

开发案号 Project: LBSX2025091701

日期 Date.: 2025.10.22

版本 Ver.: A0-1022

承认书

Antenna SPEC

客户名称 Customer name: 龙霸顺兴(江门)塑料有限公司

调试项目 Customer project: LSBJQ-02

客户料号 Customer P/N: _____

博安通料号 B&T P/N: 79090009

规格描述 Spec.: 内置天线-915MHz-弹簧- $\varnothing 0.6 \times OD6 \times N6 \times$

L10.48mm

Spec.: Built-in antenna - 915MHz - spring - $\varnothing 0.6 \times OD6 \times N6 \times$

L10.48mm

天线类型 Antenna type: 内置天线

Antenna type: Built-in antenna

供应商名称 Vendor name: 博安通物联科技洛阳股份公司

Vendor name: Boantong IOT Technology Luoyang Co., Ltd

供应商地址 Supplier address: 四川省绵阳市经开区塘汛街道文武
中路 218 号 8 幢 5 层 2、3 号

Supplier address: No. 2 and 3, 5th Floor, Building 8, No.218, Wenwu
Middle Road, Tangxun Street, Economic
Development Zone, Mianyang City,
Sichuan Province

出厂签章 Sealed by corporation:

编 写 compilation	审 核 verify	批 准 approval
许张金 XuZhangjin	覃麟舒 Qin Linshu	刘立华 Liulihua

客户承认签章 Sealed by customer:

检 查 check	审 核 verify	批 准 approval

博安通联系方式 Contact information of B&T:

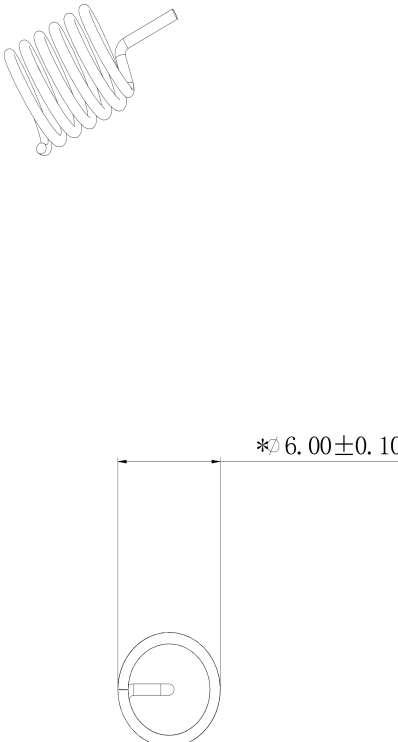
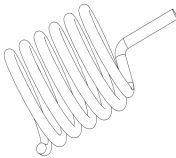
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A	Version					Revision Details		
	A0					25-9-18		
B								
C								
D	Technical requirements:							
	1. The material is carbon steel, wire diameter of 0.6mm, nickel plating.							
	2. The spring is right-rotated by 6 turns with a spacing of 1mm.							
	3. Spring surface clean and bright, no stains.							
	4. "*" is an important dimension, and the unmarked tolerance shall be carried out according to the tolerance table.							
	5. * R0.10 of the inner bending Angle not indicated.							
	6. The product must comply with the requirements of ROHS 2.0.							
	7. Packaging requirements: 100 pcs/bag, no label on the packaging bag, label on the outer box.							
E	Name					Built-in antenna - 915MHz - spring - ∅0.6×OD6×N6×L10.48mm		
	Designer					Tang Hailin		
	Verify					Project No. LBSX2025091701		
	Approval					P/N 79090009		
	1 > X					Weight		
	1 ~ 9.99					Quantity		
	10 ~ 19.99					Scale		
	20 ~ 39.99					Unit		
	40 ~					1 : 1 mm		
F	Page 1 of 1					B&T		

4、性能参数 Properties ¶meter

电气参数 Electrical parameter	
频率范围 Freq Range	902~928MHz
输入阻抗 Characteristic Impedance	50 Ω
驻波比 VSWR	<6
增益 Gain	-5.85dBi
功率容量 The Max input power	<10w
极化方式 Polarization mode	线极化 Linear polarization
辐射方向 Radiation direction	全向 omnidirectional
机械参数 Mechanical parameter	
总长 Length	10.48 $\pm$ 0.5mm
盐雾测试 Salt spray test	/
环境参数 Environment parameter	
工作温度 Operating Temp	-30 $^{\circ}$ C~65 $^{\circ}$ C

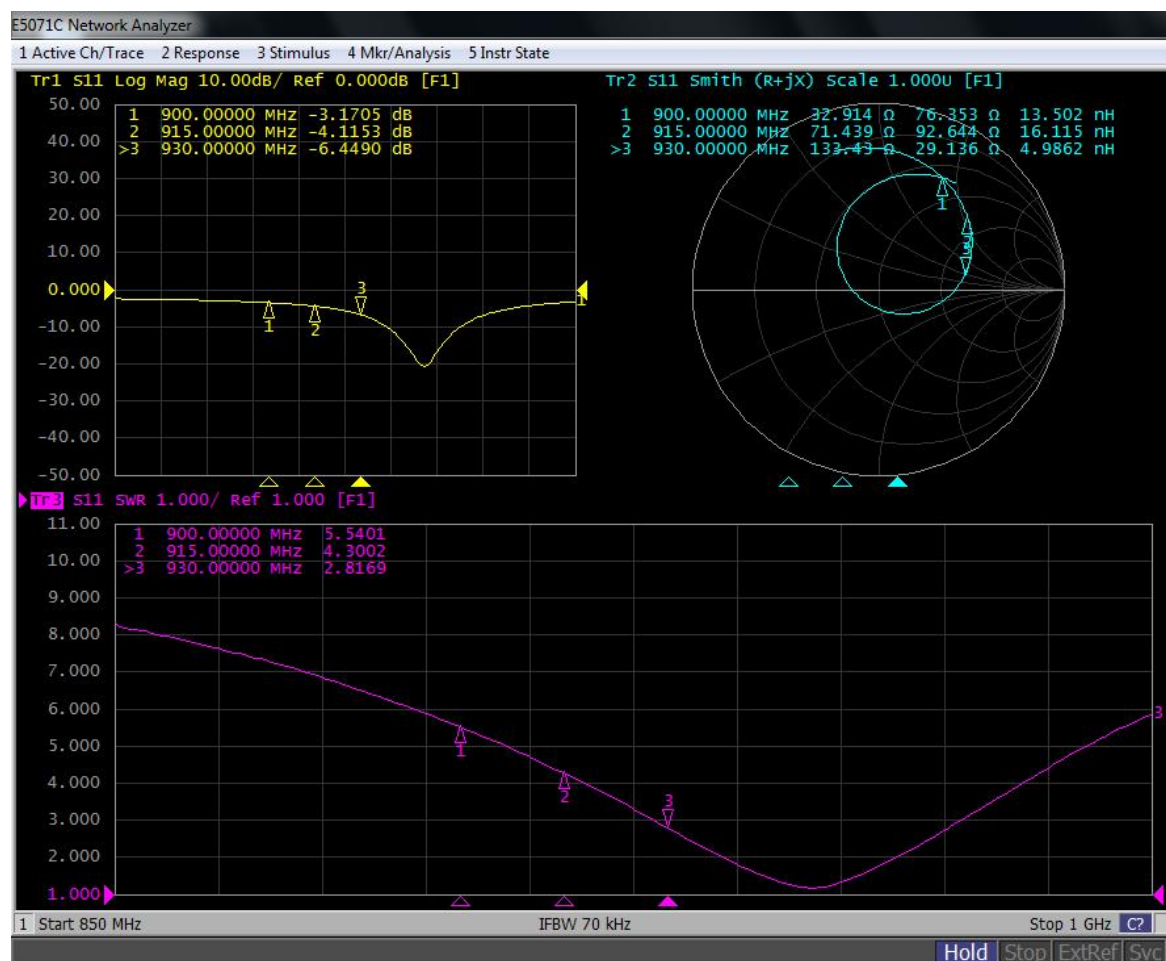
5、电气性能测试报告 Electrical test report

一、天线无源测试数据 Passive antenna test data

(确认: ☒ 整机测试 ☐ 单天线测试)

(Confirm: ☒ Whole machine testing ☐ Single antenna testing)

➤ 天线 S11 参数图 Antenna S11 parameter diagram



驻波比数据 Standing wave ratio data

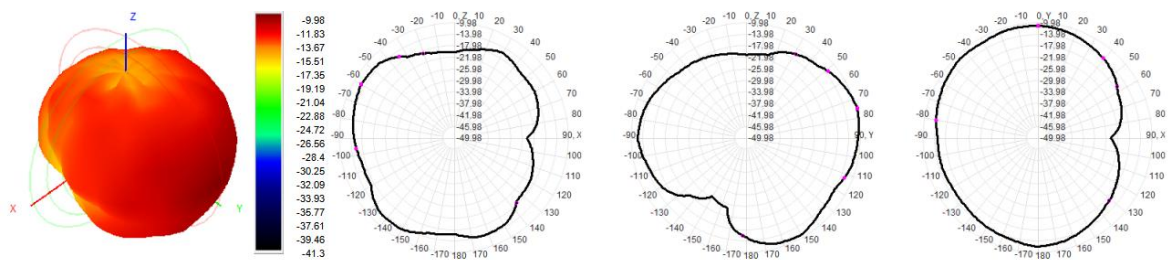
Freq/MHz	900	915	930
VSWR	5.54	4.30	2.82

➤ 天线暗室测试数据 Antenna darkroom test data

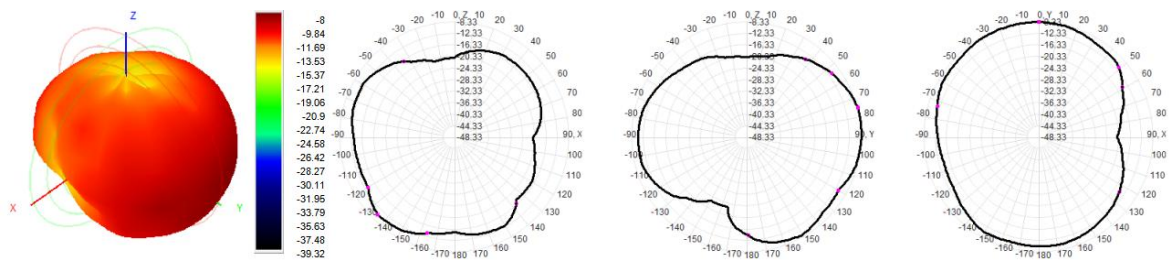
Frequency (MHz)	Gain (dBi)	Efficiency (%)
900	-9.98	5.27
905	-9.48	7.82
910	-9.04	6.47
915	-8.00	7.30
920	-7.46	7.95
925	-6.80	8.75
930	-5.85	10.02

➤ 天线方向图 Antenna direction diagram

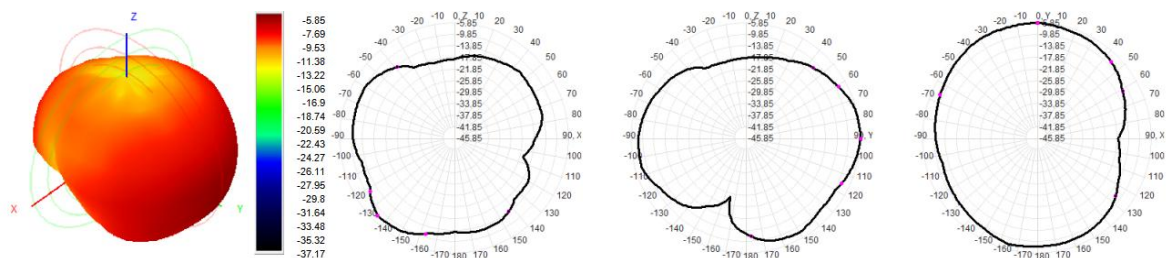
900MHz



915MHz



930MHz



6、材料成分及有害物质表 List of Material Composition and Hazardous Substances

项次 Item	规格 Specification	材质 Texture of material	RoHS 检验结果 (PPM) ROHS Test Results (PPM)						ICP 检测编号 ICP test number	检测时间 Test time
			Cd	Pb	Hg	Cr+6	PBB	PBDE		
1	弹簧 spring	碳钢 carbon steel	ND	ND	ND	ND	ND	ND	SZXEC24003966701	2024/12/19
		镀镍 nickelage	ND	ND	ND	ND	ND	ND	SZXPC25000266503	2025/2/17

产品包装规范

PACKING CRITERION

产品料号 P/N: 79090009

产品规格: 内置天线-915MHz-弹簧- $\varnothing 0.6 \times OD6 \times N6 \times L10.48mm$

Spec: Built-in antenna - 915MHz - spring - $\varnothing 0.6 \times OD6 \times N6 \times L10.48mm$

一、标签要求（根据客户名称参考对应的成品标签制作要求，无要求即按普通标签要求）
contents of label(according to the customer's name, refer to the corresponding finished product label production requirements. If there is no requirement, it will follow the ordinary label requirements.)

内外标签 长10cm 宽6cm 左右

The inner and outer labels are about 10cm long and 6cm wide

需方 buyer	*****		
供方 vender	四川博安通通信技术有限公司 Sichuan B&T Technology Co., Ltd.		
物料编码 Purchase No	*****		
生产单号 Material No.	*****		
品名规格 Name specification	*****	检验员 QC	**
数量/单位 Q'ty/Unit	*****	日期 Manufacture date	****.***
追溯码 Trace code	*****	流水号 Serial number	**

二、装箱要求 Packing requirement

作业说明 Operating description:

1. 内包装 inner packing:

刀卡共2层 总装量 3600PCS The blade card has 2 layers with a total assembly quantity of 3,600 PCS.

1层装 1800 PCS Layer 1 holds 1800 PCS

产品 100 PCS/袋; Product 100 PCS/bag;

2. 外包装 outer packing:

3600/箱 carton

注意事项 Notice:

1. 是否要增设隔板、珍珠棉 Whether to add partitions, pearl cotton;
2. 标签的贴附, 如 ROHS 等 Labeling, such as ROHS;

8、可靠性测试要求 Reliability test requirements

序号 Serial Number	可靠性试验名称 Reliability Test Name	试验条件 Experimental conditions	判定标准 Judgment criteria
1	恒温恒湿试验 Constant temperature and humidity test	高温:70℃, 湿度:80%RH 24H; 低温 -40℃ 24H;共持续 48H; High temperature: 70 ℃, humidity: 80% RH for 24 hours; Low temperature -40 ℃ for 24 hours; continuous for 48 hours in total;	试验前后外观要求: 金属表面镀层应无剥 落, 裂痕起皱, 分离等。非金属部分不应 变色, 发生开裂, 变形, 脱胶等不良; 电 气性能测试符合标准要求; Appearance requirements before and after the experiment: The metal surface coating should be free of peeling, cracks, wrinkles, separation, etc. Non metallic parts should not discolor, crack, deform, or peel off; The electrical performance test meets the standard requirements;
2	高低温冷热冲击 试验 High and low temperature thermal shock test	70℃持续 2H、 -40℃持续 2H, 6 次循环, 共 24 小时; 70 ℃ for 2 hours, -40 ℃ for 2 hours, 6 cycles, for a total of 24 hours;	试验前后外观要求: 金属表面镀层应无剥 落, 裂痕起皱, 分离等。非金属部分不应 变色, 发生开裂, 变形, 脱胶等不良; 电 气性能测试符合标准要求; Appearance requirements before and after the experiment: The metal surface coating should be free of peeling, cracks, wrinkles, separation, etc. Non metallic parts should not discolor, crack, deform, or peel off; The electrical performance test meets the standard requirements;
3	盐雾试验 Salt spray test	配制浓度 (5±1) %NaCL 溶液, 确保盐溶液 的 pH 值为中性 (6.5~7.2); 压力桶温度 47 ±1℃,喷雾压力保持在 1.00±0.1kgf/cm ² , 喷 雾量 1.0~2.0ml/80cm ² /h; 试验时间 24H; Prepare a (5 ± 1)% NaCl solution to ensure that the pH value of the salt solution is neutral (6.5-7.2); The pressure barrel temperature is 47 ± 1 ℃, the spray pressure is kept at 1.00 ± 0.1kgf/cm ² , and the spray volume is 1.0~2.0ml/80cm ² /h; The experiment lasted for 24 hours;	产品表面外露区域不可有氧化、锈蚀现象; 其它区域盐雾试验后的氧化/生锈面积 < 1.0% The exposed area of the product surface must not have oxidation or rust; Oxidation/rusting area after salt spray test in other areas<1.0%

9、天线贴装位置图 Antenna mounting position diagram

