

开发案号 Project: Y2409241009

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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-01

客户料号 Customer P/N:

博安通料号 B&T P/N: 74090015

规格描述 Spec.: 内置天线-915MHz-灰色 1.13 锡锡线-1 代端子
-L=50mm-PCB-61×20×1mm

Spec. : Built-in antenna -915MHz- gray 1.13 tin-tin wire-1st generation
terminal-L = 50mm-PCB-61x20x1mm

天线类型 Antenna type: 内置天线

Antenna type: Built-in antenna

供应商名称 Vendor name: 四川博安通通信技术有限公司

Vendor name: Sichuan Boantong Communication Technology 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
邱翠萍 Qiucui ping	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:

业务联系人：徐柳戈 Contact person for sales: Xuliuge	手机 MB:13881991984	邮箱 E-mail: xulg@tech-now.com
技术联系人：覃麟舒 Contact person for technical: Qin Linshu	手机 MB:18776877518	邮箱 E-mail: qinls@tech-now.com
品质联系人：谭杰鑫 Contact person for Quality: Tan jiexin	手机 MB: 18181766292	邮箱 E-mail: tanjx@tech-now.com

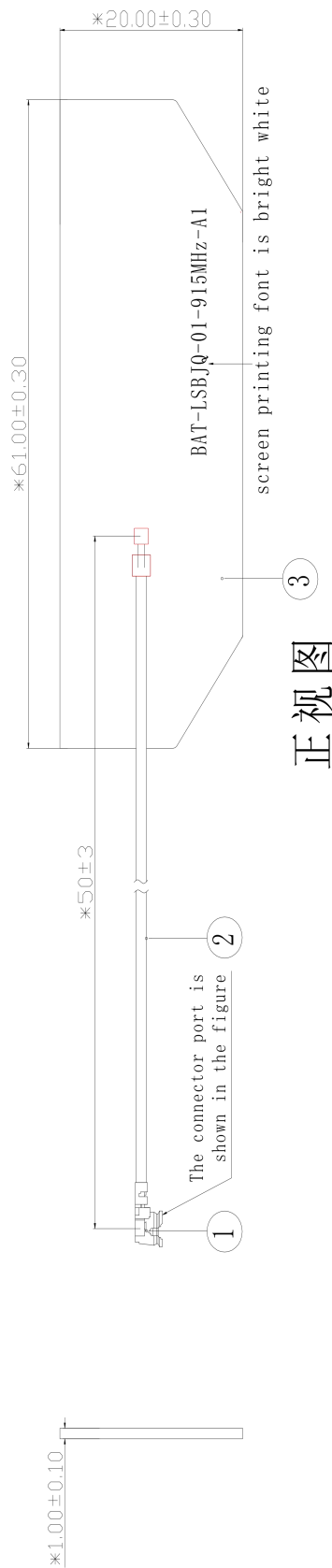
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Version	modification date	Revised content
A0	24-12-16	



Technical requirements

1. The antenna welding part is firm and the cable size is accurate (the holding force of the connector is $\geq 1\text{kgf}$).
2. The silk screen color is the original color of the substrate, and the font is clear and not easy to fall off.
3. "*" indicates the dimensions that are key to IQC inspection.
4. The packaging and quality standards refer to the Boantong Packaging Specifications and B&T Quality Standards respectively.
5. The materials comply with ROHS.
6. The connector port identification direction

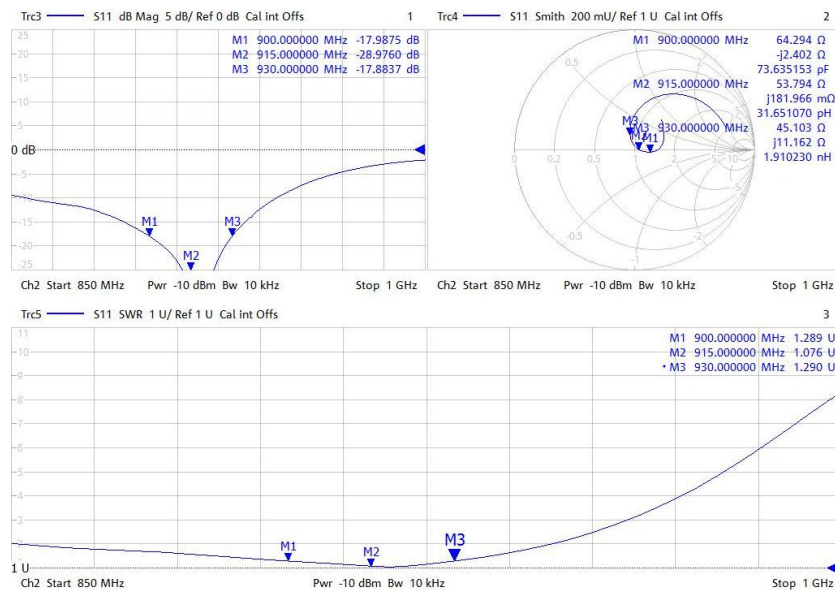
Number	Part Name	remarks	Design	Xie Meiquan	 		name	built-in antenna-915MHz-grey 1.13 tin wire-first generation terminal-L=50mm-PCB-61×20×1mm
①	1st connector		toexamine				Project number	Y2409241009
②	Coaxial line		approval		weight	quantity	Part number	74090015
③	PCB					proportion		
			1>X	±0.05		1:1		
			1~9.99	±0.10				
			10~19.99	±0.15				
			20~39.99	±0.20				
			40~	±0.30				
					Page 1 1 in total			
					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	≤ 2.0
功率容量 The Max input power	<10w
增益 Gain	$\geq 0\text{dBi}$, $\leq 2\text{dBi}$
极化方式 Polarization mode	线极化 Linear polarization
辐射方向 Radiation direction	全向 omnidirectional
接头型号 Joint type	端子 IPEX connector
机械参数 Mechanical parameter	
总长 Length	50 $\pm$ 3mm
端子维持力 Maintain the force	$\geq 1\text{kgf}$
同轴电缆 Coaxial cable	灰色 1.13 锡锡线 Gray 1.13 tin-tin wire
盐雾测试 Salt spray test	24H
环境参数 Environment parameter	
工作温度 Operating Temp	-30 $^{\circ}\text{C}$ ~65 $^{\circ}\text{C}$

5、电气性能测试报告 Electrical test report(整机测试 Whole machine testing)

天线 S11 参数图 Antenna S11 parameter diagram



驻波比数据 Standing wave ratio data

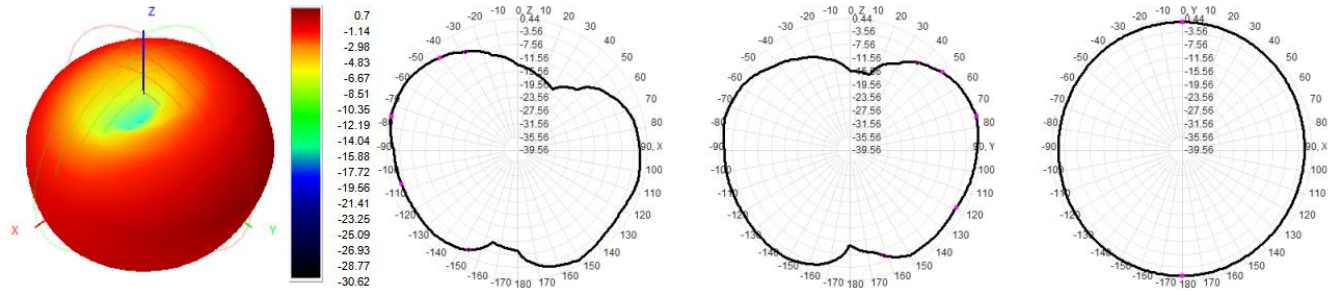
Freq/MHz	902	915	928
VSWR	1.289	1.076	1.290

天线暗室测试数据 Antenna darkroom test data

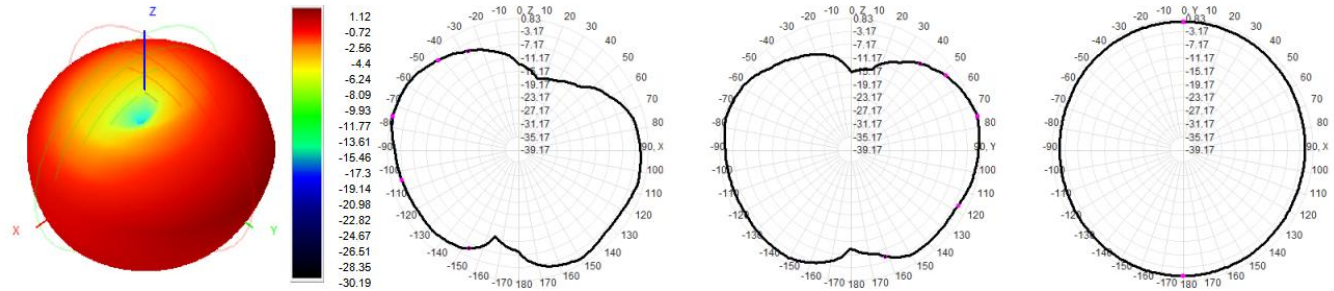
Frequency (MHz)	Gain (dBi)	Efficiency (%)
900	0.70	47.38
905	0.86	48.41
910	0.97	49.43
915	1.12	50.66
920	1.09	49.70
925	0.96	47.71
930	0.81	46.21

天线方向图 Antenna direction diagram

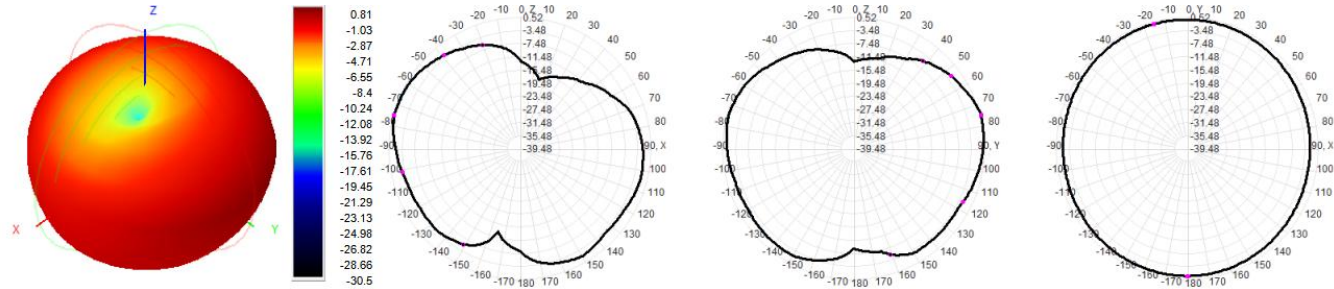
900MHz



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	线 wire	FEP	ND	ND	ND	ND	ND	ND	NGBPC24000131241	2024/1/16
		镀锡铜线 Tinned wire	ND	ND	ND	ND	ND	ND	A2240376995101001	2024/7/1
2	端子 Terminal	PBT	ND	ND	ND	ND	ND	ND	A2240126395101004E	2024/3/16
		磷青铜 Phosphor Bronze	ND	6	ND	ND	ND	ND	CANEC24000977301	2024/1/22
3	PCB	FR-4	ND	17	ND	ND	ND	ND	CANEC24019790709	2024/9/14
		OSP	ND	ND	ND	ND	ND	ND	CANEC24004013301	2024/3/14

产品包装规范

PACKING CRITERION

产品料号 P/N: 74090015

产品规格: 内置天线-915MHz-灰色 1.13 锡锡线-1 代端子-L=50mm-PCB-61×20×1mm

Spec: Built-in antenna -915MHz- gray 1.13 tin-tin wire-1st generation terminal-L = 50mm-PCB-61x20x1mm

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	中山市博安通通信技术有限公司 Zhongshan B&T Communication Technology Co., Ltd 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:

产品 50 PCS/小袋/small bag

200 PCS/大袋 big bag

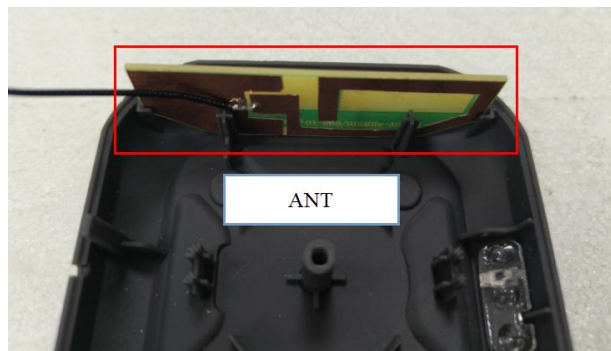
2. 外包装 outer packing:

根据实际包装定数量 Quantity according to actual packing/箱 carton

注意事项 Notice:

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

8、天线整机安装示意图 Antenna installation position Diagram



9、可靠性测试要求 Reliability test requirements

序号 No.	可靠性试验名称 Reliability test name	试验条件 Test 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 24H; low temperature: -40℃ 24H; total duration: 48H;	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 test: The metal surface coating should be free of peeling, cracks, wrinkles, separation, etc. The non-metallic parts should not change color, crack, deform, degumming or other defects. Electrical performance testing meets 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 2H, -40℃ for 2H, 6 cycles, 24 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 test: The metal surface coating should be free of peeling, cracks, wrinkles, separation, etc. The non-metallic parts should not change color, crack, deform, degumming or other defects. Electrical performance testing meets standard requirements.

3	盐雾试验 Salt spray test	配制浓度 $(5 \pm 1)\%$ NaCL 溶液, 确保盐溶液的 pH 值为中性 $(6.5 \sim 7.2)$; 压力桶温度 $47 \pm 1^\circ\text{C}$, 喷雾压力保持在 $1.00 \pm 0.1 \text{ kgf/cm}^2$, 喷雾量 $1.0 \sim 2.0 \text{ ml}/80 \text{ cm}^2/\text{h}$; 试验时间 24H; Prepare a concentration $(5 \pm 1)\%$ NaCL solution to ensure that the pH value of the salt solution is neutral $(6.5 \sim 7.2)$; The temperature of the pressure barrel is $47 \pm 1^\circ\text{C}$, the spray pressure is maintained at $1.00 \pm 0.1 \text{ kgf/cm}^2$, and the spray volume is $1.0 \sim 2.0 \text{ ml}/80 \text{ cm}^2/\text{h}$; Test time: 24H;	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 $< 1.0\%$ There should be no oxidation or rust on the exposed areas of the product surface; Oxidation/rust area after salt spray test in other areas $< 1.0\%$
4	端子维持力试验 Connector retention test	常温常湿; 试验维持力要求: $\geq 1.0 \text{ kgf}$; Normal temperature and humidity; Test maintenance requirements: $\geq 1.0 \text{ kgf}$;	端子与线缆无脱落、松动等; 测试后电气性能测试符合标准要求; There are no loose or loose terminals or cables. After the test, the electrical performance test meets the standard requirements.
5	端子插拔力试验 Connector insertion and extraction force test	常温常湿; 端子与座子正常连接, 插入力/拔出力 $\geq 1.0 \text{ kgf}$; Normal temperature and humidity; The terminal and the seat are connected normally, and the insertion force/pull-out force is $\geq 1.0 \text{ kgf}$;	端子与线缆无脱落、松动等; 测试后电气性能测试符合标准要求; The terminal insertion force/extraction force meets the requirements, and the terminals have no defects such as falling off or damage.