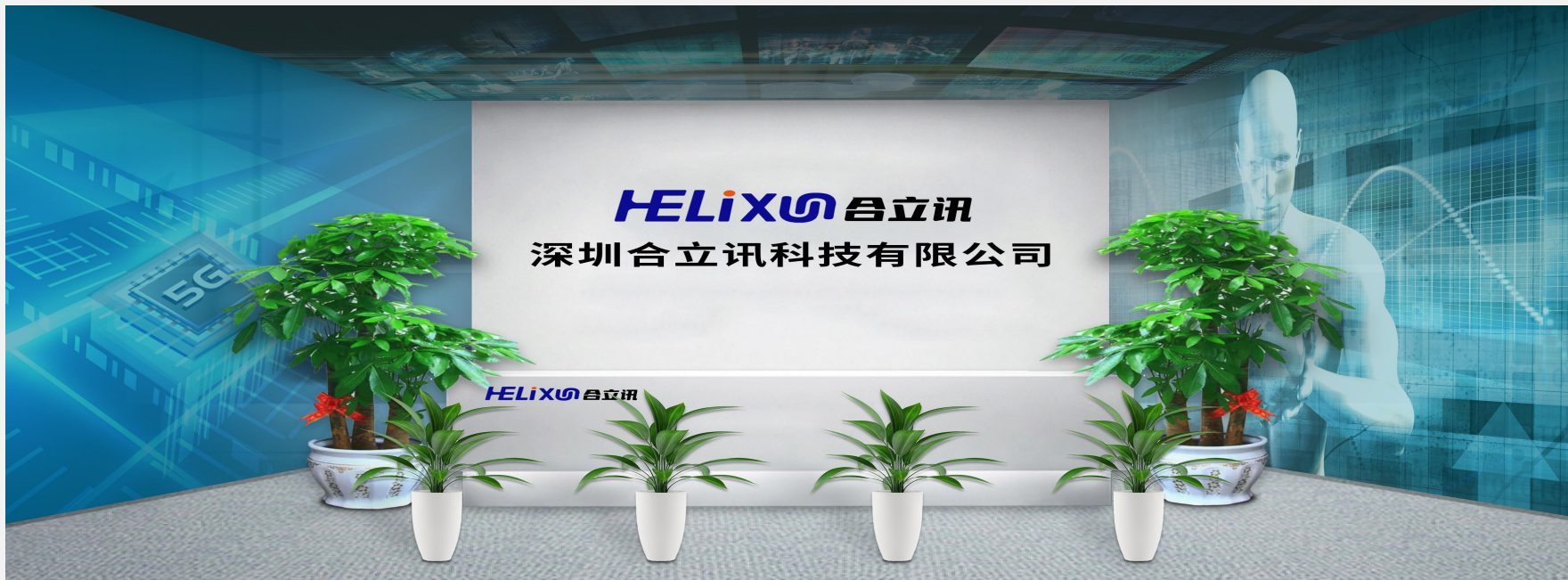


Antenna Test Report



Customer	宾氏
Project	T098A
Antenna Revision	A0
Prepared by	15993920520
Checked by	17279710721
Date:	2023. 06. 16

Purpose

This report is to measure the performance of antenna for **T098A** The antenna operating frequency at 2400-2500MHz, All test data are showed as below.

Content

1. test system
2. Product Overview Dimension
3. Test Result
 - 3.1 S11 Parameter
 - 3.2 Gain & Efficiency
 - 3.3 2D Pattern
- 4 .1 OTA

1. Test System

Sequence Number	Test Item	equipment
S parameter	VSWR	Agilent 5071C & Agilent 5071B
OTA Test	TRP&TIS	Agilent 8960 & CMW500 STIMO
Gain & Efficiency	Gain & Efficiency	SATIMO Agilent 5071C



2.Product Overview & Dimension

HLX-V3天线



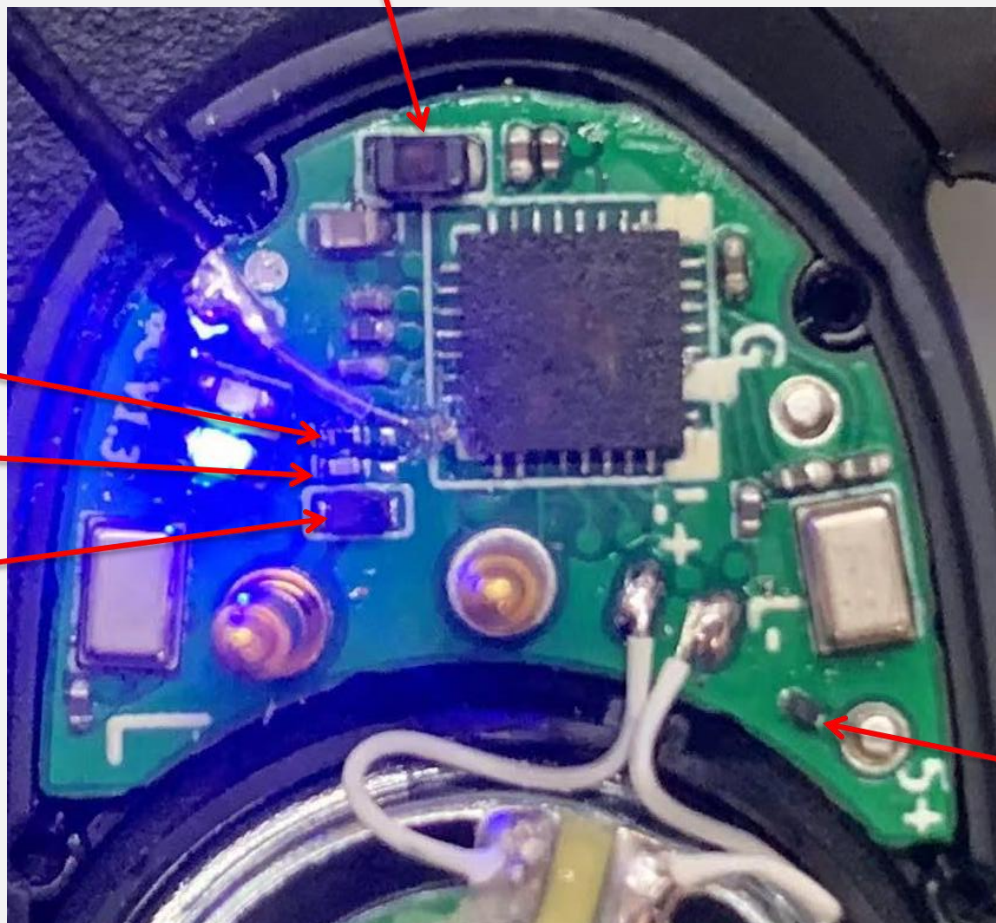
2. Product Overview & Dimension L

HLX10UH绕线电感

0Ω

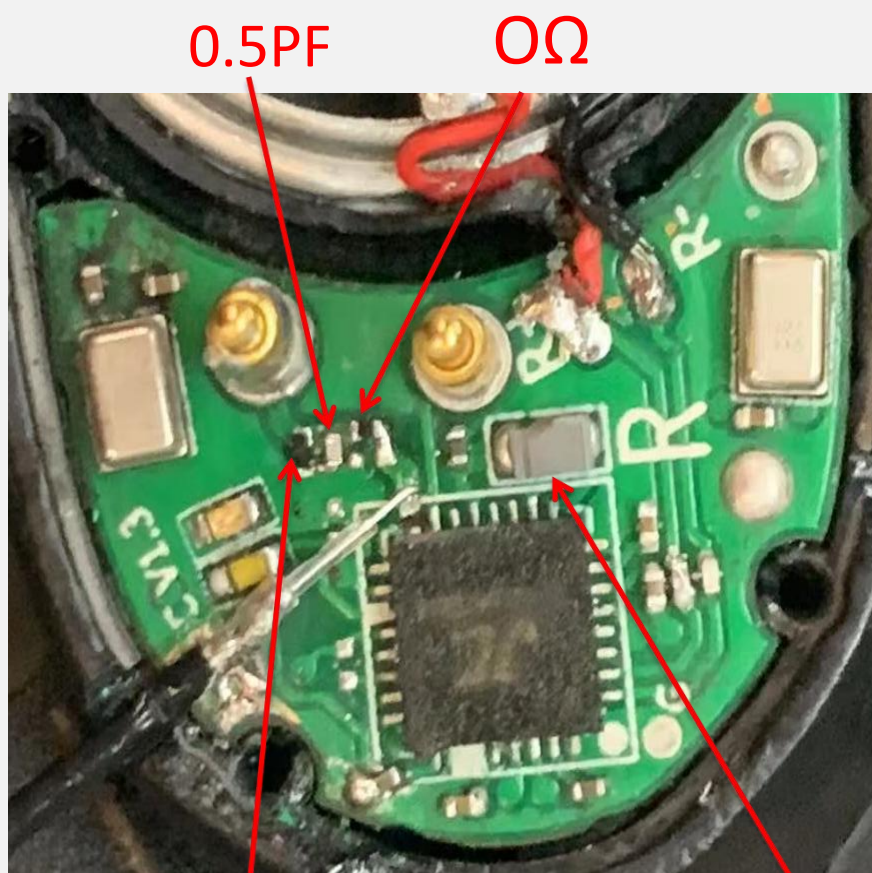
0.5PF

HT0521P1



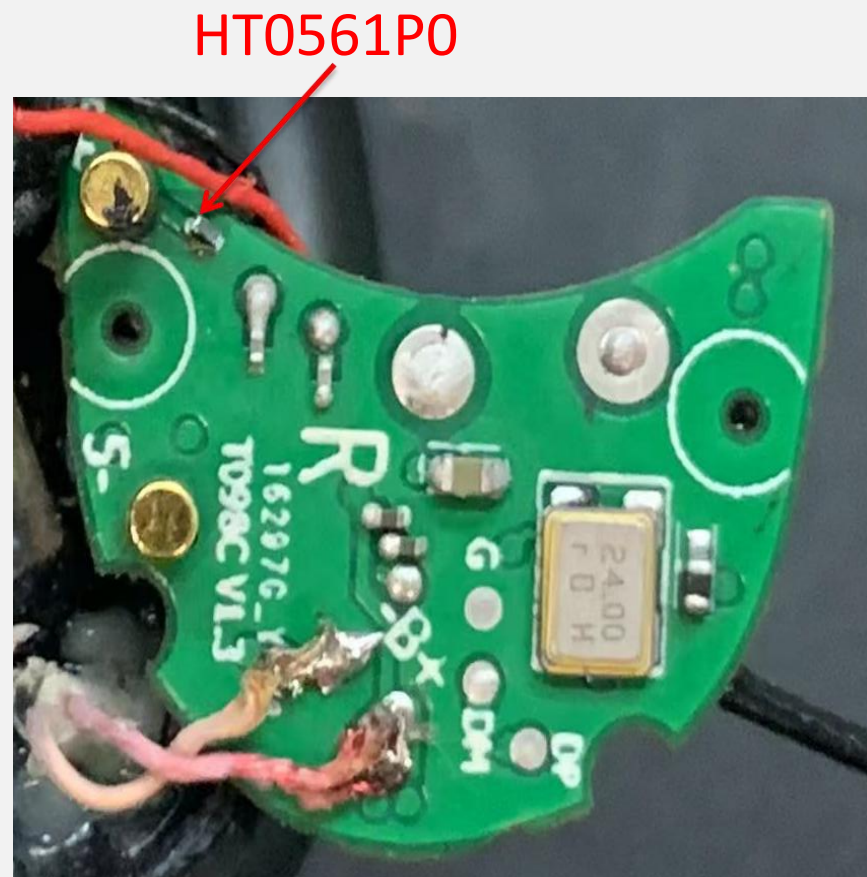
HT0561P0

2.Product Overview & Dimension R



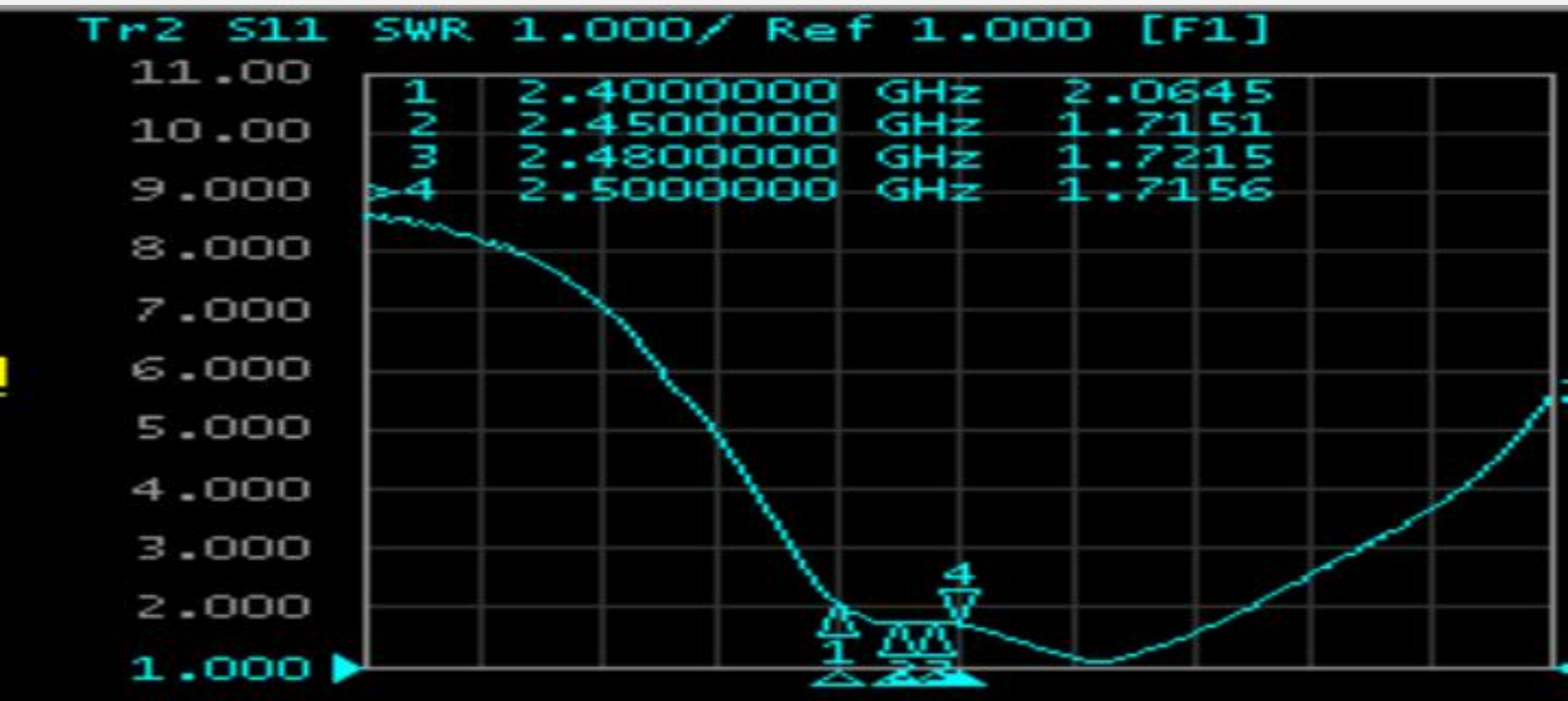
HT0521P0

HLX10UH 绕线电感



3.Test Result

3.1 S11 Parameter-VSWR L



requency (MHz)	2400	2450	2480	2500
VSWR	2.06	1.71	1.72	1.71

3. Test Result

3.1 S11 Parameter-Log Mag L



Frequency (MHz)	2400	2450	2480	2500
Log Mag	-9.18	-11.58	-11.53	-11.58

3.Test Result

3.1 S11 Parameter-Smith L

Tr3 S11 Smith (R+jX) Scale 1.0000 [F1]

1	2.4000000	GHz	24.721	Ω	6.2768	Ω	416.24	pH
2	2.4500000	GHz	29.282	Ω	2.7962	Ω	175.60	pH
3	2.4800000	GHz	29.164	Ω	2.6193	Ω	168.10	pH
>4	2.5000000	GHz	29.398	Ω	3.7847	Ω	240.94	pH



Frequency (MHz)	2400	2450	2480	2500
Smith(Ω)	24.71	29.28	29.16	29.39

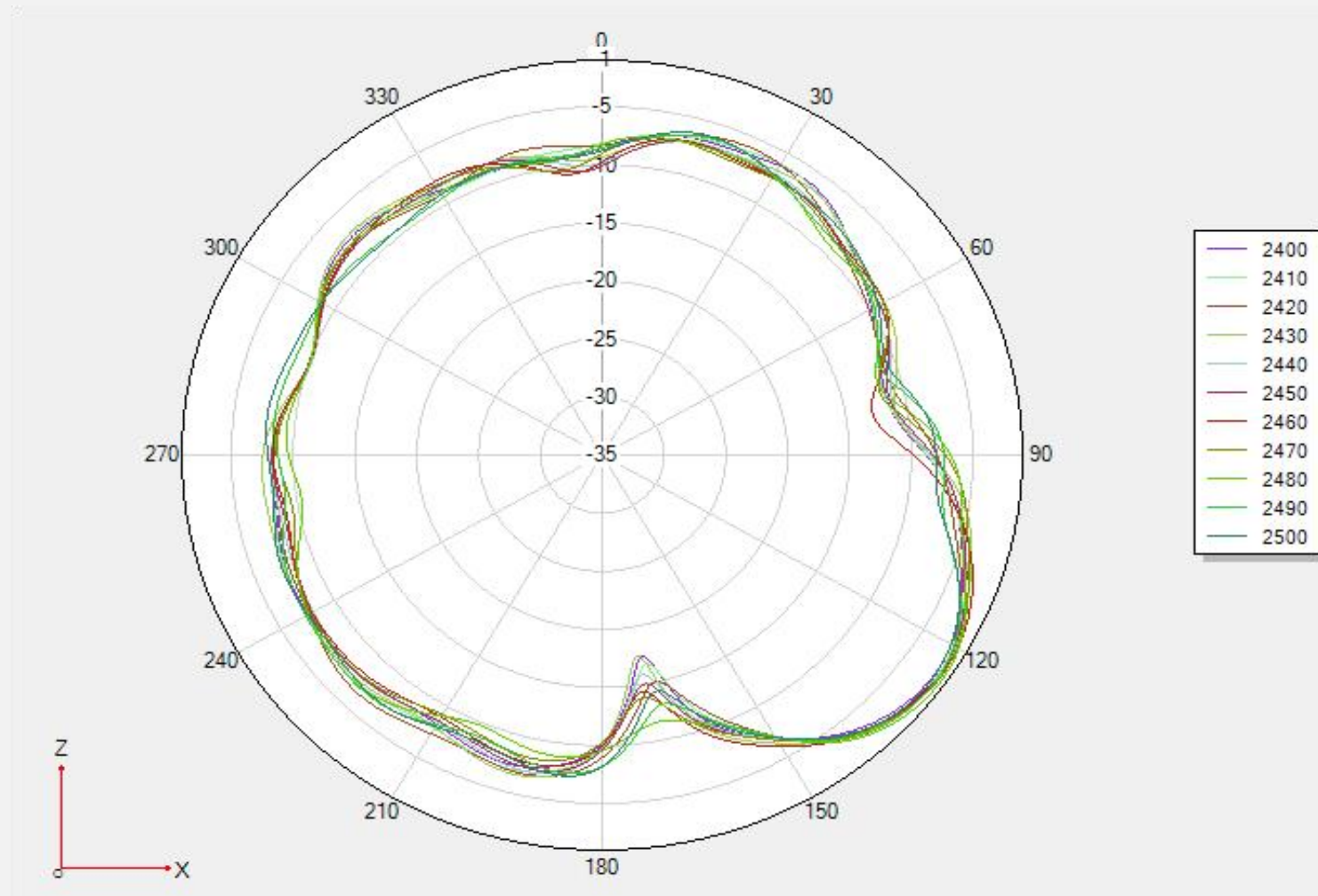
3. Test Result-L

3.2 Gain & Efficiency—ANT

Frequency (MHz)	Efficiency (%)	Max GAIN (dBi)
2400	21.11	-1.37
2410	21.71	-1.11
2420	21.82	-1.06
2430	22.47	-0.88
2440	21.49	-1.02
2450	21.49	-0.96
2460	21.61	-0.82
2470	21.84	-0.78
2480	20.68	-0.55
2490	20.98	-1.08
2500	20.94	-1.44

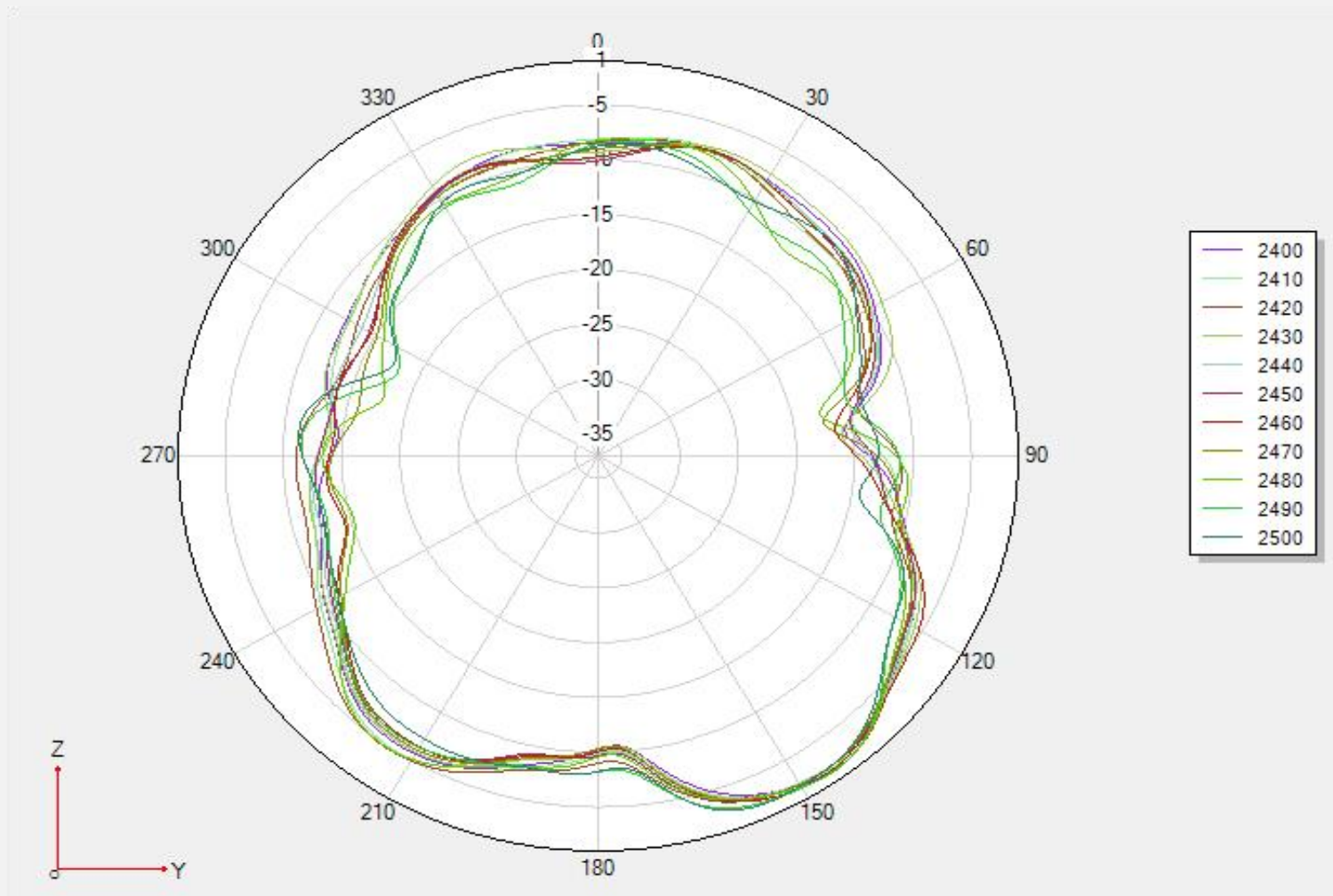
3. Test Result-L

3.3 2D Pattern—BT ANT



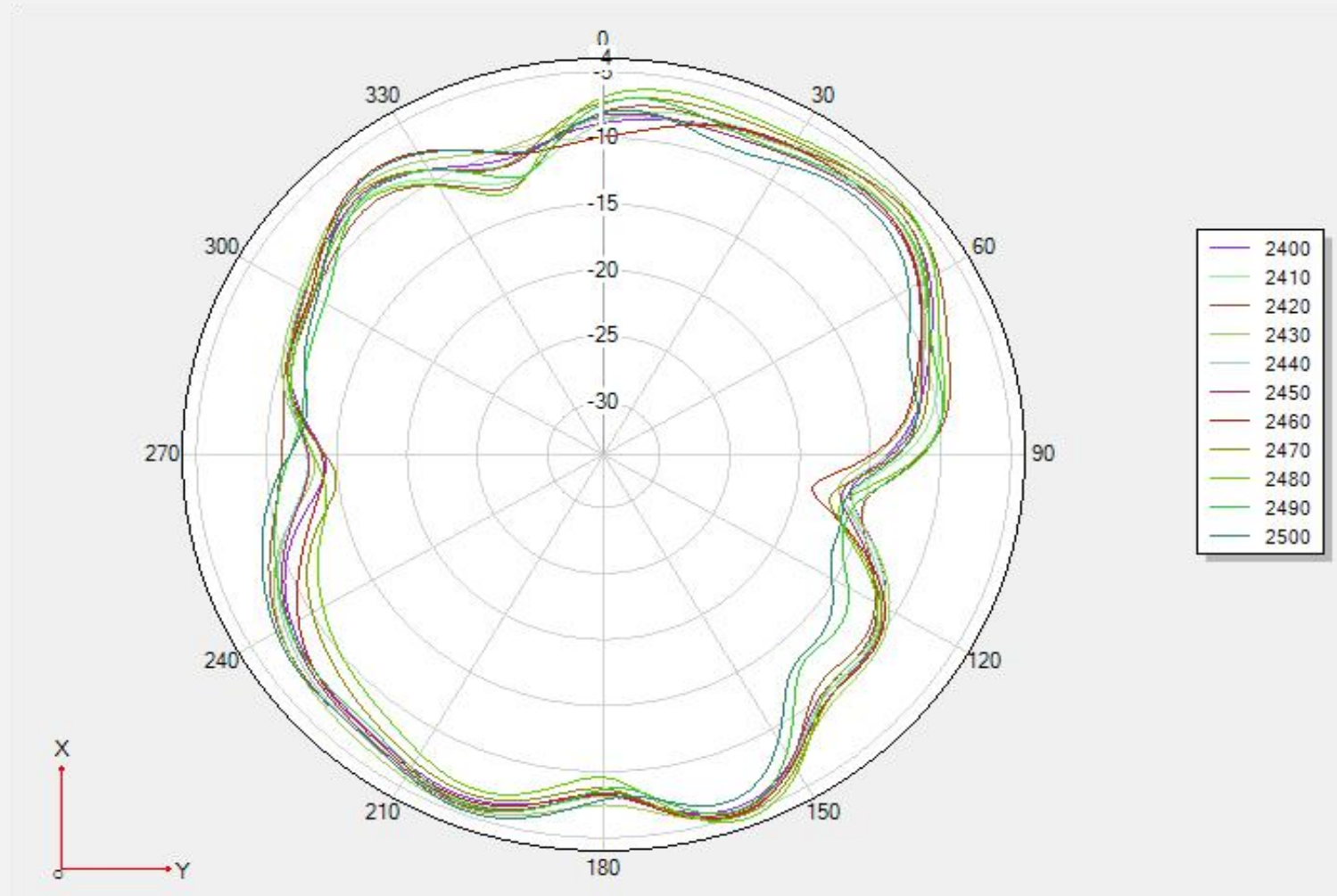
3. Test Result-L

3.3 2D Pattern—BT ANT



3. Test Result-L

3.3 2D Pattern—BT ANT



3.Test Result

3.1 S11 Parameter-VSWR *R*



requeency (MHz)	2400	2450	2480	2500
VSWR	1.51	1.39	1.94	2.30

3. Test Result

3.1 S11 Parameter-Log Mag *R*



Frequency (MHz)	2400	2450	2480	2500
Log Mag	-13.81	-15.70	-9.85	-8.06

3.Test Result

3.1 S11 Parameter-Smith *R*

Tr3 S11 Smith (R+jX) Scale 1.0000 [F1]

1	2.4000000	GHz	39.018 Ω	14.752 Ω	978.25 μH
2	2.4500000	GHz	40.480 Ω	-11.530 Ω	5.6339 pF
3	2.4800000	GHz	29.044 Ω	-15.215 Ω	4.2180 pF
>4	2.5000000	GHz	23.630 Ω	-13.426 Ω	4.7416 pF



Frequency (MHz)	2400	2450	2480	2500
Smith(Ω)	39.01	40.48	29.04	23.63

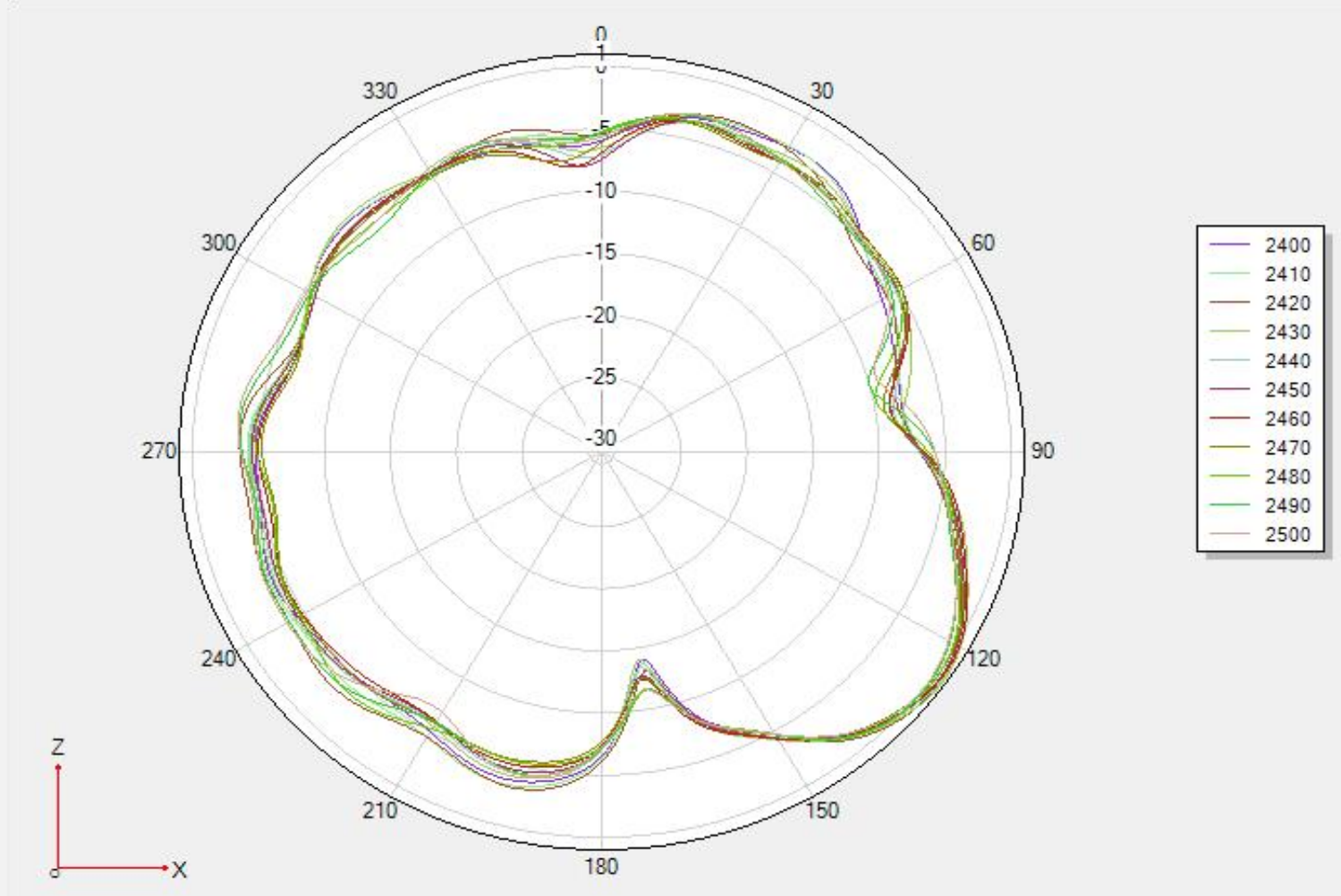
3. Test Result-**R**

3.2 Gain & Efficiency—**ANT**

Frequency (MHz)	Efficiency (%)	Max GAIN (dBi)
2400	24.08	1.16
2410	25.11	1.24
2420	25.51	1.04
2430	25.93	0.97
2440	24.72	0.91
2450	24.26	0.89
2460	23.91	0.44
2470	23.14	0.49
2480	22.22	0.51
2490	22.81	0.15
2500	23.51	0.55

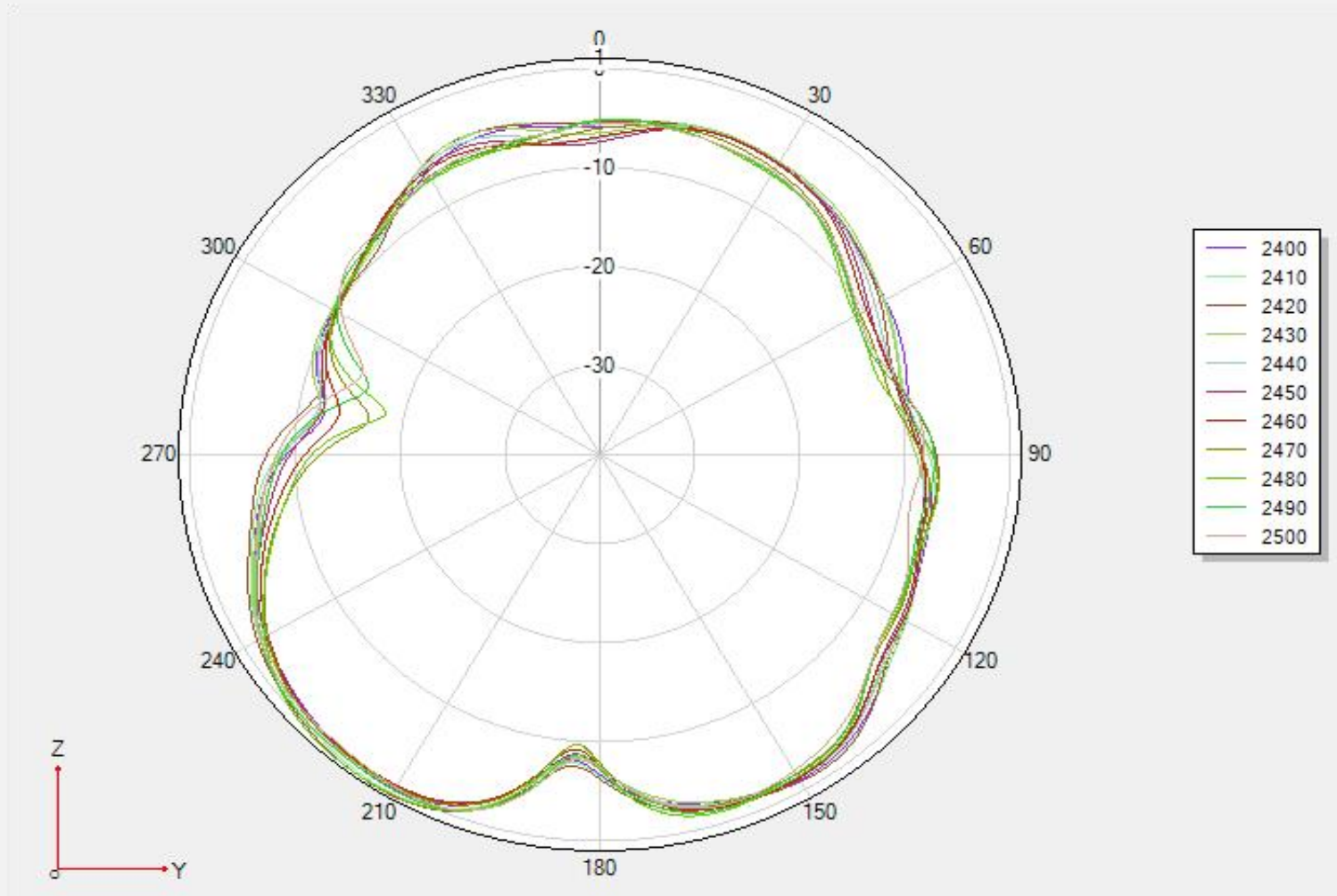
3. Test Result-R

3.3 2D Pattern—BT ANT



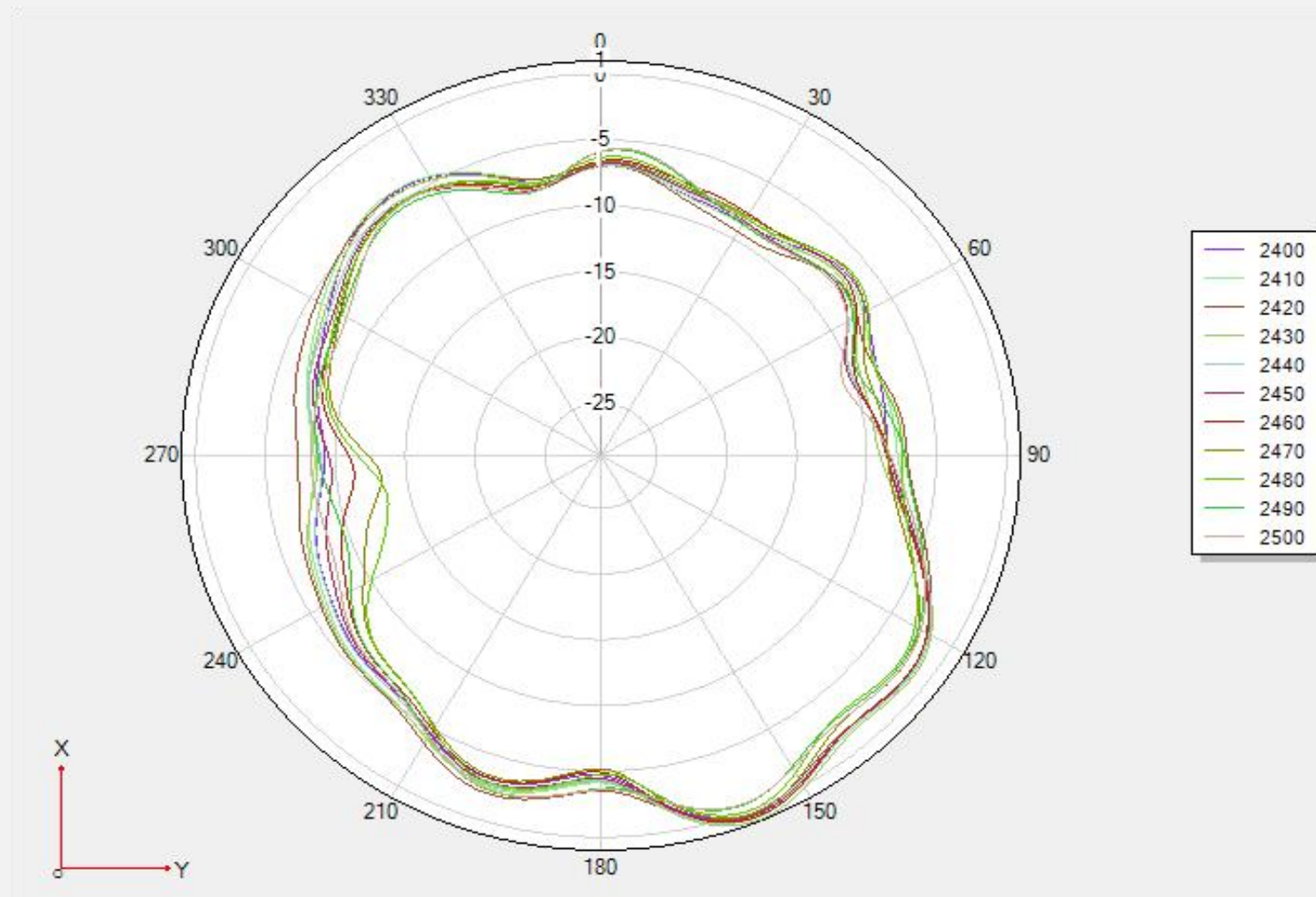
3. Test Result-R

3.3 2D Pattern—BT ANT



3. Test Result-R

3.3 2D Pattern—BT ANT



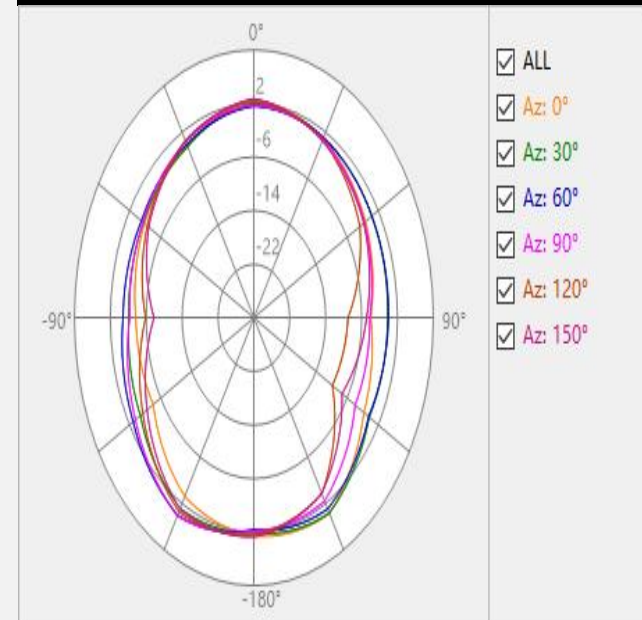
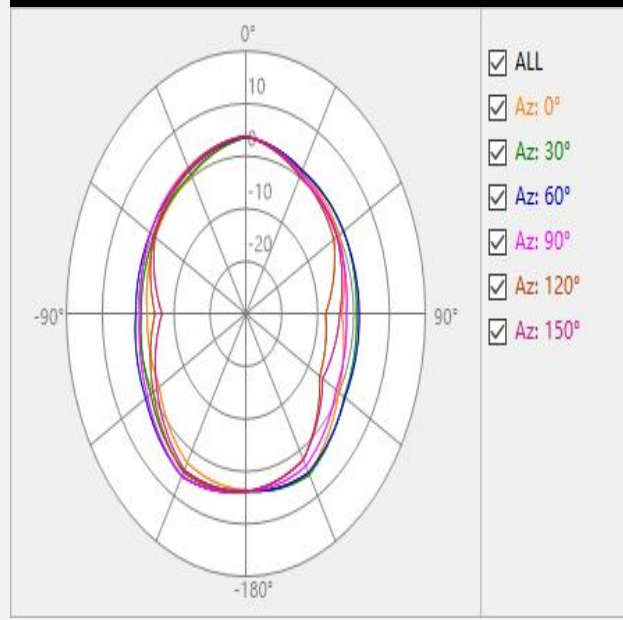
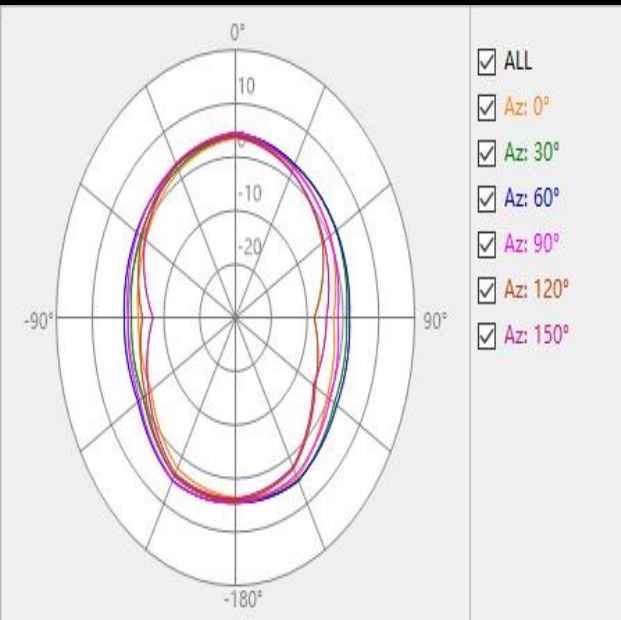
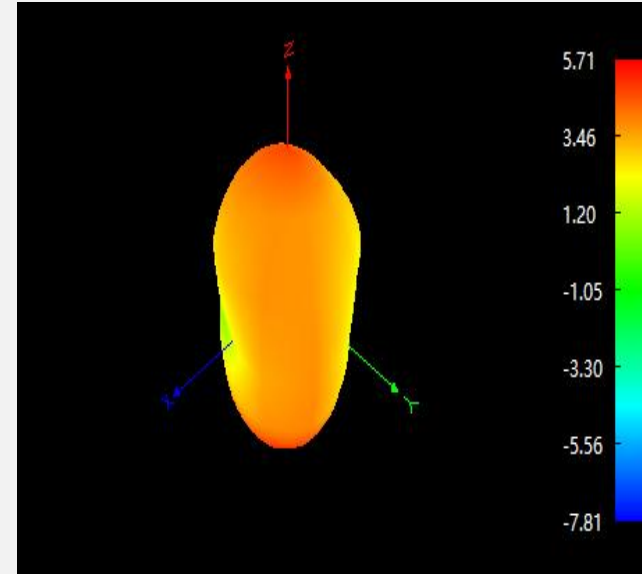
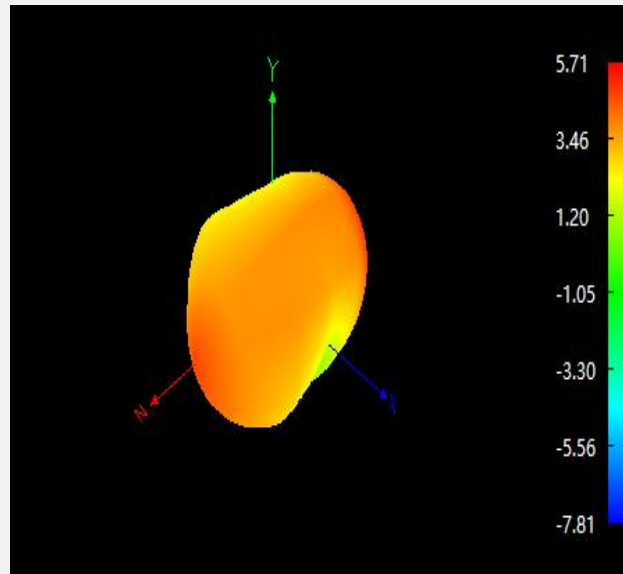
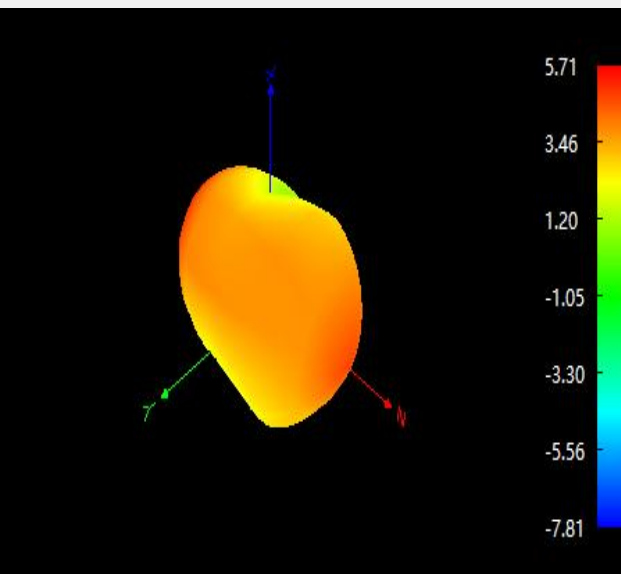
OTA Data

Test Equipment:	R&S CMW500			
Test Condition:	3D chamber			
Band		Channel	TRP(dBm)	TIS(dBm)
BT	L	0	1.72	-83.16
		39	1.45	-83.03
		78	0.05	-81.43
BT	R	0	-0.11	-83.21
		39	1.33	-85.41
		78	0.75	-84.07

3.Test

Result

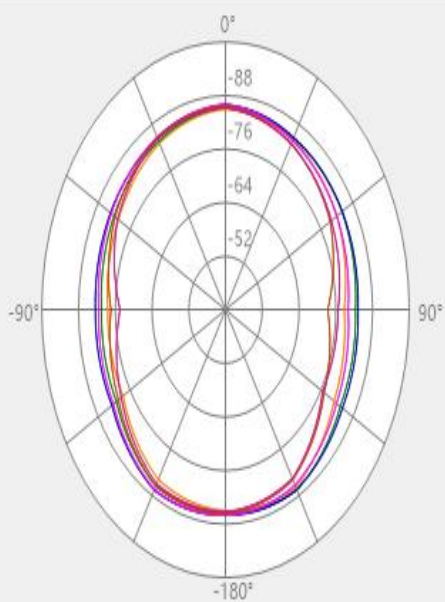
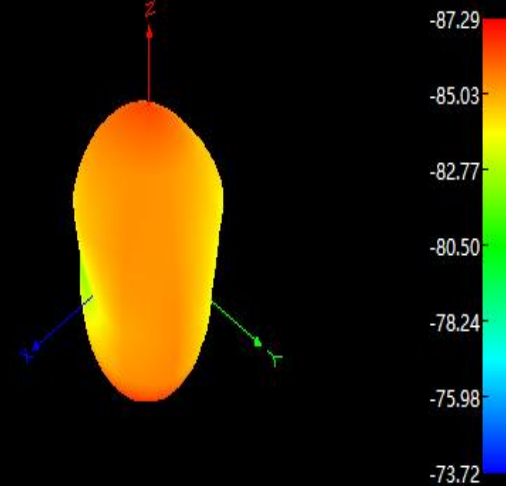
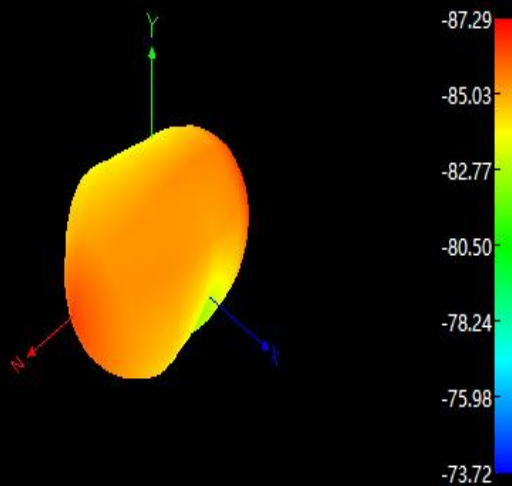
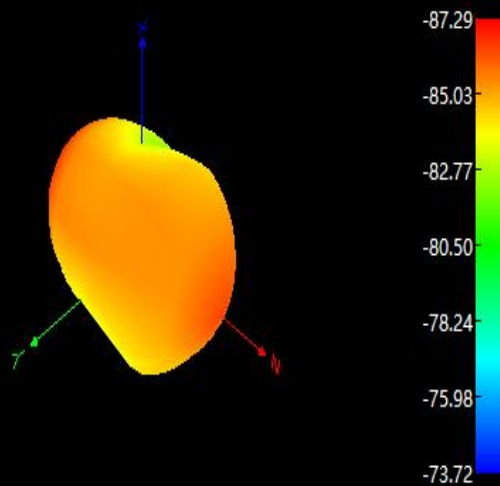
L-TRP



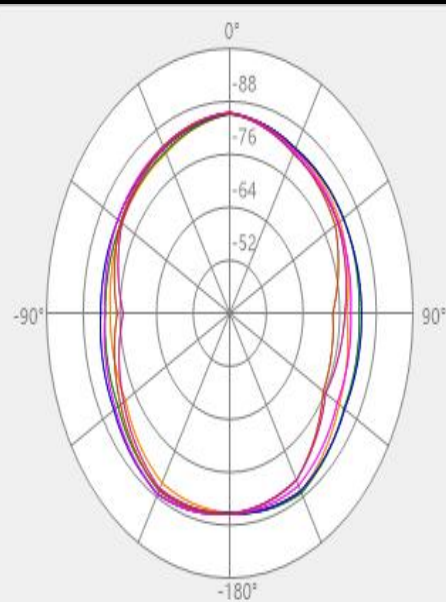
3.Test

Result

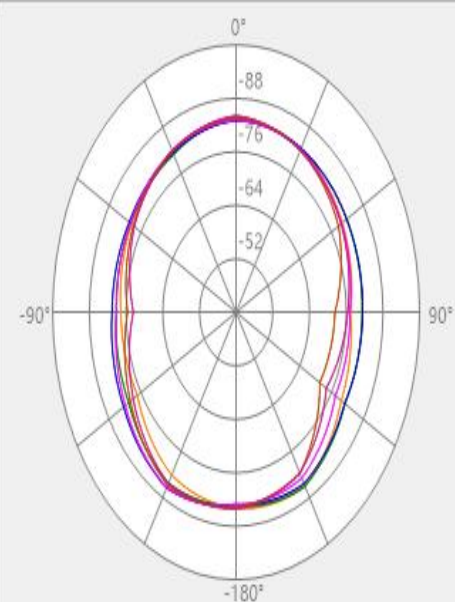
L-TIS



- ☒ ALL
- ☒ Az: 0°
- ☒ Az: 30°
- ☒ Az: 60°
- ☒ Az: 90°
- ☒ Az: 120°
- ☒ Az: 150°



- ☒ ALL
- ☒ Az: 0°
- ☒ Az: 30°
- ☒ Az: 60°
- ☒ Az: 90°
- ☒ Az: 120°
- ☒ Az: 150°

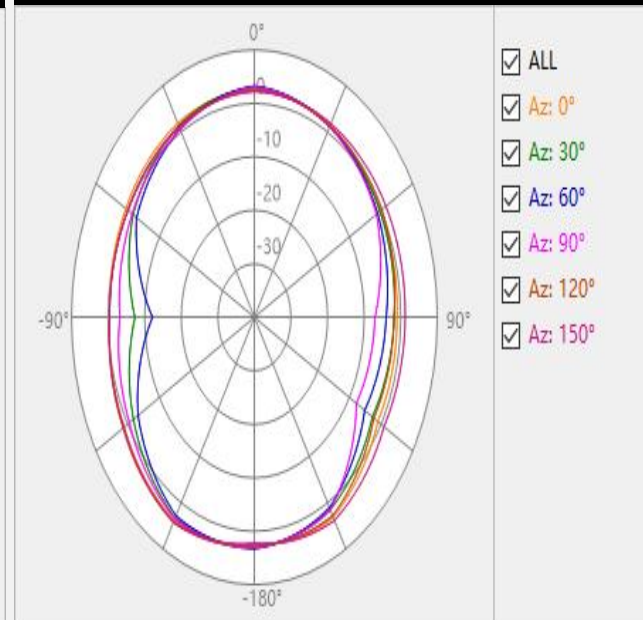
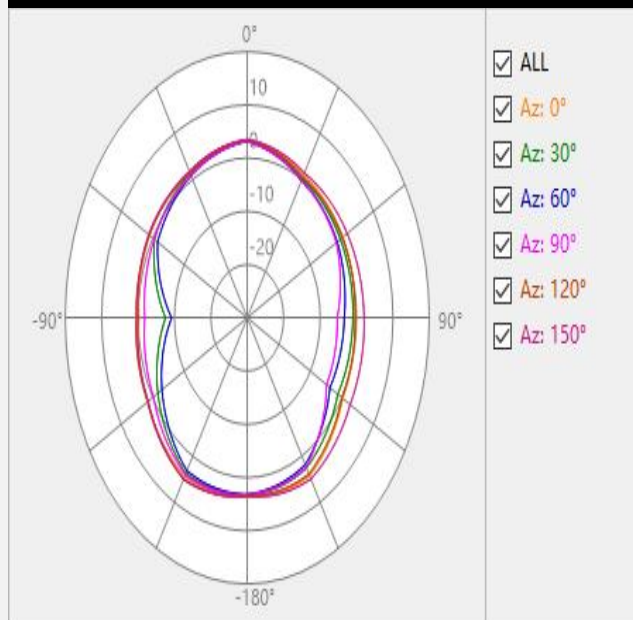
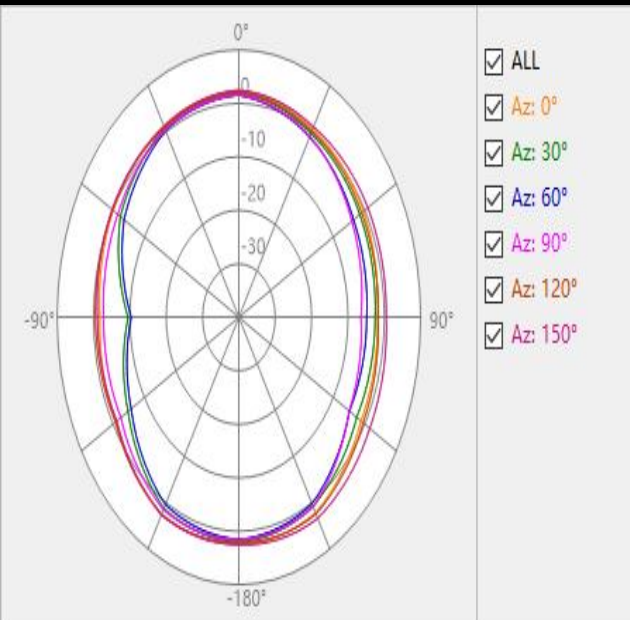
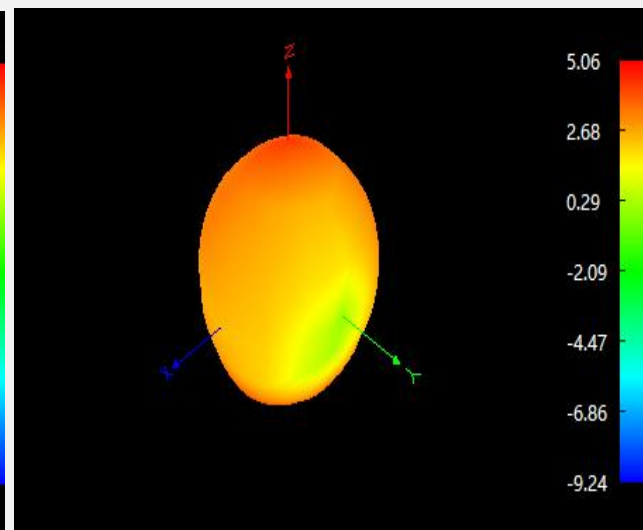
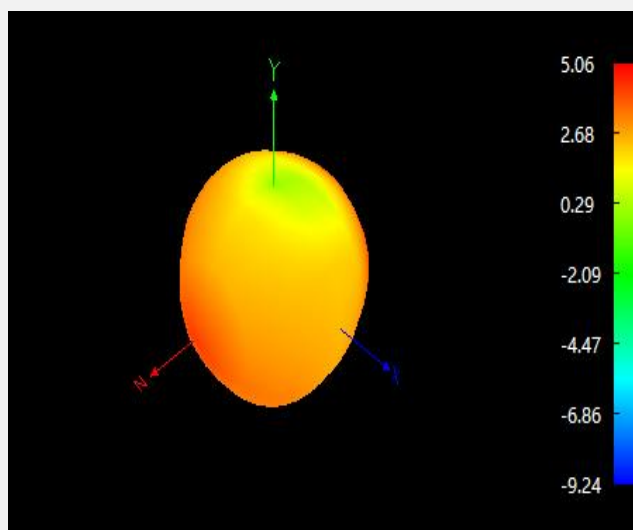
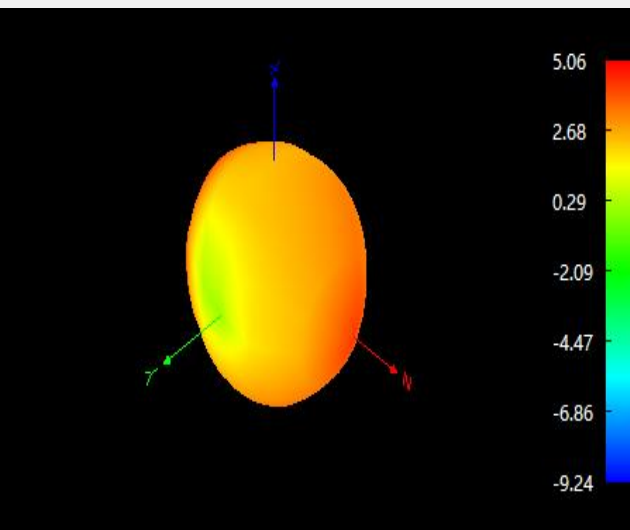


- ☒ ALL
- ☒ Az: 0°
- ☒ Az: 30°
- ☒ Az: 60°
- ☒ Az: 90°
- ☒ Az: 120°
- ☒ Az: 150°

3.Test

Result

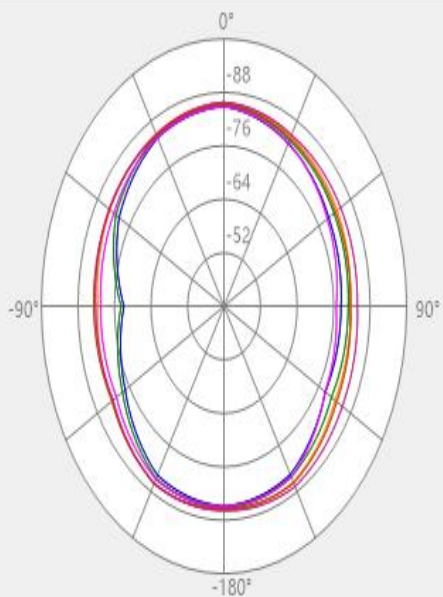
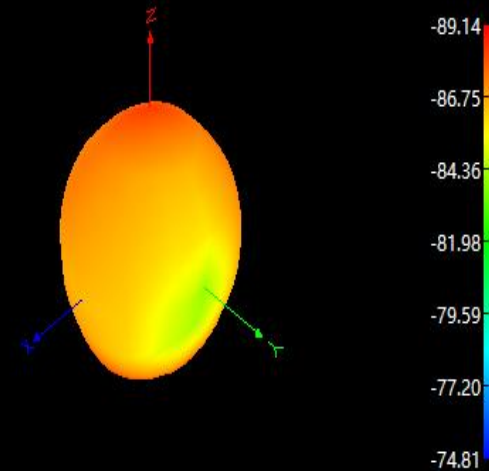
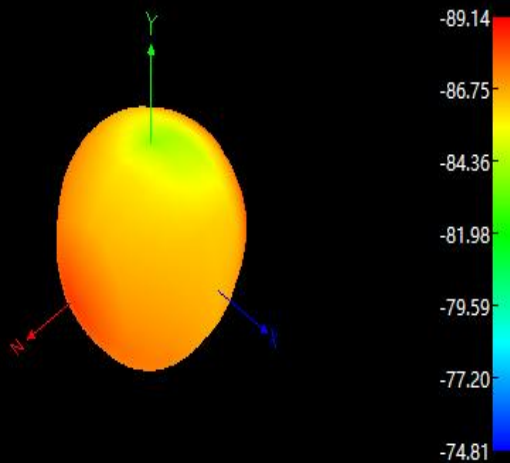
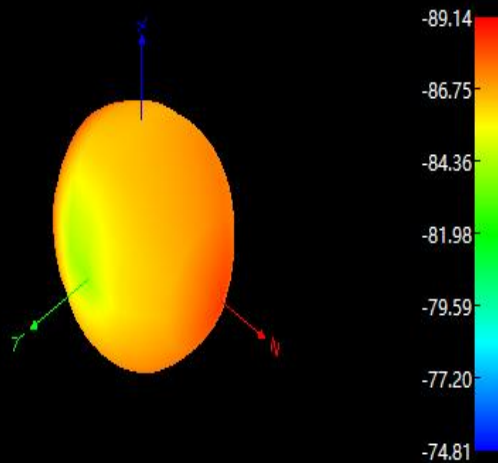
R-TRP



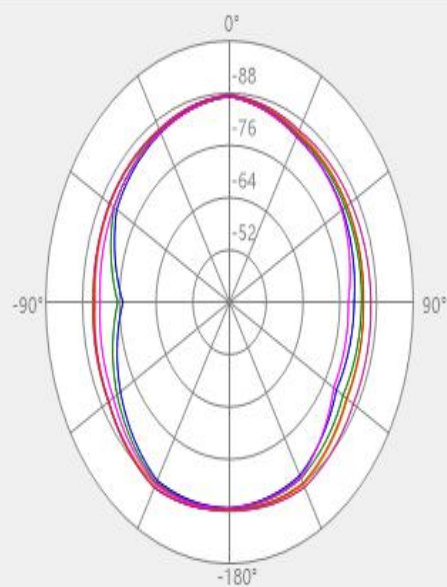
3. Test

Result

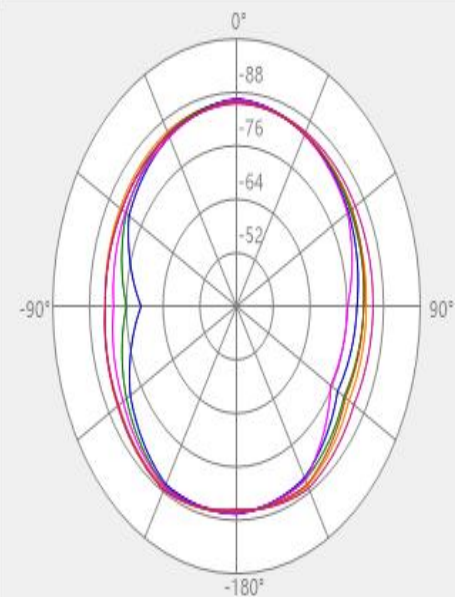
R-TIS



- ☒ ALL
- ☒ Az: 0°
- ☒ Az: 30°
- ☒ Az: 60°
- ☒ Az: 90°
- ☒ Az: 120°
- ☒ Az: 150°



- ☒ ALL
- ☒ Az: 0°
- ☒ Az: 30°
- ☒ Az: 60°
- ☒ Az: 90°
- ☒ Az: 120°
- ☒ Az: 150°



- ☒ ALL
- ☒ Az: 0°
- ☒ Az: 30°
- ☒ Az: 60°
- ☒ Az: 90°
- ☒ Az: 120°
- ☒ Az: 150°

Thank you!