



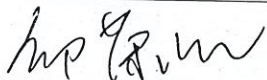
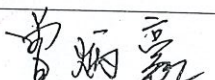
深圳甲壳虫智能有限公司

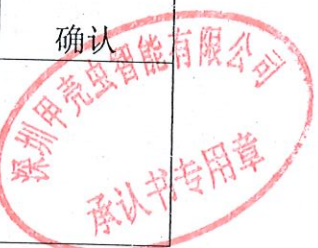
密级：一般文件

物料承认书

MATERIAL FOR APPROVAL

编号: JKC-BD-ISC-001

供应商(代理商): PROVIDER:	深圳市盛邦尔科技有限公司		
品名规格 DESCRIPTION:	2.4GHZ WIFI 模块用 FPC 天线 200mm 黑色同轴线 线径 1.13mm 带一代端子		
品牌(型号): BRAND (P/N):	扫地机 3160-170-00222-V01		
甲壳虫料号:	B151200002		
承认版本:	A0	变更内容:	
图纸版本:	A0	变更内容:	
承认类别: APPROVAL TYPE:	☒ A. 新物料 ☐ B. 替代物料 ☐ C. 临时样 ☐ D. 版本升级		
送样日期: DATE	2021-11-29		
供应商会签	结构/电子 	品质  受控技术文件	批准 

甲壳虫承认栏					
会签					确认 
结构□	ID□	包装□	硬件□	品质□	
			阳海 2021.12.3	2021.12.10	



盛邦尔

深圳市盛邦尔科技有限公司

Shenzhen Surbaner Technology CO.,LTD

承 认 书

SPECIFICATION FOR APPROVAL

客户名称 Customer Name	甲壳虫		
客户项目名 Customer Project Name	扫地机	盛邦尔项目名 Surbaner Project Name	扫地机
客户编码 Customer P/N	B151200002	盛邦尔料号 Surbaner P/N	3160-170-00222-V01
频段 Band	2400-2500MHz		
版本号 Version	A0		
设计人信息/Designer Information			
射频工程师 RF Engineer	周洪亮	研发主管 R&D Director	周洪亮
结构工程师 ME Engineer	hnp		

长胜电子审批/Surbaner Approval				客户批准/Customer Approval	
	制作 Prepared By	审核 Checked By	批准 Approval By	审核 Checked By	批准 Approval By
签章 Signature	刘胜荣	刘胜荣	刘胜荣		
日期 Date	2021. 11. 29	2021. 11. 29	2021. 11. 29		

修订履历/Change Log				
版本 Version	修订内容 Change Description	责任人 Person in Charge	核准 Approval By	日期 Date

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产品图纸或实物图片

Drawing or Product Image

1				2				3				4				5				6				7				8			
Rev				Description				Date				Remark				Rev				Description				Date				Remark			
A				New Drawing												B															
B																C															
A																															

技术要求:

1. 注意端子开口朝向, 焊接牢固, 无假焊, 虚焊, 拉尖, 等焊接不良。
2. 标“*” 尺寸为重点管控尺寸;
3. 未标注尺寸依照图纸;
4. 所有零件需符合RoHS 2.0 要求;
5. 成品需全检性能。

丝印字符
SUR-扫地机-2.4-V1.0

1				2				3				4				5				6				7				8							
Part No.				Name				Specification				Amount				Remark				Location				Project				Date				2021-09-28			
5																																			
4																																			
3																																			
2				同轴电缆				1.13 双轴电缆 黑色4代端子				1																							
1				PC				电焊铜 一对半 黑色				1																							
No.																																			

深圳市盛邦尔科技有限公司

1				2				3				4				5				6				7				8																															
Project				Third Angle				Part No.				Part No.				Material				Dwg No.				Date				Designed by				Checked by				Approved by				Unit				mm				Scale				1:1				Rev			
扫地机				0.02				3180-170-00222-101				3180-170-00222-101				/				3180-170-00222-101				2021-09-28				曾荣源				邱洪亮																											

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样品尺寸测量报告

Sample Dimensions Test Report

客户名称 Customer Name	甲壳虫	客户料号 Customer P/N	B151200002	盛邦尔料号 Surbaner P/N	3160-170-00222-V01
测试日期 Test Date	2021/11/29	样品数量 Sample Qty.	3	测试人 Inspector	曾心荣
尺寸编号 Dimension No.	标准 Standard	样品 1 Sample 1	样品 2 Sample 2	样品 3 Sample 3	Pass/NG
①长度	34.4±0.2mm	34.42	34.43	34.45	Pass
②宽度	10.3±0.2mm	10.31	10.32	10.33	Pass
③厚度	0.12±0.05mm	0.121	0.122	0.125	Pass
④线长	200±3mm	200.03	200.05	200.11	Pass
⑤					
⑥					
⑦					
最终结论 Conclusion					PASS
测试人&日期 Inspector & Date	曾心荣 2021/11/29		批准&日期 Approval & Date		

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射频性能测量报告

RF Performance Test Report

客户名称 Customer Name	甲壳虫	项目名称 Project Name	扫地机	盛邦尔料号 Surbaner P/N	3160-170-00222-V01
频段 Band	2400-2500MHz	测试日期 Test Date	2021/7/14	测试人 Inspector	周洪亮

天线测试设备简介

Antenna Test Equipment Introduction

测试天线输入特性使用 Agilent E5071C and Agilent 5062A 矢量网络分析仪；辐射特性利用 Satimo 三维近场暗室进行测试，并分别使用 8960 E5515 和 Agilent E4438C 进行了分析。暗房的测试坐标如下：

Test of antenna input characteristics using Agilent E5071C and Agilent 5062A vector network analyzer; The radiation pattern of the antenna are tested using the Satimo starlab 3D near field Anechoic Chamber, and the instrument is used to agilent8960 E5515 and Agilent E4438C. The test coordinates of the darkroom are as follows:

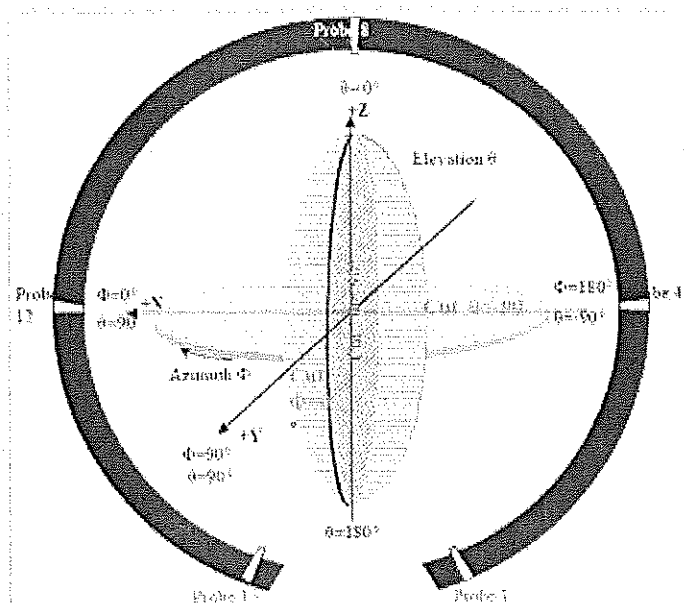


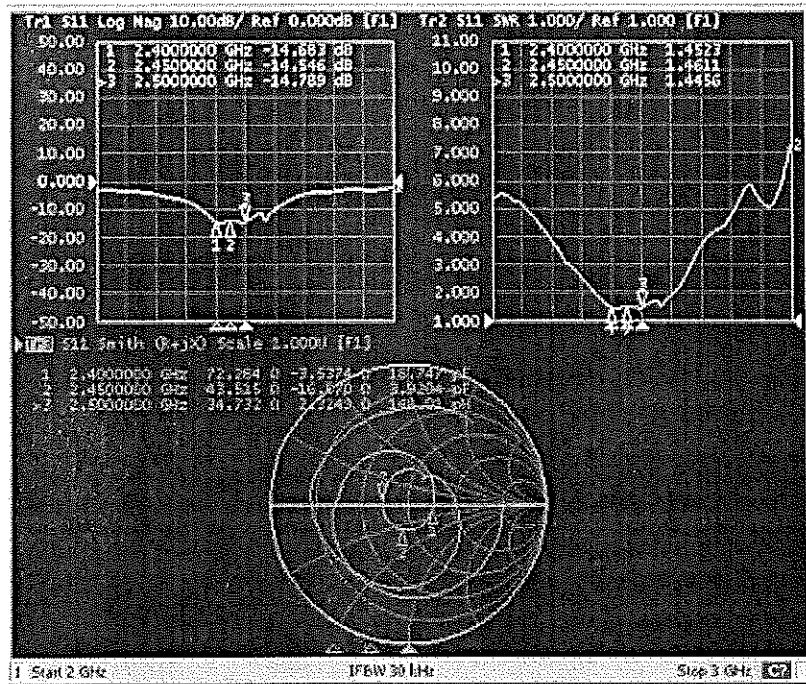
图4 3D 微波暗室测试坐标系(back view)

1. S11 参数测量/Passive S11 parameter

使用一根 50 Ω 同轴电缆连接到天线，然后该电缆连接到网络分析仪测量 S11 参数，被测量产品远离金属至少 20 厘米。

Measuring Method is a 50 Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the S11 parameter, Keeping this fixture away from metal at least 20cm.

S11 Parameter-VSWR-2.4GHZ

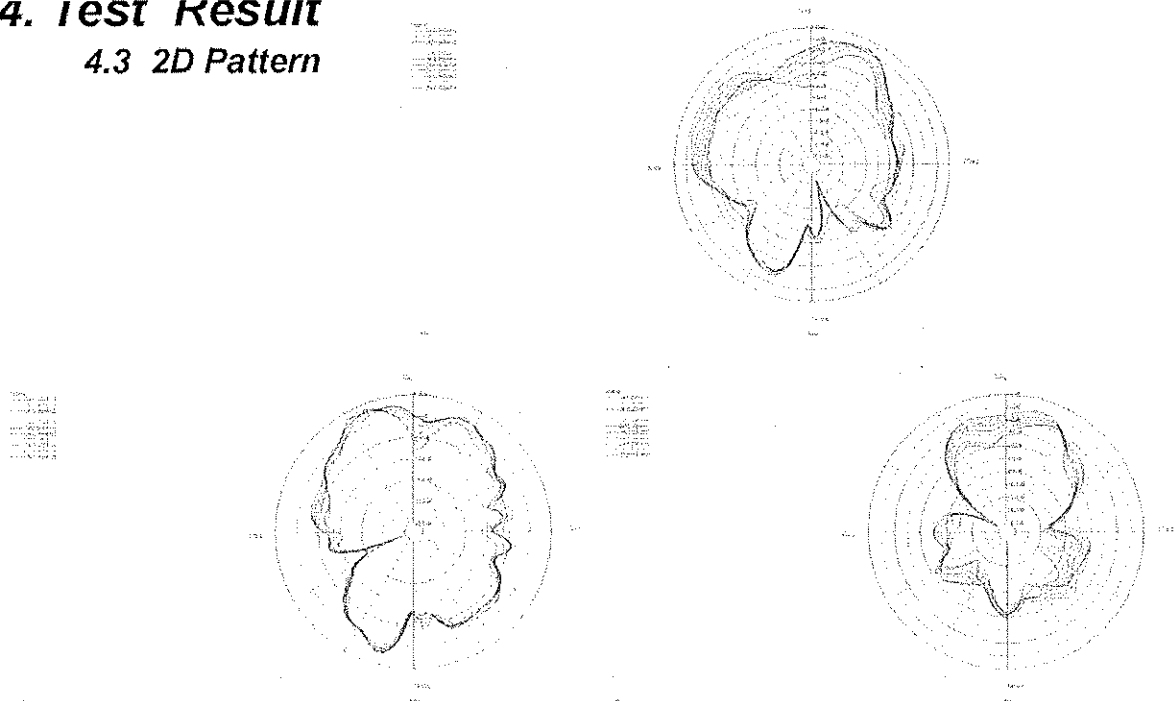


Frequency	2400	2450	2500
VSWR	1.45	1.46	1.44

2. 2D Pattern

4. TEST RESULT

4.3 2D Pattern





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3. Test Result

Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400.0	3.93	55.74
2410.0	3.87	56.34
2420.0	3.74	56.36
2430.0	3.50	56.90
2440.0	3.32	57.45
2450.0	3.49	59.42
2460.0	3.62	61.79
2470.0	3.66	63.26
2480.0	3.84	64.72
2490.0	4.03	65.08
2500.0	4.07	64.86

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可靠性测试报告

Reliability Test Report

客户名称 Customer Name	甲壳虫	客户料号 Customer P/N	B151200002	盛邦尔料号 Surbaner P/N	3160-170-00222-V01	
测试日期 Test Date	2021/11/27	样品数量 Sample Qty.	3	测试人 Inspector	何春辉	
测试项目 Test Item	要求 Requirement	试验设备 testing equipment	样品 1 Sample 1	样品 2 Sample 2	样品 3 Sample 3	判定 PASS/NG
高温存储	在+70℃条件下暴露 24H, 恢复 2H 后进行测试	恒温恒湿箱	OK	OK	OK	Pass
低温存储	在-30℃条件下暴露 24H, 恢复 2H 后进行测试	恒温恒湿箱	OK	OK	OK	Pass
高温工作	在+60℃条件下通电工作 24H	恒温恒湿箱	OK	OK	OK	Pass
低温工作	在-20℃条件下通电工作 24H	恒温恒湿箱	OK	OK	OK	Pass
盐雾试验	(5 ± 0. 5)%氯化钠、pH 值为 6. 5~7. 2, 实验箱温 度 (35 ± 2) °C ☐ 24H ☒ 48H	盐雾试验机	OK	OK	OK	Pass
连接器铆压 拉拔力	1. 13 线径 ≥10N 0. 81 线径 ≥8N RG174 ≥60N RG178 ≥40N	推拉力计	≥10N	≥10N	≥10N	Pass
最终结论 Conclusion						Pass
测试人 & 日期 Inspector & Date	何春辉 2021/11/29		批准 & 日期 Approval & Date			

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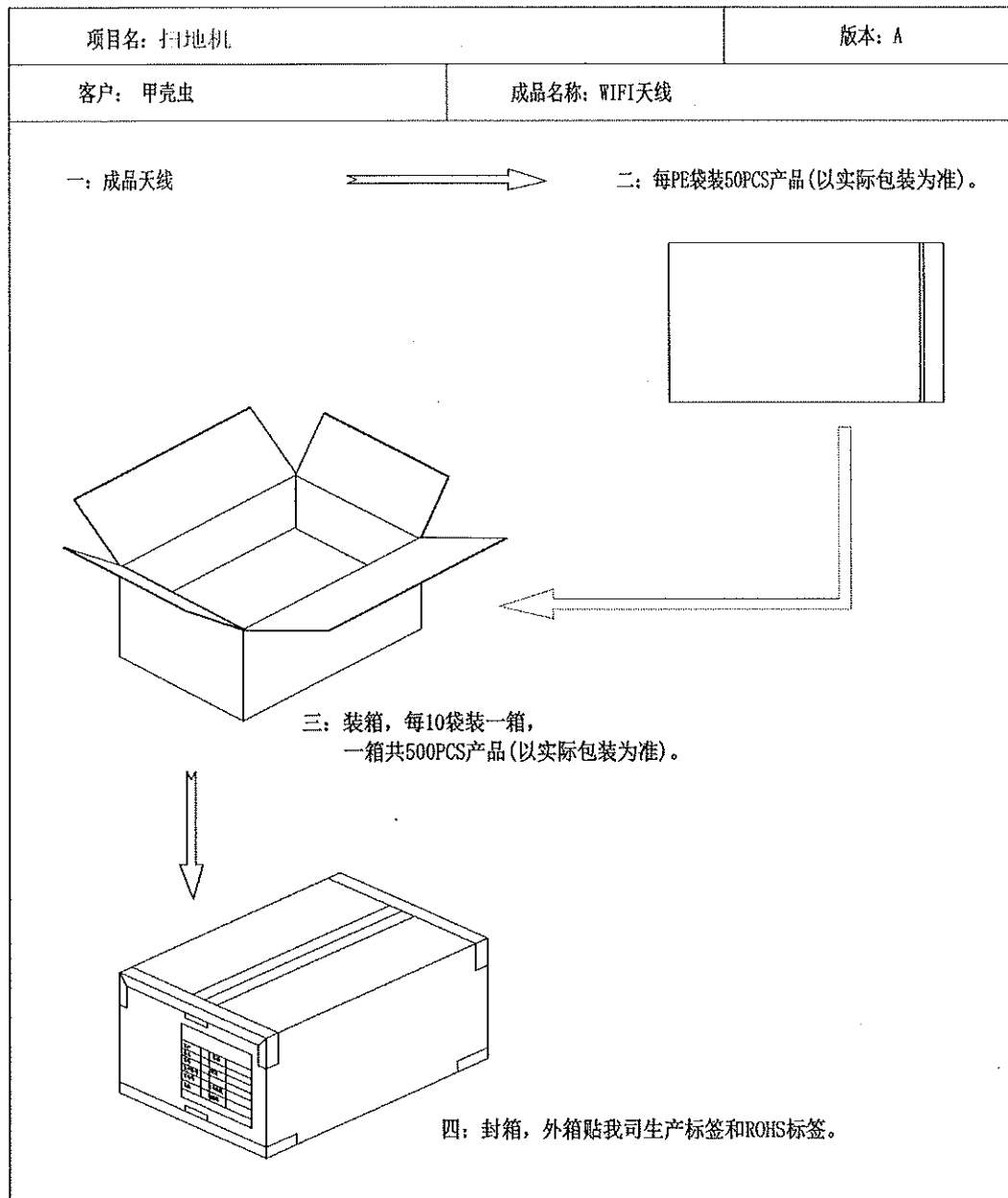
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产品包装规范

PACKING CRITERION

产品包装规范

page: 1 of 1



批准: _____

确认: _____

拟制: 邹荣凯

产品 ROHS 成分宣告表

产品名称	均匀物质材料	有害物质含量 (PPM)										HS 测试报告编号	HS 测试报告日期
		Pb	Cd	Hg	Cr6+	PBBs	PBDEs	DEHP	BBP	DBP	DIBP		
主机天线	FPC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ETR21502304	21/5/18
		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CANEC2023183701	21/1/4
		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	SZXEC2003213409	20/12/29
		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	A2210154747102001	21/4/26
		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ETR21805816	21/9/6
		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	SZXEC2002972401	20/12/4
	线材	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NGBML2100232101	21/1/27
		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	SHAEC2118552905	21/8/30
		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	HKTEC2102511709	21/6/11
		5	ND	ND	ND	ND	ND	ND	ND	ND	ND	CANEC2102353602	21/2/25
	端子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ETR21801352	21/8/13
		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	A2210394436101001	21/9/27
		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ETR21502304	21/5/18

安装事宜或其它

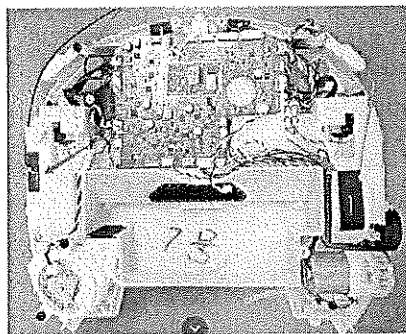
Install Wizard or Other

安装过程:

取 1PCS 产品, 用手撕下 FPC 背面的离型纸, 然后将 FPC 定位孔位置与外壳定位孔位置 (定位筋位或定位线) 对齐, 平整的贴附与外壳上, 具体位置如下图所示:

安装过程注意事项:

- ☒ 粘贴天线后保证 FPC 完整贴附于外壳;
- ☒ 定位孔与外壳定位柱位置对齐;
- ☒ FPC 边缘与外壳边缘对齐;
- ☒ 带端子天线在将端子扣合到主板 PCBA 端时请首先对齐端子, 然后垂直扣合;
- ☒ 拆卸天线端子时需使用工具 (如专用撬棍) 垂直翘起端子, 不可直接拽线拆卸。



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