

SUNNYWAY TECHNOLOGY(CHINA)

ANTENNA SPEC

Customer name: weigao	Entry name: 5CY0	
Working band:WiFi 2.4G/5.8G		
Motherboard version:		
Sunnyway Material specification		
Specification type	Sunnyway number	Customer number
MAIN Antenna	SZ253591B77-1	

Revision history			
Date of preparation/change	Change content	Altered person	Edition
2025.09.12	New issue	MEDAHENG	A

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

Customer will sign the column			
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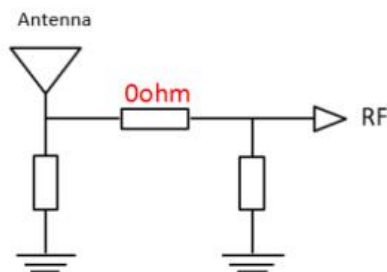
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1. Project information

1.1 Mockup picture

2. Matching circuit



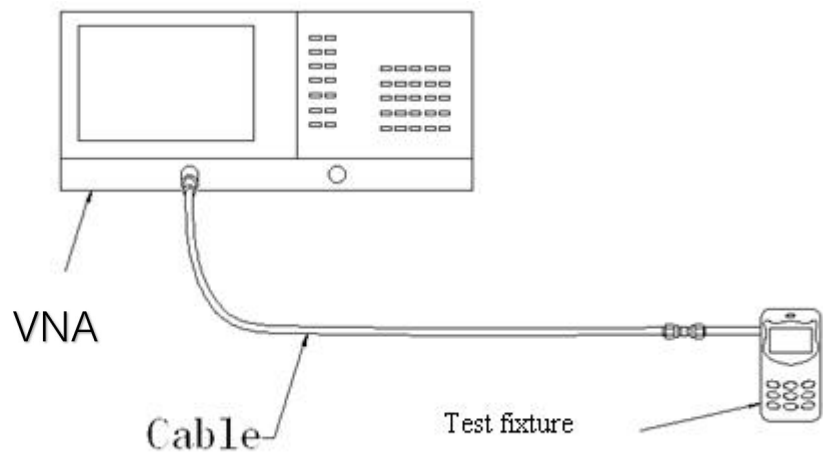
3. Antenna passive testing data

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:

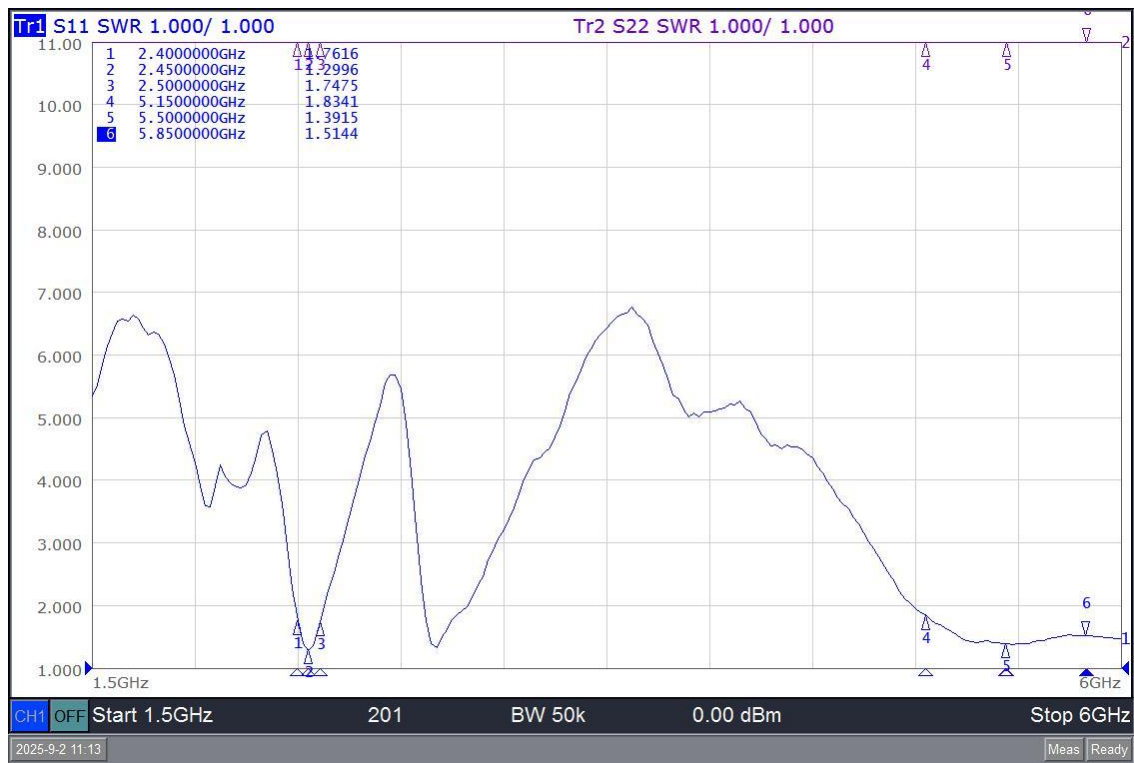


Test schematic diagram

3.2 S11 Test parameters

(Freq.) MHz	2400	2450	2500	5150	5850
VSWR	1.76	1.29	1.74	1.83	1.51

驻波比 VSWR

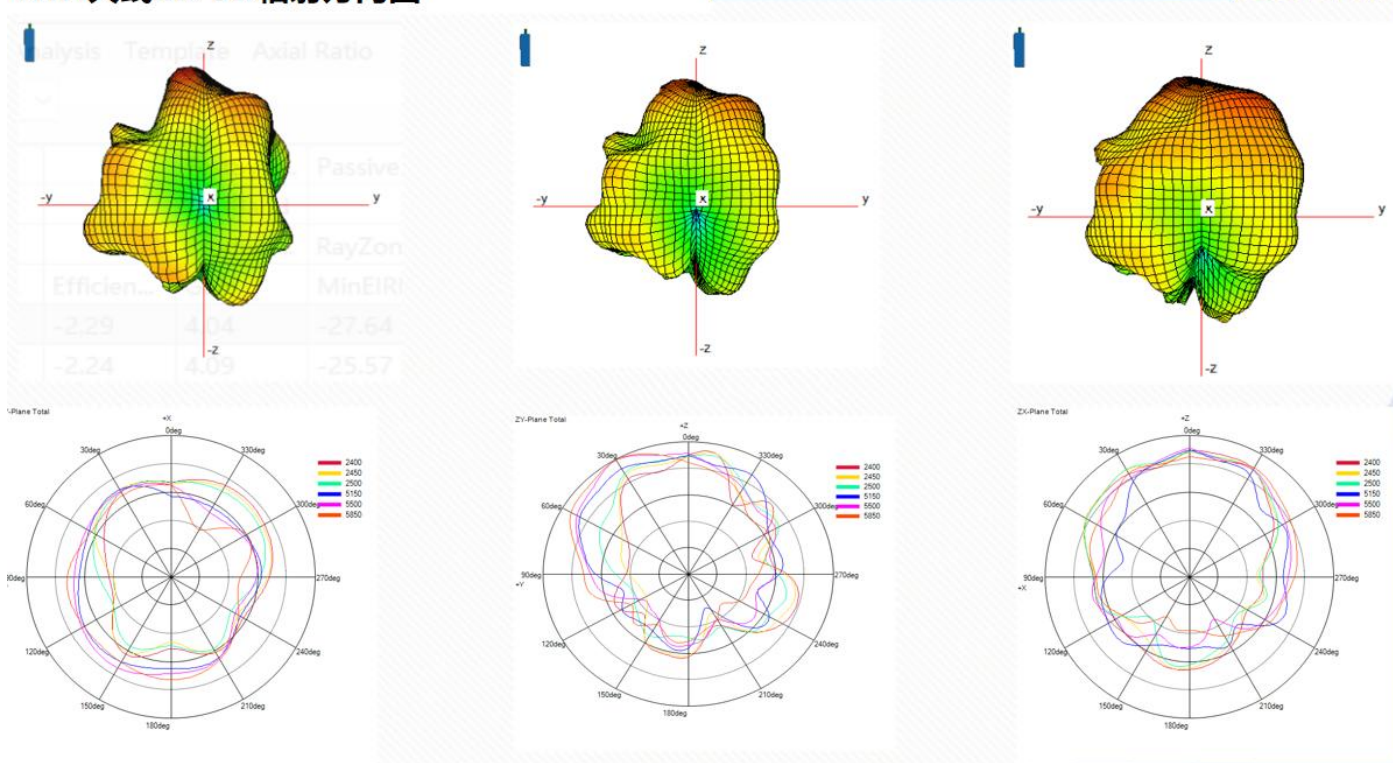


3.3 Antenna efficiency and gain

Freq(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)
2400	4.04	-2.63	54.59
2410	4.09	-2.66	54.26
2420	4.12	-2.55	55.65
2430	3.89	-2.56	55.44
2440	3.77	-2.49	56.36
2450	3.64	-2.45	56.93
2460	3.41	-2.47	56.65
2470	3.51	-2.48	56.49
2480	3.54	-2.57	55.28
2490	3.46	-2.58	55.22
2500	3.44	-2.60	54.94

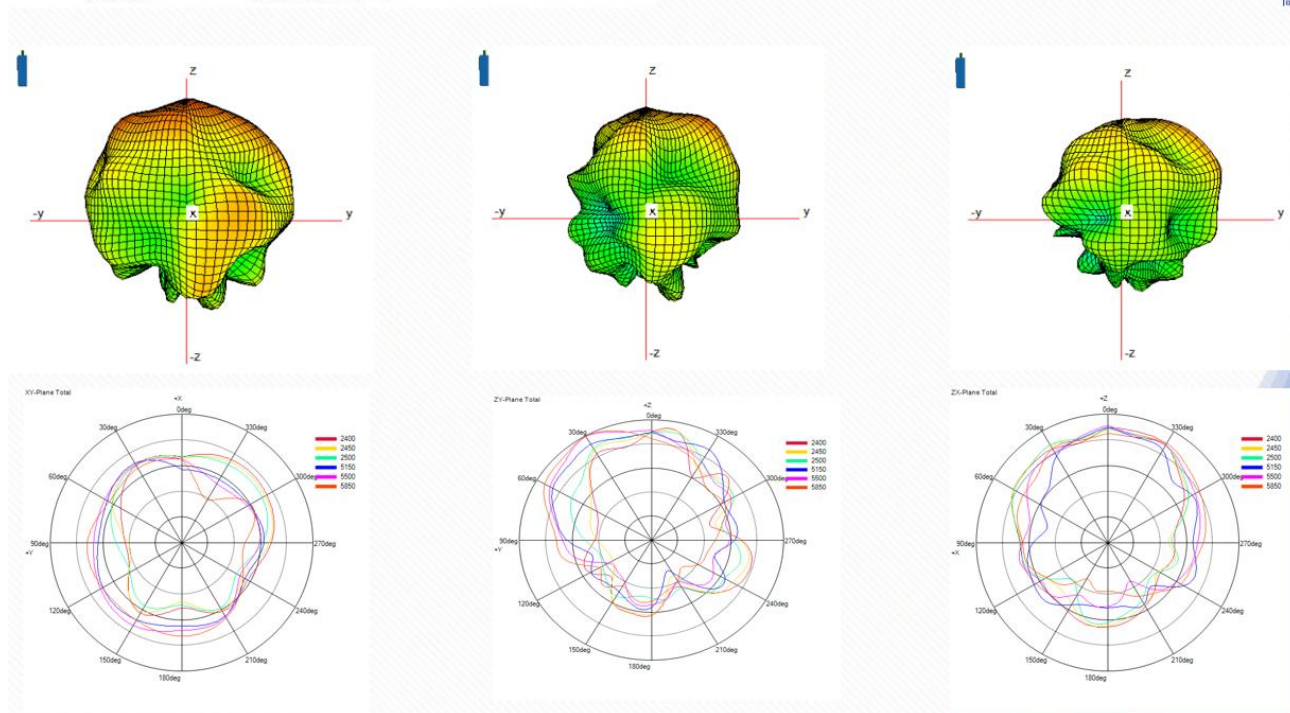
Freq(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)
5150	3.9	-2.50	56.27
5200	5.04	-2.42	57.32
5250	5.75	-2.57	55.32
5300	5.68	-2.34	58.41
5350	6.27	-2.45	56.94
5400	6.75	-2.44	57.07
5450	6.15	-2.47	56.64
5500	6.29	-2.57	55.28
5550	6.89	-2.47	56.64
5600	7.01	-2.53	55.82
5650	6.98	-2.58	55.27
5700	6.82	-2.49	56.41
5750	6.96	-2.68	54.01
5800	6.98	-2.75	53.03
5850	7.07	-2.49	56.36

WIFI天线2D 3D辐射方向图



WIFI天线2D 3D辐射方向图

SUNNYWAY



4. Antenna active testing data

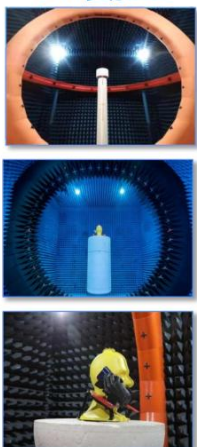
4.1 Test the environment

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

OTA实验室



综测仪器



其他设备



5. Environmental treatment methods

NONE

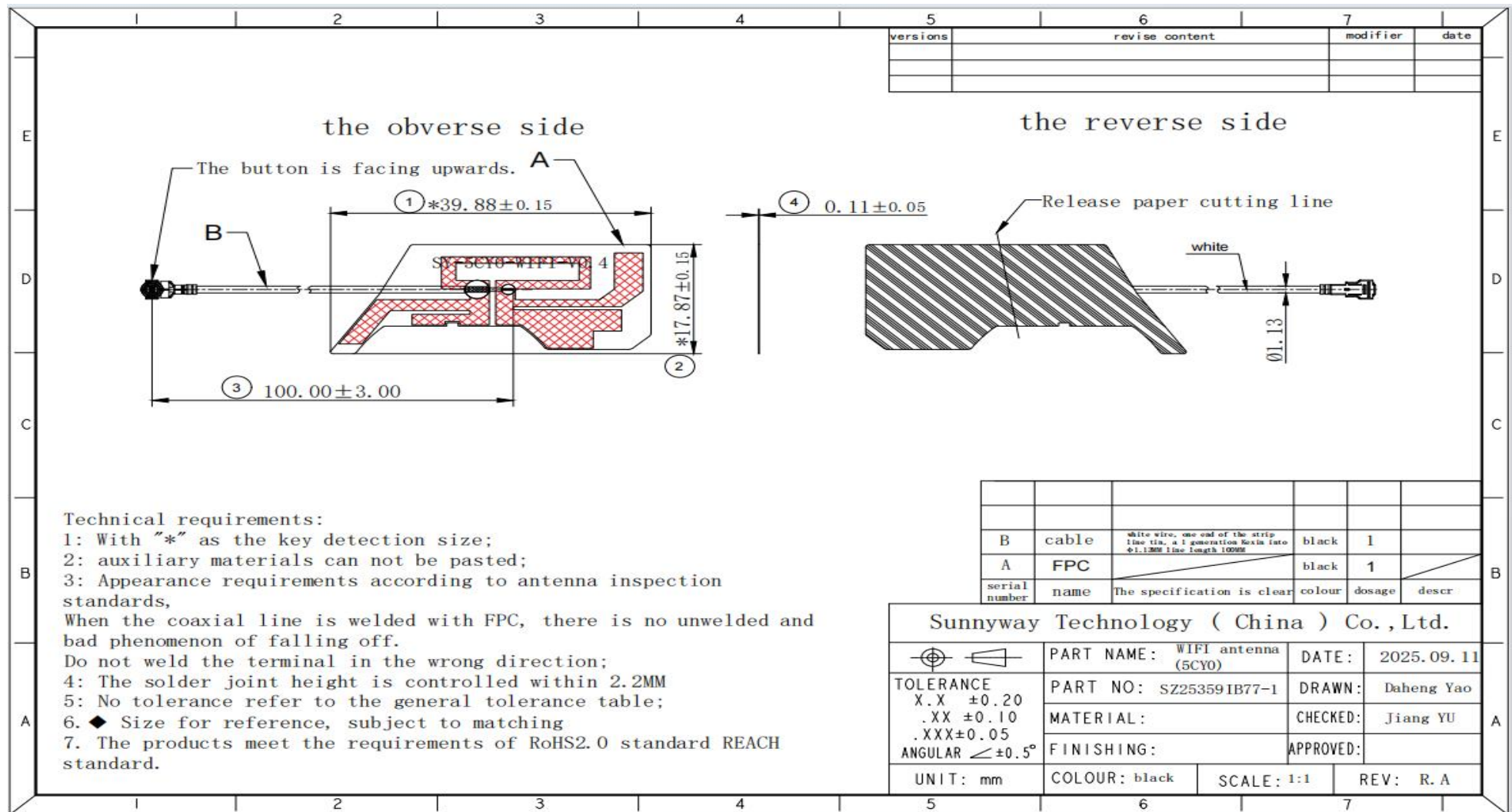
6. Standard for mass production antennas

When the antenna is mass-produced, the VSWR is used as the mass production test standard.

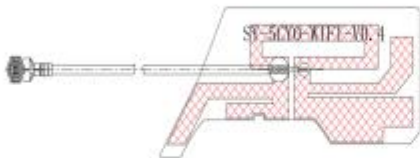
According to the differences in the project itself, the following criteria are given:

Freq. (MHz)	Mass production standards
2400-2500	$VSWR(\text{Production performance}) < VSWR(\text{Confirmed performance}) \pm 0.5$
5150-5850	$VSWR(\text{Production performance}) < VSWR(\text{Confirmed performance}) \pm 0.5$

7. Engineering drawings



8. Packaging method

Parts packing instructions report			
customer name	Wei Gao	manufacturer	SUNNYWAY
entry name	SZ25359IB77-1	product name	WIFI <u>antenna</u>
Bale quantity	<u>100</u> PCS * <u>1</u> ☐ bundle ☐ PE bag ☒ disc ☐ layer ☐ other _____		
Moisture-proof & slow walking	☐ desiccant ☐ Vacuum bag ☐ Bubble pack ☐ foam ☐ Paper wood ☒ other _____		
内包装方式及标签	 Customer Name: Wei Gao Product name: WIFI antenna Order Number: Manufacturer code: SZ25359IB77-1 Customer Code: Quantity: Inspector: Delivery Date: Precautions: Moisture-proof, shock-proof, pressure-proof, handle with care. 100pcs / disc Carton label		
外包装方式示意图及标签	Customer Name: Wei Gao Product name: WIFI antenna Order Number: Manufacturer code: SZ25359IB77-1 Customer Code: Quantity: Inspector: Delivery Date: Precautions: Moisture-proof, shock-proof, pressure-proof, handle with care.  Check packaging, paste product		
		manufacturer	
		Daheng Yao	
* The packaging picture is a schematic, does not mean that the picture is the actual product.			