ANTENNA PASSIVE TEST REPORT

(Free Space)

Applicant: Grandsun

Product Name: ARC III

Model No.(EUT): ARC III

Date of Receipt: 2024-03-04

Date of Test: 2024-03-04

Tested by: Max.Chen

Made by: Max.Chen

Checked by: Noki.Ho

REVISION HISTORY

Revision Record		
Version	**Date**	**Reason for change**
V0.1	2017-05-20	First edition

CONTENTS

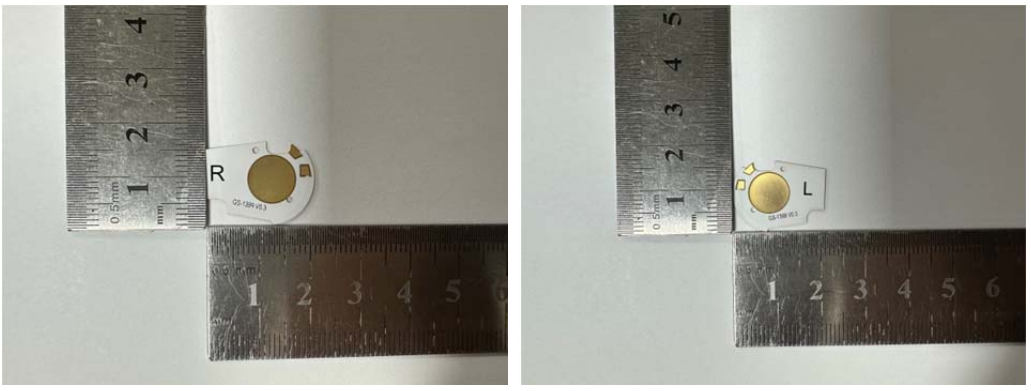
1. GENERAL INFORMATION

1.1 Test Location

Company: Shenzhen Grandsun Electronics Co.,Ltd.
Address: Gaoqiao Industry Zone,Pingdi Town,Longgang District,Shenzhen,China
Post code: 518117
Telephone: +86-755-89234568

ARC III Antenna Specification

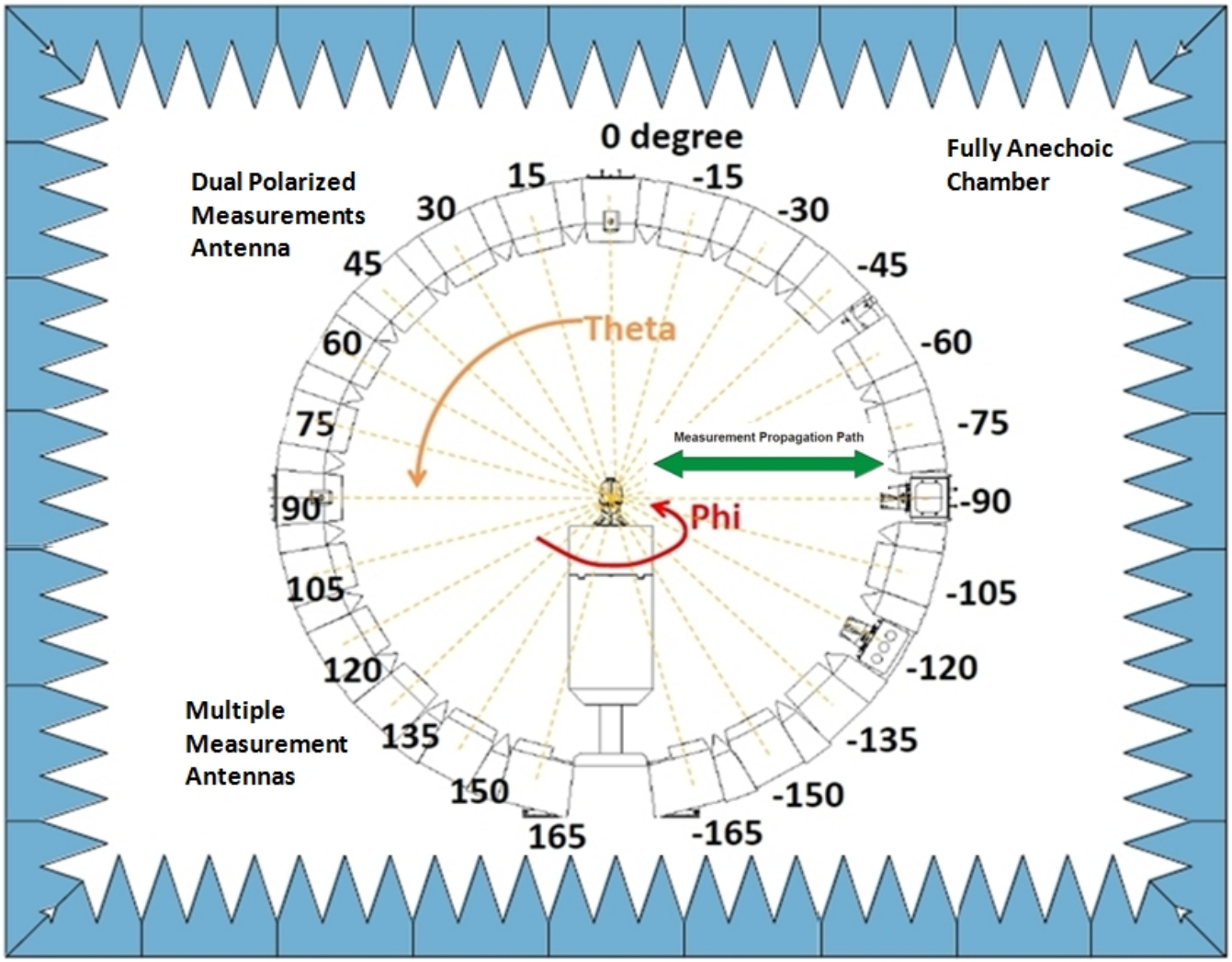
Working Frequency	2402MHZ-2480MHZ
Peak Gain	R:1.93dBi L:1.97dBi
VSWR	2.0 Max
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Impedance	50 Ω
Antenna Size	21mm x 16mm
Antenna Type	PIFA
Operation Temperature	-40° ~ +85°
Manufacturer	深圳市普尔思电子有限公司
Model	GS-1399 Antenna R GS-1399 Antenna L



Antenna Picture

2. OTA MEASUREMENTS SYSTEM CONFIGURATION

The system is designed for fully-compliant radiated wireless antenna measurements over the frequency range from 700 MHz to 6 GHz with a 1.95-meter path length. The system includes a multi-antenna array with twenty-three (23) dual-polarized measurement antennas spaced every 15°, The chamber size is 5m*5m*5m



OTA measurement System Configuration

Note：Phi(The turntable) is from 0~180°,Theta(the ring, multiple antennas) is from -165°~165°, Rotate the AUT and multi-antenna array record the data ,the step of rotation is 15 degree.

3. TEST RESULTS

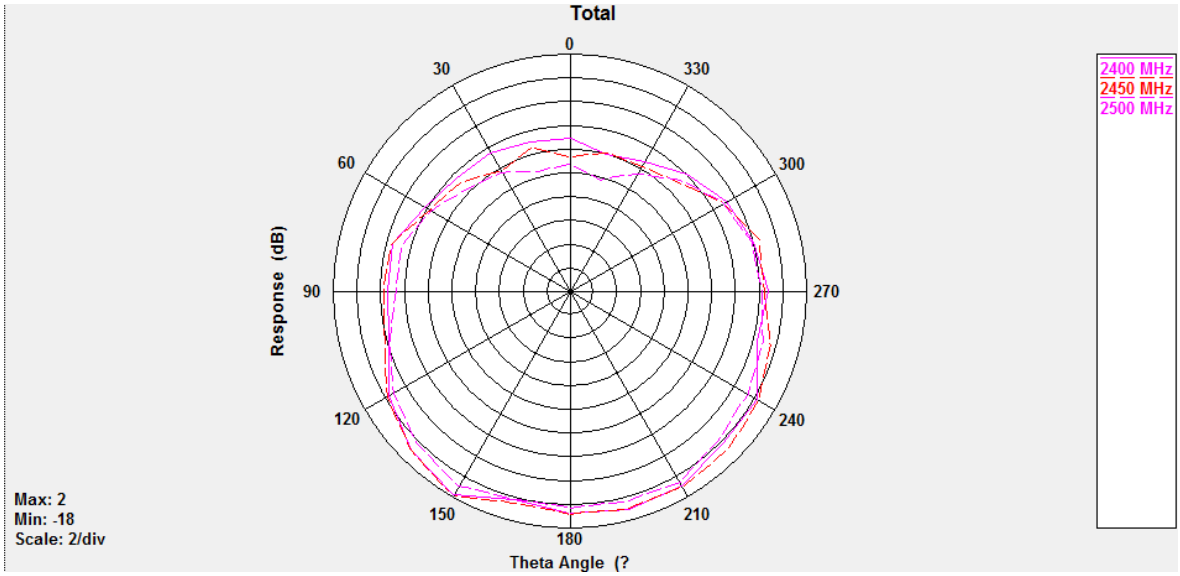
3.1 Efficiency & Gain

Earbuds_R			
Frequency（Mhz）	Efficiency（dB）	Efficiency（%）	Gain（dBi）
2400	-3.35	46.1	1.42
2410	-3.26	47.1	1.51
2420	-3.24	47.4	1.63
2430	-3.35	46.2	1.72
2440	-3.27	47.0	1.82
2450	-3.18	48.0	1.93
2460	-3.22	47.5	1.75
2470	-3.22	47.5	1.61
2480	-3.48	44.8	1.43
2490	-3.67	42.9	1.22
2500	-3.86	41.0	1.05

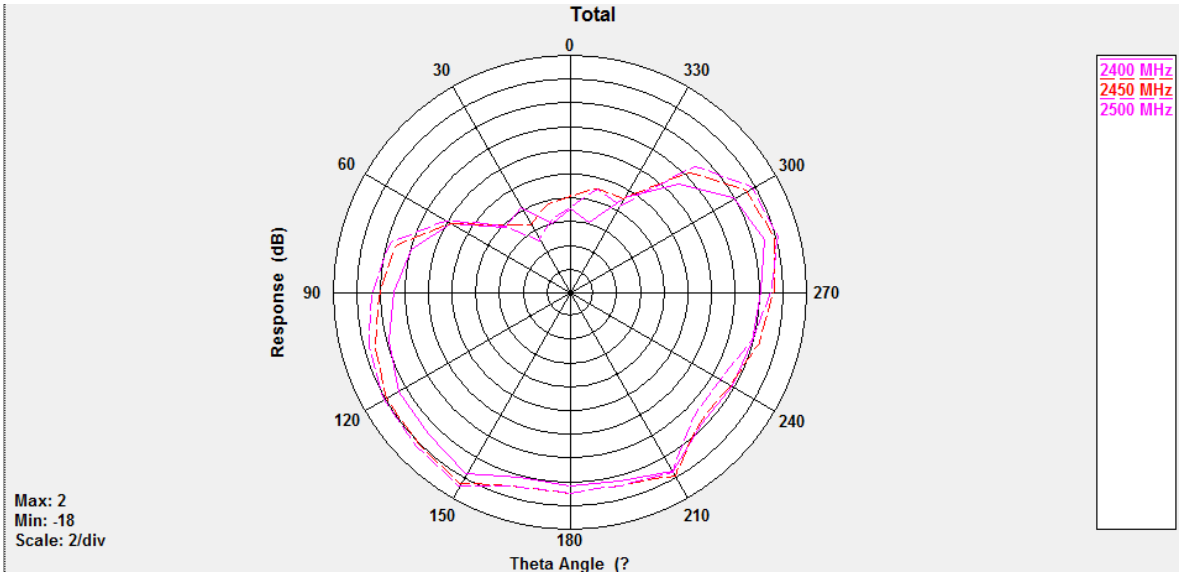
Earbuds_L			
Frequency（Mhz）	Efficiency（dB）	Efficiency（%）	Gain（dBi）
2400	-3.78	41.8	0.60
2410	-3.72	42.4	0.72
2420	-3.53	44.2	1.11
2430	-3.23	47.5	1.53
2440	-3.10	48.9	1.73
2450	-3.02	49.7	1.96
2460	-3.10	48.9	1.88
2470	-3.01	49.8	1.97
2480	-3.06	49.3	1.92
2490	-3.14	48.5	1.85
2500	-3.37	46.0	1.68

3.2 2-D antenna pattern（Phi=90°）

3.2.1 Earbuds_R

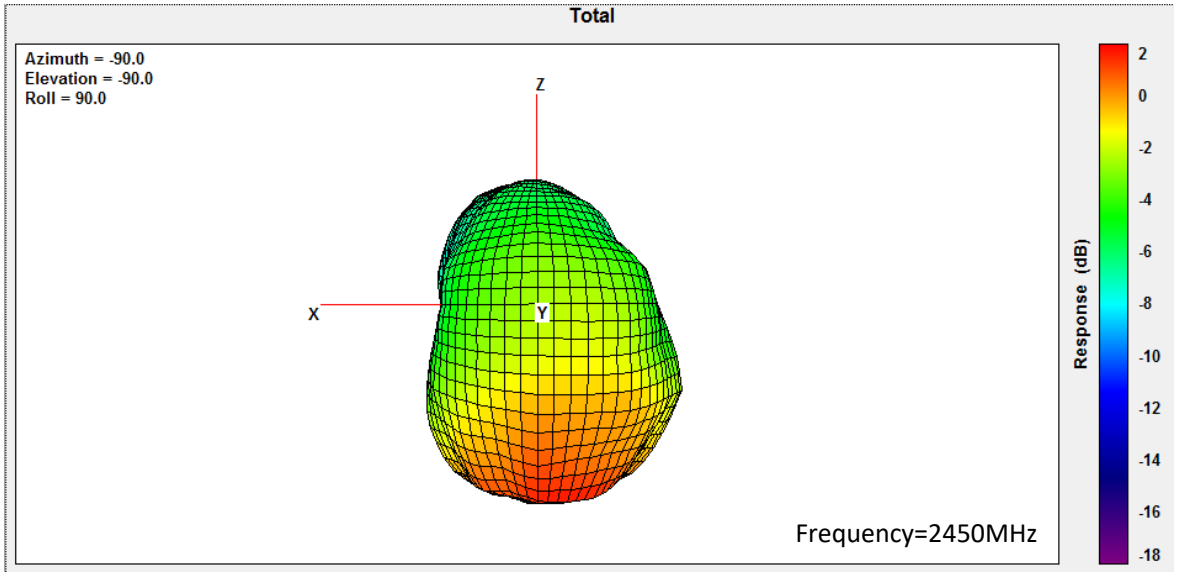


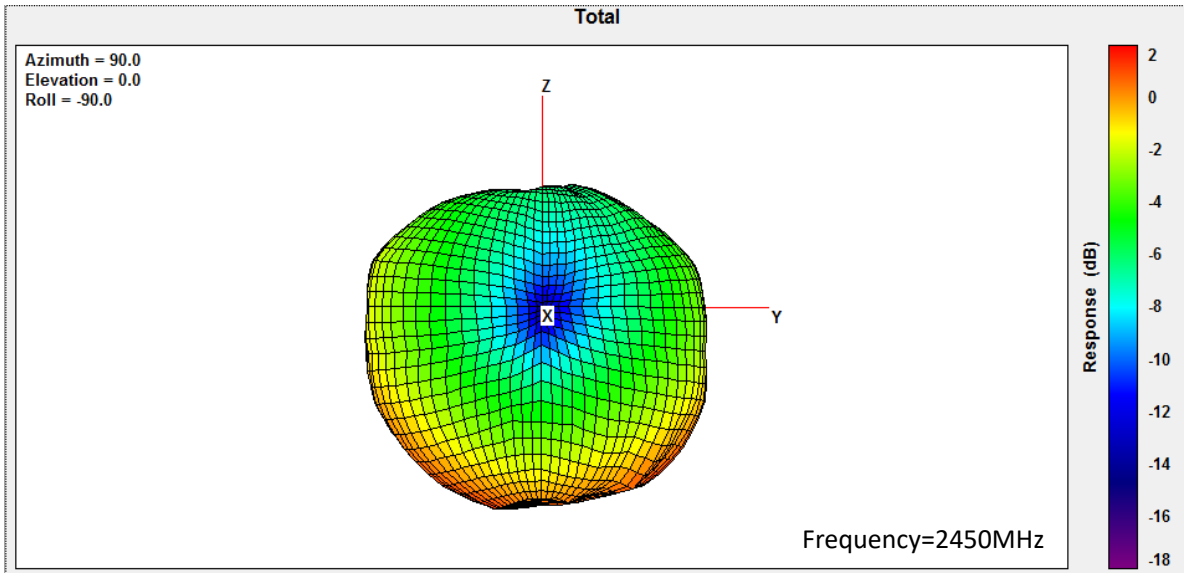
3.2.1 Earbuds_L

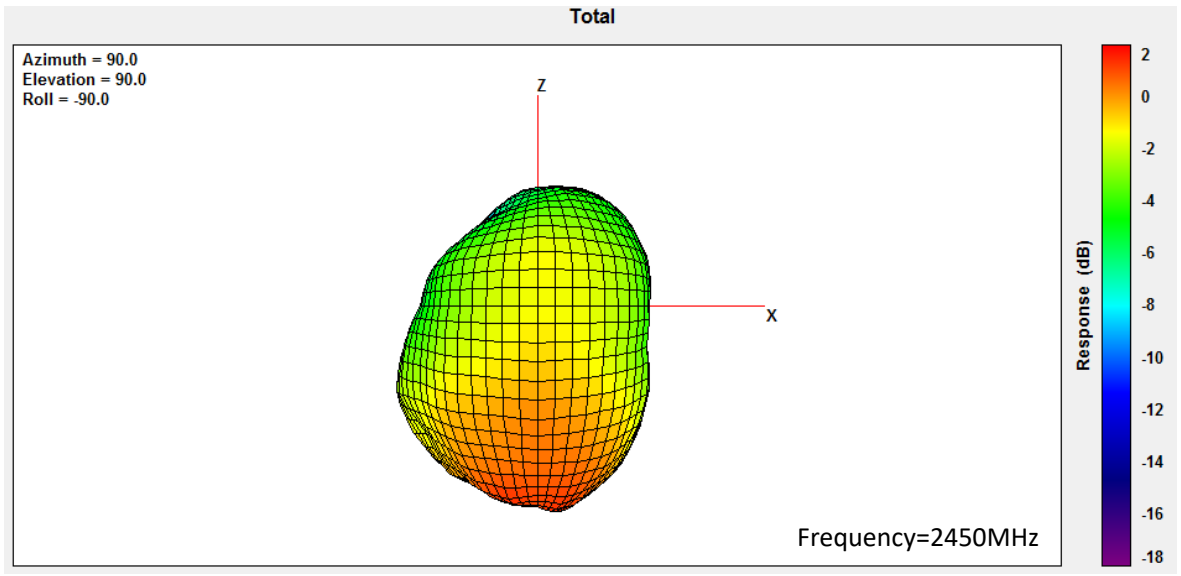


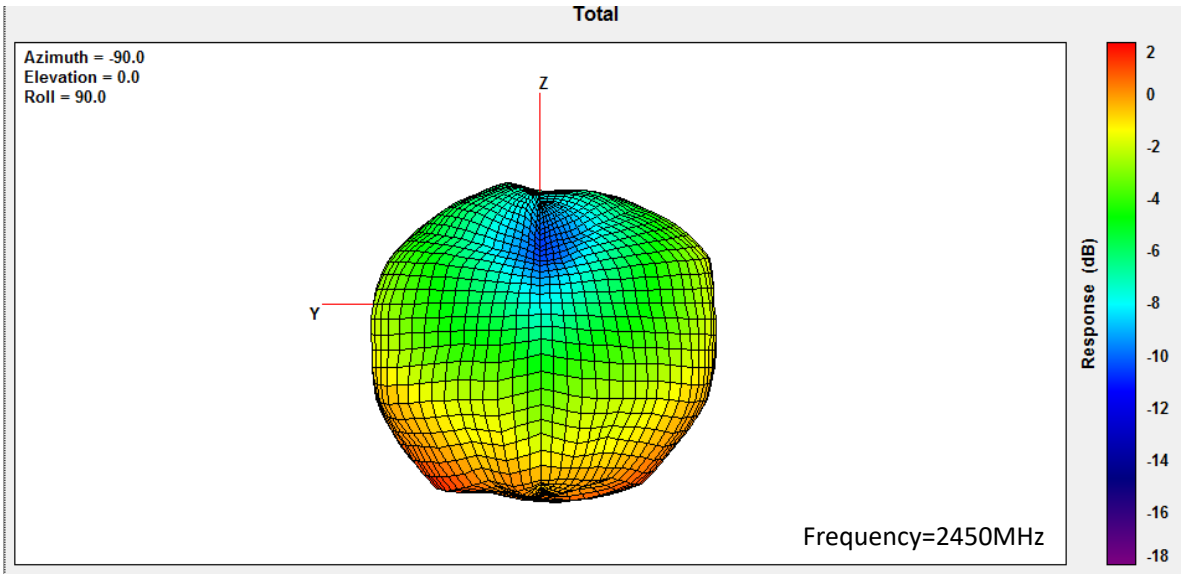
3.3 3-D antenna pattern

3.3.1 Earbuds_R

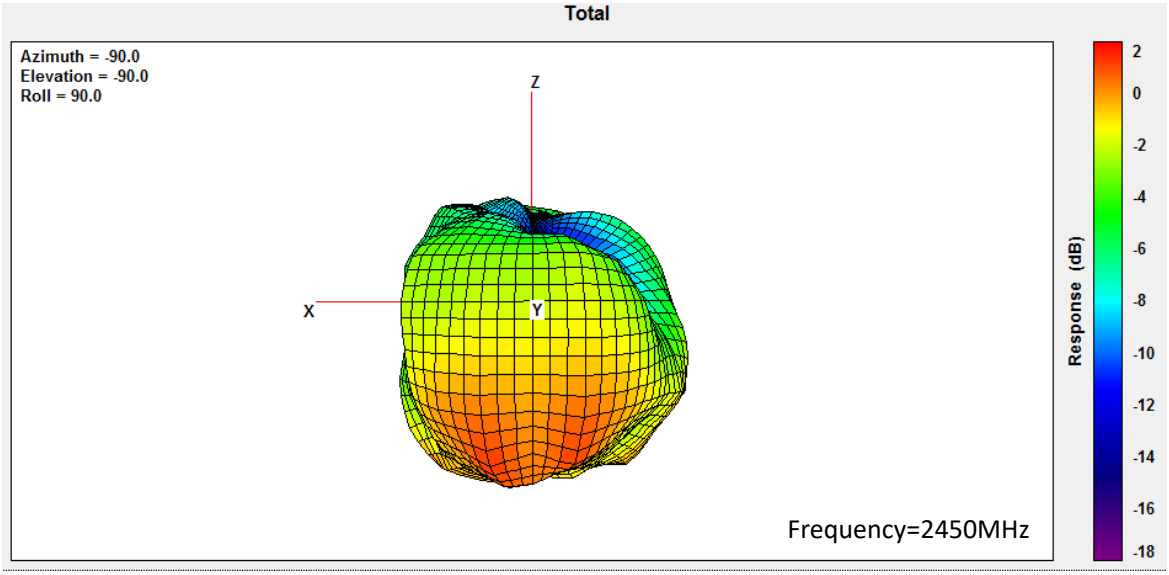


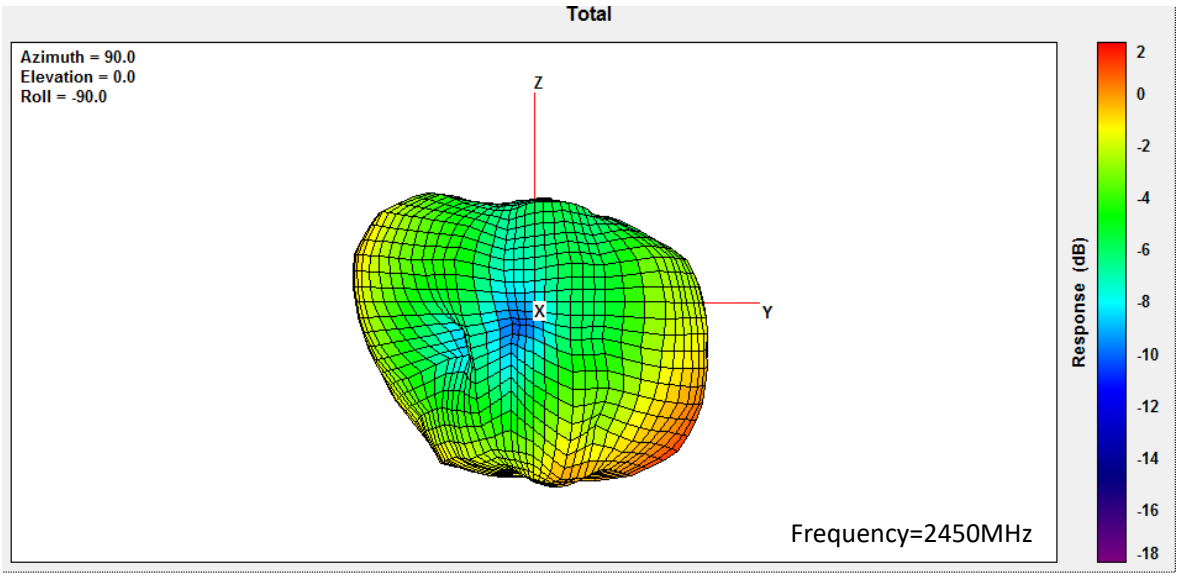


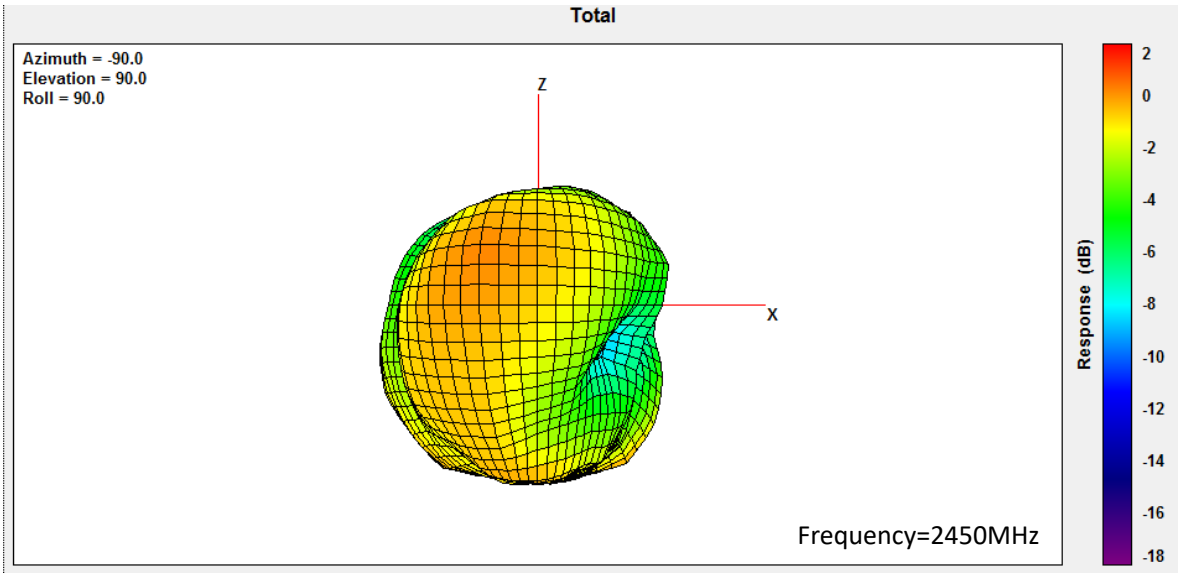


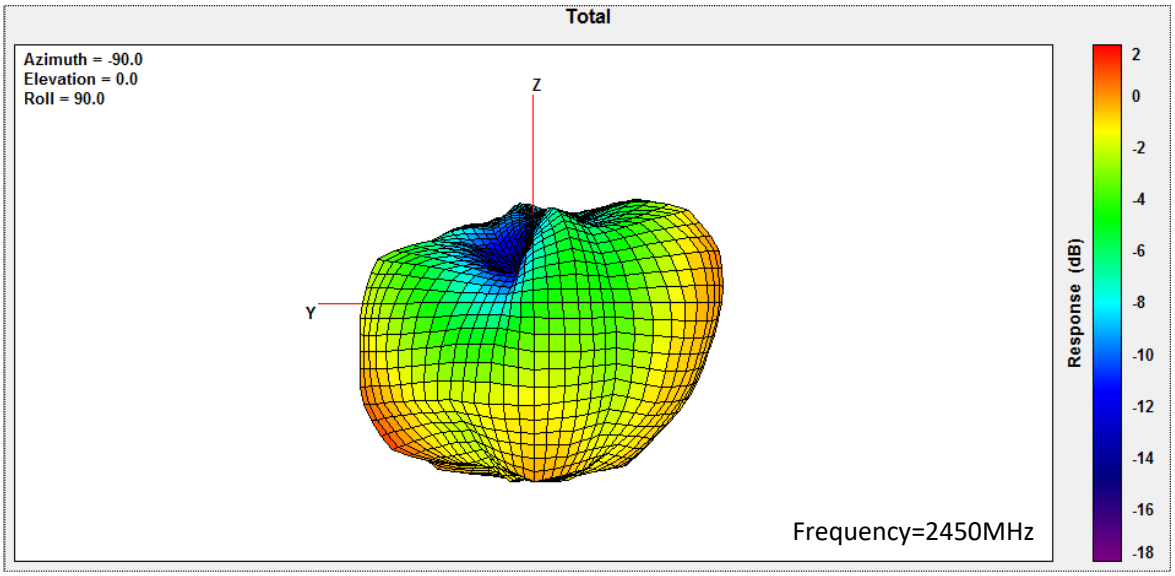


3.3.2 Earbuds_L




Total
Azimuth = 90.0
Elevation = 0.0
Roll = -90.0
Z
X
Y
Frequency=2450MHz
Response (dB)
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18

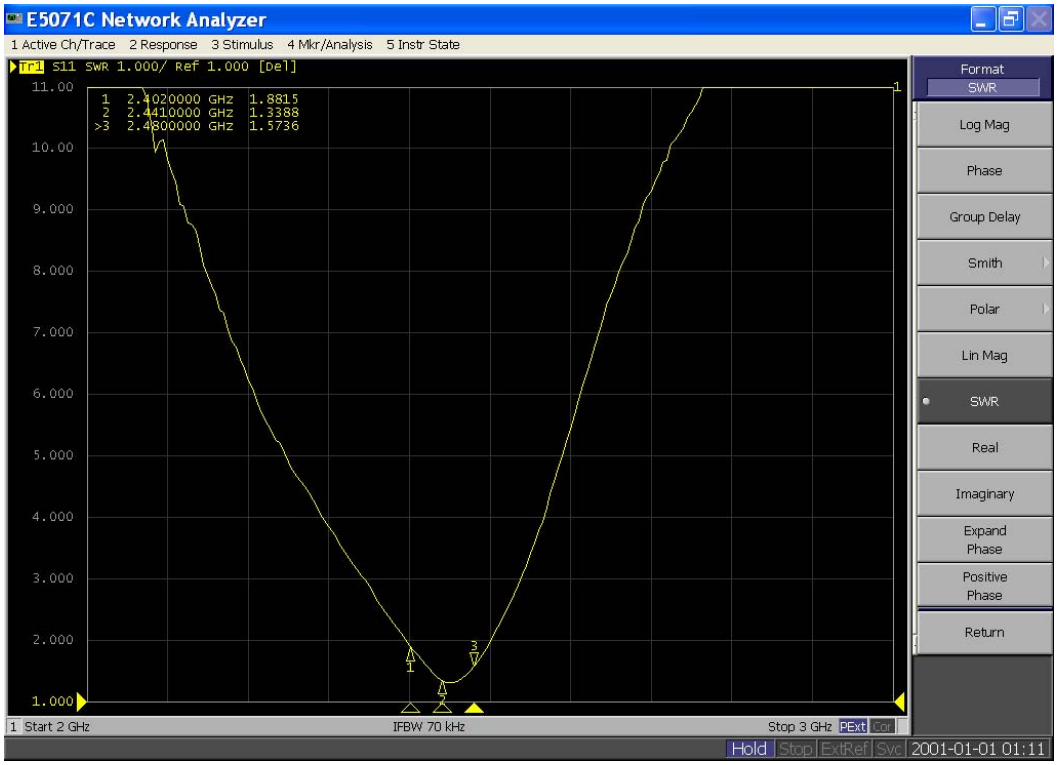

Total
Azimuth = -90.0
Elevation = 90.0
Roll = 90.0
Z
X
Frequency=2450MHz
Response (dB)
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18


Total
Azimuth = -90.0
Elevation = 0.0
Roll = 90.0
Z
Y
Frequency=2450MHz
Response (dB)
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18

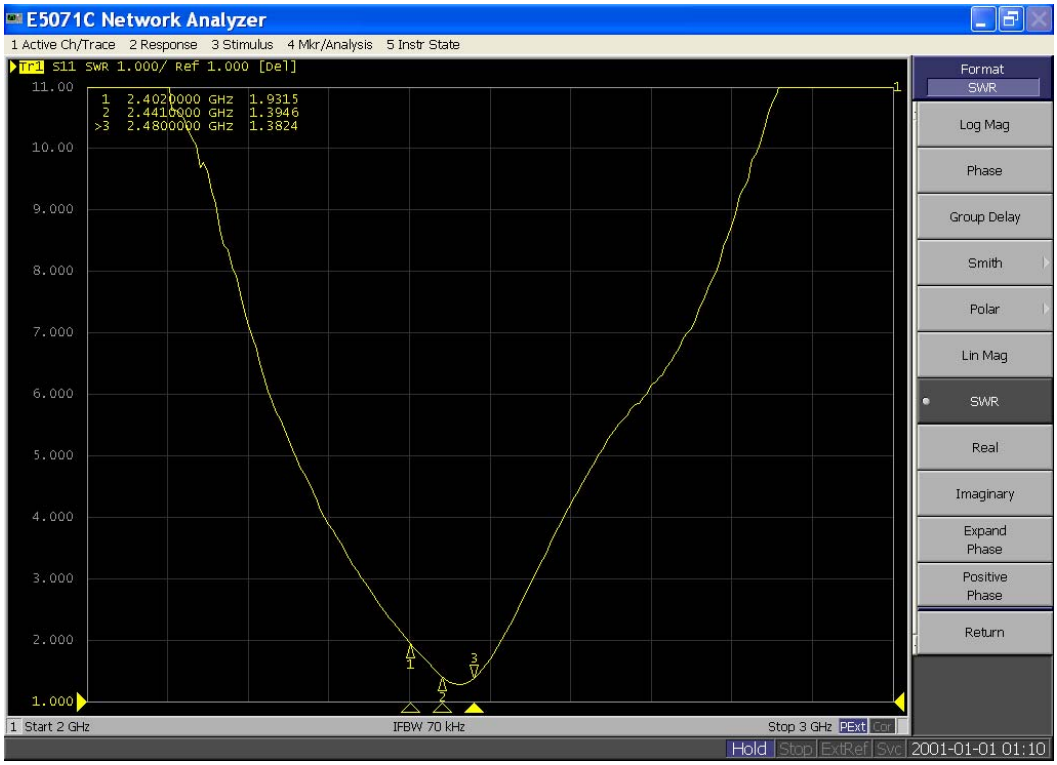
3.4 Passive pattern

3.4.1 VSWR

3.4.1.1 Earbuds_R

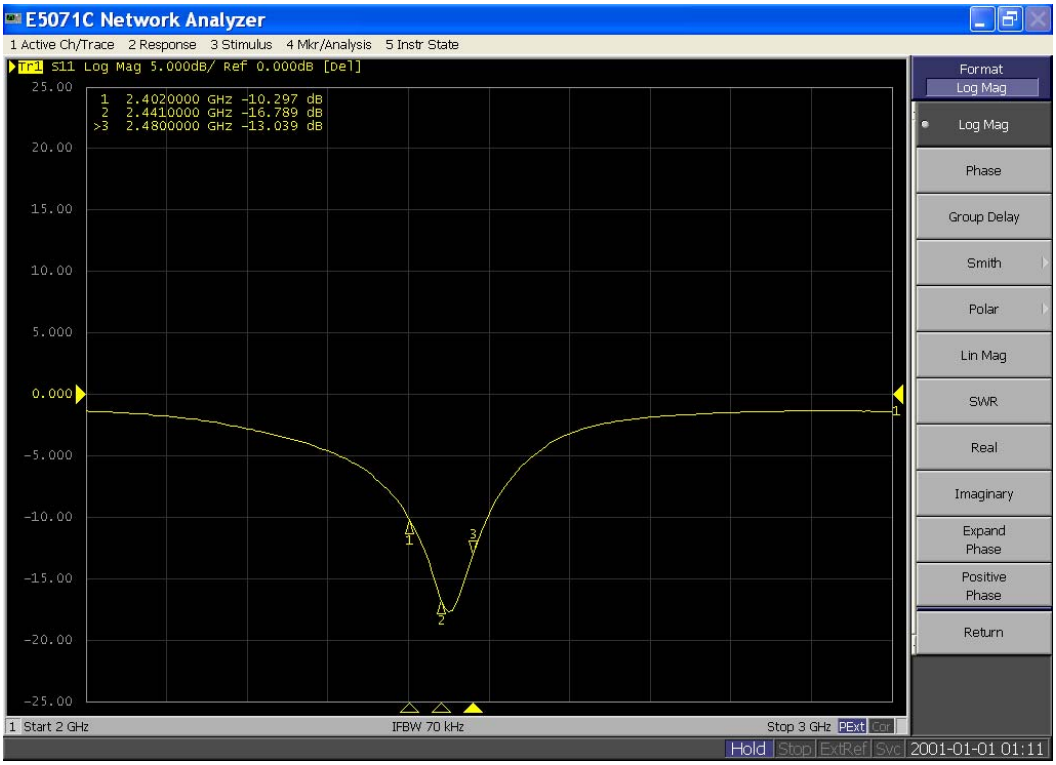


3.4.1.2 Earbuds_L

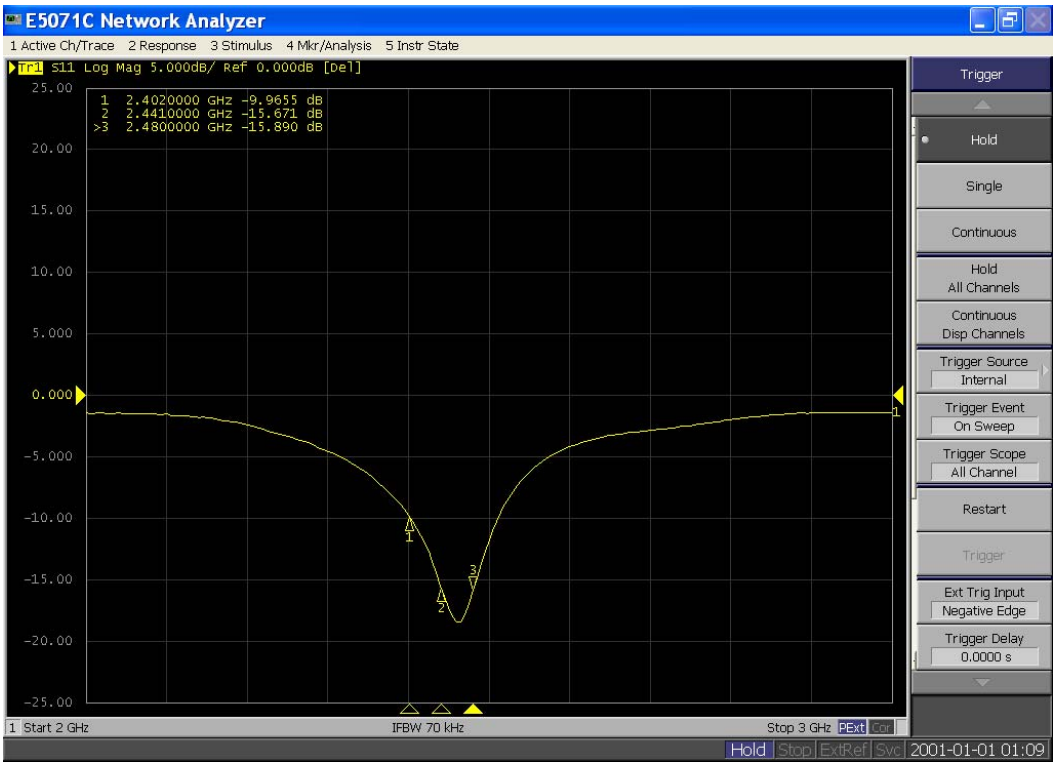


3.4.2 Return loss

3.4.2.1 Earbuds_R

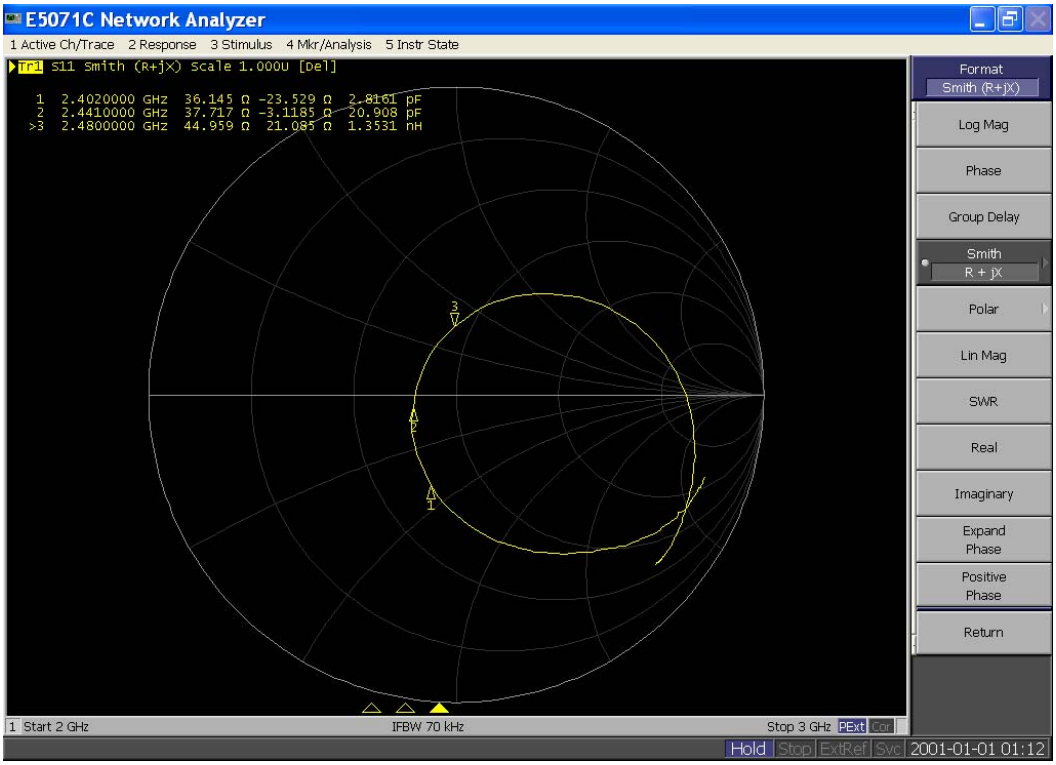


3.4.2.1 Earbuds_L

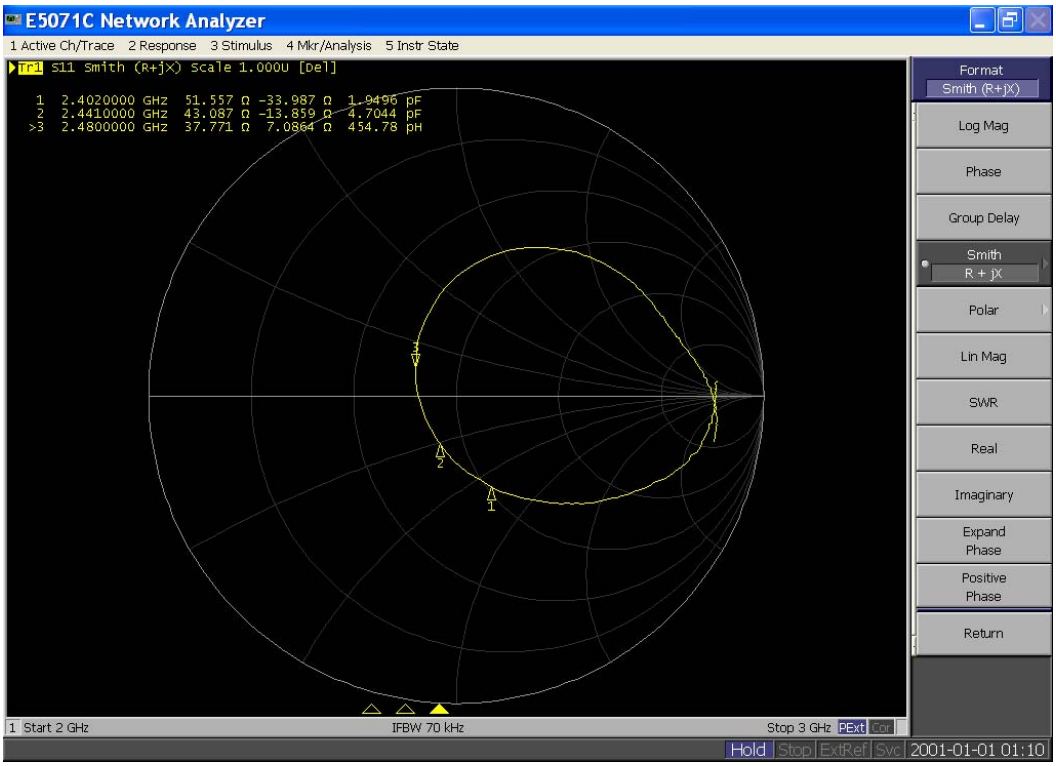


3.4.3 Impedance

3.4.3.1 Earbuds_R

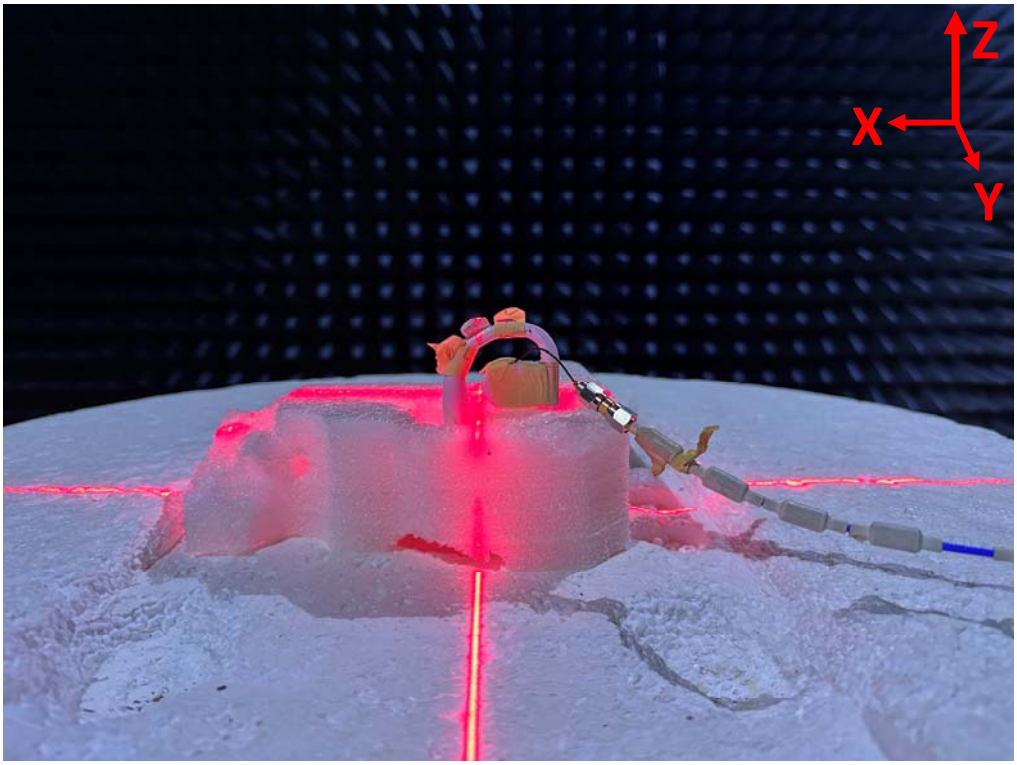


3.4.3.2 Earbuds_L



4.APPENDIX A THE EUT AND TEST CONFIGURATION

4.1 Earbuds_R



4.2 Earbuds_L