

Sunnyway Technology(Shenzhen)Co.,LTD.

ANTENNA SPEC

Customer name: Telepower	Entry name: SY-M10-WIFI	
Workingband : WIFI/BT 2.4/5.8GHZ		
Motherboard version:		
Sunnyway Material specification		
Specification type	Sunnyway number	Customer number
WIFI/BT Antenna	SZ23372IB77-3	

Revision history			
Date of preparation/change	Change content	Altered person	Edition
2024.06.05	New issue	XU	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

Sunnyway Technology(CHINA)

Add: 1F, Building 4, No.215-99, GaoGuang Road, QingPu District, Shanghai, China

Tel: +86-021-6083 5368 Fax: +86-021-6484 2328

Email: sales@sunnyway-iot.com Web: www.sunnyway-iot.com

Directory

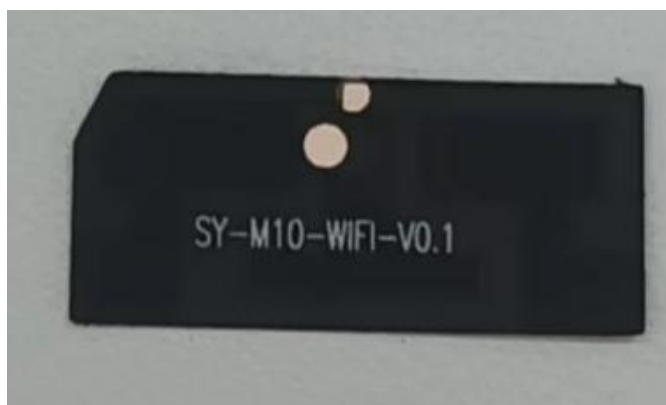
ANTENNA SPEC	1
1. Project information	3
1.1 Mockup picture	3
1.2 Antenna product picture	3
2. Matching circuit	3
3. Antenna passive testing data	4
3.1 S11 Description of the test method	4
3.2 S11 Test parameters	4
3.3 Antenna efficiency and gain	5
3.4 3D Etotal	5
4. Antenna active testing data	7
4.1 Test the environment	7
5. Environmental treatment methods	7
6. Standard for mass production antennas	7
7. Engineering drawings	8

1. Project information

1.1 Mockup picture

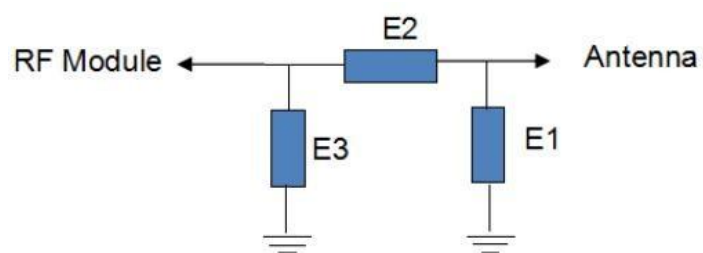


1.2 Antenna product picture



2. Matching circuit

Element	Value
E1	N/A
E2	0 欧姆
E3	N/A



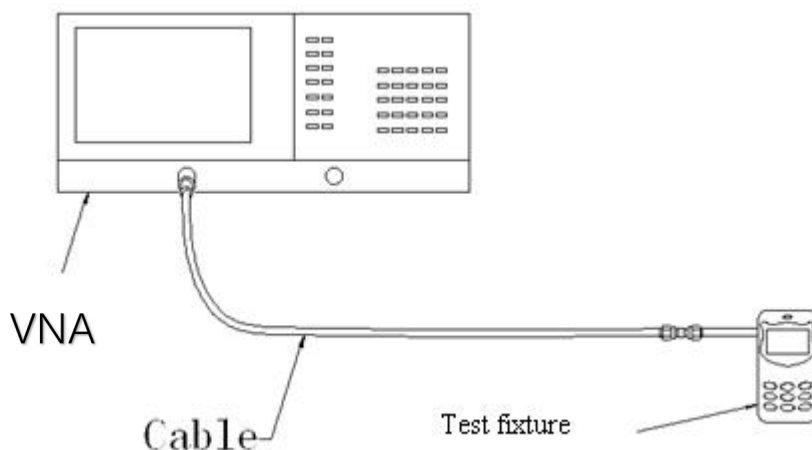
3. Antenna passive testing data

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:

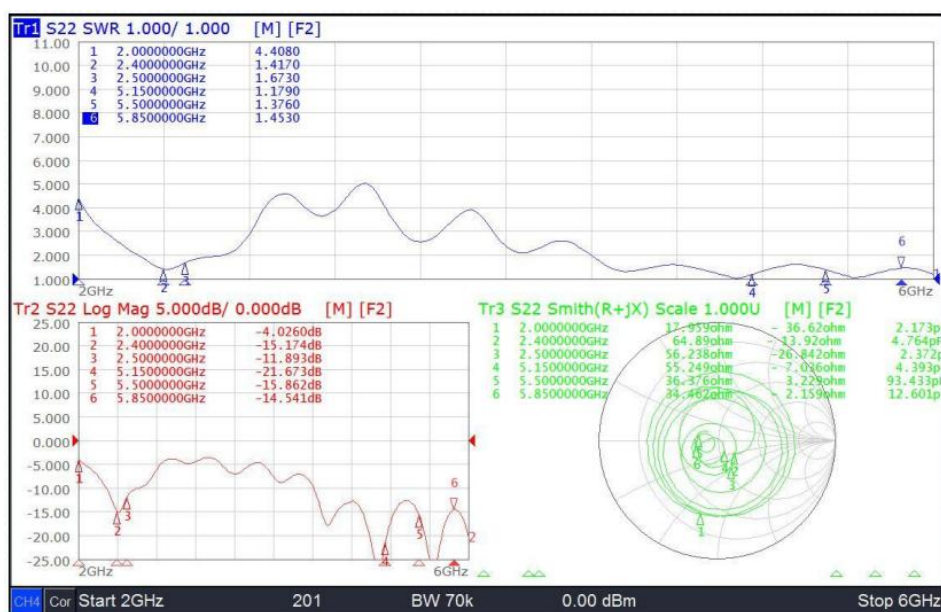


Test schematic diagram

3.2 S11 Test parameters

(Freq.) MHz	2400	2500	5150	5850
VSWR	1.41	1.67	1.17	1.45

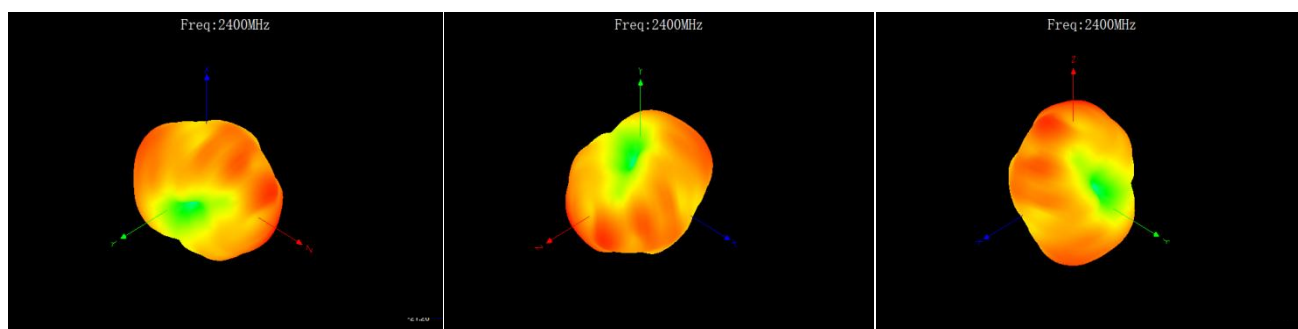
VSWR

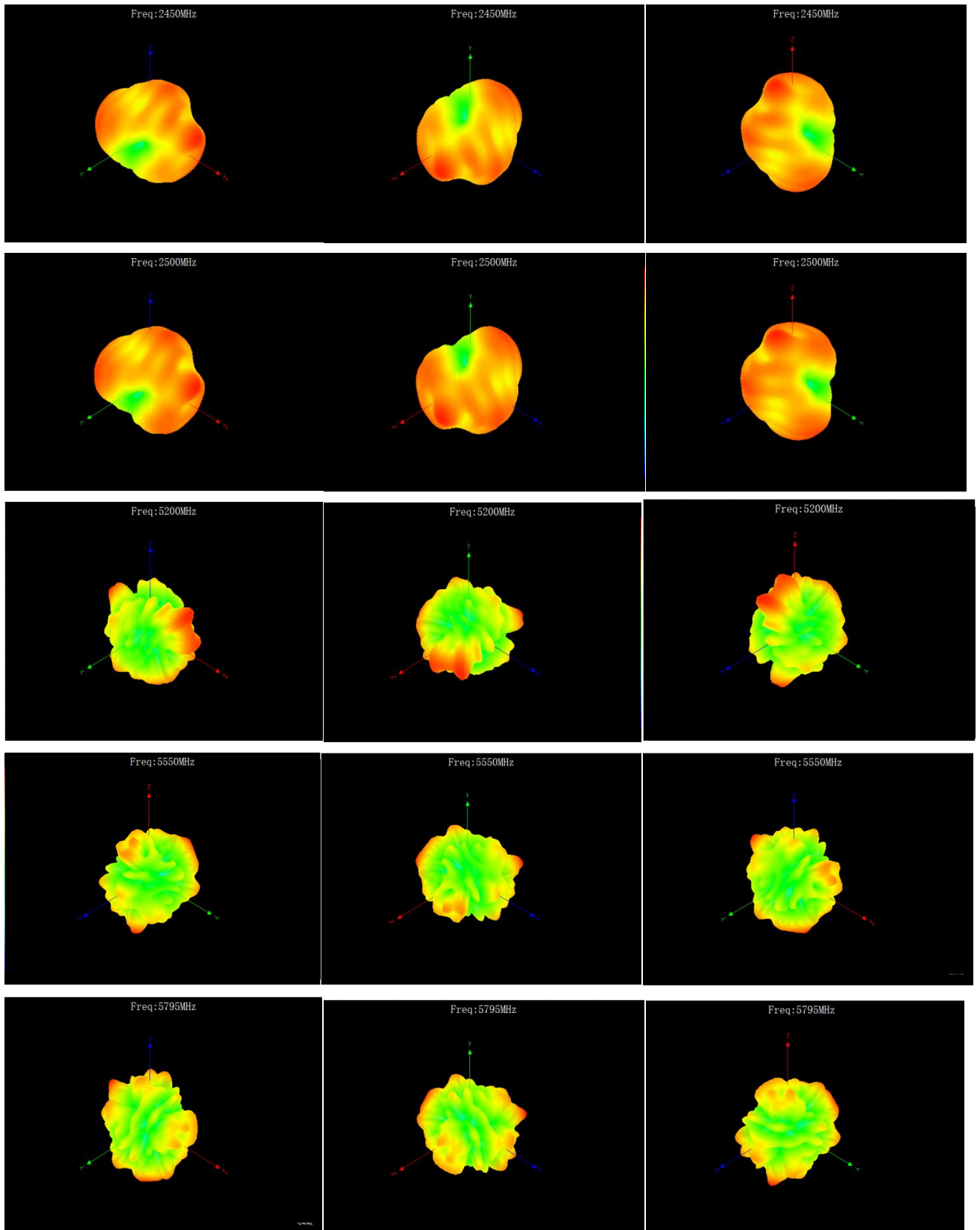


3.3 Antenna efficiency and gain

Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	2.65	53.21
2410	2.76	53.58
2420	2.75	52.6
2430	2.86	52.97
2440	2.82	53.09
2450	2.96	53.09
2460	2.91	52.12
2470	2.97	51.64
2480	2.79	50.58
2490	2.78	49.89
2500	2.53	48.53
5150	4.34	40.55
5200	4.33	41.4
5250	4.23	39.99
5300	4.36	41.4
5350	4.42	42.07
5400	4.42	41.21
5450	4.52	42.76
5500	4.79	44.46
5550	4.69	43.15
5600	4.49	43.65
5650	4.39	44.77
5700	4.24	43.75
5750	4.17	43.55
5800	4.37	45.71
5850	4.45	45.81
5900	4.34	43.85
5950	4.33	44.87

3.4 3D Etotal





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

No design

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	$\text{VSWR}(\text{Production performance}) < \text{VSWR}(\text{Confirmed performance}) + 0.5$
5150-5850	$\text{VSWR}(\text{Production performance}) < \text{VSWR}(\text{Confirmed performance}) + 0.5$

7. Engineering drawings

