Antewei Intelligent Communication (Shenzhen) Co., Ltd.

ATWE intelligent Communications(shenzhen)CO.,Ltd

No.: ATW-GC-003 A/0

Antenna acknowledge

Material code: ATWE-01-0323-

Product name:

Date of Issue: January

Manufacture

draw up	check	approve
Zhang xiajuan	Yang Hua	Chen Jiajia

Customer

confirm	check	approve

catalogue

Prepare/revise the change resume

version	date	Change description	remarks
V0	2023-1-30	first edition	

I. Purpose:

1. Through the description of product characteristics and inspection standards in this

acknowledgement, we can better communicate with customers, reach a consensus,

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

3. Precautions for using the environment:

The FPC antenna is designed according to the general use environment (0 ~ 25 degrees Celsius, 30% ~ 70% atmospheric pressure). When used for a long time in the following occasions, the quality of the product will be reduced. Please pay attention when using it:

3. 1. Reducing gases (C12, H2S, NH3, etc.).

3. 2. Volatile/olefinic gas environment.

3. 3. Direct contact with water or places with high humidity and condensation.

3. 4. Places for grease, liquid medicine and organic solution.

3. 5. A place of vibration.

3. 6. A place with direct sunlight.

4, storage and use

In order to prevent the product from discoloring, reducing weldability and abnormal foaming during assembly, the following storage conditions shall be observed.

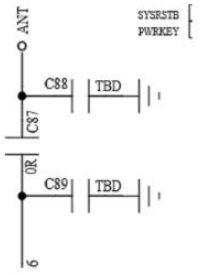
4.1. High temperature and high humidity environment will lead to discoloration of the product, so it is recommended to manage and keep it in a constant temperature and humidity environment.

Second, the

FPC substrate	Matte black FPC, single panel, one and a half materials.
surface treatment	Screen printed matte black oil/matte white characters

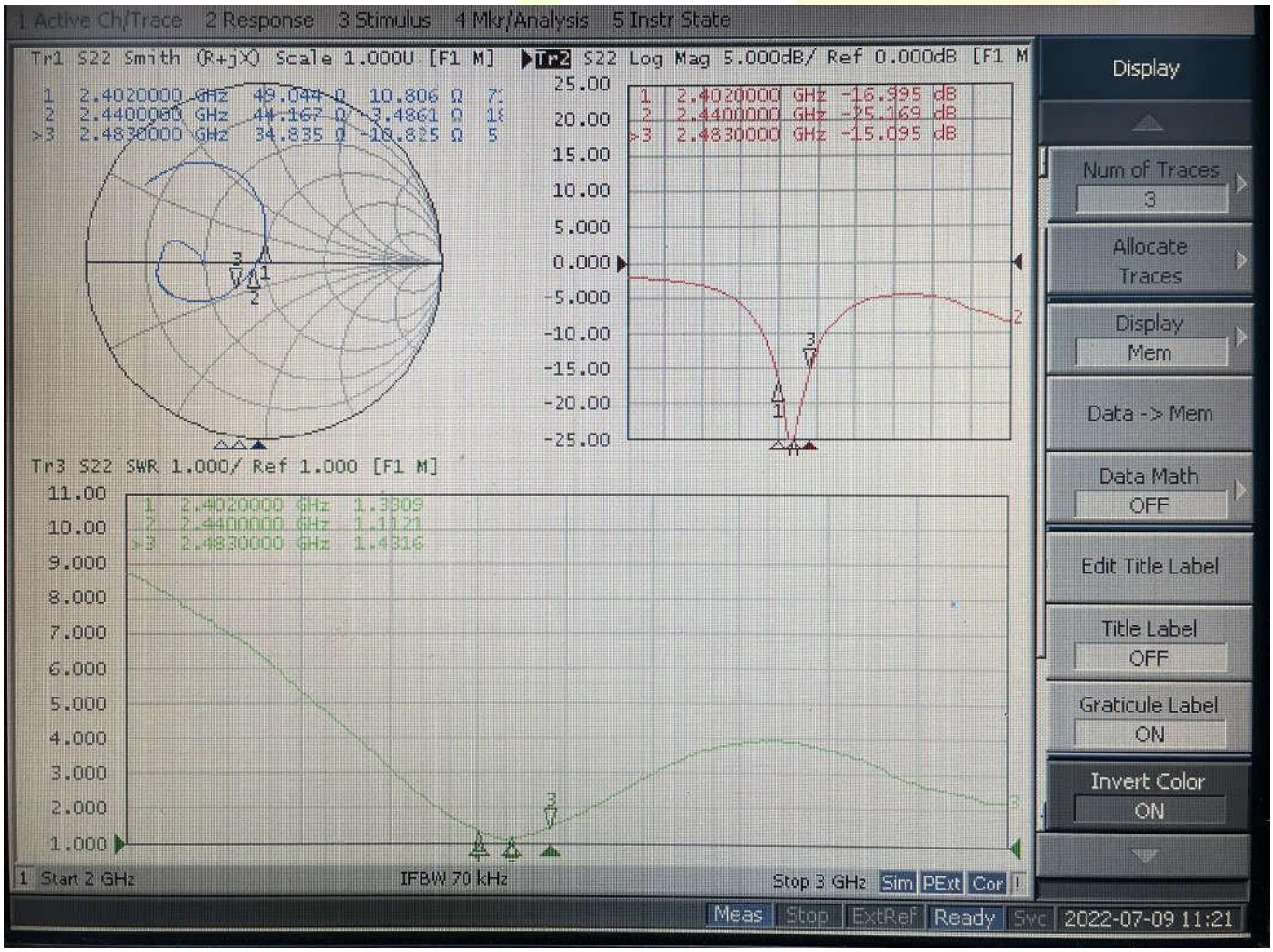
Third, the antenna test data

3.1 Antenna matching circuit



Antenna matching:
C89=1.5PF
C87=3.6nH (murata)
C88=15NH

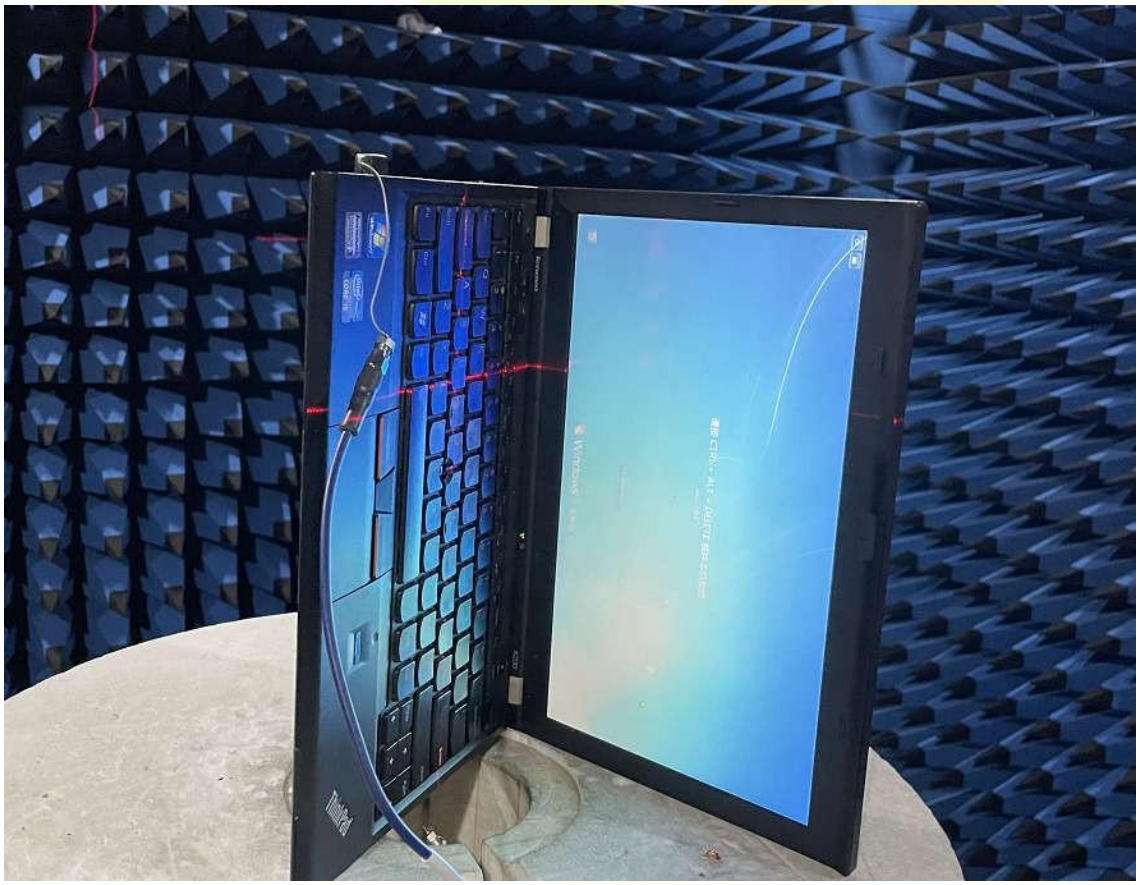
3.2 Antenna passive test data (free space)



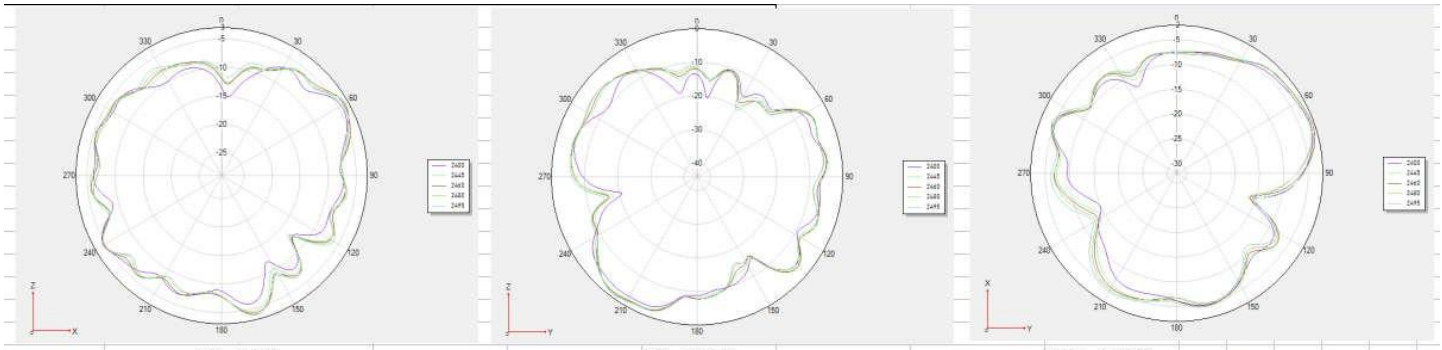
3.3 Antenna efficiency test

WIFI			
Frequency / MHz	Efficiency / dB	Efficiency / %	Gain
2400	-5.98	25.23	0.42
2410	-5.66	27.16	0.67
2430	-5.85	26	0.53
2450	-5.58	27.67	0.69
2460	-5.72	26.79	0.41
2470	-5.65	27.23	0.77
2480	-5.71	26.85	0.75
2490	-5.64	27.29	1.13

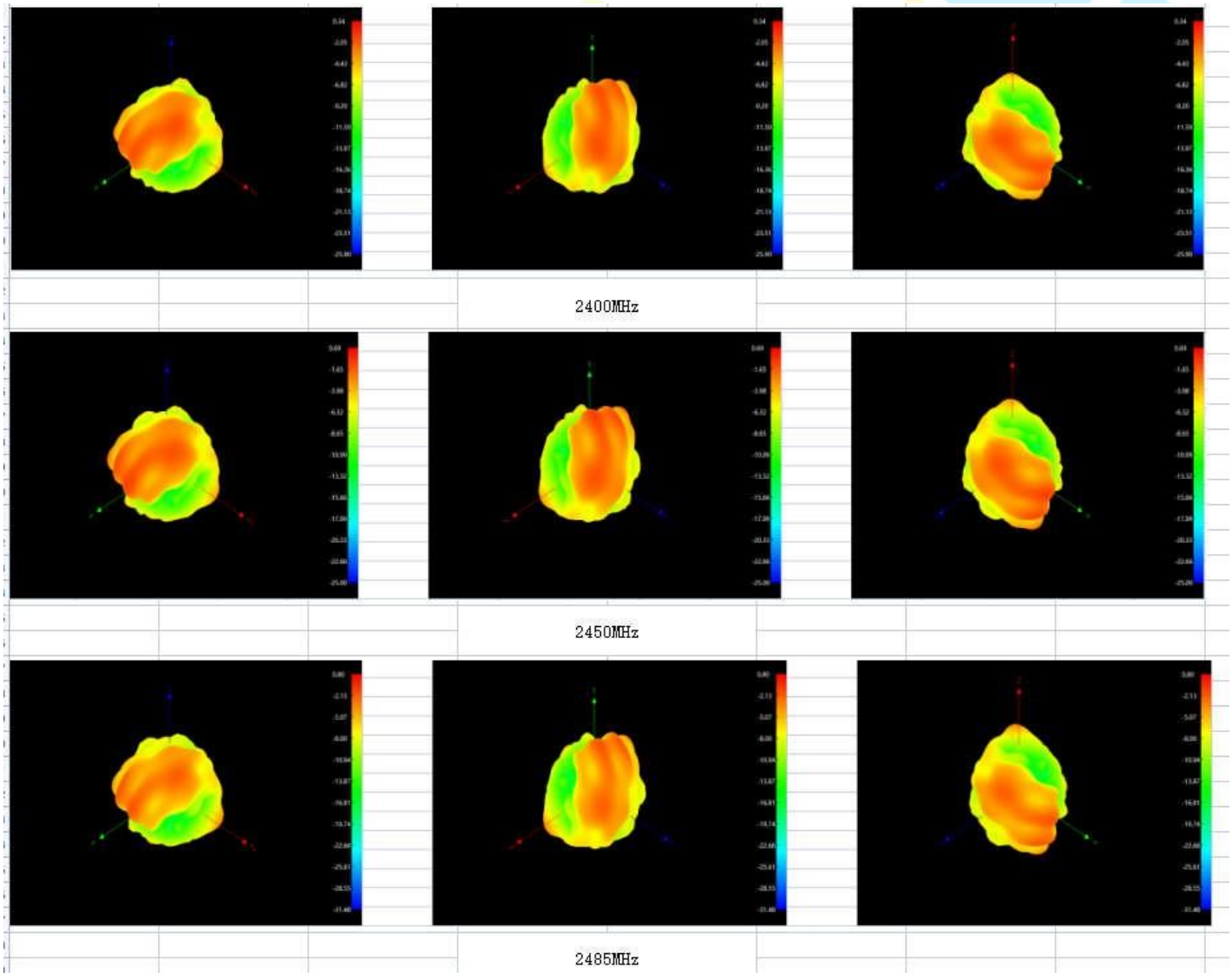
3.4 Laboratory location map



3.5 2D pattern



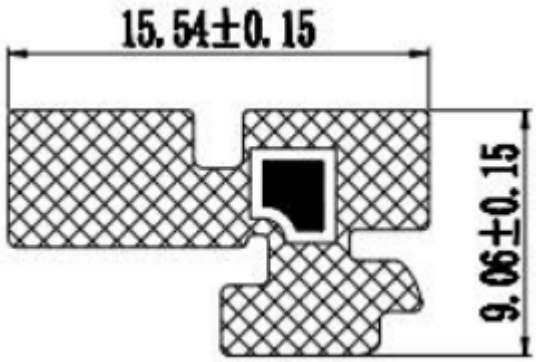
3.5 3D pattern



3.6 OTA

2.4G	OTA		
CHAN	0	39	78
TRP (dBm)	5.63	5.64	5.91
TIS (dBm)	-87.76	-87.07	-88.22

IV. Antenna Assembly Diagram



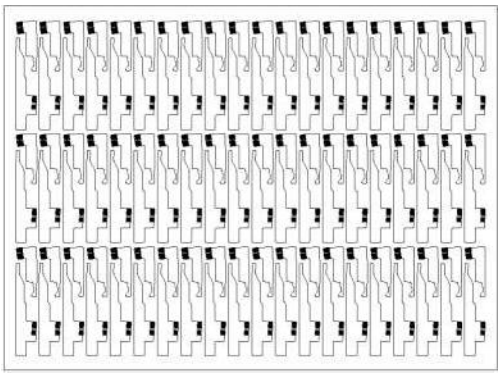
V. Reliability Test Report

Test item	UT01A -FPC		
	test method	criterion	decide
Coating adhesion test	3M600 tape test coating	No sheddiNG OK, otherwise ng	OK
Thermal stress test	Pre-baking at 120°C, heating to 280°C, taking out and drying.	Delamination, bubble NG	OK
	40X Stereoscopic Observation	Through-hole copper layer is fractured and delaminated NG.	OK
solderability	Put the product into solder resist for pre-dipping, and then put it into a tin furnace at 235°C plus or minus 5°C for 10 seconds.	Discoloration, delamination, and bubble NG of the conductor	OK
	40X Stereoscopic Observation	More than 95% of the solder pads are OK, otherwise NG	OK
Welding resistance test	Put the product into solder resist for pre-dipping, and then put it into a tin furnace at 235°C plus or minus 5°C for 10 seconds.	Tin on the pad is OK, otherwise NG.	OK
Test with 3M tape.	Test with 3M tape.	Tested with 3M adhesive tape, the thermosetting adhesive (reinforcing plate) did not come off. Falling and layering.	OK
		Tested with 3M adhesive tape, the pressure-sensitive adhesive (reinforcing plate) did not come off. Falling and layering.	OK
		Tested with 3M adhesive tape, the substrate has no shedding and delamination.	OK
		Tested with 3M adhesive tape, the protective film did not fall off or delaminate.	OK
Flexibility test	Take 5PCS from the product, hold one end of the sample, and make it bend 180 degrees and 15 times in one direction around the 1mm needle gauge with the bending area of the sample as the axis.	There are serious wrinkles on the surface, and the electrical performance has no influence. OK.	OK
	40X Stereoscopic Observation	Copper surface without fracture OK	OK
Test: Yang Meizhen		Audit: Chen Liangwen	
Result judgment: qualified			

Sixth, the way of packaging

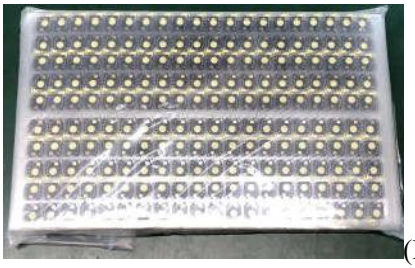
ATWE product packaging specification	
Product name: UT01A	Version: V0

1. Whole-page shipment of EUM antenna micro-mucosa/whole-page shipment of /EUD antenna half-cut die.



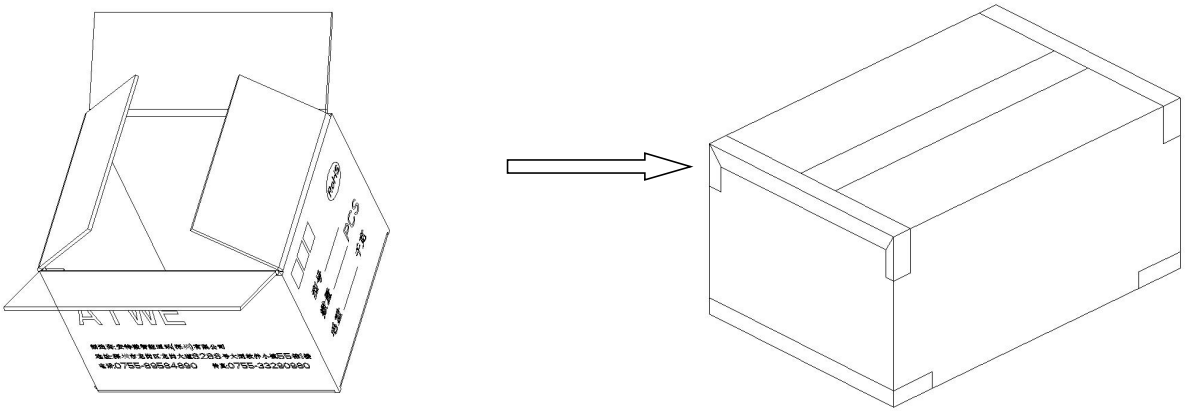
(Layout diagram)

Second, the whole version is packed in PE sealed pockets-the quantity is subject to the actual order.



(Refer to the diagram)

Third, put it in a big box. (The quantity is subject to the actual order and packaging quantity. 4. Seal the box and affix our production label and ROHS label to the outer box.



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

Seven, structural drawings