

SUNNYWAY TECHNOLOGY(CHINA)

ANTENNA SPEC

Customer name: 万利达	Entry name: MID-S2401	
Working band: WIFI 2.4/5.8G/6e		
Motherboard version:		
Sunnyway Material specification		
Specification type	Sunnyway number	Customer number
WiFi1 Antenna	SZ25482IB77-2	0224010021519

Revision history			
Date of preparation/change	Change content	Altered person	Edition
2026.4.15	New issue	Longchaoqun	A

Sunnyway Countersign column				
R&D	ME: Longchaoqun	To examine: Xuwei	QE: Chenxiaoping	Approval : Fengyangyang
	RF: Chenkaiyu	To examine: Huangxiong		

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

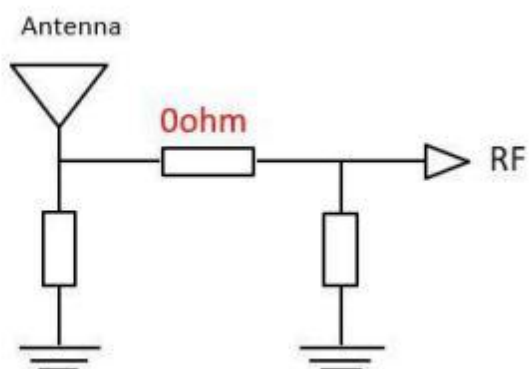
Tel: +86-021-6083 5368 Fax: +86-021-6484 2328

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

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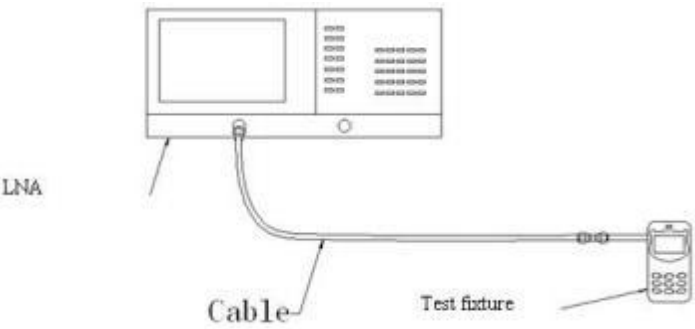
2. Matching circuit



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

频率 (Freq.) MHz	2400	2450	2500	5150	5500	5850
驻波比 VSWR	1.3	1.0	1.2	1.5	1.4	1.6

驻波比 VSWR



3.3 Antenna efficiency and gain

Frequency/Mhz	MaxGain/dBi	Efficiency / %	Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	4.77	38.99	5900	5.2	34.04
2410	4.46	38.56	5950	4.68	33.41
2420	3.86	36.79	6000	4.55	32.62
2430	3.39	36.17	6050	4.13	31.17
2440	3.48	36.58	6100	3.21	28.24
2450	3.63	37.06	6150	4.18	27.93
2460	4.01	37.48	6200	4	24.04
2470	4.33	36.99	6250	3.83	21.88
2480	4.75	36.85	6300	2.62	19.1
2490	4.94	35.97	6350	2.84	18.28
2500	5.23	35.84	6400	3.45	20.14
			6450	3.03	16.98
5150	4.58	36.64	6500	3.25	16.03
5200	4.26	35.4	6550	3.32	14.22
5250	3.86	36.14	6600	3.95	15.56
5300	3.53	36.48	6650	4.12	15.81
5350	4.19	37.76	6700	3.81	14.35
5400	4.78	39.88	6750	3.52	13.52
5450	4.86	38.64	6800	3.54	13.58
5500	4.87	37.81	6850	3.36	13.77
5550	4.9	36.19	6900	3.34	13.93
5600	4.94	37.41	6950	2.7	13.3
5650	5.24	36.81	7000	2.52	14.29
5700	4.97	35.57	7050	1.88	14.69
5750	4.81	34.36	7100	1.75	14.79
5800	4.78	36.28	7150	1.71	14.69
5850	5.09	35.65			

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°C±3°C, humidity 50%±15%

Test the equipment: When testing passive data, use the network analyzer R&S ZND/ Agilent E5071C

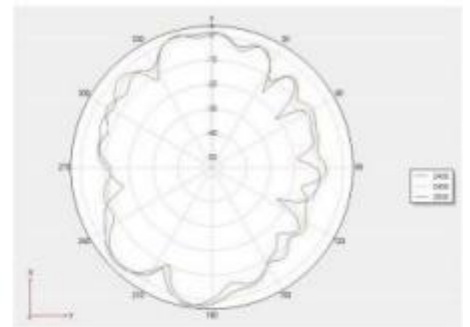
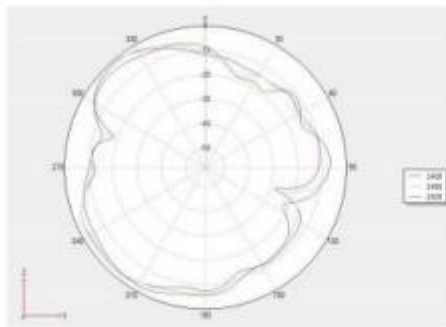
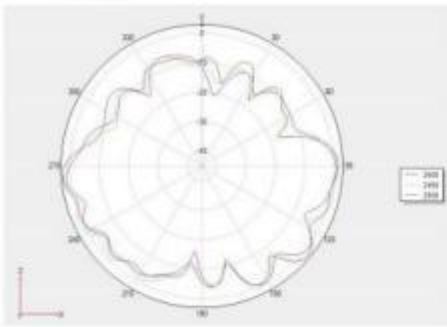
When testing active data, use the Agilent 8960/CMW500/SP9500E/SP8315



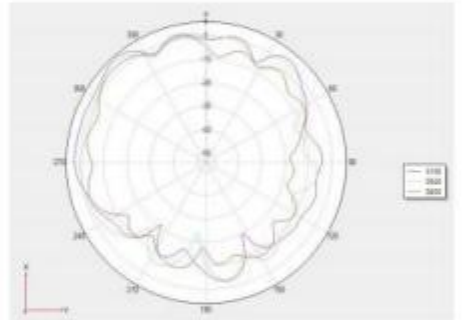
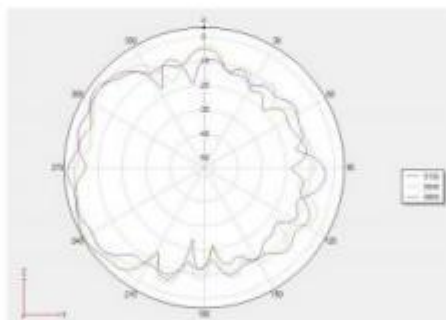
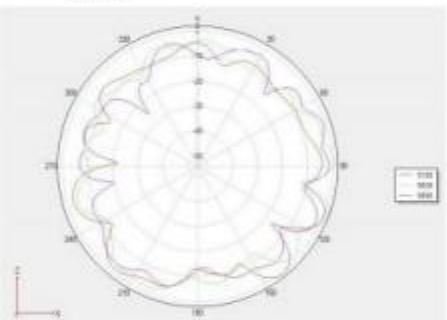
4.2 OTA Active test data

Measurement	Band	Channel	Total	Band	Channel	Total
TRP	WIFI_B (11M)	1	15.89	WIFI_A (54M)	36	13.97
TRP	WIFI_B (11M)	6	17.37	WIFI_A (54M)	149	14.29
TRP	WIFI_B (11M)	11	17.23	WIFI_A (54M)	165	13.92
TIS(EIRP)	WIFI_B (11M)	1	-85.22	WIFI_A (54M)	36	-73.85
TIS(EIRP)	WIFI_B (11M)	6	-84.48	WIFI_A (54M)	149	-74.23
TIS(EIRP)	WIFI_B (11M)	11	-84.7	WIFI_A (54M)	165	-73.97
TRP	WIFI_G (54M)	1	16.15	WIFI_N_UNII (65M)	36	14.83
TRP	WIFI_G (54M)	6	16.25	WIFI_N_UNII (65M)	149	15.2
TRP	WIFI_G (54M)	11	16.37	WIFI_N_UNII (65M)	165	13.96
TIS(EIRP)	WIFI_G (54M)	1	-72.21	WIFI_N_UNII (65M)	36	-64.45
TIS(EIRP)	WIFI_G (54M)	6	-71.97	WIFI_N_UNII (65M)	149	-68.46
TIS(EIRP)	WIFI_G (54M)	11	-72.17	WIFI_N_UNII (65M)	165	-67.08
TRP	WIFI_N_ISM (65M)	1	15.34	802.11ax6e	5	11.63
TRP	WIFI_N_ISM (65M)	6	15.21	802.11ax6e	117	10.35
TRP	WIFI_N_ISM (65M)	11	14.93	802.11ax6e	229	11.65
TIS(EIRP)	WIFI_N_ISM (65M)	1	-70.85	802.11ax6e	5	-69.72
TIS(EIRP)	WIFI_N_ISM (65M)	6	-71.16	802.11ax6e	117	-69.05
TIS(EIRP)	WIFI_N_ISM (65M)	11	-71.69	802.11ax6e	229	-66.19

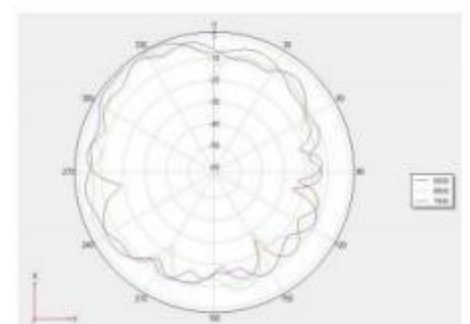
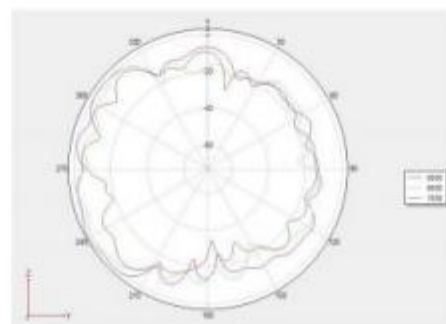
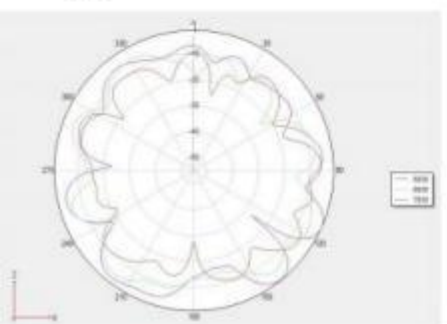
2.4G



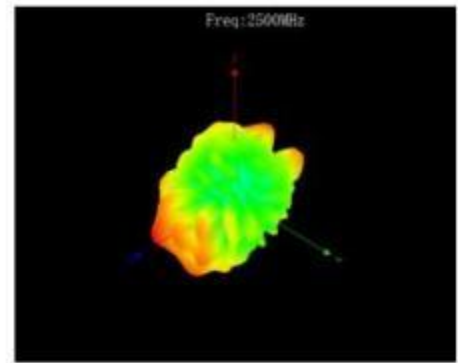
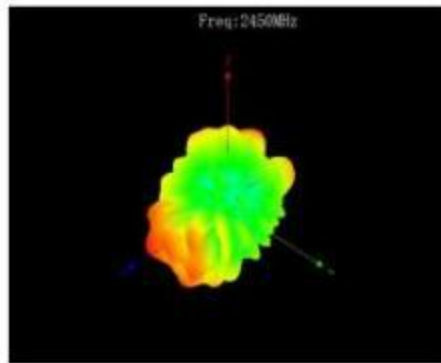
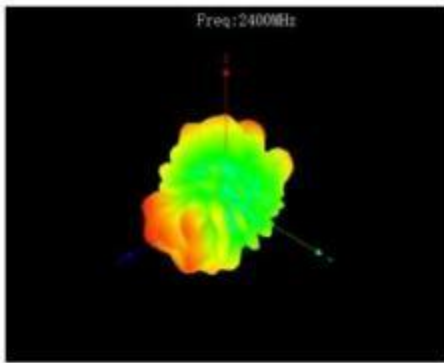
5.8G



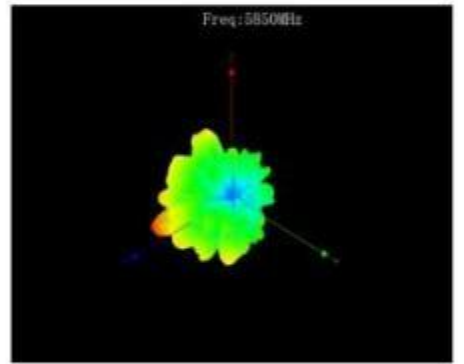
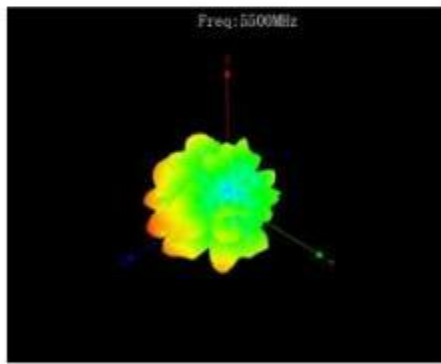
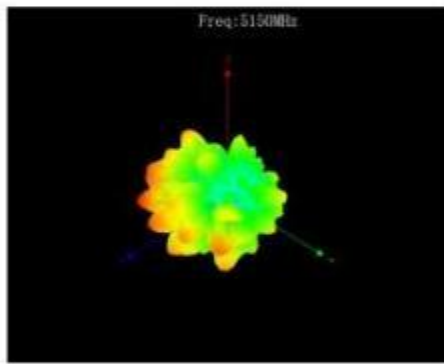
6e



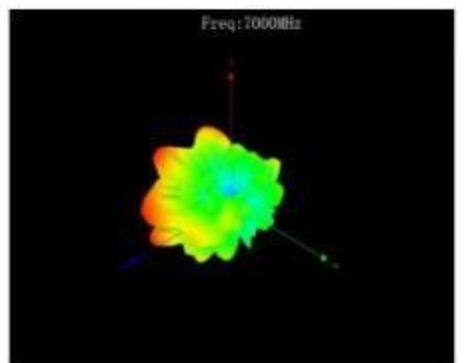
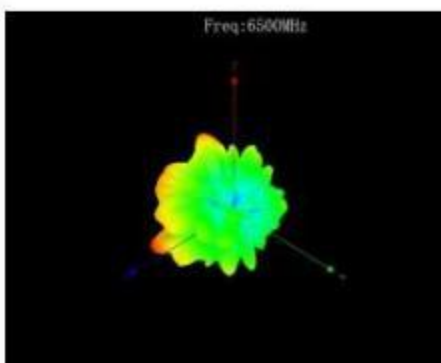
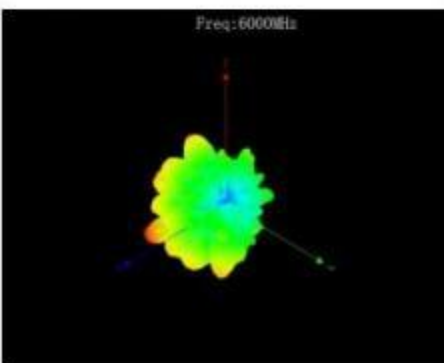
2.4G



5.8G



6E



5. Environmental treatment methods

NONE

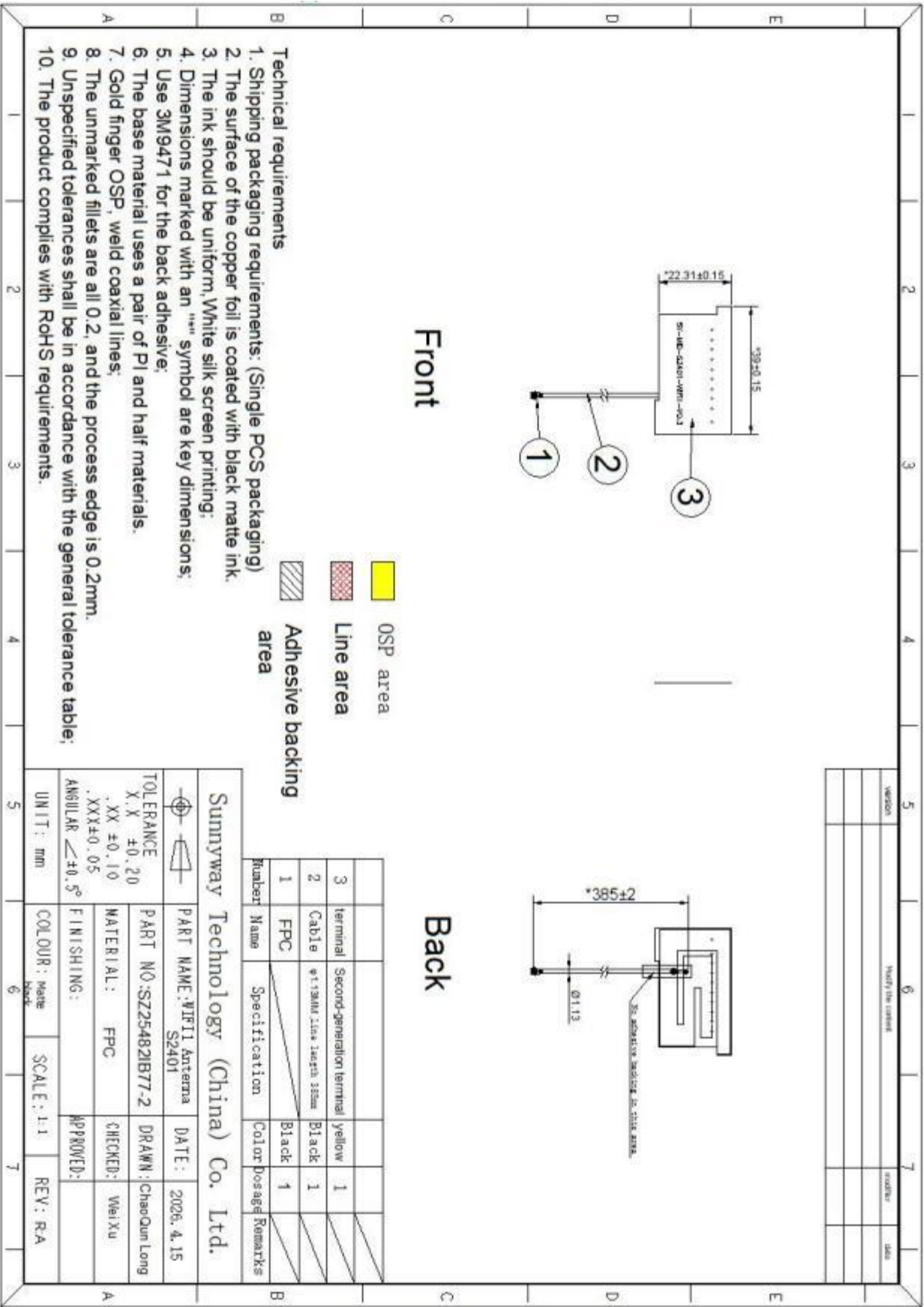
6. Standard for mass production antennas

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

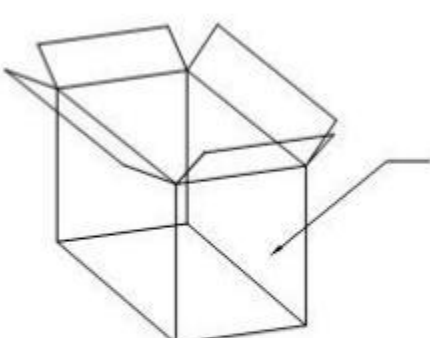
According to the differences in the project itself, the following criteria are given:

Freq. (MHz)	Mass production standards
2400MHz-2500MHz	VSWR(Production performance)<VSWR(Confirmed performance) ± 0.5
5150MHz-5850MHz	
5925MHz-7125MHz	

7. Engineering drawings



8. Packaging method

SunnyWay (China) Technology Co., Ltd				
Product Packaging Operation				
Specification				
Customer:		P/N: S2401-WIFI1-FPC		Number: SYC-BZ-001
version: TEST: A				
serial number	P/N	Specification	dosage	
	PE bag			
SYC-BZ-01	carton			
1. Prepare the necessary packaging materials and place them in a favorable location for work. 2. According to the packaging specifications of SYC-BZ01, use cardboard boxes (SYC-01) . PE bag packaging 3. After filling the box, seal it with transparent tape		1. Operators must wear gloves when operating 2. Pay attention to the packing quantity, do not pack too much or too little The tail box must be indicated 3. The cardboard boxes should not be stacked too high to prevent excessive pressure and glue overflow		
				
Approved		Review		Production
				Date
				2026-04-15