Shenzhen Lxc Electronics Technology Co ., Ltd

APPROVAL SHEET
For
DONGGUAN CE LINK LIMITED

IPC-14NS-ZT project

Antenna componentst

A02520005002

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)	内置 FPC 天线（Built-in FPC antenna）
天线增益峰值(Antenna gain MAX (dBi)	2dBi
天线供应商（Antenna supplier）	Shenzhen Lxc Electronics Technology Co ., Ltd
天线型号（Antenna Model）	IPC-14NS-ZT

RF by		**Checked by**	
ME by		**Date**	**2023-11-10**
Customer Confirm			

Revision History

Date	Revision	Description of Changes
2023-11-10	RA	Measured with **FPC** sample.

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1 Technical Summary

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

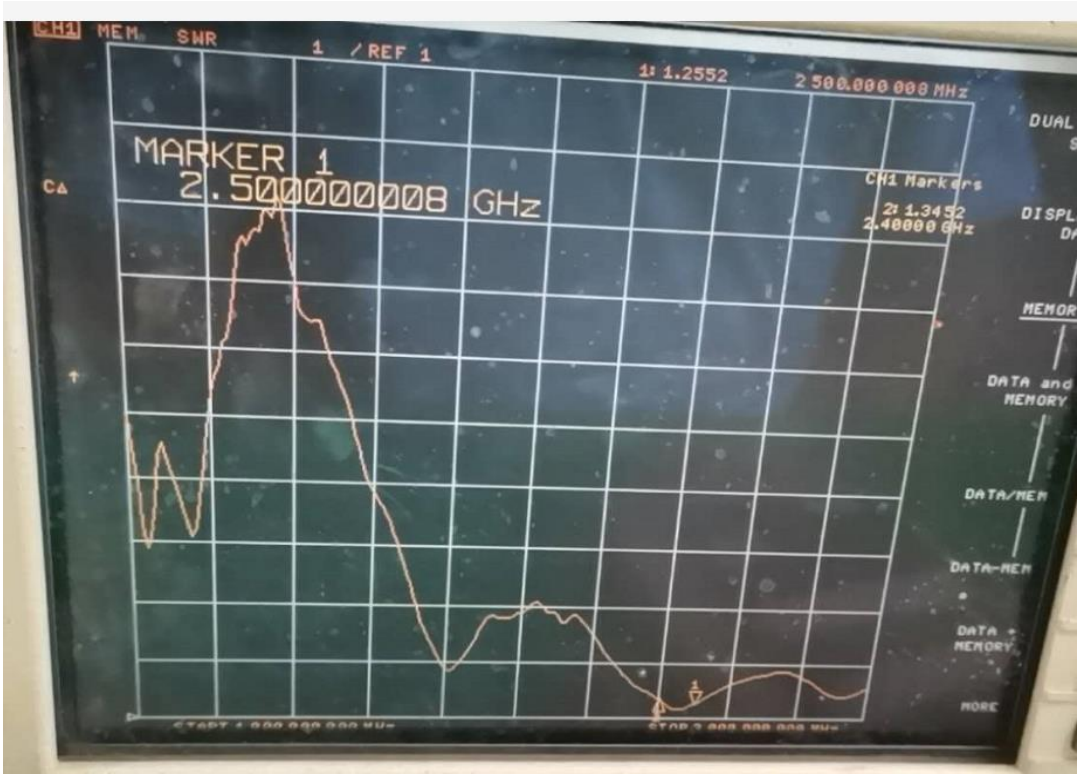
VSWR measurements (S21) were performed using an Agilent 8753D Network Analyzer and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

4.1.2 Gain & Radiation Patterns

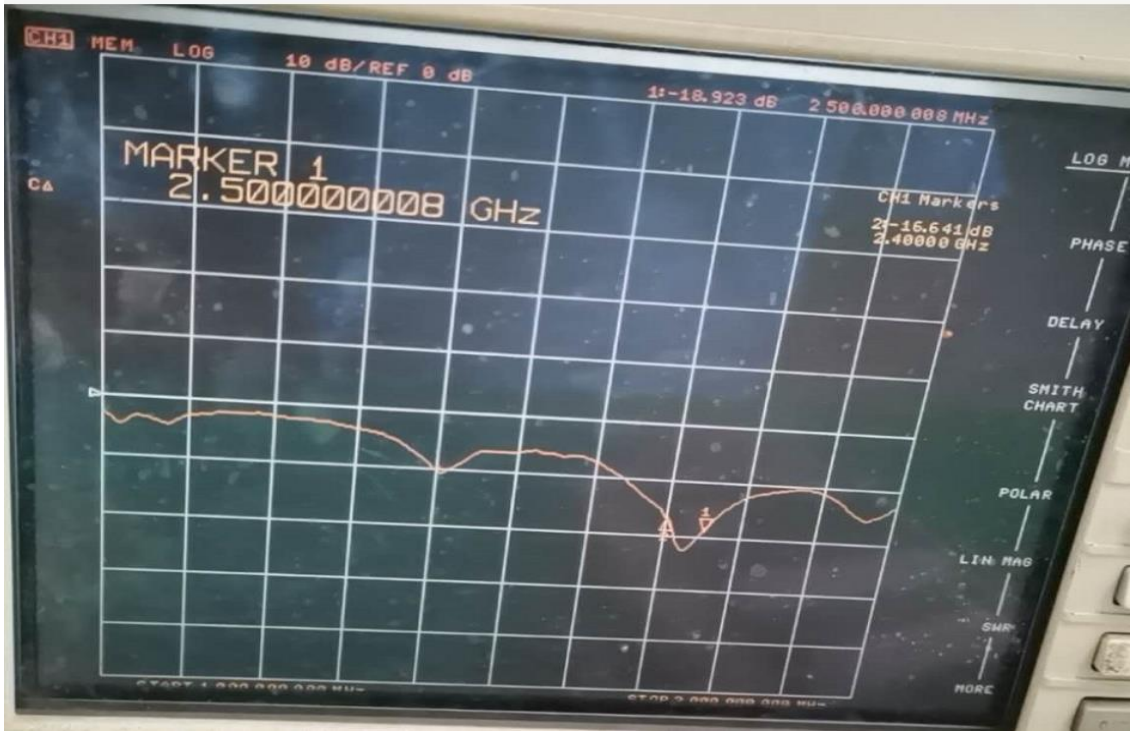
The gain of the antenna was measured in the HUMAN's anechoic chamber. Coaxial chokes on the feed cable were used to mitigate surface currents. The chamber provides less than –30 dB reflectivity from 800 MHz through 3 GHz and an 18" diameter spherical quite zone. The measurement results are calibrated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

5 Plots

5.1 VSWR（S11）



LOG MAG（S11）



Project:**WIFI Antennae**		Author: Zhu	File Name:
Date: 2023-11-10			**IPC-14NS-ZT-APP-RA**
TEST:	Language:	Check: Wang	
A	English		
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5.2 Gain efficiency

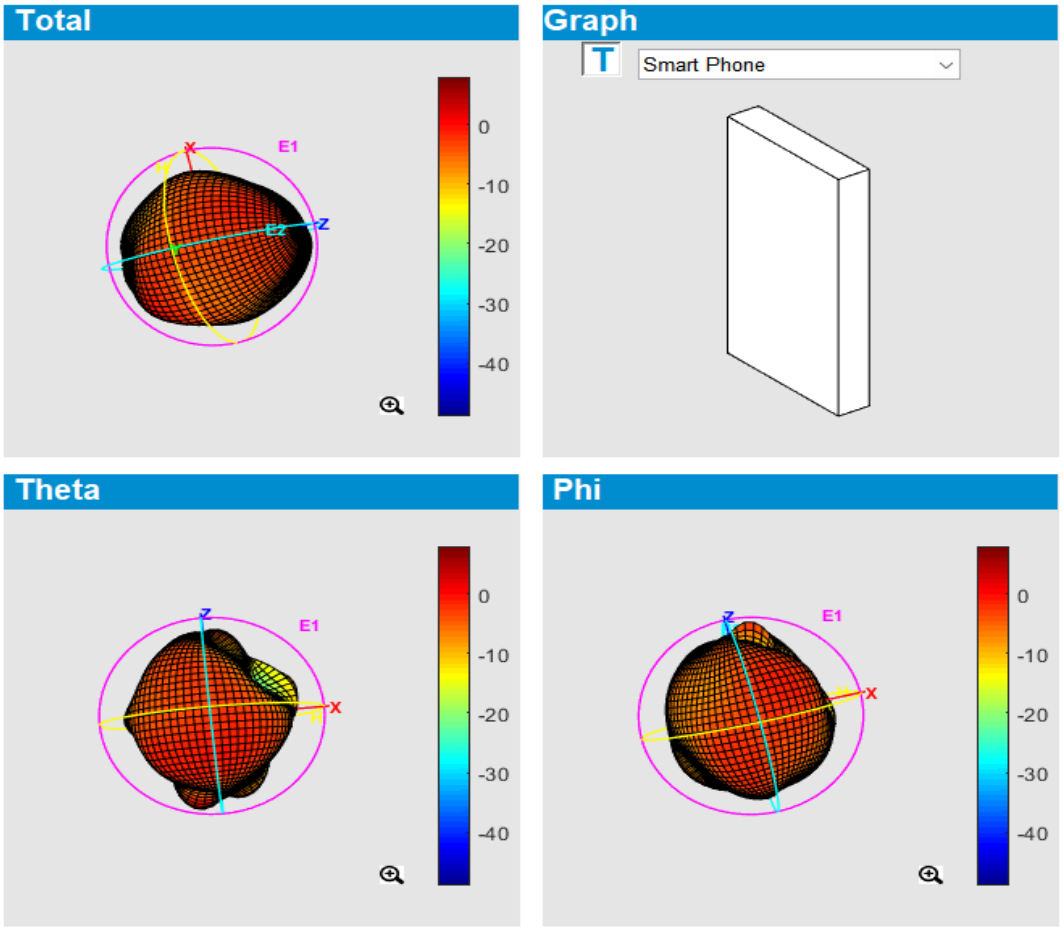
2400-2480（MHz)

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	58.37	-2.34	1.02
2410	59.2	-2.28	1.38
2420	62.12	-2.07	1.45
2430	64.42	-1.91	1.58
2440	65.16	-1.86	1.91
2450	66.48	-1.77	2
2460	65.46	-1.84	1.79
2470	64.09	-1.93	1.25
2480	61.65	-2.1	1.56
2490	61.49	-2.11	1.39
2500	60.67	-2.17	1.05

有源测试数据

天线测试报告	802. 11B Antenna Performance Table			802. 11G Antenna Performance Table		
Channel	CH 1	CH 6	CH11	CH 1	CH 6	CH 11
TRP(dBm)	13. 8	13. 8	14. 3	11. 2	12. 3	12. 5
TIS(dBm)	-87. 3	-86. 3	-87. 1	-71. 4	-72. 3	-71. 3

天线测试报告	802. 11N Antenna Performance Table		
Channel	CH1	CH6	CH11
TRP(dBm)	11. 4	11. 8	12. 3
TIS(dBm)	-65. 3	-65. 7	-65. 2



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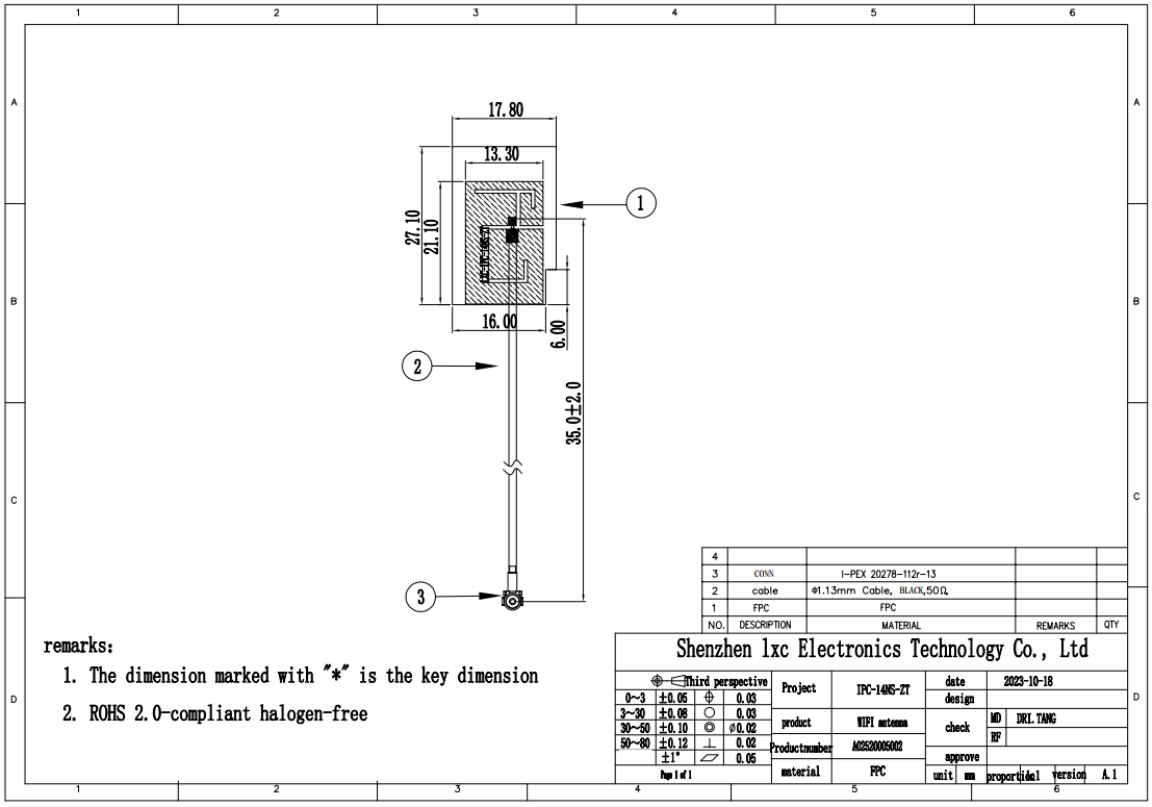
6 Mechanical drawing

MD



7 Reliability tests

7.1 Test content

No	试验项目 (pilot projects)	试验方法 (test mode)	判定基准 (defining principle)
1	盐水喷雾试验（salt spray test）	把盐浓度 5%的溶液喷雾 48HR（Spray the solution with salt concentration of 5% for 48H）	不能有变色，歪（变形）脱落等的缺点 腐蚀面积不能过大（Spray the solution with salt concentration of 5% for 48H without discoloration, deflection (deformation), falling off, etc. The corrosion area shall not be too large）
2	工作温度（ Operational Temperature)	-40℃～+65℃	
3	储存温度（Storage Temperature）	-50℃～+85℃	
4	湿度(Humidity)	40%～95%	

7.2 Test results

NO	样品数（Number of samples）	试验期间 (During the test)	实验结果 (experimental result)	备注 (remarks)
1	50	24 hour	**OK**	技术等级为 9 级 腐蚀<0.4mm(Remarks The technical level is Level 9 Corrosion<0.4mm)
2	50	48 hour	**OK**	技术等级为 9 级 腐蚀<0.4mm(Remarks The technical level is Level 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！