

安特微智能通讯（深圳）有限公司

ATWE Intelligent Communications(shenzhen)CO.,Ltd

ID: ATW-GC-003 A/0

Antenna acknowledgment

Customer name: Guangzhou xingdongzhe

Customer part number:

Material code: ATWE-01-0456-010

Product name: SW20T

Date of issue: 2023-6-23

Vendor recognition field:

Fiction	Structure audit	Structure audit	Give permission to

Customer recognition field:

Verify	Examine	Give permission to

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Prepare/revise and change resume

Prepare/revise and change resume Version	Date	Change description	Remarks
V0	2023-6-23	First edition	

One、Purpose:

1.Through the description of product characteristics and inspection standards in this acknowledgement, better communication can be carried out with customers.

Reach a consensus to avoid product quality disputes caused by inadequate communication。

2.When our products need to be used in your outsourcing factory, please contact your outsourcing company with the content of this acknowledgement.

3.Environmental considerations:

The FPC antenna is designed for general use environment (0 ~ 25 degrees Celsius temperature, 30% ~ 70% atmospheric pressure). When used for a long time, the quality of the product will be reduced in the following occasions. Please pay attention when using:3. 1. 还原性气体 (C12, H2S, NH3 等)。

3.2. Volatile/alkene gas environment.。

3.3.Direct contact with water or high humidity dew place。

3.4.The place of oil, medicine liquid and organic solution。

3.5.A place of vibration。

3.6.A place in direct sunlight。

4、Storage and use

In order to prevent discoloration, deterioration of solderability, and abnormal foaming during assembly, the following storage conditions should be observed。

4.1.High temperature and high humidity will lead to discoloration of the product, it is recommended to manage and keep in a constant temperature and humidity environment。

4.2.The PI film of FPC is very easy to absorb moisture. If the temperature changes sharply in the hygroscopic state, it will produce foaming phenomenon.

It is recommended to prepare baking according to conditions before assembly (SMT, etc.). Please try to use the baked product within 2HR.

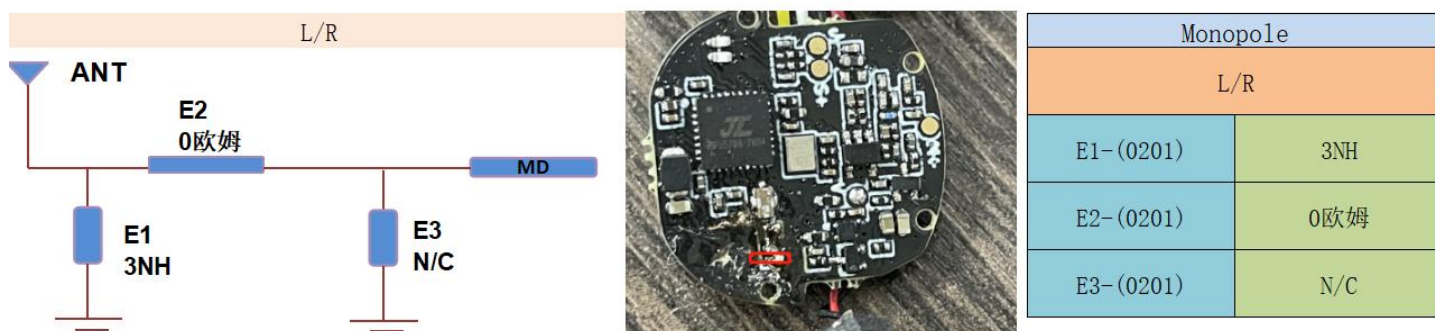
Two、Product material:

FPC Base material	Matte black FPC, single panel, one and a half material
Surface treatment	Screen printing matte black oil/matte white characters

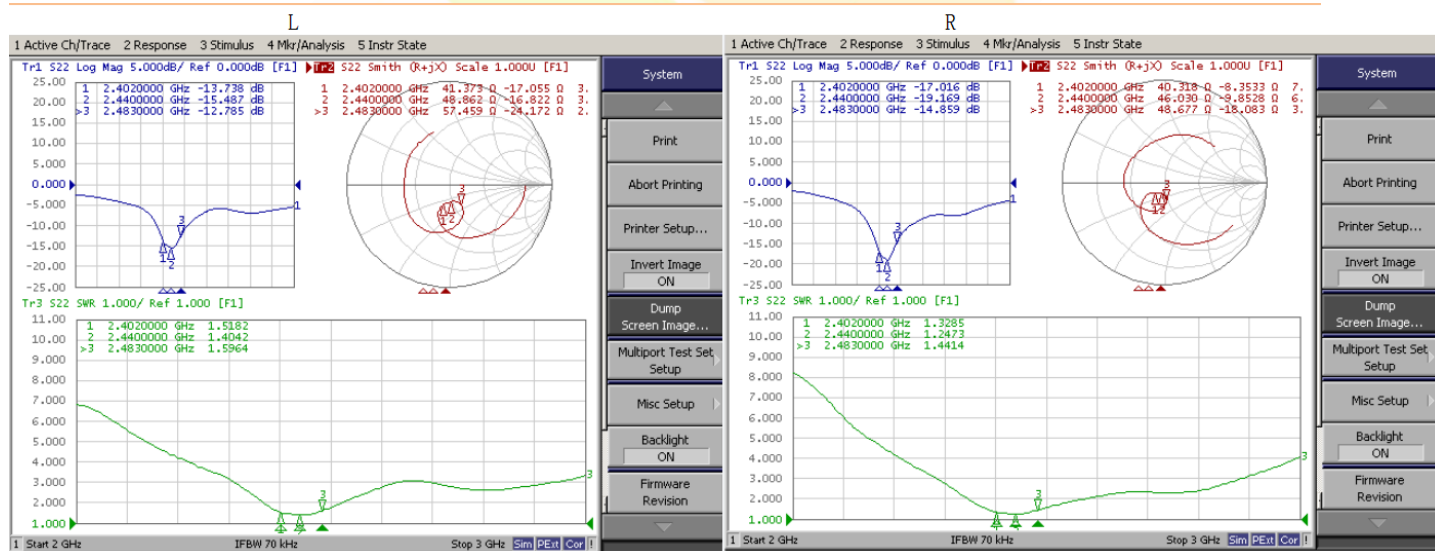
Three、Antenna test data

3.1 Antenna matching circuit modification schematic

天线匹配电路修改示意



3.2 Passive data/return loss

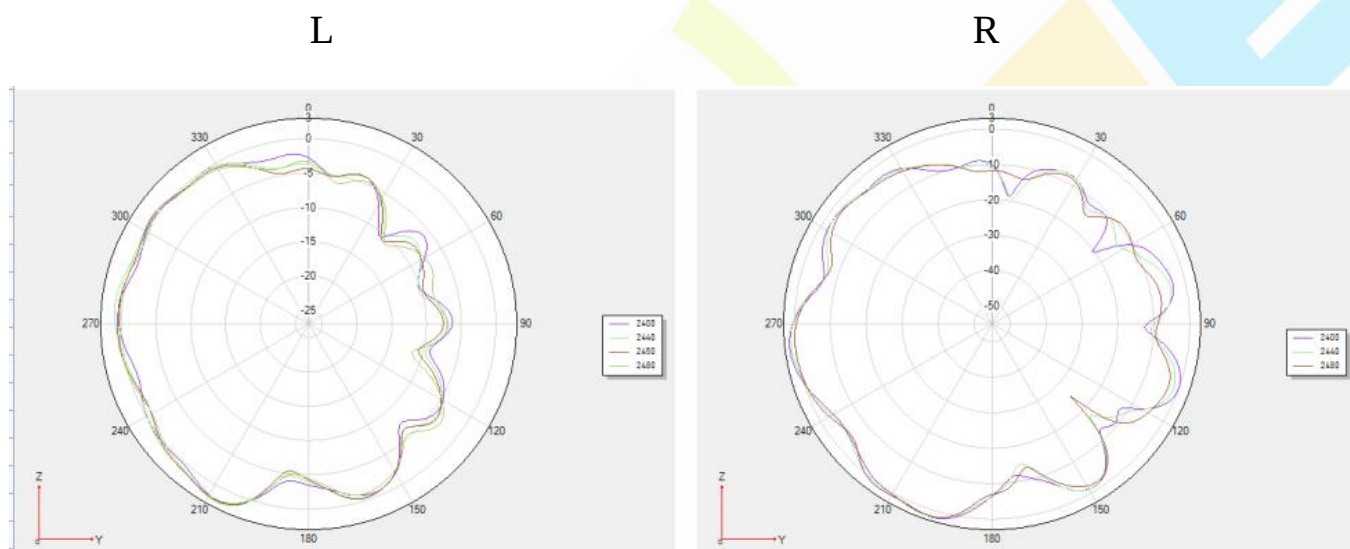


3.3 Passive efficiency

L			R		
BT			BT		
Frequency / MHz	Gain/dbi	Efficiency / %	Frequency / MHz	Gain/dbi	Efficiency / %
2400	1.97	49.1	2400	2.02	48.9
2410	1.49	50.55	2410	1.52	47.21
2430	1.76	45.92	2430	2	48.98
2450	1.64	48.1	2450	1.87	49.76
2460	1.33	47.86	2460	2.04	50.82
2470	1.62	48.29	2470	2.27	50.9
2480	1.6	50.57	2480	1.9	48.82
2490	1.38	49.56	2490	2.01	47.84

L: The maximum gain is 1.97dbi. R: The maximum gain is 2.27 dbi

3.4 2D Directed graph



3.6 Free space

自由空间						
2.4G	L			R		
CHAN	0	39	78	0	39	78
TRP (dBm)	2.7	2.5	3.6	1.1	2.4	2.5
TIS (dBm)	-81.3	-84.5	-84.2	-81.7	-84.4	-85.6

主板传导数据						
2.4G	L			R		
CHAN	0	39	78	0	39	78
TRP (dBm)	6.8	7	6.9	6.9	7.2	6.7
TIS (dBm)		-89.5			-89	

建议主板功率增加到9DB, 灵敏度 -92

Four、Antenna assembly diagram

4.1 Antenna bit assembly considerations



喇叭线与充电线在原基础上剪短8mm

4.2 Antenna location map



Five、Reliability test report

Constant temperature and humidity, ink adhesion test report

Customer	Guangzhou Actor	Date	2023-06-23	Specifications	FPC
Product name	SW20T Antenna	quantity	2PCS	Test time	280min

Test objective: To test the reliability of the product and the adhesion of the coating, the oxidation resistance and corrosion resistance of the coating.

Equipment Name: High and low temperature test box

Test parameters

Temperature	High temperature	70℃	Low temperature	-40℃	Temperature tolerance	1℃
Time	Constant temperature	High temperature	24h	High temperature rise	10min	Remarks
		Low temperature		Cool down		

		ure					
Number of loops	0		Other	Relative humidity	95%		±1%
Inspection of appearance	layering	ACC	Fold	ACC	Bubbling up	ACC	Shedding of ink ACC

The judgment result is passed for ACC and rejected for NG.

Hundred square test

Tools:	Bagel knife, 3M600 tape	Conclusion :	Conclusion: The ink shedding area is less than 5%, which can meet the test requirements by 3 times 90° tensile test of 100 grid area with 3M600.
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Tester: 卫江蕊

Audit: 陈良文

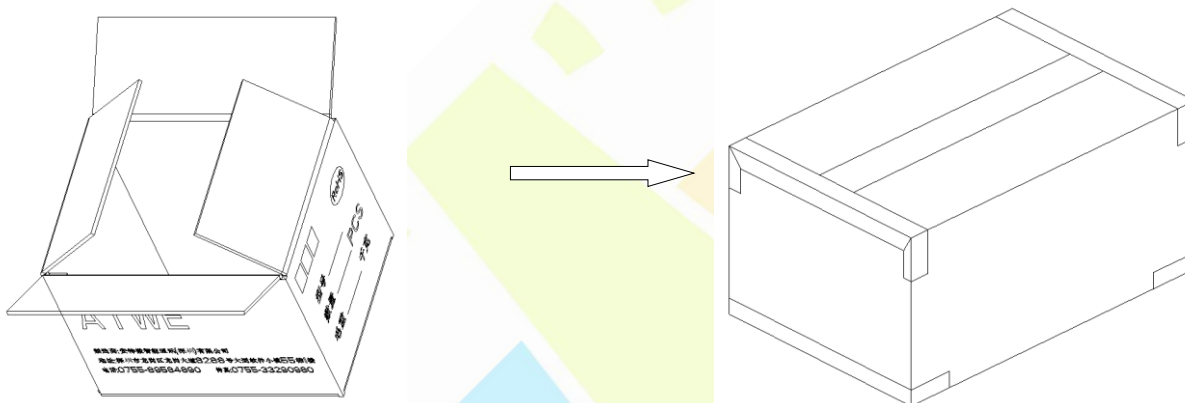
Six、Method of packing

ATWE Product packaging specification	
Product name: SW20T Antenna	Version: V0

One、FPC Antenna half cut film full version shipped

Two、Full sheet set in PE sealing pocket -- quantity is subject to actual order.

Three、Pack in big boxes. (The quantity is subject to the actual order and packaging quantity. 4. Seal the box, and attach our production label and ROHS label to the outer box



Note: Since the project has not been officially opened, the above packaging is for reference only, and the specific packaging is subject to the official mass production!

Two、Structure drawing

1	2	3	4	5	6	7	8	
A	B	C	D					A
备注: 1. 产品形状刀模尺寸要严格控制; 2. 表面无油污, 杂质, 毛刺等; 3. 不经过ATE公司确认, 材料不能随意更改; 4. 包装以及品质标准分别参考ATE包装规范和ATE品质标准; 5. 产品符合RoHS2.0/REACH环保要求; 6. 打“★”号为品管严格控制尺寸。				技术要求: 1. FPC材料: 电镀铜, 一对半材质, 单面板 2. 表面处理: 镀金1U" 3. 表面处理: 双面哑黑色 4. 背胶: 3M9471 包装方式: 微粘膜 5. 丝印字体: 哑白色				
11,99 16,97 SW20T-R-T2 0,11				离型纸断开线 线路区域 微点区域				
△ △ 序号 ECN NO 修 改 内 容 日 期 审 核 备 注				第三角法 项目名称 品 名 料 号 材 质 外 观 处 理 日期 2023-06-23 图 号 SW20T天线 SW20T天线-L/R-FPC ATE-01-0456-010 单位 mm 比例 1:1 审核 杨华 RevA				