

Shanghai Shangyuan Communication Technology Co., LTD

Antenna admission book

Customer name: Yunjia		Project name: P102	
Working frequency band: WiFi2.4G&5G			
Hardware version : PAD01_V0.2_20230809			
Hardware version: SY-P102_WiFi1-V1.0			
Shangyuan material specifications			
specifications and models		Shang Yuan material number	Customer material number
WIFI1 ant		SZ23423IB74-1	2.1.09.12.002003

Change the resume					
Preparation / change date		Change the content		Change the person	edition
2023.11.06		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	

catalogue

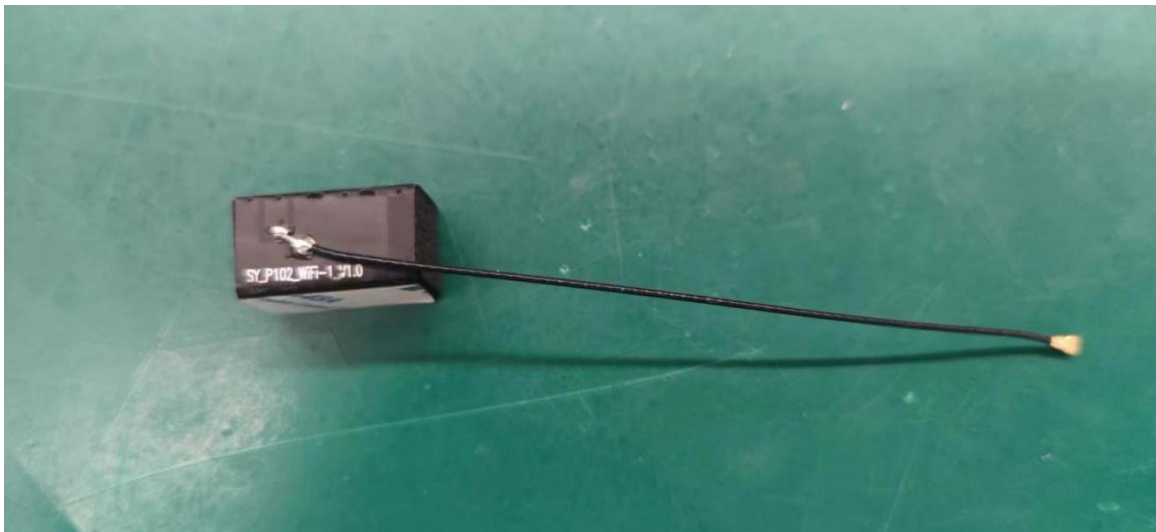
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一、 item information

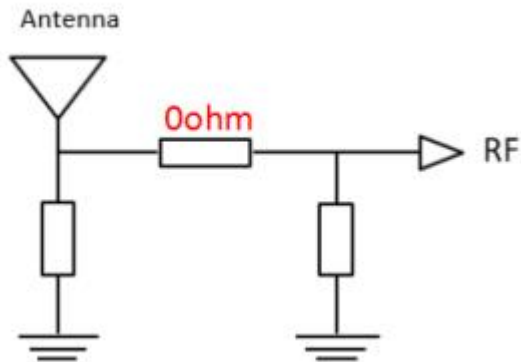
.11 Schematic diagram



.21 Antenna product diagram



二、 Antenna matching circuit



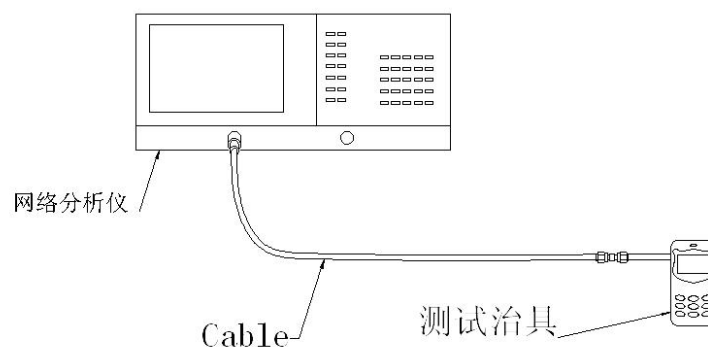
三、 Complete machine test data

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



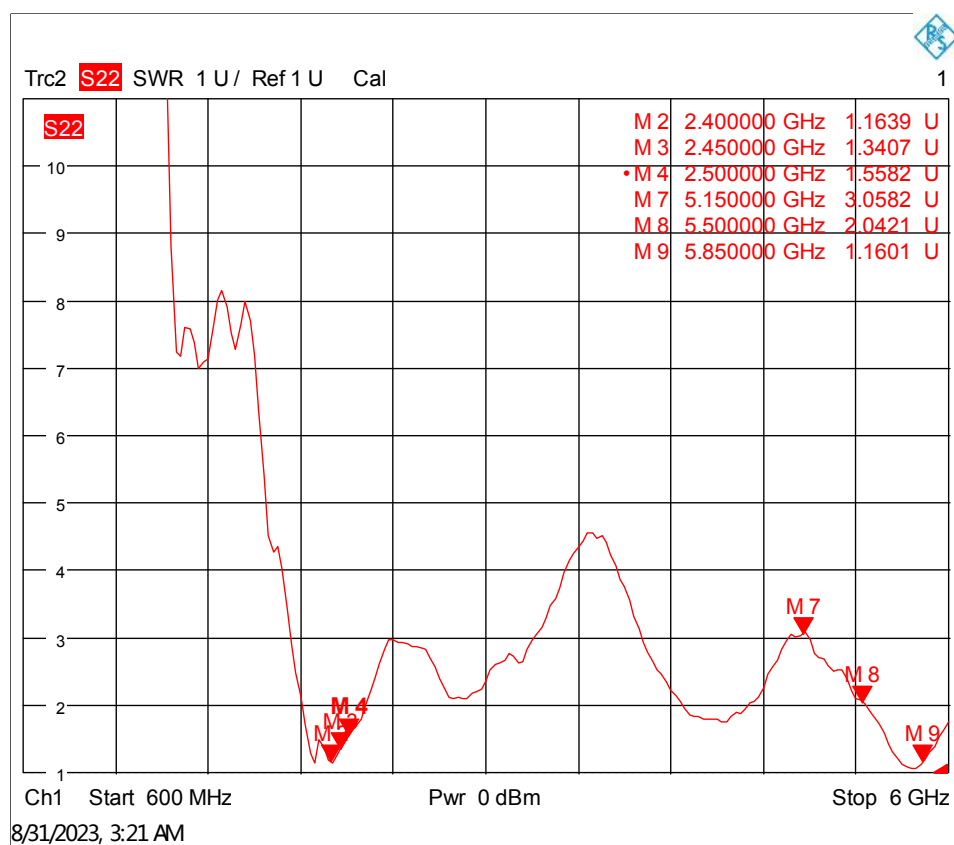
OTA ear hand



OTA arm hand

3.3 The passive test parameters

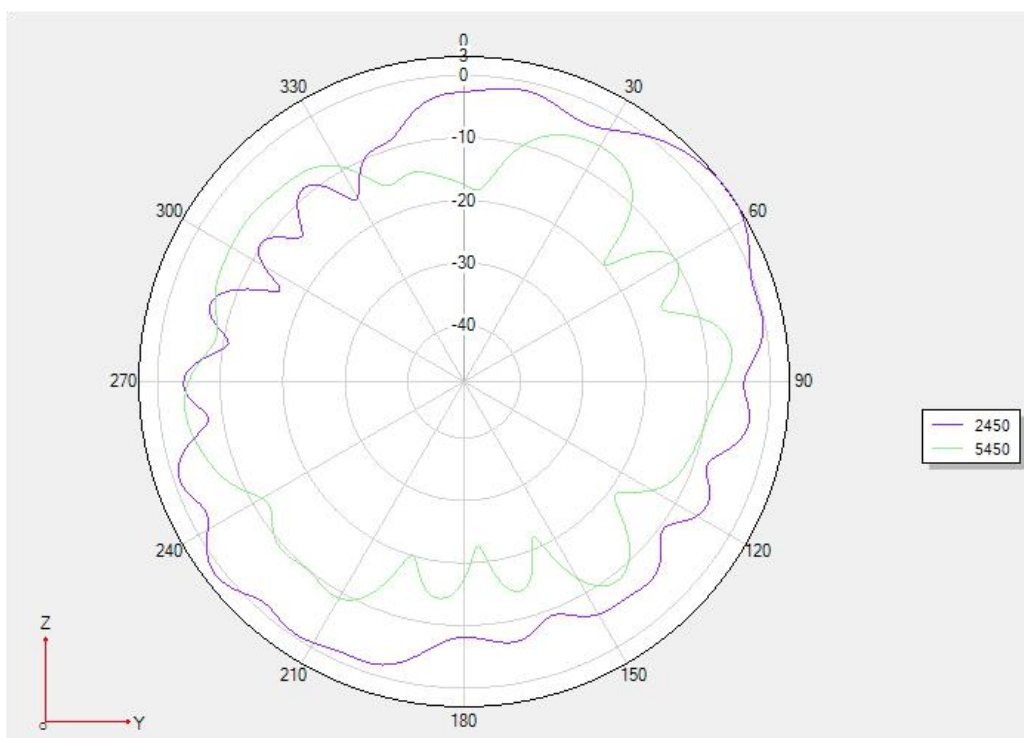
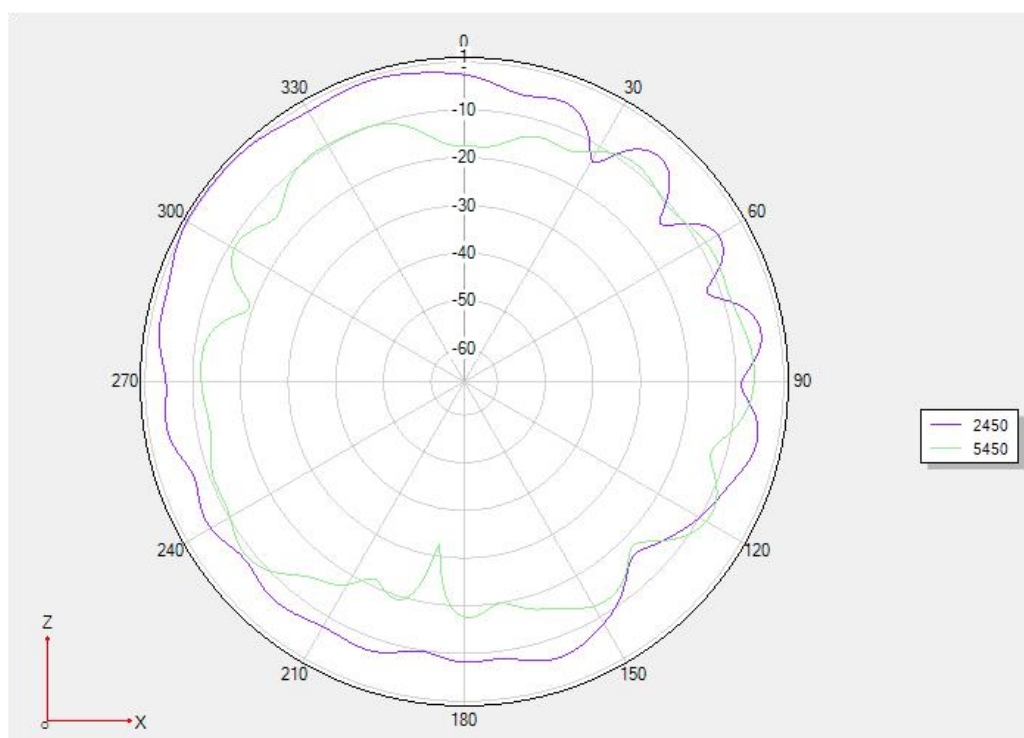
standing-wave ratio VSWR

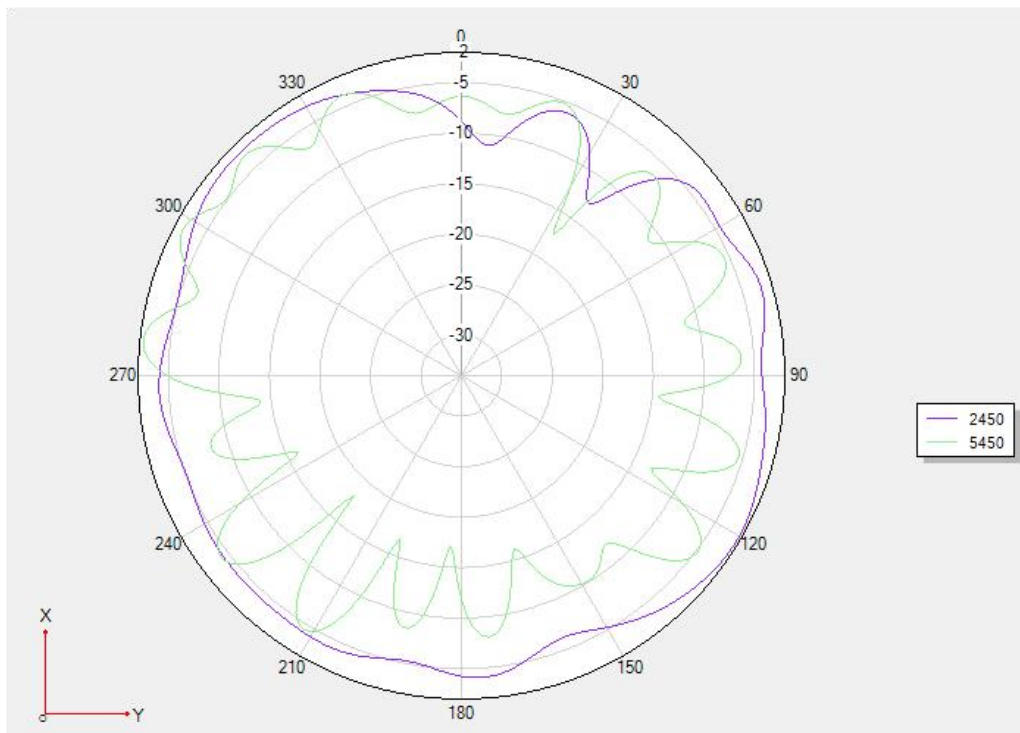


Passive efficiency

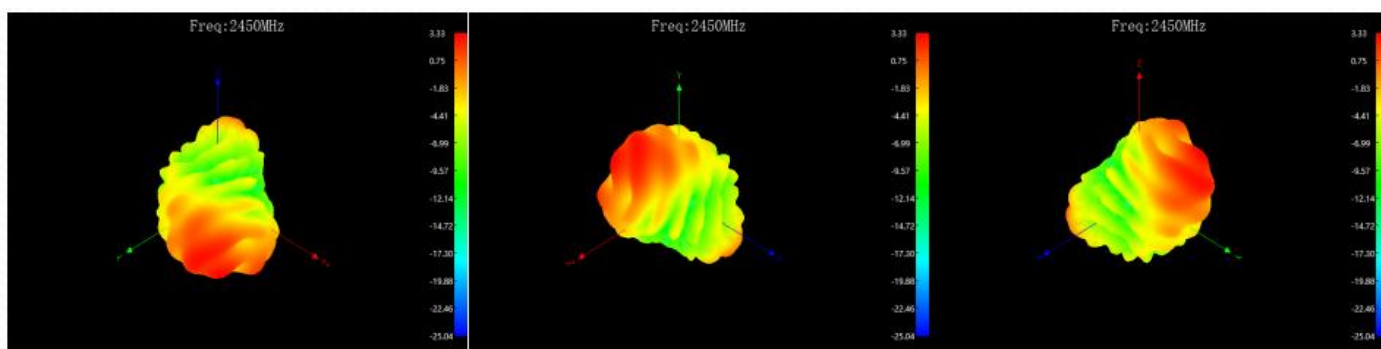
Frequency/Mhz	MaxGain/dBi	Efficiency / %	Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	2.95	45.29	5390	1.96	24.69
2410	3.1	45.29	5410	1.88	24.42
2420	3.16	44.36	5430	1.91	24.69
2430	3.32	45.39	5450	1.94	24.66
2440	3.45	46.56	5470	1.72	24.49
2450	3.33	45.08	5490	1.39	24.19
2460	3.25	43.55	5510	1.01	23.96
2470	3.23	42.36	5530	0.68	24.79
2480	3.27	41.88	5550	0.29	25.31
2490	3.16	40.18	5570	0.49	25.78
2500	2.94	40.84	5590	0.77	26.11
5150	-0.19	24.69	5610	1.32	28.2
5170	-0.22	24.35	5630	1.39	28.88
5190	-0.15	24.72	5650	1.75	29.91
5210	-0.24	24.83	5670	2.06	31.13
5230	0.02	25.03	5690	2.04	31.58
5250	0.52	25.42	5710	2.09	32.13
5270	0.61	24.55	5730	1.65	31.38
5290	0.8	24.69	5750	1.3	32.08
5310	1.08	24.96	5770	1.17	32.96
5330	1.25	24.55	5790	1.05	31.78
5350	1.23	24.03	5810	1.48	33.33
5370	1.45	23.68	5830	1.4	32.44
			5850	1.81	34.21

Passive direction diagram

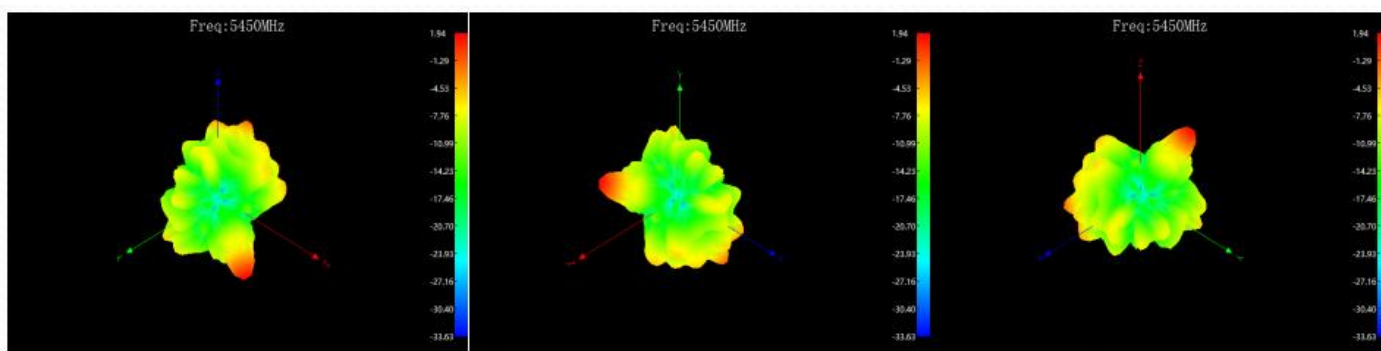




Radiation Apple Figure 2.4G



Radiation Apple Figure 5.8G



3.4 Active test data

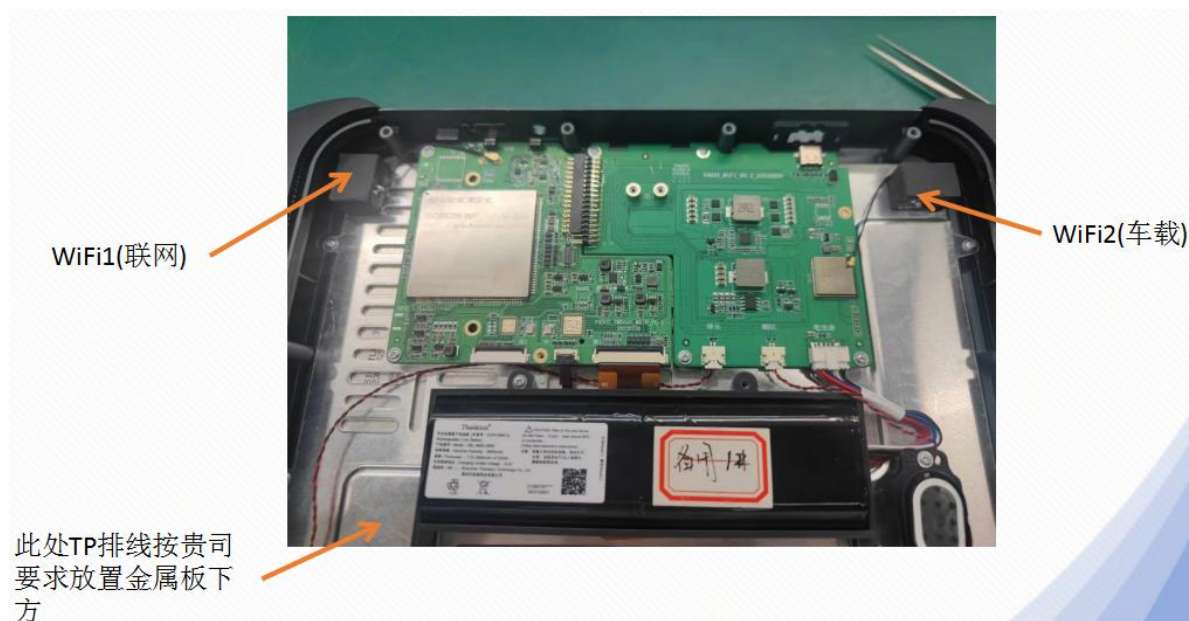
				灭屏	亮屏
Measurement	Band	Channel	Frequency	Total	Total
TRP	WIFI_B (11M)	1	2412	12.14	
TRP	WIFI_B (11M)	6	2437	12.63	
TRP	WIFI_B (11M)	11	2462	13.57	
TIS(EIRP)	WIFI_B (11M)	11	2462	-86.18	-84.84
TRP	WIFI_G (54M)	1	2412	12.79	
TRP	WIFI_G (54M)	6	2437	12.6	
TRP	WIFI_G (54M)	11	2462	12.93	
TIS(EIRP)	WIFI_G (54M)	11	2462	-73.35	-70.96
TRP	WIFI_N_ISM (65M)	1	2412	11.92	
TRP	WIFI_N_ISM (65M)	6	2437	11.71	
TRP	WIFI_N_ISM (65M)	11	2462	11.57	
TIS(EIRP)	WIFI_N_ISM (65M)	11	2462	-71.25	-68
TRP	WIFI_A (54M)	36	5180	9.14	
TRP	WIFI_A (54M)	149	5745	11.06	
TRP	WIFI_A (54M)	165	5825	12.97	
TIS(EIRP)	WIFI_A (54M)	165	5825	-72.72	-71.74

四、 *The prototype environment processing mode*

No added environmental treatment

五、 *Antenna loading position*

The antenna is assembled in the following figure



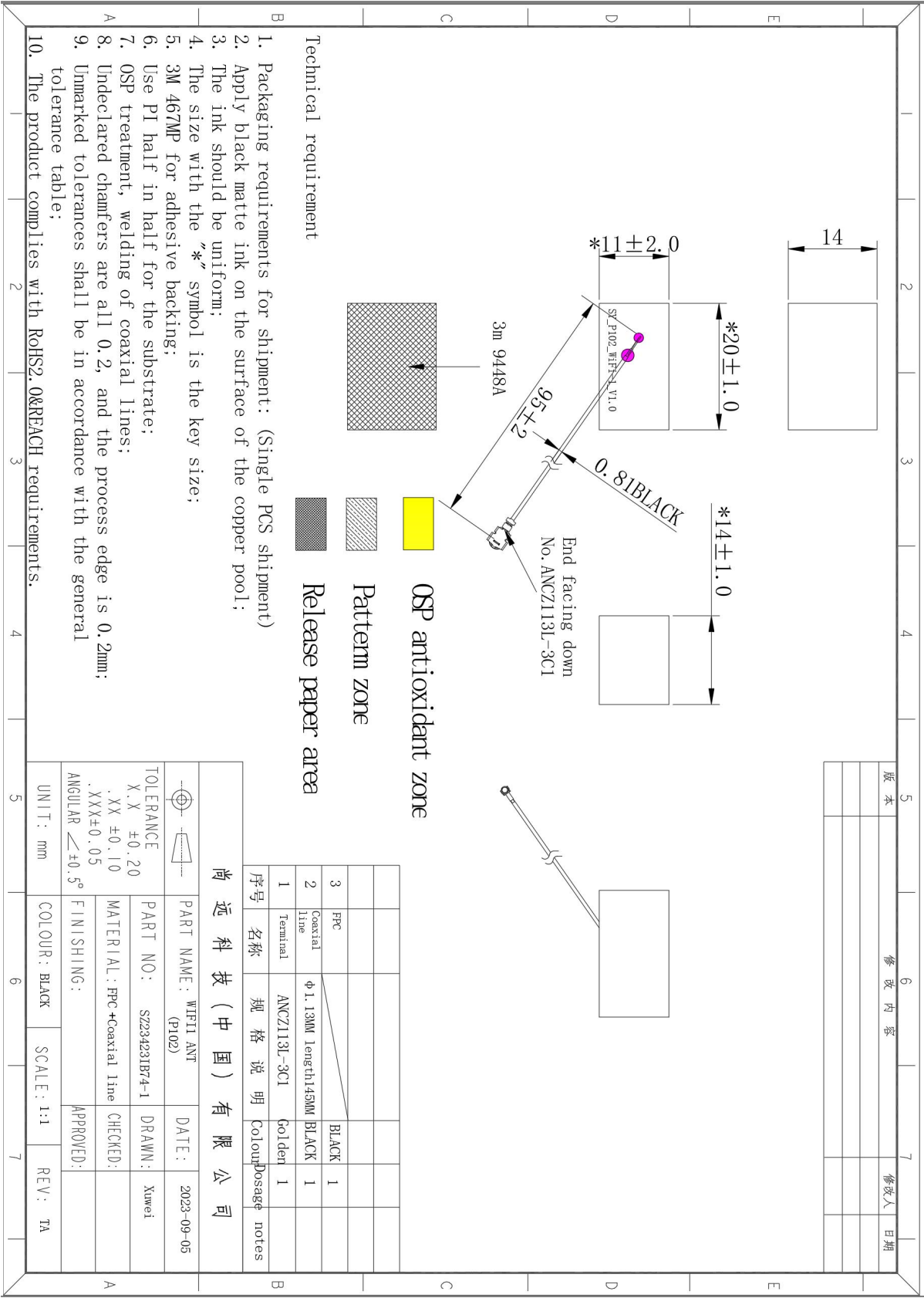
六、 *Mass production antenna index*

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
2400-2450MHz	VSWR (mass production performance)
5150-5850MHz	<VSWR (recognized performance) + 0.5

七、 schedule drawing



八、 ROHS restricted substance composition questionnaire

RoHS List of RoHS restricted substances

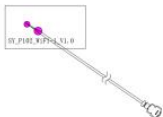
SALEABLE PART																	
零件料号/Part number		零件名称/型号/Part name / model			供应商标号/Supplier Item number		制造商名称/Name of manufacturer										
		P102 WiFi1 FPC ANT			SZ234231B74-1		深圳市尚远科技有限公司										
					SUB-PART												
序号 Serial number	名称/name		料号 /Item No	单件产品 使用量/Usage of single product(g)	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	生效日期 /effective date	
1	FPC	基材/base material			蔡伦格蒂 /Cherengetti	有/yes	ND	ND	ND	ND	ND	ND	审核SGS报告 /Review SGS report	SHAEC23001049105	2023/2/15	www.sgsgroup.com.cn	/
2	FPC	油墨 /printing ink			优立/You li	有/yes	ND	ND	ND	ND	ND	ND	审核SGS报告 /Review SGS report	ETR23701480	2023/6/13	www.sgsgroup.com.cn	/
3	FPC	背胶/Gum back			3M	有/yes	ND	ND	ND	ND	ND	ND	审核SGS报告 /Review SGS	SHAEC217569205	2023/1/4	www.sgsgroup.com.cn	/
4	FPC	电金 /Dianjin			泰德/taide	有/yes	ND	ND	ND	ND	ND	ND	审核SGS报告 /Review SGS report	A2230153997101001E	2023.04.07	www.sgsgroup.com.cn	/
5	CABLE	线材胶料			巨化	N.D	N.D	N.D	N.D	N.D	N.D	N.D	审核SGS报告 /Review SGS	NG3MR23000169901	2023/2/6	www.sgsgroup.com.cn	/
6	CABLE	线芯			缔网	N.D	N.D	N.D	N.D	N.D	N.D	N.D	审核SGS报告 /Review SGS	CANEC23000141401	2023/2/13	www.sgsgroup.com.cn	/
7	CABLE	线材色母			见龙	N.D	N.D	N.D	N.D	N.D	N.D	N.D	审核SGS报告 /Review SGS	A2220637196103001C	2022.12.01	www.sgsgroup.com.cn	/
8	CABLE	C5191R			英华特	N.D	N.D	N.D	N.D	N.D	N.D	N.D	审核SGS报告 /Review SGS	SZNEC2203454507	2022.10.28	www.sgsgroup.com.cn	/
9	CABLE	镀金层			科信诚	N.D	N.D	N.D	N.D	N.D	N.D	N.D	审核SGS报告 /Review SGS	CANEC2302637847	2023.03.7	www.sgsgroup.com.cn	/
10	CABLE	镀层镍			QIAOFU	ND	ND	ND	ND	ND	ND	ND	审核SGS报告 /Review SGS	CANEC2302637827	2023.03.7	www.sgsgroup.com.cn	/
11	CABLE	胶芯			新空	ND	ND	ND	ND	ND	ND	ND	审核SGS报告 /Review SGS	ETR23705937	2023.08.04	www.sgsgroup.com.cn	/
12																	
13																	

制表/Tabulation: 陈小平

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

日期/date: 2023/06/25

九、 manner of packing

Parts packing instructions report			
customer name	Yunjia	manufacturer	SUNNYWAY
entry name	SZ23423IB74-1	product name	FPC antenna module
Bale quantity	50 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: FPC天线组件 订单号码: 厂商编码: SZ23423IB74-1 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..... 50pcs / PE bag Carton label		
外包装方式示意图及标签	客户名称: 云伽 产品名称: FPC天线组件 订单号码: 厂商编码: SZ23423IB74-1 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.			