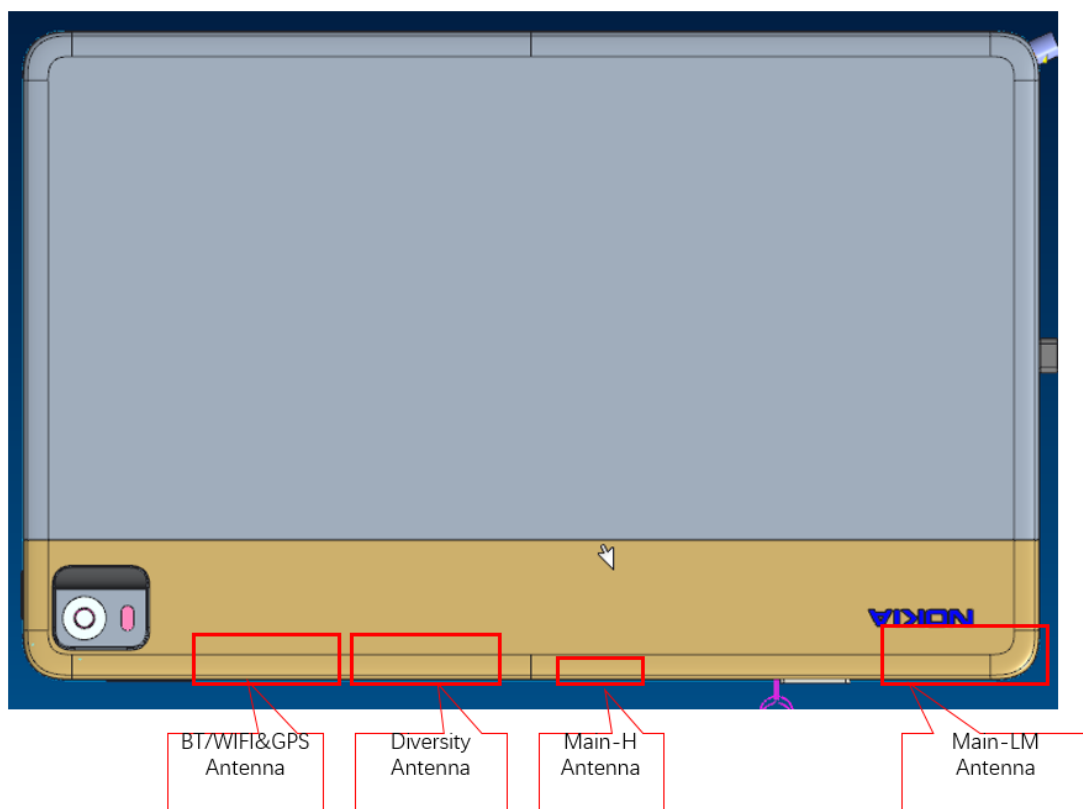


# Antenna Product Specification

Entry Name	P19616-3IN1-XXXX-V1-RX-8 P19616-DIV-XXXX-V1-RX-6 P19616-MAIN-H-XXXX-V1-SPD P19616-MAIN-LM-XXXX-V1-SPD
Frequency Channel	GSM: 850,900,1800,1900 WCDMA: 1,5,8 LTE : 1, 3, 5, 7, 8, 20, 28, 38, 40 ,41 GPS/BT/WIFI(2.4G&5G)
Supplier Name	Huizhou speed wireless technology co.,ltd.; innowave

## 1. Antenna location



## 2. Frequency Channel of Implementation antenna

Main-LM antenna	FDD: B1/ B3/ B5 /B8 /B20/B28 RX&TX UMTS: B1/ B5/B8 RX&TX GSM:B2/B3/B5/B8 RX&TX
Main-H antenna	FDD: B7 RX&TX TDD: B38/B40/B41 RX&TX
Div antenna	FDD: B1/ B3/ B5 /B7/B8/ B20/B28 RX TDD: B38/B40/B41 RX UMTS: B1 /B5/B8 RX GSM:B3/B5/B8 RX
3IN1- antenna	GPS 2.4G 11B/11G/11N WIFI ( 2412MHz~2472MHz) 5G 11A/11N/11AC WIFI ( 5150MHz~5850MHz)

## 3. LTE/GSM/UMTS/WIFI Efficiency and Gain

	Band	Gain(dBi)
GSM	GSM850	-2.55
	GSM900	-1.51
	GSM1800	1.13
	GSM1900	-0.53
UMTS	UMTS 1	-0.53
	UMTS 5	-2.55
	UMTS 8	-1.51
LTE	LTE B1	-0.53
	LTE B3	1.13
	LTE B5	-2.55
	LTE B7	-0.85
	LTE B8	-1.51
	LTE B20	-2.55
	LTE B28	-4.22
	LTE B38	-0.85
	LTE B40	-3.51
	LTE B41	-0.85

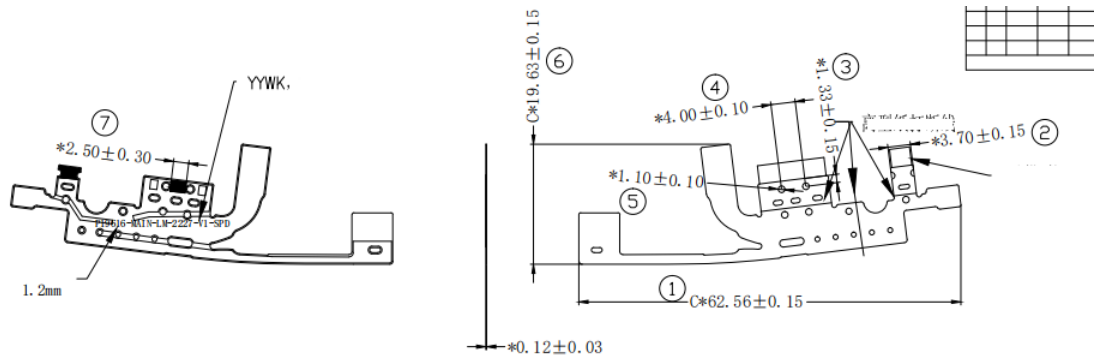
	Gain(dBi)
GPS	-0.39
2.4gWIFI	1.3
5gWIFI	-0.24

## 4. Main-LM antenna:

Antenna type:PIFA

Manufacturers: speed

Dimension: 62.56\*19.63\*0.12MM

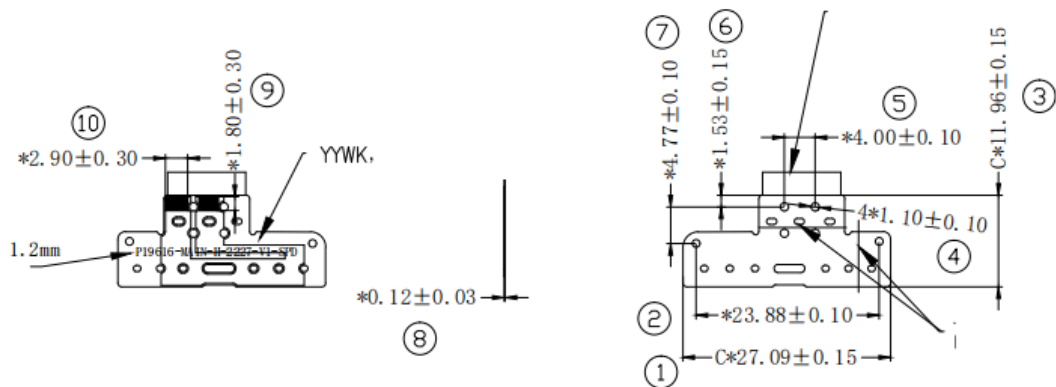


### 5. Main-H antenna:

Antenna type: PIFA

Manufacturers: speed

Dimension: 27.09\*11.96\*0.12MM

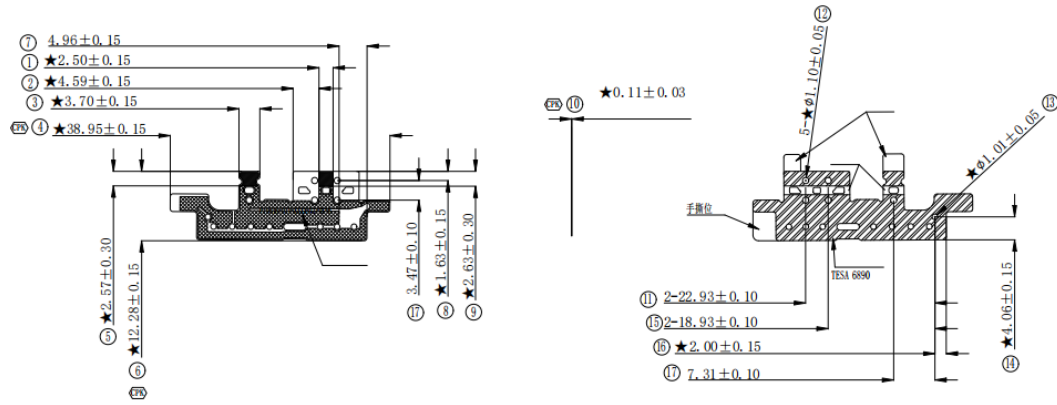


### 6. Div antenna:

Antenna type: PIFA

Manufacturers: innowave

Dimension: 38.95\*12.28\*0.11mm

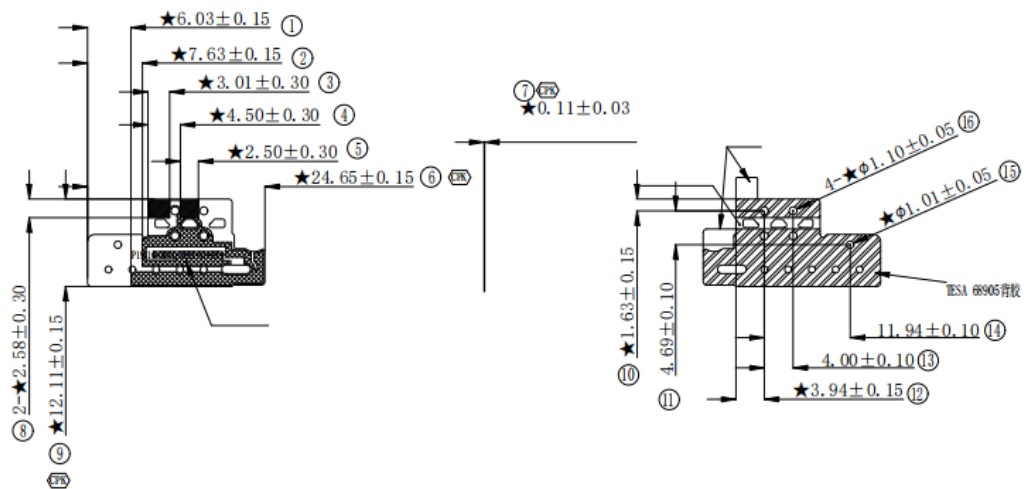


## 7. 3IN1- antenna:

Antenna type: PIFA

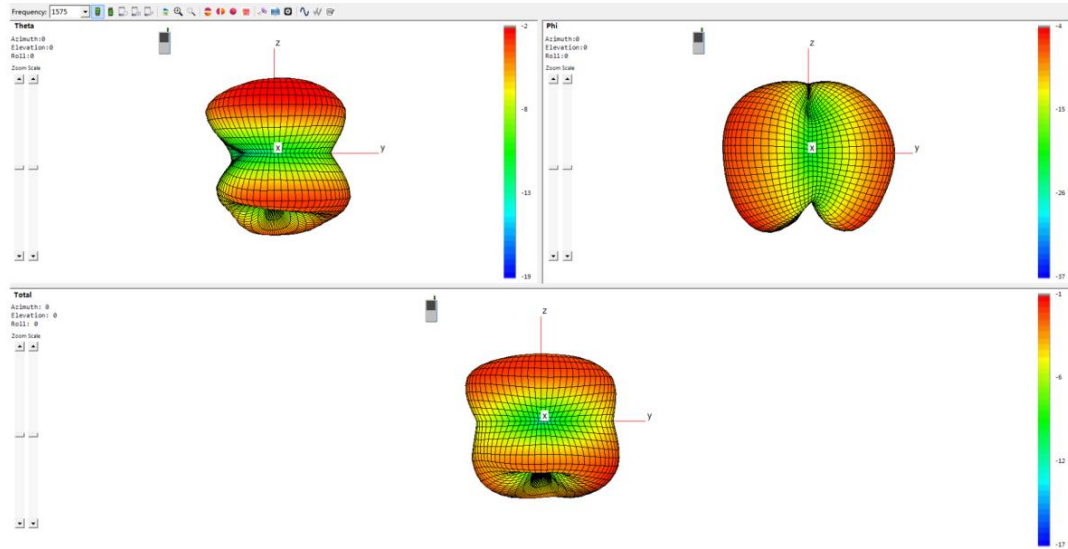
Manufacturers: innowave

Dimension: 24.65\*12.11\*0.11mm

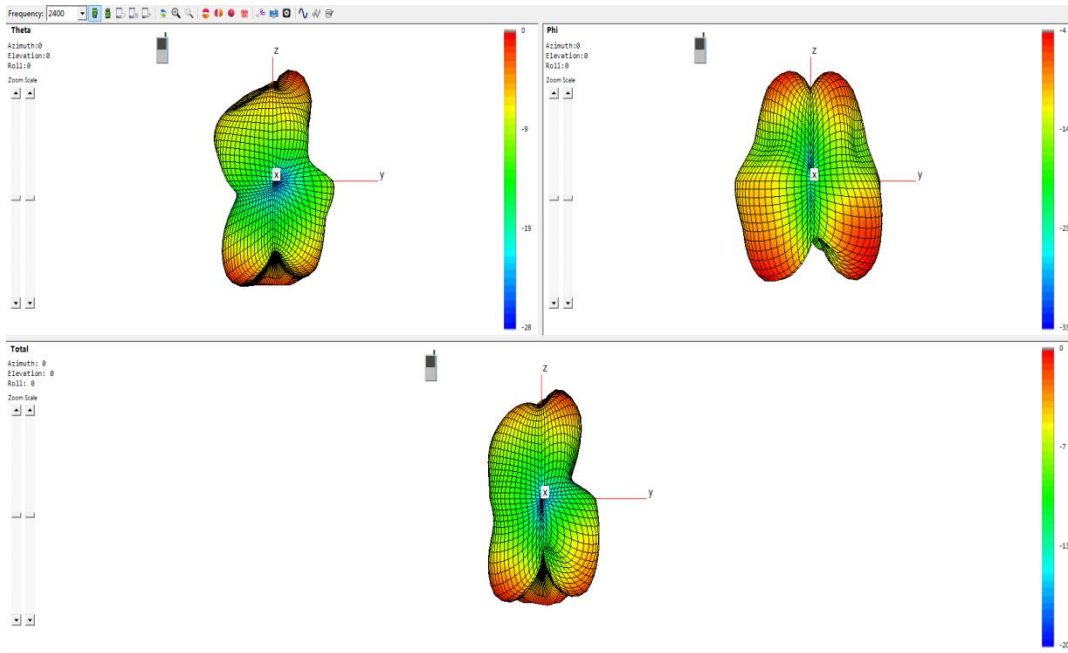


## 8. 3D Directional Pattern

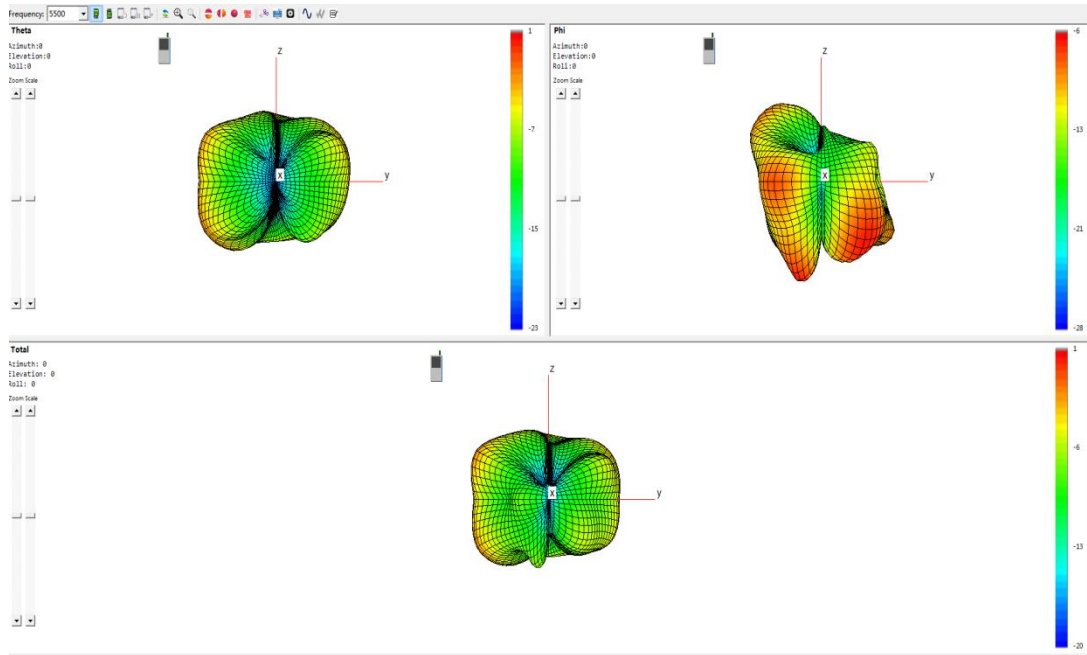
1) GPS ANT 3D



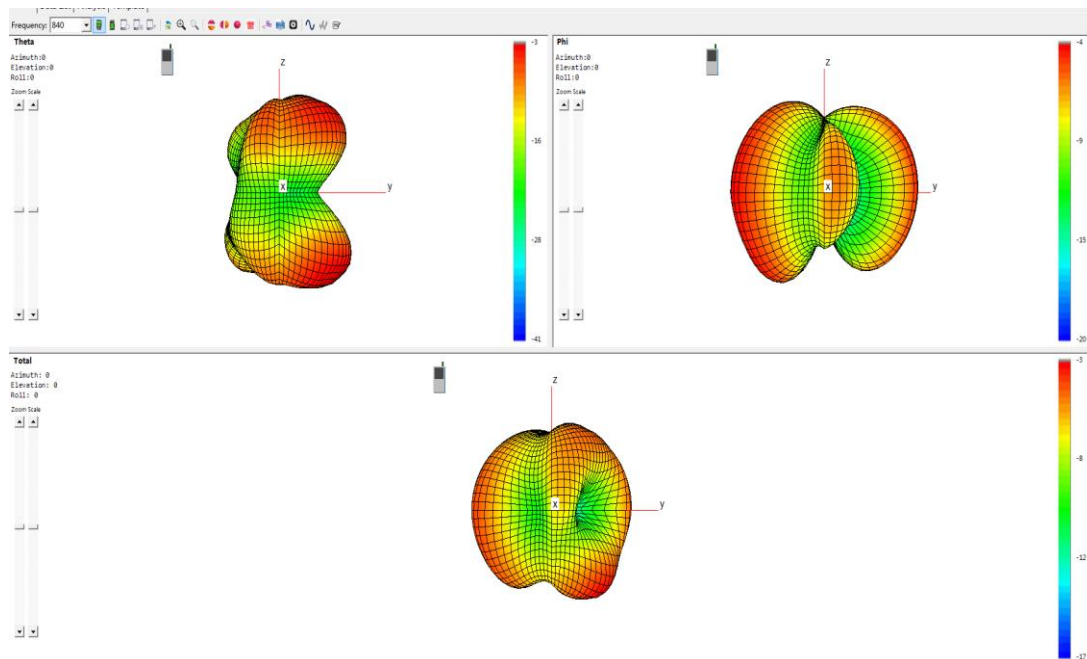
## 2) 2.4G WIFI ANT 3D



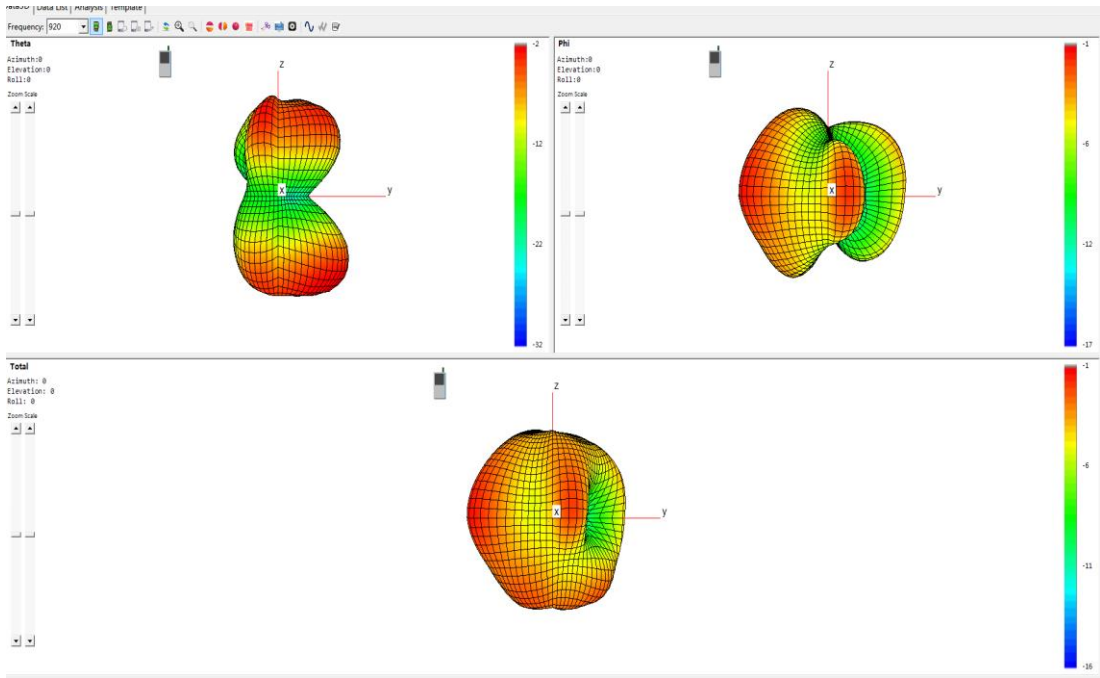
## 3) 5G WIFI ANT 3D



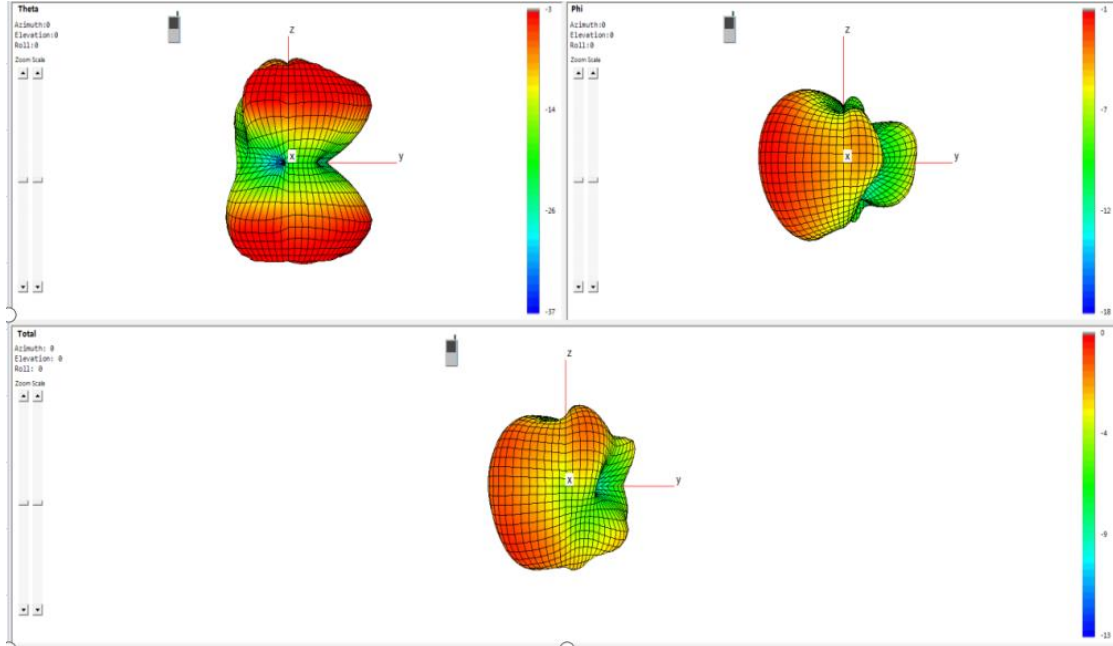
#### 4) GSM850 ANT 3D



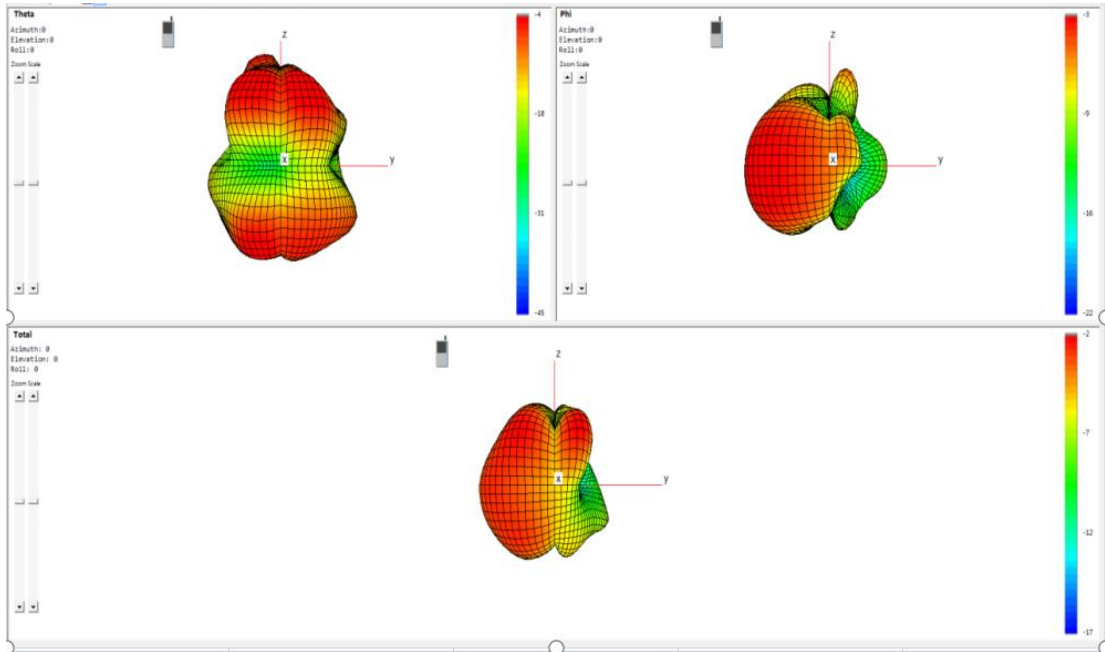
#### 5) GSM900 ANT 3D



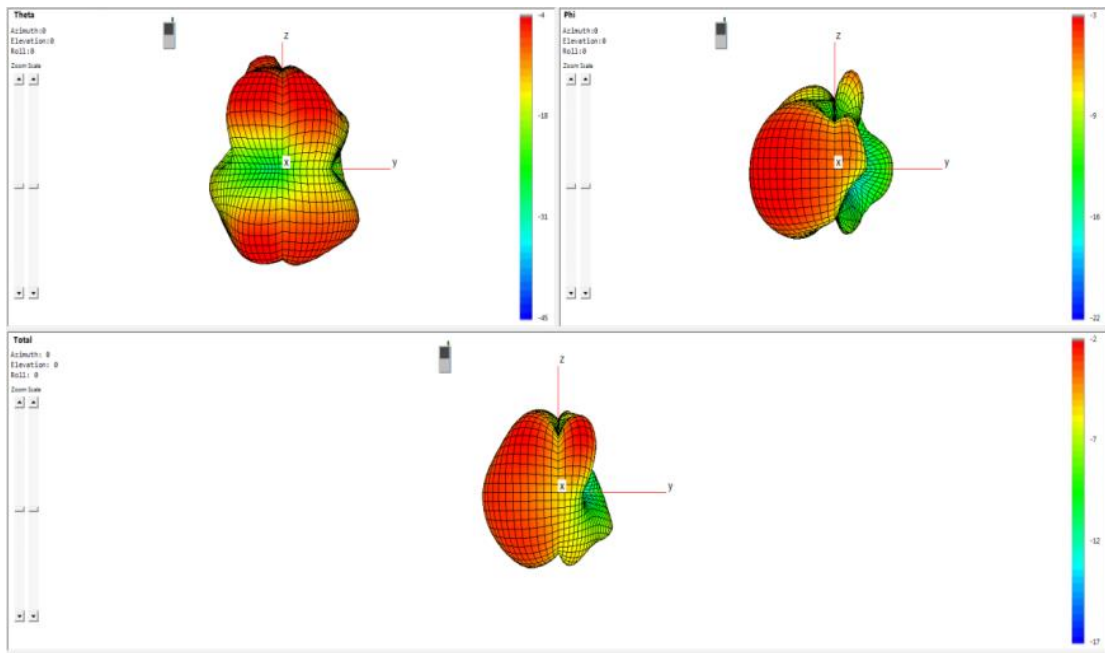
6) GSM1800 ANT 3D



7) GSM1900 ANT 3D

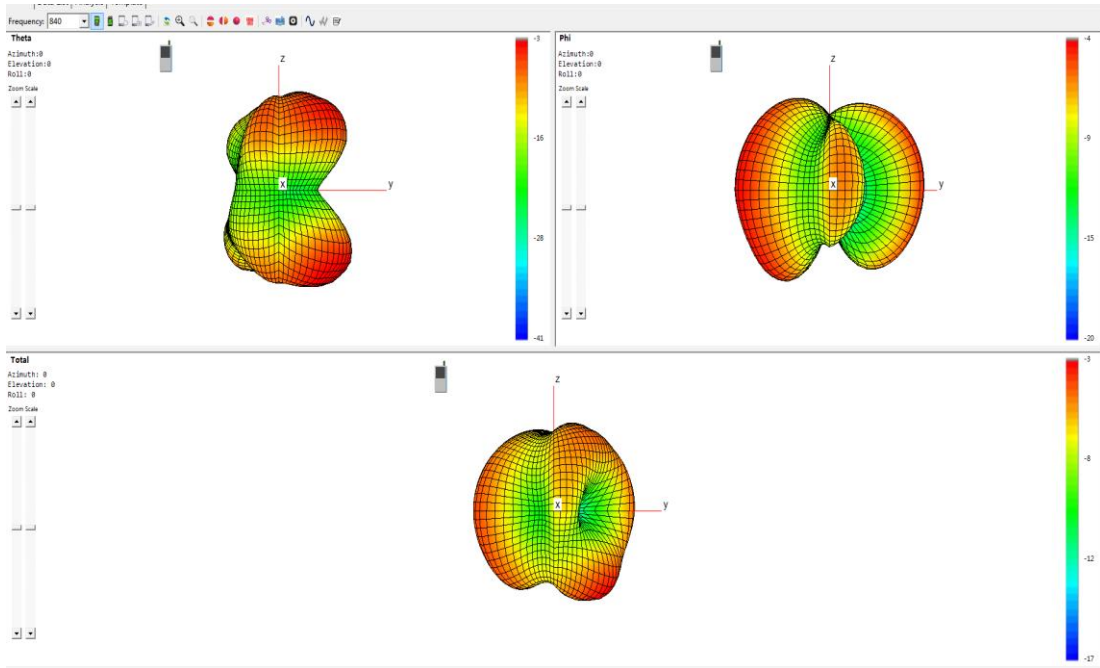


8) UMTS 1 ANT 3D

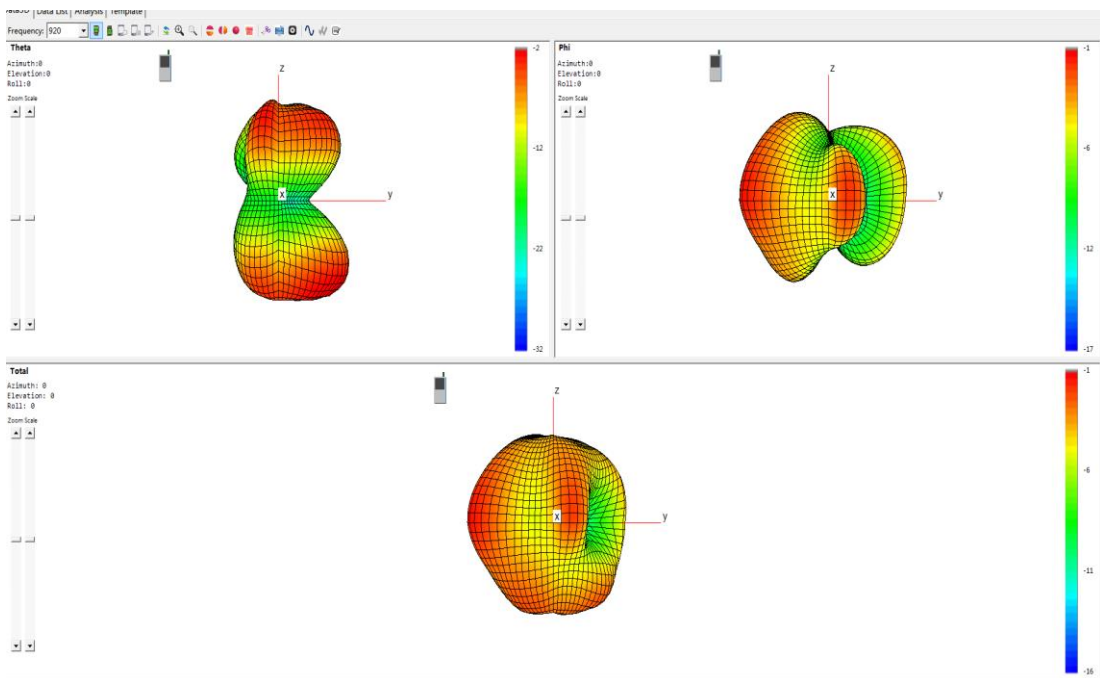


9) UMTS 5 ANT 3D

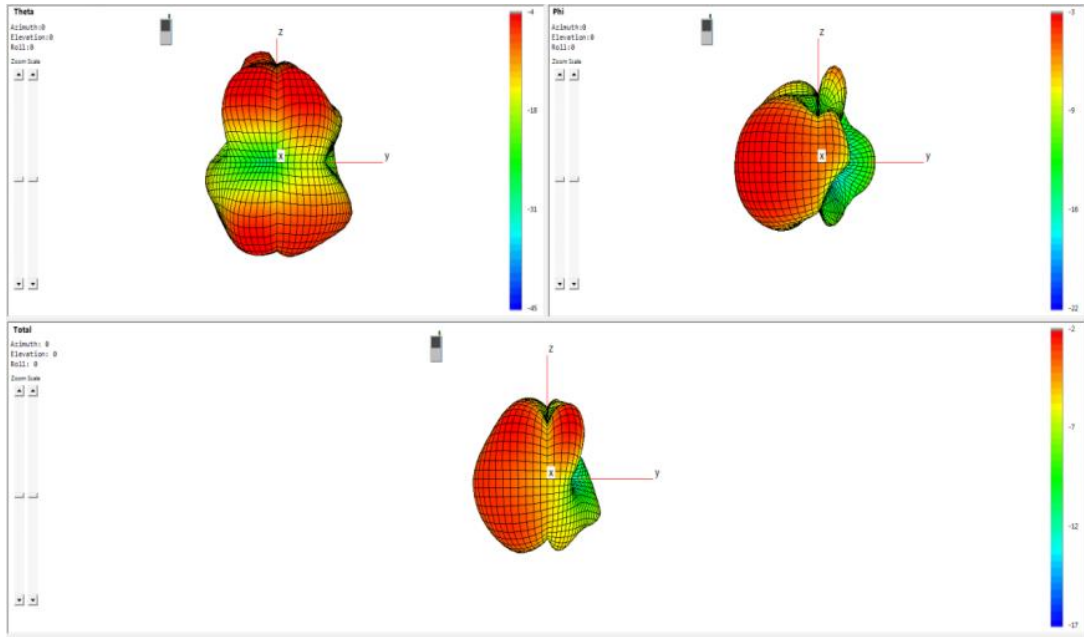




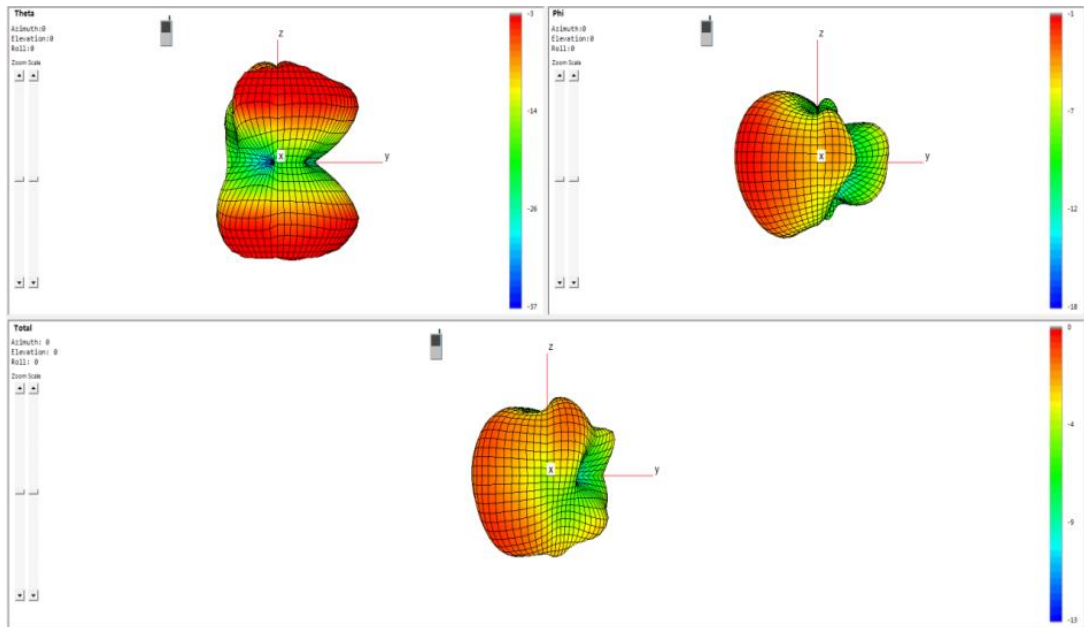
### 10) UMTS 8 ANT 3D



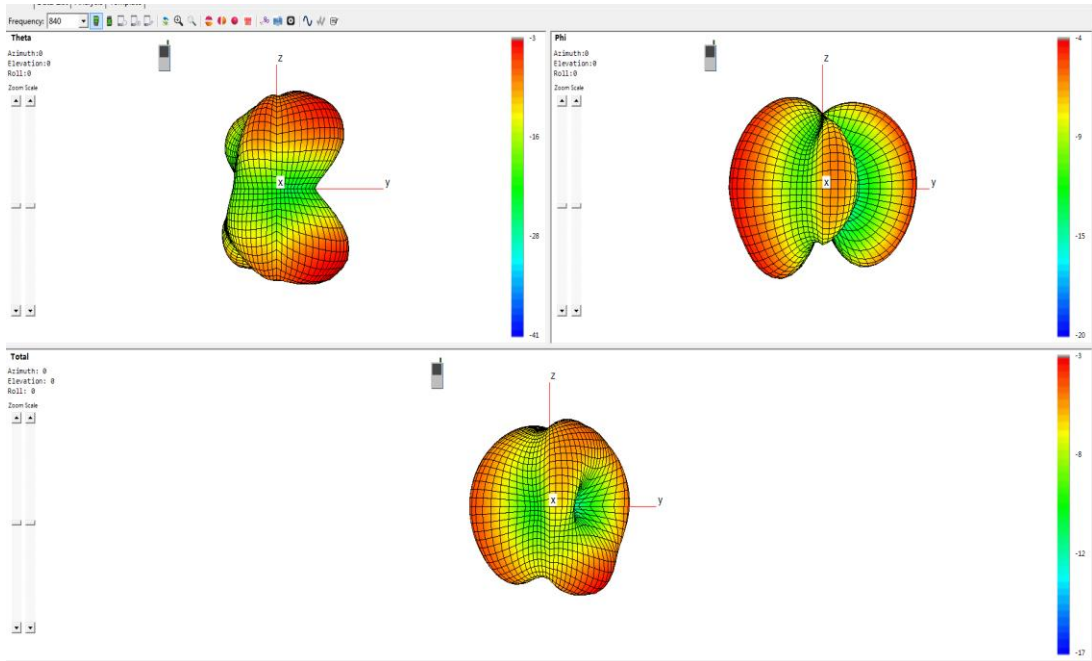
### 11) LTE B1 ANT 3D



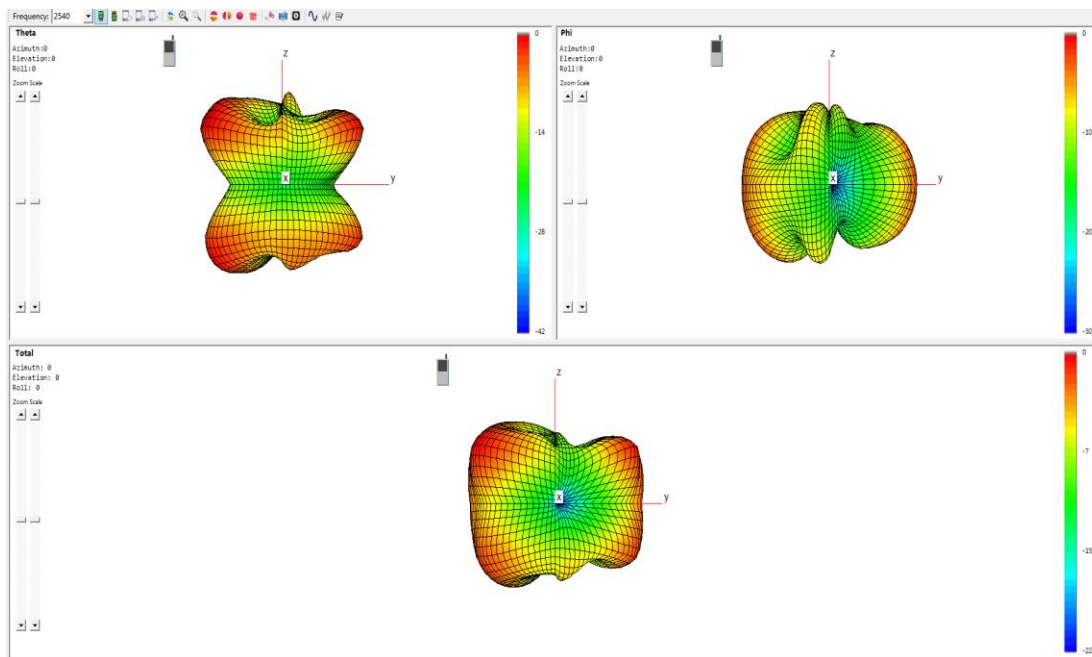
12) LTE B3 ANT 3D



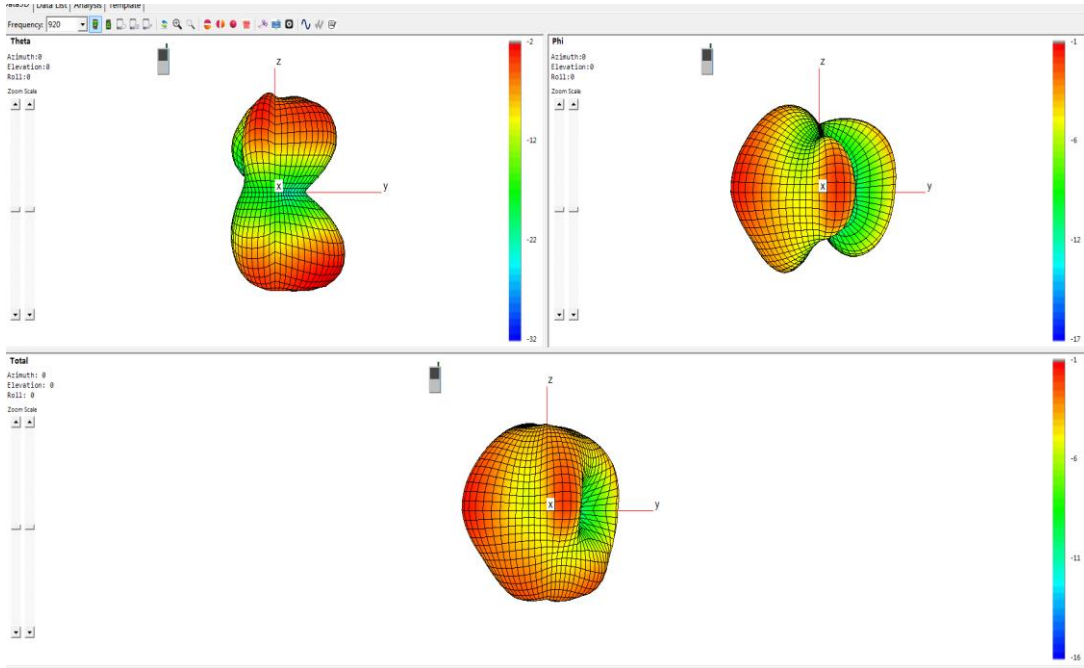
13) LTE B5 ANT 3D



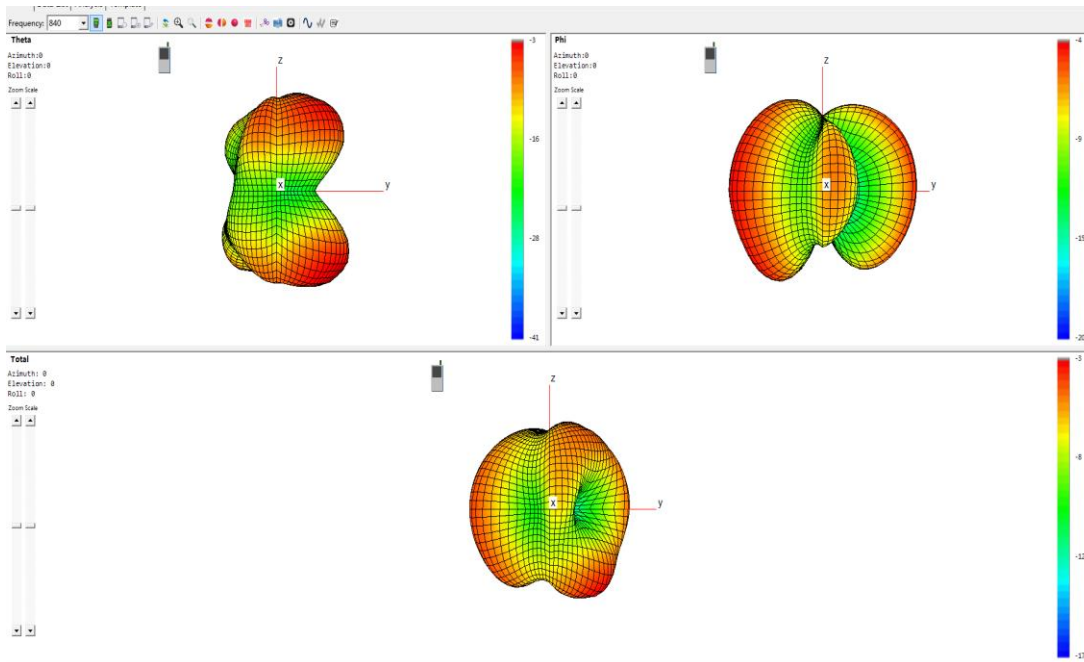
#### 14) LTE B7 ANT 3D



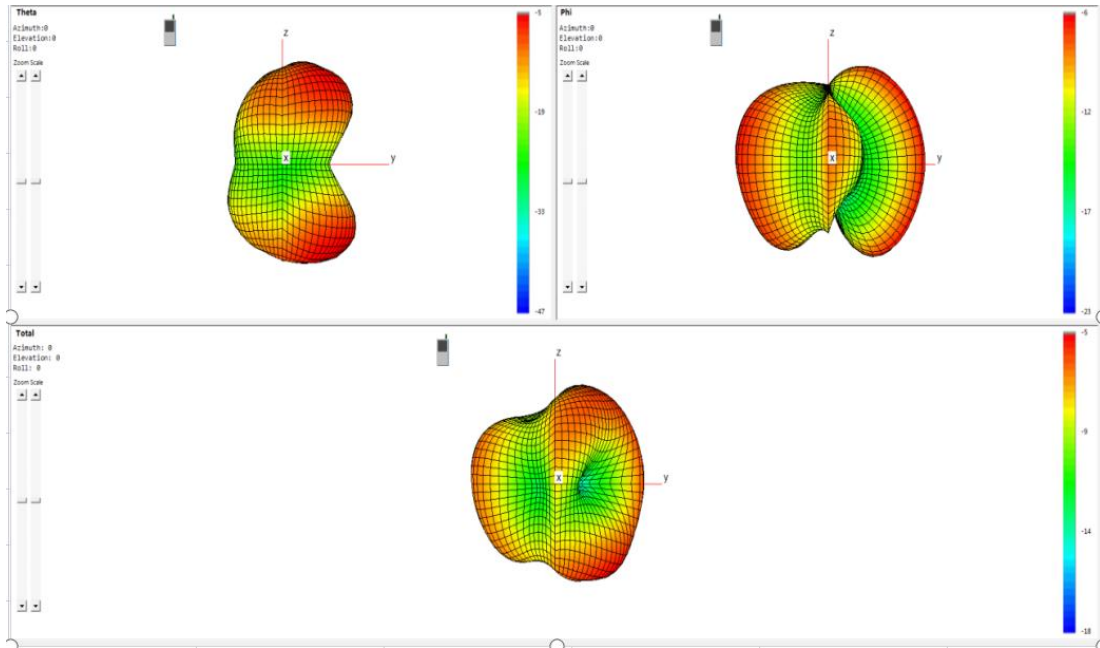
#### 15) LTE B8 ANT 3D



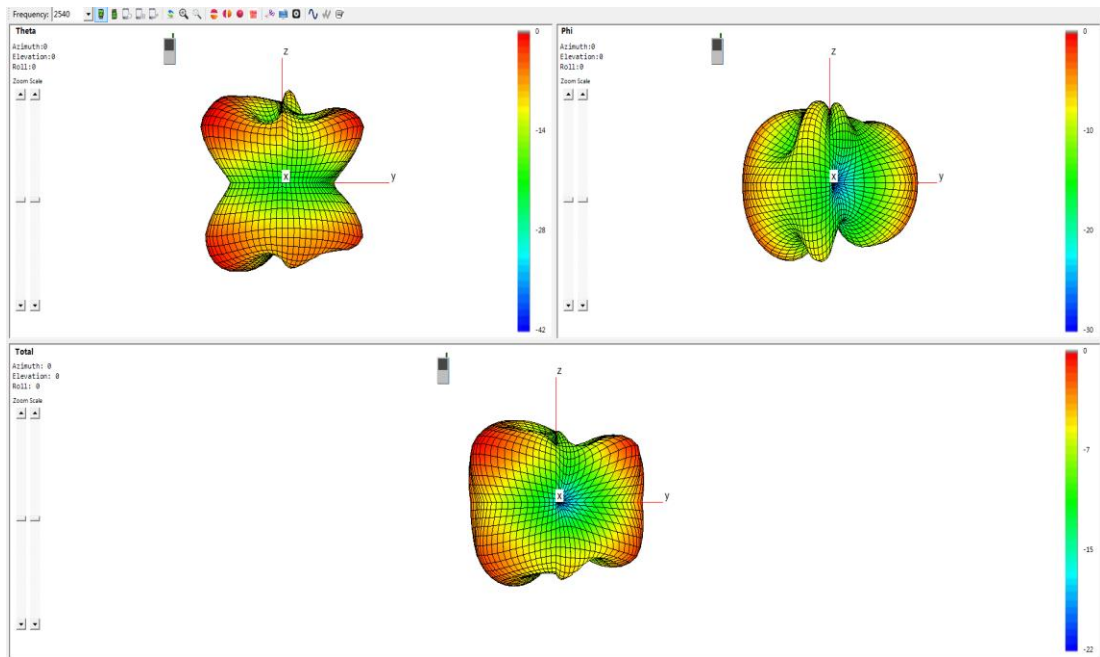
16) LTE B20 ANT 3D



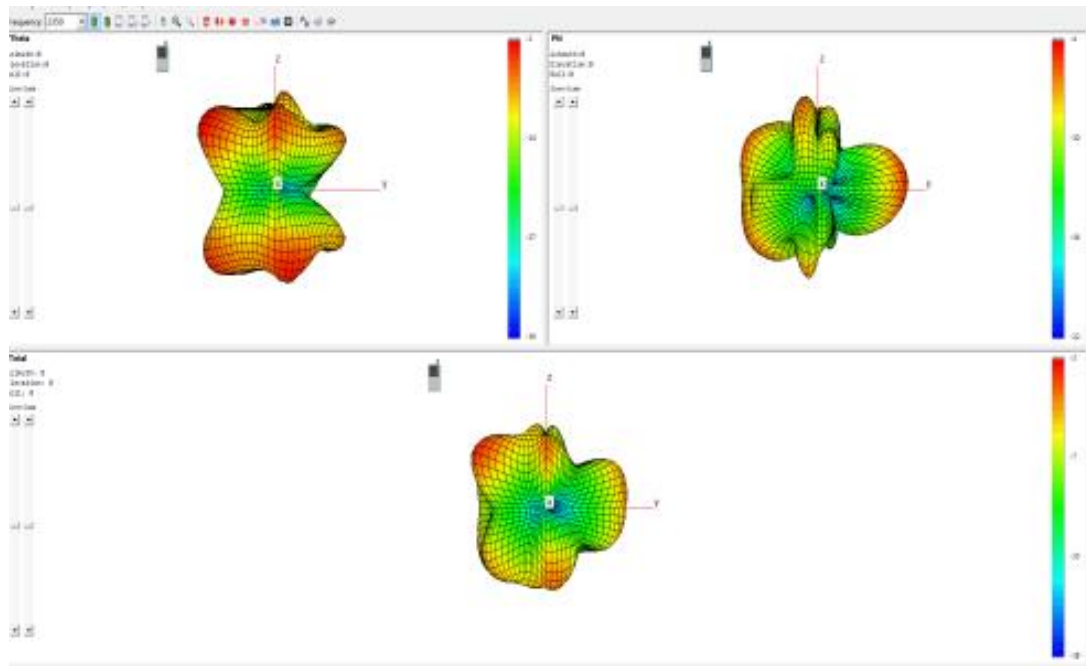
17) LTE B28 ANT 3D



18) LTE B38 ANT 3D



19) LTE B40 ANT 3D



## 20) LTE B41 ANT 3D

