

W110 project antenna material requirements specification

customer name: Shenzhen Dunsh Electronics Co., Ltd

Customer name: W110

product name: Antenna components

Supplier Model: Left headphone antenna: 336026-IA; right headphone antenna: 336026-IB

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RF	He lei			

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The demander's judgment result: ☐ qualified ☐ unqualified			
Development & Design Engineer / Date	SQE Engineer / Date	Purchasing Leader / Date	Development Manager approval / date

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1. Overview

1.1 Scope of application

This requirement specifies the antenna technical requirements and material requirements specifications for W110 products.

This requirement is applicable to the antenna selection, testing and acceptance of the W110 product.

1.2 Basic Project information

Antenna name:	W110
Antenna frequency:	BT: 2400MHz-2500MHz
Antenna material:	FPC antenna
Antenna version:	V1.0

2. Technical index requirements

2.1 Introduction of test items and equipment

inventory	test item	equipment
S11 parameter	Standing wave ratio, echo loss	network analyzer
Active test	TRP,TIS	Integrated tester, microwave darkroom
Passive test	Gain, efficiency	network analyzer

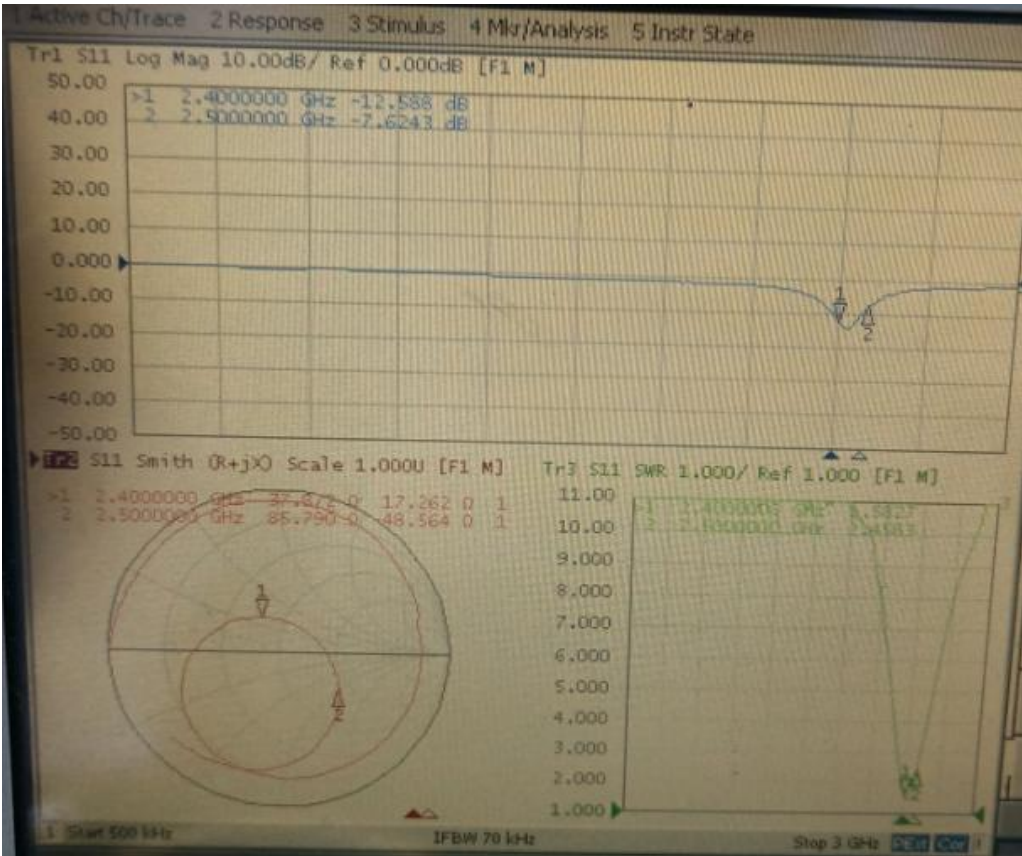
2.2 Main board conduction data

左耳 L		
0	11.18	-91
39	11.61	-91
78	11.65	-91

右耳 R		
0	11.51	-91
39	11.68	-91
78	11.65	-91

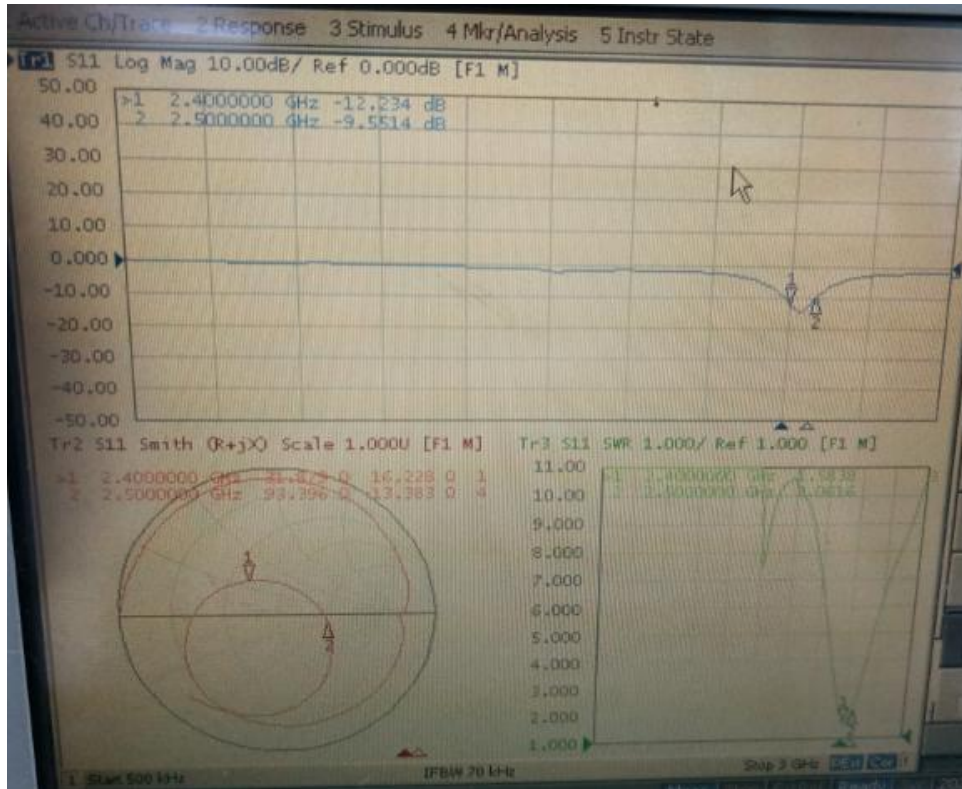
2.3 The antenna has no passive parameters

2.3.1 Antenna passive parameters / L



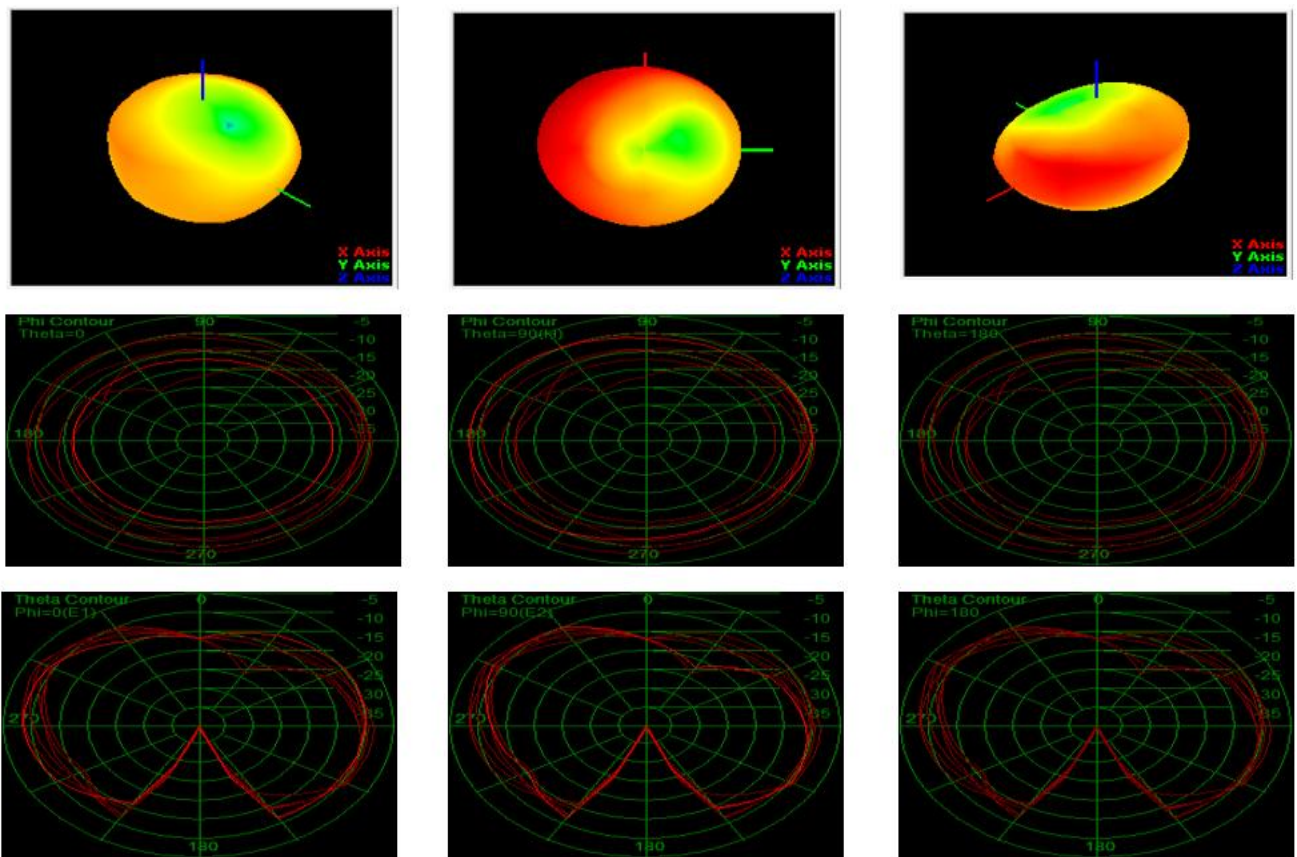
Test	L								
Test Point ID	1	2	3	4	5	6	7	8	9
Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480
Efficiency (%)	23%	24%	25%	26%	27%	27%	26%	25%	24%
增益(dBi)	-2.1	-1.7	-1.8	-1.8	-1.7	-1.6	-1.9	-2.1	-2.2

2.3.2 Antenna passive parameters / R

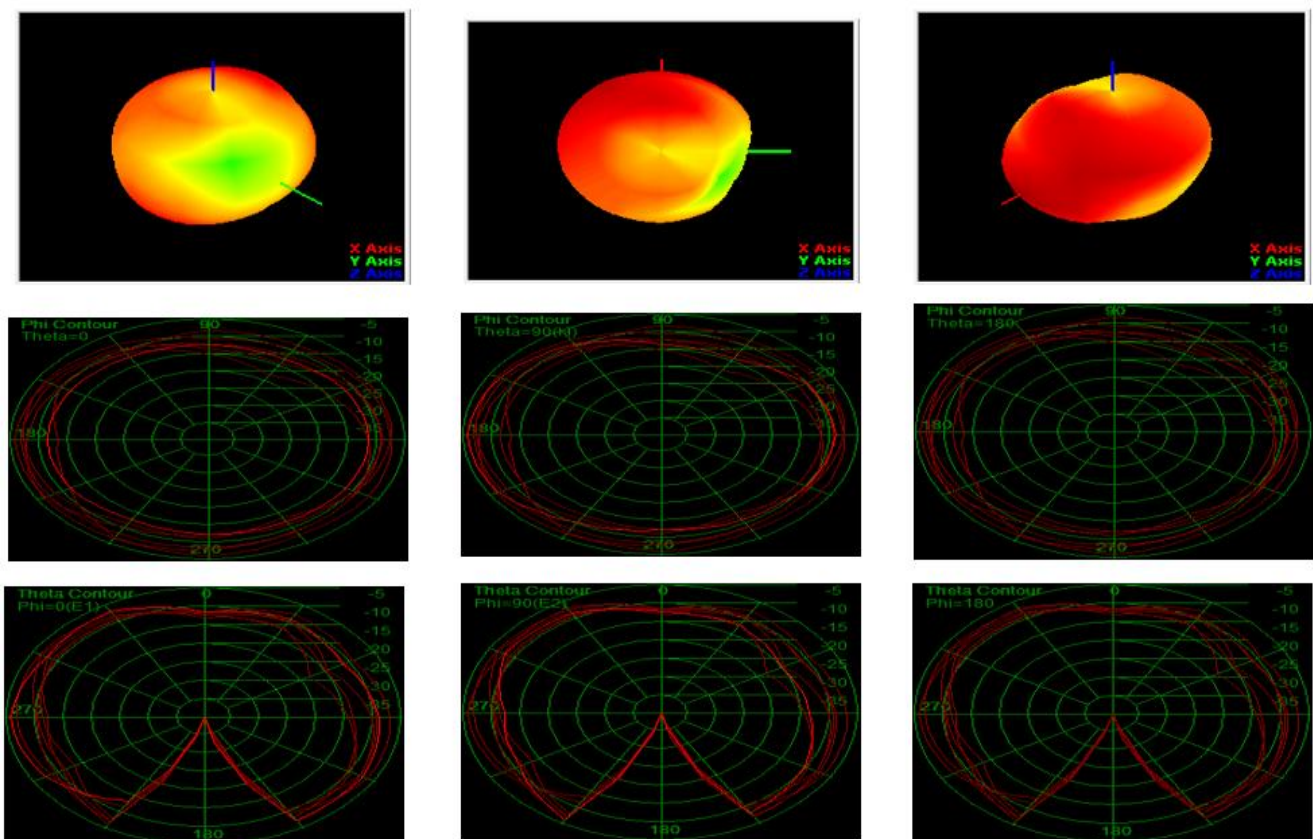


Test	R								
Test Point ID	1	2	3	4	5	6	7	8	9
Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480
Efficiency (%)	24%	25%	26%	27%	28%	27%	26%	25%	24%
增益(dBi)	-2.3	-2.2	-2.0	-1.8	-1.7	-1.6	-1.8	-2.0	-2.1

2.3.3 Left ear antenna passive parameters-flat plan / orientation diagram



2.3.4 Right ear antenna passive parameters-flat plan / orientation diagram



2.4 Active parameters of the antenna

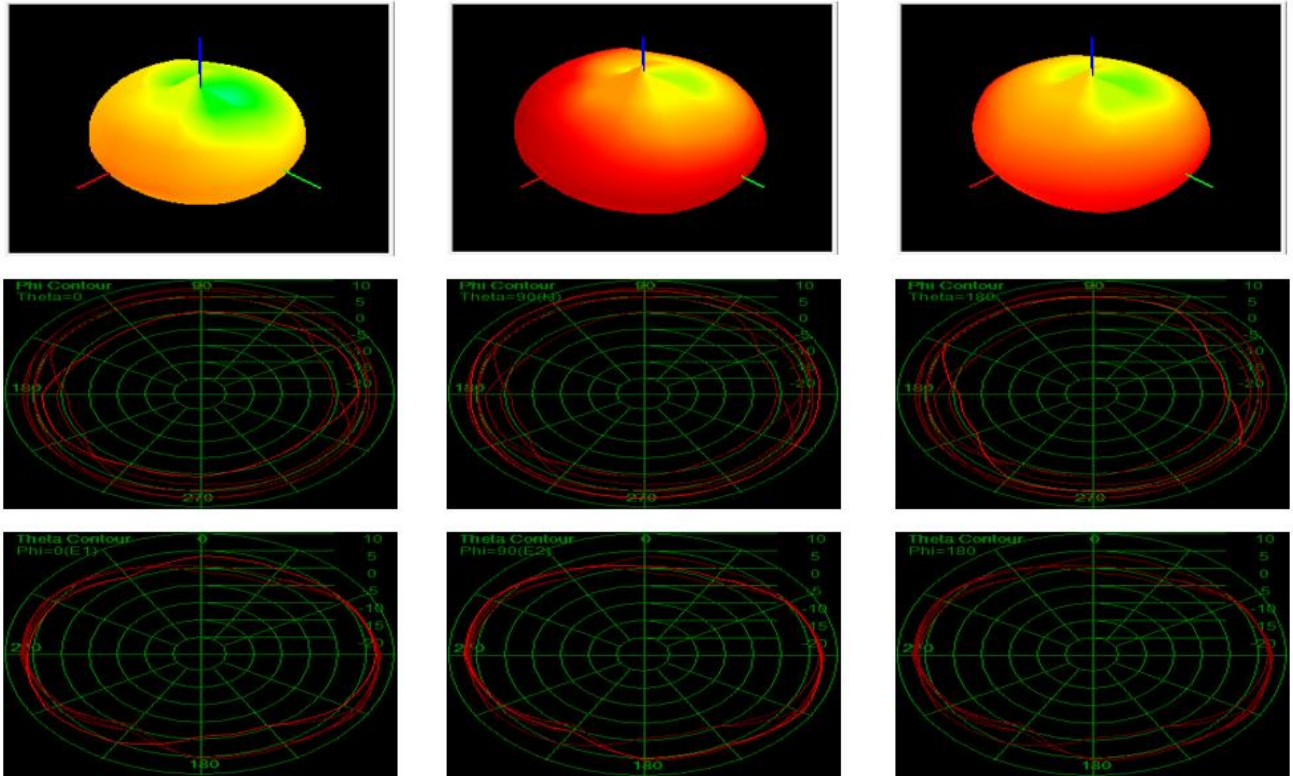
2.4.1 Antenna active parameters / free space

Channel No.	Free space test data/L	
	TRP (dBm)	TIS (dBm)
0	5.22	-88.24
39	5.31	-88.36
78	5.16	-88.48

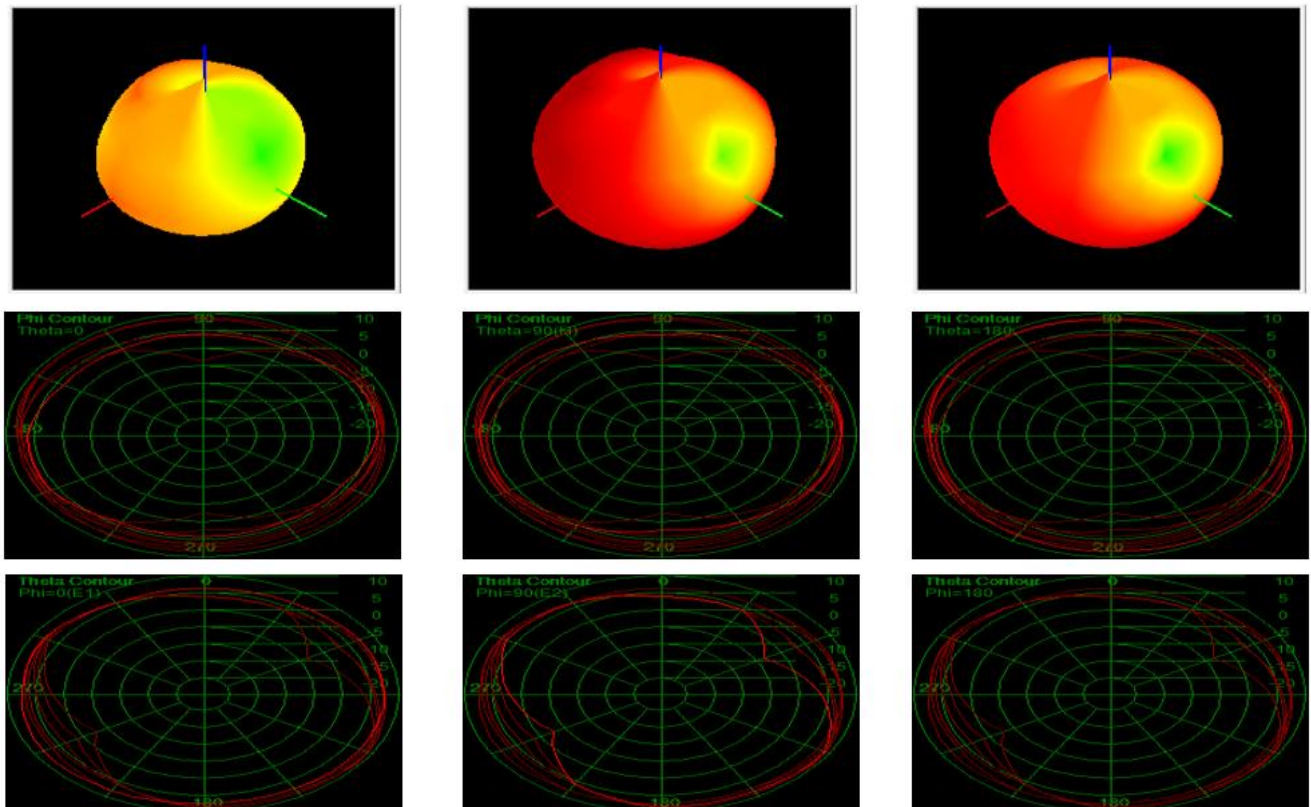
Channel No.	Free space test data/R	
	TRP (dBm)	TIS (dBm)
0	5.50	-88.26
39	5.47	-88.20
78	5.39	-88.38

2.4.2 Floor plan / direction map-free space

Active parameters of left ear antenna-plan / orientation diagram



Active parameters of right ear antenna-plan / orientation diagram



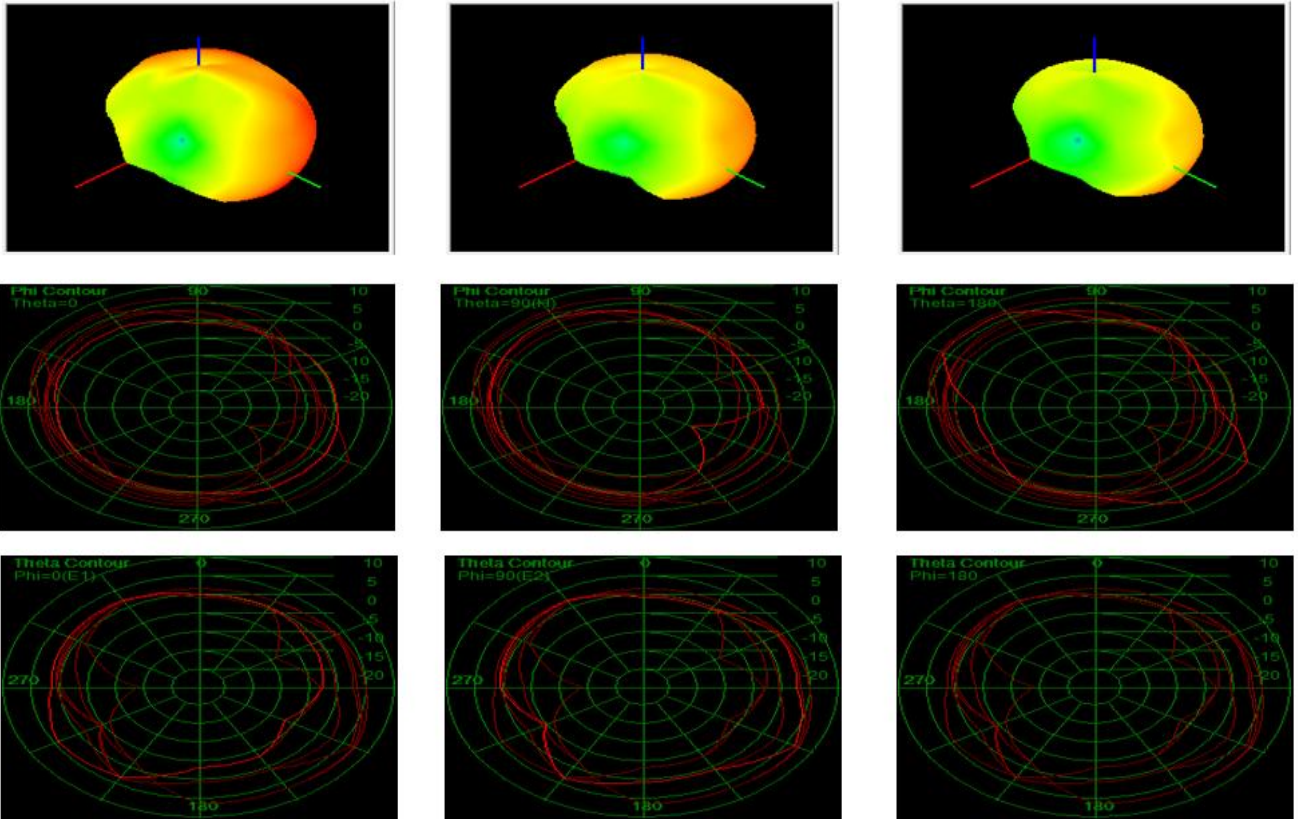
2.4.3 Antenna active parameters / head ear

Channel No.	Head and ear test data/L	
	TRP (dBm)	TIS (dBm)
0	1.28	-83.22
39	0.56	-83.87
78	0.35	-83.82

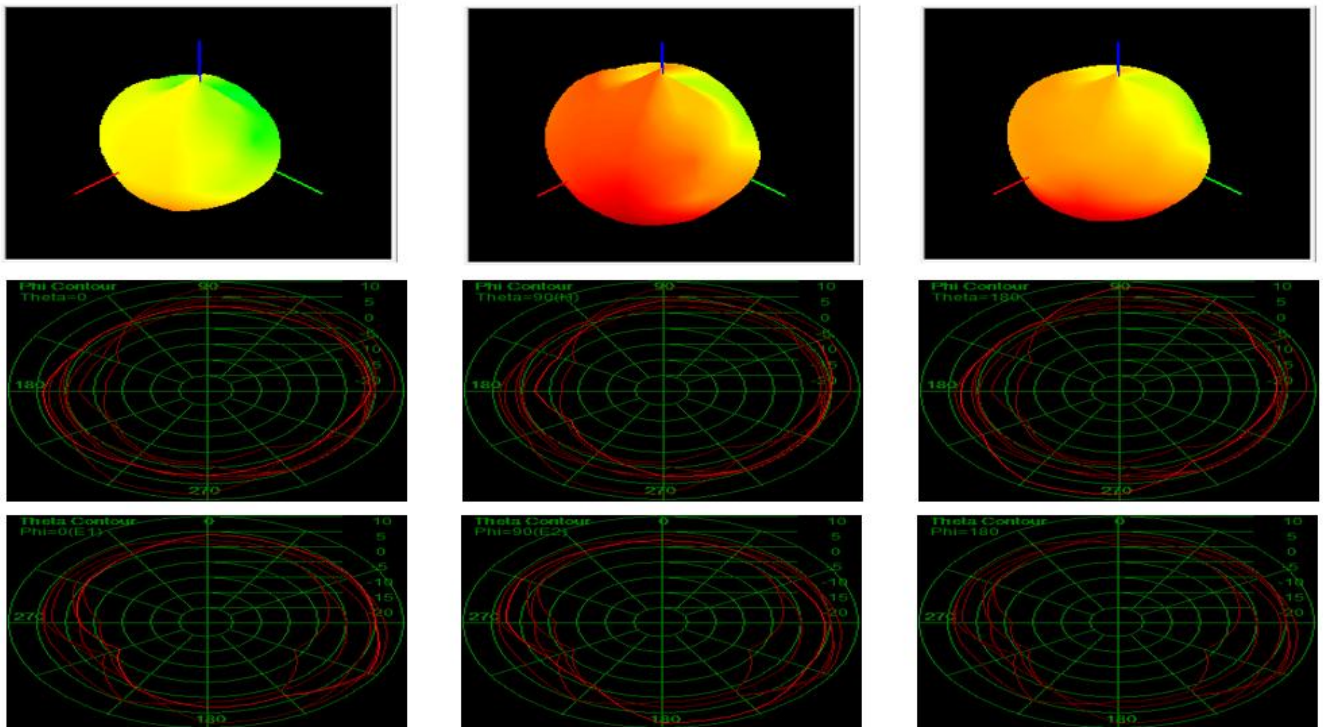
Channel No.	Head and ear test data/R	
	TRP (dBm)	TIS (dBm)
0	1.24	-84.17
39	0.67	-83.38
78	0.58	-83.33

2.4.4 Plan drawing / direction drawing-head and ear

Active parameters of left ear antenna-flat plan / direction map-head ear



Active parameters of the right ear antenna-plane plan / direction map-head ear



2.5 Antenna matching

Note: Antenna π -shaped matching is not changed (as shown)

2.6 Antenna field measurement data

test method:	1. Distance test: Connect the Bluetooth headset with the mobile phone, and place the mobile phone on the 60cm high non-metal bracket. The tester wears the headset to walk to the distance, and the tester rotates 360 degrees. Measure the limit distance between the call sound and music sound in the headset, measure the distance.	
	2. Close body test: the tester carries the mobile phone (preferably the back pocket of the pants opposite the main ear of the Bluetooth headset) for the human rotation test whether there is no card.	
	3, hands cover test: tester wear headphones, and connect with the mobile phone to play music, test two states: 1) fingertip up test, test whether the music is broken; 2) fingertip back test, test whether the music is broken.	
Test location:	In the outdoor open space of our building (see the test environment)	
testing facility:	Apple 6	
test result:	listen to music	1. The left and right ears are the main ear test 12M.
		2. The close proximity has not been tested yet.
		3. The hands covering the ears have not been tested yet.

2.7 The antenna test environment

