APPROVAL SHEET
FOR
众悦 ZY868
（LTE band internal antenna）

Issued by		**Checked by**	
Confirmed by		**Date**	**2025-06-11**
Customer Confirm			

Revision History

Date	Revision	Description of Changes
2025-06-11	R:A	Antenna performance approved by customer

1 Summary

This report summarizes the electrical results of the proposed antenna to support the ZY868 program. We test the antenna with the latest version handset .

2 General Description

2.1 Definitions

VSWR: Voltage Standing Wave Rate

3 Mechanical Description

4 Electrical Performance

4.1 Set-up

4.1.1 VSWR and return loss

VSWR measurements (S_{11}) were performed using an Agilent E5070B 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 Efficiency, Gain and TRP/TIS

The gain of the antenna was measured in Dong Xin's 3D anechoic chamber in Shenzhen. The chamber is capable of doing tests from 380MHz to 6GHz. Coaxial chokes on the feed cable were used to mitigate surface currents. The measurement results are calibrated using dipole standards. For TRP and TIS the chamber uses a Agilent 8960 to establish the connection with the mobile device. During TRP tests the 8960 reads the power received through the chamber probes whilst during TIS tests the 8960 transmits through the probe. All data is afterwards corrected by a calibration table.

4.1.3 Matching Circuit Description

No matching.

4.2 Measurement Data

Effective Radiated Power Summation

5 Mechanical drawing

GSM	EGSM900			DCS1800		
Let	1	62	124	512	698	885
TRP	21.3	20.5	20.2	22.1	22.4	23.2
TIS			-98.3			-101.3

GSM	850			1900		
Let	128	190	251	512	661	810
TRP	23.6	23.3	22.7	23.2	23.0	22.5
TIS			-100.4			-101.1

WCDMA	1			2		
Let	L	M	H	L	M	H
TRP	15.5	15.2	14.8	15.4	15.3	15.1
TIS			-100.3			-100.2

WCDMA	5			8		
Let	L	M	H	L	M	H
TRP	14.3	14.1	13.8	13.5	13.3	13.2
TIS			-99.3			-98.5

FDD-LTE	B2			B3		
Let	L	M	H	L	M	H
TRP	15.2	14.5	14.3	14.3	14.5	15.1
TIS			-87.8			-87.5

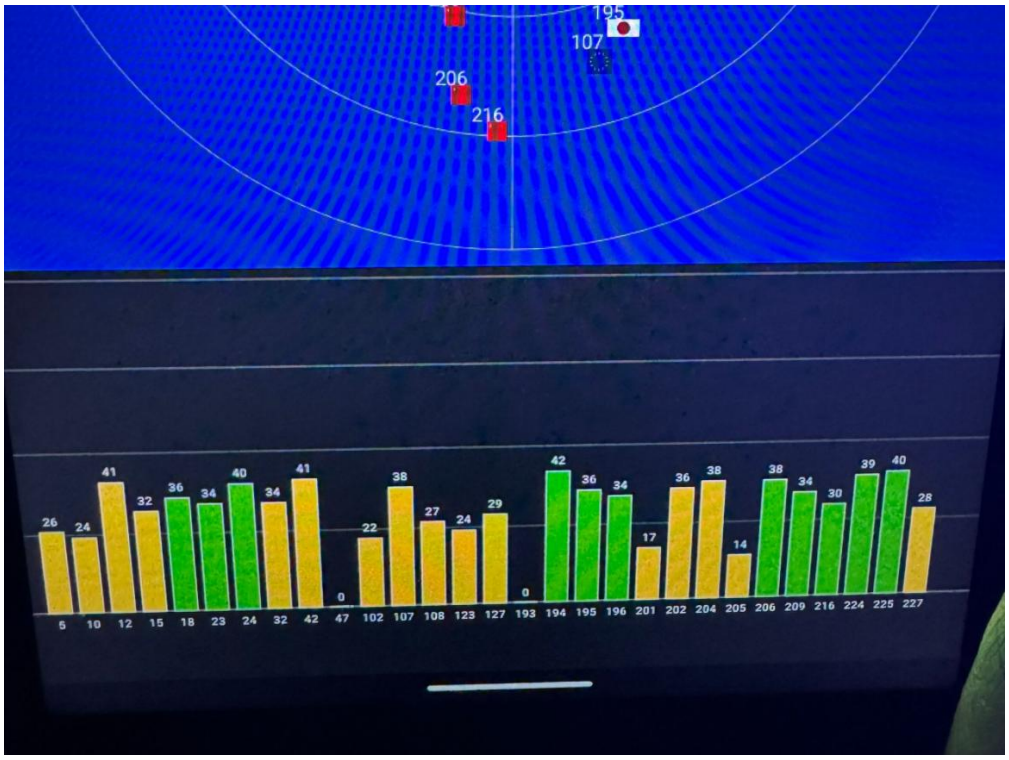
FDD-LTE	B4			B7		
Let	L	M	H	L	M	H
TRP	13.2	13.5	14.3	14.4	15.2	15.5
TIS			-88.3			-85.6

FDD-LTE	B8			B12		
Let	L	M	H	L	M	H
TRP	13.5	13.2	12.8	12.5	13.1	13.5
TIS			-83.4			-84.5

FDD-LTE	B17			B28		
Let	L	M	H	L	M	H
TRP	12.5	13.2	13.4	13.4	13.7	14.2
TIS			-84.2			-84.8

6-4

GPS/WIFI：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107
206
216
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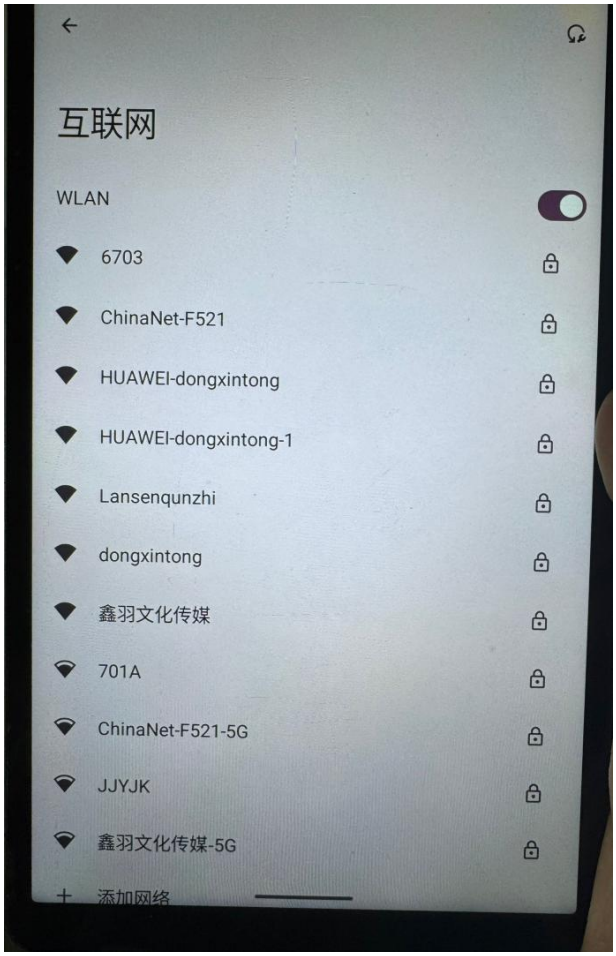
5 10 12 15 18 23 24 32 42 47 102 107 108 123 127 193 194 195 196 201 202 204 205 206 209 216 224 225 227

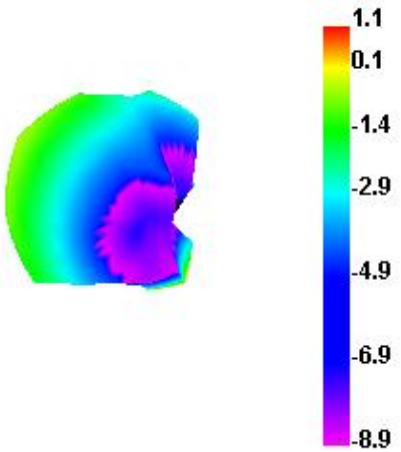

互联网
WLAN
6703
ChinaNet-F521
HUAWEI-dongxintong
HUAWEI-dongxintong-1
Lansenqunzhi
dongxintong
鑫羽文化传媒
701A
ChinaNet-F521-5G
JJYJK
鑫羽文化传媒-5G
添加网络

WiFi 天线效率，增益：

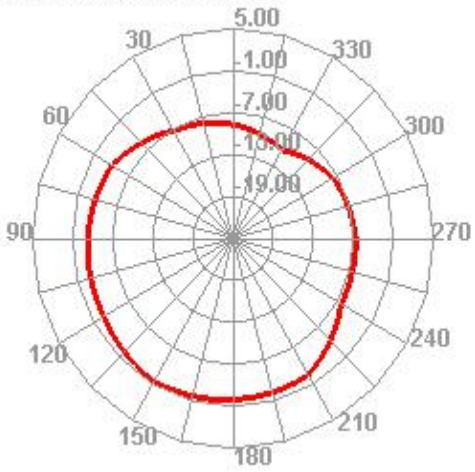
Freq (MHz)	Effi (%)	Gain (dBi)
2400	36.9	1.12
2410	37.76	1.06
2420	34.87	0.66
2430	40.39	0.97
2440	39.9	0.92
2450	38.46	0.84
2460	39.39	1.01
2470	43.06	1.47
2480	36.8	0.77
2490	45.85	1.7
2500	44.21	1.55

Freq (MHz)	Effi (%)	Gain (dBi)
5800	22.96	-0.1
5810	23.38	-0.06
5820	23.74	0.03
5830	24.43	0.04
5840	24.45	-0.03
5850	24.09	-0.07
5860	22.83	-0.36
5870	22.42	-0.36
5880	21.61	-0.5
5890	21.79	-0.5
5900	22.01	-0.52

2400.000MHz



2400.000MHz H



Project: 众悦 ZY868		Author: 李凯	File Name: 众悦 ZY868-APP-RA
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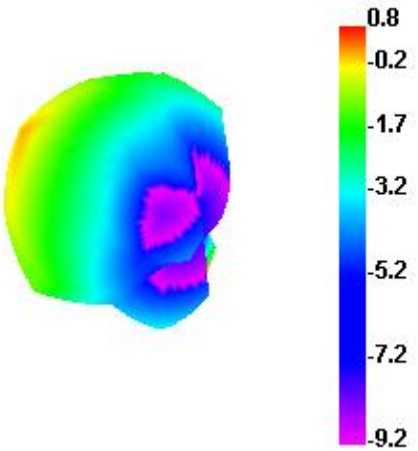
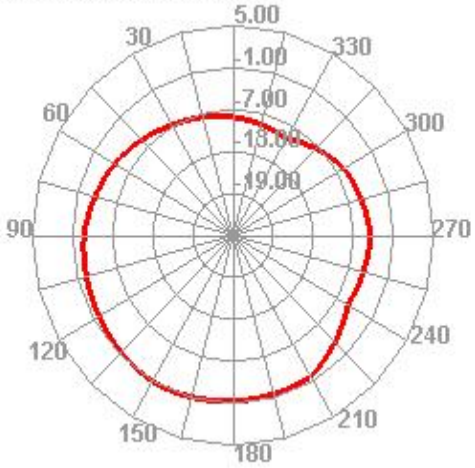
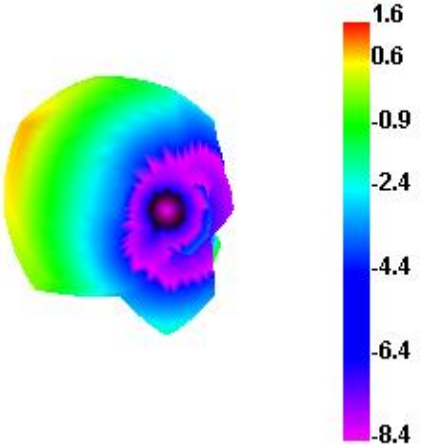
2450.000MHz



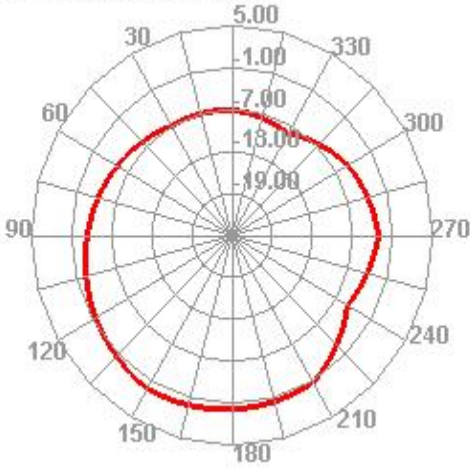
2450.000MHz H



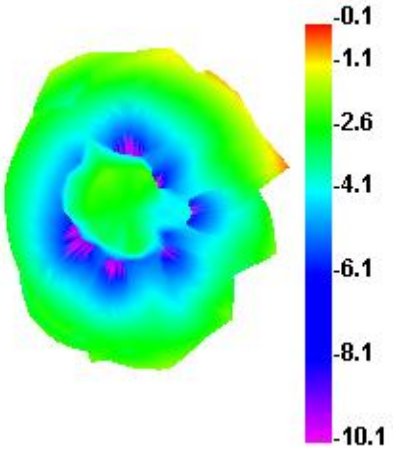
2500.000MHz



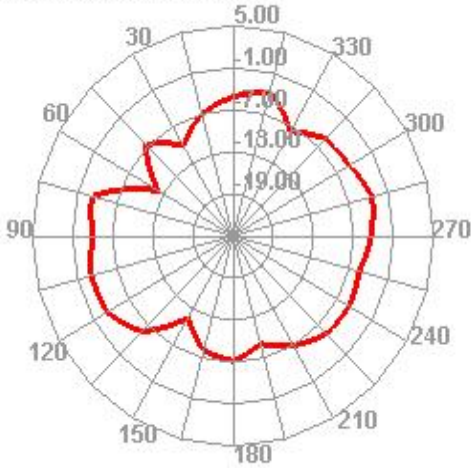
2500.000MHz H



5800.000MHz



5800.000MHz H



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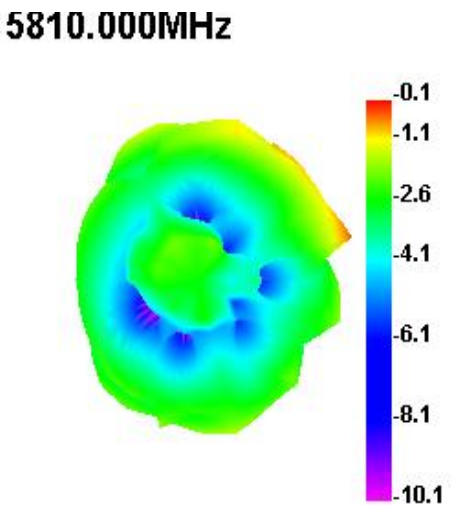
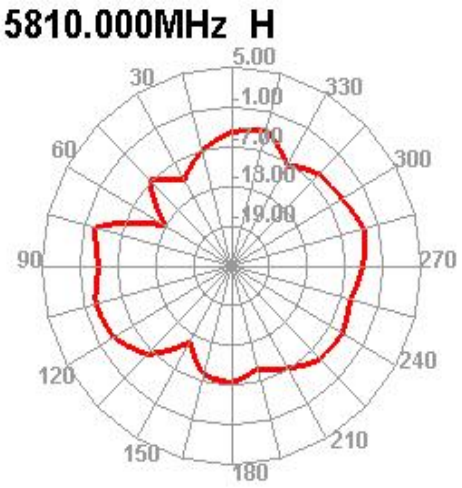


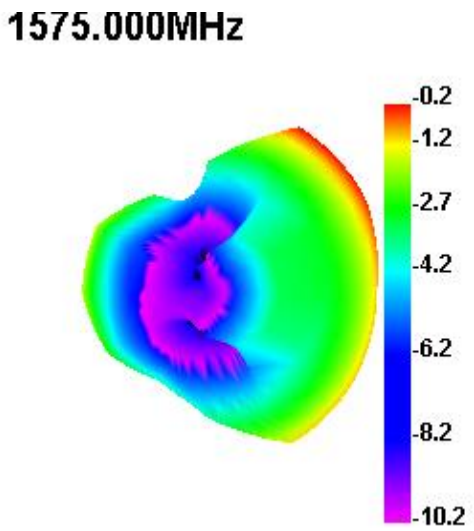


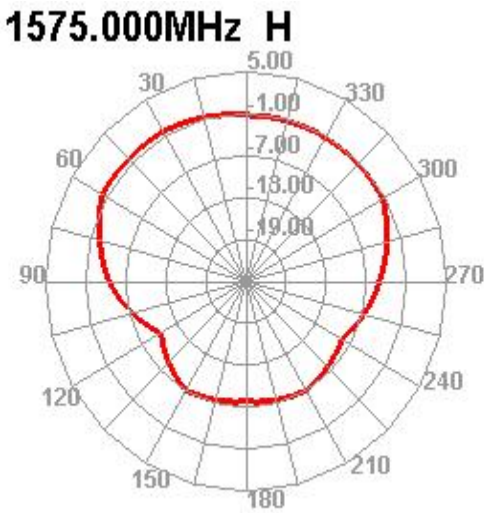
WiFi数据：

WIFI	2.4G（802.11b）			5.8G（802.11a）		
Let	1	6	12	36	60	161
TRP	14.0	14.3	14.2	6.8	9.1	7.5
TIS			-78.7			-72.6

GPS 天线效率，增益：

Freq (MHz)	Effi (%)	Gain (dBi)
1500	30.5	-2.03
1575	36.01	-0.19
1600	31	-0.88

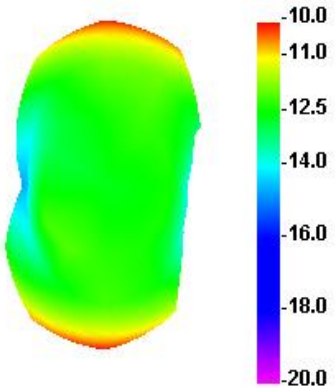




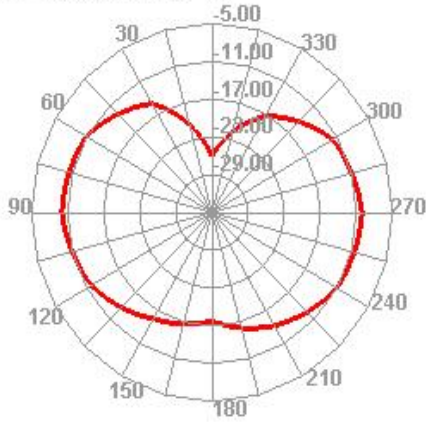
主天线效率，增益：

Freq (MHz)	Effi (%)	Gain (dBi)
2G：850	18.14	-1.7
2G：900	15.78	-1.3
2G：1800	28.63	1.4
2G：1900	29.45	2.0
3G：2100	30.12	-1.7
3G：1900	29.45	2.0
3G：850	18.14	-1.7
3G：900	15.78	-1.3
4G：B2（1900）	29.45	2.0
4G：B3（1800）	28.63	1.4
4G：B4（1700）	17.34	1.6
4G：B7（2600）	22.71	-1.7
4G：B8（900）	15.78	-1.3
4G：B12（700）	12.43	-10.0
4G：B17（700）	12.43	-10.0
4G：B28（700）	12.43	-10.0

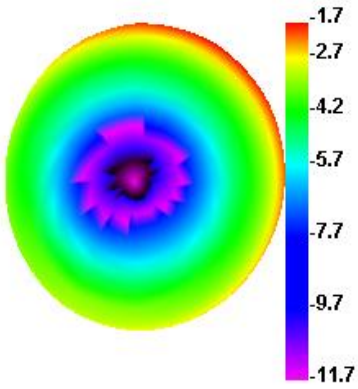
700.000MHz



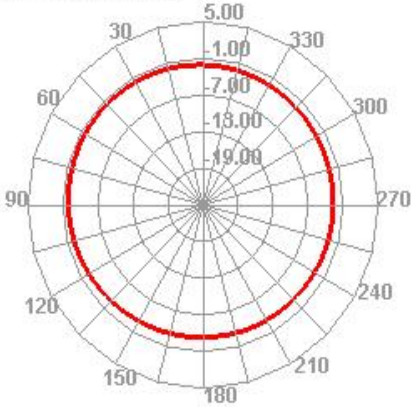
700.000MHz H



850.000MHz



850.000MHz H



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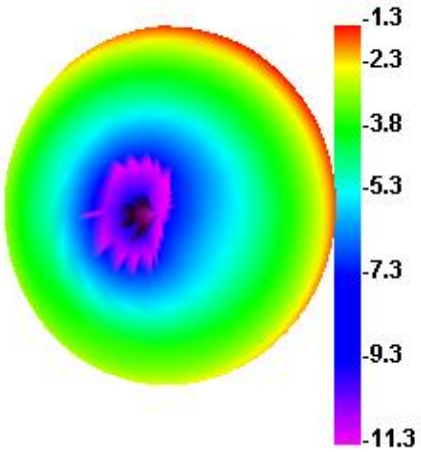
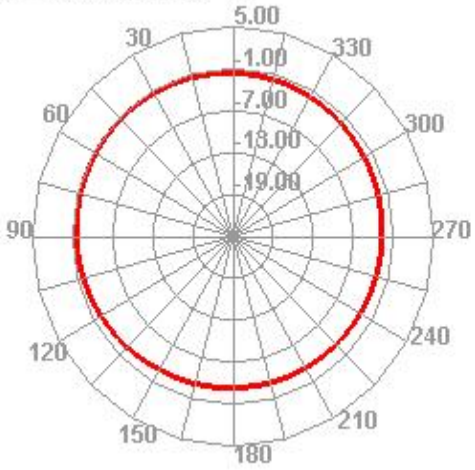
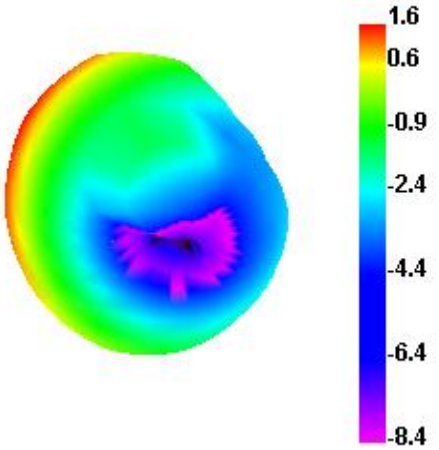
900.000MHz



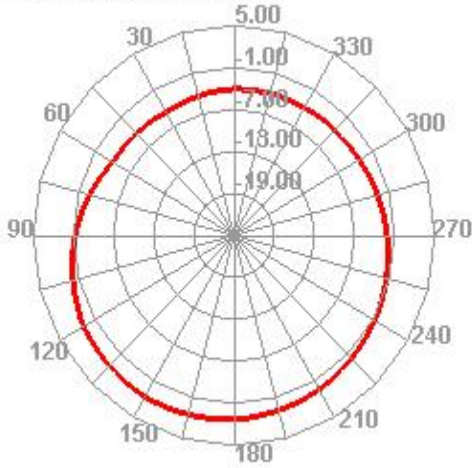
900.000MHz H



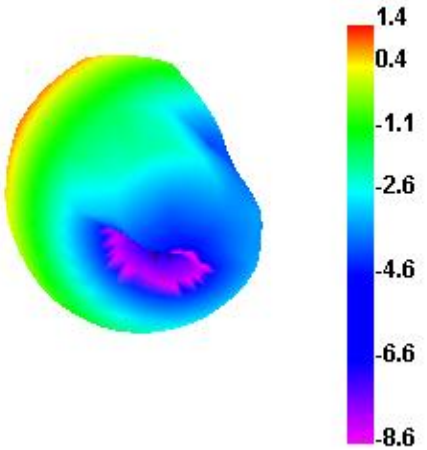
1700.000MHz



1700.000MHz H



1800.000MHz



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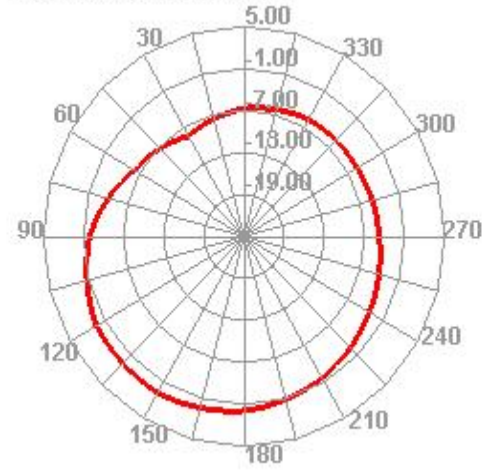

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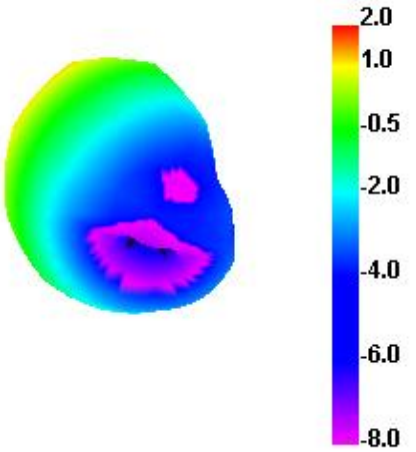
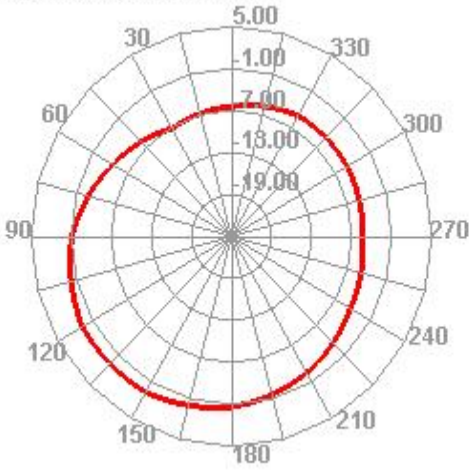
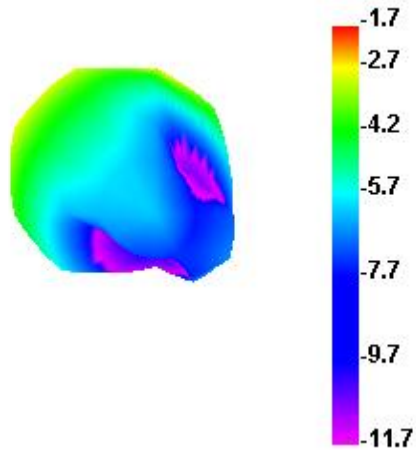
1900.000MHz



1900.000MHz H



2100.000MHz



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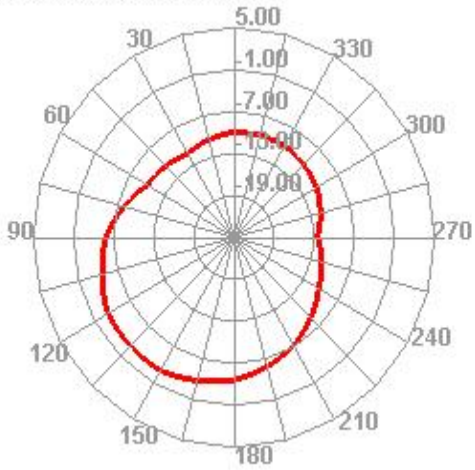

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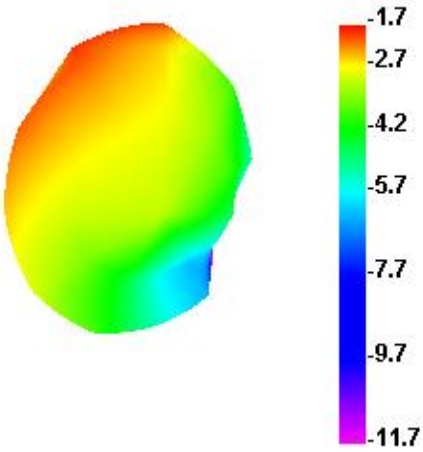

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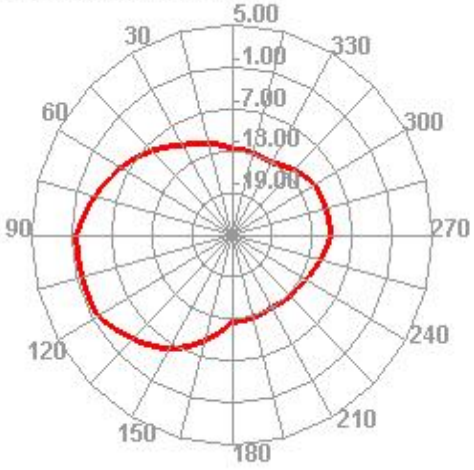

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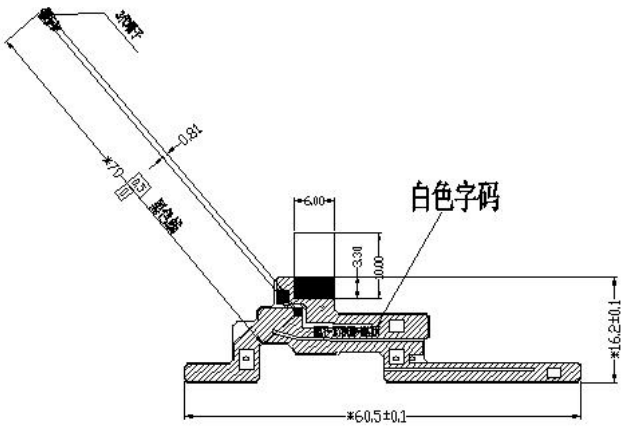

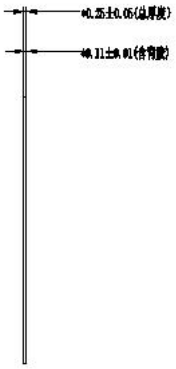

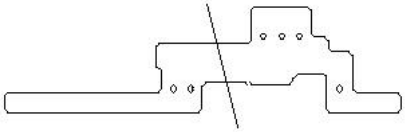

注:

1、打※为配合尺寸,打*为重点尺寸,"Trim"为后继需调整尺寸;
2、打★为必测尺寸，未标尺寸参考3D图纸；其它尺寸以实配为准;
3、走线面除焊盘外其它区域需铺油(哑光)。
4、  区域为走线区域,  区域为焊盘区域（镀金）,  区域为附胶区域(3M300/9471LSE)
5、FPC表面油墨均匀,不可有起皱镀金不良等现象。
6、字符颜色要求：黑油绿字，白油亮白字。

日期	修改内容	版本	备注

深圳市东信通电子科技有限公司

第三角法				机种	ZY868-ZT	日期	2025-06-11	页码	1/1
未注公差参见标准		○	0.02	品名	FPC_主天线	设计	CHH	审核	
10以下	±0.05	◎	Ø0.03	料号		审核	工程		
10~20	±0.10	⊥	0.02	材质	PI(聚酰亚胺)一对半		射频		
20~40	±0.15	▱	0.04	模面处理		确认			
40以上	±0.15	⌓	0.02	外观处理	黑色	单位	mm	比例	FIT	版本	T:A
请勿实测图纸									

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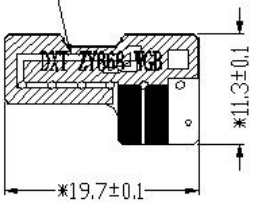
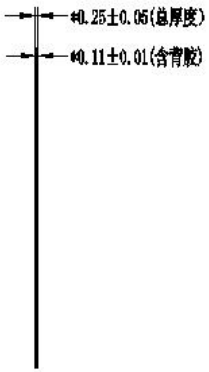
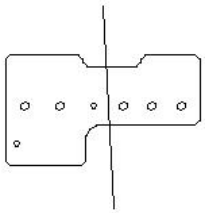
白色字码







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4、▨ 区域为走线区域,■ 区域为焊盘区域（镀金）,▩ 区域为附胶区域(3M300/9471LSE)
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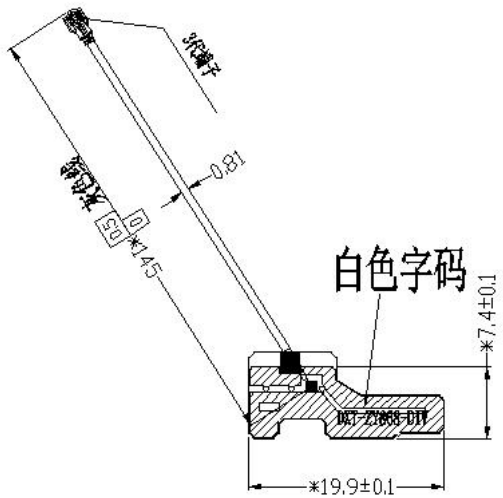
日期	修改内容	版本	备注

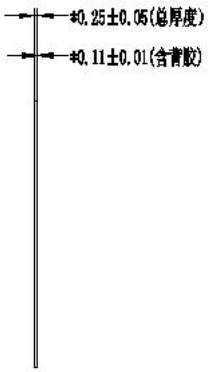
深圳市东信通电子科技有限公司

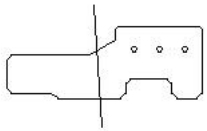
第三角法				机种	ZY868-ZY	日期	2025-06-11	页码	1/1
未注公差参见标准		○	0.02	品名	FPC_GMB	设计	CHH	审核	
10以下	±0.05	◎	Ø0.03	料号		审核	工程		
10~20	±0.10	⊥	0.02				射频		
20~40	±0.15	▱	0.04	材质	PI(聚酰亚胺)一对半				
40以上	±0.15	⌿	0.02	模面处理		确认			
请勿实测图纸				外观处理	黑色	单位	mm	比例 FIT	版本 T:A

Project: 众悦 ZY868	Author: 李凯	File Name: 众悦 ZY868-APP-RA	
Date: 2025-06-11		Language:	Check:
Rev:		ENG	
A			

CONFIDENTIAL
ShenZhen Eastong Electronic technology Co., LTD







注:

1、打※为配合尺寸,打*为重点尺寸,"Trim"为后继需调整尺寸;
2、打★为必测尺寸，未标尺寸参考3D图纸；其它尺寸以实配为准;
3、走线面除焊盘外其它区域需铺油(哑光)。
4、区域为走线区域,区域为焊盘区域（镀金）,区域为附胶区域(3M300/9471LSE)
5、FPC表面油墨均匀,不可有起皱镀金不良等现象。
6、字符颜色要求：黑油绿字，白油亮白字。

日期	修改内容	版本	备注

深圳市东信通电子科技有限公司										
第三角法				机种	ZY868-ZT	日期	2025-06-11	页码	1/1	
未注公差参见标准		○	0.02	品名	FPC分集	设计	CHH	审核		
10以下	±0.05	◎	Ø0.03	料号		审核	工程			
10~20	±0.10	⊥	0.02	材质	PI(聚酰亚胺)一对半		射频			
20~40	±0.15	▱	0.04	模面处理		确认				
40以上	±0.15	⌭	0.02	外观处理	黑色	单位	mm	比例	FIT	版本 T:A
请勿实测图纸										

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