



倍思 (Baseus)

样品承认书

Parts Approval Sheet

生产供应商: 国质信 (NQI)

Supplier

物料名称: BT 天线 (BT antenna)

Parts Name

适用项目: EA10

Applicable projects

NQI 料号: NQI-EA10-BT-FB-V6

Parts No

天线类型: FPC Antenna

Antenna Type

客户料号:

Quantity

送样日期: 2024/01/26

Send out Date

文件编号: NQI-RD-SPEC-20231229

Document No

承认日期: _____

Approve Date

样品版本: V6

Version

Supplier		Customer	
Approved By	Prepared By	Engineering Dept	Quality Dept

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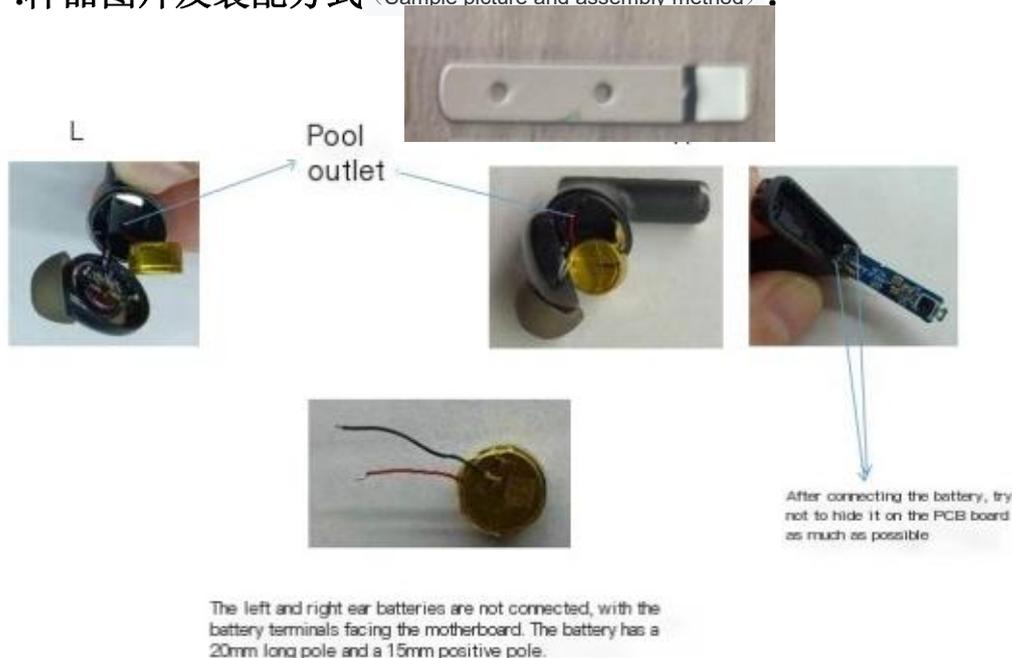
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一.样品图片及装配方式 (Sample picture and assembly method) :

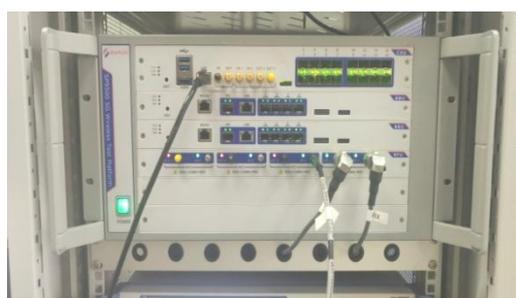
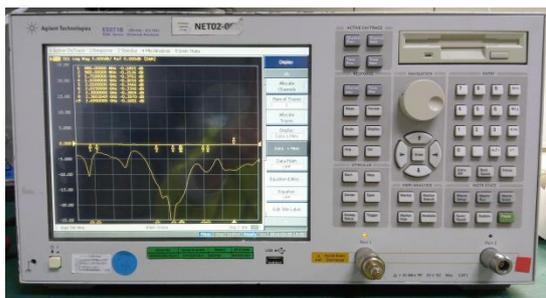
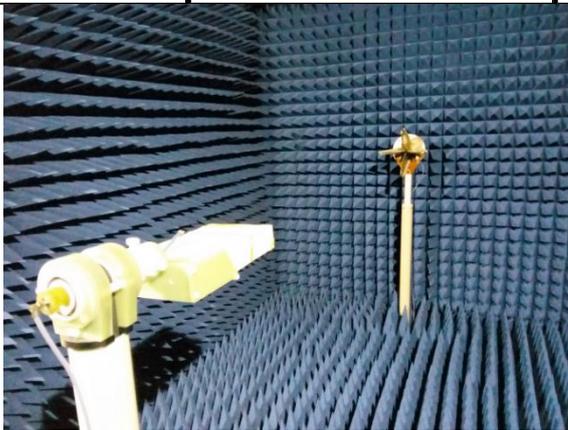


二.测试设备及项目 (Test equipment and items) :

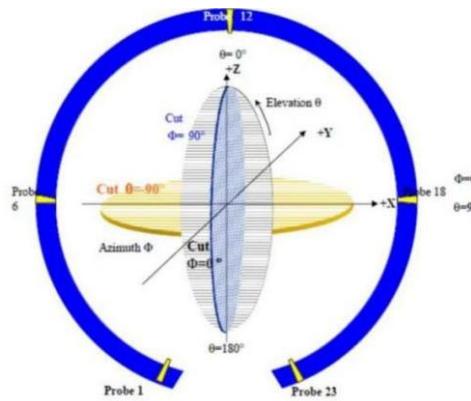
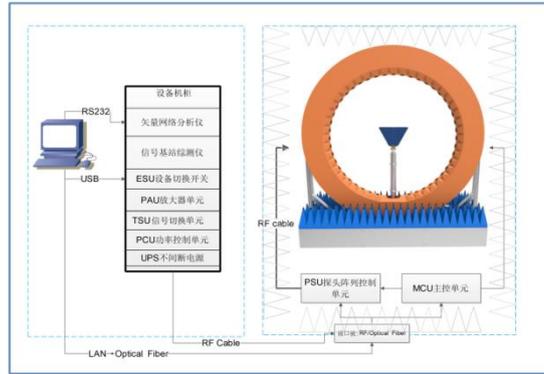
类别 (Class)	测试项目 (Test item)	设备 (Equipment)
1. S parameter	1. 回波损耗(RL) 2. 驻波比 (VSWR) 3. 史密斯原图 (Smith chart)	网分 (VNA) : Agilent E5071B R&S ZVB8 Protek A333
2. 耦合测试 (Coupling testing)	1. 发射功率 (MAX Power) 2. 接收灵敏度 (MIN Sens)	1. 2G/3G Tester: Agilent 8960 2. The coupling box: TESCOM TC-5060A 3. 3D Chamber: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



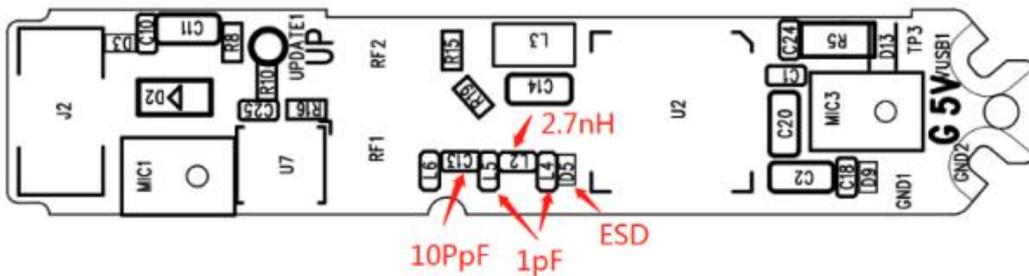
<p>4.3D 有源测试 (Active Test)</p>	<p>1. 3D 功率 (TRP) 2. 3D 灵敏度 (TIS) 3. 吞吐量 (Throughput rate)</p>	<p>1. 3D Chamber: TEM24 3D Chamber (5x5x5) ETS 3D Chamber (5x3x3) 2.2G/3G Tester: Agilent 8960 3.4G Tester: MT8820C/CMW500 4.WIFI/BT/NB-iot Tester: CMW500 5. 5G Tester: SP9500-CTS 6.Head: HEAD-P10 (FACE-P10)</p>
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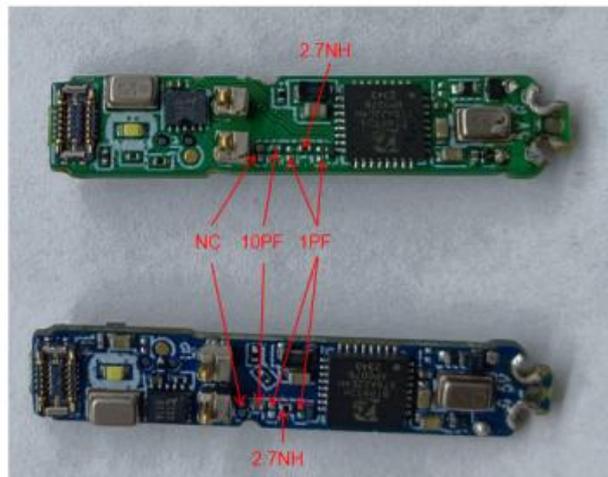
三.暗室连接及坐标 (Chamber connection and coordinates) :



四.天线匹配网络 (Antenna matching network) :



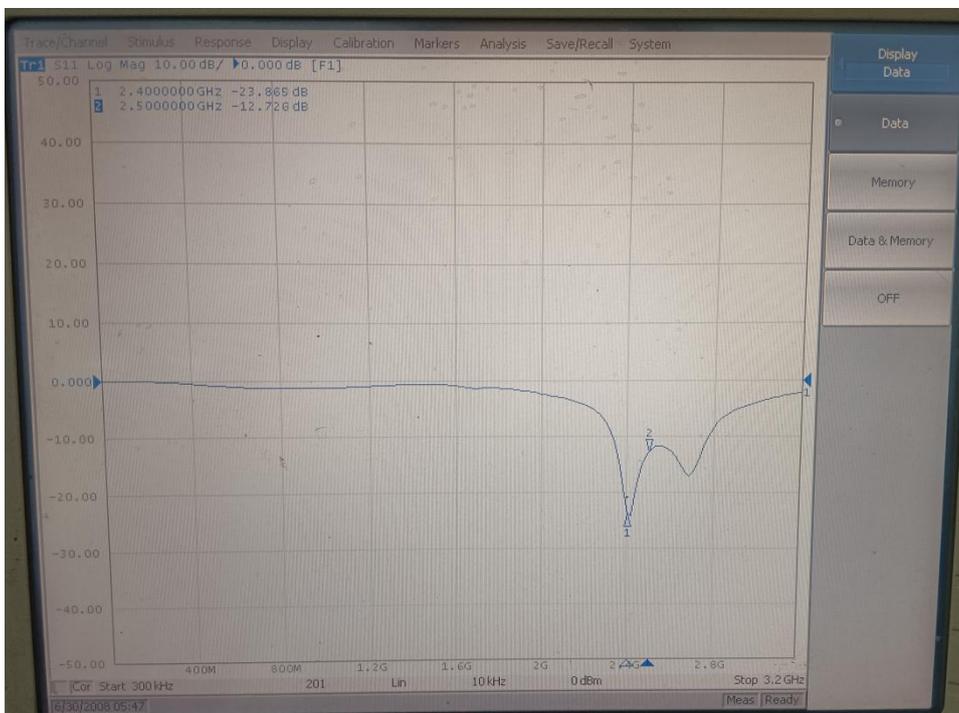
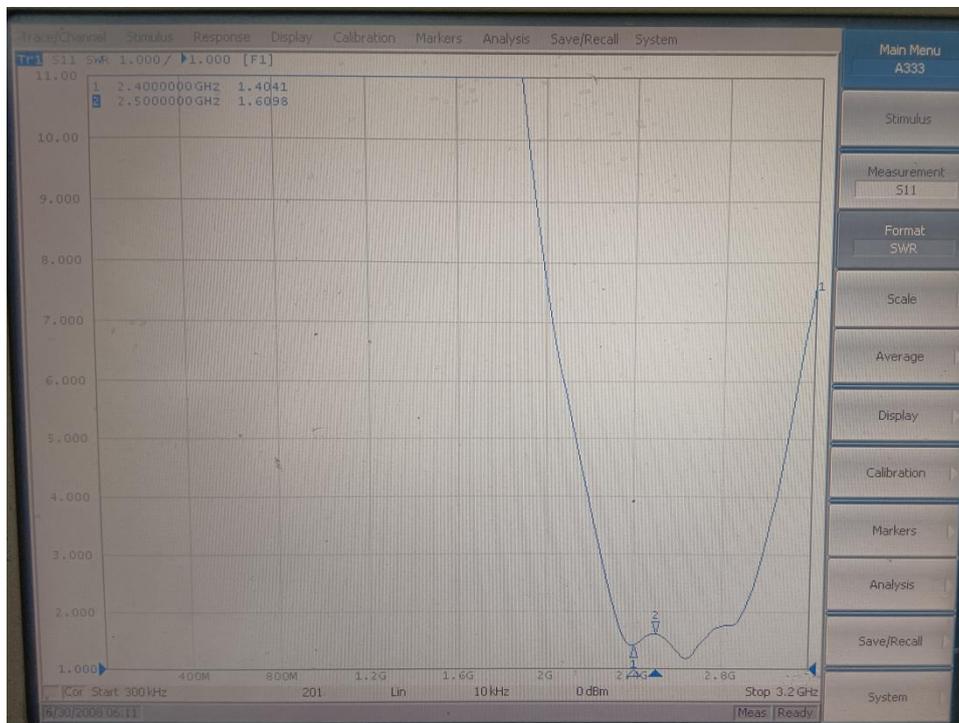
Tag Number	parameter
RF1/RF2	V6
L6	NC
C13	10PF
L5	1PF
L2	2.7NH
L4	1PF
D5	ESD



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)



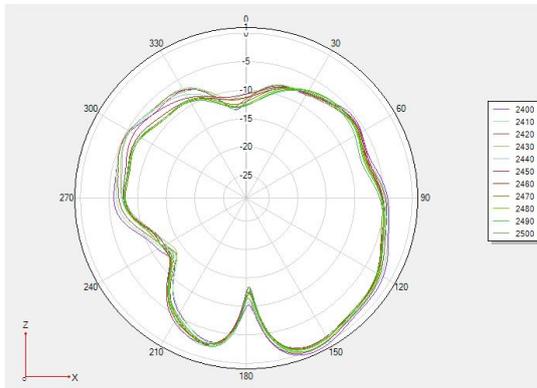


5.1.2. 天线效率 Efficiency/增益 Gain/方向图 Radiation pattern

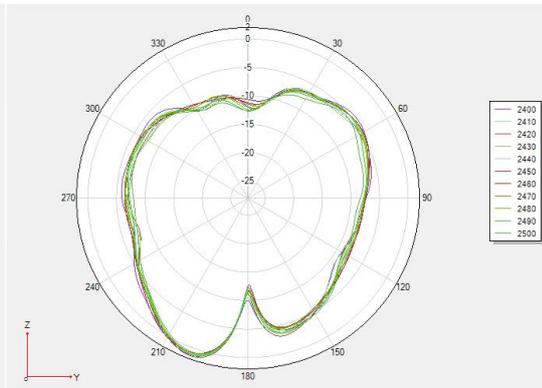
自由空间 (Free Space)

Frequency (MHz)	Efficiency (dB)	Efficiency (%)	MAX Gain dBi
2400	-4.6	34.67	2.3
2410	-4.81	33.04	2.02
2420	-4.65	34.28	2.22
2430	-4.82	32.96	1.78
2440	-4.49	35.56	2.18
2450	-4.46	35.81	2.41
2460	-4.69	33.96	2.47
2470	-4.64	34.36	2.87
2480	-4.66	34.2	2.92
2490	-4.49	35.56	3.15
2500	-4.8	33.11	2.76

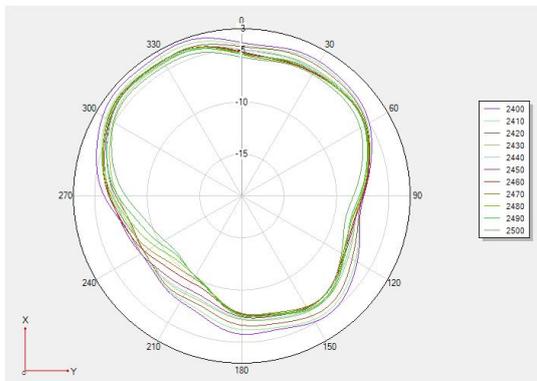
2D 方向图 (2D Radiation pattern)



Phi=0 freq@2.4g



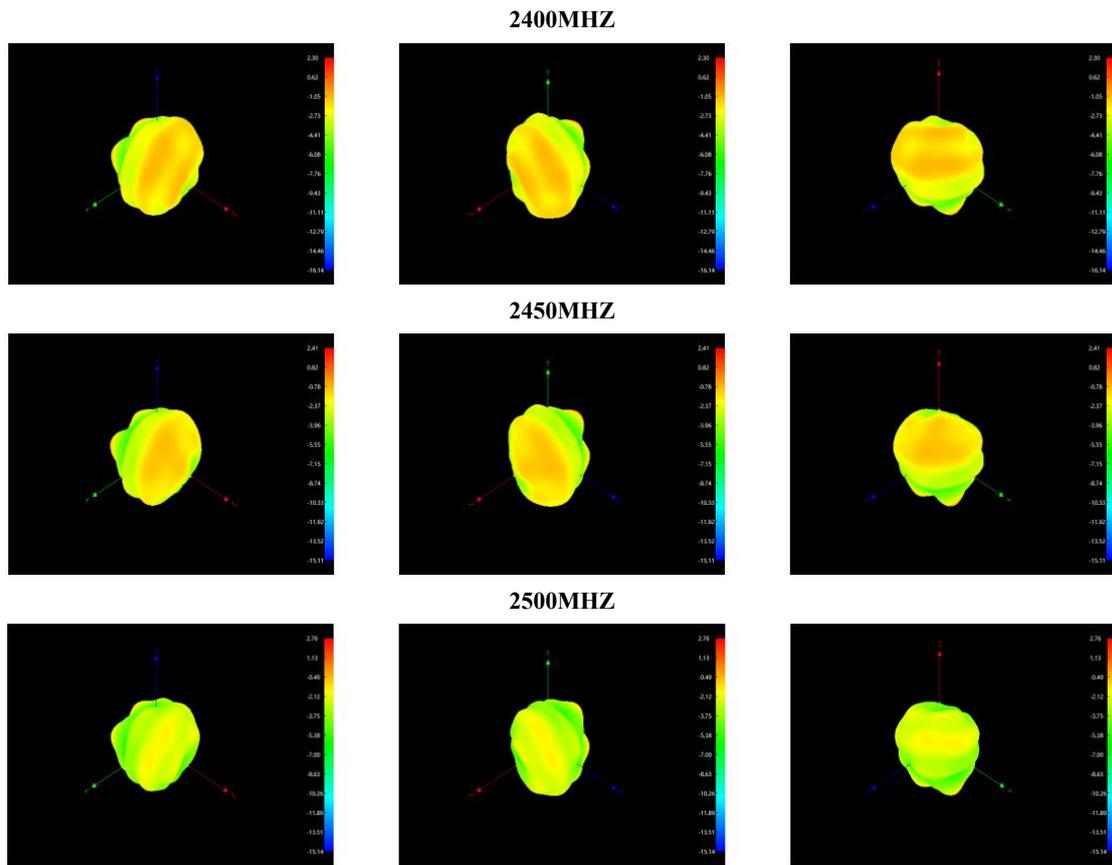
Phi=90 freq@2.4g



Theta=90 freq@2.4g



3D 方向图 (3D Radiation pattern)

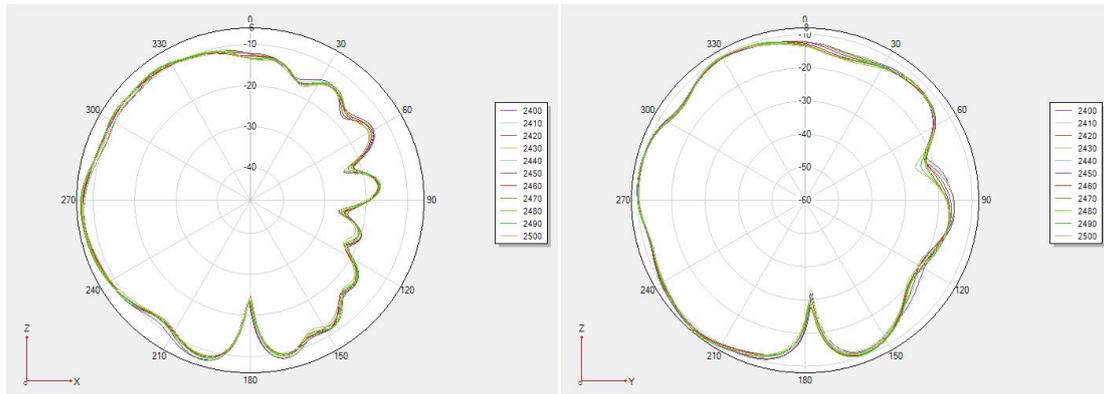


人头耳 (Head and Ear)

Frequency (MHz)	Efficiency (dB)	Efficiency (%)	MAX Gain dBi
2400	-12.9	5.13	-6.46
2410	-12.98	5.04	-6.67
2420	-12.81	5.24	-6.37
2430	-12.94	5.08	-6.75
2440	-12.62	5.47	-6.52
2450	-12.71	5.36	-6.79
2460	-12.9	5.13	-6.75
2470	-12.78	5.27	-6.48
2480	-12.64	5.45	-6.22
2490	-12.32	5.86	-6.09
2500	-12.48	5.65	-6.36

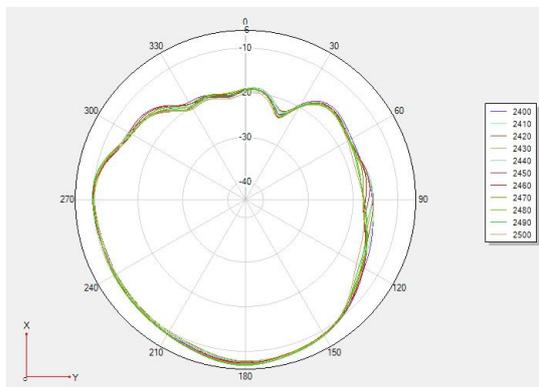


2D 方向图 (2D Radiation pattern) unit: dBi



Phi=0 freq@2.4g

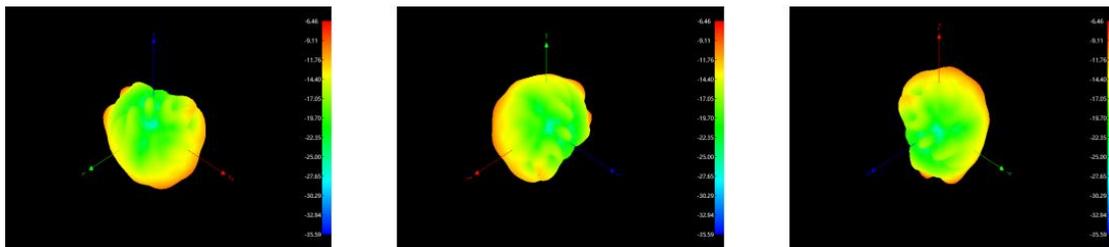
Phi=90 freq@2.4g



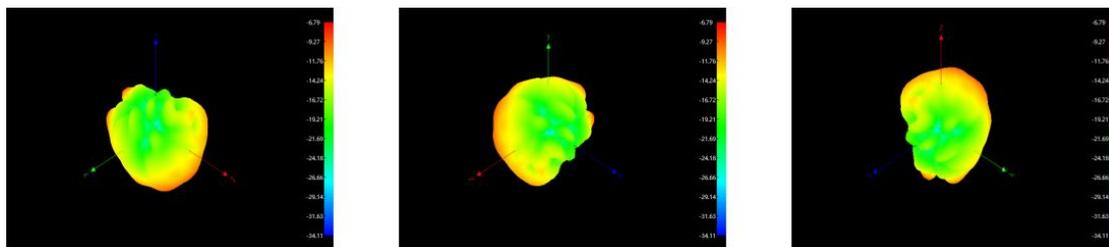
Theta=90 freq@2.4g

3D 方向图 (3D Radiation pattern) unit: dBi

2400MHZ

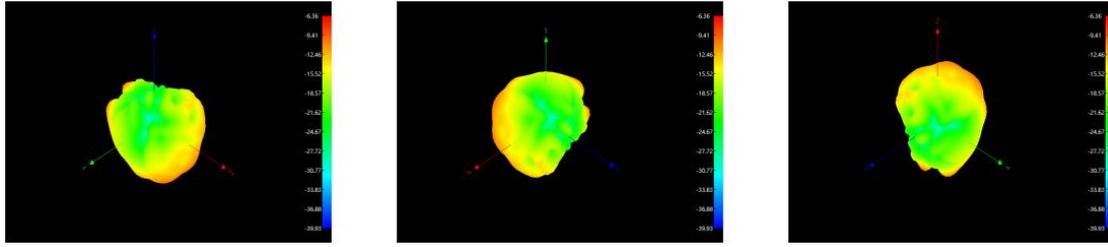


2450MHZ





2500MHZ



5.2 天线有源参数 (Antenna Active parameter)

5.2.1 TRP/TIS

NQI ANT TRP&TIS parameter Summary of EA10					
Free space (自由状态)		Test	Bluetooth TRP&TIS		
		Result	0	39	78
	L	TRP (dBm)	1.06	2.43	3.16
		TIS (dBm)	-81.96	-80.31	-81.25
	R	TRP (dBm)	0.44	2.43	2.82
		TIS (dBm)	-82.31	-81.11	-82.36
Head and ear (二代人头耳)		Test	Bluetooth TRP&TIS		
		Result	0	39	78
	L	TRP (dBm)	2.04	2.62	2.63
		TIS (dBm)	-81.51	-80.82	-81.9
	R	TRP (dBm)	-1.05	1.37	1.18
		TIS (dBm)	-80.97	-80.32	-81.73

八、重点尺寸检验报告 (Key dimension inspection report) :

Dimensional inspection report

Customer	Baseus	Entry name	EA10 BT						
Material	FPC	<input checked="" type="checkbox"/>	ROHS						
Appearance inspection items	<input type="checkbox"/> Lacquer leakage <input type="checkbox"/> Wire breakage <input type="checkbox"/> Short circuit <input type="checkbox"/> Scratches <input type="checkbox"/> Dirty <input type="checkbox"/> Cracking (missed processing) Number of defects: 0								
Functional or dimensional inspection records									
NO	ck serial num	nsional tolera	Inspection results					ing instrum	Judgment
			1	2	3	4	5		
FPC	1	1.5 ± 0.1	1.55	1.52	1.52	1.51	1.53	DN	OK
	2	1.5 ± 0.1	1.53	1.52	1.53	1.51	1.54	DN	OK
	3	4.30 ± 0.2	4.38	4.32	4.36	4.33	4.37	DN	OK
	4	23.5 ± 0.2	23.58	23.55	23.56	23.51	23.54	DN	OK
pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>	Not processed through methods		<input type="checkbox"/>	do over again	<input type="checkbox"/>	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 microm Three coordinate 3D thread gauge SG special fixture SE visual inspection E									
Remarks:									
Tested by:							Zhou Peng		

九、环境及可靠性试验 (Environment and reliability test) :

9.1.盐雾测试报告 (Salt spray test report)

ShenZhen NQI network communication ltd

Salt spray test report

Product name	BT-L antenna	Sample Qty	2PCS	Test date	2024/01/24
Customer	BASEUS	Part/No.	NQI-EA10-BT-FB-V6	Product spec.	FPC
Test time	≤8H ≤12H ≤24H <input checked="" type="checkbox"/> 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

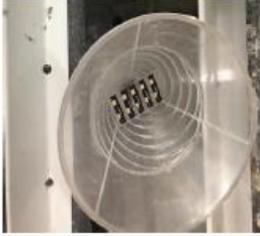
Producer: zhangfangfar Checked: weidaofa

Approval:

niuxinggang



9.2.低温储存试验 (Cryogenic storage test)

ShenZhen NQI network communication ltd				
Cryogenic storage test report				
Report date 202329 June			Report no: 20220115-1	
Product name	EA10-BT antenna	No	NQI-EA10-BT-FB-V3	
PART NAME ATION		CUSTOMER P/N		
Customers	Baseus	Number of tests	2PCS	
CUSTOMER		CHECK QTY		
Test criteria	Enterprise standards	Test time	2023/12/27	
TEST STANDARD		THE TEST OF TIME	2023/12/29	
一. Test conditions/methods				
The samples were stored at $-40 \pm 3^{\circ} \text{C}$ for 48 hours and at room temperature for 2 hours.				
二. Criteria				
After the test, to meet the following requirements, that is, qualified;				
1.FPC appearance no discoloration, foaming, ink off, deformation, viscosity unchanged;				
2.Voltage standing wave ratio (VSWR) test qualified				
三. Test results				
Description of test results				
1.The overall appearance of the sample is good, FPC appearance no discoloration, blistering, coating off, deformation;				
2.The test waveform is consistent with the seal sample.				
FINAL RESULT	PASS		REJECT	
surveyor INSPECTOR	Lo Wing-sau	check CHECKED BY	Chen Yicai	
The form number: WI-QC-036/B01/A0				
四. Test photos				
1.Pre-test sample		2. Test photos		
				
3. Test diagram		4. Graphic representation of the post-test samples		
				
五. The test involves equipment information				
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