



深圳市迪比通通讯设备有限公司

SHENZHEN DIBITONG TELECOMMUNICATION TECHNOLOGY CO.,LTD.

蓝牙天线

BT antenna

产品设计与制造规格书

Product design and manufacturing specifications

◆ 客户名称/ Customer: GUNING

◆ 项目名称/Projec: GUNING S2

◆ 物料名称/Name: BT Antenna

◆ 天线材质/Antenna materials: FPC

◆ 物料编号/Part no:

◆ 设计/Designer:

◆ 审核/Check:

◆ 客户确认签章/Approved:

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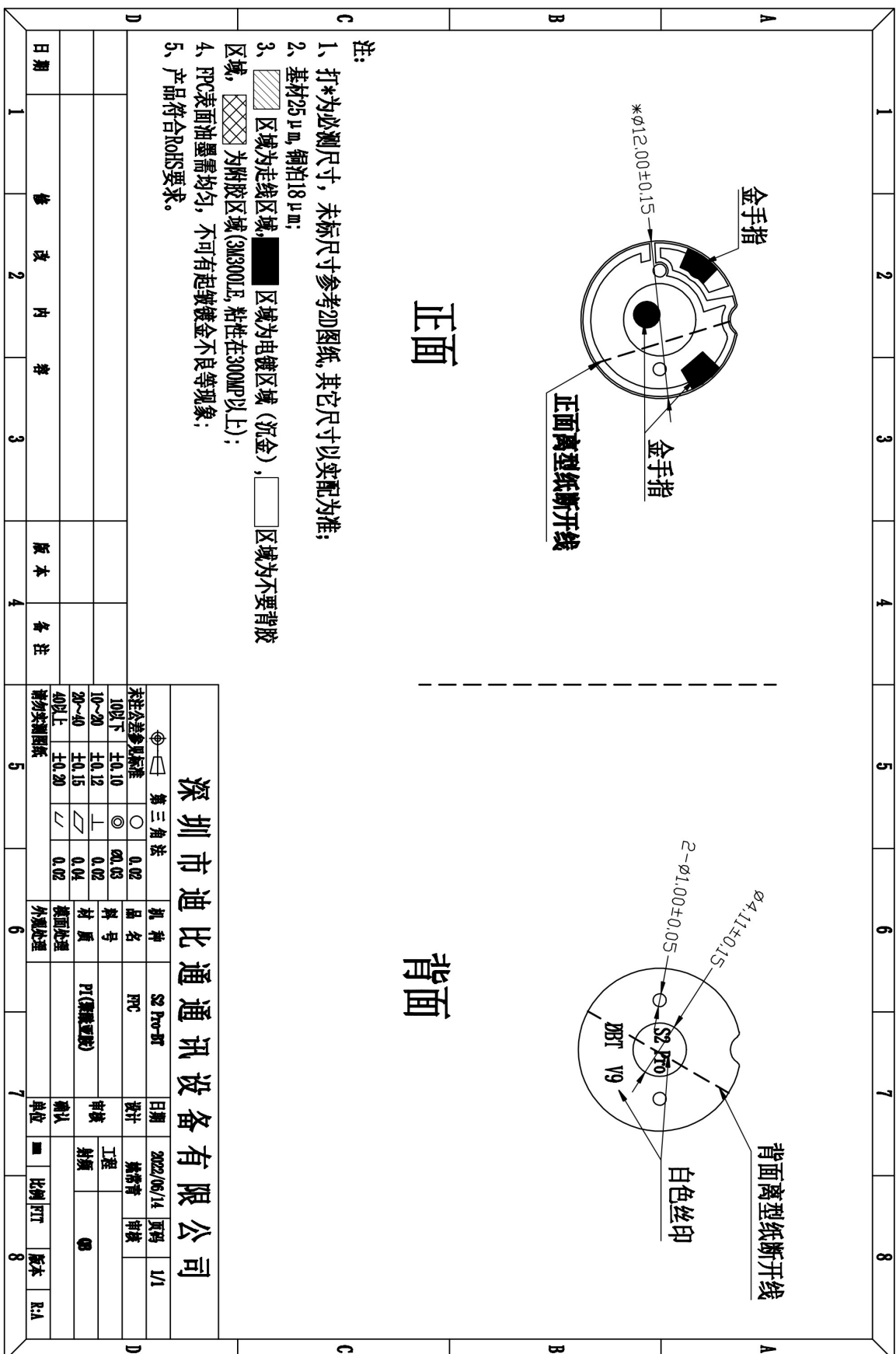
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1. 天线 2D 图/Antenna 2D diagram

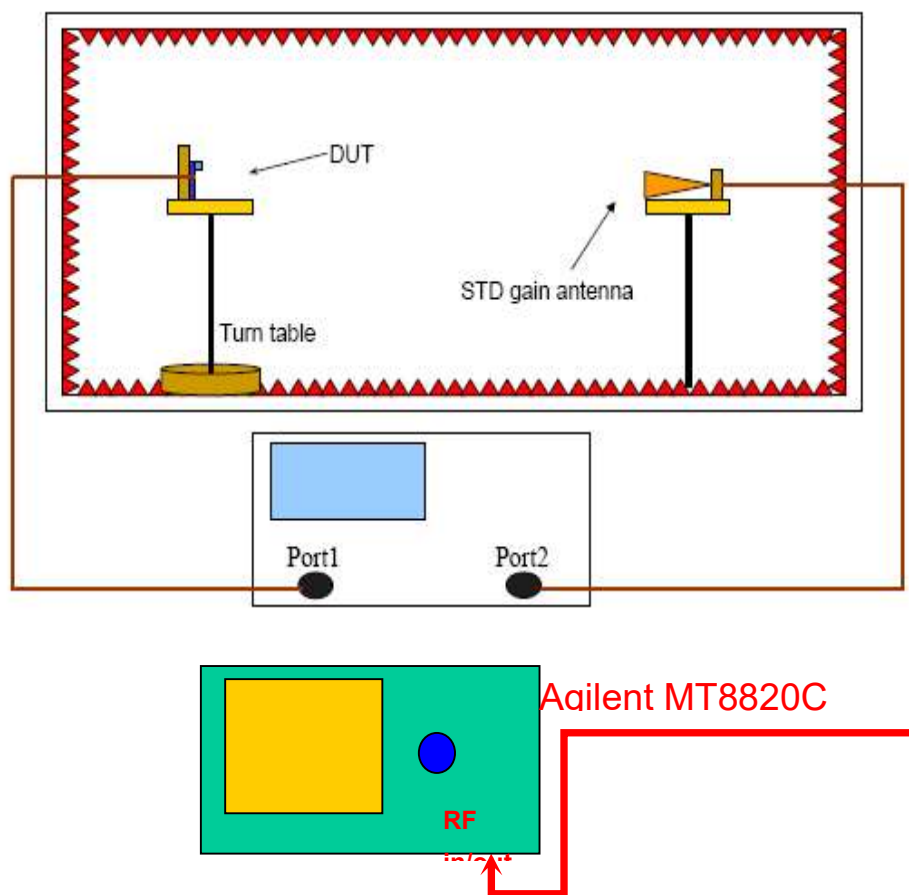


2.技术指标/ Technical target

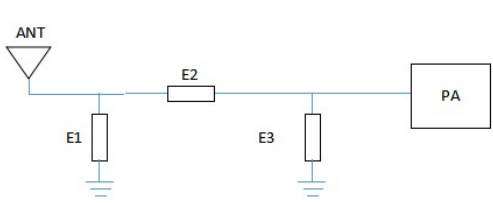
A. 电气性能/Electrical Parameter	
工作频率范围/Frequency Range	2.4G-2.485GHz
驻波比/VSWR	2.4G-2.485GHz
天线增益/Gain	2.4G-2.485GHz MHz: -3.68 dBi
辐射效率/Radiation efficiency	2.4G-2.485GHz : 13%
阻抗/Input Impedance	50 ohm
B. 材料/ Material	
FPC	
C. 环境/Environmental Science	
工作温度/Working Temperature	- 30°C ~ + 85 °C
储藏温度/Storage temperature	- 30°C ~ + 85 °C

3.动态测试数据--- 天线安置在设备里/Dynamic test instructions - Antennas are placed in electronic scales

测试仪器 / Testing instrument : **Anrits CMW500+ Anechoic Chamber**
6X4X3m(3D-OTA)



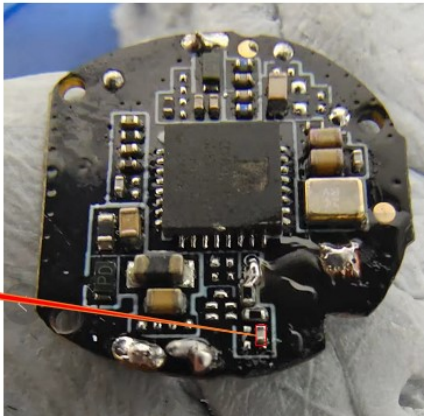
4.匹配电路/Matching Circuit



Element	左耳(L)	右耳(R)	
E1(0201)	1.8PF	1PF	
E2(0201)	0欧姆	0欧姆	
E3(0201)	N/A	N/A	

左右耳匹配改动

注： 我司已经改动匹配。

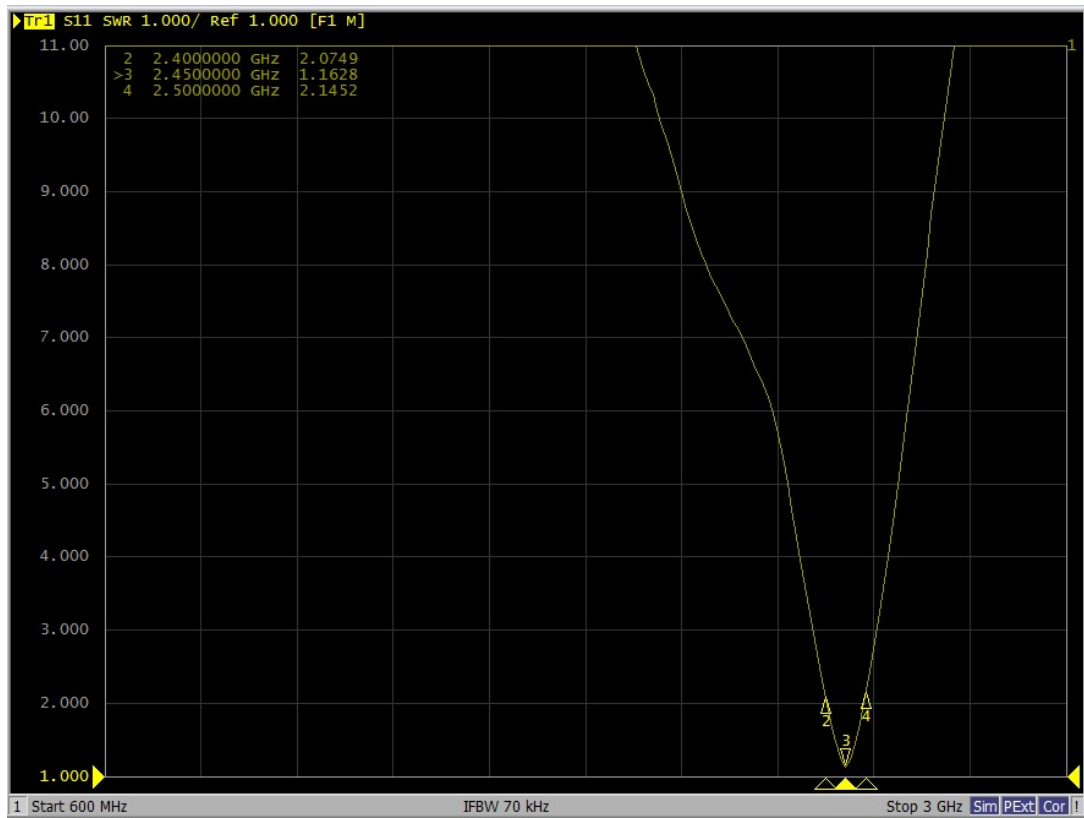


5.天线实际测试数据/Antenna test report

L				
Test Result	Bluetooth TRP			
	0	39	78	
Frequency (MHz)	2402	2441	2480	
Txp Ave(dBm)	-1.3	1.1	1.8	
Test Result	Bluetooth TIS			
	0	39	78	
Frequency (MHz)	2402	2441	2480	
Sens Ave(dBm)	-81.04	-83.25	-83.19	

R				
Test Result	Bluetooth TRP			
	0	39	78	
Frequency (MHz)	2402	2441	2480	
Txp Ave(dBm)	-0.57	0.68	0.49	
Test Result	Bluetooth TIS			
	0	39	78	
Frequency (MHz)	2402	2441	2480	
Sens Ave(dBm)	-80.64	-81.22	-81.17	

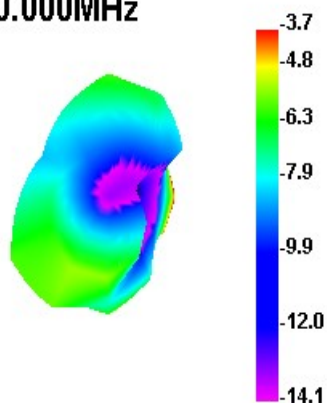
天线 S11 参数/Antenna S11 parameter



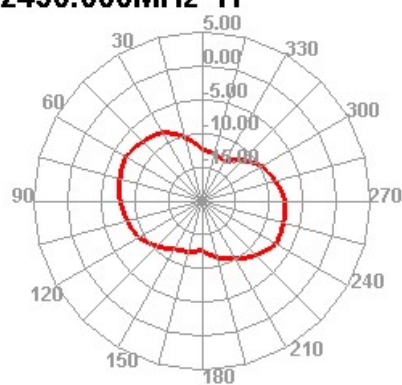
天线效率/增益/方向图/Antenna Efficiency/gain/pattern

Freq (MHz)	Effi (%)	Gain (dBi)
2400	11.74	-5.67
2410	12.22	-4.92
2420	12.81	-4.76
2430	12.93	-4.6
2440	12.61	-4.6
2450	15.92	-3.73
2460	14.94	-4.1
2470	15.41	-3.79
2480	17.04	-3.68
2490	16.63	-3.79
2500	16.99	-3.86

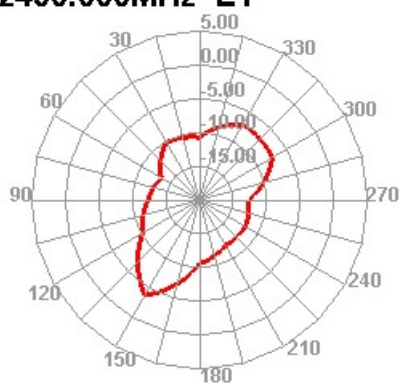
2450.000MHz



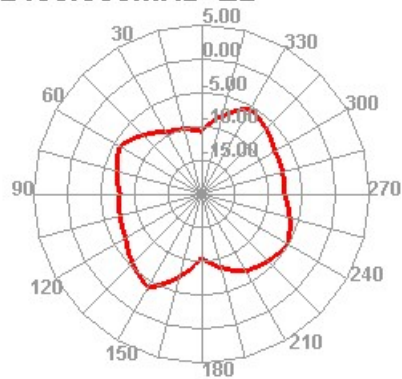
2450.000MHz H



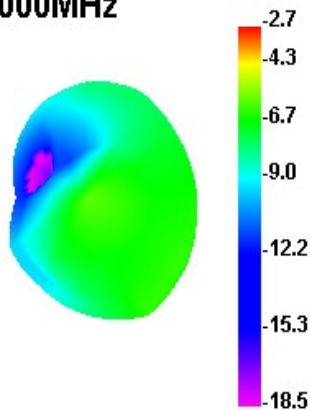
2450.000MHz E1



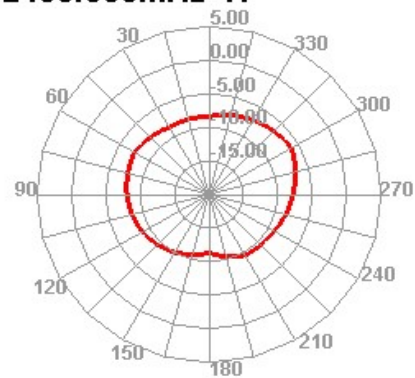
2450.000MHz E2



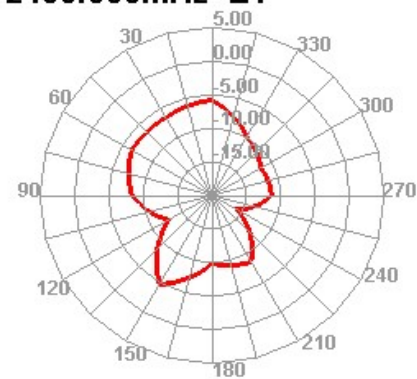
2450.000MHz



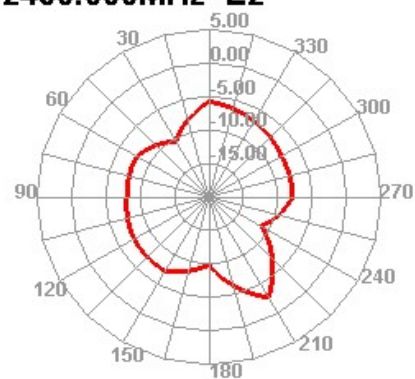
2450.000MHz H



2450.000MHz E1



2450.000MHz E2



实测

温度： 30℃ 湿度： 70%RH 天气： 阴 地形： 空旷天台

蓝牙耳机实测方式：

1：口袋测试：

测试要求：手机放置在裤子前后左右口袋，手机屏幕贴身（测试人员BMI为24-26），测试者抬头左右转/低头左右转/左右转（180°）、甩手臂、下蹲、用手遮挡手机的动作，测试是否会出现断音。

2：直线拉距测试：

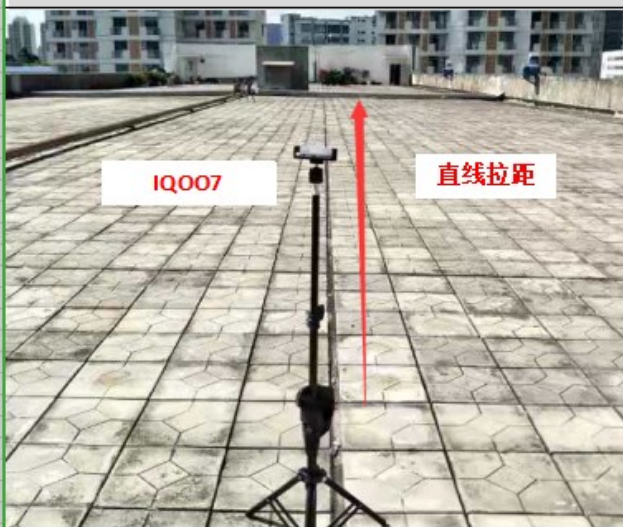
测试要求：将测试手机放置在空旷区域中的支架上，手机屏幕朝上，以手机为起点作直线行走，直到耳机出现卡顿为止。针对卡顿区域，测试员做口袋测试，若有卡顿，则往回走直到没有卡顿为止。

实测结果（拉距测试）：

测试手机 (iq007)
距离 (米)
26米
捂耳 (米)
6米

实测结果（近身测试）：

1：放口袋以上3种情况不会卡顿。



注/Remark:

1. 以上测试结果限于测试样机/The above test results are limited to the test prototype.
2. 整机壳料工艺、软件版本、配件(摄像头 FPC、喇叭、听筒、马达、电池等)、芯片的改变都会导致整机天线性能变化。/Full shell material technology, software version, accessories (camera, FPC, speaker, receiver, motor, battery, etc.), core
The performance of the whole antenna will change with the change of the chip.
3. 整机的环境处理（如接地位置、尺寸，屏蔽方式等）改变会导致整机性能变化。/The change of environmental treatment (such as grounding position, size, shielding mode, etc.) of the whole machine will lead to the change of the performance of the whole machine.

郑重申明/Solemnly declare:

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