

SUNNYWAY TECHNOLOGY(CHINA)

ANTENNA SPEC

Customer name: Ying Da		Entry name: J17
Working band: BT/2.4GHZ		
Motherboard version:		
Sunnyway Material specification		
Specification type	Sunnyway number	Customer number
BT-2 Antenna	SZ24301B77	

Revision history			
Date of preparation/change	Change content	Altered person	Edition
2022.12.22	New issue	Yang XIN	A

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

Customer will sign the column			
Electronic Engineer	Project manager	Structural Engineer	Quality Engineer

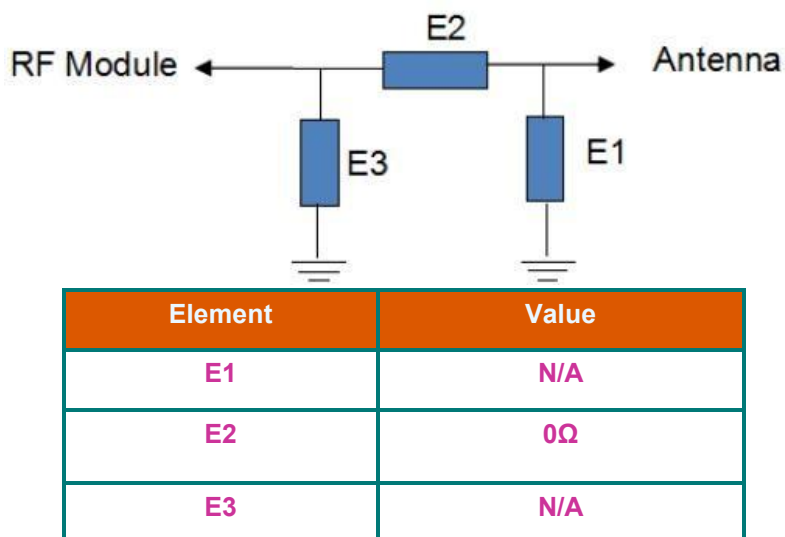
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1. Matching circuit



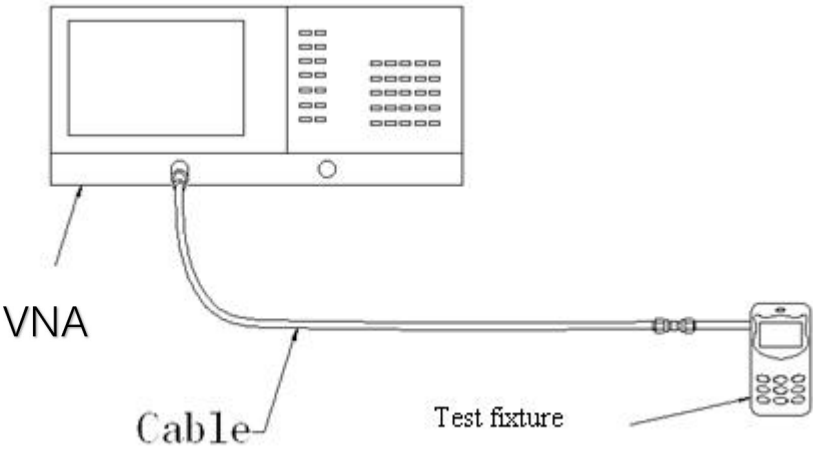
2. Antenna passive testing data

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:

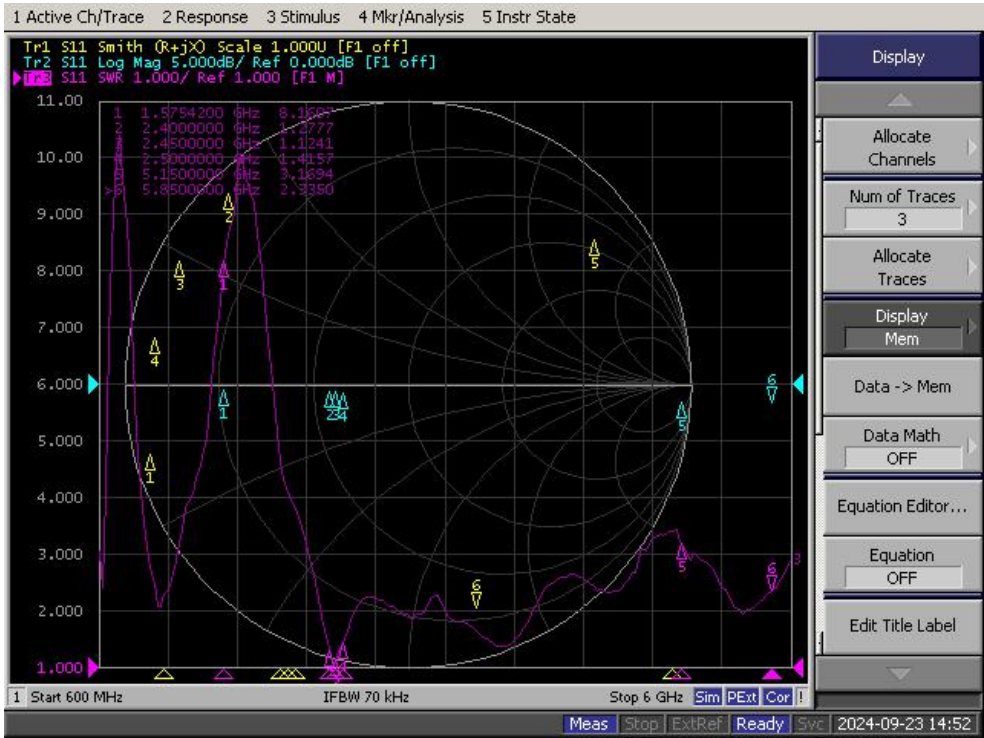


Test schematic diagram

3.2 S11 Test parameters

(Freq.) MHz	2400	2450	2500
VSWR	1.2	1.1	1.4

驻波比 VSWR



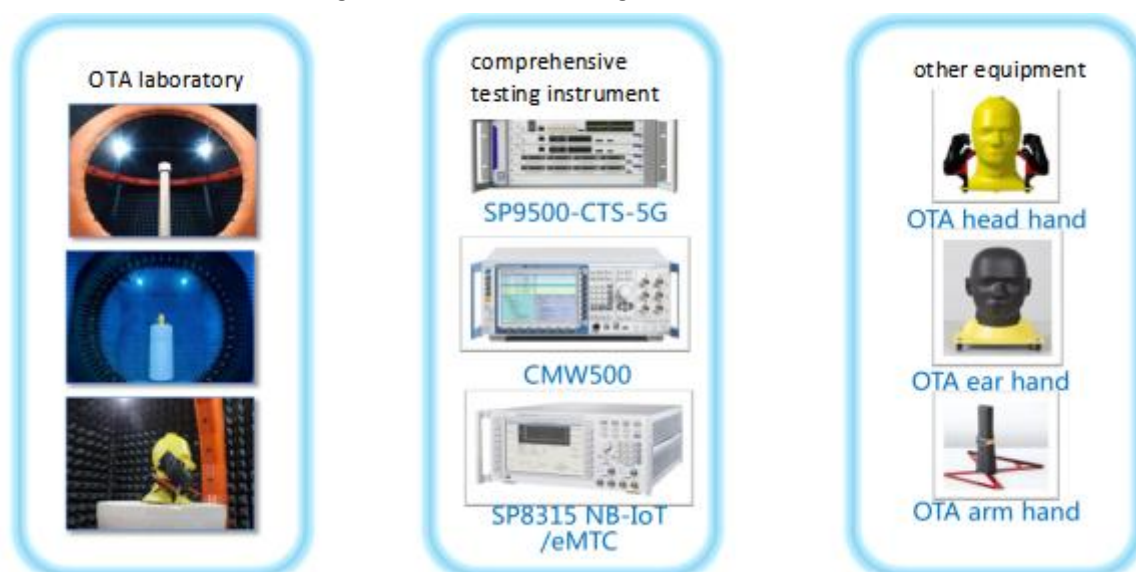
3. Antenna active testing data

3.1 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 $50\%\pm 15\%$

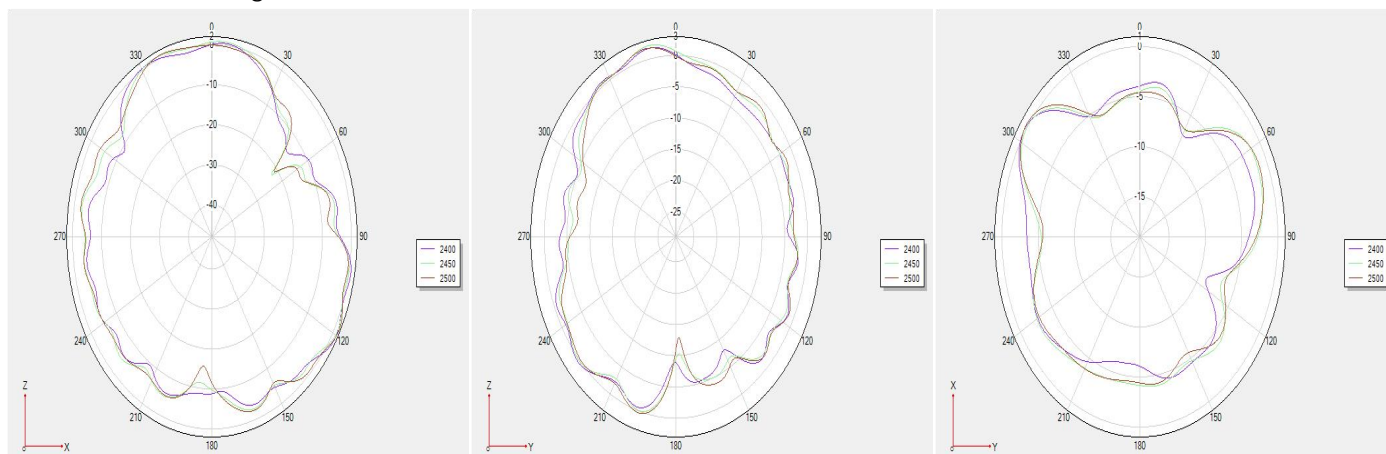
Test the equipment: When testing passive data, use the network analyzer R&S ZND/ Agilent E5071C
When testing active data, use the Agilent 8960/CMW500/SP9500E/SP8315



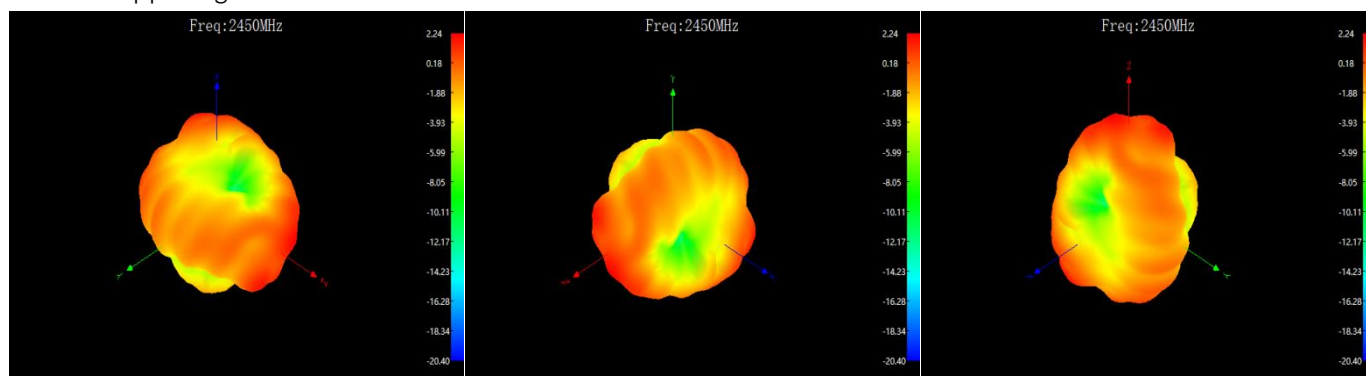
3.2 Antenna efficiency and gain

Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	2.98	64.68
2410	3.11	65.49
2420	3.21	66.41
2430	3.22	66.75
2440	3.14	66.21
2450	3.24	65.29
2460	3.16	64.39
2470	3.27	64.81
2480	3.39	63.66
2490	3.21	63.52
2500	3.26	63.23
AVG	3.19	64.94

Passive direction diagram



Radiation Apple Figure



4. Environmental treatment methods

No design

5. 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	$VSWR(\text{Production performance}) < VSWR(\text{Confirmed performance}) \pm 0.5$