

# 样品承认书

## Parts Approval Sheet

生产供应商: Guozhixin NQI

**Supplier**

适用项目: TWS-24

**Type/Spec**

品 牌: NQI

**Brand**

送样日期: 2025/04/29

**Send out Date**

承认日期: \_\_\_\_\_

**Approve Date**

物料名称: BT ANT

**Parts Name**

NQI 料号: \_\_\_\_\_

**Parts No**

客户料号: \_\_\_\_\_

**Quantity**

文件编号: \_\_\_\_\_

**Document No**

样品版本: \_\_\_\_\_

**Version**

Supplier		Customer	
Approved By	Prepared By	Engineering Dept	Quality Dept

联系方式 (Contact): 深圳市龙岗区平吉大道 66 号康利城 7 栋 103 号  
No. 103, Building 7, Kangli City, 66 Pingji Avenue, Longgang District, Shenzhen City  
Email: [nqi@nqi.com.cn](mailto:nqi@nqi.com.cn)  
Tel: +86-0755-28500656  
Fax: +86-0755-28700656

(Resume)

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## 一. 样品图片及说明 (Sample picture and description) :

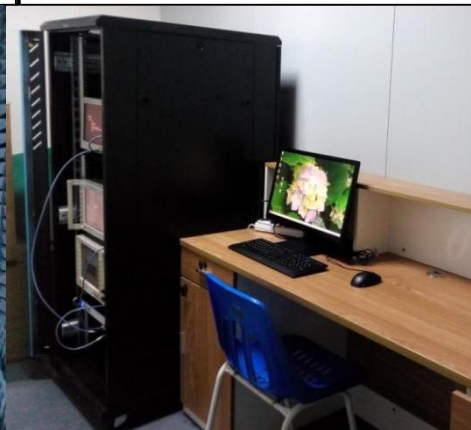
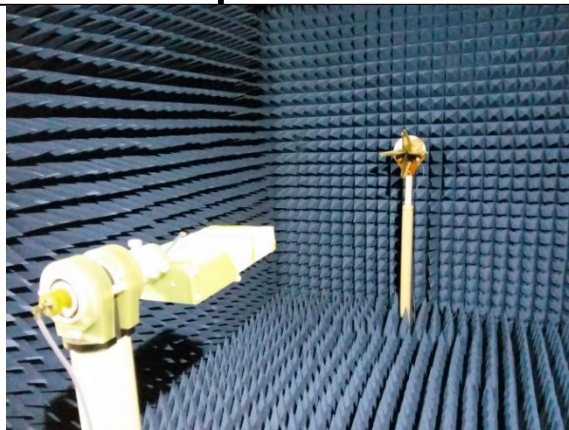
电气参数说明 (Electrical Specifications)	
频率范围 (Frequency range)	(2400-2500)MHz
特性阻抗 (impedance)	50 ohm
电压驻波比 (VSWR)	$\leq 3.5$
峰值增益 (Gain)	-0.42DBi
极化形式 (Polarization)	水平
辐射方向 (Radiation direction)	全向
连接方式说明 (Connection Mode Description)	
连接器 (connector)	/
线缆规格 (Cable specifications)	/
工作/储存温度 (Working/Storage temperature)	
工作温度 (Working temperature)	-30℃~65℃
储存温度 (Storage temperature)	-30℃~75℃

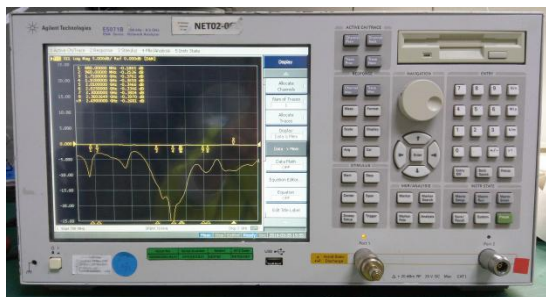
## 二. 试设备及项目 (Test equipment and items) :

类别 (Class)	测试项目 (Test item)	设备 (Equipment)
1. S parameter	1. 回波损耗(RL) 2. 驻波比 (VSWR) 3. 史密斯原图(Smith chart)	网分 (VNA) : Agilent E5071B  R&S ZVB8  Protek A333
2. 耦合测试 (Coupling testing)	1. 发射功率 (MAX Power) 2. 接收灵敏度 (MIN Sens)	1. 2G/3G Tester: Agilent 8960 2. The coupling box: TESCOM TC-5060A 3. 3D Chamber: ETS 3D Chamber (5x3x3)
3. 3D 无源测试 (Passive Test)	1. 效率 (Effeciency) 2. 增益 (Gain) 3. 辐射方向图	1. 3D Chamber: TEM24 3D Chamber (5x5x5)  ETS 3D Chamber (5x3x3)  2. 网分 (VNA) : Agilent E5071B

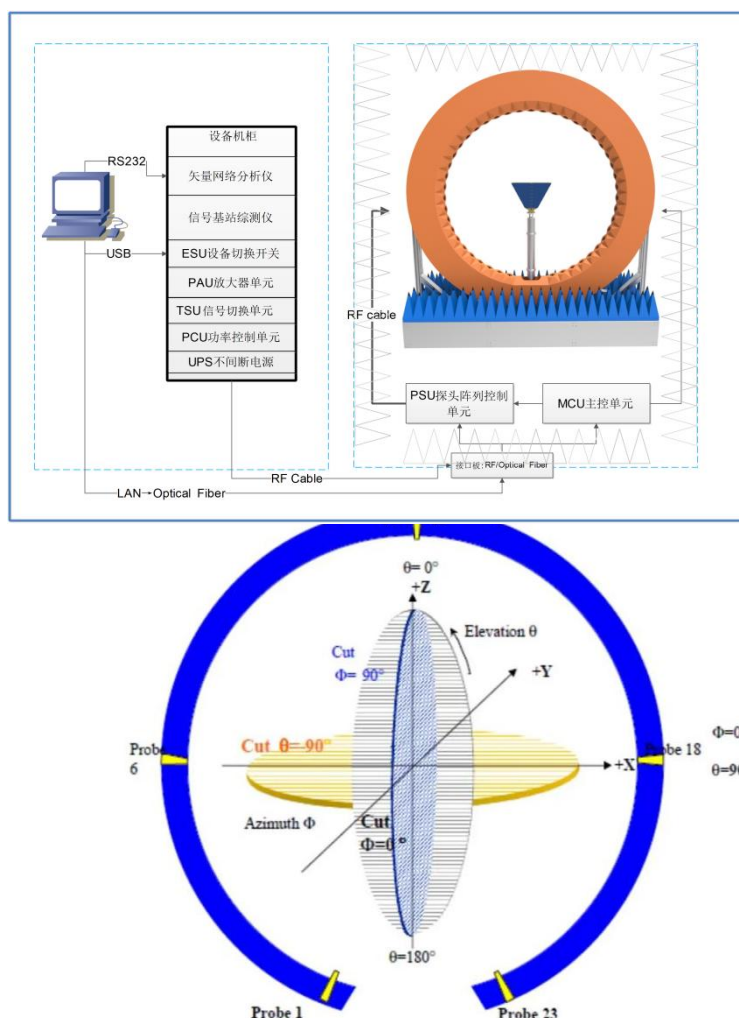


	(Radiation pattern)	R&S ZVB8
4.3D 有源测试 (Active Test)	1. 3D 功率 (TRP)  2. 3D 灵敏度 (TIS)  3. 吞吐率 (Throughput rate)	1. 3D Chamber: TEM24 3D Chamber (5x5x5)  ETS 3D Chamber (5x3x3)  2.2G/3G Tester: Agilent 8960  3.4G Tester: MT8820C/CMW500  4.WIFI/BT/NB-iot Tester: CMW500  5. 5G Tester: SP9500-CTS  6.Head: HEAD-P10 (FACE-P10)

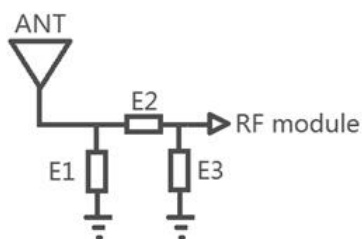




### 三. 暗室连接及坐标 (Chamber connection and coordinates) :



### 四. 天线匹配网络 (Antenna matching network) :

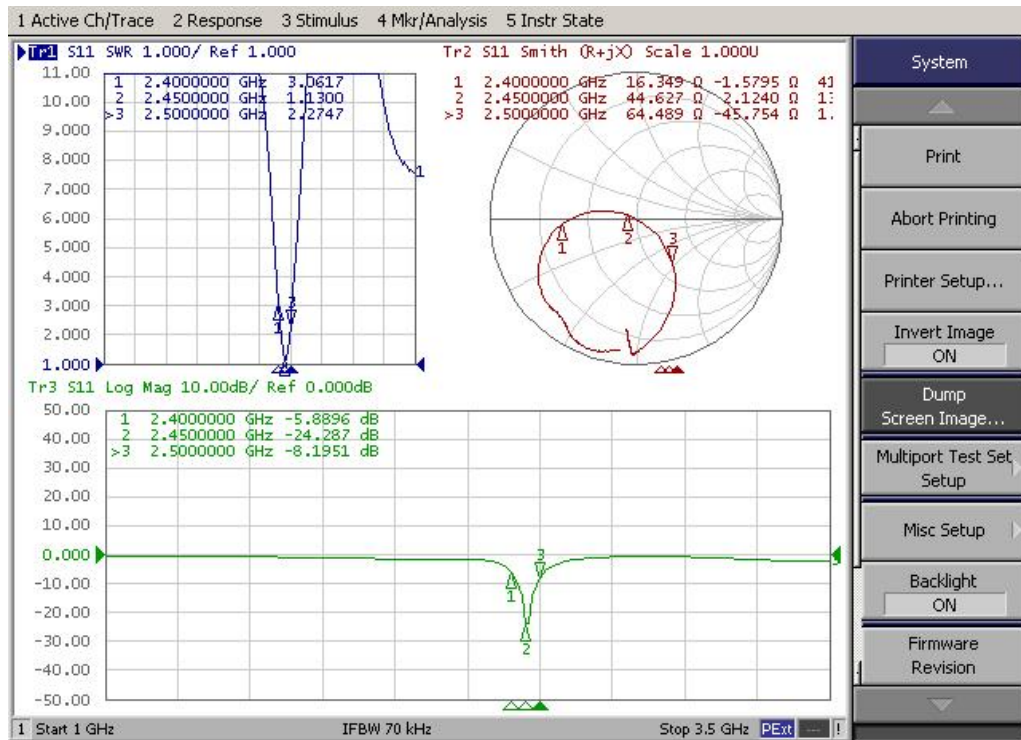


Element	L (Value)	R (Value)
E1(0201)	NC	NC
E2(0201)	0 Ω	0 Ω
E3(0201)	NC	NC

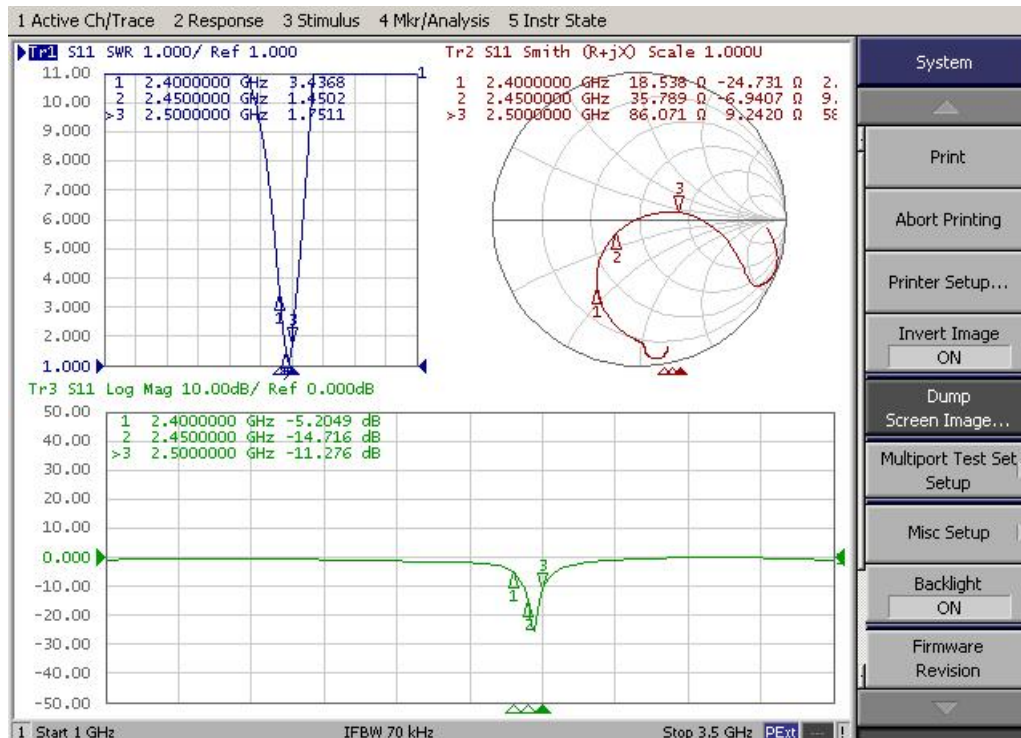


## 五. 无源柱波比& Smith 图Passive column wave ratio & Smith diagram

### 5.1 L 左耳



### 5.2 R 右耳



## 六、增益及效率Gain and efficiency

Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	-0.84	23.17
2410	-0.92	23.33
2420	-0.42	24.89
2430	-0.7	24.49
2440	-0.75	25.64
2450	-0.43	26.42
2460	-0.75	26.42
2470	-0.62	25.59
2480	-0.97	23.23
2490	-0.64	22.59
2500	-0.98	20.65

## 七、OTA Data

### 7.1 TRP&TIS

Test	Bluetooth TRP&TIS		
Result	0	39	78
TRP (dBm)	-10.21	-9.73	-10.52
TIS (dBm)	-72.82	-71.55	-70.22

