treatment methods



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	$VSWR(\text{Production performance}) < VSWR(\text{Confirmed performance}) + 0.5$

7. Engineering drawings

