



深圳市华信微通信技术有限公司
ShenZhen Huaxinwei communication technology Co.,Ltd.

S651天线报告

Project name : S651

Designer : 金凯凯

Date : 2024/7/17



1.Basic information of the project

1.项目基本信息 Project Information

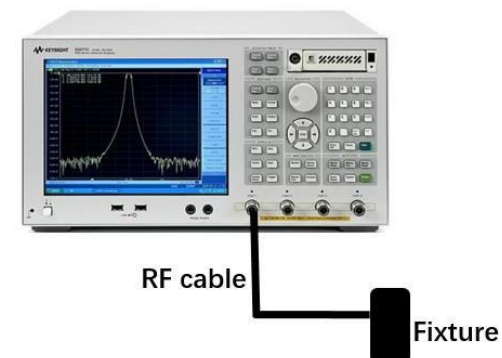
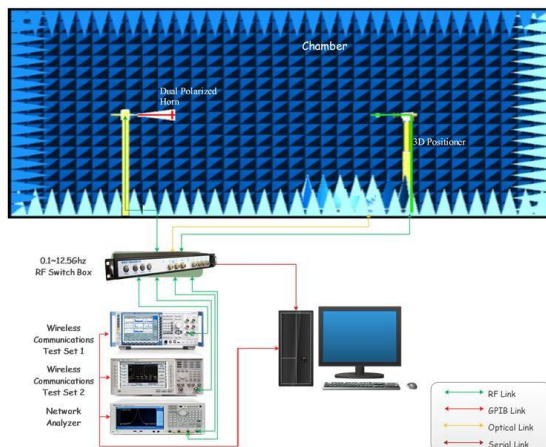
整机类型 product type	智能机 smart machine
天线材质 The antenna material	LDS
频段 Antenna band	GSM850/900/1800/1900 WCDMA1/2/5/8 LTE 1/2/3/4/5/7/8/12/13/17/18/19/20/25/26/28/66/71/38/40/41
工作频率 frequency	617Mhz-960Mhz 1710Mhz-2690Mhz

1. 电性能项目 Electrical Properties

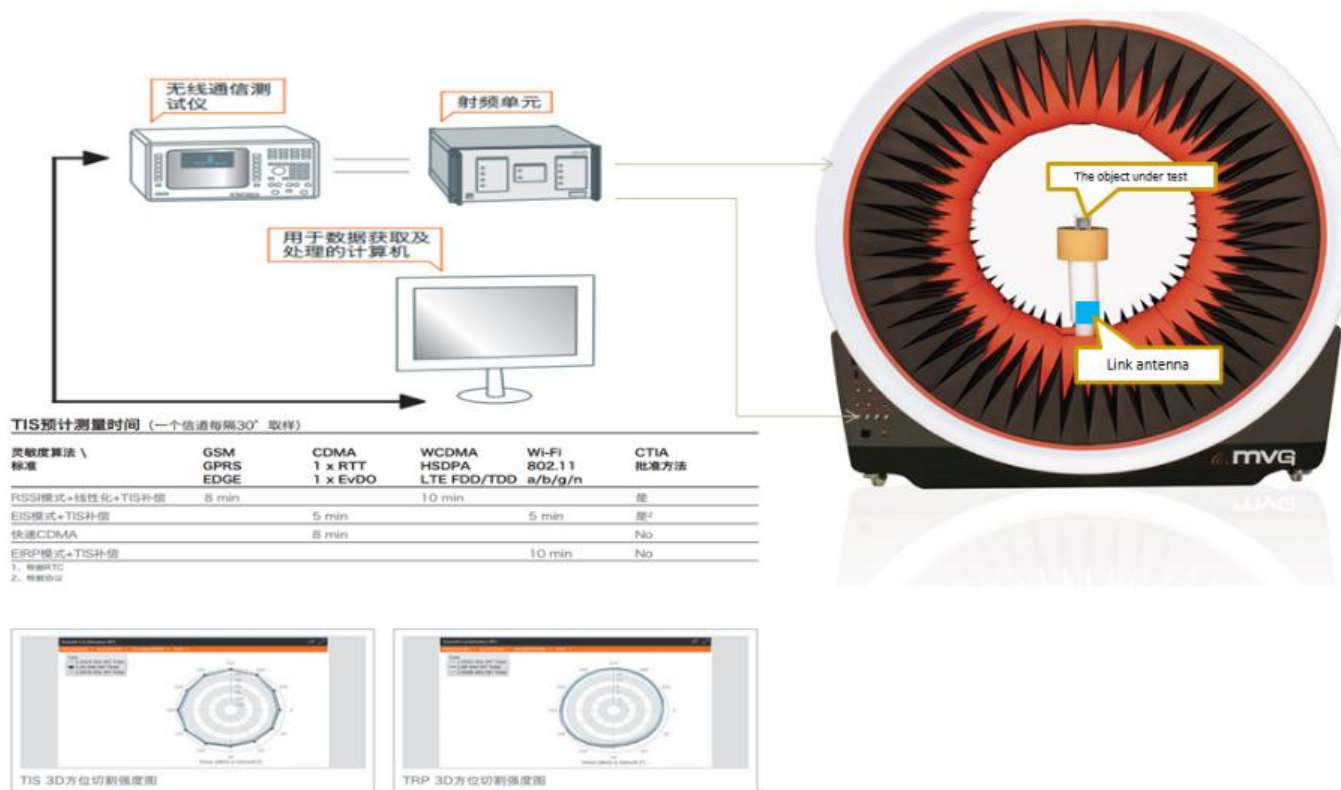
Passive Test	S11	VSWR/R.L/Simth Chart
	S21	Isolation
	S21	Effi./Gain
Active Test	TRP	Total Radiated Power
	TIS	Total Istropic Sensitivity

2. 测试方法和测试设备 Test methods and test equipment

S11 TEST 测试



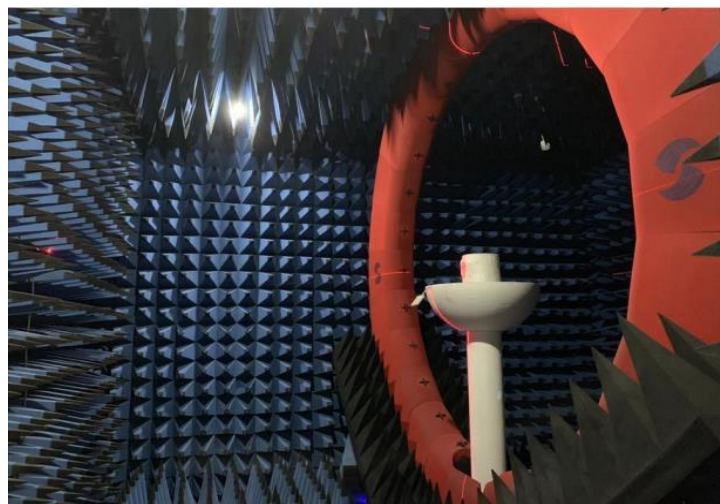
单探头测量系统 Single probe measuring



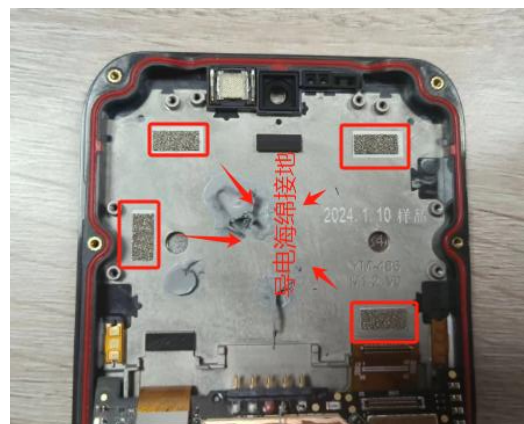
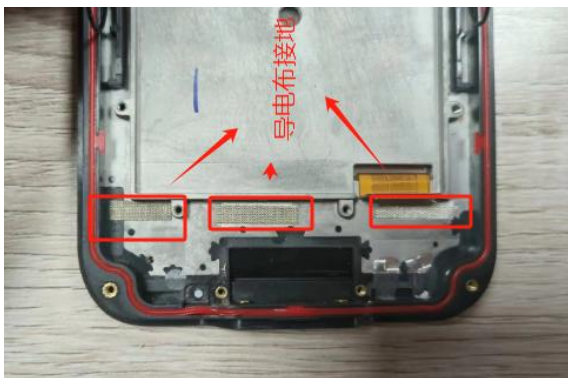
测试暗室图片 Test darkroom pictures



External picture of microwave anechoic chamber (anechoic chamber + cabinet equipment)



整机环境处理和天线匹配电路 Environment handling and an tenna matching circuit



3.Test data

Antenna matching circuit

ANT0匹配 C1=1.2PF C12=5.1NH R2=0欧 R5=1.5nH R142=0欧 R143=5.6NH R144=22NH R145=39NH

ANT1匹配 M3806=0.5PF M23=8.2NH R142=0欧 R143=5.6NH R144=82NH R145=1.2PF

1. OTA testing

FDD_B1 (10MHz)	18.33	FDD_B8 (10MHz)	15.68	TDD_B40 (20MHz)	17.51	W1	17.79
	17.43		16.95		17.39		17.63
	17.33		16.06		18.42		16.64
	-94.25		-89.82		-90.7		-105.11
FDD_B2 (10MHz)	18.45	FDD_B19 (10MHz)	16.71	TDD_B41 (20MHz)	18.12	W2	17.48
	18.32		16.21		19.16		17.81
	17.21		16.7		18.61		18.26
	-93.76		-90.05		-90.43		-104.32
FDD_B3 (10MHz)	17	FDD_B20 (10MHz)	16.77	GSM850	25.5	W6	16.46
	17.24		16.21		26		16.61
	18.33		15.91		25.78		16.54
	-94.2		-90.45		-102.7		-101.44
FDD_B4 (10MHz)	16.93	FDD_B26 (10MHz)	16.31	GSM900	25.74	W5	17.02
	17.39		16.32		26.49		16.65
	17.27		15.8		25.32		16.34
	-94.04		-90.23		-100.26		-101.61
FDD_B5 (10MHz)	15.97	FDD_B28 (10MHz)	16.31	DCS1800	25.37	W8	16.81
	16.76		16.19		26.37		16.36
	16.05		15.5		25.46		16.35
	-90.48		-90.59		-103.69		-100.98
FDD_B7 (10MHz)	18.15	TDD_B38 (20MHz)	18.75	PCS1900	25.26		
	18.24		18.97		26.53		
	18.16		18.68		26.61		
	-92.5		-90.57		-105.56		

3. Test data

3.2 S21 (Effi./Gain) test data

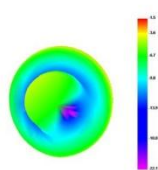
2G:	Frequency range	Effi %	Gaim dBi
GSM850	824~894Mhz	21.75	-1.71
GSM900	880~960Mhz	20.84	-1.53
DCS1800	1710~1880Mhz	40.62	1.59
PCS1900	1850~1990Mhz	40.81	1.58
3G:			
W1	1920~2170Mhz	37.85	1.64
W2	1850~1990Mhz	36.81	1.58
W6	824~894Mhz	21.80	-1.71
W5	824~894Mhz	21.80	-1.71
W8	880~960Mhz	20.84	-1.53
4G:			
LTE-B1	1920~2170Mhz	37.85	1.64
LTE-B2	1850~1990Mhz	40.81	1.58
LTE-B3	1710~1880Mhz	38.62	1.59
LTE-B4	1710~2155Mhz	39.07	1.44
LTE-B5	824~894Mhz	21.80	-1.71
LTE-B7	2500~2690Mhz	28.01	1.44
LTE-B8	880~960Mhz	20.84	-1.53
LTE-B19	824~894Mhz	21.80	-1.71
LTE-B20	824~894Mhz	19.04	-1.71
LTE-B26	824~894Mhz	19.04	-1.71
LTE-B28	708~798Mhz	19.05	-1.8

3.Test data

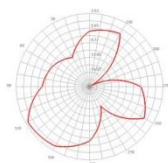
3.2 S21 (Effi./Gain) test data

LTE-B38	2500~2690Mhz	28.26	1.44
LTE-B40	2300~2399Mhz	30.26	1.86
LTE-B41	2500~2690Mhz	28.52	1.44
2.4G-WIFI	2400~2500Mhz	42.52	1.01
5.8G WIFI	5000~5800Mhz	40.24	1.54
BT	2400~2500Mhz	42.51	1.01
GPS	1575Mhz	34.73	1.23

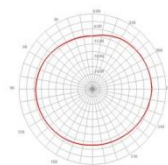
GSM 900



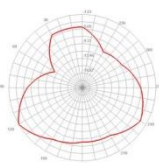
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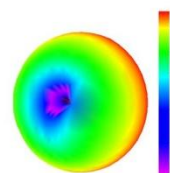
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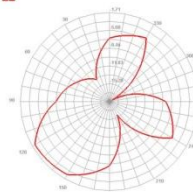
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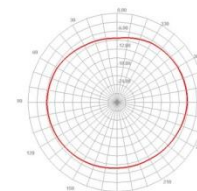
GSM 850



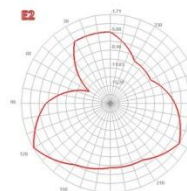
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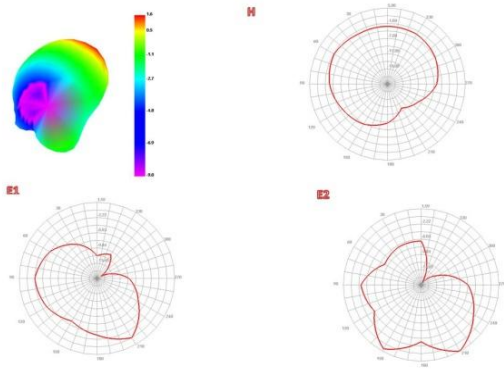


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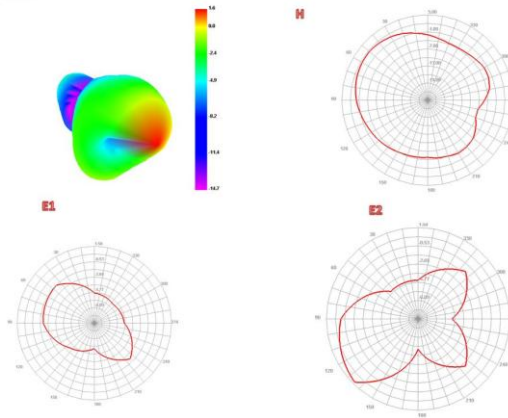


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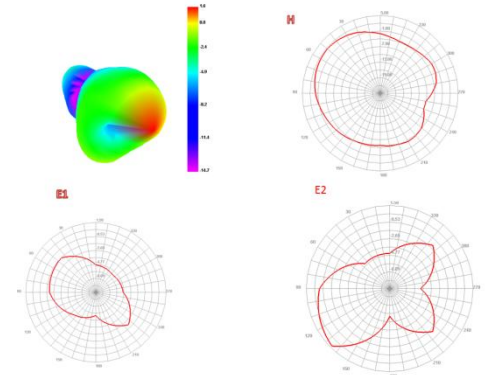
DCS1800



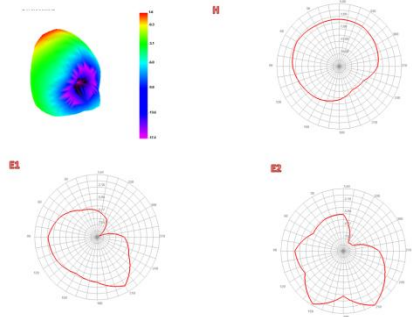
PCS1900



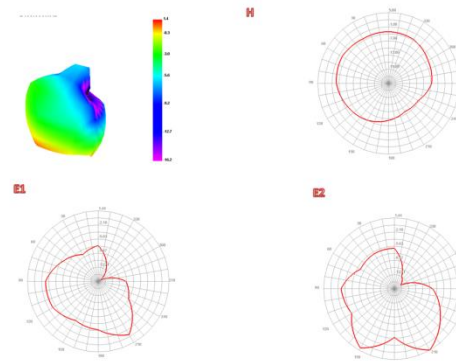
W1900



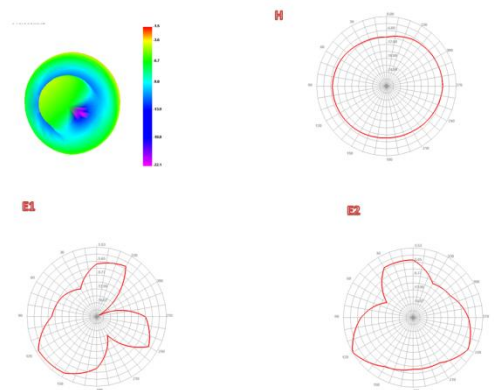
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W4

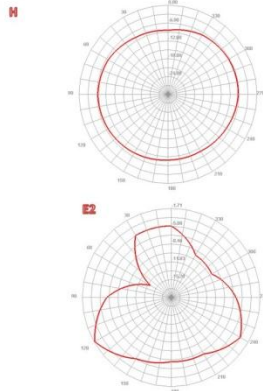
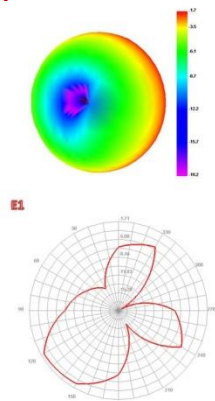


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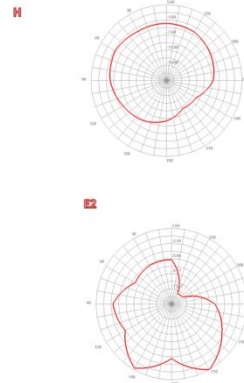
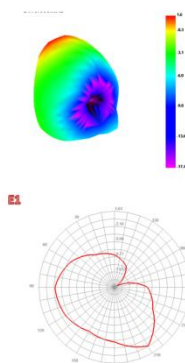


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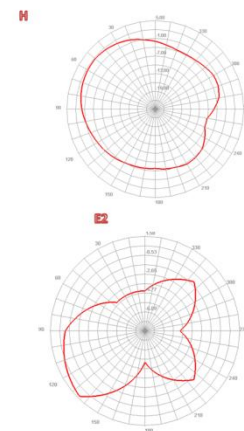
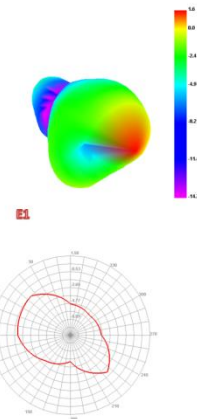
W5/W6



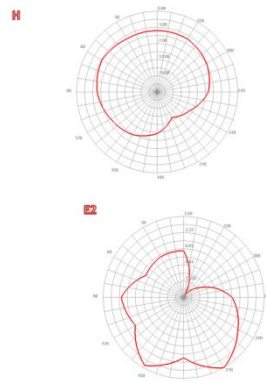
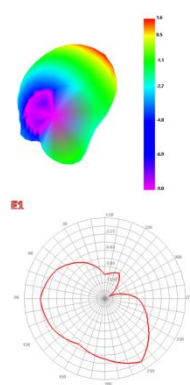
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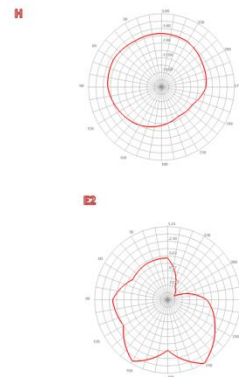
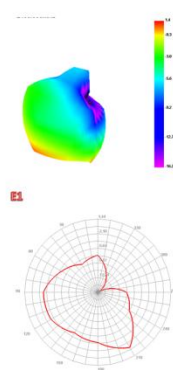
LTE-B2



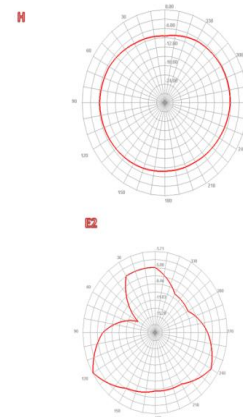
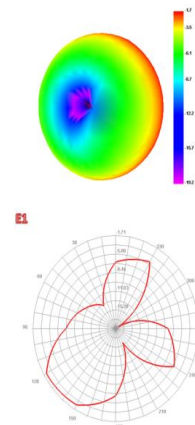
LTE-B3



LTE-B4

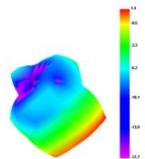


LTE-B5

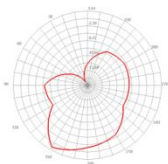


3.Test data

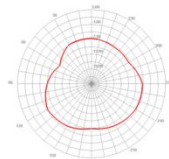
LTE-B7



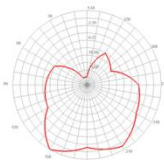
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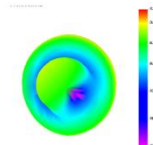
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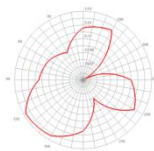
E2



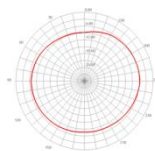
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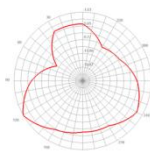
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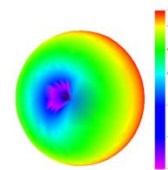
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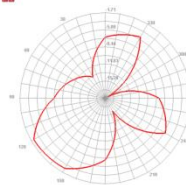
E2



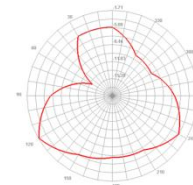
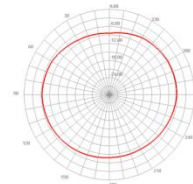
LTE-B19



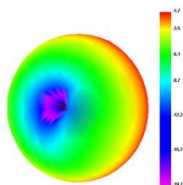
E1



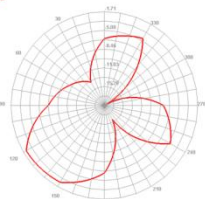
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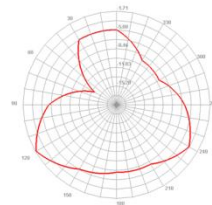
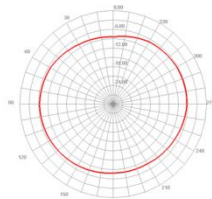
LTE-B20



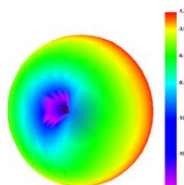
E1



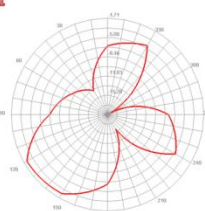
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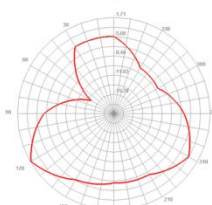
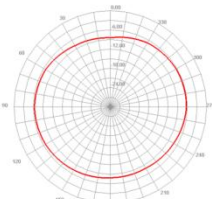
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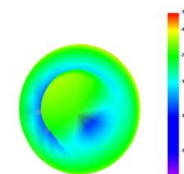
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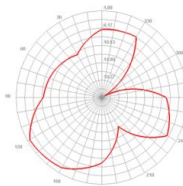
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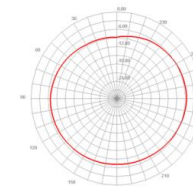
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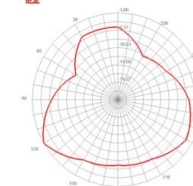
E1



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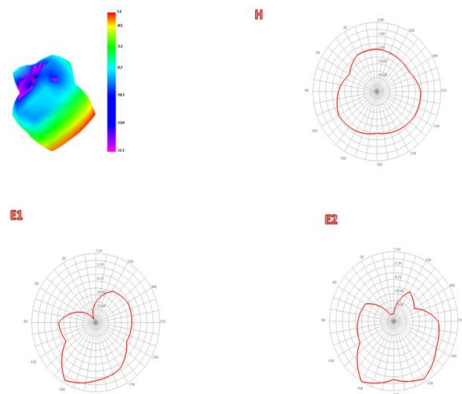


E2

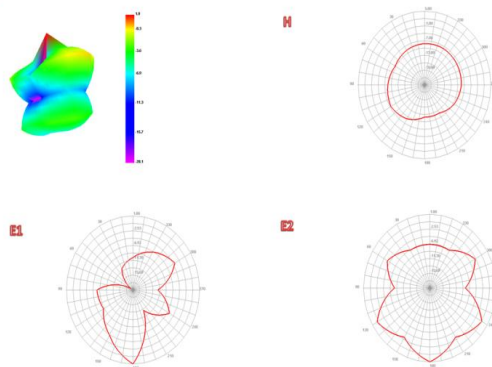


3.Test data

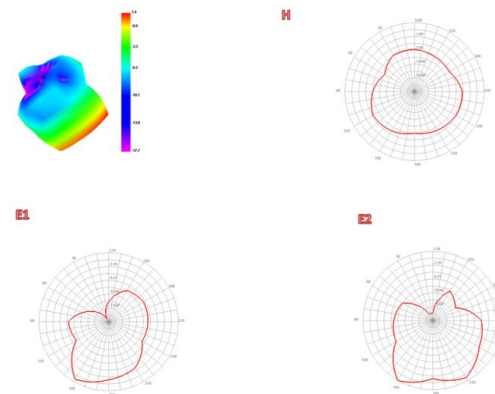
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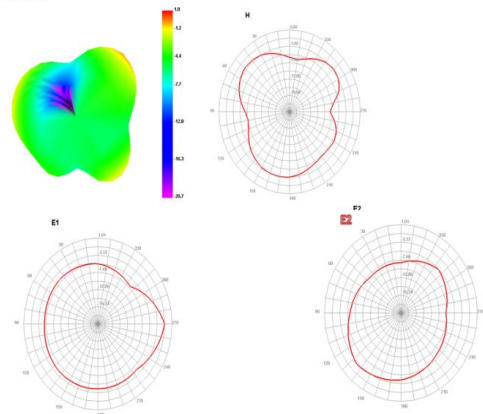
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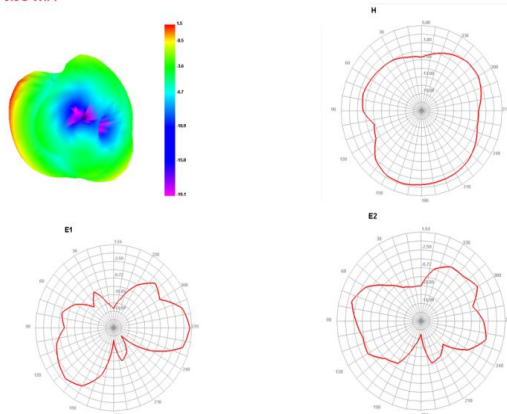
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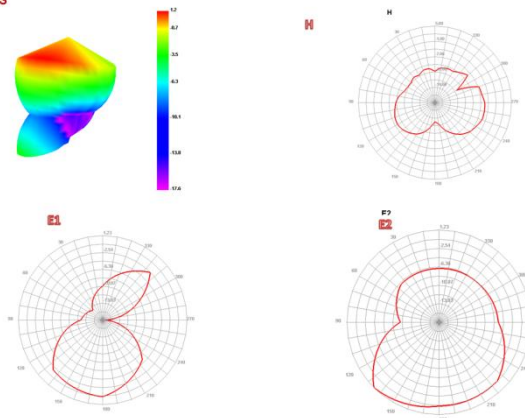
2.4G WIFI



5.8G WIFI



GPS



3. Test data

1. 测试结论 Test Verdict

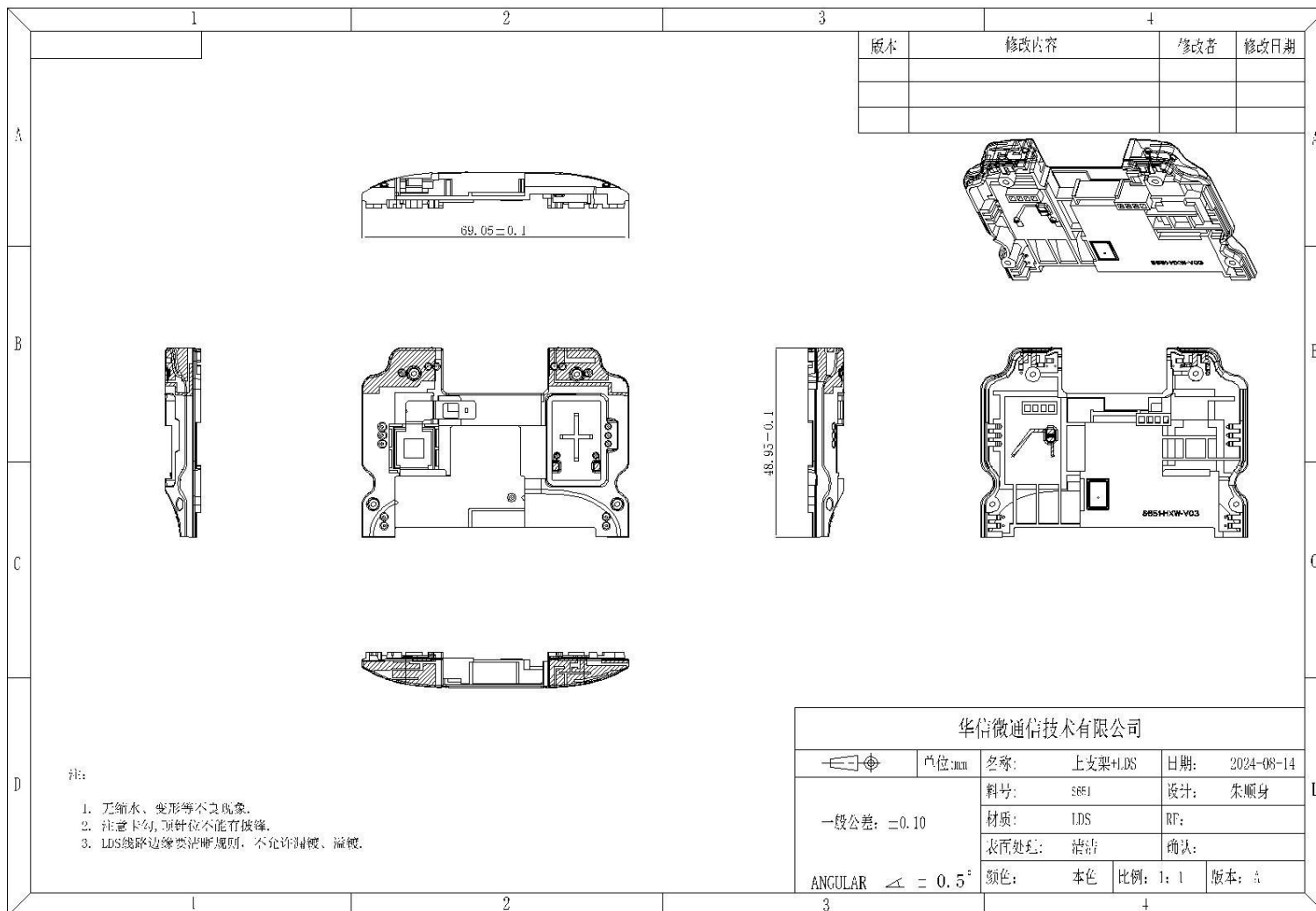
The specifications meet GSM850/900/1800/1900
WCDMA2100/1900/1700/850/900 LTE1/2/3/4/5/7/8/ 19/20/28/26/
38/40/41

Normal antenna specifications

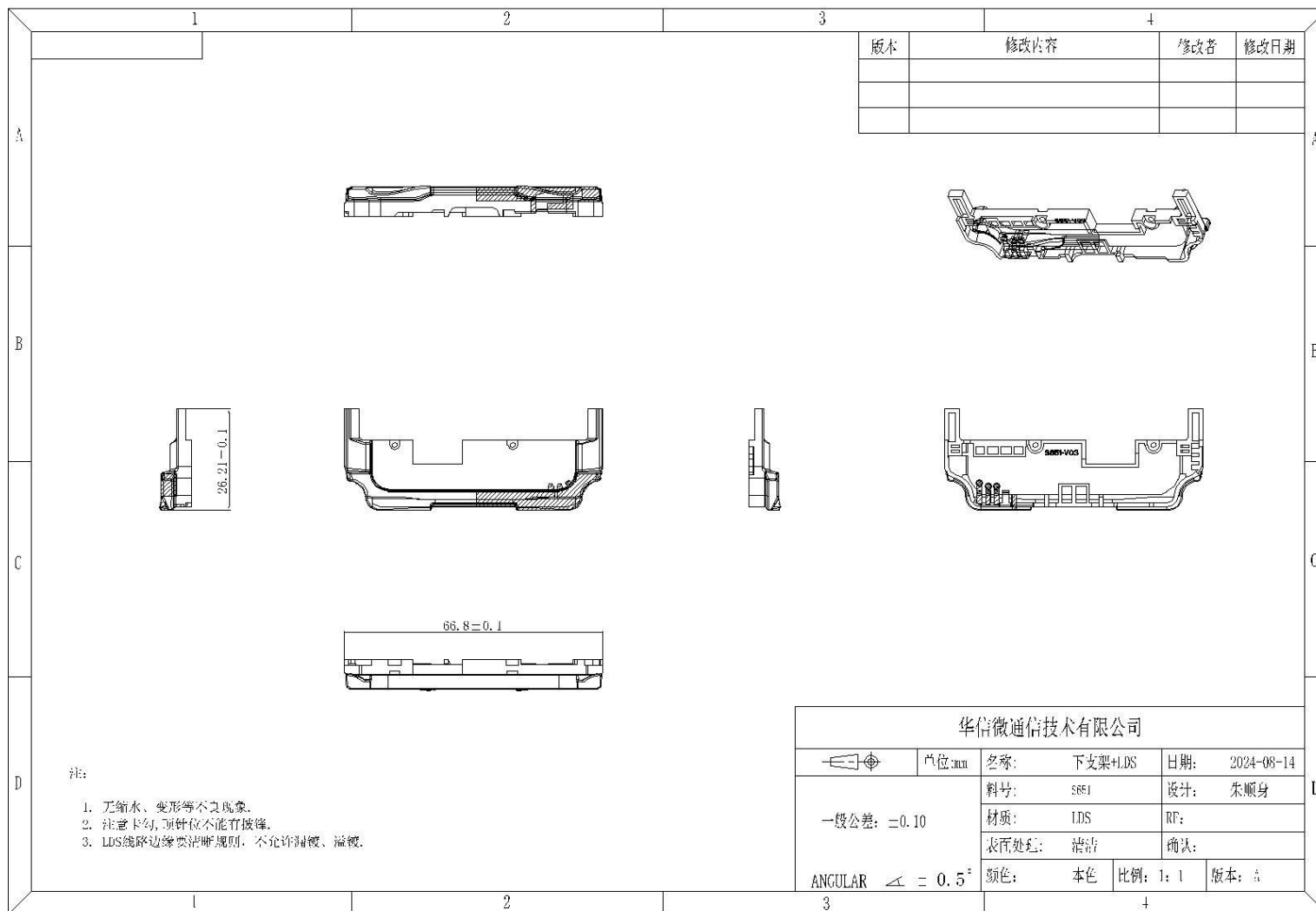
The actual GPS/WIFI/BT test performance is OK

Note: This antenna is only suitable for debugging the prototype. Any changes in the motherboard version or RF material or mobile phone accessories (such as microphone, screen, speaker, motor, etc.) must be tested and verified by our company before use

4.Engineering drawings



4.Engineering drawings



4.NFC drawings

