

深圳市扬跃电子通信科技有限公司

Shenzhen Yangyue Electronic Communication Technology Co., Ltd.

SPECIFICATION FOR APPROVAL

承認書

Customer Name	美通
Product name	T2S-V2.0 天线
Product number	130300-0015
Prepared By	Tony-Men
Checked By	
Approved By	
Apply Date	2022 年 6 月 6 日

CUSTOMER SIGNATURE		
Prepared By	Checked By	Approved By

PLEASE RETURN TO US ONE COPY OF "SPECIFICATION FOR APPROVAL" WITH YOUR APPROVED SIGNATURES.

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频率范围 Frequency range	2400 ~ 2500 MHz
驻波比系数 VSWR	$\leq 2.0 @ 2400 \sim 2500 \text{ MHz}$
增益 Gain	$\leq 2.2 @ 2400 \sim 2500 \text{ MHz}$
输入阻抗 Input Impedance	$50 \pm 5 (\Omega)$
极化方式 Polarization	线形极化

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Revision History

Date	Revision	Description of Changes
2022-6-6	RA	Measured with 2.4GHz Antenna sample.

1 Technical Summary

This report summarizes the electrical results of the proposed antenna to support the 2.4GHz Antenna 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 300 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

No changed..

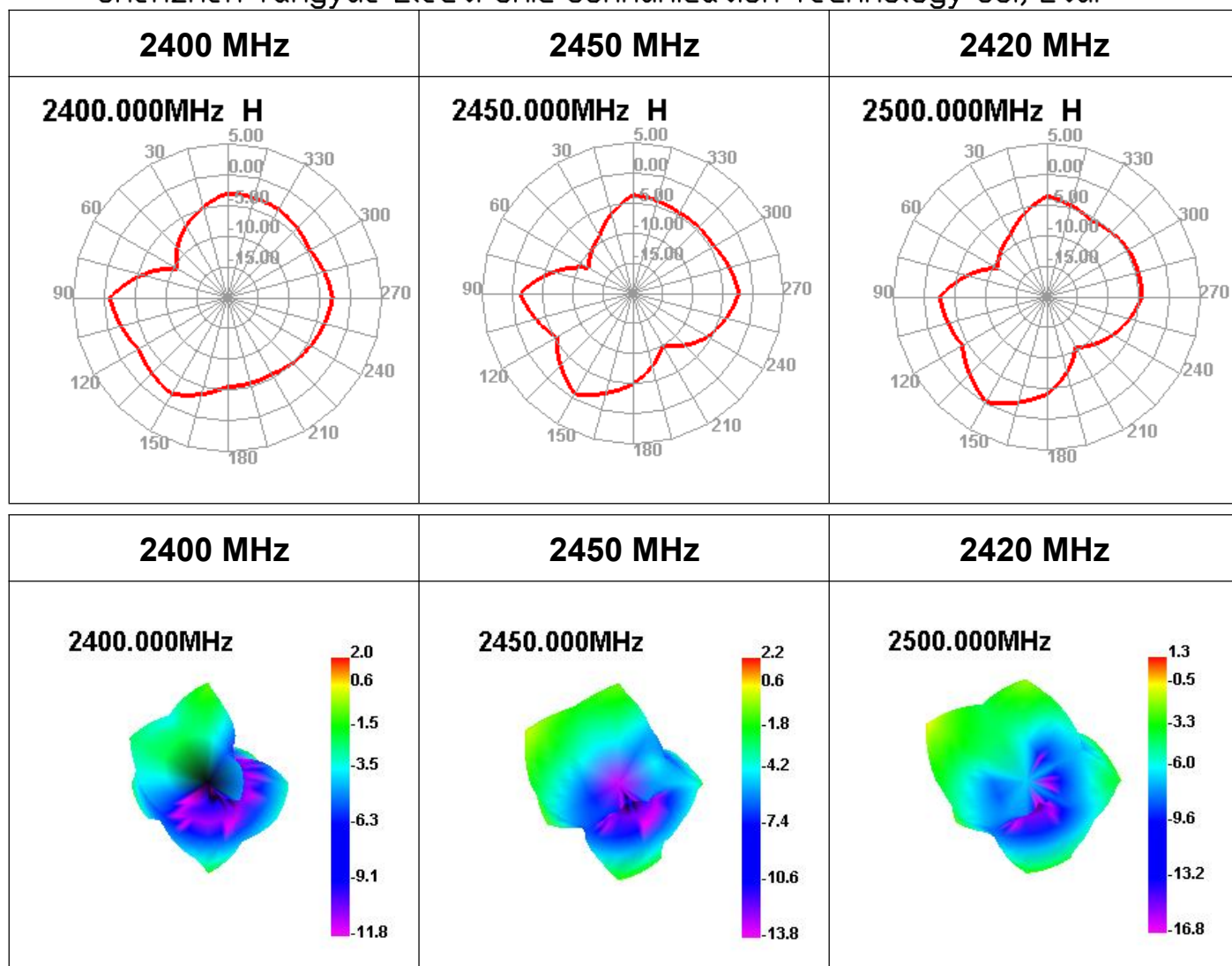
5. Antenna – Radiation Pattern Test Data

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Freq	(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Effi	(%)	44.11	42.44	42.56	42.97	45.68	46.65	46.4	43.47	44.2	42.98	37.7
Effi	(dB)	-3.55	-3.72	-3.71	-3.67	-3.4	-3.31	-3.33	-3.62	-3.55	-3.67	-4.24
Gain	(dBi)	1.99	2.01	1.96	1.89	2.13	2.22	2.21	1.96	2	1.85	1.27

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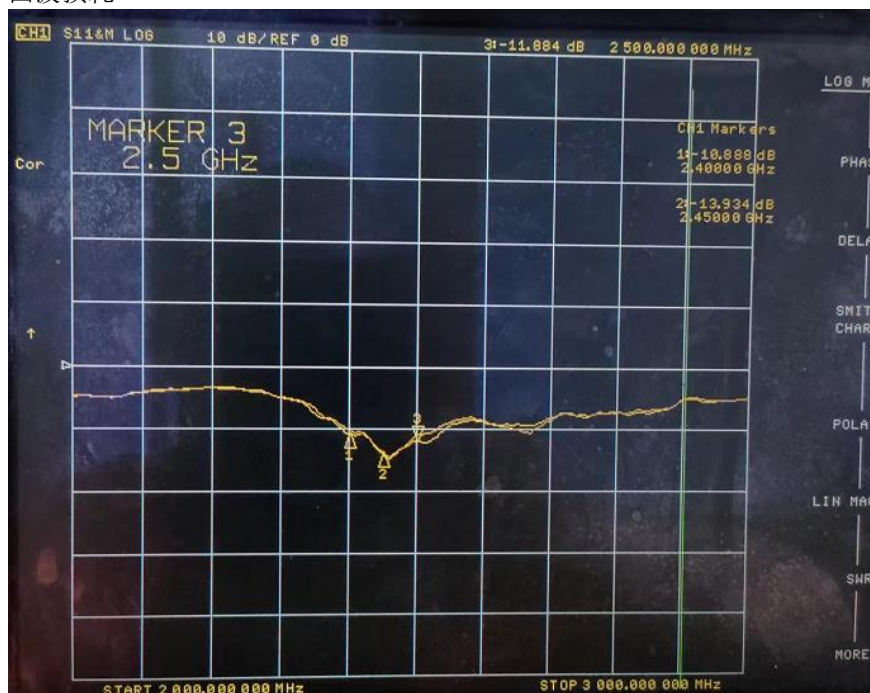
6.Plots

VSWR

注：驻波系数的标准值



回波损耗



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有源测试

Test Result	Wifi 2G TRP			Application Information	
	1	6	11	O4Version	5.221.330
Frequency (MHz)	2412	2437	2462	TotalTime	7m 46s 248ms
Txp Ave(dBm)	14.31	13.75	13.21	AdditionalInfor	802.11b : 11Mbps
NHPRP (dBm)	NULL	NULL	NULL		
MAX(dBm)	17.75	16.42	15.76		
EIRP peak	17.75	16.42	15.76		
Min(dBm)	4.78	3.44	3.22		
Attenuation Horiz	18.92	17.55	18.72		
Attenuation Vertic	18.91	17.39	18.66		
Test Result	Wifi 2G TIS		Application Information		
	11		O4Version	5.221.330	
Frequency (MHz)	2462		TotalTime	7m 46s 248ms	
Sens Ave(dBm)	-76.37		AdditionalInfor	802.11b : 11Mbps	
NHPIS(dBm)	NULL				
RSSI Ave	12.21				
MaxPosRSSI	15.24				
MaxPosSens	-79.4				
MAX(dBm)	16.76				
EIS peak	16.76				
Min(dBm)	2.21				
Attenuation Horiz	20.7				
Attenuation Vertic	20.7				

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7.Mechanical drawing

RoHS Comptible		<table border="1"> <tr> <th>REV.</th> <th>ORDER NO</th> <th>DATE</th> </tr> <tr> <td>A.1</td> <td></td> <td>2020-6-9.</td> </tr> </table>		REV.	ORDER NO	DATE	A.1		2020-6-9.																		
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A.1		2020-6-9.																									
成品图 RF1.13 黑色线 65±3 1.5±0.2 2.0±0.2 2.0±0.2 A端 粘锡		备注: 1. 标注**为重点尺寸; 未标注公差范围请参照标准公差; 2. 测试驻波核对样品为准.																									
<table border="1"> <tr> <th>NO</th> <th>PARTNAME</th> <th>DESCRIPTION</th> <th>PART NO.</th> <th>Q.TY</th> </tr> <tr> <td>1</td> <td>线材</td> <td>RF1.13Cable黑色 65.0mm</td> <td></td> <td>1</td> </tr> </table>		NO	PARTNAME	DESCRIPTION	PART NO.	Q.TY	1	线材	RF1.13Cable黑色 65.0mm		1	<table border="1"> <tr> <td colspan="2"> 深圳市扬跃电子通信科技有限公司 Shenzhen Yangyue Electronic Communication Technology Co., Ltd. </td> <td colspan="2"> PART NAME: T2S项目 PART NO.: Customer P/N: 130300-0015 </td> </tr> <tr> <td>APPROVED BY</td> <td>CHECKED BY</td> <td>DESIGNED BY</td> <td> <table border="1"> <tr> <td>Tony-Men</td> <td>2020-4-19</td> </tr> </table> </td> </tr> <tr> <td colspan="2"> Tolerance X.X ±0.50 X.XX ±0.15 X° ±3° </td> <td colspan="2"> UNITS: mm SCALE: None REVISION: B </td> </tr> </table>		深圳市扬跃电子通信科技有限公司 Shenzhen Yangyue Electronic Communication Technology Co., Ltd.		PART NAME: T2S项目 PART NO.: Customer P/N: 130300-0015		APPROVED BY	CHECKED BY	DESIGNED BY	<table border="1"> <tr> <td>Tony-Men</td> <td>2020-4-19</td> </tr> </table>	Tony-Men	2020-4-19	Tolerance X.X ±0.50 X.XX ±0.15 X° ±3°		UNITS: mm SCALE: None REVISION: B	
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8. Reliability tests

8.1 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 24HR	不能有变色, 歪 (变形) 脱落等的缺点 腐蚀面积不能过大

8.2 Test results

NO	样品数	试验期间	实验结果	备注
1	10	24 小时	OK	技术等级为 9 级 腐蚀 < 0.4mm

9 Conclusion

以上数据表明此 2.4G WiFi 天线参数均已达标。性能以装机后的实际使用效果为准。

From the above test results, we can know the electrical performance of the 2.4G WiFi antenna is seems good. Shenzhen Yangyue Electronic Communication Technology Co., Ltd, look forward to your confirmation, thank you for your cooperation !