

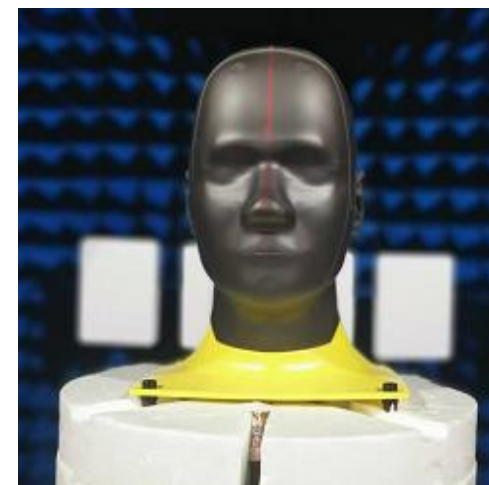
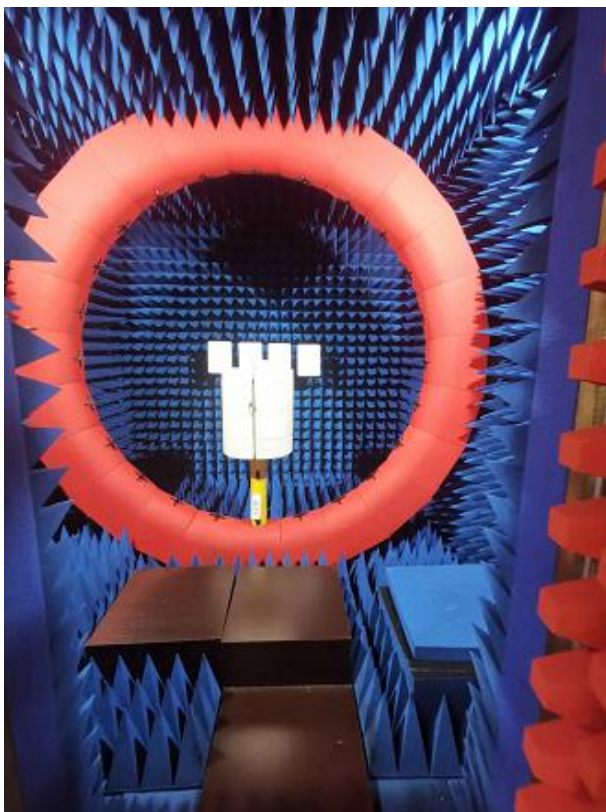
customer name	CCA	project name	2212A
NO	catalogue	specification	
1	frequency band	2.4G	
2	project type	bluetooth headset	
3	Feed point type	shrapnel	
4	Antenna type	PIFA	
5	Antenna material	FPC	

## catalogue

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# I. Introduction to the test darkroom

1. Active test: Support 2.3.4.5G standard multi-mode measurement NB-IoT, eMTC, CAT-1, Bluetooth1-5, WIFI802.11abgn, measurable TRP TIS
2. Passive test: can test gain, efficiency
3. TWS headset test head model full head hand



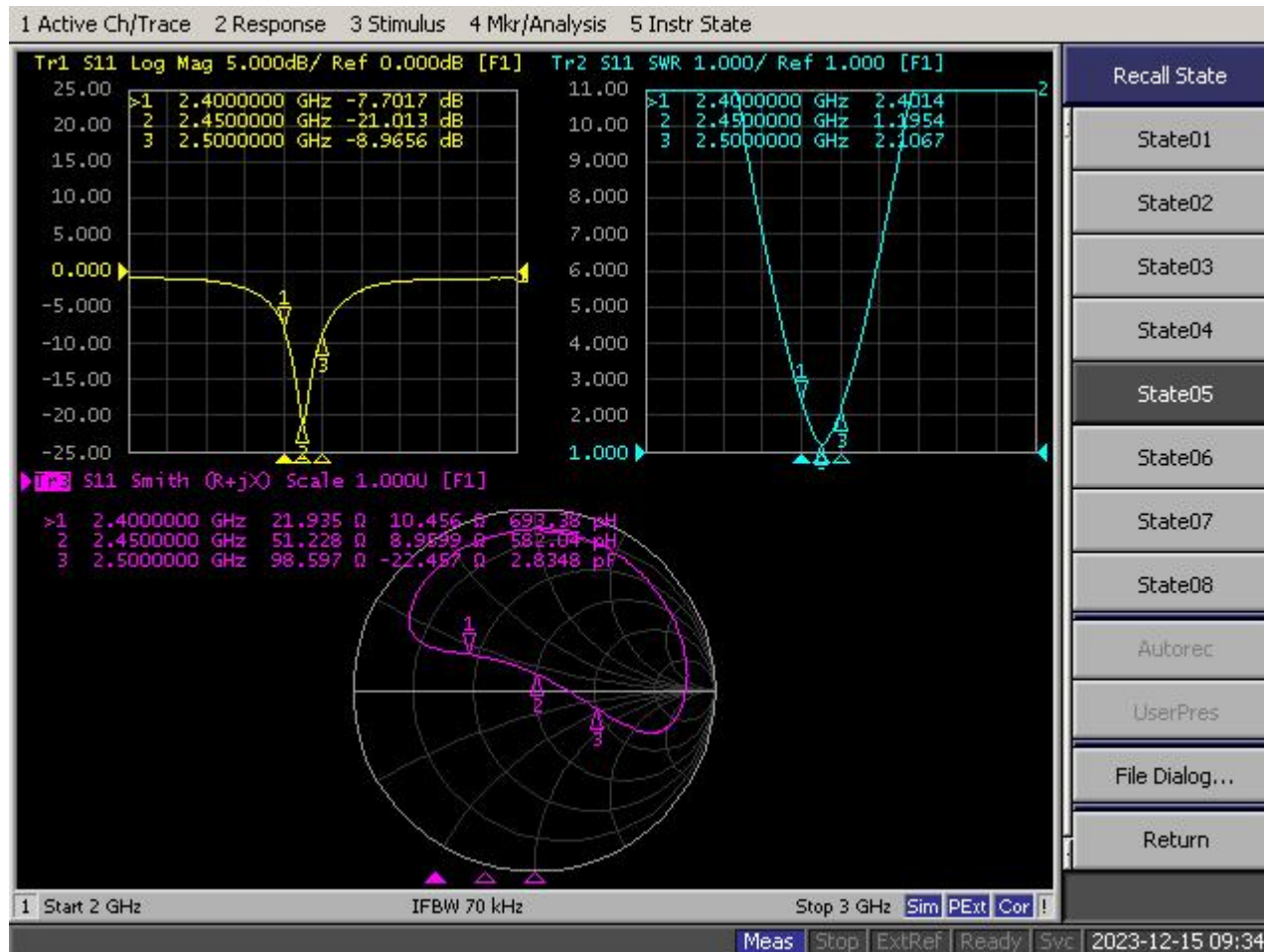
## Two. Machine pictures





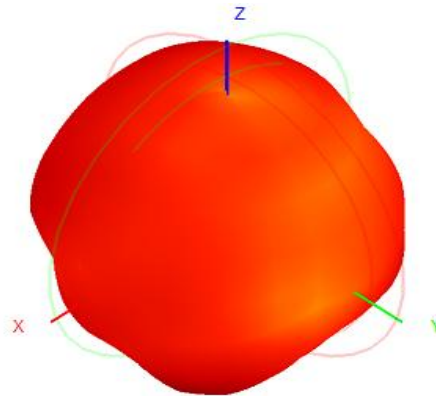
## lii. Passive standing wave diagram

### 1. Return Loss&VSWR

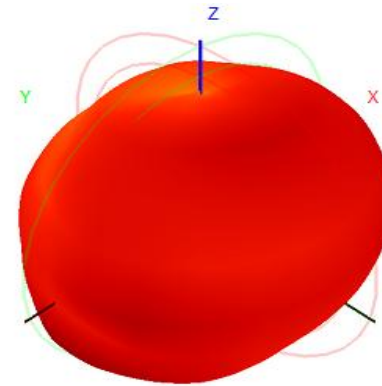


# 4. Passive 3D&2D field pattern

free space

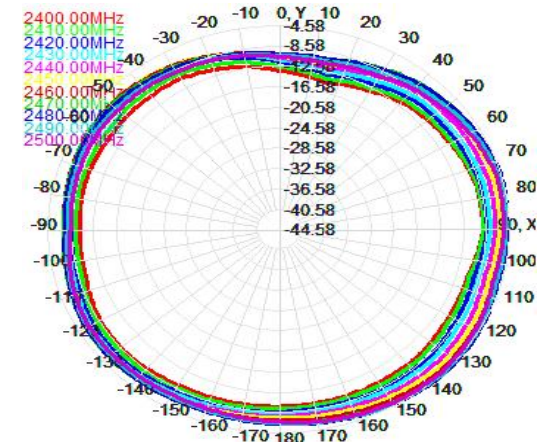
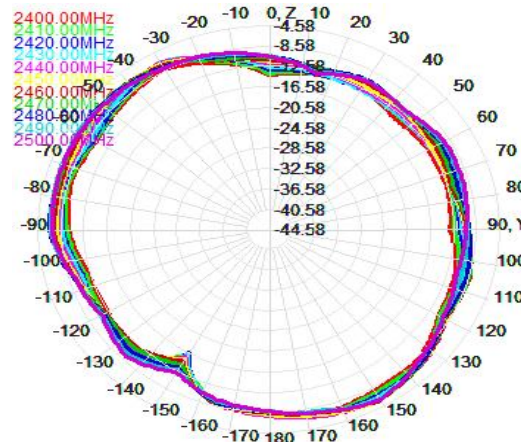
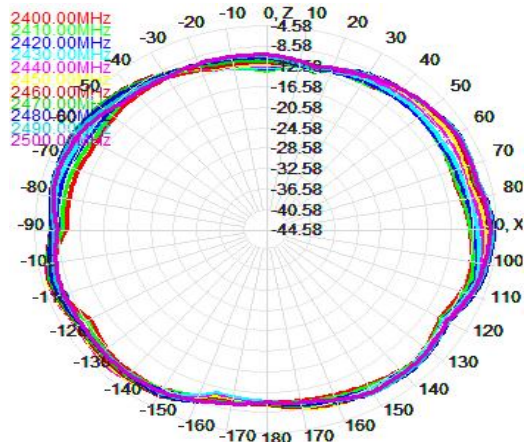


E1(xz)



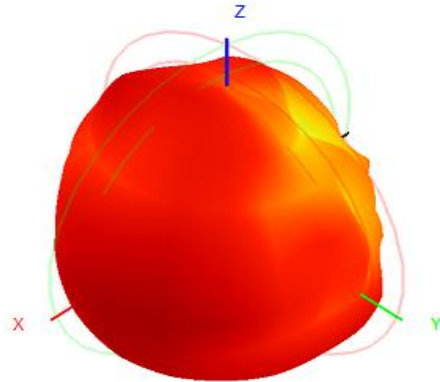
E2(yz)

H(XY)

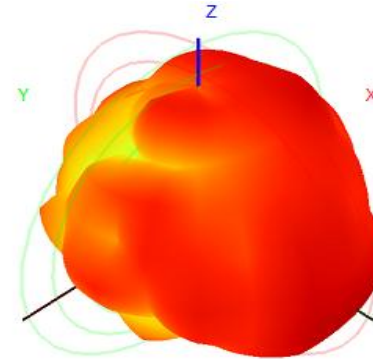


# 4. Passive 3D&2D field pattern

headform

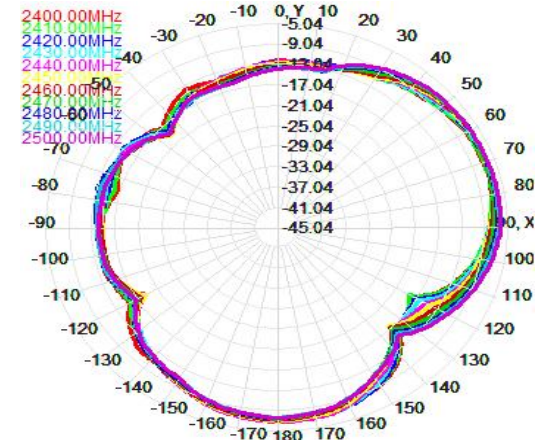
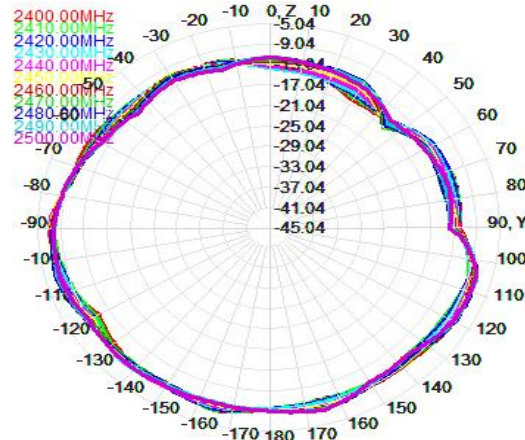
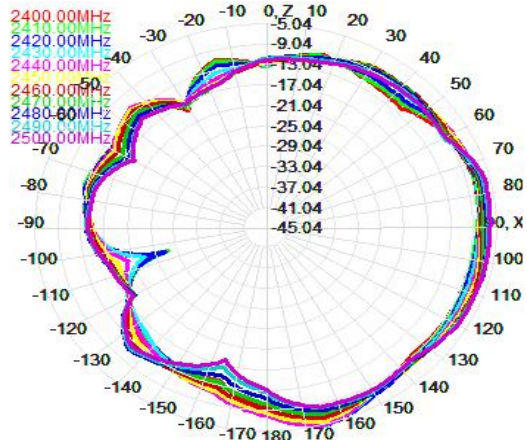


E1 (xz)



E2 (yz)

H (xy)

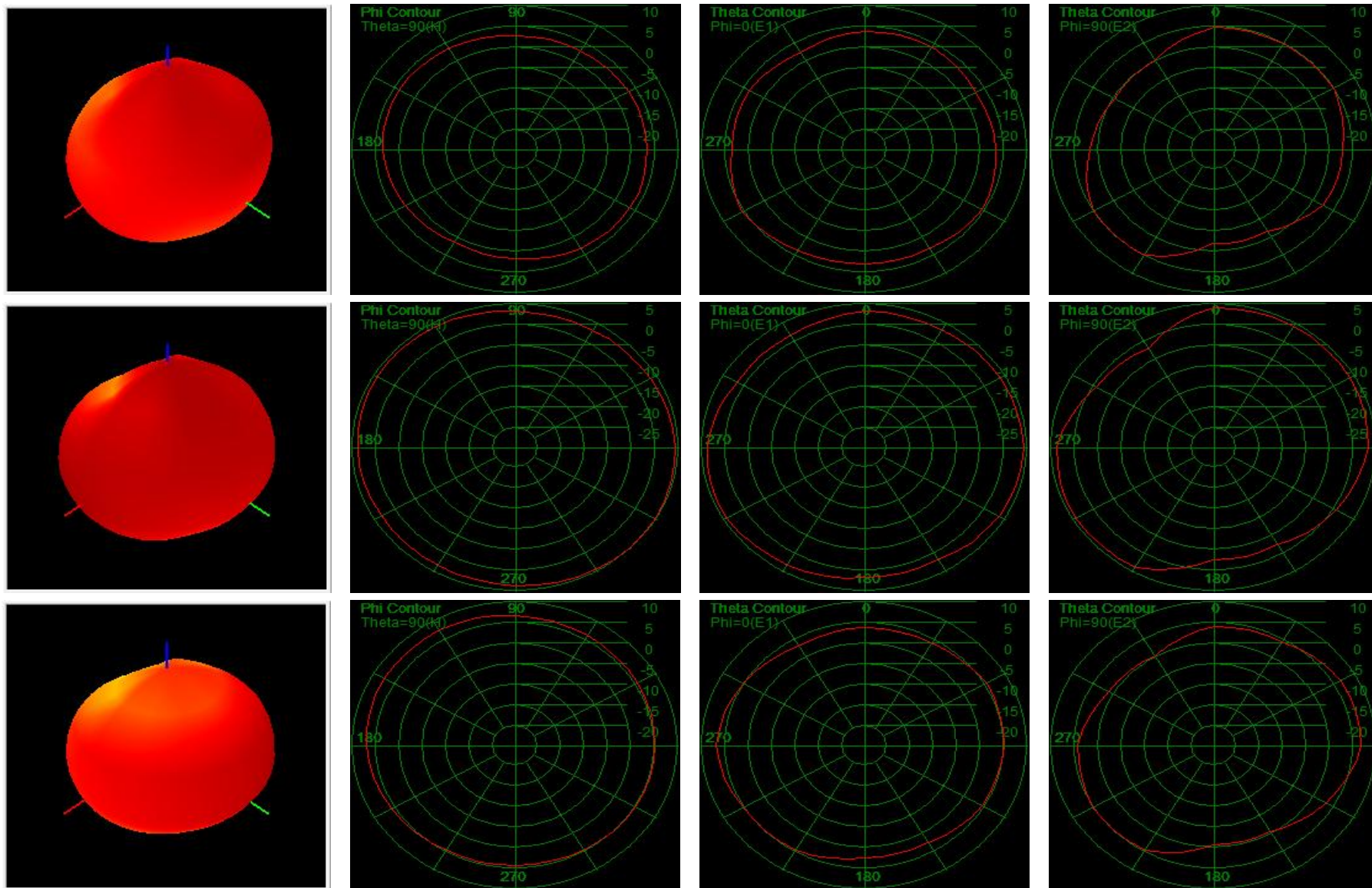


## V. Passive efficiency & Gain

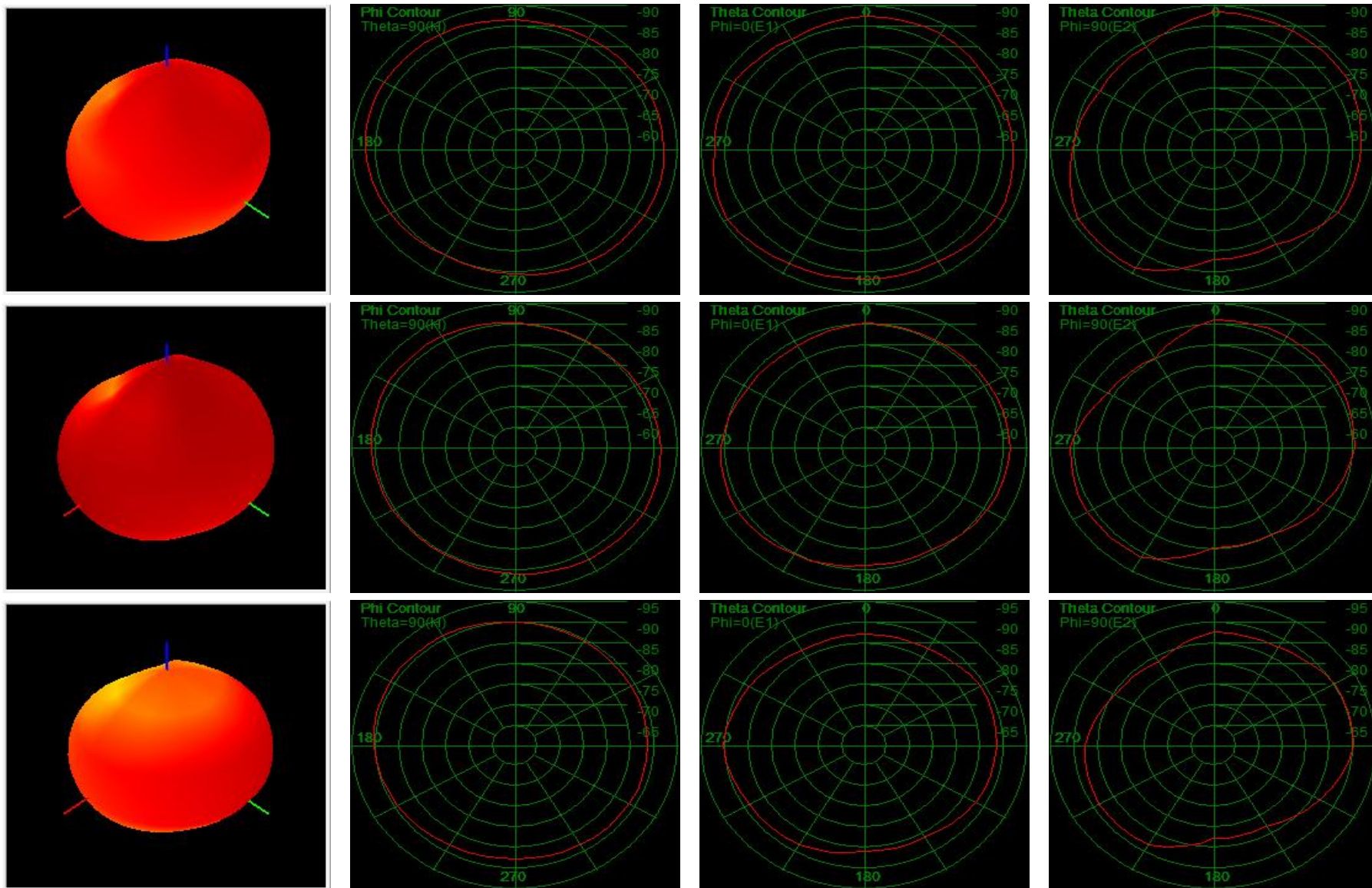
free space		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	16.53	-2.11
2410	17.37	-2.93
2420	17.53	-2.63
2430	17.39	-2.41
2440	17.81	-2.82
2450	18.32	-2.20
2460	18.01	-1.63
2470	19.44	-1.32
2480	18.45	-1.15
2490	17.51	-0.68
2500	16.77	-1.27



## 6. Active 3D&2D Field Pattern Diagram -TRP(Free Space)

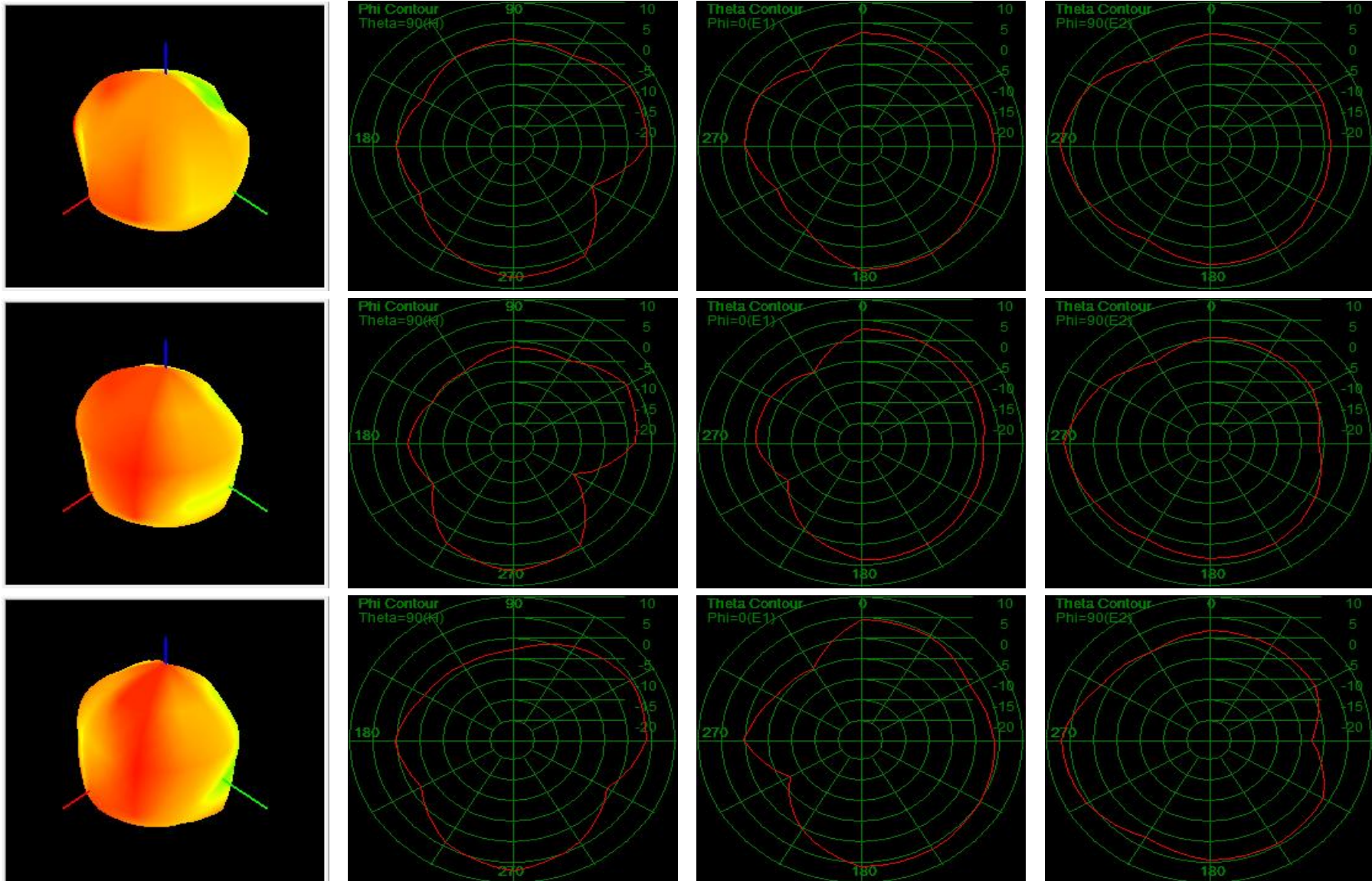


## 6. Active 3D&2D Field Pattern Diagram -TIS(Free Space)

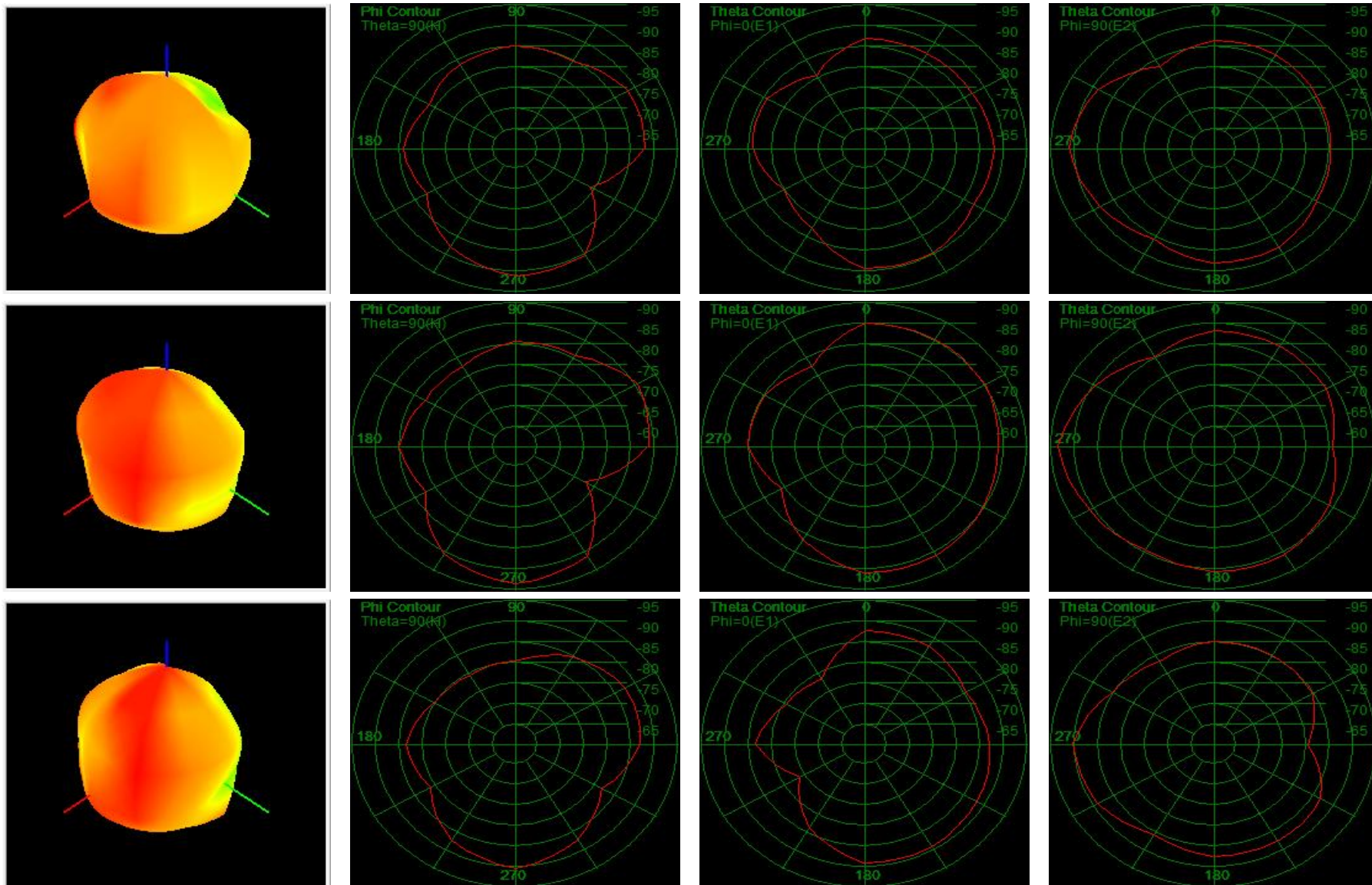




## 6. Active 3D&2D Field Pattern Diagram -TRP(Head mode)



## 6. Active 3D&2D Field Pattern diagram -TIS(Head mode)



## 七.OTAactive

<b>headform</b>		
<b>BAND</b>	<b>TRP (dBm)</b>	<b>TIS (dBm)</b>
<b>0</b>	2.16	-83.16
<b>39</b>	1.17	-83.36
<b>78</b>	2.24	-85.47



**Conclusion: 1. The pull distance test is 1-2 meters farther than the comparison TW500, the anti-interference test is a little better than the comparison gold sample, and the ear covering test is more than 5 meters. Judge OK**