

器件规格承认书

SPECIFICATION FOR APPROVAL

供应商名称 Supplier Name: 深圳市盛邦尔科技有限公司

器件名称 Product Name: 915MHz 天线-车

型号规格 Product Type: 915MHz 天线-车:PCB FR4 78.00*10.00*1.0MM 单面板 OSP

正面黑油 丝印白色: SUR-TM01-915-Car-V1.1/ 黑色 1.13 锡锡线+一代端子 线长

L=230MM(±5)/双面胶 3M9448A 77.4*9.4MM T=0.15MM

拓邦料号 TOPBAND PN: 1616D948B

制造商名称 Manufacturer Name: SURBANER

制造商料号 Manufacturer PN: 3160-170-00657-V01

环保属性 Environmental properties: ☒RoHS ☒REACH ☐HF ☐PAHS ☐其他

湿敏等级 MSL: MSL1

承认书版本 Spec Version: V1.1

送承日期 Supply Date: 2023.03.25

供应商确认信息 Approved by Supplier			拓邦确认信息 Approved by Topband		
拟定	批准	业务接口人	器件确认人	研发	采购
刘胜荣	曾炳豪	李星			

供应商信息 Supplier Information (加盖公章):

变更记录

Change History list

变更记录

Change History list

[illegible]

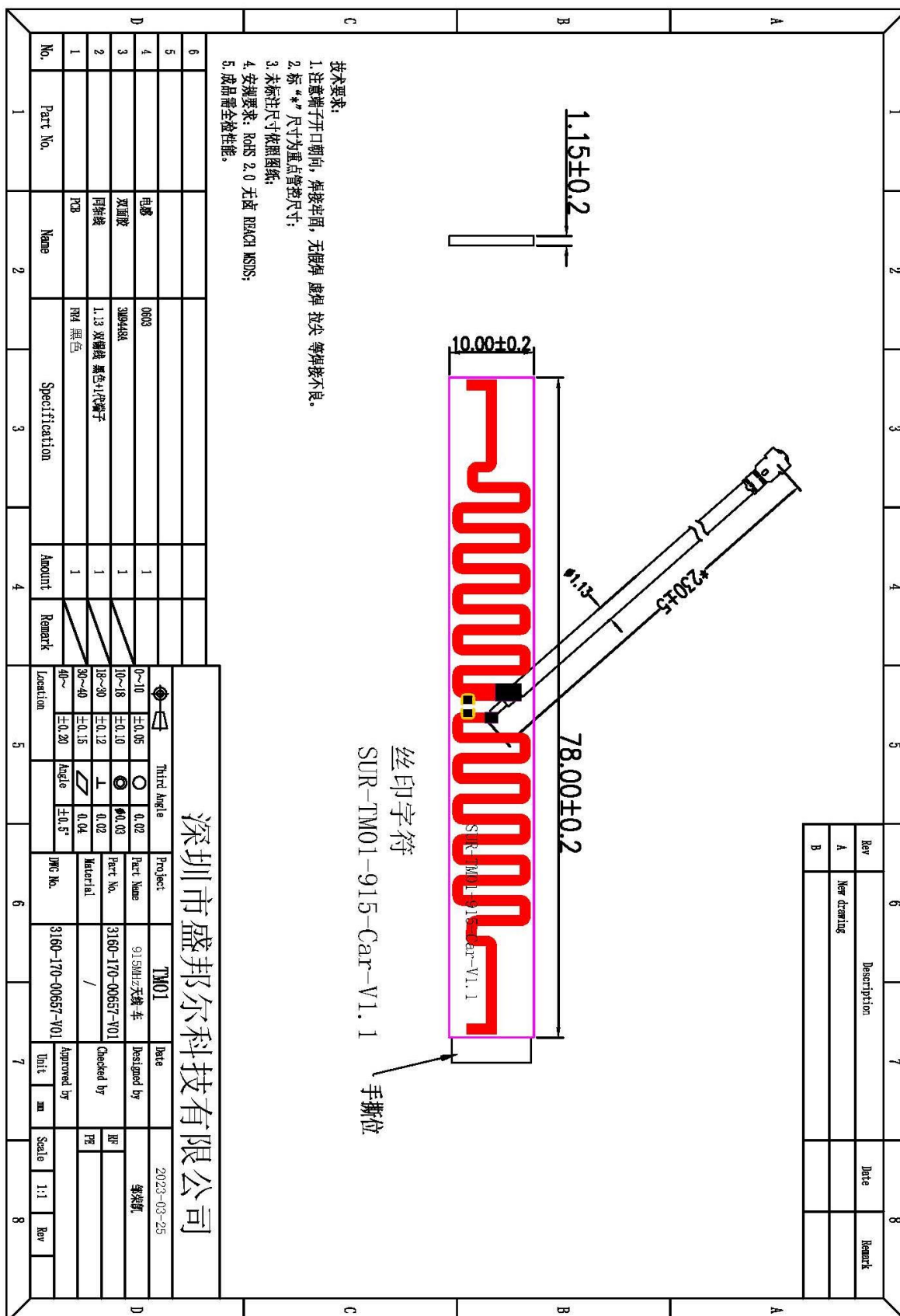
美有限公司

卡文件

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一. 产品图纸或实物图片/Drawing or Product Image



地址: 深圳市宝安区西乡街道鹤洲社区恒丰工业城 B25 栋 2 楼 TEL: 0755-82790675 FAX: 0755-82809726

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二. Technical Parameter /技术参数

1. Antenna/天线		
No/序号	Part Name/项目	SPEC/规格
1	Frequency Range/ 频率范围	910-920MHz
2	Impendence/阻抗	50 ohm nominal
3	Gain/增益	≥ 1.0 dBi
4	Polarization/极化	LINE
5	VSWR/驻波比	≤ 2.0
6	Efficiency/效率	$\geq 40\%$
7	RF Cable/射频连接线	1.13 线 230mm
8	RF Connector/连接器	一代端子
2. Environmental Characteristics/环境特性		
No/序号	Part Name/项目	SPEC/规格
1	Operation Humidity /工作湿度	5~95%不冷凝
2	Operating Temperature/ 工作温度	-40~+85℃
3	Store Temperatuer/ 储存温度	-55~+85℃

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射频性能测量报告

RF Performance Test Report

客户名称 Customer Name	拓邦	项目名称 Project Name	TM01-915-Car	盛邦尔料号 Surbaner P/N	3160-170-00657-V01
频段 Band	910-920MHz	测试日期 Test Date	2023/3/25	测试人 Inspector	朱浩奎

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:

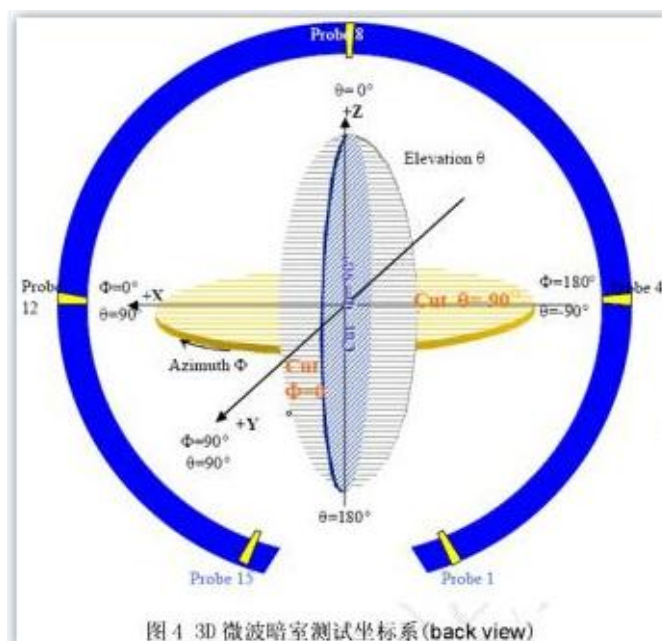


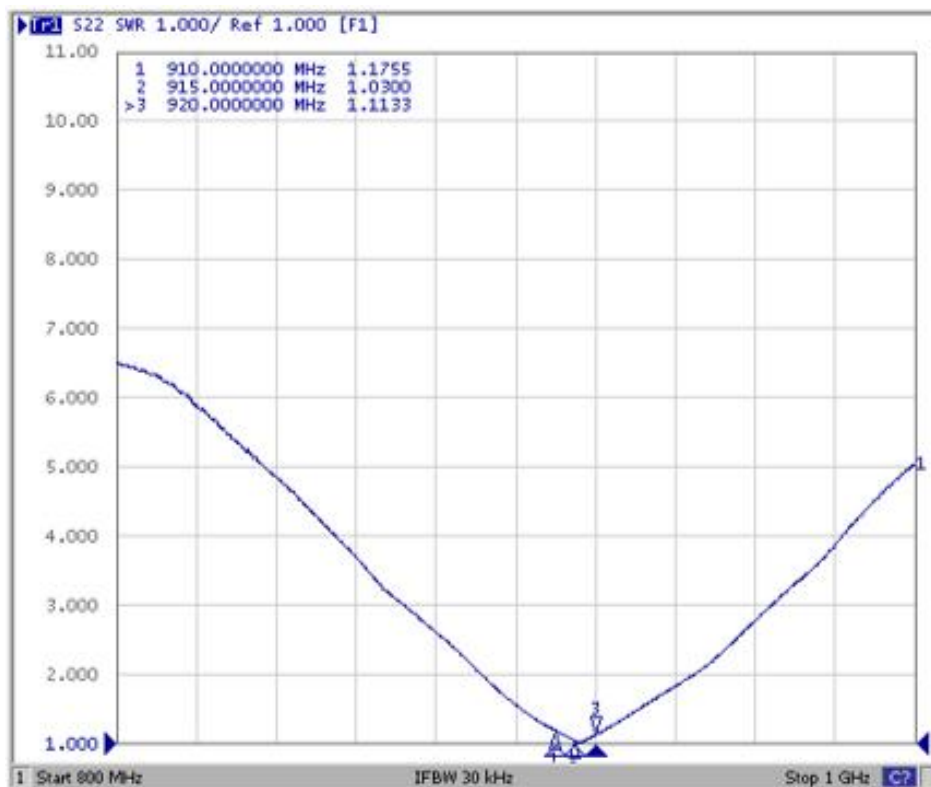
图4 3D微波暗室测试坐标系(back view)

1. S11 参数测量/S11 Parameter-VSWR

使用一根 50Ω 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。

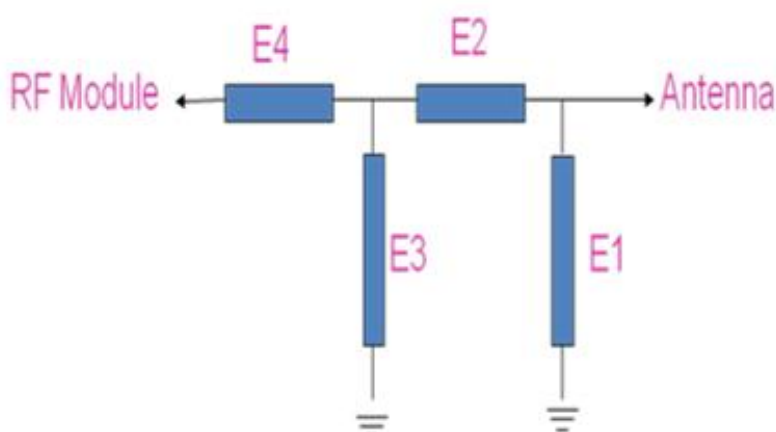
Measuring Method is a 50Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the S11 parameter, Keeping this fixture away from metal at least 20cm.

S11 Parameter-915-Car



Frequency	915MHz
VSWR	1.10

2. 天线匹配网络/Antenna Matching Network



Element	Value
E1	N/A
E2	N/A
E3	N/A
E4	N/A

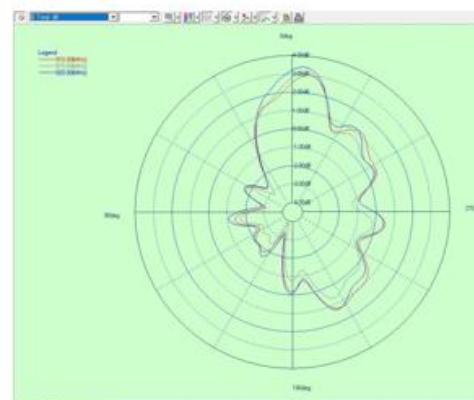
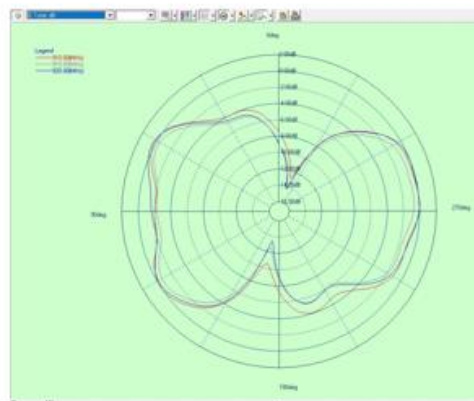
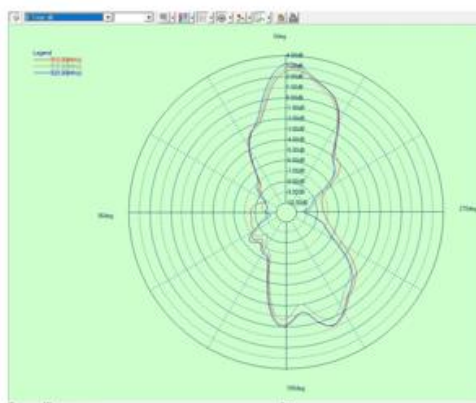
PCB板端匹配电路未改动

2D Pattern



Test Result

2D Pattern—915-Car



3.Gain & Efficiency-915-Car

频率MHz	效率%	增益dB
910	52.1%	2.44
915	58.0%	2.60
920	57.2%	2.56

产品包装规范

PACKING CRITERION

产品包装规范	
page: 1 of 1	
项目名称: TM01	版本: A
客户: 拓邦	成品名称: 915MHz天线-车
一: 成品天线 二: 每PE袋装50PCS产品(以实际包装为准)。 三: 每10袋装一大袋, (以实际包装为准)。 四: 装箱, 每10袋装一箱, 一箱共5000PCS产品(以实际包装为准)。 五: 封箱, 外箱贴我司生产标签和ROHS标签。	

样品尺寸测量报告

Sample Dimensions Test Report

客户名称 Customer Name	拓邦	客户料号 Customer P/N	1616D948B	料号 P/N	3160-170-00657-V01
测试日期 Test Date	2023/03/25	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	78.00±0.2mm	78.01	78.00	77.99	Pass
②宽度	10.00±0.2mm	10.01	10.00	9.98	Pass
③厚度	1.15±0.2mm	1.16	1.1	1.14	Pass
④线长	230±5mm	231	230	229	Pass
⑤					
⑥					
⑦					
最终结论 Conclusion					PASS
测试人&日期 Inspector & Date	曾心荣 2023/03/25		批准&日期 Approval & Date		

可靠性测试报告

Reliability Test Report

客户名称 Customer Name	拓邦	客户料号 Customer P/N	1616D948B	料号 P/N	3160-170-00657-V01	
测试日期 Test Date	2023/03/23	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+85℃条件下暴露 24H, 恢复 2H 后进行测试电气性能正常	恒温恒湿箱	OK	OK	OK	Pass
低温存储	在-55℃条件下暴露 24H, 恢复 2H 后进行测试电气性能正常	恒温恒湿箱	OK	OK	OK	Pass
高温工作	在+85℃条件下通电工作 24H 电气性能正常	恒温恒湿箱	OK	OK	OK	Pass
低温工作	在-40℃条件下通电工作 24H 电气性能正常	恒温恒湿箱	OK	OK	OK	Pass
连接器 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	≥10N	推拉力计	11. 9N	12. 1N	11. 8N	Pass
最终结论 Conclusion						Pass
测试人& 日期 Inspector & Date	何春辉 2023/03/25		批准& 日期 Approval & Date			

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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		
915 MHz 天线	PCB	基材	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CHNEC2221844502	22/10/24
		OSP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	A2220207344101001	22/5/30
		无铅焊锡	59	ND	ND	ND	ND	ND	ND	ND	ND	ND	CANEC2212670228	22/6/20
		油墨	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CANEC2227428702	22/12/23
	线材	氟化物	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NGBMR23000169901	23/2/6
		镀锡铜线	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	SHAAE22000472905	22/8/10
		黑色色母	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	HKTEC2202547207	22/6/10
	端子	C5210	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	CANEC2301145810	23/2/8
		塑胶	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ETR22800771	22/8/10
		镀金	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	A2220404860101001	22/9/17

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