



样品承认书

Parts Approval Sheet

生产供应商:	<u> NQI </u>	物料名称:	<u> BT-L </u>
Supplier		Parts Name	
适用项目:	<u> G11 </u>	NQI 料号:	<u> NQI-G11-BT-L-FB-V4 </u>
Type/Spec		Parts No	
品 牌:	<u> NQI </u>	客户料号:	<u> ET.GZX11LBT14 </u>
Brand		Quantity	
送样日期:	<u> 2023/12/12 </u>	文件编号:	<u> NQI-RD-SPEC-20231215 </u>
Send out Date		Document No	
承认日期:	<u> </u>	样品版本:	<u> V4 </u>
Approve Date		Version	

Supplier		Customer	
Approved By	Prepared By	Engineering Dept	Quality Dept

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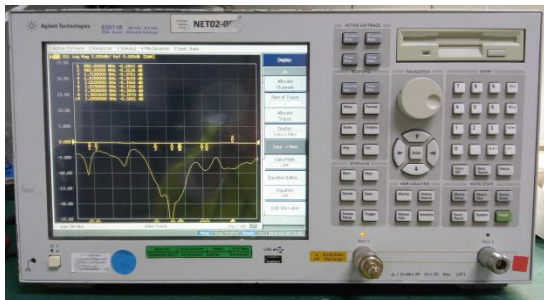
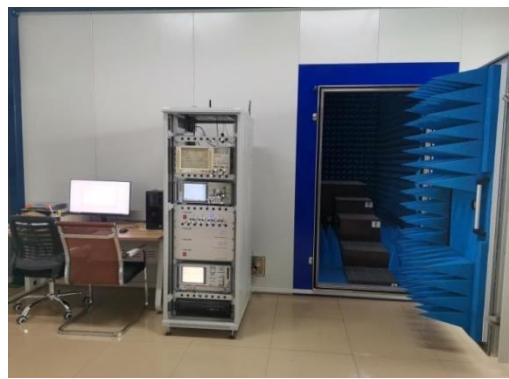
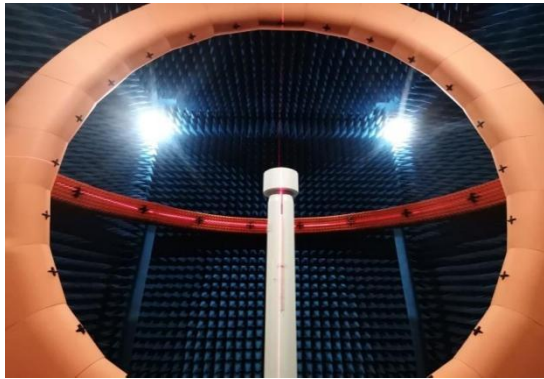
一. 样品图片. 电器参数说明及装配方式 (Sample picture and description) :



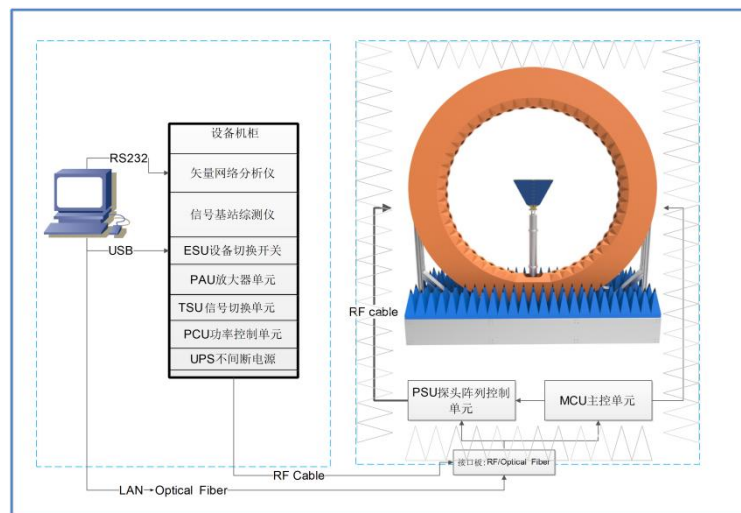
电气参数说明 (Electrical Specifications)	
频率范围 (Frequency range)	(2400-2500)MHz
特性阻抗 (impedance)	50 ohm
电压驻波比 (VSWR)	≤5.5
峰值增益 (Gain)	1.65dBi
极化形式 (Polarization)	水平
辐射方向 (Radiation direction)	全向
连接方式说明 (Connection Mode Description)	
连接器 (connector)	/
线缆规格 (Cable specifications)	/
工作/储存温度 (Working/Storage temperature)	
工作温度 (Working temperature)	-30℃~65℃
储存温度 (Storage temperature)	-30℃~75℃

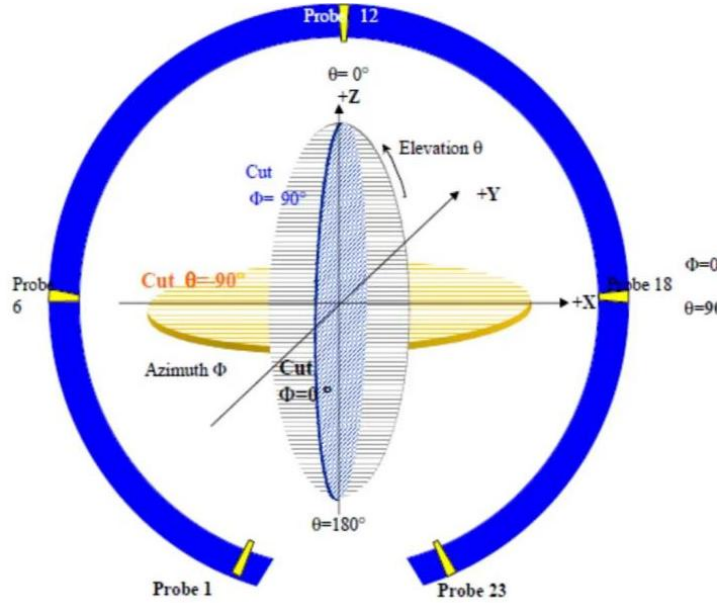
二. 测试设备及项目 (Test equipment and items) :

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: TESCO 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 (Radiation pattern)	1. 3D Chamber: TEM24 3D Chamber(5x5x5) ETS 3D Chamber (5x3x3) 2. 网分 (VNA) : Agilent E5071B 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)

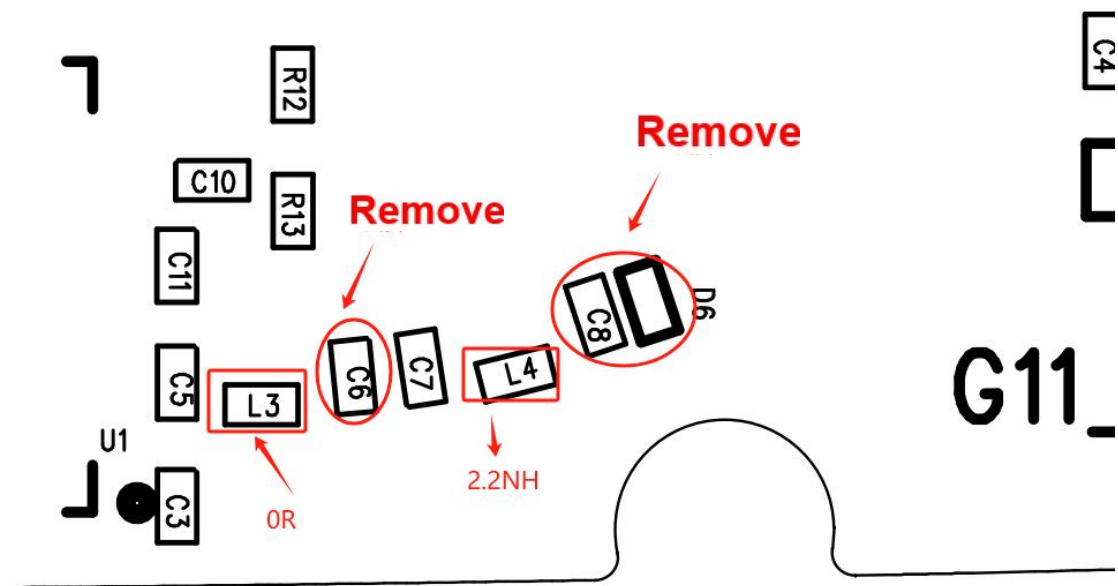


三. 暗室连接及坐标 (Chamber connection and coordinates) :





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

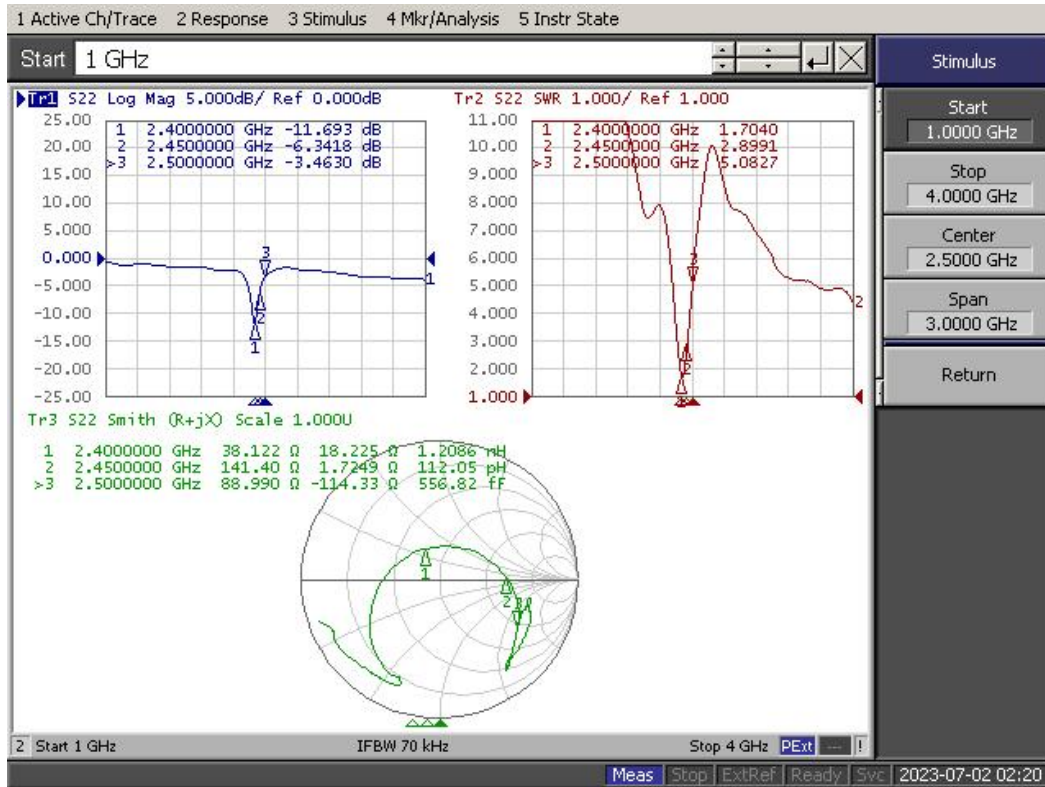


五. 天线电性能测试数据 (Antenna electrical performance test data) :

5. 1. 天线无源参数 (Antenna passive parameters)



5.1.1. 天线回波损耗/驻波比/史密斯圆图 (RL/VSWR/Smith Chart)



5.1.2. 天线效率/增益 (Effeciency/Gain)

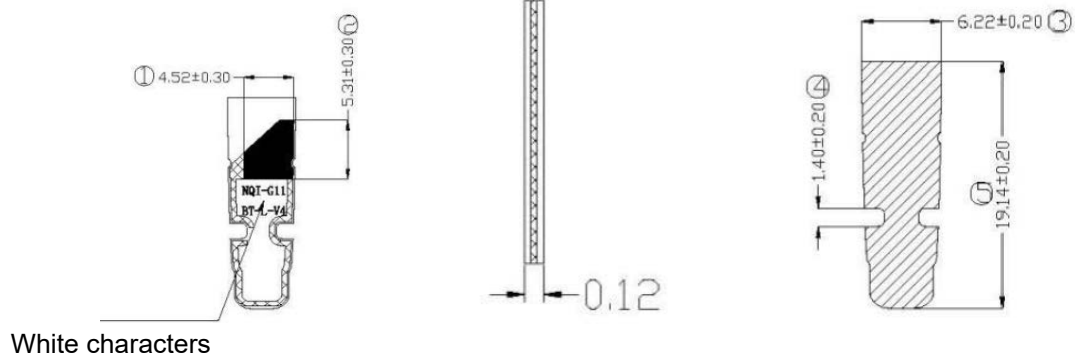
Frequency (MHz)	Efficiency (%)	Gain (dBi)	Frequency (MHz)	Efficiency (%)	Gain (dBi)
2400	27.83	1.65	2450	21.11	0.83
2410	26.27	1.38	2460	20.51	0.79
2420	24.49	1.5	2470	20.26	0.77
2430	23.2	1.29	2480	20.03	0.63
2440	22.41	0.98			

5.2 天线有源参数 (Antenna Active parameter)

5.2.1 TRP/TIS

NQIANT TRP&TIS parameter Summary of G11				
自由空间	Test	Bluetooth TRP&TIS		
	Result	0	39	78
	TRP (dBm)	-2.41	-1.76	-4.42
	TIS (dBm)	-82.3	-81.34	-81.15
二代头耳模	Test	Bluetooth TRP&TIS		
	Result	0	39	78
	TRP (dBm)	2.11	0.65	-1.72
	TIS (dBm)	-85.51	-85.27	-84.8

六. 天线结构图纸 (Antenna structure drawing) :



七. 天线包装图纸 (Antenna package drawing) :

