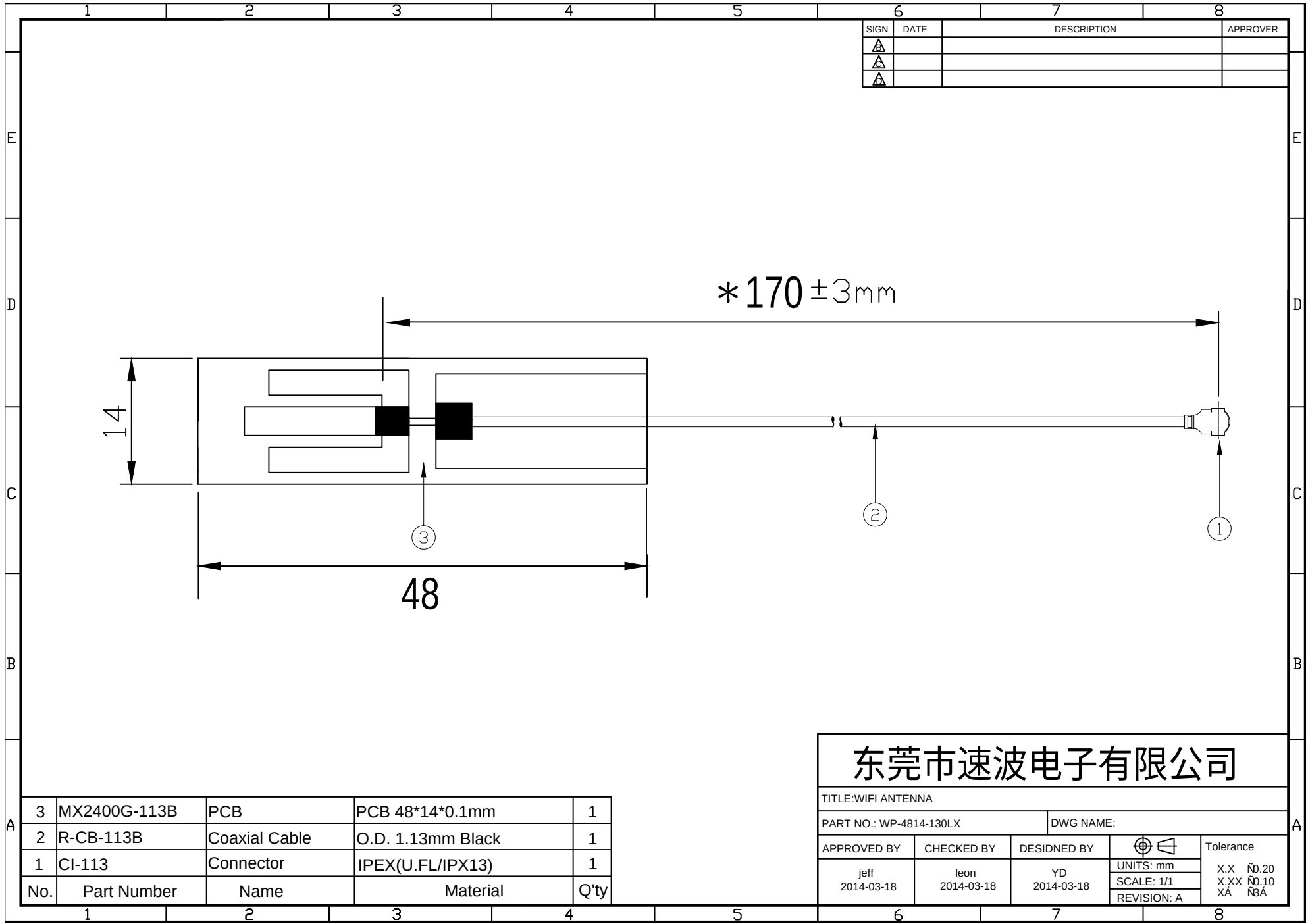


承认书项目表

NO.	内 容 (Contents)	页数 (Number of Page)	页码 (Page Code)
1	承认书封面 (Spec Cover)	1	1
2	承认书项目表 (Spec Item)	1	2
3	工程成品图 (Drawing)	1	3
4	电性测试报告 (Test Reports)	1	4
5	S 参数测试 (S Parameter)	1	5
6	增益测试 (Gain Test)	1	6
7			
8			
9			
10	-	-	-
11	-	-	-
12	-	-	-



SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			

3	MX2400G-113B	PCB	PCB 48*14*0.1mm	1
2	R-CB-113B	Coaxial Cable	O.D. 1.13mm Black	1
1	CI-113	Connector	IPEX(U.FL/IPX13)	1
No.	Part Number	Name	Material	Q'ty

东莞市速波电子有限公司				
TITLE:WIFI ANTENNA				
PART NO.: WP-4814-130LX			DWG NAME:	
APPROVED BY	CHECKED BY	DESIGNED BY		Tolerance
jeff 2014-03-18	leon 2014-03-18	YD 2014-03-18	UNITS: mm	X.X N0.20
			SCALE: 1/1	X.XX N0.10
			REVISION: A	XA N0A

电性测试报告

Test Reports

Electrical Properties	
Frequency	2.4~2.5GHz 4.9~5.9GHz
Impedance	50 Ohm Nominal
V.S.W.R	1.92 : 1 Max
Return Loss	-10 dB Max
Radiation	Omni-directional
Cable Loss	1.5dB / m Max @ 2450 MHz
Polarization	Linear, Vertical
Admitted Power	1 W
Connector	ipex
Physical Properties	
Antenna Material	PCB
Cable Type	O.D. 1.13mm // 170 mm
Operating Temp.	-10 ~ +60 °C
Storage Temp.	-10 ~ +70 °C
Cable Color	Black

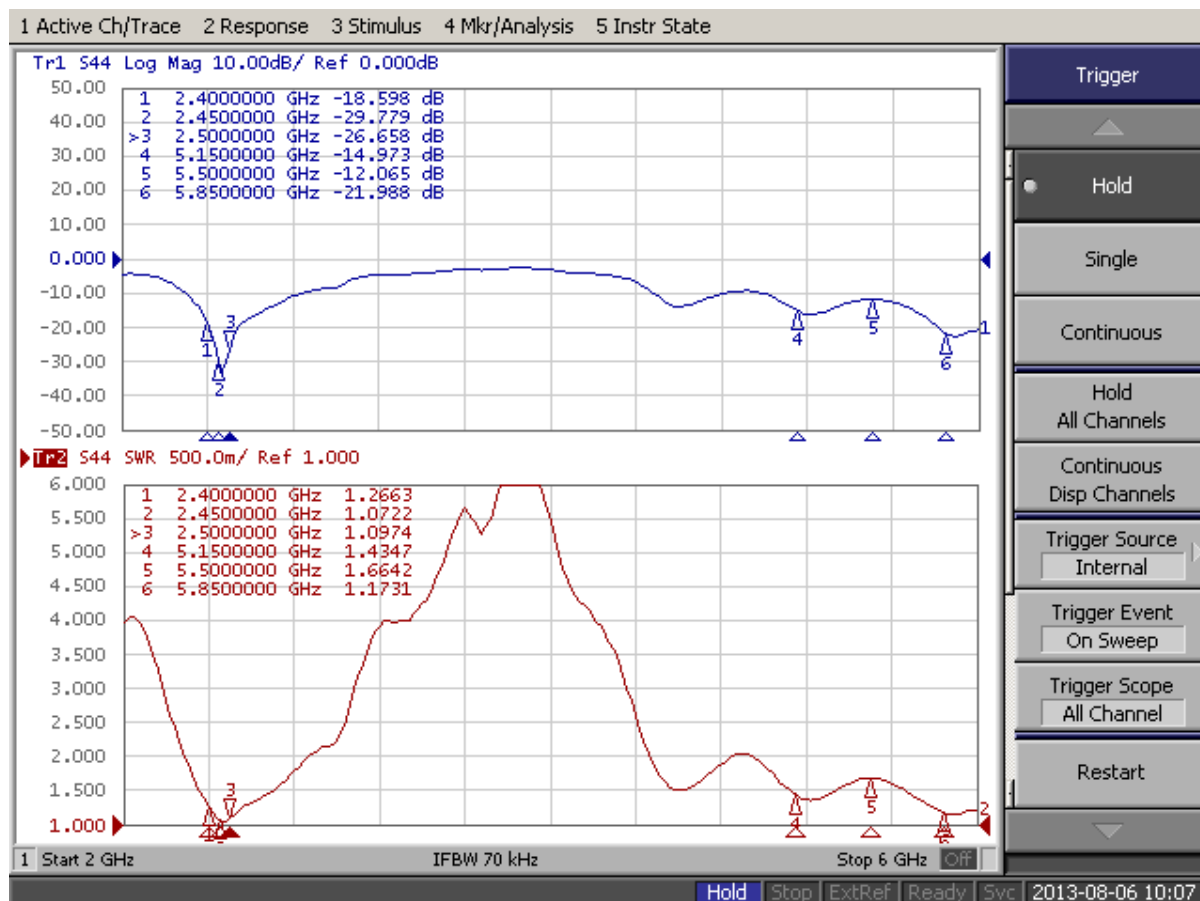
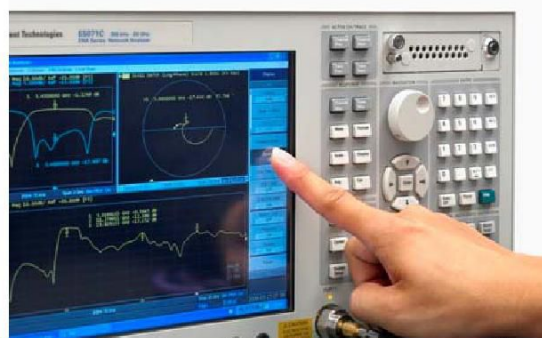
ADD：东莞市虎门镇大宁麒麟东路6号

Tel:15818375487

S 参数测试

S Parameter Test

Agilent E5071C



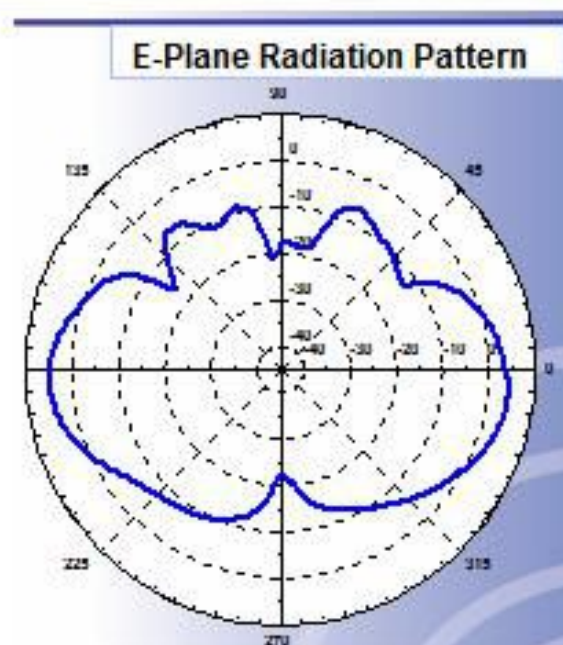
ADD：东莞市虎门镇大宁麒麟东路6号

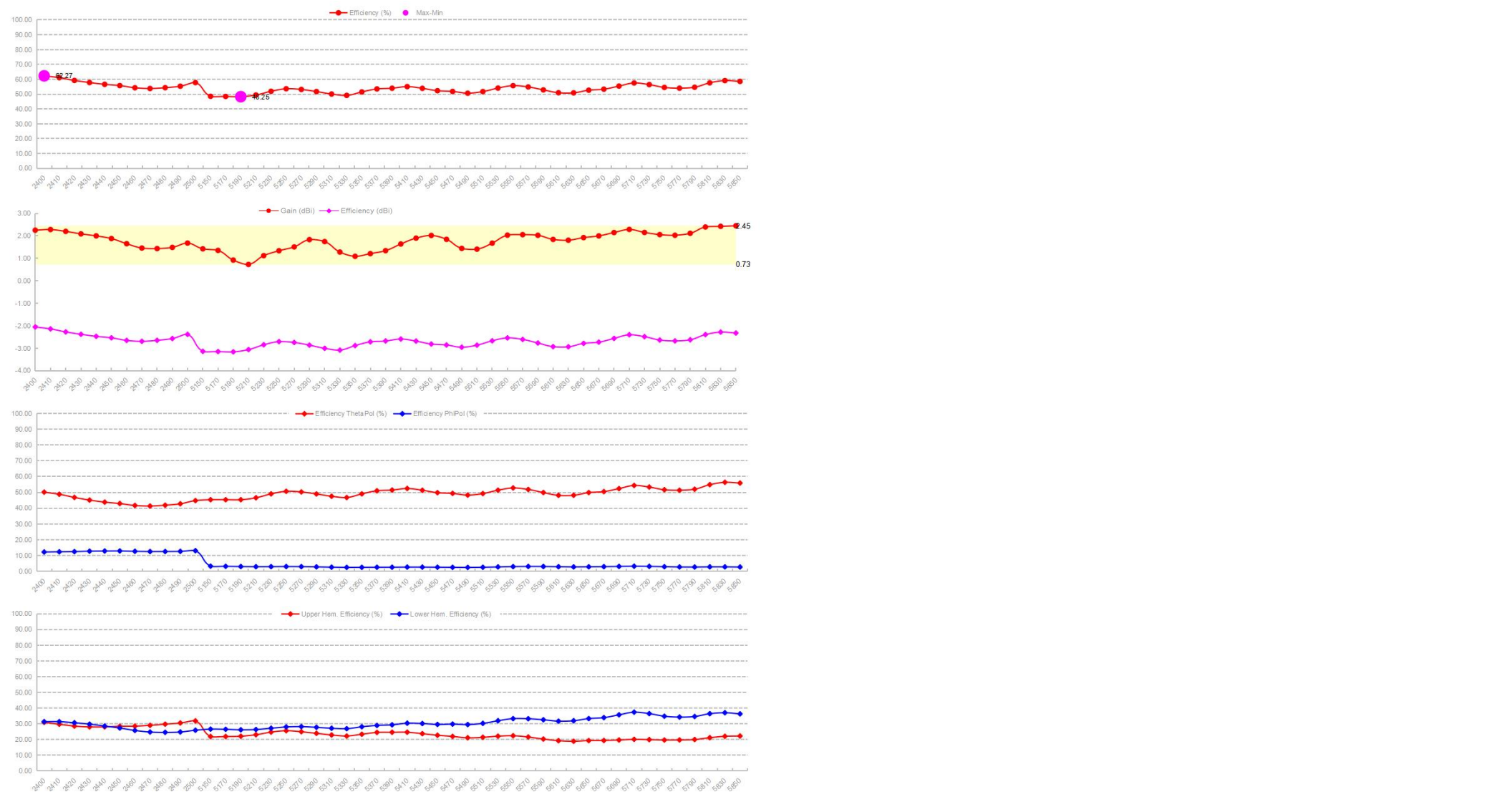
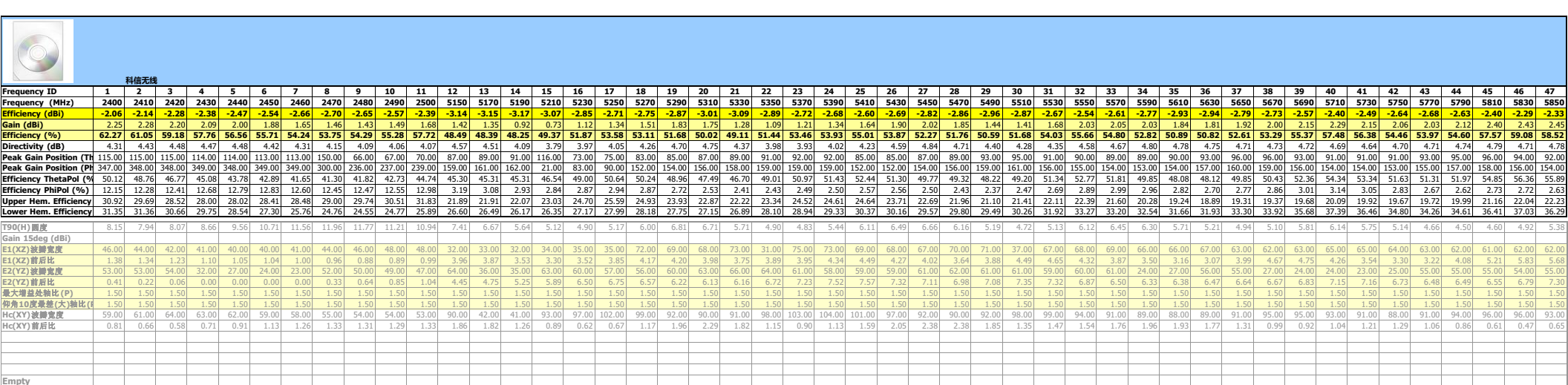
Tel:15818375487

增益测试

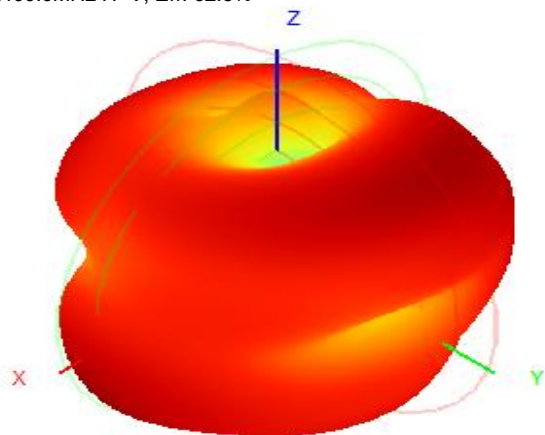
Gain Test

*Antenna
Radiation
Pattern
VS
Gain*

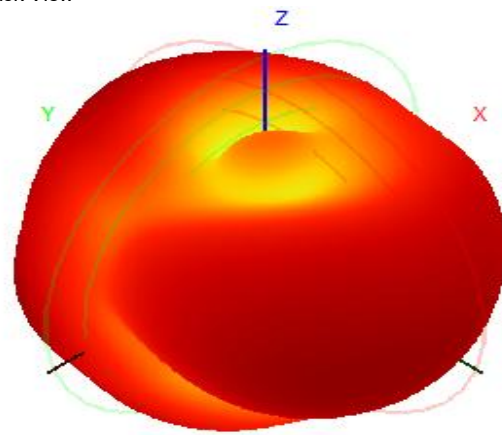




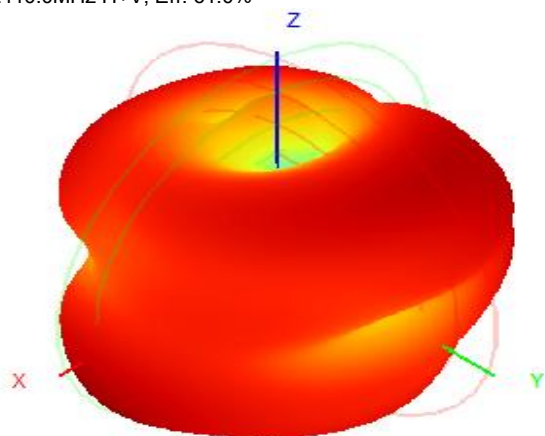
2400.0MHz H+V, Eff: 62.3%



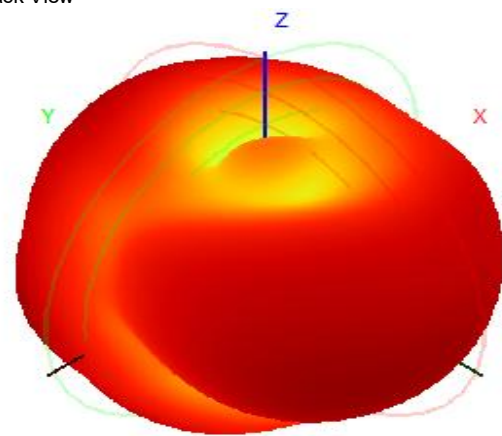
Back View



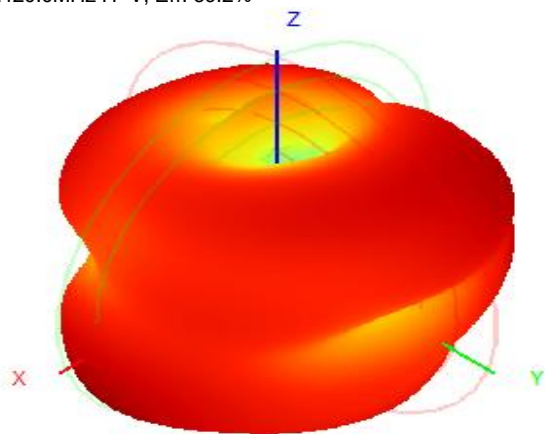
2410.0MHz H+V, Eff: 61.0%



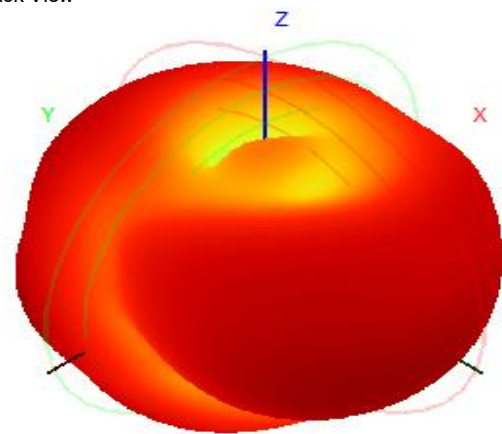
Back View



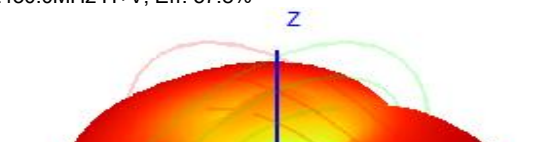
2420.0MHz H+V, Eff: 59.2%



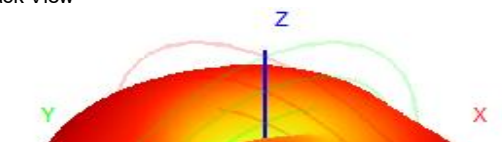
Back View

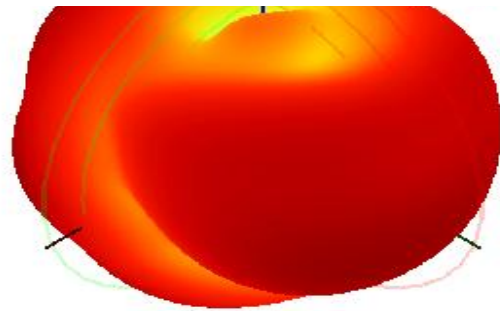
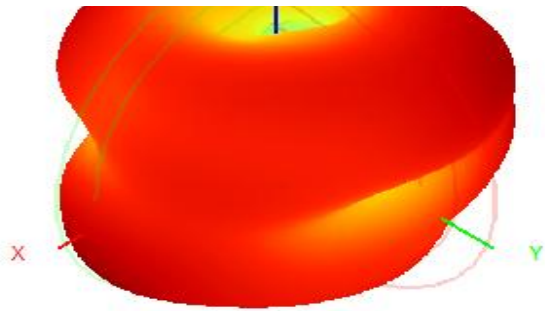


2430.0MHz H+V, Eff: 57.8%



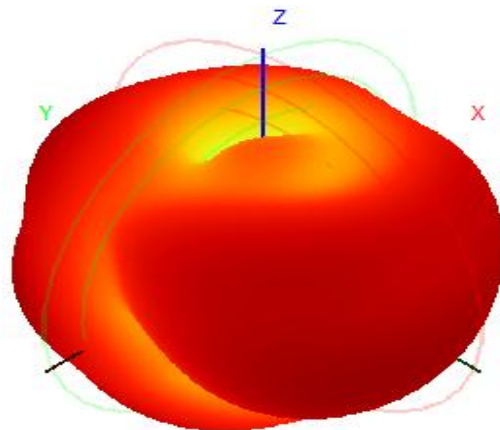
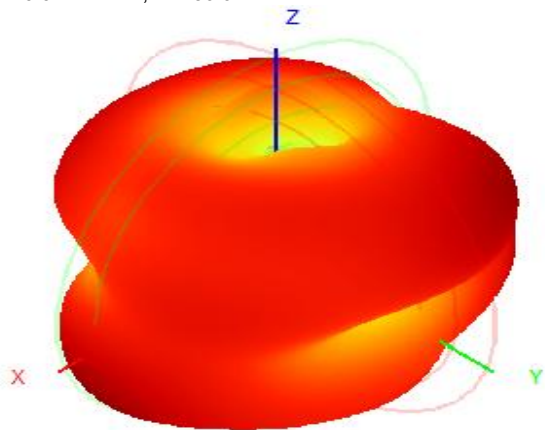
Back View





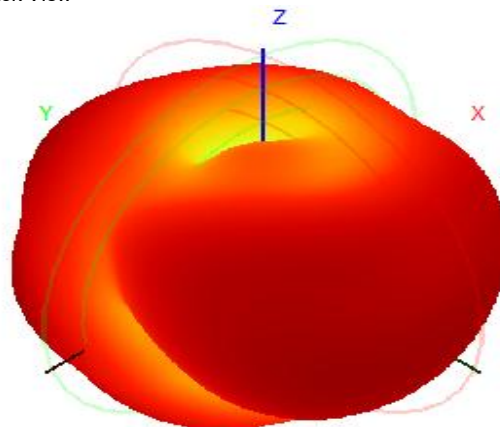
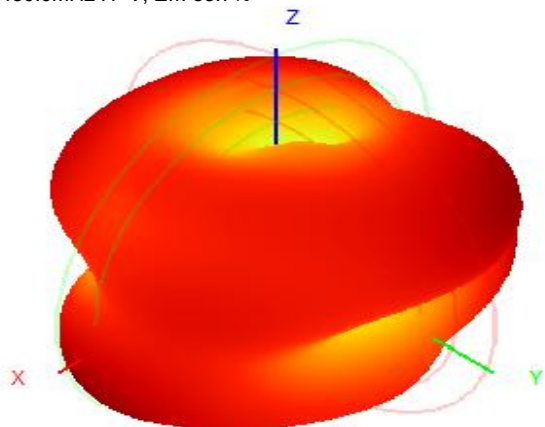
2440.0MHz H+V, Eff: 56.6%

Back View



2450.0MHz H+V, Eff: 55.7%

Back View



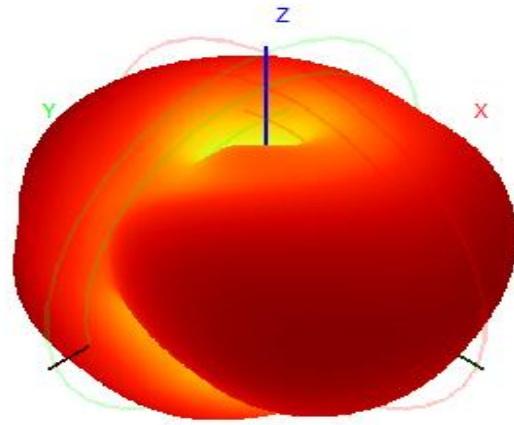
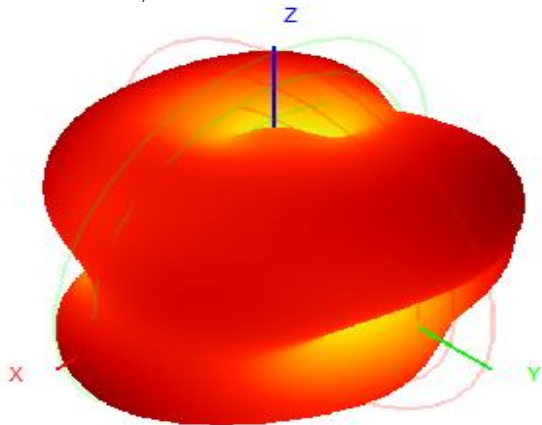
2460.0MHz H+V, Eff: 54.2%

Back View



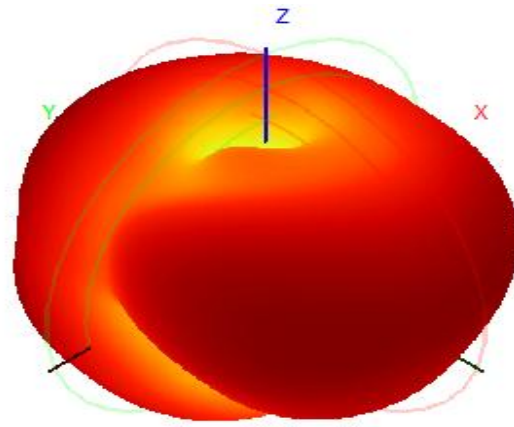
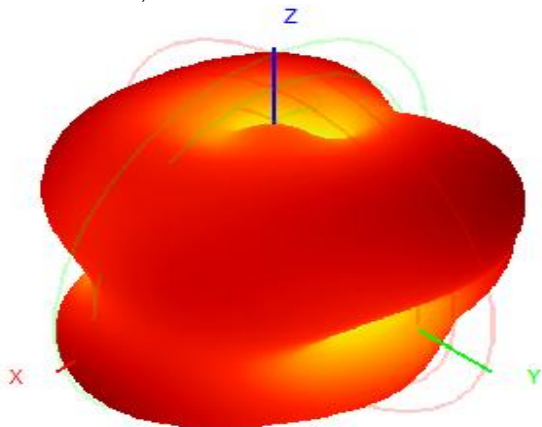
2470.0MHz H+V, Eff: 53.8%

Back View



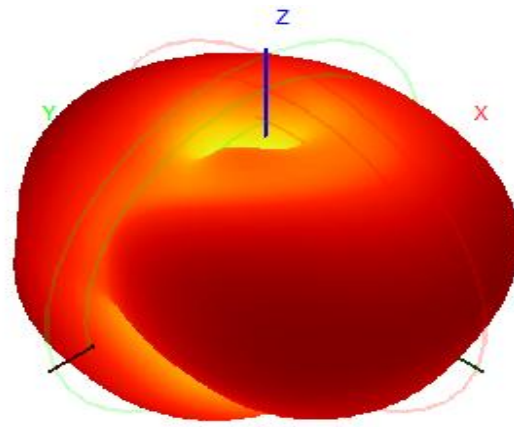
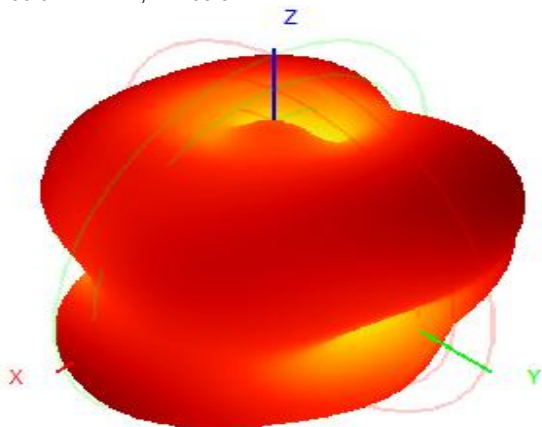
2480.0MHz H+V, Eff: 54.3%

Back View



2490.0MHz H+V, Eff: 55.3%

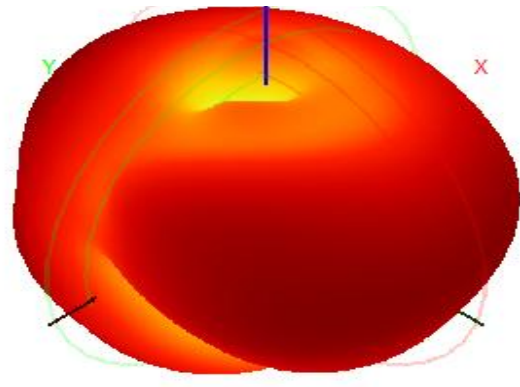
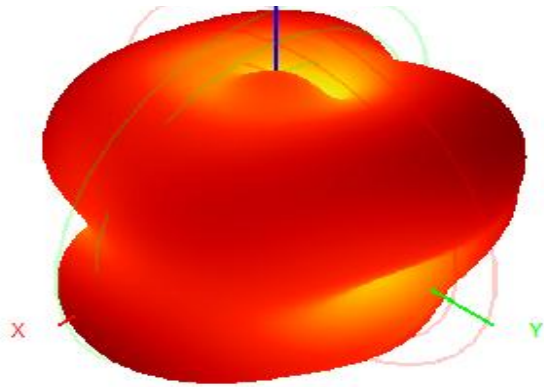
Back View



2500.0MHz H+V, Eff: 57.7%

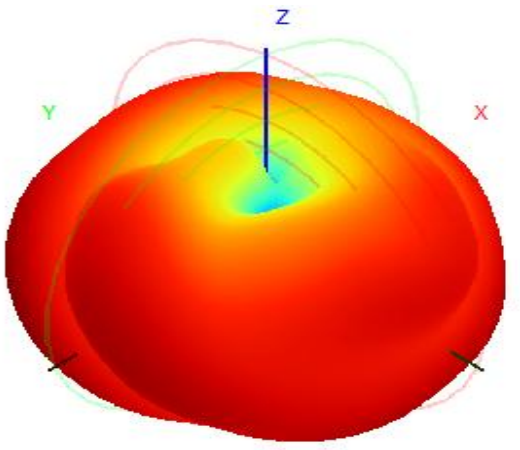
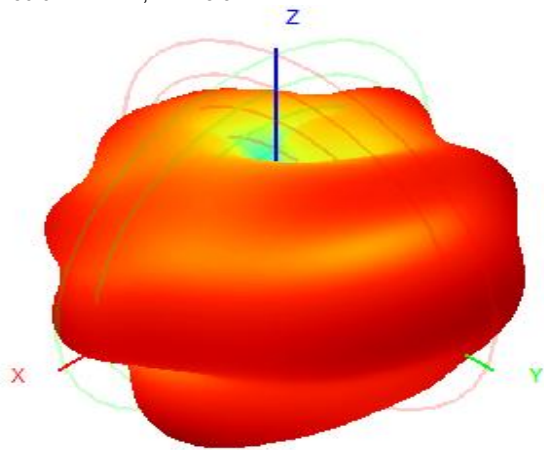
Back View





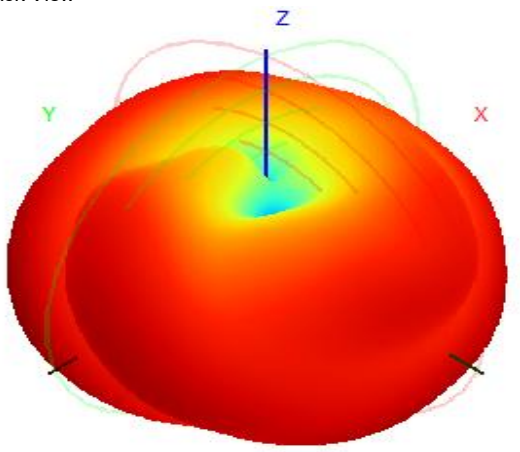
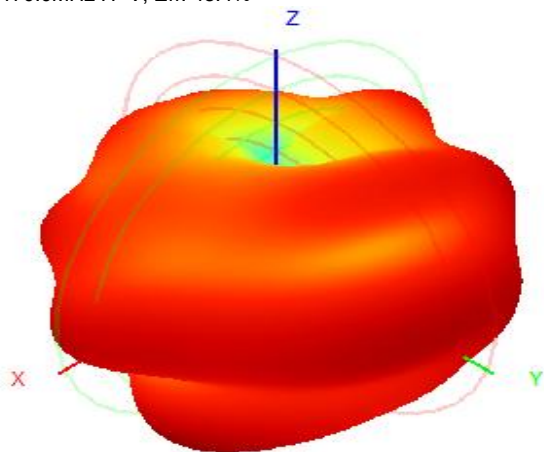
5150.0MHz H+V, Eff: 48.5%

Back View



5170.0MHz H+V, Eff: 48.4%

Back View



5190.0MHz H+V, Eff: 48.2%

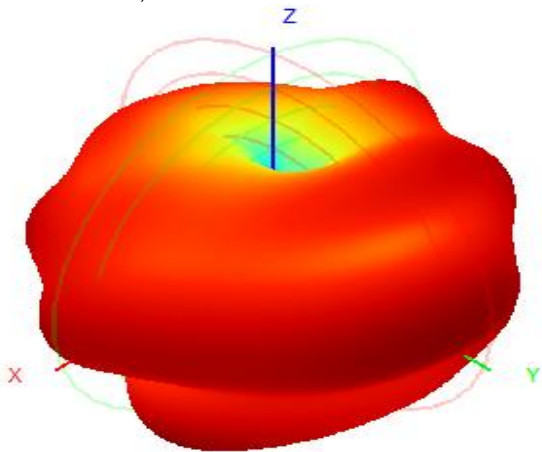
Back View



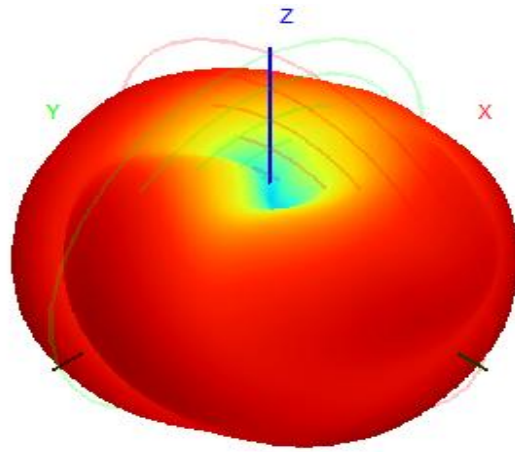
5210.0MHz H+V, Eff: 49.4%



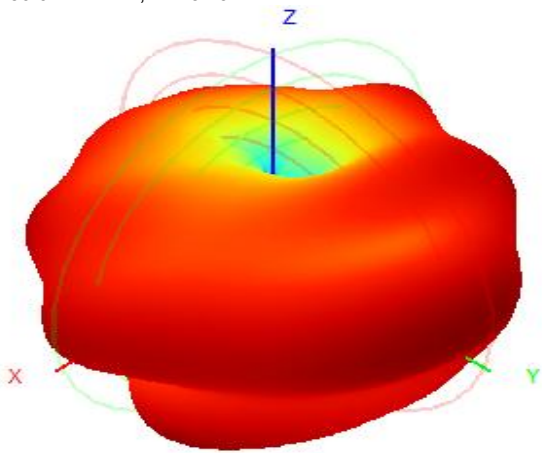
Back View



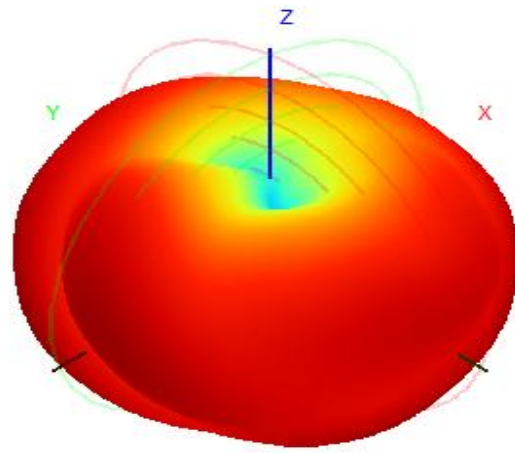
5230.0MHz H+V, Eff: 51.9%



Back View

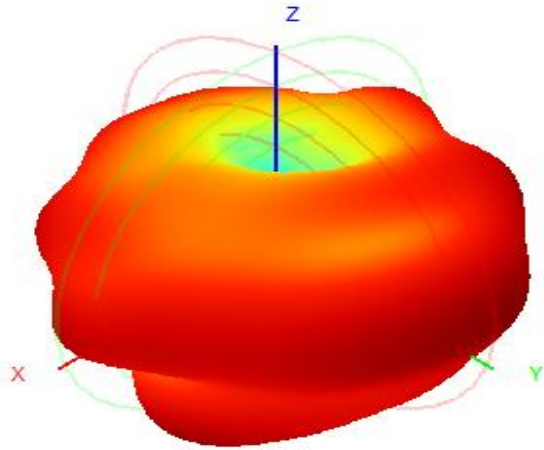


5250.0MHz H+V, Eff: 53.6%

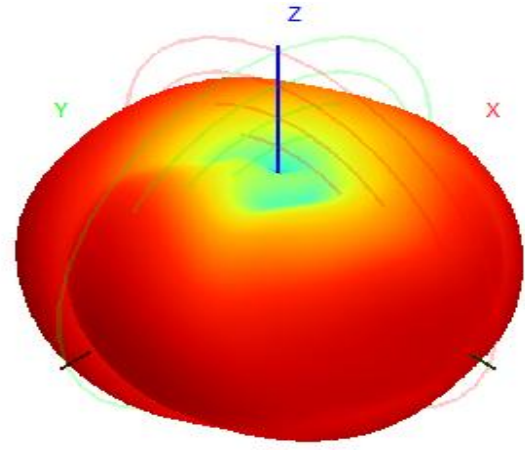


Back View

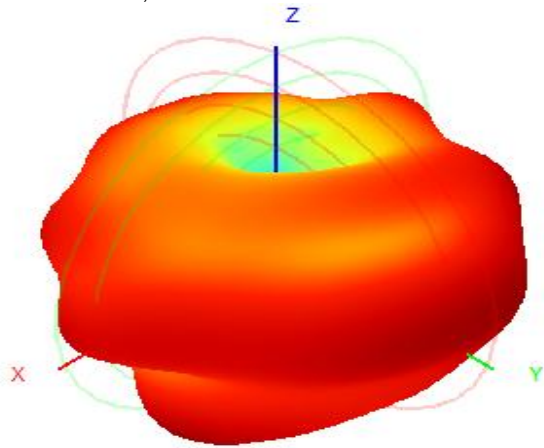
5270.0MHz H+V, Eff: 53.1%



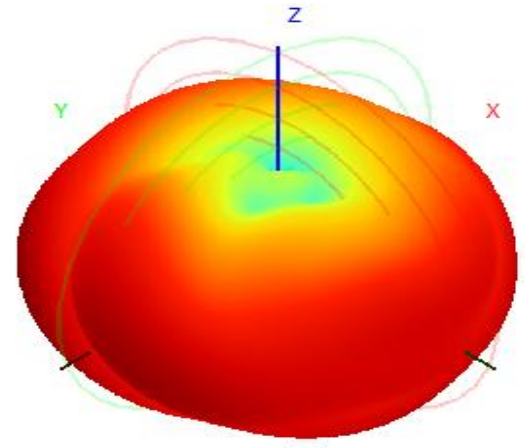
Back View



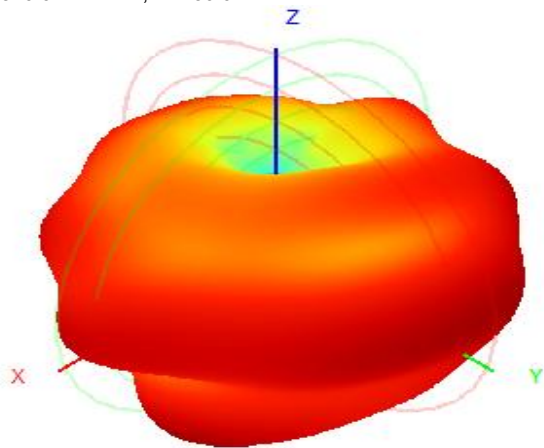
5290.0MHz H+V, Eff: 51.7%



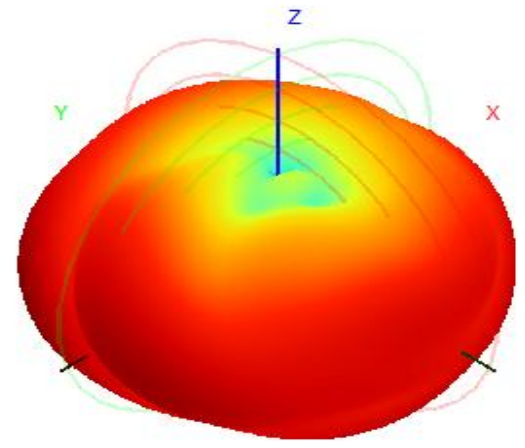
Back View



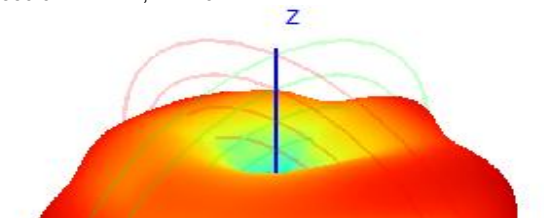
5310.0MHz H+V, Eff: 50.0%



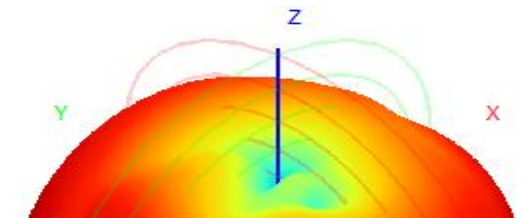
Back View



5330.0MHz H+V, Eff: 49.1%

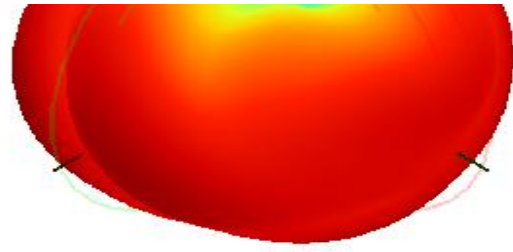


Back View

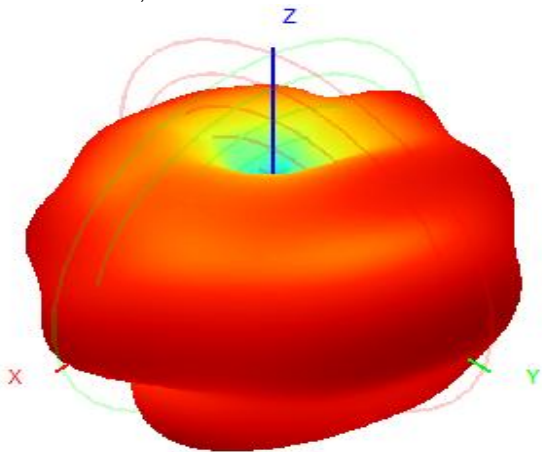




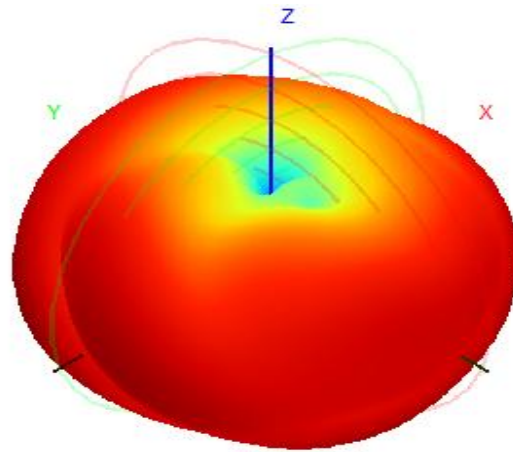
5350.0MHz H+V, Eff: 51.4%



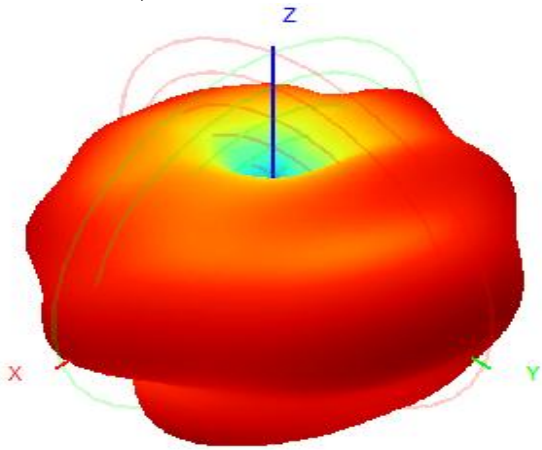
Back View



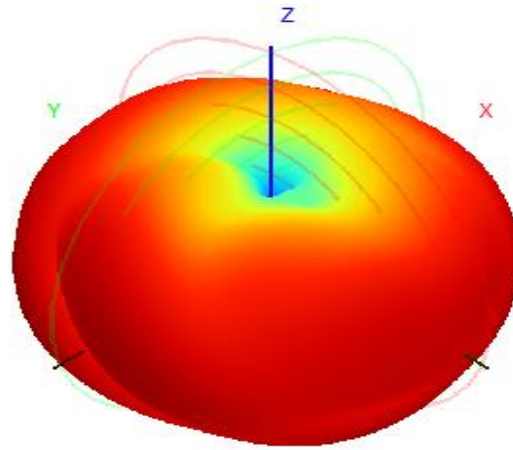
5370.0MHz H+V, Eff: 53.5%



Back View

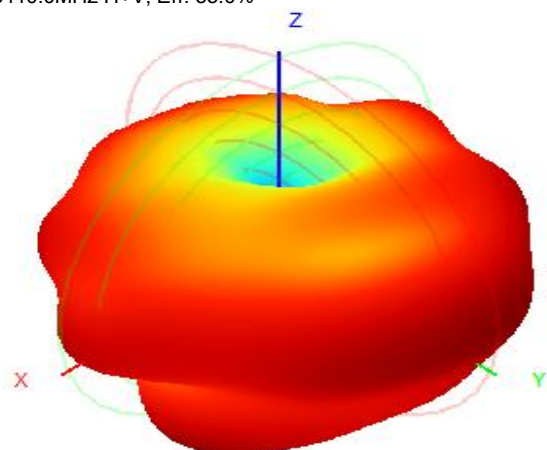


5390.0MHz H+V, Eff: 53.9%

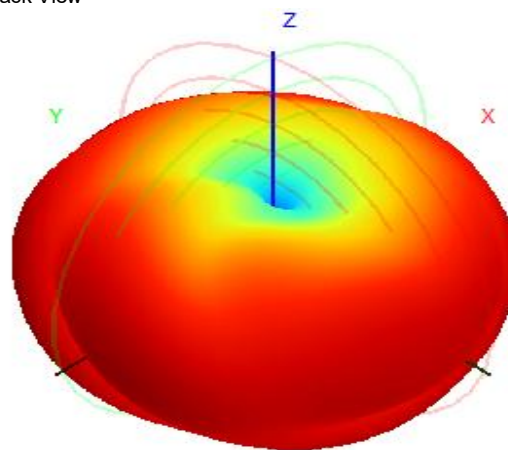


Back View

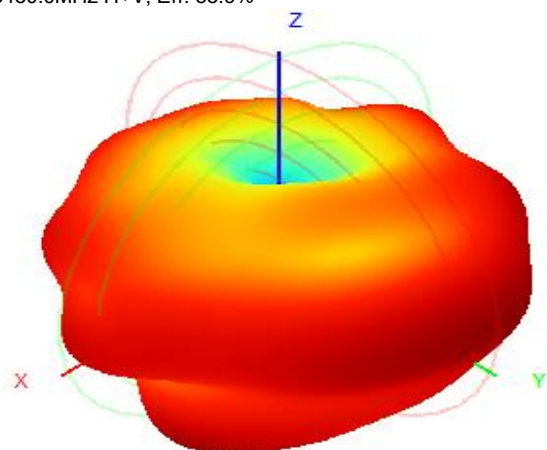
5410.0MHz H+V, Eff: 55.0%



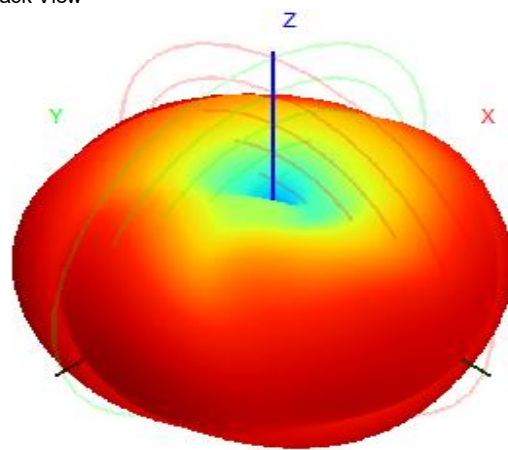
Back View



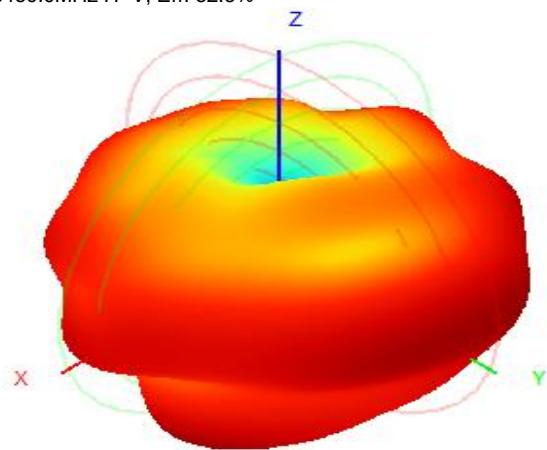
5430.0MHz H+V, Eff: 53.9%



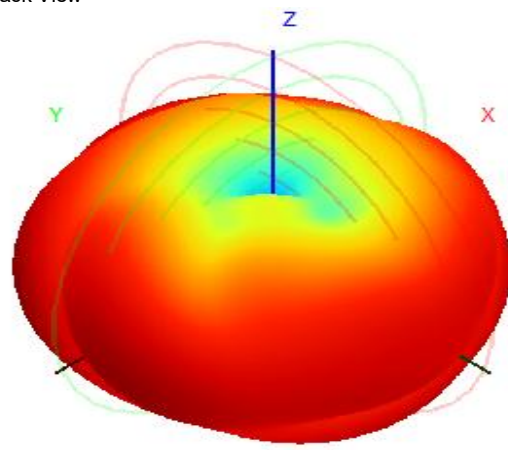
Back View



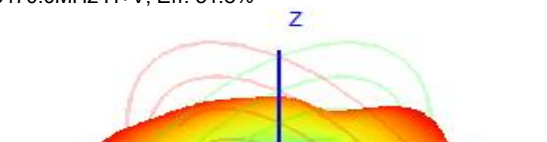
5450.0MHz H+V, Eff: 52.3%



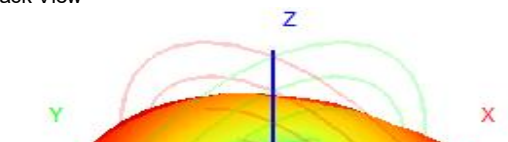
Back View

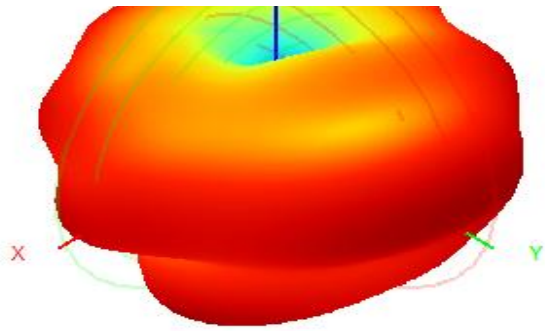


5470.0MHz H+V, Eff: 51.8%

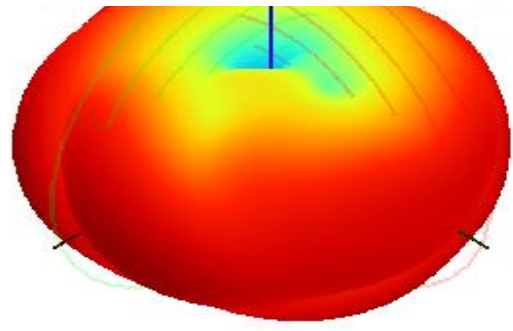


Back View

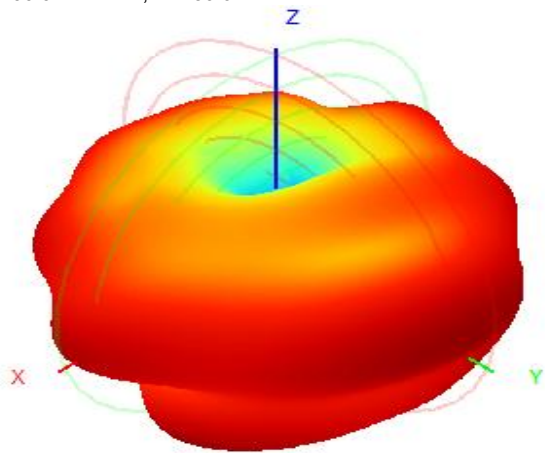




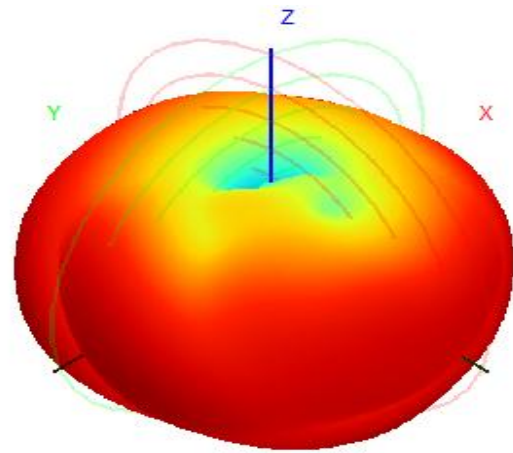
5490.0MHz H+V, Eff: 50.6%



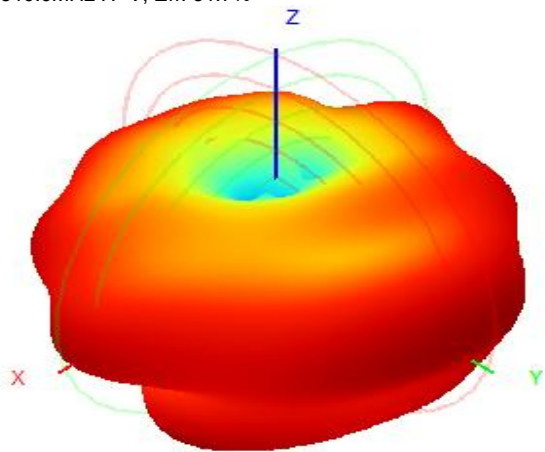
Back View



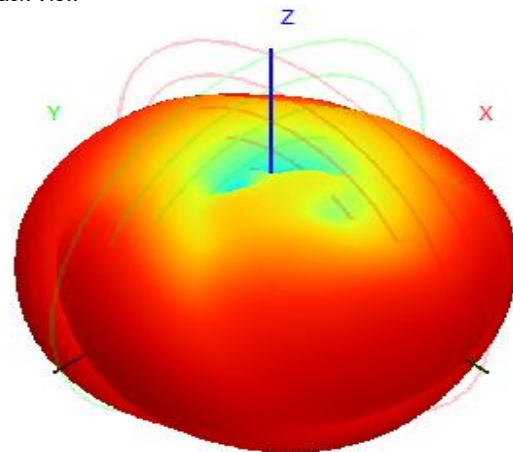
5510.0MHz H+V, Eff: 51.7%



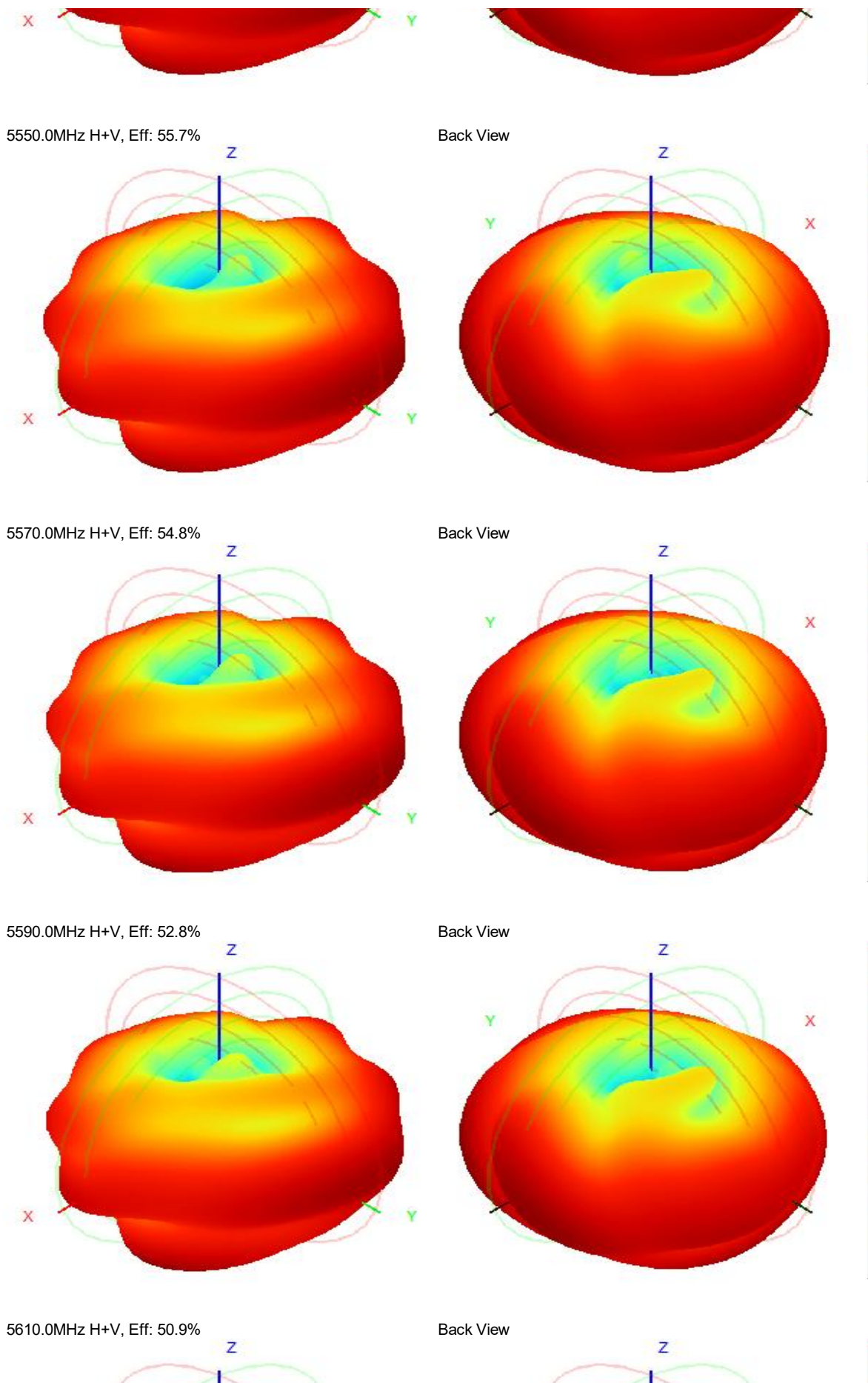
Back View

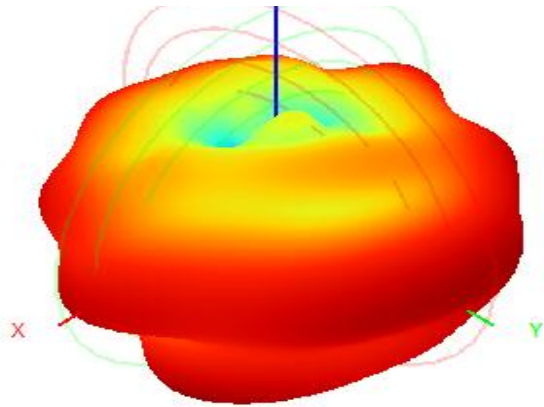


5530.0MHz H+V, Eff: 54.0%

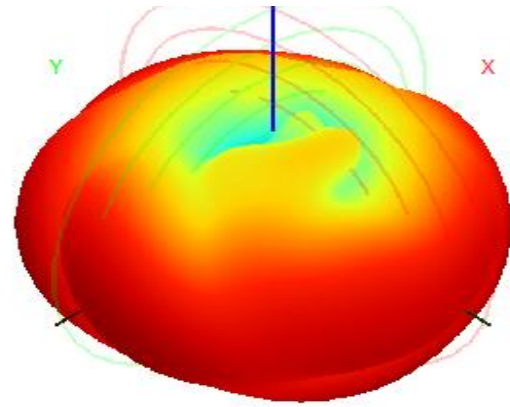


Back View

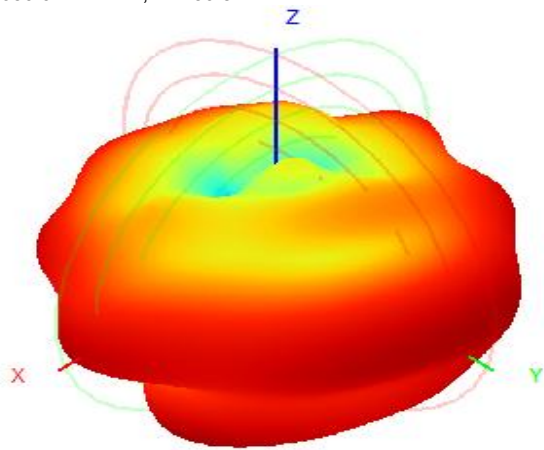




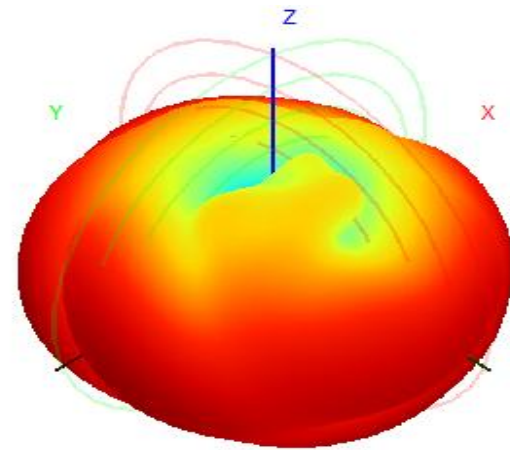
5630.0MHz H+V, Eff: 50.8%



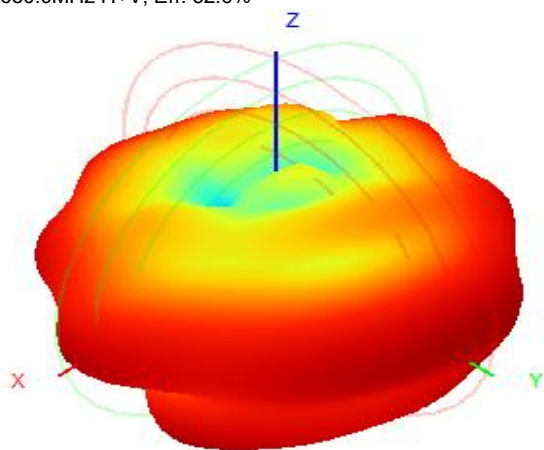
Back View



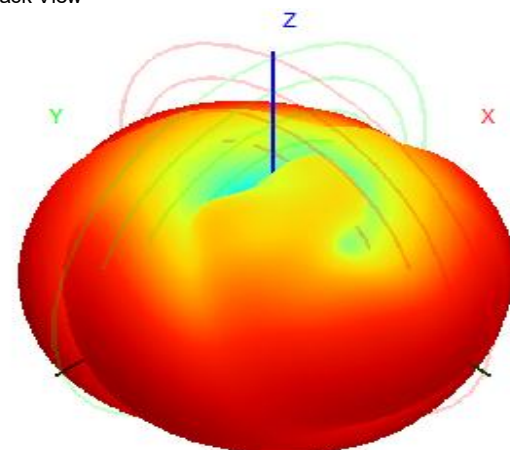
5650.0MHz H+V, Eff: 52.6%



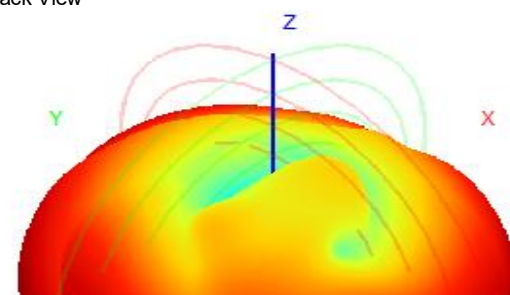
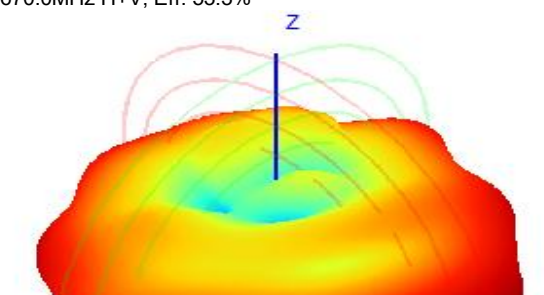
Back View



5670.0MHz H+V, Eff: 53.3%



Back View



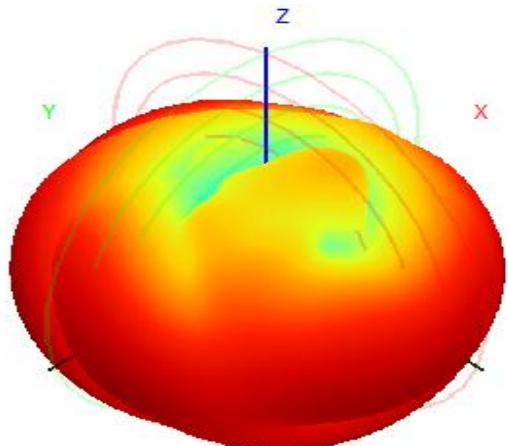
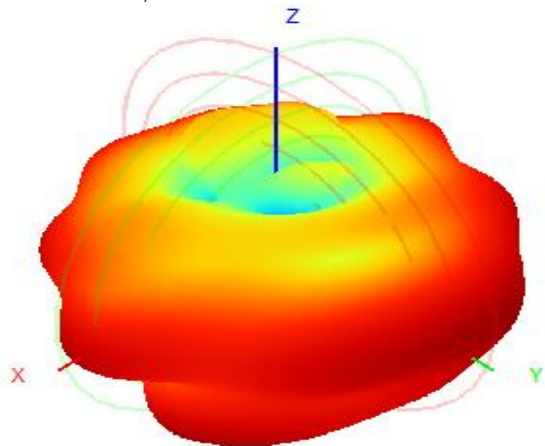
Back View



5690.0MHz H+V, Eff: 55.4%

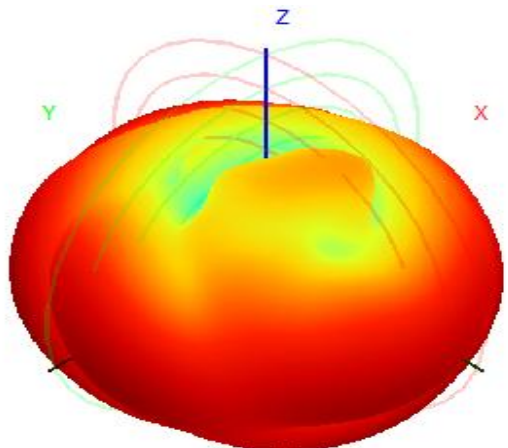
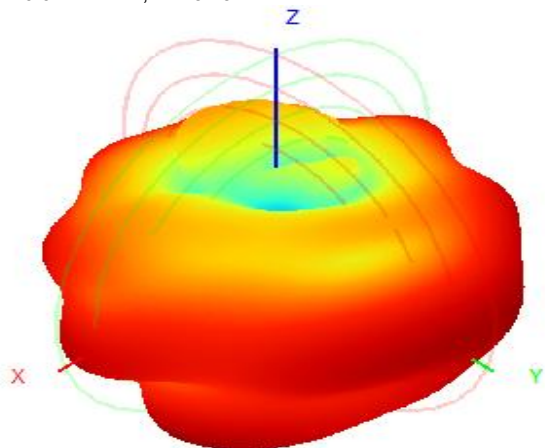


Back View



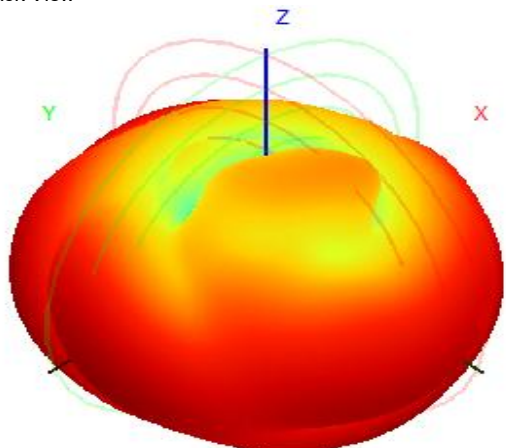
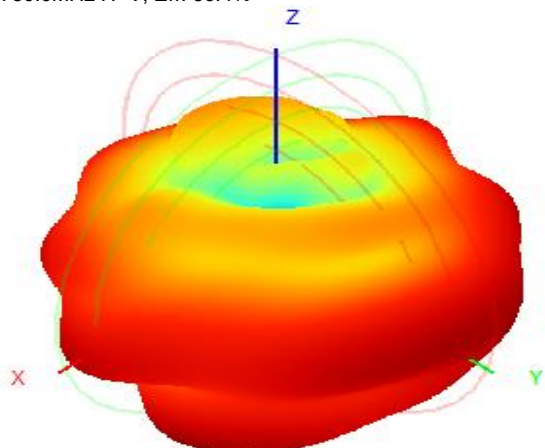
5710.0MHz H+V, Eff: 57.5%

Back View

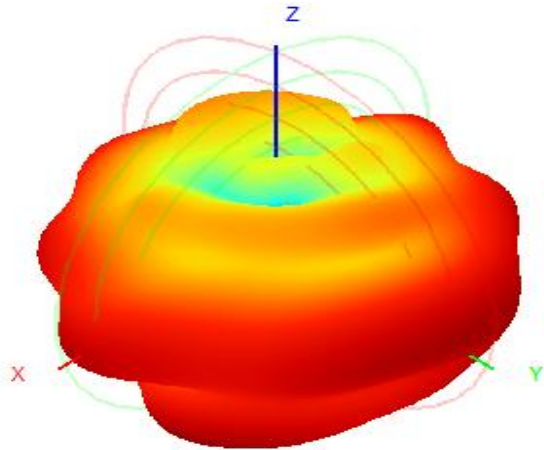


5730.0MHz H+V, Eff: 56.4%

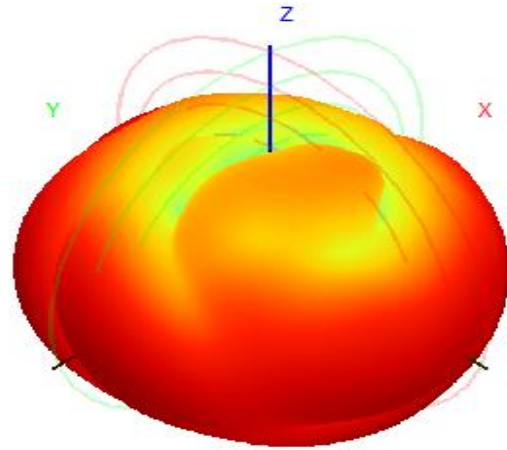
Back View



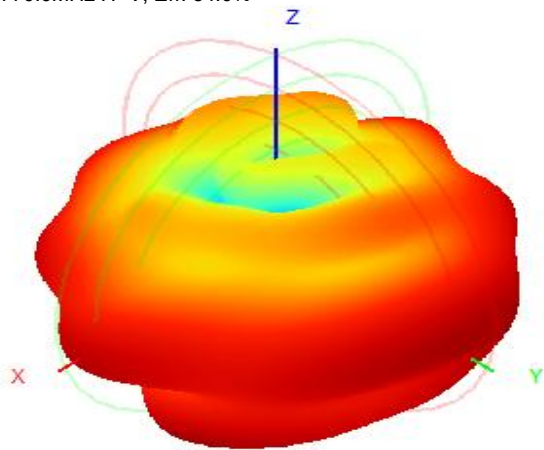
5750.0MHz H+V, Eff: 54.5%



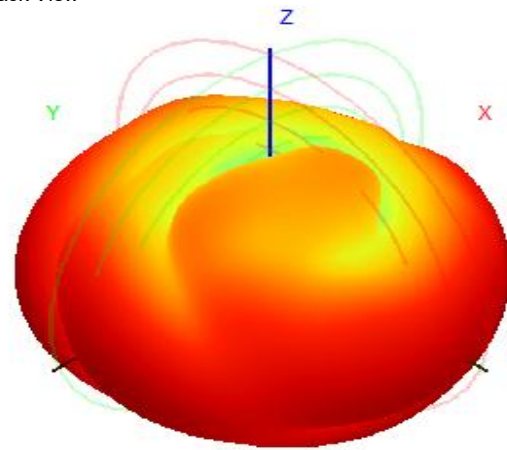
Back View



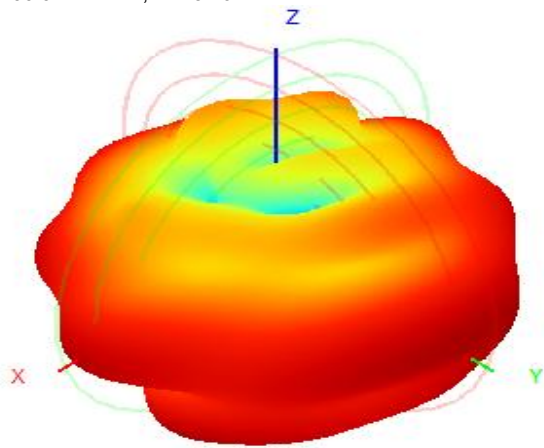
5770.0MHz H+V, Eff: 54.0%



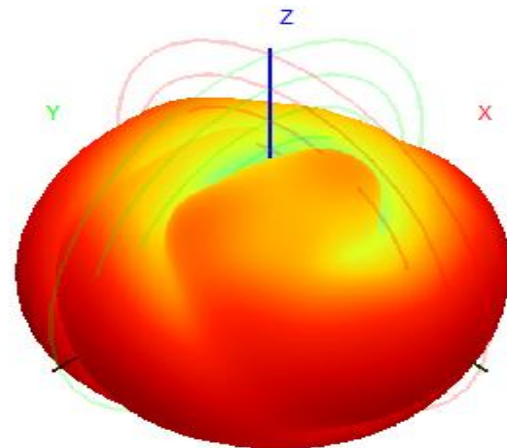
Back View



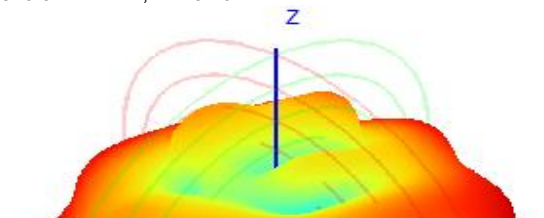
5790.0MHz H+V, Eff: 54.6%



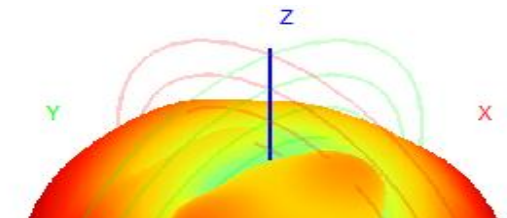
Back View

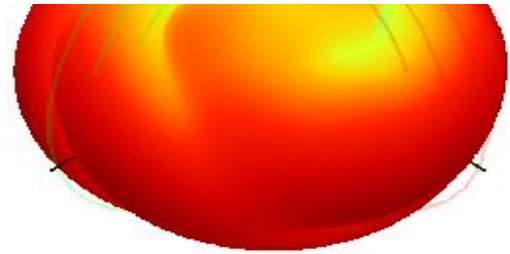
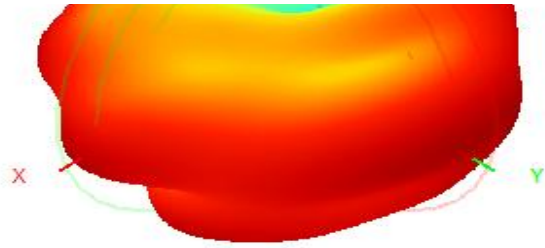


5810.0MHz H+V, Eff: 57.6%



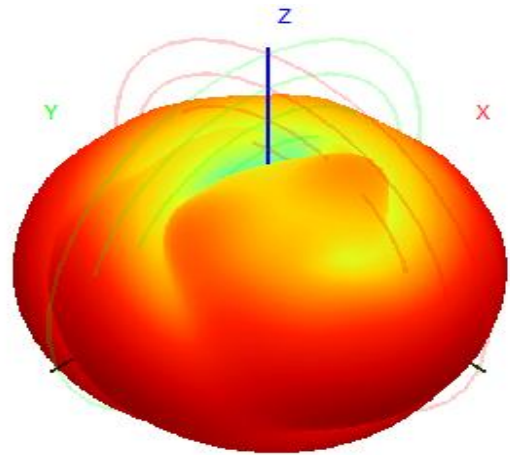
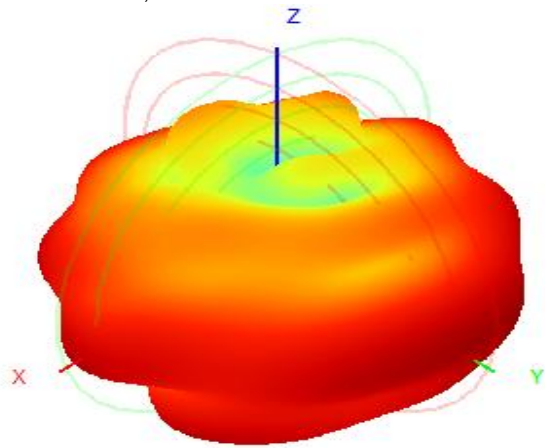
Back View





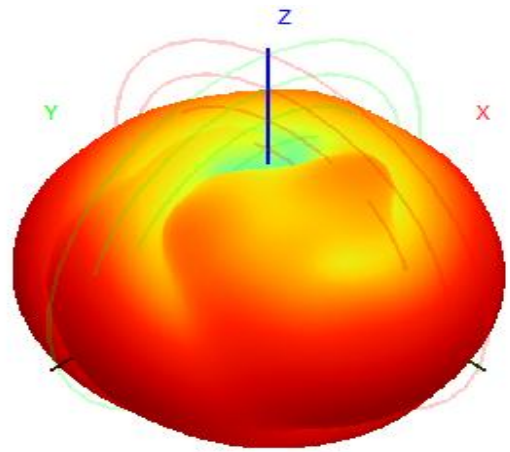
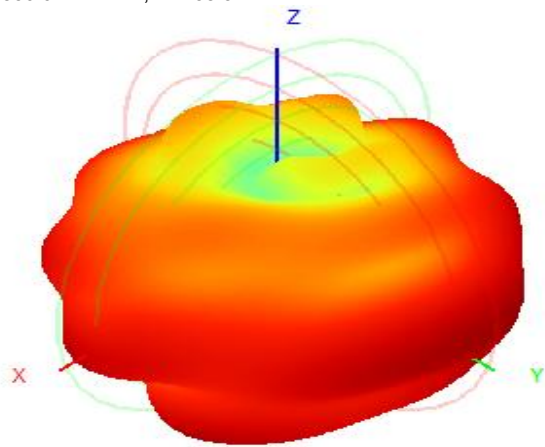
5830.0MHz H+V, Eff: 59.1%

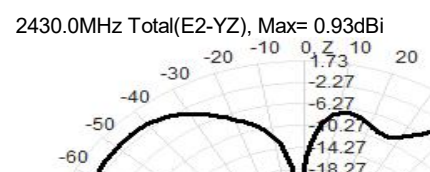
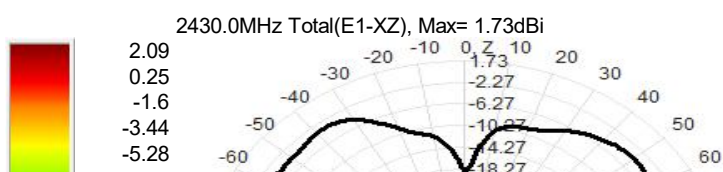
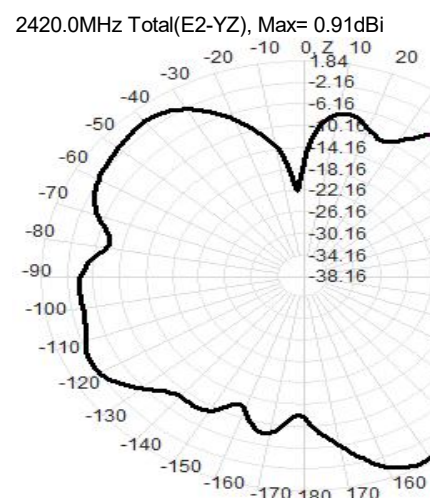
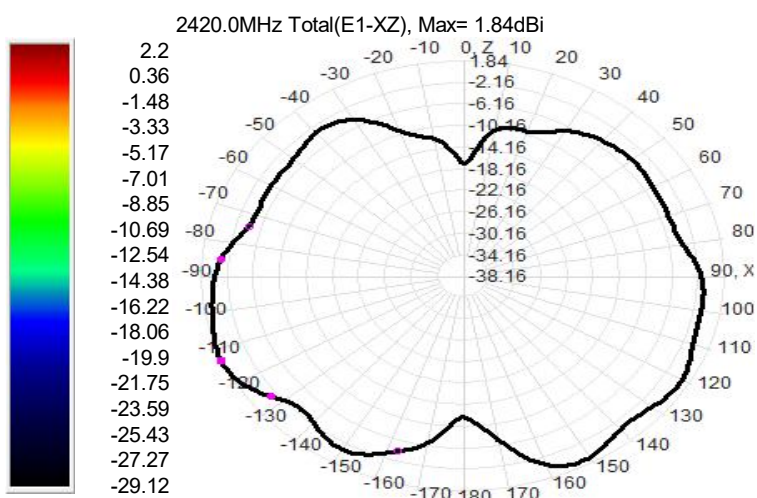
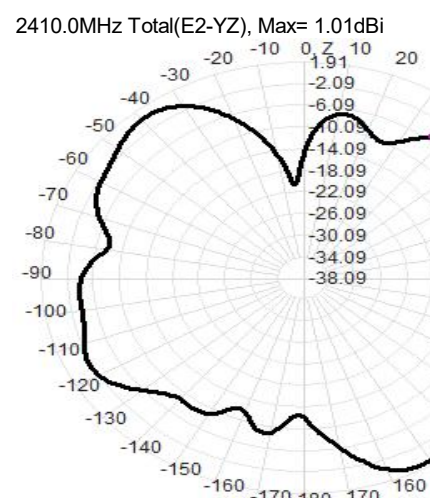
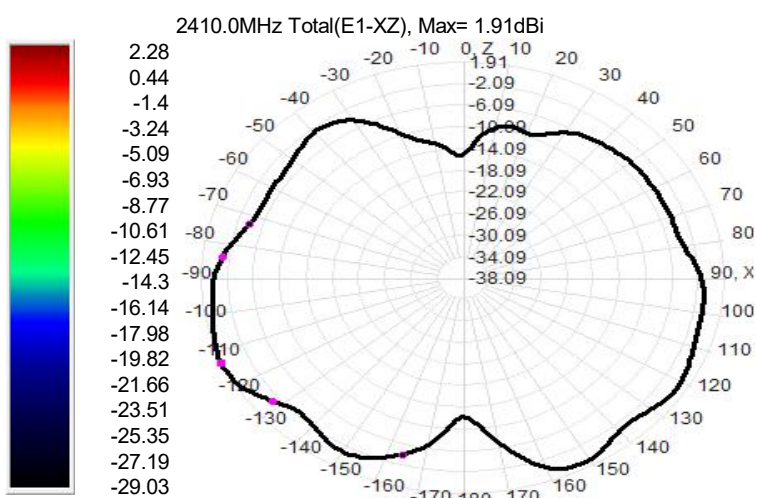
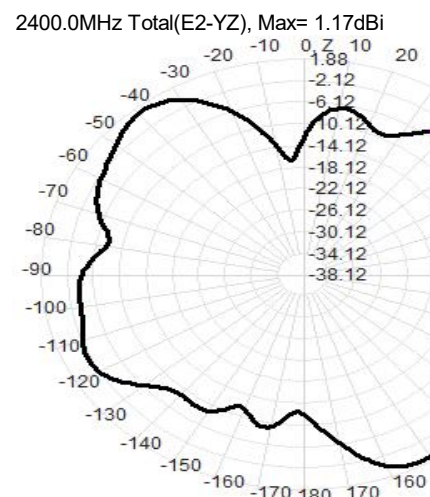
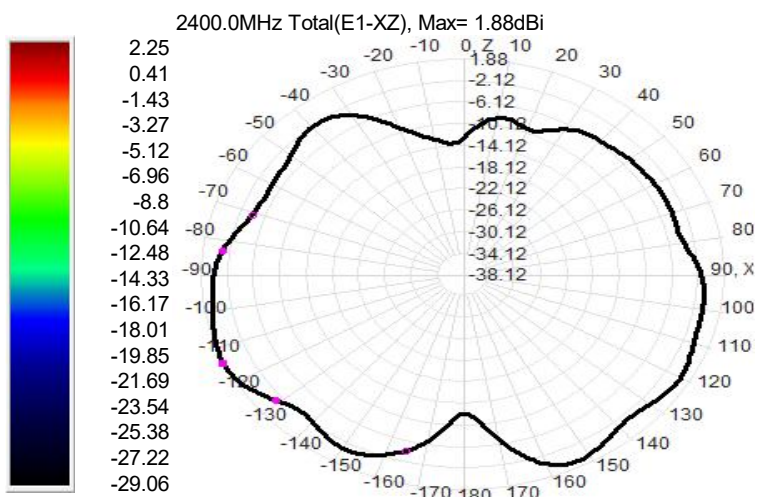
Back View

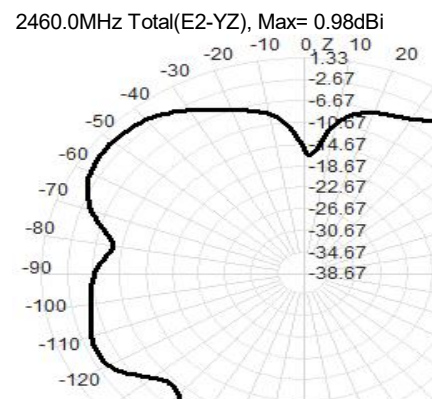
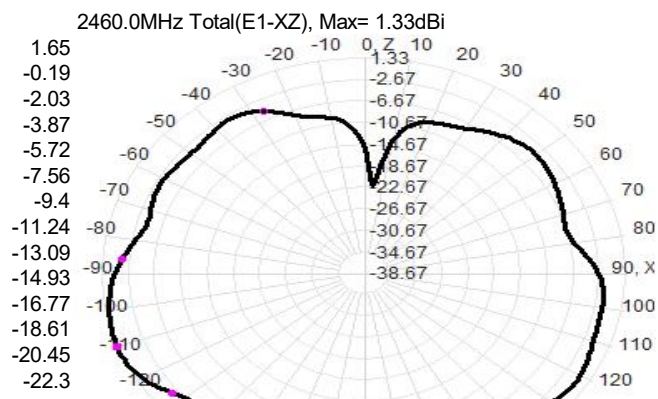
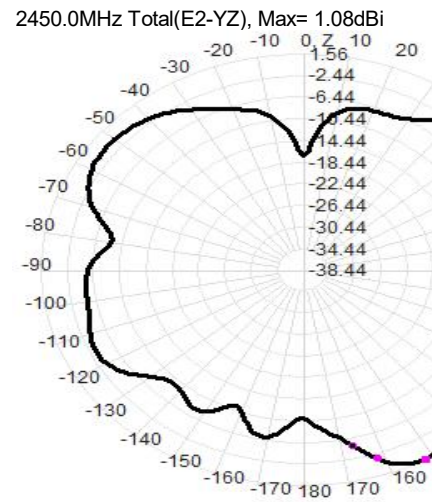
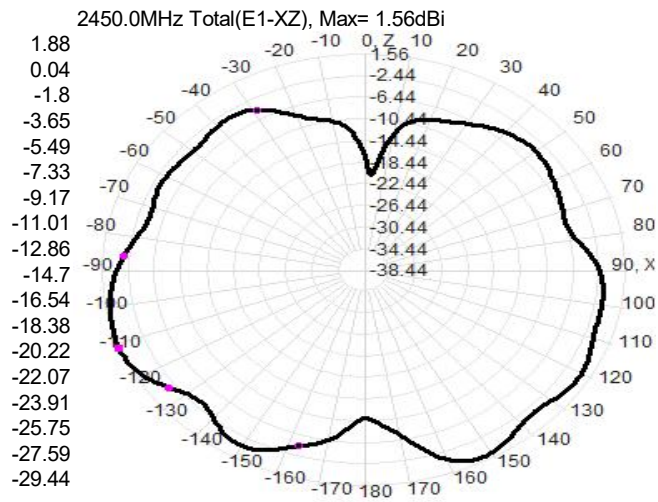
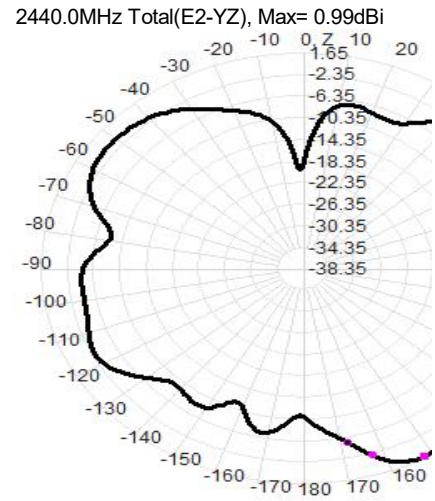
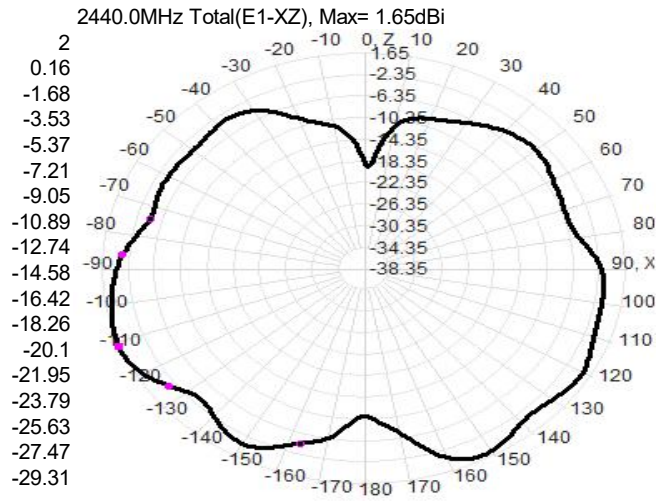
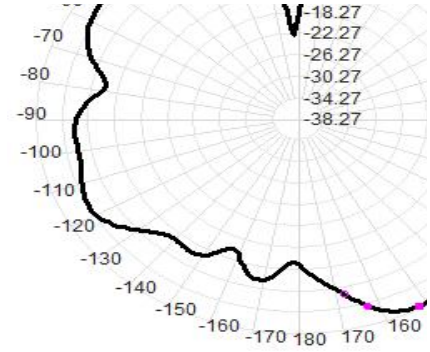
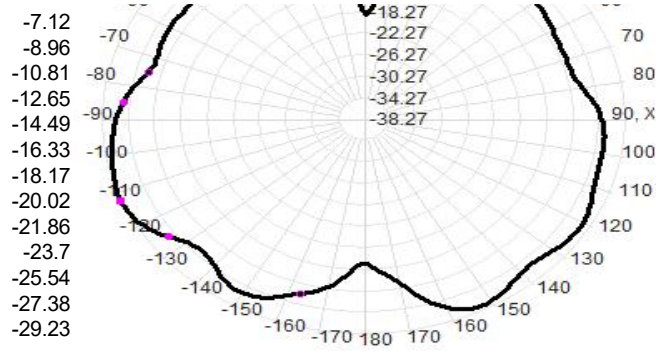


5850.0MHz H+V, Eff: 58.5%

Back View

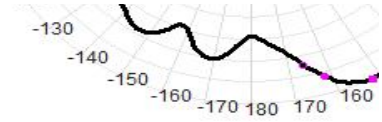
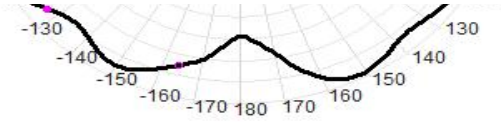






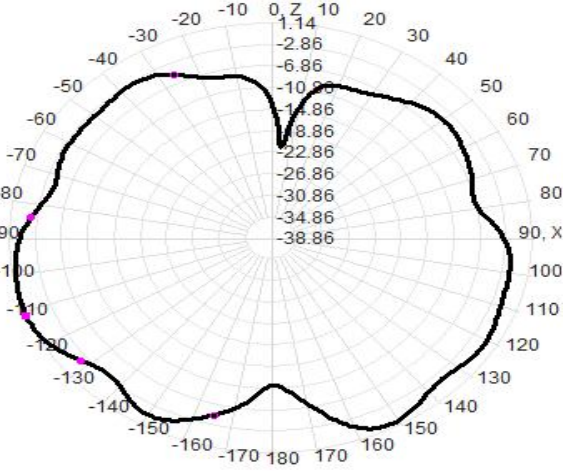


-24.14
-25.98
-27.82
-29.66

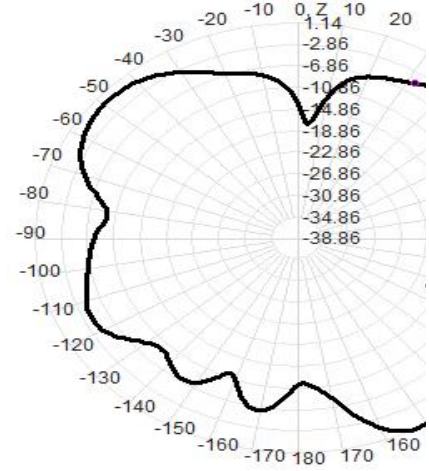


1.46
-0.38
-2.23
-4.07
-5.91
-7.75
-9.59
-11.44
-13.28
-15.12
-16.96
-18.8
-20.65
-22.49
-24.33
-26.17
-28.02
-29.86

2470.0MHz Total(E1-XZ), Max= 1.11dBi

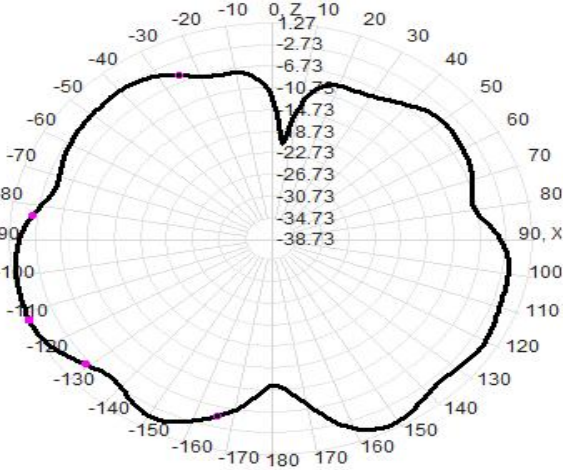


2470.0MHz Total(E2-YZ), Max= 1.14dBi

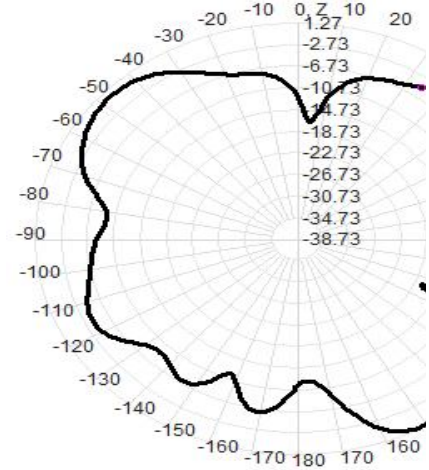


1.43
-0.41
-2.25
-4.09
-5.93
-7.78
-9.62
-11.46
-13.3
-15.14
-16.99
-18.83
-20.67
-22.51
-24.36
-26.2
-28.04
-29.88

2480.0MHz Total(E1-XZ), Max= 0.99dBi

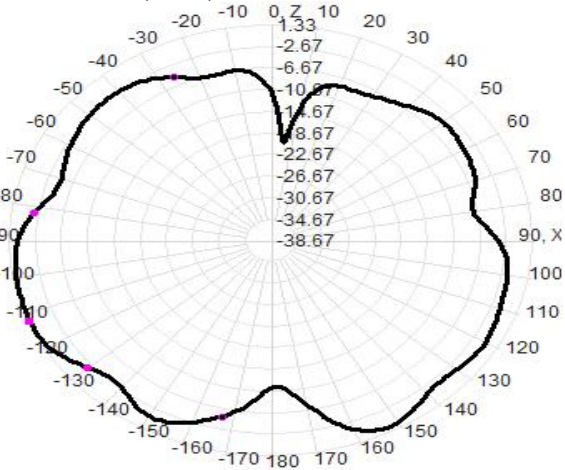


2480.0MHz Total(E2-YZ), Max= 1.27dBi

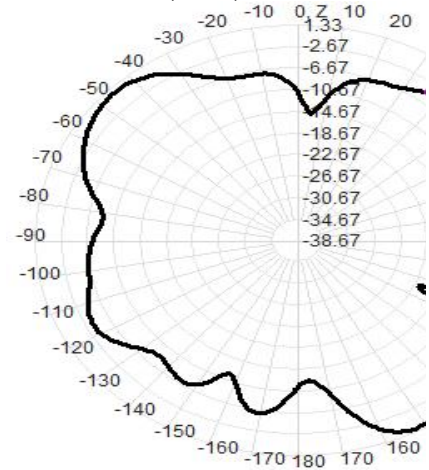


1.49
-0.35
-2.2
-4.04
-5.88
-7.72
-9.56
-11.41
-13.25
-15.09
-16.93
-18.78
-20.62
-22.46
-24.3
-26.14
-27.99
-29.83

2490.0MHz Total(E1-XZ), Max= 1.00dBi

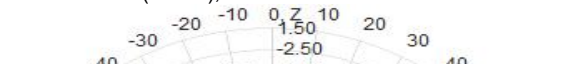


2490.0MHz Total(E2-YZ), Max= 1.33dBi

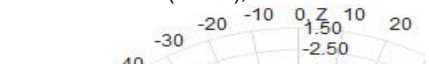


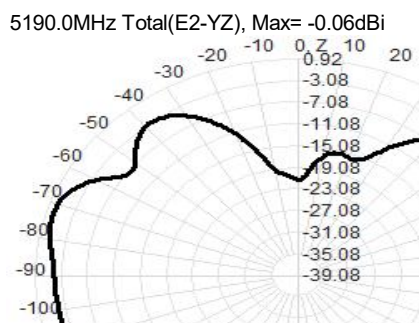
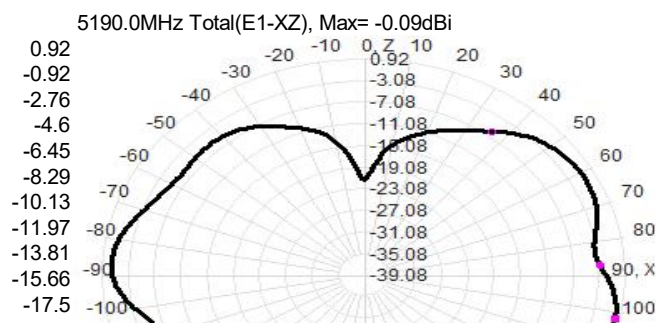
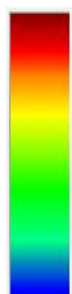
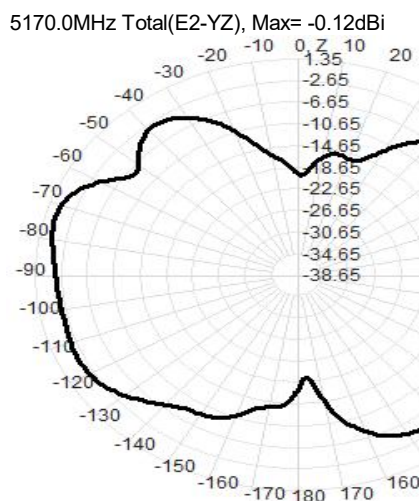
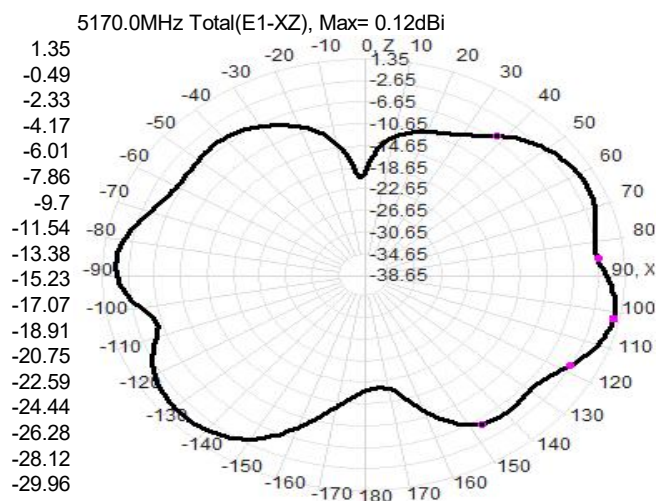
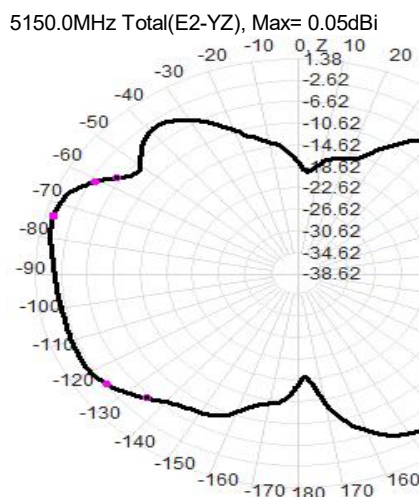
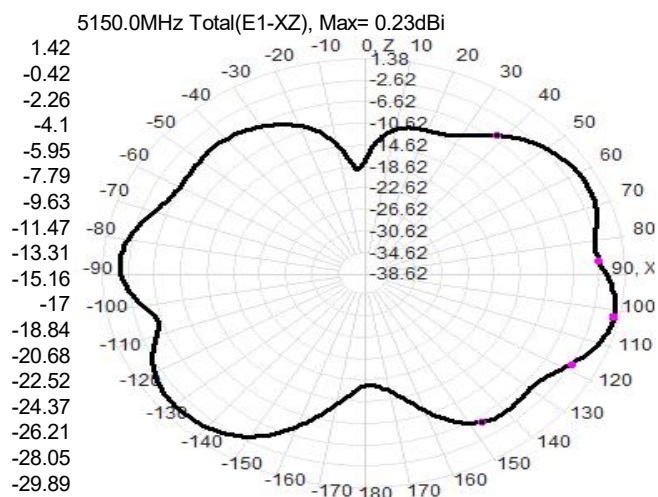
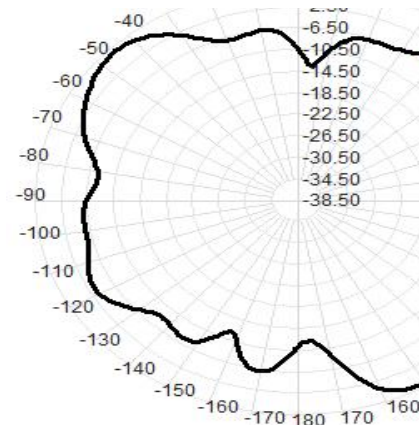
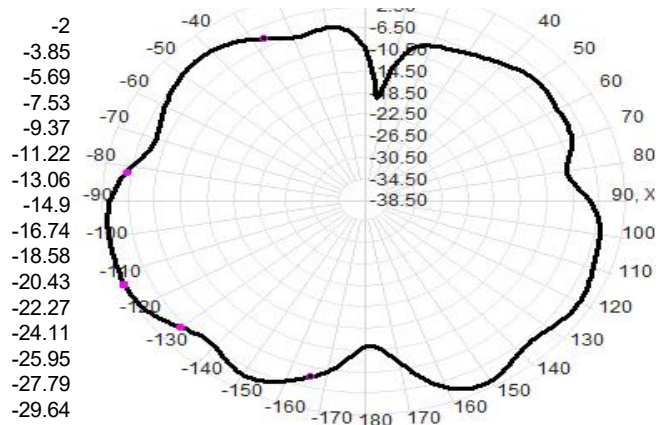
1.68
-0.16

2500.0MHz Total(E1-XZ), Max= 1.19dBi



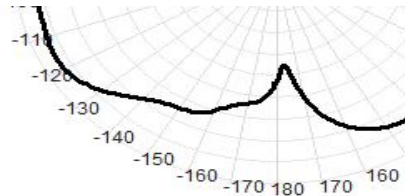
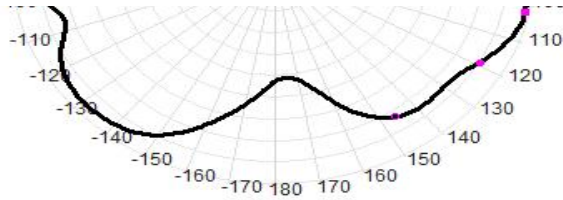
2500.0MHz Total(E2-YZ), Max= 1.50dBi





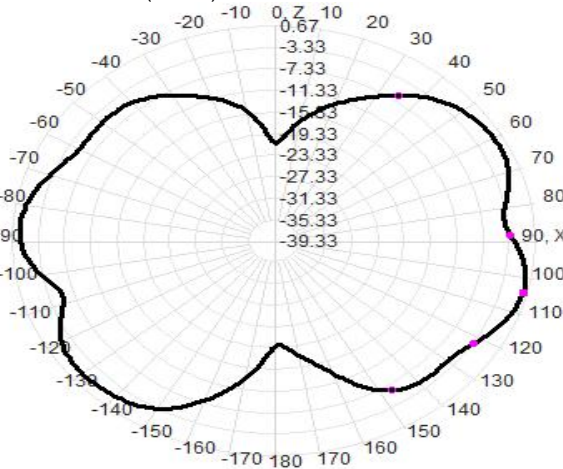


-19.34
-21.18
-23.03
-24.87
-26.71
-28.55
-30.39

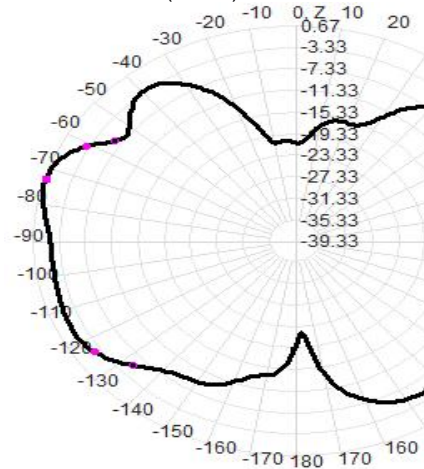


0.73
-1.11
-2.96
-4.8
-6.64
-8.48
-10.32
-12.17
-14.01
-15.85
-17.69
-19.54
-21.38
-23.22
-25.06
-26.9
-28.75
-30.59

5210.0MHz Total(E1-XZ), Max= -0.28dBi

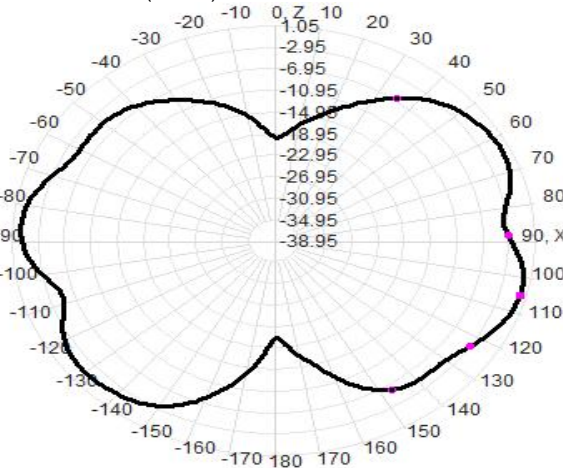


5210.0MHz Total(E2-YZ), Max= 0.42dBi

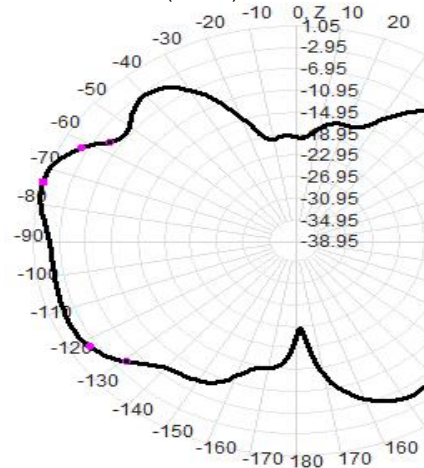


1.12
-0.72
-2.56
-4.41
-6.25
-8.09
-9.93
-11.78
-13.62
-15.46
-17.3
-19.14
-20.99
-22.83
-24.67
-26.51
-28.35
-30.2

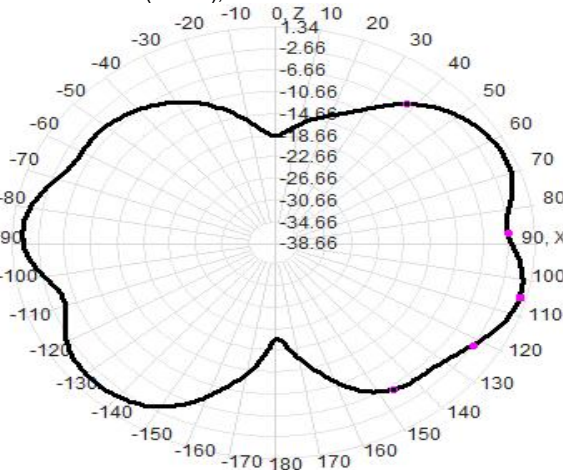
5230.0MHz Total(E1-XZ), Max= -0.20dBi



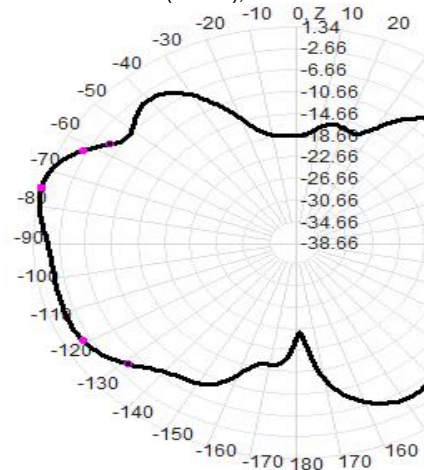
5230.0MHz Total(E2-YZ), Max= 1.05dBi

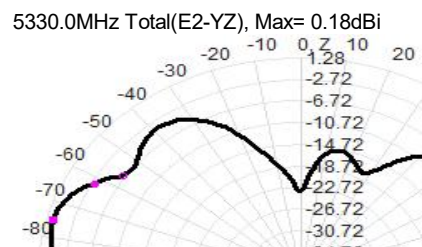
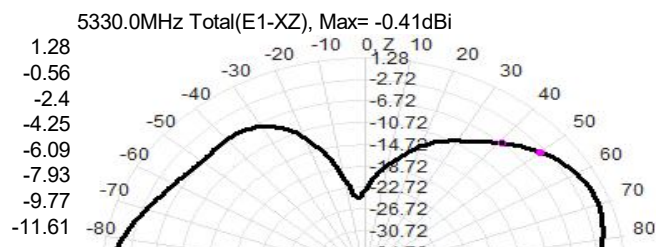
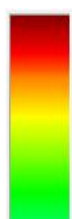
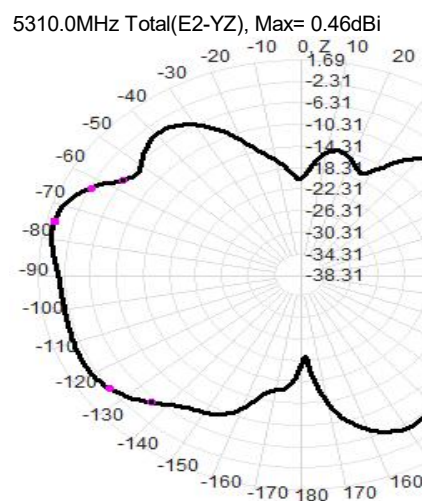
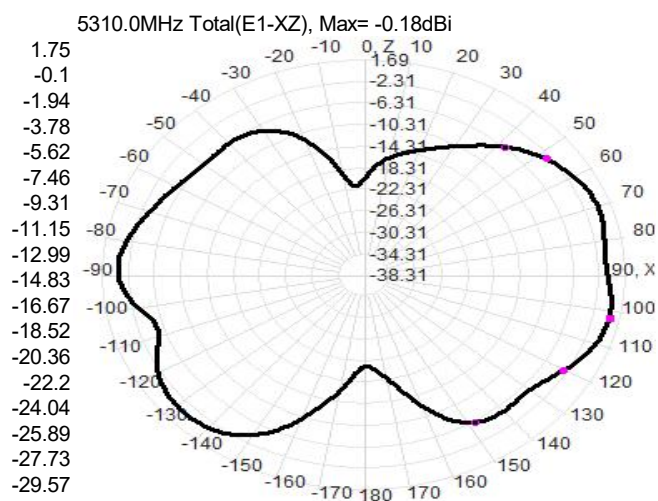
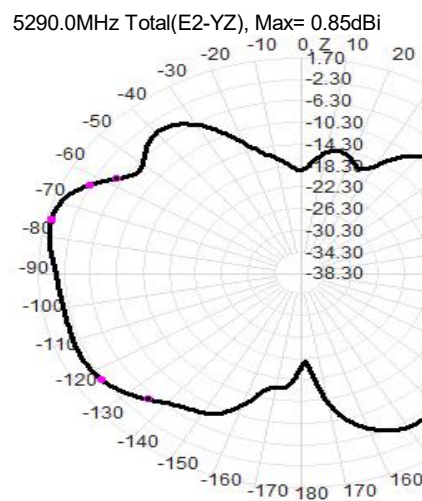
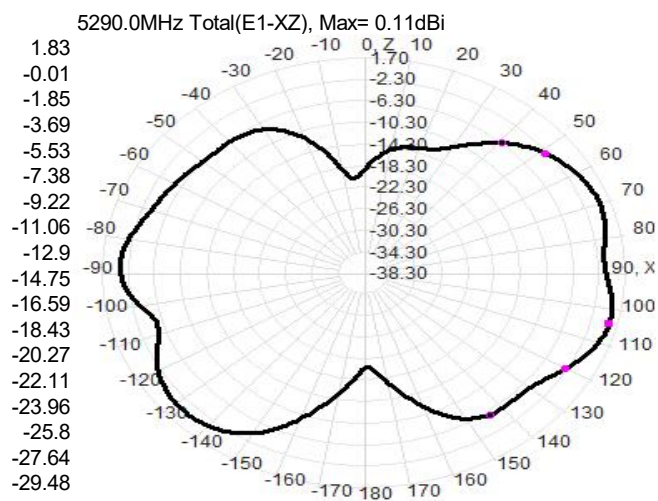
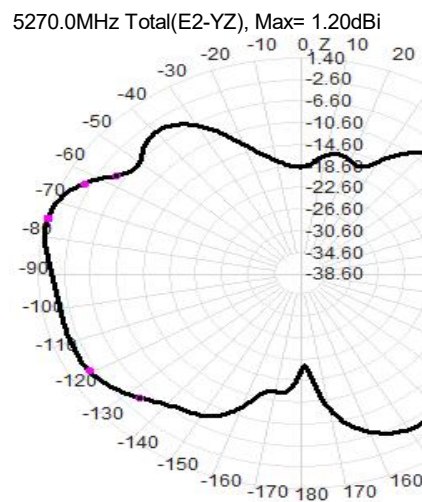
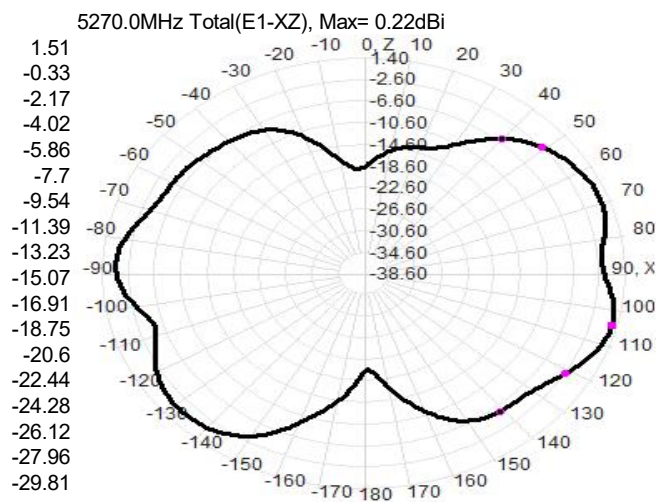


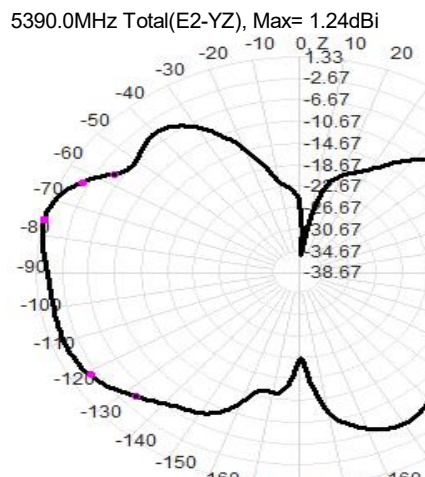
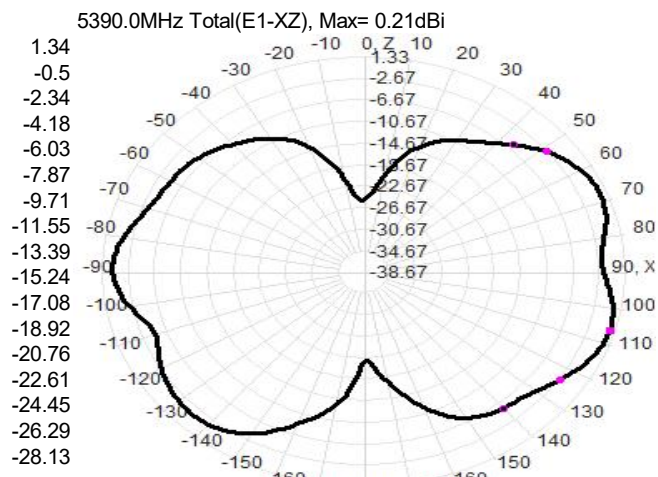
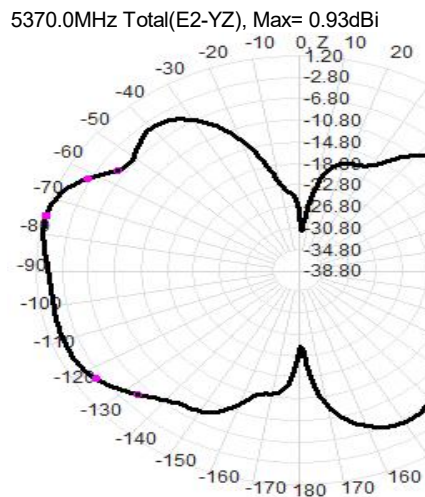
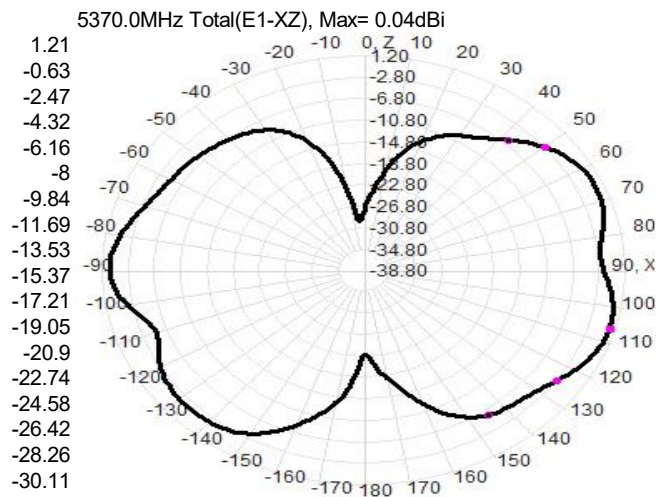
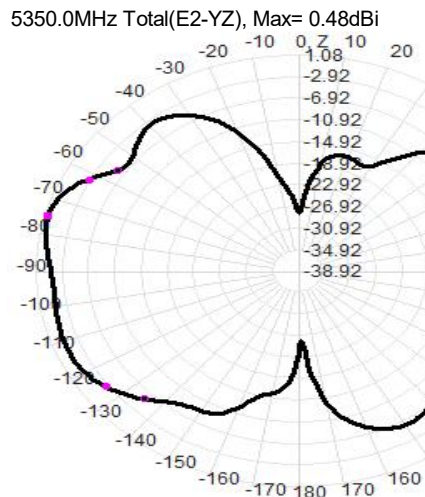
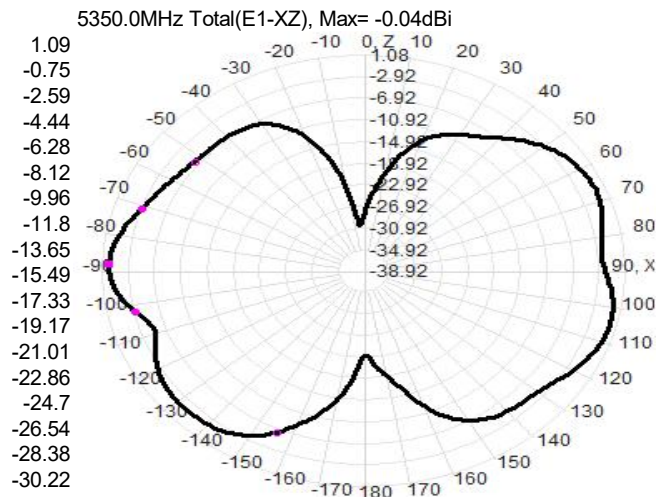
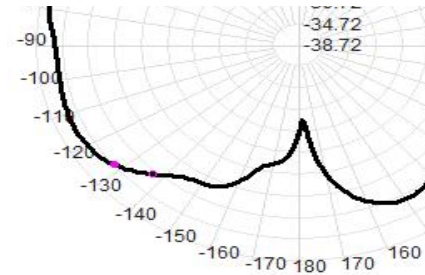
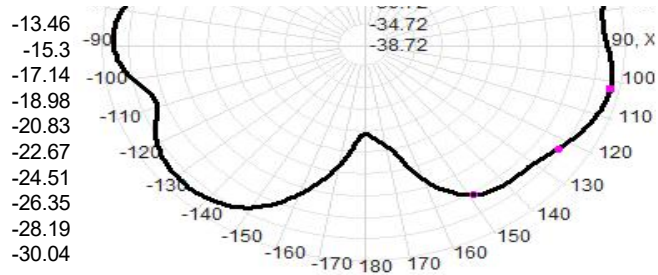
5250.0MHz Total(E1-XZ), Max= 0.00dBi



5250.0MHz Total(E2-YZ), Max= 1.34dBi

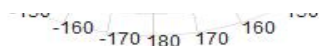




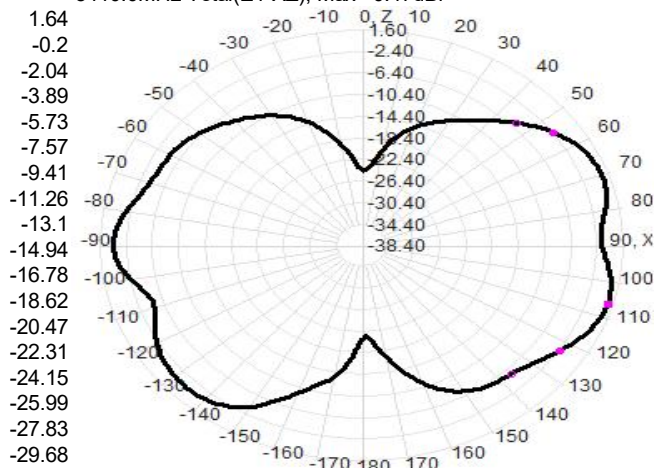




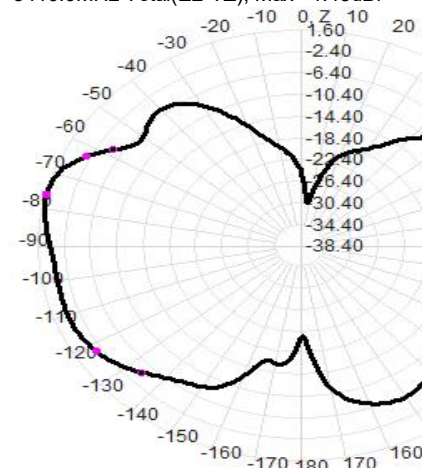
-29.97



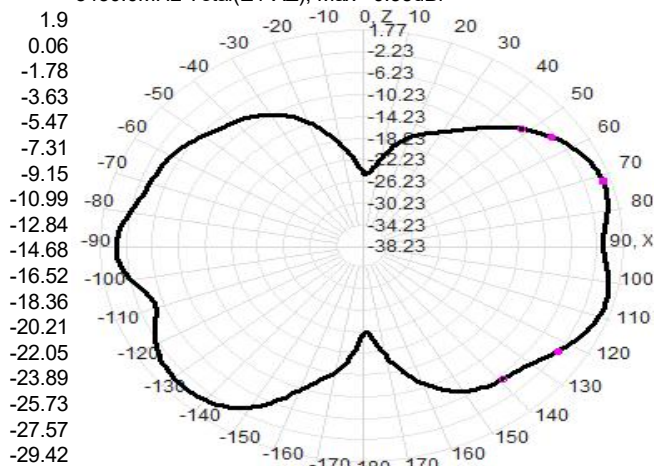
5410.0MHz Total(E1-XZ), Max= 0.47dBi



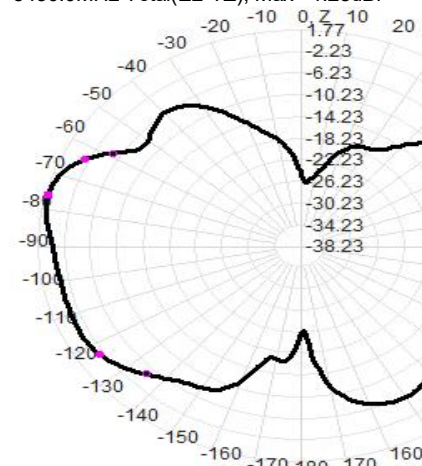
5410.0MHz Total(E2-YZ), Max= 1.43dBi



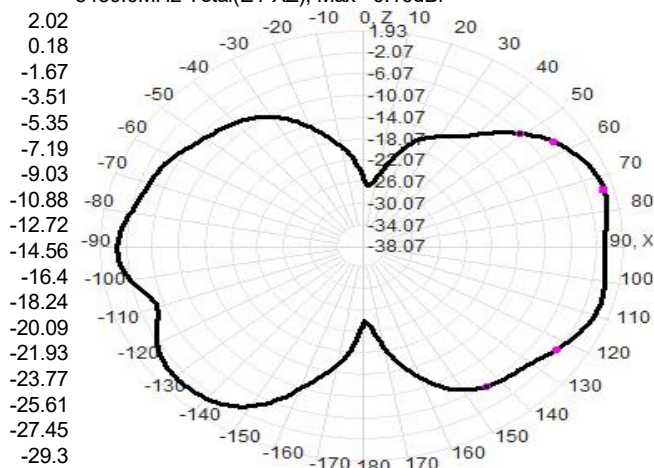
5430.0MHz Total(E1-XZ), Max= 0.35dBi



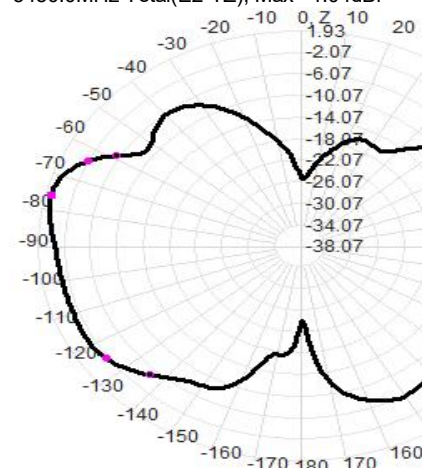
5430.0MHz Total(E2-YZ), Max= 1.28dBi



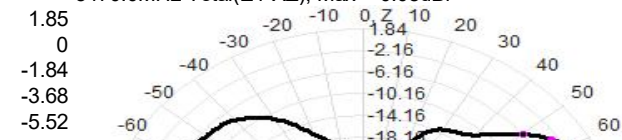
5450.0MHz Total(E1-XZ), Max= 0.16dBi



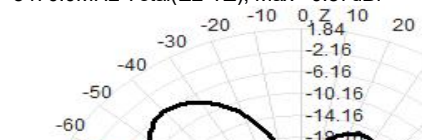
5450.0MHz Total(E2-YZ), Max= 1.04dBi

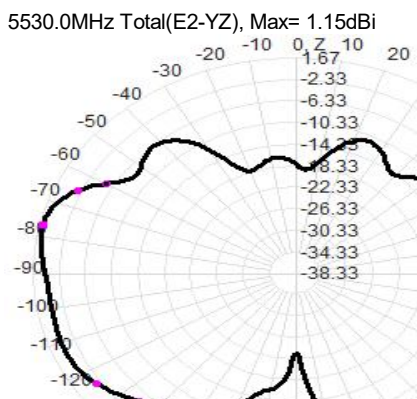
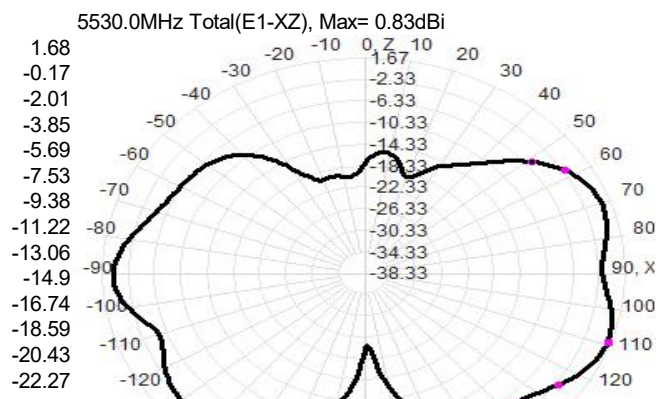
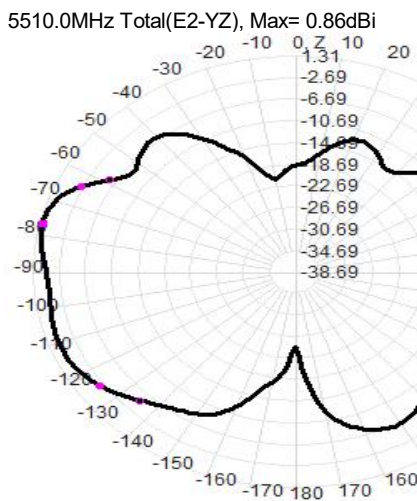
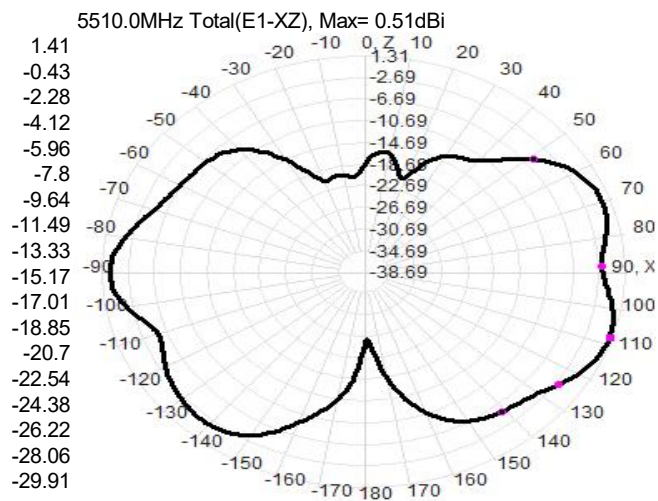
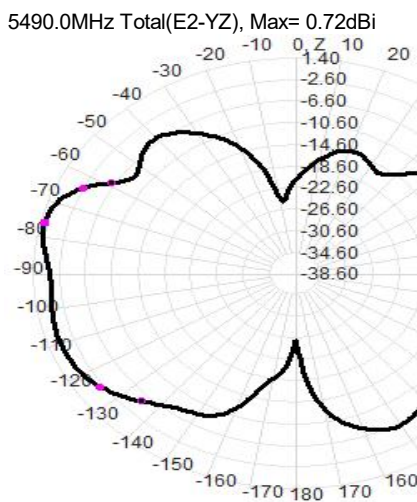
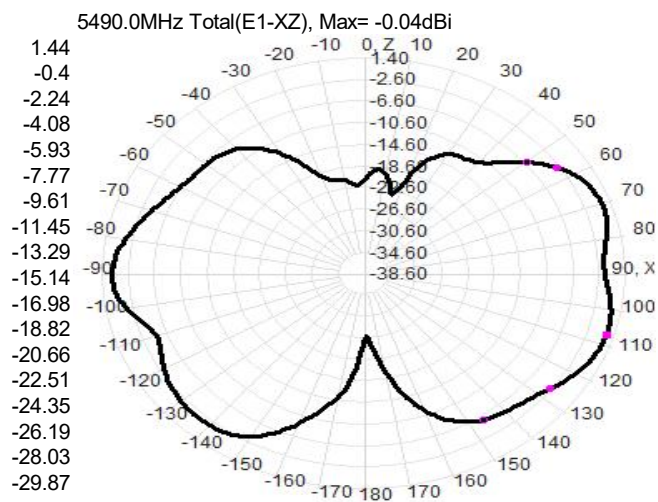
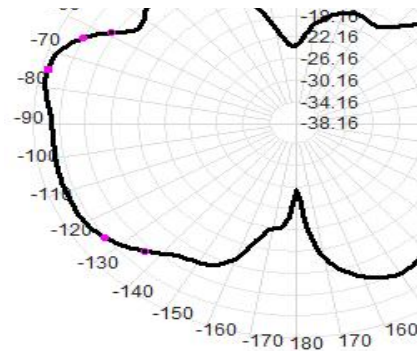
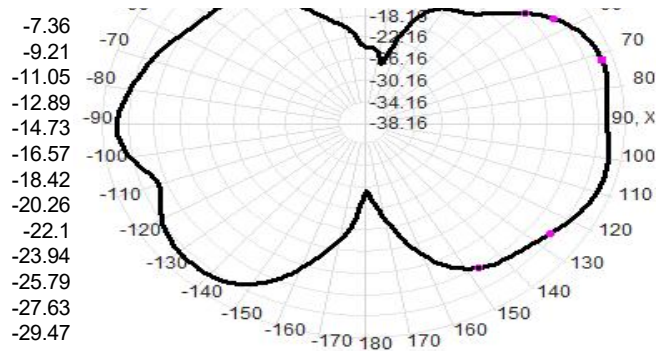


5470.0MHz Total(E1-XZ), Max= -0.08dBi



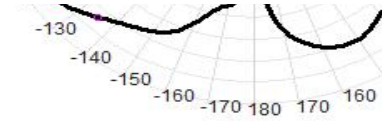
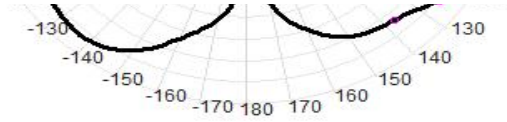
5470.0MHz Total(E2-YZ), Max= 0.87dBi





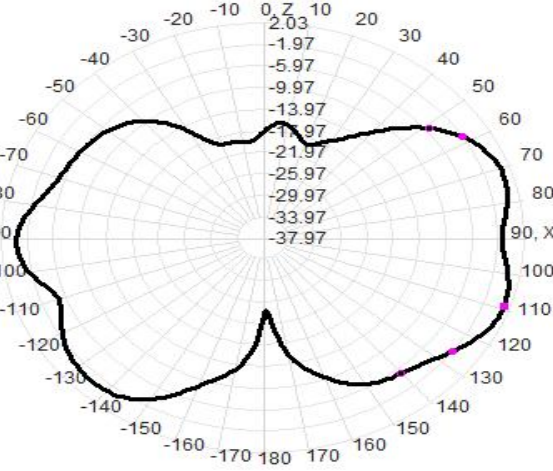


-24.11
-25.95
-27.8
-29.64

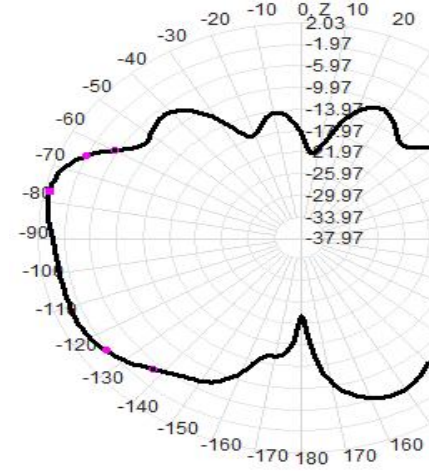


2.03
0.19
-1.65
-3.49
-5.34
-7.18
-9.02
-10.86
-12.7
-14.55
-16.39
-18.23
-20.07
-21.92
-23.76
-25.6
-27.44
-29.28

5550.0MHz Total(E1-XZ), Max= 0.80dBi

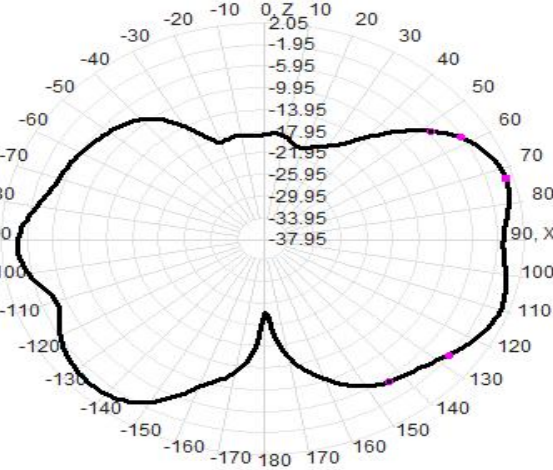


5550.0MHz Total(E2-YZ), Max= 1.25dBi

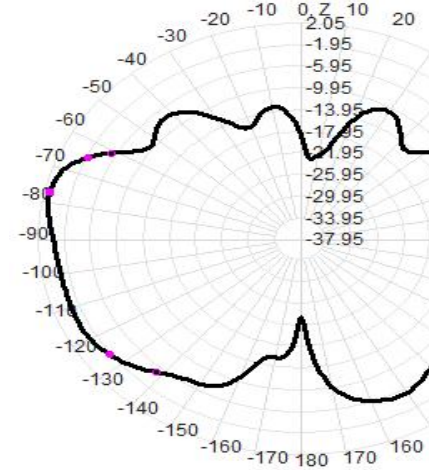


2.05
0.21
-1.63
-3.47
-5.31
-7.16
-9
-10.84
-12.68
-14.52
-16.37
-18.21
-20.05
-21.89
-23.73
-25.58
-27.42
-29.26

5570.0MHz Total(E1-XZ), Max= 0.64dBi

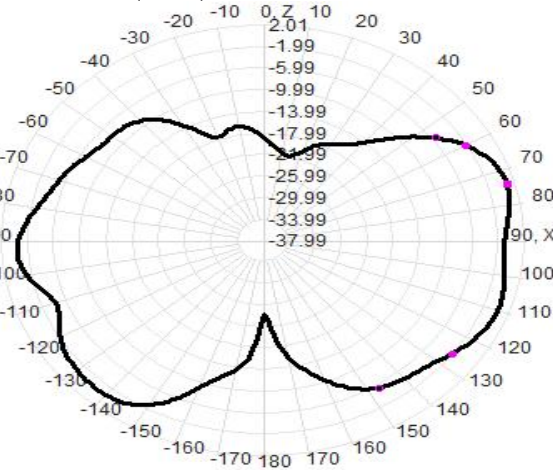


5570.0MHz Total(E2-YZ), Max= 1.20dBi

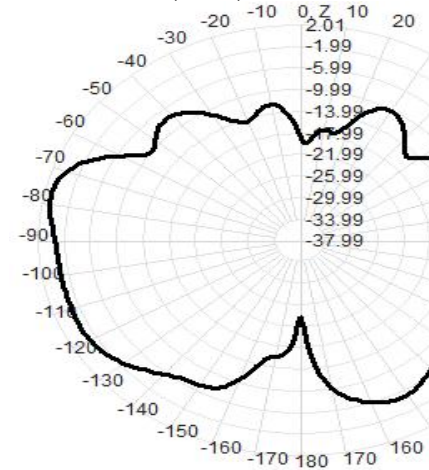


2.03
0.18
-1.66
-3.5
-5.34
-7.18
-9.03
-10.87
-12.71
-14.55
-16.39
-18.24
-20.08
-21.92
-23.76
-25.6
-27.45
-29.29

5590.0MHz Total(E1-XZ), Max= 0.56dBi

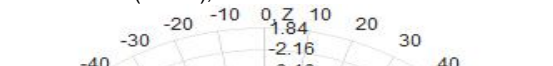


5590.0MHz Total(E2-YZ), Max= 1.20dBi

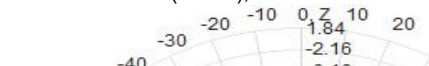


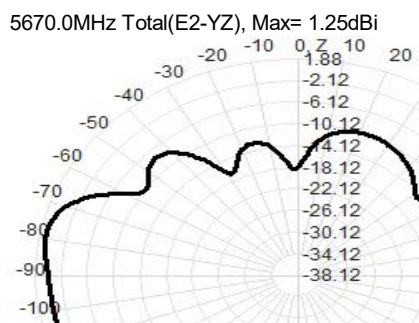
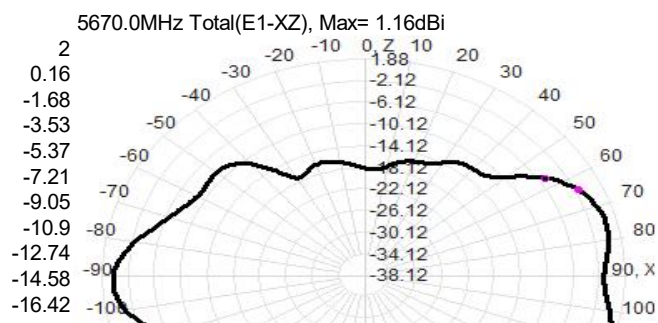
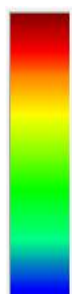
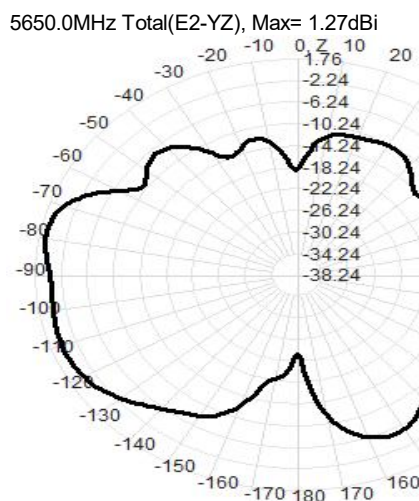
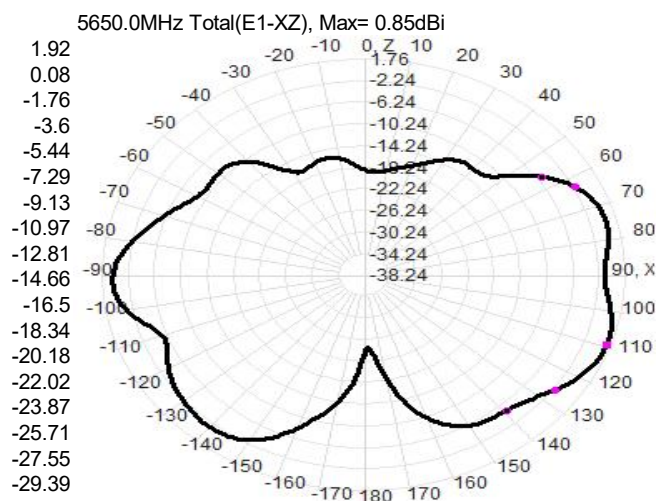
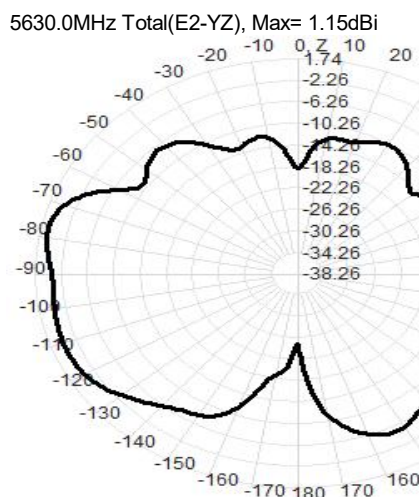
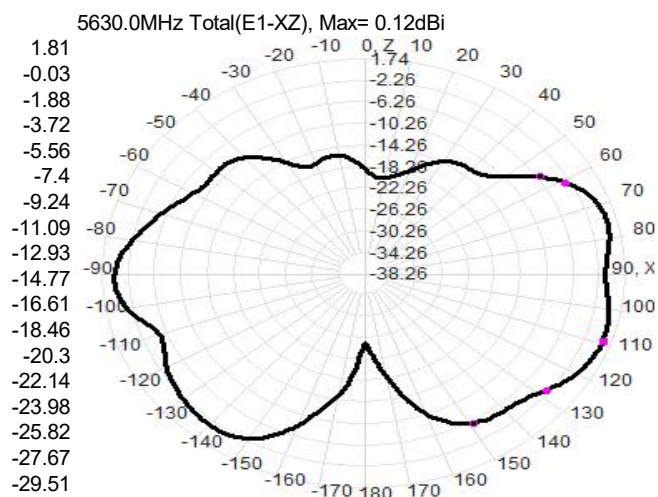
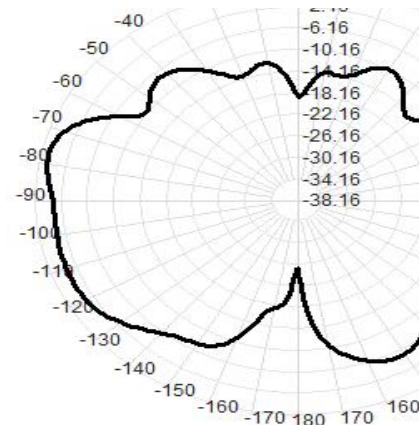
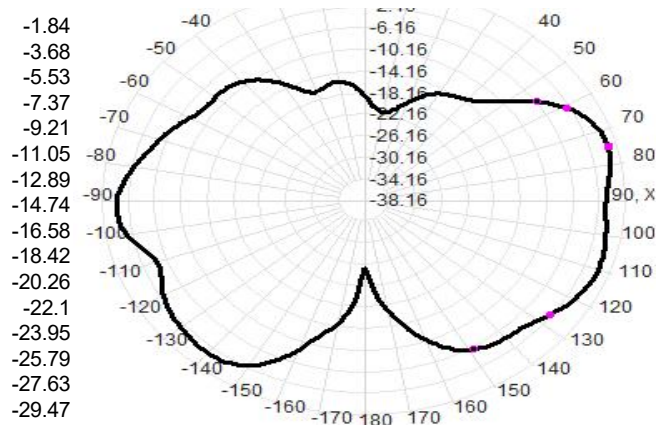
1.84
0

5610.0MHz Total(E1-XZ), Max= 0.29dBi



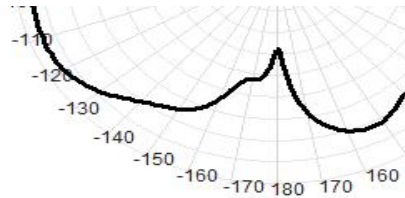
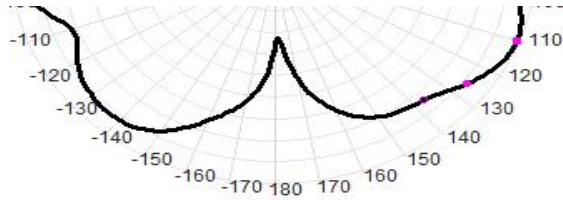
5610.0MHz Total(E2-YZ), Max= 1.14dBi





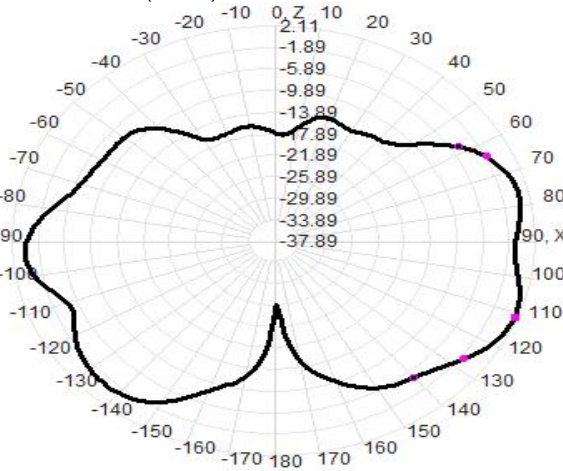


-18.26
-20.11
-21.95
-23.79
-25.63
-27.47
-29.32

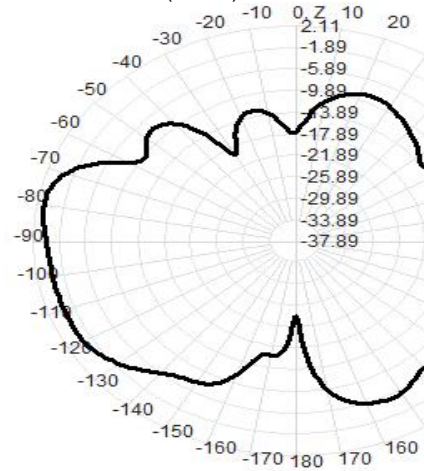


2.15
0.31
-1.53
-3.38
-5.22
-7.06
-8.9
-10.75
-12.59
-14.43
-16.27
-18.11
-19.96
-21.8
-23.64
-25.48
-27.32
-29.17

5690.0MHz Total(E1-XZ), Max= 1.29dBi

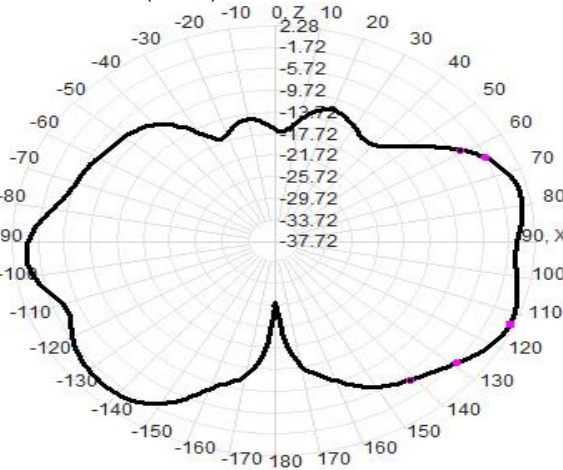


5690.0MHz Total(E2-YZ), Max= 1.49dBi

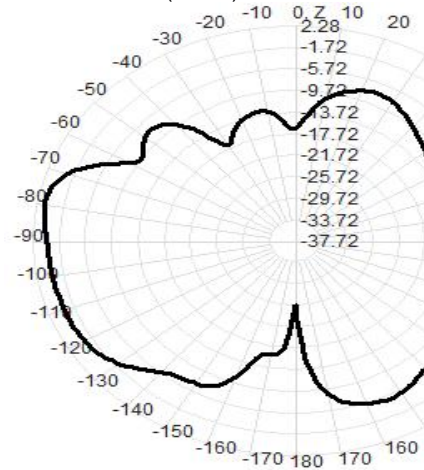


2.29
0.45
-1.4
-3.24
-5.08
-6.92
-8.76
-10.61
-12.45
-14.29
-16.13
-17.98
-19.82
-21.66
-23.5
-25.34
-27.19
-29.03

5710.0MHz Total(E1-XZ), Max= 1.28dBi

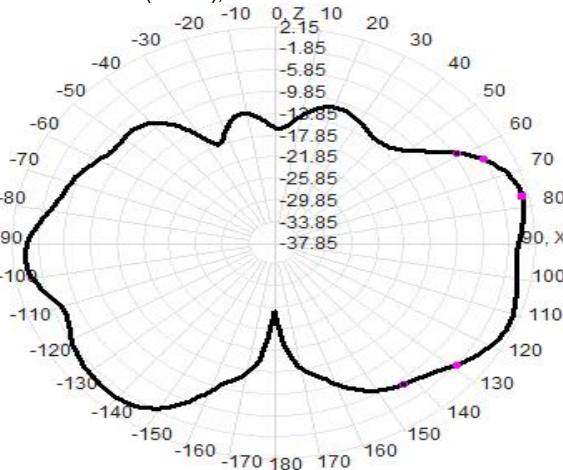


5710.0MHz Total(E2-YZ), Max= 1.96dBi

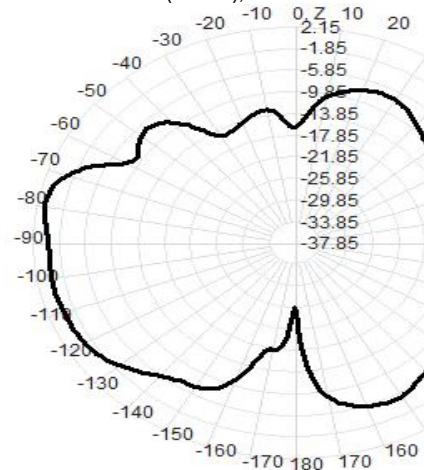


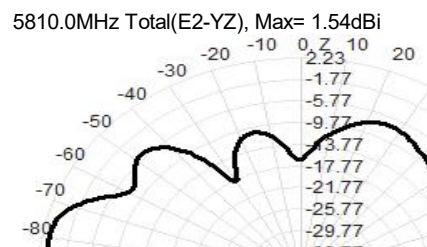
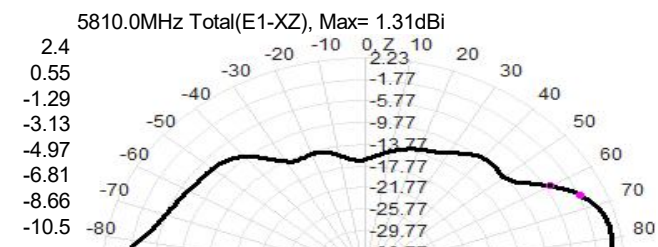
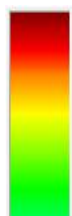
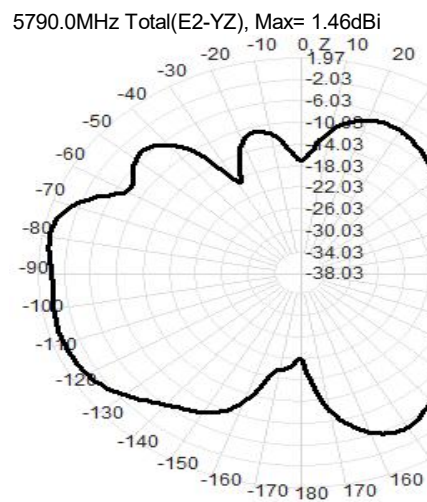
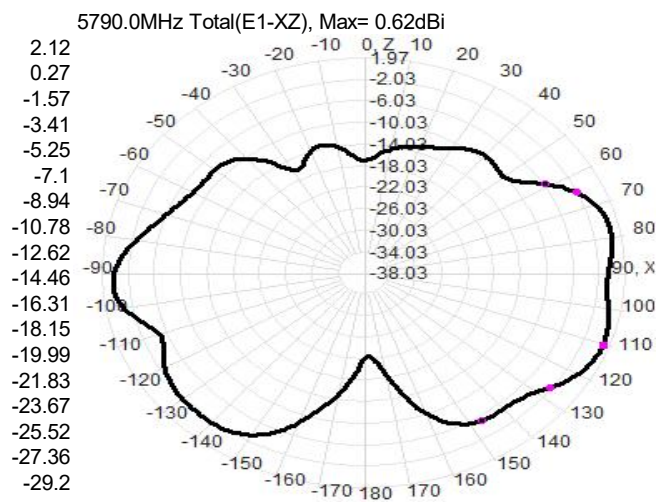
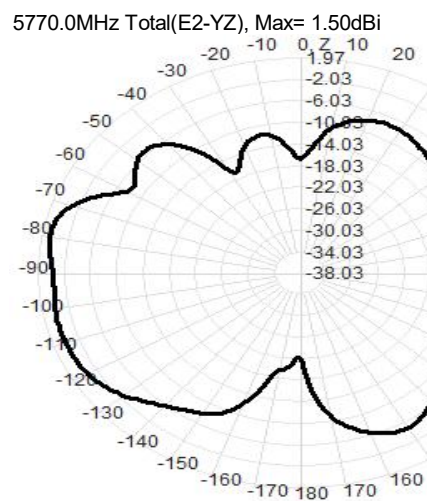
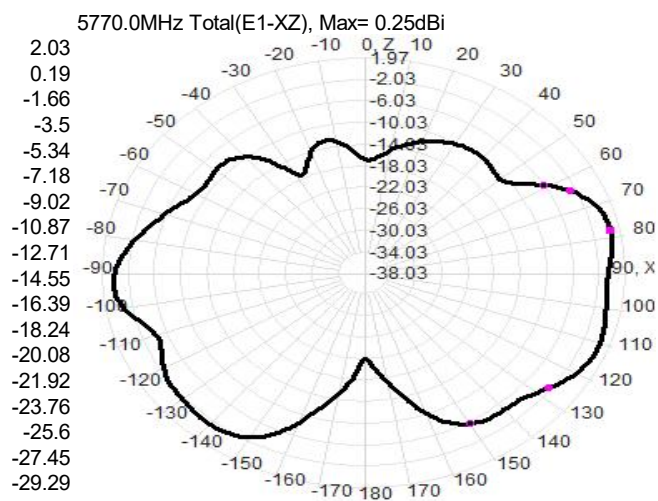
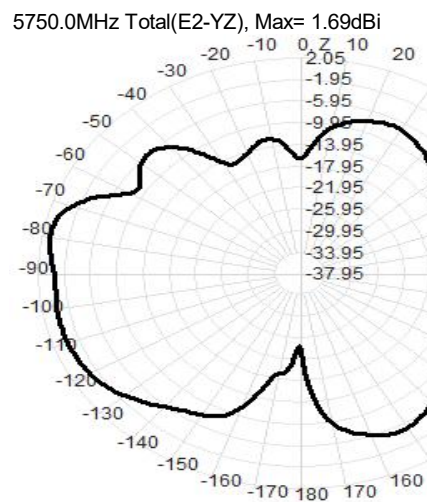
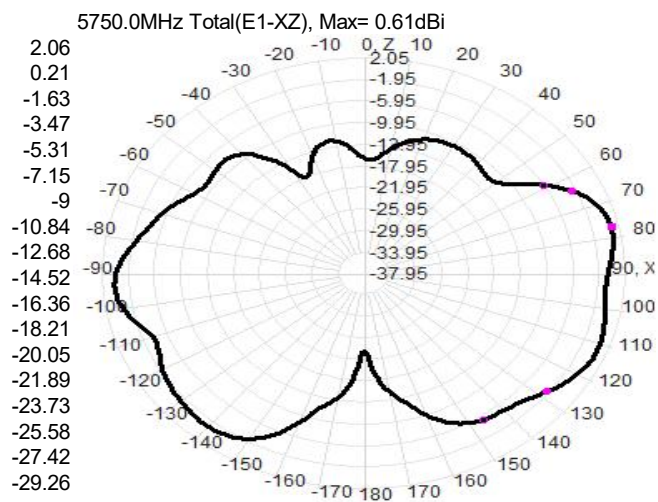
2.15
0.31
-1.53
-3.37
-5.21
-7.06
-8.9
-10.74
-12.58
-14.43
-16.27
-18.11
-19.95
-21.79
-23.64
-25.48
-27.32
-29.16

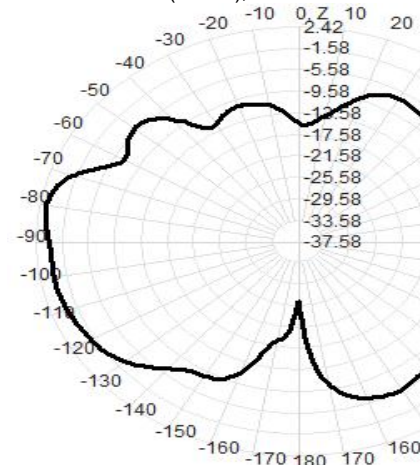
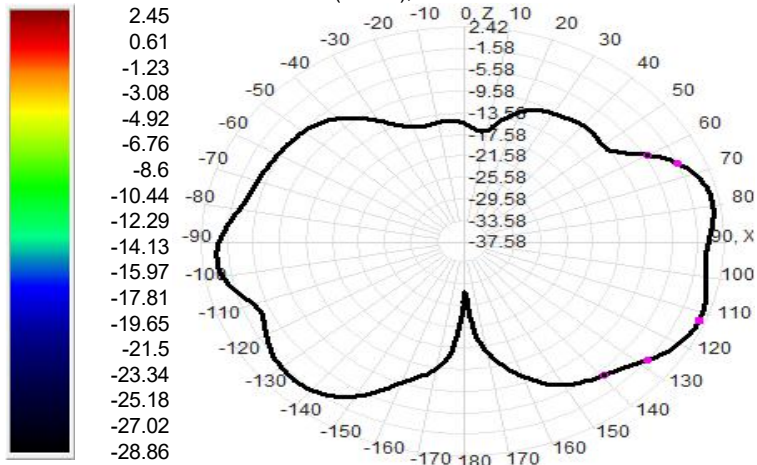
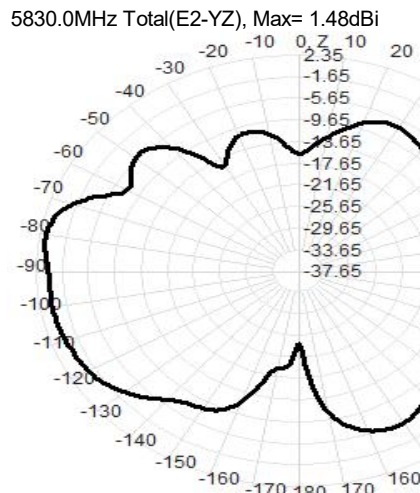
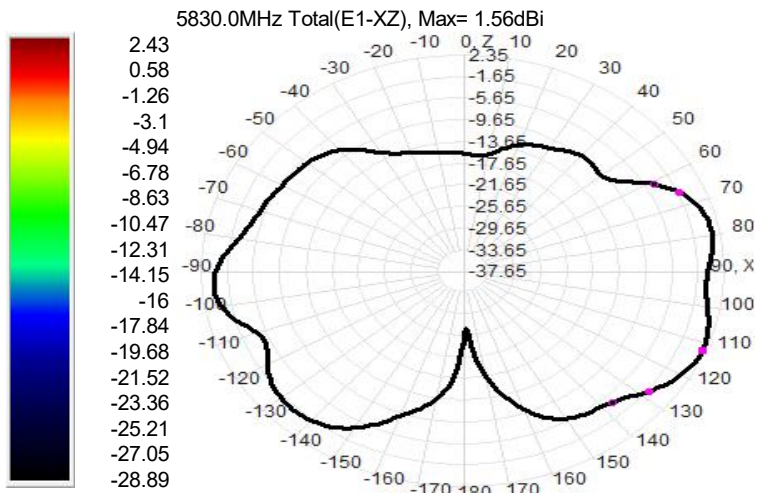
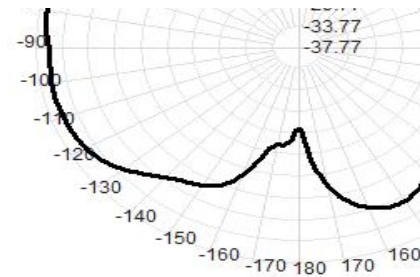
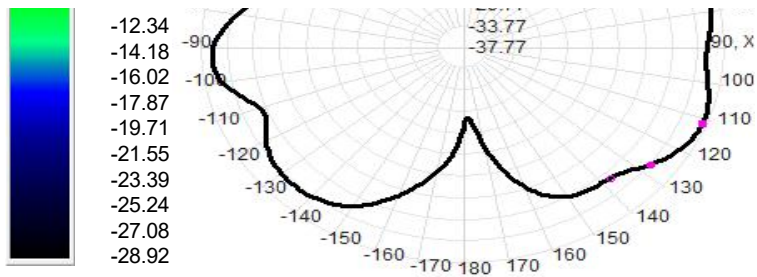
5730.0MHz Total(E1-XZ), Max= 0.86dBi



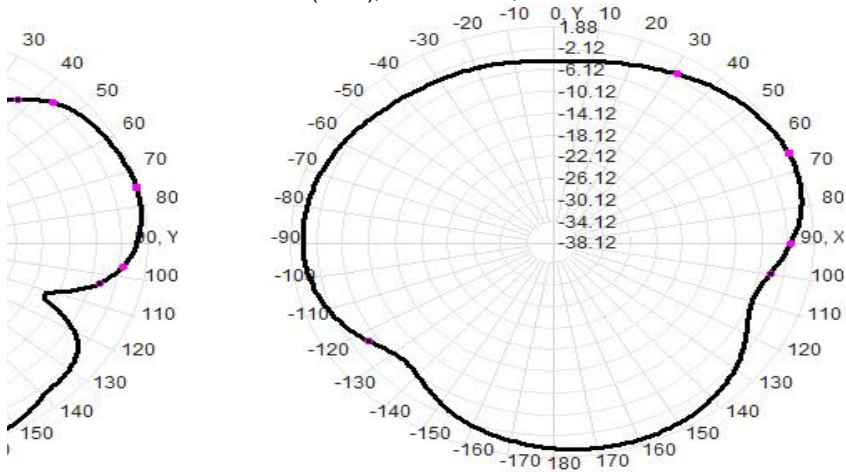
5730.0MHz Total(E2-YZ), Max= 1.96dBi



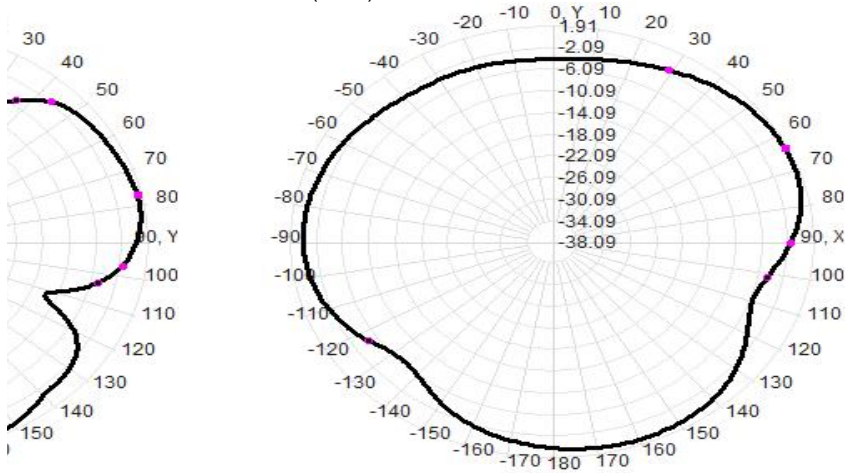




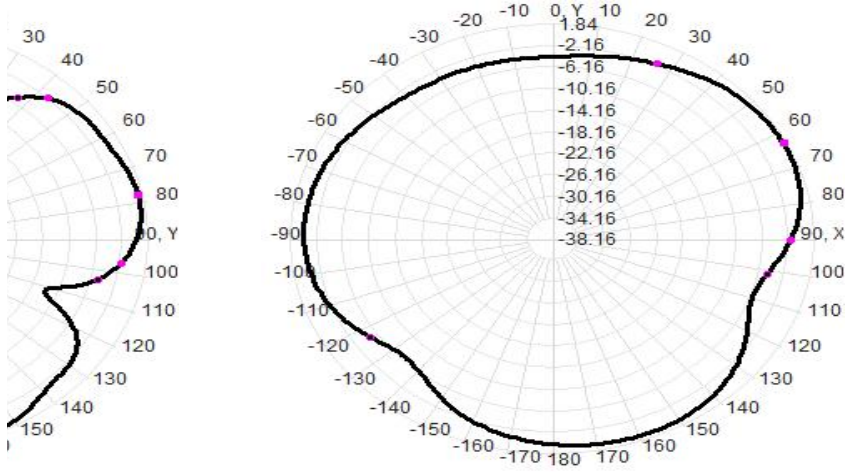
Total(H-XY), Max= 1.37dBi, CirD=8.15



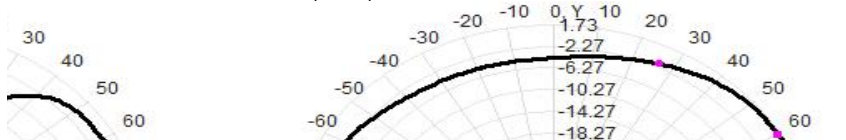
Total(H-XY), Max= 1.27dBi, CirD=7.94

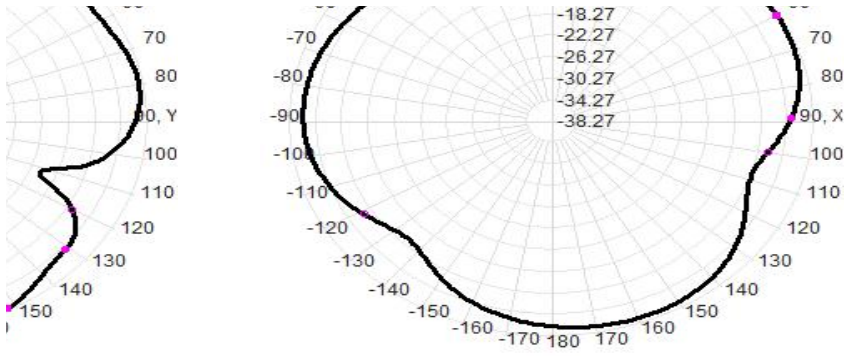


Total(H-XY), Max= 1.17dBi, CirD=8.07

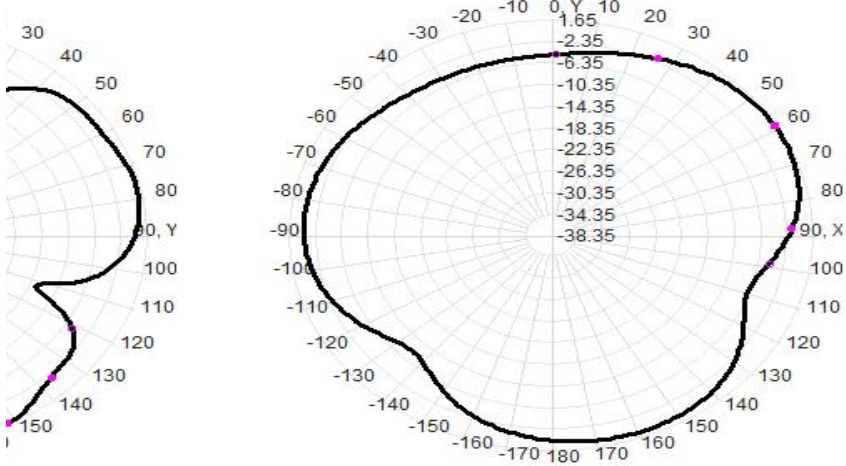


Total(H-XY), Max= 1.21dBi, CirD=8.66

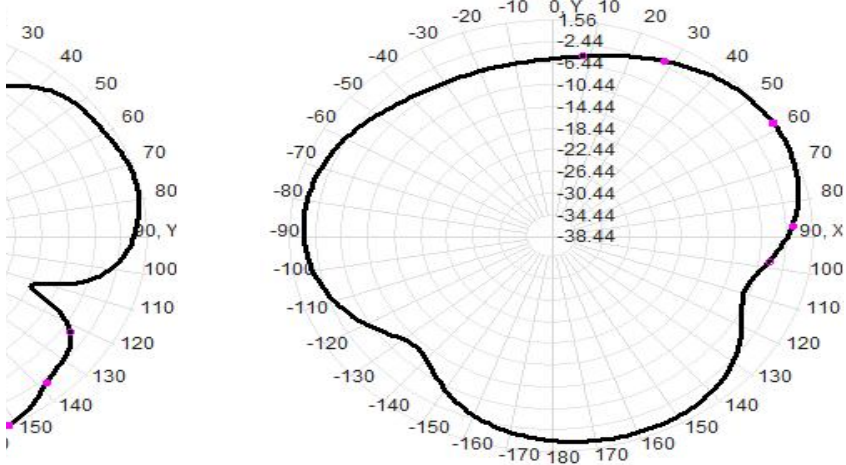




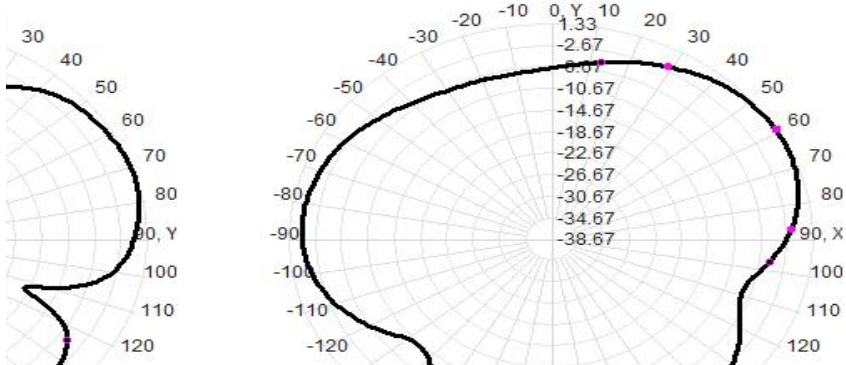
Total(H-XY), Max= 1.22dBi, CirD=9.56

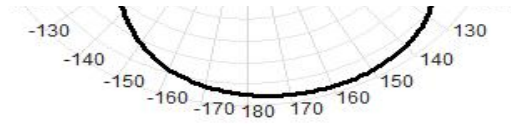


Total(H-XY), Max= 1.22dBi, CirD=10.71

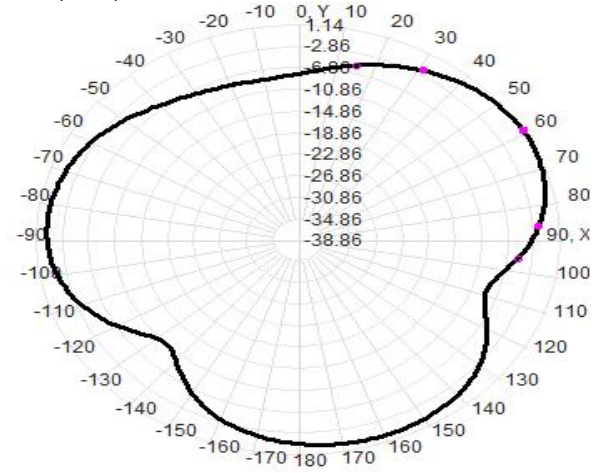
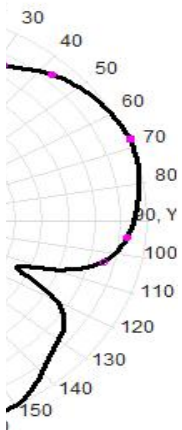


Total(H-XY), Max= 1.04dBi, CirD=11.56

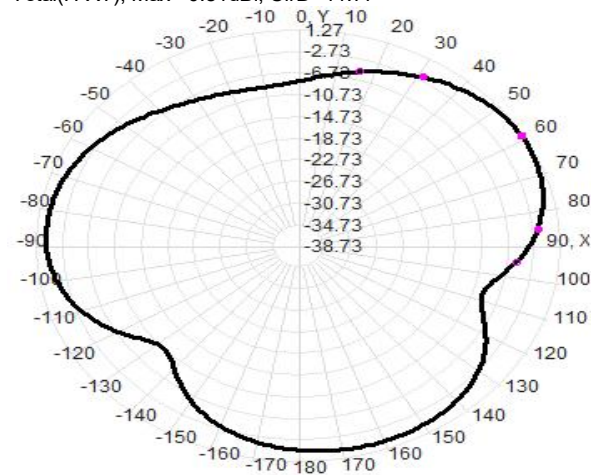
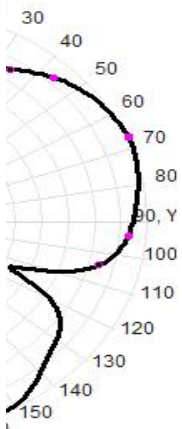




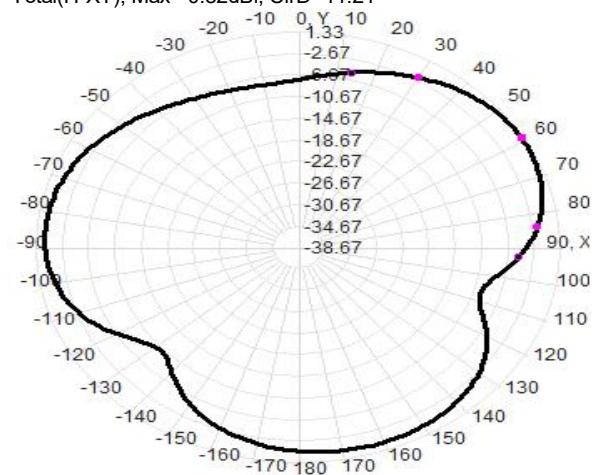
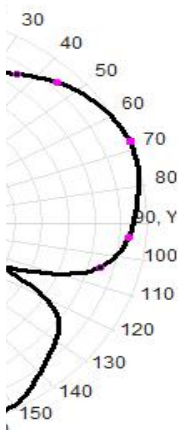
Total(H-XY), Max= 0.90dBi, CirD=11.96



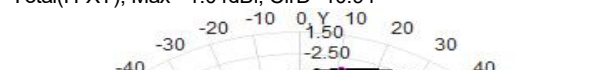
Total(H-XY), Max= 0.81dBi, CirD=11.77

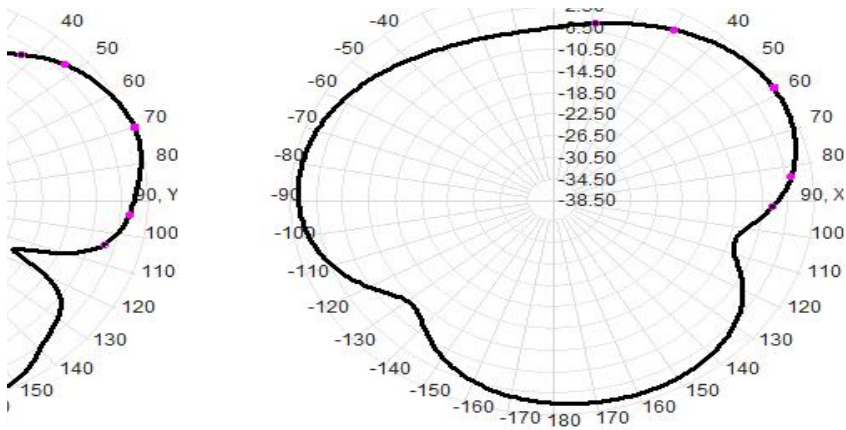


Total(H-XY), Max= 0.82dBi, CirD=11.21

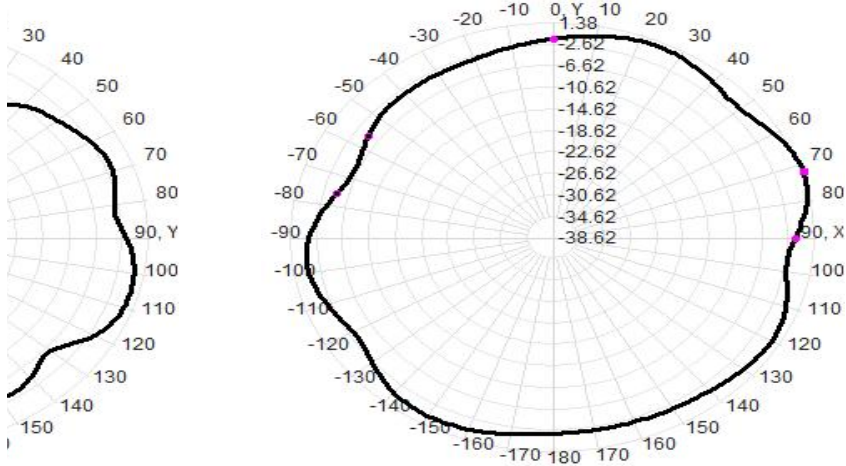


Total(H-XY), Max= 1.04dBi, CirD=10.94

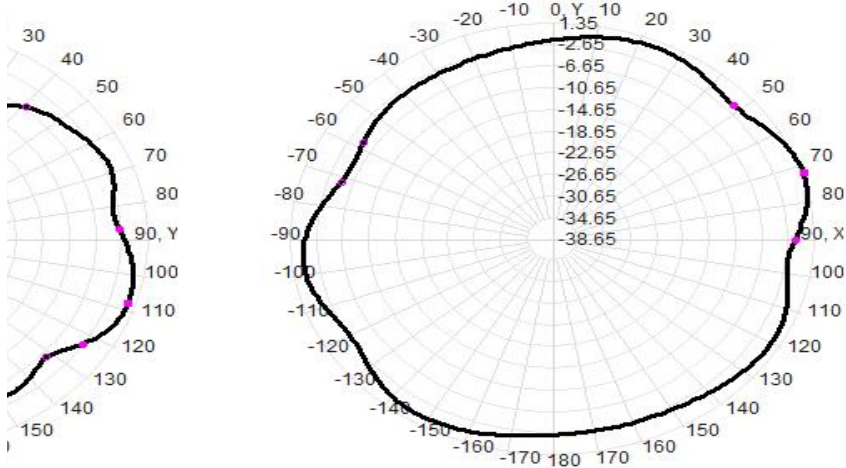




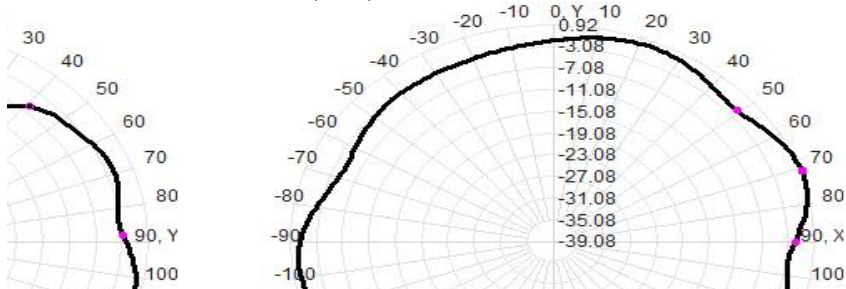
Total(H-XY), Max= 1.38dBi, CirD=7.41

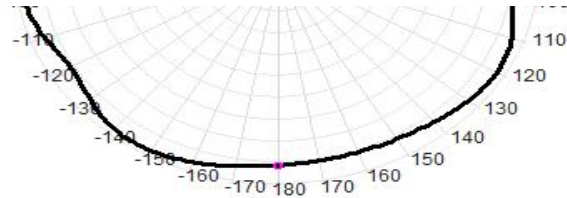
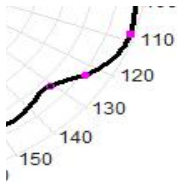


Total(H-XY), Max= 1.35dBi, CirD=6.67

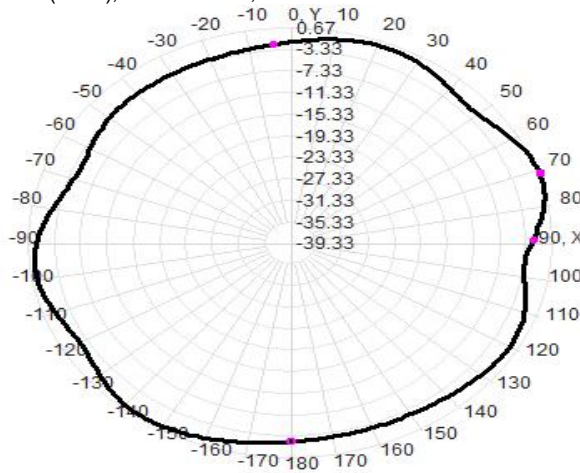
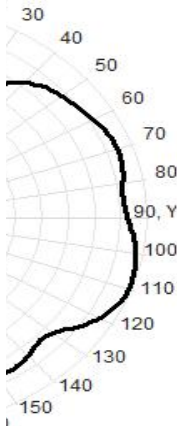


Total(H-XY), Max= 0.92dBi, CirD=5.64

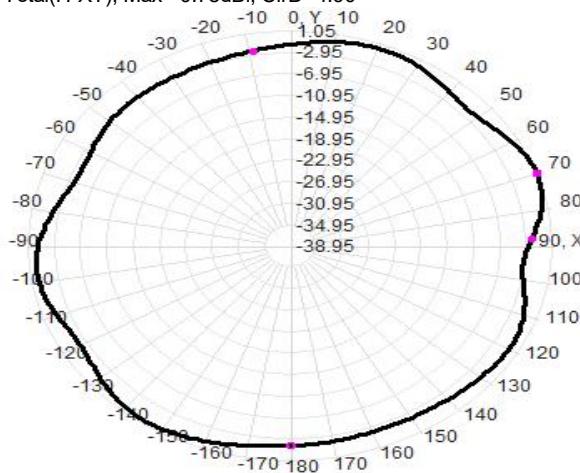
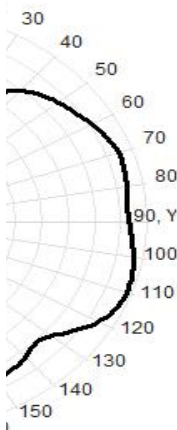




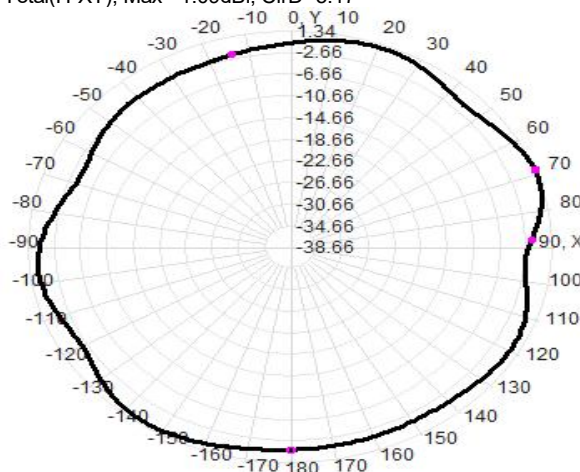
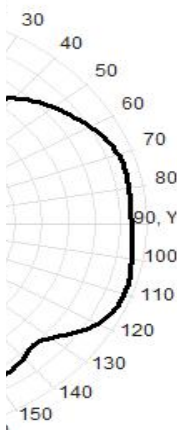
Total(H-XY), Max= 0.67dBi, CirD=5.12



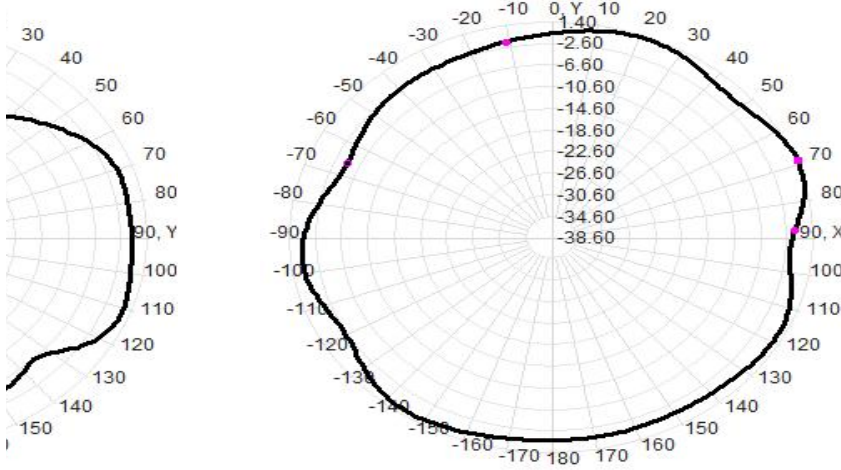
Total(H-XY), Max= 0.78dBi, CirD=4.90



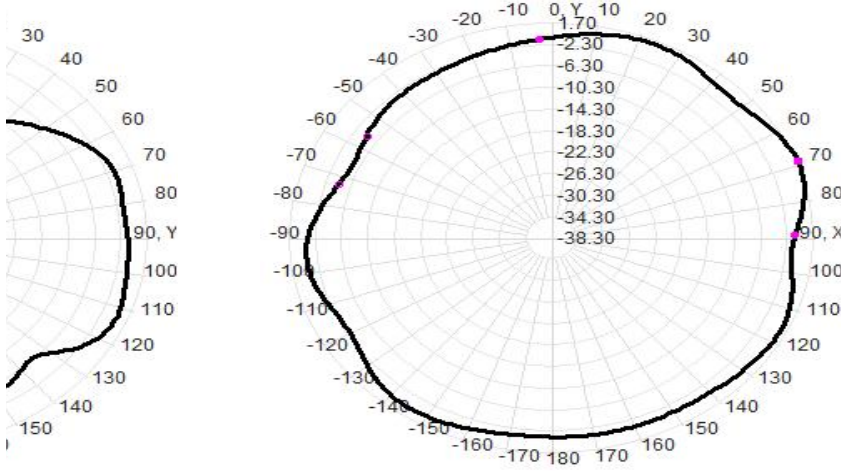
Total(H-XY), Max= 1.09dBi, CirD=5.17



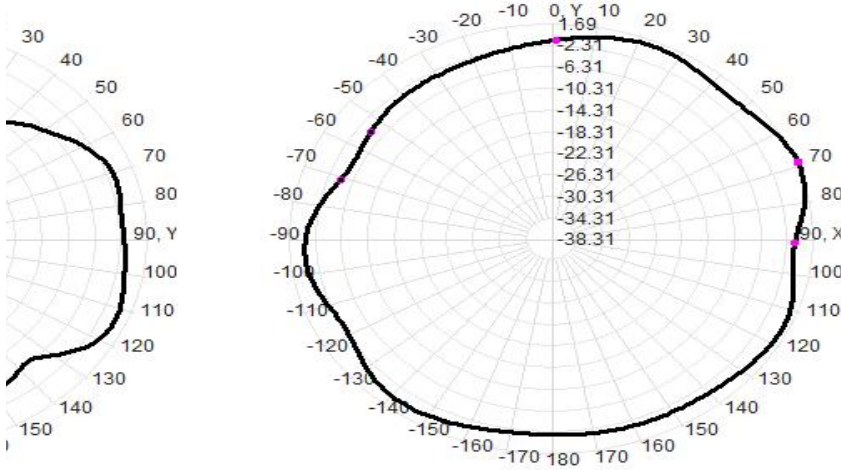
Total(H-XY), Max= 1.40dBi, CirD=6.00



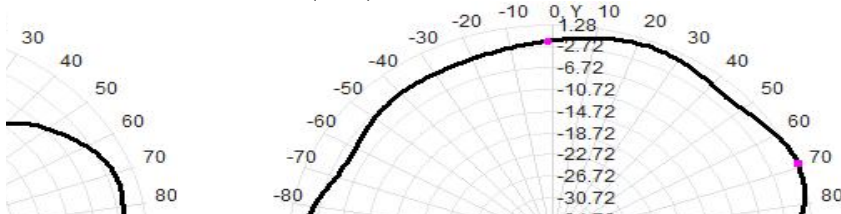
Total(H-XY), Max= 1.70dBi, CirD=6.81

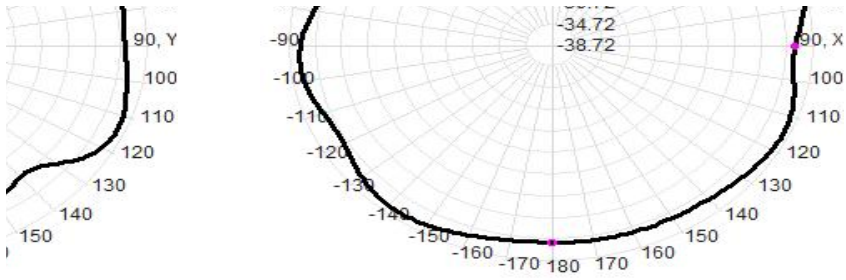


Total(H-XY), Max= 1.69dBi, CirD=6.71

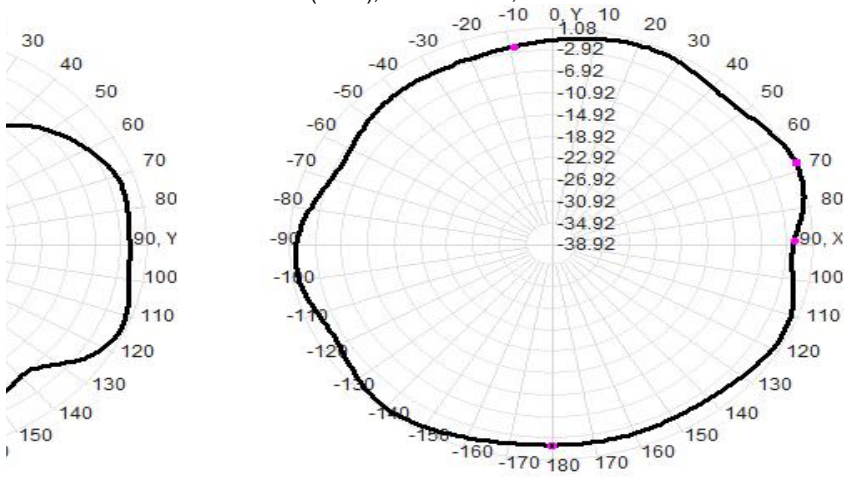


Total(H-XY), Max= 1.28dBi, CirD=5.71

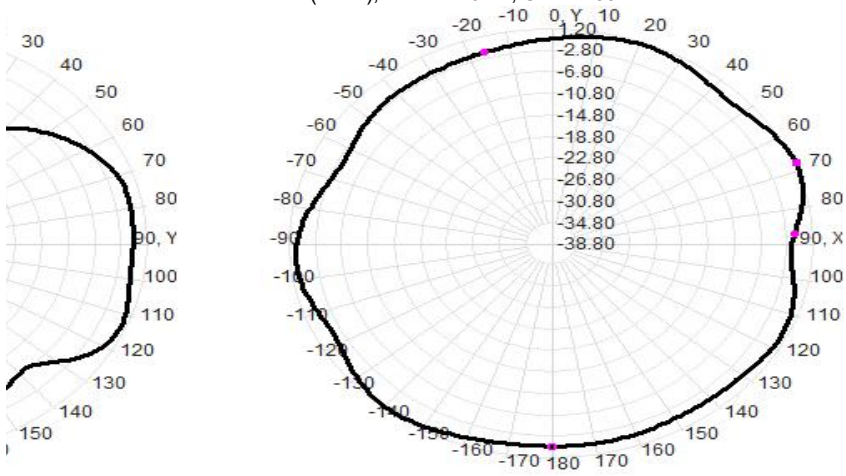




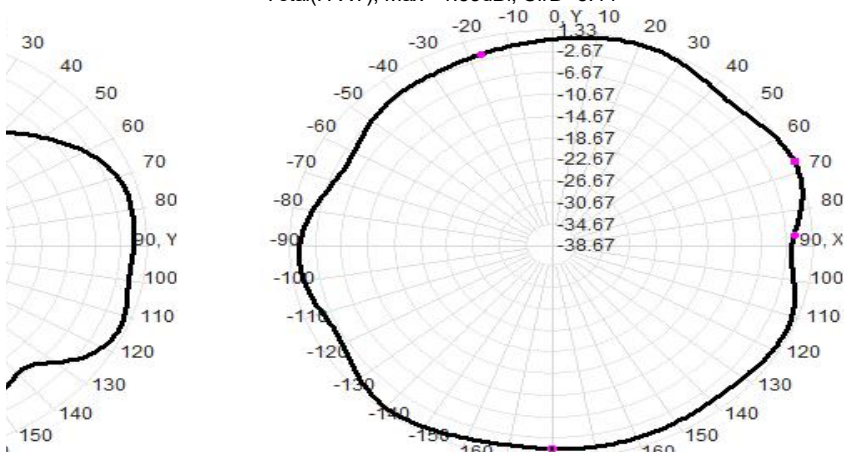
Total(H-XY), Max= 1.08dBi, CirD=4.90



Total(H-XY), Max= 1.20dBi, CirD=4.83

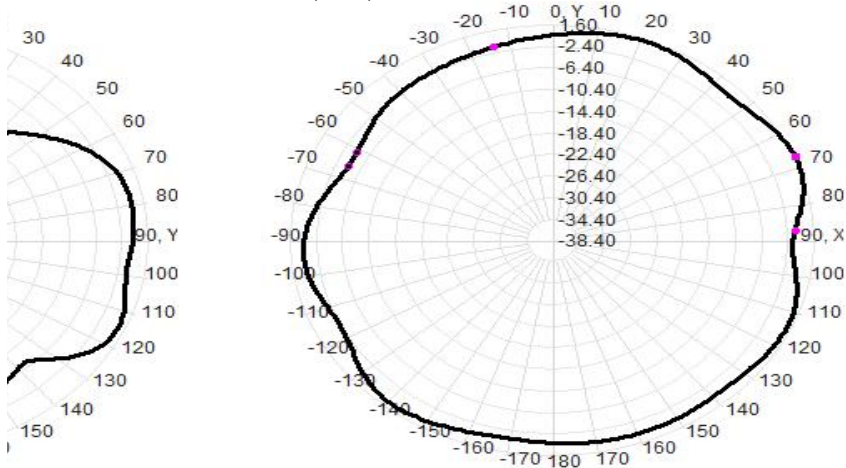


Total(H-XY), Max= 1.33dBi, CirD=5.44

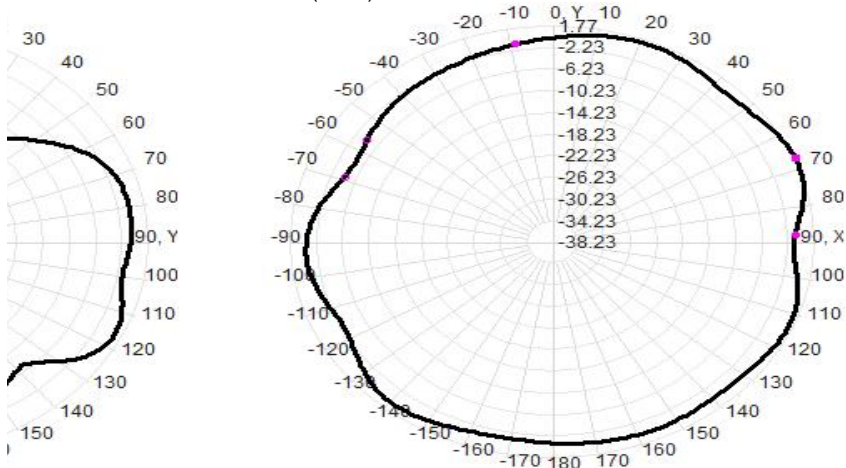




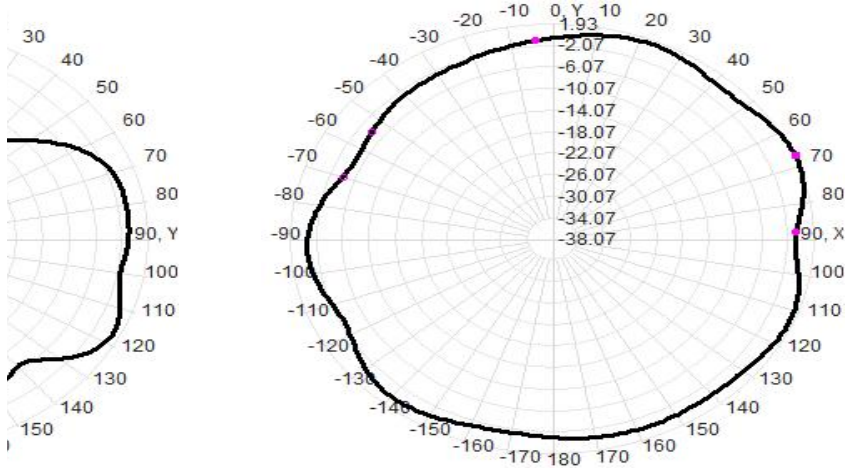
Total(H-XY), Max= 1.60dBi, CirD=6.11



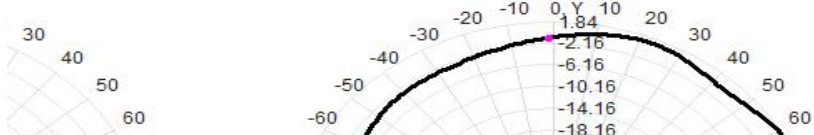
Total(H-XY), Max= 1.77dBi, CirD=6.49

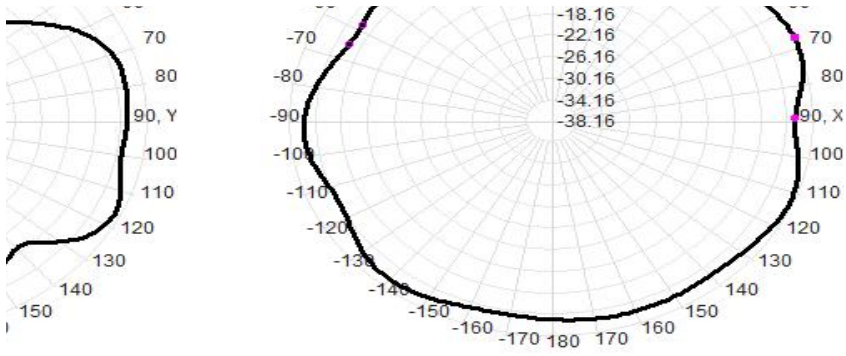


Total(H-XY), Max= 1.93dBi, CirD=6.66

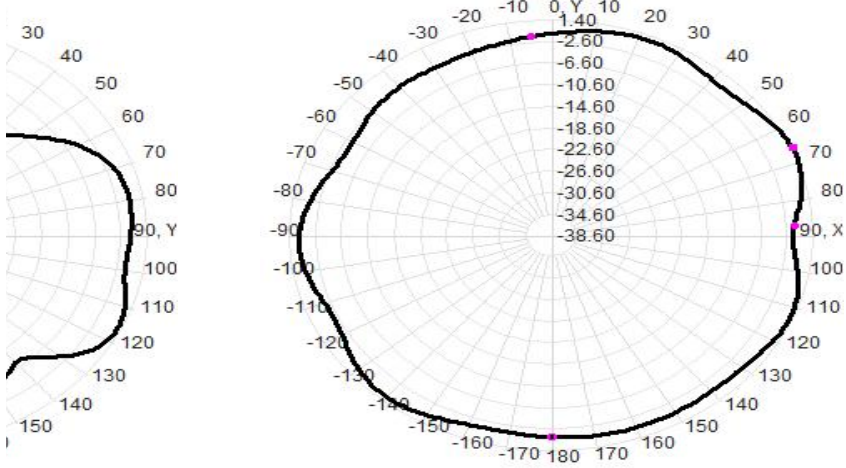


Total(H-XY), Max= 1.84dBi, CirD=6.16

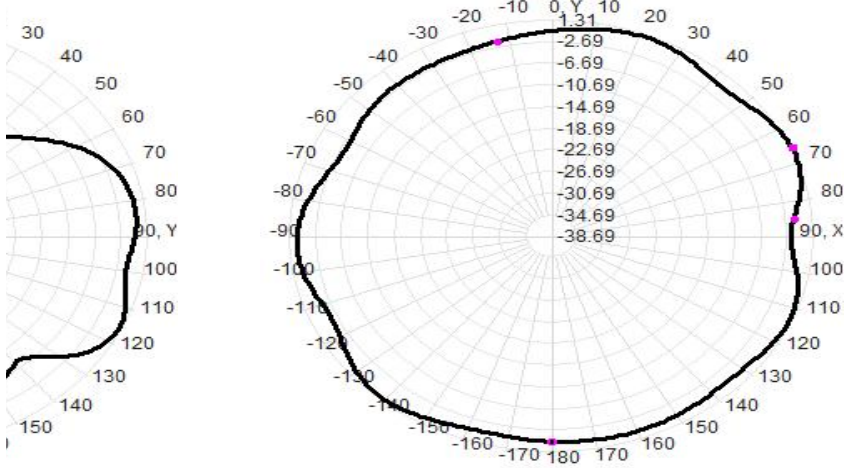




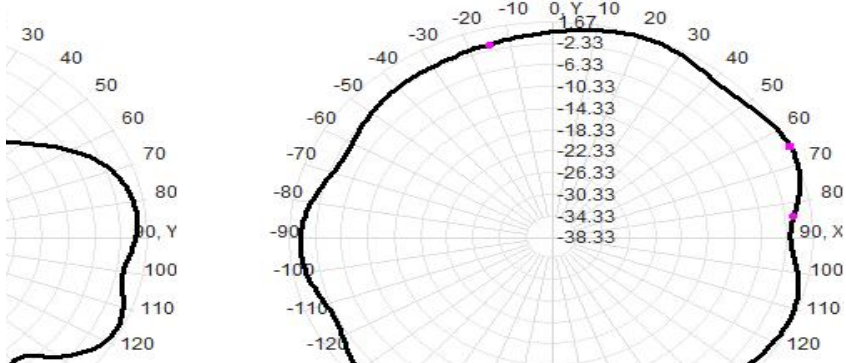
Total(H-XY), Max= 1.40dBi, CirD=5.19

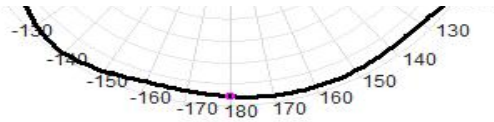


Total(H-XY), Max= 1.31dBi, CirD=4.72

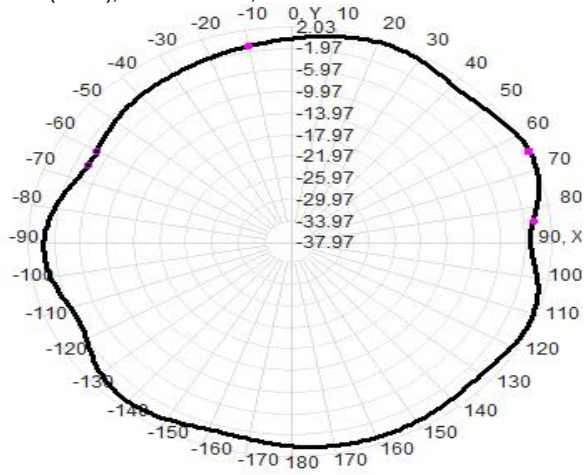
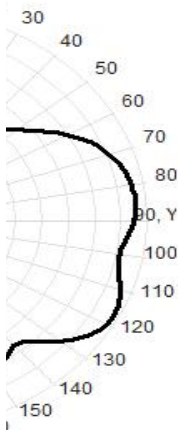


Total(H-XY), Max= 1.67dBi, CirD=5.13

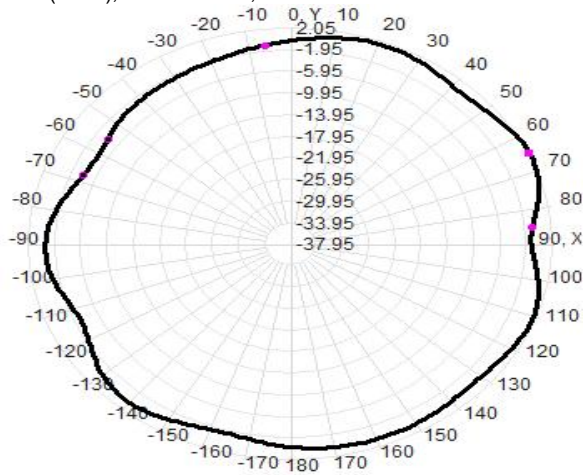
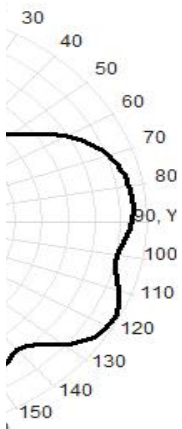




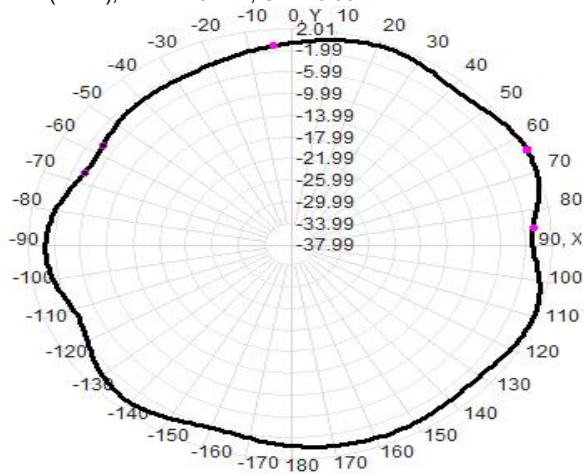
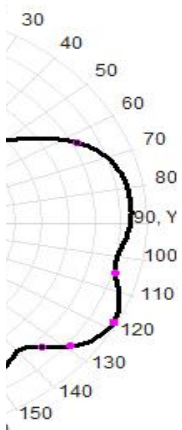
Total(H-XY), Max= 2.03dBi, CirD=6.12



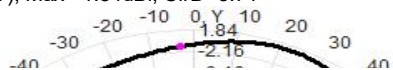
Total(H-XY), Max= 2.05dBi, CirD=6.45

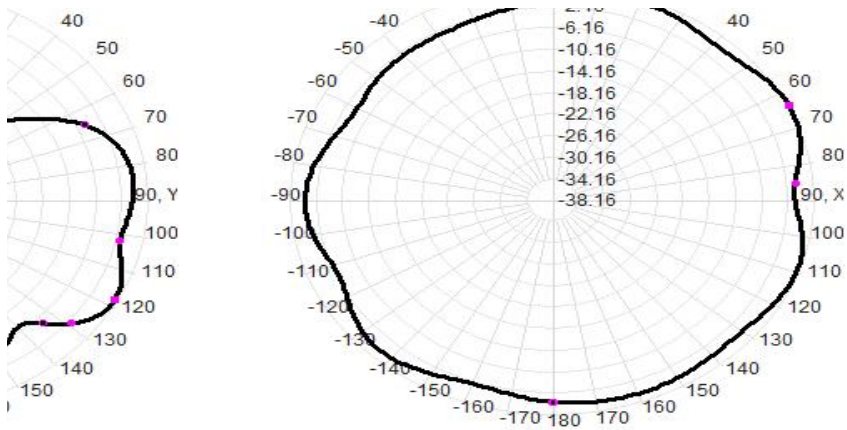


Total(H-XY), Max= 2.01dBi, CirD=6.30

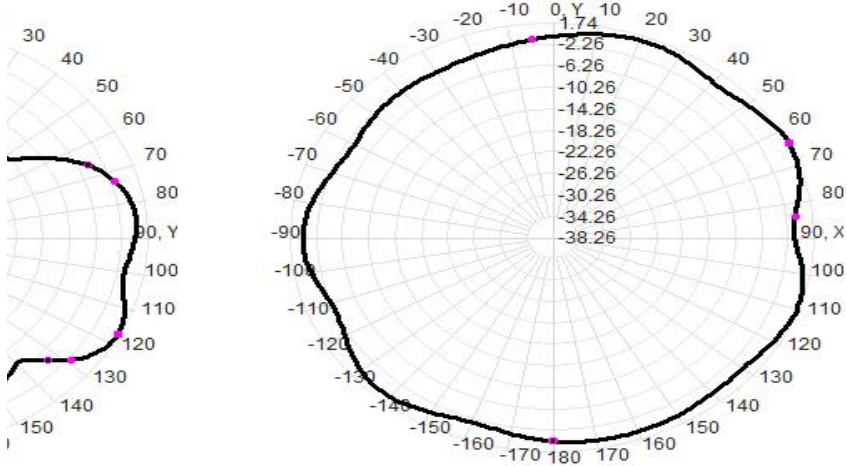


Total(H-XY), Max= 1.84dBi, CirD=5.71

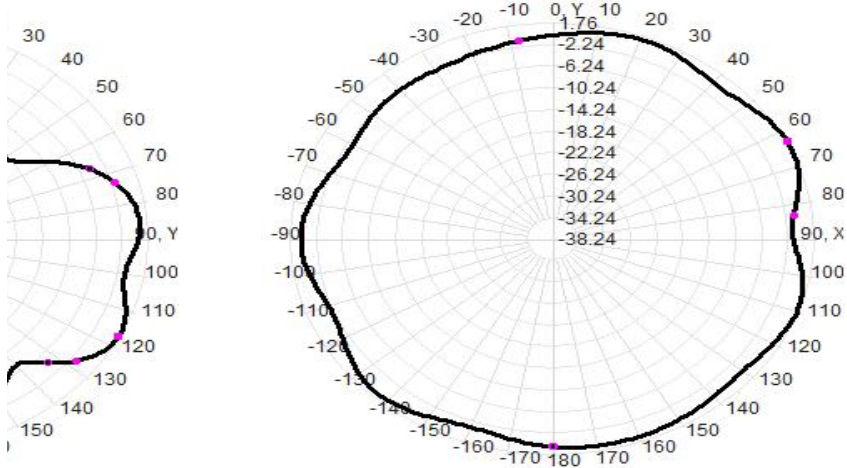




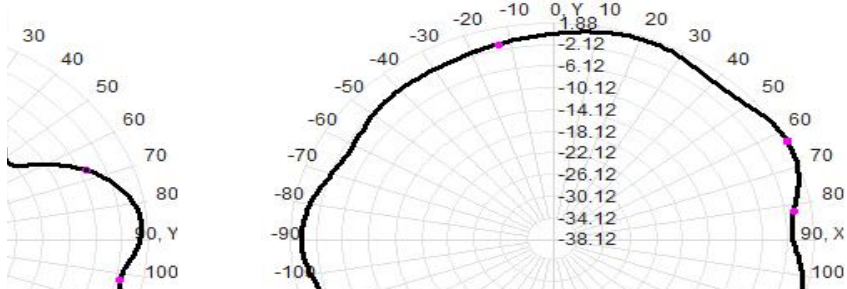
Total(H-XY), Max= 1.74dBi, CirD=5.21

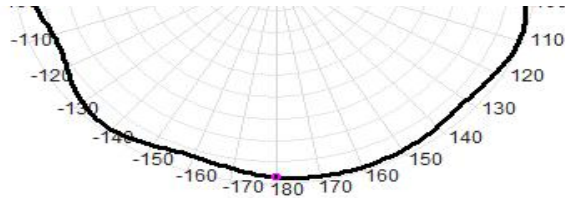
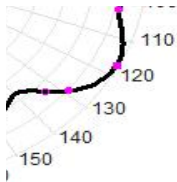


Total(H-XY), Max= 1.76dBi, CirD=4.94

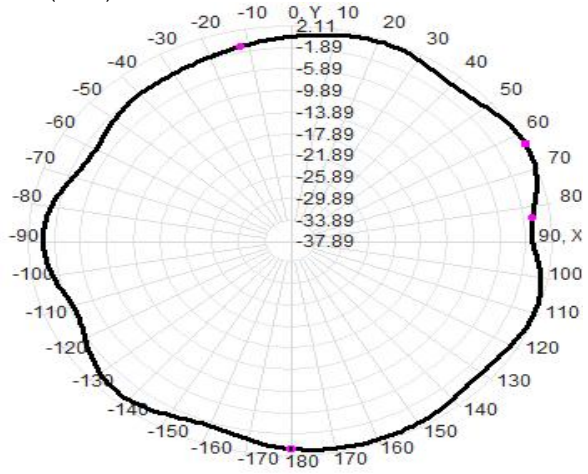
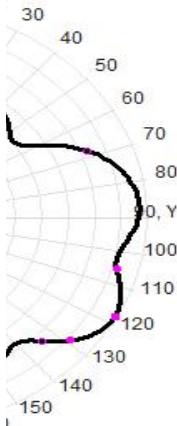


Total(H-XY), Max= 1.88dBi, CirD=5.10

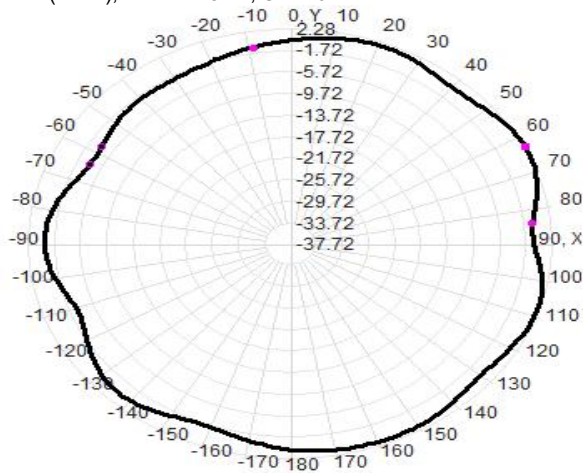
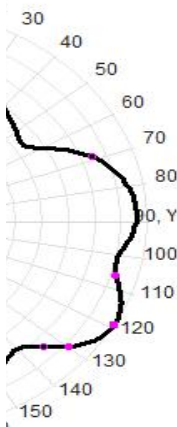




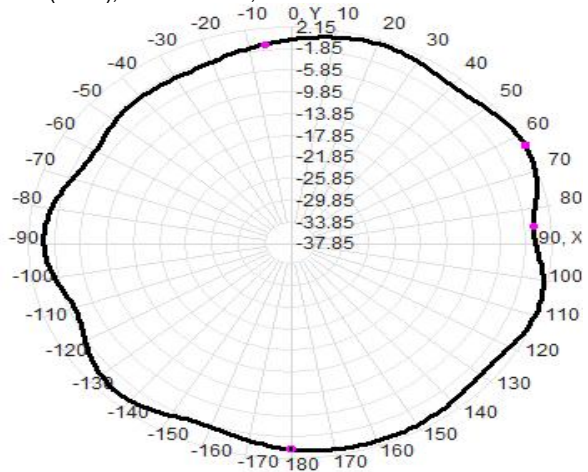
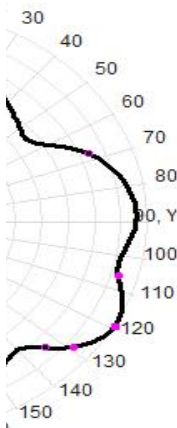
Total(H-XY), Max= 2.11dBi, CirD=5.81



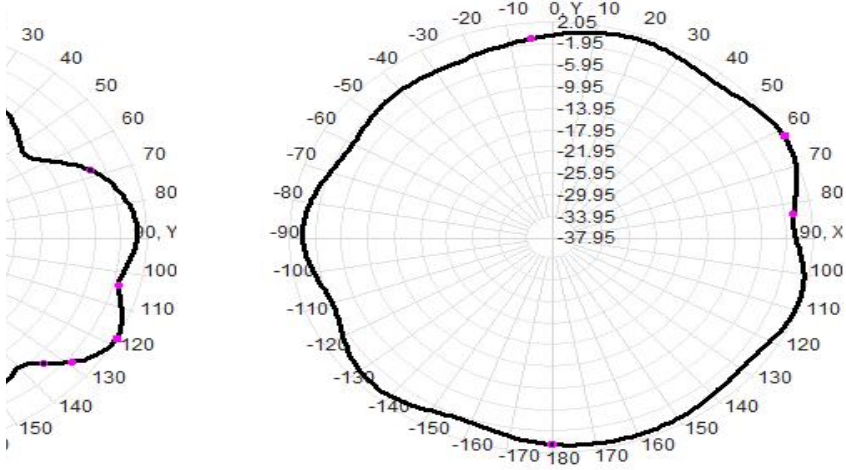
Total(H-XY), Max= 2.28dBi, CirD=6.14



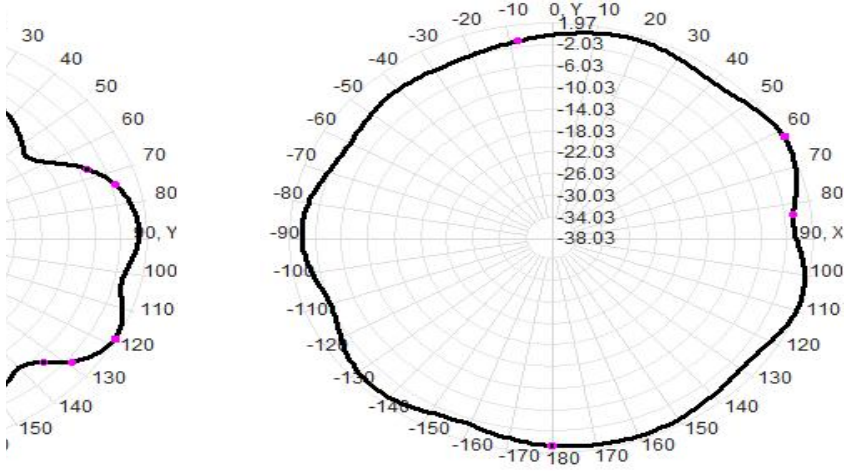
Total(H-XY), Max= 2.15dBi, CirD=5.75



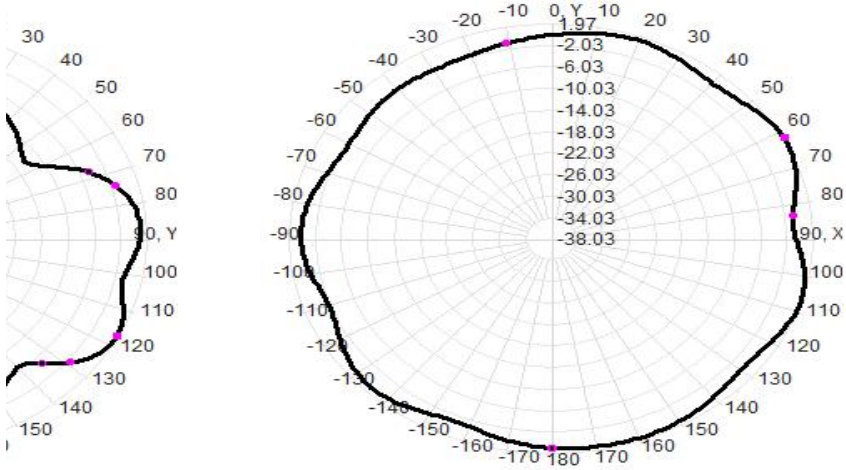
Total(H-XY), Max= 2.05dBi, CirD=5.14



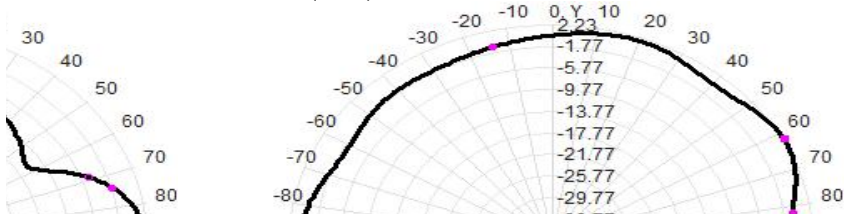
Total(H-XY), Max= 1.97dBi, CirD=4.66

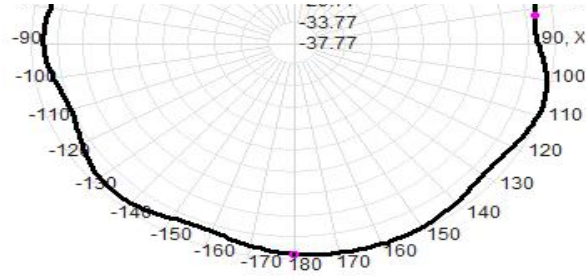
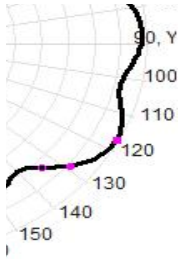


Total(H-XY), Max= 1.97dBi, CirD=4.50

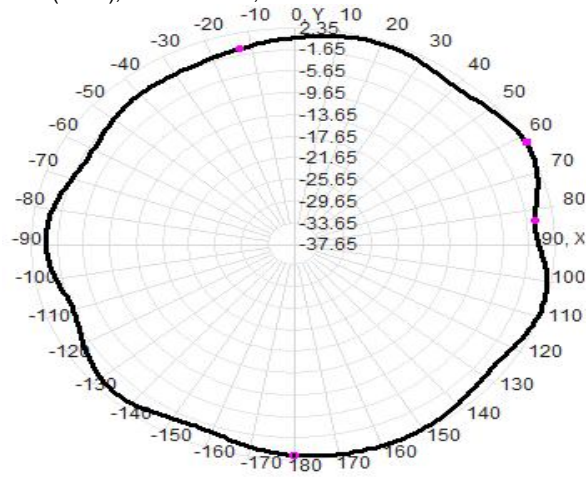
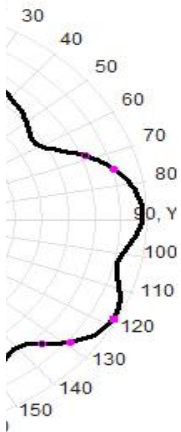


Total(H-XY), Max= 2.23dBi, CirD=4.60





Total(H-XY), Max= 2.35dBi, CirD=4.92



Total(H-XY), Max= 2.42dBi, CirD=5.38

