

森沛科技（深圳）有限公司

ThinPAD Technology (SZ) Co.,Ltd.

零件承认书

Part Approval Certificate

产品信息 Product Information	供应商 Supplier	深圳市连兴创电子科技有限公司 Shenzhen lxc Electronics Technology Co., Ltd		
	物料名称 Name of part	Wifi主天线 Wifi main antenna		
	供应商料号 Supplier P/N			
	森沛适用机型 Applicable model	MGS101-08B/09B		
	森沛料号 ThinPAD P/N	928-2303121-L45		
	森沛物料描述 Part description	Cable WiFi Main antenna, 2.4G+5G, 线长 wire length 230mm, 500hm/OD 0.81mm, 双锡黑线, FPC type, 31.0x21.0mm, KCc 四代端子 (connection terminal), RoHS		
硬件确认 Hardware confirm	产品电气性能 Part electrical performance	确认人 signature/日期 data		
测试确认 Test confirm	测试可靠性 Test reliability	确认人 signature/日期 data		
结构确认 Mechanical confirm	结构认定 Mechanical determination	确认人 signature/日期 data		
系统确认 System confirm	系统认定 System determination	确认人 signature/日期 data		
品质确认 Quality confirm	产品可靠性/外观 Product reliability /appearance	确认人 signature/日期 data		



此份分发以下部门:

Distribute the following departments:

- ☐ 品质部 Quality department
- ☐ 采购部 Purchasing department
- ☐ 系统结构部 System department
- ☐ 硬件部 Hardware department
- ☐ 供应商 Supplier

本样品:

This sample:

- ☐ 限量采购 limit purchase
- ☐ 限定应用机型 limit Application model
- ☐ 部分承认 part acknowledge
- ☐ 完全承认 all acknowledge
- ☐ 其他 other

签 发 signature

供应商审核 Supplier signature	(森沛)总经理签署 ThinPAD signature
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8Project:		Author:Wang	File Name: MGS101-08B/09B 主天线 main antenna
Date: 2025-07- 10			
TEST:	Language:	Check: Zhong	
A	English		
地址/Address: 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园C 栋 4 楼 Building C, Jinruihua Industrial Park, 4th Floor, No. 12 Huifang Road, Dalang Subdistrict, Longhua District, Shenzhen City 电话/Tel: 0755-29195258 传真/Fax: 0755-29590286			

频率范围 Frequency range	WIFI:(2.4/5.8MHz)
驻波比系数 VSWR	<2.0
输入阻抗 Input Impedance	50 (Ω)
极化方式 Polarization	垂直极化 Vertical Polarization
半功率波束 (3dB) HPW	180 ° H-plane 120 ° E-plane

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Revision History

Date	Revision	Description of Changes
2025-07-10	RA	Measured with SUS301 sample.

深圳市连兴创电子科技有限公司 SHENZHEN LXC ELECTRONICS TECHNOLOGY CO., LTD	1
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1 Technical Summary

This report summarizes the electrical results of the proposed antenna to support the 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 (S11) 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 Lxc's anechoic chamber. Coaxial chokes on the feed cable were used to mitigate surface currents. The chamber provides less than -30 dB reflectivity from 800 MHz through 3 GHz and an 18" diameter spherical quiet zone. The measurement results are calibrated using both dipole and leaky wave horn standards.

4.1.3 Matching Circuit Description

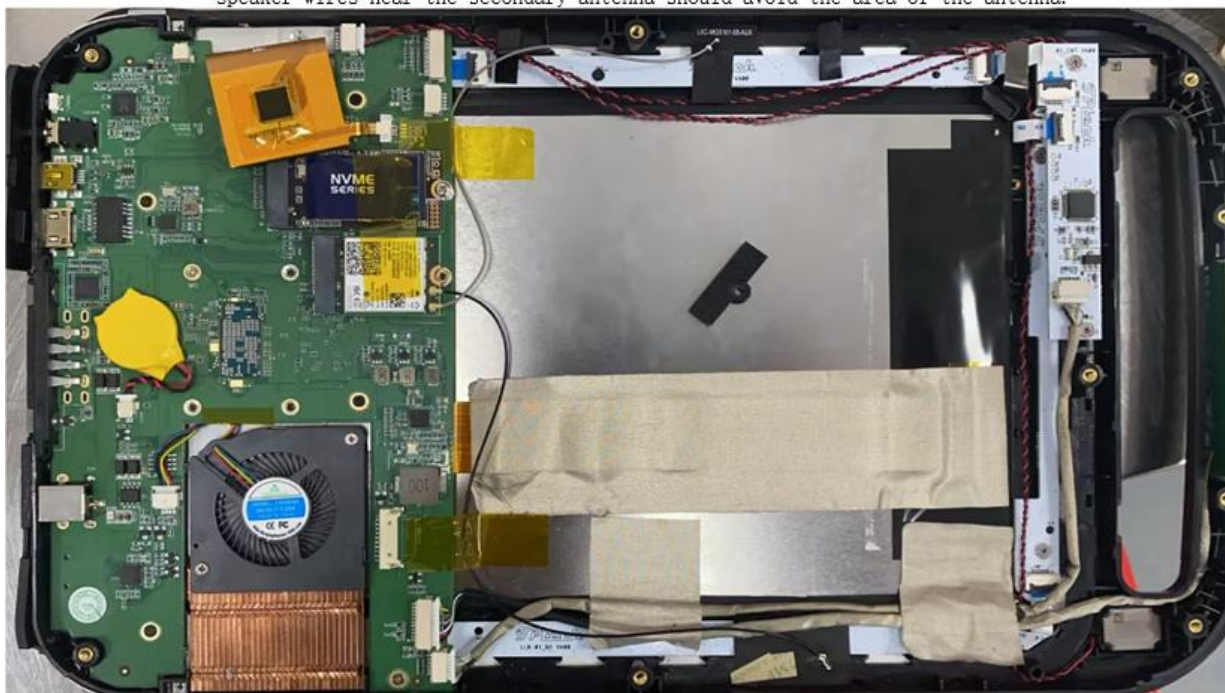


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环境处理，主天线附近没接导电布，导电布尽量远离天线线路部分。副天线附近喇叭线避开天线区域。

No conductive fabric is connected near the main antenna.

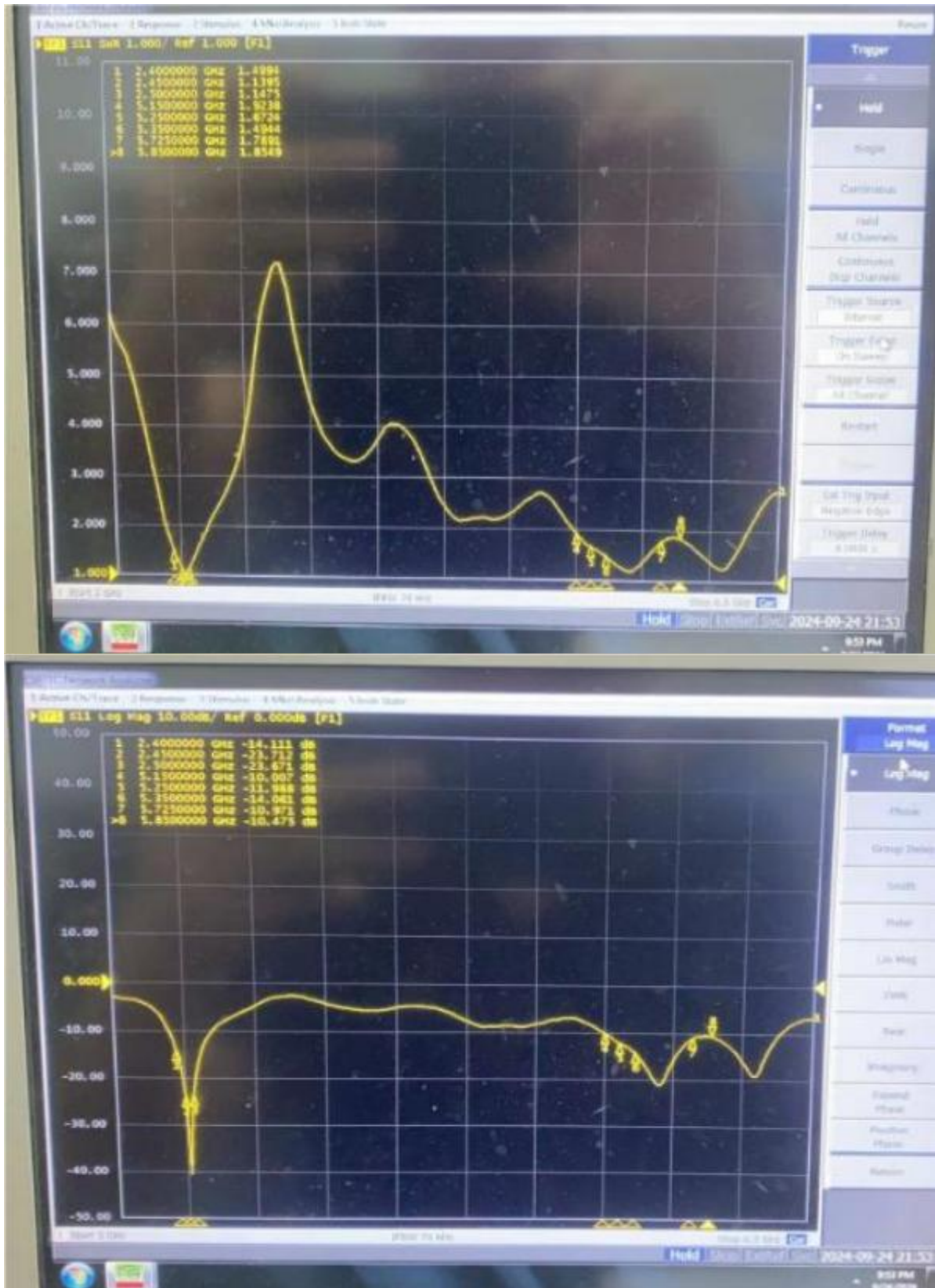
Keep the conductive fabric as far away as possible from the antenna section. The speaker wires near the secondary antenna should avoid the area of the antenna.



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4.2 Measurement Data

4.2.1 Active result (WIFI)



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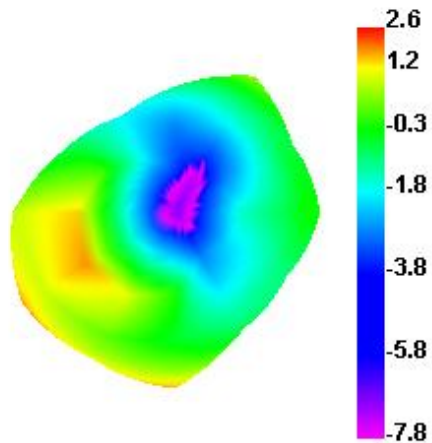
2.4G/5G-有源测试数据active test data

WiFi(5G/A)	CH	功率(54M)	灵敏度(54M)	WiFi(2.4G/G)	CH	功率(54M)	灵敏度(54M)
	36	10.3	-72.3		1	10.2	-71.3
	149	10.6	-72.2		6	10.7	-71.5
	165	10.7	-72.5		11	10.2	-71.7
WiFi(2.4G/B)	CH	功率(11M)	灵敏度(11M)	WiFi(2.4G/N)	CH	功率(MCS7)	灵敏度(MCS7)
	1	11.1	-84.6		1	10.5	-67.3
	6	11.5	-84.7		6	10.2	-67.8
	11	11.6	-84.9		11	10.3	-67.4

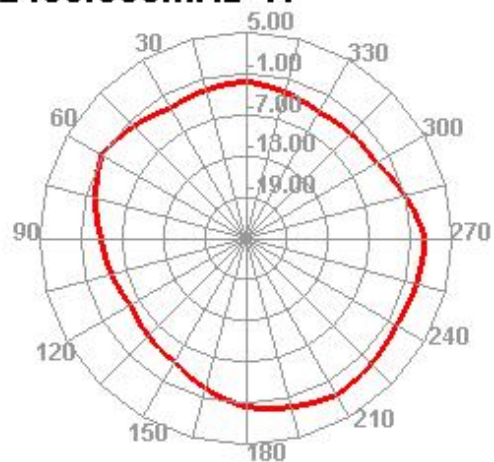
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Freq	Effi	Gain
(MHz)	(%)	(dBi)
2400	51.59	2.67
2410	51.72	2.66
2420	50.55	2.5
2430	50.26	2.36
2440	52.61	2.47
2450	53.09	2.2
2460	54.37	1.9
2470	54.77	1.41
2480	54.01	1.42
2490	51.7	1.34
2500	51.41	1.23

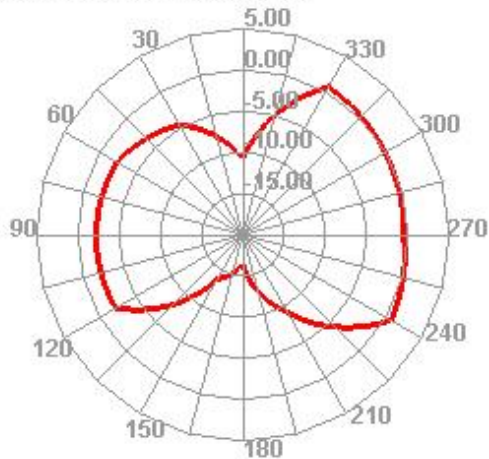
2400.000MHz



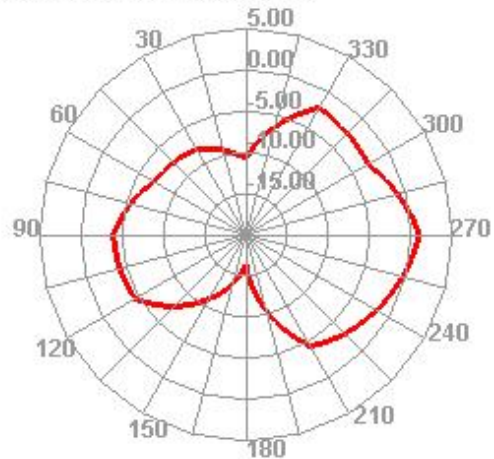
2400.000MHz H



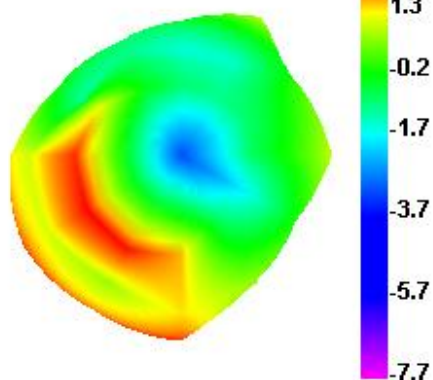
2400.000MHz E1



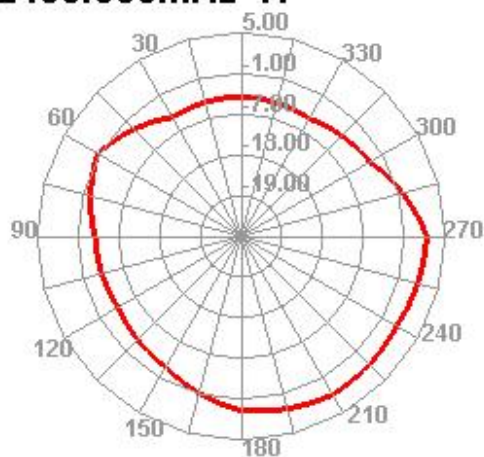
2400.000MHz E2



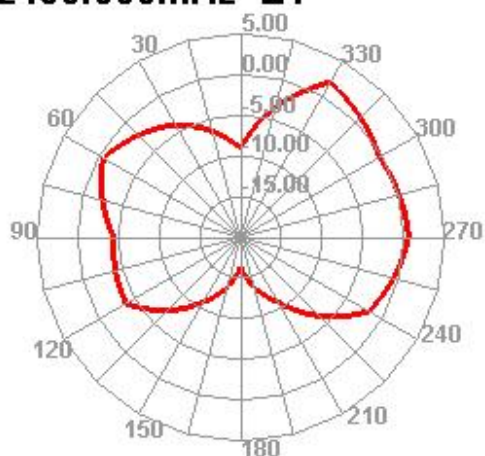
2450.000MHz



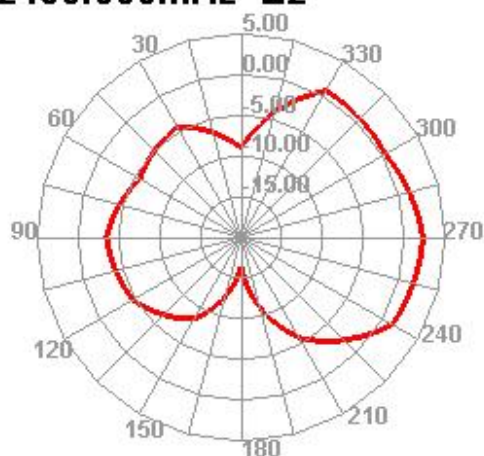
2450.000MHz H



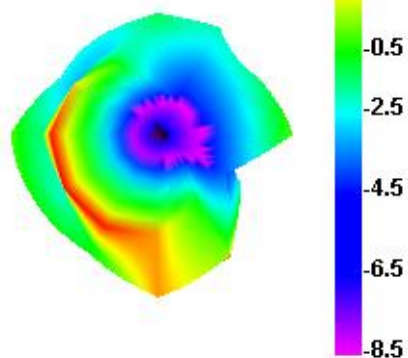
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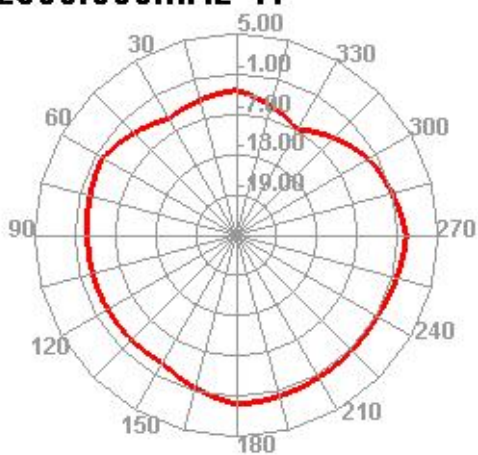
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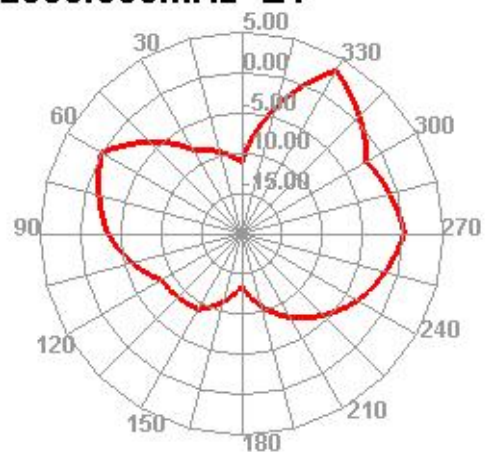
2500.000MHz



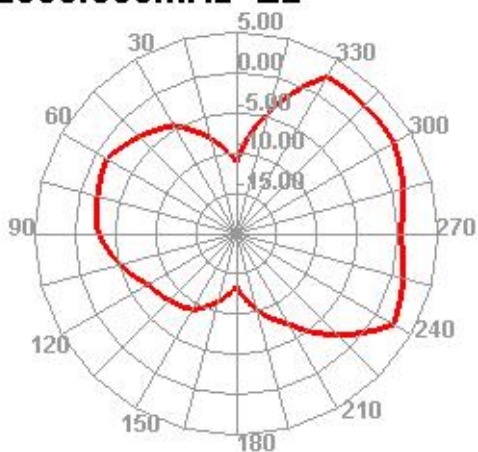
2500.000MHz H



2500.000MHz E1

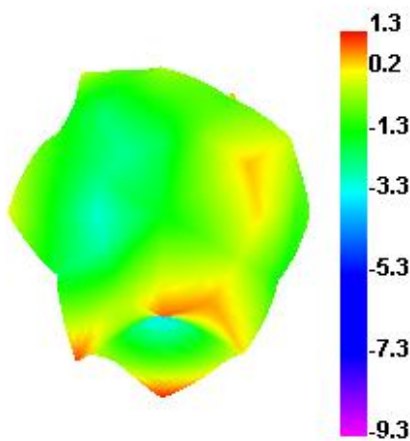


2500.000MHz E2

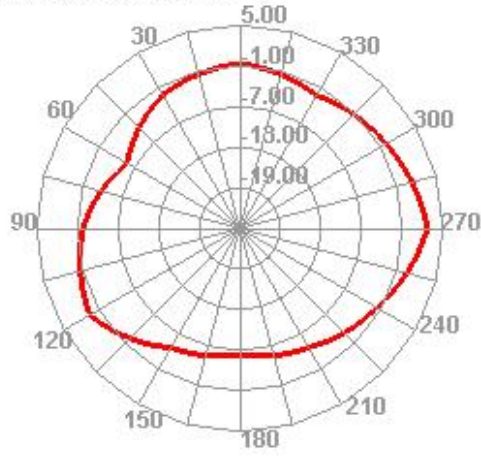


Freq	Effi	Gain
(MHz)	(%)	(dBi)
5150	59.95	1.33
5350	62.9	2.23
5550	56.89	1.98
5650	61.36	2.62
5850	56.45	2.51

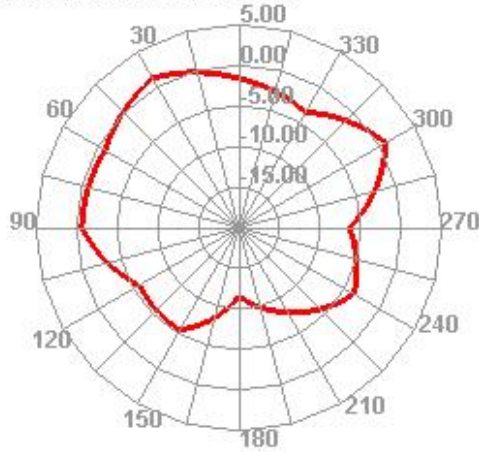
5150.000MHz



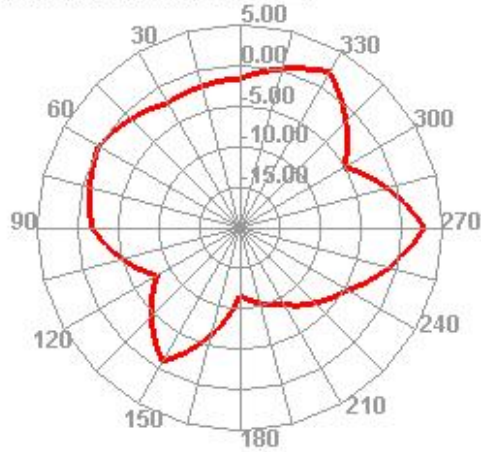
5150.000MHz H



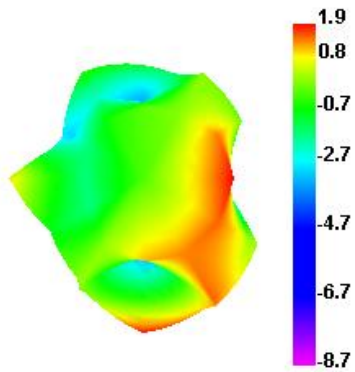
5150.000MHz E1



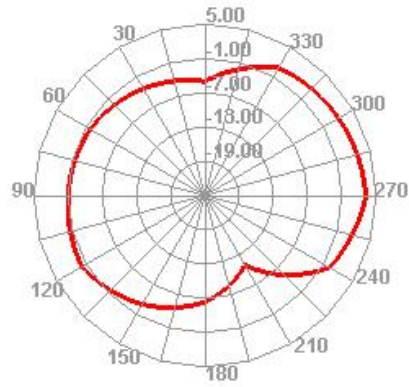
5150.000MHz E2



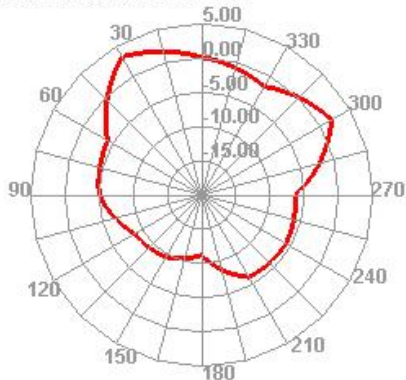
5500.000MHz



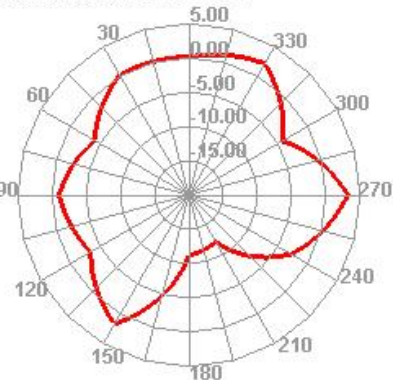
5500.000MHz H



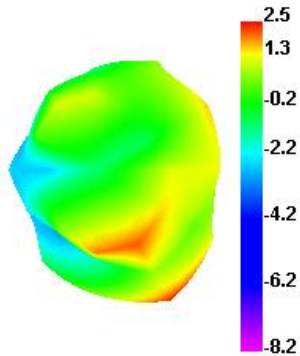
5500.000MHz E1



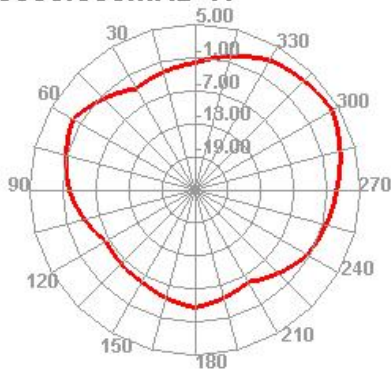
5500.000MHz E2



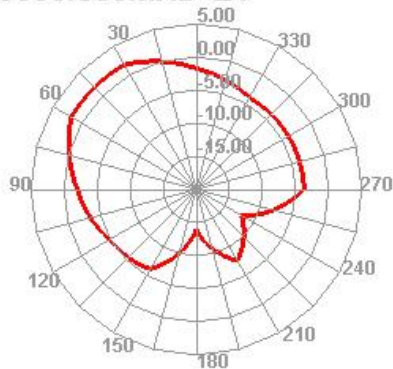
5850.000MHz



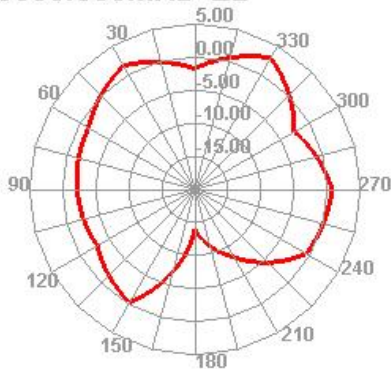
5850.000MHz H



5850.000MHz E1



5850.000MHz E2



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Date: 2025-07-10			
TEST:	Language:	Check: Zhong	
A	English		
地址/Address: 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园C 栋 4 楼 Building C, Jinruihua Industrial Park, 4th Floor, No. 12 Huifang Road, Dalang Subdistrict, Longhua District, Shenzhen City 电话/Tel: 0755-29195258 传真/Fax: 0755-29590286			

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7 Reliability tests

7.1 Test content

No	试验项目 test item	试验方法 test method	判定基准 standard of criterion
1	盐水喷雾试验 salt spray test	把盐浓度 5%的溶液喷雾 48HR Spray a solution with a salt concentration of 5% 48HR	不能有变色, 歪 (变形) 脱落等的缺点 腐蚀面积不能过大。 It must not have any defects such as color change, distortion, detachment, etc. The area of corrosion cannot be too large.

7.2 Test results

NO	样品数 sample number	试验期间 checkout time	实验结果 experimental result	备注 note
1	50	24 小时/ hr	OK	技术等级为 9 级 Technical level 9 腐蚀 corrosion <0.4mm
2	50	48 小时/ hr	OK	技术等级为 9 级 Technical level 9 腐蚀 corrosion <0.4mm

8 Conclusion

From the above test results, we can know the electrical performance of the antenna is seems good.

Shenzhen Lxc Electronics Technology Co ., Ltd ,look forward to your confirmation, thank you for your cooperation !

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Date: 2025-07- 10		Check: Zhong	
TEST:	Language:		
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地址/Address： 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园C 栋 4 楼 Building C, Jinruihua Industrial Park, 4th Floor, No. 12 Huifang Road, Dalang Subdistrict, Longhua District, Shenzhen City 电话/Tel: 0755-29195258 传真/Fax: 0755-29590286			

森沛科技（深圳）有限公司

ThinPAD Technology (SZ) Co.,Ltd.

零件承认书

Part Approval Certificate

产品信息 Product Information	供应商 Supplier	深圳市连兴创电子科技有限公司 Shenzhen lxc Electronics Technology Co., Ltd							
	物料名称 Name of part	Wifi 副天线 Wifi aux antenna							
	供应商料号 Supplier P/N								
	森沛适用机型 Applicable model	MGS101-08B/09B							
	森沛料号 ThinPAD P/N	928-1101722-L45							
	森沛物料描述 Part description	Cable WiFi aux antenna, 2.4G+5G, 线长 wire length150mm, 50ohm/OD 0.81mm, 双锡灰线, FPC type, 17.80x22.0mm, KCc 四代端子, (connection terminal), RoHS.							
硬件确认 Hardware confirm	产品电气性能 Part electrical performance	确认人 signature/日期 data							
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品质确认 Quality confirm	产品可靠性/外观 Product reliability / appearance	确认人 signature/日期 data							
此份分发以下部门: Distribute the following departments : ☐ 品质部 Quality department ☐ 采购部 Purchasing department ☐ 系统结构部 System department ☐ 硬件部 Hardware department ☐ 供应商 Supplier		本样品: This sample: ☐ 限量采购 limit purchase ☐ 限定应用机型 limit Application model ☐ 部分承认 part acknowledge ☐ 完全承认 all acknowledge ☐ 其他 other		签 发 signature <table border="1"> <tr> <td>供应商审核 Supplier signature</td> <td>(森沛)总经理签署 ThinPAD signature</td> </tr> <tr> <td> </td> <td> </td> </tr> </table>		供应商审核 Supplier signature	(森沛)总经理签署 ThinPAD signature		
供应商审核 Supplier signature	(森沛)总经理签署 ThinPAD signature								

B8Project:		Author:Wang	File Name: MGS101-08B/09B 副天线 aux antenna
Date: 2025-08-06			
TEST:	Language:	Check: Zhong	
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频率范围 Frequency range	WIFI:(2.4/5.8MHz)
驻波比系数 VSWR	<2.0
输入阻抗 Input Impedance	50 (Ω)
极化方式 Polarization	垂直极化 Vertical Polarization
半功率波束 (3dB) HPW	180° H-plane 120° E-plane

B8Project:		Author:Wang	File Name: MGS101-08B/09B 副天线 aux antenna
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Revision History

Date	Revision	Description of Changes
2025-08-06	RA	Measured with SUS301 sample.

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4.1.1 VSWR

VSWR measurements (S11) 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.

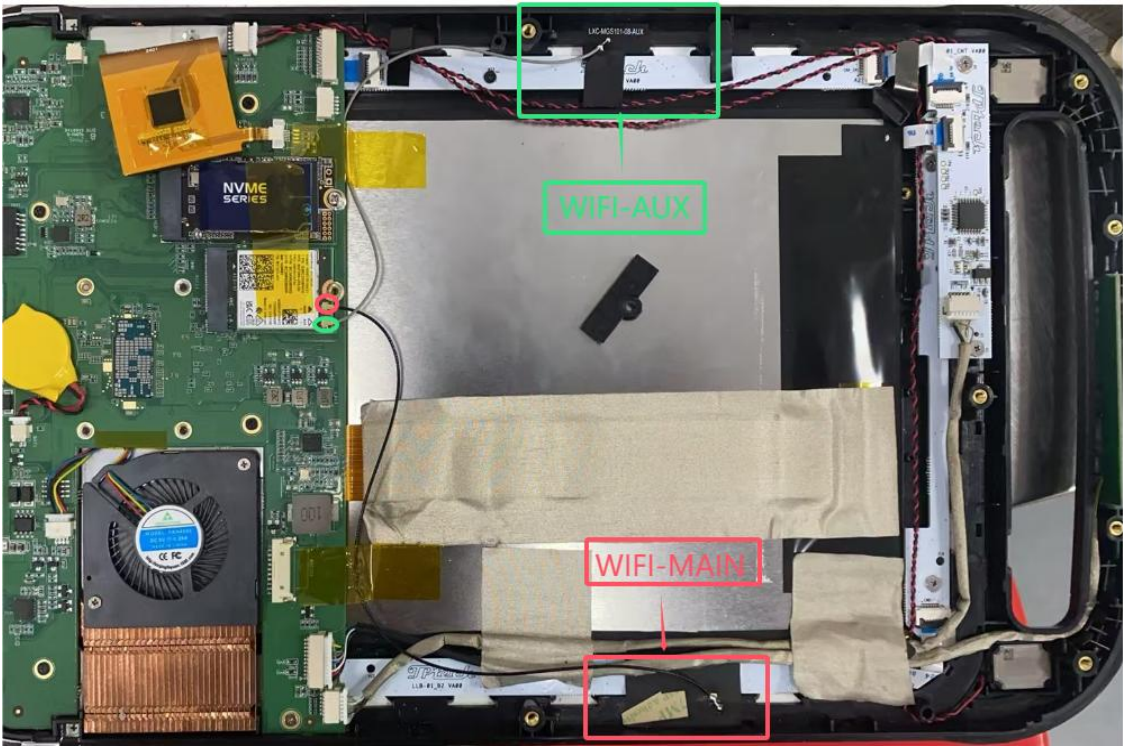
4.1.2 Gain & Radiation Patterns

The gain of the antenna was measured in the Lxc's anechoic chamber. Coaxial chokes on the feed cable were used to mitigate surface currents. The chamber provides less than -30 dB reflectivity from 800 MHz through 3 GHz and an 18" diameter spherical quiet zone. The measurement results are calibrated using both dipole and leaky wave horn standards.

4.1.3 Matching Circuit Description

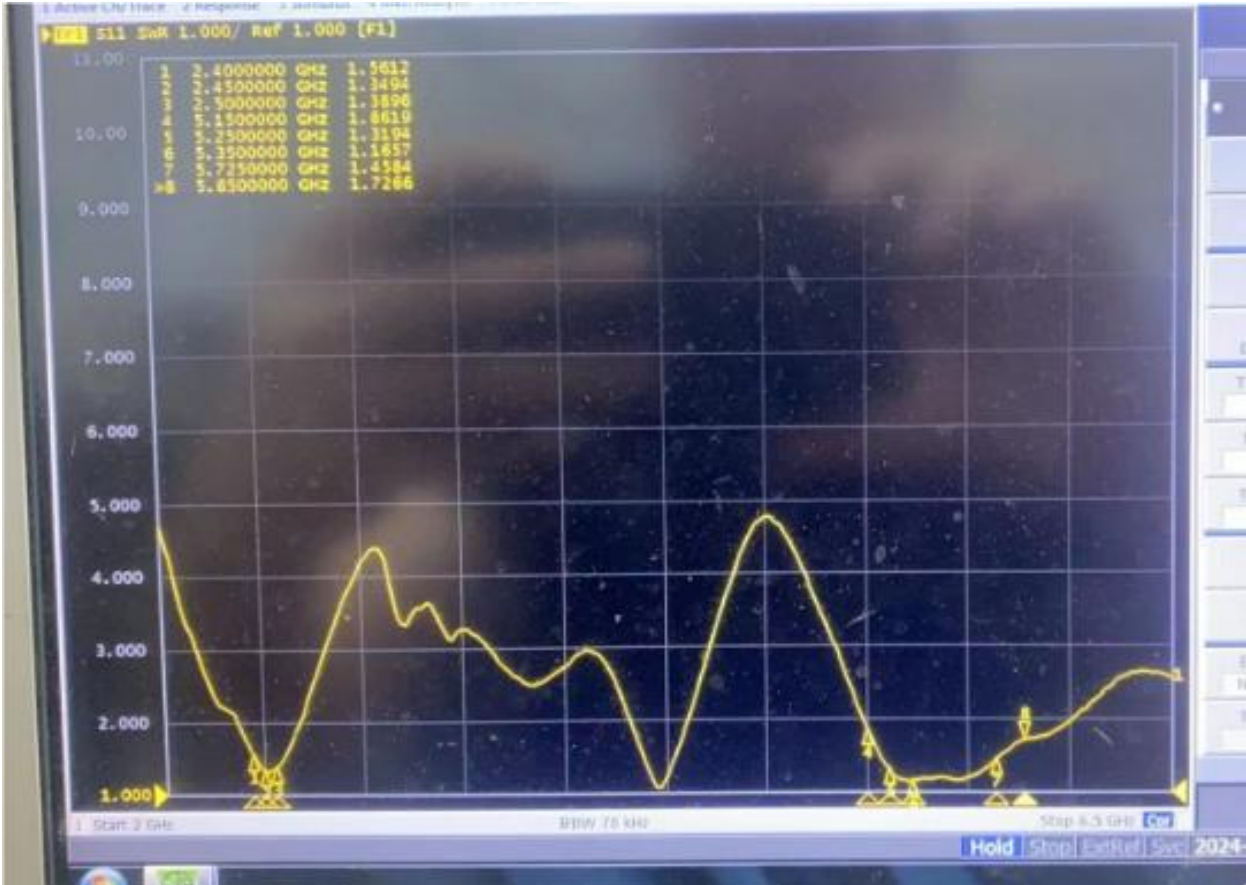


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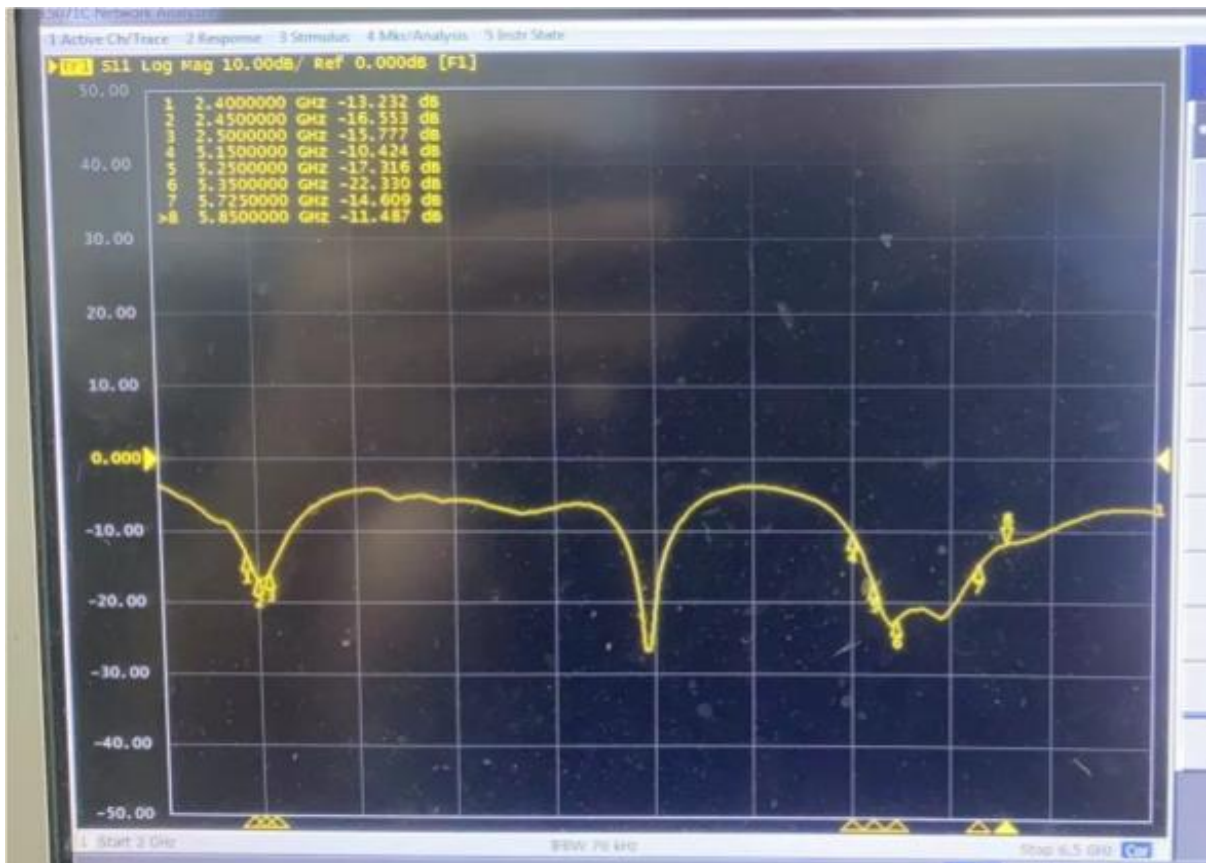


4.2 Measurement Data

4.2.1 Active result (WIFI)



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2.4G/5G-有源测试数据active test data

WiFi(5G/A)	CH	功率(54M)	灵敏度(54M)	WiFi(2.4G/G)	CH	功率(54M)	灵敏度(54M)
	36	10.3	-72.3		1	10.2	-71.3
	149	10.6	-72.2		6	10.7	-71.5
	165	10.7	-72.5		11	10.2	-71.7
WiFi(2.4G/B)	CH	功率(11M)	灵敏度(11M)	WiFi(2.4G/N)	CH	功率(MCS7)	灵敏度(MCS7)
	1	11.1	-84.6		1	10.5	-67.3
	6	11.5	-84.7		6	10.2	-67.8
	11	11.6	-84.9		11	10.3	-67.4

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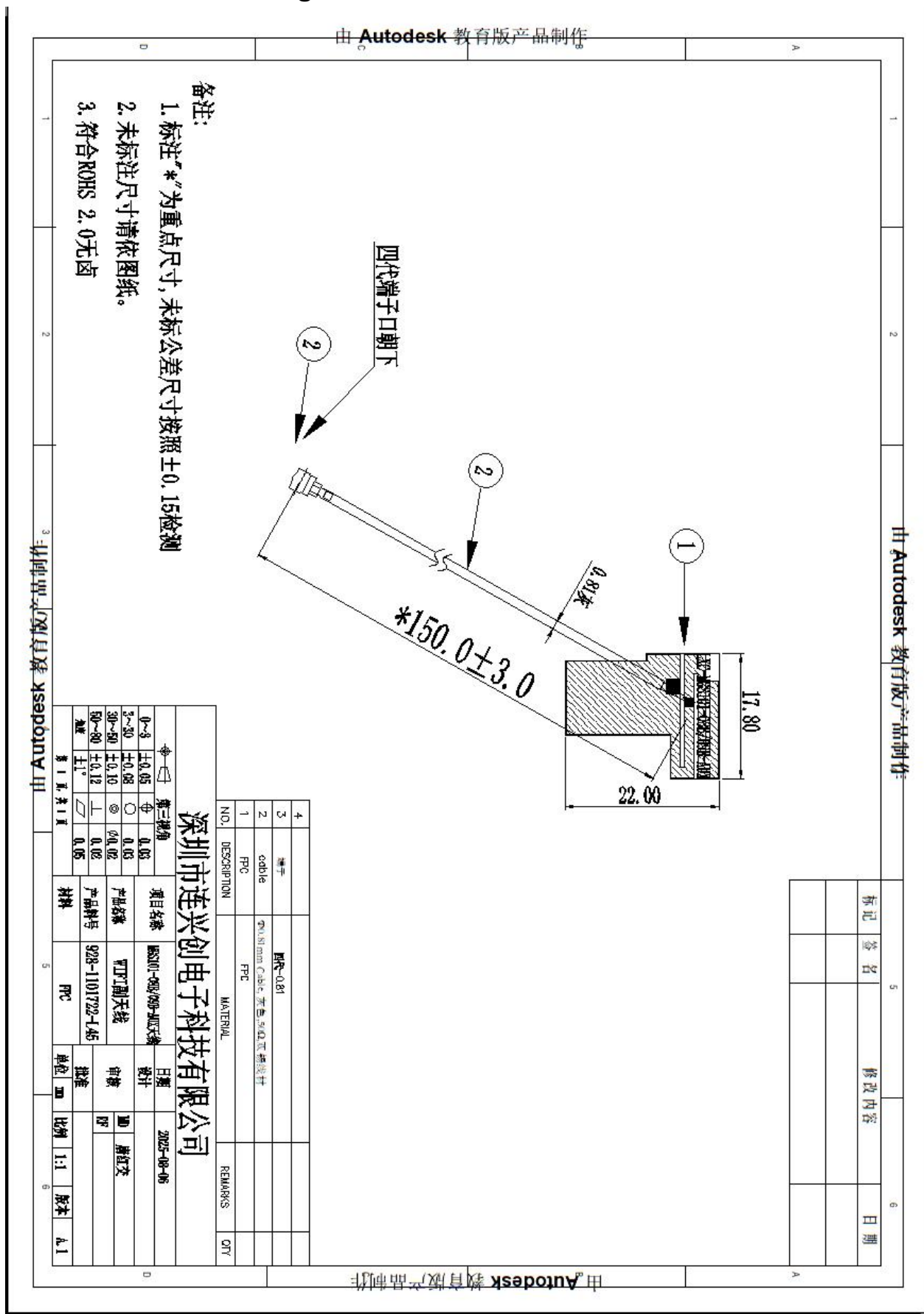
Freq	Effi	Gain
(MHz)	(%)	(dBi)
2400	39.76	1.6
2410	41.02	1.79
2420	41.77	1.88
2430	43.17	1.86
2440	47.75	2.21
2450	49.93	2.34
2460	52.97	2.51
2470	52.35	2.52
2480	52.61	2.52
2490	55.33	2.63
2500	56.16	2.44

5.8G

Freq	Effi	Gain
(MHz)	(%)	(dBi)
5150	54.59	3.61
5350	58.17	3.4
5550	61.4	4.13
5650	56.25	3.94
5850	55.9	2.98

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6 Mechanical drawing



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7 Reliability tests

7.1 Test content

No	试验项目 test item	试 验 方 法 test method	判定基准 standard of criterion
1	盐水喷雾试验 salt spray test	把盐浓度 5%的溶液喷雾 48HR Spray a solution with a salt concentration of 5% 48HR	不能有变色, 歪 (变形) 脱落等的缺点 腐蚀面积不能 过大。It must not have any defects such as color change, distortion, detachment, etc. The area of corrosion cannot be too large.

7.2 Test results

NO	样品数 sample number	试验期间 checkout time	实验结果 experimental result	备注 note
1	50	24 小时/ hr	OK	技术等级为 9 级 Technical level 9 腐蚀 corrosion <0.4mm
2	50	48 小时/ hr	OK	技术等级为 9 级 Technical level 9 腐蚀 corrosion <0.4mm

8 Conclusion

From the above test results, we can know the electrical performance of the antenna is seems good.

Shenzhen Lxc Electronics Technology Co ., Ltd ,look forward to your confirmation, thank you for your cooperation !

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