

深圳市连兴创电子科技有限公司

产品承认书

客 户: 成都市和天创科技股份有限公司

项目名称: X7 投影仪

物料名称: XBY20035

规格描述: 天线

物料颜色: 黑色

物料料号: WZZ009053001

样品版本: A/0

制作日期: 2025/7/25

备 注:

供应商确认

制作	确认	审核
签名: 唐红文	签名: 温勇鹏	签名: 王显通
日期: 2025.07.25	日期: 2025.07.25	日期: 2025.07.25

客户确认签核

结构确认	电子确认	品质 DQE	文控中心	签收部门
签名:	签名:	签名:	签名:	签名:
日期:	日期:	日期:	日期:	日期:

8Project:		Author:Wang	X7
Date: 2025-07-25			
TEST:	Language:	Check: Zhong	
A	English		
地址: 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			
电话: 0755-29195258 传真: 0755-29590286			
Shenzhen Lxc Electronics Technology Co ., Ltd			

Revision History

Date	Revision	Description of Changes
2025-07-25	RA	Measured with SUS301 sample.

深圳市连兴创电子科技有限公司1

PROJECT2

ANTENNA COMPONENTST 3

1 TECHNICAL SUMMARY3

2 GENERAL DESCRIPTION3

2.1 Components/Part revisions 3

3 MECHANICAL DESCRIPTION3

4 ELECTRICAL PERFORMANCE.....3

4.1 Set-up 3

4.1.1 VSWR 3

4.1.2 Gain & Radiation Patterns 3

4.1.3 Matching Circuit Description 3

4.2 Measurement Data 3

4.2.1 Active result（GSM） 3

6 Mechanical drawing 5

7 RELIABILITY TESTS.....11

7.1 Test content 11

7.2 Test results 11

8 CONCLUSION9

8Project:		Author:Wang	X7
Date: 2025-07-25			
TEST:	Language:	Check: Zhong	
A	English		
地址： 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 电话： 0755-29195258 传真： 0755-29590286 Shenzhen Lxc Electronics Technology Co ., Ltd			

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.

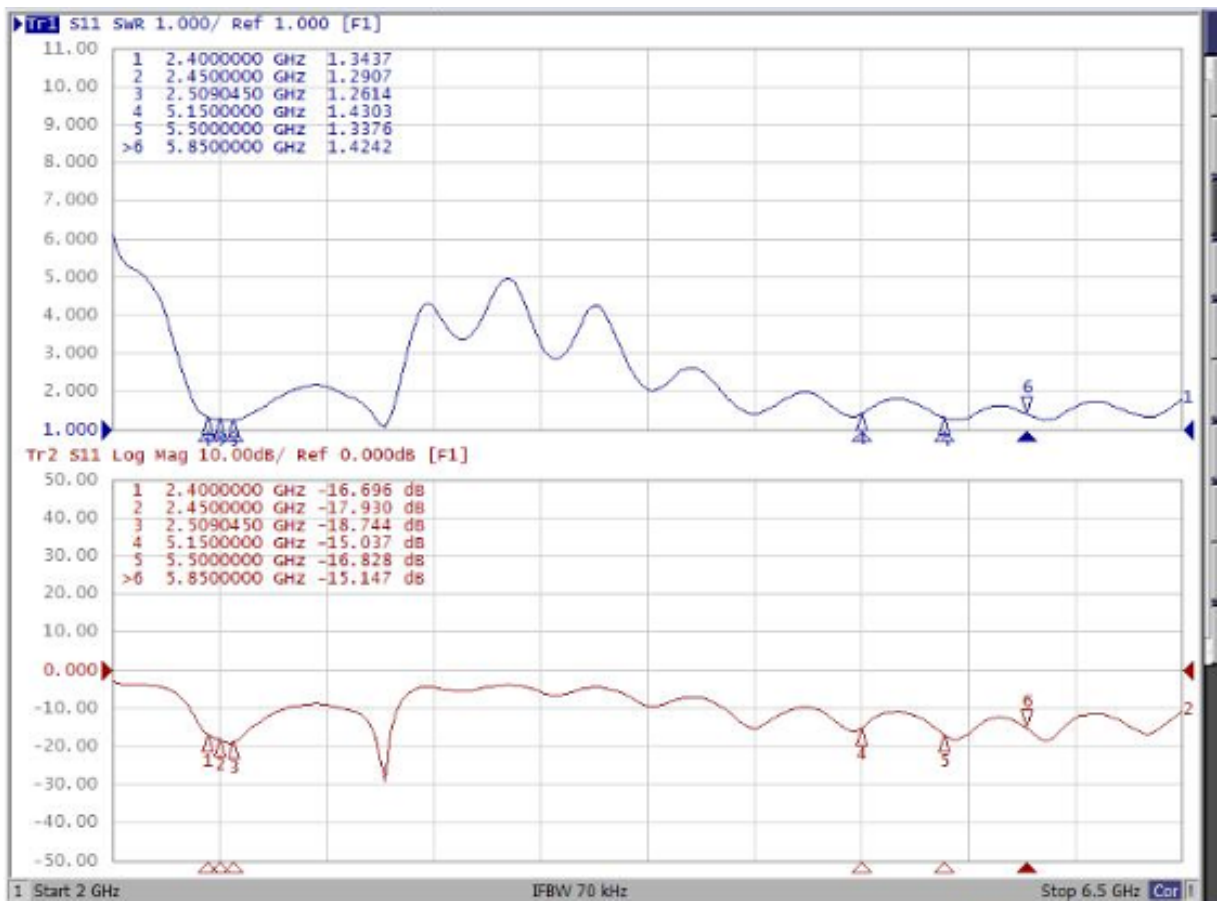
4.1.2 Gain & Radiation Patterns

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

4.2 Measurement Data

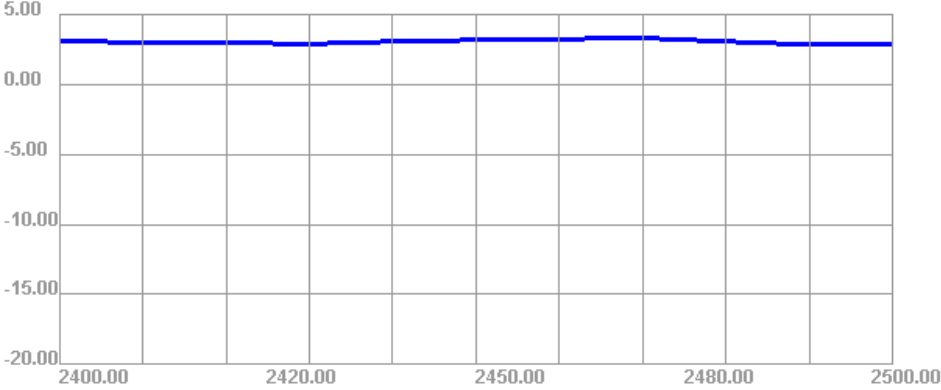
8Project:		Author:Wang	X7
Date: 2025-07-25			
TEST:	Language:	Check: Zhong	
A	English		
地址： 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园 C 栋 4 楼			
电话：0755-29195258 传真：0755-29590286			
Shenzhen Lxc Electronics Technology Co ., Ltd			



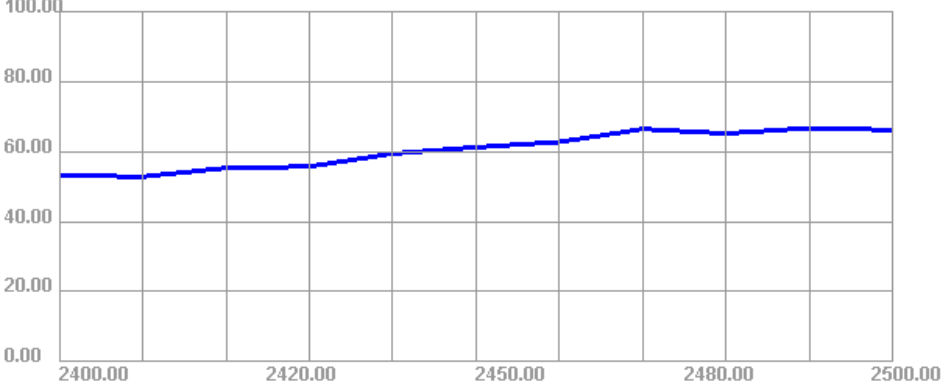
Fred (MHz)	Effi (%)	Effi (%)	Gain (dBi)	UHis (%)	DHis (%)
2400	44.38	-2.79	2.26	40.28	13.32
2410	44.63	-2.46	2.66	42.42	13.54
2420	44.94	-2.12	2.67	40.96	14.77
2430	44.27	-2.70	2.40	43.24	15.23
2440	44.75	-2.39	2.00	40.71	15.79
2450	44.82	-1.83	2.50	41.19	16.18
2460	44.28	-2.63	2.13	42.39	18.25
2470	44.49	-2.34	2.44	41.78	18.80
2480	45.08	-2.23	2.00	40.89	19.05
2490	44.21	-2.68	2.25	43.21	19.23
2500	44.46	-2.32	2.61	40.44	19.62

8Project:		Author:Wang	X7
Date: 2025-07-25			
TEST:	Language:	Check: Zhong	
A	English		
地址： 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			
电话：0755-29195258 传真：0755-29590286			
Shenzhen Lxc Electronics Technology Co ., Ltd			

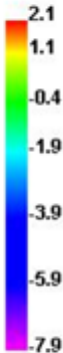
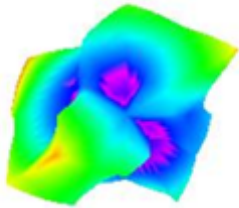
2400.00MHz - 2500.00MHz Gain



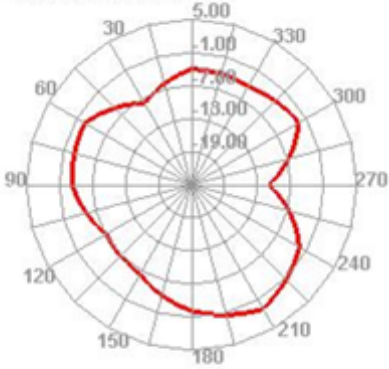
2400.00MHz - 2500.00MHz Efficiency



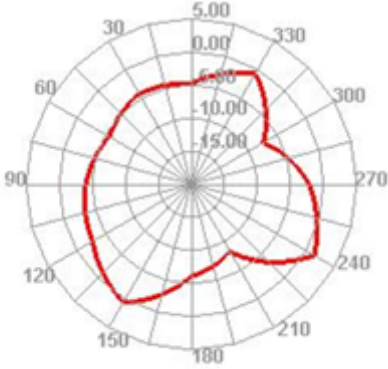
2400.000MHz



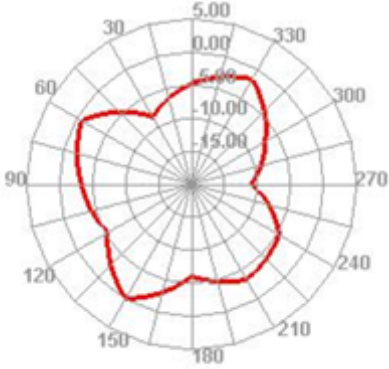
2400.000MHz H



2400.000MHz E1

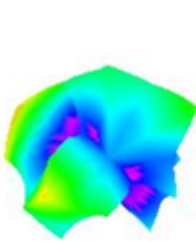


2400.000MHz E2

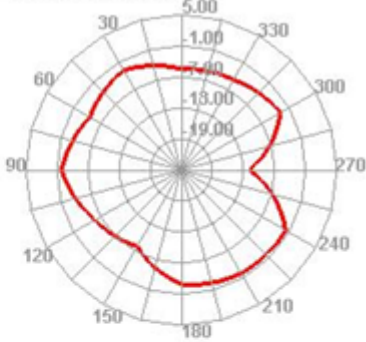


8Project:		Author:Wang	X7
Date: 2025-07-25			
TEST:	Language:	Check: Zhong	
A	English		
地址： 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园 C 栋 4 楼 电话： 0755-29195258 传真： 0755-29590286 Shenzhen Lxc Electronics Technology Co ., Ltd			

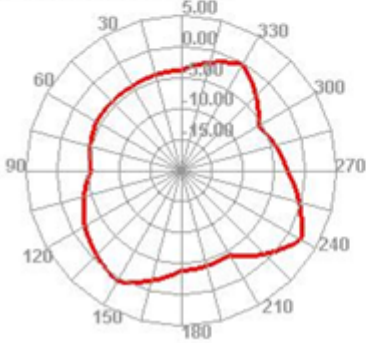
2450.000MHz



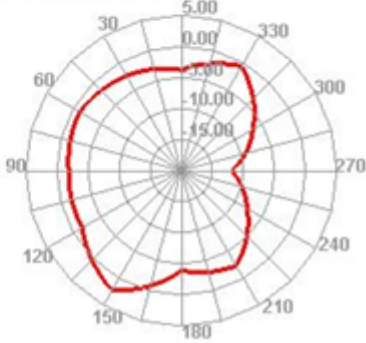
2450.000MHz H



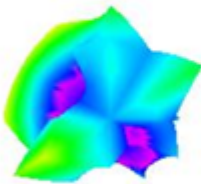
2450.000MHz E1



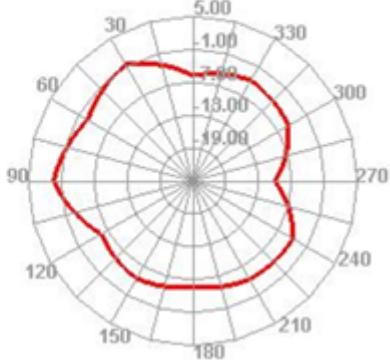
2450.000MHz E2



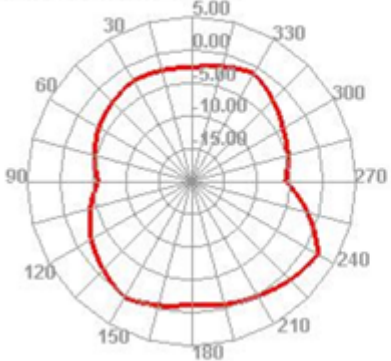
2500.000MHz



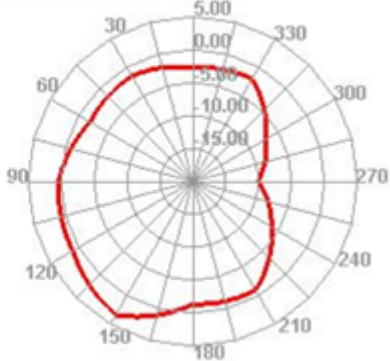
2500.000MHz H



2500.000MHz E1

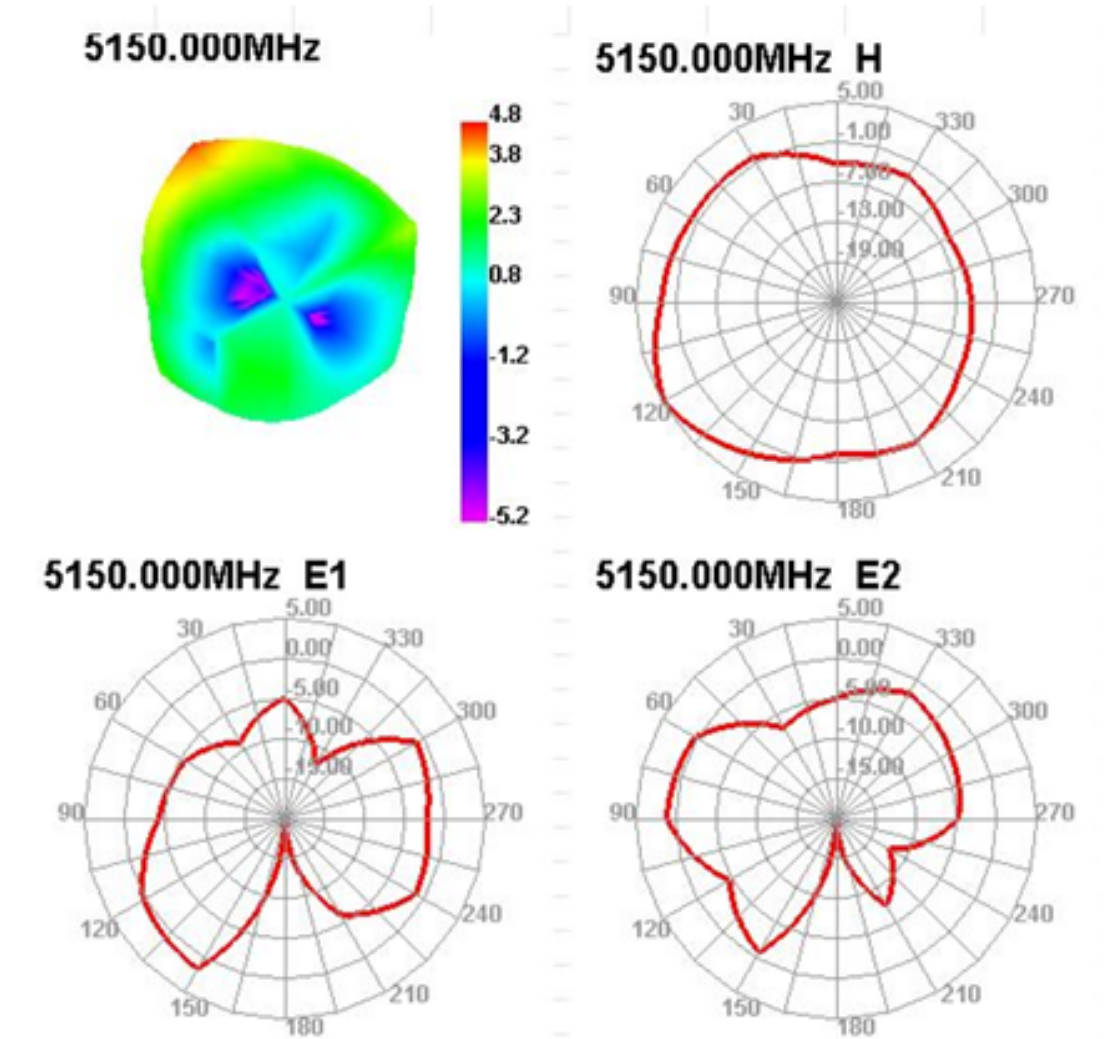


2500.000MHz E2



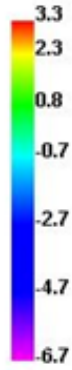
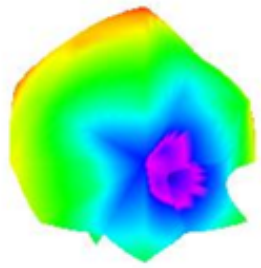
8Project:		Author:Wang	X7
Date: 2025-07-25			
TEST:	Language:	Check: Zhong	
A	English		
地址： 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园 C 栋 4 楼 电话： 0755-29195258 传真： 0755-29590286 Shenzhen Lxc Electronics Technology Co ., Ltd			

Freq	Effi	Gain
(MHz)	(%)	(dBi)
5150	68.1	2.62
5350	65.24	3.21
5550	69.99	3.11
5650	69.82	3.02
5850	69.88	3.57

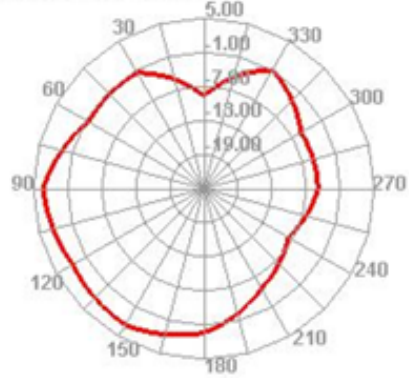


8Project:		Author:Wang	X7
Date: 2025-07-25			
TEST:	Language:	Check: Zhong	
A	English		
地址： 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园 C 栋 4 楼			
电话： 0755-29195258 传真： 0755-29590286			
Shenzhen Lxc Electronics Technology Co ., Ltd			

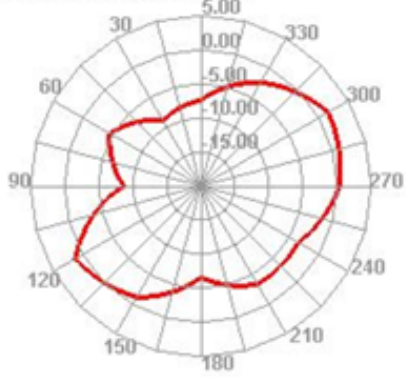
5500.000MHz



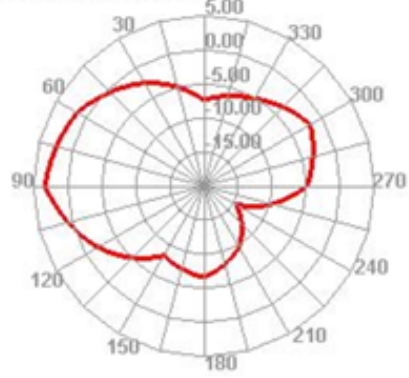
5500.000MHz H



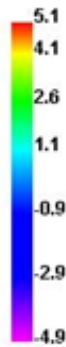
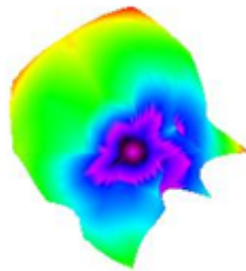
5500.000MHz E1



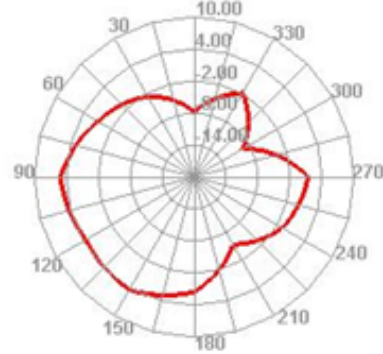
5500.000MHz E2



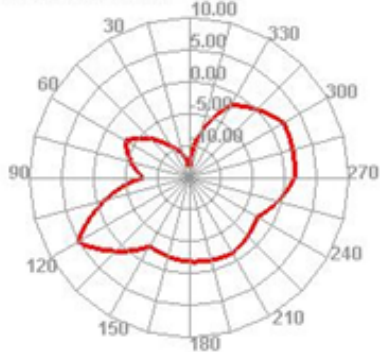
5850.000MHz



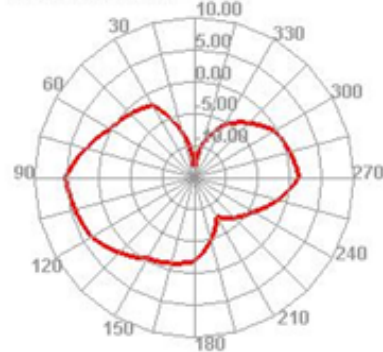
5850.000MHz H



5850.000MHz E1



5850.000MHz E2

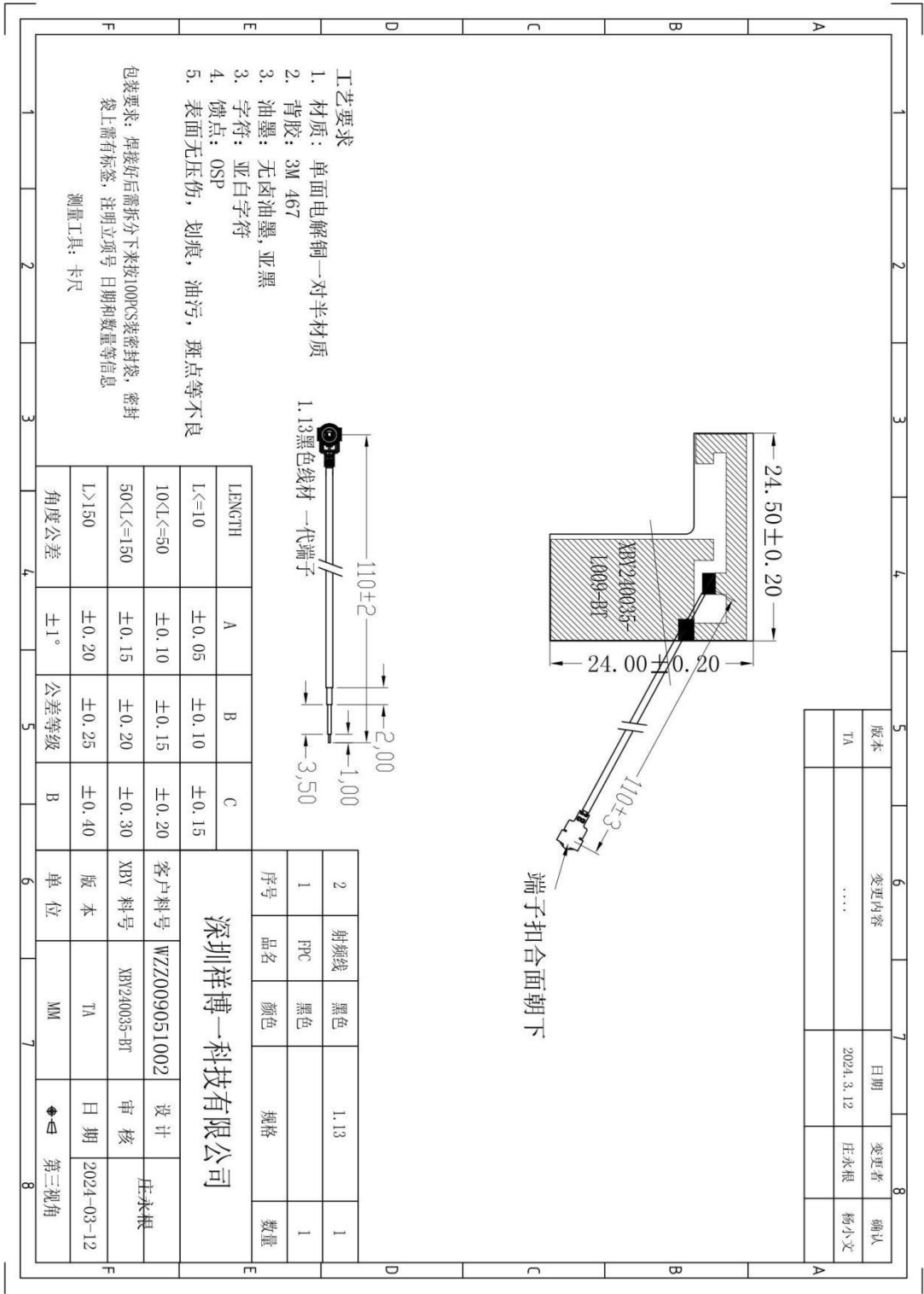


8Project:		Author:Wang	X7
Date: 2025-07-25			
TEST:	Language:	Check: Zhong	
A	English		
地址： 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园 C 栋 4 楼 电话： 0755-29195258 传真： 0755-29590286 Shenzhen Lxc Electronics Technology Co ., Ltd			

WiFi(2.4G/B)	CH	TRP-(11M)	TIS-(11M)	WiFi(5G/A)	CH	TRP-(54M)	TIS-(54M)
	1	15.4			36	12.1	
	6	15.0			149	17.4	
	11	14.5	-72		165	18.5	-72.5

8Project:		Author:Wang	X7
Date: 2025-07-25			
TEST:	Language:	Check: Zhong	
A	English		
地址： 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			
电话： 0755-29195258 传真： 0755-29590286			
Shenzhen Lxc Electronics Technology Co ., Ltd			

六. 工程图 Engineering Drawing



深圳祥博一科技有限公司
电话：0755-29369912 传真：0755-61624200
研发中心：深圳市龙华区油松路 95 号油松文创园文成楼一楼 101
生产基地：东莞市塘厦镇 138 工业区裕华街 7 号华智创谷 B 栋 5 楼

7 Reliability tests

7.1 Test content

No	试验项目	试验方法	判定基准
1	盐水喷雾试验	把盐浓度 5%的溶液喷雾 48HR	不能有变色, 歪 (变形) 脱落等的缺点 腐蚀面积不能过大

7.2 Test results

NO	样品数	试验期间	实验结果	备注
1	50	24 小时	OK	技术等级为 9 级 腐蚀<0.4mm
2	50	48 小时	OK	技术等级为 9 级 腐蚀<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 !

8Project:		Author:Wang	X7
Date: 2025-07-25			
TEST:	Language:	Check: Zhong	
A	English		
地址: 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			
电话: 0755-29195258 传真: 0755-29590286			
Shenzhen Lxc Electronics Technology Co ., Ltd			

Shenzhen Lxc Electronics Technology Co., Ltd

深圳市连兴创电子科技有限公司

APPROVAL SHEET

承认书

客户 (Customer) : 和天创

产品 (Product) : (L018)BT, WIFI 天线 (L=95MM)

型号 (Model) : XBY240035

料号 (Part Number) : L018

制作人 (Written By) : 唐红交

签发时间 (Issued Date) : 2025-01-07

客户 CUSTOMER

频率范围 Frequency range	WIFI:(2.4/5.85) (MHz)
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

RF by		Checked by	
ME by		Date	
Customer Confirm			

8Project:		Author:Wang	L018
Date: 2025-01-07			
TEST:	Language:	Check: Zhong	
A	English		
地址: 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 电话: 0755-29195258 传真: 0755-29590286 Shenzhen Lxc Electronics Technology Co ., Ltd			

Revision History

Date	Revision	Description of Changes
2025-01-07	RA	Measured with SUS301 sample.

深圳市连兴创电子科技有限公司	1
PROJECT	2
ANTENNA COMPONENTST	3
1 TECHNICAL SUMMARY	3
2 GENERAL DESCRIPTION	3
2.1 Components/Part revisions	3
3 MECHANICAL DESCRIPTION	3
4 ELECTRICAL PERFORMANCE	3
4.1 Set-up	3
4.1.1 VSWR	3
4.1.2 Gain & Radiation Patterns	3
4.1.3 Matching Circuit Description	3
4.2 Measurement Data	3
4.2.1 Active result (GSM)	3
6 Mechanical drawing	5
7 RELIABILITY TESTS	12
7.1 Test content	12
7.2 Test results	12
8 CONCLUSION	9

8Project:		Author:Wang	L018
Date: 2025-01-07			
TEST:	Language:	Check: Zhong	
A	English		
地址： 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 电话： 0755-29195258 传真： 0755-29590286 Shenzhen Lxc Electronics Technology Co ., Ltd			

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

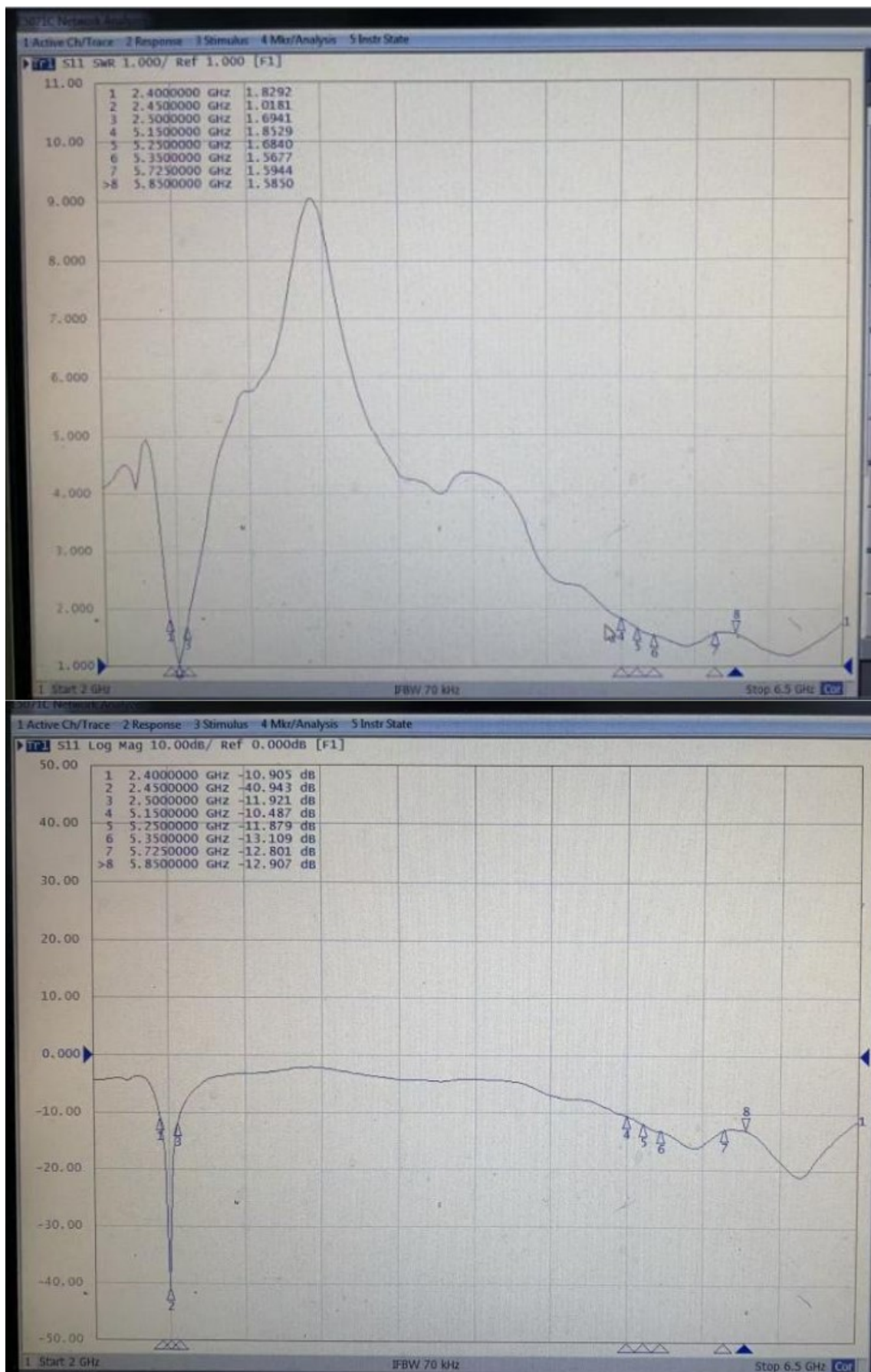
4.2 Measurement Data

8Project:		Author:Wang	L018
Date: 2025-01-07			
TEST:	Language:	Check: Zhong	
A	English		
地址： 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			
电话：0755-29195258 传真：0755-29590286			
Shenzhen Lxc Electronics Technology Co ., Ltd			

整机有源测试数据

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	16.25	-81.62		1	15.06	-67.72
	6	16.93	-81.18		6	15.17	-67.55
	11	17.06	-81.50		11	15.25	-67.26
WiFi(2.4G/G)	CH	功率(54M)	灵敏度(54M)	WiFi(5G/A)	CH	功率(54M)	灵敏度(54M)
	1	15.13	-71.28		36	15.1	-70.3
	6	15.28	-71.38		149	15.2	-72.2
	11	15.82	-71.95		165	15.4	-71.5

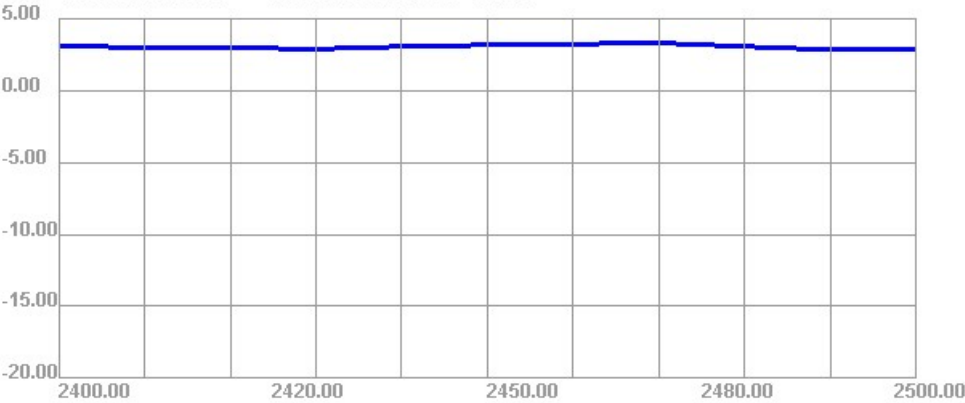
8Project:		Author:Wang	L018
Date: 2025-01-07			
TEST:	Language:	Check: Zhong	
A	English		
地址： 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园 C 栋 4 楼 电话： 0755-29195258 传真： 0755-29590286 Shenzhen Lxc Electronics Technology Co ., Ltd			



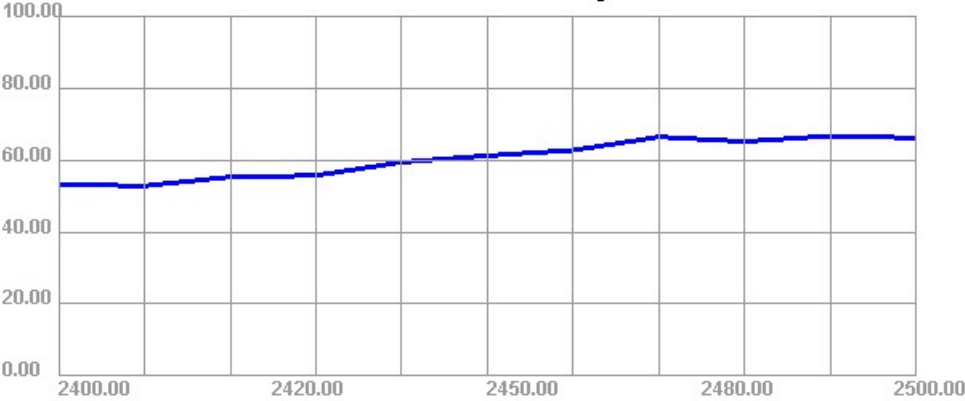
8Project:		Author:Wang	L018
Date: 2025-01-07			
TEST:	Language:	Check: Zhong	
A	English		
地址： 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园 C 栋 4 楼			
电话：0755-29195258 传真：0755-29590286			
Shenzhen Lxc Electronics Technology Co ., Ltd			

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

2400.00MHz - 2500.00MHz Gain

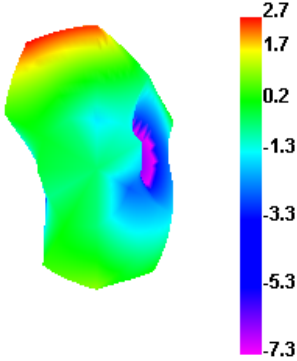


2400.00MHz - 2500.00MHz Efficiency

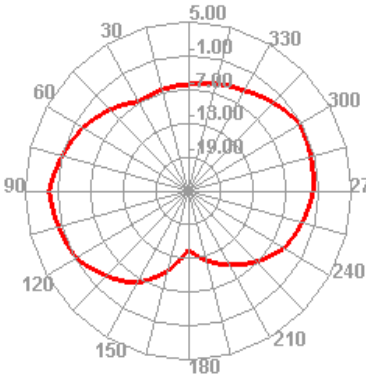


8Project:		Author:Wang	L018
Date: 2025-01-07			
TEST:	Language:	Check: Zhong	
A	English		
地址： 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园 C 栋 4 楼 电话： 0755-29195258 传真： 0755-29590286 Shenzhen Lxc Electronics Technology Co ., Ltd			

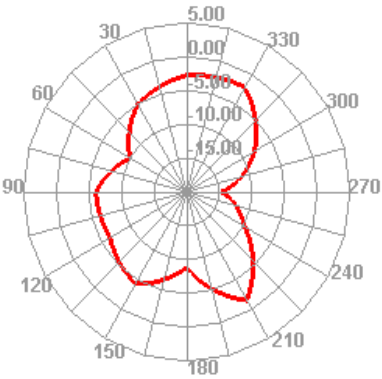
2400.000MHz



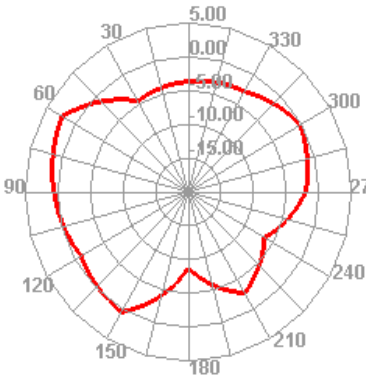
2400.000MHz H



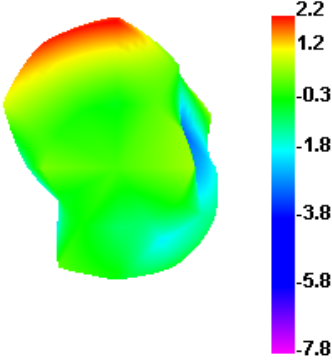
2400.000MHz E1



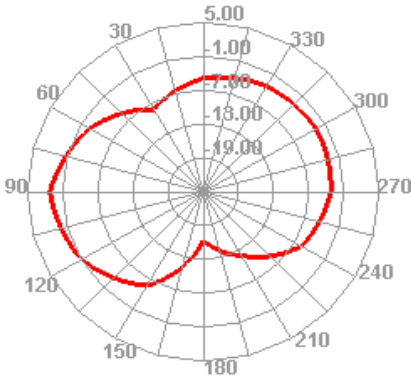
2400.000MHz E2



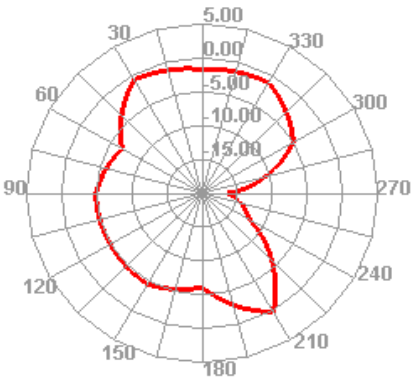
2450.000MHz



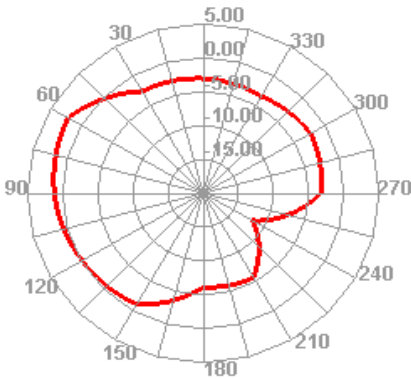
2450.000MHz H



2450.000MHz E1

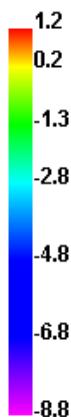
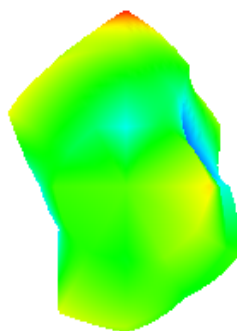


2450.000MHz E2

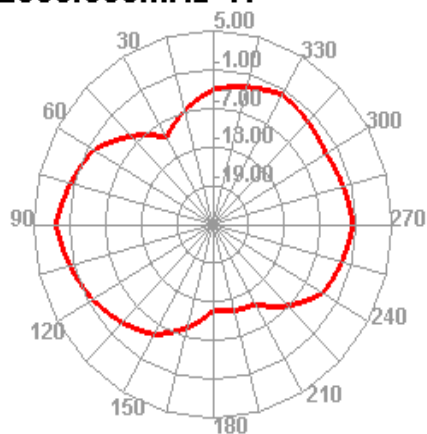


8Project:		Author:Wang	L018
Date: 2025-01-07			
TEST:	Language:	Check: Zhong	
A	English		
地址： 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园 C 栋 4 楼			
电话： 0755-29195258 传真： 0755-29590286			
Shenzhen Lxc Electronics Technology Co ., Ltd			

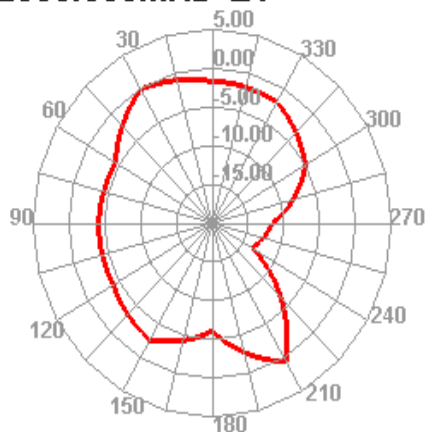
2500.000MHz



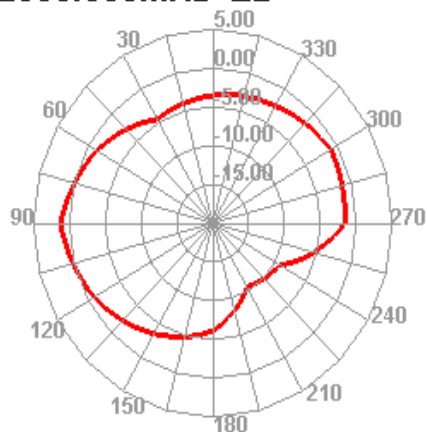
2500.000MHz H



2500.000MHz E1

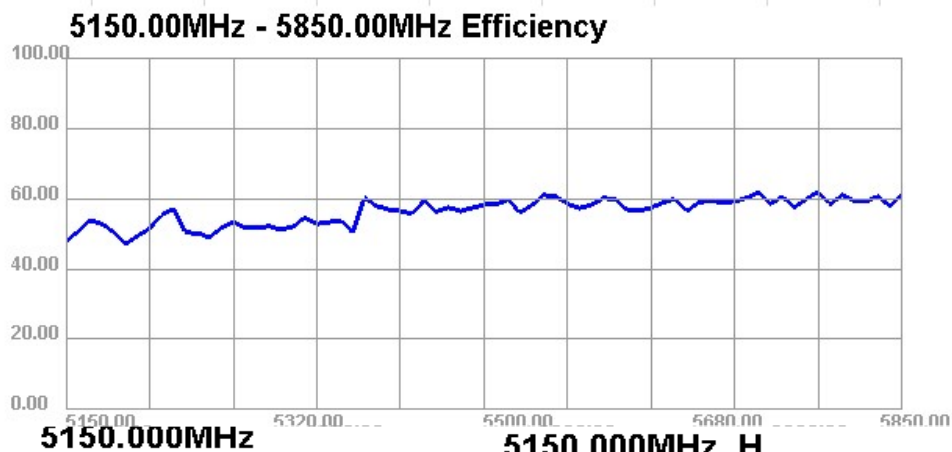
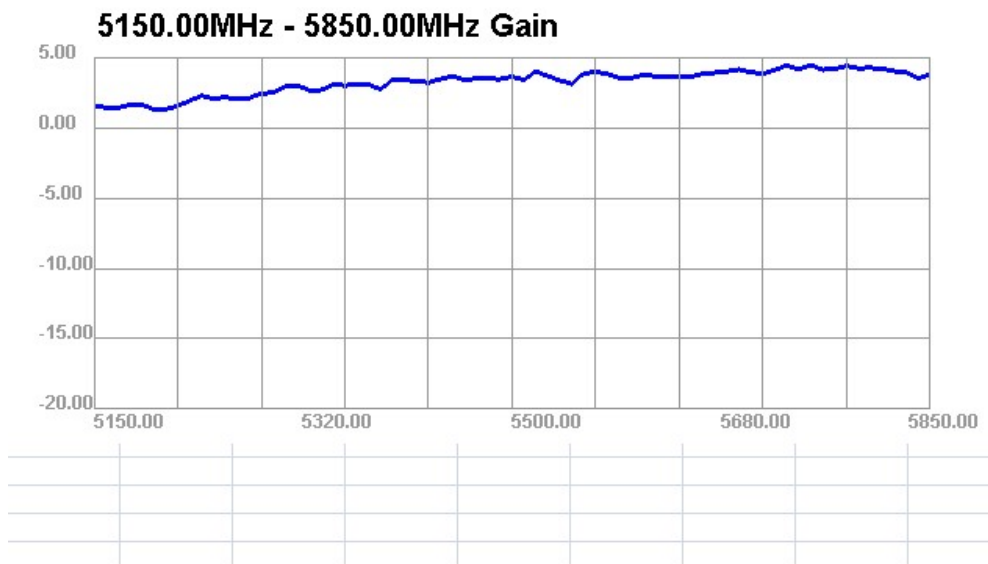


2500.000MHz E2

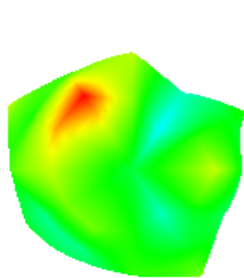


Freq (MHz)	Effi (%)	Gain (dBi)
5150	50.95	1.33
5350	52.9	2.23
5550	55.89	1.98
5650	51.36	2.62
5850	56.45	2.51

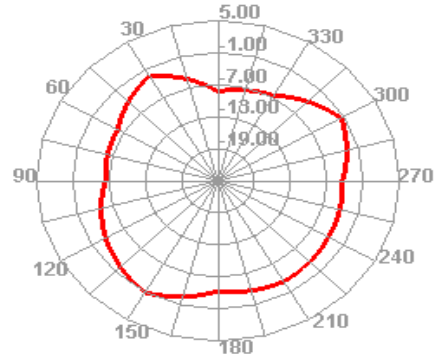
8Project:		Author:Wang	L018
Date: 2025-01-07			
TEST:	Language:	Check: Zhong	
A	English		
地址： 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园 C 栋 4 楼 电话： 0755-29195258 传真： 0755-29590286 Shenzhen Lxc Electronics Technology Co ., Ltd			



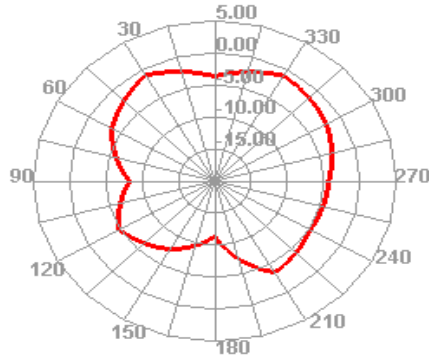
5150.000MHz



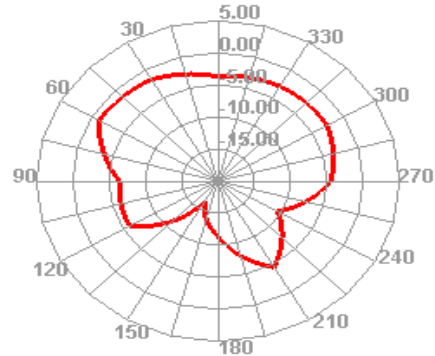
5150.000MHz H



5150.000MHz E1

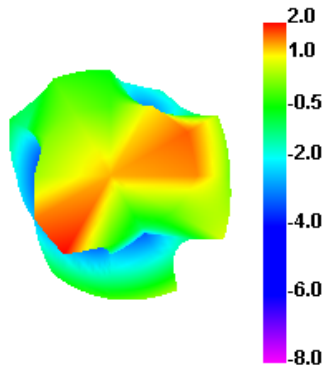


5150.000MHz E2

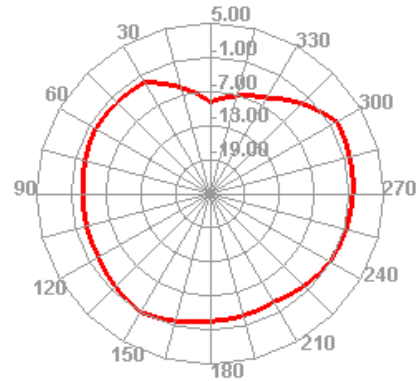


8Project:		Author:Wang	L018
Date: 2025-01-07			
TEST:	Language:	Check: Zhong	
A	English		
地址： 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园 C 栋 4 楼			
电话：0755-29195258 传真：0755-29590286			
Shenzhen Lxc Electronics Technology Co ., Ltd			

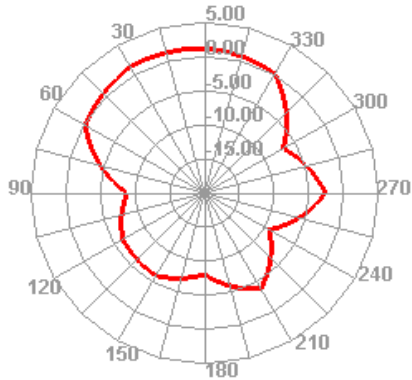
5500.000MHz



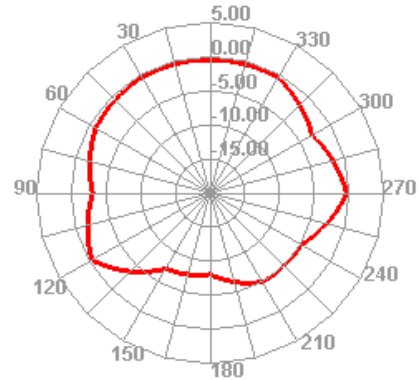
5500.000MHz H



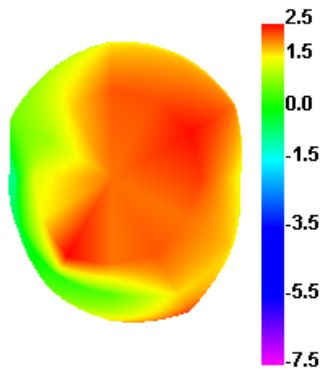
5500.000MHz E1



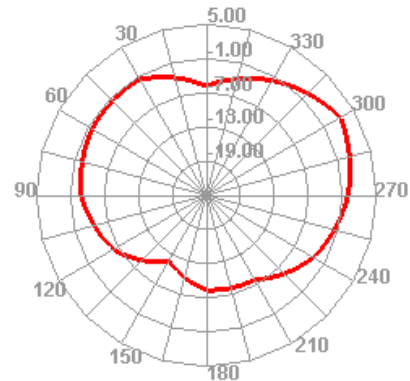
5500.000MHz E2



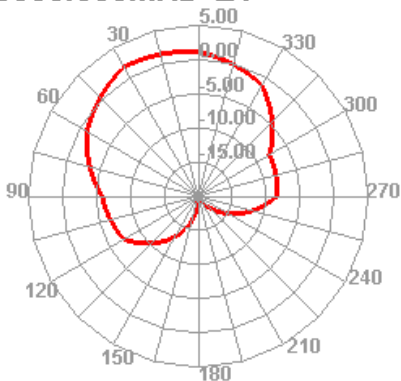
5850.000MHz



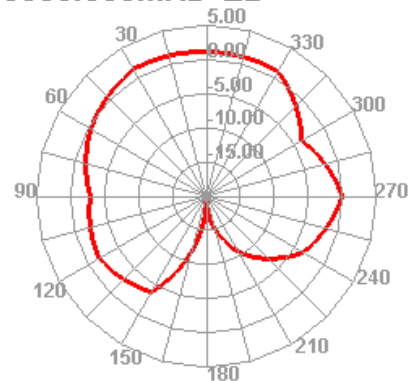
5850.000MHz H



5850.000MHz E1



5850.000MHz E2



8Project:		Author:Wang	L018
Date: 2025-01-07			
TEST:	Language:	Check: Zhong	
A	English		
地址： 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			
电话：0755-29195258 传真：0755-29590286			
Shenzhen Lxc Electronics Technology Co ., Ltd			

[illegible]

- 11 -

7 Reliability tests

7.1 Test content

No	试验项目	试验方法	判定基准
1	盐水喷雾试验	把盐浓度 5%的溶液喷雾 48HR	不能有变色, 歪 (变形) 脱落等的缺点 腐蚀面积不能过大

7.2 Test results

NO	样品数	试验期间	实验结果	备注
1	50	24 小时	OK	技术等级为 9 级 腐蚀<0.4mm
2	50	48 小时	OK	技术等级为 9 级 腐蚀<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 !

8Project:		Author:Wang	L018
Date: 2025-01-07			
TEST:	Language:	Check: Zhong	
A	English		
地址： 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 电话： 0755-29195258 传真： 0755-29590286 Shenzhen Lxc Electronics Technology Co ., Ltd			