

Shanghai Shangyuan Communication Technology Co., LTD

Antenna admission book

Customer name: Yunjia		Project name: A200/A140
Working frequency band:BT		
Hardware version： PA200_MB_V0.1_20240228		
Shangyuan material specifications		
specifications and models	Shang Yuan material number	Customer material number
BT antenna	SZ24165IA70	2.1.09.12.010401

Change the resume			
Preparation / change date	Change the content	Change the person	edition
2024.05.09	A new release	Yang Xin	A

Shang Yuan will sign the column				
research and development	structure:XuWei	examine and verify:ChenMin	Quality	ratify:LiBin
	radio frequency:HeJinzhu	examine and verify:HuangXiong	Engineer:ChenXiaoping	

The customer will sign the column			
electronic engineer	project manager	construction engineer	Quality engineer

catalogue

Antenna Recognition Letter	2
1、project information.....	2
1.1、Prototype diagram.....	2
1.2、Antenna product diagram.....	3
2、Antenna matching circuit.....	3
3、Overall test data.....	4
3.1、S11 Test Method Description.....	4
3.2、Testing Environment.....	4
3.3、Passive testing parameters.....	5
3.4、Active Test Data.....	8
4、Prototype environment processing method.....	9
5、Antenna installation position.....	10
6、Mass production antenna indicators	10
7、Engineering Drawing.....	11
8、Reliability Test Report.....	12
9、ROHS Environmental Protection Test Report	13
10、Packaging method.....	14

1、 item information

1.1、 Prototype diagram



1.2、 Antenna product diagram



2、 Antenna matching circuit

No change in matching circuit

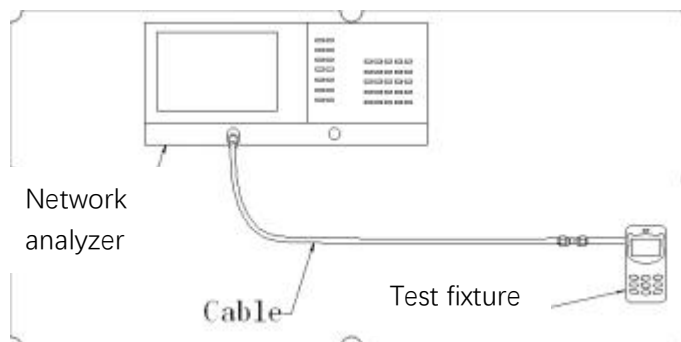
3、Overall test data

3.1 S11 Test Method Description

Test Equipment: Network Analyzer (Agilent E5071C)

Test method: Export a 50 Ohm CABLE cable from the instrument test port, connect the SMA connector of the test device after the calibrator, and record the echo loss and standing wave ratio corresponding to the relevant frequency point.

The test schematic diagram is as follows:



Schematic diagram of the test

3.2 Testing Environment

Test System: MPS 6450 Multi-sensor OTA Measurement System (XH-IoT)

Test environment: temperature $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$, humidity $50\% \pm 15\%$

Test equipment: Use the network analyzer R & S ZND / Agilent E5071C when testing the passive data

When testing active data, use the comprehensive meter Agilent 8960 / CMW500 / S P9500E / SP 8315

OTA实验室



综测仪器



SP9500-CTS-5G

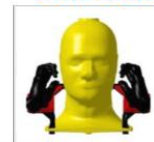


CMW500



SP8315 NB-IoT /eMTC

其他设备



OTA head hand



OTA ear hand



OTA arm hand

3.3 Passive testing parameters

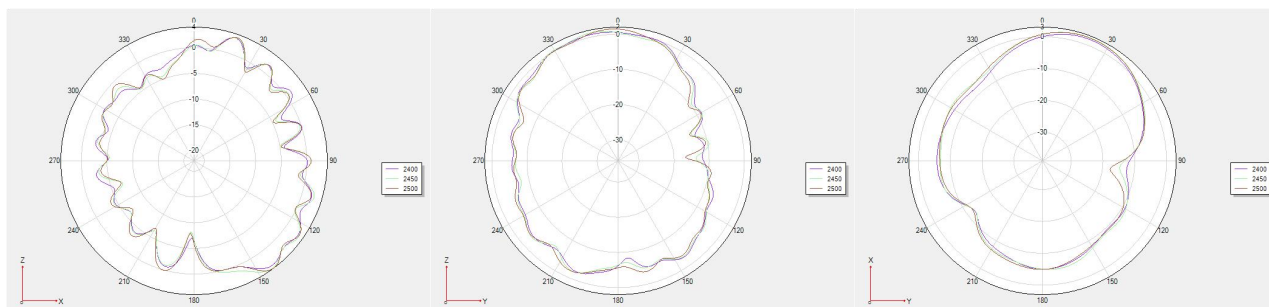
Return Loss -BT

frequency (GHZ)	2400	2450	2500
VSWR	1.2	1.1	1.2

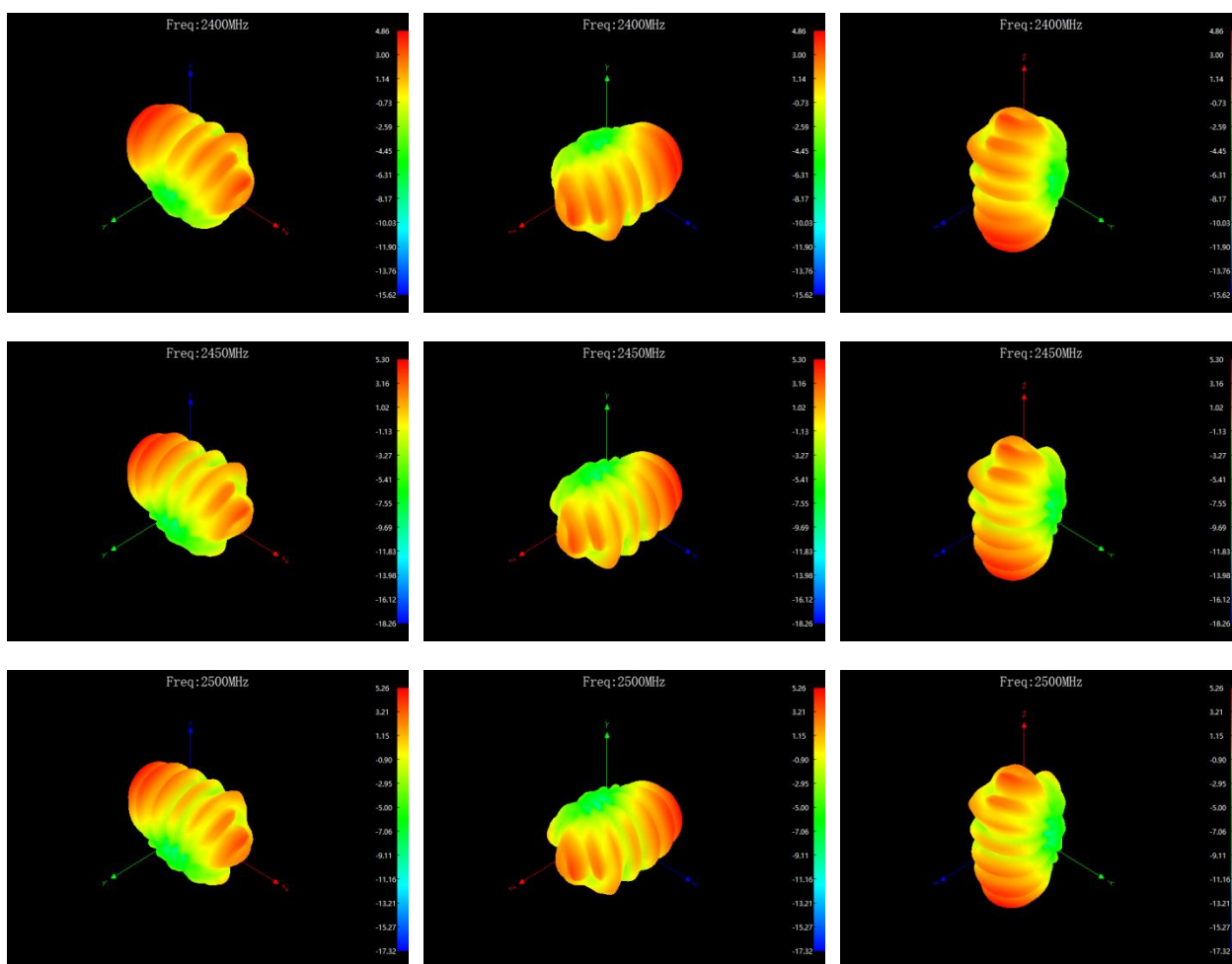


Passive efficiency-BT

Frequency/Mhz	MaxGain/dBi	Efficiency / %
2400	3.89	49.08
2410	3.95	48.58
2420	3.78	46.24
2430	3.06	47.83
2440	3.05	49.46
2450	3.18	49.72
2460	3.93	47.33
2470	3.28	49.21
2480	3.32	49.72
2490	3.36	48.7
2500	3.04	47.21



Radiation Apple Figure 2.4G



4、Prototype environment processing method

Environmental treatment without unchanged

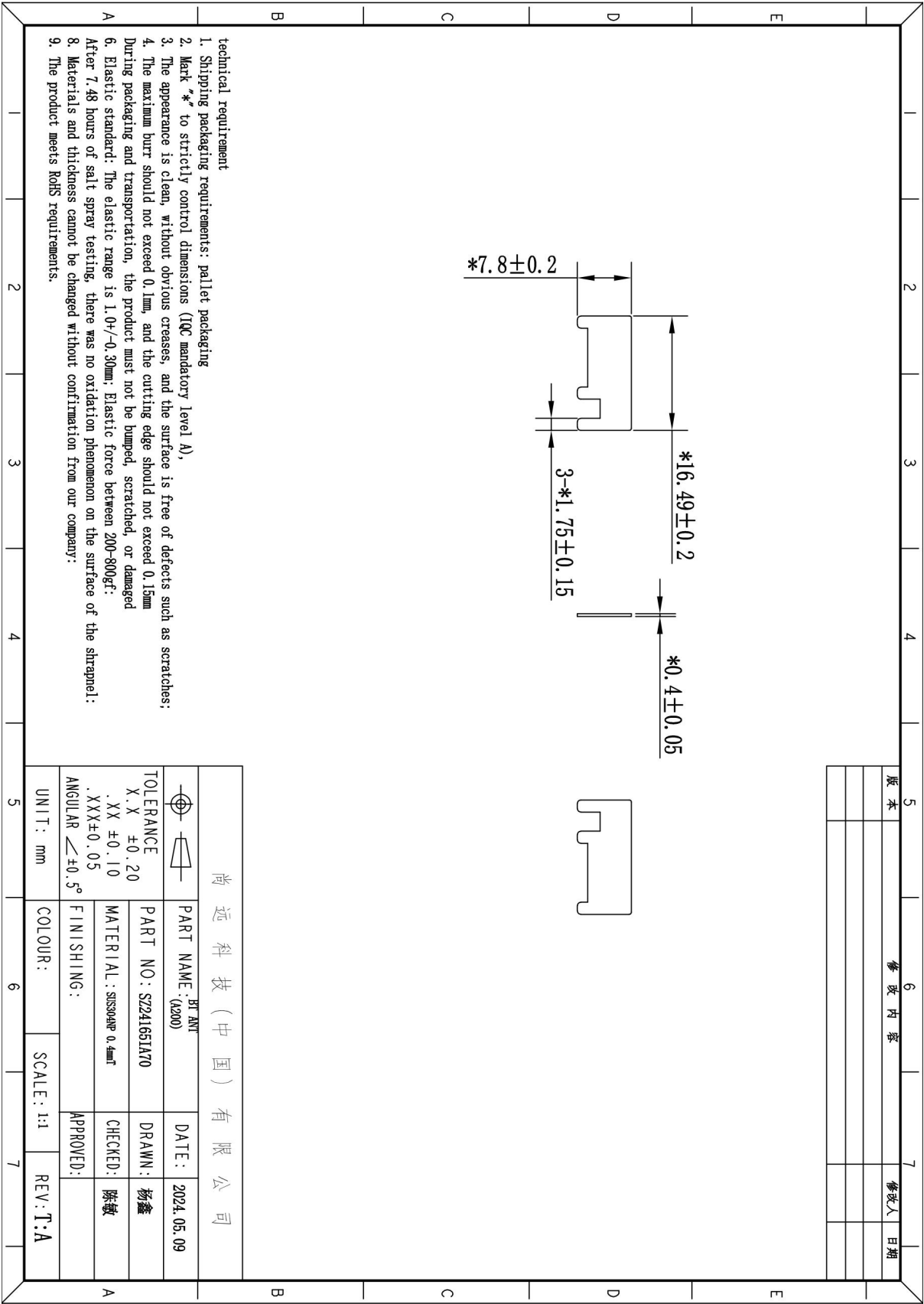
6、Mass production antenna indicators

When the antenna is in mass production, the standing wave ratio is used as the test standard for mass production.

Based on the differences of the project itself, the following criteria are given:

Frequency (MHz)	Mass production standards
2400-2450MHz	VSWR (mass production performance)
	<VSWR (recognized performance) + 0.5

7、Engineering Drawing



8、Reliability Test Report



Sunnyway Technology (China) Co., Ltd.
Antenna Environment Test Report

Customer Name: YUNJIA

entry name: A200

sunnyway NO: SZ241651A70

Number of samples: 5PCS

Test time: 2024/05/11

Test time	测试项目 Test items	测试条件和需求 Test conditions and requirements	测试设备 Test equipment	测试结果 test result				
24.05.10-24.05.11	Low temperature storage	Store in a incubator (-40 °C ± 5) for 24 hours, and then let it dry at room temperature for 2 hours before testing. The electrical performance (VSWR) and structural appearance are good	Standard temperature and humidity	1	2	3	4	5
				-40°C	-40°C	-40°C	-40°C	-40°C
				OK	OK	OK	OK	OK
				外观	外观	外观	外观	外观
				1	2	3	4	5
24.05.10-24.05.11	High temperature storage	Store in a temperature box (80 °C ± 5) for 24 hours, and then let it dry at room temperature for 2 hours before testing. The electrical performance (VSWR) and structural appearance are good	Standard temperature and humidity	+85°C	+85°C	+85°C	+85°C	+85°C
				OK	OK	OK	OK	OK
				外观	外观	外观	外观	外观
				OK	OK	OK	OK	OK
				1	2	3	4	5
24.05.10-24.05.11	Constant temperature and humidity	The temperature is 60 °C ± 5, the humidity is 90% -95% RH, and after 24 hours, it is required that the structure is undamaged and the electrical performance remains unchanged.	Standard temperature and humidity	60°C/95%	60°C/95%	60°C/95%	60°C/95%	60°C/95%
				OK	OK	OK	OK	OK
				外观	外观	外观	外观	外观
				OK	OK	OK	OK	OK
				1	2	3	4	5
24.05.10-24.05.12	Salt spray resistance	NaCl solution with salt spray concentration of 5%, spray the antenna for 24 hours continuously at 35 °C, then remove it for cleaning and dry it. The surface of the antenna should be free of residue.	Salt mist machine	35°C/5%	35°C/5%	35°C/5%	35°C/5%	35°C/5%
				OK	OK	OK	OK	OK
				外观	外观	外观	外观	外观
				OK	OK	OK	OK	OK
				1	2	3	4	5

审核 to examine: 林长青

确认 confirm: 陈小平

测试 test: 韦月丽

9、ROHS Environmental Protection Test Report

RoHS限用物质成分表List of RoHS restricted substances

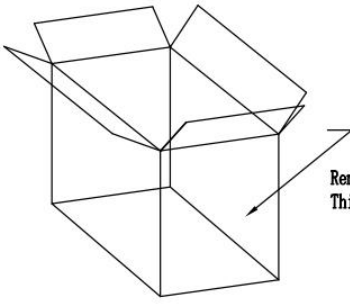
SALEABLE PART																	
零件料号/Part number		零件名称/型号/Part name / model			供应商料号/Supplier item number		制造商名称/Name of manufacturer										
		A200天线			SZ24165IA70		深圳市尚远科技有限公司										
SUB-PART																	
序号 Serial	名称/name		料号 /Item No	单件产品 /Usage of single product(g)	供应商/supplier	检测 报告 /Test report	限用物质含量PPM/Content of restricted substances ppm						控制方法 /Control method	SGS Report			备注 /Remarks
	单体 /Monomer	成分 /component					有/无 Yes / no	铅 /Pb	镉 /Cd	汞/Hg	六价 铬 /Cr6+	PBB		PBDE	编号/number	生效日期 /effective date	
1	铜片	SUS304NP			楚为	有/yes	N.D	N.D	N.D	N.D	N.D	N.D	审核SGS报告 /Review SGS report	CANEC24002510202	20240220	www.sgs.com.cn	/
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	

制表/Tabulation: 陈小平

制表者部门/Tabulator Department:: 品质部/品保工程师 Quality Department

日期/date: 2022/09/05

10、Packaging method

Sunnyway Technology (China) Co. Ltd.									
Product Packing Practice Specification									
Clients: YUNJIA			Packing item name: A200			Packaging symbol: SYC-BZ-001		Package version:TEST:A	
Package detail	Emblem	Product name	Rules	Dosage	package load yield product diagram Note				
	PE	Seal Pockets							
	SYC-BZ-01	Paper case							
make industry step Sudden	1. Prepare the necessary package in a favorable position for work. 2. According to SYC-BZ01 package rules, use paper box(SYC-01), seal pocket(PE)Packaging 3. After filling the box, seal the box with a transparent tape.				notes meaning matter term	1. Employees must wear gloves to operate. 2. Pay attention to the number of containers, not more, less equipment. The final number box must be indicated. 3. Paper boxes should not be stacked too high to prevent heavy pressure.			
diagram Note say bright	 Remarks: The quantity is based on the actual packaging, This is the reference quantity.								
Nucleus.			Trial.			Production		Date	
						chen xiao pin		2024.06.28	

This record shall be kept for at least one year