

样品承认书

Parts Approval Sheet

生产供应商: Nqi

Supplier

适用项目: A508

Type/Spec: (丝印 Nqi-BT-FB-V9)

品 牌: Nqi

Brand

送样日期: 2023/11/13

Send out Date

承认日期: _____

Approve Date

物料名称: BT

Parts Name

Nqi 料号: Nqi-A508-BT-FB-V9

Parts No

客户料号: 3011110062

Quantity

文件编号: Nqi-RD-SPEC-20231010

Document No

样品版本: V9

Version

Supplier		Customer	
Approved By	Prepared By	Engineering Dept	Quality Dept

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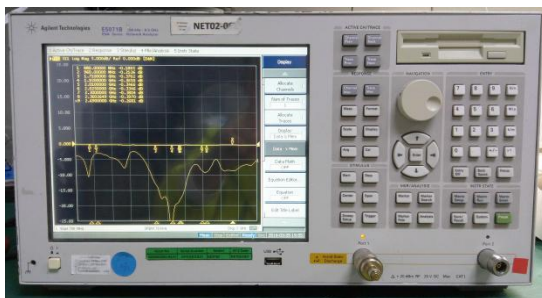
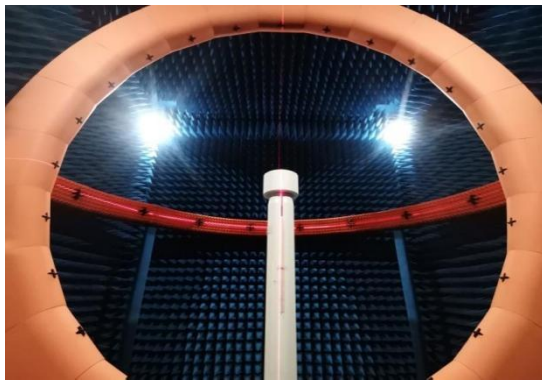
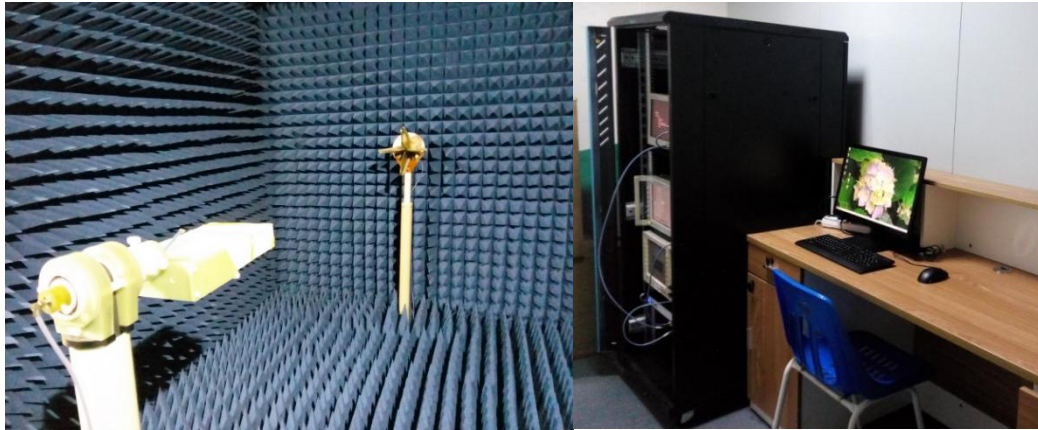
一. Samples and instructions:

(Electrical Specifications)		
frequency (Frequency range)	range	2400-2500MHz
characteristic impedance (impedance)		50 ohm
voltage standing-wave ratio (VSWR)		≤2
Peak gain (Gain)		1.44dBi
Polarized form (Polarization)		level
radiation direction (Radiation direction)		Omnidirectional
Connection Mode Description		
connector (connector)		/
Cable specifications (Cable specifications)		/
Working/Storage temperature		
working temperature (Working temperature)		-30℃～65℃
storage temperature (Storage temperature)		-30℃～75℃

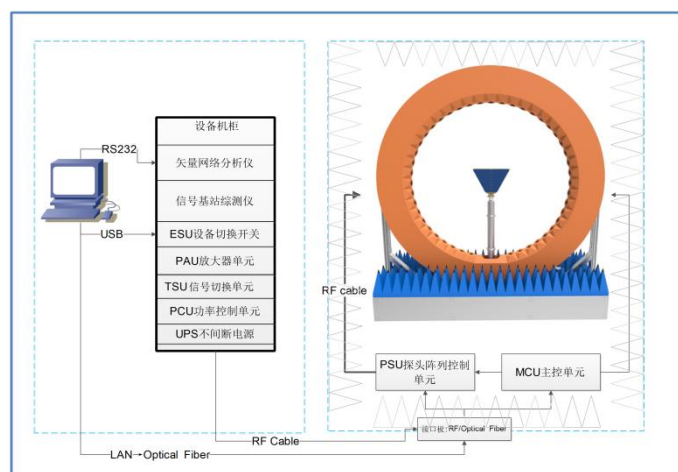


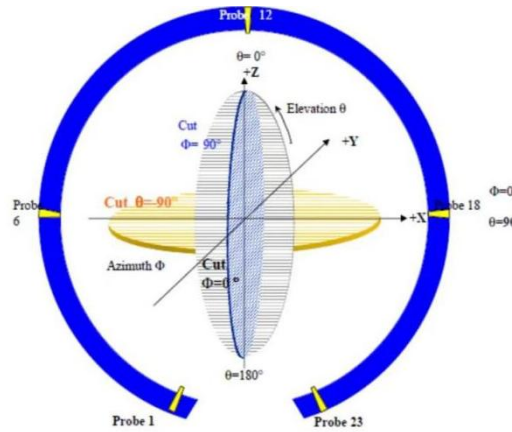
二. Testing equipment and projects:

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)

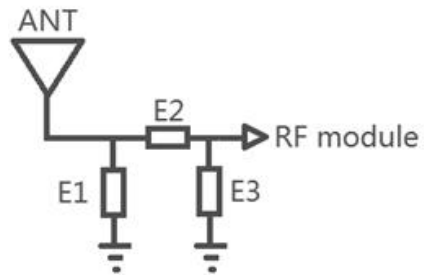


三. Chamber connection and coordinates:





四. Antenna Matching Network:



Element	L (Value)	R (Value)
ANT	V9	V9
E1(0201)	1.5P	1.5P
E2(0201)	2NH	2NH
E3(0201)	Original matching	Original matching

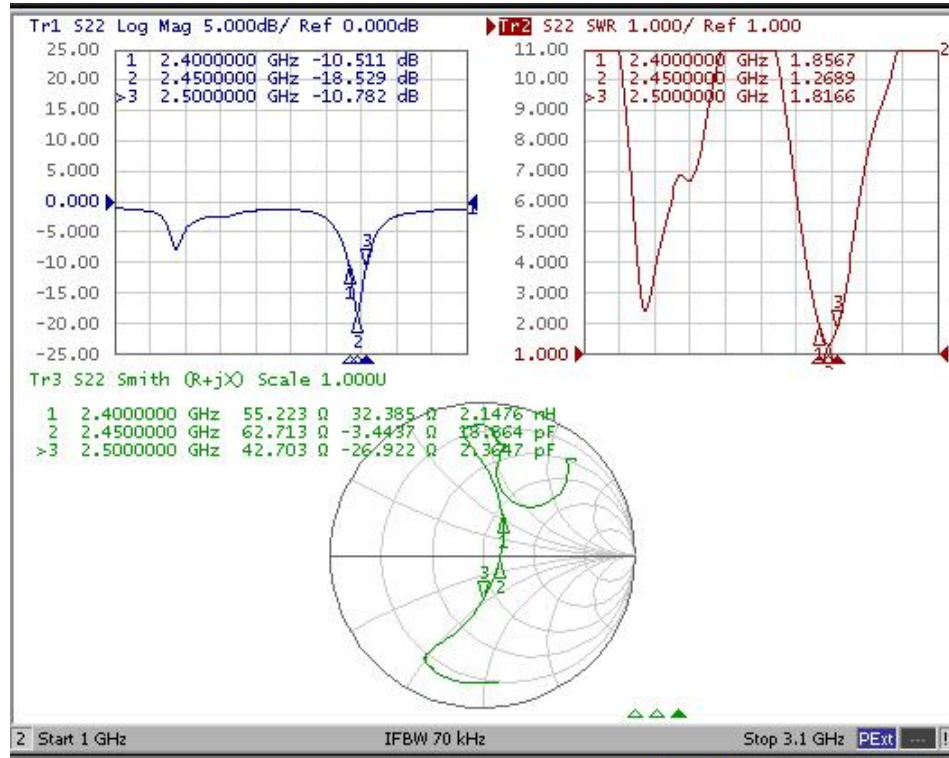


五. Antenna assembly method and environmental treatment:

六. Antenna electrical performance test data:

6. 1. Passive antenna parameters

6.1.1. Antenna Return Loss (RL)/Standing Wave Ratio (VSWR)/Smith Chant



6. 1. 2. Antenna efficiency/gain

Frequency	Efficiency	Gain
MHz	%	dB
2400	25.77	0.93
2450	29.17	1.2

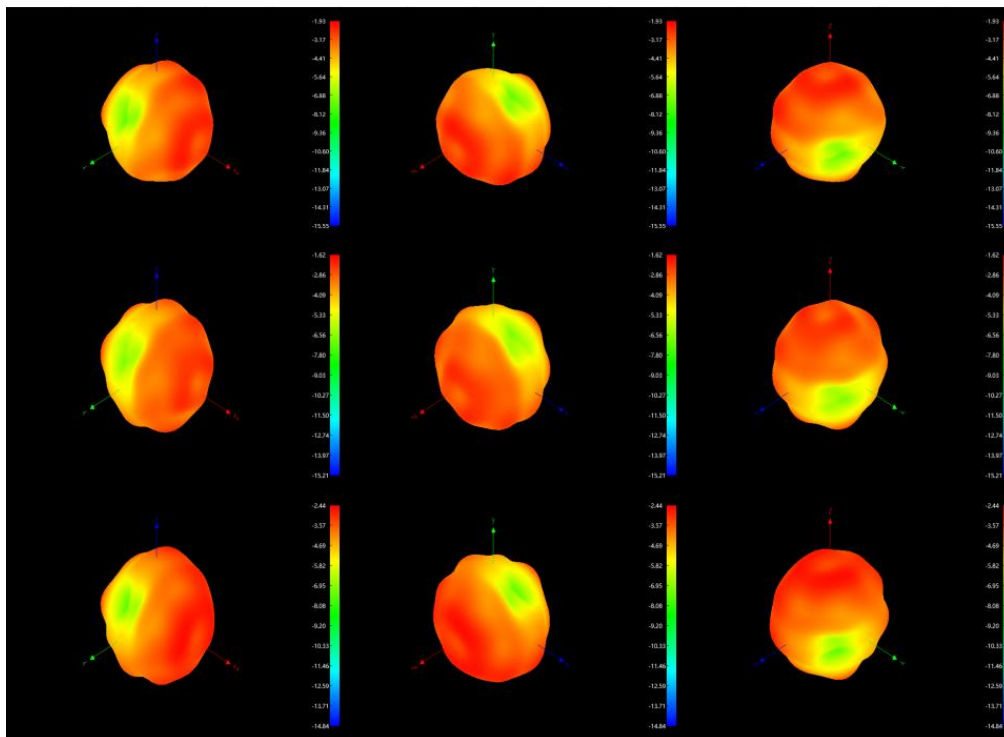


2500

26.92

1.44

6.1.3 Free space radiation direction map and apple field strength map



6.1.4 Antenna Active parameter

TRP/TIS

NQi ANT TRP&TIS parameter Summary of A508 (ANT=V9)				
Free space	Test	Bluetooth TRP		
	Result	0	39	78
R	TRP (dBm)	2.22	2.79	2.98
	TIS (dBm)	-88.43	-87.44	-87.79
L	TRP (dBm)	2.63	3.13	3.43
	TIS (dBm)	-88.35	-88.86	-87.33
NQi ANT TRP&TIS parameter Summary of A508 (ANT=V9)				
Second generation headear model	Test	Bluetooth TRP		
	Result	0	39	78
R	TRP (dBm)	1.56	1.79	1.84



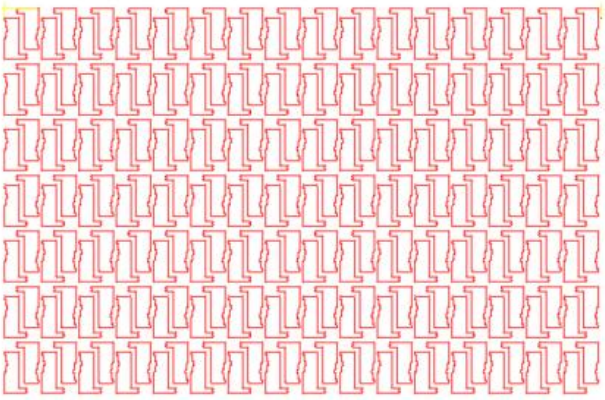
	TIS (dBm)	-86.52	-85.48	-86.15
L	TRP (dBm)	1.56	2.07	2.17
	TIS (dBm)	-86.6	-86.16	-86.25

七. Antenna structure drawing:

Please refer to the operation description.



八. Antenna package drawing:

Stage name: PCS inspection package		Product number: A508		Effective time: 2023.10.27		Version: A	
Product name: BT		No: /		Page number: 1 page total 1 page			
Typography 		Materials:					
		NO	PART NUMER	PART NAME	QTY	VENDER	NOTE
		1	224	BT	/	y9	/
Finger Gloves							
Operation Steps:							
1: Check the appearance of the product is flat, there is no dirt, scratches, copper leakage, poor printing and other undesirable phenomena.							
2: Key dimension inspection (see engineering drawing)							
3: The product is arranged in PE bag according to the rule: if it is found to be defective, remove the defective product;							
4: Mass output goods to be packed, affixed to the outer box label; label location requirements consistent.							
Points to note:							
1: It is forbidden to have crease, fracture, copper leakage, poor gold plating and serious size problems during							
2: The material number and quantity corresponding to each product shall be indicated;							
Made:	He Ping	check:	hejuan	Approved	Yang Xiaoyin		

九.Key dimension inspection report:

Dimensional inspection report

Customer	MINYAM	Entry name	A508 B1						
Material	FPC	☒	ROHS						
Appearance inspection items	☐ Lacquer leakage ☐ Wire breakage ☐ Short circuit ☐ Scratches ☐ Dirty ☐ Cracking (missed processing) Number of defects: 0								
Functional or dimensional inspection records									
NO	ck serial numn	sional tolerance	Inspection results					ing instrum	Judgment
	1	9.0 ± 0.2	1	2	3	4	5		
	2	16.9 ± 0.2	16.92	16.93	16.95	16.92	16.95	DN	OK
	3	1.5 ± 0.2	1.58	1.56	1.52	1.55	1.56	DN	OK
FPC	4	1.7 ± 0.2	1.76	1.77	1.74	1.72	1.78	DN	OK
pass	☒	fail	☐	Not processed through methods		☐	do over again	☐	Special procurement use
Measurement instrument code description: Projector PP plug gauge PG height gauge HG angle gauge AG vernier caliper N digital caliper DN outer diameter micrometer Three coordinate 3D thread gauge SG special fixture SE visual inspection E									
Remarks:									
Tested by: Zhou Peng									



十、Environment and reliability test:

10.1.Salt spray test report

ShenZhen NQI network communication ltd

Salt spray test report

Product name	BT antenna	Sample Q'ty	2PCS	Test date	2023/10/27						
Customer	MINYANG	Part/No.	NQI-A508-BT-FB-V9	Product spec.	FPC						
Test time	≤8H ≤12H ≤24H ☒ ≤48H ≤72H										
Test Item	Salt spray test										
Test Requirement											
Condition items		Setting		Reference							
Concentration of salt solution		5±1%		GB/T10125-1997							
PH of salt solution		6.5-7.2									
Test room Temperature		35±2℃									
Salt solution barrel temperature		35±2℃									
Saturated air barrel temperature		47±1℃									
Test room relative humidity		85±2%RH									
Pressure of compressed air		1.00±0.01KG/CM ²									
Sample place angle		15-30°									
Collected volume of salt spray		1.0-2.0ml (80cm ² /H)									
Result of measurement											
1. Test diagram & test method											
Pre-test sample		Sample after test		Result determination							
				√ PASS NO PASS Deviation							

Controlled form: NQI-ST-01

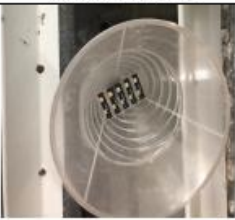
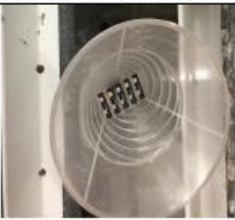
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Approval:

niuxinggang



10.2.Cryogenic storage test

ShenZhen NQI network communication ltd				
Cryogenic storage test report				
Report date 202329 June			Report no: 20220115-1	
Product name	A508-BT antenna	No	NQI-A508-BT-FB-V9	
PART NAME ATION		CUSTOMER P/N		
Customers	MINYANG	Number of tests	2PCS	
CUSTOMER		CHECK QTY		
Test criteria	Enterprise standards	Test time	2023/10/25	
TEST STANDARD		THE TEST OF TIME	2023/10/27	
FINAL RESULT	PASS		REJECT	
surveyor	Lo Wing-sau	check	Chen Yicai	
INSPECTOR		CHECKED BY		
1.Pre-test sample	2. Test photos			
				
3. Test diagram	4. Graphic representation of the post-test samples			
				
erial numb	The name of the device	Specifications and models	Calibration date	Time for next calibration
1	Programmable constant temperature and humidity box	LK-150G	2023.1.26	2024.1.25