

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) : 奥尔法

产品 (Product) : 2.4G 外置天线 (L=300MM)

型号 (Model) : 2.4G-WIFI 天线

料号 (Part Number) : LXC1GL300202407260002

制作人 (Written By) : 唐红交

签发时间 (Issued Date) : 2024-07-26

客户 CUSTOMER

频率范围(Frequency range)	WIFI:2400-2500 (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
天线类型(Antenna type)	外置胶棒天线 (Built-in 外置天线 antenna)
天线增益峰值(Antenna gain MAX (dBi))	5dBi+/-1
天线供应商 (Antenna supplier)	Shenzhen Lxc Electronics Technology Co., Ltd
天线型号 (Antenna Model)	2.4G/WIFI天线

RF by		Checked by	
ME by		Date	
Customer Confirm			

8Project:		Author:Wang	File Name: 2. 4G/WIFI 天线
Date: 2024-07-26			
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
2024-07-26	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-up3

4.1.1 VSWR 3

4.1.2 Gain & Radiation Patterns 3

4.1.3 Matching Circuit Description 3

4.2 Measurement Data4

4.2.1 Active result（GSM）4

6 Mechanical drawing 5

7 RELIABILITY TESTS.....8

7.1 Test content 8

7.2 Test results 8

8 CONCLUSION9

8Project:		Author:Wang	File Name: 2. 4G/WIFI 天线
Date: 2024-07-26			
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

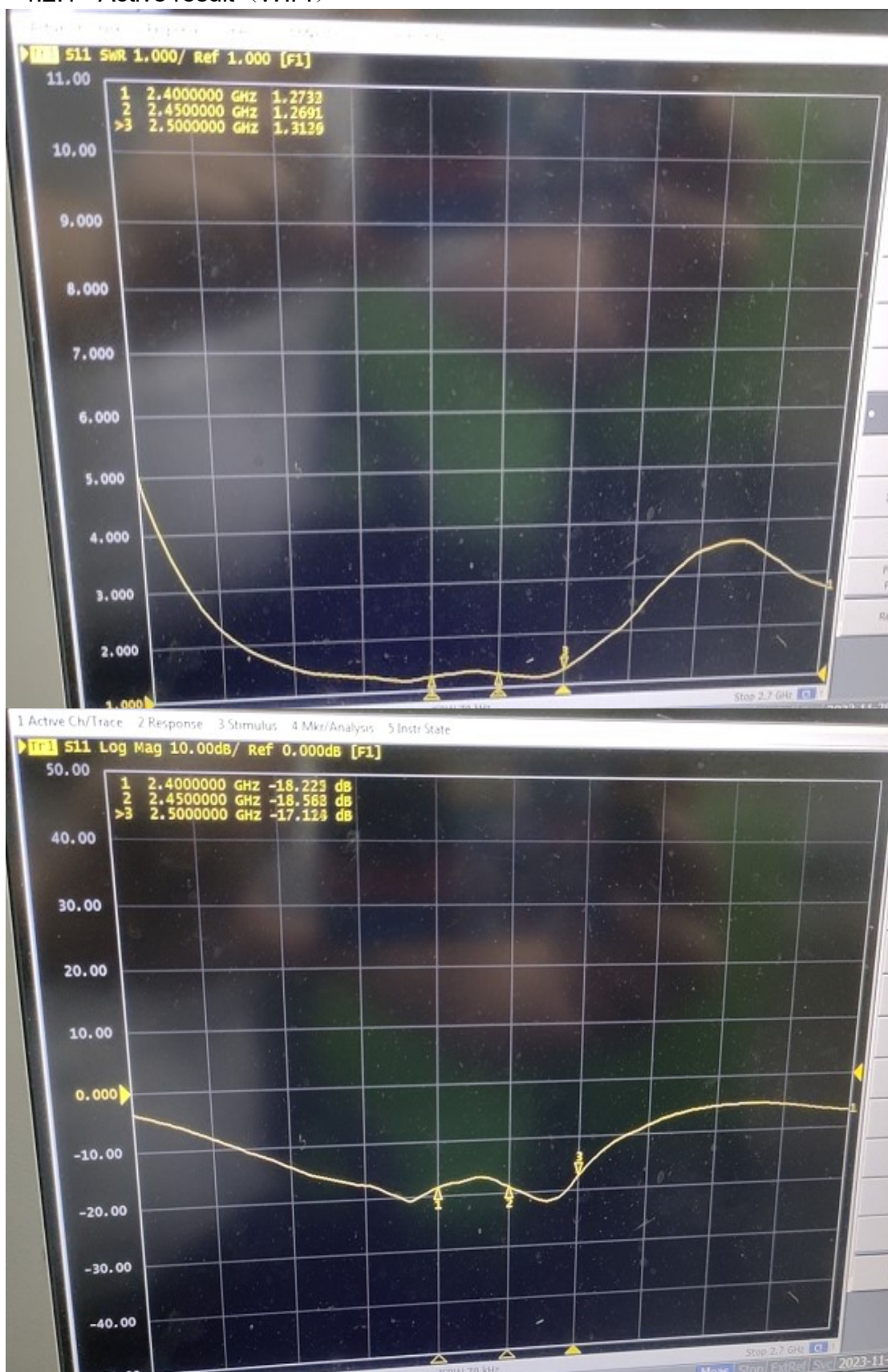
The gain of the antenna was measured in the Lxc's anechoic chamber. Coaxial chokes on the feed cable were used to mitigate surface currents. The chamber provides less than -30 dB reflectivity from 800 MHz through 3 GHz and an 18" diameter spherical quiet zone. The measurement results are calibrated using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

4.1.3 Matching Circuit Description

8Project:		Author:Wang	File Name: 2. 4G/WIFI 天线
Date: 2024-07-26			
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			

4.2 Measurement Data

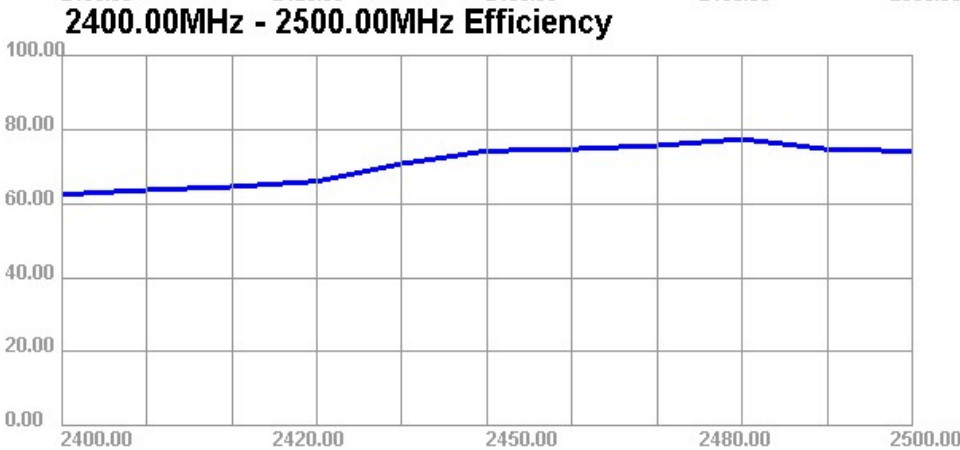
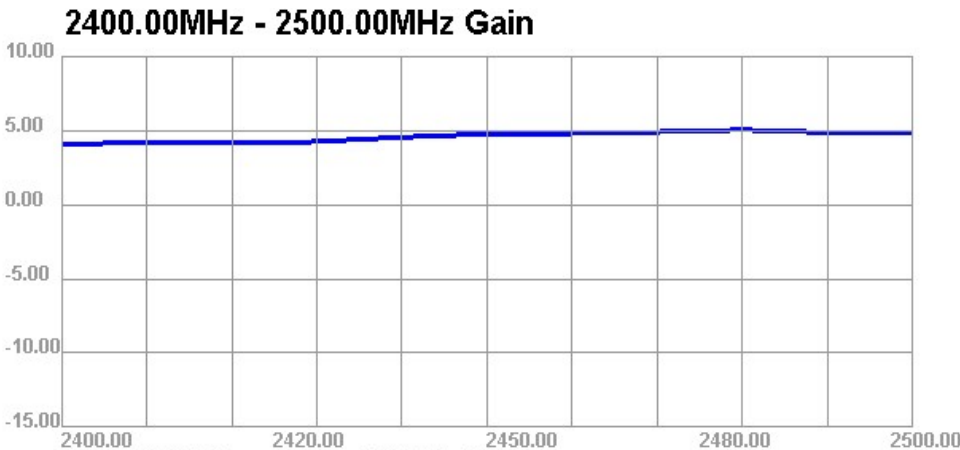
4.2.1 Active result (WIFI)



8Project:		Author:Wang	File Name: 2. 4G/WIFI 天线
Date: 2024-07-26			
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			

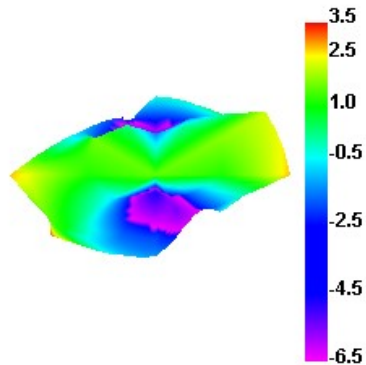
Active result (2.4G-WIFI)

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	62.41	-2.05	4.08
2410	63.65	-1.96	4.19
2420	64.53	-1.9	4.17
2430	64.59	-1.8	4.25
2440	65.76	-1.5	4.36
2450	68.19	-1.3	4.47
2460	68.68	-1.27	4.51
2470	70.05	-1.21	4.54
2480	71.36	-1.11	4.65
2490	71.67	-1.27	4.77
2500	72.12	-1.3	4.81

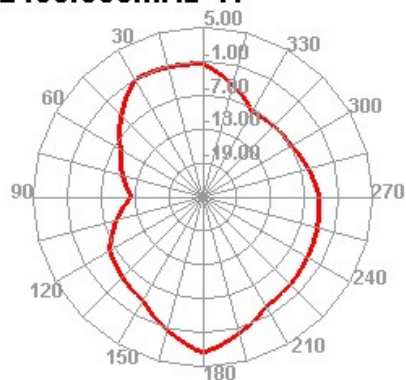


8Project:		Author:Wang	File Name: 2. 4G/WIFI 天线
Date: 2024-07-26			
TEST:	Language:	Check: Zhong	
A	English		
地址： 深圳市龙华区大浪街道华芳路 12 号金瑞华工业园 C 栋 4 楼 电话： 0755-29195258 传真： 0755-29590286 Shenzhen Lxc Electronics Technology Co ., Ltd			

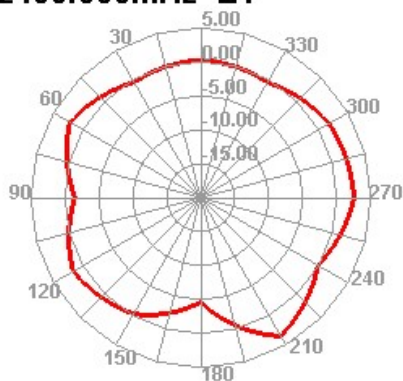
2400.000MHz



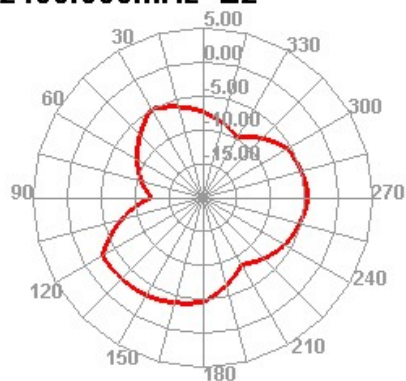
2400.000MHz H



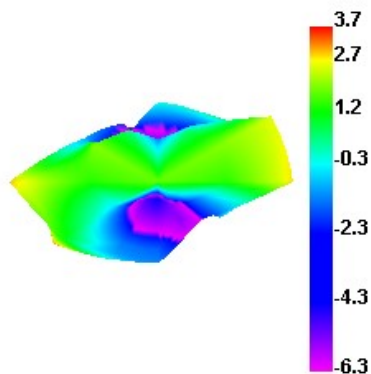
2400.000MHz E1



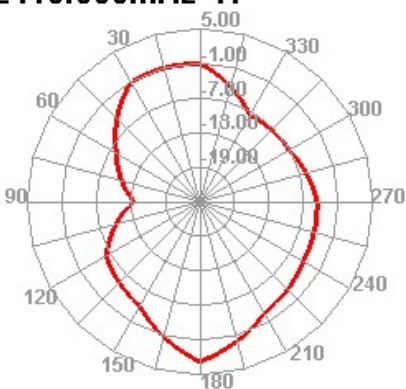
2400.000MHz E2



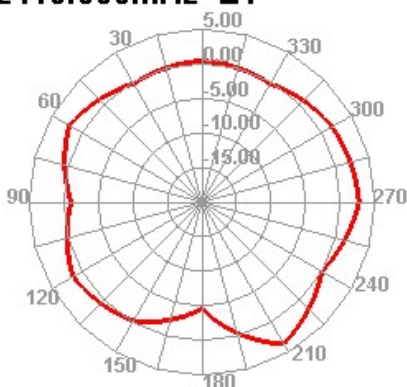
2410.000MHz



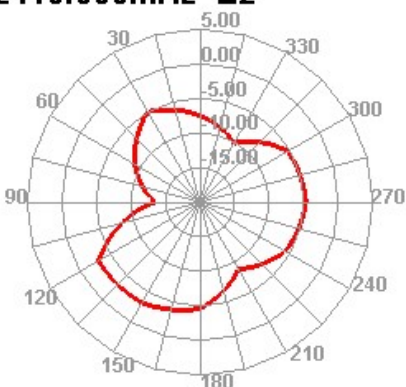
2410.000MHz H



2410.000MHz E1

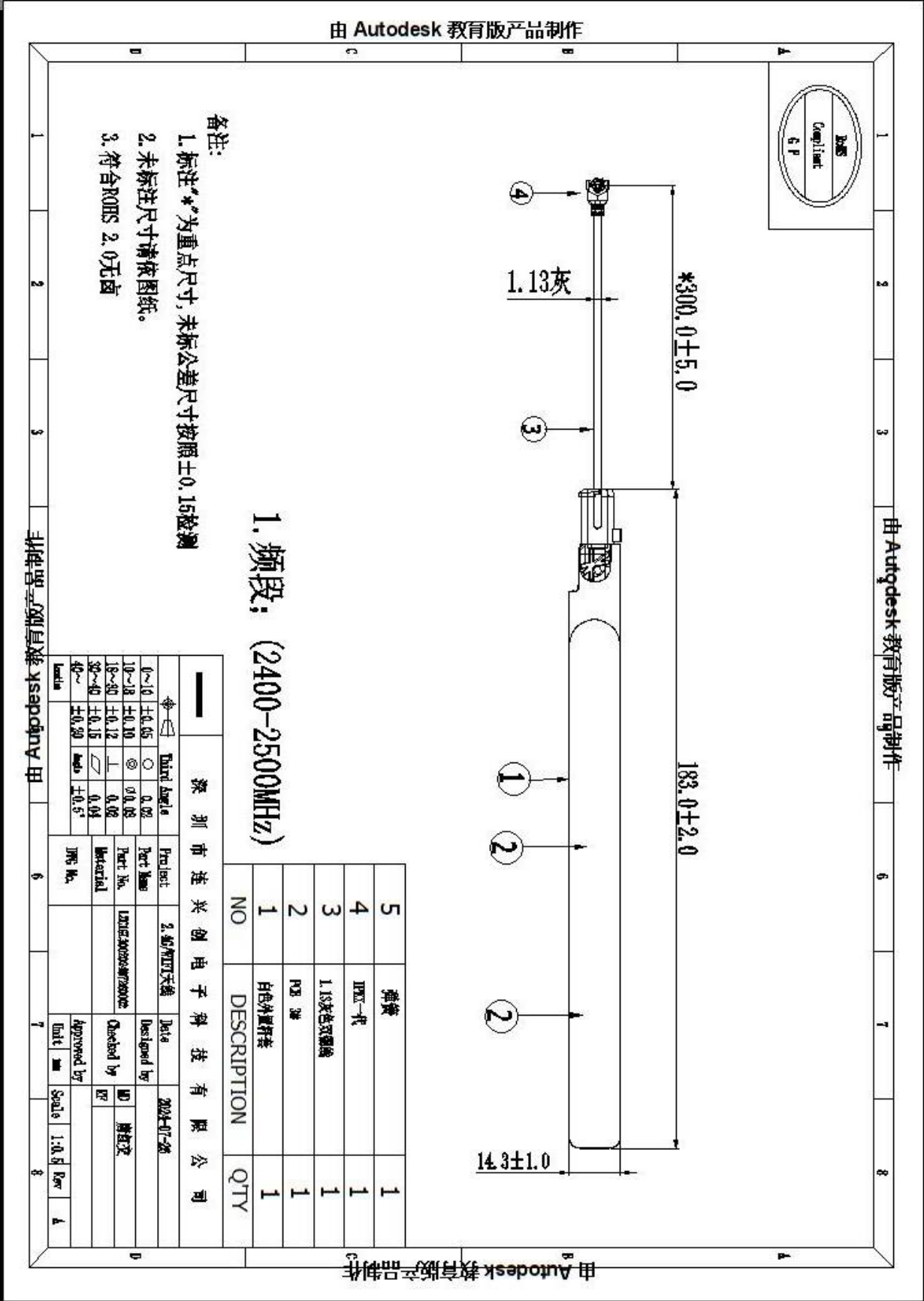


2410.000MHz E2



8Project:		Author:Wang	File Name: 2. 4G/WIFI 天线
Date: 2024-07-26			
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			

6 Mechanical drawing



8Project:	Author:Wang	File Name:
Date: 2024-07-26		
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		

7 Reliability tests

1.1 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

1.2 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	File Name: 2. 4G/WIFI 天线
Date: 2024-07-26			
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			