

Shenzhen Heyixun Technology Co., LTD

SPECIFICATION FOR APPROVAL

customer Name	Lianchuang Hongsheng		
Customer project Name	OW02-pro	Heyixun project Name	OW02-pro
customer P/N		Heyixun P/N	HYX0089-OW02-pro-V2
Band	2400-2500MHz		
vers ion	A0		
Designer Information			
RF Engineer	Feng Xiaoheng	EE Engineer	Shi Zhenhao
ME Engineer	Zhu Zengyuan		

Heyixun Approval				customer Approval	
	prepared	checked BY	Approval BY	checked BY	Approval BY
signature	Zhu Zengyuan				
Date	2025-07-03				

change Log				
vers ion	change Description	person in charge	Approval BY	Date

catalogue

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Drawing or Product Image

The silk-screen printing is white, the antenna surface is covered with a yellow film, and then rolled with copper

Positive

Back

Double-sided printing (gold finger printing on both sides)

Concentrate: Adhesive backing (These two adhesive backing stickers are on the front of the antenna (silk-screened surface))

1. 1. The adhesive is made of 3M 9471 300SE, the viscosity is more than 300MP, the shape of the adhesive is consistent with the substrate, covered on the back of the substrate, and the adhesive is cut in half;;

2. Single-sided material, one and a half base materials, with good flexibility;

3. There is no crack on the surface of the product after being bent at 180° after being oiled, and the flexibility should be good;

4. The surface of the gold finger is plated with gold 0.5 μ m, no oxidation, and there is no crack or conduction phenomenon after 180° bending at the junction of copper foil;

5. The precise tolerance range of wiring and holes: ± 0.03 mm, and the tolerance of external dimensions is controlled within 0.1mm;

6. The $\star$ size is strictly controlled, marked with $\star$ as the key size, and the unmarked size is measured according to the CAD electronic drawing file 1:1;

7. Printing on the surface, see the figure for the specific content and location;

8. The non-appearance needs to be cut and sent to our company after the sample is sent.

No.	Layer	Description(Thickness)	Manufacturer &P/N
1	Adhesive backing	3M9471LM	3M
2	Substrate	KUM-800F N63<10 μ m>	CAL lungetti
3	Ink	PSM-800F3M-ASMF-80	unital

shenzhen heyixun technology co., ltd									
The third corner		Models		date		drawing		Zhuzhengtian	
0~10	± 0.10	0.02	Product name	BT天线					
10~20	± 0.12	0.03	Part number	HYX0089-0W02-pro-V2					
20~40	± 0.15	0.02	Material	PC-309471					
40~	± 0.20	0.04	Die face treatment						
Do not measure the drawing		Location	Appearance treatment						
5		6							
7		8							

Shenzhen Heyixun Technology Co., LTD

sample Dimensions Test Report

customer Name	Lianchuang Hongsheng	customer P/N		Heyixun P/N	HYX0089-OW02- pro-V2
Test Date	2025-07-03	samp le Qty.	3	Inspector	Zhu Zengyuan
Dimens ion NO.	standard	samp le 1	samp le 2	samp le 3	pass/NG
①length	32.00±0.2mm	32.00mm	32.05mm	32.02mm	Pass
②width	2.80±0.2mm	2.82mm	2.80mm	2.82mm	Pass
③thickness	0.15±0.05mm	0.15mm	0.17mm	0.15mm	Pass
Conclusion					PASS
Inspector & Date	Zhu Zengyuan 2025-07-03		Approval &Date		

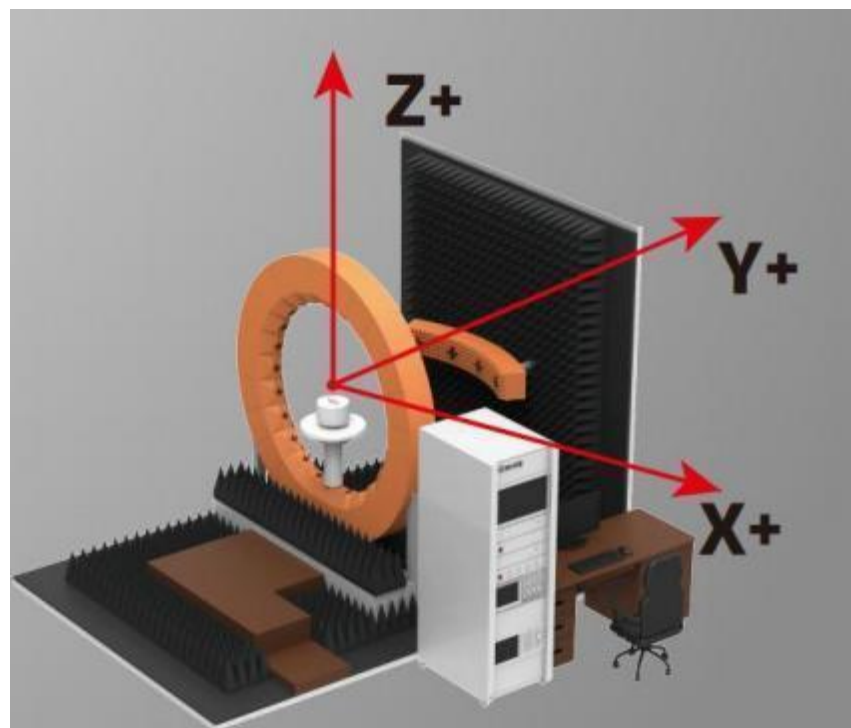
Shenzhen Heyixun Technology Co., LTD

RF Performance Test Report

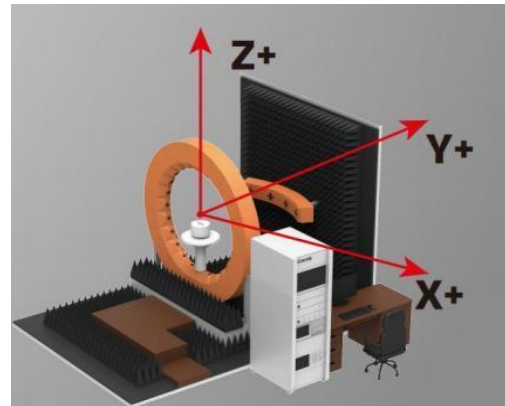
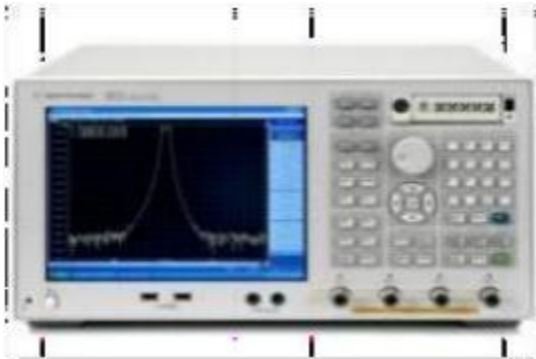
customer Name	Lianchuang Hongsheng	project Name	OW02-pro	Heyixun P/N	HYX0089-OW02-pro-V2
Band	2400-2500MHZ	Test Date	2025-07-03	Inspector	Zhu Zengyuan

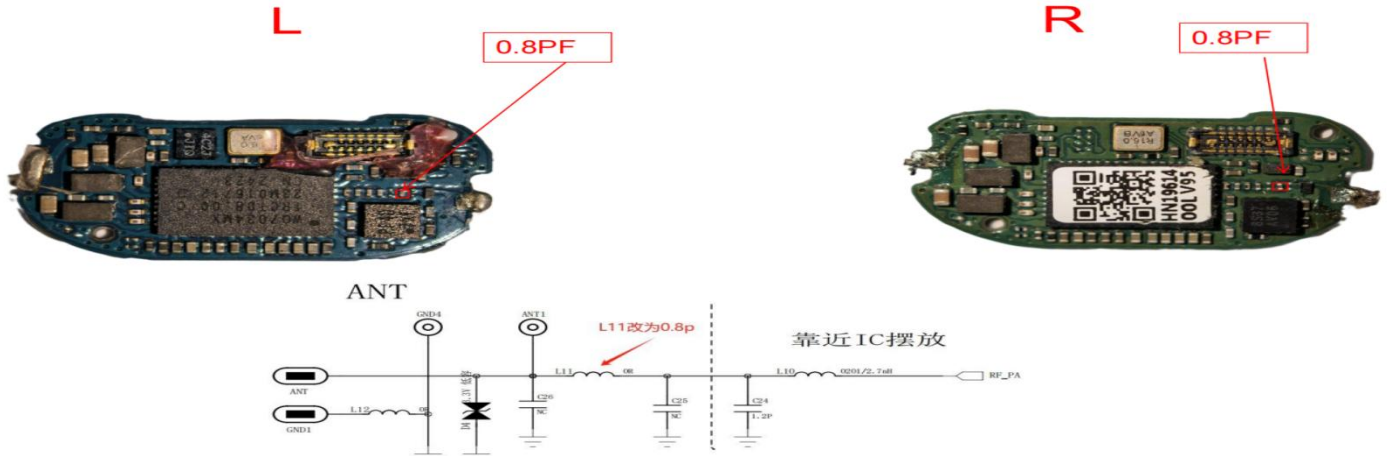
Antenna Test Equipment Introduction

Test of antenna input characteristics using Agilent E5071c and Agilent 5071c vector network analyzer ; The radiation pattern of the antenna are tested using the ETS starlab 3D near field Anechoic Chamber, and the instrument is used to agilent8960 E5515 and Agilent E4438C. The test coordinates of the darkroom are as follows:

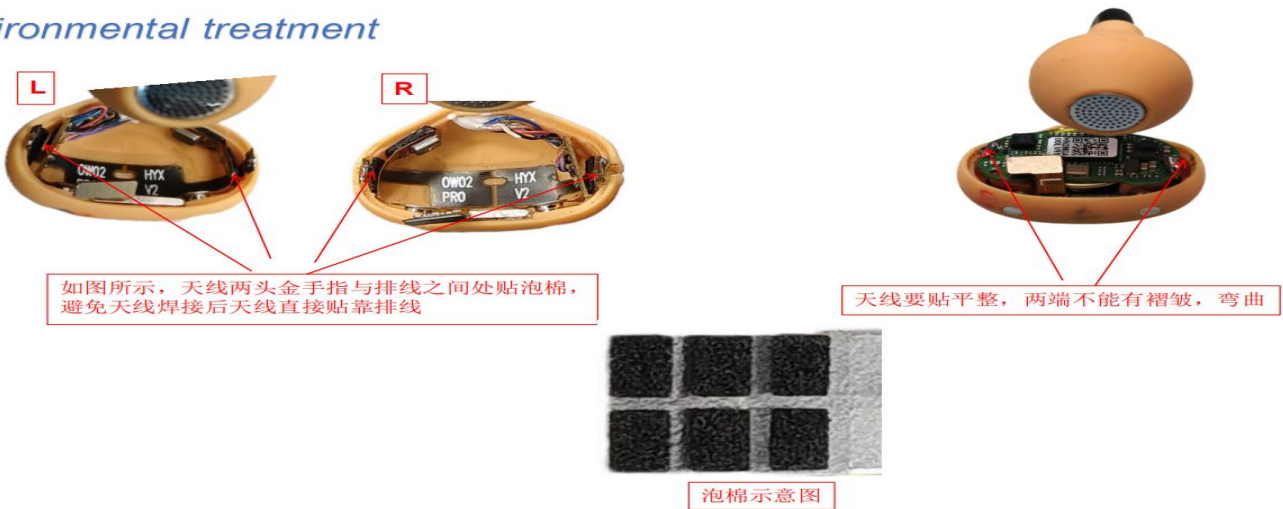


Sequence Number	Test Item	equipment
S parameter	VSWR	Agilent 5071C & Agilent 5062A
OTA Test	TRP&TIS	Agilent 8960 E5515C & Agilent 4438C&CMW500 ETS&SATIMO
Gain & Efficiency	Gain & Efficiency	ETS&SATIMO Agilent 5071C

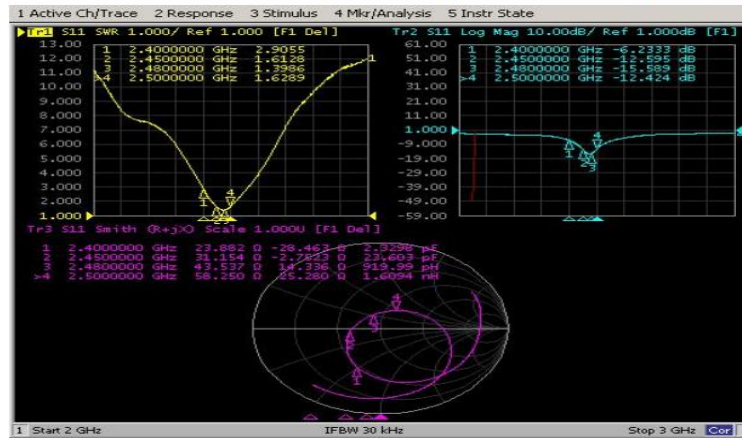




Environmental treatment



2.Test Result VSWR&Log Mag&Smith(Ω)



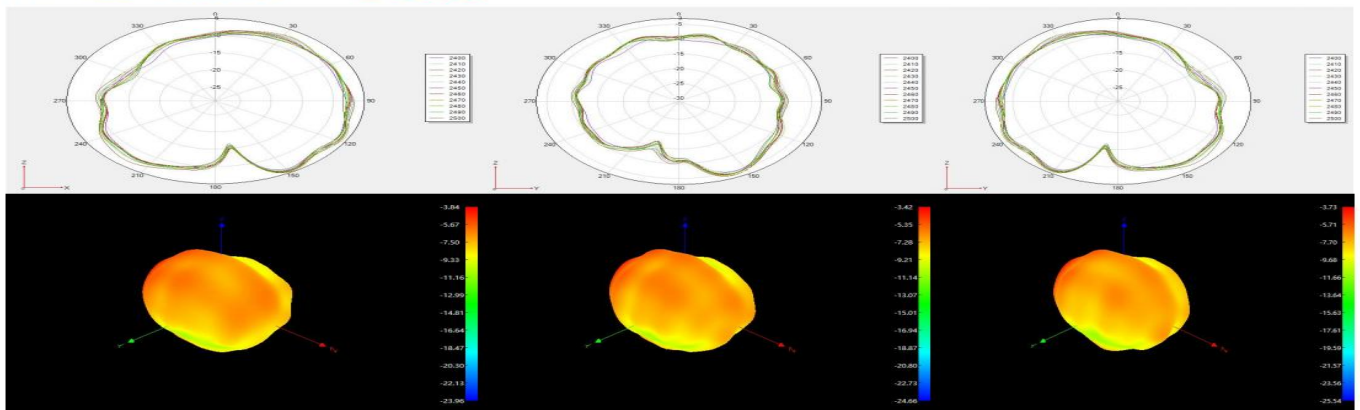
Frequency (MHz)	2400	2450	2480	2500
Log Mag	-6.23	-12.59	-15.58	-12.42
Smith(Ω)	23.88	31.15	43.53	58.25
VSWR	2.90	1.61	1.39	1.62

3. Test Result-freedom

Frequency (MHz)	Efficiency (%)	Max GAIN (dBi)
2400	15.14	-3.84
2410	15.63	-3.58
2420	16.75	-3.04
2430	17.14	-3.24
2440	17.95	-3.19
2450	18.32	-3.42
2460	18.41	-2.91
2470	17.86	-3.24
2480	17.78	-2.98

4. Test Result

4.2 2D Pattern—BTANT



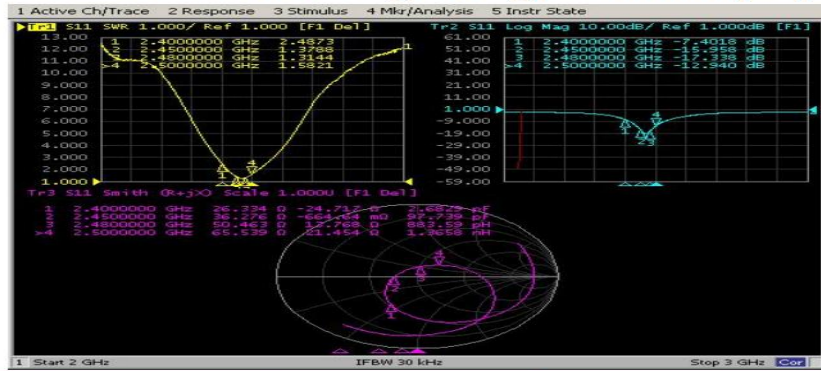
3. Test Result-Head model

Frequency (MHz)	Efficiency (%)	Max GAIN (dBi)
2400	4.42	-8.45
2410	4.51	-8.41
2420	4.78	-9.64
2430	5.13	-9.47
2440	5.32	-8.60
2450	5.21	-8.47
2460	5.14	-8.64
2470	4.98	-7.61
2480	4.63	-7.55

2. Test

Result VSWR&Log Mag&Smith(Ω)

R



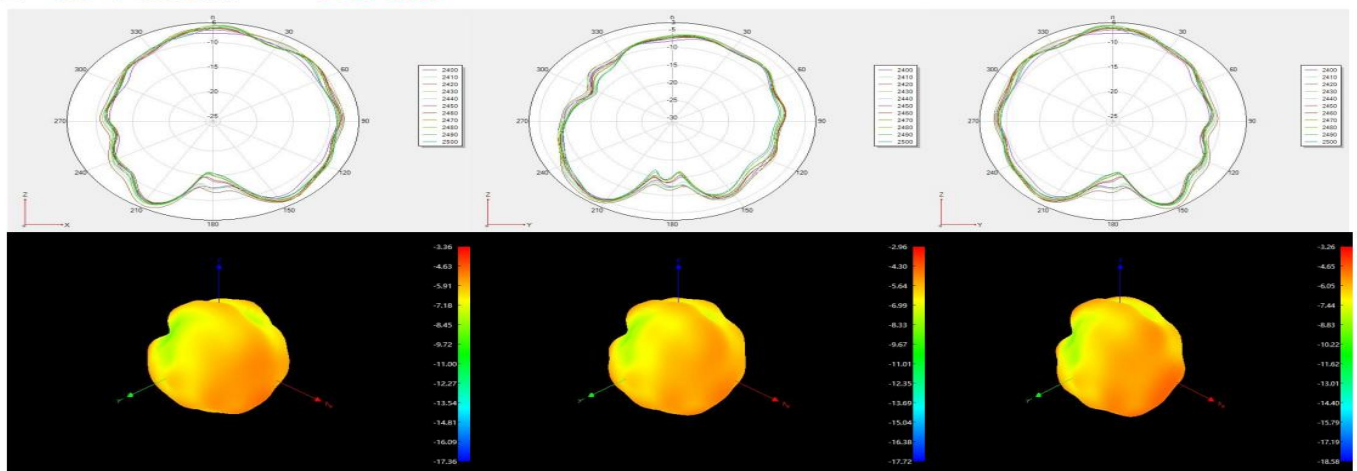
Frequency (MHz)	2400	2450	2480	2500
Log Mag	-7.40	-15.95	-17.33	-12.94
Smith(Ω)	26.33	36.27	50.46	65.53
VSWR	2.48	1.37	1.31	1.58

3. Test Result-freedom

Frequency (MHz)	Efficiency (%)	Max GAIN (dBi)
2400	16.07	-3.36
2410	16.6	-3.18
2420	17.62	-2.74
2430	17.95	-2.95
2440	18.66	-2.96
2450	18.97	-3.33
2460	18.75	-3.06
2470	18.24	-3.67
2480	17.99	-3.26

4. Test Result

4.2 2D Pattern—BTANT



3. Test Result-Head model

Frequency (MHz)	Efficiency (%)	Max GAIN (dBi)
2400	4.86	-7.65
2410	4.77	-7.81
2420	4.75	-8.54
2430	4.68	-8.41
2440	4.61	-8.63
2450	4.54	-7.14
2460	4.32	-7.86
2470	4.20	-7.48
2480	4.13	-7.95

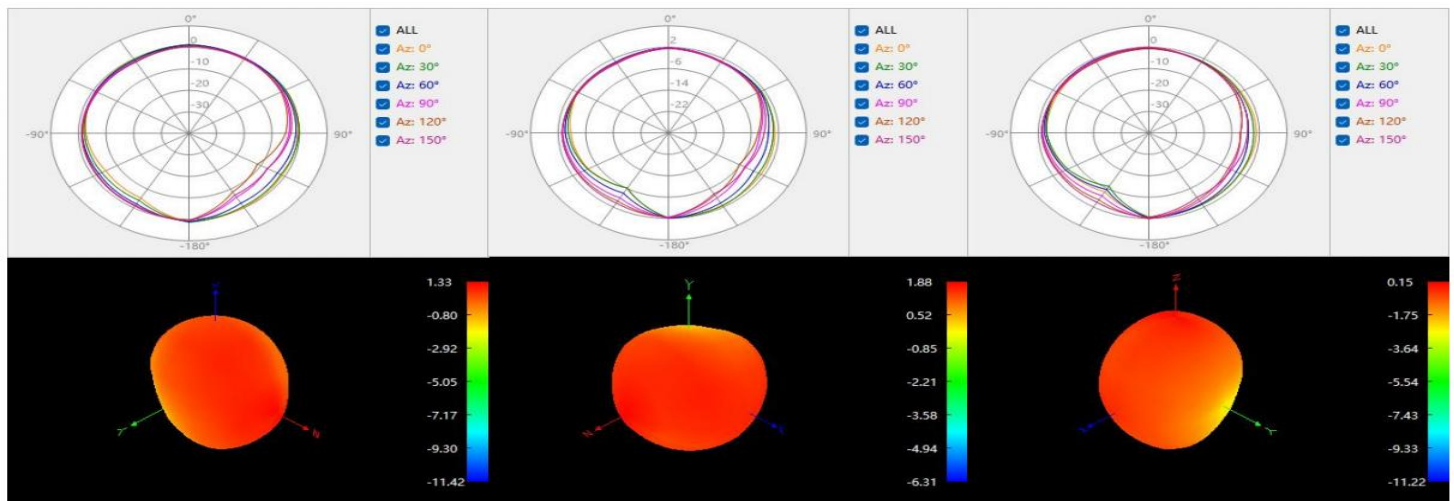
3. OTA Data-freedom

Test Equipment:	R&S CMW500		
Test Condition:	3D chamber		
Band	Channel	TRP(dBm)	TIS(dBm)
L	0	0.88	-86.96
	39	1.59	-87.45
	78	1.03	-87.38
R	0	0.94	-87.23
	39	1.47	-87.56
	78	0.32	-86.79

3. Test Result

L-TRP-freedom

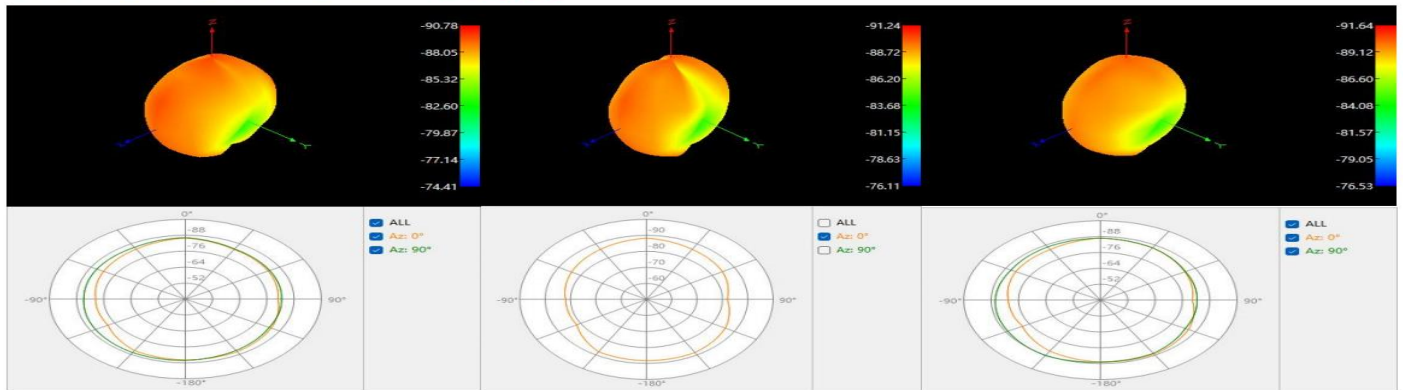
3.1 2D 3D Pattern——BTANT



3. Test Result

L-TIS-freedom

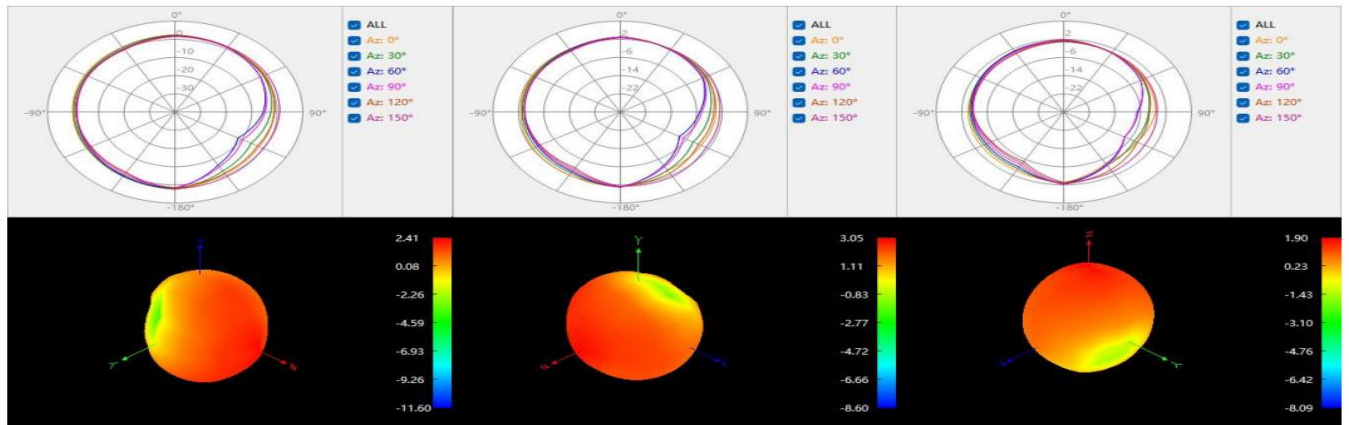
3.1 2D 3D Pattern——BTANT



3. Test Result

R-TRP-freedom

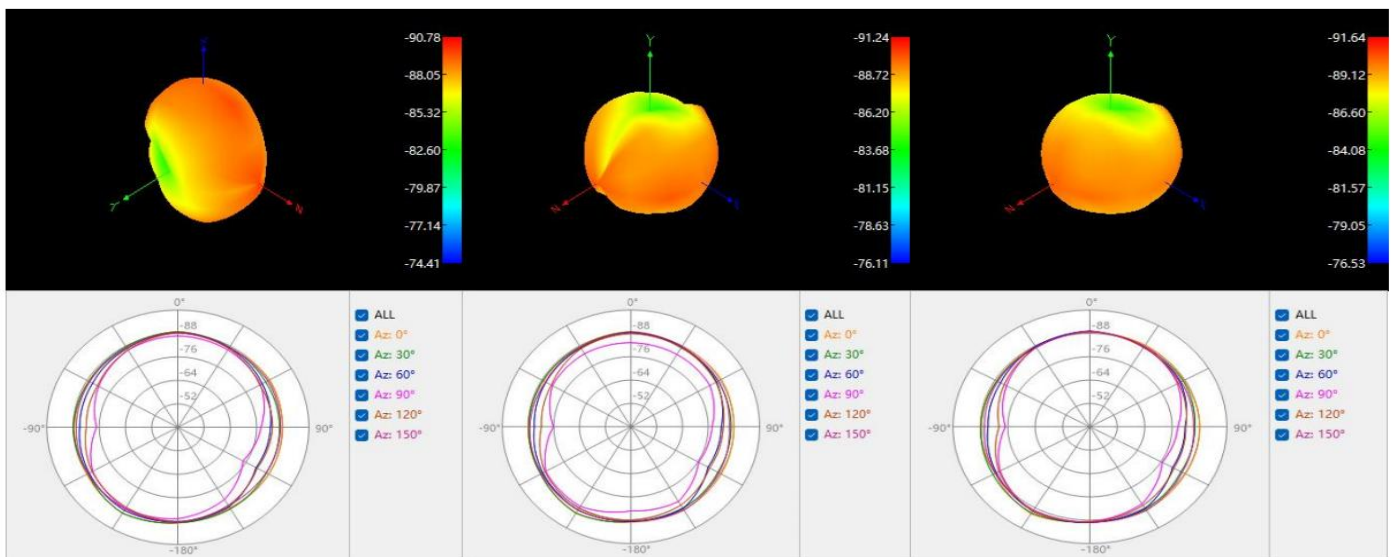
3.1 2D 3D Pattern——BTANT



3. Test Result

R-TIS-freedom

3.1 2D 3D Pattern——BTANT



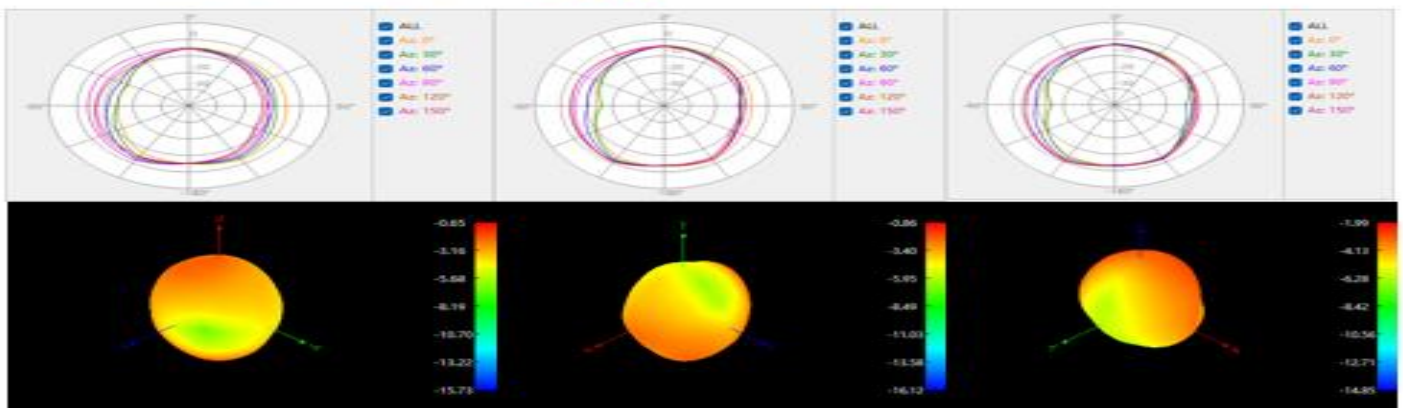
3.OTA Data-Head model

Test Equipment:	R&S CMW500		
Test Condition:	3D chamber		
Band	Channel	TRP(dBm)	TIS(dBm)
L	0	-3.84	-82.43
	39	-3.05	-83.36
	78	-3.85	-82.03
R	0	-3.47	-82.72
	39	-3.65	-82.85
	78	-4.13	-81.24

3. Test Result

L-TRP-Head model

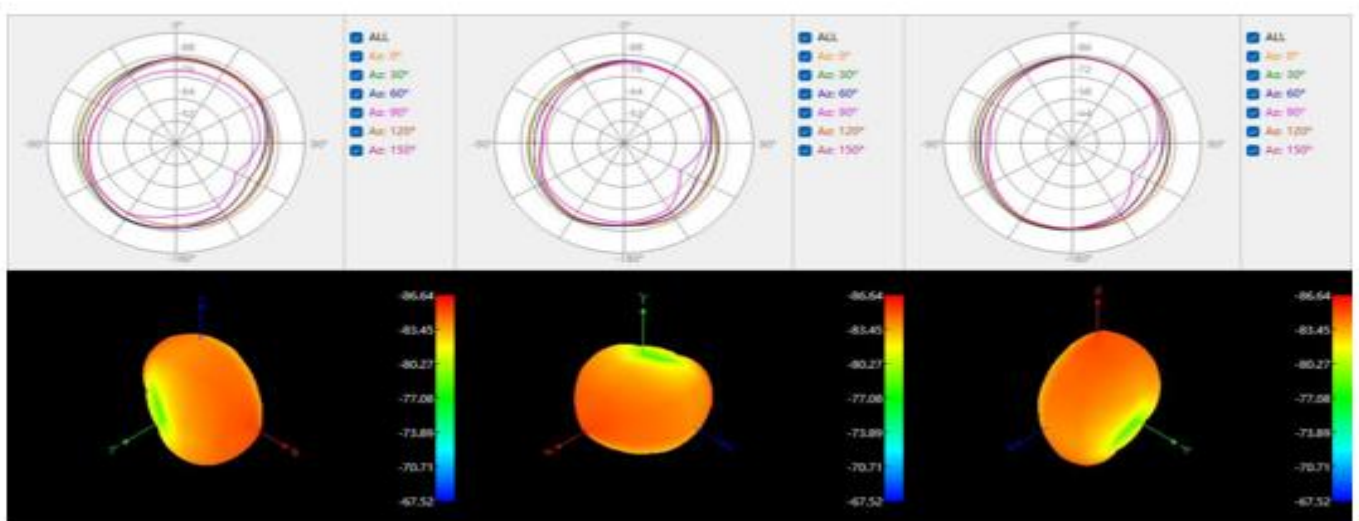
3.1 2D 3D Pattern——BTANT



3. Test Result

L-TIS-Head model

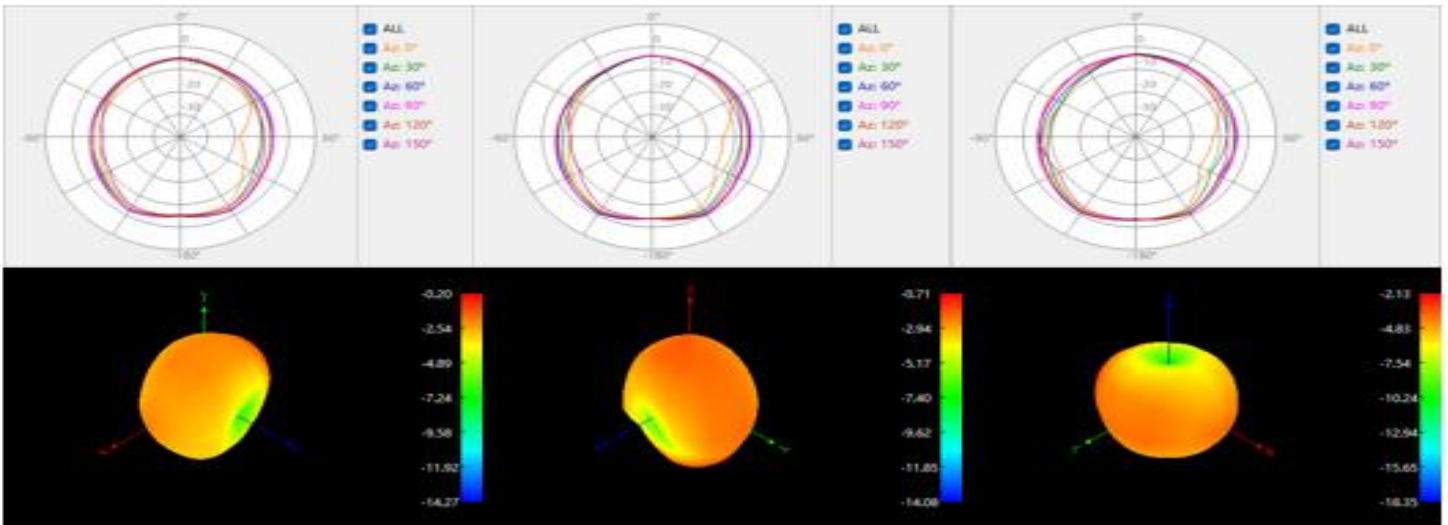
3.1 2D 3D Pattern——BTANT



3. Test Result

R-TRP-Head model

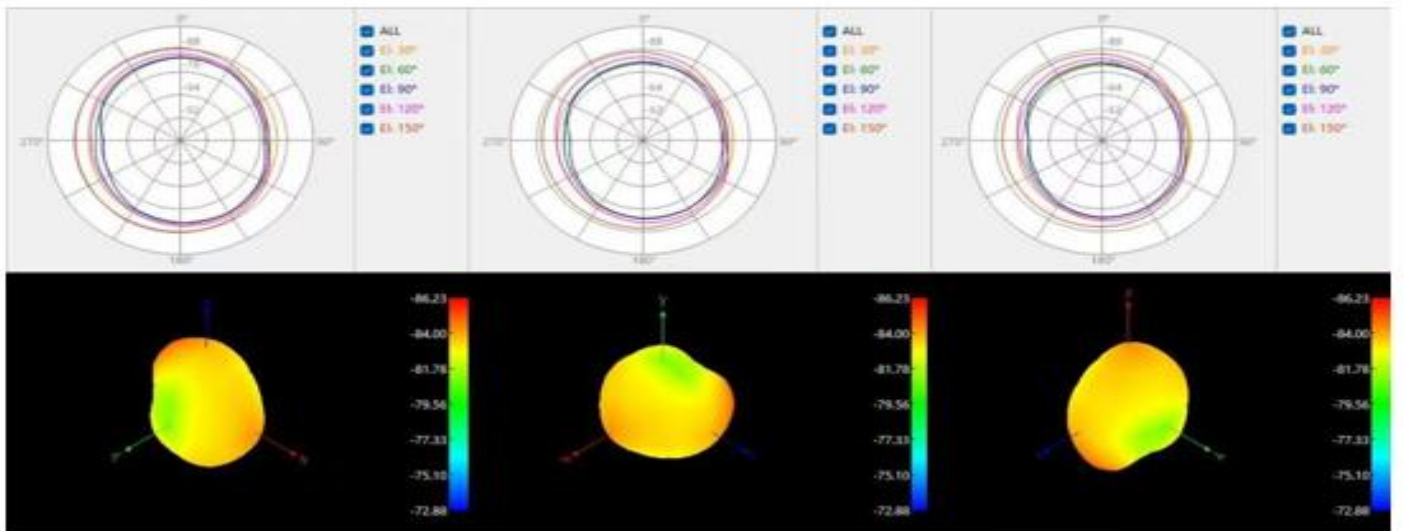
3.1 2D 3D Pattern——BTANT



3. Test Result

R-TIS-Head model

3.1 2D 3D Pattern——BTANT

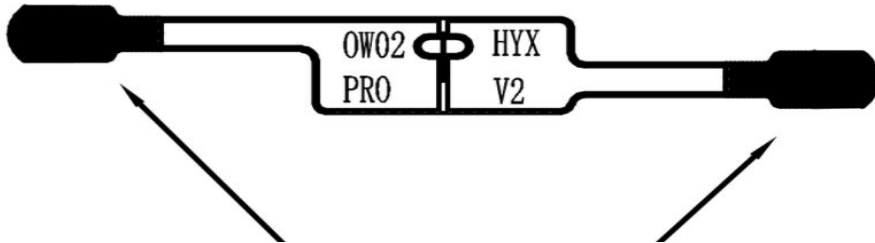


Reliability Test Report

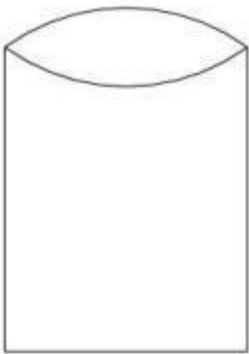
customer Name	Lianchuang Hongsheng	customer P/N		Heyixun P/N	HYX0089-OW02-pro-V2	
Test Date	2025-07-03	samp le Qty.	3	Inspector	Zhu Zengyuan	
Test Item	Requireme	testing equipment	samp le 1	samp le 2	samp le 3	PASS/NG
High temperature storage	The test was performed after 24 hours of exposure at +85° C and 2 hours of recovery	Constant temperature and humidity chamber	OK	OK	OK	Pass
Cryogenic storage	The test was performed after 24 hours of exposure at -40° C and 2 hours of recovery	Constant temperature and humidity chamber	OK	OK	OK	Pass
High temperature operation	Operates at +60° C for 24 hours	Constant temperature and humidity chamber	OK	OK	OK	Pass
Operates at low temperatures	It works on power for 24H at -20° C	Constant temperature and humidity chamber	OK	OK	OK	Pass
Salt spray test	(5 Shi 0.5)*Sodium chloride, pH value is 6.5~7.2, and the temperature of the experimental chamber is (35 ±2)° C ☒ 24H ☐ 48H	Salt spray testing machine	OK	OK	OK	Pass
Connector riveting pull-out force	1.13 Wire size ≥10N 0.81 Wire size ≥8N RG174 ≥60N RG178 ≥50N	Push-pull force gauge	/	/	/	/
Conclusion						Pass
Inspector & Date	Zhu Zengyuan 2025-07-03	Approval & Date				

PACKING CRITERION

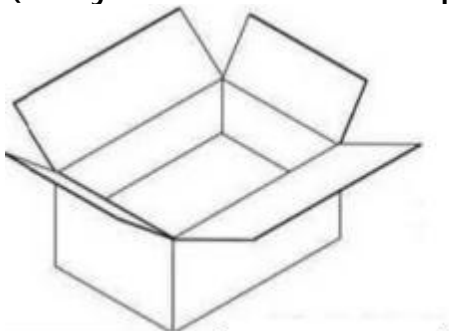
1、Individual products (Subject to the actual packaging)



2、Big PE bag packing (full sheet/single 90pcs) (Subject to the actual packaging)



3、Sealed, the outer box is affixed with our production label and ROHS label. (Subject to the actual packaging)



Environmental requirements

MSDS (Material Safety Data Sheet)	☒ offer	☐ Not available	☐ N/A
COC (Environmental Protection Agreement)	☒ offer	☐ Not available	☐ N/A
Technical standards for environmentally friendly hazardous substances	☒ offer	☐ Not available	☐ N/A
Specific environmental requirements	☒ ROHS2.0 COMPLIANT ☒ Halogen-free ☒ Meets California 65		

Install Wizard or Other

Installation Process:

Take the 1PCS product, tear off the release paper on the back of the FPC by hand, and then align the position of the FPC positioning hole with the positioning hole position of the shell (positioning rib or positioning line), and attach it to the shell flatly, the specific position is shown in the following figure:

Precautions during the installation process:

- ☒After attaching the antenna, ensure that the FPC is fully attached to the housing;
- ☒The positioning hole is aligned with the positioning post position of the housing;
- ☒The edge of the FPC is against the edge of the case;
- ☐Antenna with TerminalsWhen snapping the terminals to the PCBA end of the motherboard, first snap the terminals and then vertically;
- ☐When disassembling the antenna terminals, it is necessary to use a tool (such as a special crowbar) to the terminals vertically, and do not directly pull the wire to disassemble them.