

# 4G/LTE Antenna

Model : TH-89E



## 1. GENERAL DESCRIPTION

P/N
TH89E-SMA(M)

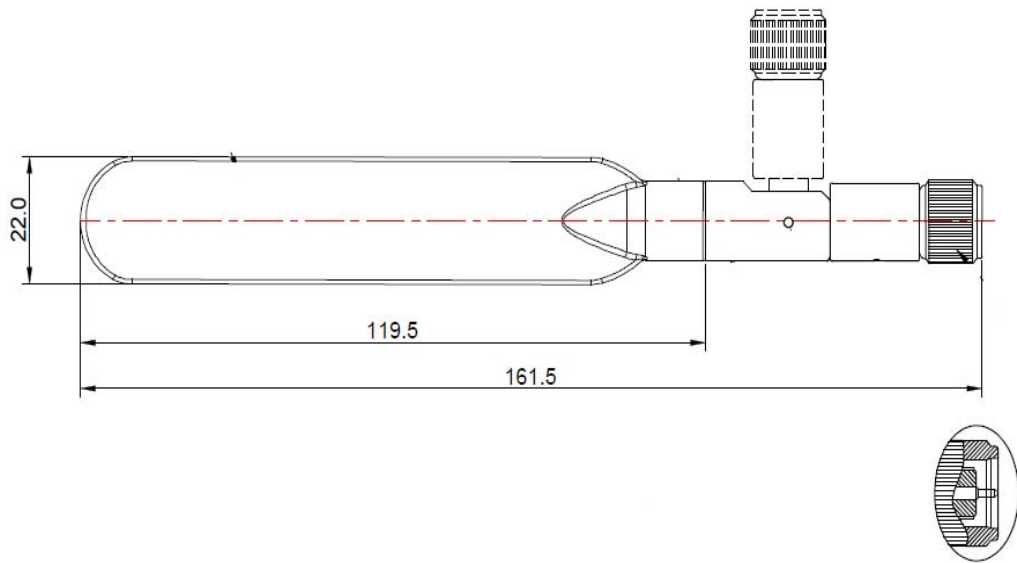
### 1.1 Electrical Properties

Parameter	Description
Frequency Band	690~960/1710~2170/2400~2700MHz
Nominal Impedance	50 ohm
Polarization	Vertical
V.S.W.R	3.0 : 1

### 1.2 Mechanical Properties

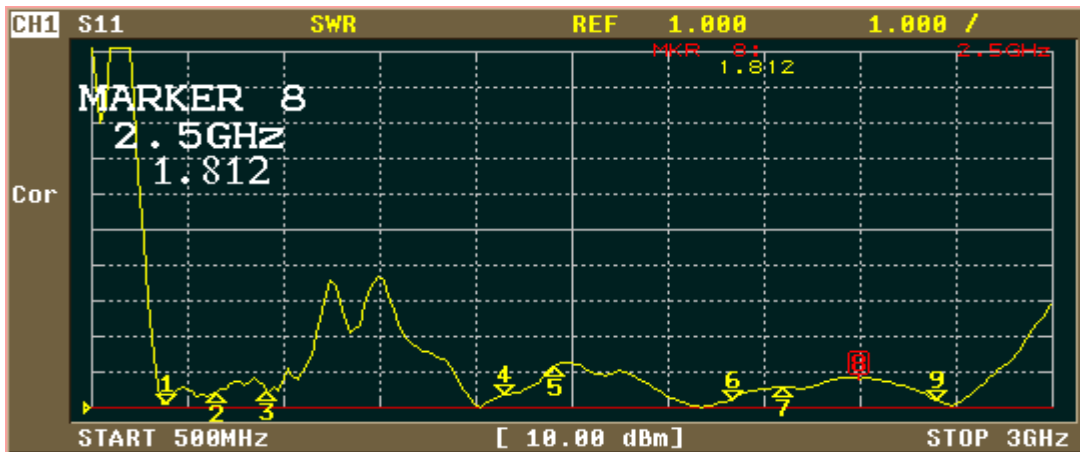
Parameter	Description
Antenna Type	External Antenna
Touch Type	Screw Type
Connector Type	SMA 180°(Male)
Antenna Dimensions	158mm±2
Antenna Color	Black
Operating Temperature Range	-20°C~+60°C
Storage Temperature Range	-30°C~+70°C

## 2. APPEARANCE:



## 3. Return Loss, V.S.W.R. and Smith Chart





CH1 MARKER LIST

1:	698.000MHz	1.113
2:	824.000MHz	1.423
3:	960.000MHz	1.452
4:	1.575 000GHz	1.351
5:	1.710 000GHz	2.212
6:	2.170 000GHz	1.259
7:	2.300 000GHz	1.572
8:	2.500 000GHz	1.812
9:	2.700 000GHz	1.221
10:		

ACTIVATE MARKER

MARKER 6

MARKER 7

MARKER 8

MARKER 9

MARKER 10

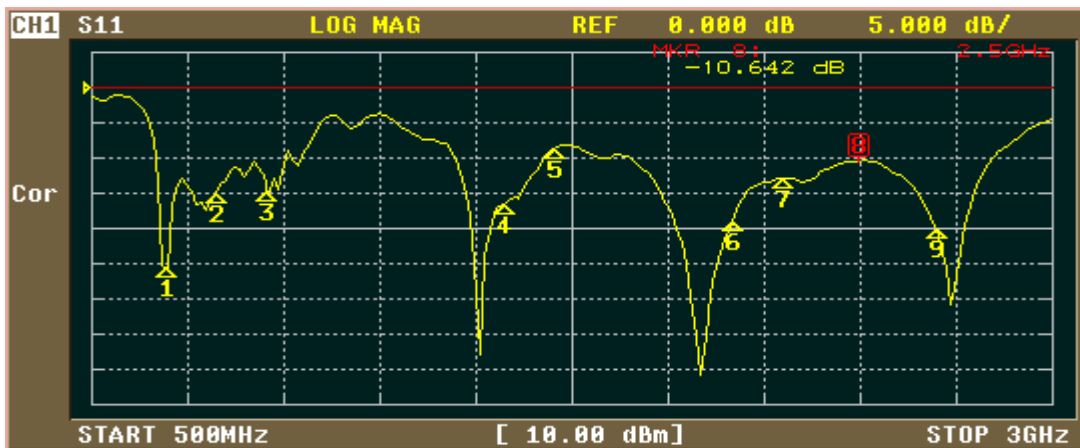
ACTIVATE MKR OFF

Return

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More 2/2

<



CH1 MARKER LIST

1:	698.000MHz	-25.735 dB
2:	824.000MHz	-14.976 dB
3:	960.000MHz	-14.720 dB
4:	1.575 000GHz	-16.619 dB
5:	1.710 000GHz	-8.450 dB
6:	2.170 000GHz	-18.850 dB
7:	2.300 000GHz	-13.010 dB
8:	2.500 000GHz	-10.642 dB
9:	2.700 000GHz	-19.907 dB
10:		

FORMAT

LOG MAG

PHASE

DELAY

SMITH (R+jX)

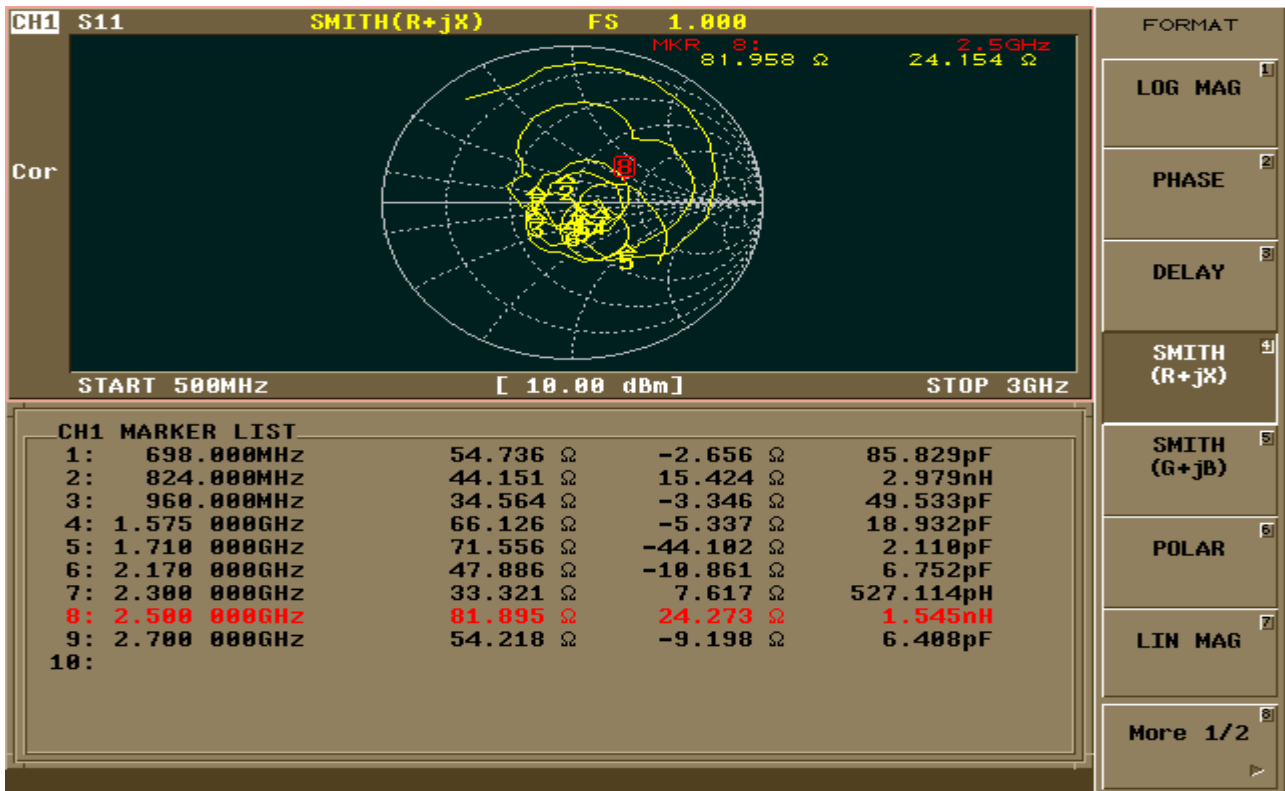
SMITH (G+jB)

POLAR

LIN MAG

More 1/2

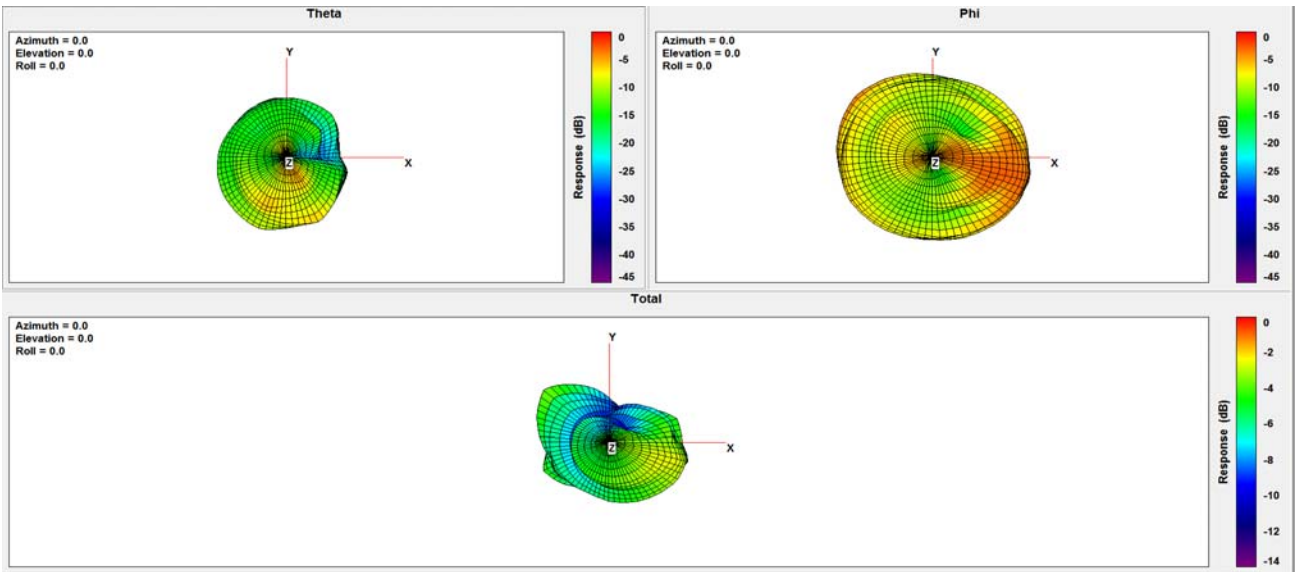
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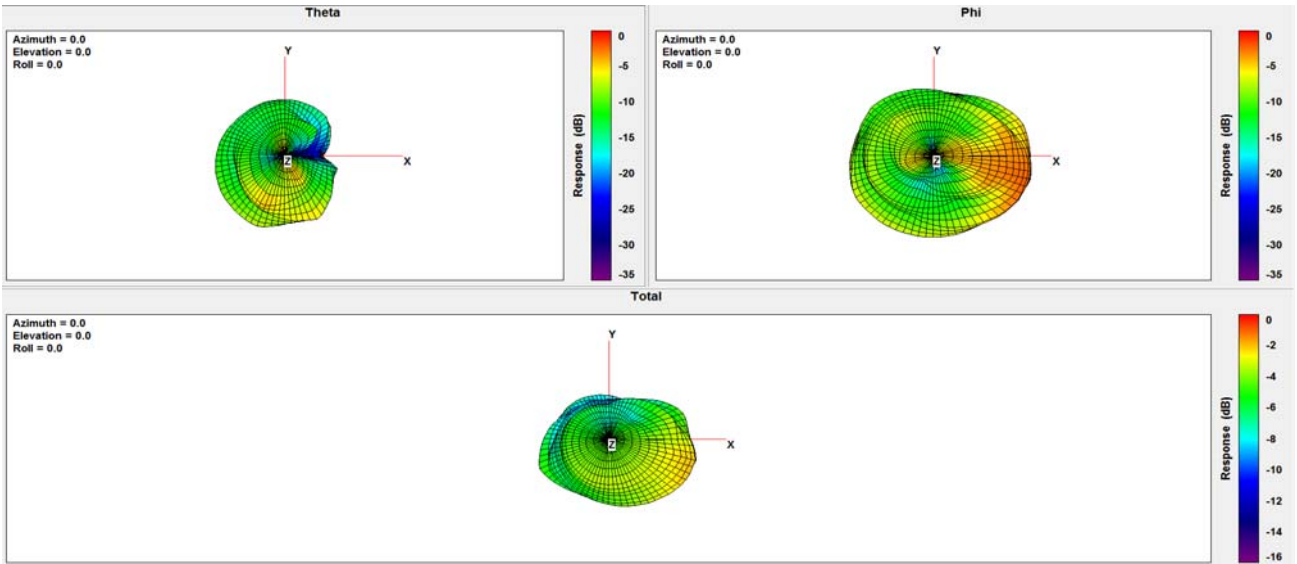
Frequency (MHz)	698	704	710	716	720	725	730	734	740	746	756	765	772
Peak Gain (dBi)	-1.15	-0.91	-0.92	-0.96	-1.04	-1.14	-1.25	-1.32	-1.43	-1.61	-1.53	-1.56	-1.59
Efficiency (%)	31.72	32.63	32.41	32.09	31.58	31.22	30.88	30.68	30.22	29.50	29.94	29.52	28.99
Frequency (MHz)	777	782	787	791	806	821	824	836	849	860	868	880	894
Peak Gain (dBi)	-1.63	-1.55	-1.61	-1.67	-2.07	-2.31	-2.35	-2.22	-1.91	-1.86	-1.80	-1.77	-2.10
Efficiency (%)	28.65	28.79	28.78	28.66	26.67	26.49	26.95	27.29	28.32	28.03	27.76	27.23	25.40
Frequency (MHz)	902	915	930	940	960	1425	1440	1455	1470	1485	1500	1515	1560
Peak Gain (dBi)	-2.28	-2.05	-2.20	-2.15	-2.13	0.28	0.50	0.57	0.55	0.56	0.56	0.46	0.49
Efficiency (%)	24.32	24.27	23.10	22.97	21.06	35.72	36.98	37.30	37.08	37.32	38.28	39.16	37.87



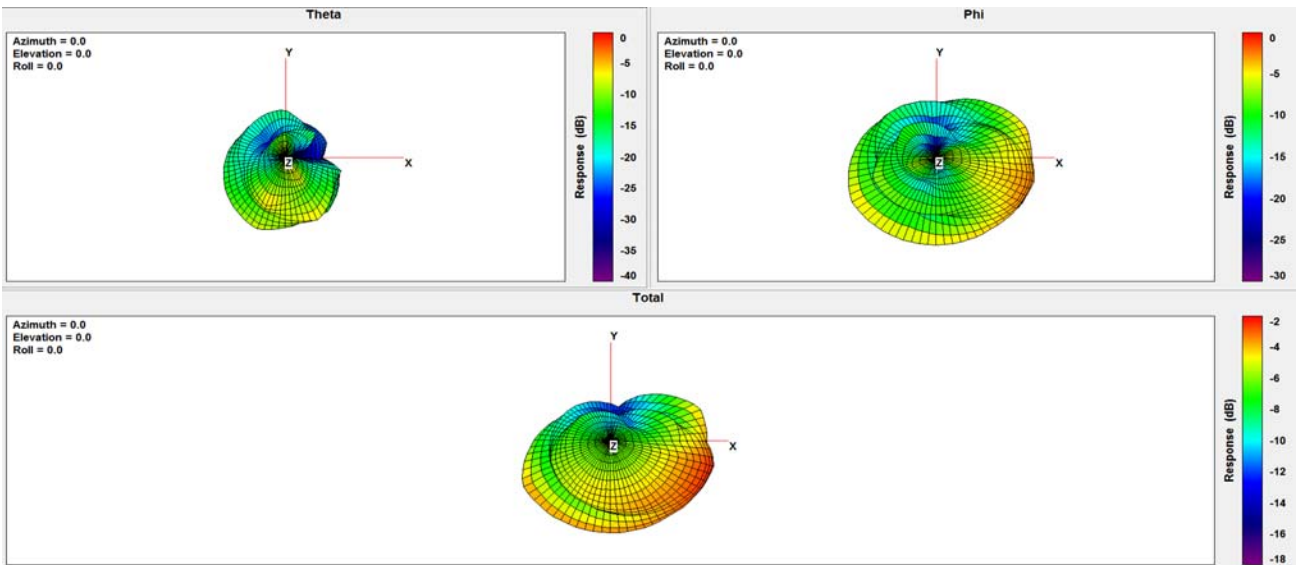
### 698Mhz:



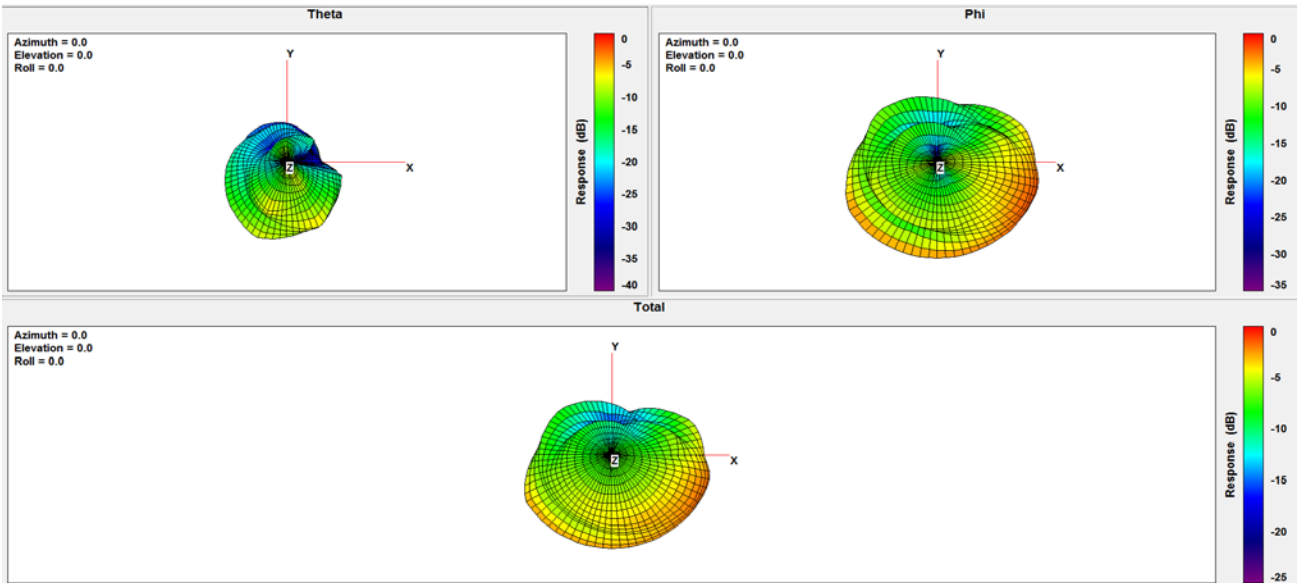
### 740Mhz:



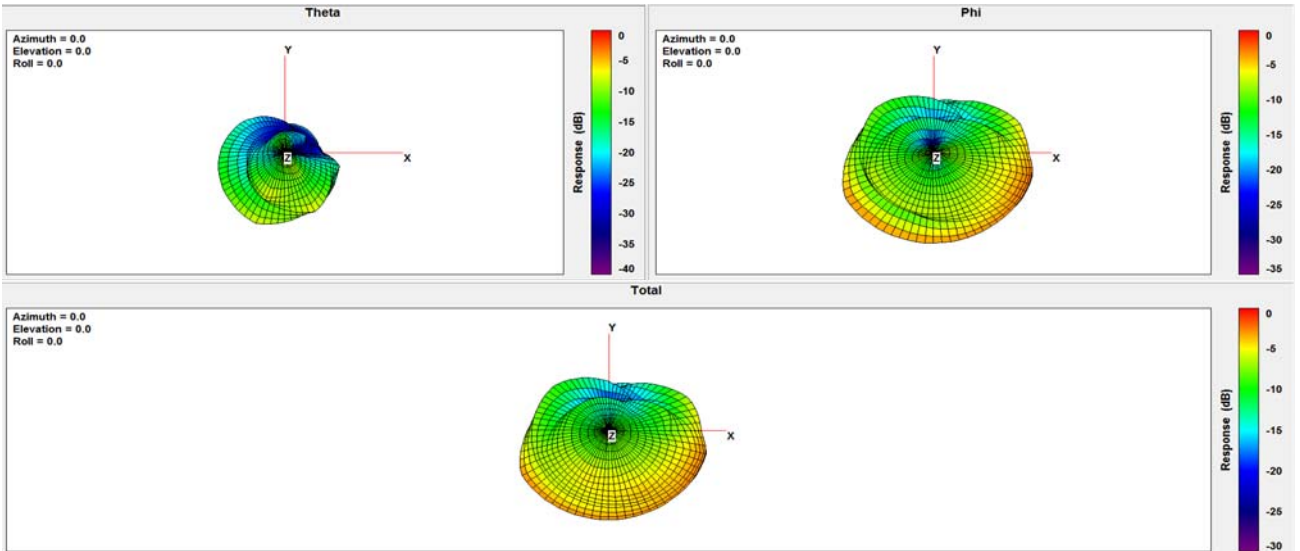
### 824Mhz:



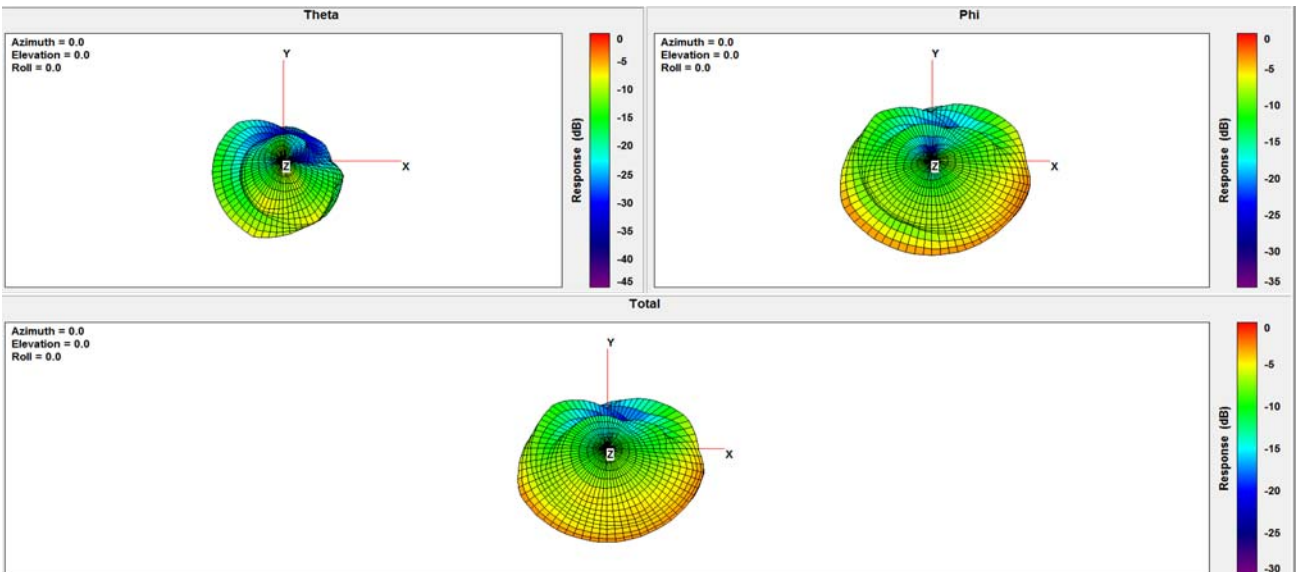
### 868Mhz:



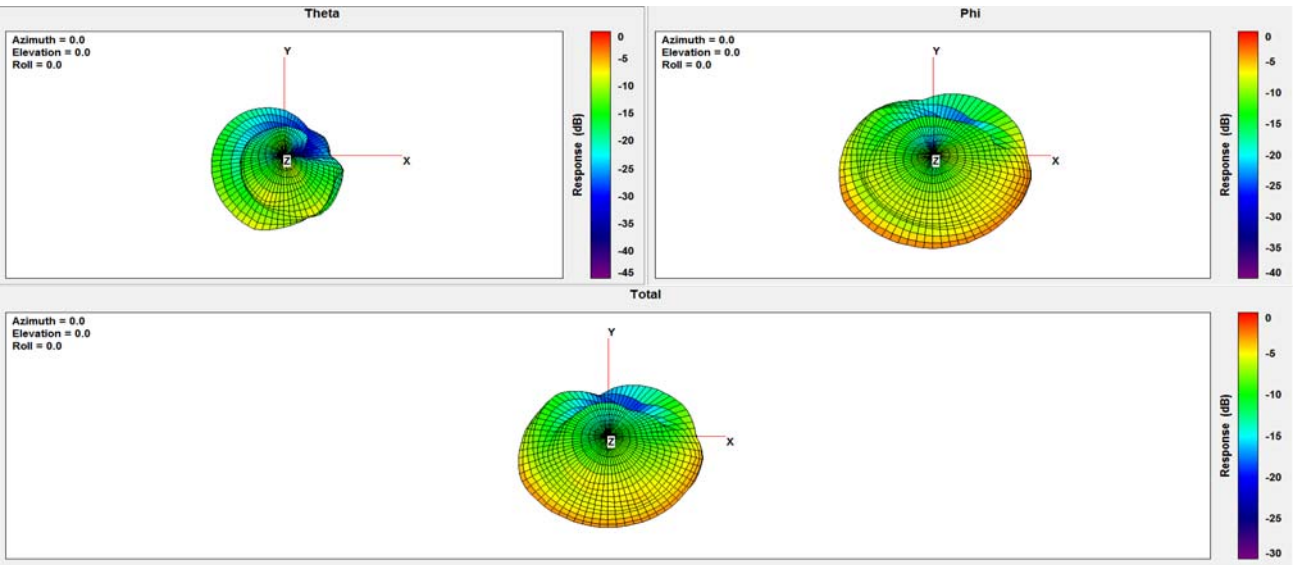
### 902Mhz:



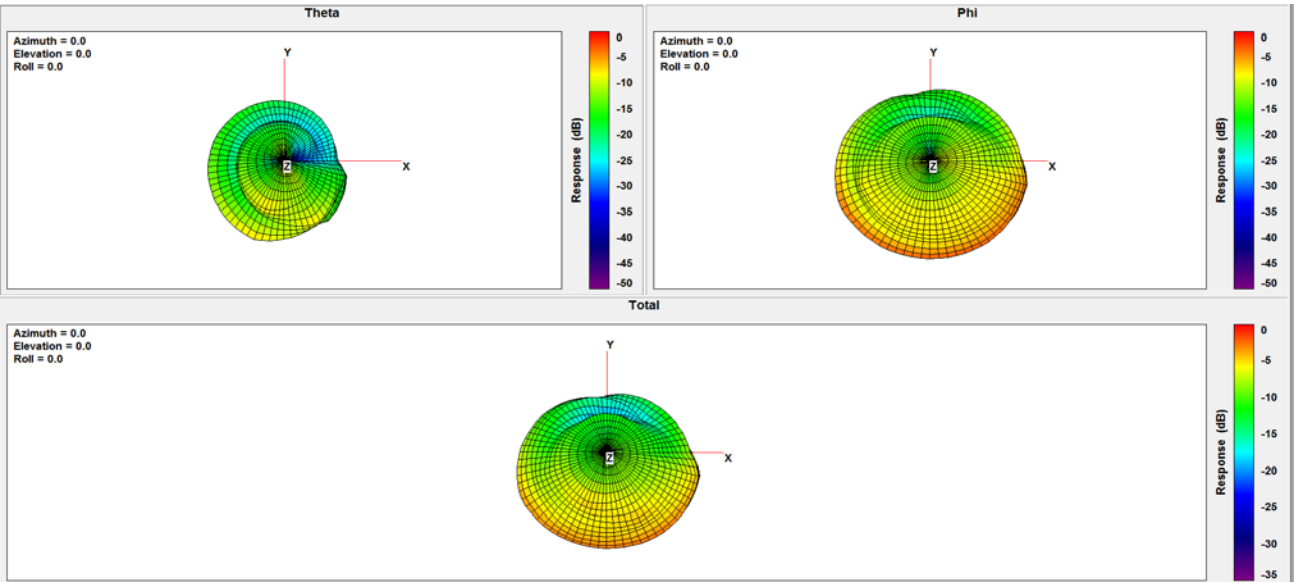
### 915Mhz:



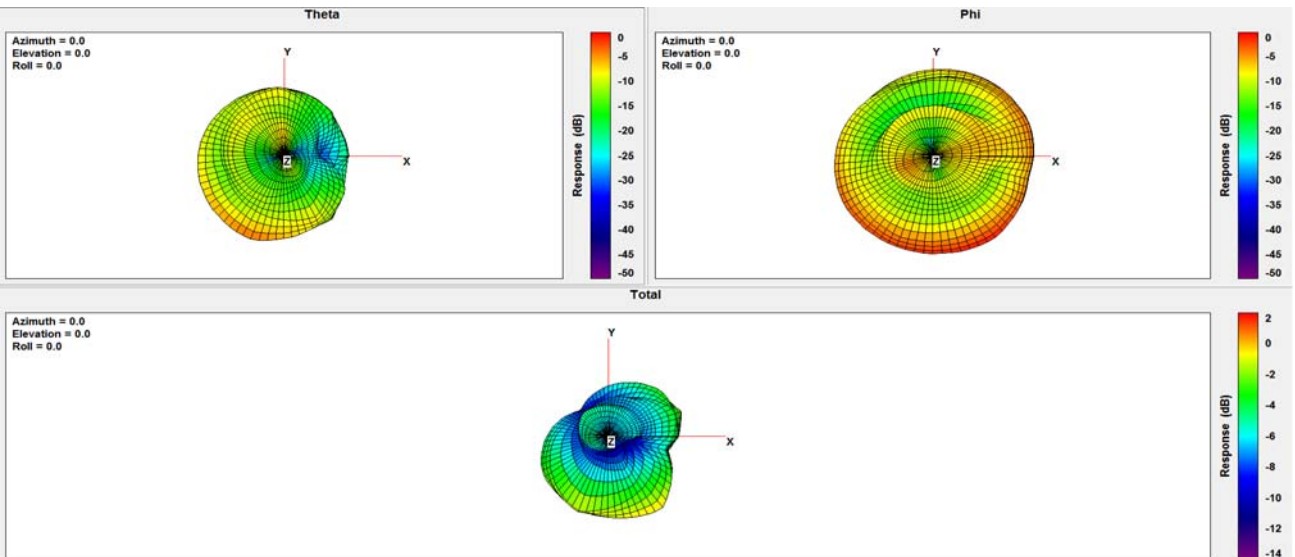
### 930Mhz:



### 960Mhz:

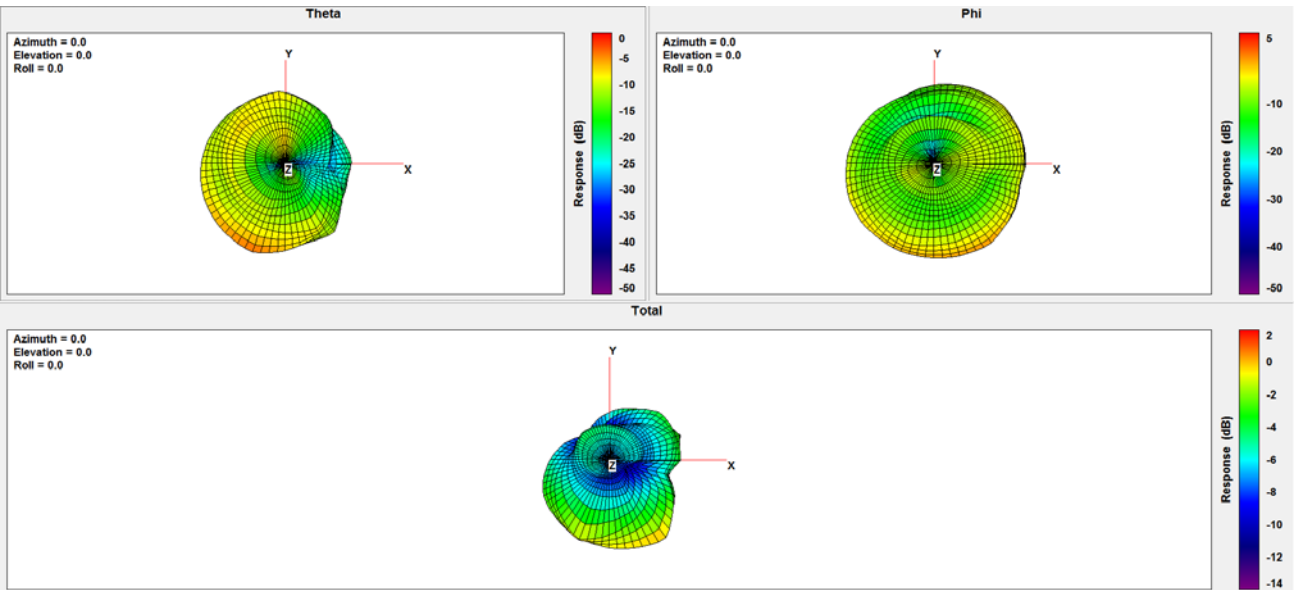


### 1575Mhz:

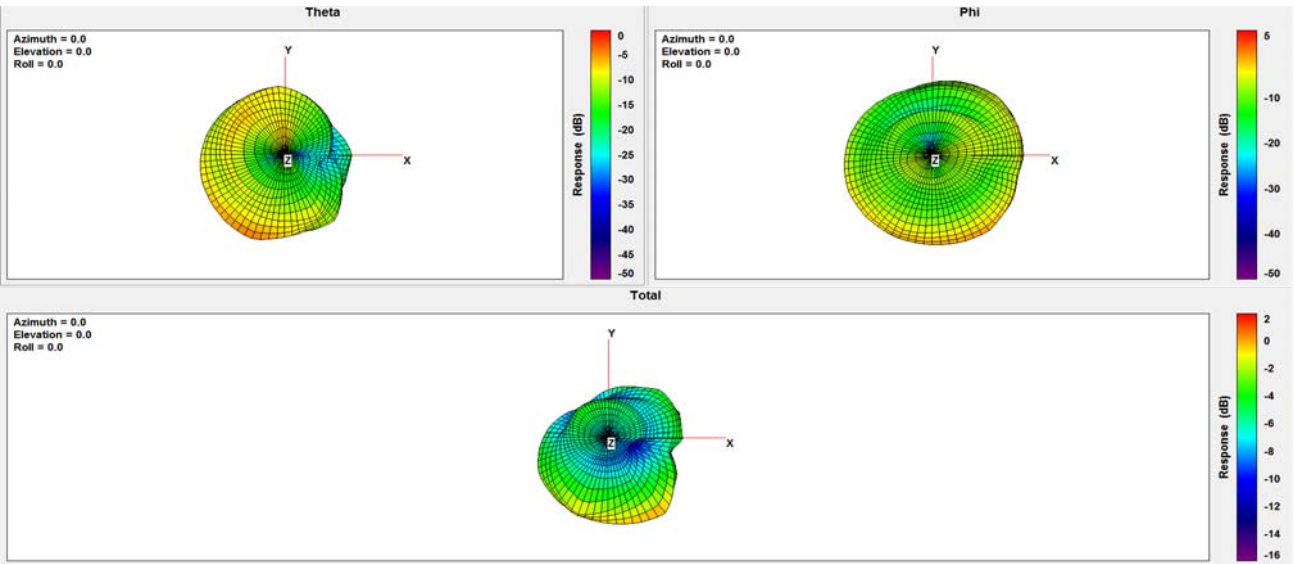




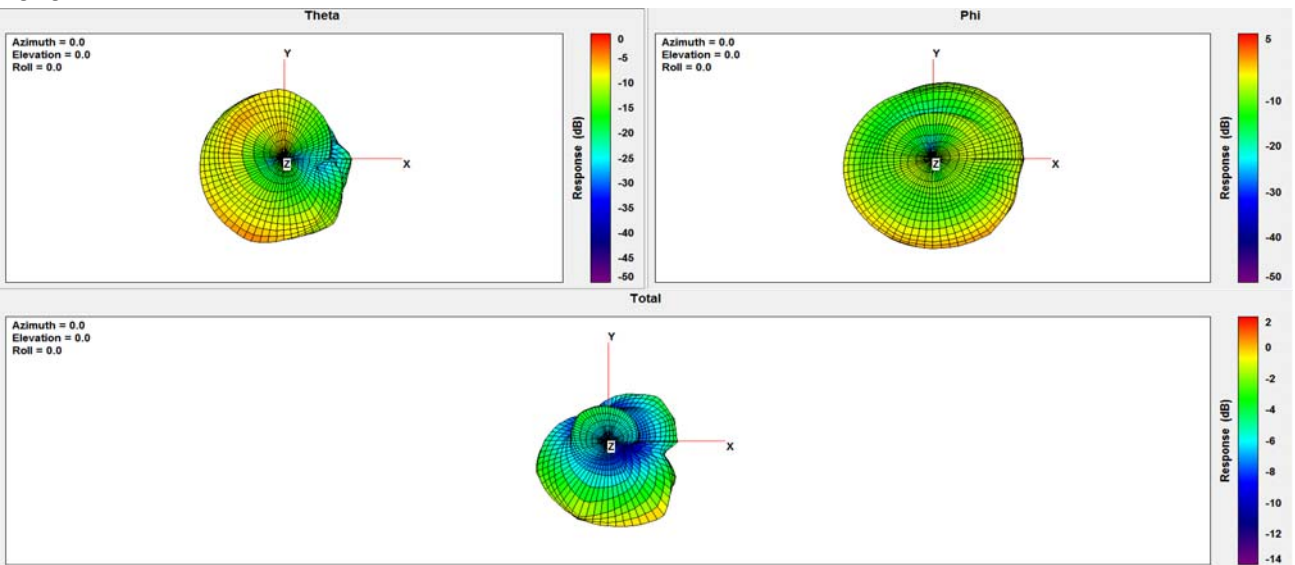
### 1602Mhz:



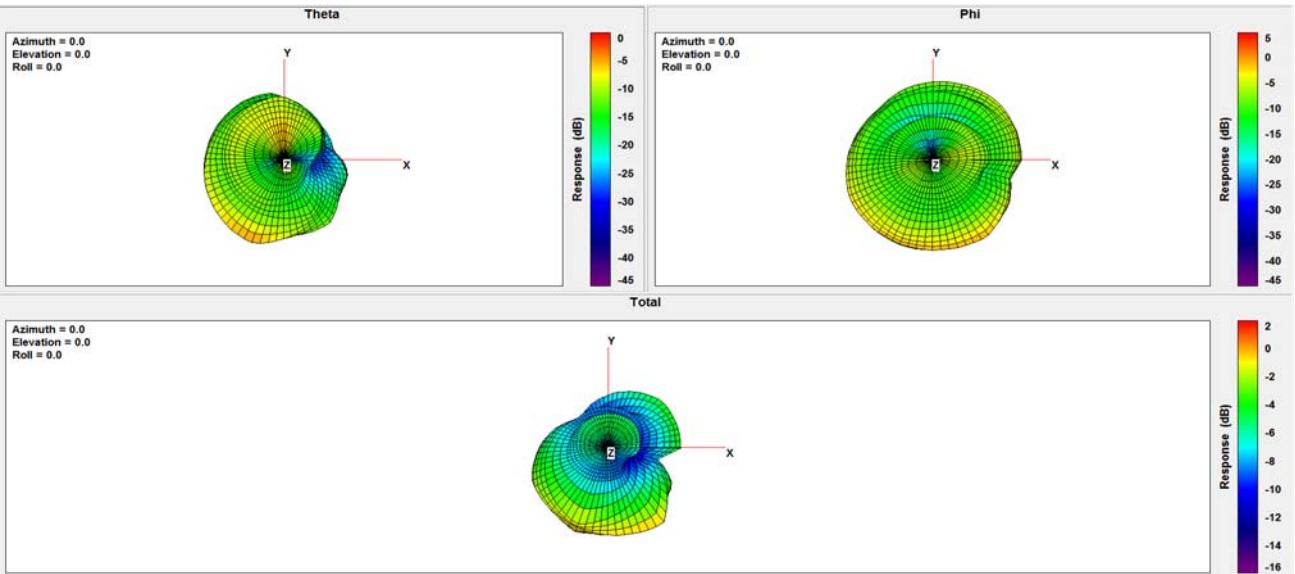
### 1616Mhz :



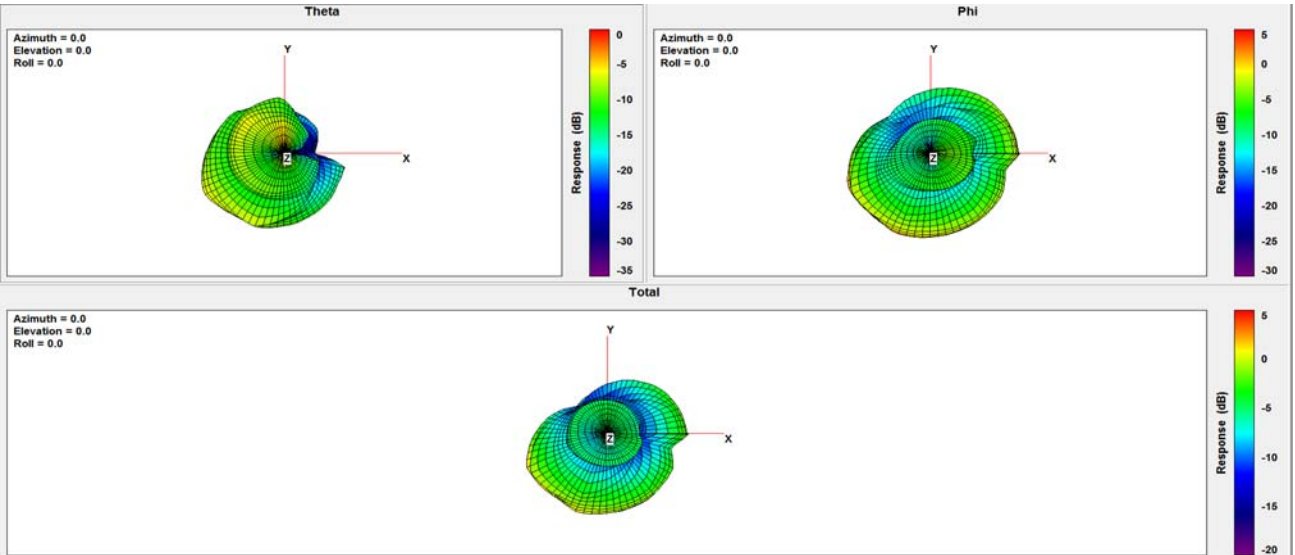
### 1626Mhz:



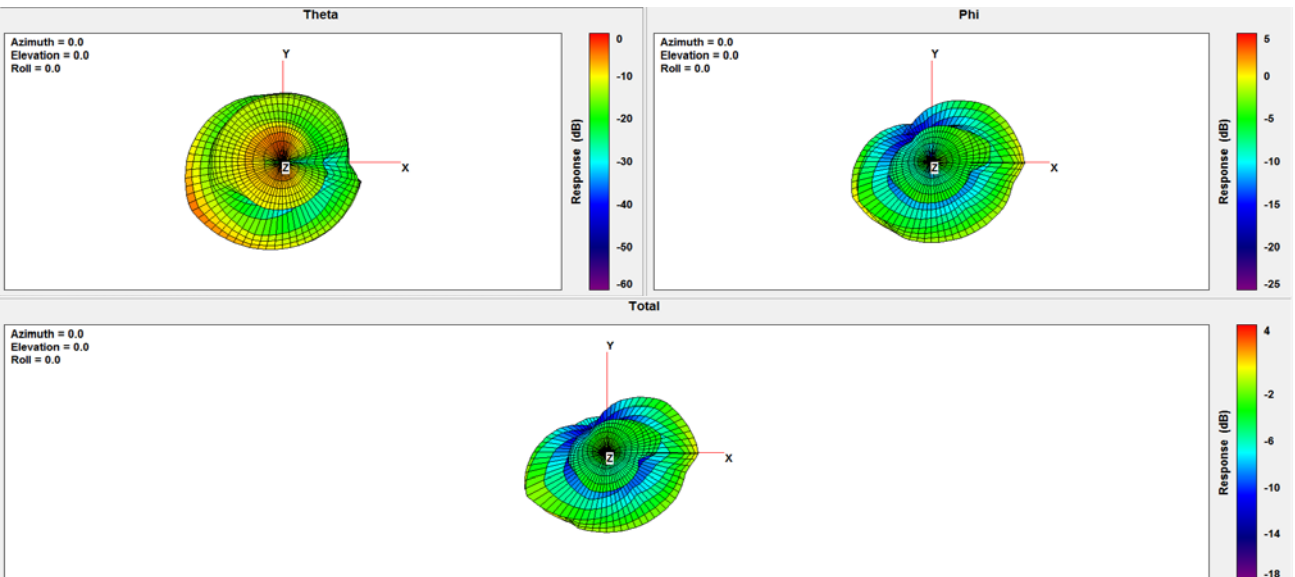
### 1710Mhz:



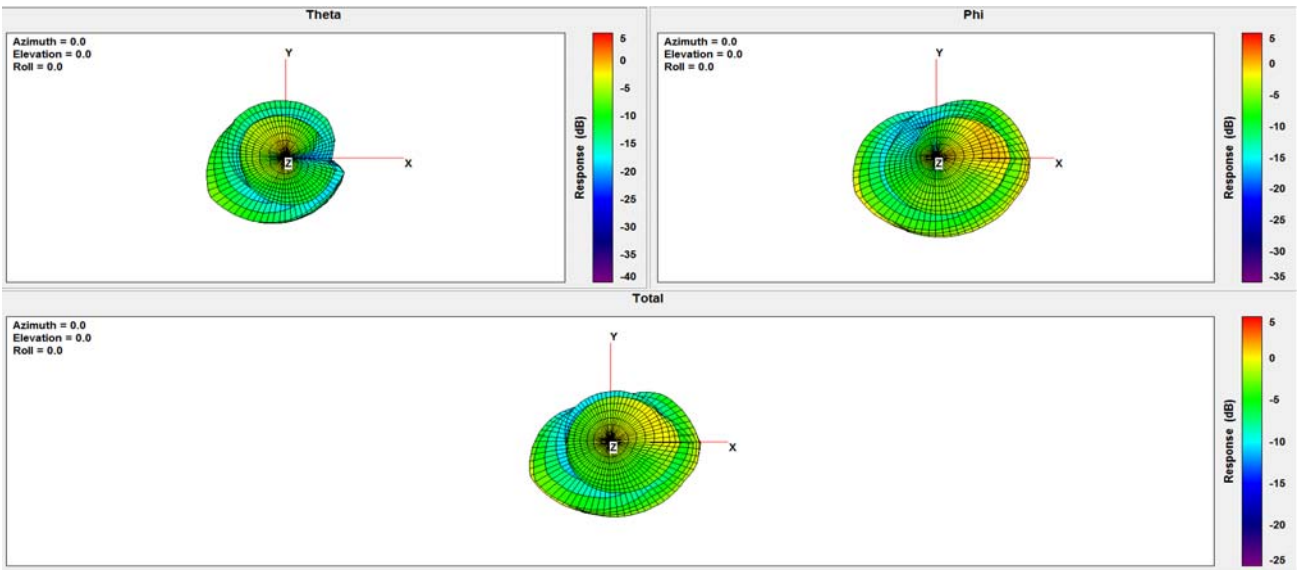
### 1880Mhz:



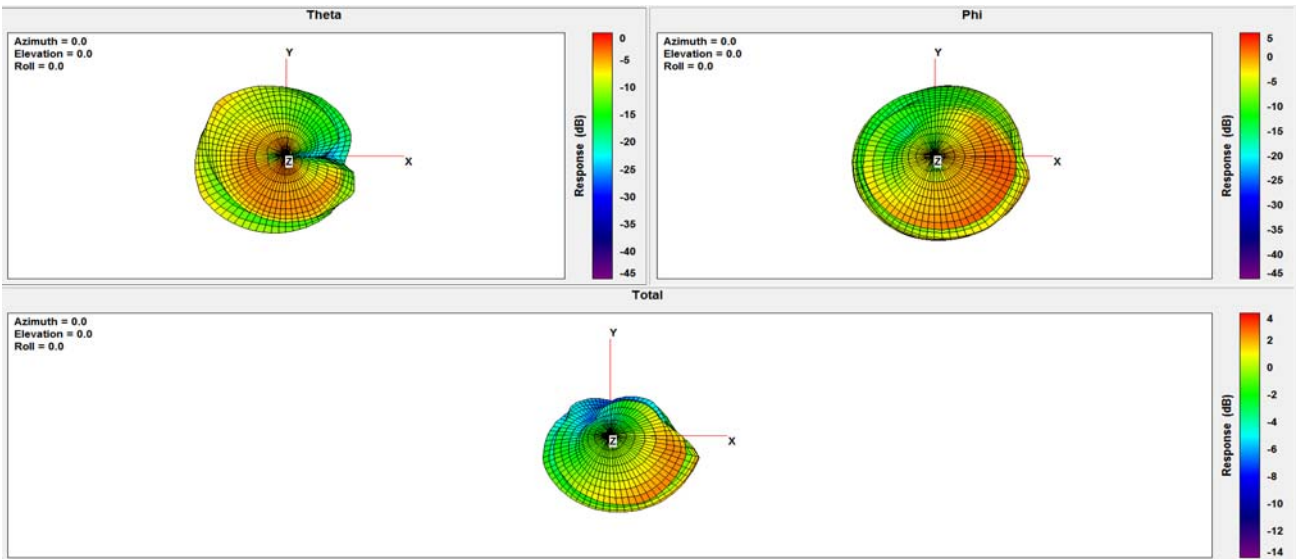
### 1995Mhz:



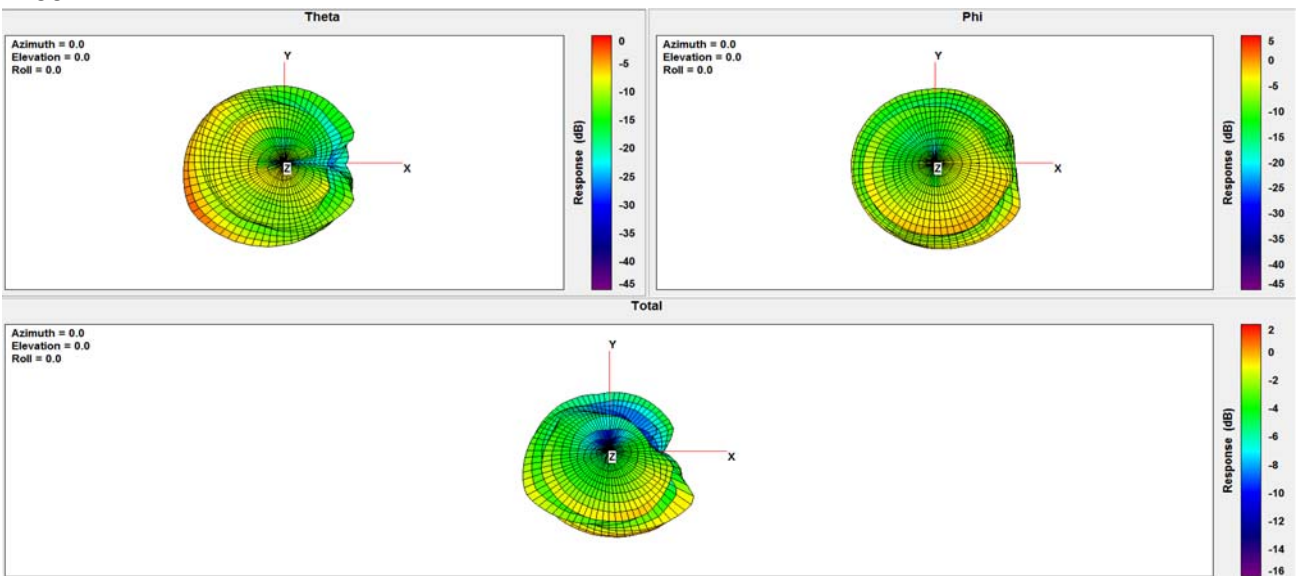
### 2110Mhz:



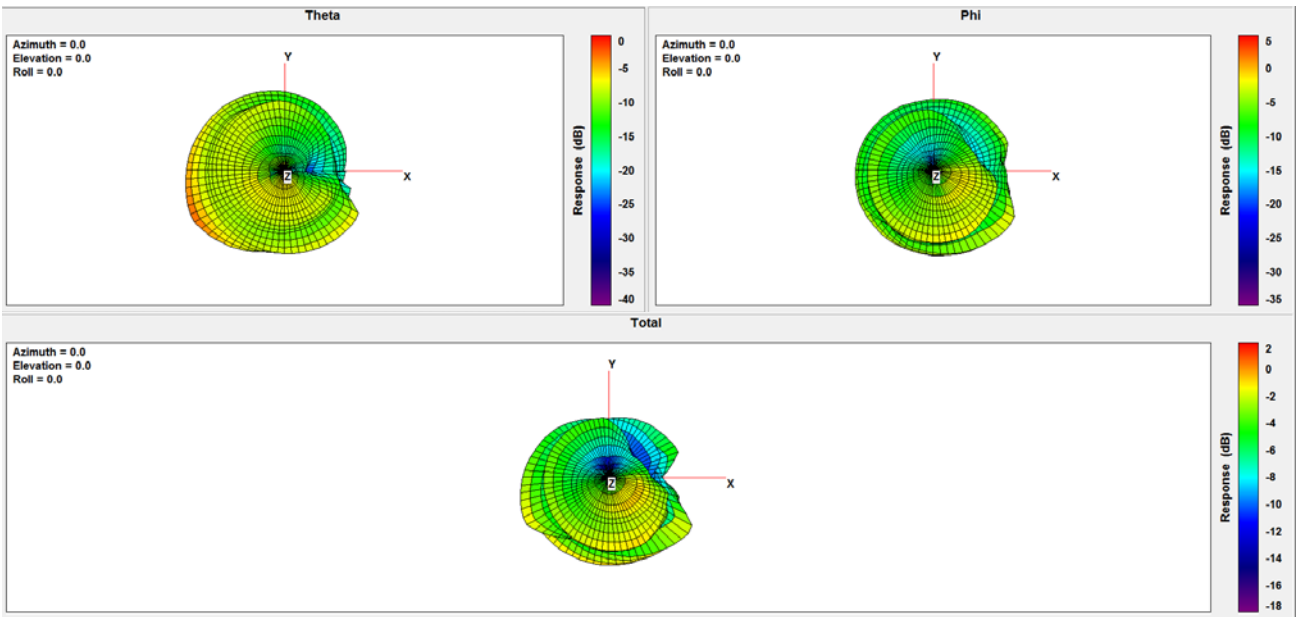
### 2300Mhz:



### 2400Mhz:



### 2500Mhz:



### 2690Mhz:

