



样品承认书

Parts Approval Sheet

生产供应商: 国质信 NQI

Supplier

适用项目: M2

Type/Spec

品 牌: NQI

Brand

送样日期: 2022/ 11/09

Send out Date

承认日期: _____

Approve Date

物料名称: 天线+触摸 Parts

Name

NQI 料号: NQI-M2-FB-V16 Parts No


客户料号: 1000052450

Quantity

文件编号: NQI-RD-SPEC-20221106

Document No

样品版本: V16 Version

Supplier		Customer	
Approved By	Prepared By	Engineering Dept	Quality Dept
			

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一. 样品及说明(Sample condition):



电气参数说明 (parameters)	
频率范围 (Scope)	(2400-2500)MHz
特性阻抗 (characteristic impedance)	50 ohm
电压驻波比 (VSWR)	≤2.0
峰值增益 (Gain)	-0.94dBi
极化形式(Polarization)	水平(horizontal)
辐射方向 (radiation pattern)	全向(all-around)
工作/储存温度 (temperature)	
工作温度 (work)	-30℃~65℃
储存温度 (storage)	-30℃~75℃

二. 整机图片 (picture):

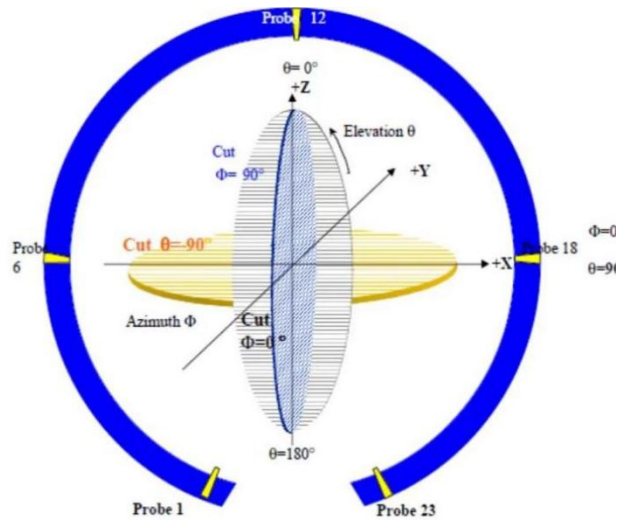
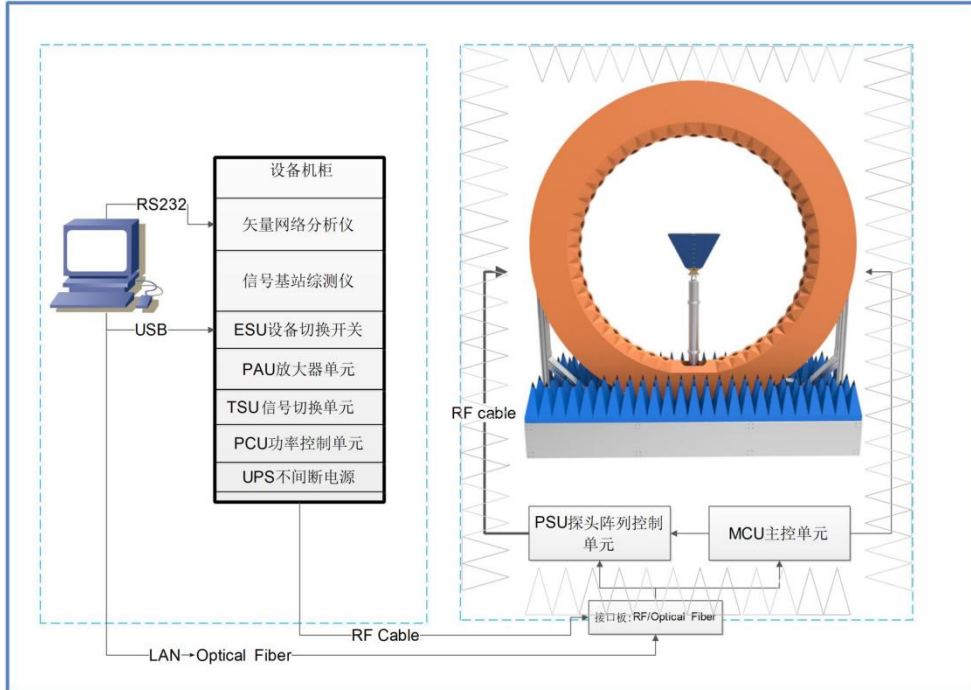


三. 测试设备及项目 (Test equipment and items):

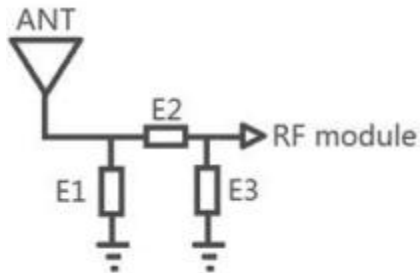
类别 (Class)	测试项目 (Test item)	设备 (Equipment)
1. S parameter	1. 回波损耗(RL) 2. 驻波比 (VSWR) 3. 史密斯原图 (Smith chart)	网分 (VNA) : Agilent E5071B R&S ZVB8 Protek A333
2. 耦合测试 (Coupling testing)	1. 发射功率 (MAX Power) 2. 接收灵敏度 (MIN Sens)	1.2G/3G Tester: Agilent 8960 2.The coupling box: TESCOM TC-5060A 3. 3D Chamber: 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)



四. 暗室 (Chamber) 连接及坐标:



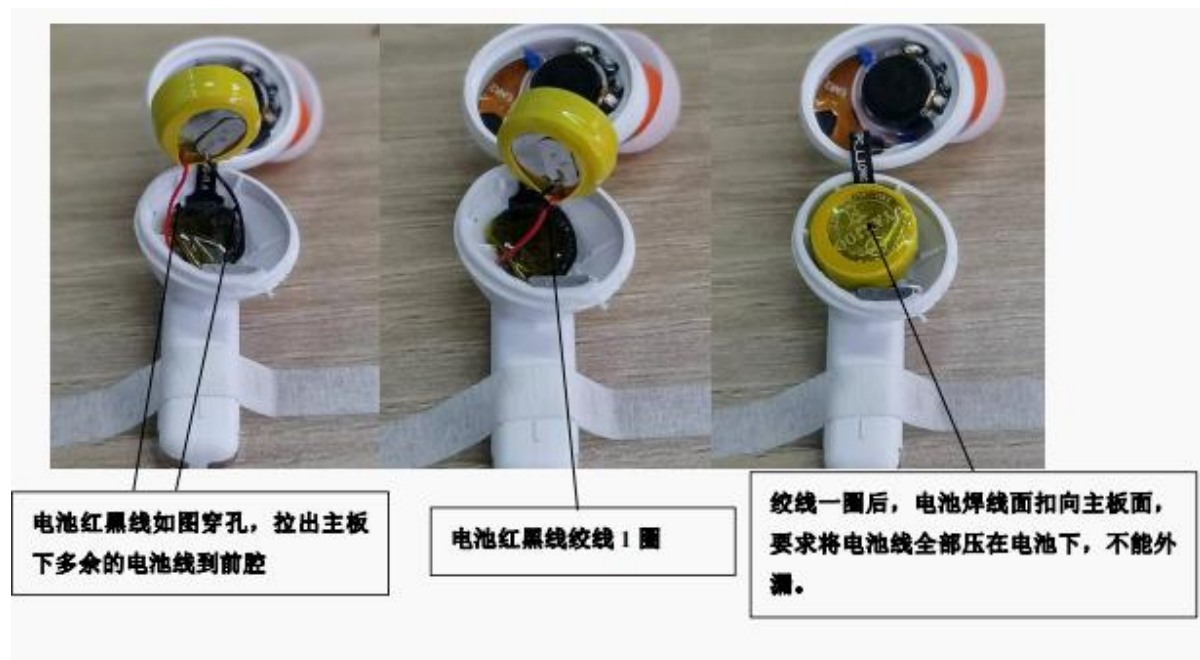
五. 天线匹配网络 (Antenna matching grid) :



Element	L (Value)	R (Value)
E1(0201)	NF	NF
E2(0201)	1pF	1pF
E3(0201)	NF	NF

六. 天线装配方式及环境处理 (Antenna assembly and environmental treatment) :

左右耳相同处理(The left and right ears were treated identically)

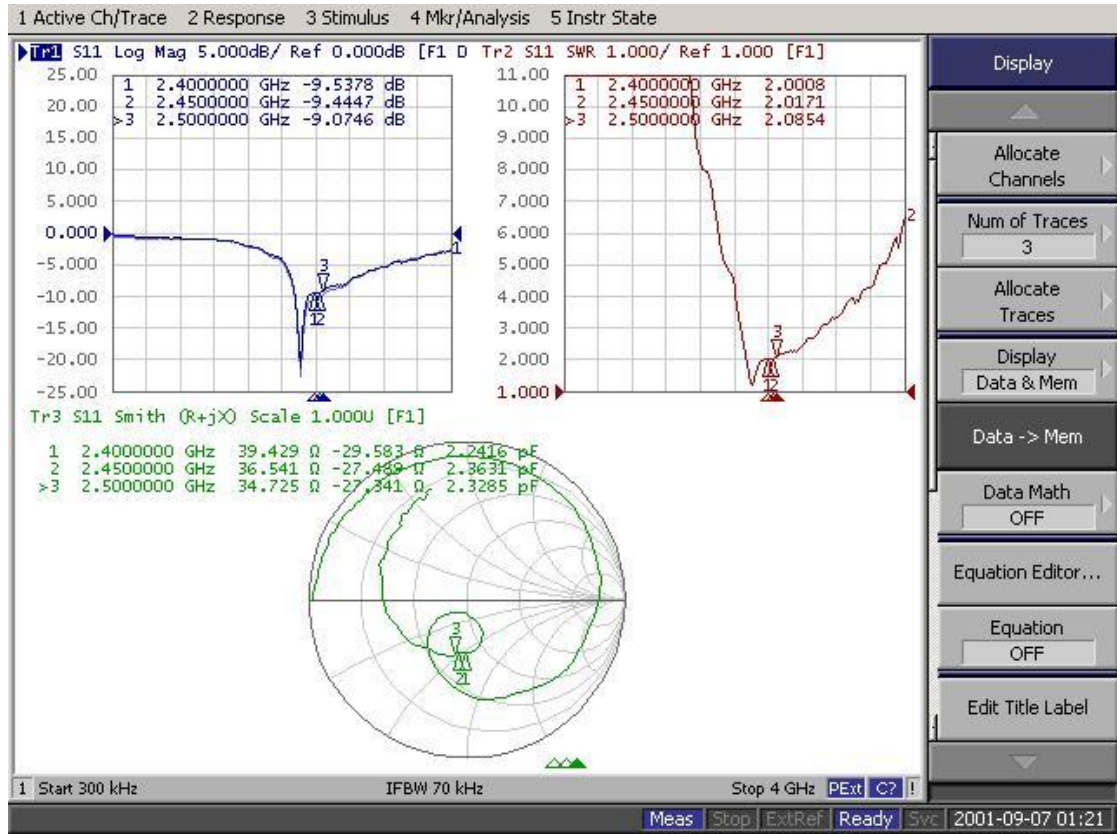




7. 天线电性能测试数据 (Test data):

7.1. 天线无源参数 (parameter)

7.1.1. 天线回波损耗 (RL) /驻波比(VSWR)/史密斯图圆 (Smith Chart)



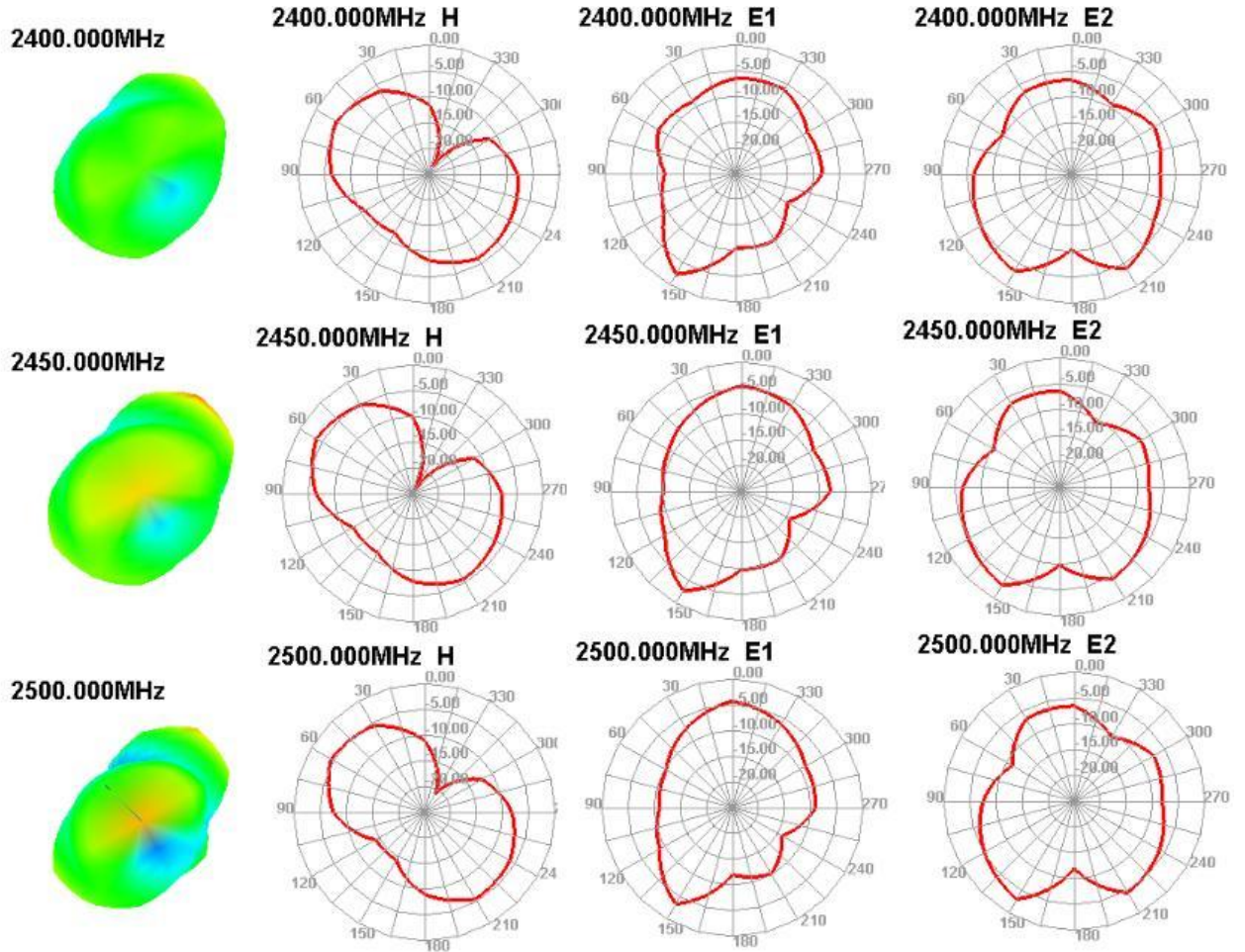
7.1.2. 天线效率/增益/方向图 (Antenna efficiency/gain/orientation plot)

Freq (MHz)	Effi (%)	Gain (dBi)
2400	29.65	-0.94
2450	26.32	-1.44
2500	25.14	-1.61

7.1.3 增益测试图 (Gain test chart)



6.1.4 方向图(directional diagram)
增益单位(Gain Unit):dBi



7.2 天线有源参数 (parameter)

7.2.1. TRP/TIS

NQIANT TRP&TIS parameter Summary of M2				
	Test	Bluetooth TRP		
	Result	0	39	78
R	TRP (dBm)	0.52	1.01	0.43
	TIS (dBm)	-84.27	-84.88	-84.23
L	TRP (dBm)	0.47	1.05	0.54
	TIS (dBm)	-84.31	-84.91	-84.42

7.2.2. 场测数据 (data)

Headphone field test result (耳机场测结果)	
Test site (测试场地): Vacant lot outside the company gate (国质信门口空地)	
Cell-phone (测试手机): Iphone6 (苹果 6)	
The tesor (测试员): 周鹏	
Height of mobile phone stand (手机支架高度): 1.2m	
Test methods and criteria (测试方法及判定标准): The headset is tested with its back to the phone, Up and down, left and right 180° rotation without stuck. (耳机背向手机, 上下, 左右 180° 旋转无卡顿)	
测试结果	
L/R	Actual test distance (实测测试距离)
The left ear (左耳)	16m
The right ear (右耳)	16m
备注:	



七. 天线结构图纸
(Antennastructuredrawing)
Unit: mm

