



Antenna Test Report

Shenzhen Helixun Technology Co., Ltd.

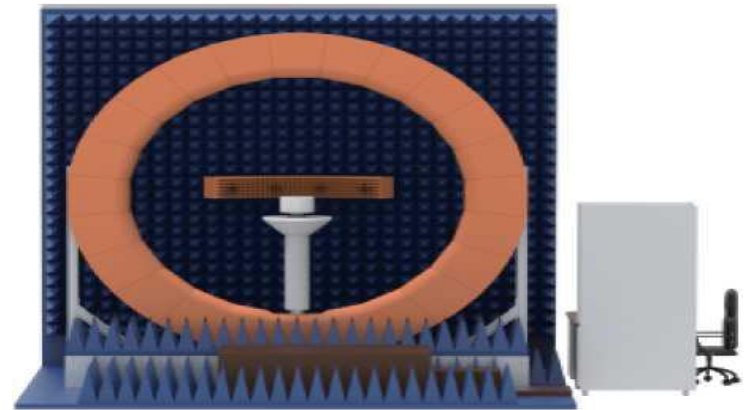
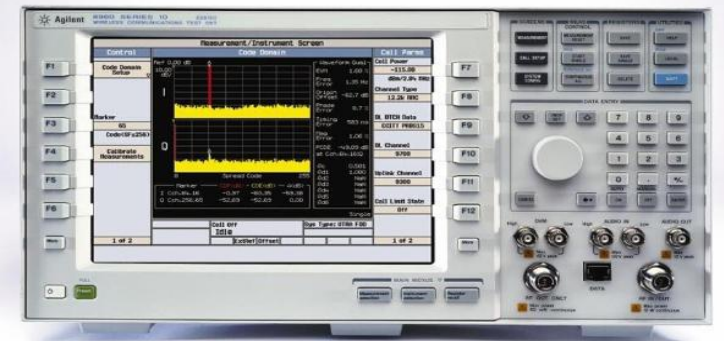
Room 1905, Building 2, Jiufang Square, Tiezi Road, Gongle Community, Xixiang Subdistrict, Bao'an District, Shenzhen City



Customer	天翼
Project	KH2091
Antenna Revision	A0
Prepared by	18814303605
Checked by	
Date :	2025. 09. 19

2. 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



Purpose

This report is to measure the performance of antenna for **KH2091** The antenna operating frequency at 2400MHz-2500MHz 。 All test data are showed as below.

Content

1. Product Overview & Dimension

2. Test system

3. Test Result

3.1 *S11* Parameter

3.2 *Gain & Efficiency*

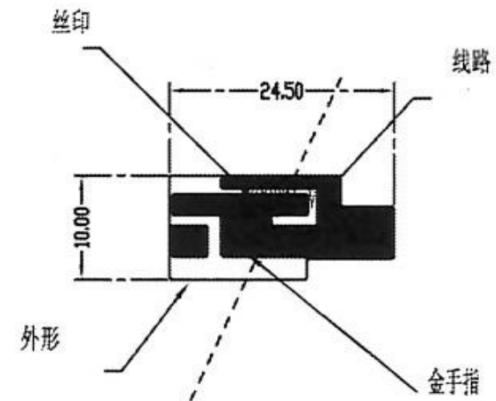
3.3 2D Pattern

4. OTA

4.1 Test Result

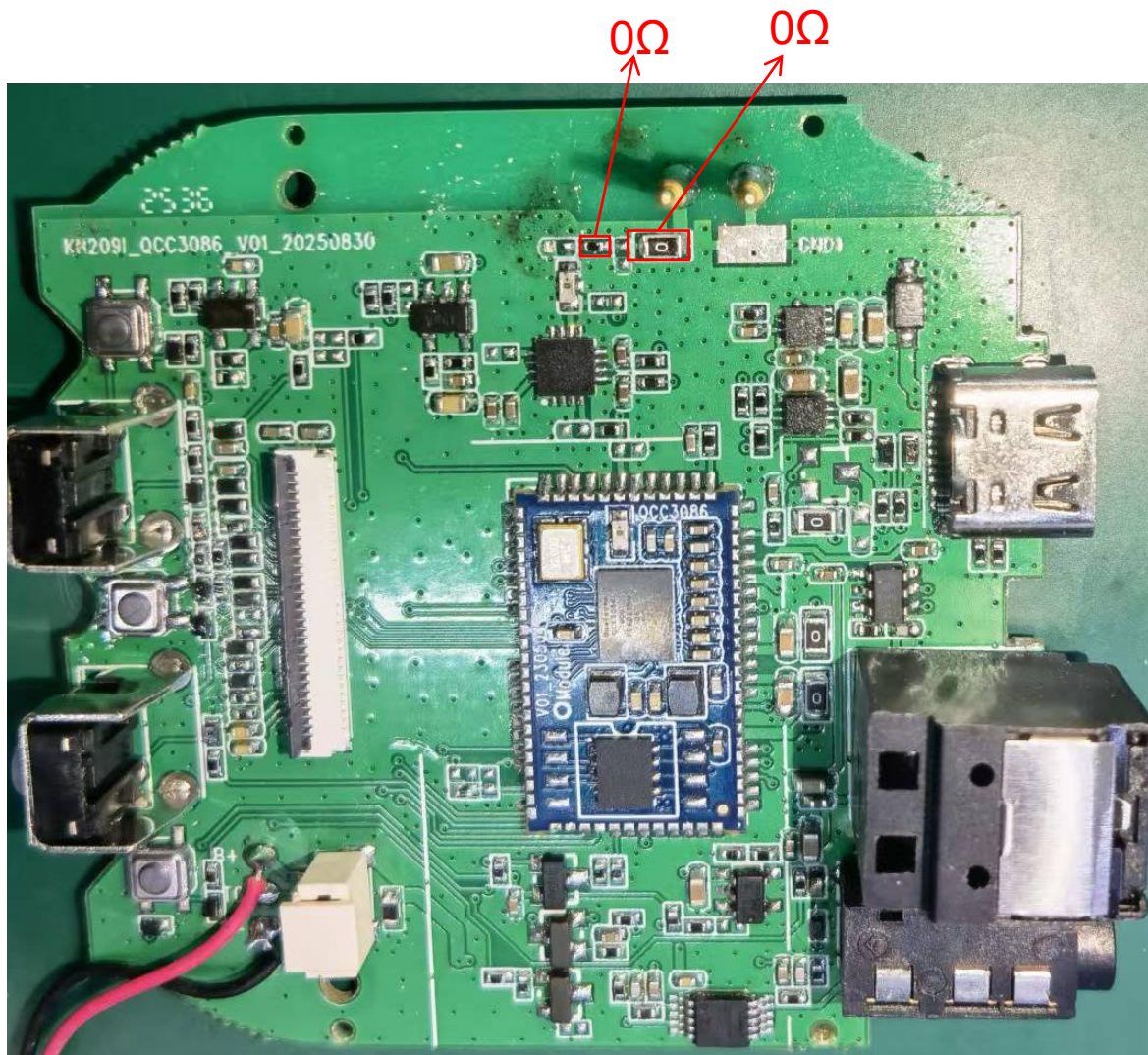
4.2 2D Pattern

5. Size



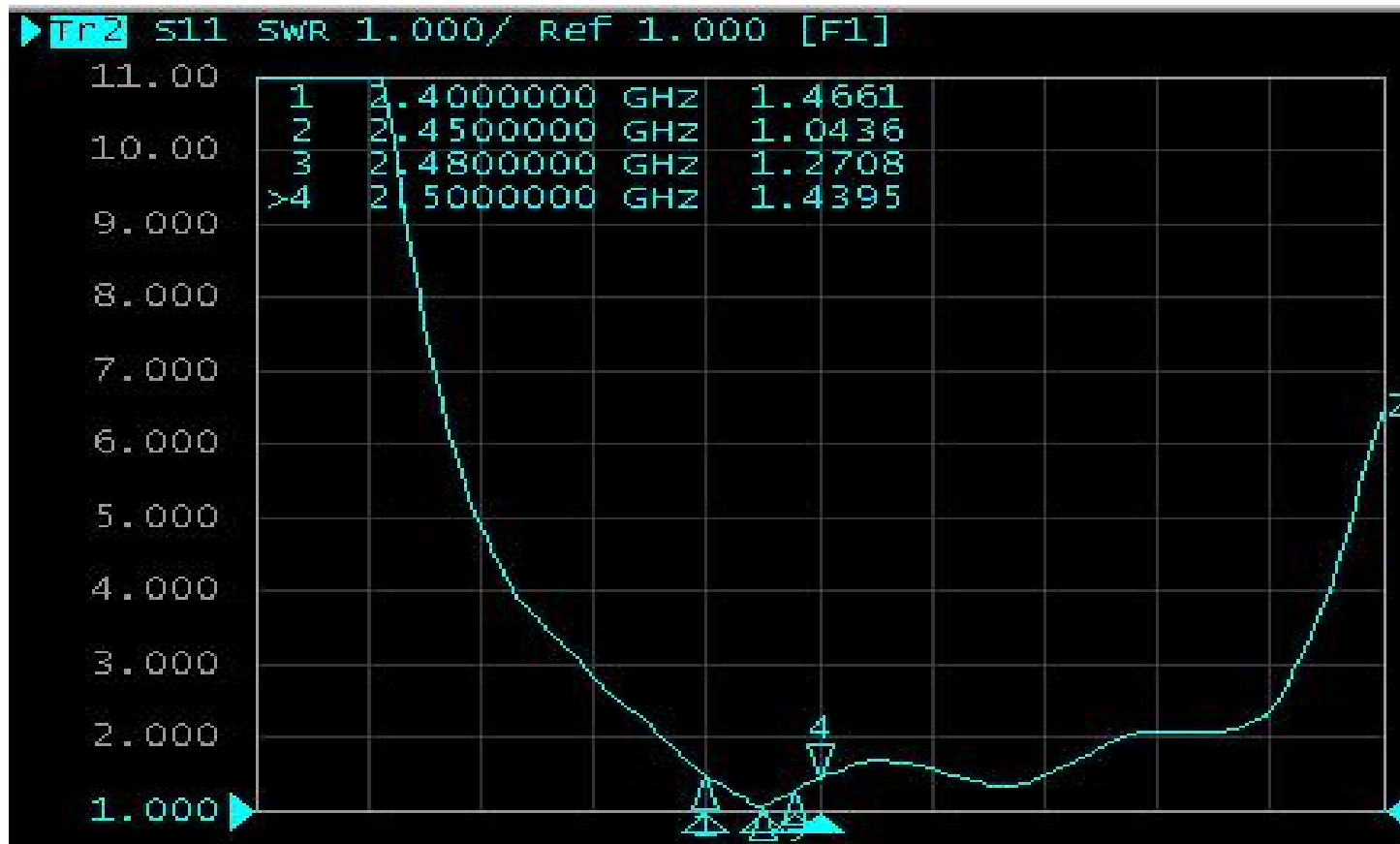


匹配图



3.1 Test Result

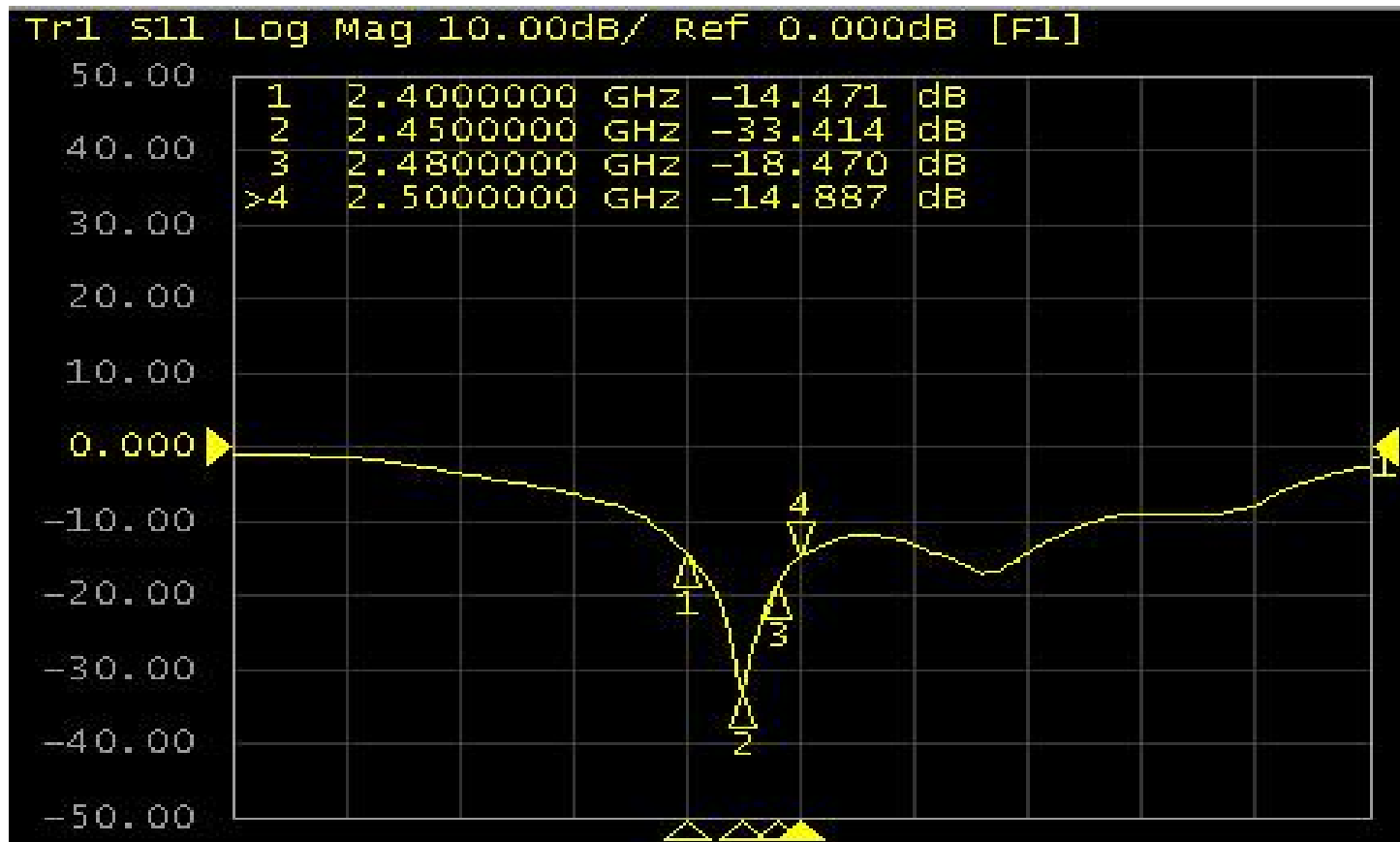
1 .S11 Parameter-VSWR



Frequency (MHz)	2400	2450	2480	2500
VSWR	1.46	1.04	1.27	1.43

3.1 Test Result

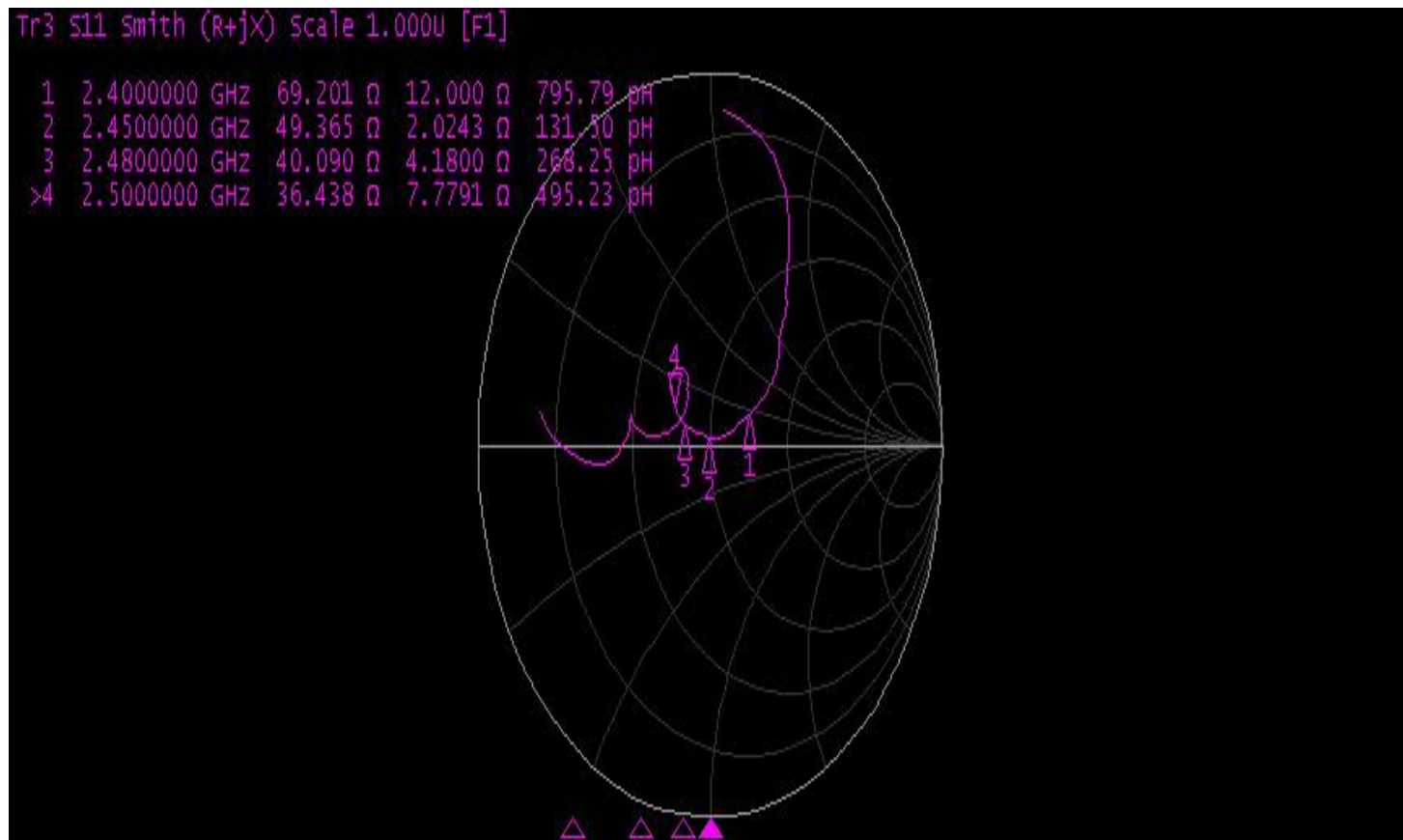
2. S11 Parameter-Log Mag



Frequency (MHz)	2400	2450	2480	2500
Log Mag	-14.47	-33.41	-18.47	-14.88

3.1 Test Result

3.S11 Parameter-Smith



Frequency (MHz)	2400	2450	2480	2500
Smith(Ω)	69.21	49.36	40.09	36.43

3.2 Test Result

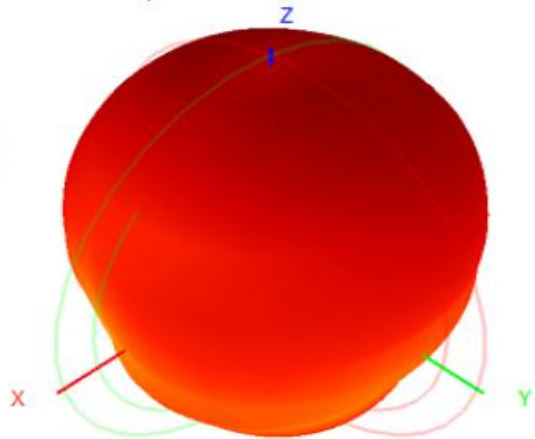
1 Gain & Efficiency—**ANT**

Frequency (MHz)	Efficiency (%)	Peak GAIN (dBi)
2400	44.61%	-0.06
2410	45.52%	0.09
2420	46.48%	0.25
2430	47.79%	0.46
2440	48.80%	0.47
2450	49.09%	0.54
2460	49.27%	0.73
2470	49.09%	0.94
2480	48.56%	0.91

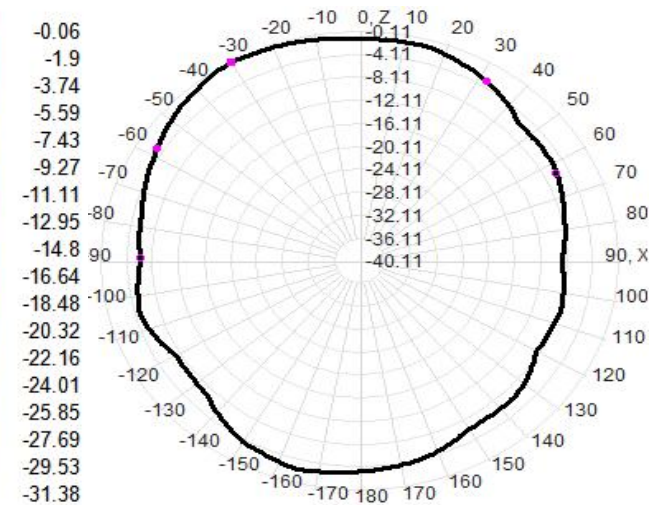
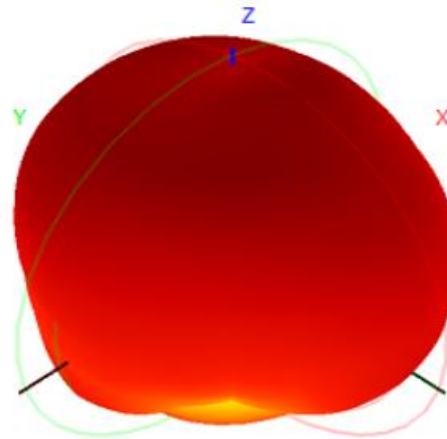
3.3 Test Result

1 2D Pattern——BTANT

2400.0MHz Total, Eff. 44.6%



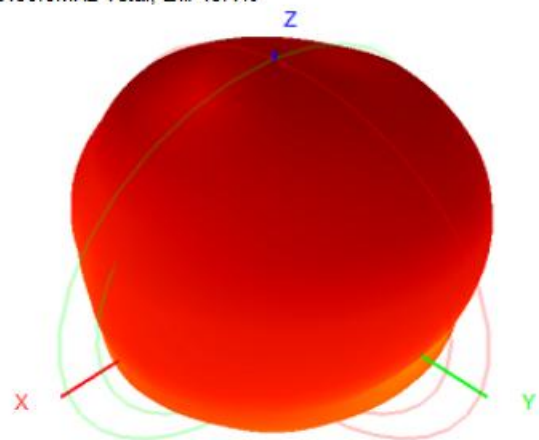
Back View



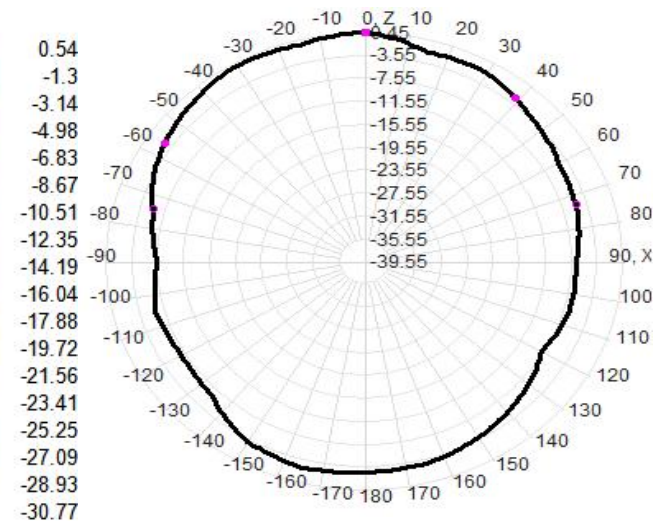
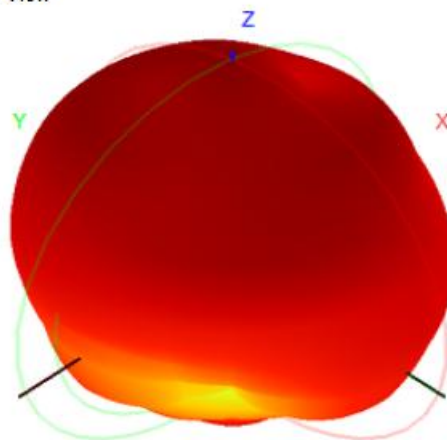
3.3 Test Result

2 2D Pattern—BTANT

2450.0MHz Total, Eff. 49.1%



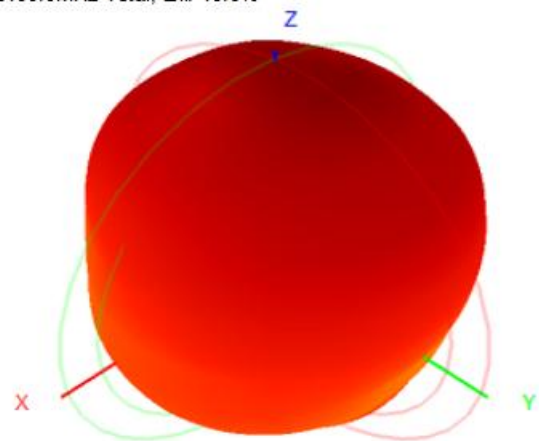
Back View



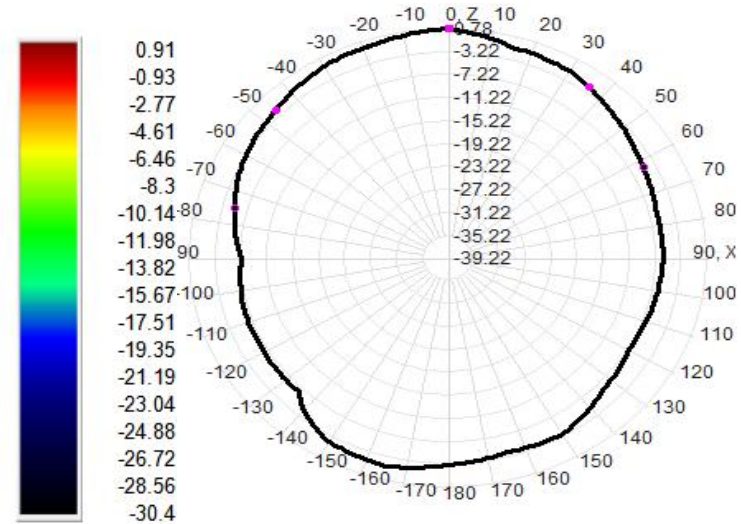
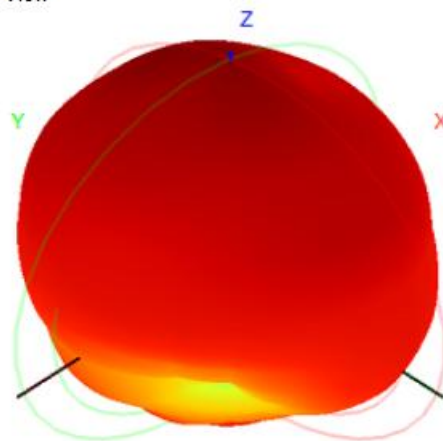
3.3 Test Result

3 2D Pattern—BTANT

2480.0MHz Total, Eff. 48.6%



Back View



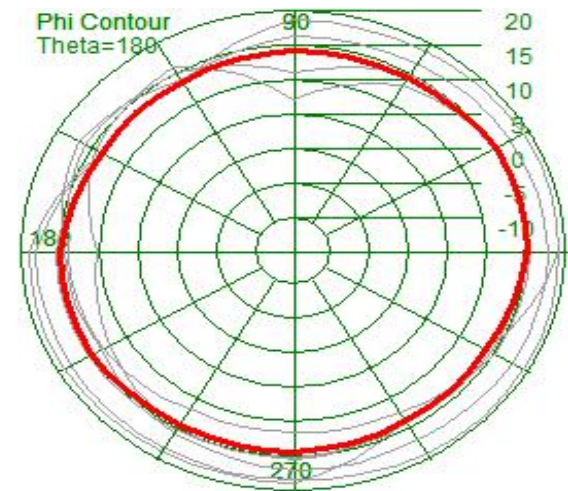
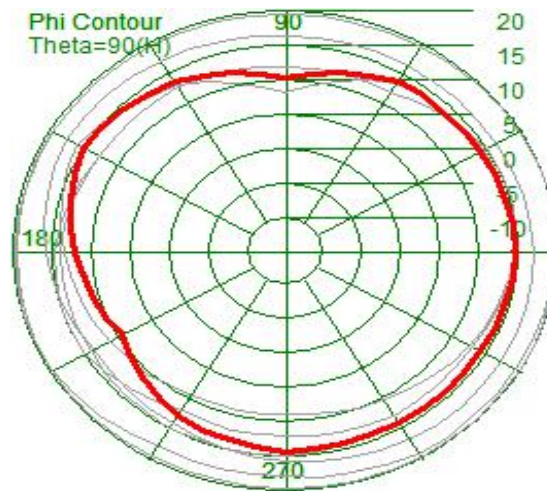
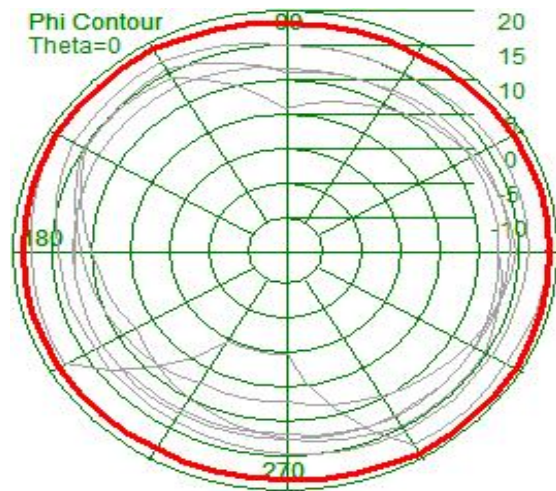
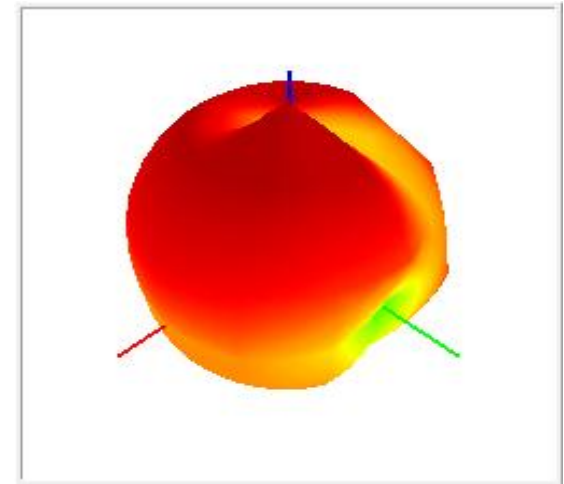
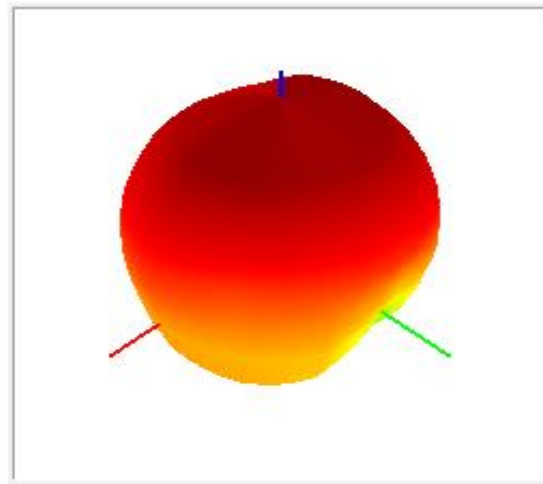
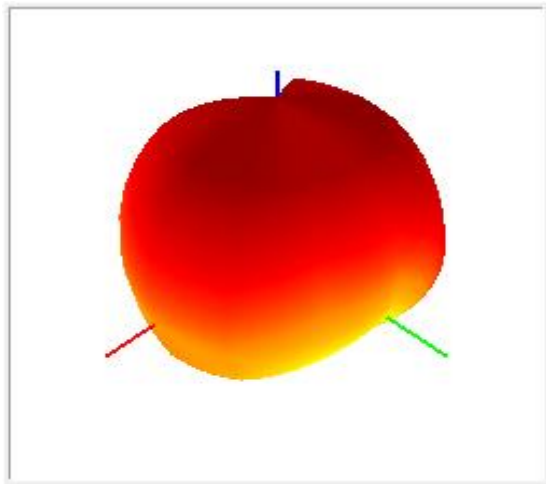
4.1 OTA Data

Test Equipment:	R&S CMW500		
Test Condition:	2 D chamber		
Band	Channel	TRP(dBm)	TIS(dBm)
BT	0	14.04	-89.61
	39	15.20	-91.17
	78	15.25	-91.71

4.2 Test Result

1 2D Pattern——**BTANT**

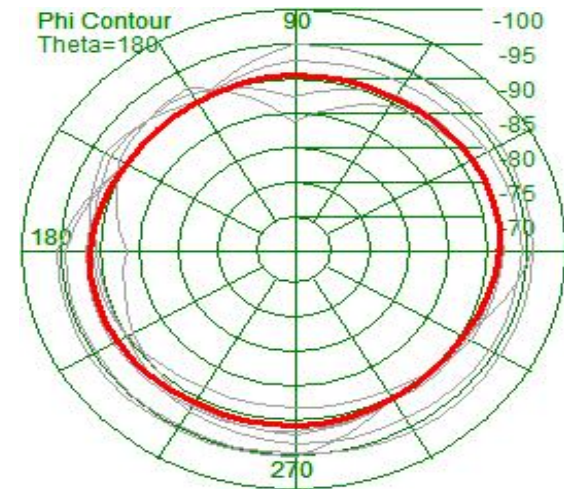
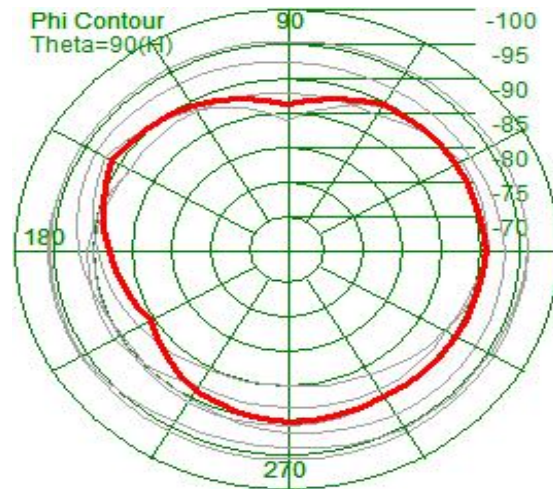
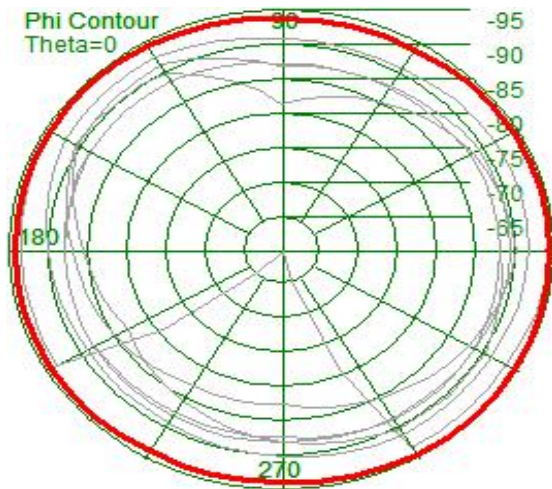
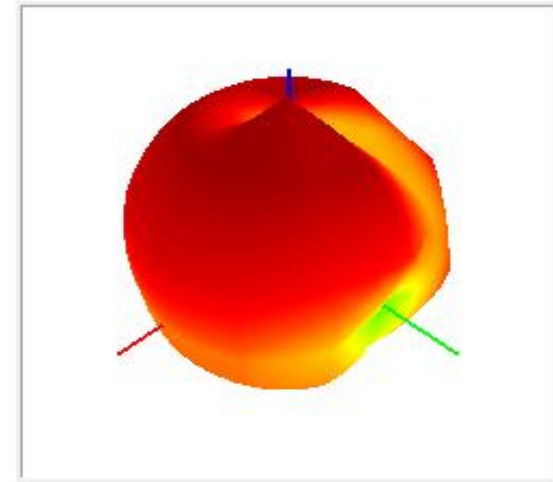
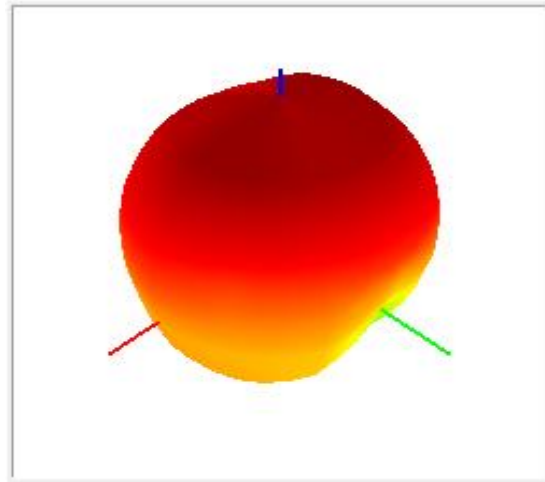
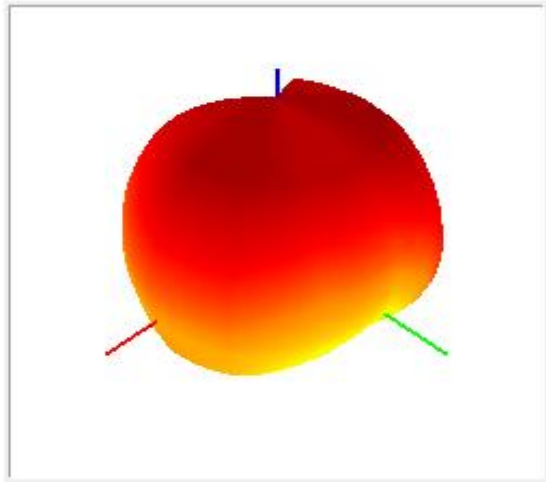
TRP



4.2 Test Result

2 2D Pattern——**BTANT**

TIS



Thank you!