

# 深圳市酷影派科技有限公司

Shenzhen KuYingPai Technology Co.,Ltd

## 天线规格承认书

### Antenna Specification for Approval

客户名称

Customer Name:

项目名称:

Product Name:

运动相机 SJ4000

产品名称:

Product Name:

WIFI 天线

产品料号:

Part NO.:

SJ4000

制 表:

Write By:

日 期:

Issued Date:

2023-08-28

客户 (Customer)

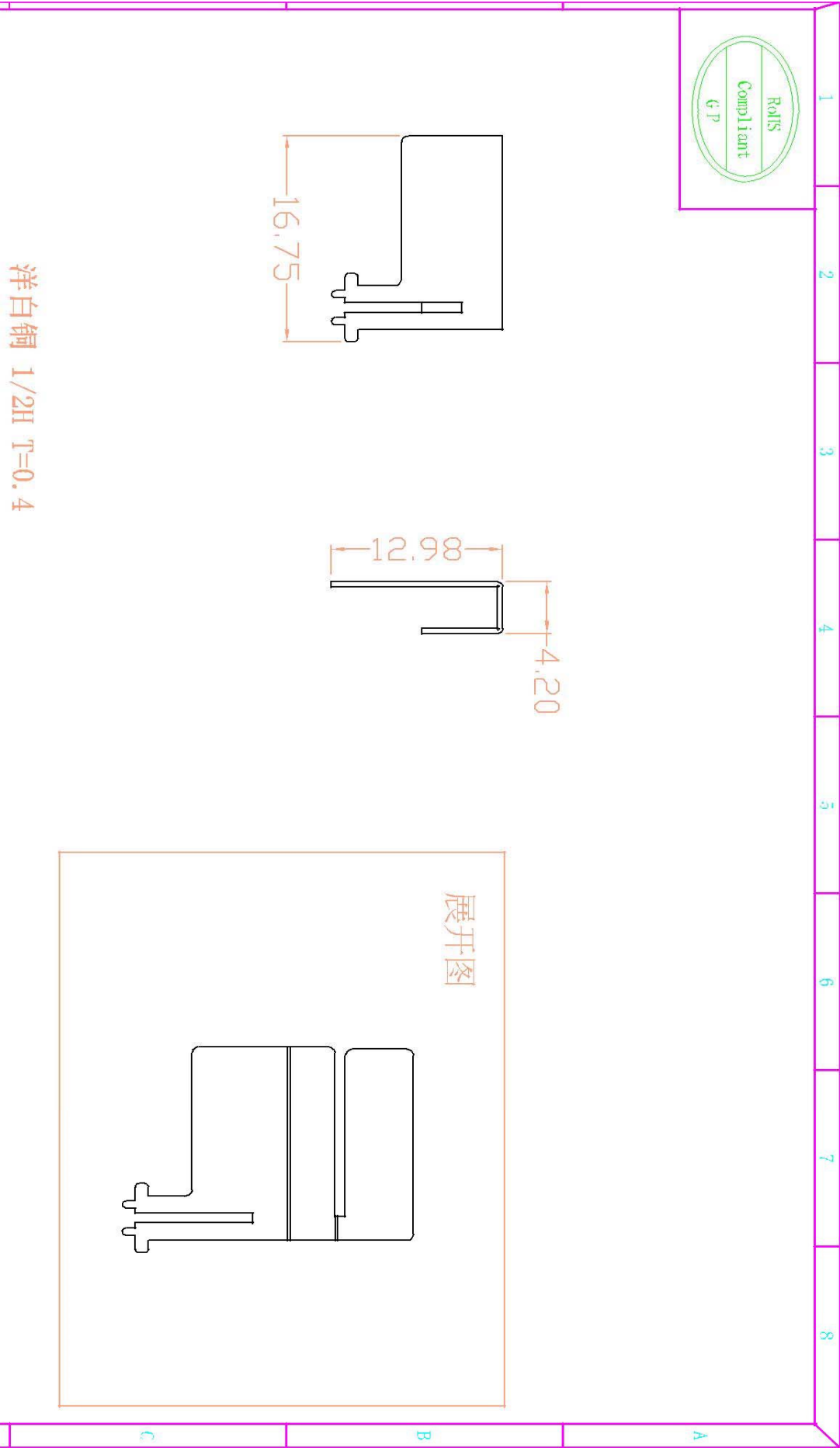
|             |                  |                |
|-------------|------------------|----------------|
| 工程 R&D Dept | 采购 Business Dept | 承认 Approved By |
|             |                  |                |

酷影派

|             |                  |             |
|-------------|------------------|-------------|
| 研发 R&D Dept | 工程 Engineer Dept | 审核 Approval |
|             |                  |             |

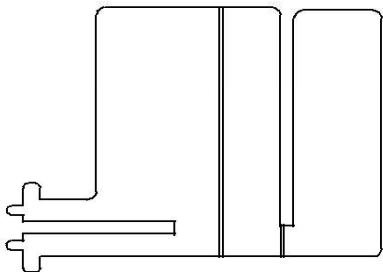
# Product Specification

| A. Electrical Characteristics            |                            |
|------------------------------------------|----------------------------|
| Frequency                                | 2400 MHz ~2500 MHz         |
| VSWR                                     | <3.0 @ 2400 MHz ~ 2500 MHz |
| Efficiency                               | >30%                       |
| Impedance                                | 50 Ohm                     |
| Polarization                             | Linear                     |
| Gain                                     | -0.42DB                    |
| B. Material & Mechanical Characteristics |                            |
| Material of Radiator                     | Cu                         |
| Cable Type                               |                            |
| Connector Type                           |                            |
| Dimension                                |                            |
| C. Environmental                         |                            |
| Operation Temperature                    | - 30 °C ~ + 80 °C          |
| Storage Temperature                      | - 30 °C ~ + 85 °C          |



洋白銅 1/2H T=0.4

展开图



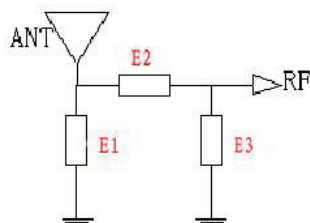
| Rev |  | Description |  | Date | Remark |
|-----|--|-------------|--|------|--------|
| 1   |  | 1           |  |      |        |
| 2   |  | 2           |  |      |        |
| 3   |  | 3           |  |      |        |
| 4   |  | 4           |  |      |        |
| 5   |  | 5           |  |      |        |
| 6   |  | 6           |  |      |        |
| 7   |  | 7           |  |      |        |
| 8   |  | 8           |  |      |        |

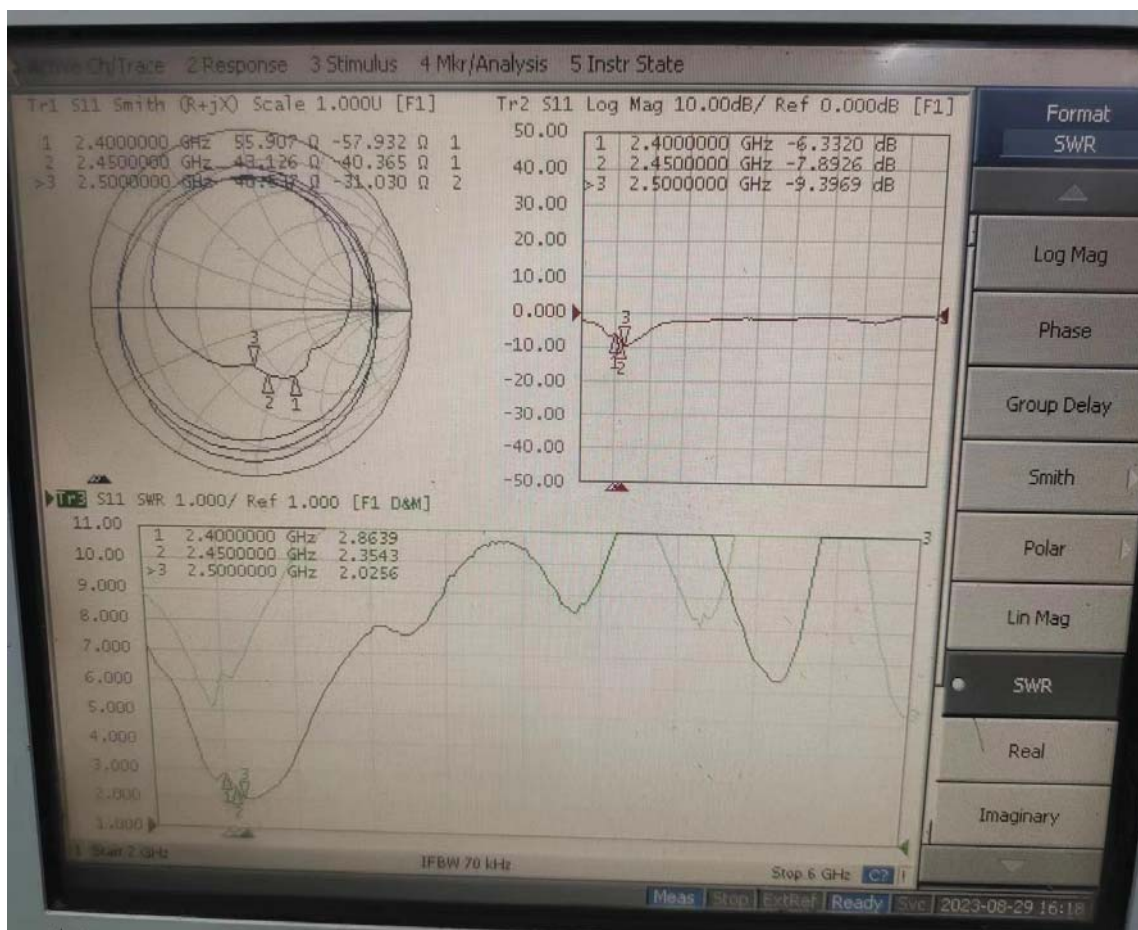
| Third Angle Project |       | S.14000   |  | Date        |           |
|---------------------|-------|-----------|--|-------------|-----------|
| 0~10±0.05           | 0.02  | Part Name |  | Designed by |           |
| 10~18±0.10          | 0.03  | Part No.  |  | Checked by  |           |
| 18~30±0.12          | 0.02  | Material  |  | Approved by |           |
| 30~40±0.15          | 0.04  | DWG. No.  |  | Unit mm     | Scale 1:1 |
| 40~                 | ±0.20 |           |  | Rev         | A         |

### 1. 天线匹配(原天线匹配)

|      | E1  | E2   | E3  |
|------|-----|------|-----|
| WIFI | N/A | 0 欧姆 | N/A |



### 2、天线无源 S11 参数





## 深圳众城无线技术有限公司

Shenzhen unity wireless technology co., ltd

地址: 深圳市宝安区西乡东方建富愉盛工业区 A6 栋 4 楼

电话: 0755-23285621

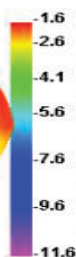
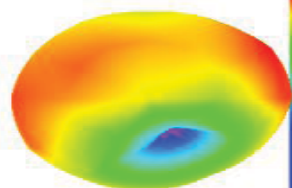
传真: 0755-23285621

天线无源测试数据:

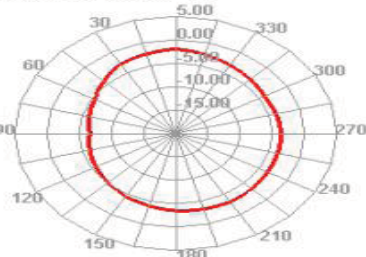
| Freq<br>(MHz) | Effi<br>(%) | Gain<br>(dBi) |
|---------------|-------------|---------------|
| 2400          | 34          | -1.65         |
| 2410          | 30.8        | -2.09         |
| 2420          | 32.97       | -1.9          |
| 2430          | 33.79       | -1.78         |
| 2440          | 37.77       | -1.28         |
| 2450          | 32.95       | -0.74         |
| 2460          | 31.65       | -0.83         |
| 2470          | 31.54       | -0.89         |
| 2480          | 30.96       | -0.7          |
| 2490          | 33.48       | -0.42         |
| 2500          | 31.35       | -0.58         |

天线方向图:

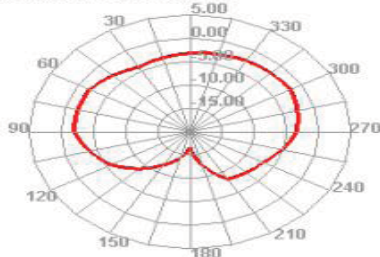
2400.000MHz



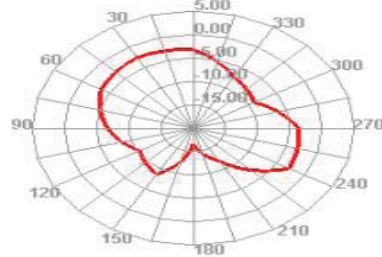
2400.000MHz H



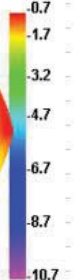
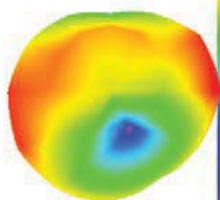
2400.000MHz E1



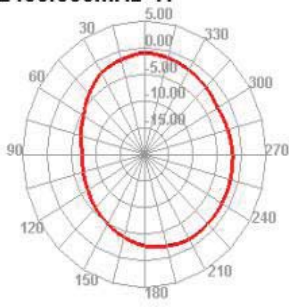
2400.000MHz E2



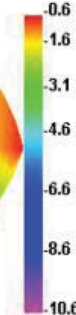
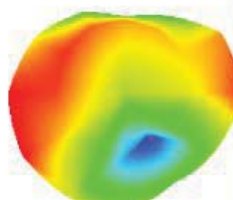
2450.000MHz



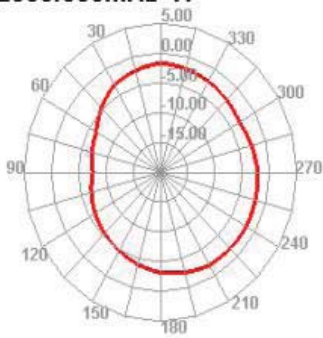
2450.000MHz H



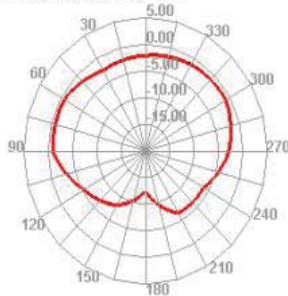
2500.000MHz



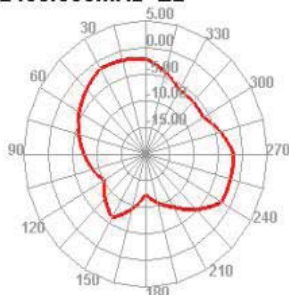
2500.000MHz H



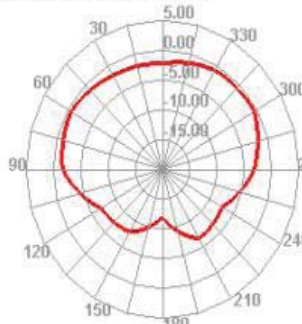
2450.000MHz E1



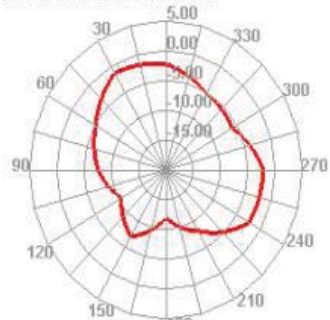
2450.000MHz E2



2500.000MHz E1



2500.000MHz E2



## 测试设备

■ 量测仪器: 微波暗室, 网络分析仪, 标准天线.

■ 微波暗室说明:

这是本公司设置在深圳的微波暗室, 本微波暗室是属于一套远场量测系统, 暗室的大小为 7.0 米 x 4.0 米 x 3.0 米, 静区尺寸(Quiet zone)大小为 15 厘米 x 15 厘米 x 15 厘米。

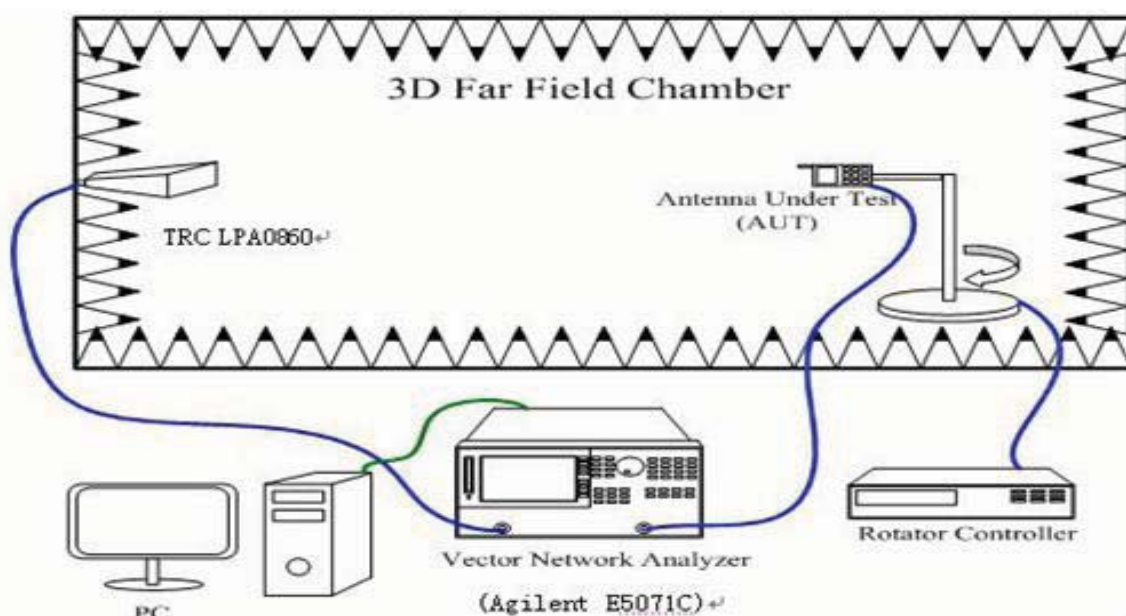


图. 1. 微波暗室内仪器设置图

图. 1 为微波暗室内的仪器设置及网络分析仪的联接图, 发射天线(本暗室所使用发射天线的型号为 TRC LPA0860 800MHZ-6GHZ)到待测天线(AUT)的距离为 1.35 米, 待测天线放置在旋转平台上, 藉由控制转台旋转的角度可对待测天线做概略性及较为准确的量测。

将待测天线放置于旋转台上, 并测得其各个平面(ZY 平面及 ZX 平面)的 360 度场强数据。再将待测天线换置成标准偶极天线(本暗室所使用的标准偶极天线型号为 TRC AD series dipole antenna 800MHz~2500MHz)将其 360 度的场强数据测出, 以作换算增益标准值, 经由式 1 的换算即可获得待测天线的增益值及方向图。

$$G_{AUT} = G_{stand} + P_{AUT} - P_{stand}$$

$G_{AUT}$ : Gain of AUT

$G_{stand}$ : Gain of Standard Gain Antenna

$P_{AUT}$ : Measured Power of AUT

$P_{stand}$ : Measured Power of Standard Gain Antenna