

Shenzhen Lxc Electronics Technology Co ., Ltd

APPROVAL SHEET

(Customer) : Huayu Intelligent
(Product) : 2.4G External Antenna(L=190MM)
(Model) : Router (LXC-202311060005)
(Part Number) : 90.700.000005
(Written By) : TangHongjiao
(Issued Date) : 2023-12-06

CUSTOMER

(Frequency range)	WIFI:2400-2500 (MHz)
(VSWR)	<2.0
(Input Impedance)	50 (Ω)
(Polarization)	Vertical Polarization
(3dB) HPW	180° H-plane 120° E-plane
(Antenna type)	(Built-in antenna)
(Antenna gain MAX (dBi)	6.04dBi
(Antenna supplier)	Shenzhen Lxc Electronics Technology Co ., Ltd
(Antenna Model)	Router (LXC-202311060005)

RF by		Checked by	
ME by		Date	
Customer Confirm			

8Project:		Author:Wang	File Name: 90.700.000005
Date: 2023-12-06			
TEST:	Language:	Check: Zhong	
A	English		
电话: 0755-29195258 传真: 0755-29590286 Shenzhen Lxc Electronics Technology Co ., Ltd			

Revision History

Date	Revision	Description of Changes
20203-12-06	RA	Measured with SUS301 sample.

Shenzhen Lxc Electronics Technology Co., Ltd 错误!未定义书签。

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1 Technical Summary

This report summarizes the electrical results of the proposed antenna to support the

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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

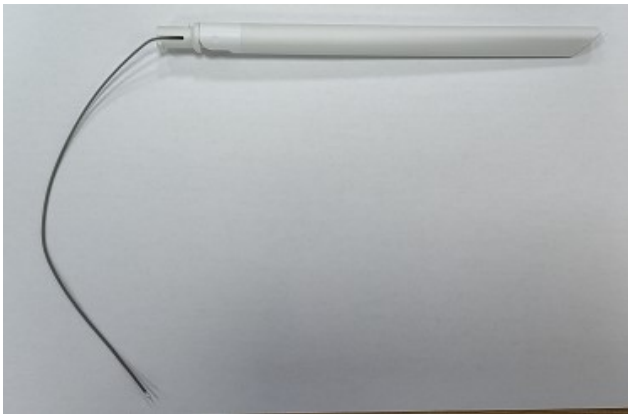
4.1.1 VSWR

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.

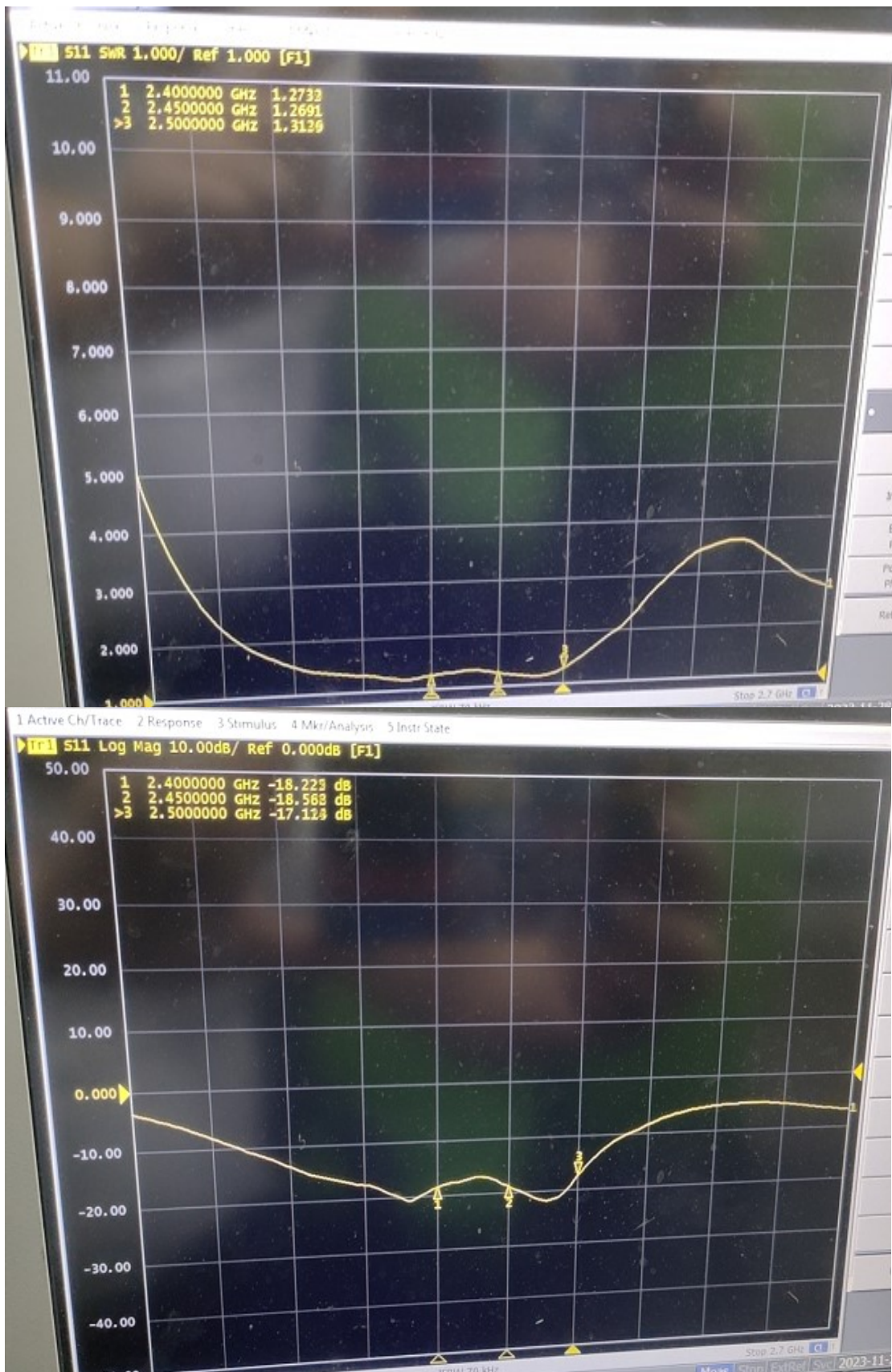
4.1.3 Matching Circuit Description



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4.2 Measurement Data

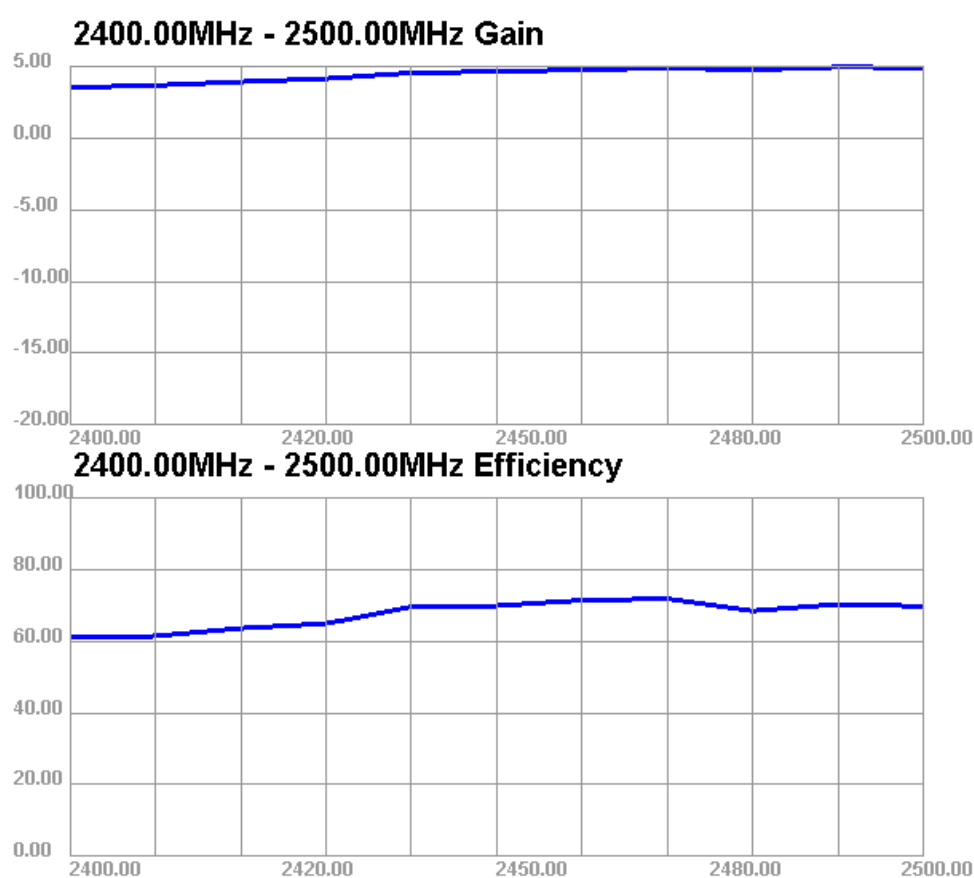
4.2.1 Active result (WIFI)



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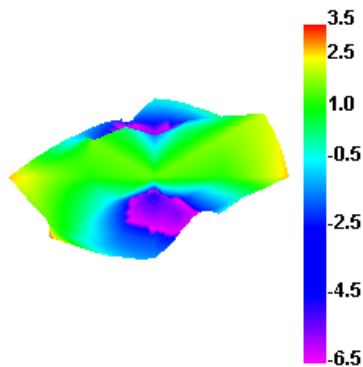
Active result (2.4G-WIFI)

Freq(MHz)	Effi(%)	Effi(dB)	Gain(dBi)
2400	68.79	-2.31	3.5
2410	66.32	-2.49	3.7
2420	68.42	-2.33	5.44
2430	68.79	-2.31	5.66
2440	61.88	-2.08	5.92
2450	64.73	-1.89	6.04
2460	66.14	-1.8	5.15
2470	66.75	-1.76	5.66
2480	66.83	-1.75	6.03
2490	69.68	-1.57	5.31
2500	68.27	-1.53	5.38

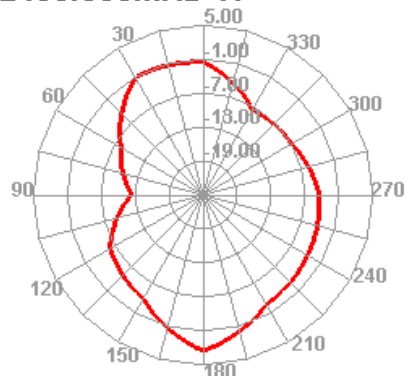


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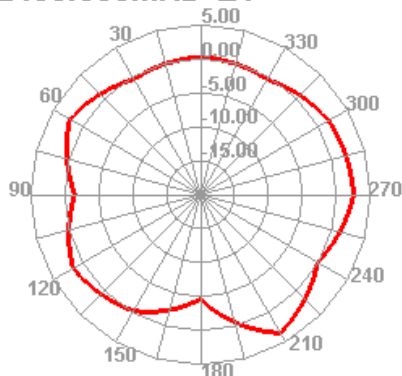
2400.000MHz



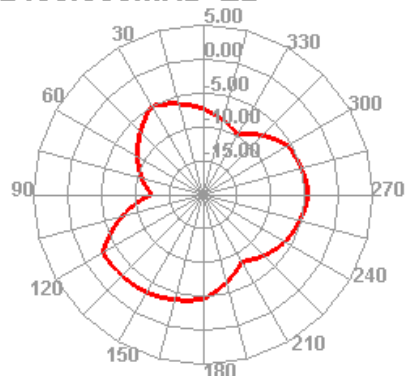
2400.000MHz H



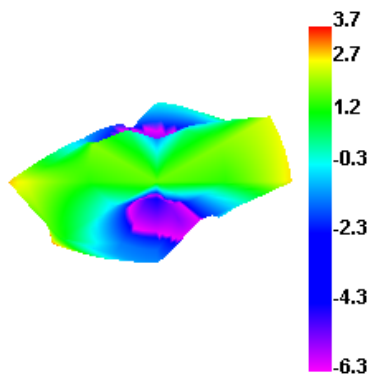
2400.000MHz E1



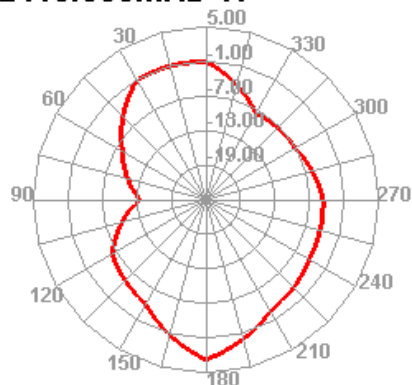
2400.000MHz E2



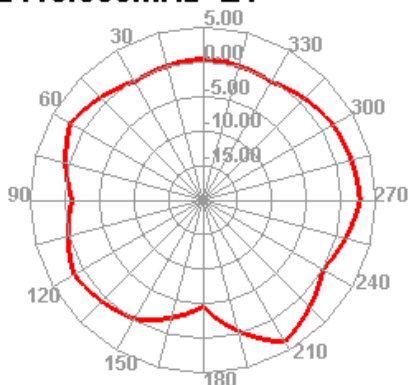
2410.000MHz



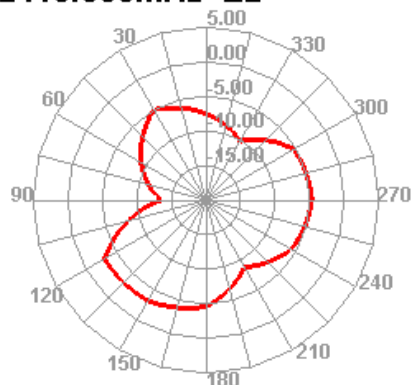
2410.000MHz H



2410.000MHz E1



2410.000MHz E2



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1.9Ghz
Compliant
6 P

165.0±3.0

176.50±2.0

1.20±0.3

2.50±0.3

1.50±0.3

1.13

1

2

3

Part No.	Part Name	Router	Date	Designed by	Checked by	Approved by	Scale	1:0.5	2:0.5	3:0.5	4:0.5	5:0.5	6:0.5	7:0.5	8:0.5	9:0.5	10:0.5
1	1.9Ghz	1.9Ghz	2023-1-10	1	1	1	1:0.5	2:0.5	3:0.5	4:0.5	5:0.5	6:0.5	7:0.5	8:0.5	9:0.5	10:0.5	
2	1.9Ghz	1.9Ghz	2023-1-10	1	1	1	1:0.5	2:0.5	3:0.5	4:0.5	5:0.5	6:0.5	7:0.5	8:0.5	9:0.5	10:0.5	
3	1.9Ghz	1.9Ghz	2023-1-10	1	1	1	1:0.5	2:0.5	3:0.5	4:0.5	5:0.5	6:0.5	7:0.5	8:0.5	9:0.5	10:0.5	

Remark :

1. Dimensions marked with "mm" are critical dimensions; dimensions without specified tolerances should be inspected at ±0.15.

2. Dimensions not marked are based on the drawings.

3. Compliant with ROHS 2.0

- 7 -

7 Reliability tests

1.1 Test content

No	Test Item	Test Method	Acceptance Criteria
1	Salt Spray Test	Spray with 5% salt solution for 48HR	No defects such as discoloration, warping, peeling, etc. Corrosion area should not be excessive.

1.2 Test results

NO	Sample QTY	Test Duration	Result	Remarks
1	50	24 小时	OK	Technical grade 9. Corrosion <0.4mm
2	50	48 小时	OK	Technical grade 9. 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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