



深圳市凯普深通讯科技有限公司
Shenzhen cape deep communication technology co., LTD

天线测试报告

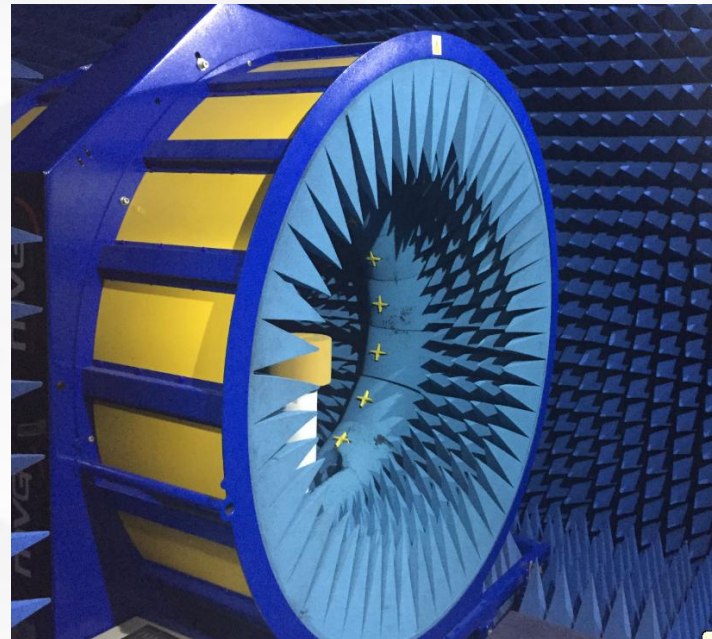
test report

客 户: 财富
项目名: MSD01
射 频: 江工
日 期: 2025.10.13



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实验室测试环境及设备



测试项目	测试设备
S11、S12、VSWR、LOSS	网络分析仪E5071B、E5062A
Efficiency、Gain 3D Radiation Pattern	Satimo SG16暗室、GP7*4*3暗室、E5071B
TRP、TIS	Satimo SG16暗室、GP7*4*3暗室、8960、 CMW500、MT8820C、E4438C、



项目调试简介

整机类型	4G金属框		
		频段信息	天线形式
天线种类及频段信息	主天线	2G: 850/900/1800/1900 3G: W1/2/5/8 4G:B1/3/5/7/8/12/13/17/20/28/66/38/39/40/41	PIFA
	副天线	双频WIFI+BT+GPS	PIFA
	分集天线	700M-2710MHZ	PIFA
天线材质	FPC		



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变更记录说明

时间	版本说明
2025. 7. 10	手板机器调试 对地模拟状态调试
2025. 7. 16	优化调试
2025. 9. 5	手改天线逻辑验证
2025. 9. 9	增加环境处理及天线匹配
2025. 10. 13	试产机器测试



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天线测试数据

FS	Channel	TRP	TIS灭	TIS亮		Channel	TRP	TIS灭	TIS亮
LTE-1	L	15.8			LTE-7	L	17.5		
	M	15.4				M	17.7		
	H	15.2	-90.8			H	17.3	-89.8	
LTE-2	L	15.6			LTE-8	L	15.8		
	M	16.2				M	15.7		
	H	16.1	-90.6			H	14.6	-91.8	
LTE-3	L	15.9			LTE-12	L	13.2		
	M	16.2				M	13.1		
	H	16.7	-91.4			H	13.5	-86.5	
LTE-4	L	16.2			LTE-13	L			
	M	16.6				M			
	H	16.8	-90.3			H			
LTE-5	L	15.3			LTE-17	L	14.4		
	M	15.5				M	14.5		
	H	15.6	-89.3			H	14.8	-87.6	



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天线测试数据

FS	Channel	TRP	TIS灭	TIS亮	FS	Channel	TRP	TIS灭	TIS亮
LTE-20	L	15			LTE-40	L	15.5		
	M	15.2				M	16.3		
	H	15.2	-90.7			H	17.7	-88	
LTE-28	L	14.2			LTE-41	L	18.6		
	M	15.3				M	18.0		
	H	15.5	-89.9			H	18.3	-91.3	
LTE-66	L	16.2							
	M	16.6							
	H	16.5	-90.4						
LTE-38	L	17.8							
	M	18.7							
	H	18.3	-90						
LTE-39	L	16.2							
	M	15.7							
	H	16.6	-88.5						

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天线测试数据

FS	Channel	TRP	TIS灭	TIS亮	FS	Channel	TRP	TIS灭	TIS亮
WCDMA-1	L	15.4			GSM850	L	24.6		
	M	15.6				M	24.6		
	H	15.2	-104.5			H	24.4	-101.9	
WCDMA-2	L	15.5			GSM900	L	27.3		
	M	15.2				M	27		
	H	15.8	-100.5			H	27	-103.4	
WCDMA-5	L	15.2			DCS1800	L	23.8		
	M	15.5				M	23.4		
	H	15.3	-103.2			H	22.7	-98.2	
WCDMA-8	L	16.7			PCS1900	L	22.4		
	M	17.2				M	22.4		
	H	16.9	-105.6			H	22.3	-98.4	



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增益

7. 天线增益 GAIN

	GAIN(dBi)		GAIN(dBi)
B1	-2.89	B38	-2.32
B2	-2.56	B39	-2.51
B3	-3.04	B40	-2.48
B4	-2.63	B41	-2.25
B5	-3.7	W1	-2.89
B7	-2.19	W2	-2.56
B8	-4.13	W5	-3.63
B12	-4.49	W8	-4.13
B13	-4.63	GSM850	-3.7
B17	-4.59	EGSM900	-4.13
B20	-3.59	DCS1800	-3.04
B28	-4.33	PCS1900	-2.56
B66	-2.63	GPS	-3.25
		2.4G WIFI	-2.99
		BT	-2.99
		5.8G WIFI	-2.43

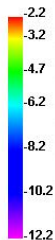
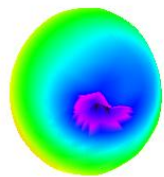


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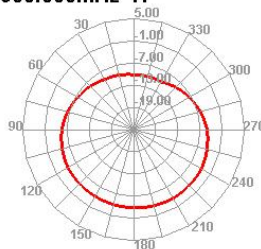
GSM天线3D方向图

低频

900.000MHz

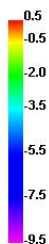
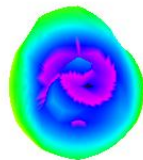


900.000MHz H

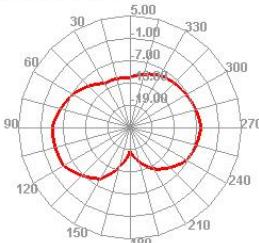


中频

1900.000MHz

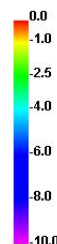
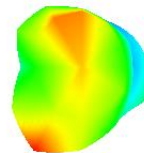


1900.000MHz H

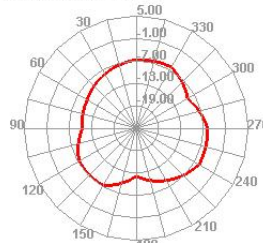


高频

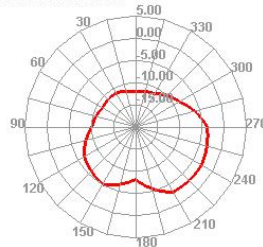
2500.000MHz



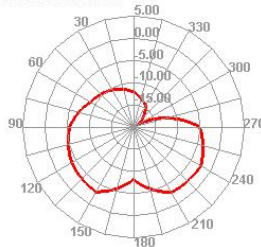
2500.000MHz H



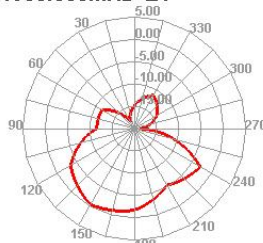
900.000MHz E1



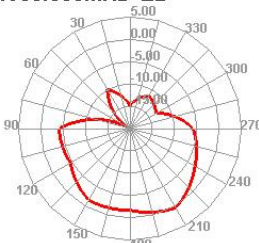
900.000MHz E2



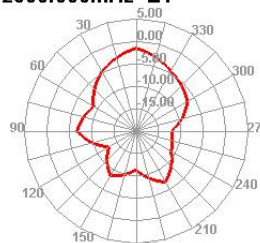
1900.000MHz E1



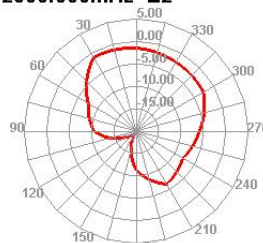
1900.000MHz E2



2500.000MHz E1



2500.000MHz E2



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三合一测试

GPS R:GLN B:BD E:GAL Q:QZS L:L1S I:IRNSS S:SBAS

Average CNR ☒ Show in single pa

35.7/-/- R:29.5/-/- B:29.6/-/-
32.4/-/- Q:29.0/-/- L:-/-/- I:-/-/-
35.0/-/-

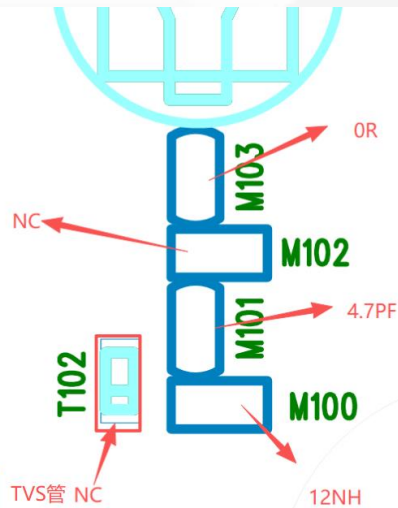
ID	CNR	ID	CNR	ID	CNR	ID	CNR
G4	34.7/-/-	G8	38.7/-/-	G9	0.0/-/-	G16	37.6/-/-
G26	41.2/-/-	G27	41.0/-/-	G28	19.1/-/-	G30	0.0/-/-
G31	37.8/-/-	R67	25.5/-/-	R68	38.7/-/-	R69	0.0/-/-
R77	0.0/-/-	R78	30.0/-/-	R79	23.3/-/-	R81	24.2/-/-
R87	0.0/-/-	R88	35.5/-/-	B1	27.4/-/-	B2	33.0/-/-
B3	33.1/-/-	B4	0.0/-/-	B5	28.8/-/-	B6	31.2/-/-
B7	35.7/-/-	B8	0.0/-/-	B9	16.8/-/-	B10	31.5/-/-
B11	30.1/-/-	B13	18.1/-/-	B16	28.8/-/-	B23	36.2/-/-
B27	16.3/-/-	B28	37.1/-/-	B32	40.0/-/-	E5	36.2/-/-
E9	29.3/-/-	E16	31.6/-/-	E24	28.2/-/-	E25	36.9/-/-
E21	0.0/-/-	E2	28.0/-/-	E3	18.0/-/-	E7	21.0/-/-

FS	Channel	TRP	TIS灭
2.4G WIFI	L	9.4	
	M	9.7	
	H	10.1	-78.3
5.8G WIFI	L	5.8	
	M	5.2	
	H	5.3	-70.2



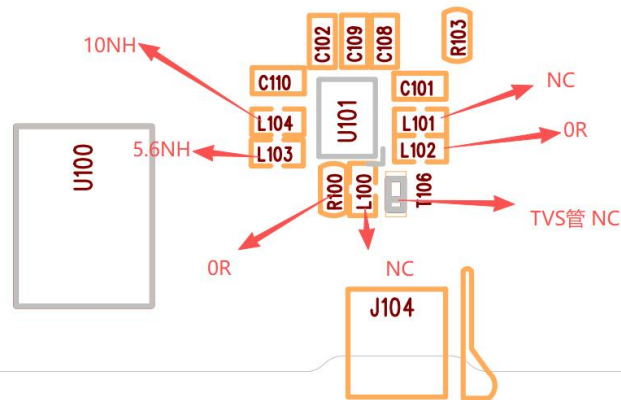
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小板匹配



1
E101

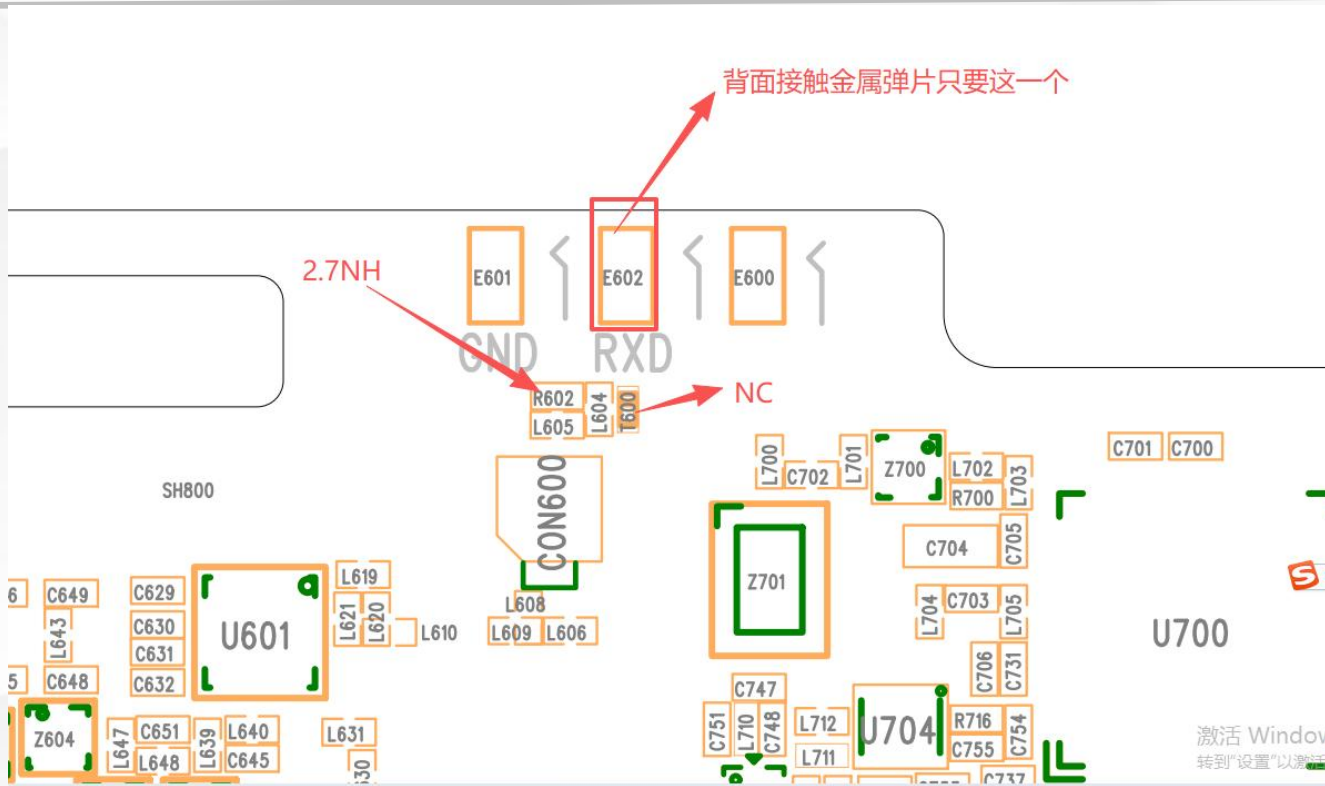
激活 Windows
转到“设置”以激活



小板匹配



分集天线匹配







NFC天线匹配

主板原匹配



NFC实测

TYPE 1卡: 3cm

TYPE 2卡: 2cm

TYPE 3卡: 2.5cm

TYPE 4卡: 1cm

TYPE 5卡: 3.5cm

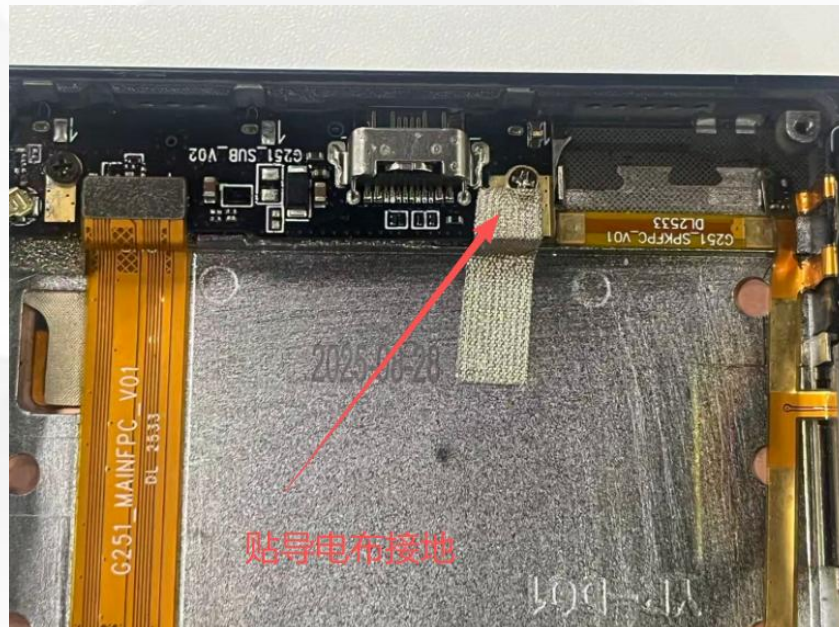
公交卡: 1cm

环境处理

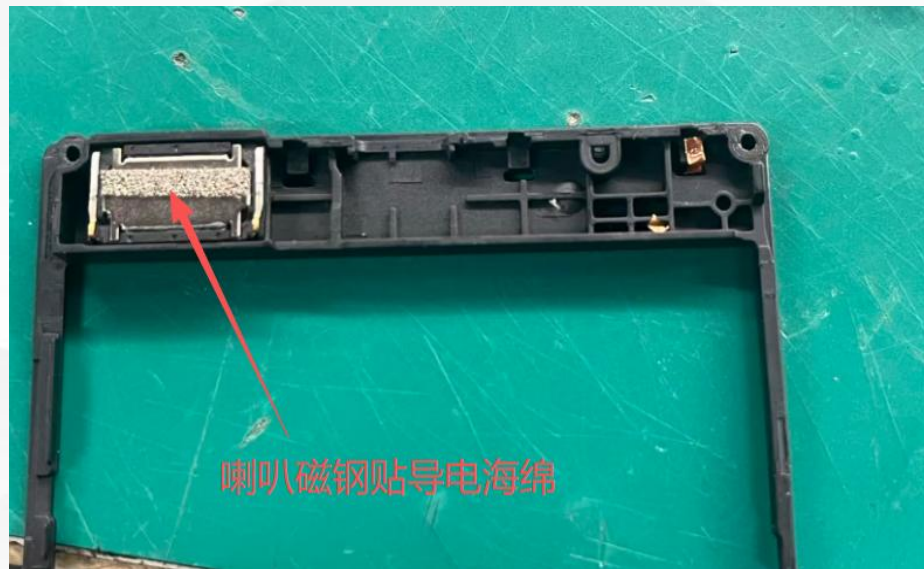


主板贴导电海绵

环境处理



环境处理





联系方式

联系方式:

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THE END

感谢您的宝贵意见！