

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 Brave 4 Pro

产品名称:

Product Name: WIFI ANT

产品料号:

Part NO.: Brave 4 Pro

制 表:

Write By: _____

日 期:

Issued Date: 2023-08-28

工程 R&D Dept	采购 Business Dept	承认 Approved By

研发 R&D Dept	工程 Engineer Dept	审核 Approval

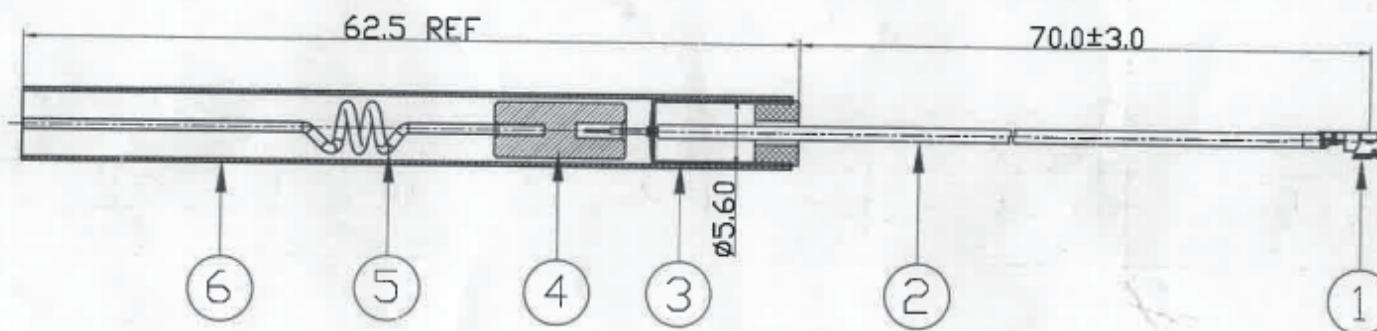
Product Specification

A. Electrical Characteristics	
Frequency	2400 MHz ~2500 MHz
VSWR	<3.0 @ 2400 MHz ~ 2500 MHz
Efficiency	>30%
Impedance	50 Ohm
Polarization	Linear
Gain	-2DB
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

RoHS

Compatible

SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			



Note:

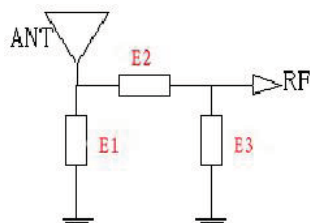
1. Dimension: Take * is the important dimension
2. Tolerance: Unmarked tolerance refer to the standard tolerance please

6	HSTUBE-006T	HST	EVA	L=62	1
5	SP-430842	Spring	Cu	Ø0.8*Ø4.3*42.5	1
4	ANT60-45105N	Tube	Zn Alloy	Ø4.5*10.5	1
3	ASM-TUBE-521216S-02	铜管+定位塞	Cu+POM	Ø5.2*12.5mm	1
2	CB-137BS	Cable		Ø1.37 Black	1
1	CR-137	MINI CONN	Cu		1
No.	Part Number	Description	Material	Finished	Q'ty

1. 天线匹配(原天线匹配)

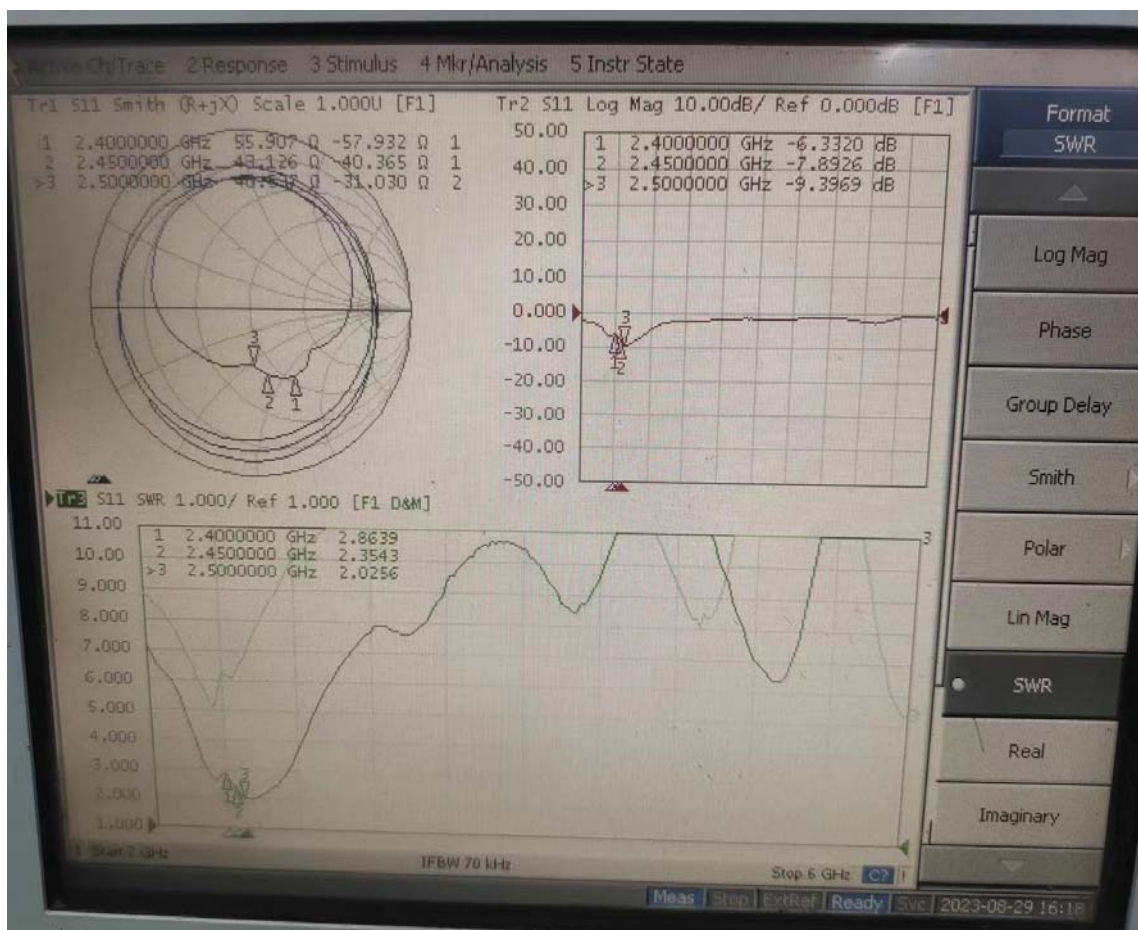
Antenna Matching

	E1	E2	E3
WIFI	N/A	0 Ω	N/A



2、天线无源 S11 参数

Antenna Passive S11 Parameters





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:

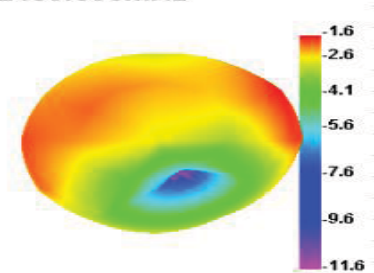
Antenna passive test data

Freq (MHz)	Effi (%)	Gain (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

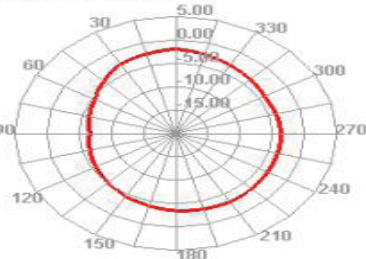
天线方向图:

Antenna pattern

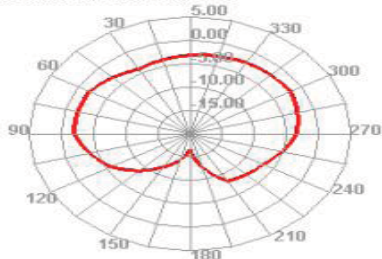
2400.000MHz



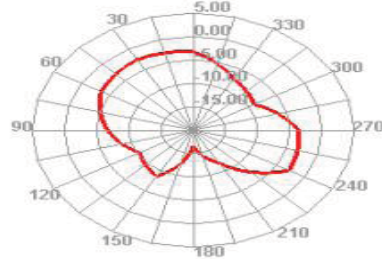
2400.000MHz H



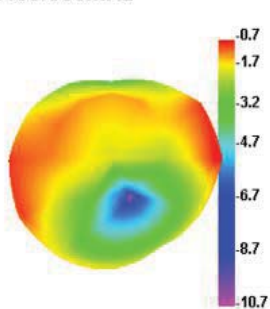
2400.000MHz E1



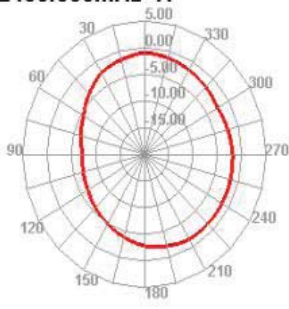
2400.000MHz E2



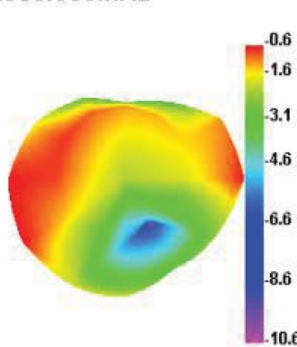
2450.000MHz



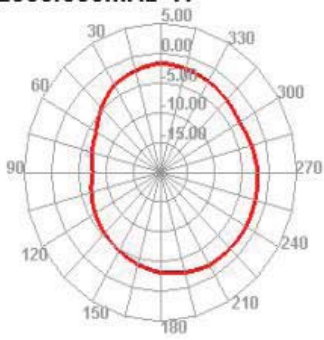
2450.000MHz H



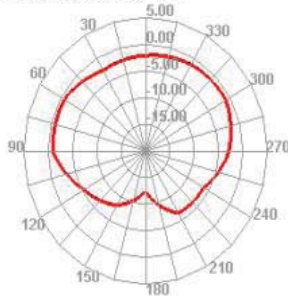
2500.000MHz



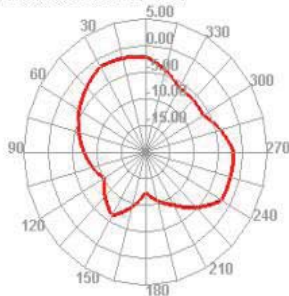
2500.000MHz H



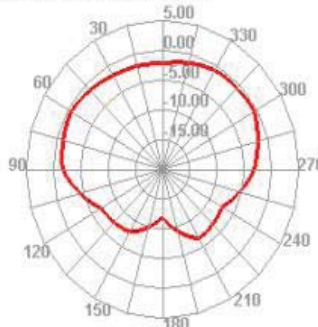
2450.000MHz E1



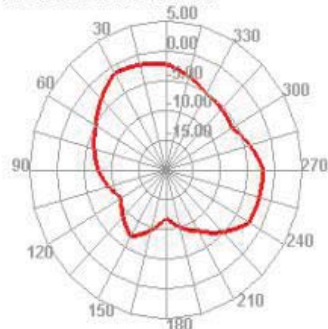
2450.000MHz E2



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。

Measuring instruments: microwave darkroom, network analyzer, standard antenna.

Microwave darkroom description:

This is the microwave darkroom set up by our company in Shenzhen. This microwave darkroom belongs to a far-field measurement system. The size of the darkroom is 7.0m x 4.0m x 3.0m, and the size of the quiet zone is 15cm x 15cm x 15cm.

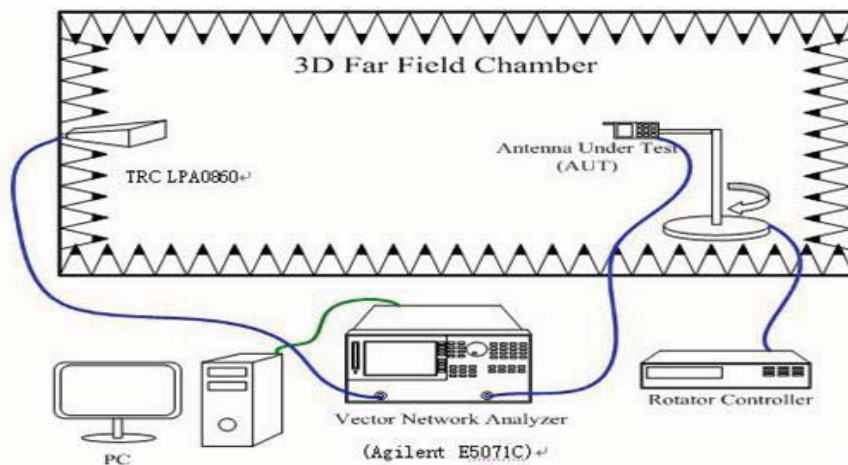


图. 1. 微波暗室内仪器设置图

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, 待测天线放置微波旋转平台上, 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。

Figure 1 shows the instrument settings and network analyzer connection diagram in the microwave darkroom. The distance from the transmitting antenna (the transmitting antenna model used in this darkroom is TRC LPA0860 800MHZ-6GHZ) to the antenna under test (AUT) is 1.35 meters. The antenna under test is placed on a rotating platform. By controlling the rotation angle of the turntable, the antenna under test can be roughly and more accurately measured.

The antenna under test is placed on the rotating platform, and the 360-degree field strength data of each plane (ZY plane and ZX plane) is measured. Then the antenna under test is replaced with a standard dipole antenna (the standard dipole antenna model used in this darkroom is TRC AD series dipole antenna 800MHz ~2500MHz) and its 360-degree field strength data is measured to convert the gain standard value. The gain value and radiation pattern of the antenna under test 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