

承認書

SPECIFICATION FOR APPROVAL

樣品承認 新品承認 規格/材質變更承認

客戶名稱(Customer):	東荃科技股份有限公司		
客戶料號(Customer P/N):			
產品料號(Product No.):	A8-A006-00509		
產品品名(Product Name) :	PCB 11a/b/g/n 2dBi/5.5dBi 30mmx8mm T0.8 black OD1.13 low loss 55mm I-PEX plug		
文件編號(Approved No) :			
日期(Issued Date) :	2018 年 10 月 16 日		
客戶承認簽章 Customer Approval Signature	In Charge	Checked	Approval

TSKY™ 天凱科技股份有限公司 TSKY CO., LTD.

新竹縣竹北市自強南路8號21F-2 Tel:03-5502626 Fax:03-5503131

21F-2, No.8, Ziqiang S. Rd., Jhubei City, Hsinchu County 30264, Taiwan (R.O.C.)



業務	核准	審核	主辦員

Contents

Item	Description	Page
1.	Cover	1
2.	Contents	2
3.	Specification	3
4.	Drawing	4
5.	Test Report	5~24

Specification

- **Electrical Properties :**

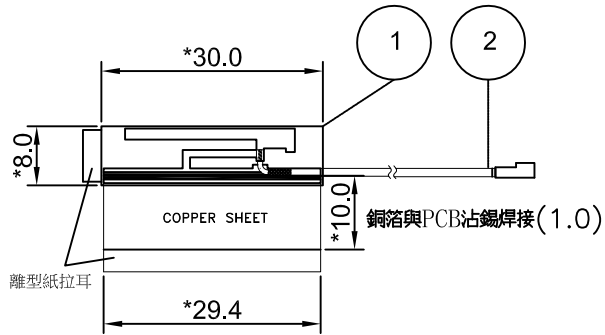
1. Frequency : 2400MHz-2500MHz / 5150MHz-5850MHz
2. Impedance : 50Ω
3. Return Loss : $\leq -10\text{dB}$
4. Peak Gain : 2dBi / 5.5dBi

- **Physical Properties :**

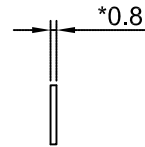
1. Material : FR-4 T=0.8mm
2. Cable : OD1.13 Low Loss
3. Connector : I-PEX

REV	ECN NO.	DRAWING	DESCRIPTION	APPROVED	DATE
X1		Jane	初次發行	Gary	2018/10/16

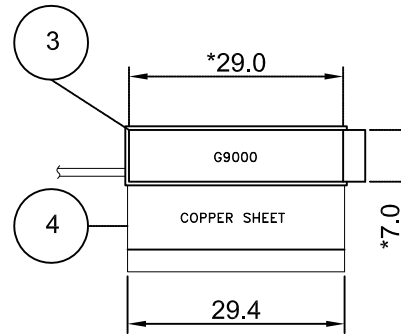
(Top VIEW)



(SIDE VIEW)



(BOTTOM VIEW)

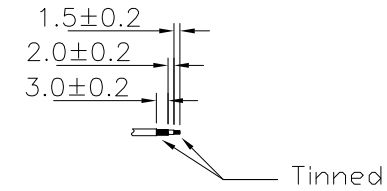


ELECTRICAL:

Frequency: 2400MHz~2500MHz/5150MHz~5850MHz
 Impedance: 50Ω
 Peak Gain: 2dBi/5.5dBi
 Return Loss: ≤ -10dB

MECHANICAL:

Cable: D1.13 Low Loss BLACK L=55mm



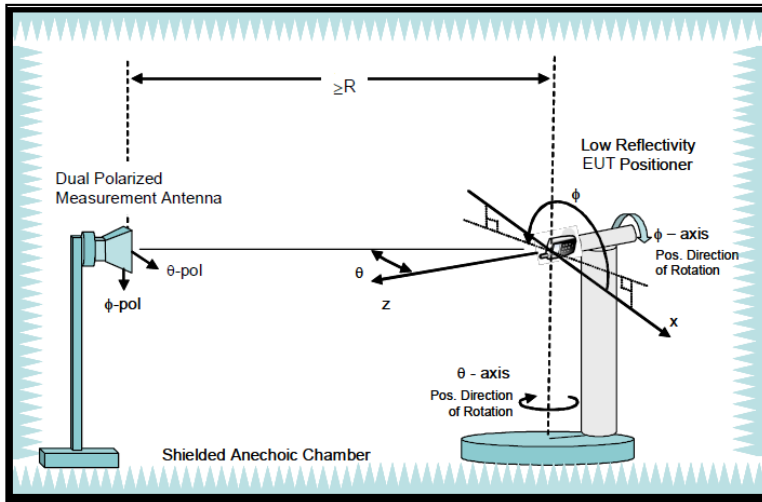
NOTE:

1. 文字顏色為白色
2. *為重點量測尺寸
3. I-PEX(Iv) 方向請按照圖面所示

NO.	PART NO.	DESCRIPTION	REV.	QTY
4	A2-A008-0000*	銅箔29.4x10mm背膠(導電膠)	X1	1
3	A2-A001-0000*	29x7mm G9000 雙面背膠	X1	1
2	A0-A003-0000*	RF CABLE OD1.13 Low Loss 55mm BLACK IPEX PLUG+3(編)-2(絕)-1.5(芯)	X1	1
1	A1-A003-0000*	PCB ANT FR-4 L30 W8 T0.8mm OSP單面消光黑 FOR A8-A006-00509	x1	1

TOLERANCE UNLESS OTHERWISE SPECIFIED				TSKY CO., LTD.				INITIAL MODEL:			
DIMENSION		ANGLES		CONFIDENTIAL	FINISH:	SIZE:	UNIT:	SCALE:	PART NAME		
.X±	0.2	X.°±	0.5	⊕		A4	mm	1:1	PCB 11a/b/g/n 2dBi/5.5dBi 30mmx8mm T0.8		
.XX±	0.1			DRAWING	DESIGNED	CONCURRED	APPROVED		black OD1.13 low loss 55mm I-PEX plug		
.XXX±	0.05			Jane			Gary		PART NO.	REV.	SHT.
									A8-A006-00509	x1	1/1

Antenna Coordinate System Definition

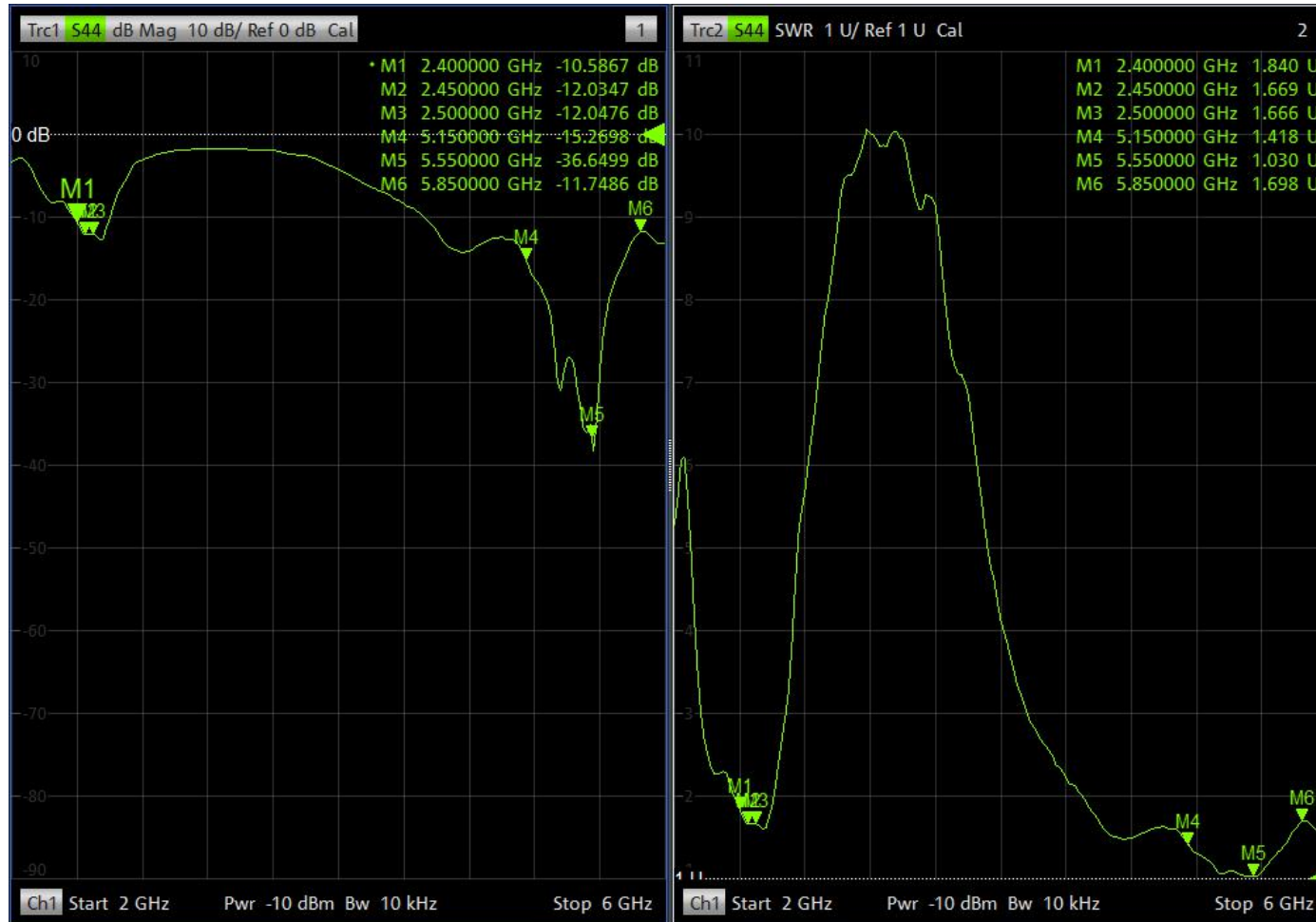


Antenna Placement



Placement 1

Return Loss and VSWR

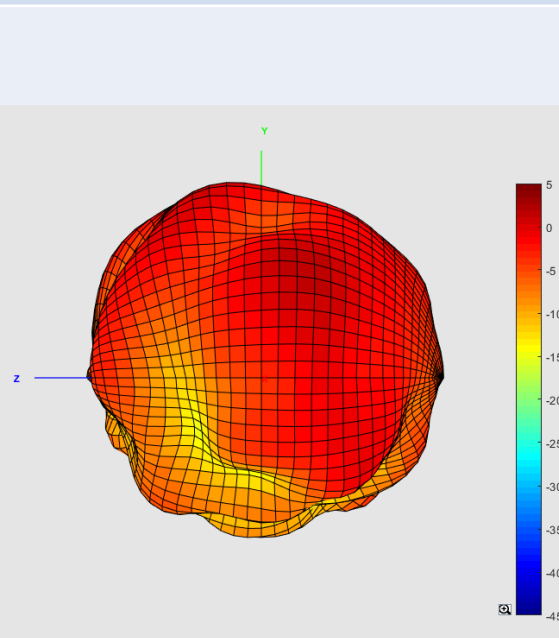


Placement 1

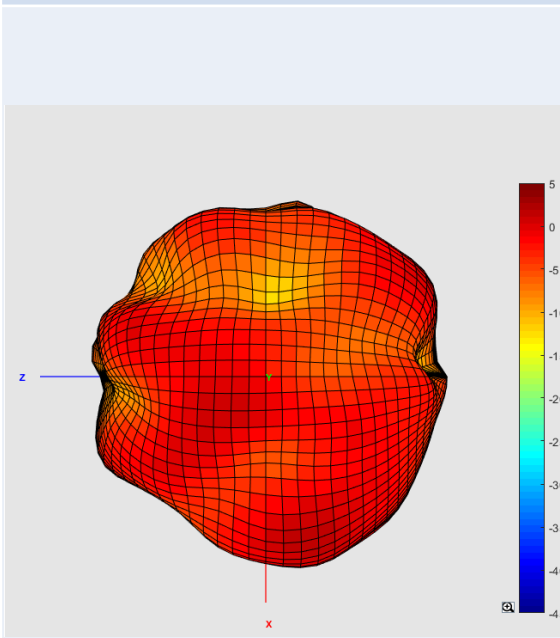
3D Radiation Pattern

2.4GHz

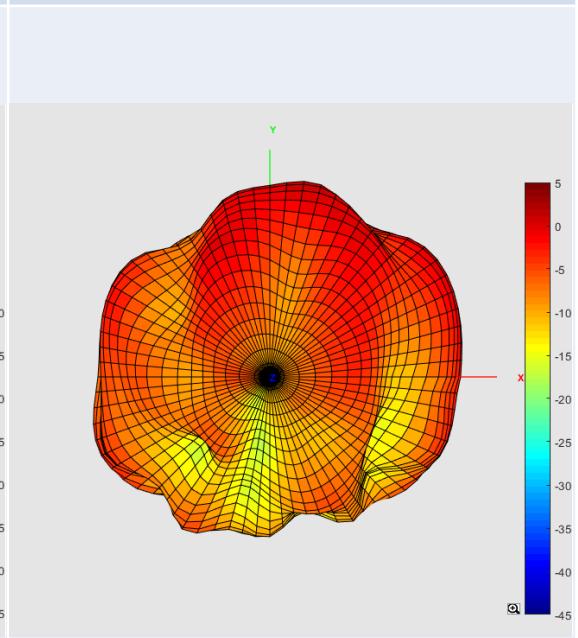
X-axis View



Y-axis View



Z-axis View



Placement 1

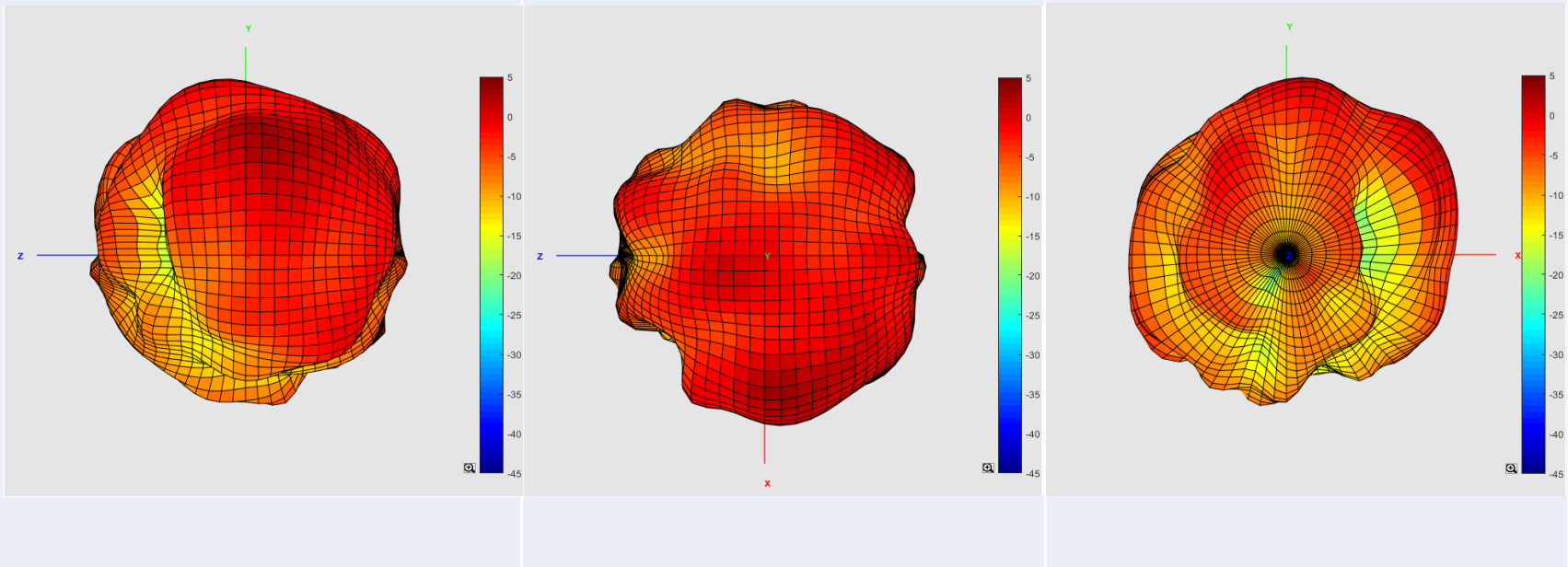
3D Radiation Pattern

2.45GHz

X-axis View

Y-axis View

Z-axis View



Placement 1

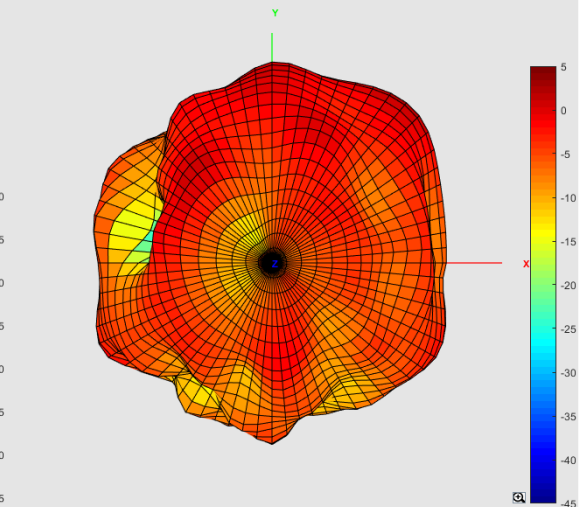
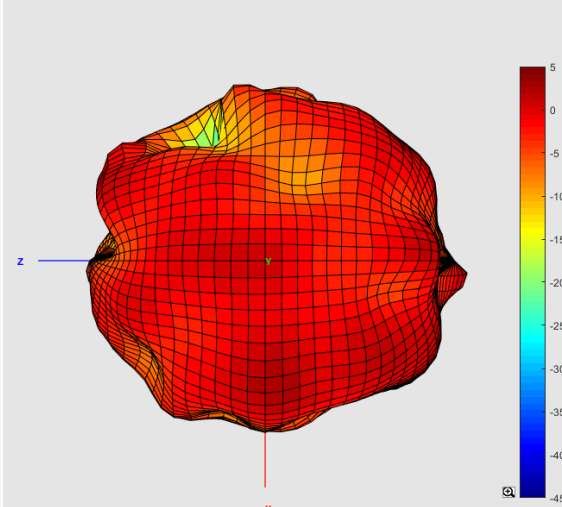
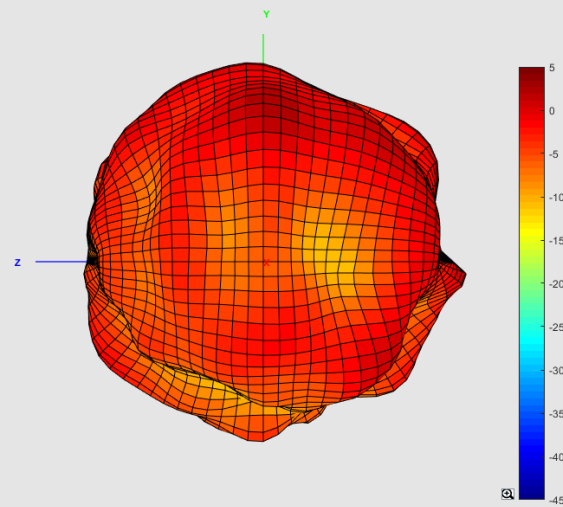
3D Radiation Pattern

2.5GHz

X-axis View

Y-axis View

Z-axis View

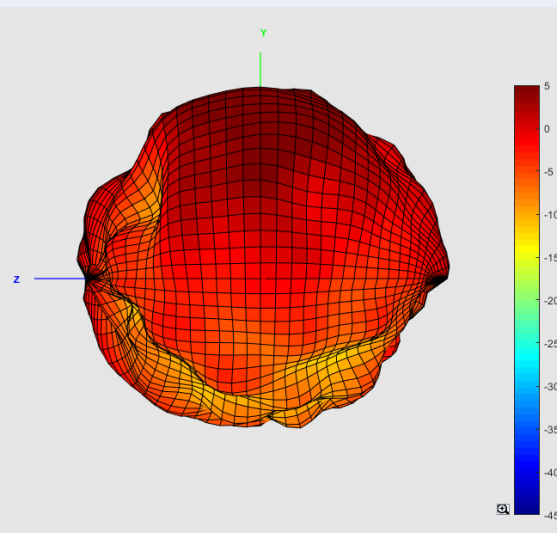


Placement 1

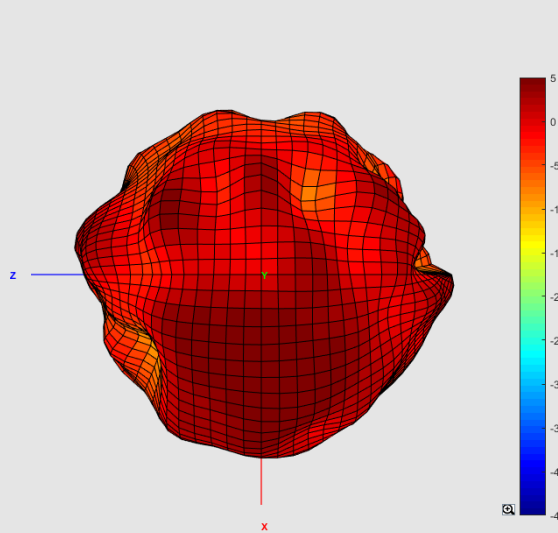
3D Radiation Pattern

5.15GHz

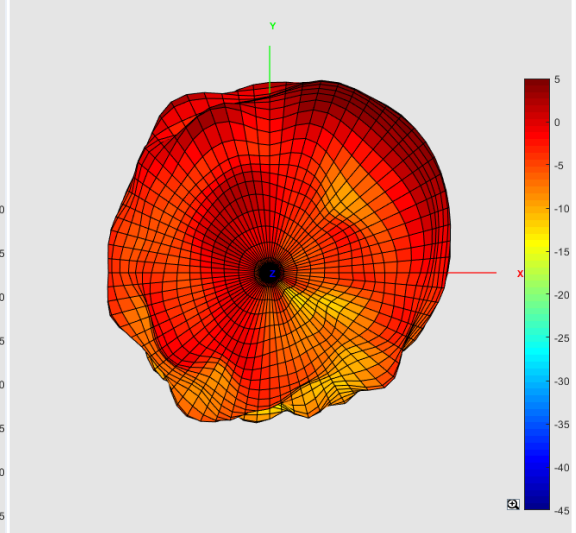
X-axis View



Y-axis View



Z-axis View

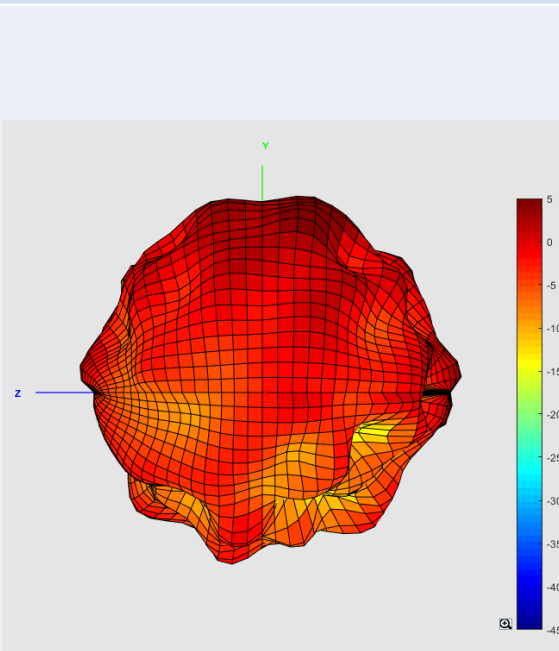


Placement 1

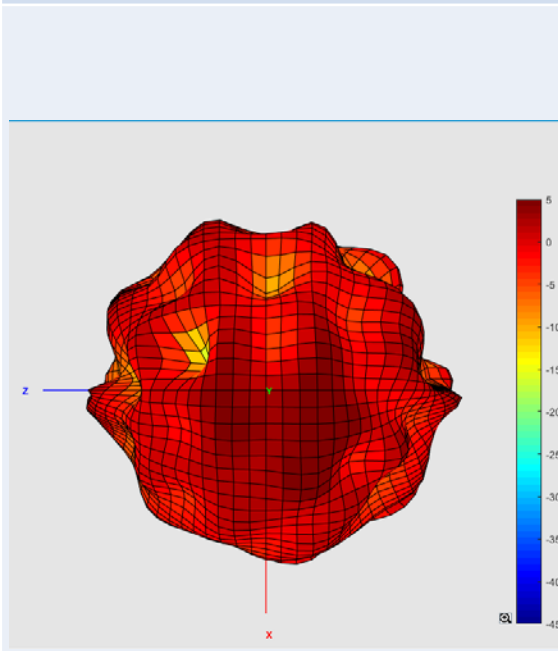
3D Radiation Pattern

5.55GHz

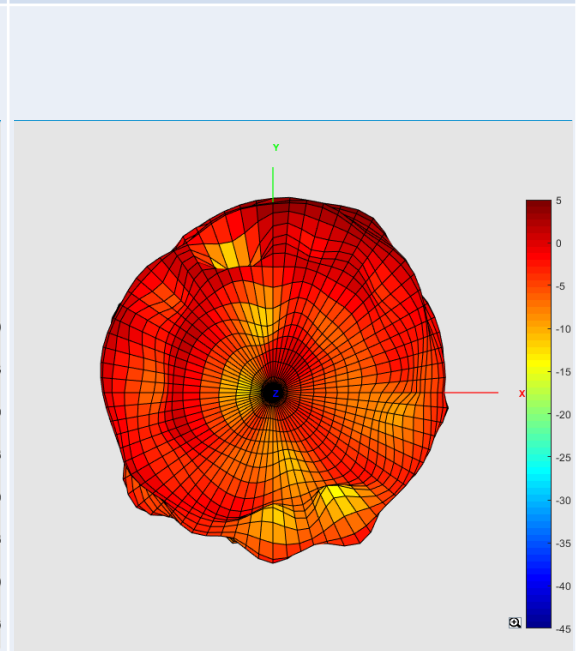
X-axis View



Y-axis View



Z-axis View



Placement 1

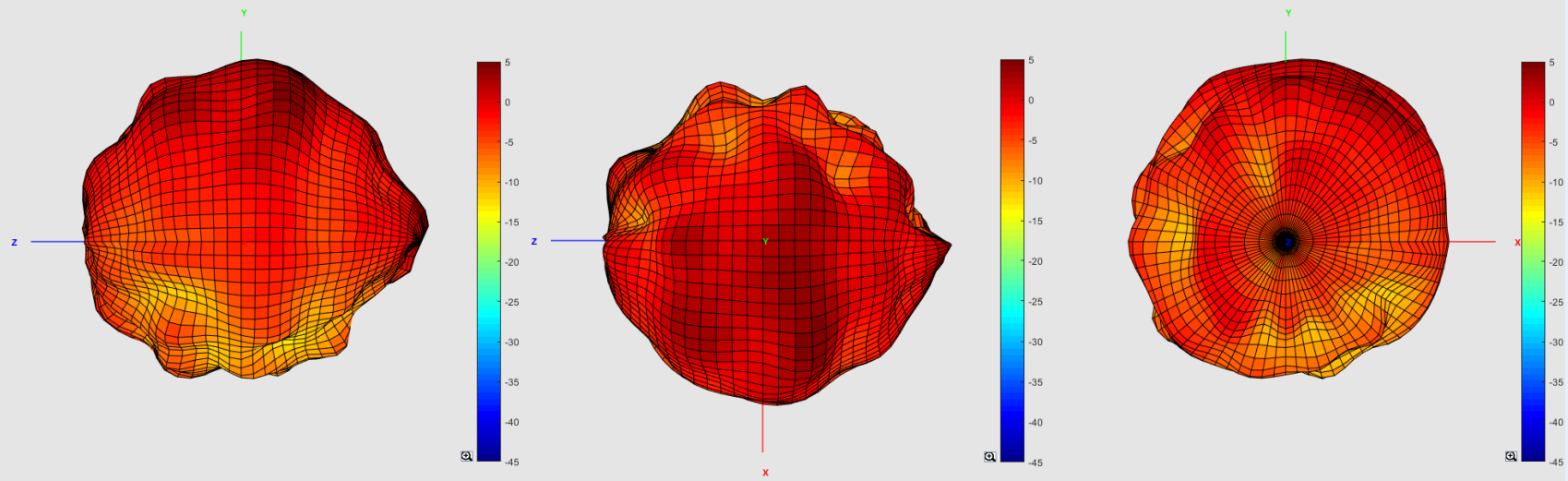
3D Radiation Pattern

5.85GHz

X-axis View

Y-axis View

Z-axis View



Placement 1

Antenna Gain and Efficiency

Frequency(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Directivity(dBi)	6.11	6.29	6.57	6.59	6.42	6.77	7.06	7.17	6.83	6.42	6.03
Efficiency(dB)	-4.63	-4.9	-4.9	-4.84	-4.76	-4.55	-4.64	-4.47	-4.42	-4.43	-3.67
Efficiency(%)	34.43	32.36	32.36	32.81	33.42	35.08	34.36	35.73	36.14	36.06	42.95
Gain(dBi)	1.48	1.39	1.67	1.75	1.66	2.22	2.42	2.7	2.41	1.99	2.36

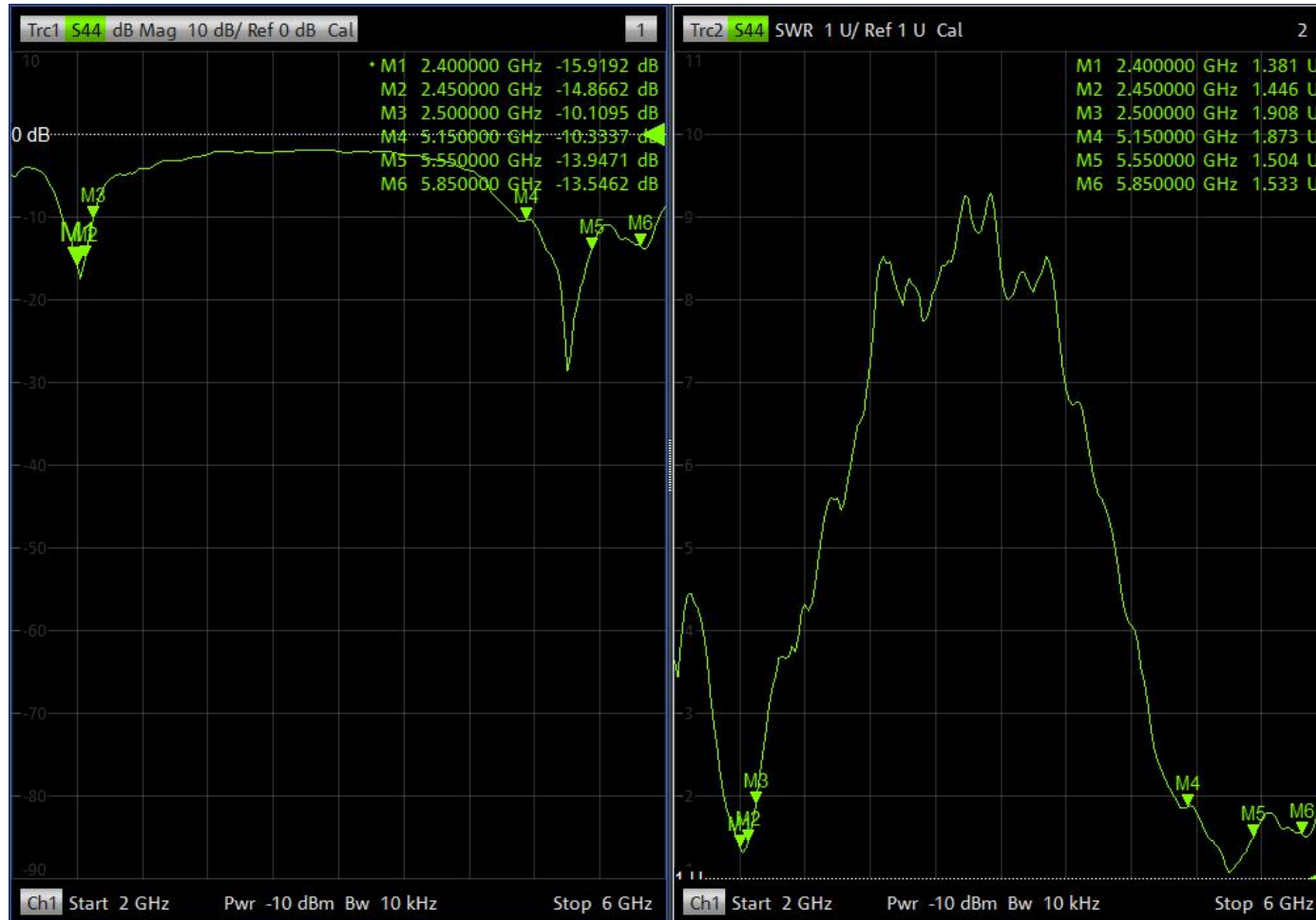
Placement 1

Antenna Gain and Efficiency

Frequency(MHz)	5150	5250	5350	5450	5550	5650	5750	5850
Directivity(dBi)	7.71	8.44	8.07	8.27	7.5	7.88	7.92	7.63
Efficiency(dB)	-1.67	-1.81	-2.5	-2.72	-1.72	-2.28	-2.37	-2.98
Efficiency(%)	68.08	65.92	56.23	53.46	67.3	59.16	57.94	50.35
Gain(dBi)	6.04	6.63	5.57	5.55	5.78	5.6	5.55	4.65

Placement 2

Return Loss and VSWR



Placement 2

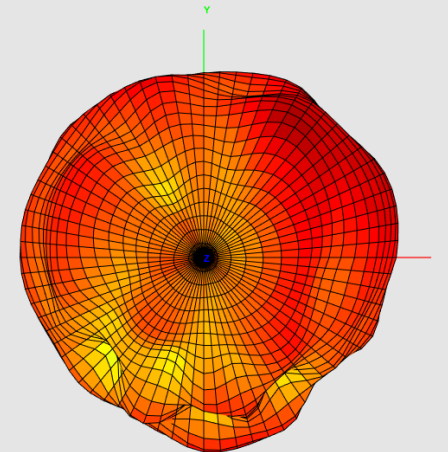
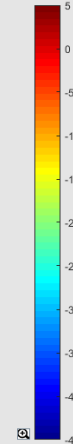
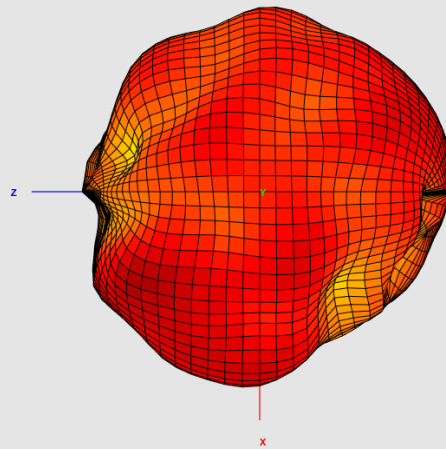
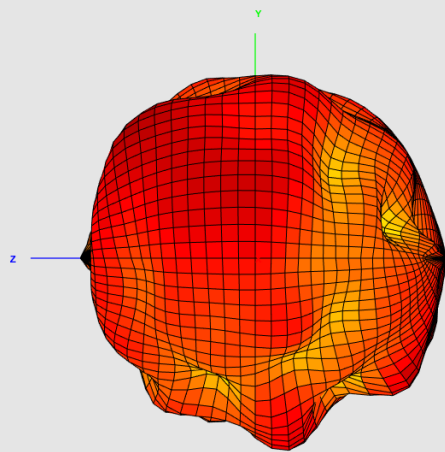
3D Radiation Pattern

2.4GHz

X-axis View

Y-axis View

Z-axis View



Placement 2

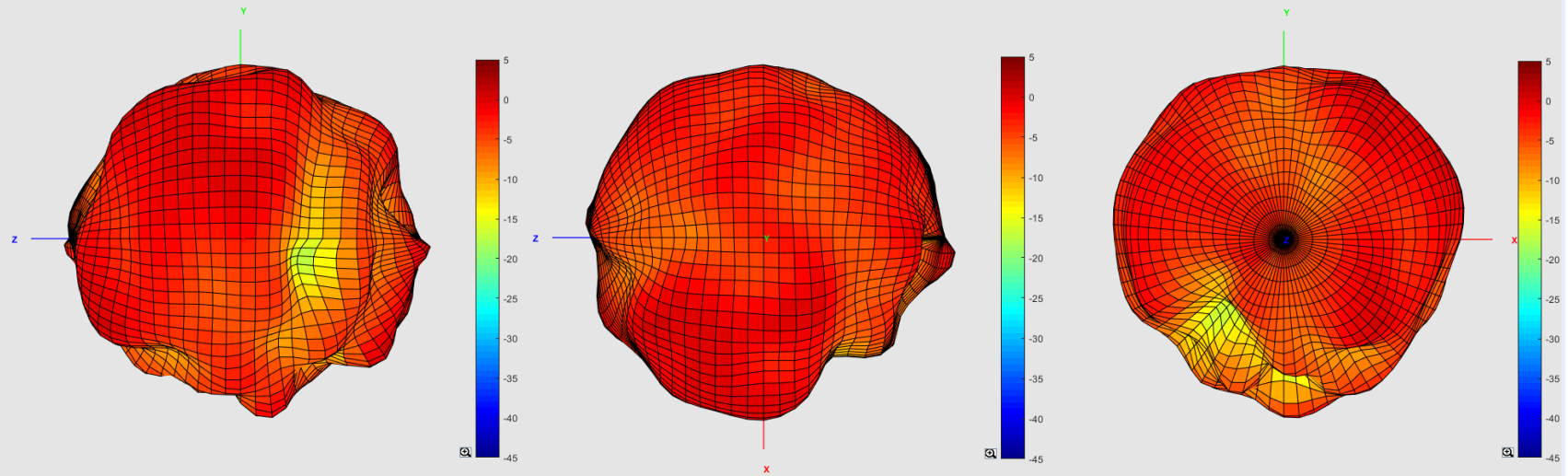
3D Radiation Pattern

2.45GHz

X-axis View

Y-axis View

Z-axis View

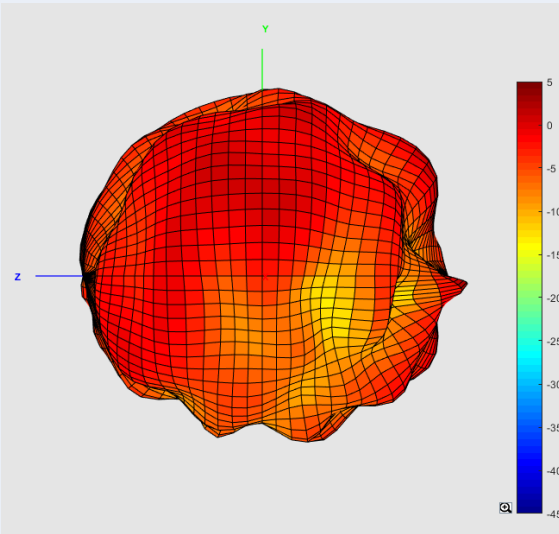


Placement 2

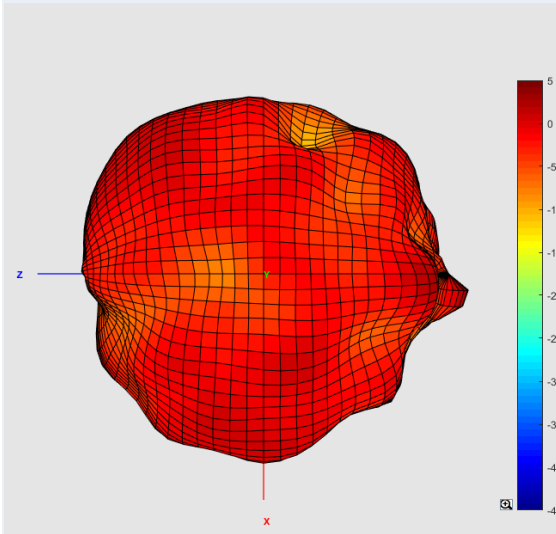
3D Radiation Pattern

2.5GHz

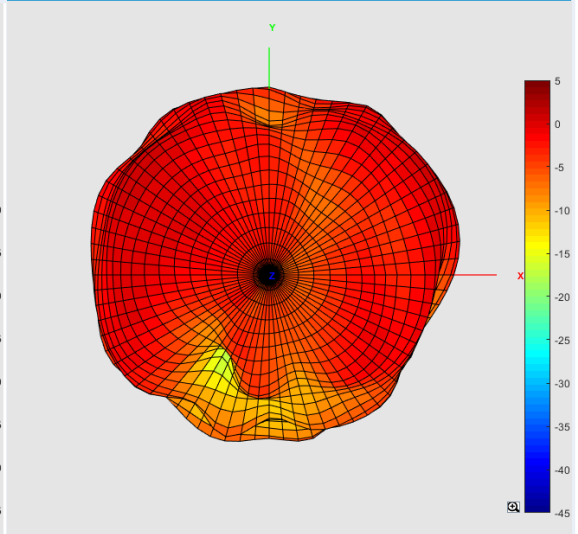
X-axis View



Y-axis View



Z-axis View

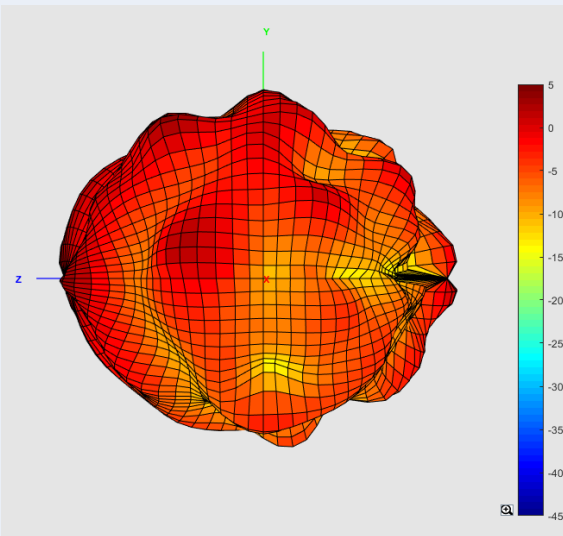


Placement 2

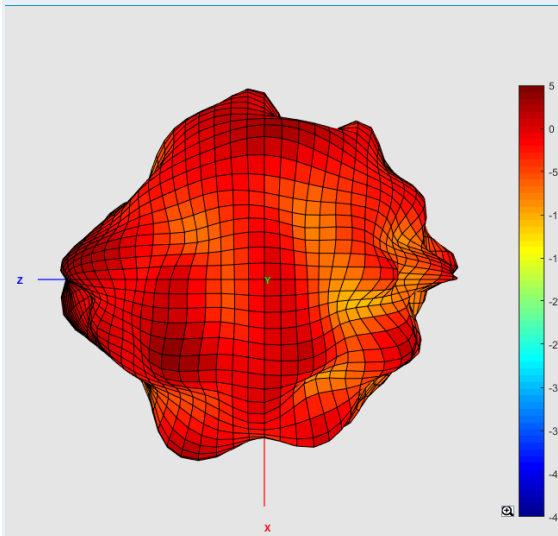
3D Radiation Pattern

5.15GHz

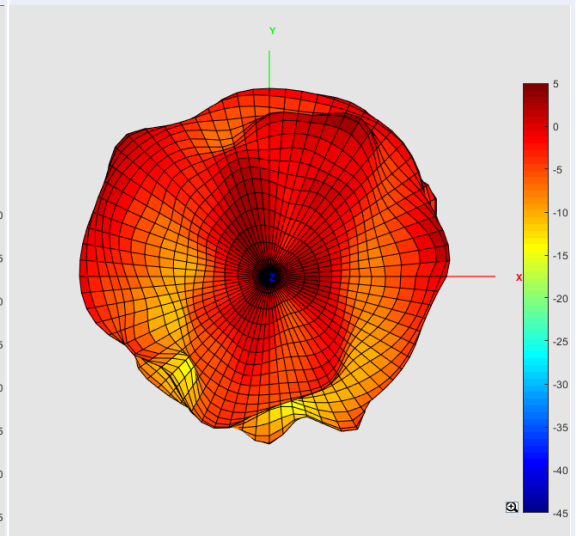
X-axis View



Y-axis View



Z-axis View

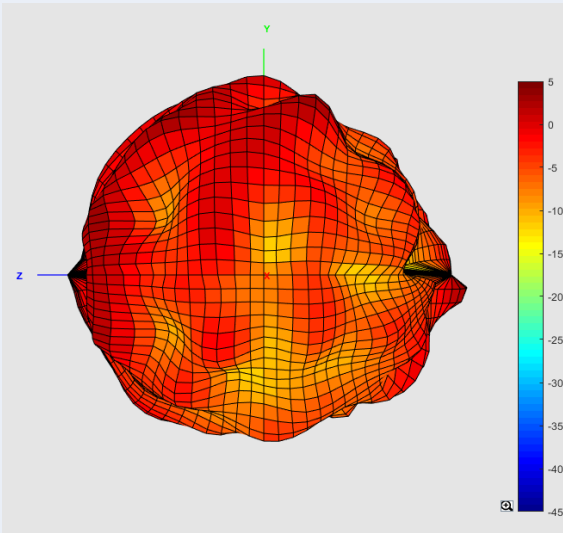


Placement 2

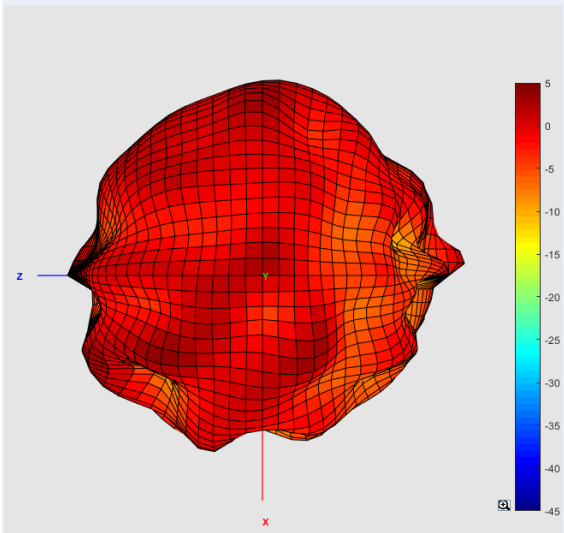
3D Radiation Pattern

5.55GHz

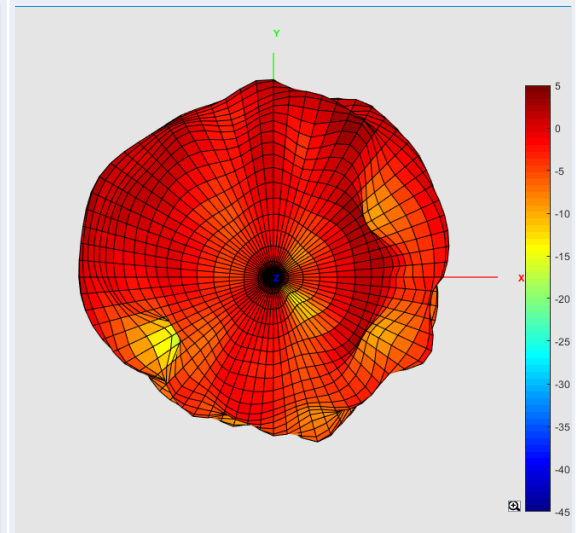
X-axis View



Y-axis View



Z-axis View

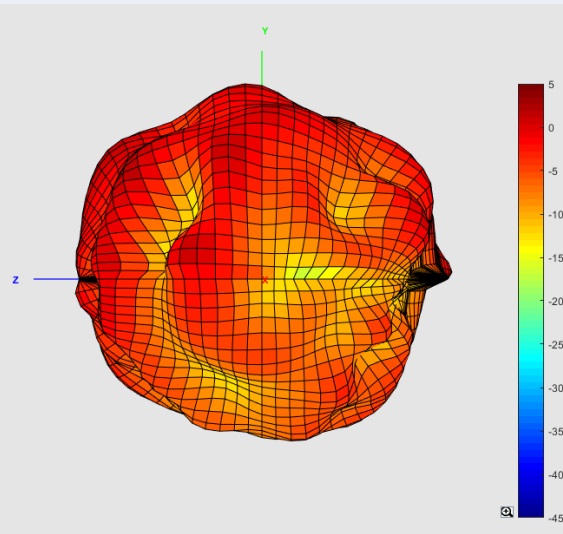


Placement 2

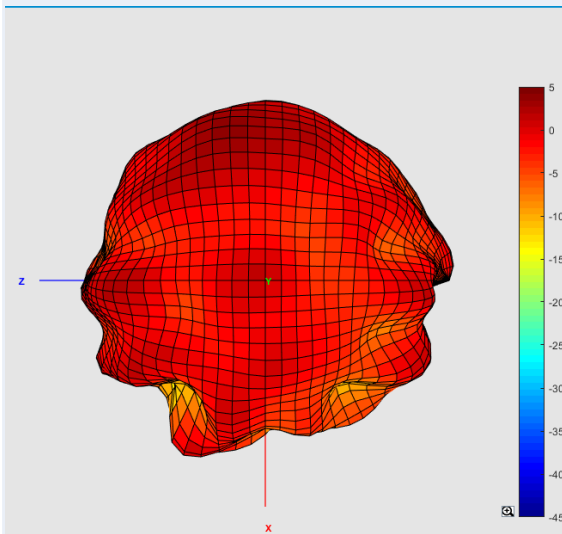
3D Radiation Pattern

5.85GHz

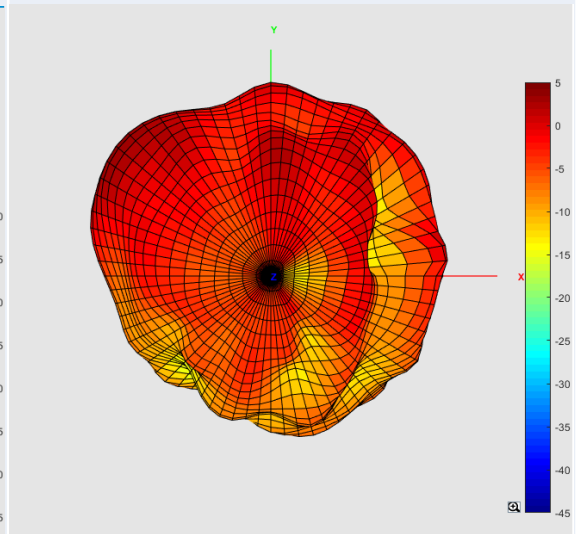
X-axis View



Y-axis View



Z-axis View



Placement 2

Antenna Gain and Efficiency

Frequency(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Directivity(dBi)	5.17	5.04	4.96	4.6	4.45	4.07	4.13	3.97	4.03	4.49	4.95
Efficiency(dB)	-3.94	-3.87	-4.1	-3.97	-4.01	-3.79	-3.77	-4.05	-3.92	-4.07	-3.34
Efficiency(%)	40.36	41.02	38.9	40.09	39.72	41.78	41.98	39.36	40.55	39.17	46.34
Gain(dBi)	1.23	1.17	0.86	0.63	0.44	0.28	0.36	-0.08	0.11	0.42	1.61

Placement 2

Antenna Gain and Efficiency

Frequency(MHz)	5150	5250	5350	5450	5550	5650	5750	5850
Directivity(dBi)	7.66	6.21	6.46	6.39	6.4	5.83	6.52	7.51
Efficiency(dB)	-3.68	-2.96	-2.81	-3.11	-2.6	-3.3	-3.94	-3.68
Efficiency(%)	42.85	50.58	52.36	48.87	54.95	46.77	40.36	42.85
Gain(dBi)	3.98	3.25	3.65	3.28	3.8	2.53	2.58	3.83