

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) : Shenzhen Topleo Technology Limited

产品 (Product) : 2.4G/5.8G external antenna (L=105MM)

型号 (Model) : PCB-WIFI antenna

料号 (Part Number) : LXC1BL105202508250001

制作人 (Written By) : 唐红交

签发时间 (Issued Date) : 2025-08-25

客户 CUSTOMER

频率范围(Frequency range)	WIFI:2.4G-5.8G (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)	PCB 天线 (Built-in PCB 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)	WIFI antenna

RF by		Checked by	
ME by		Date	
Customer Confirm			

8Project:		Author:Wang	File Name: WIFI antenna
Date: 2025-08-25			
TEST:	Language:	Check: Zhong	
A	English		
地址: 4th Floor, Building C, Jinruihua Industrial Park, No. 12, Huafang Road, Dalang Subdistrict, Longhua District, Shenzhen City			
电话: 0755-29195258 传真: 0755-29590286			
Shenzhen Lxc Electronics Technology Co ., Ltd			

Revision History

Date	Revision	Description of Changes
2025-08-25	RA	Measured with SUS301 sample.

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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.

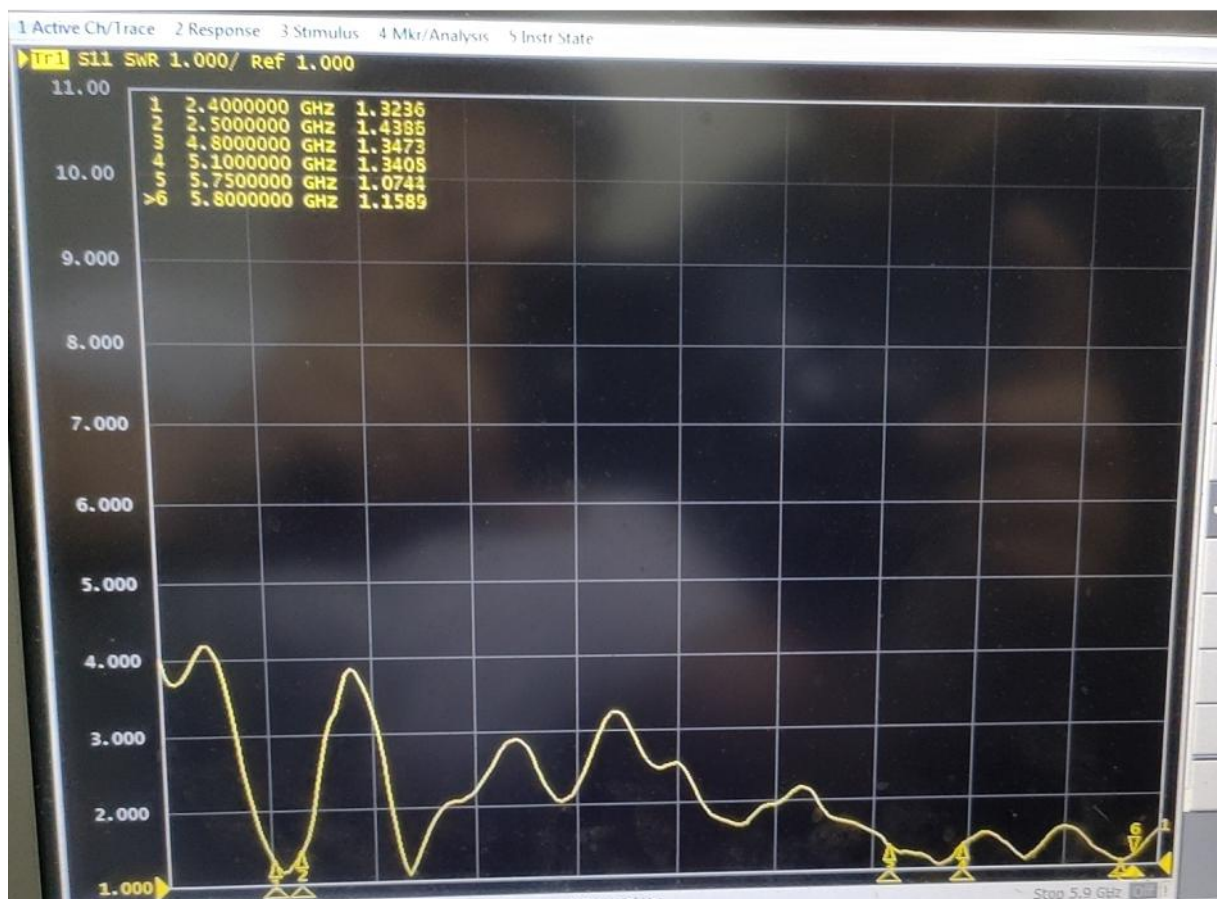
4.1.2 Gain & Radiation Patterns

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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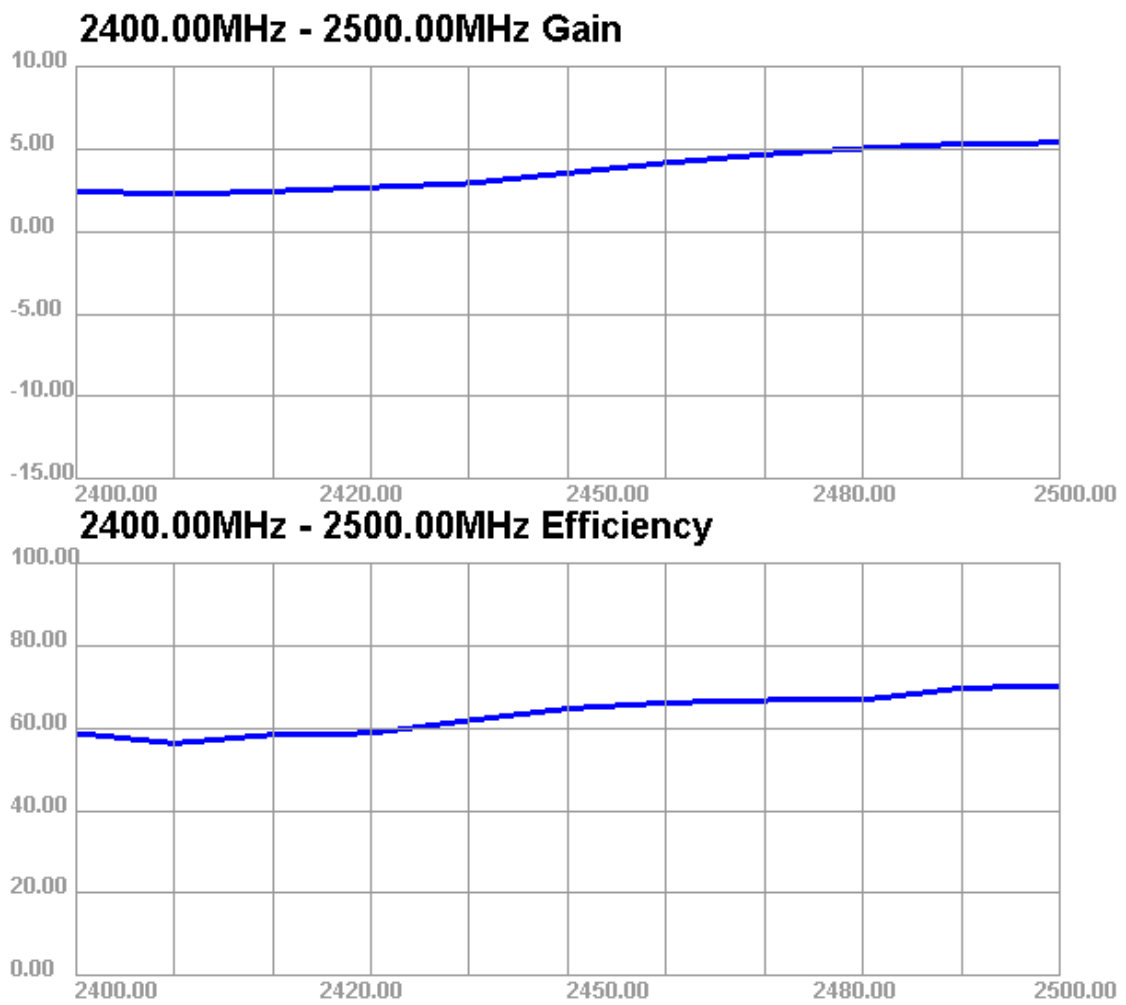


4.2 Measurement Data

4.2.1 Active result (WIFI)

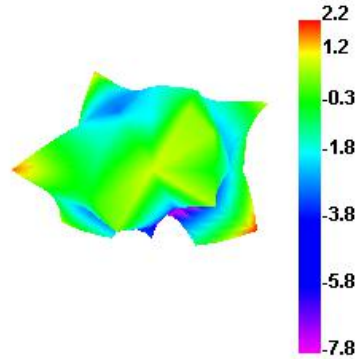
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	53.79	-2.31	2.19
2410	54.32	-2.49	2.25
2420	54.46	-2.33	2.44
2430	56.79	-2.31	2.66
2440	58.88	-2.08	2.92
2450	60.73	-1.89	3.04
2460	61.14	-1.8	3.25
2470	63.75	-1.76	3.29
2480	65.83	-1.75	3.32
2490	66.68	-1.57	3.37
2500	66.77	-1.53	3.41

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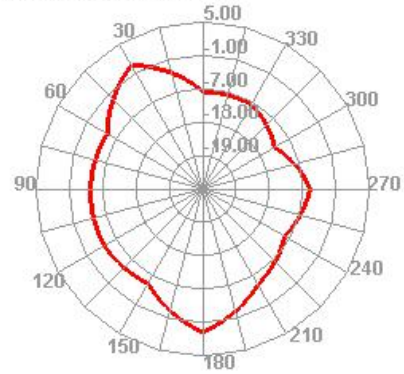


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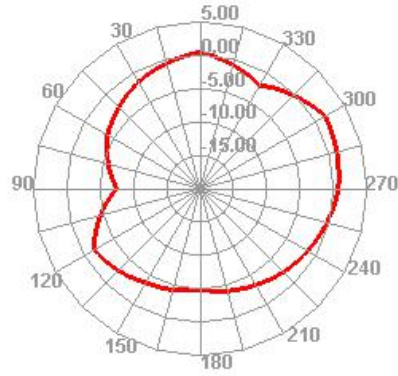
2410.000MHz



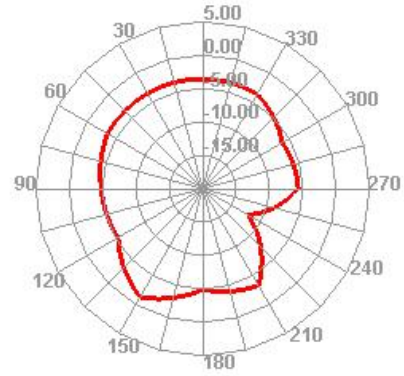
2410.000MHz H



2410.000MHz E1

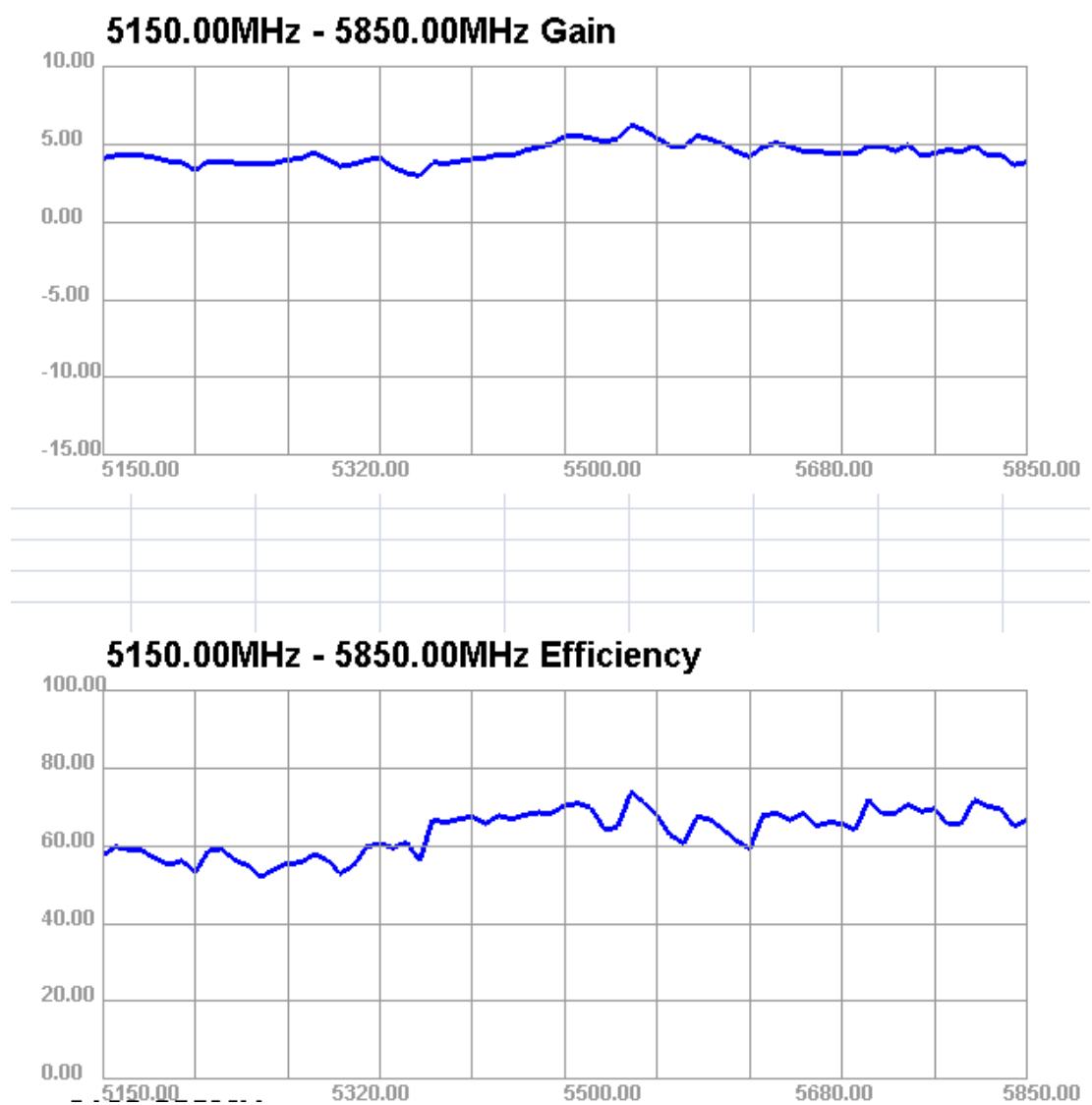


2410.000MHz E2



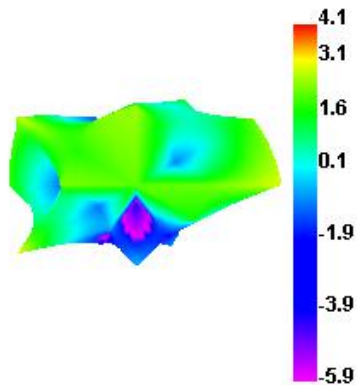
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5510	65.86	-1.5	3.54
5520	66.74	-1.57	3.38
5530	64.12	-1.93	3.64
5540	64.83	-1.88	3.44
5550	63.76	-1.32	3.25
5560	64.17	-1.48	3.89
5570	64.64	-1.7	3.37
5580	62.61	-2.03	3.59
5590	60.72	-2.17	3.82
5600	65.5	-1.71	3.54
5610	66.69	-1.76	3.31
5620	64.18	-1.93	3.96
5630	61.2	-2.13	4.11
5640	59.42	-2.26	4.18
5650	61.89	-1.68	3.83
5660	66.93	-1.66	3.87
5670	66.66	-1.76	3.84
5680	68.38	-1.65	4.14
5690	65.14	-1.86	4.29
5700	66.02	-1.8	4.35
5710	65.69	-1.82	4.46
5720	64.13	-1.93	4.36
5730	61.91	-1.43	3.89
5740	68.11	-1.67	4.9
5750	68.29	-1.66	3.56
5760	67.69	-1.51	3.95
5770	67.82	-1.62	4.26
5780	66.48	-1.58	4.41
5790	67.39	-1.85	4.47
5800	65.66	-1.83	4.51
5810	65.84	-1.44	3.91
5820	66.12	-1.54	4.28
5830	66.49	-1.58	3.34
5840	66.89	-1.88	3.66
5850	66.93	-1.75	3.84

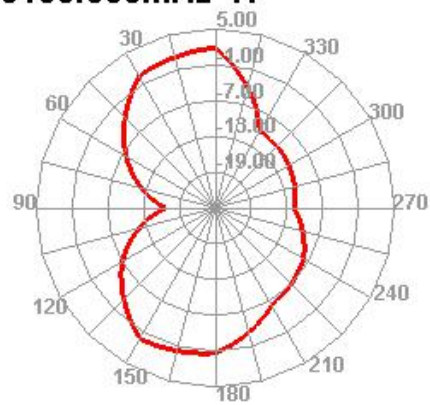


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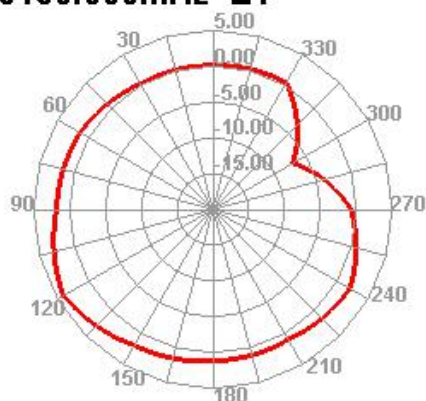
5150.000MHz



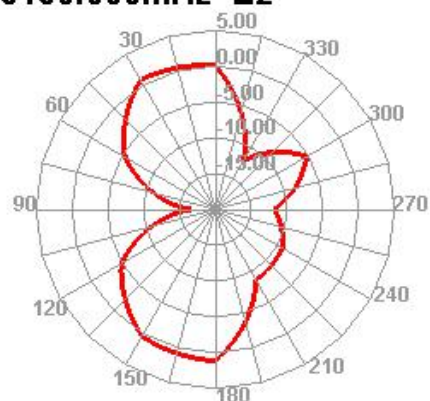
5150.000MHz H



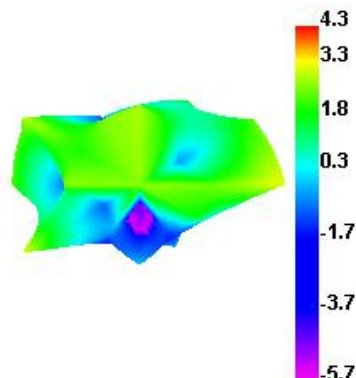
5150.000MHz E1



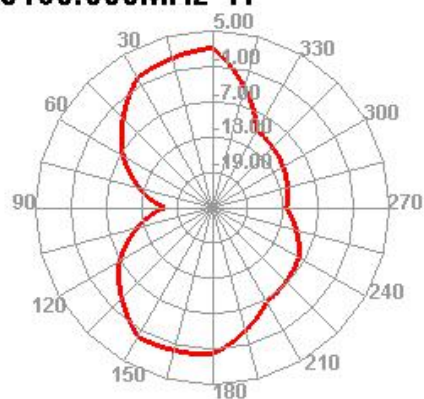
5150.000MHz E2



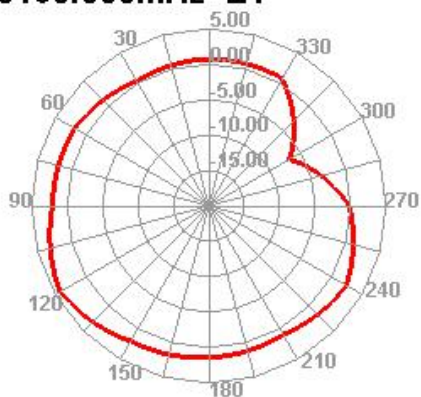
5160.000MHz



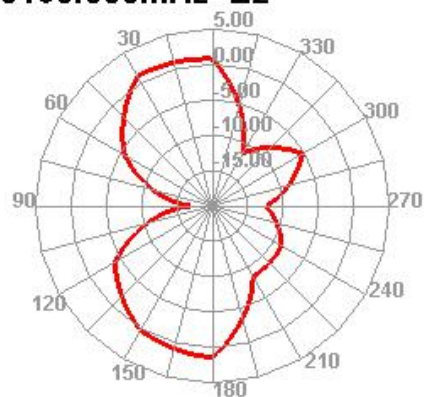
5160.000MHz H



5160.000MHz E1

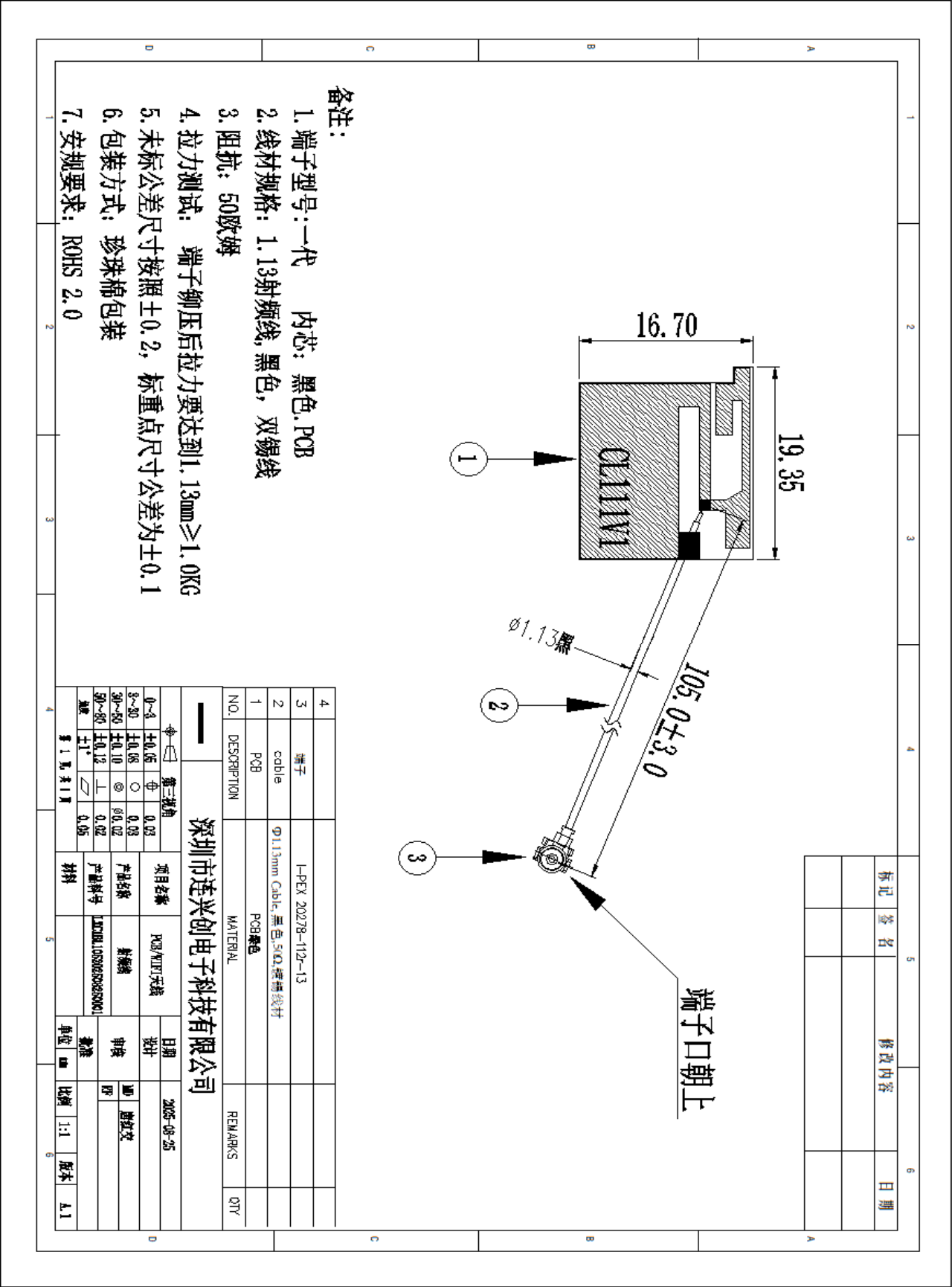


5160.000MHz E2



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6 Mechanical drawing



7 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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