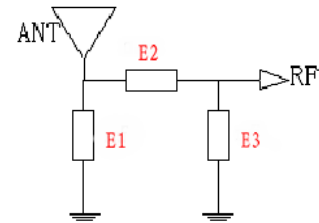


## 产品参数:

Name	Bluetooth Leads
Model	K21-004
Frequency	2400-2500
Bandwidth (MHz)	100
Polarization Type	Linear polarization
Gain (dBi)	/
VSWR	/
Input Impedance ( $\Omega$ )	50
Antenna length (mm)	25
Cable Colour	/
Connector Type	/
Operation temperature ( $^{\circ}\text{C}$ )	-40~+85
Store temperat ( $^{\circ}\text{C}$ )	-40~+85

## 1.Cable Matching(Original Cable Matching)

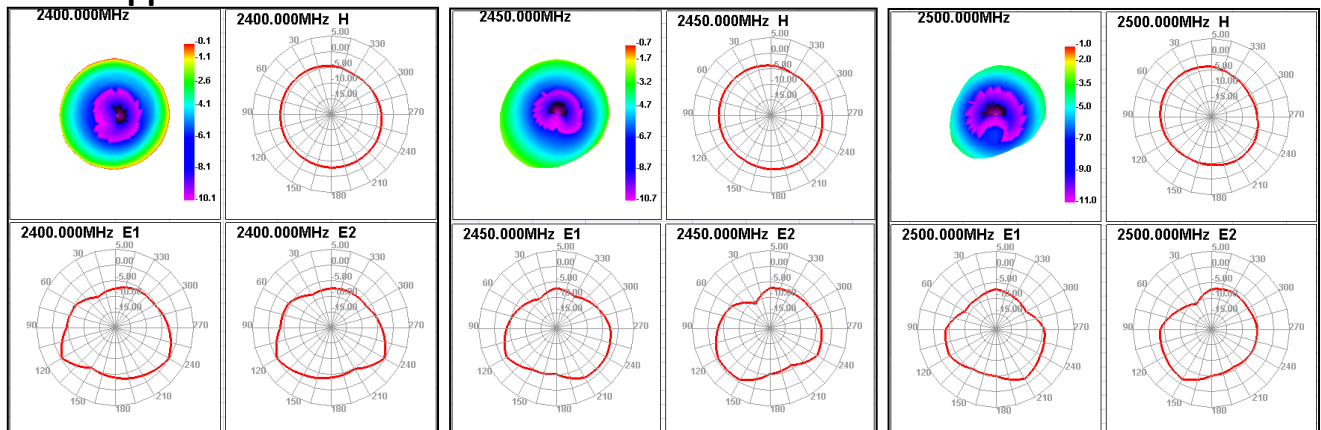
	E1	E2	E3
	N/A	0 Ohm	N/A



Passive test data:

Freq (MHz)	Effi (%)	Gain (dBi)
2400	45.96	1.12
2410	44.46	1.49
2420	45.43	1.41
2430	45.75	1.59
2440	44.86	1.51
2450	44.25	1.67
2460	45.41	1.47
2470	48.79	1.69
2480	46.51	1.71
2490	45.68	1.59
2500	45.28	1.12

Antenna apple chart:



## Test Equipment

- Measurement equipment: microwave darkroom, network analyzer, standard antenna.
- Microwave Darkroom Description: This is our microwave darkroom in Shenzhen, China. This microwave darkroom is a far-field measurement system with a size of 7.0m x 4.0m x 3.0m and a quiet zone size of 15cm x 15cm x 15cm

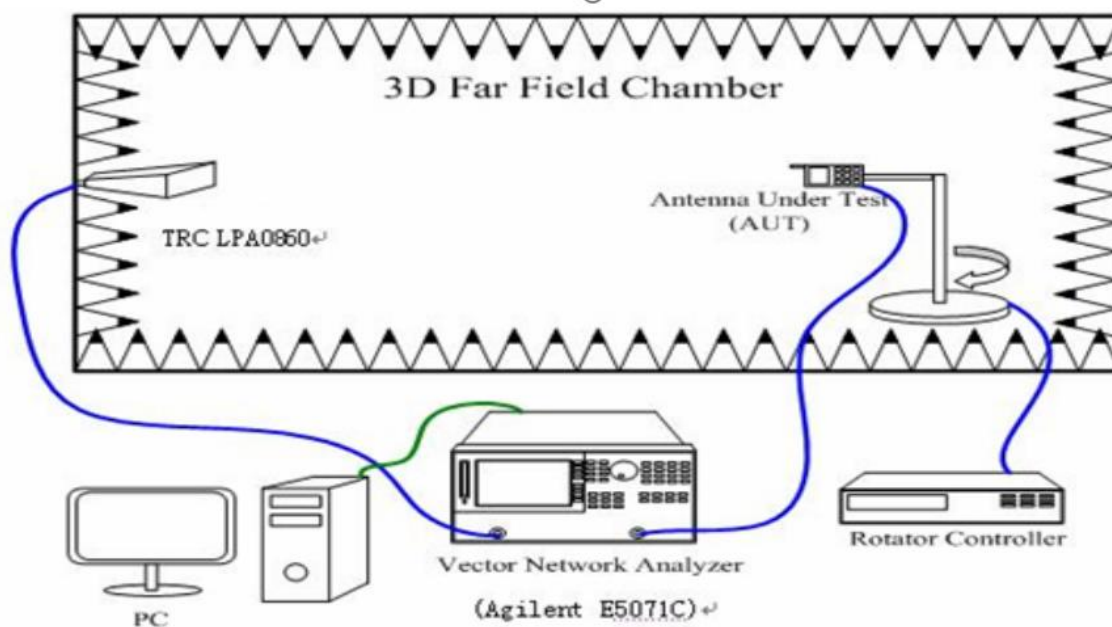


图. 1. 微波暗室内仪器设置

Figure 1. The distance from the transmitting antenna (TRC LPA0860 800MHZ-6GHZ) to the antenna under test (AUT) is 1.35m. The antenna under test is placed on the rotating platform, and the angle of rotation of the rotating platform can be controlled to make a rough and accurate measurement of the antenna under test.

The antenna to be measured will be placed on the rotary table, and measured its various planes (ZY plane and ZX plane) of the 360 degree field strength data. Then the antenna to be measured

The standard dipole antenna used in this darkroom is TRC AD series dipole antenna 800MHz~2500MHz, and the 360 degree field strength data will be measured to convert the gain standard value, and the gain value and direction of the antenna to be measured can be obtained through the conversion of formula 1.

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

$G_{AUT}$ : Gain of AUT

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

$P_{AUT}$ : Measured Power of AUT

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

## Environmental and Reliability Testing

Projects	Reference standards, experimental conditions	Basis of Judgment	Sample Quantity/Defective Quantity(PCS)	Test/testing equipment
Collision	GB/T 2423.6-1995 Acceleration speed: 200m/ s2 Collision pulse duration: 6ms Number of collisions per minute: 40~80 times Total number of collisions: 400 times in the vertical direction, 300 times in the front and rear, and Left and right horizontal direction 300 times each, a total of 1000 times.	Should meet the requirements of electrical characteristics, and mechanical properties are normal, but the appearance of bumps, whitening and bending, etc. in the allowable range.	5/0	Collision test machine
Vibration	GB/T 2423.10-1995 Testing Fc Frequency: 10~30; 30~50Hz; Resonance point amplitude : 0.35mm Amplitude: 0.75mm Duration: 0.5 hours for each direction of X, Y & Z Period: 1min. Test after the experiment is placed for 1 hour.	firmware free of looseness, component breakage or fatigue. No detachment of original parts, no fracture of solder points. Electrical performance indicators meet the requirements of technical specifications.	5/0	Vibration test machine

Holding power	<p>Verification conditions: The connector and the wire are fixed on the jig of the extraction force machine at each end, and the pulling force is zeroed.</p> <p>Verification method: Manual pulling at a constant speed until the product IPEX connector and the wire fall off</p>	>10N	5/0	Pull-out force testing machine
Drop	<p>GB/T2423.8-95</p> <p>Drop from 100cm height to the floor 10 times. GB/T2423.8-95</p>	<p>1. No significant abnormalities in appearance</p> <p>2. After the test, the electrical properties meet the specifications should meet the requirements of the electrical characteristics, and the mechanical properties are normal, but the appearance of bumps, whitening and bending in the allowable range.</p>	5/0	Drop test machine
High-temperature storage	<p>GB/T 2423.2-2001</p> <p>Test B</p> <p>Ambient conditions: <math>+85\pm 3^{\circ}\text{C}</math> for 96H</p> <p>The test is done at room temperature after 24 hours.</p>	<p>The surface coating should be free of flaking, cracking wrinkling, separation, etc.</p> <p>No permanent deformation, cracking, debonding, etc. of non-metallic structural parts.</p> <p>No jamming or disengagement of moving components.</p> <p>Electrical performance indicators meet the technical specifications</p>	10/0	Temperature and humidity cycle experiment box
Low temperature storage	<p>GB/T 2423.1-2001</p> <p>Test A</p> <p>Ambient conditions: <math>-40\pm 3^{\circ}\text{C}</math> for 96H</p> <p>The test is done at room temperature after 24 hours.</p>	<p>The surface coating should be free of flaking, cracking wrinkling, separation, etc.</p> <p>No permanent deformation, cracking, debonding, etc. of non-metallic structural</p>	10/0	Temperature and humidity cycle experiment box

		parts. No jamming or disengagement of moving components. Electrical performance indicators meet the technical specifications		
High and low temperature cycle	GB/T2423.22-2002 Test N. Place the antenna in the T1=-40°C thermostat for 30 minutes, then spend 60 minutes raising the temperature to T2=80°C, then maintain that temperature for 30 minutes with 50% RH and repeat the cycle 20 times.	The surface coating should be free of flaking, cracking wrinkling, separation, etc. No permanent deformation, cracking, debonding, etc. of non-metallic structural parts. No jamming or disengagement of moving components. Electrical performance indicators meet the technical specifications	10/0	Temperature and humidity cycle experiment box
Humidity and heat test	GB/T 2423.3-1993 试验Ca: Environmental conditions: 40±2°C, relative humidity 80 ~90%, placed for 96 hours. The experiment was tested after 24 hours at room temperature.	1.No significant abnormalities in appearance 2.The electrical properties after the test Meet the specifications mechanical properties electrical properties meet the specification range.	10/0	Temperature and humidity cycle experiment box
Salt spray test	GB/T 2423.18-2000 试验Kb Place the test article in the salt spray test chamber, with a concentration of (5 ± 1) %, temperature of 35 °C ± 1 °C, the settlement rate of (1-2) ml/50mm2 * h salt water spray test article, 48 hours, check the appearance.	No rusting phenomenon, mechanical properties electrical properties meet the specification range.	5/0	Salt water spray experimental machine

## Packaging specification

## A. Labeling requirements.

 <b>众城无线</b> UNITY WIRELESS				深圳众城无线技术有限公司			
SHENZHEN UNITY WIRELESS TECHNOLOGY., LTD							
客户				规格型号			
订单号				送货数量			
客户料号				众城无线料号			
日期				生产批次			
TEL:0755-23285621				FAX:0755-23285621			

## B. Packing requirements

### Assignment Instructions

#### 1. Outer packaging:

		 严禁踩踏	
 <b>众城无线</b> UNITY WIRELESS 公司地址: 深圳市宝安区西乡东方建富恒盛 工业区A6栋4楼(1号电梯) 电话: 0755-23285621 传真: 0755-23285621 网址: <a href="http://www.unity-tech.cn/">http://www.unity-tech.cn/</a>	 <b>众城无线</b> UNITY WIRELESS 规格: 净重: KGS 毛重: KGS 生产批号: 箱 体 积: 35 X 35 X 35 CM 	 <b>众城无线</b> UNITY WIRELESS 公司地址: 深圳市宝安区西乡东方建富恒盛 工业区A6栋4楼(1号电梯) 电话: 0755-23285621 传真: 0755-23285621 网址: <a href="http://www.unity-tech.cn/">http://www.unity-tech.cn/</a>	 <b>众城无线</b> UNITY WIRELESS 规格: 净重: KGS 毛重: KGS 生产批号: 箱 体 积: 35 X 35 X 35 CM 

#### 2. Notes.

a. Whether to install additional partitions, pearl cotton.

b. The labeling, such as ROHS, etc.