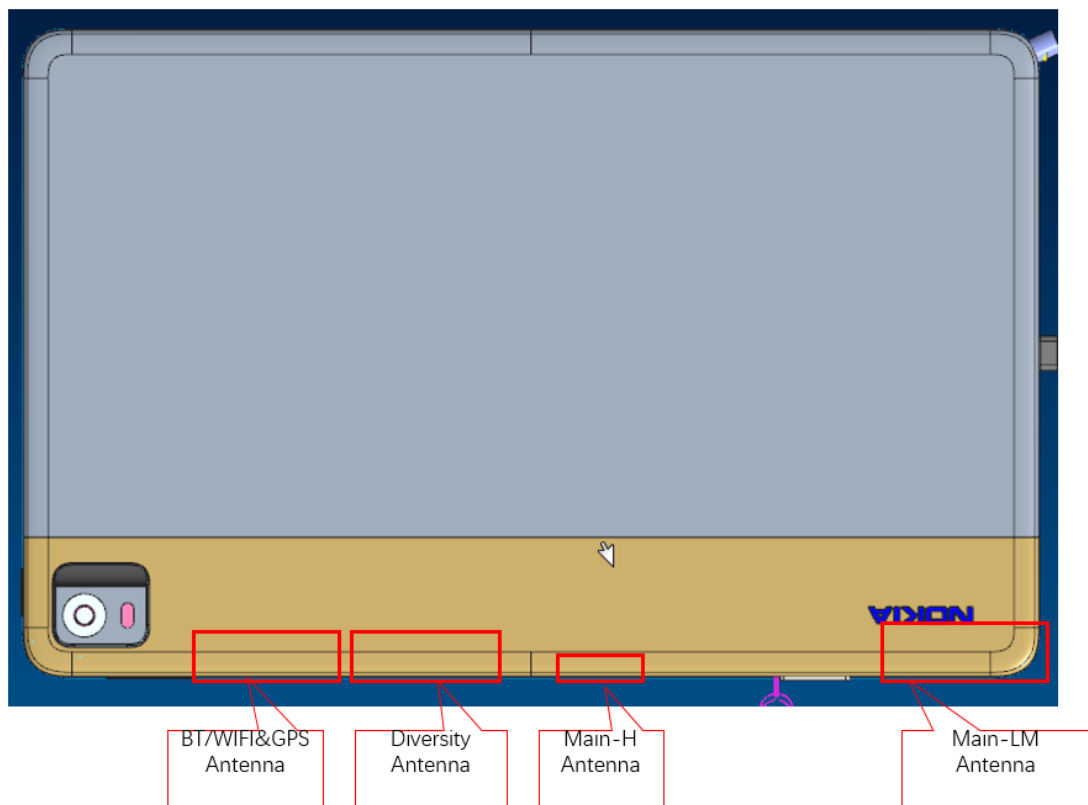


Antenna Product Specification

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: 1,2,4,5,8 LTE : 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 20, 28, 66, 40 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/B2/B3/B4/B5/B8/B12/B13/B17/B20/B28/B66 RX&TX UMTS: B1/B2/B4/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/B2/B3/B4/B5/B7/B8/B12/B13/B17/B20/B28/B66 RX TDD: B38/B40/B41 RX UMTS: B1/B2/B4/B5/B8 RX GSM:B2/B3/B5/B8 RX
3IN1- antenna	GPS 2.4G 11B/11G/11N WIFI (2412MHz~2462MHz) 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 2	-0.53
	UMTS 4	1.13
	UMTS 5	-2.55
	UMTS 8	-1.51
LTE	LTE B1	-0.53
	LTE B2	-0.53
	LTE B3	1.13
	LTE B4	1.13
	LTE B5	-2.55
	LTE B7	-0.85
	LTE B8	-1.51
	LTE B12	-4.16
	LTE B13	-4.67
	LTE B17	-4.16
	LTE B20	-2.55

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

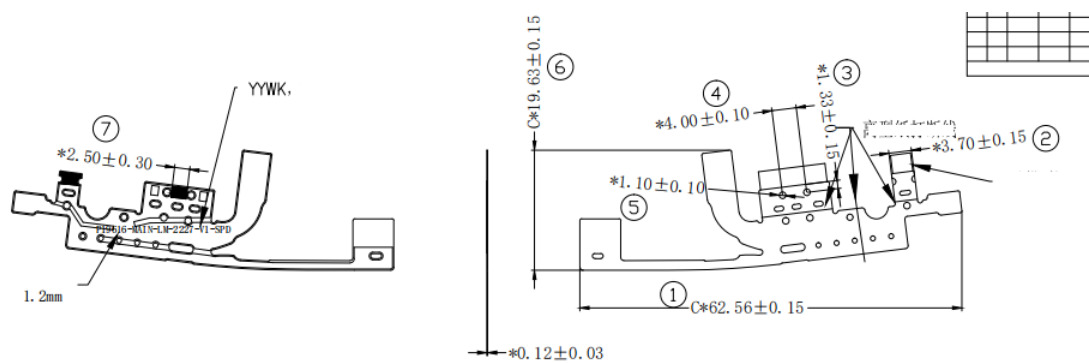
	LTE B28	-4.22
	LTE B66	1.13
	LTE B38	-0.85
	LTE B40	-3.51
	LTE B41	-0.85

4. Main-LM antenna:

Antenna type: PIFA

Manufacturers: speed

Dimension: 62.56*19.63*0.12MM

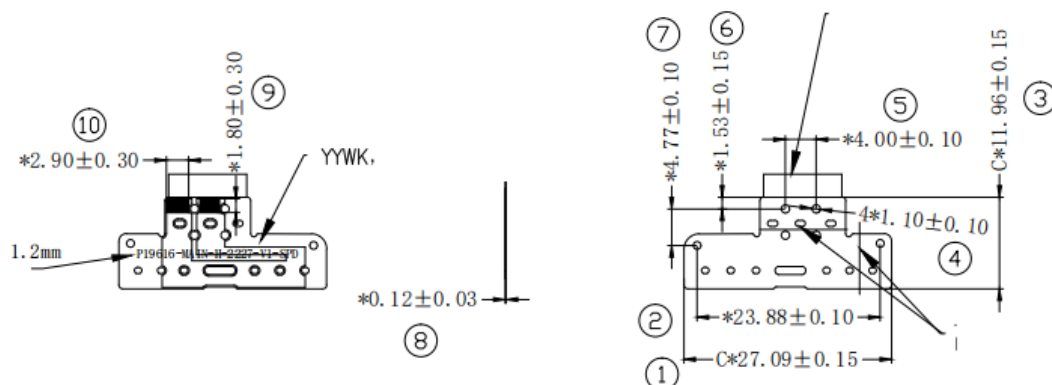


5. Main-H antenna:

Antenna type: PIFA

Manufacturers: speed

Dimension: 27.09*11.96*0.12MM

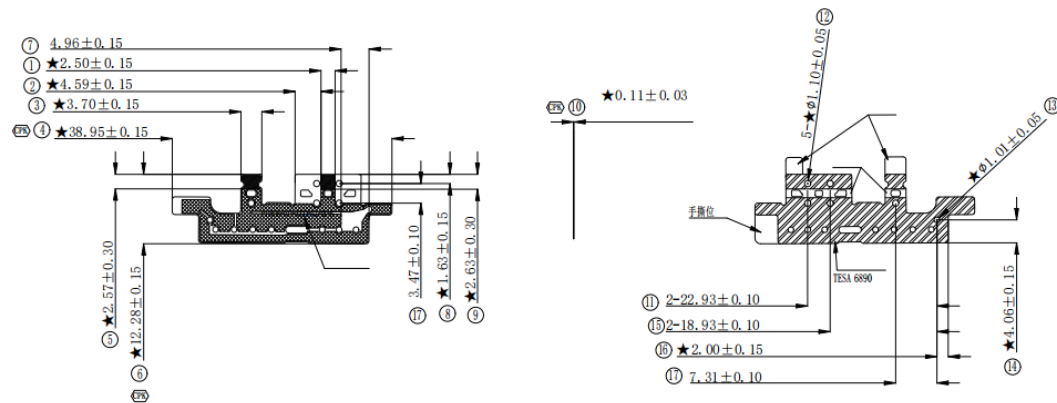


6. Div antenna:

Antenna type: PIFA

Manufacturers: innowave

Dimension: 38.95*12.28*0.11mm

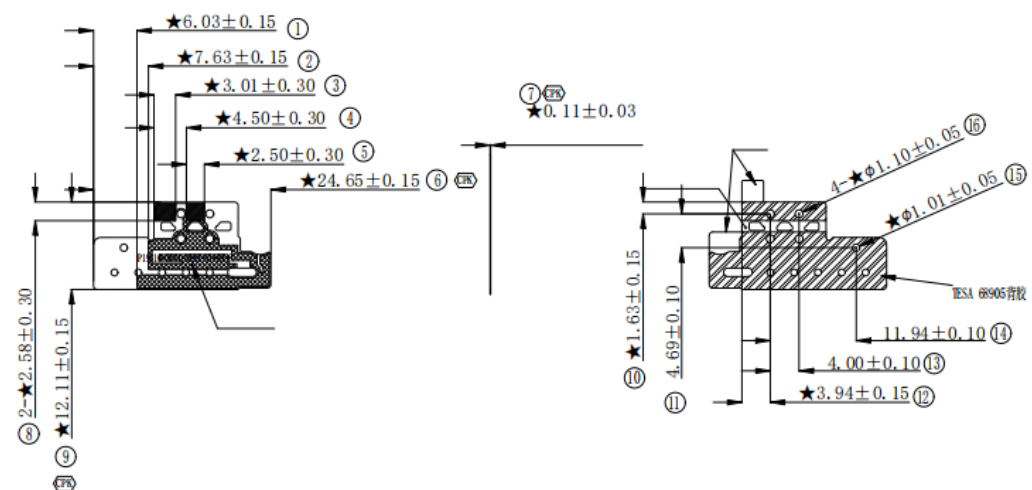


7. 3IN1- antenna:

Antenna type: PIFA

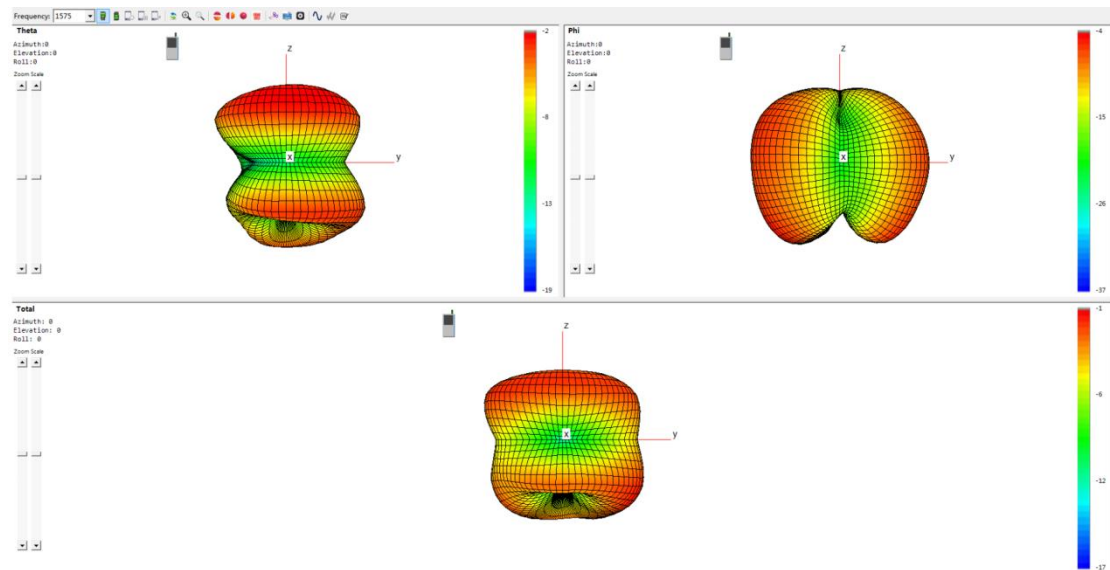
Manufacturers: innowave

Dimension: 24.65*12.11*0.11mm

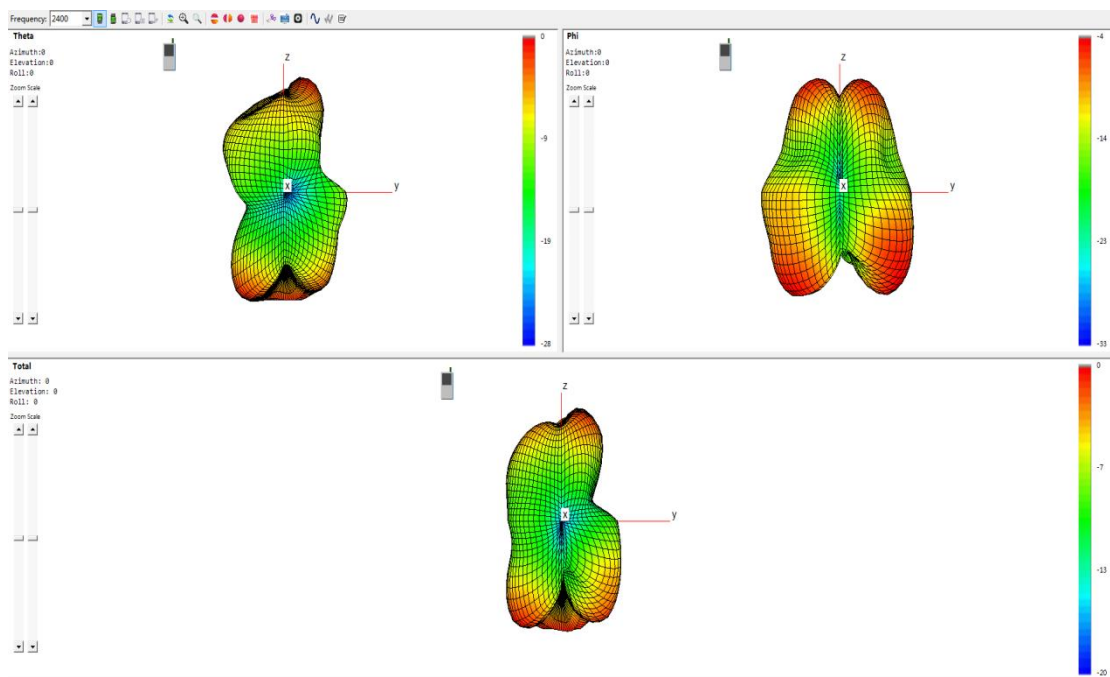


8. 3D Directional Pattern

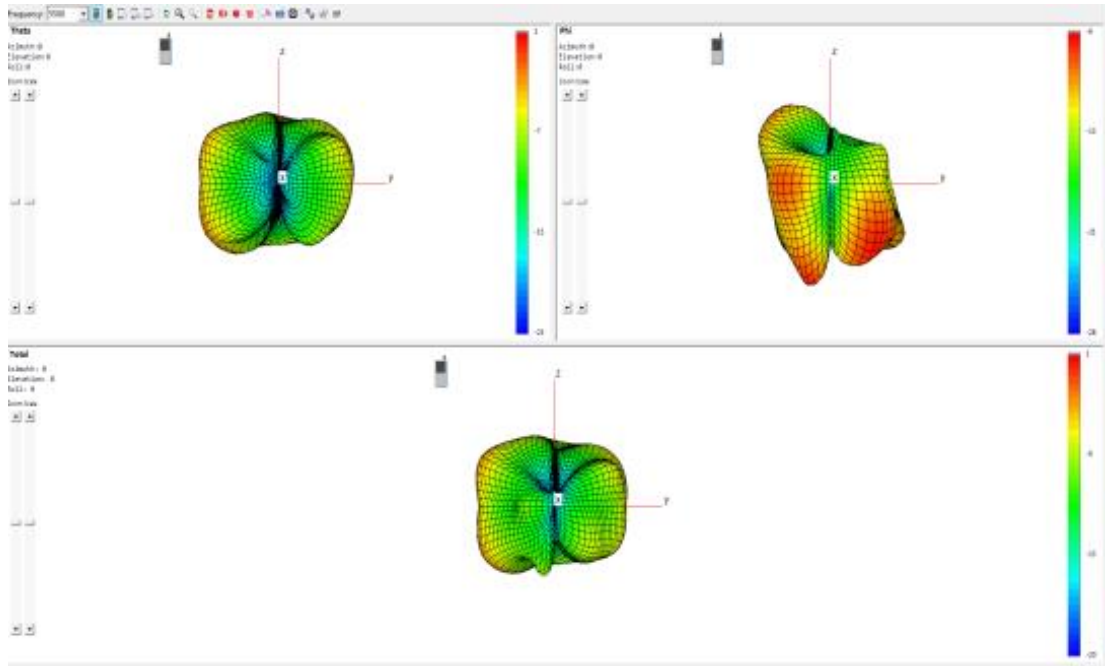
1) GPS ANT 3D



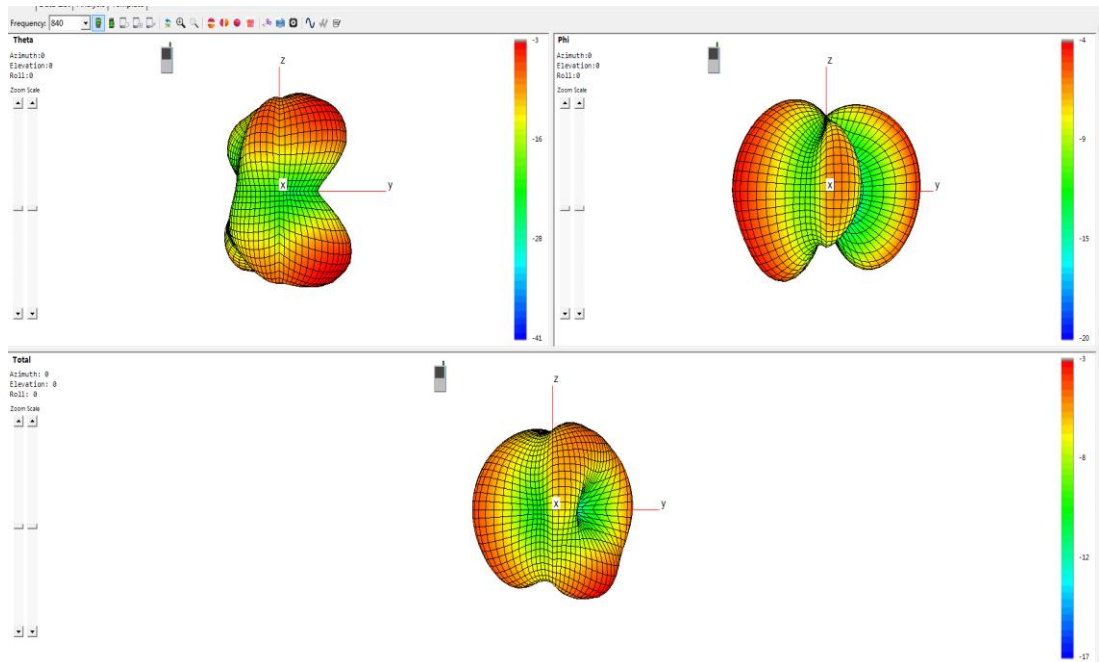
2) 2.4G WIFI ANT 3D



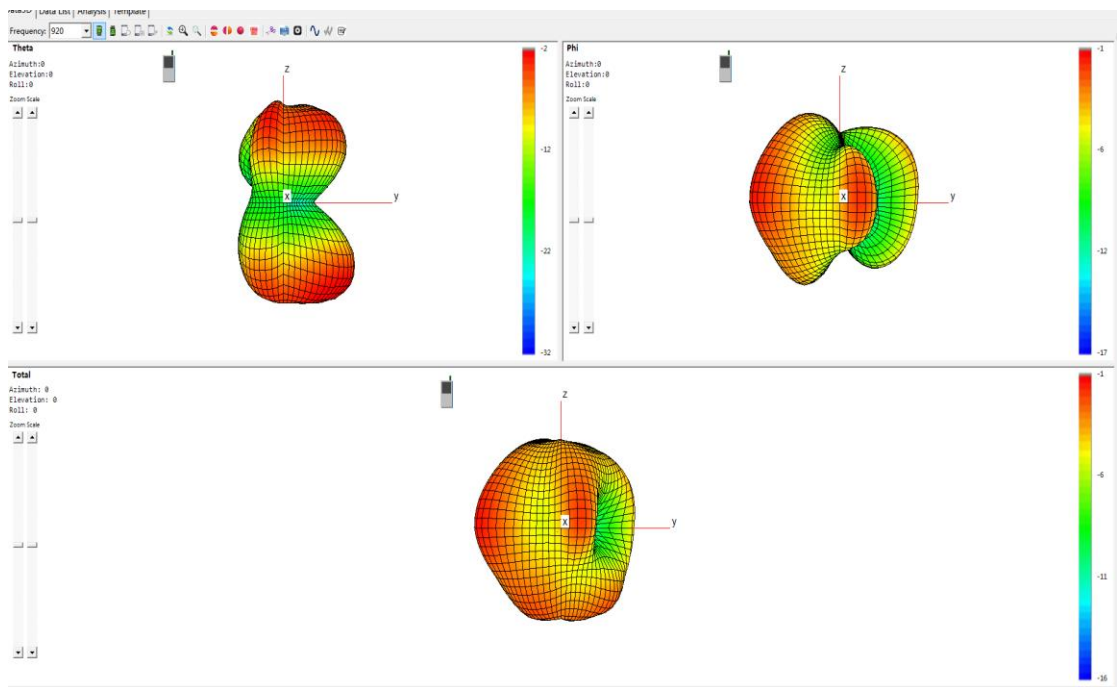
3) 5G WIFI ANT 3D



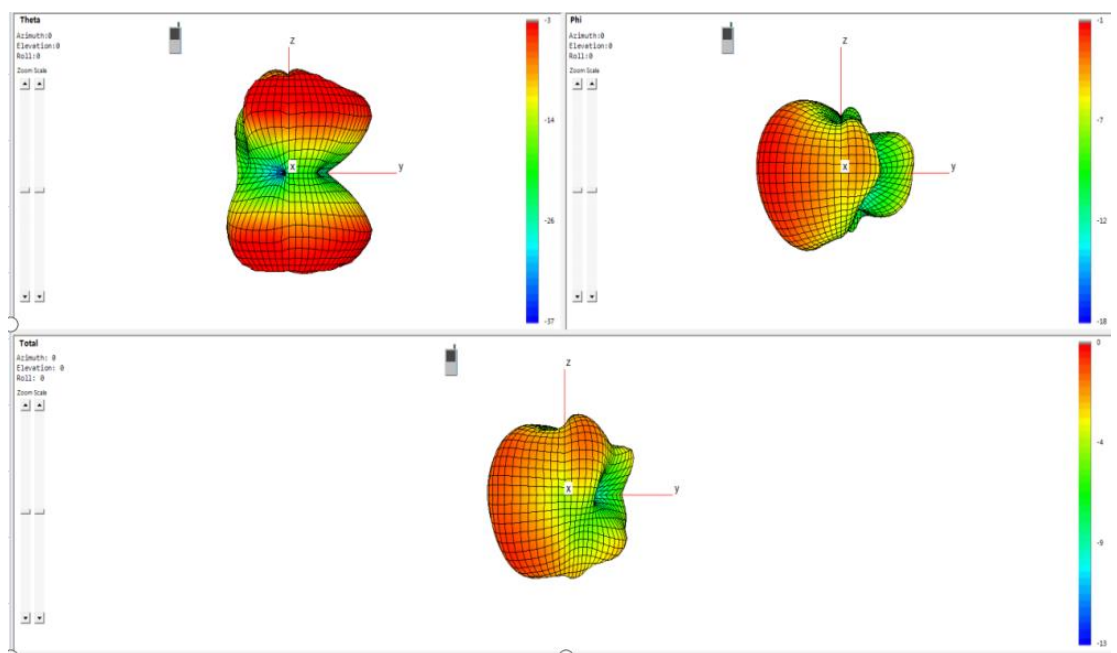
4) GSM850 ANT 3D



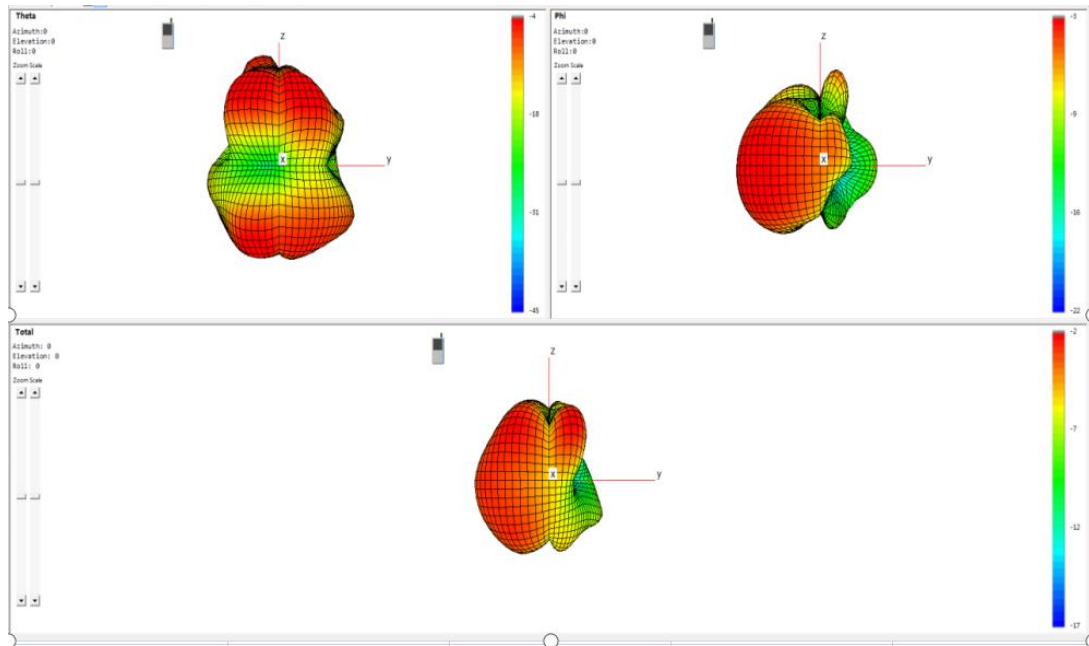
5) GSM900 ANT 3D



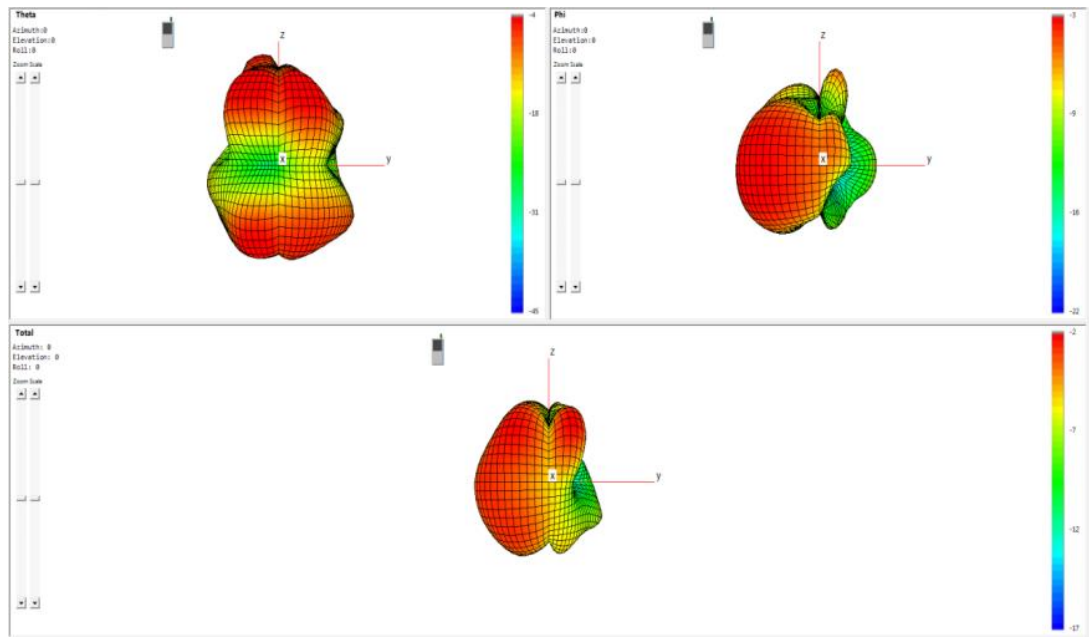
6) GSM1800 ANT 3D



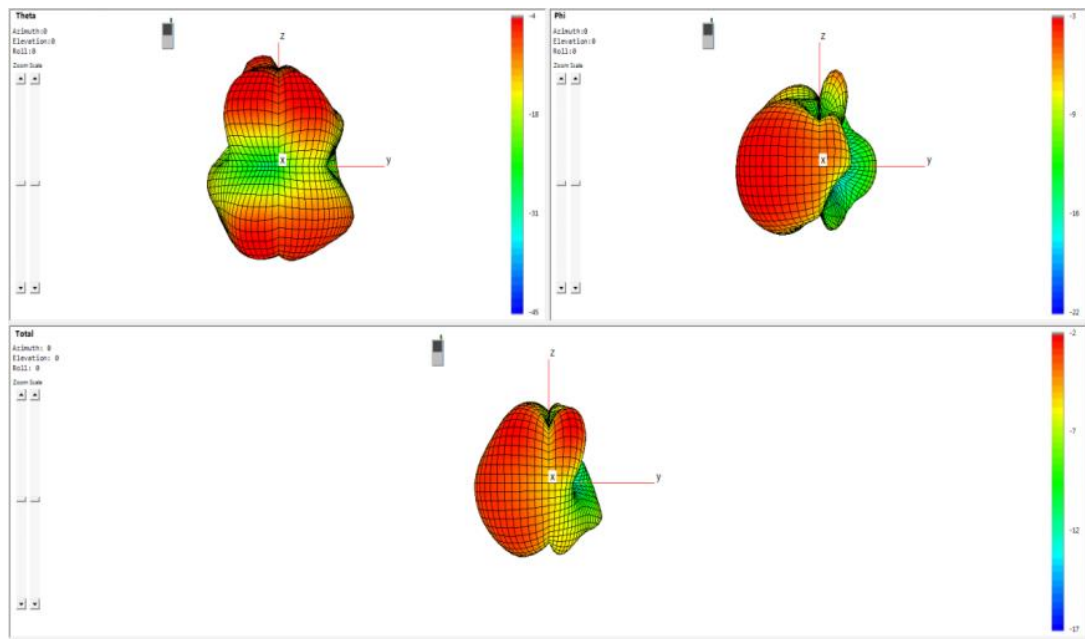
7) GSM1900 ANT 3D



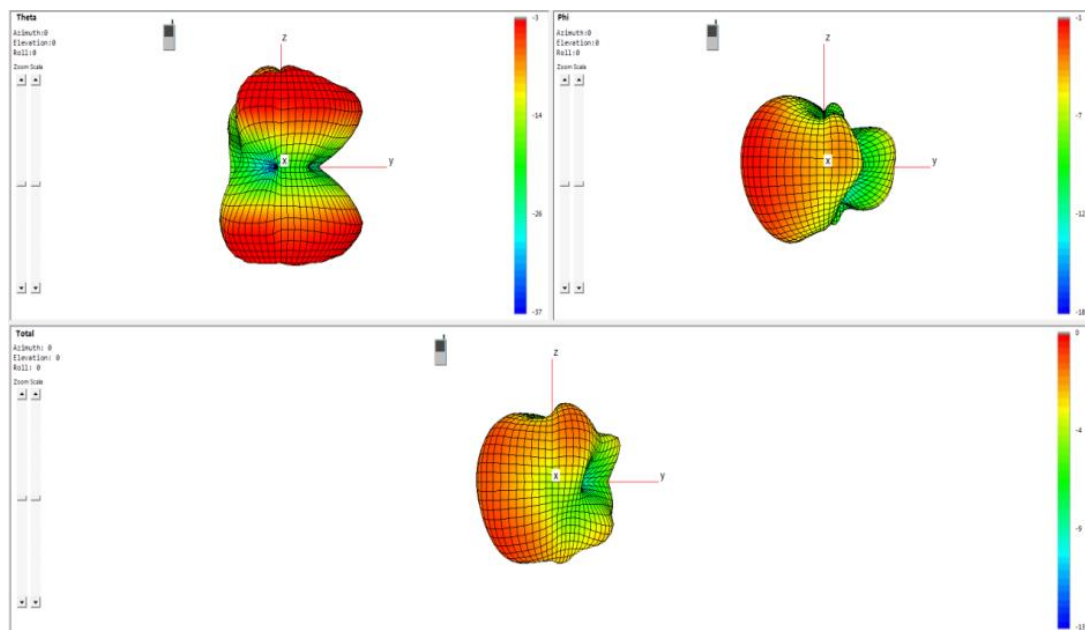
8) UMTS 1 ANT 3D



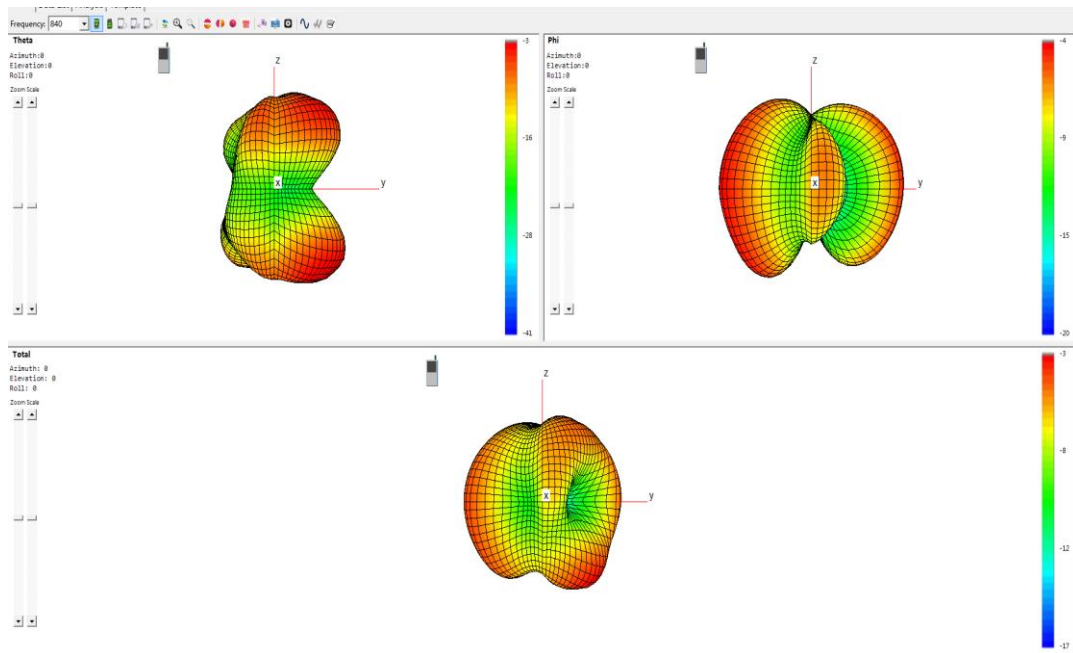
9) UMTS 2 ANT 3D



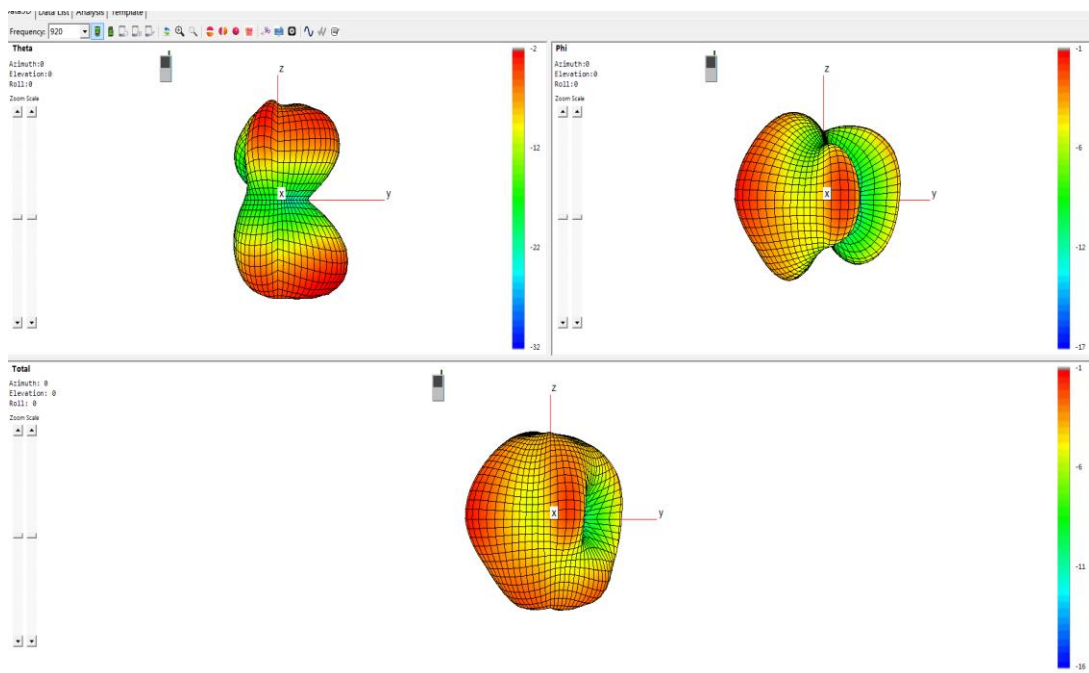
10) UMTS 4 ANT 3D



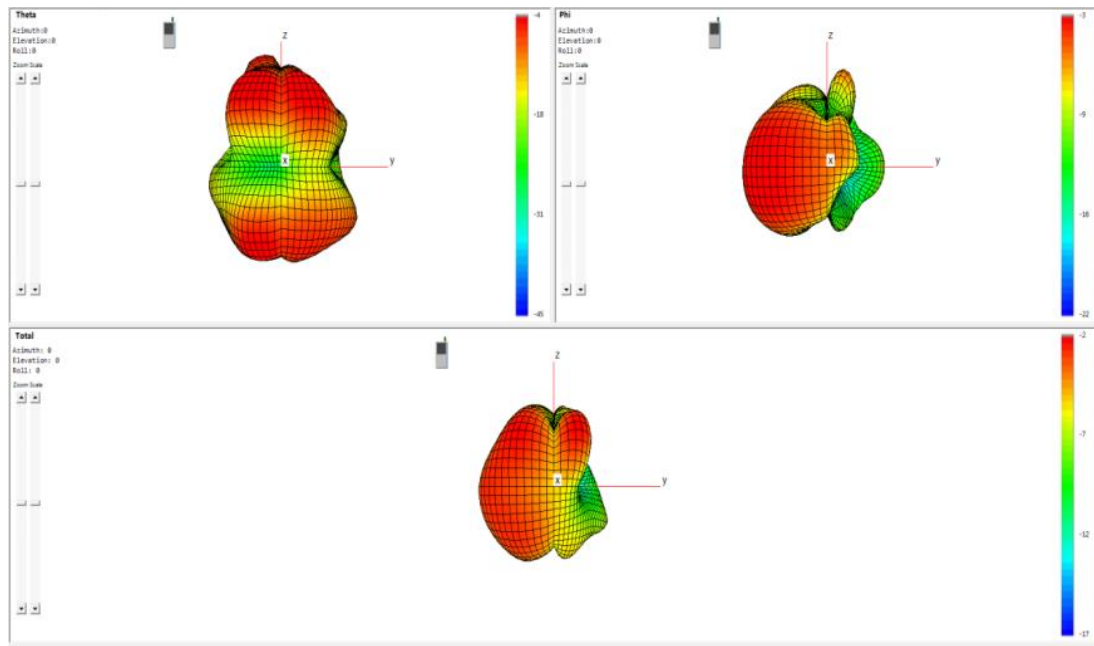
11) UMTS 5 ANT 3D



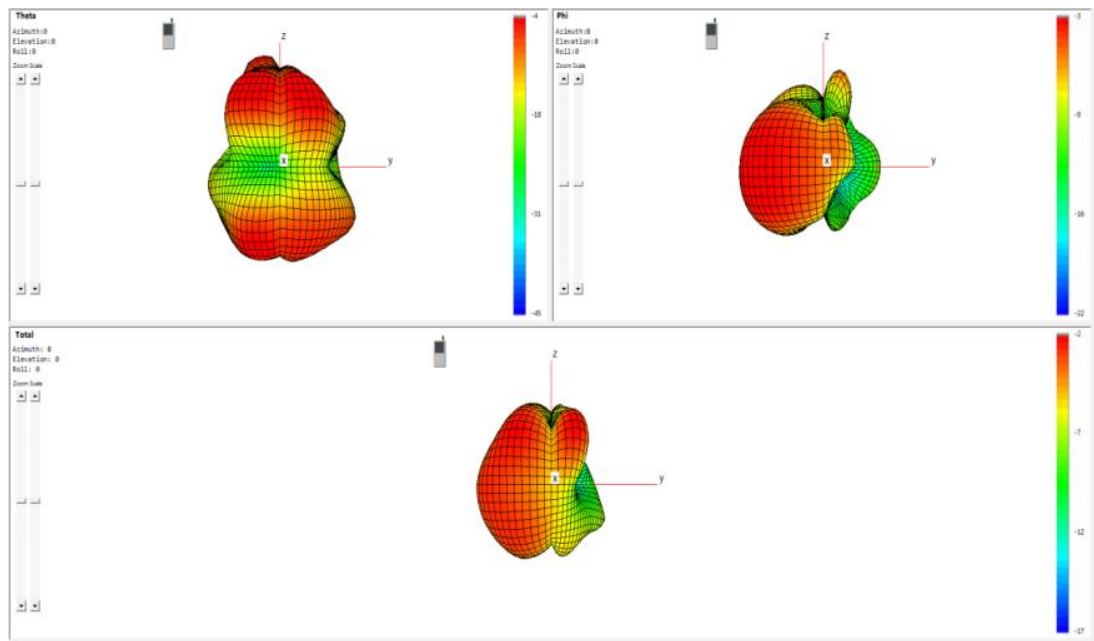
12) UMTS 8 ANT 3D



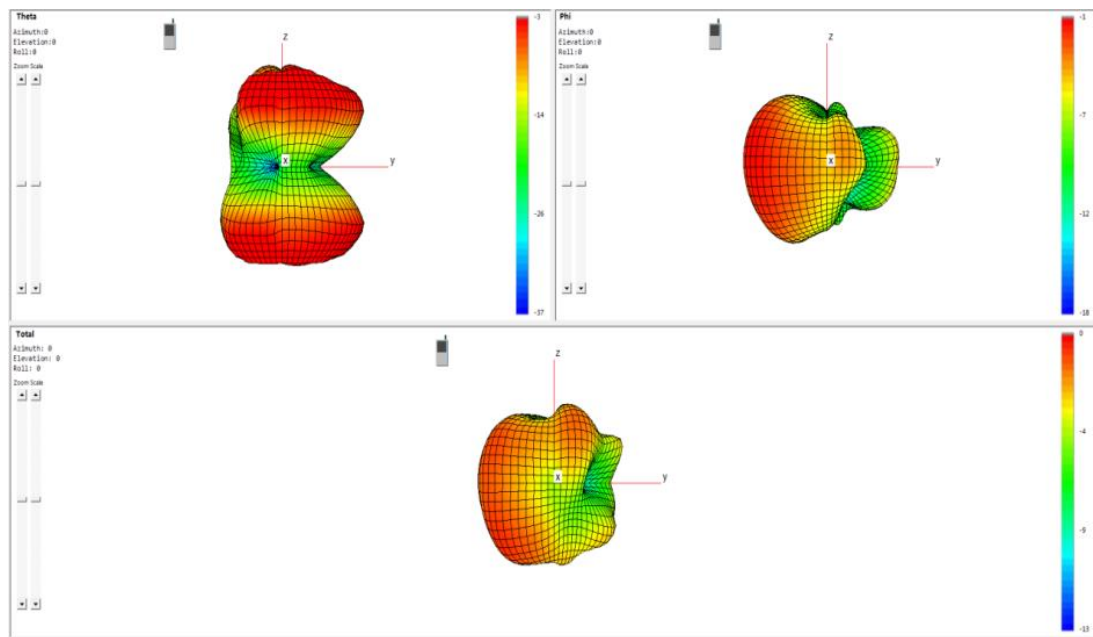
13) LTE B1 ANT 3D



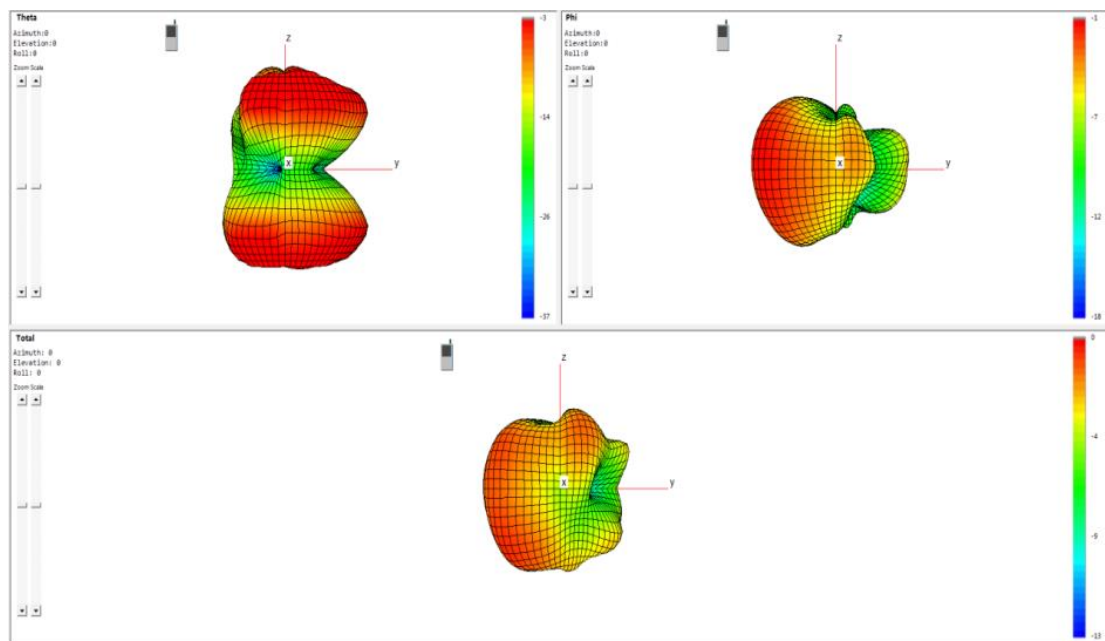
14) LTE B2 ANT 3D



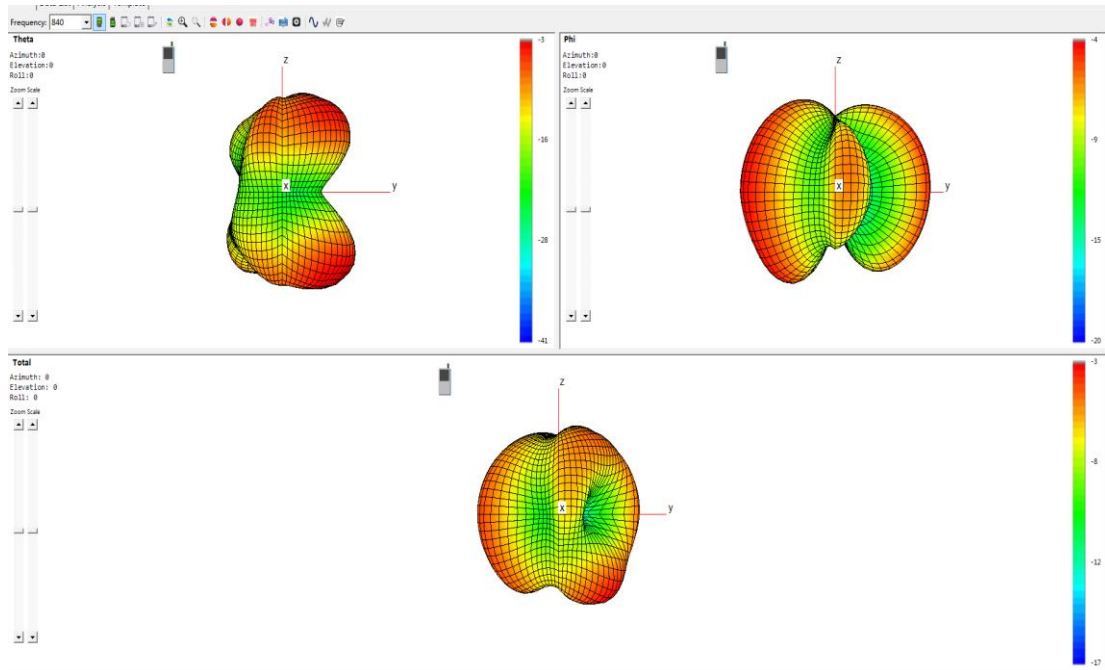
15) LTE B3 ANT 3D



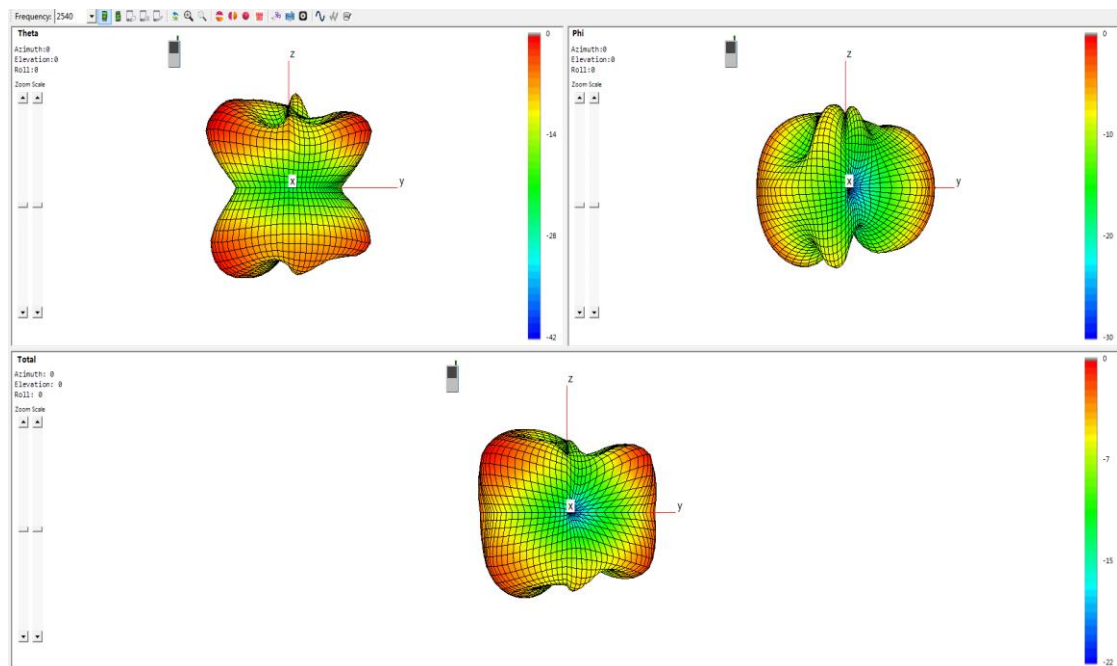
16) LTE B4 ANT 3D



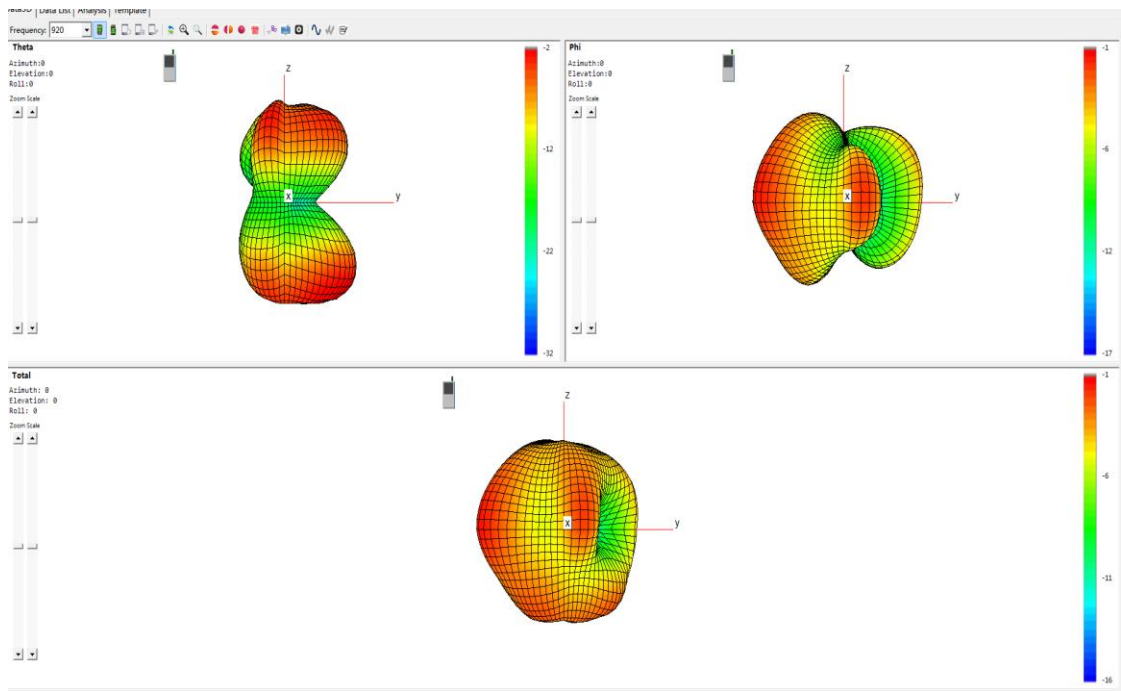
17) LTE B5 ANT 3D



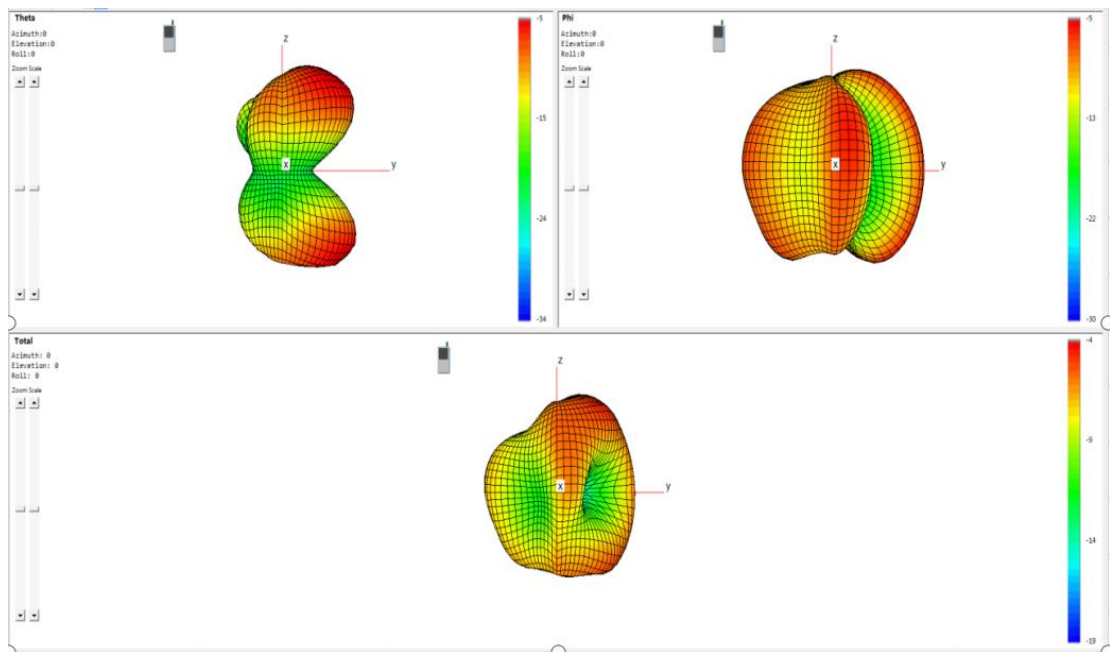
18) LTE B7 ANT 3D



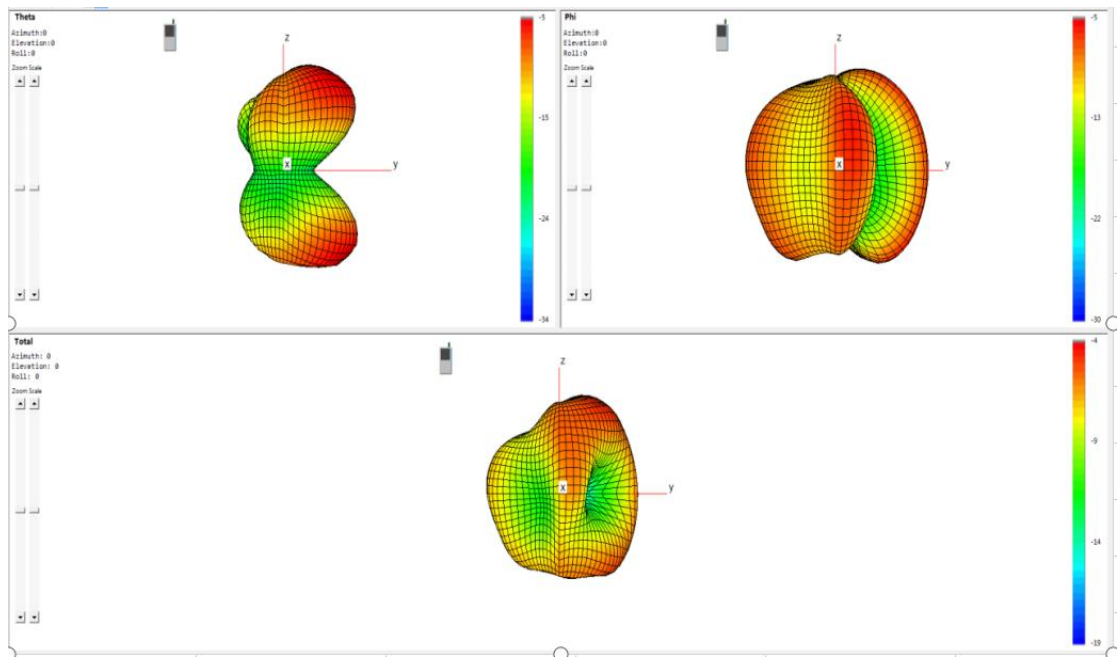
19) LTE B8 ANT 3D



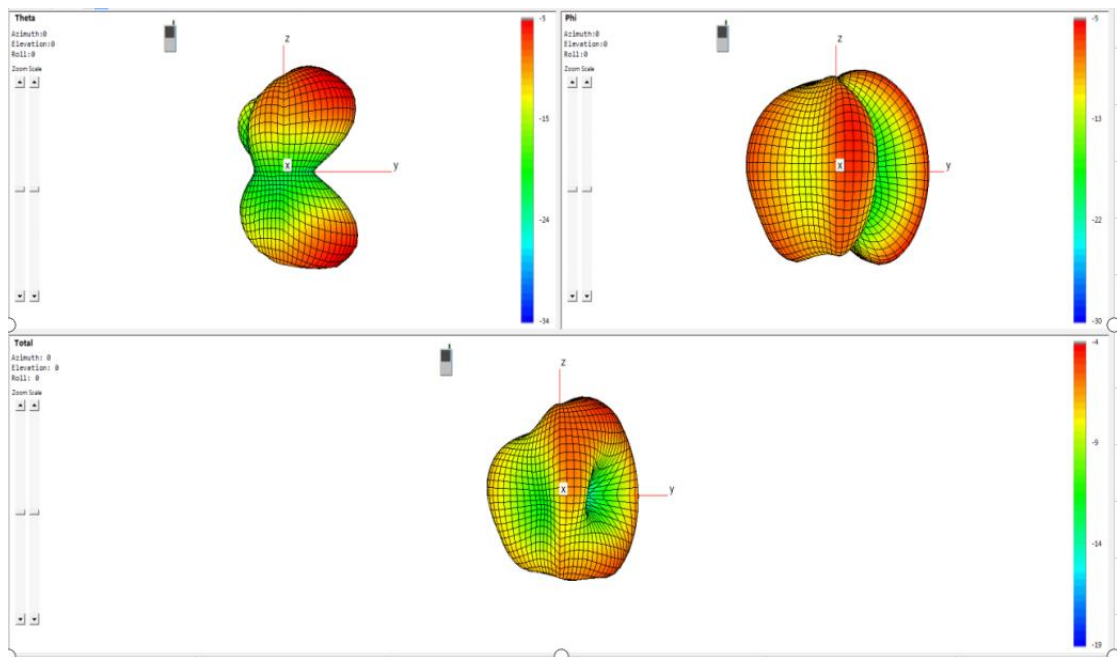
20) LTE B12 ANT 3D



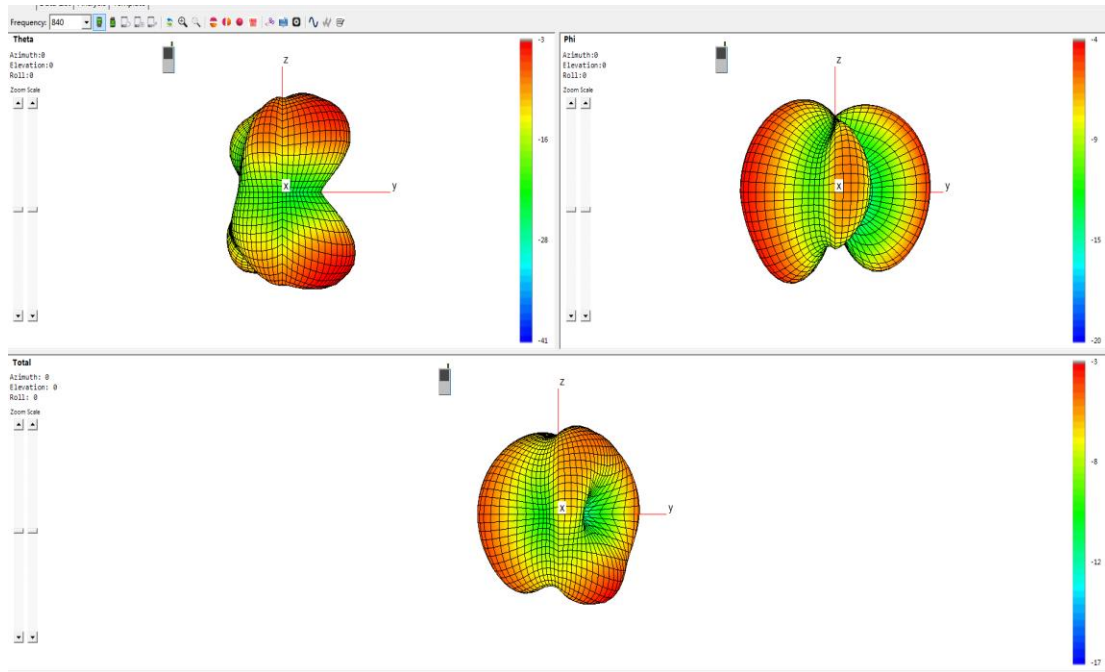
21) LTE B13 ANT 3D



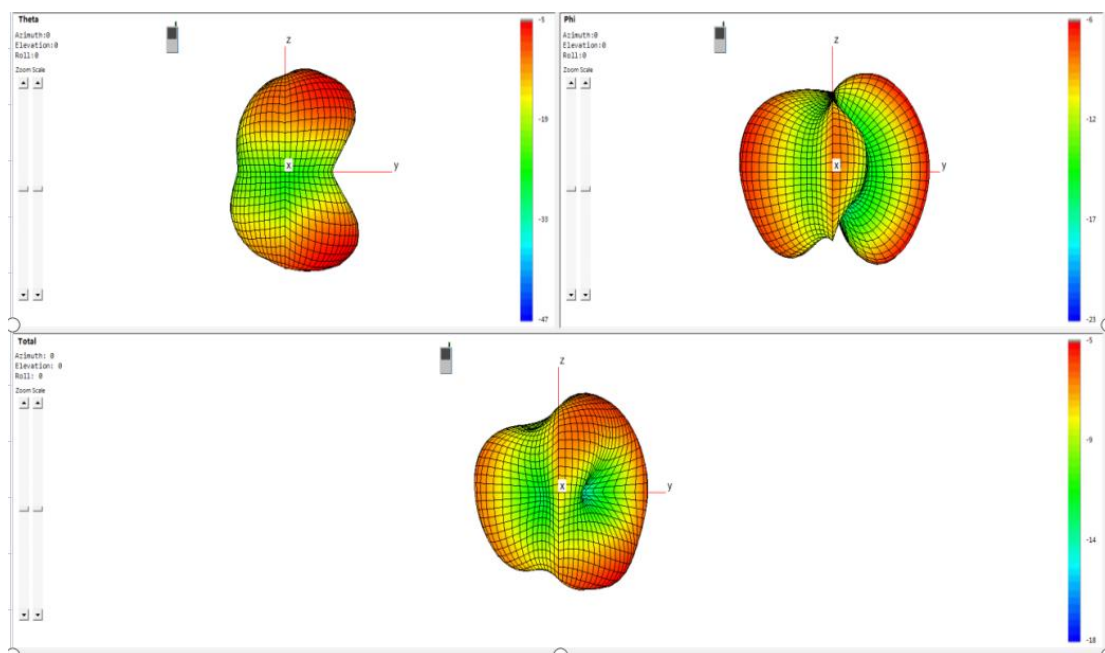
22) LTE B17 ANT 3D



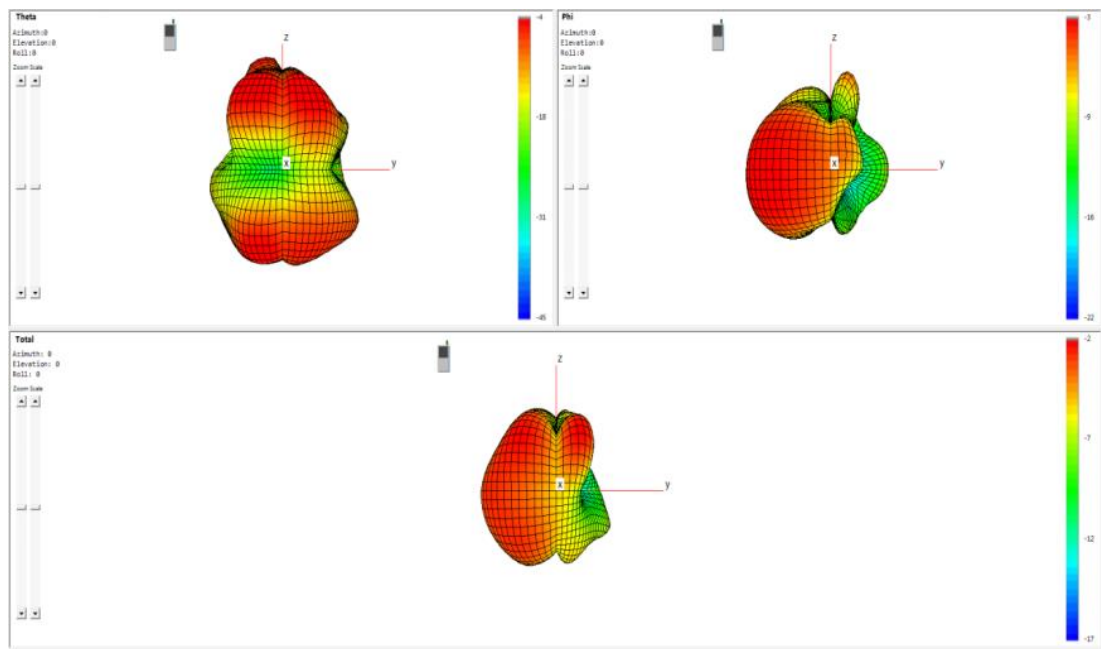
23) LTE B20 ANT 3D



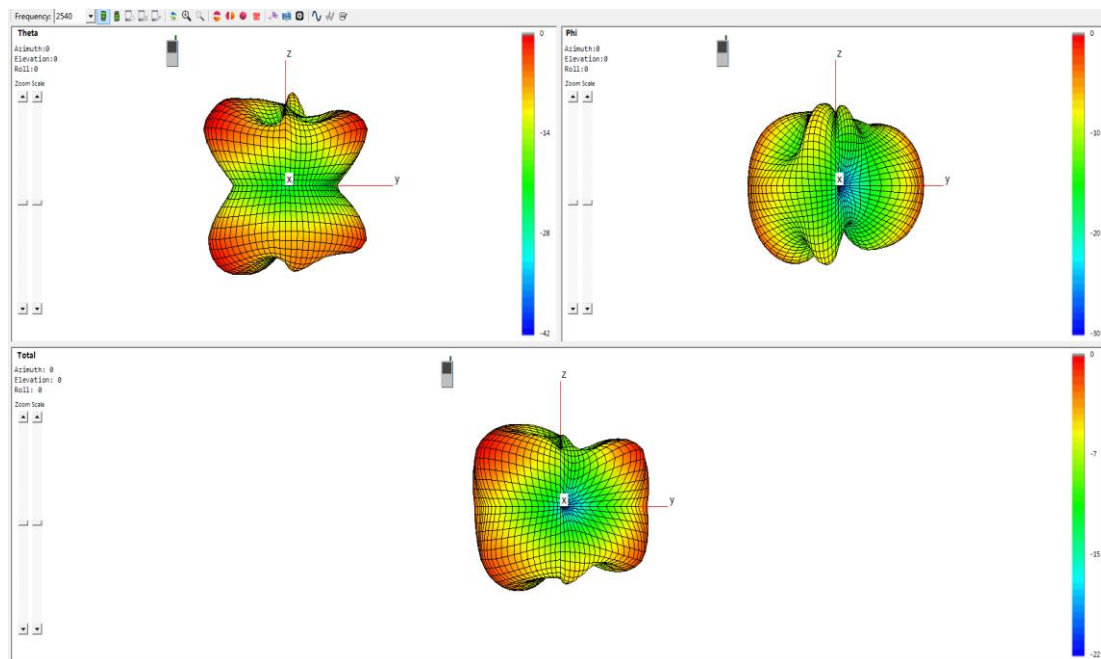
24) LTE B28 ANT 3D



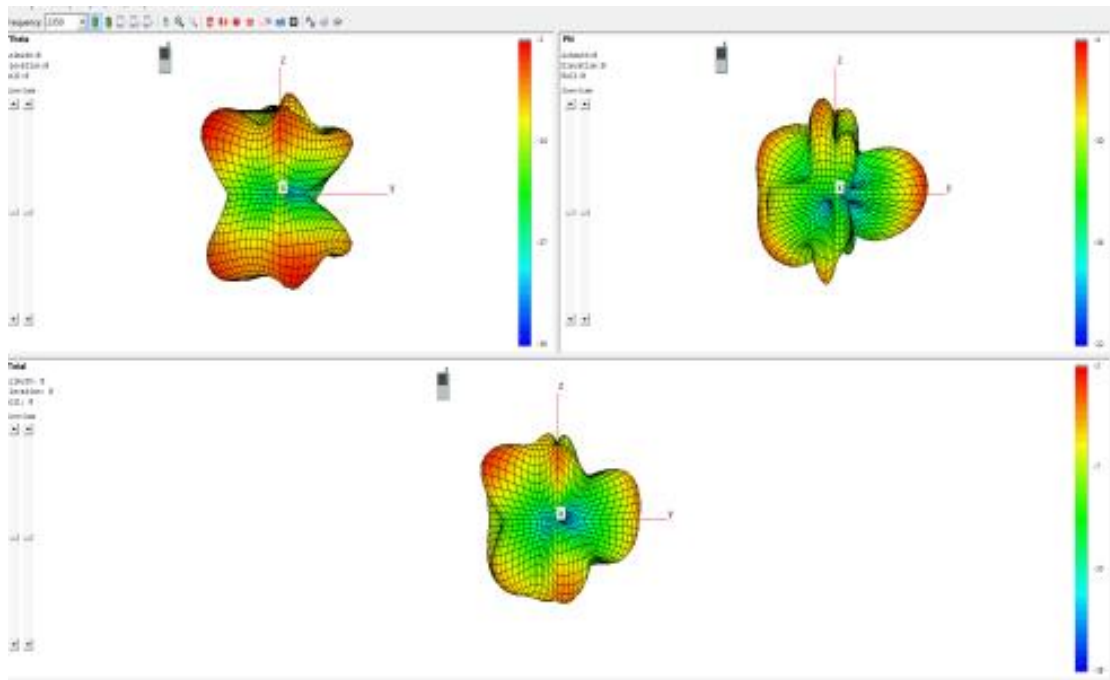
25) LTE B66 ANT 3D



26) LTE B38 ANT 3D



27) LTE B40 ANT 3D



28) LTE B41 ANT 3D

