

## 承认书

## Specification for Approval

|                        |                                   |
|------------------------|-----------------------------------|
| 客户名称: Customer:        | 凯普霆                               |
| 规格描述: Part name        | SMA (P) - 915MHz黑色橡胶天线-<br>L195mm |
| 料号: Part No.           | A100-0324-0                       |
| 客户料号:Customer Part No. | /                                 |

| 客 户 承 认 印 CUSTOMER APPROVED BY |          |            |
|--------------------------------|----------|------------|
| 审核 APPROVAL                    | 主管 CHIEF | 工程师 DESIGN |
|                                |          |            |

| 供 方 确 认 supplier confirmed |                      |                      |
|----------------------------|----------------------|----------------------|
| SALES                      | 主管 CHIEF             | 工程师 DESIGN           |
| 徐宏奇                        | Jack                 | Cham                 |
| 日期 Date:2026. 04. 01       | 日期 Date:2026. 04. 01 | 日期 Date:2026. 04. 01 |
| 技术支持 Technical Support     |                      |                      |
|                            |                      |                      |

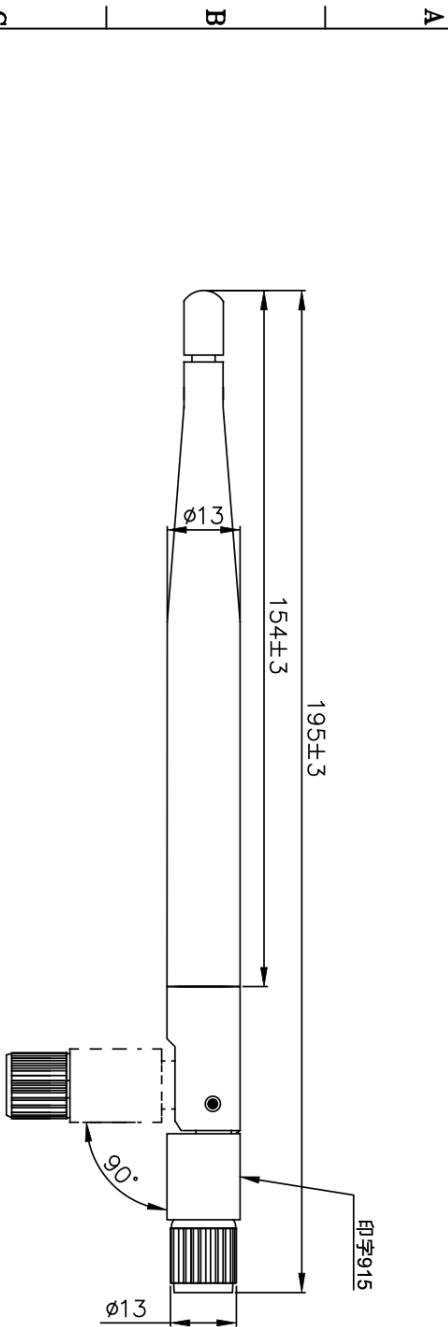
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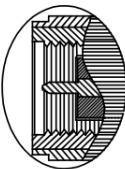
## 变更记录/Update of the Records

| 版本/Rev | 拟制/Formulate | 日期/Date      | 内容/Content |
|--------|--------------|--------------|------------|
| 01     | Cham         | 2026. 04. 01 | 新订承认书      |
|        |              |              |            |
|        |              |              |            |
|        |              |              |            |
|        |              |              |            |

| RoHS Compliant |        |            |                       |         |
|----------------|--------|------------|-----------------------|---------|
| 1              | 2      | 3          | 4                     | 5       |
| 版本             | 状态     | 日期         | 说明                    | ECN NO. |
| REV            | STATUS | DATE       | DESCRIPTION           | NAME    |
| A              | 量产     | 2025.11.19 | 变更工作频段由868mhz改为915mhz | 韦武杰     |
| B              | 量产     | 2025.12.25 | 增加下面丝印                | 韦武杰     |



|                       |        |
|-----------------------|--------|
| 工作频段(Frequency Range) | 915MHz |
| 增益(Gain)              | 2dBi   |
| 电压驻波比(VSWR)           | ≤1.5   |
| 极化方式(Polarization)    | Linear |
| 特性阻抗(Impedance)       | 50Ω    |

[illegible]

2:1

公头公PIN-黑色护套

**CUST NO.:  
A100-0324-0**



SMA (P) - 915MHz黑色橡胶天线-L195mm

MHZ.TD

[表单版本—第一版]

产品特性表

| 产 品 类 型 / product type | FDD/TDD-LTE ANTENNA |
|------------------------|---------------------|
| DESCRIPTION            | VALUE               |
| Frequency Range（工作频段）  | 915MHz              |
| V.S.W.R(电压驻波比)         | 1.5:1               |
| Impedance（特性阻抗）        | 50Ω                 |
| Gain（增益）               | 2 DBi               |
| Radiation（方向性）         | Omni-directional    |
| Radiating element      | 1/4 Wave Helical    |
| Polarization（线化方式）     | linear Vertical     |
| Admitted power（功率）     | /                   |
| Connector（接头型号）        | SMA 公头公针            |
| Operating temp（工作温度）   | -40℃~+85℃           |

产品图片



## 1.Summary :

这份测试数据用于说明天线的测试环境设置和测试的结果

This Report to account for the measurement setup and result of the Antenna.

测试的结果包括了 S 参数（VSWR 或增益、天线的方向图）

The measurement setup includes s-parameter, pattern, and gain measurement.

对天线的测试数据进行了简述分析

The measured data for Antenna are presented and analysis.

## 2.S-Parameter Measurement :

A. 反射系数:Reflection coefficient :

(a)仪器:网络分析仪 Instrument: Network Analyzer.

(b)设置: Setup:

(1) 通过使用 O.S.L 校准装置的一个端口校准来校准网络分析仪。

Calibrate the Network Analyzer by one port calibration using O.S.L. calibration kits.

(2)将天线下的天线连接到网络分析仪。

Connect the antenna under test to the Network Analyzer.

(3)测量图 1 所示的 S11(反射系数)。Measure the S11(reflection coefficient) shown in Fig.

(4) 一般来说, S11 小于-10 分贝, 以保证 90%的天线功率, 只有不到 10%的功率回到系统。

Generally, the S11 is less than  $-10\text{dB}$  to ensure the 90% power into antenna and only less than 10% power back to system.

## 3.Antenna measured in Network Analyzer

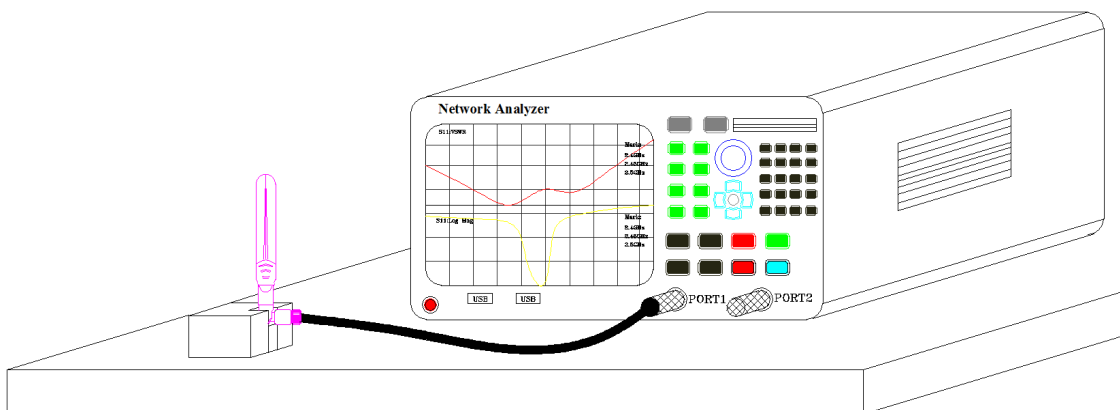


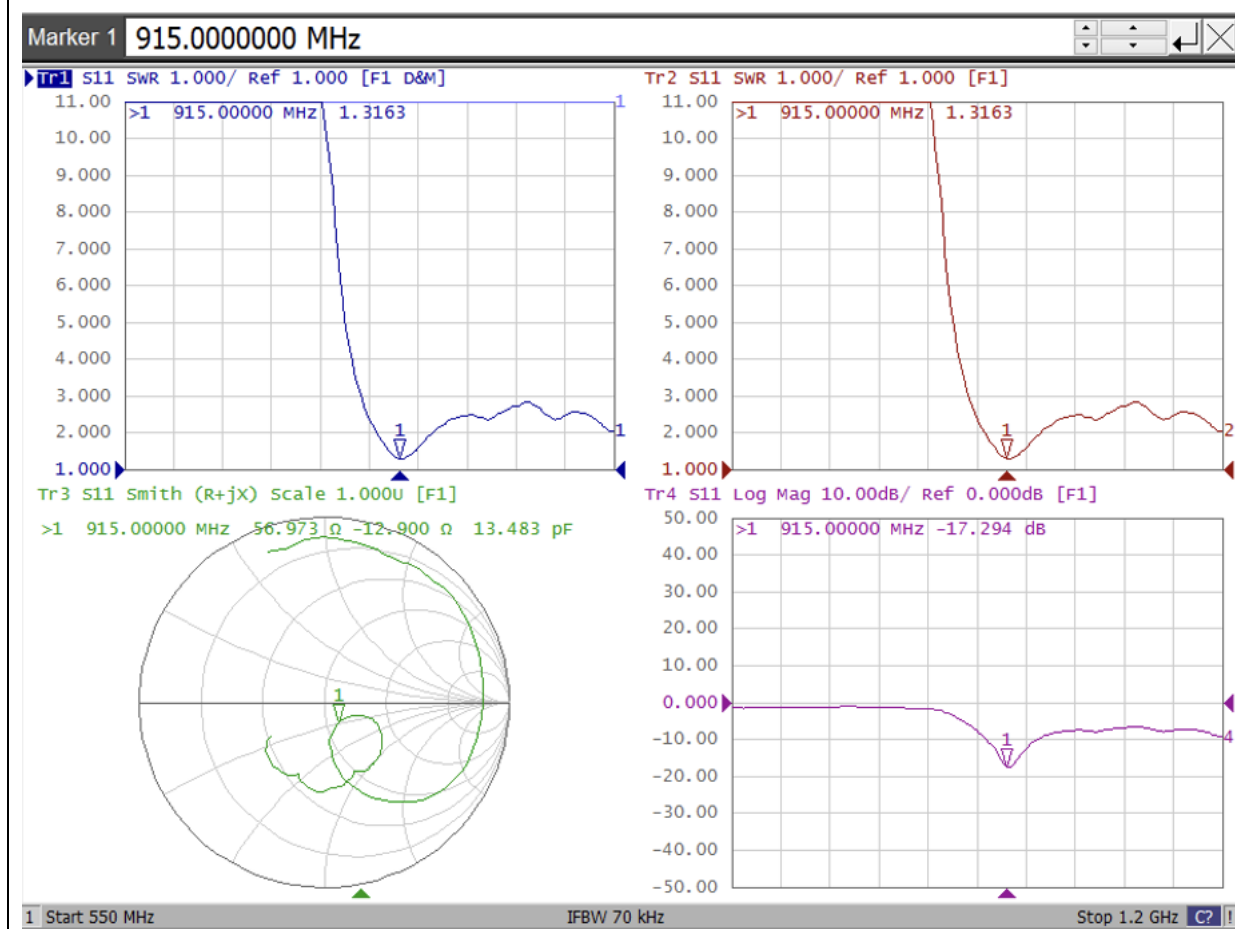
Fig.1 Antenna measured in Network Analyzer

## 4. S 参数测量结果/S-Parameter Measurement Result S

参数测试数据:S-Parameter test data S:

|                       |        |  |  |  |
|-----------------------|--------|--|--|--|
| Frequency MHz<br>工作频段 | 915MHz |  |  |  |
| 电压驻波比/VSWR            | 1.31   |  |  |  |

参数测试图片:S-Parameter test image:



暗室方向图如附件所示

|  MHZ.TO |        |        |        |        |        |        |        |
|------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|
| Frequency ID                                                                             | 1      | 2      | 3      | 4      | 5      | 6      | 7      |
| Frequency (MHz)                                                                          | 900.0  | 905.0  | 910.0  | 915.0  | 920.0  | 925.0  | 930.0  |
| Efficiency (dBi)                                                                         | -0.86  | -0.92  | -1.06  | -1.14  | -1.22  | -1.29  | -1.32  |
| Gain (dBi)                                                                               | 2.09   | 2.00   | 1.83   | 1.71   | 1.58   | 1.42   | 1.31   |
| Efficiency (%)                                                                           | 82.09  | 80.95  | 78.43  | 76.96  | 75.58  | 74.23  | 73.75  |
| Directivity (dB)                                                                         | 2.95   | 2.92   | 2.89   | 2.85   | 2.79   | 2.72   | 2.63   |
| Peak Gain Position (Theta)                                                               | 75.00  | 75.00  | 75.00  | 75.00  | 75.00  | 75.00  | 75.00  |
| Peak Gain Position (Phi)                                                                 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 |
| Efficiency ThetaPol (%)                                                                  | 80.80  | 79.80  | 77.40  | 76.02  | 74.72  | 73.43  | 73.00  |
| Efficiency PhiPol (%)                                                                    | 1.29   | 1.15   | 1.03   | 0.94   | 0.86   | 0.80   | 0.75   |
| Upper Hem. Efficiency (%)                                                                | 47.68  | 46.95  | 45.46  | 44.54  | 43.55  | 42.42  | 41.64  |
| Lower Hem. Efficiency (%)                                                                | 34.40  | 34.00  | 32.97  | 32.42  | 32.03  | 31.80  | 32.11  |

