

Shanghai Shangyuan Communication Technology Co., LTD

Antenna admission book

Customer name: Yunjia		Project name: V302
Working frequency band: 2400-2500Mhz		
Hardware version: V302_MB_V1.0_20240903		
Shangyuan material specifications		
specifications and models	Shang Yuan material number	Customer material number
WIFI ant	SZ24330IA70	

Change the resume			
Preparation / change date	Change the content	Change the person	edition
2024.08.07	A new release	XUWEI	A

Shang Yuan will sign the column				
research and development	structure:	examine and verify:	Quality Engineer:	ratify:
	radio frequency:	examine and verify:		

The customer will sign the column			
electronic engineer	project manager	construction engineer	Quality engineer

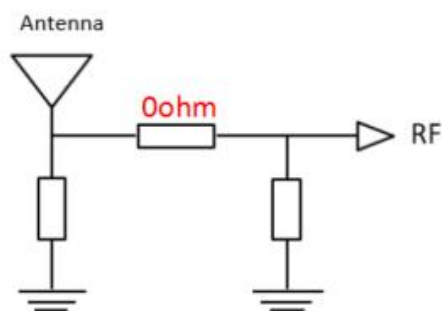
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一、 item information

.11 Schematic diagram



二、 Antenna matching circuit



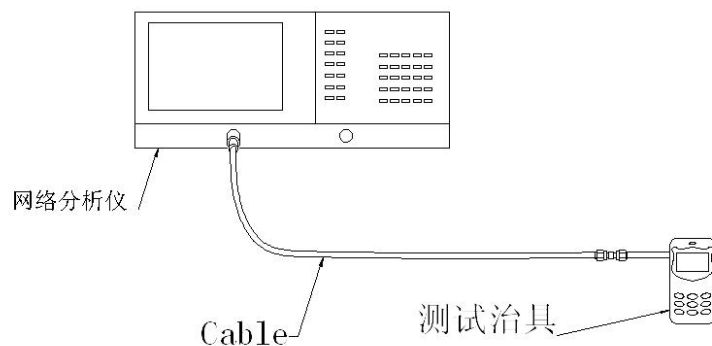
三、 Complete machine test data

3.1 S11 Description of the test method

Test Equipment: Network Analyzer (Agilent E5071C)

Test method: Export a 50 Ohm CABLE cable from the instrument test port, connect the SMA connector of the test device after the calibrator, and record the echo loss and standing wave ratio corresponding to the relevant frequency point.

The test schematic diagram is as follows:



Schematic diagram of the test

3.2 Test environment

Test System: MPS 6450 Multi-sensor OTA Measurement System (XH-IoT)

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

Test equipment: Use the network analyzer R & S ZND / Agilent E5071C when testing the passive data
When testing active data, use the comprehensive meter Agilent 8960 / CMW500 / S P9500E / SP 8315

OTA实验室



综测仪器



SP9500-CTS-5G



CMW500



SP8315 NB-IoT /eMTC

其他设备



OTA head hand



OTA ear hand



OTA arm hand

3.3 The passive test parameters

S11 parameter

频率 (GHZ)	2400	2500
驻波比	1.23	1.40

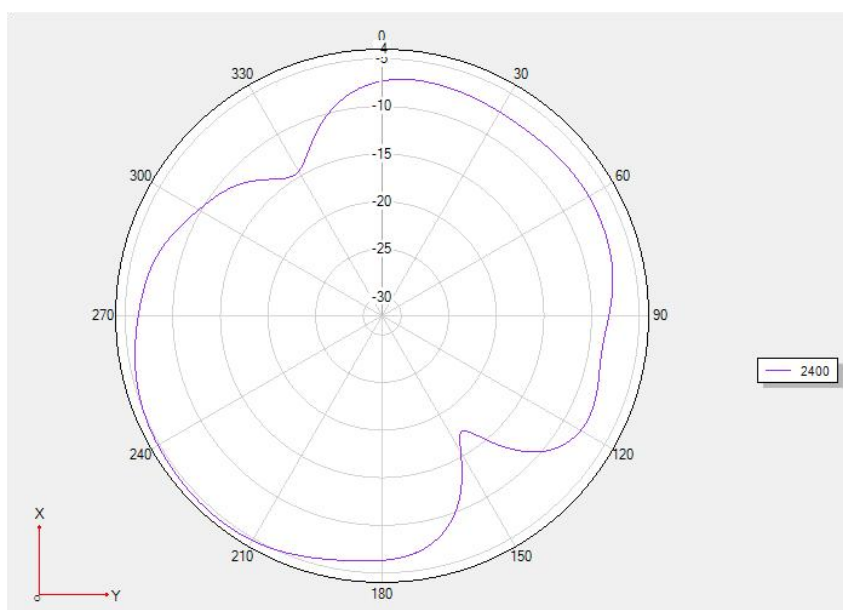
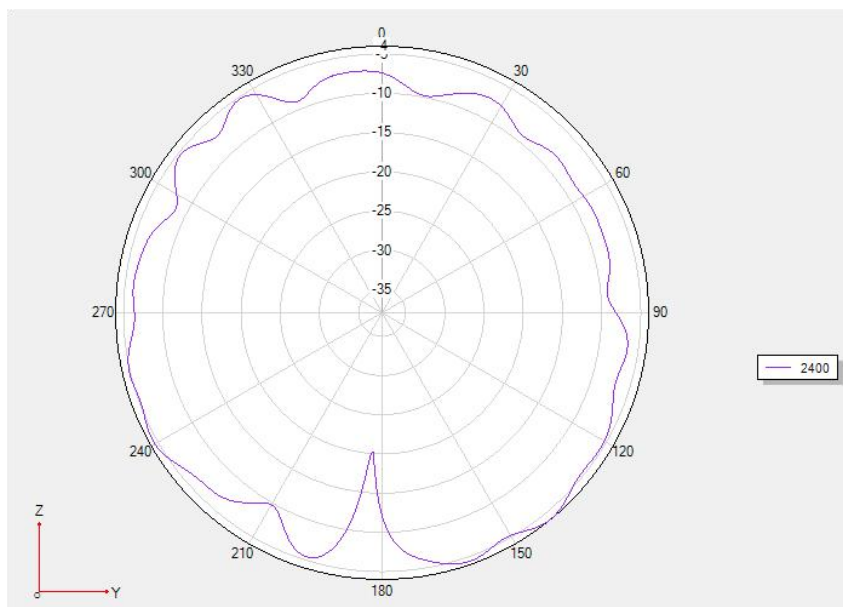
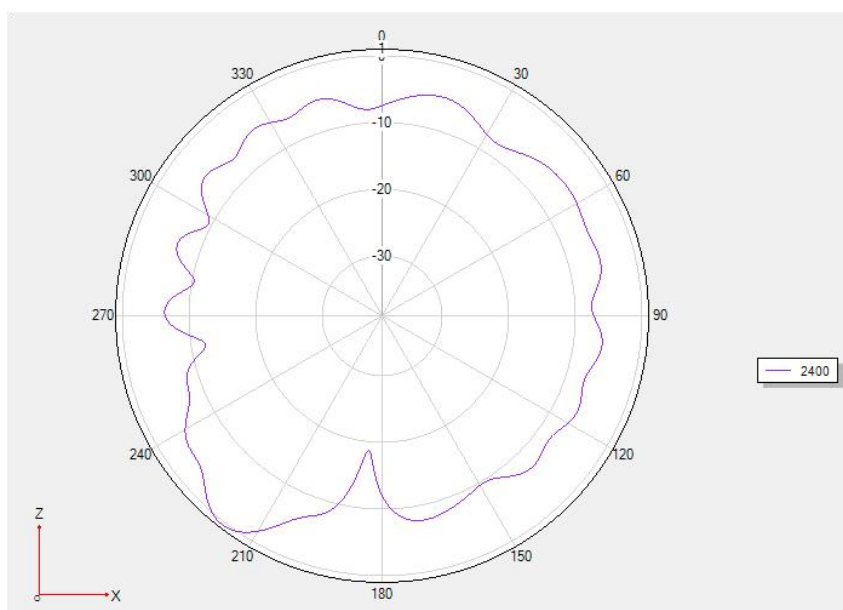
standing-wave ratio VSWR

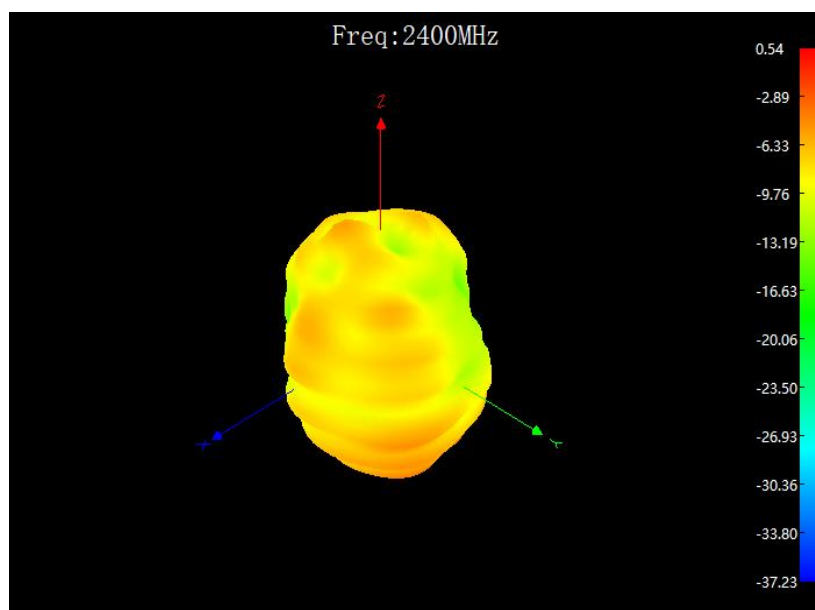
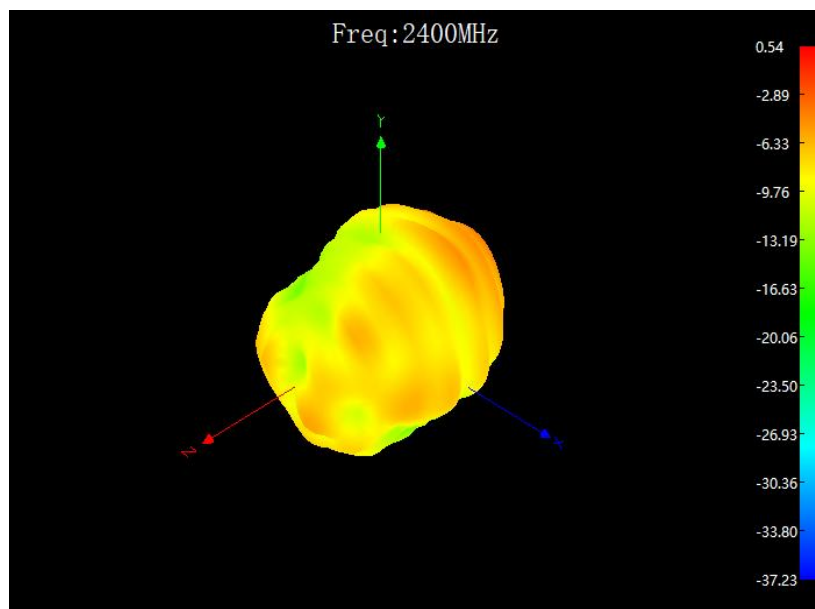
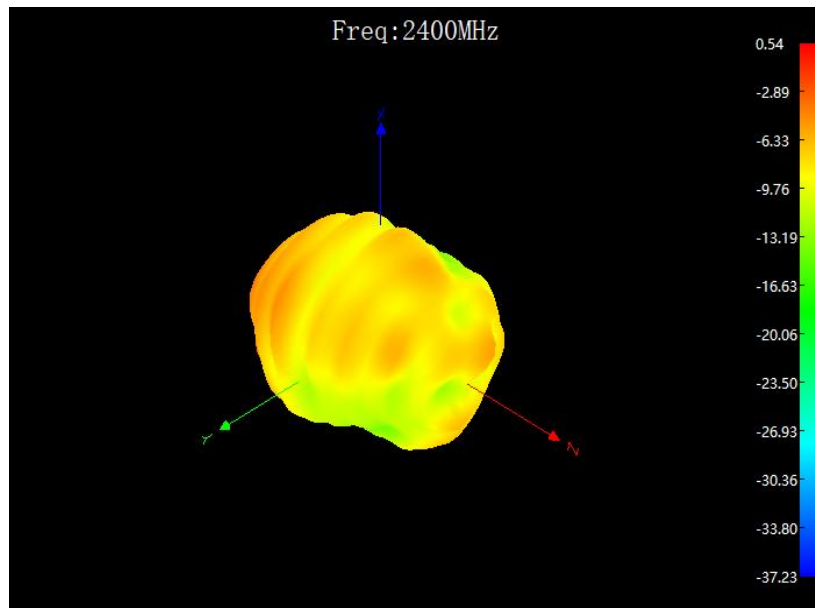


Passive test data

Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	0.54	47.35
2410	0.66	47.49
2420	0.43	48.49
2430	0.44	47.77
2440	0.26	46.21
2450	0.58	46.72
2460	0.24	45.93
2470	0.62	45.23
2480	0.45	45.7
2490	0.38	45.89
2500	-0.01	45.49

Passive direction diagram





3.4 Active test data

Measurement	Band	Channel	Total
TRP	WIFI_B (1M)	1	15.87
TRP	WIFI_B (1M)	6	15.98
TRP	WIFI_B (1M)	11	15.09
TIS(EIRP)	WIFI_B (11M)	1	-82.86
TIS(EIRP)	WIFI_B (11M)	6	-83.76
TIS(EIRP)	WIFI_B (11M)	11	-83.4
TRP	WIFI_G (6M)	1	14.71
TRP	WIFI_G (6M)	6	14.32
TRP	WIFI_G (6M)	11	14.98
TIS(EIRP)	WIFI_G (54M)	1	-69.42
TIS(EIRP)	WIFI_G (54M)	6	-70.53
TIS(EIRP)	WIFI_G (54M)	11	-71.29
TRP	WIFI_N_ISM (6.5M)	1	14.41
TRP	WIFI_N_ISM (6.5M)	6	14.79
TRP	WIFI_N_ISM (6.5M)	11	14.42
TIS(EIRP)	WIFI_N_ISM (65M)	1	-68.6
TIS(EIRP)	WIFI_N_ISM (65M)	6	-68.88
TIS(EIRP)	WIFI_N_ISM (65M)	11	-70.73

四、 The prototype environment processing mode

No enviromental treatmentadded

五、 Antenna loading position

The antenna is assembled in the following figure



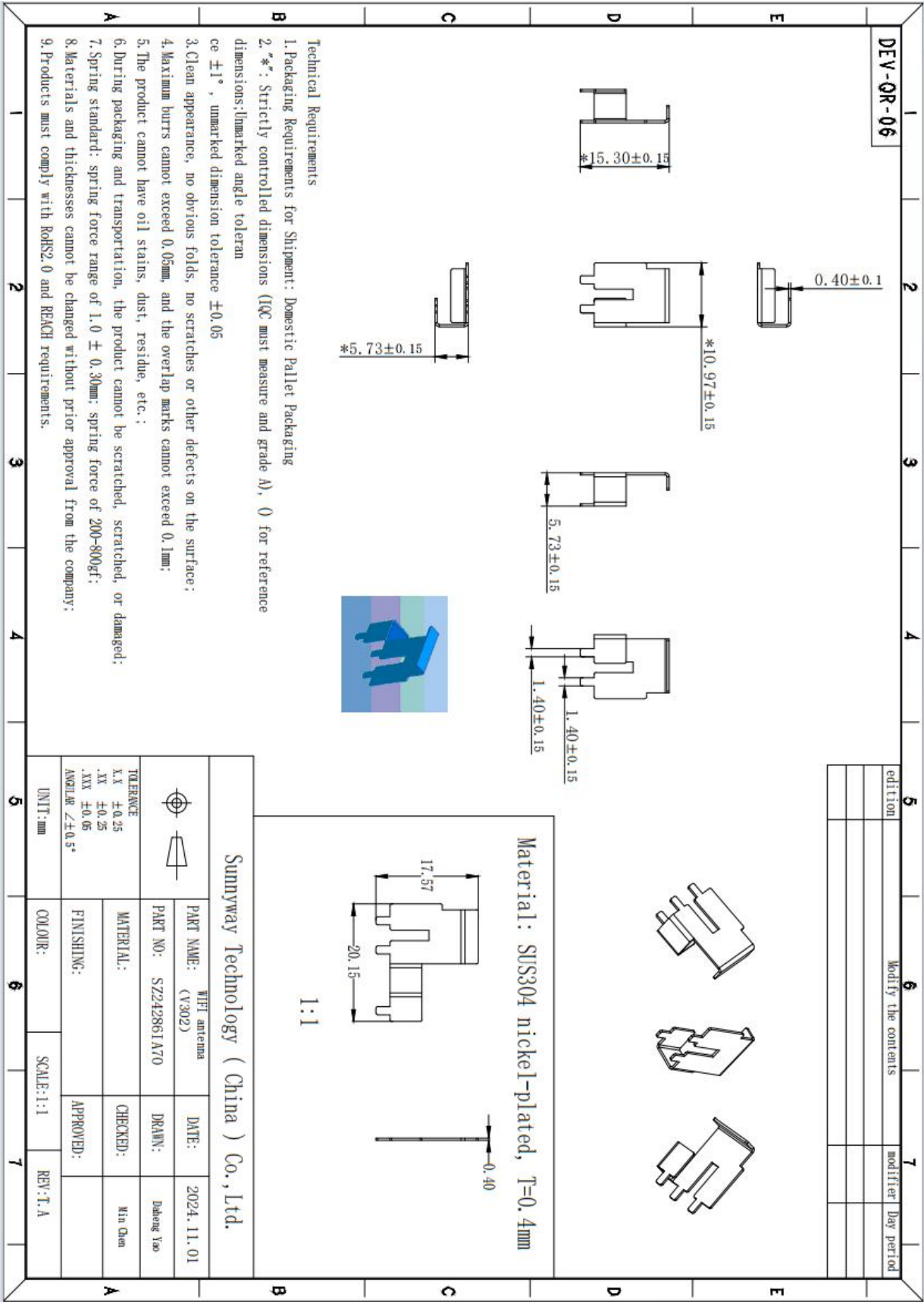
六、 Mass production antenna index

When the antenna is in mass production, the standing wave ratio is used as the test standard for mass production.

Based on the differences of the project itself, the following criteria are given:

Frequency (MHz)	Mass production standards
2400-2500MHz	VSWR (mass production performance) <VSWR (recognized performance) ± 0.5

七、 schedule drawing



八、 ROHS restricted substance composition questionnaire

RoHS List of RoHS restricted substances																
SALEABLE PART																
零件料号/Part number			零件名称/型号/Part name / model			供应商料号/Supplier item number			制造商名称/Name of manufacturer							
			V209			SZ2430A70			深圳市尚远科技有限公司							
SUBPART																
序号 Serial number	名称/name		料号 Item No	单件产品 Usage of single product(g)	供应商/supplier	检测 报告 /Test report	限用物质含量PPM/Content of restricted substances ppm					控制方法 /Control method	SGS Report			备注 /Remarks
	单体 /Monomer	成分 /component					有/无 Yes / no	铅 /Pb	镉 Cd	汞/Hg	六价 铬 /Cr6+		PBB	PBDE	编号/number	
1	SUS304	基材/base material			CHUWEI	有/yes	N.D	N.D	N.D	N.D	N.D	审核SGS报告 /Review SGS Report	CANEC24002510203	2024/2/2	www.sgsgroup.com.cn	/
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制表/Tabulation: 陈小平

制表者部门/Tabulator Department: 品质部/品保工程师 Quality Department

日期/date: 2024/7/10



Sunnyway Technology (China) Co., Ltd.

SUNNYWAY YUJIA entry name: V209 sunnyway NO: SZ243301A70
Number of samples: 5PCS Test time: 2024/07/10

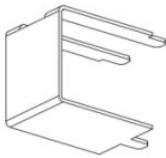
Test time	测试项目Test items	测试条件和需求Test conditions and requirements	测试设备Test equipment	测试结果test result				
2024.07.10	low temperature storage	Store in a incubator (-40 °C ± 5) for 24 hours, and then let it dry at room temperature for 2 hours before testing. The electrical performance (VSMR) and structural appearance are good	Standard temperature and humidity	1	2	3	4	5
2024.07.11	high temperature storage	Store in a temperature box (80 °C ± 5) for 24 hours, and then let it dry at room temperature for 2 hours before testing. The electrical performance (VSMR) and structural appearance are good	Standard temperature and humidity	-40°C RF OK	-40°C OK OK	-40°C OK OK	-40°C OK OK	-40°C OK OK
2024.07.10	high temperature storage	Store in a temperature box (80 °C ± 5) for 24 hours, and then let it dry at room temperature for 2 hours before testing. The electrical performance (VSMR) and structural appearance are good	Standard temperature and humidity	1	2	3	4	5
2024.07.11	high temperature storage	Store in a temperature box (80 °C ± 5) for 24 hours, and then let it dry at room temperature for 2 hours before testing. The electrical performance (VSMR) and structural appearance are good	Standard temperature and humidity	+85°C RF OK	+85°C OK OK	+85°C OK OK	+85°C OK OK	+85°C OK OK
2024.07.11	Constant temperature and humidity	The temperature is 60 °C ± 5, the humidity is 90%~95% RH, and after 24 hours, it is required that the structure is undamaged and the electrical performance remains unchanged.	Standard temperature and humidity	1	2	3	4	5
2024.07.12	Constant temperature and humidity	The temperature is 60 °C ± 5, the humidity is 90%~95% RH, and after 24 hours, it is required that the structure is undamaged and the electrical performance remains unchanged.	Standard temperature and humidity	60°C/95% RF OK	60°C/95% OK OK	60°C/95% OK OK	60°C/95% OK OK	60°C/95% OK OK
2024.07.13	耐盐雾实验Salt spray	NaCl solution with salt spray concentration of 5%, spray the antenna for 24 hours continuously at 35 °C, then remove it for cleaning and dry it. The surface of the antenna should be free of resist	Salt mist machine	1	2	3	4	5
2024.07.14	耐盐雾实验Salt spray	NaCl solution with salt spray concentration of 5%, spray the antenna for 24 hours continuously at 35 °C, then remove it for cleaning and dry it. The surface of the antenna should be free of resist	Salt mist machine	35°C/5% RF OK	35°C/5% OK OK	35°C/5% OK OK	35°C/5% OK OK	35°C/5% OK OK

审核 to examine: 林长青

确认confirm: 陈小平

测试 test: 韦月丽

十、 Packaging method

Parts packing instructions report			
customer name	Yunjia	manufacturer	SUNNYWAY
entry name	SZ24330IA70	product name	WIFI antenna
Bale quantity	500 PCS * 1 ☐ 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	 客户名称: 云伽 产品名称: 五金 WIFI 天线 订单号码: 厂商编码: SZ24330IA70 客户编码: 数量: 检验员 : 发货日期: ____年__月__日 注意事项: 防潮, 防震, 防压, 小心轻放..... 500pcs / disc Carton label		
外包装方式示意图及标签	客户名称: 云伽 产品名称: 五金 WIFI 天线 订单号码: 厂商编码: SZ24330IA70 客户编码: 数量: 检验员 : 发货日期: ____年__月__日 注意事项: 防潮, 防震, 防压, 小心轻放.....  Check packaging, paste product Carton label		
		manufacturer	
		XUWEI	
* The packaging picture is a schematic, does not mean that the picture is the actual product.			