

Confirmation of Material

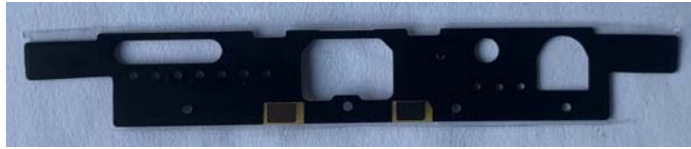
Supplier: Shenzhen Fubang wireless
Technology Co., LTD
Model NO: GM-E13GNS5
Product Name: Main antenna
Spec/Type:
Material code: 01.02.05.00015
Colour: black
Address: 3 / F, Building 1, Dalang Lianjian
Science and Technology Industrial Park,
Longhua District, Shenzhen
Contacts/phone: Zhang Haiyan 13691727201

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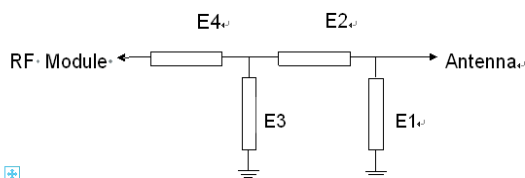
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1、Specification

This report mainly provides the testing conditions of various electric and structural performance parameters for cell phone antenna ----E11 Picture 1 shows the antenna designed by FUBANG.



2 、Matching circuit diagram



开关公共端(L1421)=27NH,RF1=0 欧,RF2=10NH,
RF3=NC,RF4=NC

Element	Value
C1402	33PF
R1413	100NH
L1401	15NH
R1405	0 欧姆
L1404	NC

3、 VSWR Testing

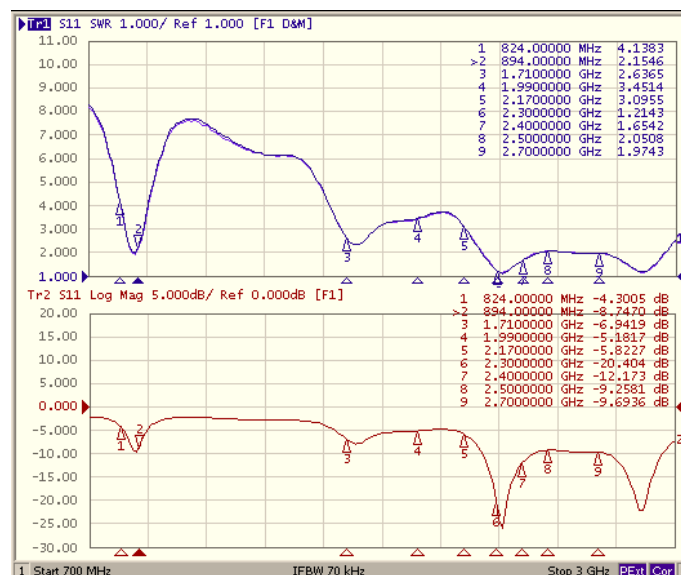
3.1 Testing connection

The VSWR testing devices are connected in sequence: Agilent5071C Network Analyzer →Testing Cable → Customer-providing Devices.

3.2 VSWR

The following table expresses the VSWR value of antenna's two edges of its frequency range. With regard to the relevant diagram of VSWR

3.3 Testing data



E11 DANT VSWR/Return Loss

Main antenna VSWR									
Freq(MHz)	824	894	1710	1990	2170	2300	2400	2500	2700
Free Space	4.13	2.15	2.63	3.45	3.09	1.22	1.65	2.05	1.97

4、Test the efficiency of the antenna Testing

4.1 Testing field

FB Microwave Anechoic Chamber : testing frequency ranges from 400MHz to 6GHz and the 40cm diameter spherical quite zone, the chamber provides less than -90dB reflectivity from 400MHz—6GHz.

4.2 Testing results

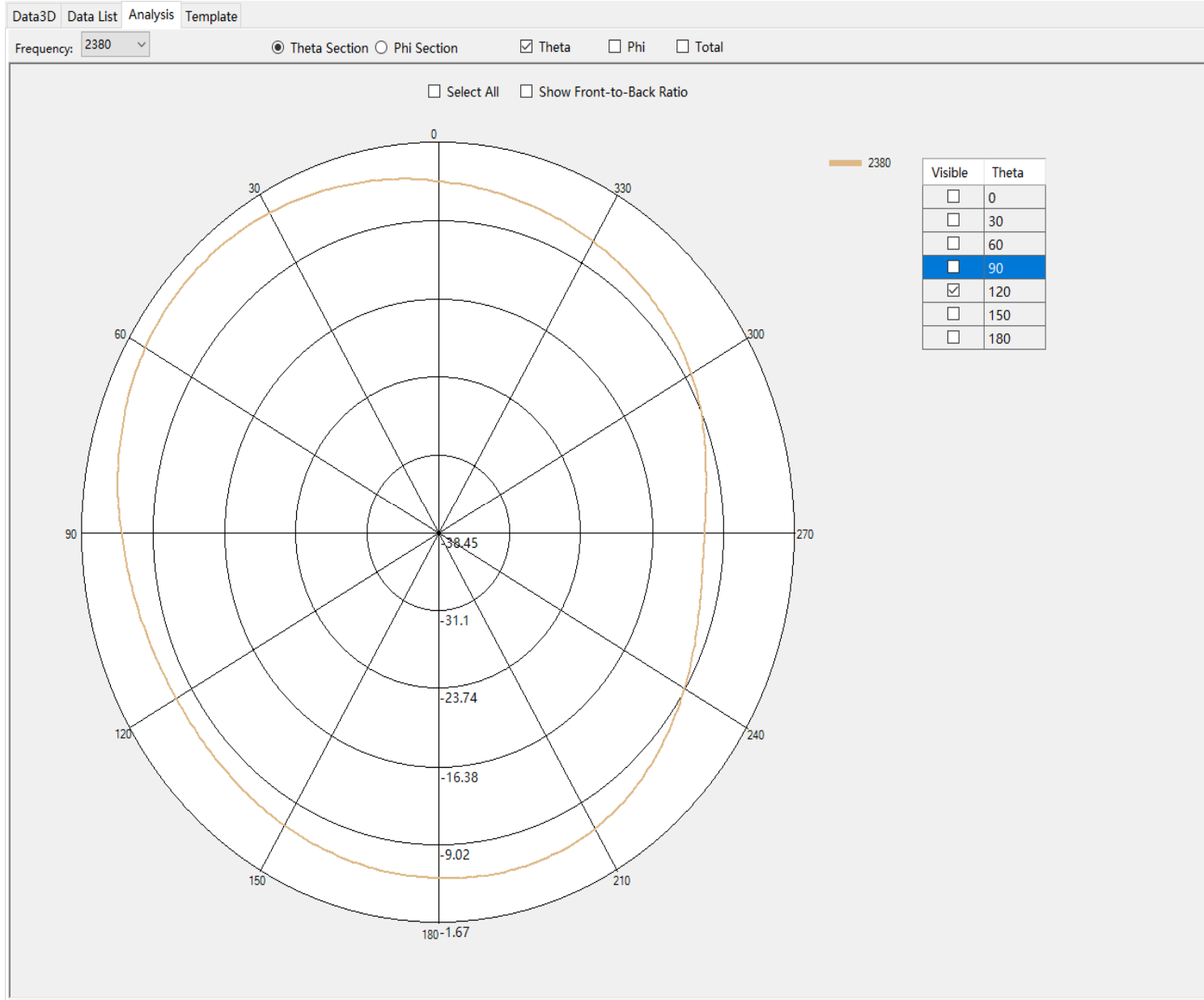
The following table indicates the testing results related to Power and Sensitivity in Microwave Anechoic Chamber, concerning the relative diagram.

Test State	Band	TRP/TIS	E11 有源数据		
			Channel		
			I	M	H
2G	GSM850	TRP	25.63	25.84	25.83
		TIS			-102.64
	E-GSM900	TRP	25.22	25.48	25.32
		TIS			-103.64
	DCS1800	TRP	24.65	25.11	25.51
		TIS			-105.25
	PCS1900	TRP	27.51	27.45	26.66
		TIS			-105.74
3G	WCDMA Band 1	TRP	19.2	18.93	18.93
		TIS			-108.48
	WCDMA Band 2	TRP	19.16	19.18	19.24
		TIS			-106.21
	WCDMA Band 5	TRP	15.92	16.04	16.38
		TIS			-106.55
	WCDMA Band 8	TRP	15.17	15.22	15.05
		TIS			-105.27
4G	LTE Band 1	TRP	19.95	19.72	19.68
		TIS			-97.09
	LTE Band 2	TRP	19.72	19.59	19.55
		TIS			-95.69
	LTE Band 3	TRP	18.68	19.06	18.88
		TIS			-96.94
	LTE	TRP	16.15	16.16	16.18
		TIS			

	Band 5	TIS			-93.47
	LTE Band 7	TRP	19.39	19.76	19.91
		TIS			-95.8
	LTE Band 8	TRP	15.73	16.01	15.77
		TIS			-93.26
	LTE Band 20	TRP	15.55	16.39	16.36
		TIS			-91.8
	LTE Band 28A	TRP	16.09	16.3	16.7
		TIS			-91.72
	LTE Band 28B	TRP	16.01	15.75	15.44
		TIS			-91.13
	LTE Band 38	TRP	19.87	19.71	19.66
		TIS			-91.68
	LTE Band 40	TRP	17.6	17.65	17.07
		TIS			-90.9
	LTE Band 41	TRP	19.95	20.16	20.58
		TIS			-91.85

Antenna Gain

Band	Gain (dBi)
GSM850	-2.7
GSM900	-2.8
DCS1800	-2.4
PCS1900	-2.3
W1	-2.1
W2	-2.3
W5	-2.7
W8	-2.8
1	-2.1
2	-2.3
3	-2.4
5	-2.7
7	-2.2
8	-2.8
20	-2.8
28A	-3
28B	-3
38	-2.2
40	-2.3
41	-2.2



5、Environmental treatment

Environment handling of the original machine.

6.Engineering Draw

深圳市孚邦无线技术有限公司

SHENZHEN FUBANG ANTENNA TECHNOLOGY CO., LTD

盐水喷雾试验报告

salt spray test report

报告编号:FUBQA221220056

日期:12月22日

产品名称 Product name	GM-E13GNS5 下主天线	送检部门 Inspection department	研发	料号 Serial No	01.02.05.00015	试样数量 Qty		5
试验日期 Date	12月20日	试验时间 Test time	48H	开始START	12月20日10:00	客户Customer		
				结束OVER	12月22日10:00	供应商Supplier	/	
试验条件 Condition	项目 Item				标准 Standard	实测Actually measure		条件判定 Judge
						MAX	MIN	
	试验前产品清洗 Test before cleaning products				GB/T2423.17-2006	用清水清洗		OK
	产品放置方法 Location mode				GB/T2423.17-2006	15° ~30°		OK
	压缩空气动力 Compressed air power				(1.0±0.1)Kg/cm	1.1	0.9	OK
	实验室温度 Laboratory temperature				35±1℃	36℃	34℃	OK
	实验室相对湿度 Test chamber relative humidity				85%RH	/		OK
	环境温度 Environment temperature				常温	/		OK
	压力桶温度 The pressure barrel temperature				47±1℃	48℃	46℃	OK
	盐水桶温度 Brine hourse temperature				35±2℃	37℃	33℃	OK
	盐水浓度 Brine density				1:20(5±1)%	5% NaCL溶液		OK
	盐雾沉降量 Spray volume				1~2ml/H/80cm²	1.7	1.4	OK
	NaCL品质 NaCL				工业盐	建新氯化钠		OK
	蒸馏水品质 Distilled water				饮用纯净水	纯净水		OK
	其它 Other				/	/		OK
试验结果 Experiment a result	白色腐蚀率				GB/T6461-02	无		OK
	样件试验后的外观				GB/T6461-02	/		OK
说明： 1. 盐雾试验作业标准依照中华人民共和国国家标准 GB/T2423.17-2006执行。 2. 试件外观判定标准依照中华人民共和国国家标准GB/T6461-02标准执行。 3. 判定方法：试样表面白色腐蚀率为0%为保护级别10级；白色腐蚀率为0~0.1% 为保护级别9级；白色腐蚀率为0.1%~0.25%为保护级别8级					Explain: 1.Salt fog experiments homework standard according to the People's Republic of China national standard GB/T2423.17-2006 performances. 2. Judge standard according to the People's Republic of China national standard GB/T6461-02 standard a performance. 3. Judge a method:Try the kind surface white corrosion rate as 0% for protect Class 10 classes;The white corrosion rate is 0~0.1% is protect Class 9 classes;The white corrosion rate is 0.1% ~ 0.25% is to protect Class 8 classes			
批准 Grant			审核 Examine		试验员Test clerk			
刘丽萍			刘丽萍		Wind			

FUB-4-PG-051/A.1

9.QC Engineering Chart

QC Engineering Chart

Customer(客户)		酷比		Written By(制作)		付仁松		Orig. Date(制作日期)		2020.12.27	
Description(零件名称)		FPC天线		Revised By(校订)		杨文杰		Revised Date(校订日期)		2020.12.27	
流程编号 Process Number		流程名称 Process Name		制程描述 Proce		产品 Product		Approved Date(确认日期)		2020.12.27	
				控制项目 control item		检验方式 check mode		频率Freq		检验方法 Check method	
1	IQC	来料检验 Incoming inspection	成品 finish goods	外观Appearance、颜色Color、材质Materials、版本Version	Batch inspection, RestrainingGB2828-2003 General II level, AQL: CR=0, MAJ=0.4, MIN=1.0Sampling	每批 Each Batch	目检Visual inspection、依据《FPC检验标准》Basis《FPC Inspection standard》《零件图纸》《Part drawing》	《FPC检验标准》《FPC Inspection standard》《零件图纸》《Part drawing》《材质证明》《Material Certification》	IQC Test Report	担当 Inspector	记录 Record
				盐水喷雾试验 Salt spray test	SPCS	每批 Each Batch	《可靠性试验标准》 《Reliability test standard》	《可靠性试验标准》 《Reliability test standard》			
				尺寸 Size	SPCS	每批 Each Batch	二次元进行量测 The quadratic element is measured	《零件图纸》《Part drawing》			
				RoHS符合性 ROHS Conformity	标识全检labeling full inspection	每批 Each Batch	每个包装是否有环保标识? 标识是否符合要求? Is there an environmental label on each package? Does the logo meet the	标识符合要求, 无漏贴Mark meets the requirements, no missing paste			
				包装材料 Packaging materials	Batch inspection, RestrainingGB2828-2003 General II level, AQL: CR=0, MAJ=0.4, MIN=1.0Sampling	每批 Each Batch	目检Visual inspection、依据《FPC检验标准》Basis《FPC Inspection standard》《零件图纸》《Part drawing》	《FPC检验标准》《FPC Inspection standard》《零件图纸》《Part drawing》《材质证明》《Material Certification》			
				尺寸 Size	SPCS	每批 Each Batch	用直尺量测量相应尺寸/实装Use ruler to measure corresponding dimension/actual	《零件图纸》《Part drawing》			
				RoHS符合性 ROHS Conformity	标识全检labeling full inspection	每批 Each Batch	每个包装是否有环保标识? 标识是否符合要求? Is there an environmental label on each package? Does the logo meet the	标识符合要求, 无漏贴Mark meets the requirements, no missing paste			
				外观Appearance	全检full inspection	每批 Each Batch	《FQC检验指导书》《FQC inspection instrude	《FPC检验标准》 《FPC Inspection standard》			
				成品 finish	全检full inspection	每批 Each Batch	Visual inspection、Basis《Specification for product packaging identification》&《BOM》	《Specification for product packaging identification》 《BOM》			
				包装标识 Package label	全检full inspection	每批 Each Batch	Visual inspection、Basis《Specification for product packaging identification》	《FPC检验标准》 《FPC Inspection standard》			
2	FQC	外观检验 Outgoing inspection	成品 finish goods	Batch inspection, RestrainingGB2828-2003 General II level, AQL: CR=0, MAJ=0.4, MIN=1.0Sampling	每批 Each Batch	二次元进行量测 The quadratic element is measured	《成品外观图》《Exterior drawing of finished product	OQC Fins hed produ ct report			
			重点尺寸 Important Size	SPCS	每批 Each Batch	每个包装是否有环保标识? 标识是否符合要求? Is there an environmental label on each package? Does the logo meet the requirements?	标识符合要求, 无漏贴Mark meets the requirements, no missing paste				
			RoHS符合性 ROHS Conformity	标识全检labeling full inspection	每批 Each Batch	每个包装是否有环保标识? 标识是否符合要求? Is there an environmental label on each package? Does the logo meet the requirements?	标识符合要求, 无漏贴Mark meets the requirements, no missing paste				

报告编号:FUBQA221222058

日期:12月21日

深圳市孚邦无线技术有限公司

SHENZHEN FUBANG Electronic TECHNOLOGY CO., LTD

镀金厚度检验报告

Gold thick test report

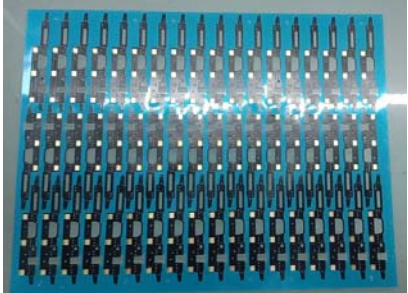
品 名 Product name	GM-E13GNS5 下主天线				料 号 Serial No		01.02.05.00015			批 量 Batch		5PCS		
厚度标准	Au: 0.5uin, NI:50-150uin													
序 号 Number	测试结果 Test results												备注Remark	
	CU um				NI um									
	1#	2#	3#	4#	5#	1#	2#	3#	4#	5#				
1	0.55	0.53	0.56	0.57	0.52	105.7	115.9	105.65	118.3	119.2				
	以下空白													
量具代号 Code	牛津仪器 Smartlink												最终判定 OK	
备注 Remarks														

FUB-4-PG-067/A.1

核准: 刘丽萍

审核: 刘丽萍

检验员: Wind

		
用 PE 膜打包 with PE film packaging	防潮防水 PET 袋封装 Moistureproof waterproof PET bag packaging	放于纸箱内 Put in the cartons
		
纸箱用胶带封口 Carton sealing with duct tape	包装箱整箱外观 Cases appearance	