



Shenzhen Lxc Electronics Technology Co ., Ltd

APPROVAL SHEET
For
Haineng Electronics
IPC-14BU project
A02520005001

Antenna componentst

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)	3.11dBi
天线供应商 (Antenna supplier)	Shenzhen Lxc Electronics Technology Co ., Ltd
天线型号 (Antenna Model)	LXC-FPC-088

RF by		Checked by	
ME by		Date	2023-07-29
Customer Confirm			

Project:WIFI		Author: Zhu	File Name: IPC-14BU-APP-RA
Date: 2023-08-29			
TEST:	Language:	Check: Wang	
A	English		
Shenzhen Lxc Electronics Technology Co ., Ltd			

Revision History

Date	Revision	Description of Changes
2023-08-29	RA	Measured with FPC sample.

1 TECHNICAL SUMMARY	2
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
5 PLOTS	3
6 MECHANICAL DRAWING.....	7
7 RELIABILITY TESTS.....	8
7.1 Test content	8
7.2 Test results	8
8 CONCLUSION	8

1 Technical Summary

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

Project: WIFI		Author: Zhu	File Name: IPC-14BU-APP-RA
Date: 2023-08-29			
TEST:	Language:	Check: Wang	
A	English		
Shenzhen Lxc Electronics Technology Co ., Ltd			

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

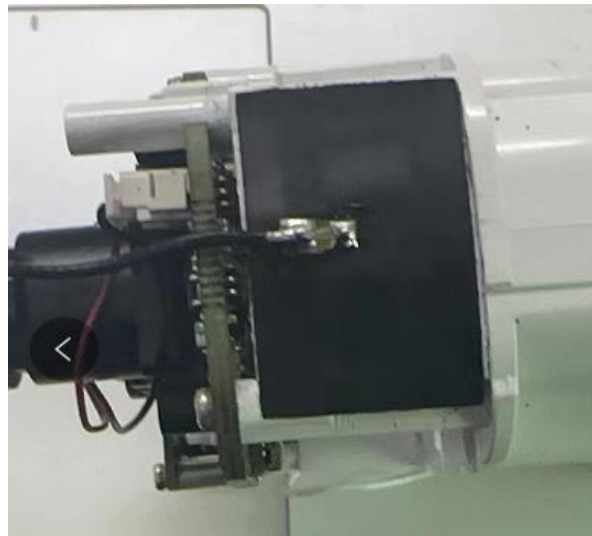
4.1 Set-up

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

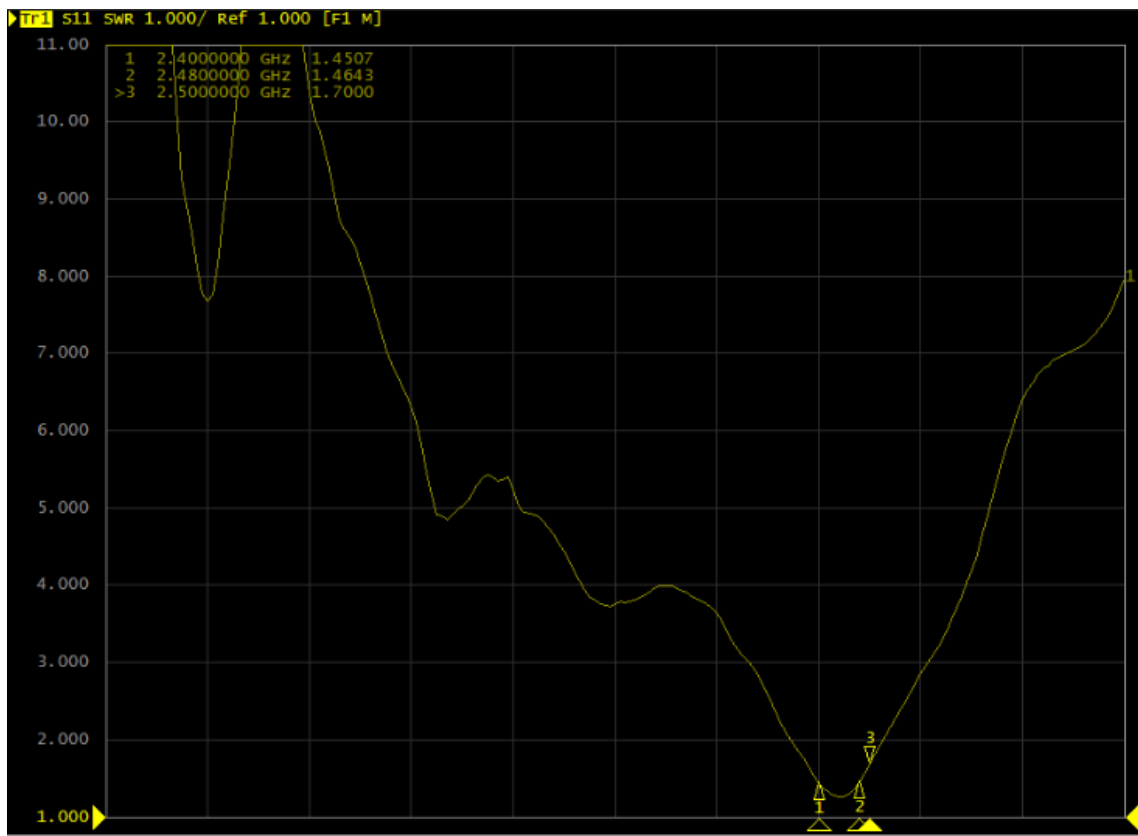
The gain of the antenna was measured in the HUMAN's anechoic chamber. Coaxial chokes on the feed cable were used to mitigate surface currents. The chamber provides less than -30 dB reflectivity from 800 MHz through 3 GHz and an 18" diameter spherical quiet zone. The measurement results are calibrated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



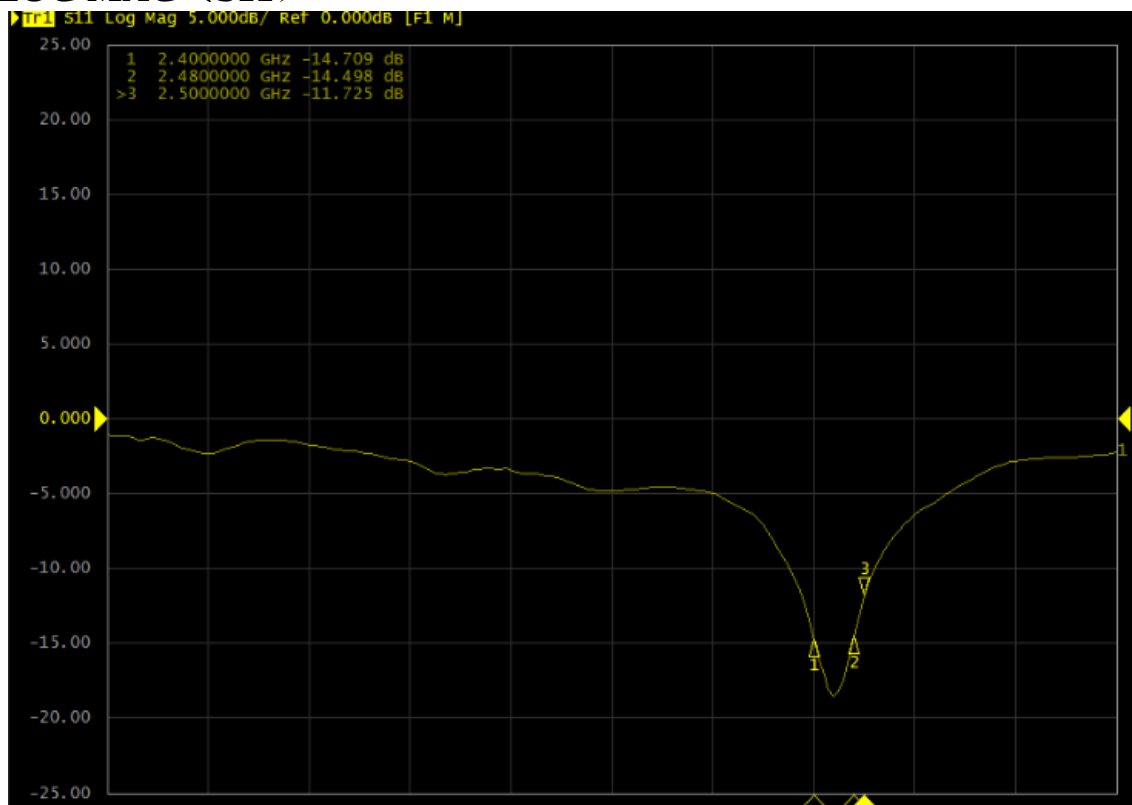
5 Plots

5.1 VSWR (S11)

Project:WIFI		Author: Zhu	File Name: IPC-14BU-APP-RA
Date: 2023-08-29			
TEST:	Language:	Check: Wang	
A	English		
Shenzhen Lxc Electronics Technology Co ., Ltd			



LOG MAG (S11)



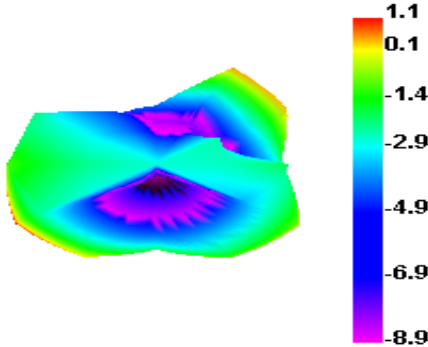
5.2 Gain efficiency 2400-2480 (MHz)

Project:WIFI		Author: Zhu	File Name: IPC-14BU-APP-RA
Date: 2023-08-29			
TEST:	Language:	Check: Wang	
A	English		
Shenzhen Lxc Electronics Technology Co ., Ltd			

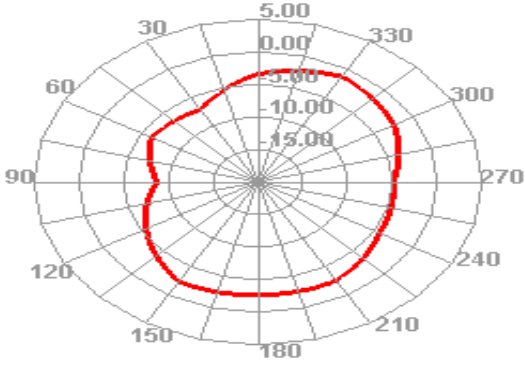
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	32.75	-4.85	0.56
2410	33.23	-4.79	0.88
2420	32.12	-4.93	0.95
2430	35.39	-4.51	1.55
2440	41.53	-3.82	2.43
2450	46.34	-3.34	2.92
2460	47.84	-3.2	3.01
2470	44.56	-3.51	2.67
2480	45.09	-3.46	2.76
2490	46.26	-3.35	2.96
2500	47.5	-3.23	3.11

Project: WIFI		Author: Zhu	File Name: IPC-14BU-APP-RA
Date: 2023-08-29			
TEST:	Language:	Check: Wang	
A	English		
Shenzhen Lxc Electronics Technology Co ., Ltd			

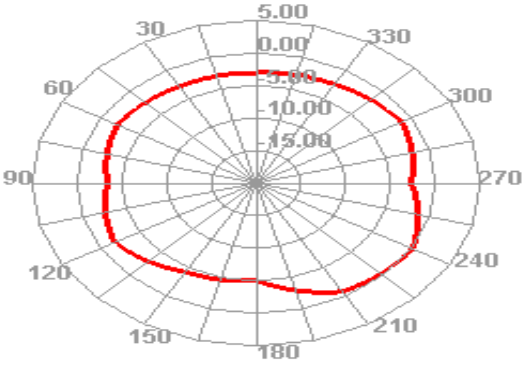
2410.000MHz



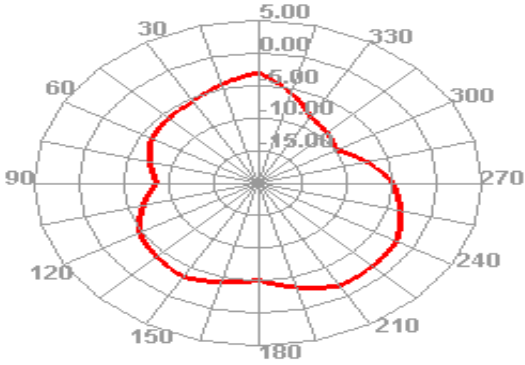
2410.000MHz H



2410.000MHz E1

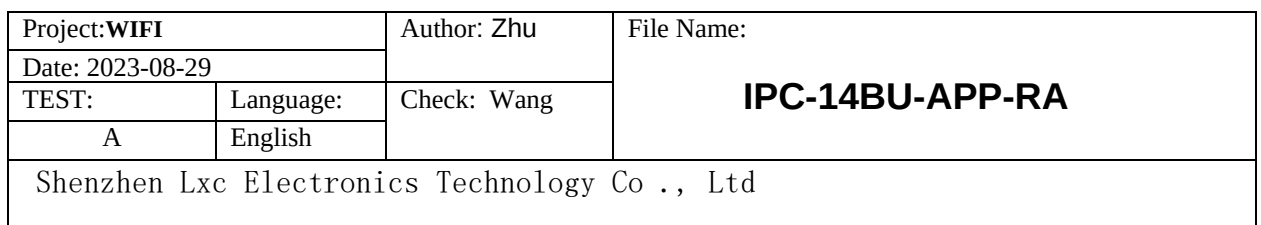


2410.000MHz E2



Project:WIFI		Author: Zhu	File Name: IPC-14BU-APP-RA
Date: 2023-08-29			
TEST:	Language:	Check: Wang	
A	English		
Shenzhen Lxc Electronics Technology Co ., Ltd			

MD



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
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	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 !

Project: WIFI		Author: Zhu	File Name: IPC-14BU-APP-RA
Date: 2023-08-29			
TEST:	Language:	Check: Wang	
A	English		
Shenzhen Lxc Electronics Technology Co ., Ltd			