ShenzhenXingtongWieressTechnologyCo .,Ltd

深圳市星通无线技术有限公司

For

Xiaoxiao (Dongguan) Technology Co., Ltd.

DK2107

Product acknowledgement

客户料号/Part No.: E7305000031

产品名称:STYLE: DK2107 BT ANTENNA

规格书编号/Specification No.:20240628-A

客户 Client	
承认 Approved	

Project:DK2107		Author: HUANG	File Name:
Date: 2024-06-28			**DK2107-APP-RA**
TEST:	Language:	Check: XIE	
A	English		

address: Floor 3, Building A1, Qiangrongdong Industrial Zone, Jiuwei, Xixiang, Baoan District, Shenzhen
TEL: 0755-27850514 FAX: 0755-27850514
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Revision History

Date	Revision	Description of Changes
2024-06-28	RA	Measured with **FPC** sample.

1 Technical Summary

This report summarizes the electrical results of the proposed antenna to support the DK2107 program. We test the antenna with the latest version handset. And it seems to be acceptable.

2 General Description

2.1 Components/Part revisions

VSWR: Voltage Standing Wave Rate.

3 Mechanical Description

4 Electrical Performance

4.1 Set-up

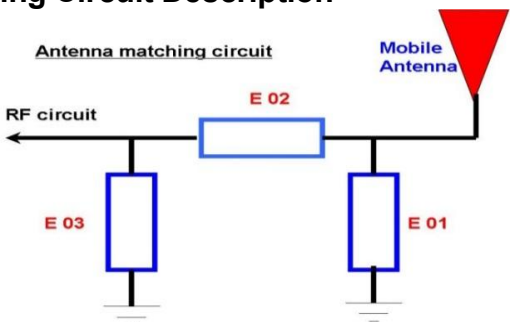
4.1.1 VSWR

VSWR measurements (S21) were performed using an Agilent 8753D Network Analyzer and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

4.1.2 Gain & Radiation Patterns

The gain of the antenna was measured in the XingTong's anechoic chamber. Coaxial chokes on the feed cable were used to mitigate surface currents. The chamber provides less than –30 dB reflectivity from 1 GHz through 3 GHz and an 18" diameter spherical quite zone. The measurement results are calibrated using both dipole and leaky wave horn standards.

4.1.3 Matching Circuit Description



匹配最终修改请参考天线性能报告

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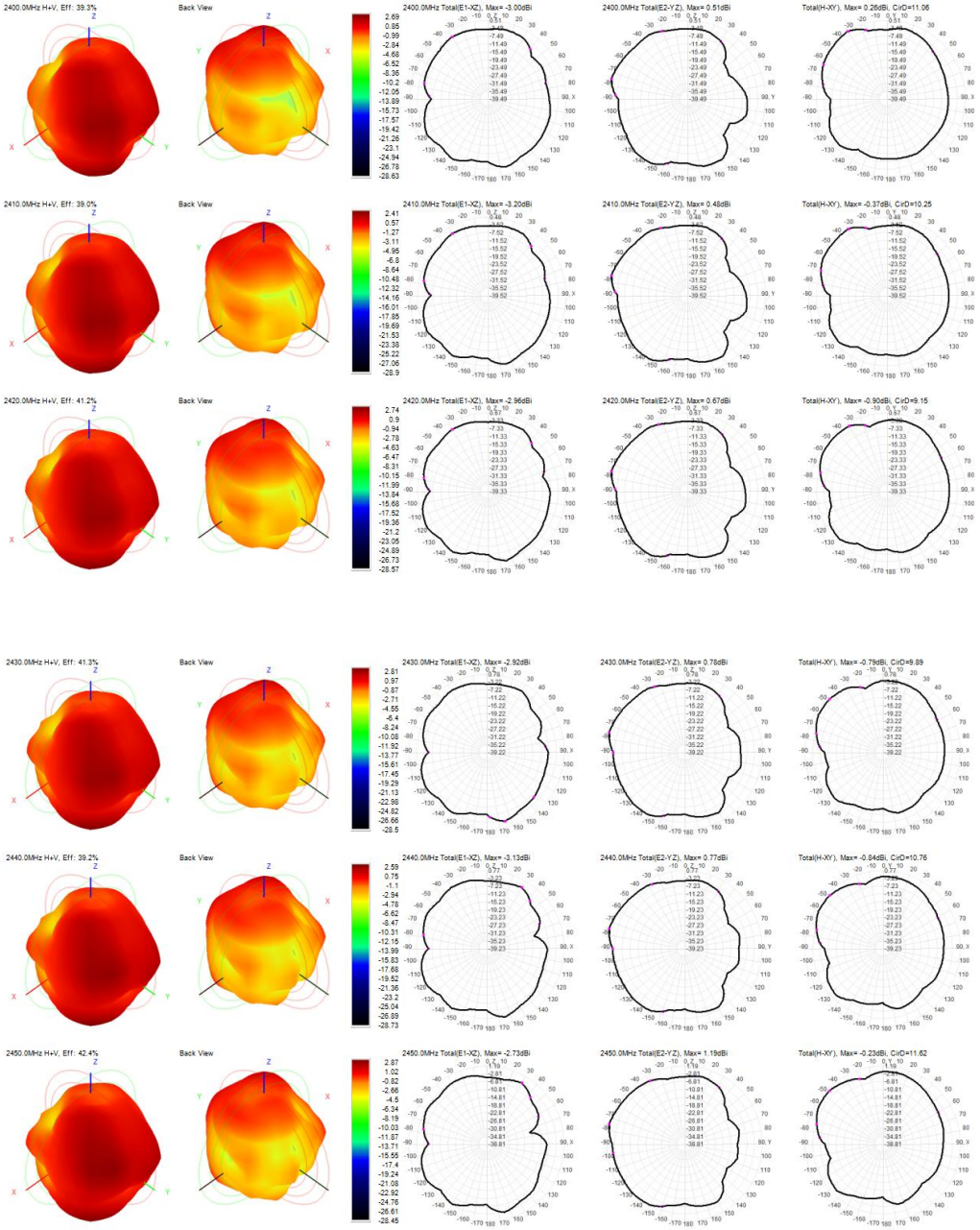
4.2 Measurement Data

4.2.1 BT -OTA Band

Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-4.05	-4.09	-3.85	-3.84	-4.07	-3.73	-3.79	-3.96	-3.60	-3.77	-3.81
Gain (dBi)	2.69	2.41	2.74	2.81	2.59	2.87	2.82	2.62	3.07	3.03	3.14
Efficiency (%)	39.33	39.02	41.21	41.28	39.18	42.37	41.77	40.14	43.66	41.96	41.55
Directivity (dB)	6.74	6.50	6.59	6.66	6.66	6.60	6.61	6.59	6.67	6.81	6.96
Peak Gain Position (Theta)	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
Peak Gain Position (Phi)	60.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Efficiency ThetaPol (%)	24.83	24.33	25.62	25.63	24.26	26.02	25.66	24.91	27.01	25.92	25.67
Efficiency PhiPol (%)	14.49	14.69	15.60	15.65	14.92	16.35	16.11	15.23	16.64	16.04	15.88
Upper Hem. Efficiency (%)	20.64	20.46	21.63	21.72	20.66	22.31	21.86	20.79	22.38	21.32	20.99
Lower Hem. Efficiency (%)	18.68	18.56	19.59	19.57	18.51	20.07	19.91	19.35	21.28	20.64	20.57

OTA-3D



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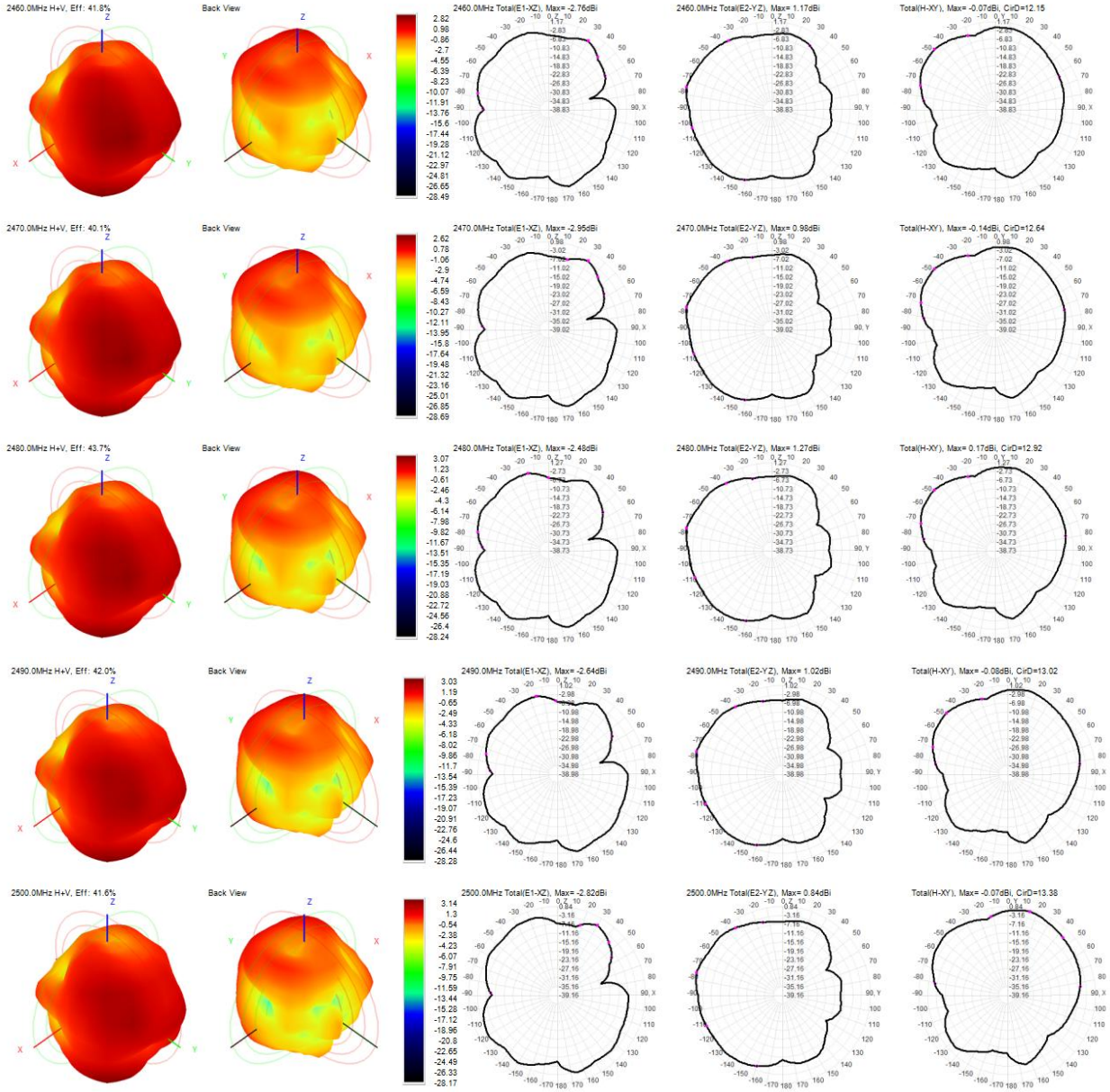

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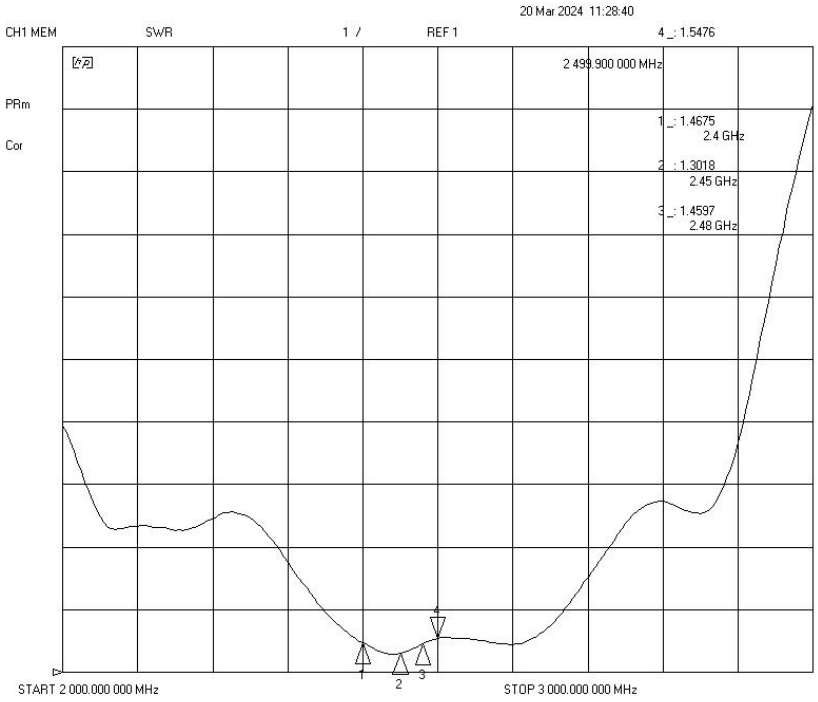
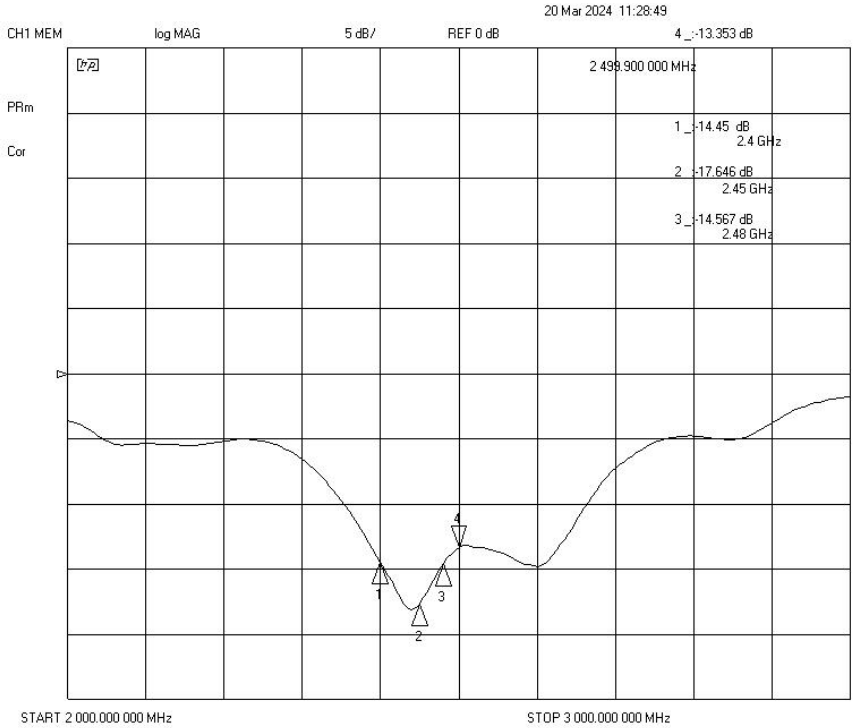
5 Plots

5.1 VSWR（S11）

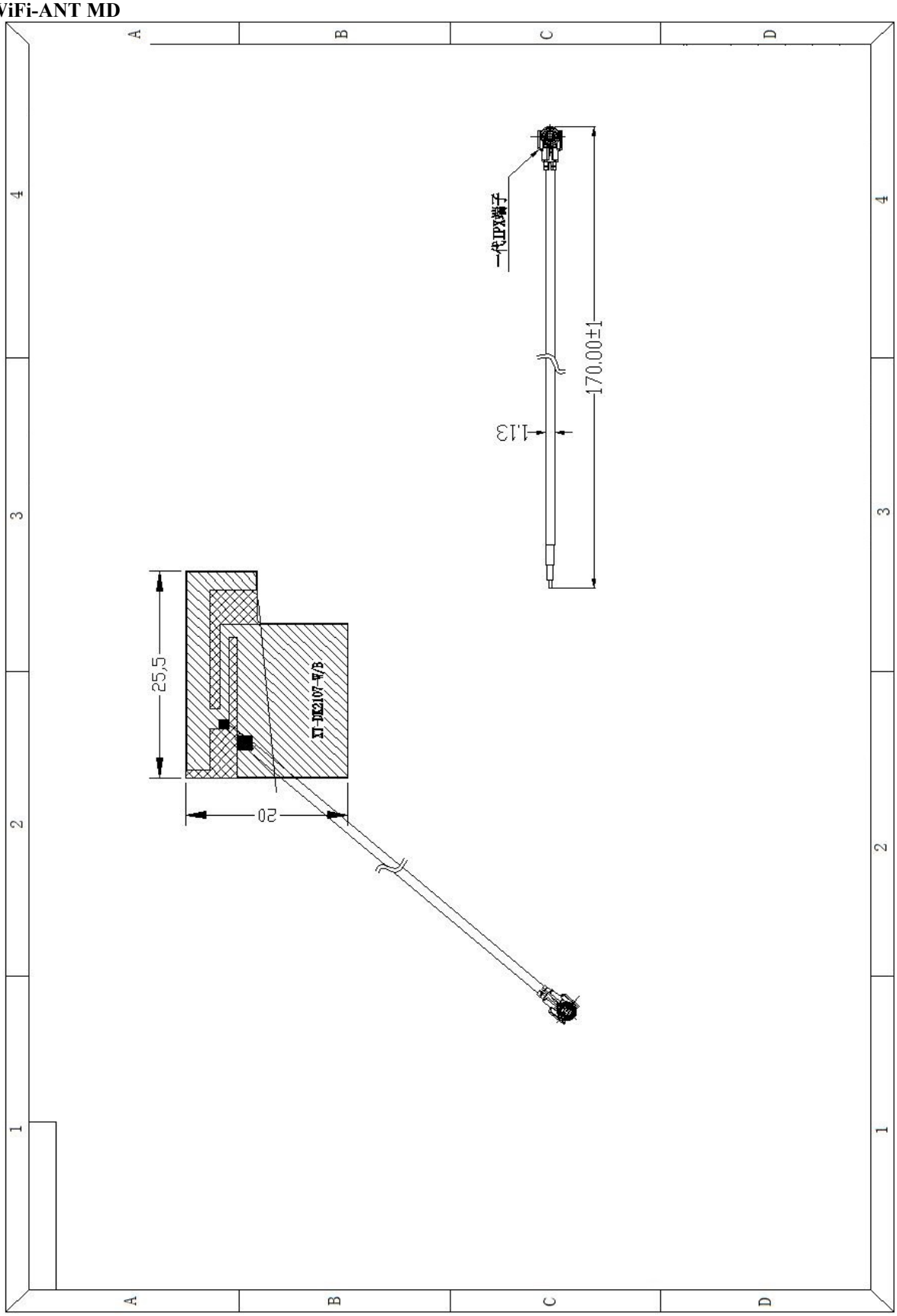


5.2 LOG MAG（S11）



6 Mechanical drawing

WiFi-ANT MD



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7 Reliability tests

7.1 Test content

No	test item	test method	Judgment benchmark
1	Salt water spray test	Spray the solution with salt concentration of 5% for 48 hr.	There must be no discoloration, slanting (deformation) shedding and other shortcomings, no corrosion area.
2	（ Operational Temperature)	-40℃～+65℃	
3	（Storage Temperature）	-50℃～+85℃	
4	（ Humidity)	40%～95%	

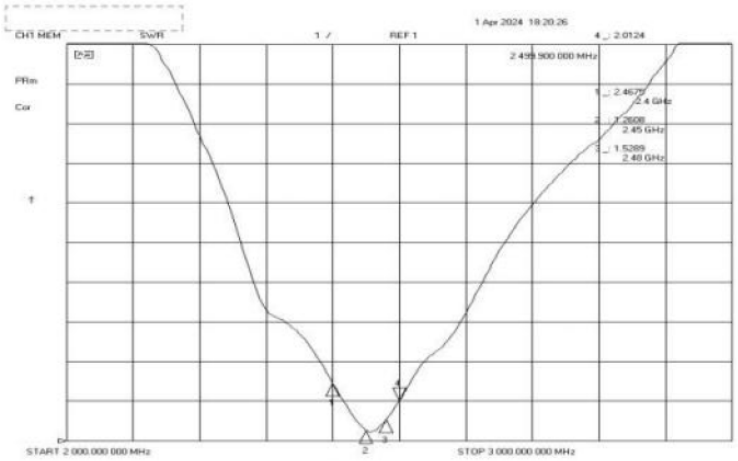
7.2 Test results

NO	sample number	duration of test	test result	note
1	50	24 小时	**OK**	Technical grade is Grade 9 corrosion. <0.4mm
2	50	48 小时	**OK**	Technical grade is Grade 9 corrosion. <0.4mm

8 Reliability testing：

NO.	test item	Test requirement bubble	testing tool	test result
1	Tin melting resistance	288℃, 10S,	Tin furnace	Ok
2	weldability	245℃, 5s,	Tin furnace	Ok
3	Pulling force	N/A	tautness meter	Ok
4	Reverse pulling force	N/A	tautness meter	Ok
5	Peel strength (coverage	≥0.35kg/cm	Peeling strength tester	Ok
6	Peel strength (copper foil)	≥0.8kg/cm	Peeling strength tester	Ok
7	Hot melt adhesive fluidity	0.1～0.15	/	Ok

9 Shipping report:



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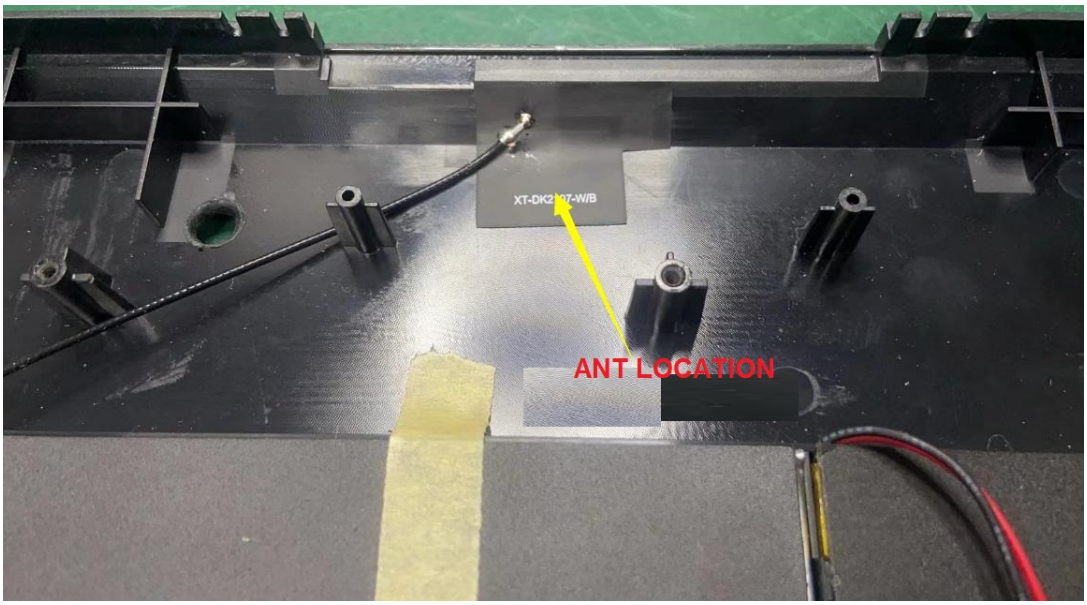
10 Conclusion

Environmental treatment



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