



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: O5

NQI 料号: NQI-O5-BT-L-FB-V3

Type/Spec

Parts No

品 牌: NQI

客户料号:

Brand

Quantity

送样日期: 2024/05/10

文件编号: NQI-RD-SPEC-20240301

Send out Date

Document No

承认日期:

样品版本: V3

Approve Date

Version

| Supplier | | Customer | |
|-------------|-------------|------------------|--------------|
| Approved By | Prepared By | Engineering Dept | Quality Dept |
| | | | |

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一. 样品图片及描述 (Sample picture and description) :



装配方式 the method of assembly



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

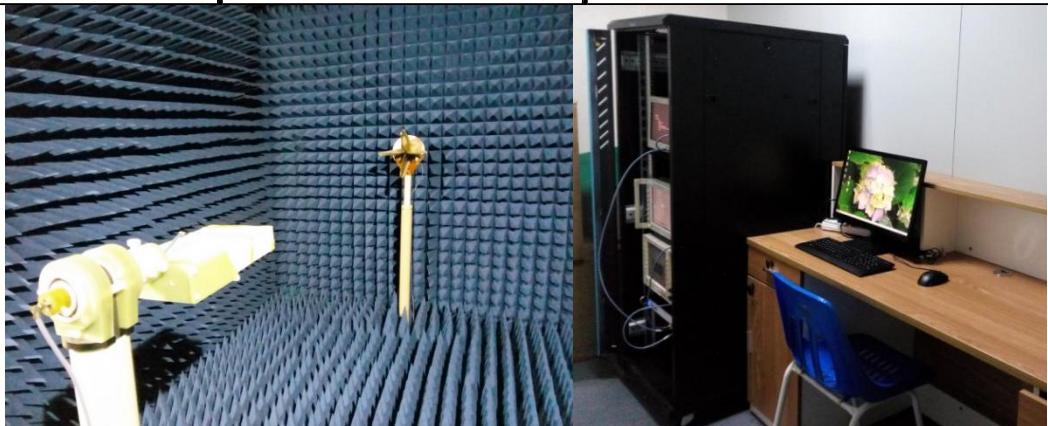
| 类别 (Class) | 测试项目 (Test item) | 设备 (Equipment) |
|----------------------------|--|---|
| 1. S parameter | 1. 回波损耗(RL) 2. 驻波比 (VSWR) 3. 斯密斯原图(Smith chart) | 网分 (VNA) : Agilent E5071B R&S ZVB8 Protek A333 |
| 2. 耦合测试 (Coupling testing) | 1. 发射功率 (MAX Power) 2. 接收灵敏度 (MIN Sens) | 1.2G/3G Tester: Agilent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



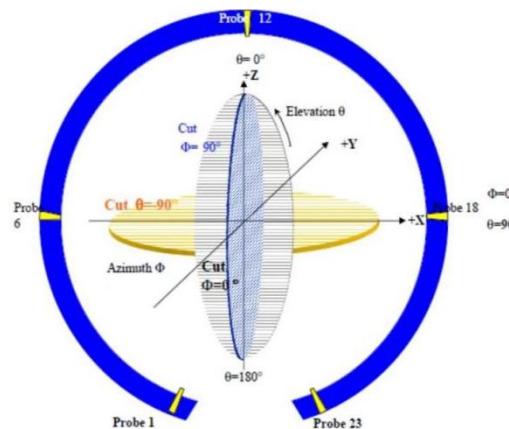
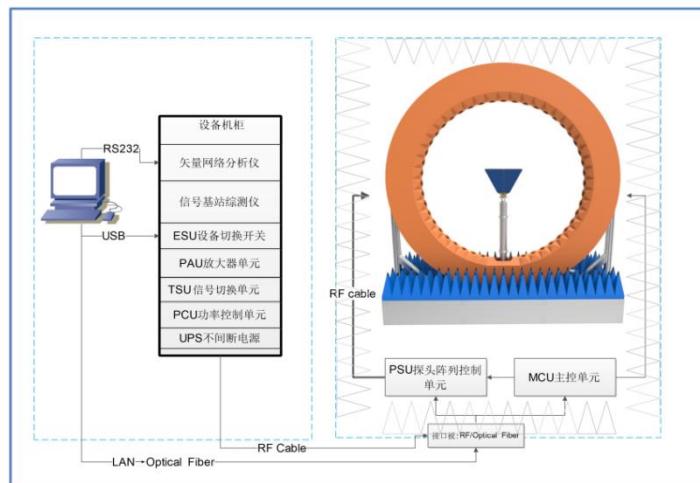
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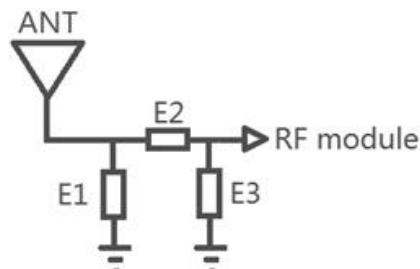
| | | |
|----------------------------|--------------------------|---|
| 4.3D 有源测试 (Active Test) | 1. 3D 功率 (TRP) | 1. 3D Chamber: TEM24 3D Chamber (5x5x5) |
| | 2. 3D 灵敏度 (TIS) | ETS 3D Chamber (5x3x3) |
| | 3. 吞吐率 (Throughput rate) | 2.2G/3G Tester: Agilent 8960 |
| | | 3.4G Tester: MT8820C/CMW500 |
| | | 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) :



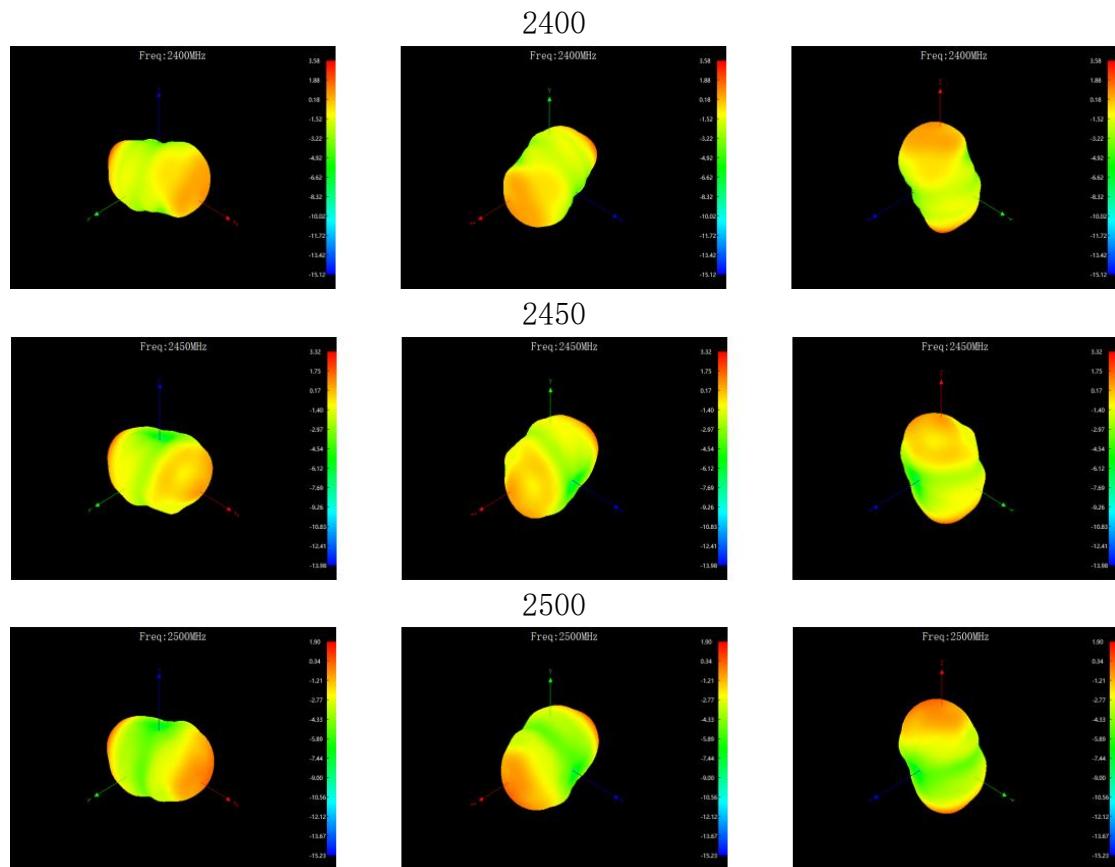
四. 天线匹配网络 (Antenna matching network) :



| Element | L (Value) | R (Value) |
|----------|-----------|-----------|
| E1(0201) | 1.3PF | 1.3PF |
| E2(0201) | 0 Ω | 0 Ω |
| E3(0201) | NF | NF |

5.1.2. 天线效率/增益 (Effeciency/Gain)

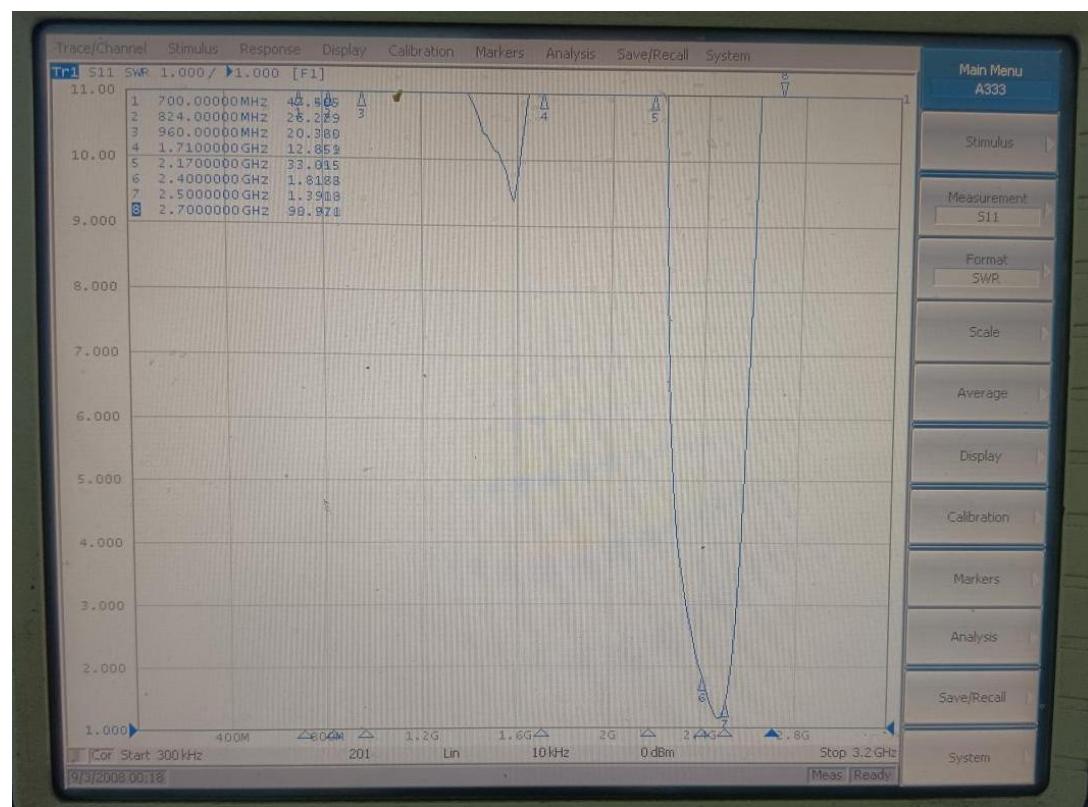
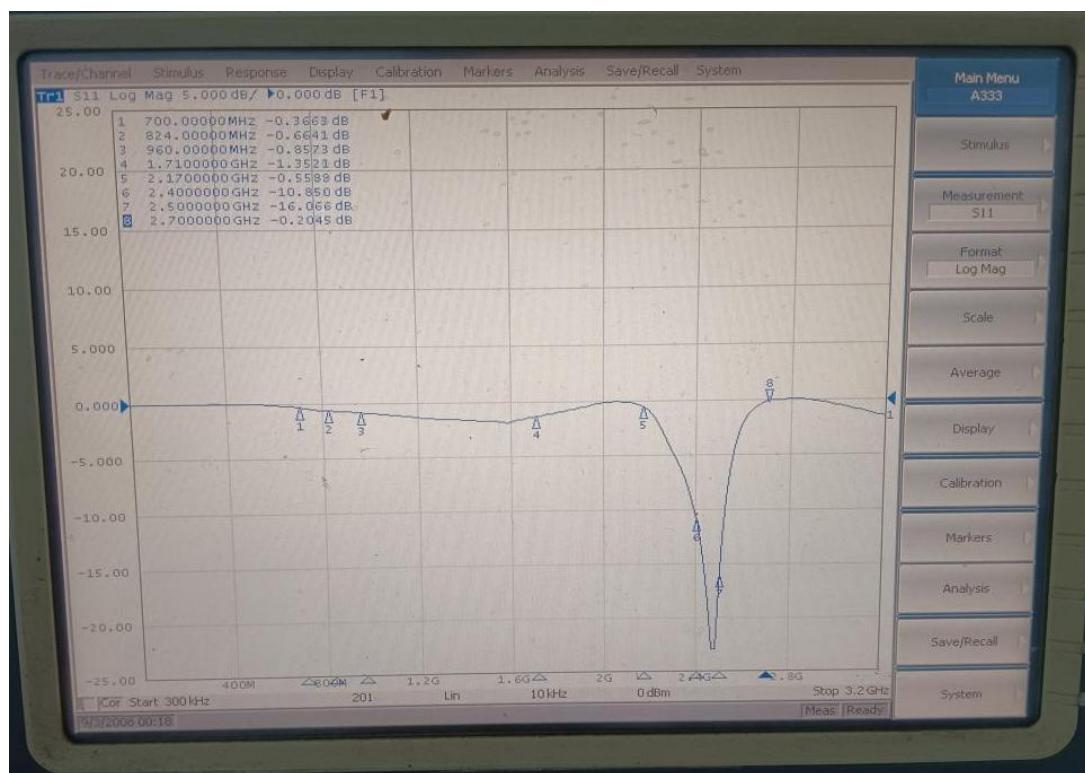
| Frequency(MHz) | Efficiency (%) | Gain (dBi) |
|----------------|----------------|------------|
| 2400 | 41.4 | 3.58 |
| 2410 | 38.55 | 3.22 |
| 2420 | 41.78 | 3.97 |
| 2430 | 42.36 | 3.68 |
| 2440 | 44.67 | 3.35 |
| 2450 | 44.06 | 3.32 |
| 2460 | 43.85 | 3.01 |
| 2470 | 43.25 | 3.1 |
| 2480 | 39.26 | 2.55 |
| 2490 | 38.02 | 2.66 |
| 2500 | 34.04 | 1.9 |



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 (%) | Max Gain (dBi) | Frequency (MHz) | Efficiency (%) | Max Gain(dBi) |
|-----------------|----------------|----------------|-----------------|----------------|---------------|
| 2400 | 41.59 | 3.58 | 2450 | 44.16 | 3.31 |
| 2410 | 38.64 | 3.22 | 2460 | 43.95 | 3.02 |
| 2420 | 41.88 | 3.97 | 2470 | 43.35 | 3.11 |
| 2430 | 42.56 | 3.68 | 2480 | 39.36 | 2.55 |
| 2440 | 44.77 | 3.35 | 2490 | 38.11 | 2.66 |

5.2 天线有源参数 (Antenna Active parameter)

5.2.1 TRP/TIS

| NQI ANT TRP&TIS parameter Summary of O5 1# | | | | | |
|--|-----------|--------|---------------|--------|--|
| 自由空间 | Test | | Bluetooth TRP | | |
| | Result | 0 | 39 | 78 | |
| L | TRP (dBm) | 2.81 | 2.18 | 1.87 | |
| | TIS (dBm) | -86.96 | -86.25 | -86.63 | |
| R | TRP (dBm) | 2.75 | 1.73 | 0.8 | |
| | TIS (dBm) | -87.36 | -85.92 | -86.18 | |
| NQI ANT TRP&TIS parameter Summary of O5 1# | | | | | |
| 二代头耳模 | Test | | Bluetooth TRP | | |
| | Result | 0 | 39 | 78 | |
| L | TRP (dBm) | -4.21 | -5.29 | -5.31 | |
| | TIS (dBm) | -80.32 | -79.13 | -79.6 | |
| R | TRP (dBm) | -4.72 | -5.01 | -5.18 | |
| | TIS (dBm) | -80.19 | -79.66 | -80.24 | |

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

