

**Shenzhen Cicent Communication Technology Co., Ltd.**

# **Antenna Specification**

Project Number: Liesheng N79

Customer Part Number:

Product Name: N79 Antenna

Cicent Project Number: SX231220-279E

**Cicent Signature:**

Issued by	Review	Approval	Date
Zhong Huazhi	Liu Jianli	Hong Yangxin	2024/01/30

## **I. Antenna Basic Parameter**

1.1 Type of Antenna: Loop Antenna

1.2 Model: N79

1.3 Dimension: Length, Width and Line width are 10.08mm, 4.23mm and 0.5mm

1.4 Frequency range: 2400MHz ~ 2480MHz

1.5 Gain: Left Ear, -3.12dBi; Right Ear, -2.90dBi

1.6 VSWR:  $\leq 2$

1.7 Return Loss:  $\leq -9$ dB

1.8 Polarization: Linear

1.9 Radiation: Omni-directional

1.10 Manufacturer: Shenzhen Cicent Communication Technology Co., Ltd.

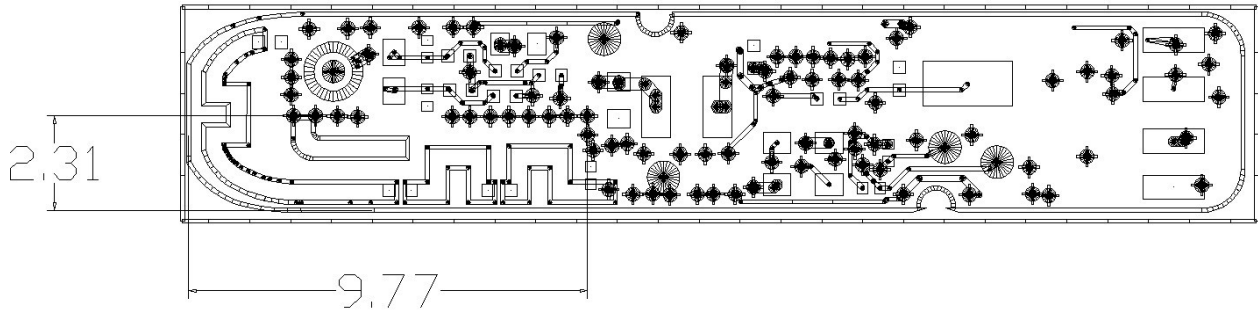
1.11 Headquarters Add: 505-506 ,A Block, Donglian Building, Chuangye 2  
road, Baoan District, Shenzhen, Guangdong, P.R china

1.12 Factory Add: 9th Floor, Building 6, Times Thinking ,No. 159 Luwu Sanlian  
Road, Changping Town, Dongguan City, Guangdong Province

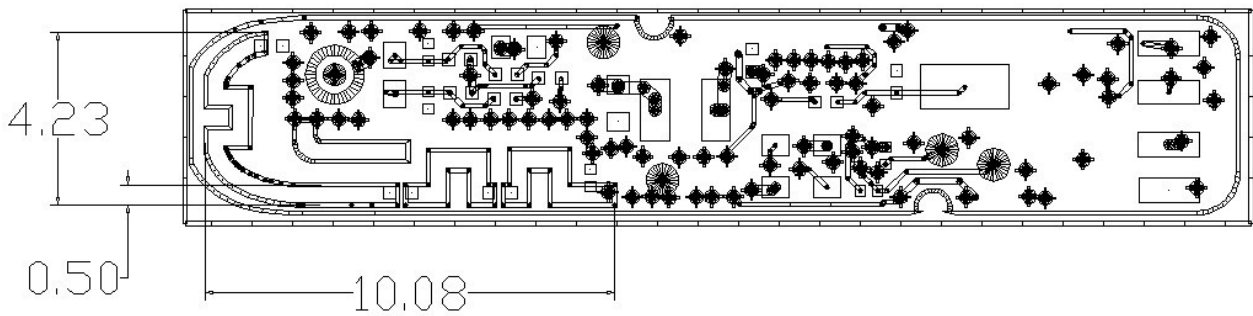
## II. Antenna Dimension

### 2.1 Antenna drawings (Same for left and right ears)

Clearance area:



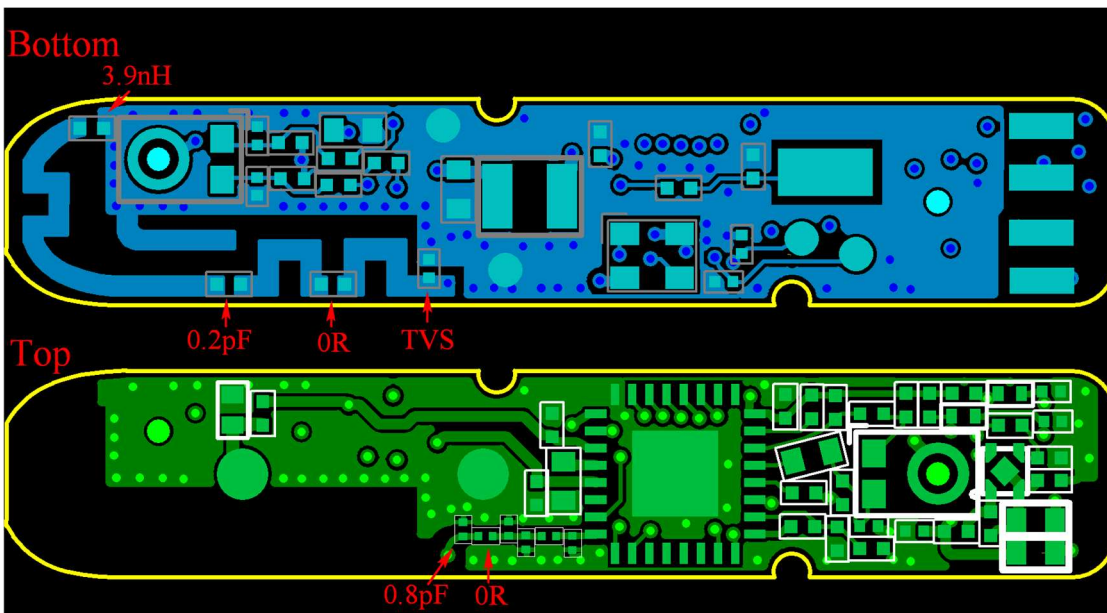
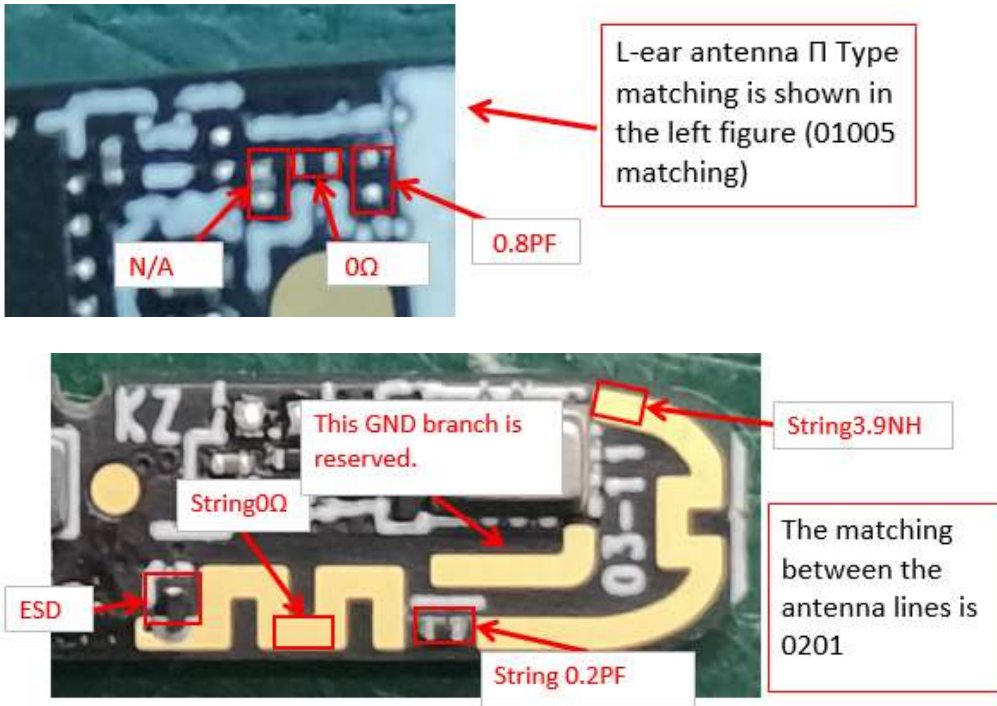
Antenna size:



### III. Electricity Performance

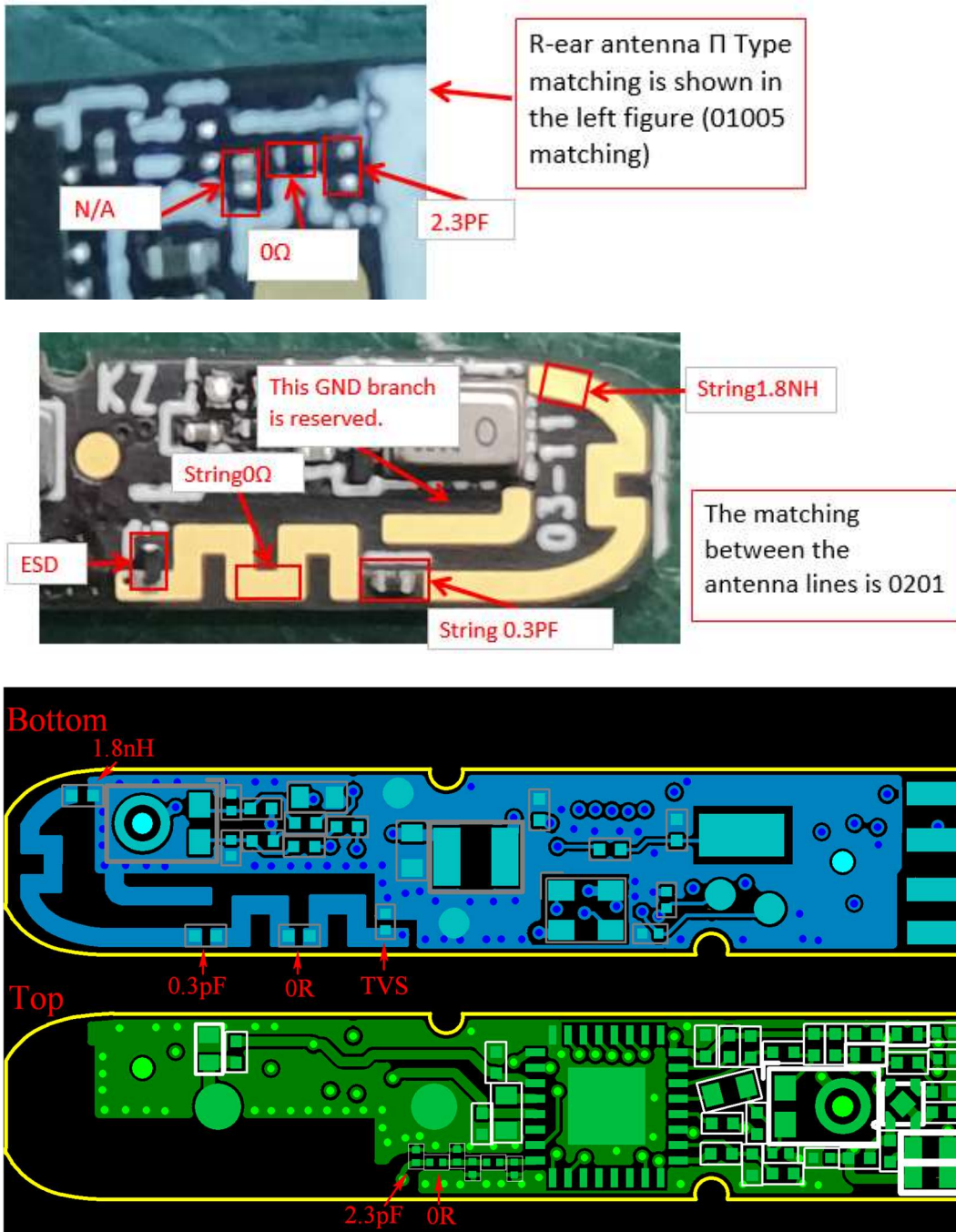
#### 3.1 Antenna Matching

L:



The material values attached to the original state on the P1.1 motherboard are shown in the above figure

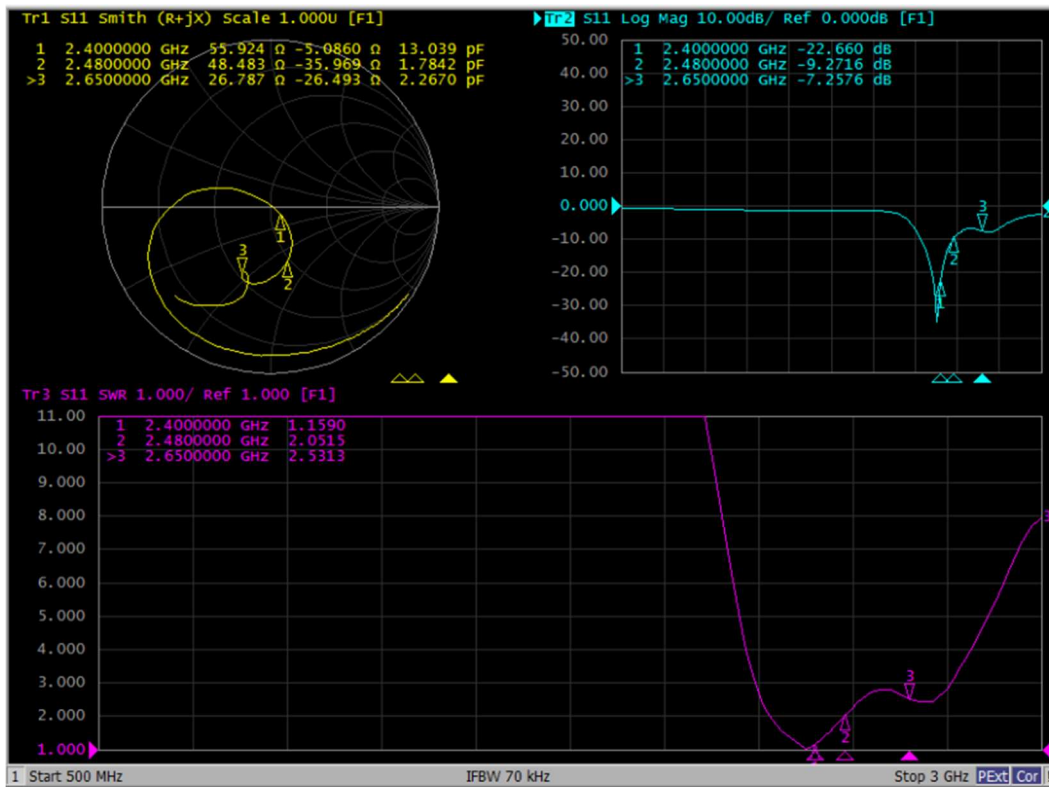
R:



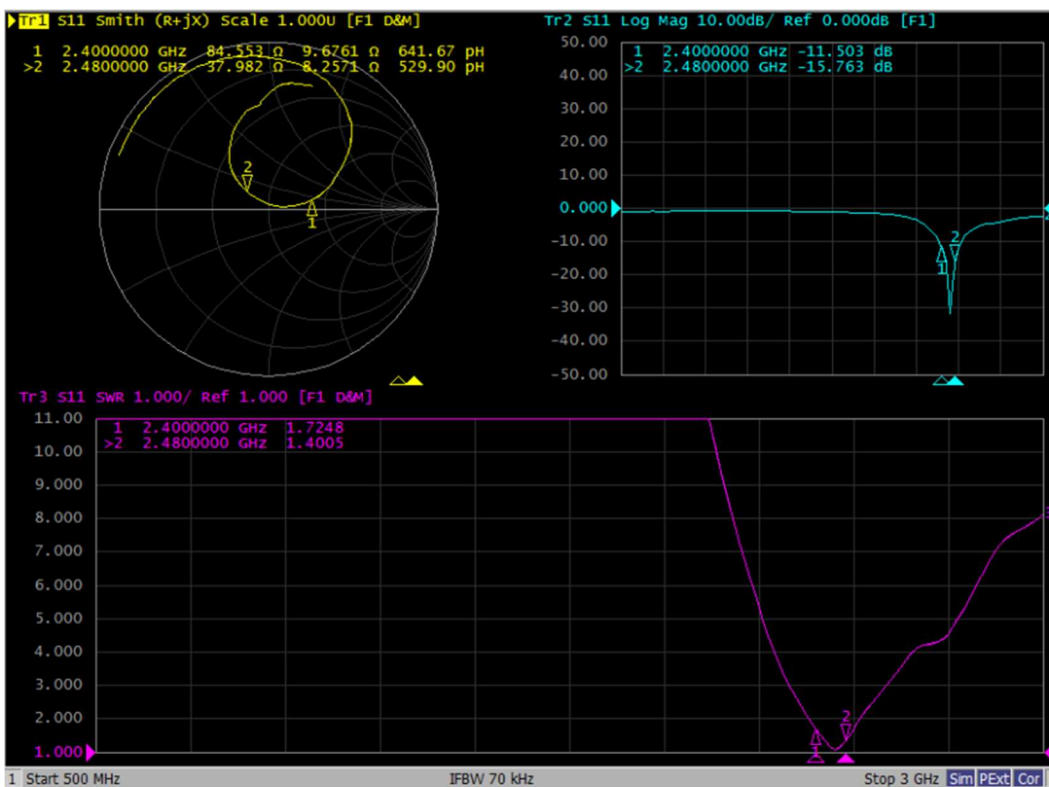
The material values attached to the original state on the P1.1 motherboard are shown in the above figure

### 3.2 Return Loss

The figure below shows the return loss value of the antenna operating band.



Left ear



Right ear

### 3.3 Antenna Efficiency

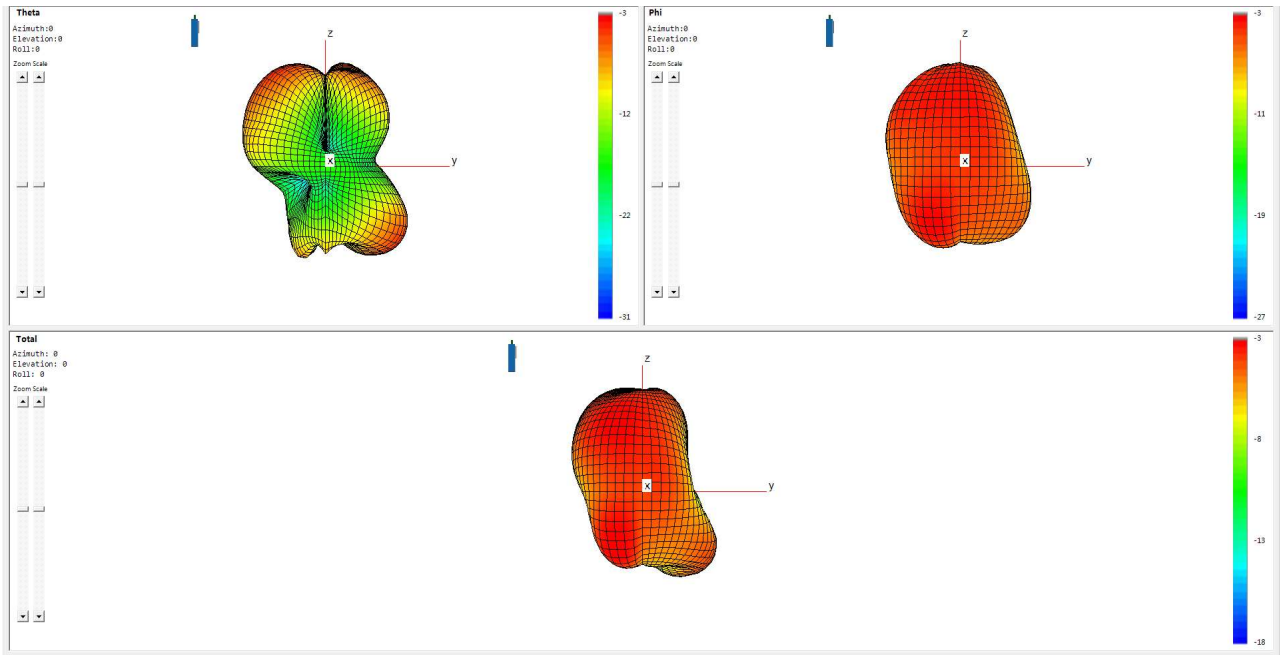
L			
Frequency (MHz)	Efficiency	Efficiency (dB )	Gain (dBi)
2400	25.3%	-5.97	-3.16
2410	24.7%	-6.08	-3.40
2420	23.9%	-6.22	-3.41
2430	24.4%	-6.13	-3.36
2440	23.9%	-6.22	-3.62
2450	25.7%	-5.90	-3.33
2460	27.6%	-5.59	-3.12
2470	26.8%	-5.73	-3.46
2480	26.6%	-5.75	-3.50
Average value	25.4%	-5.95	-3.37

R			
Frequency (MHz)	Efficiency	Efficiency (dB )	Gain (dBi)
2400	23.6%	-6.27	-3.32
2410	24.1%	-6.18	-3.18
2420	24.6%	-6.10	-3.00
2430	23.9%	-6.21	-3.05
2440	23.1%	-6.37	-3.16
2450	23.4%	-6.31	-3.04
2460	22.5%	-6.48	-3.15
2470	23.3%	-6.32	-2.90
2480	23.5%	-6.29	-2.97
Average value	23.6%	-6.28	-3.09

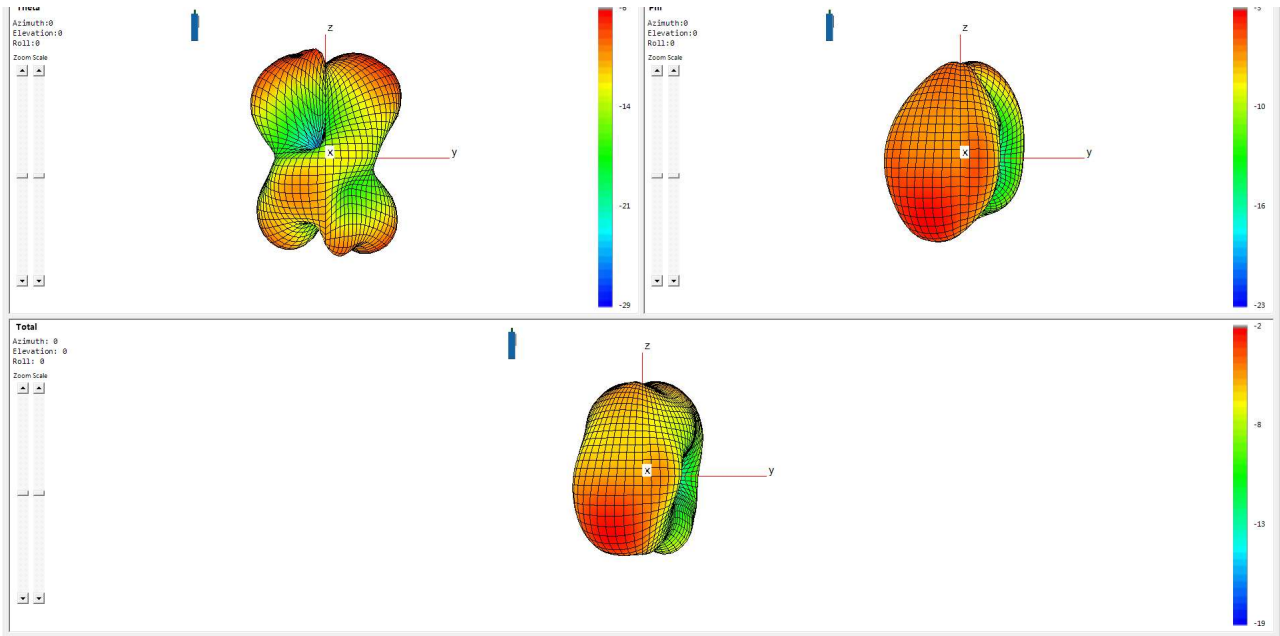
Free space efficiency

### 3.4 Radiation Pattern

#### 3.4.1 3D Pattern



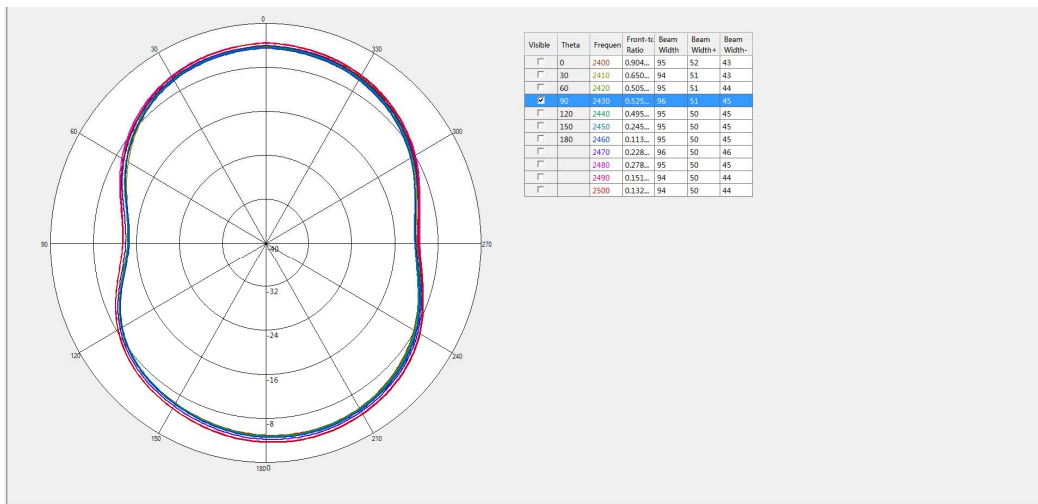
Left Ear 3D Antenna Pattern



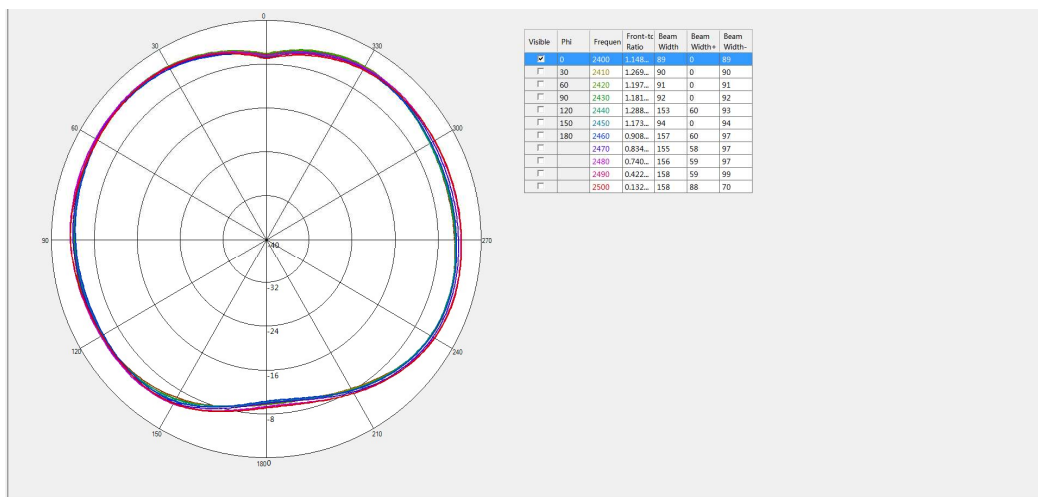
Right Ear 3D Antenna Pattern



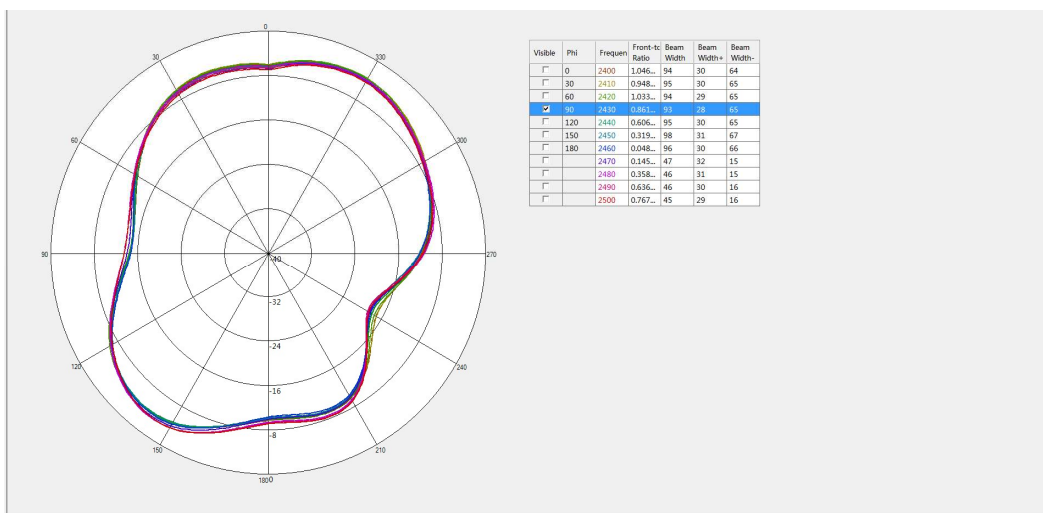
### 3.4.2 2D Pattern



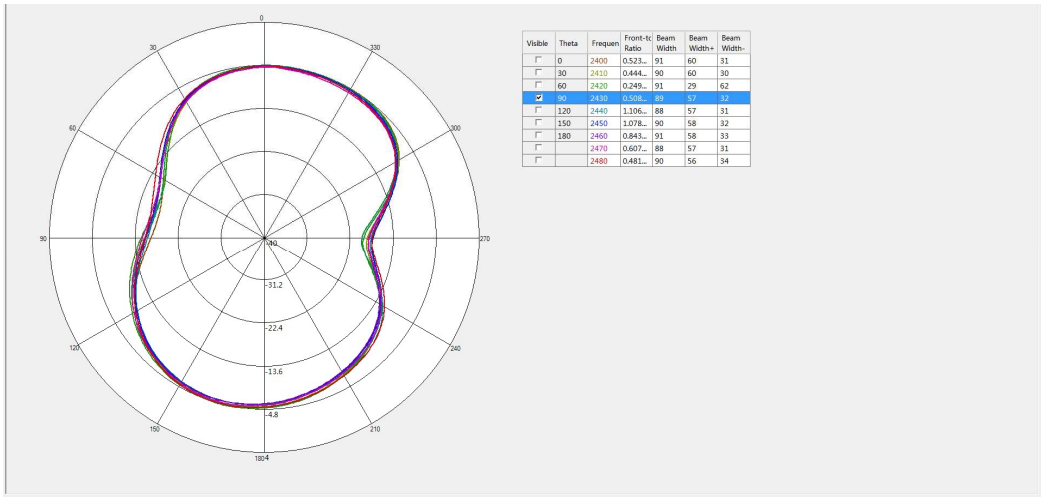
Theta=90°, Left Ear 2D Antenna Pattern



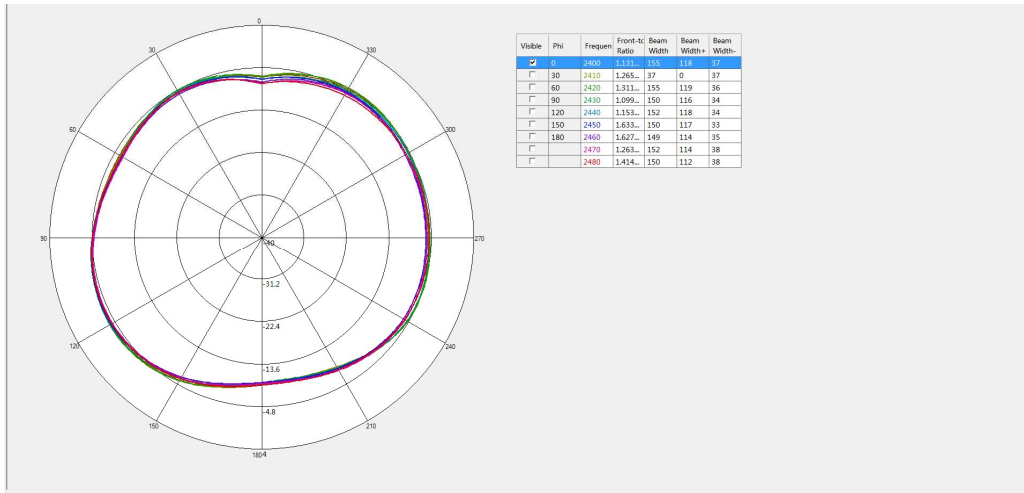
Phi=0°, Left Ear 2D Antenna Pattern



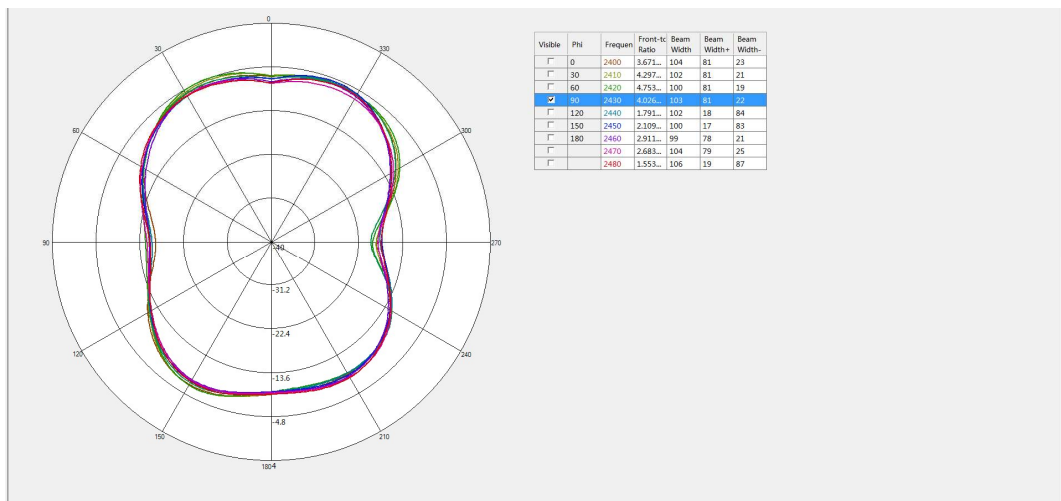
Phi=90°, Left Ear 2D Antenna Pattern



Theta=90<sup>0</sup>, Right Ear 2D Antenna Pattern



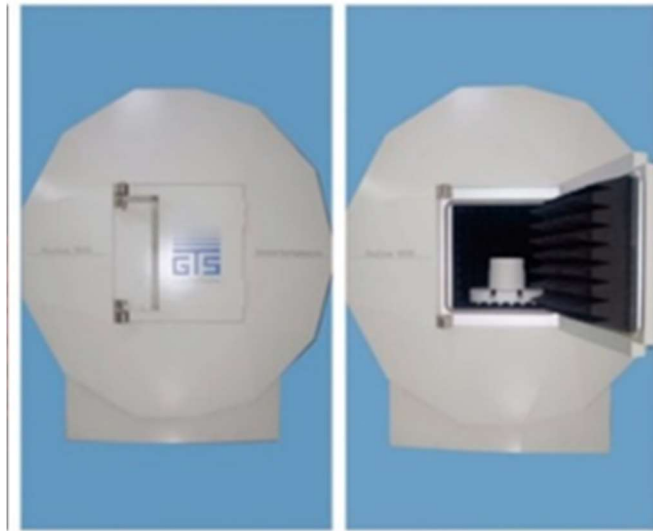
Phi = 0<sup>0</sup>, Right Ear 2D Antenna Pattern



Phi = 90<sup>0</sup>, Right Ear 2D Antenna Pattern

## IV. Test Equipment

### 4.1 Compact OTA Test System

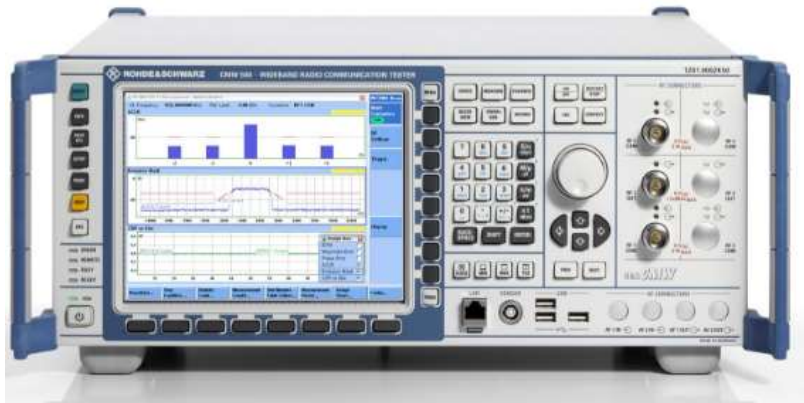


Model: RayZone 1800;  
Calibration Date: 2023/11/05

### 4.2 Test Equipment



Model: Agilent Technologies E5071C;  
Calibration Date: 2023/11/05



Model: ROHDE&SCHWARZ CMW500;  
Calibration Date: 2023/1105

### 4.3 Testing Software



Testing Software Name: wave Studio 23.2

### 4.4 Antenna Test Photo

