

Antenna Specification

For

Project HQ36

FPC Antenna

NQI part number:

NQI-HQ36-BT-ASM-V1

Version:

Customer	升韵/ SHENG YUN	Project	HQ36
Band	BT	Color	
Issued by	冯工	Checked by	
Confirmed by		Date	2026.3.19

This test report belongs to ShenZhen NQI network communication ltd. and related clients to file, please keeping it properly, without our company and related clients allowed, anybody has no rights to reveal it to public.

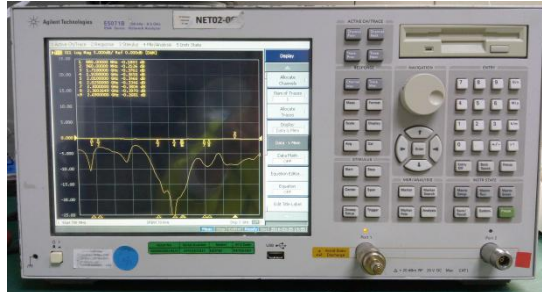


一. Test Instrumentation and item(测试设备及项目)

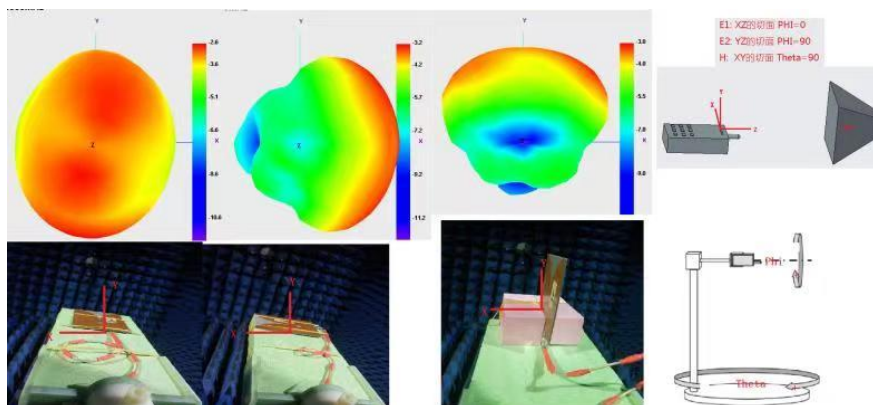
类别 (Class)	测试项目 (Test item)	设备 (Equipment)
1. S parameter	1. 回波损耗(RL) 2. 驻波比 (VSWR) 3.斯密斯原图(Smith chart)	网分 (VNA) : Agilent E5071B R&S ZVB8 Protek A333
2. 耦合测试 (Coupling testing)	1. 发射功率 (MAX Power) 2. 接收灵敏度 (MIN Sens)	1.2G/3G Tester: Agilent 8960 2.The coupling box: TESCOM TC-5060A 3. 3D Chamber: ETS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



深圳市国质信网络通讯有限公司
ShenZhen NQI network communication ltd



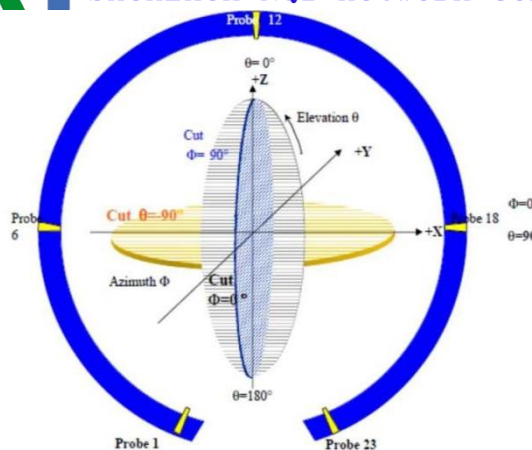
二. Chamber coordinate axis (暗室坐标)



This test report belongs to ShenZhen NQI network communication ltd. and related clients to file, please keeping it propely, without our company and related clients allowed, anybody has no rights to reval it to public.



深圳市国质信网络通讯有限公司
ShenZhen NQI network communication ltd



三. Definitions (定义)

VSWR: Voltage Standing Wave Rate

RL: Return loss

TRP: total radiated power

TIS: total isotropic sensitivity

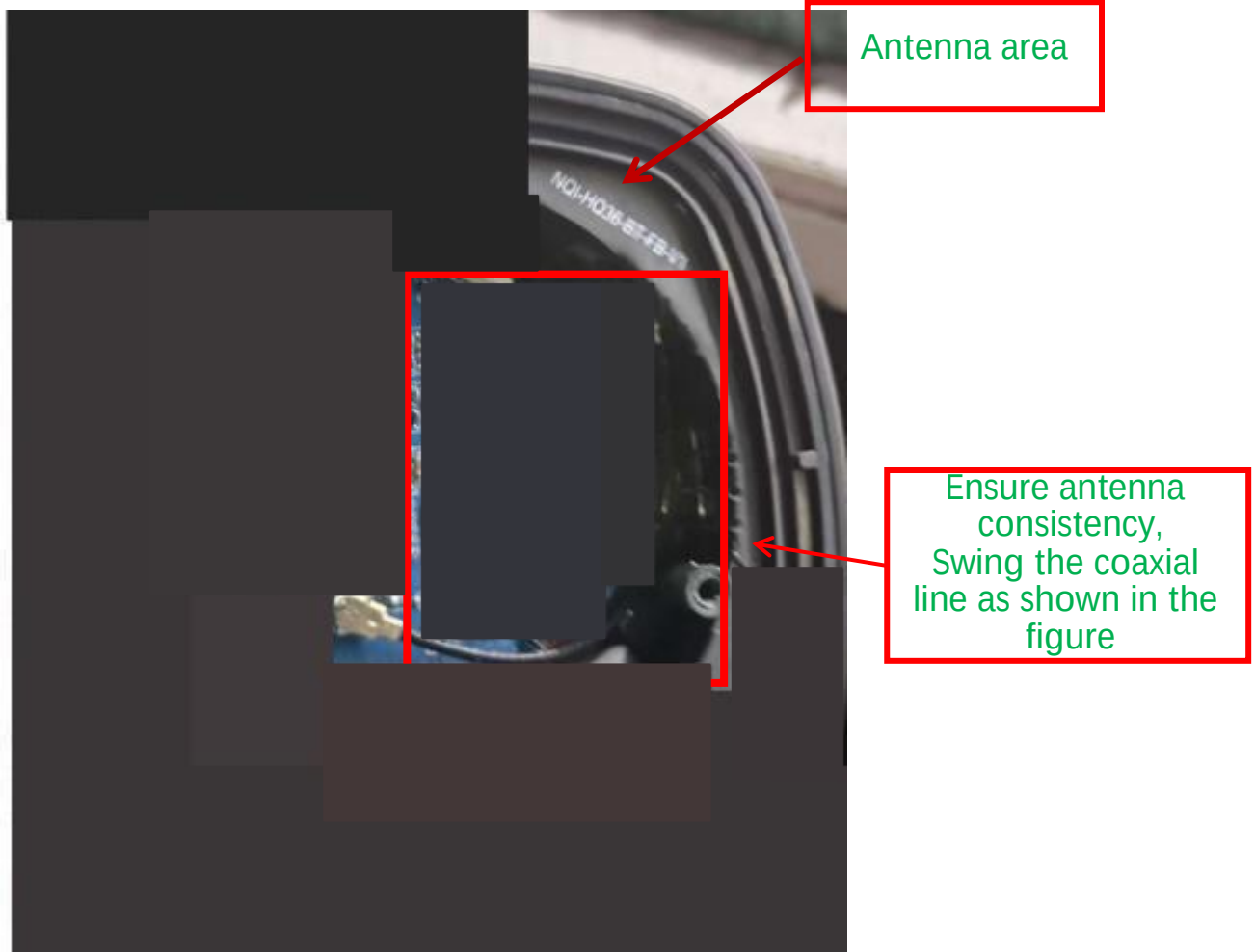
四. Cell-Phone Photo and Dealing Method (手机图片及环境处理) (Mobile phone image and environment processing)

This test report belongs to ShenZhen NQI network communication ltd. and related clients to file, please keeping it properly, without our company and related clients allowed, anybody has no rights to reveal it to public.



4.1 天线装配及环境处理图

4.1 Antenna assembly and environmental treatment diagram



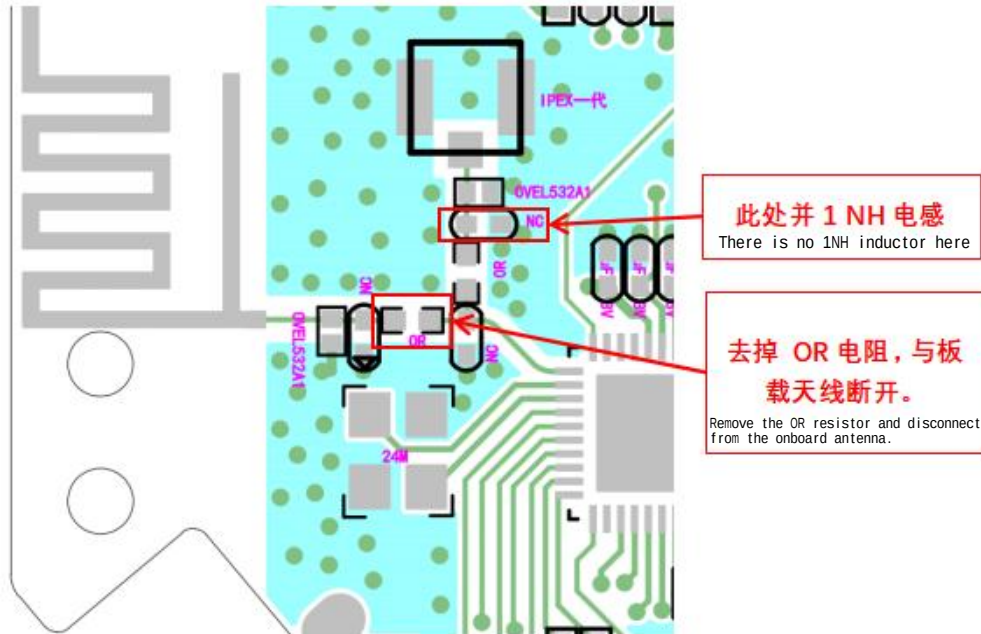
Received this machine for direct testing without disassembly



深圳市国质信网络通讯有限公司
ShenZhen NQI network communication ltd

五. Matching Circuit Description (匹配描述)

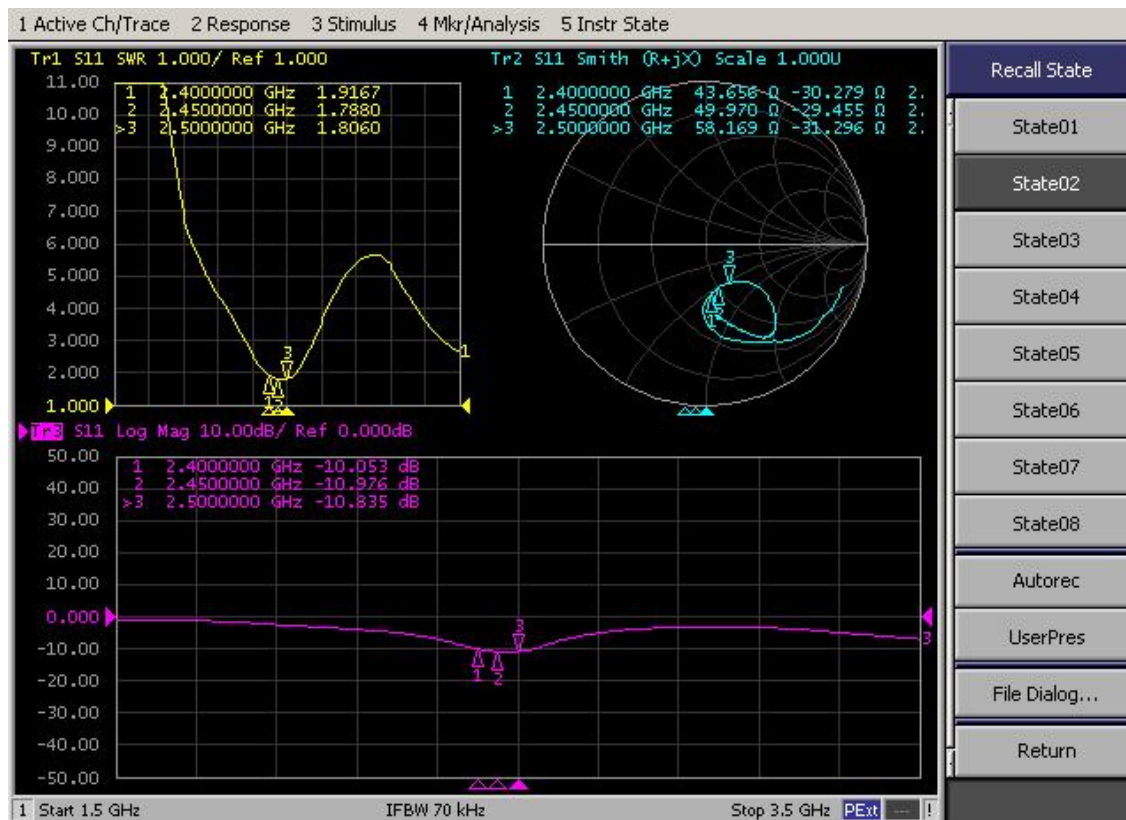
According to the original matching that comes with the motherboard this time, no changes





六. Passive Test (无源测试)

6.1. RL/VSWR (回波损耗/驻波比)



This test report belongs to ShenZhen NQI network communication ltd. and related clients to file, please keeping it propely, without our company and related clients allowed, anybody has no rights to revel it to public.



6.2. 天线效率测试

6.2. Antenna Efficiency Test

自由空间/free space

Frequency/MHz	Efficiency / dB	Efficiency / %	MaxGain/ dBi
2400	-3.8	41.69	3.03
2410	-4.1	38.9	2.57
2420	-3.89	40.83	2.94
2430	-4.21	37.93	2.49
2440	-4.11	38.82	2.3
2450	-4.07	39.17	2.58
2460	-4.04	39.45	2.34
2470	-3.83	41.4	2.63
2480	-3.77	41.98	2.45
2490	-3.27	47.1	3.2
2500	-3.37	46.03	2.96

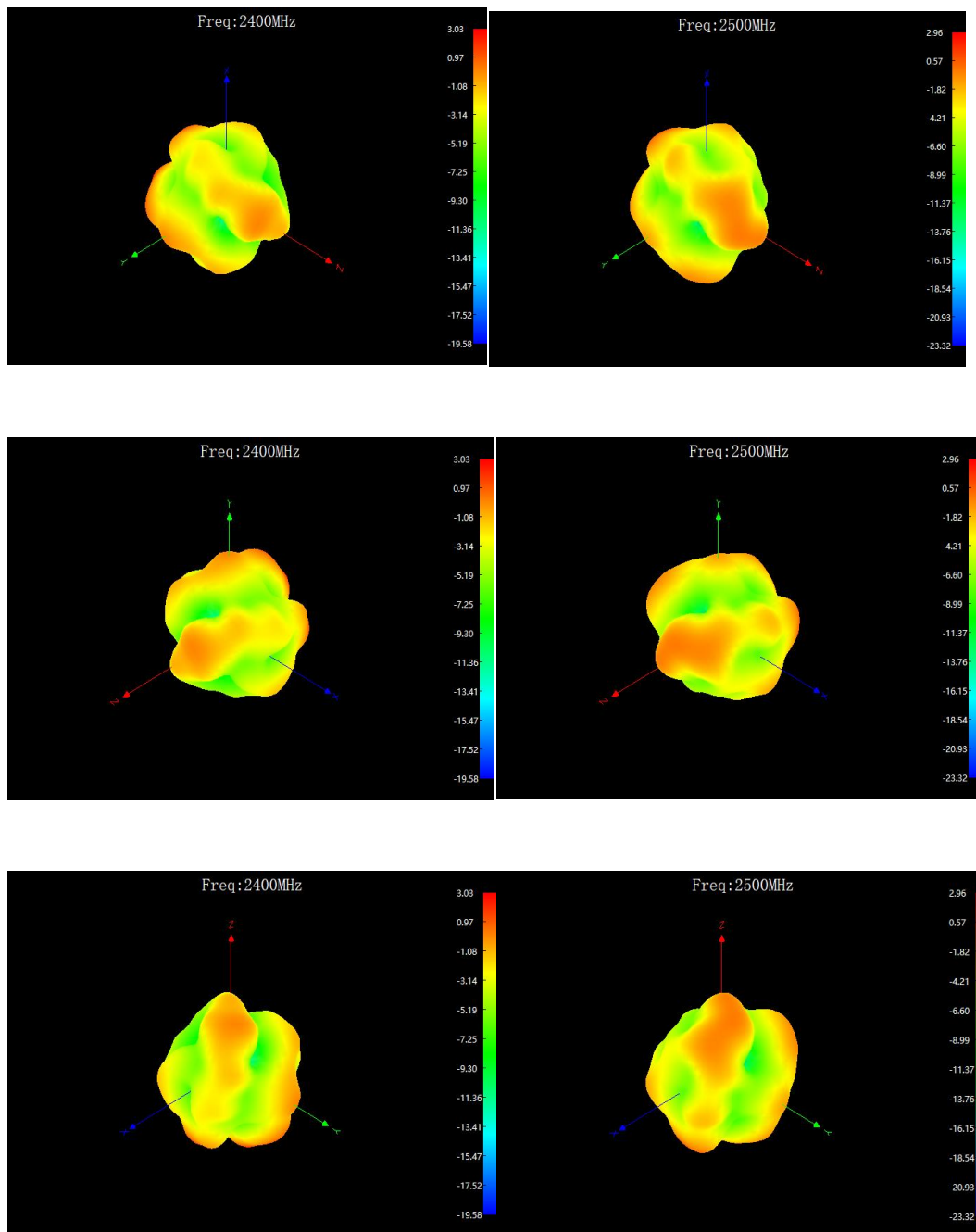
头模/head model

Frequency/MHz	Efficiency / dB	Efficiency / %	MaxGain/ dBi
2400	-5.35	29.17	3.45
2410	-5.49	28.25	2.97
2420	-5.19	30.27	3.47
2430	-5.4	28.84	2.63
2440	-5.2	30.2	2.49
2450	-5.11	30.83	2.32
2460	-5.06	31.19	2.33
2470	-4.9	32.36	2.52
2480	-4.82	32.96	2.49
2490	-4.41	36.22	3.24
2500	-4.54	35.16	2.89

6.3. 天线方向图

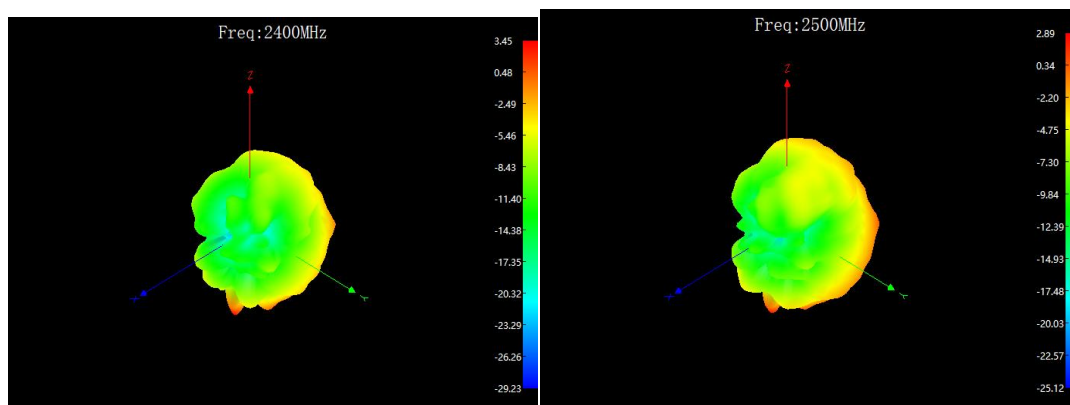
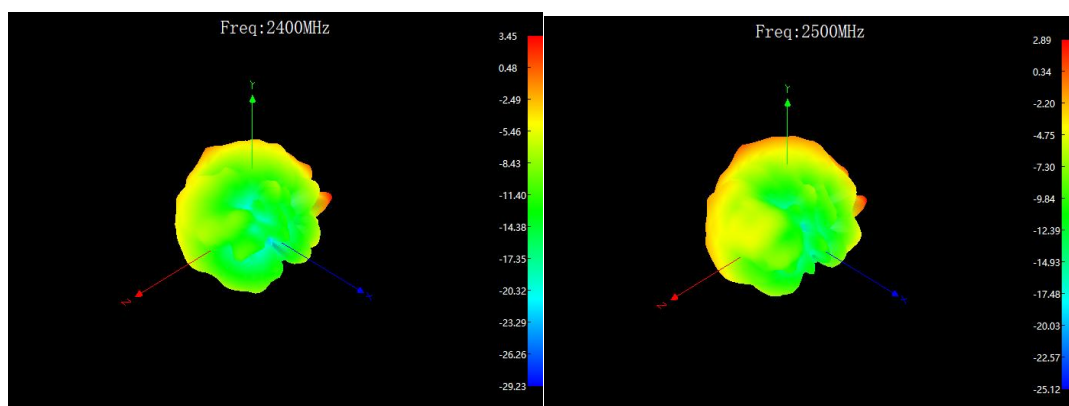
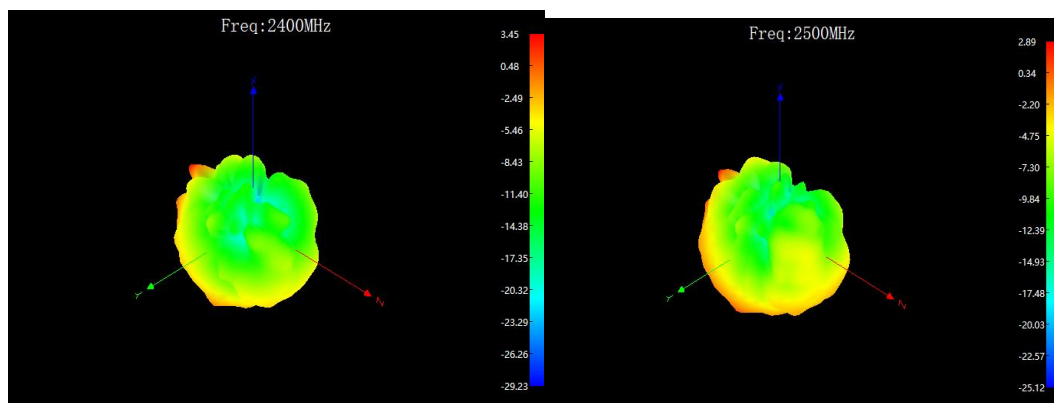
6.3. Antenna Pattern

自由空间/free space



This test report belongs to ShenZhen NQI network communication ltd. and related clients to file, please keeping it propely, without our company and related clients allowed, anybody has no rights to reval it to public.

头模/head model



This test report belongs to ShenZhen NQi network communication ltd. and related clients to file, please keeping it propely, without our company and related clients allowed, anybody has no rights to reval it to public.



七. TRP&TIS

头模测试/Head mold testing

1#	Bluetooth TRP&TIS		
Result	0	39	78
TRP (dBm)	0.51	1.04	2.28
TIS (dBm)	-86.19	-87.97	-89.87
2#	Bluetooth TRP&TIS		
Result	0	39	78
TRP (dBm)	1.88	2.38	2.66
TIS (dBm)	-87.41	-88.98	-89.67
3#	Bluetooth TRP&TIS		
Result	0	39	78
TRP (dBm)	1.63	1.73	2.31
TIS (dBm)	-86.47	-88.23	-89.23
4#	Bluetooth TRP&TIS		
Result	0	39	78
TRP (dBm)	-0.78	0.09	0.75
TIS (dBm)	-86.26	-87.08	-87.73
5#	Bluetooth TRP&TIS		
Result	0	39	78
TRP (dBm)	1.6	2.03	2.5
TIS (dBm)	-87.58	-89.14	-90.37
6#	Bluetooth TRP&TIS		
Result	0	39	78
TRP (dBm)	-1.4	-0.29	0.88
TIS (dBm)	-85.37	-86.81	-88.57



自由空间测试/Free space testing

1#	Bluetooth TRP&TIS		
Result	0	39	78
TRP (dBm)	3.98	4.2	4.63
TIS (dBm)	-90.38	-91.22	-92.09
2#	Bluetooth TRP&TIS		
Result	0	39	78
TRP (dBm)	4.25	4.38	4.97
TIS (dBm)	-90.63	-91.52	-92.29
3#	Bluetooth TRP&TIS		
Result	0	39	78
TRP (dBm)	4.12	4.78	5.03
TIS (dBm)	-90.12	-91.87	-92.09
4#	Bluetooth TRP&TIS		
Result	0	39	78
TRP (dBm)	3.72	3.98	4.86
TIS (dBm)	-90.04	-91.12	-92.35
5#	Bluetooth TRP&TIS		
Result	0	39	78
TRP (dBm)	3.9	4.66	5.18
TIS (dBm)	-90.3	-91.91	-92.98
6#	Bluetooth TRP&TIS		
Result	0	39	78
TRP (dBm)	3.15	3.34	4.34
TIS (dBm)	-89.14	-90.59	-92.14



八. 线结构图纸 (Antenna structure drawing)

