

样品承认书

Parts Approval Sheet

生产供应商: 国质信	物料名称: BT-L
Supplier	Parts Name
适用项目: O3	NQI 料号: NQI-O3-BT-L-FB-V11
Type/Spec	Parts No
品 牌: NQI	客户料号:
Brand	Quantity
送样日期: 2024/01/23	文件编号: NQI-RD-SPEC-20240109
Send out Date	Document No
承认日期:	样品版本: V1.0
Approve Date	Version

Supplier		Customer	
Approved By	Prepared By	Engineering Dept	Quality Dept

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承认书履历表 (Resume)

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



装配方式 the method of assembly

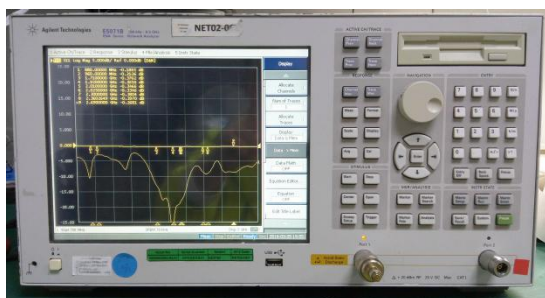
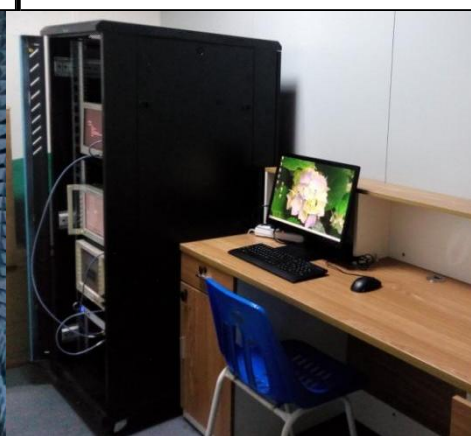
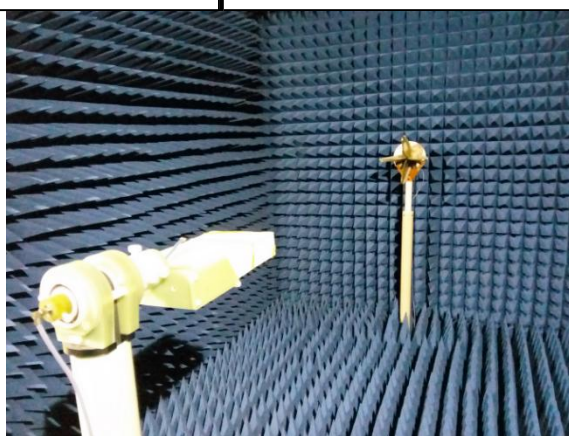


二. 测试设备及项目 (Test equipment and items) :

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: 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 (Radiation pattern)	1. 3D Chamber: TEM24 3D Chamber (5x5x5) ETS 3D Chamber (5x3x3) 2. 网分 (VNA) : Agilent E5071B R&S ZVB8

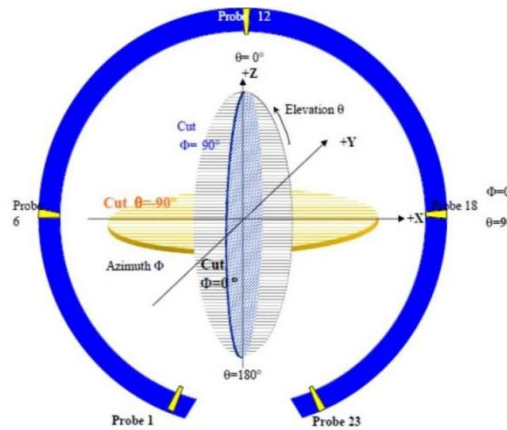
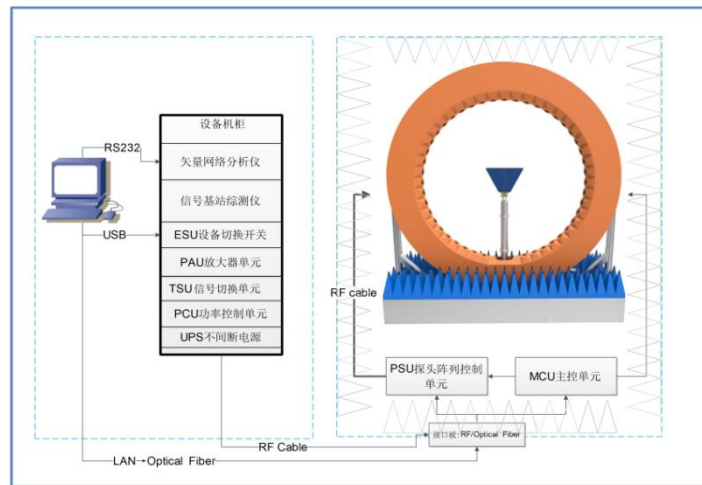


4.3D 有源测试 (Active Test)	1. 3D 功率 (TRP) 2. 3D 灵敏度 (TIS) 3. 吞吐率 (Throughput rate)	1. 3D Chamber: TEM24 3D Chamber (5x5x5) ETS 3D Chamber (5x3x3) 2.2G/3G Tester: Agilent 8960 3.4G Tester: MT8820C/CMW500 4.WIFI/BT/NB-iot Tester: CMW500 5. 5G Tester: SP9500-CTS 6.Head: HEAD-P10 (FACE-P10)
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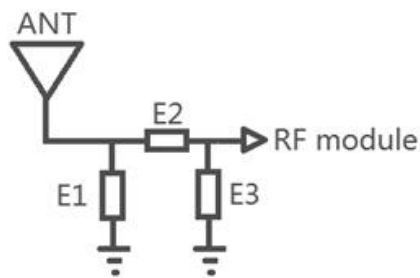




三. 暗室连接及坐标 (Chamber connection and coordinates) :



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



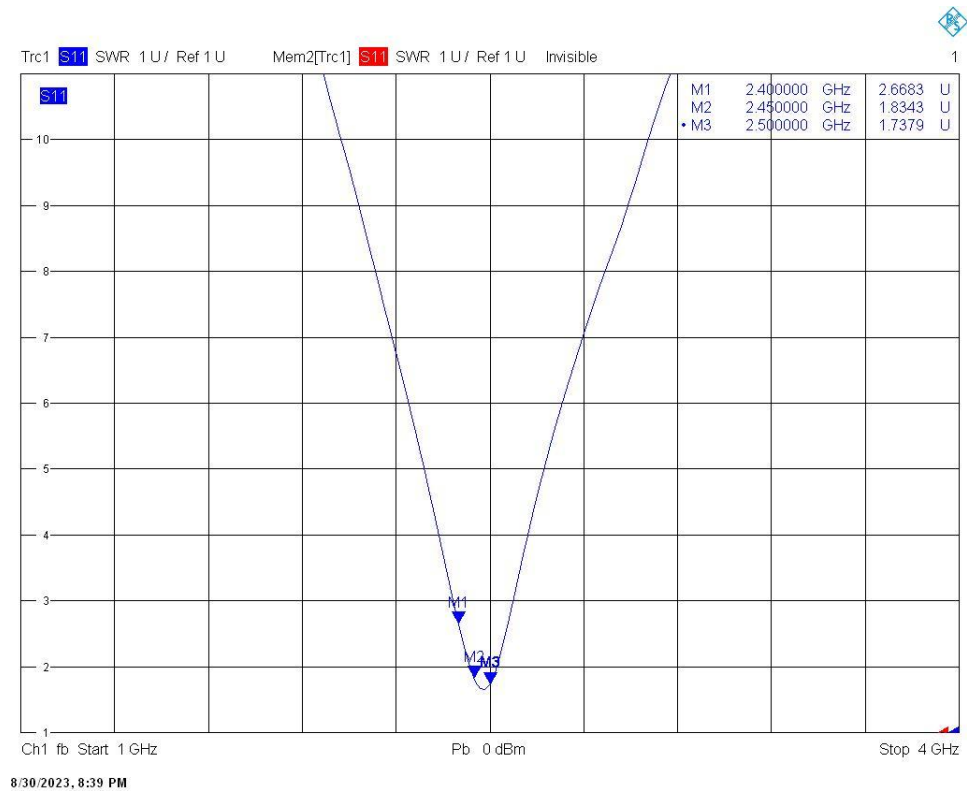
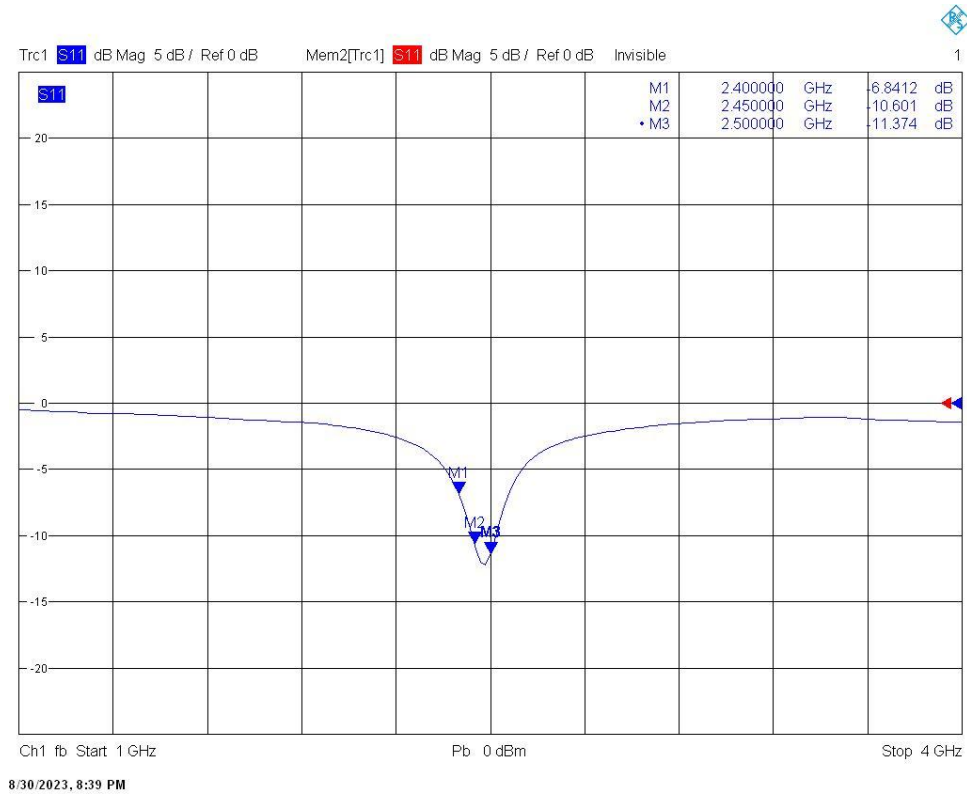
Element	L (Value)	R (Value)
E1(0201)	1.2PF	1.2PF
E2(0201)	0 Ω	0 Ω
E3(0201)	NF	NF



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)

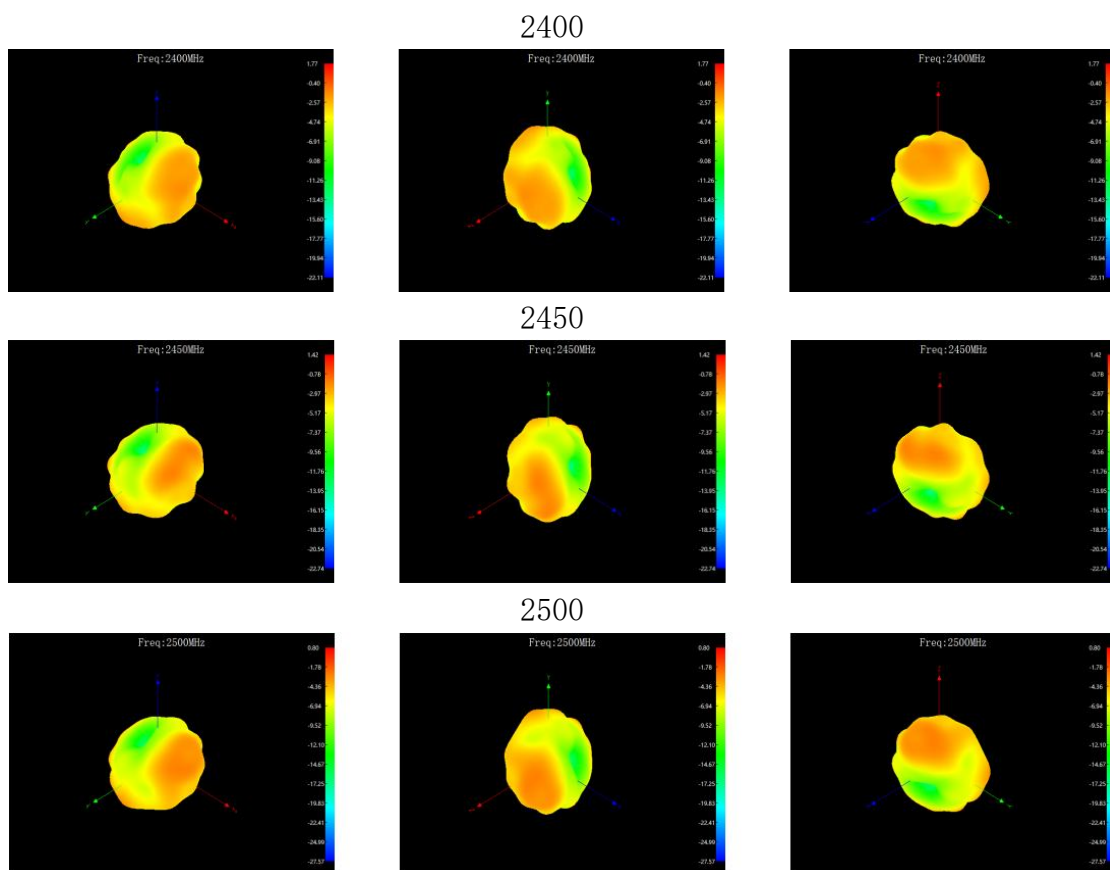
5.1.1. 天线回波损耗/驻波比 (RL/VSWR)





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

NQI ANT TRP&TIS parameter Summary of O3					
Free space (自由状态)	A	Test	Bluetooth TRP&TIS		
		Result	0	39	78
	L	TRP (dBm)	0.32	1.5	2.82
		TIS (dBm)	-83.24	-82.85	-80.66
	R	TRP (dBm)	1.43	1.8	1.96
		TIS (dBm)	-87.25	-86.39	-86.8
Head and ear (二代人头耳)	A	Test	Bluetooth TRP&TIS		
		Result	0	39	78
	L	TRP (dBm)	-8.31	-6.55	-4.36
		TIS (dBm)	-78.84	-78.83	-80.53
	R	TRP (dBm)	-4.42	-3.18	-2.42
		TIS (dBm)	-81.35	-81.48	-82.31
NQI ANT TRP&TIS parameter Summary of O3					
Free space (自由状态)	B	Test	Bluetooth TRP&TIS		
		Result	0	39	78
	L	TRP (dBm)	-0.01	0.86	2.06
		TIS (dBm)	-86.31	-85.81	-85.99
	R	TRP (dBm)	2.62	1.08	-0.8
		TIS (dBm)	-87.38	-85.92	-85.92
Head and ear (二代人头耳)	B	Test	Bluetooth TRP&TIS		
		Result	0	39	78
	L	TRP (dBm)	-6.74	-4.83	-2.6
		TIS (dBm)	-79.68	-80.01	-81.05
	R	TRP (dBm)	-4.65	-6.14	-7.4
		TIS (dBm)	-79.47	-78.44	-78.28

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

