



Customer	新联芯
Project	R1399A
Antenna Revision	A0
Prepared by	18814303605
Checked by	
Date :	2024. 12. 12

2.TestSystem

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



Purpose

This report is to measure the performance of antenna for **R1345A**. 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
4. Test Result

4.1 S11 Parameter-VSWR

4.2 Gain & Efficiency

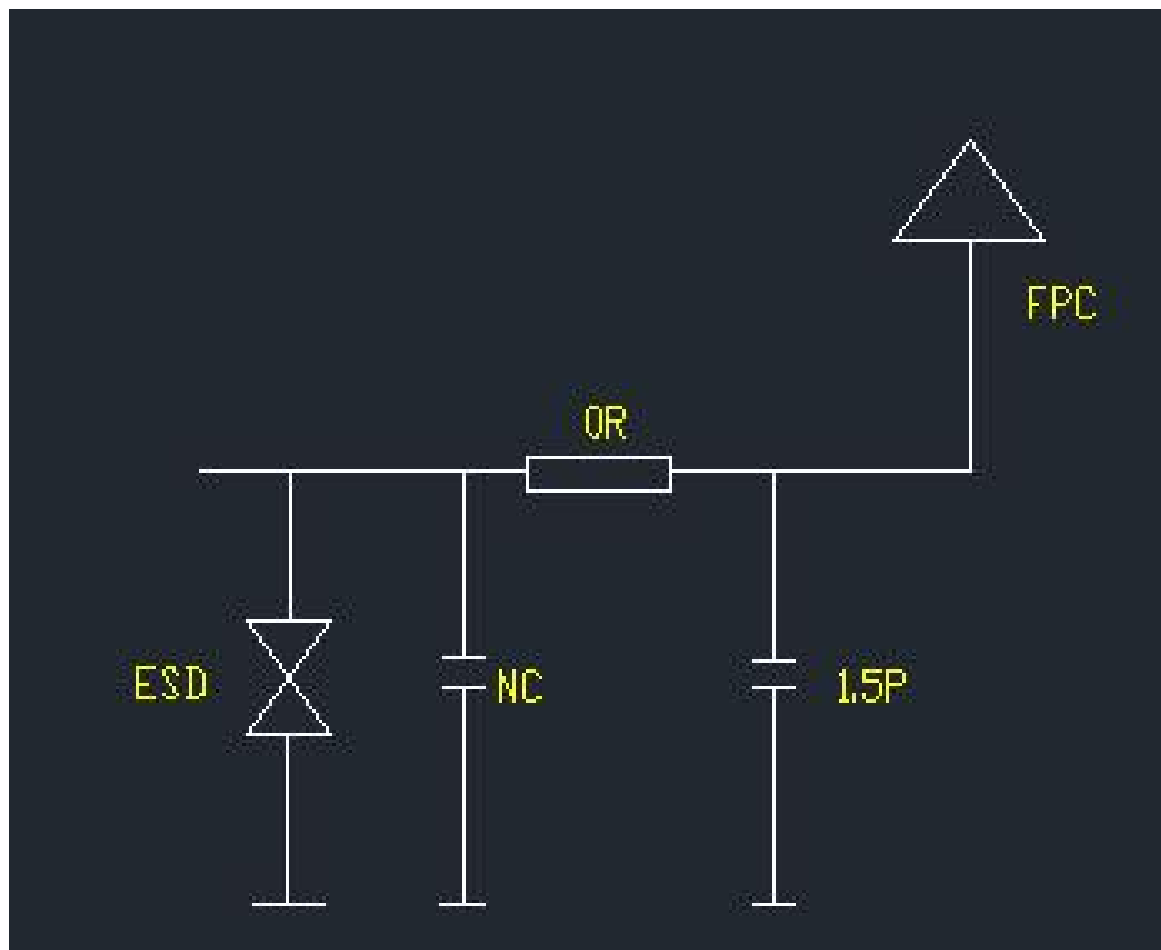
4.3 Test coordinate

4.4 2D Pattern

4.5 OTA

匹配图

L+R



4. Test Result

4.1 S11 Parameter-VSWR

L



Frequency (MHz)	2400	2450	2480	2500
VSWR	1.84	1.13	1.76	2.37

4. Test Result

L

4.1 S11 Parameter-Log Mag

Tr1 S11 Log Mag 10.00dB/ Ref 0.000dB [F1]



Frequency (MHz)	2400	2450	2480	2500
Log Mag	-10.55	-24.13	-11.18	-7.78

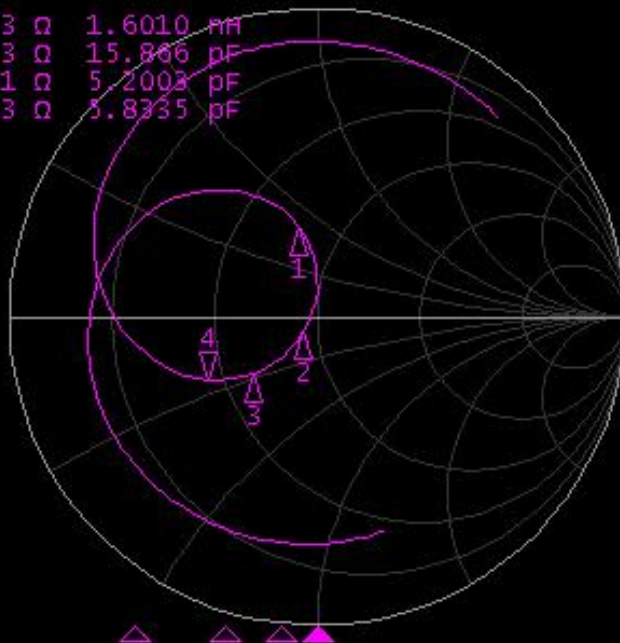
4. Test Result

4.1 S11 Parameter-VSWR

L

Tr3 S11 Smith (R+jX) scale 1.000u [F1]

Point	Frequency (GHz)	Real (Ω)	Imag (Ω)	Value
1	2.4000000	37.838	24.143	1.6010 nH
2	2.4500000	45.681	-4.0943	15.866 pF
3	2.4800000	31.052	-12.341	5.2003 pF
4	2.5000000	22.250	-10.913	5.8335 pF



1 Start 2 GHz

IFBW 70 kHz

Stop 3 GHz Sim Cor

Hold Stop ExtRef Svc

Frequency (MHz)	2400	2450	2480	2500
Smi th(Ω)	37.83	45.68	31.05	22.25

4. Test Result

4.2 Gain & Efficiency—**ANT**

L

Frequency (MHz)	Efficiency (%)	Gain (dBi)
2400	36.12 %	-0.59
2410	36.21 %	-0.63
2420	37.24 %	-0.30
2430	38.97 %	0.39
2440	40.08 %	0.97
2450	40.88 %	1.29
2460	41.74 %	1.32
2470	40.63 %	1.08
2480	38.68 %	0.68

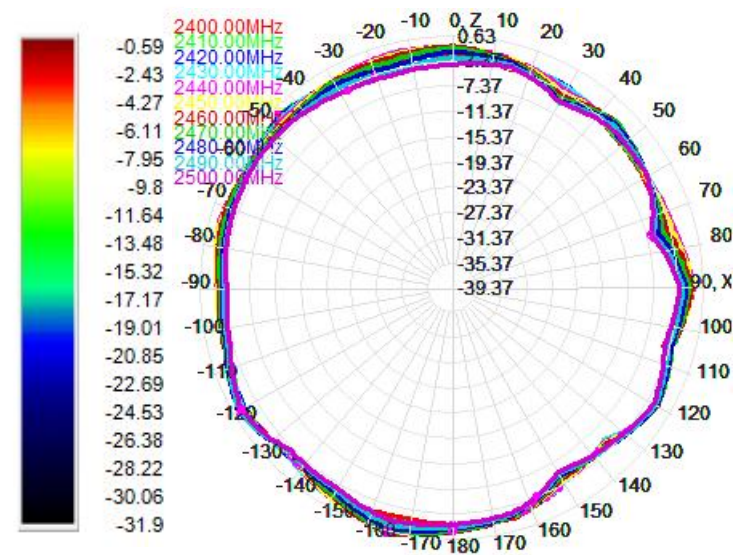
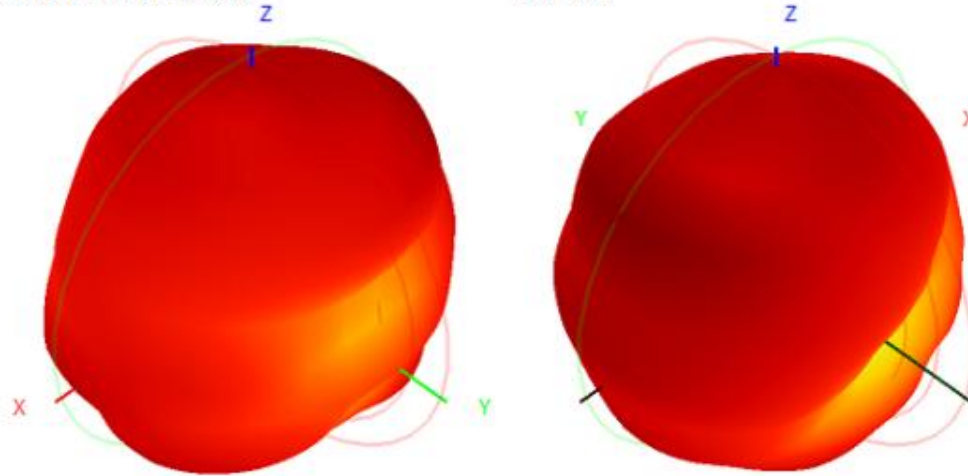
4. Test Result

4.3 2D Pattern—BTANT

L

2400.0MHz Total, Eff: 36.1%

Back View



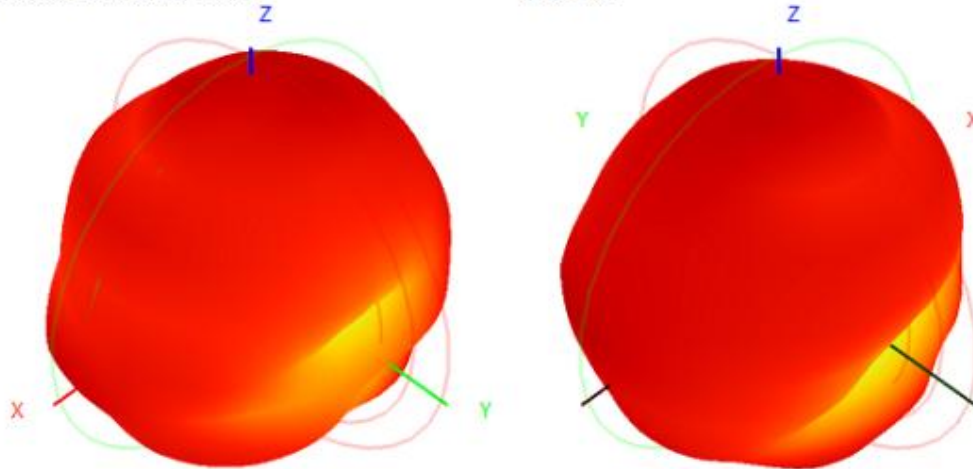
4. Test Result

4.3 2D Pattern—BTANT

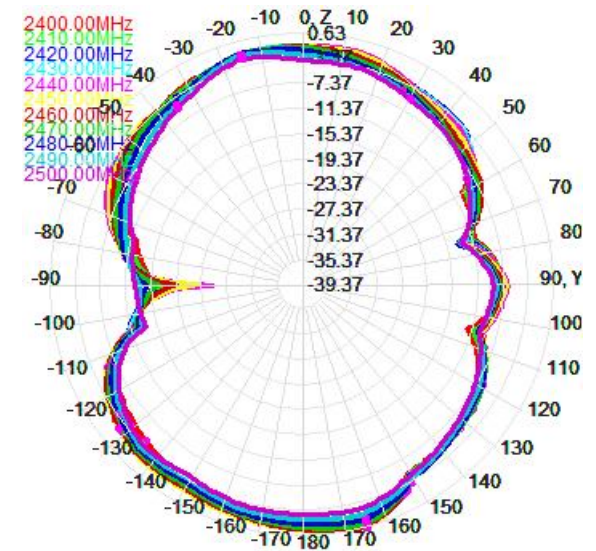
L

2450.0MHz Total, Eff: 40.9%

Back View



1.29
-0.56
-2.4
-4.24
-6.08
-7.92
-9.77
-11.61
-13.45
-15.29
-17.13
-18.98
-20.82
-22.66
-24.5
-26.34
-28.19
-30.03



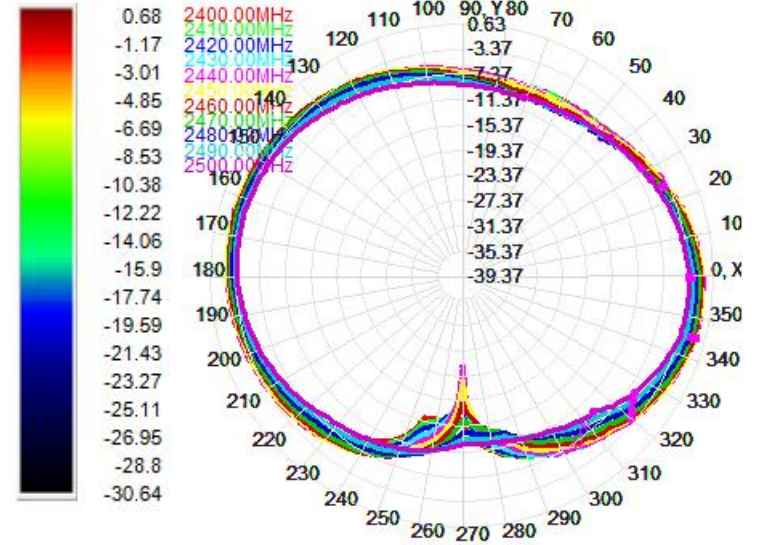
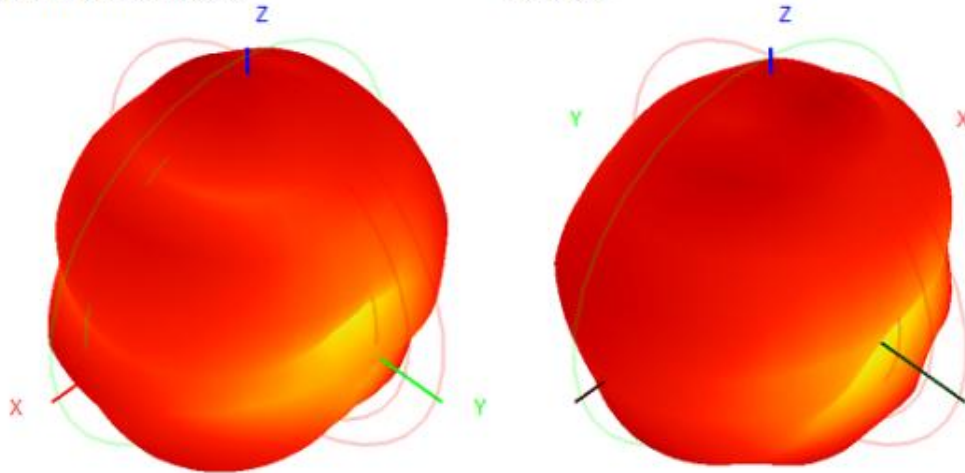
4. Test Result

4.3 2D Pattern—BTANT

L

2480.0MHz Total, Eff: 38.7%

Back View



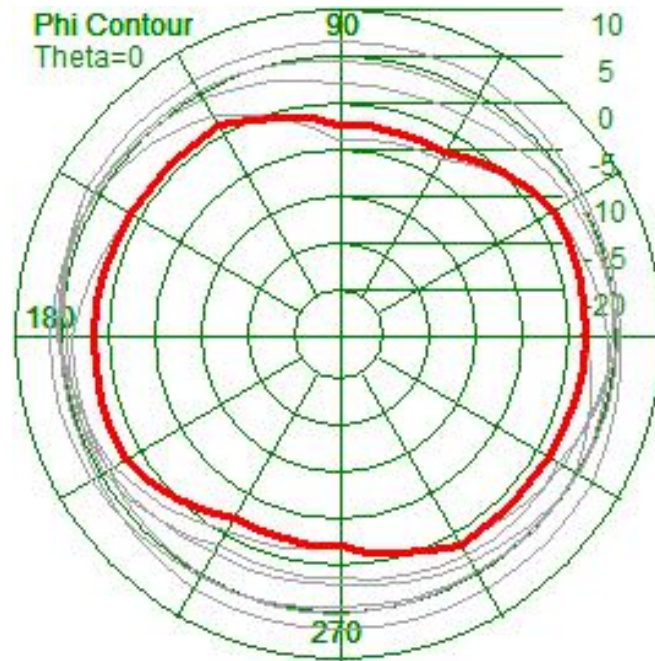
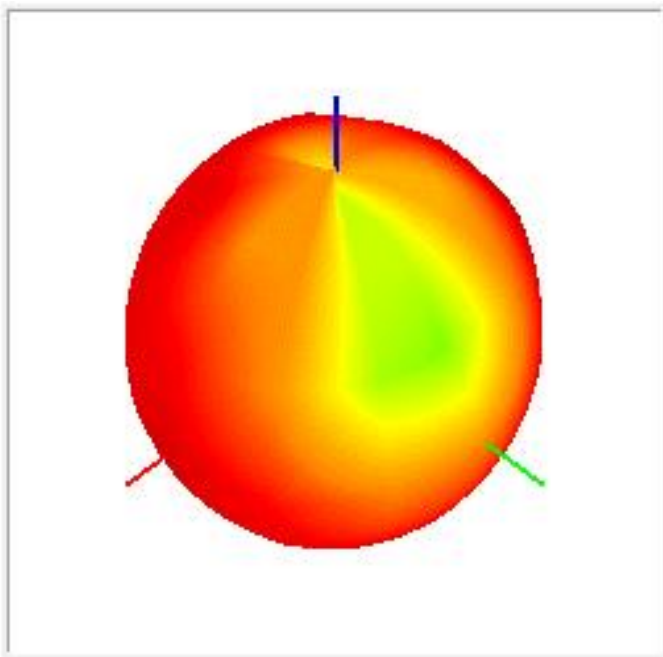
4.5 OTA Data

Test Equipment:	R&S CMW500		
Test Condition:	2 D chamber		
Band	Channel	TRP(dBm)	TIS(dBm)
BT-L	0	3.14	-88.16
	39	3.45	-89.07
	78	3.26	-89.86

4. Test Result

4.4 2D Pattern_____ **BTANT**

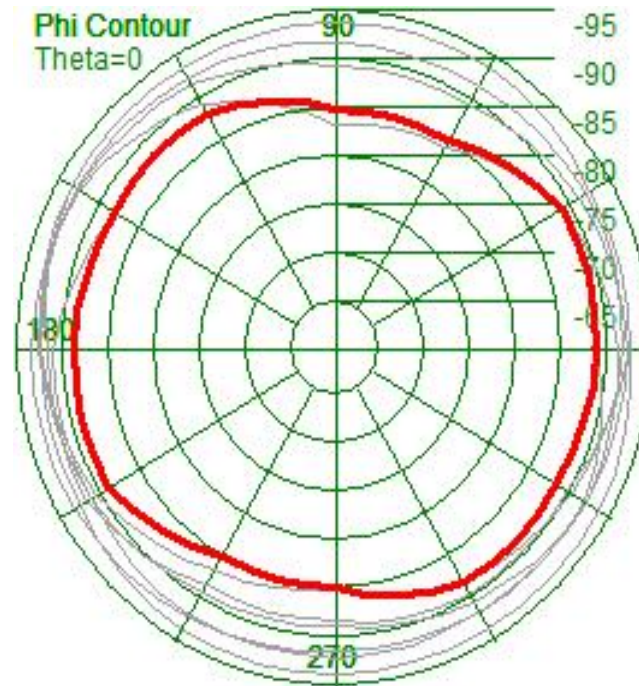
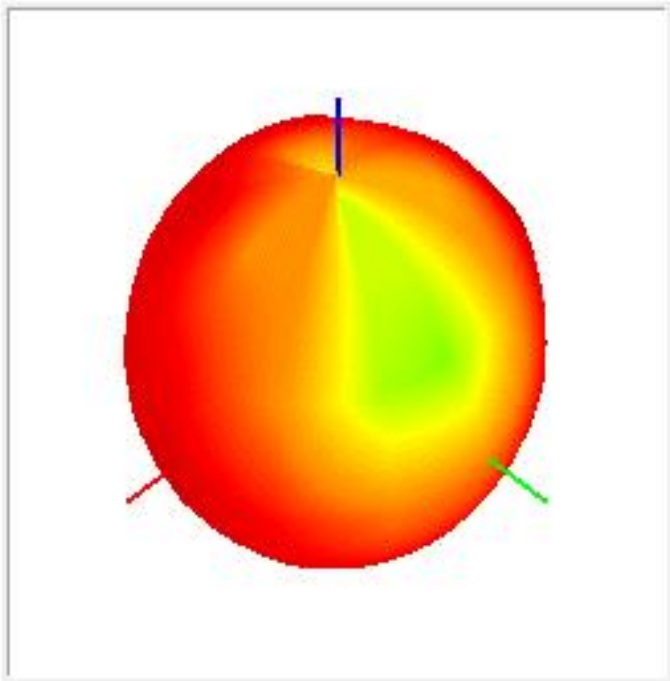
TRP



4. Test Result

4.4 2D Pattern_____BTANT

TIS



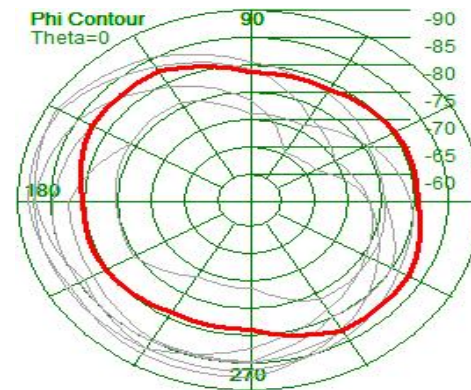
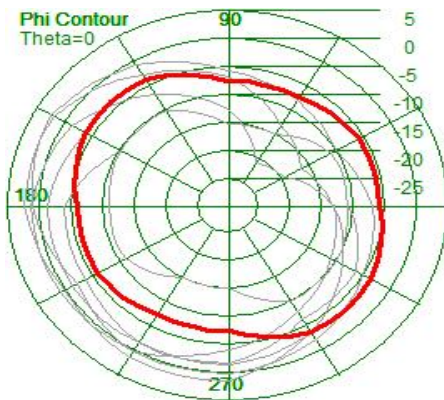
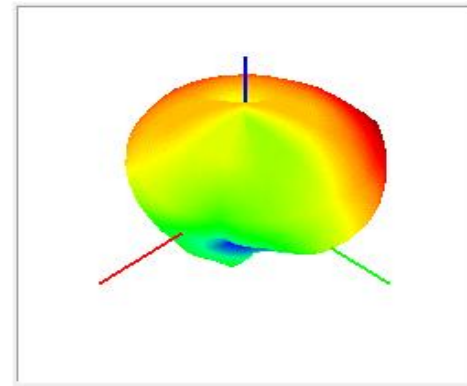
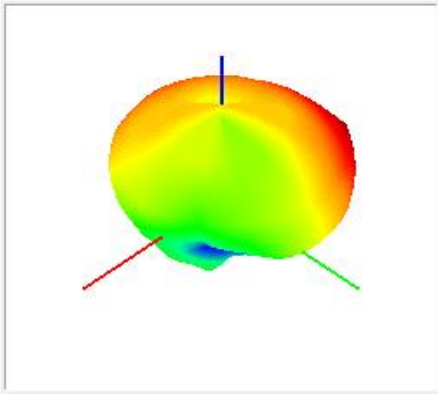
4.5 OTA Data

模拟人头数据

Test Equipment:	R&S CMW500		
Test Condition:	2 D chamber		
Band	Channel	TRP(dBm)	TIS(dBm)
BT-L	0	-3.44	-82.63
	39	-3.24	-82.42
	78	-3.57	-82.51

4. Test Result

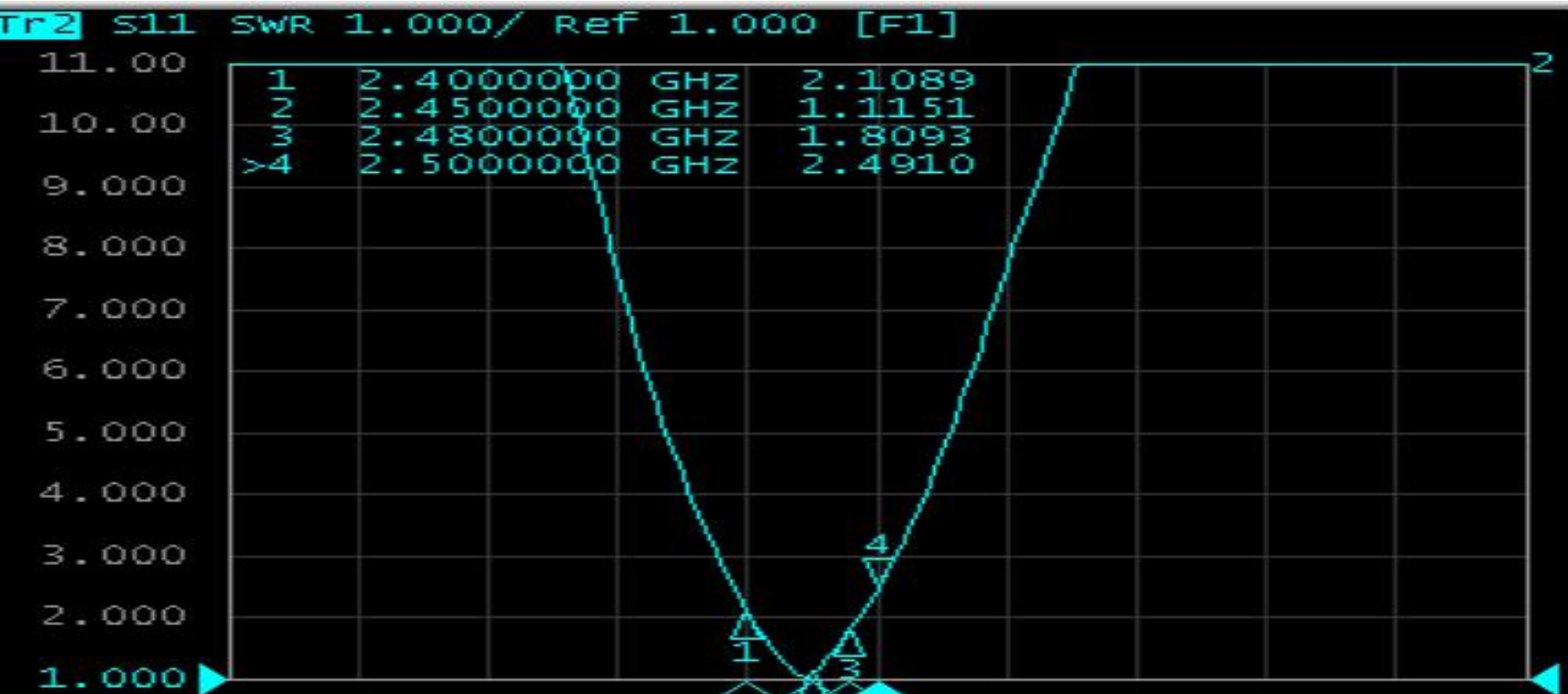
4.4 2D Pattern BTANT



4. Test Result

R

4.1 S11 Parameter-VSWR



Frequency (MHz)	2400	2450	2480	2500
VSWR	2.10	1.11	1.80	2.49

4. Test Result

R

4.1 S11 Parameter-Log Mag

Tr1 S11 Log Mag 10.00dB/ Ref 0.000dB [F1]

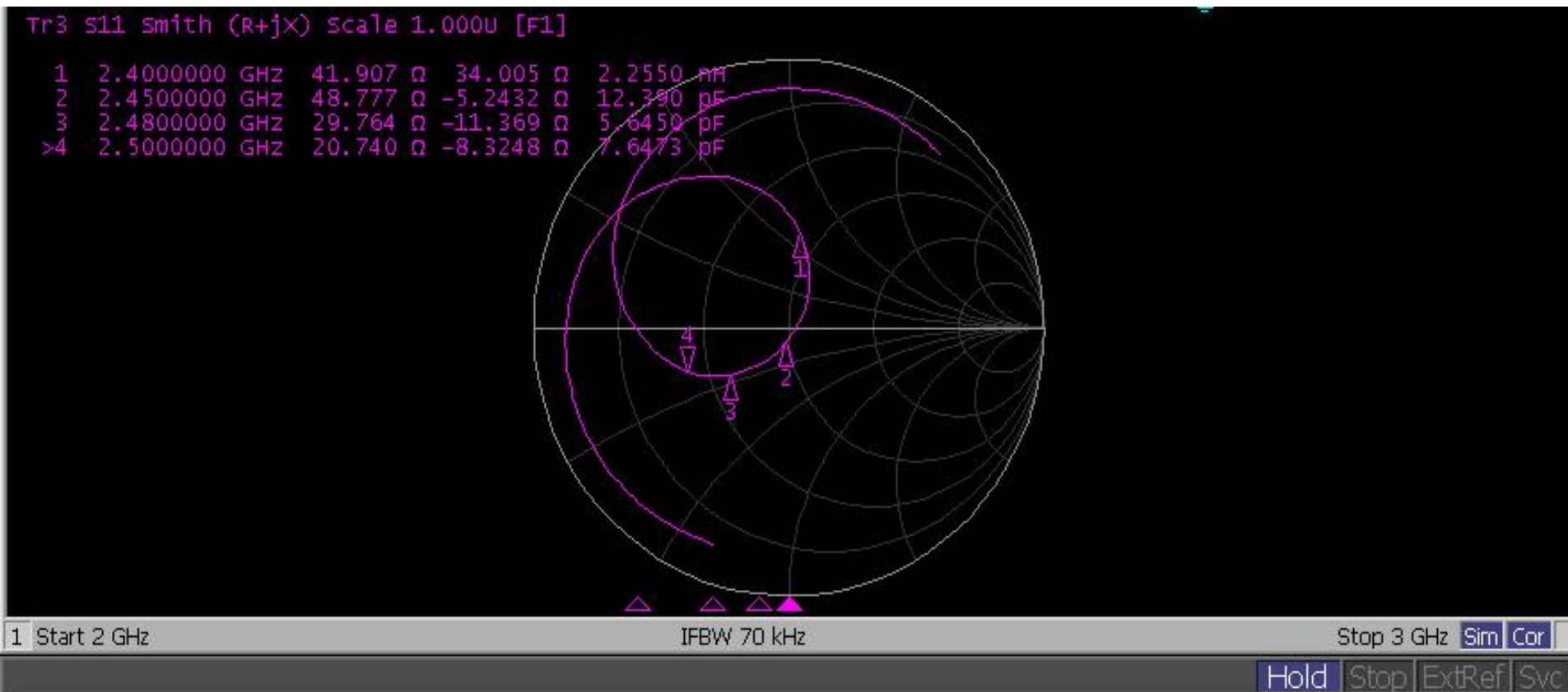


Frequency (MHz)	2400	2450	2480	2500
Log Mag	-8.95	-25.28	-10.81	-7.38

4. Test Result

R

4.1 S11 Parameter-VSWR



Frequency (MHz)	2400	2450	2480	2500
Smi th(Ω)	41.90	48.77	29.76	20.74

4. Test Result

4.2 Gain & Efficiency—**ANT**

R

Frequency (MHz)	Efficiency (%)	Gain (dBi)
2400	35.24 %	-0.59
2410	37.02 %	-0.32
2420	39.78 %	0.28
2430	40.39 %	0.71
2440	40.55 %	0.90
2450	42.60 %	0.80
2460	42.68 %	0.36
2470	40.83 %	-0.34
2480	38.15 %	-0.54

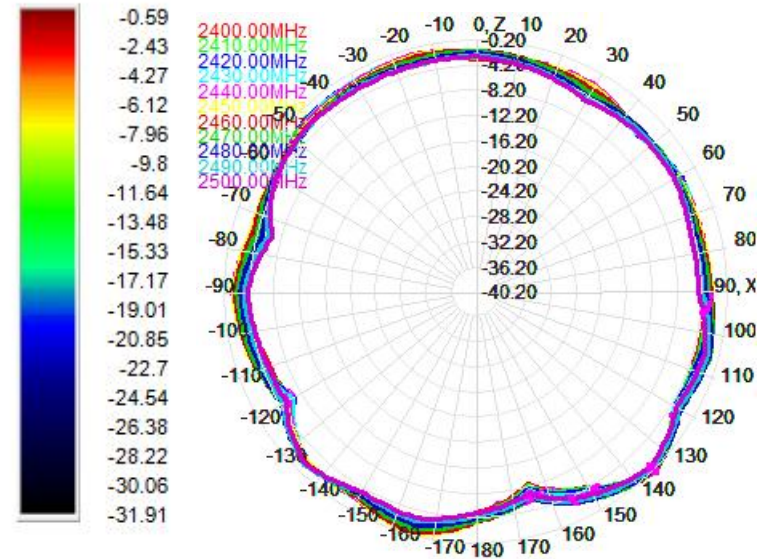
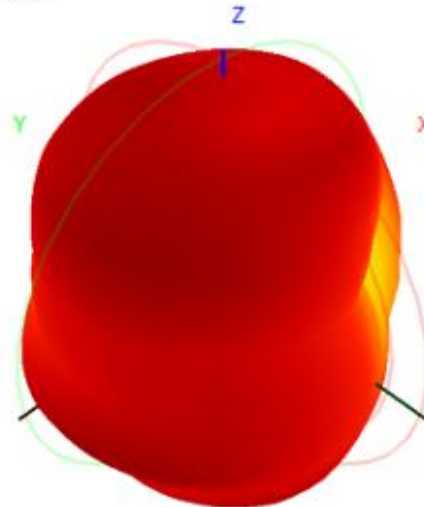
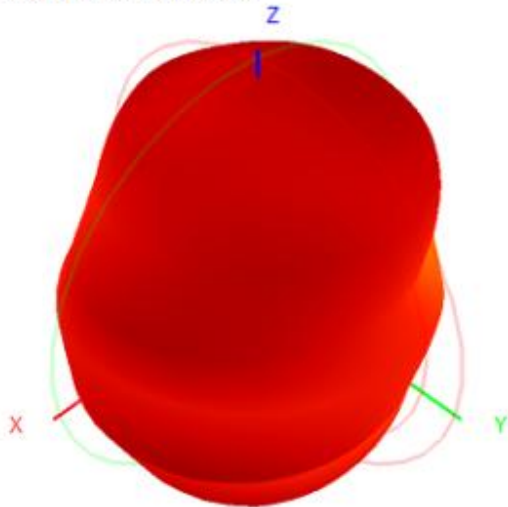
4. Test Result

4.3 2D Pattern—BTANT

R

2400.0MHz Total, Eff: 35.2%

Back View



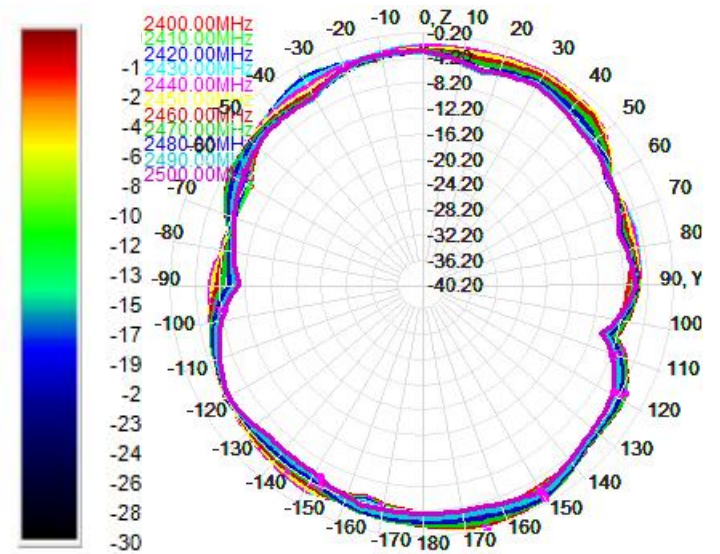
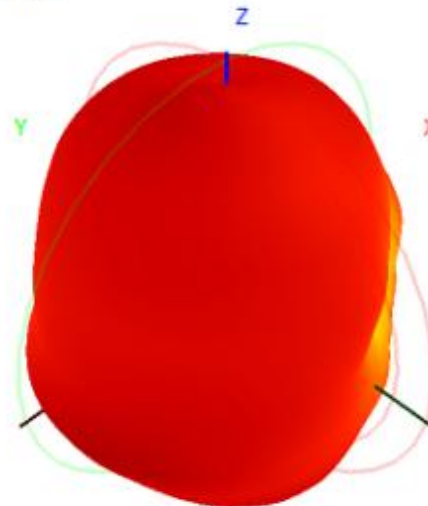
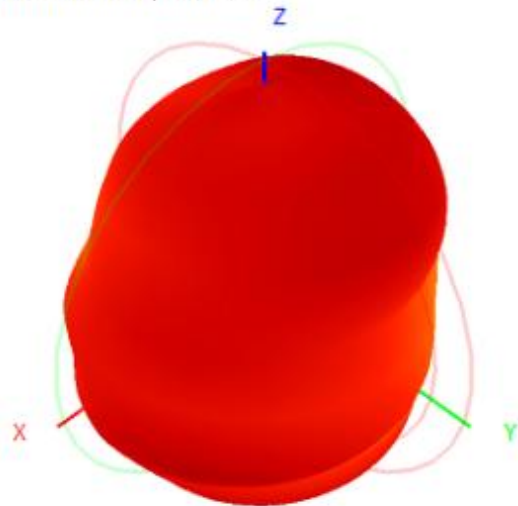
4. Test Result

4.3 2D Pattern—BTANT

R

2450.0MHz Total, Eff: 42.6%

Back View



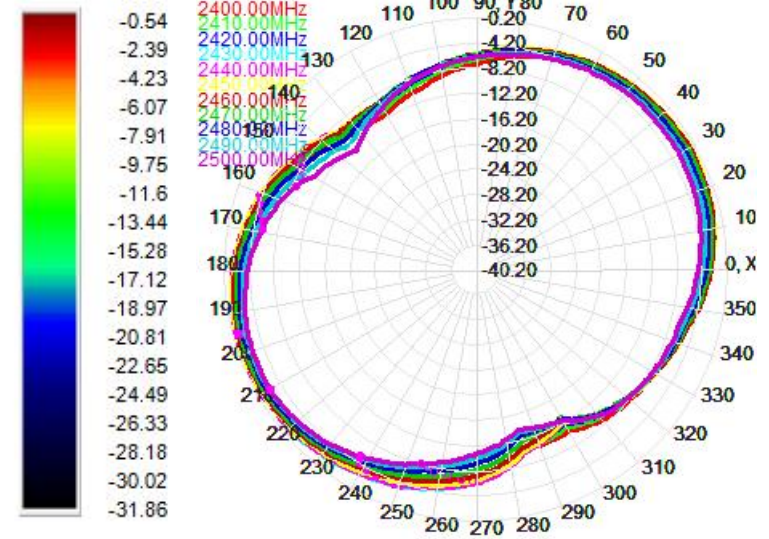
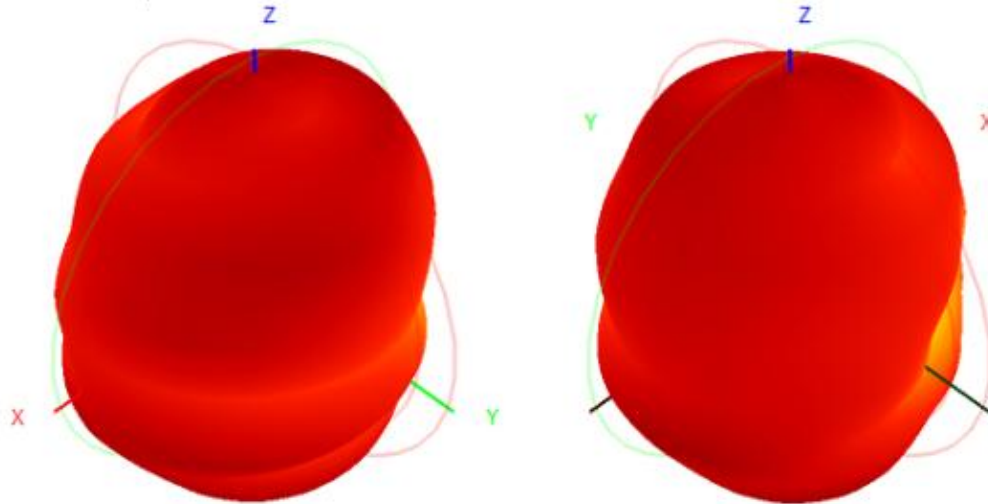
4. Test Result

4.3 2D Pattern——BTANT

R

2480.0MHz Total, Eff: 38.2%

Back View



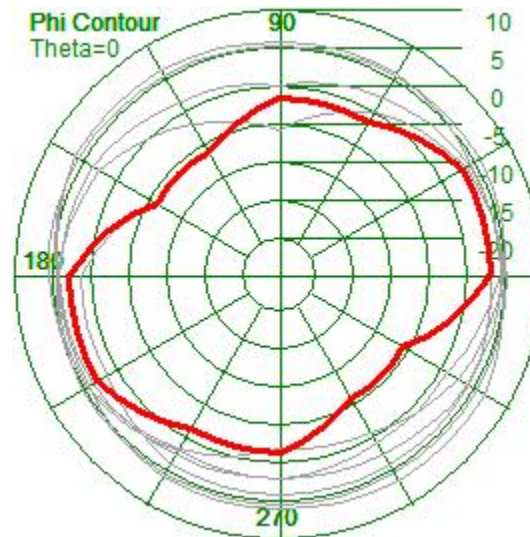
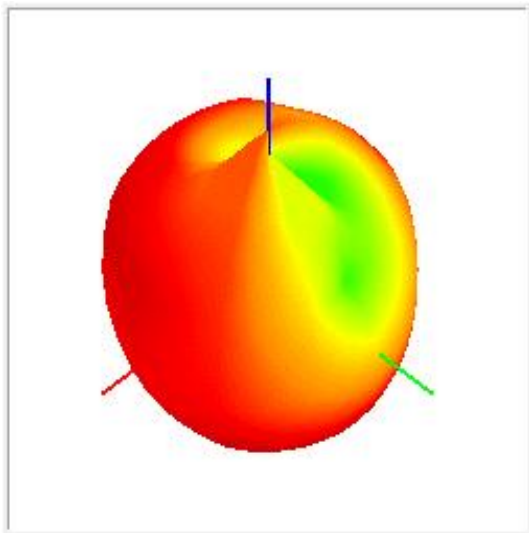
4.5 OTA Data

Test Equipment:	R&S CMW500		
Test Condition:	2 D chamber		
Band	Channel	TRP(dBm)	TIS(dBm)
BT-R	0	2.50	-88.51
	39	3.40	-89.02
	78	3.12	-88.88

4. Test Result

4.4 2D Pattern_____ **BTANT**

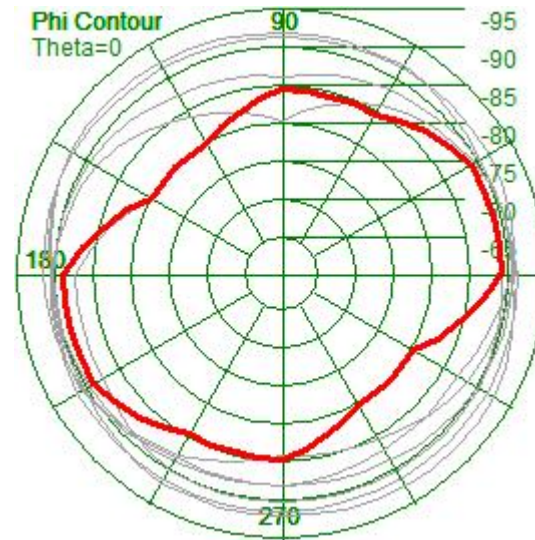
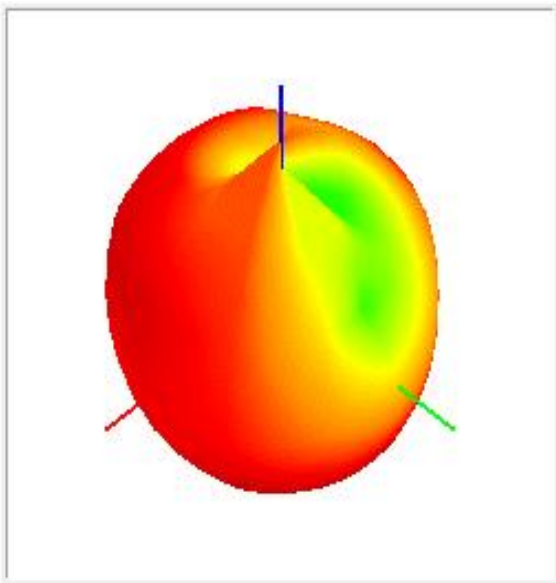
TRP



4. Test Result

4.4 2D Pattern_____ **BTANT**

TIS



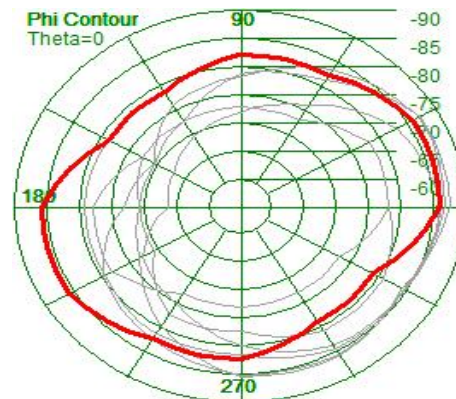
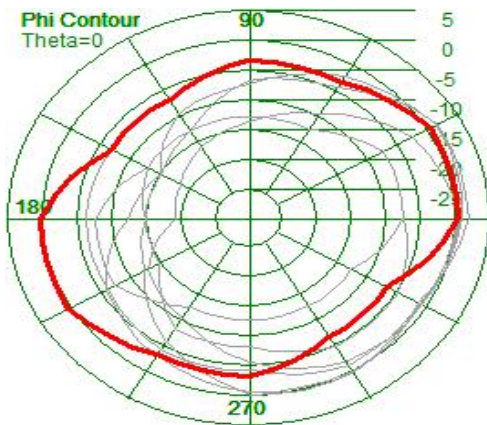
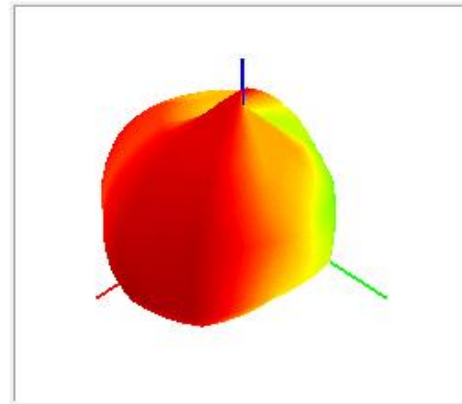
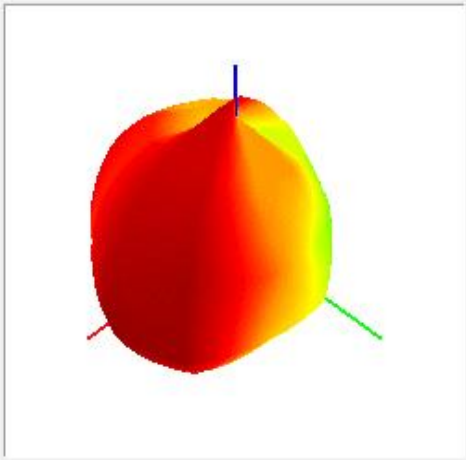
4.5 OTA Data

模拟人头数据

Test Equipment:	R&S CMW500		
Test Condition:	2 D chamber		
Band	Channel	TRP(dBm)	TIS(dBm)
BT-R	0	-3.75	-82.03
	39	-3.77	-82.24
	78	-4.25	-81.93

4. Test Result

4.4 2D Pattern_____BTANT



Thank you!