Regulatory WWAN Antenna Information

(English Language Required for Intel Regulatory Review / Approval)

Platform	
Platform Owner	DELL
Brand Name	DELL
Model Name	P176G
ODM	COMPAL ELECTRONICS
Target Launch Date	2023/11/06
Antenna	
Manufacturer	Speed
Part Number	■ Tx1/Rx1 Antenna WWAN Main: Antenna P/N: F-0G-FH-6165-002-00 COMPAL P/N: DC33002RF1L
	■ Rx2 Antenna WWAN Aux: Antenna P/N: F-0G-FH-6165-002-00 COMPAL P/N: DC33002RF1L
	■Tx2/Rx3 Antenna MIMO2 : Antenna P/N: F-0G-FH-6178-001-00 COMPAL P/N: DC33002WD0L
	■ Rx4 Antenna MIMO3 : Antenna P/N: F-0G-FH-6178-001-00 COMPAL P/N: DC33002WD0L
Manufacturer address	
Module	
With WWAN Module	SDX62、SDX12
(Check Box)	

Antenna Sample / Antenna Data
Requirements for worldwide regulatory approval

Section	Description of Required OEM / ODM Antenna Information	US / IC	EU	Japan	Taiwan	S.Korea
1A	Part Number for Antenna only	Required	Required	Required	Required	Required
1B	Antenna Manufacturer Name	Required	Required	Required	Required	Required
1C	Description of Antenna Type	Required	N/A	N/A	N/A	N/A
1D	Part number of Antenna Assembly / cable impedance, length & diameter.	Required	Desired	Desired	Desired	Desired
1E	Tx1, Tx2 & Tx3 antenna (Peak Gain W/ cable loss) *	Required	Required	Required	Required	Required
	1E OR 1F, 1G, 1H					
1F	Tx1, Tx2 & Tx3 antenna (Peak Gain only) *	Required	Required	Required	Required	Required
1G	VSWR of cable including connector	Required	Required	Required	Required	Required
1H	Tx1, Tx2 & Tx3 antenna (Cable loss W/ connector) *	Required	Required	Required	Required	Required
2	Dimensioned Photographs and Drawings of Tx1, Tx2, and Tx3 (or Rx3) antennas	Required	Required	Required	Required	Required
3	Radiation patterns of antennas loaded in the host platform.	Required	Desired	Required	N/A	Required
4	Platform model name / number - correlated to antenna manufacturer and antenna part number	Required	Required	Desired	Required	Desired
5	Photograph(s) or Drawings showing location of antennas in platform. (S. Korea requires photographs of antennas for approval submission). Taiwan requires pictures of each antenna type shown in the system.	Required	Required	Desired	Required (Photos)	Required (Photos)
6	Mech. drawings / photos with dimensions of antenna locations and distance from end-user (For evaluation of SAR testing requirement).	Required	N/A	N/A	N/A	N/A
7	Photograph(s) or Drawings showing the location of all antennas (WLAN, other) and distance between those transmitting antennas. Information will be used to evaluate whether co-location testing is required.	Required	N/A	N/A	N/A	N/A
8	Local representative contact information for LMA/ PARS process.	Required	N/A	N/A	N/A	N/A

Antenna Information

Section 1. Antenna Assembly Specifications

Communication System	Band	Frequency(MHz) from low to high spectrum		1A Part Number for Antenna Assembly	1B Antenna Manufacturer Name	1C Description of Antenna Type	1D *Peak Gain W/ Cable loss (dBi)
WCDMA/ LTE/5G NR FR1	1	1920	1980	Tx/Rx1 Antenna **speed P/N:** F-0G-FH-6165-002-00 **Customer P/N:** DC33002RF1L	**speed**	**PIFA**	-3.6
WCDMA/ LTE/5G NR FR1	2	1850	1910				-4.08
LTE/5G NR FR1	3	1710	1785				-4.74
WCDMA/ LTE	4	1710	1755				-4.74
WCDMA/ LTE/5G NR FR1	5	824	849				-5.87
LTE/5G NR FR1	7	2500	2570				-5.67
WCDMA/ LTE/5G NR FR1	8	880	915				-3.17
LTE/5G NR FR1	12	699	716				-7.03
LTE/5G NR FR1	13	777	787				-7.05
LTE/5G NR FR1	14	788	798				-6.62
LTE	17	704	716				-7.03
LTE/5G NR FR1	18	815	830				-5.87
LTE	19	830	845				-5.87
LTE/5G NR FR1	20	832	862				-5.91
LTE/5G NR FR1	25	1850	1915				-3.84
LTE/5G NR FR1	26	814	849				-5.87
LTE/5G NR FR1	28	703	748				-7.03
LTE/5G NR FR1	30	2305	2315				-1.99
LTE	34	2010	2025				-2.87
LTE/5G NR FR1	38	2570	2620				-5.97
LTE	39	1880	1920				-3.6
LTE/5G NR FR1	40	2300	2400				-1.99
LTE/5G NR FR1	41	2496	2690				-5.38
LTE	42	3400	3600				-4.51
LTE	43	3600	3800				-5.23
LTE/5G NR FR1	48	3550	3700				-5.23
LTE/5G NR FR1	66	1710	1780				-4.74
LTE/5G NR FR1	71	663	698				-8.23
5G NR FR1	77	3300	4200				-4.51
5G NR FR1	78	3300	3800				-4.51
5G NR FR1	79	4400	5000				-2.76
5G NR FR1	53	2483.5	2495				-4.02
5G NR FR1	70	1695	1710				-5.21

- **Antenna Peak Gain required being test in system basis.**
- **1E frame contend absolutely peak antenna gain include H/V**

Communication System	Band	Frequency(MHz) from low to high spectrum		1A Part Number for Antenna Assembly	1B Antenna Manufacturer Name	1C Description of Antenna Type	Tx2 *Peak Gain W/ Cable loss (dBi)
WCDMA/ LTE FDD	1	1920	1980				-2.23
WCDMA/ LTE FDD	2	1850	1910				-3.02
LTE FDD	3	1710	1785				-2.97
WCDMA/ LTE FDD	4	1710	1755				-2.97
LTE FDD	7	2500	2570				-1.66
LTE FDD	25	1850	1915				-3.01
LTE FDD	30	2305	2315	Ant5 : XXXXX	XXXXX	MIMO	-1.4
LTE FDD	66	1710	1780				-2.97
LTE TDD	38	2570	2620				-1.66
LTE TDD	39	1880	1920				-2.96
LTE TDD	40	2300	2400				-1.4
LTE TDD	41	2496	2690				-1.66
LTE TDD	42	3400	3600				0.49
LTE TDD	43	3600	3800				0.49
LTE TDD	48	3550	3700				0.49

- **Antenna Peak Gain required being test in system basis.**
- **1E frame contend absolutely peak antenna gain include H/V**

Antenna Peak Gain Table:
Low and middle band

	Tx1 antenna
Frequency (MHz)	Peak Gain W/ Cable loss (dBi)
663	-8.23
680.5	-8.63
698	-8.87
699	-8.85
703	-7.06
704	-7.05
707.5	-7.03
710	-7.29
716	-7.51
725.5	-7.72
748	-7.98
777	-7.72
782	-7.36

787	-7.05
788	-7.03
793	-6.99
798	-6.62
814	-6.43
815	-6.41
822.5	-6.29
824	-6.32
830	-5.87
831.5	-5.92
832	-5.91
836.5	-6.07
837.5	-6.08
845	-6.03
847	-6.05
849	-6.07
862	-6.97
880	-6.45
897.5	-6.9
915	-3.17

High band

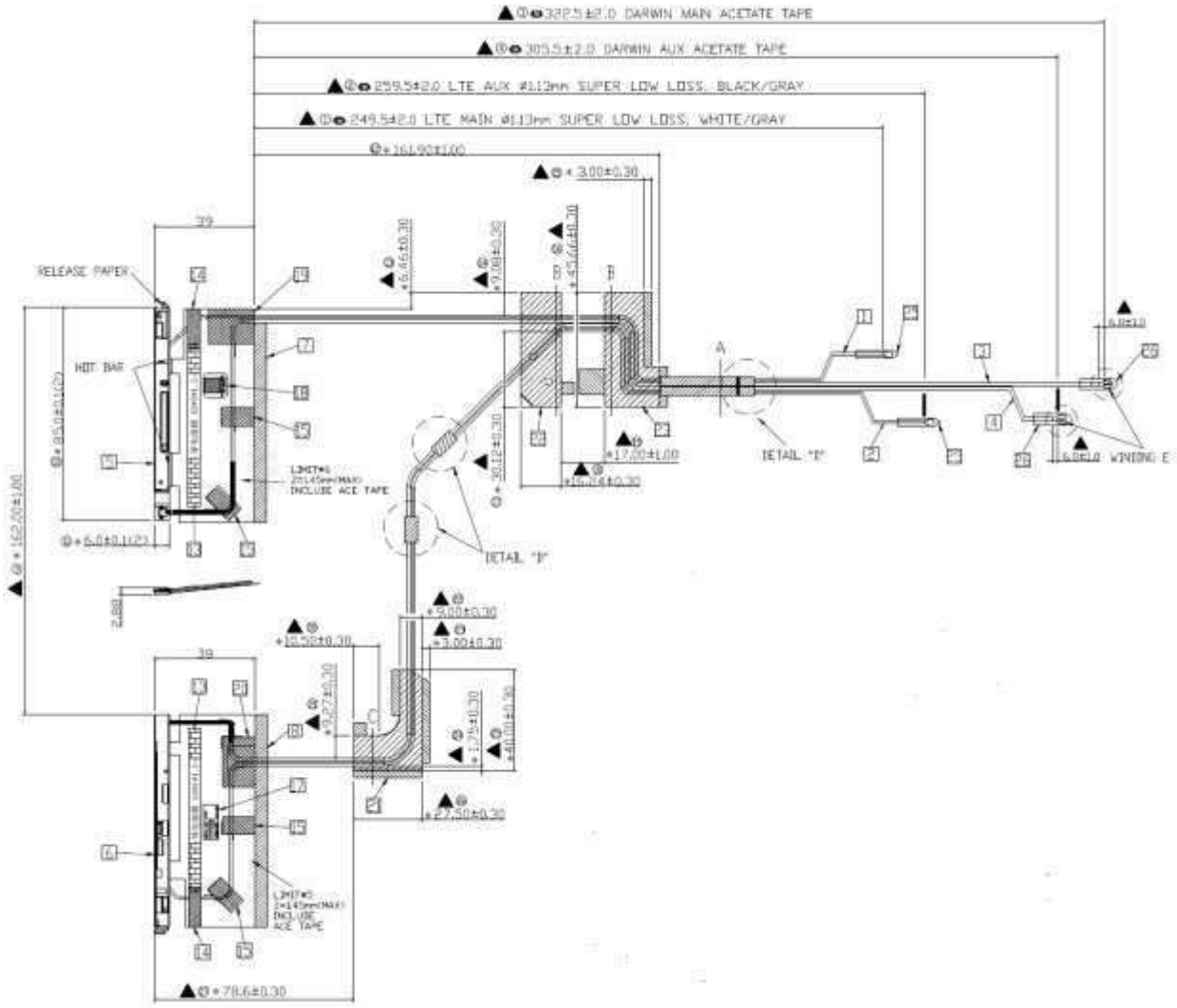
	Tx1 antenna	Tx2antenna
Frequency (MHz)	Peak Gain W/ Cable loss (dBi)	Peak Gain W/ Cable loss (dBi)
1695	-5.21	-3.47
1702.5	-5.33	-3.55
1710	-5.61	-3.37
1732.5	-5.04	-3.67
1745	-4.74	-3.48
1747.5	-4.76	-3.37
1755	-4.78	-2.97
1780	-4.86	-3.33
1785	-4.93	-3.64
1850	-5.05	-3.4
1880	-4.33	-3.28
1882.5	-4.30	-3.02
1900	-4.21	-3.42
1910	-4.08	-3.28
1915	-3.84	-3.01
1920	-3.6	-2.96
1950	-4.2	-2.82
1980	-4.04	-2.23
2010	-3.82	-2.74
2017.5	-3.16	-2.66
2025	-2.87	-2.71
2300	-2.46	-1.76
2305	-2.39	-1.87
2310	-2.19	-1.65
2315	-1.99	-1.4
2350	-2.3	-1.83
2400	-3.93	-1.59
2483.5	-4.02	-1.43
2489.25	-4.44	-1.62
2495	-4.93	-1.70
2496	-5.58	-1.77
2500	-5.67	-2.17
2535	-5.72	-1.83
2570	-6.04	-1.66
2593	-6.12	-1.89
2595	-6.14	-2.24
2620	-5.97	-2.44

2690	-5.38	-2.24
3300	-5.19	-1.12
3400	-5.07	0.02
3500	-4.51	-0.11
3550	-6.43	0.02
3600	-5.61	0.49
3625	-5.52	-1.11
3700	-5.23	-2.29
3750	-5.7	-1.02
3800	-6.17	0.01
4200	-5.48	0.09
4400	-4.17	-0.37
4700	-3.53	-0.91
5000	-2.76	-1.99

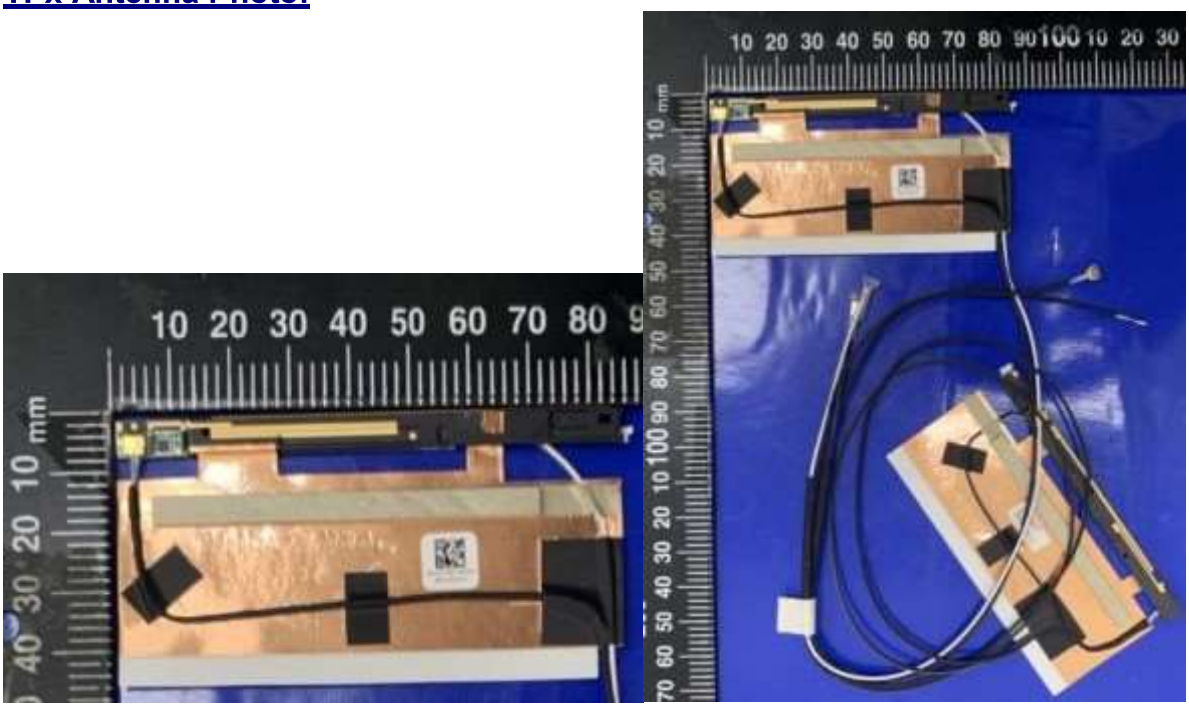
Section 2. Dimensioned Photos or Drawings of Antennas

Include a dimensioned photo and dimensioned drawing of Main antenna here.

TPx Antenna Dimensioned Drawing:



TPx Antenna Photo:



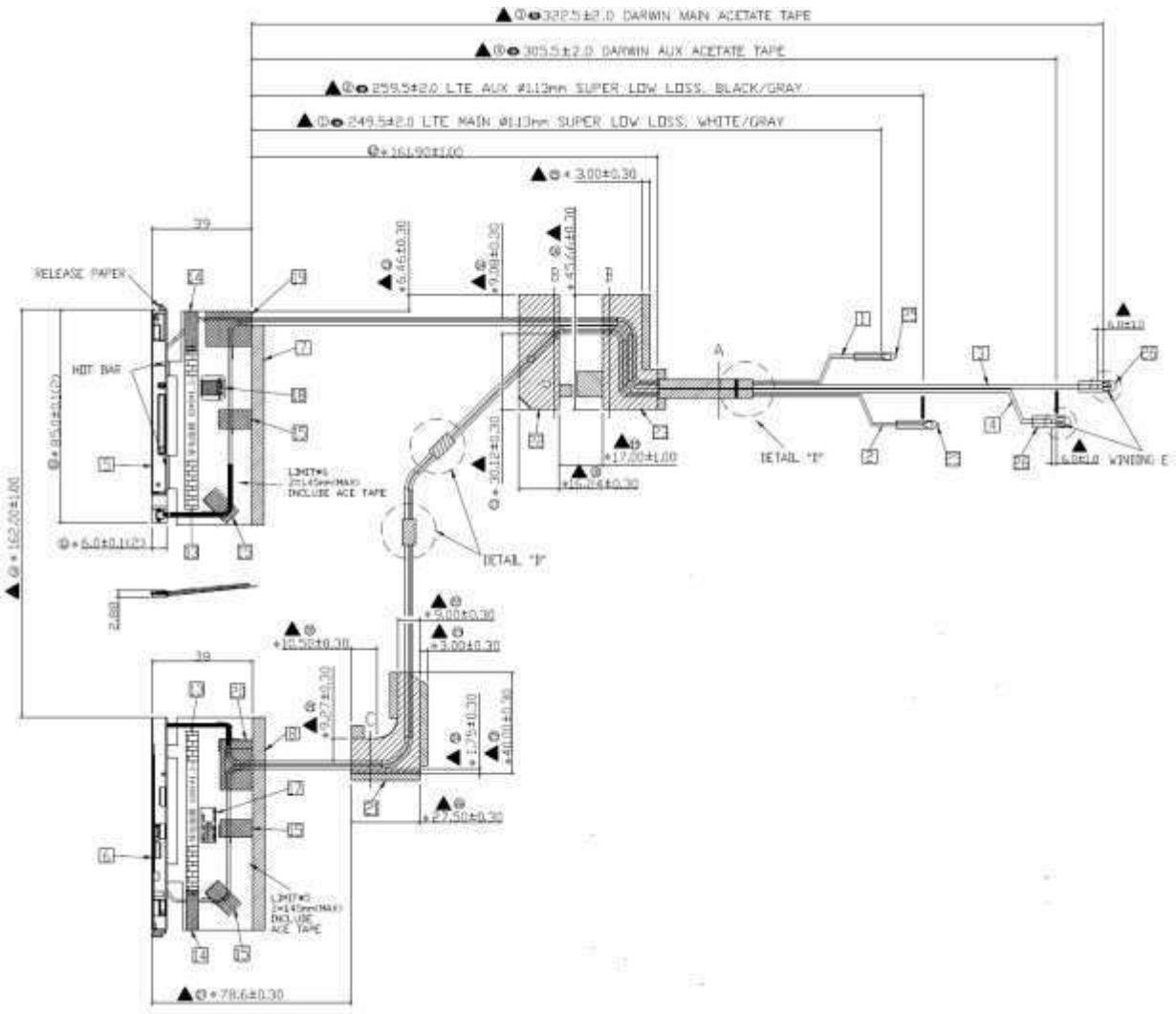
–


10 20 30 40 50 60 70 80 90
mm

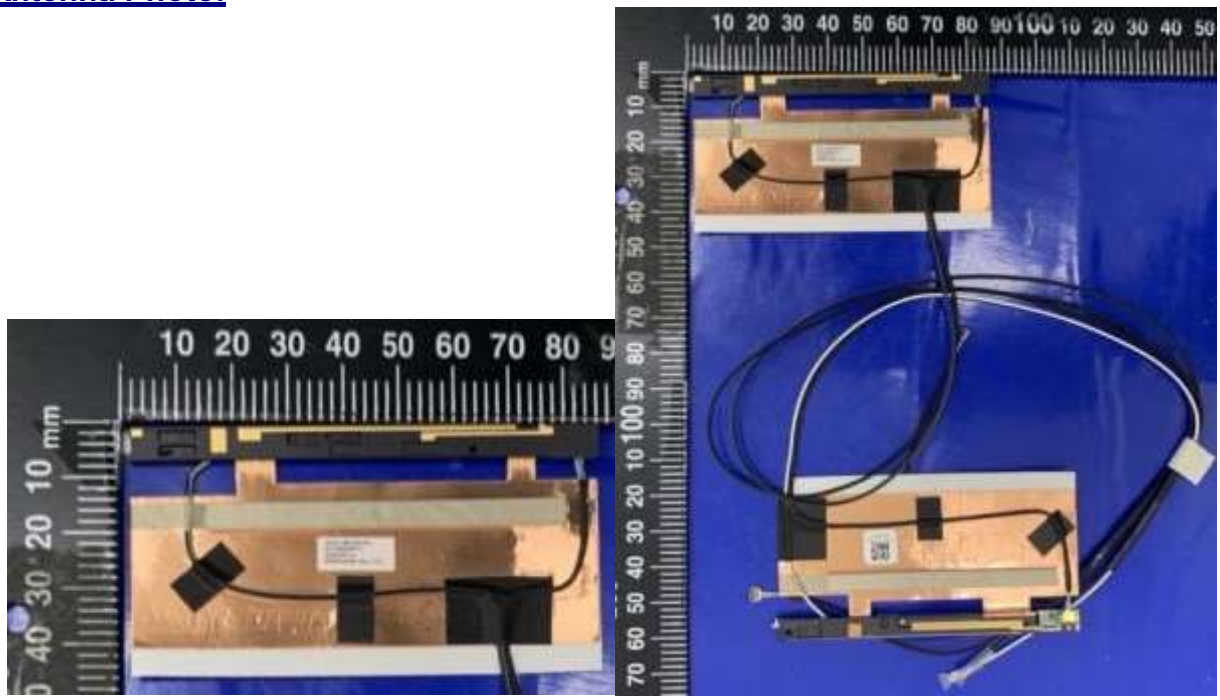

10 20 30 40 50 60 70 80 90 100

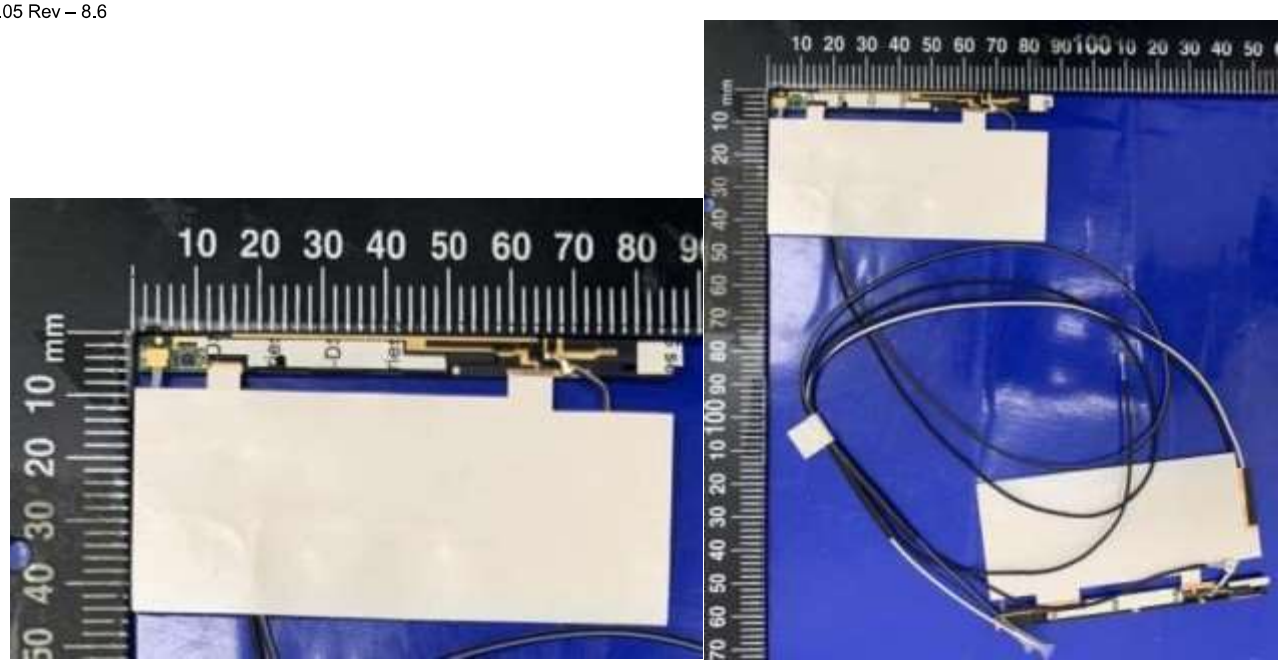
Include a dimensioned photo and dimensioned drawing of Aux antenna here.

DRx Antenna Dimensioned Drawing:



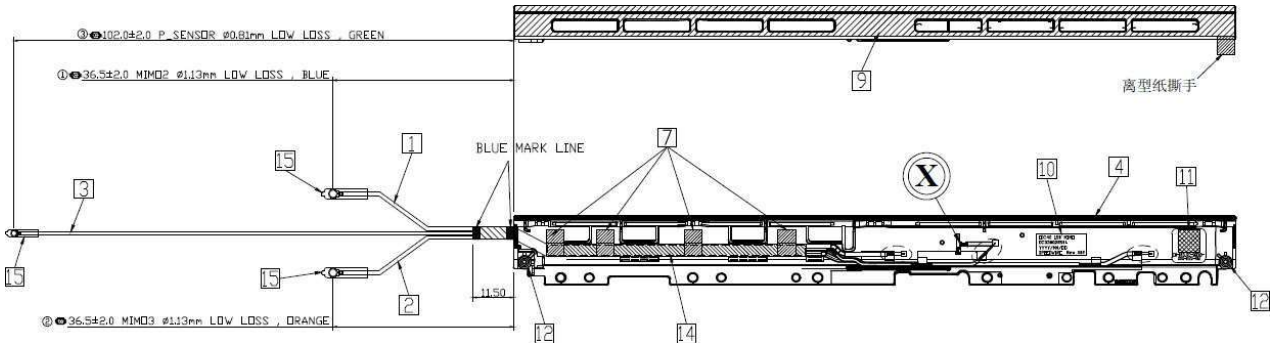
DRx Antenna Photo:



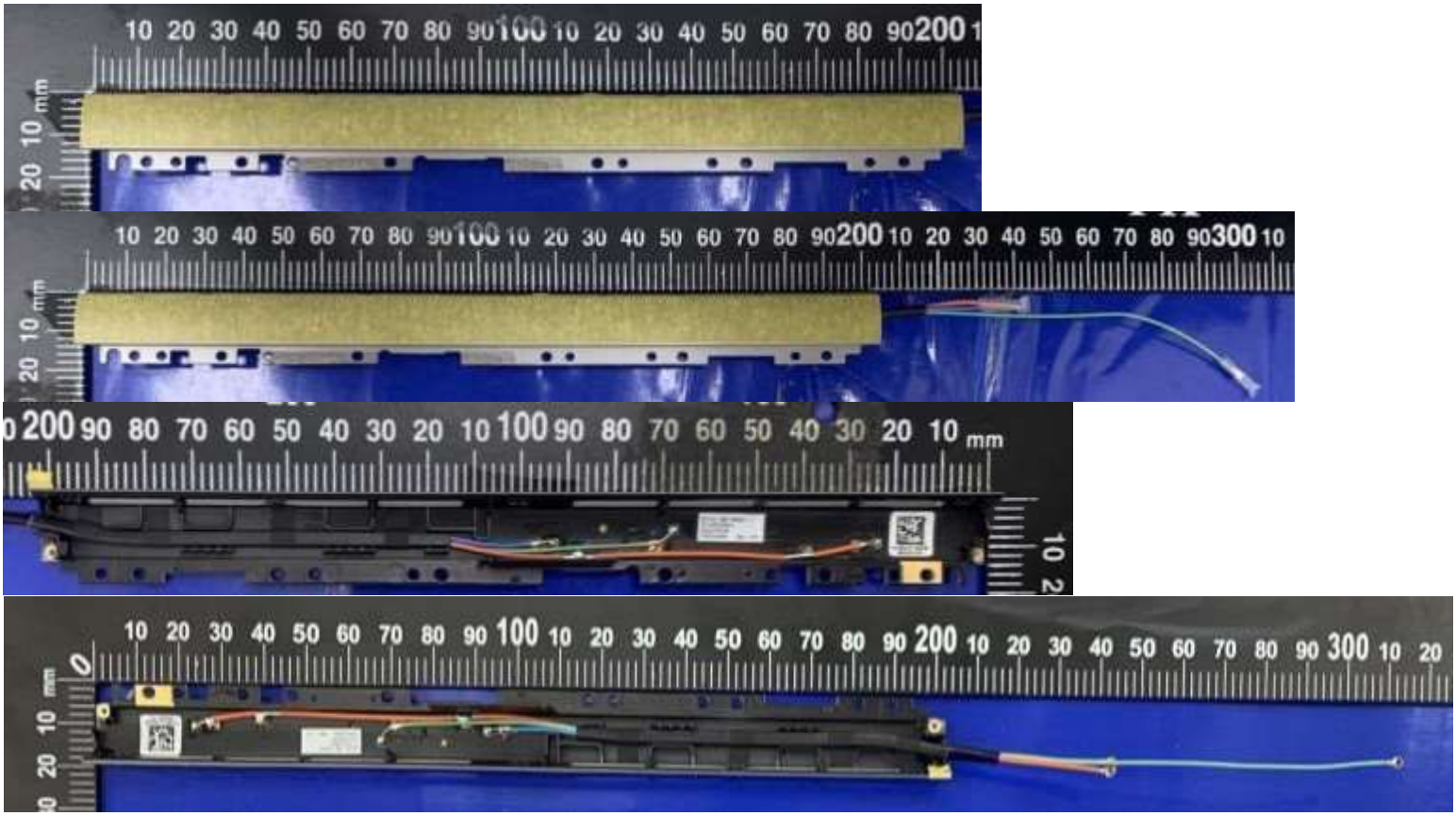

10 20 30 40 50 60 70 80
mm
10 20 30 40 50 60 70 80 90 100 10 20 30 40 50

Include a dimensioned photo and dimensioned drawing of Aux antenna here.

DRx2 Antenna Dimensioned Drawing:

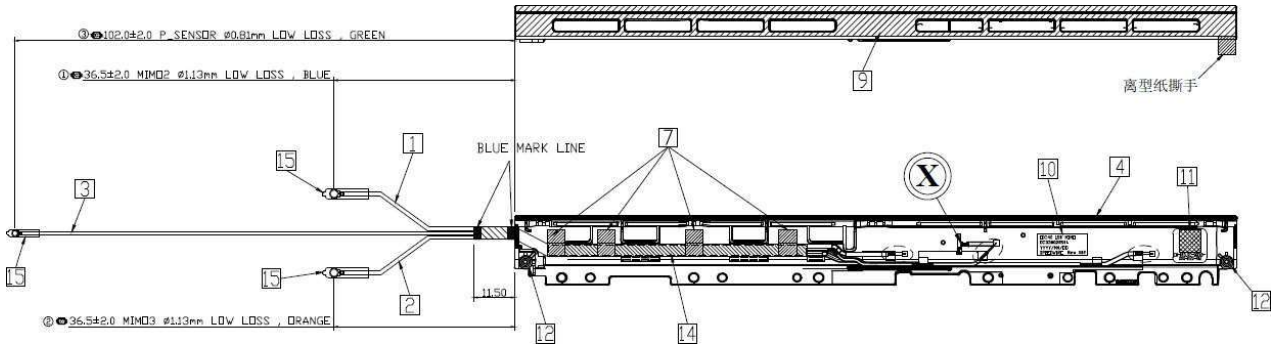


DRx2 Antenna Photo:

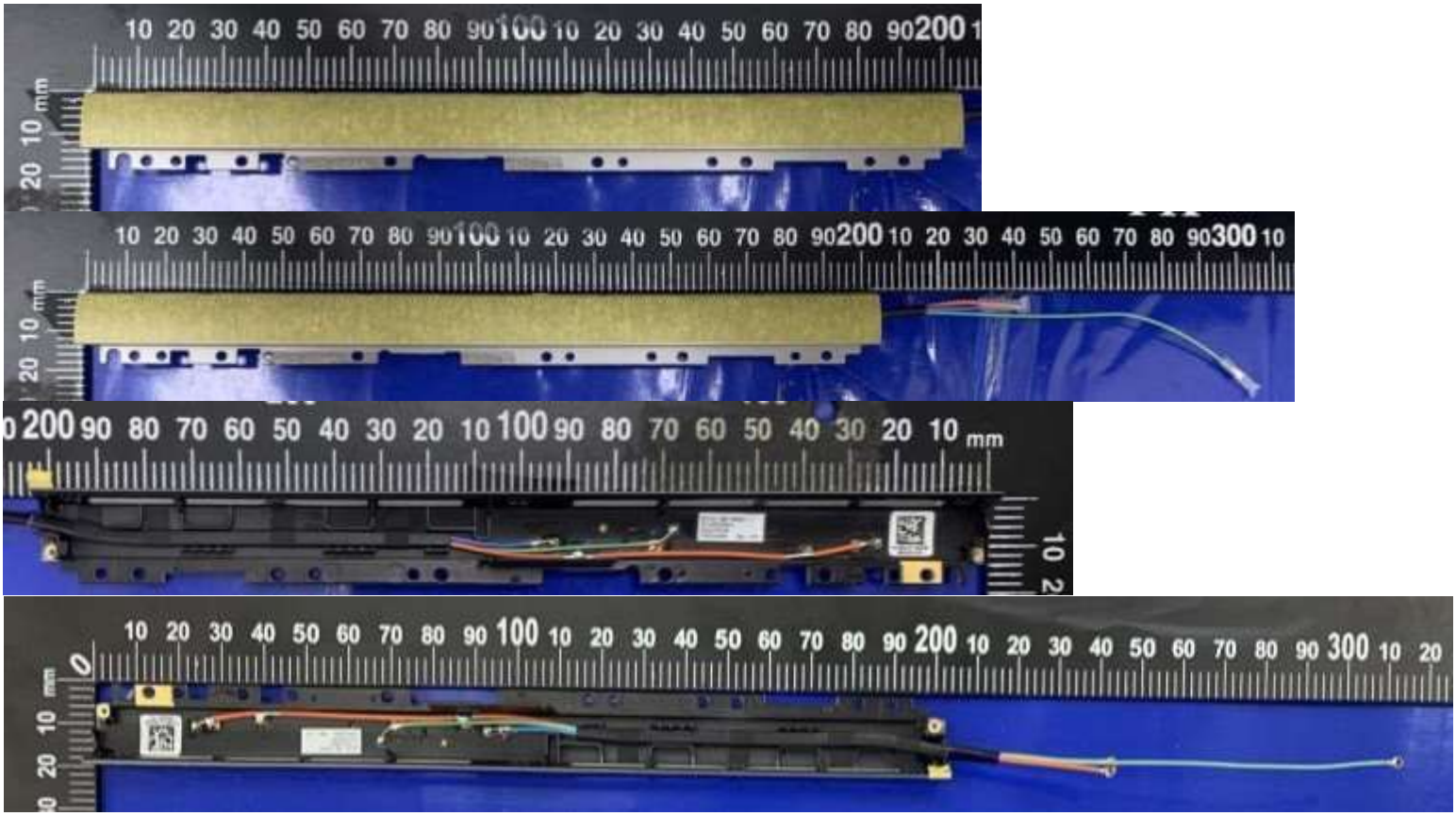


Include a dimensioned photo and dimensioned drawing of Aux antenna here.

DRx1 Antenna Dimensioned Drawing:

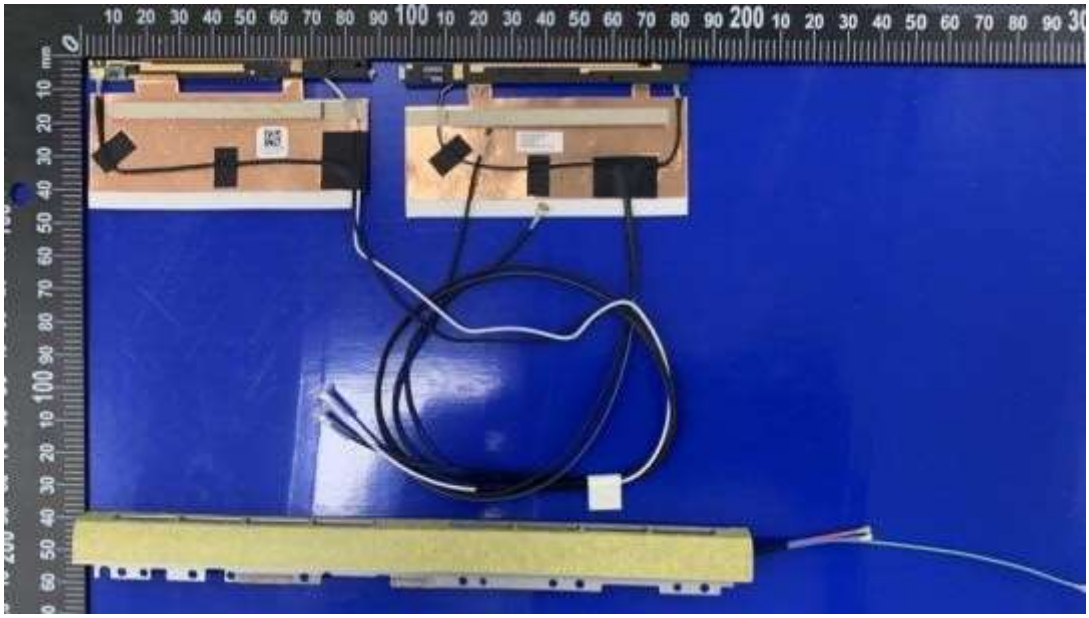


DRx1 Antenna Photo:



Include front view photo of all 2 antennas here.

Antenna Manufacturer: 3PEED
Antenna Part Number:
F-0G-FH-6165-002-00 (DC33002RF1L)
F-0G-FH-6178-001-00 (DC33002WD0L)



Include back view photo of all 2 antennas here.

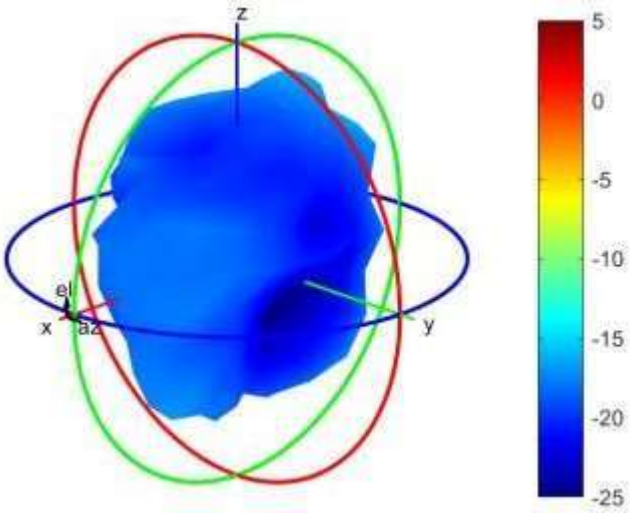
Antenna Manufacturer: 3PEED
Antenna Part Number:
F-0G-FH-6165-002-00 (DC33002RF1L)
F-0G-FH-6178-001-00 (DC33002WD0L)

Note: antenna photo should include L type ruler

Section 3. Radiation characteristics of antennae Loaded in Host Platform

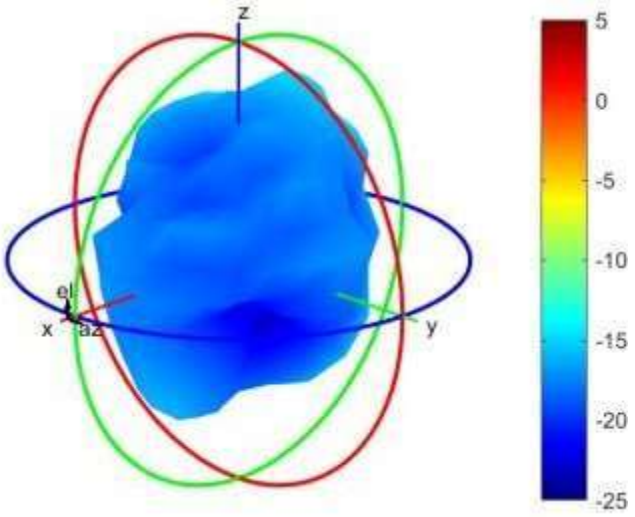
WWAN Main Antenna (Tx1)

663 MHz



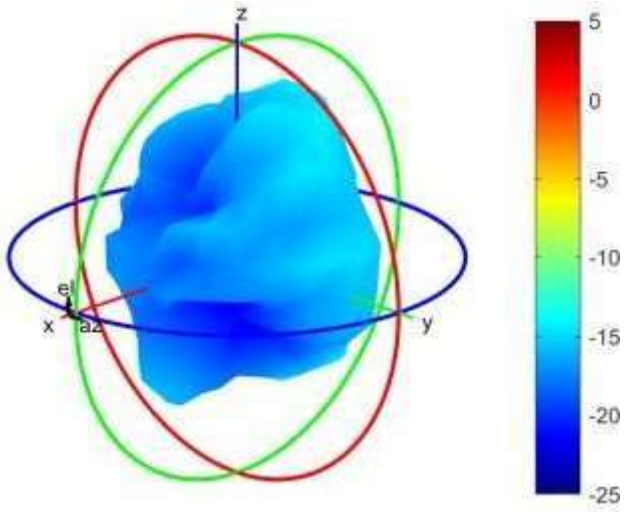
Center Frequency	**663 MHz**
Peak Gain W/ Cable loss (dBi)	**-8.23**

680.5 MHz



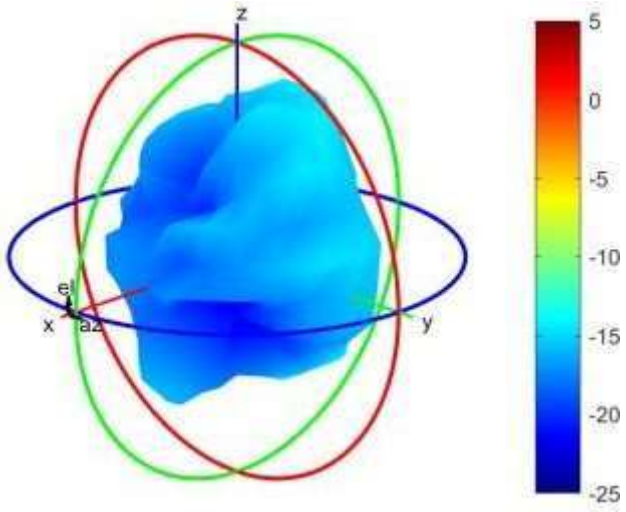
Center Frequency	**680.5 MHz**
Peak Gain W/ Cable loss (dBi)	**-8.63**

698MHz



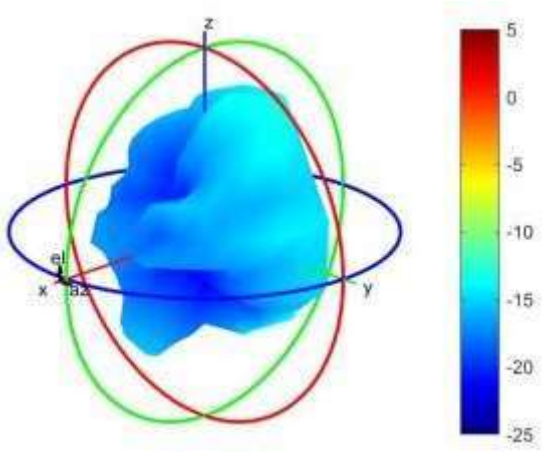
Center Frequency	698MHz
Peak Gain W/ Cable loss (dBi)	-8.87

699MHz



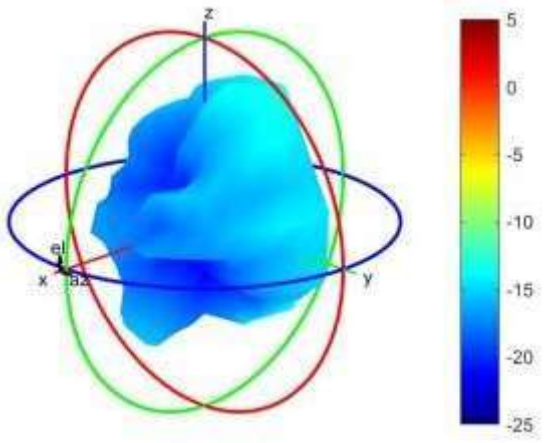
Center Frequency	699MHz
Peak Gain W/ Cable loss (dBi)	-8.85

703MHz



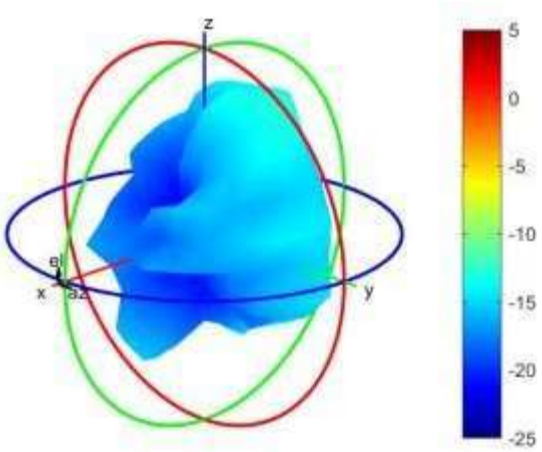
Center Frequency	**703MHz**
Peak Gain W/ Cable loss (dBi)	**-7.06**

704MHz



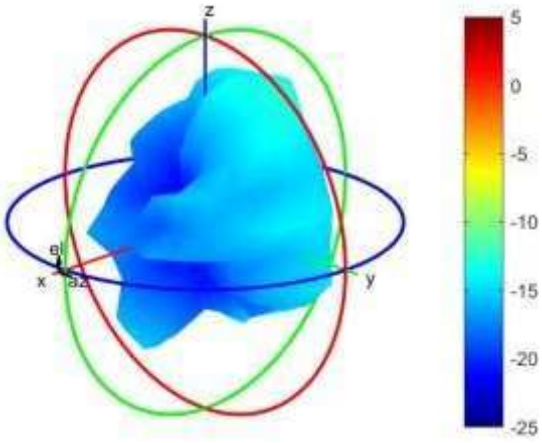
Center Frequency	**704MHz**
Peak Gain W/ Cable loss (dBi)	**-7.05**

707.5MHz



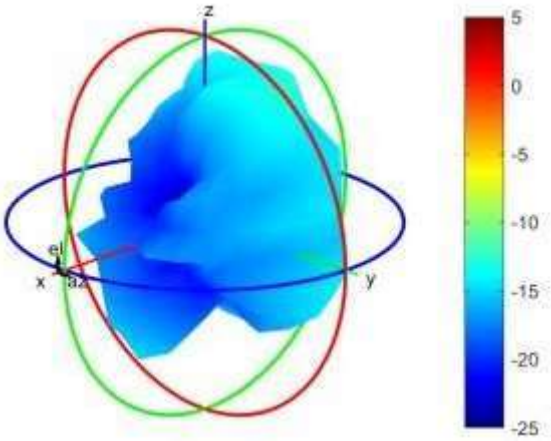
Center Frequency	**707.5MHz**
Peak Gain W/ Cable loss (dBi)	**-7.03**

710MHz



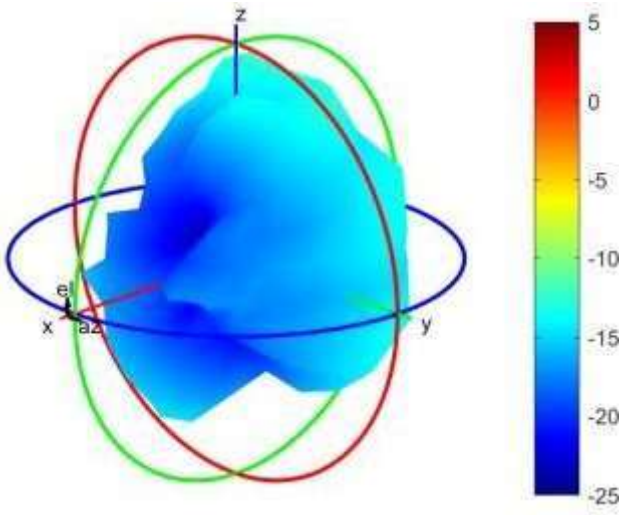
Center Frequency	**710MHz**
Peak Gain W/ Cable loss (dBi)	**-7.29**

716 MHz



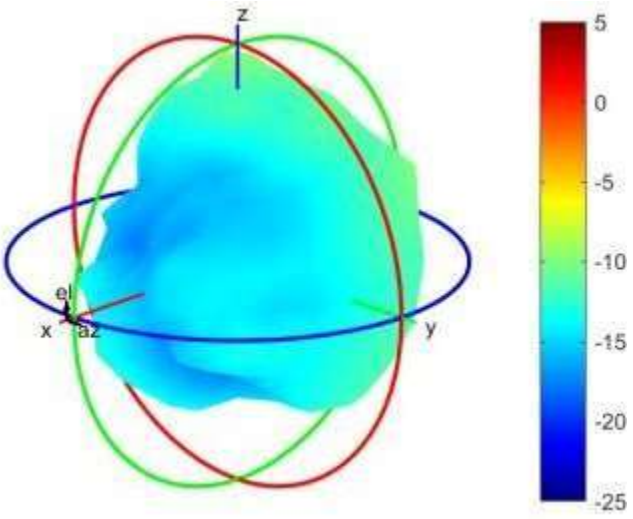
Center Frequency	**716 MHz**
Peak Gain W/ Cable loss (dBi)	**-7.51**

725.5 MHz



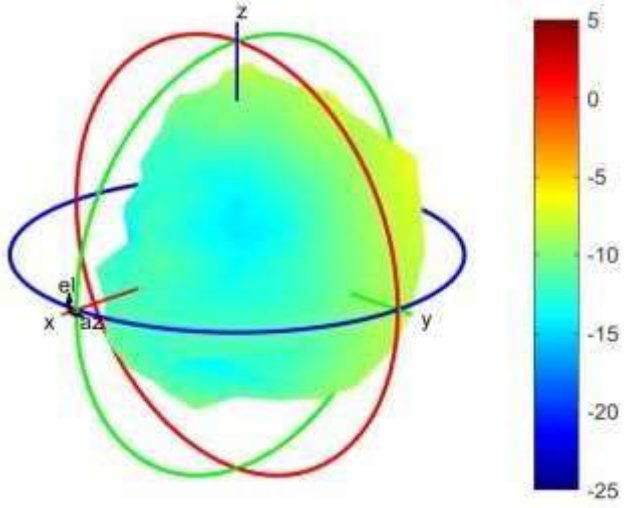
Center Frequency	**725.5 MHz**
Peak Gain W/ Cable loss (dBi)	**-7.72**

748MHz



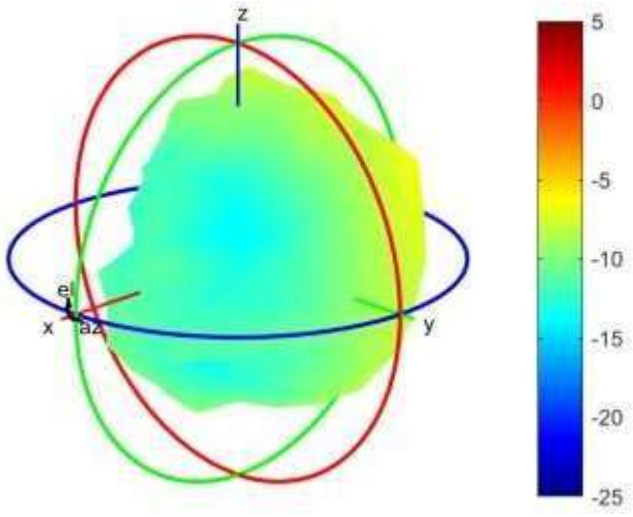
Center Frequency	**748MHz**
Peak Gain W/ Cable loss (dBi)	**-7.98**

777MHz



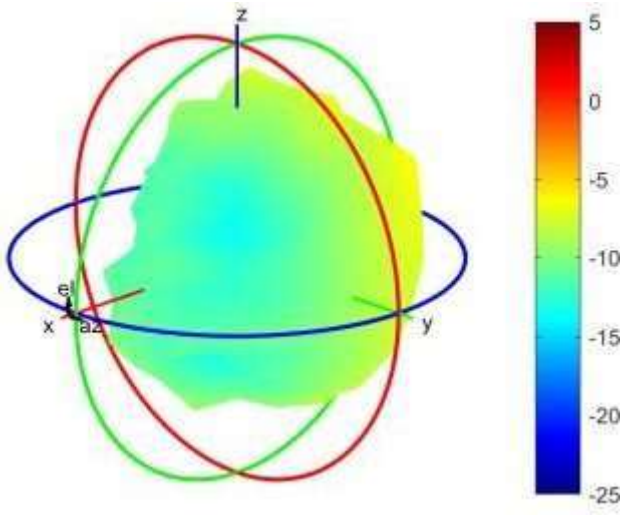
Center Frequency	**777MHz**
Peak Gain W/ Cable loss (dBi)	**-7.72**

782MHz



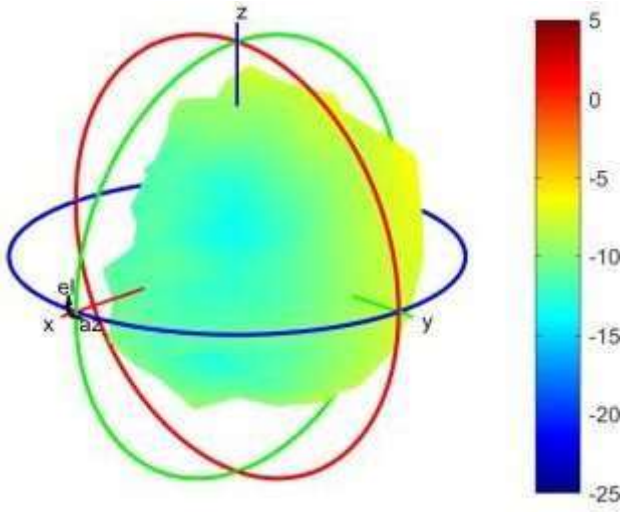
Center Frequency	**782MHz**
Peak Gain W/ Cable loss (dBi)	**-7.36**

787MHz



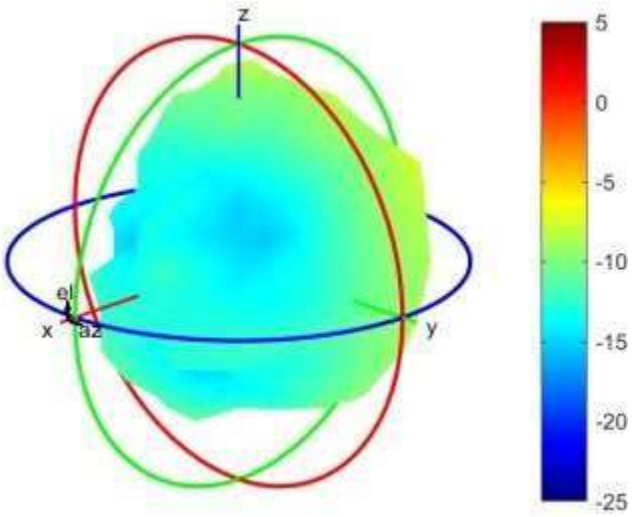
Center Frequency	**787MHz**
Peak Gain W/ Cable loss (dBi)	**-7.05**

788 MHz



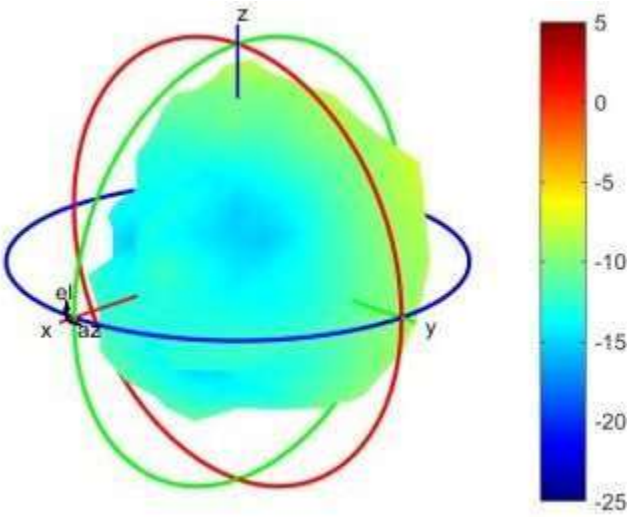
Center Frequency	**788 MHz**
Peak Gain W/ Cable loss (dBi)	**-7.03**

793 MHz



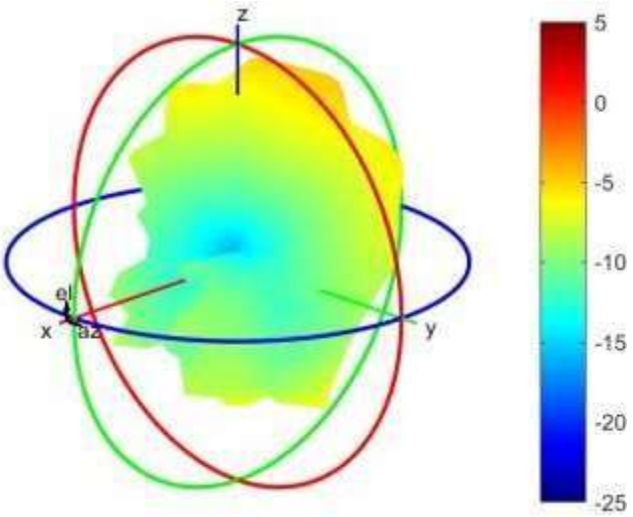
Center Frequency	**793 MHz**
Peak Gain W/ Cable loss (dBi)	**-6.99**

798MHz



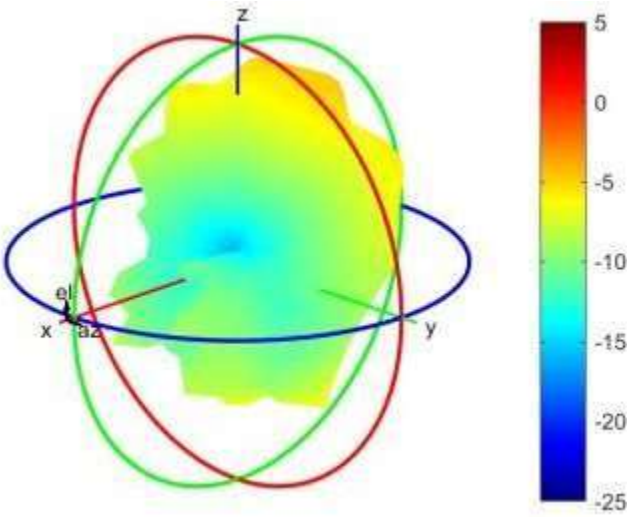
Center Frequency	798MHz
Peak Gain W/ Cable loss (dBi)	-6.62

814MHz



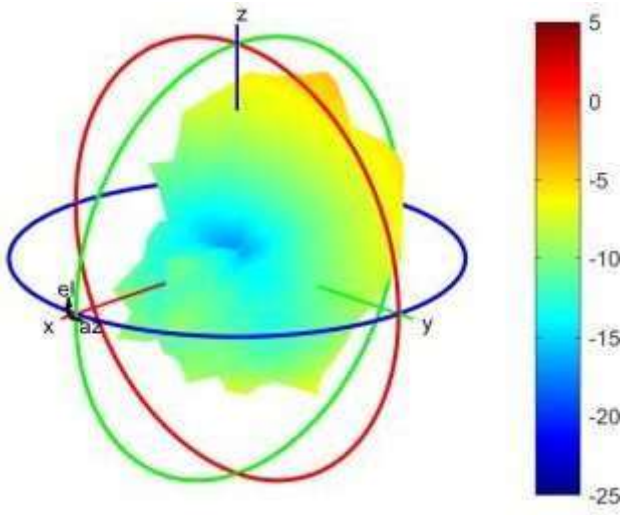
Center Frequency	814MHz
Peak Gain W/ Cable loss (dBi)	-6.43

815MHz



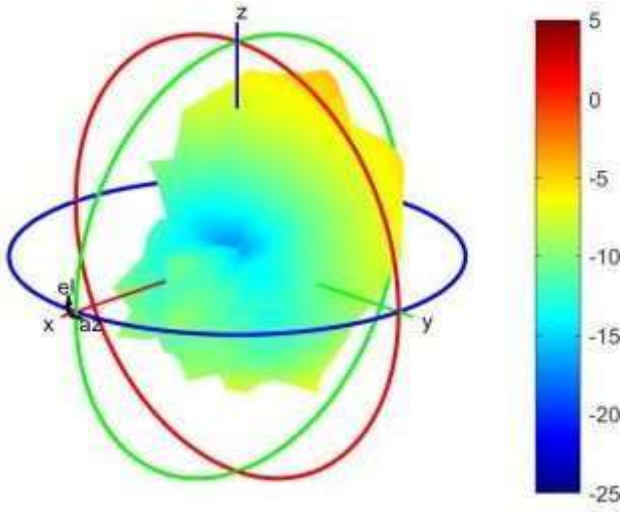
Center Frequency	**815MHz**
Peak Gain W/ Cable loss (dBi)	**-6.41**

822.5MHz



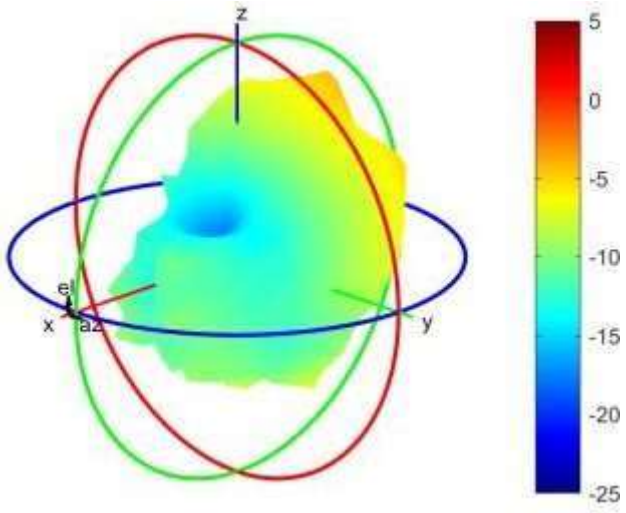
Center Frequency	**822.5MHz**
Peak Gain W/ Cable loss (dBi)	**-6.29**

824 MHz



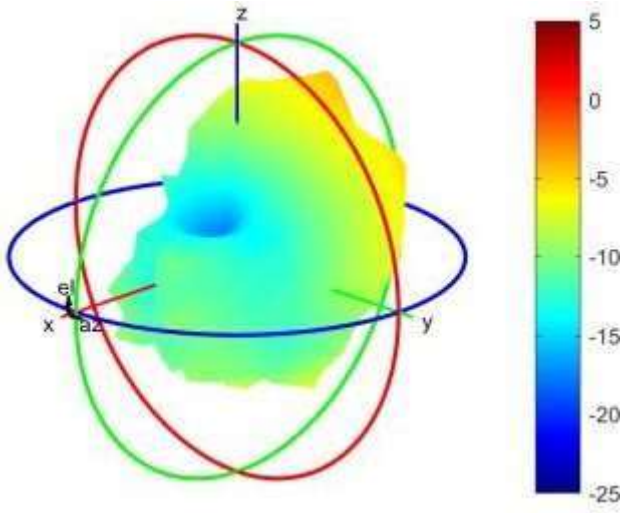
Center Frequency	**824 MHz**
Peak Gain W/ Cable loss (dBi)	**-6.32**

830 MHz



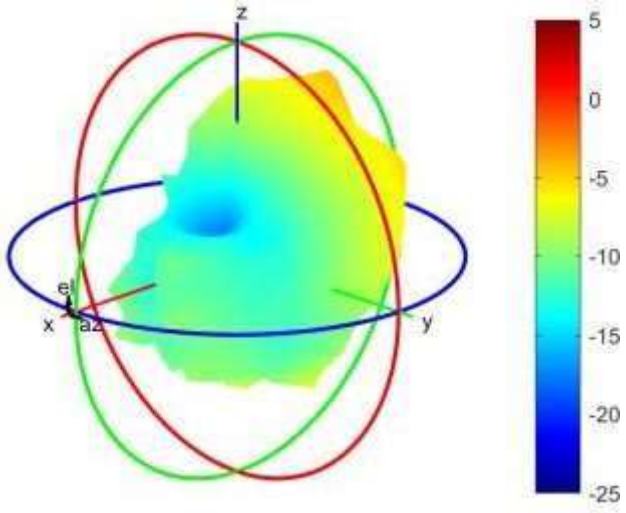
Center Frequency	**830 MHz**
Peak Gain W/ Cable loss (dBi)	**-5.87**

831.5MHz



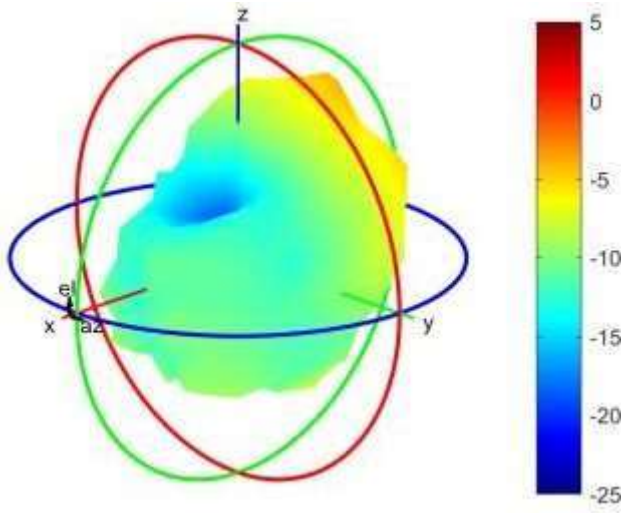
Center Frequency	**831.5MHz**
Peak Gain W/ Cable loss (dBi)	**-5.92**

832MHz



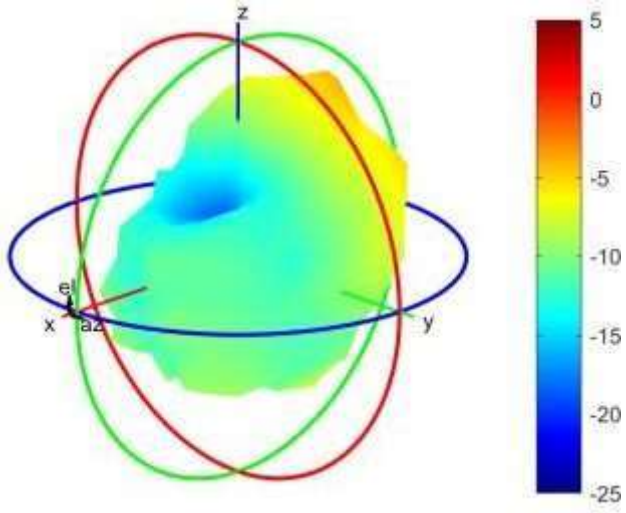
Center Frequency	**832MHz**
Peak Gain W/ Cable loss (dBi)	**-5.91**

836.5MHz



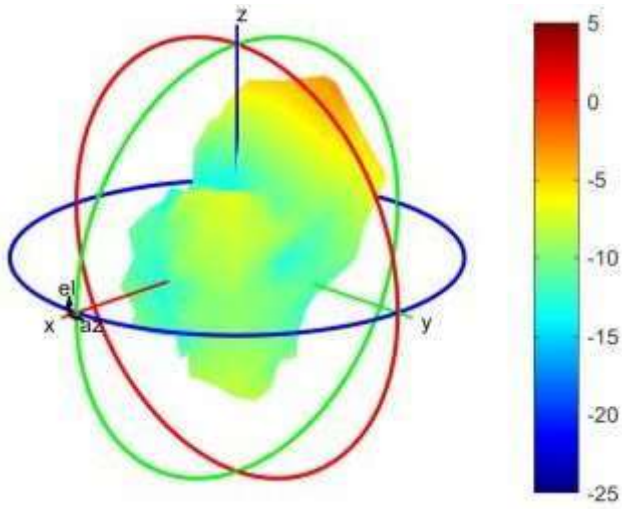
Center Frequency	**836.5MHz**
Peak Gain W/ Cable loss (dBi)	**-6.07**

837.5MHz



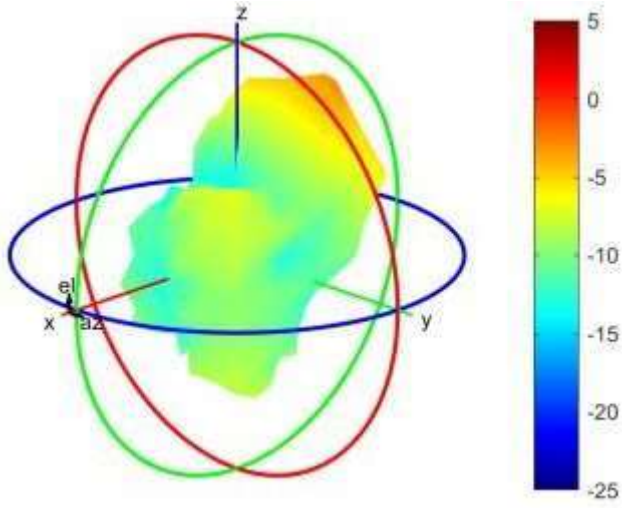
Center Frequency	**837.5MHz**
Peak Gain W/ Cable loss (dBi)	**-6.08**

845 MHz



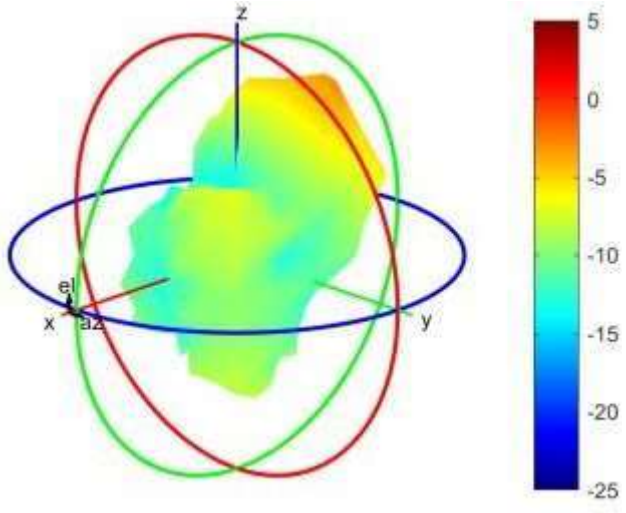
Center Frequency	**845 MHz**
Peak Gain W/ Cable loss (dBi)	**-6.03**

847 MHz



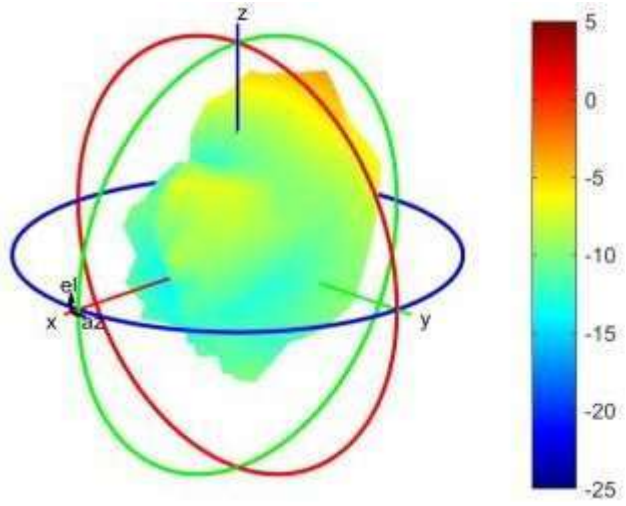
Center Frequency	**847 MHz**
Peak Gain W/ Cable loss (dBi)	**-6.05**

849MHz



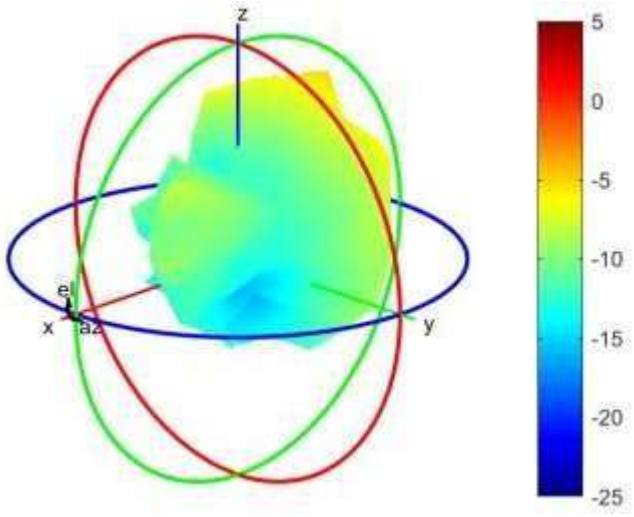
Center Frequency	**849MHz**
Peak Gain W/ Cable loss (dBi)	**-6.07**

862MHz



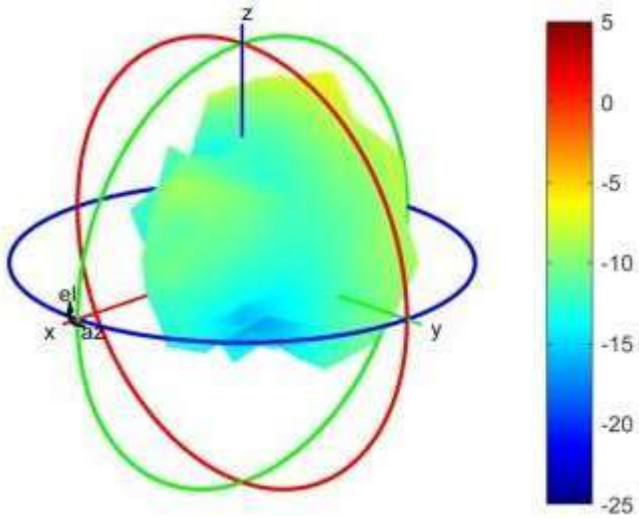
Center Frequency	**862MHz**
Peak Gain W/ Cable loss (dBi)	**-6.97**

880MHz



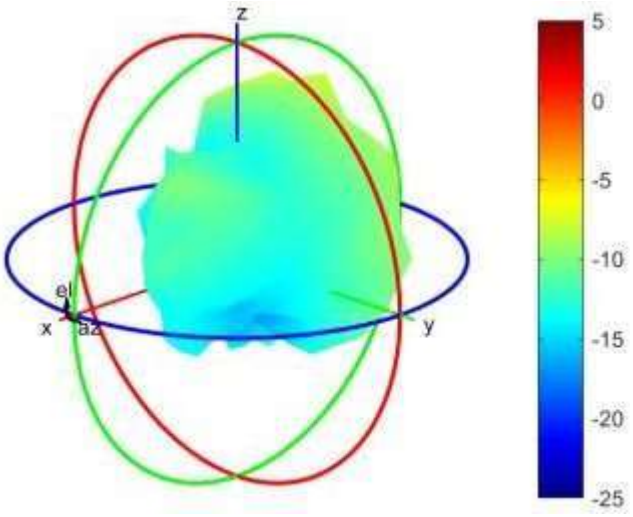
Center Frequency	**880MHz**
Peak Gain W/ Cable loss (dBi)	**-6.45**

897.5MHz



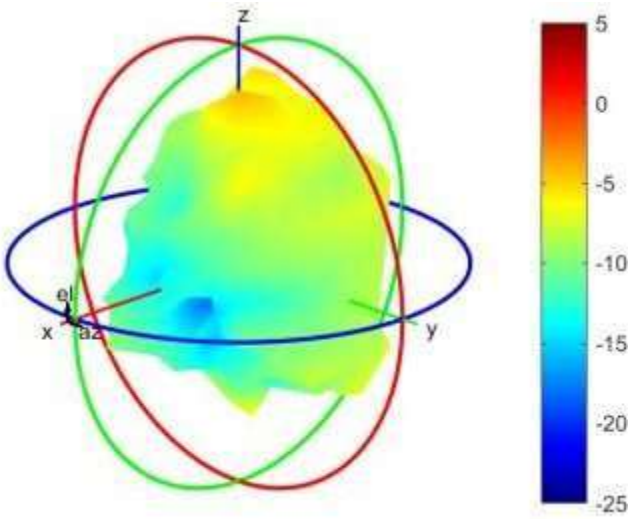
Center Frequency	**897.5MHz**
Peak Gain W/ Cable loss (dBi)	**-6.9**

915 MHz



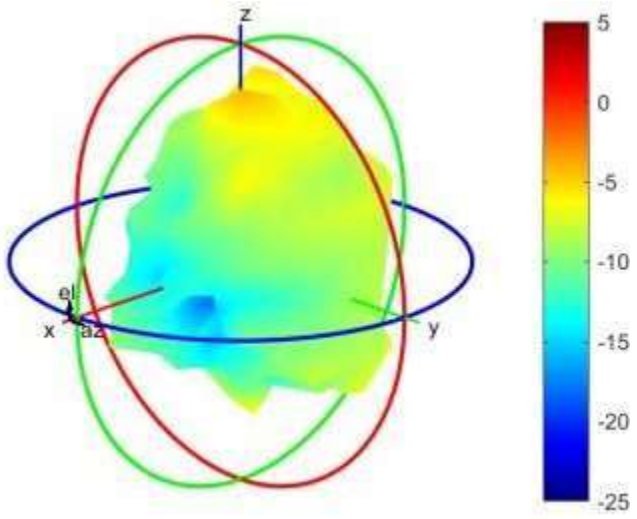
Center Frequency	**915 MHz**
Peak Gain W/ Cable loss (dBi)	**-3.17**

1695 MHz



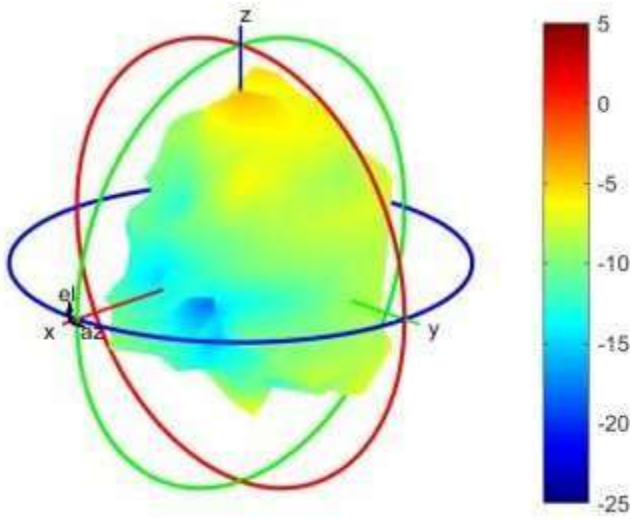
Center Frequency	**1695 MHz**
Peak Gain W/ Cable loss (dBi)	**-5.21**

1702.5 MHz



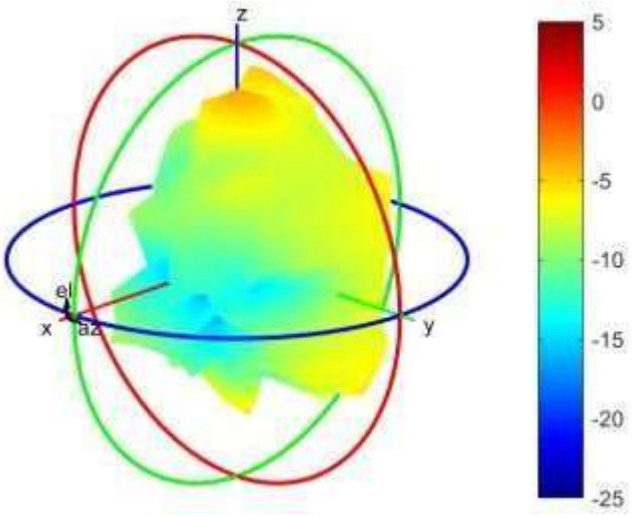
Center Frequency	**1702.5 MHz**
Peak Gain W/ Cable loss (dBi)	**-5.33**

1710 MHz



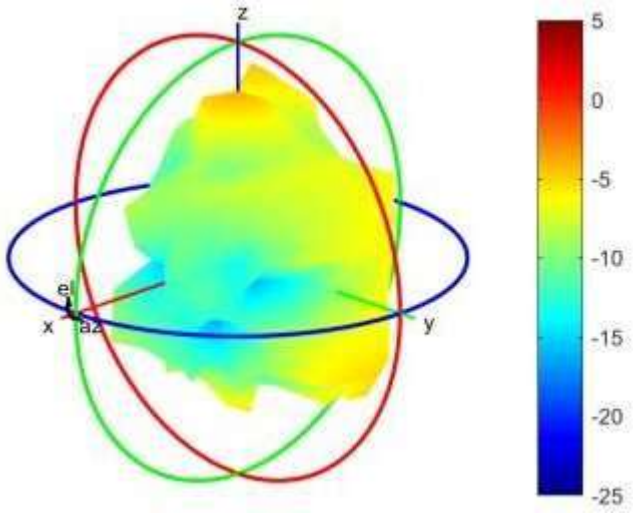
Center Frequency	**1710 MHz**
Peak Gain W/ Cable loss (dBi)	**-5.61**

1732.5MHz



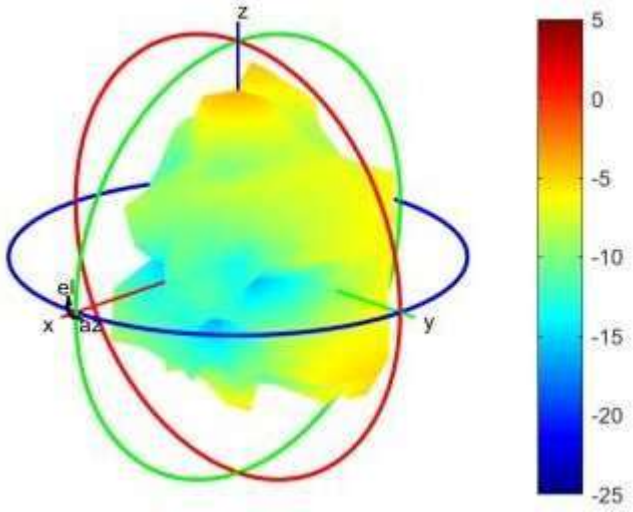
Center Frequency	1732.5MHz
Peak Gain W/ Cable loss (dBi)	-5.04

1745MHz



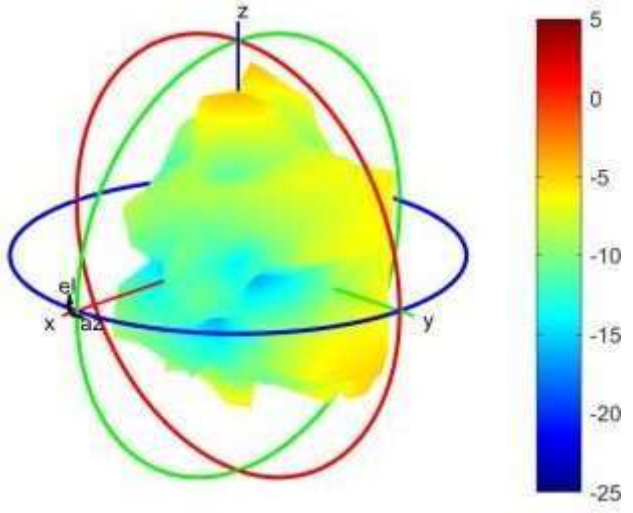
Center Frequency	1745MHz
Peak Gain W/ Cable loss (dBi)	-4.74

1747.5MHz



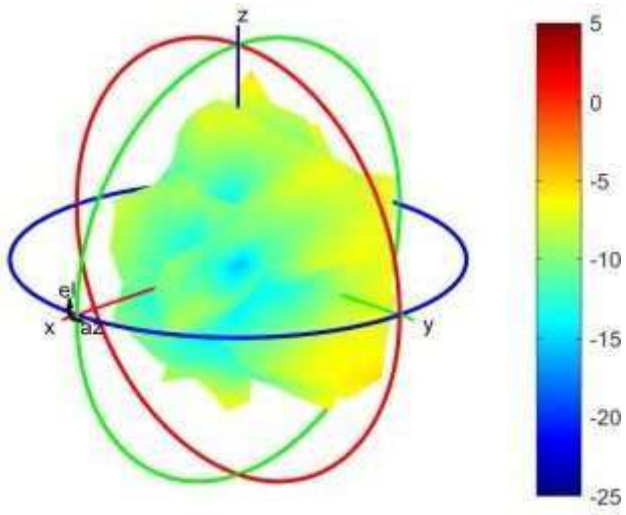
Center Frequency	**1747.5MHz**
Peak Gain W/ Cable loss (dBi)	**-4.76**

1755MHz



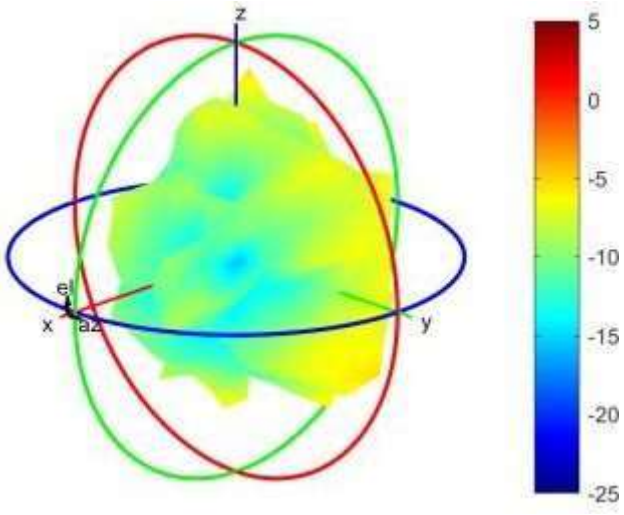
Center Frequency	**1755MHz**
Peak Gain W/ Cable loss (dBi)	**-4.78**

1780 MHz



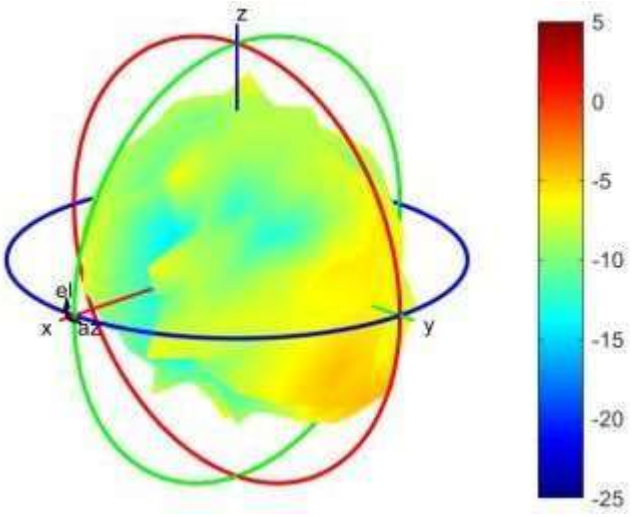
Center Frequency	**1780 MHz**
Peak Gain W/ Cable loss (dBi)	**-4.86**

1785 MHz



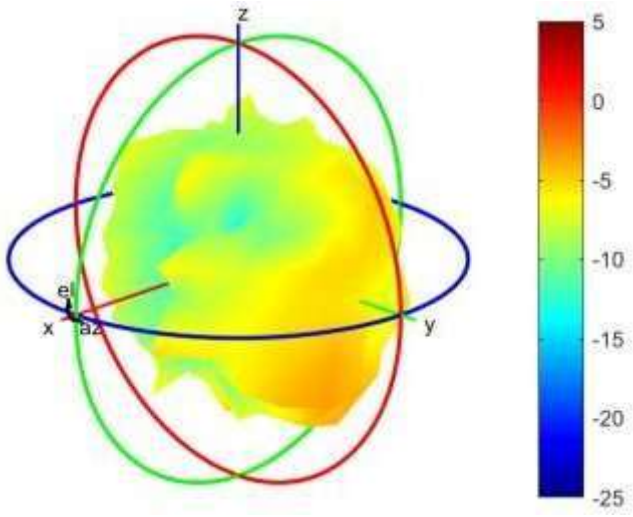
Center Frequency	**1785 MHz**
Peak Gain W/ Cable loss (dBi)	**-4.93**

1850MHz



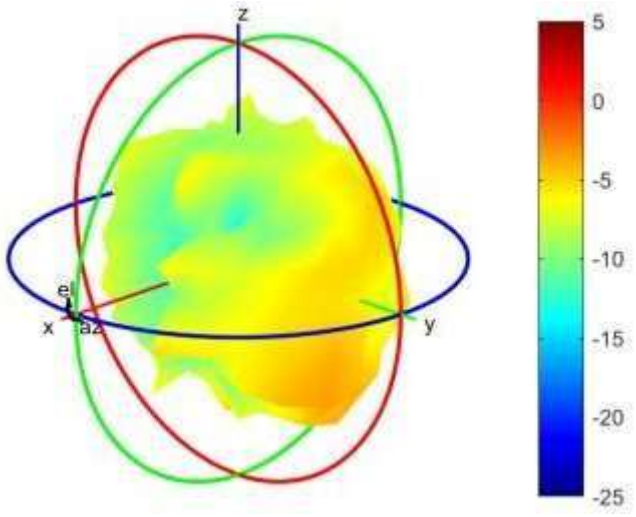
Center Frequency	1850MHz
Peak Gain W/ Cable loss (dBi)	-5.05

1880MHz



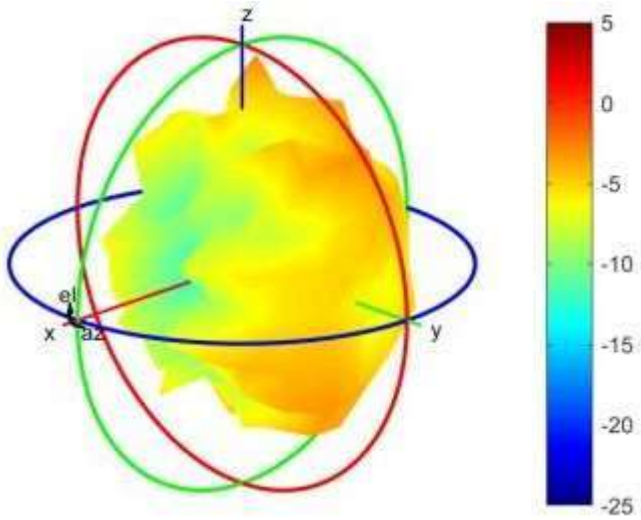
Center Frequency	1880MHz
Peak Gain W/ Cable loss (dBi)	-4.33

1882.5MHz



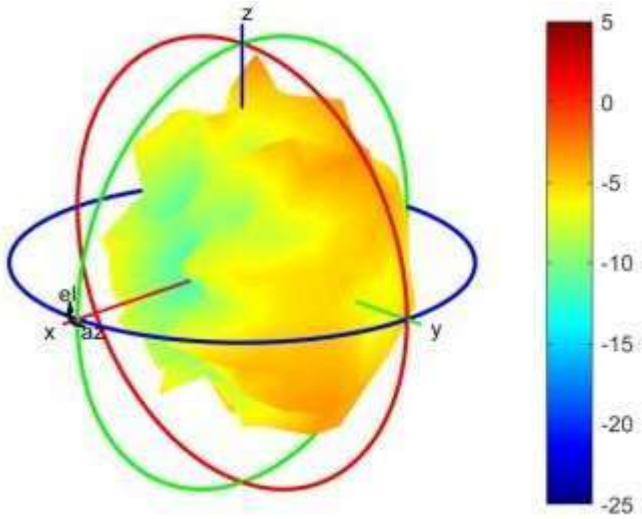
Center Frequency	**1882.5MHz**
Peak Gain W/ Cable loss (dBi)	**-4.3**

1900MHz



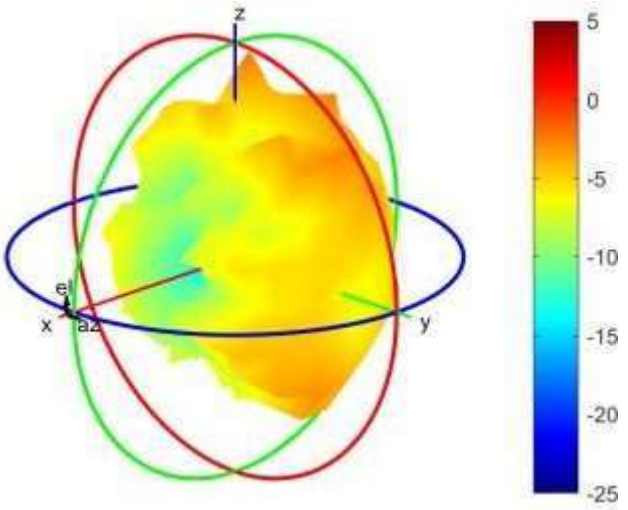
Center Frequency	**1900MHz**
Peak Gain W/ Cable loss (dBi)	**-4.21**

1910 MHz



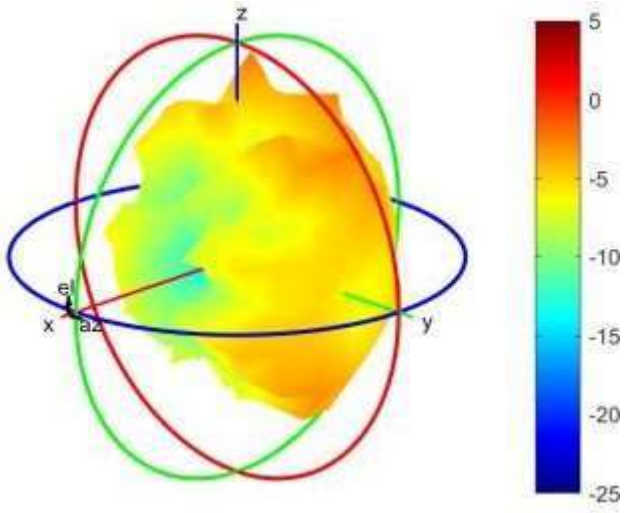
Center Frequency	**1910 MHz**
Peak Gain W/ Cable loss (dBi)	**-4.08**

1915 MHz



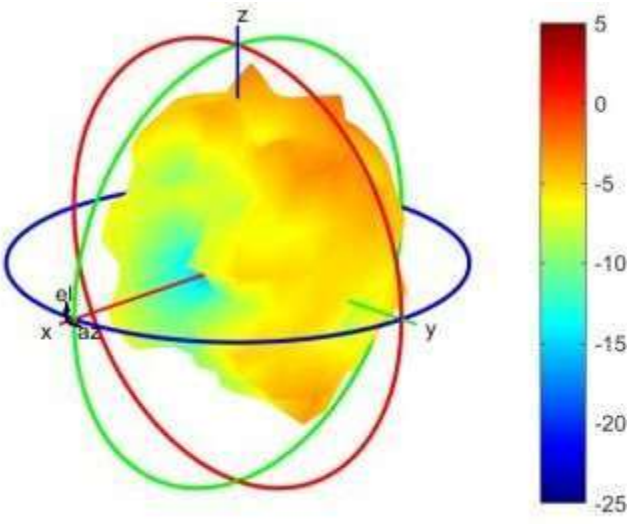
Center Frequency	**1915 MHz**
Peak Gain W/ Cable loss (dBi)	**-3.84**

1920MHz



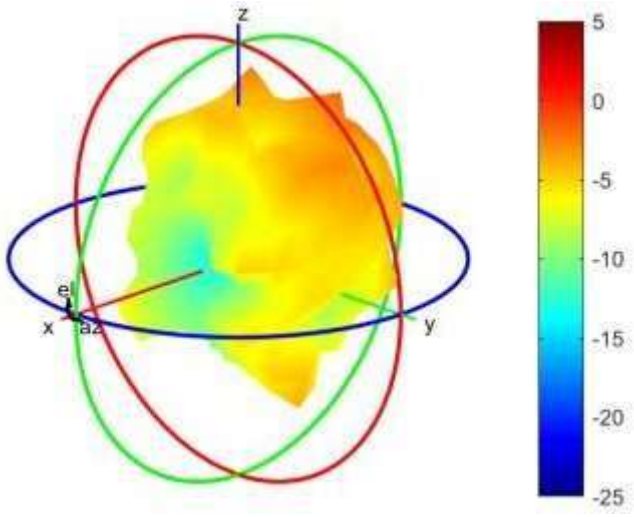
Center Frequency	1920MHz
Peak Gain W/ Cable loss (dBi)	-3.6

1950MHz



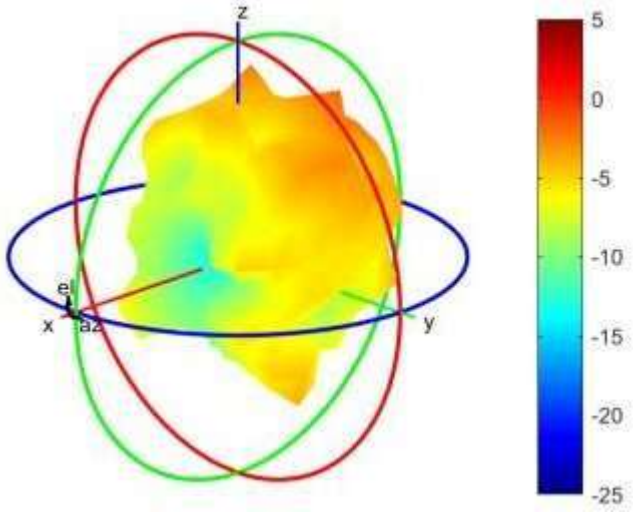
Center Frequency	1950MHz
Peak Gain W/ Cable loss (dBi)	-4.2

1980MHz



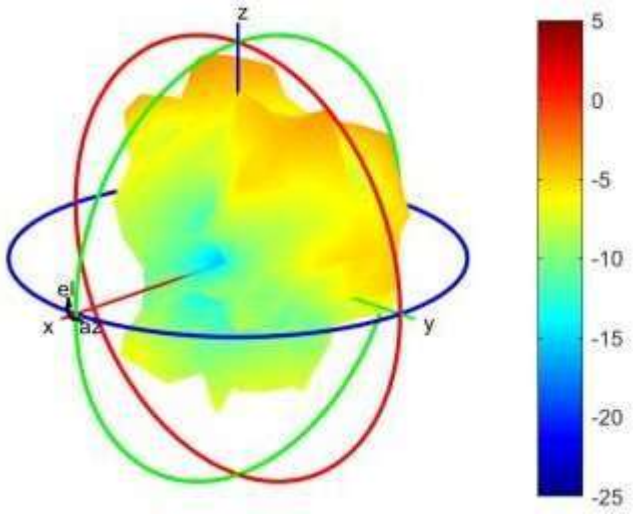
Center Frequency	**1980MHz**
Peak Gain W/ Cable loss (dBi)	**-4.04**

2010MHz



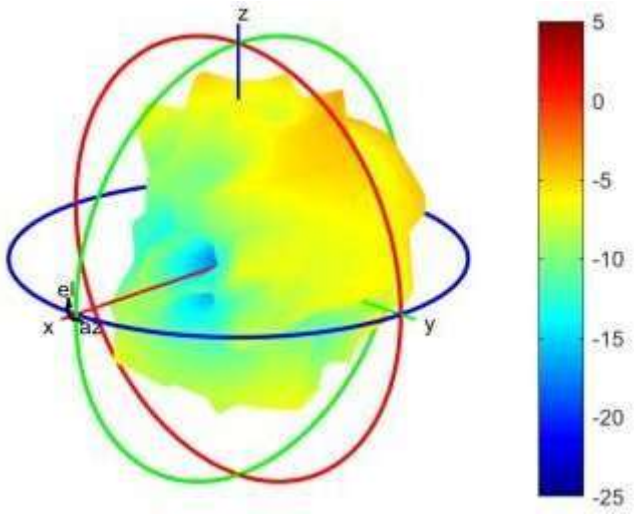
Center Frequency	**2010MHz**
Peak Gain W/ Cable loss (dBi)	**-3.82**

2017.5 MHz



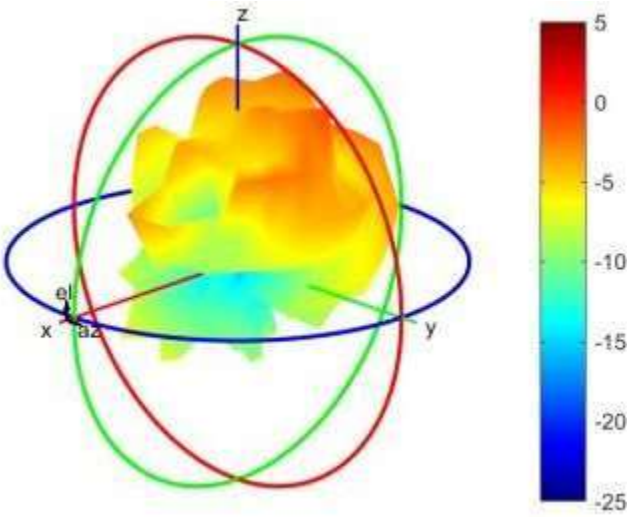
Center Frequency	**2017.5 MHz**
Peak Gain W/ Cable loss (dBi)	**-3.16**

2025 MHz



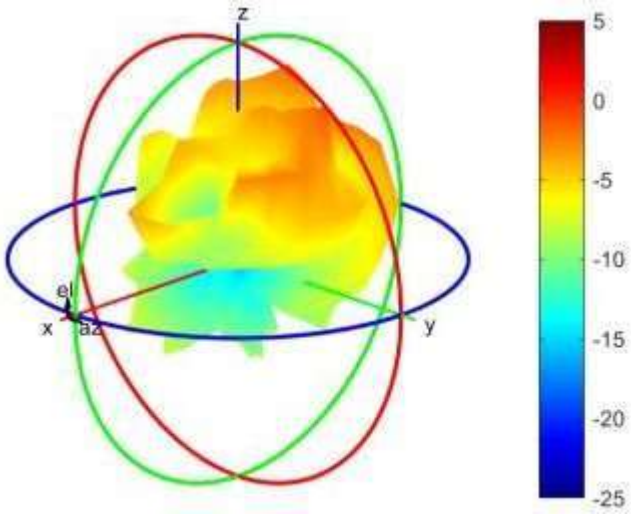
Center Frequency	**2025 MHz**
Peak Gain W/ Cable loss (dBi)	**-2.87**

2300MHz



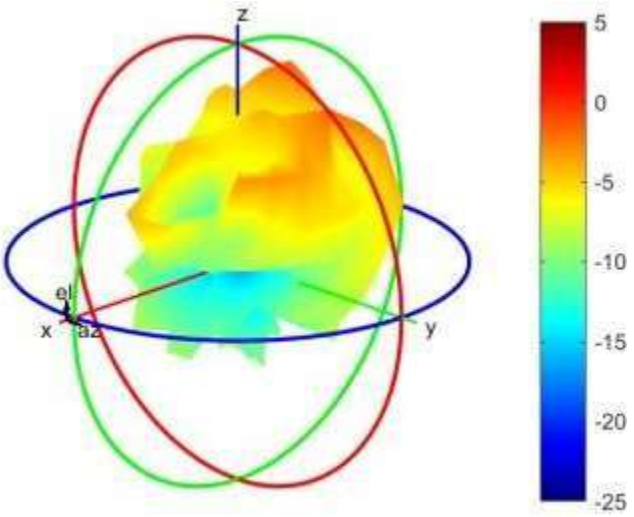
Center Frequency	**2300MHz**
Peak Gain W/ Cable loss (dBi)	**-2.46**

2305MHz



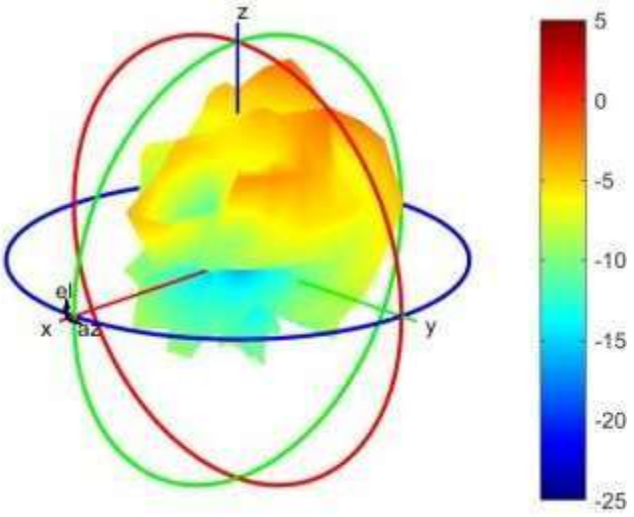
Center Frequency	**2305MHz**
Peak Gain W/ Cable loss (dBi)	**-2.39**

2310MHz



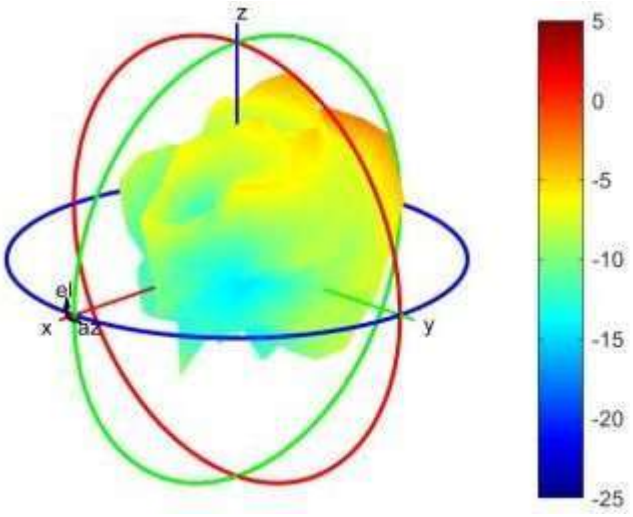
Center Frequency	**2310MHz**
Peak Gain W/ Cable loss (dBi)	**-2.19**

2315MHz



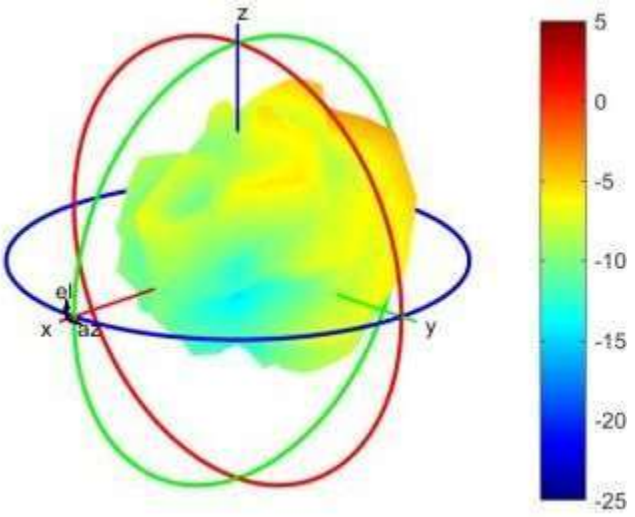
Center Frequency	**2315MHz**
Peak Gain W/ Cable loss (dBi)	**-1.99**

2350 MHz



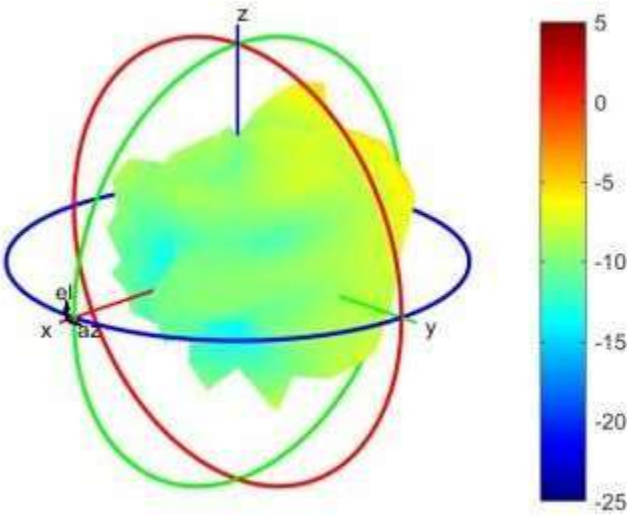
Center Frequency	**2350 MHz**
Peak Gain W/ Cable loss (dBi)	**-2.3**

2400 MHz



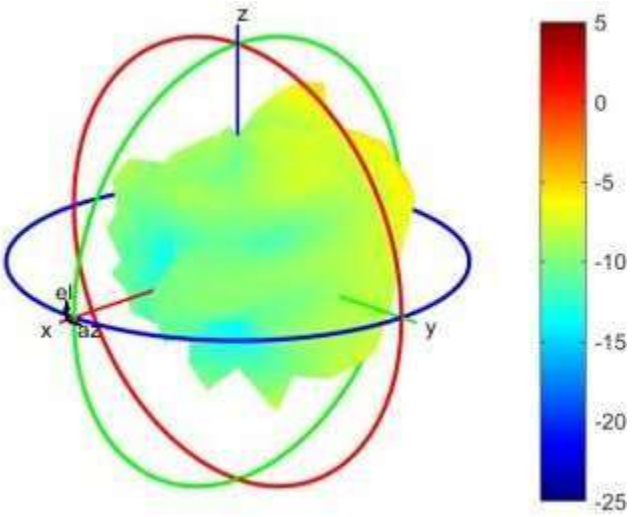
Center Frequency	**2400 MHz**
Peak Gain W/ Cable loss (dBi)	**-3.93**

2483.5 MHz



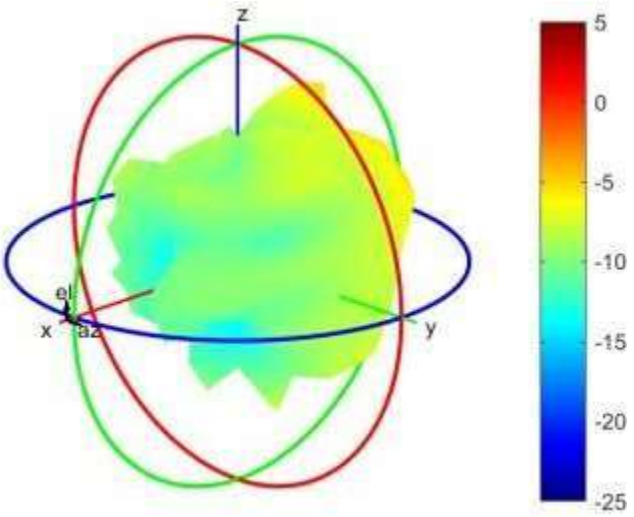
Center Frequency	**2483.5 MHz**
Peak Gain W/ Cable loss (dBi)	**-4.02**

2489.25MHz



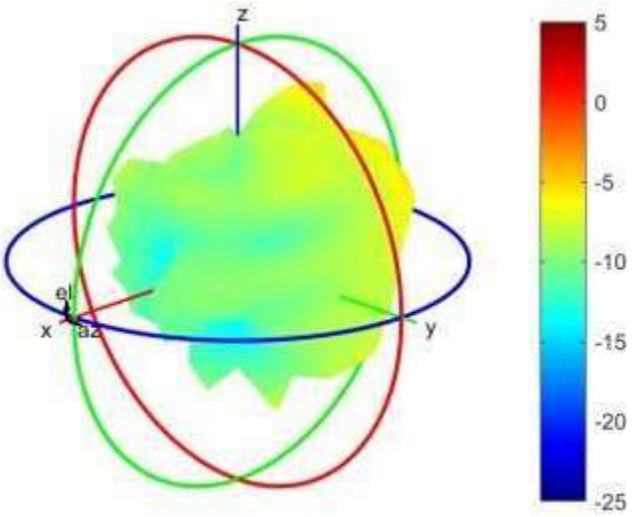
Center Frequency	**2489.25MHz**
Peak Gain W/ Cable loss (dBi)	**-4.44**

2495 MHz



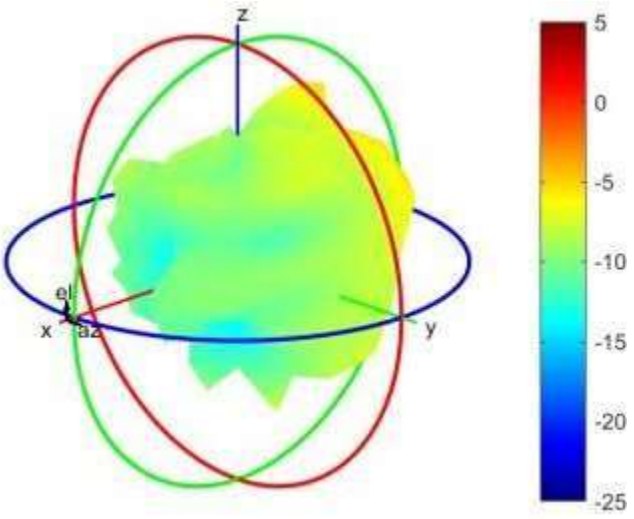
Center Frequency	**2495 MHz**
Peak Gain W/ Cable loss (dBi)	**-4.93**

2496 MHz



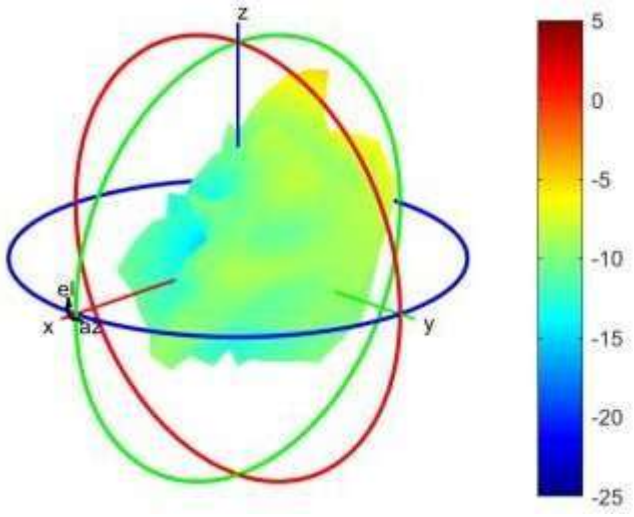
Center Frequency	**2496 MHz**
Peak Gain W/ Cable loss (dBi)	**-5.58**

2500MHz



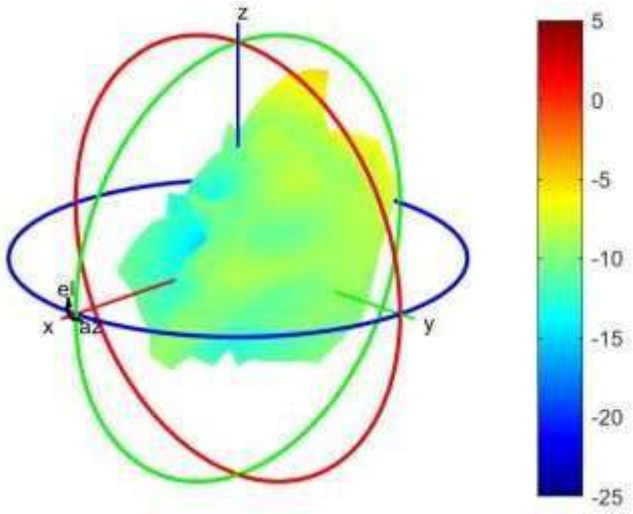
Center Frequency	**2500MHz**
Peak Gain W/ Cable loss (dBi)	**-5.67**

2535MHz



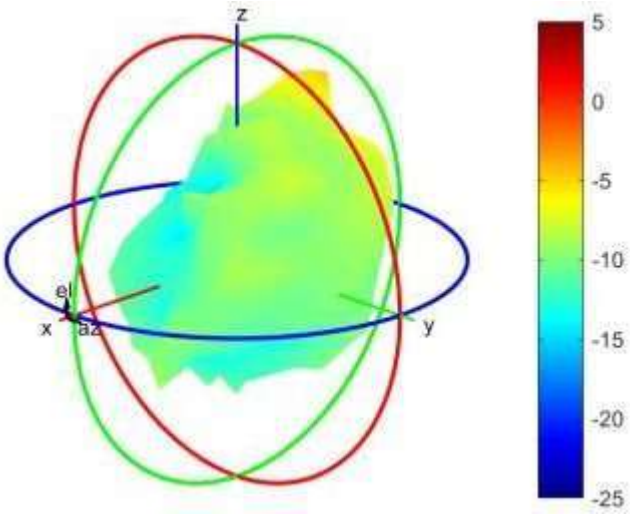
Center Frequency	**2535MHz**
Peak Gain W/ Cable loss (dBi)	**-5.72**

2570MHz



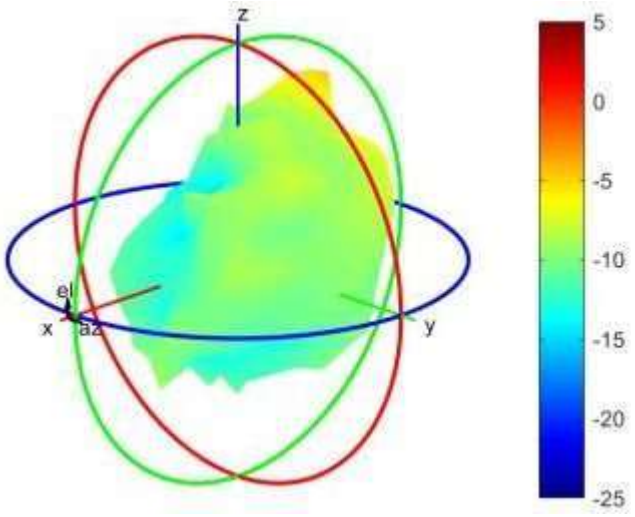
Center Frequency	**2570MHz**
Peak Gain W/ Cable loss (dBi)	**-6.04**

2593 MHz



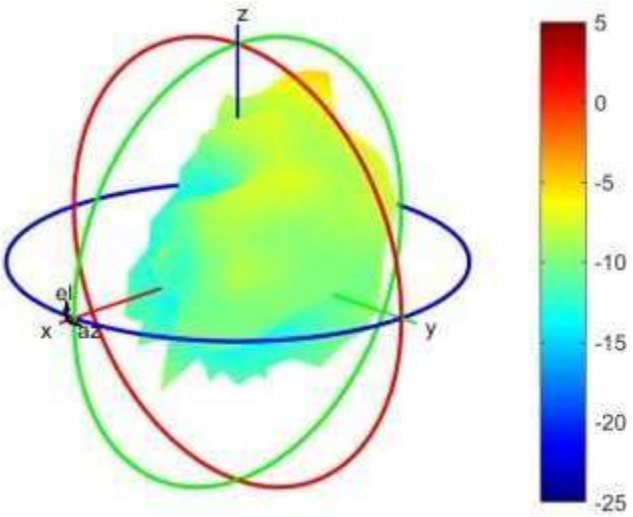
Center Frequency	**2593 MHz**
Peak Gain W/ Cable loss (dBi)	**-6.12**

2595 MHz



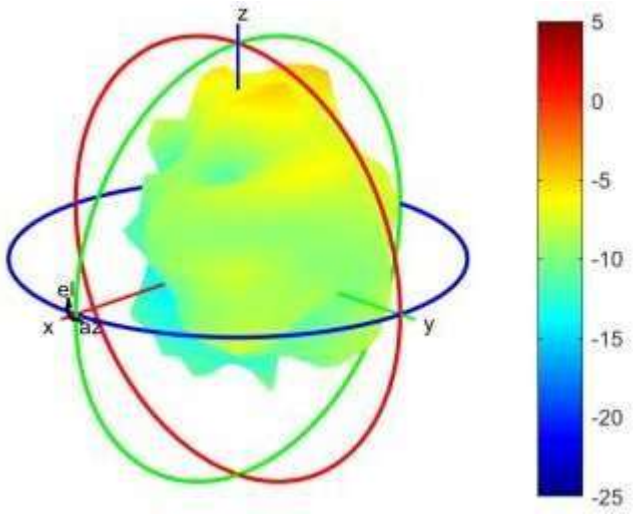
Center Frequency	**2595 MHz**
Peak Gain W/ Cable loss (dBi)	**-6.14**

2620MHz



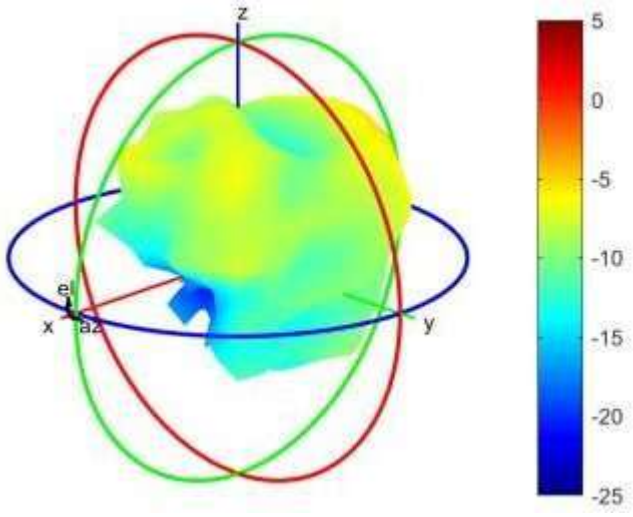
Center Frequency	**2620MHz**
Peak Gain W/ Cable loss (dBi)	**-5.97**

2690MHz



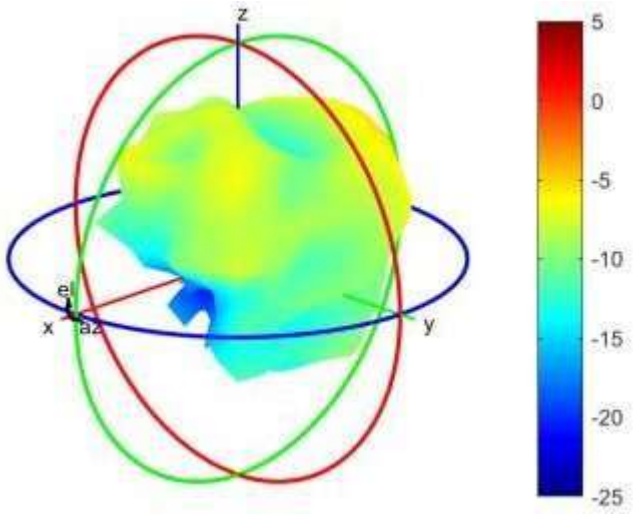
Center Frequency	**2690MHz**
Peak Gain W/ Cable loss (dBi)	**-5.38**

3300MHz



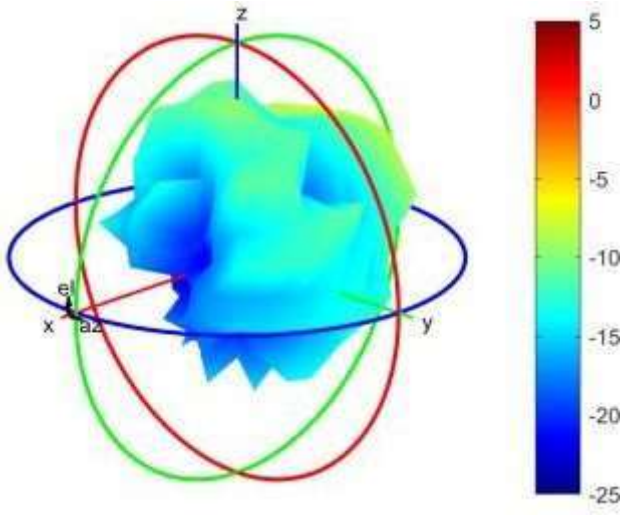
Center Frequency	**3300MHz**
Peak Gain W/ Cable loss (dBi)	**-5.19**

3400MHz



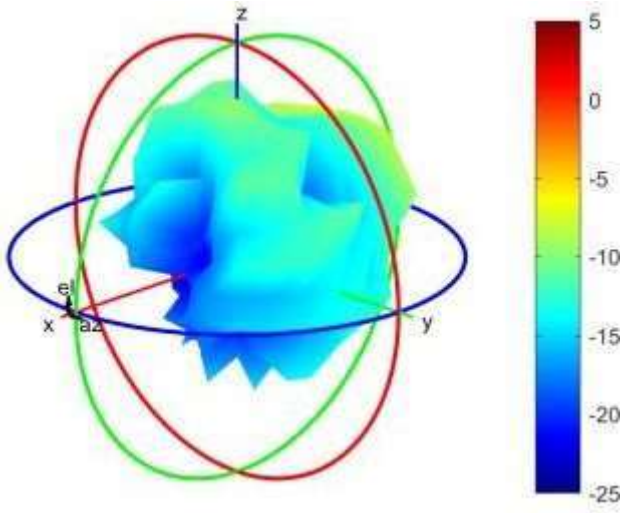
Center Frequency	**3400MHz**
Peak Gain W/ Cable loss (dBi)	**-5.07**

3500 MHz



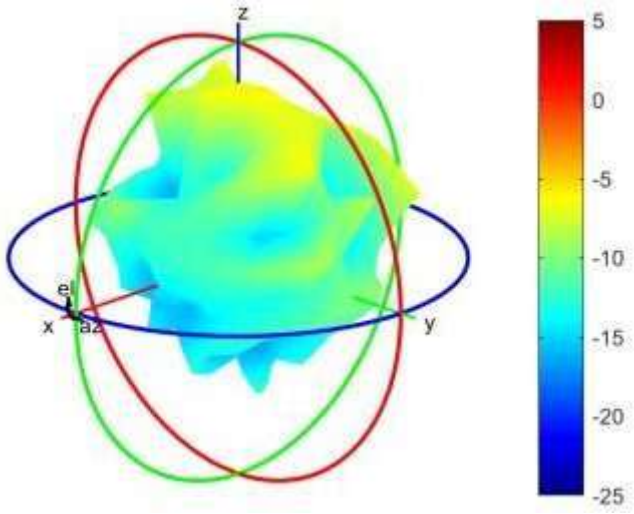
Center Frequency	**3500 MHz**
Peak Gain W/ Cable loss (dBi)	**-4.51**

3550 MHz



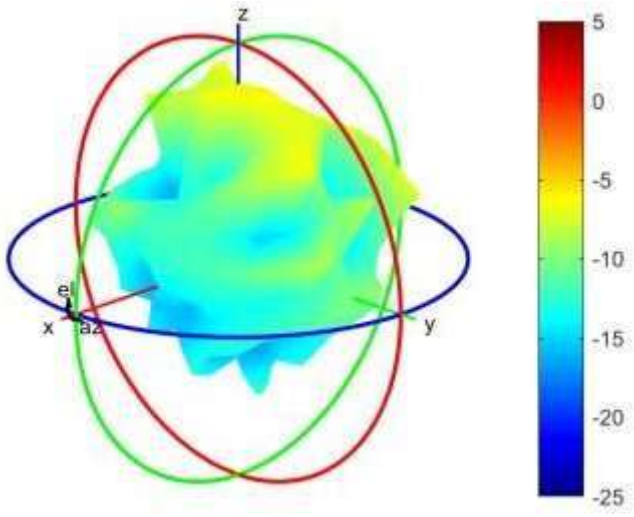
Center Frequency	**3550 MHz**
Peak Gain W/ Cable loss (dBi)	**-6.43**

3600MHz



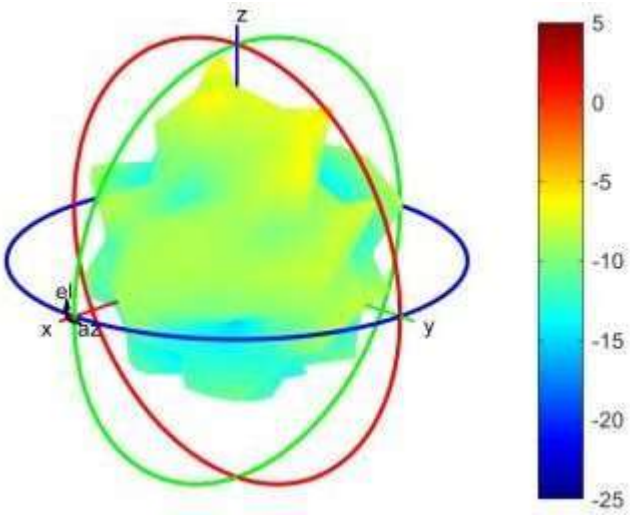
Center Frequency	**3600MHz**
Peak Gain W/ Cable loss (dBi)	**-5.61**

3625MHz



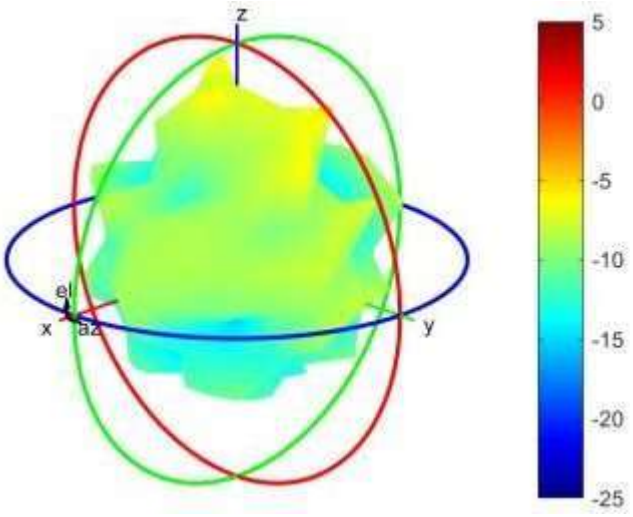
Center Frequency	**3625MHz**
Peak Gain W/ Cable loss (dBi)	**-5.52**

3700MHz



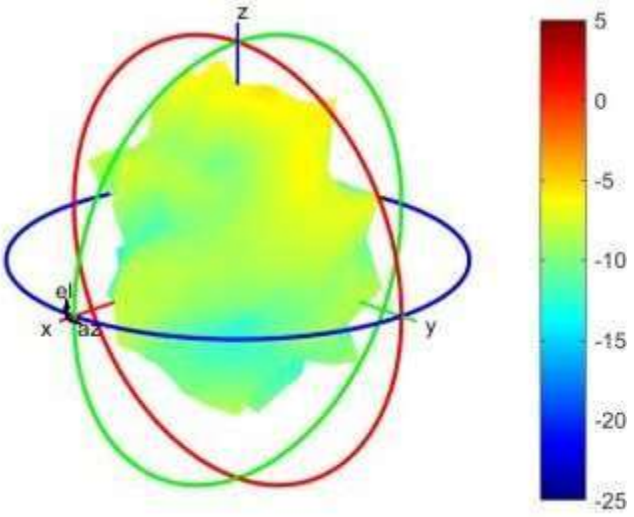
Center Frequency	**3700MHz**
Peak Gain W/ Cable loss (dBi)	**-5.23**

3750MHz



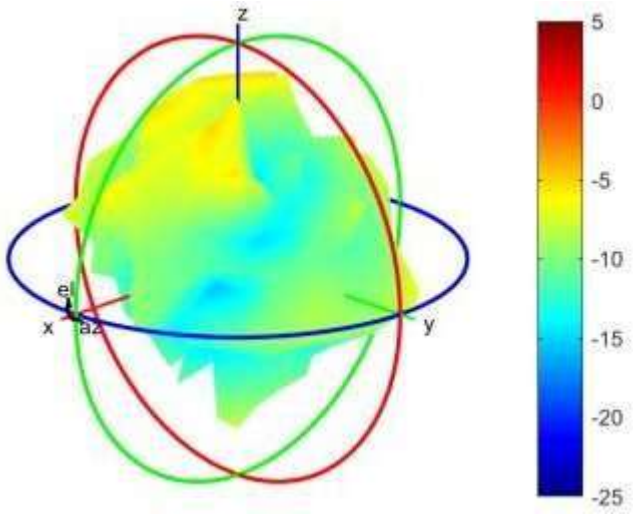
Center Frequency	**3750MHz**
Peak Gain W/ Cable loss (dBi)	**-5.7**

3800 MHz



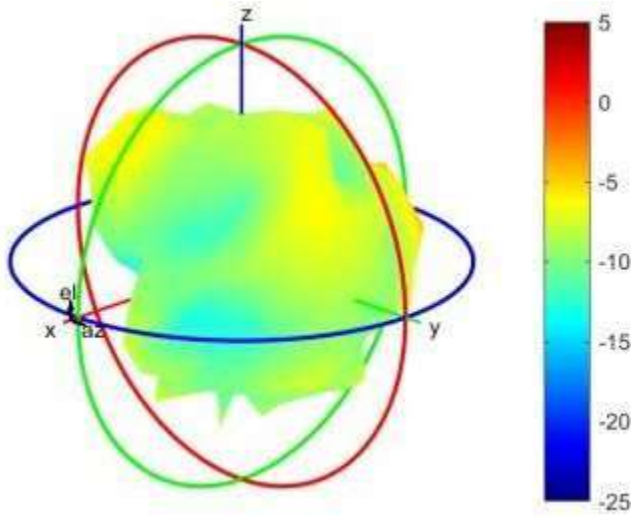
Center Frequency	**3800 MHz**
Peak Gain W/ Cable loss (dBi)	**-6.17**

4200 MHz



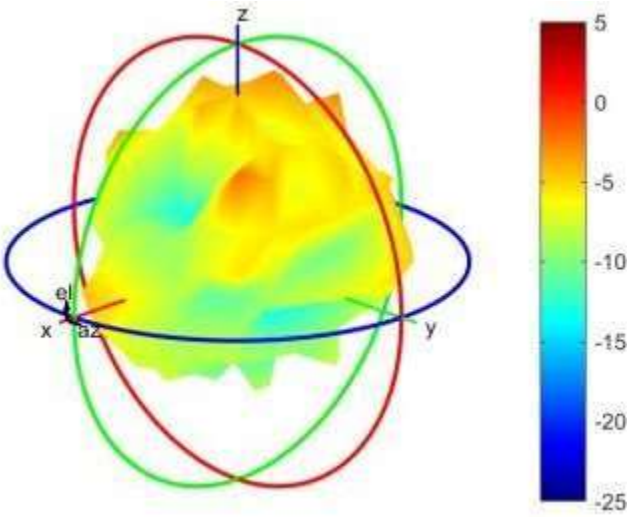
Center Frequency	**4200 MHz**
Peak Gain W/ Cable loss (dBi)	**-5.48**

4400MHz



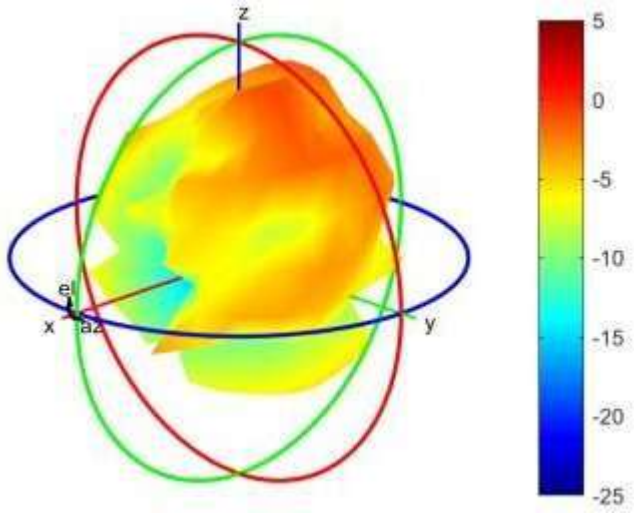
Center Frequency	**4400MHz**
Peak Gain W/ Cable loss (dBi)	**-4.17**

4700MHz



Center Frequency	**4700MHz**
Peak Gain W/ Cable loss (dBi)	**-3.53**

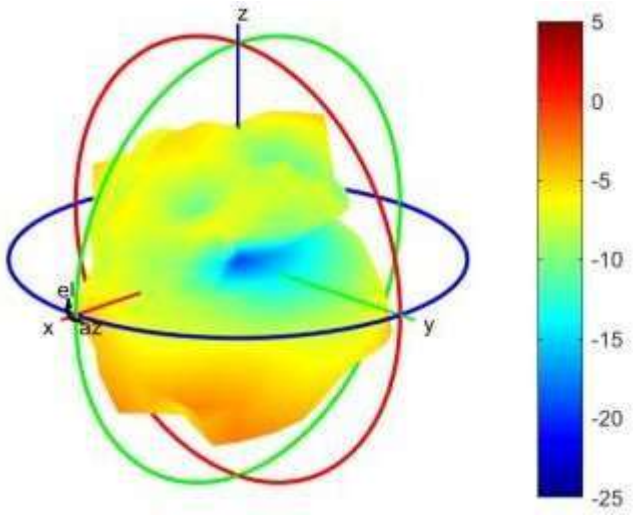
5000MHz



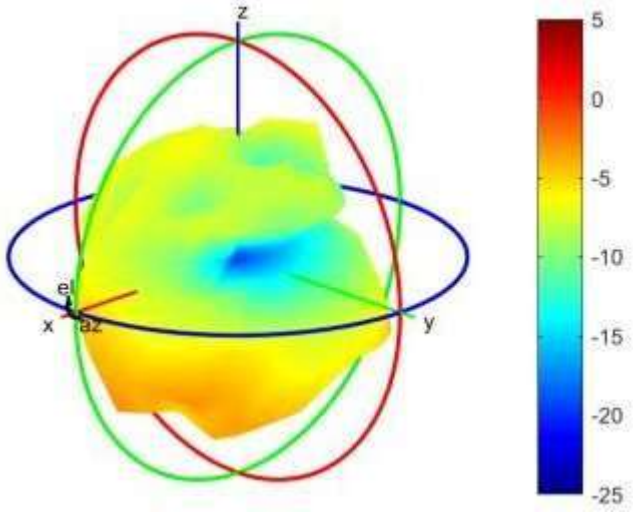
Center Frequency	**5000MHz**
Peak Gain W/ Cable loss (dBi)	**-2.76**

MIMO2 Antenna (Tx2)

1695 MHz



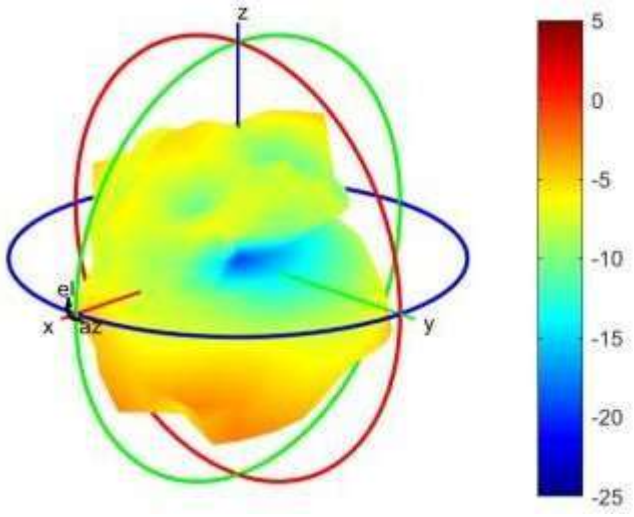
Center Frequency	**1695 MHz**
Peak Gain W/ Cable loss (dBi)	**-3.47**



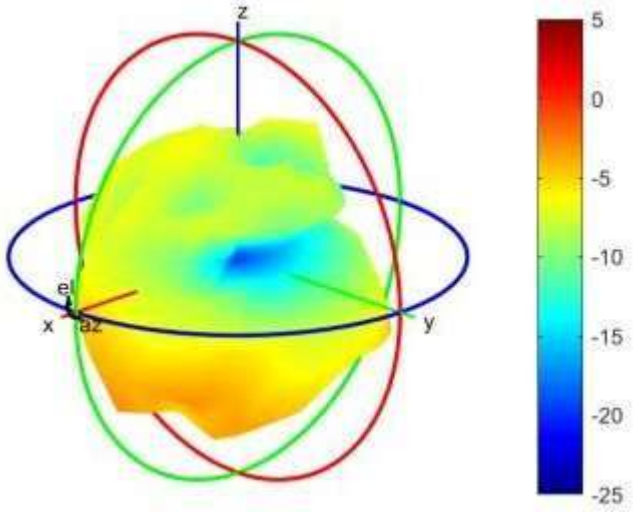
1702.5 MHz

Center Frequency	**1702.5 MHz**
Peak Gain W/ Cable loss (dBi)	**-3.55**

1710 MHz



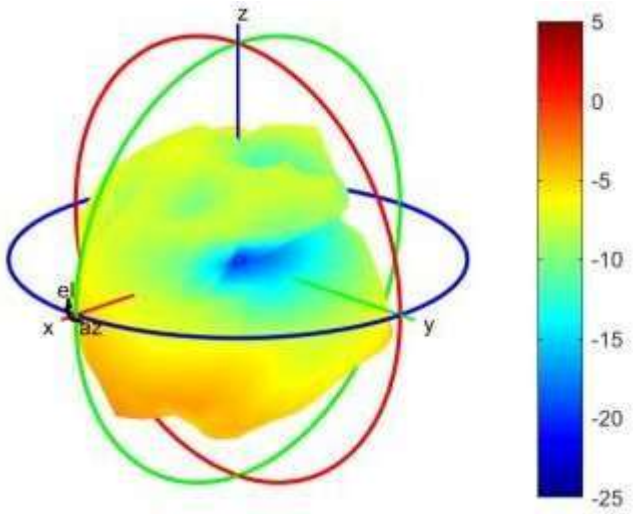
Center Frequency	**1710 MHz**
Peak Gain W/ Cable loss (dBi)	**-3.37**



1732.5 MHz

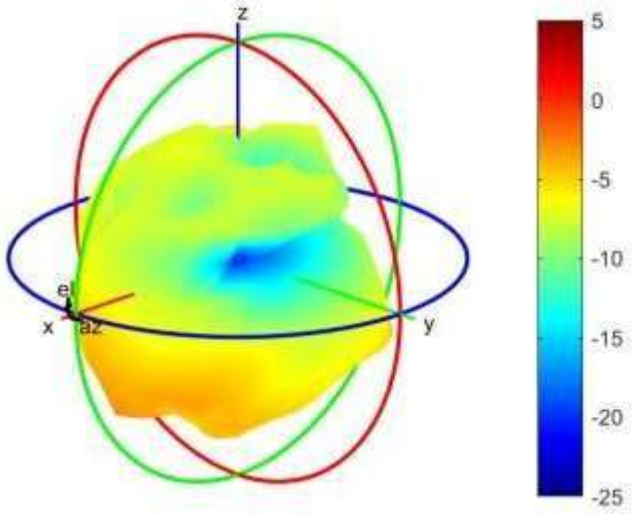
Center Frequency	**1732.5 MHz**
Peak Gain W/ Cable loss (dBi)	**-3.67**

1745 MHz



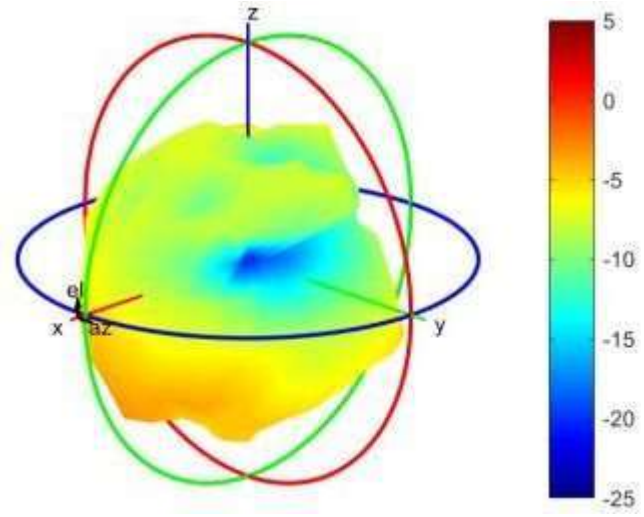
Center Frequency	1745 MHz
Peak Gain W/ Cable loss (dBi)	-3.48

1747.5 MHz



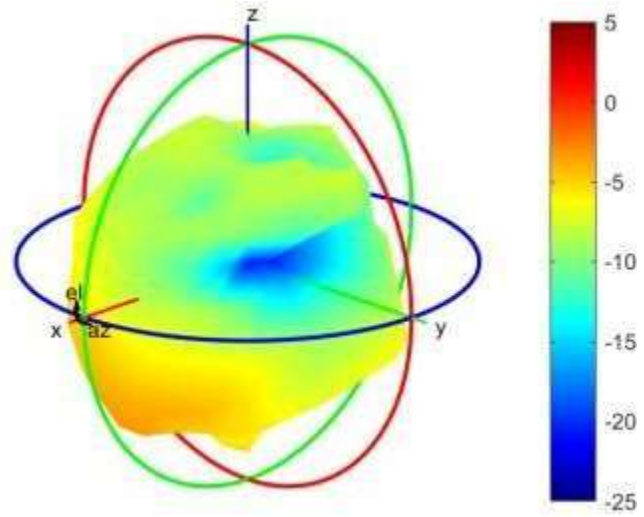
Center Frequency	1747.5 MHz
Peak Gain W/ Cable loss (dBi)	-3.37

1755 MHz



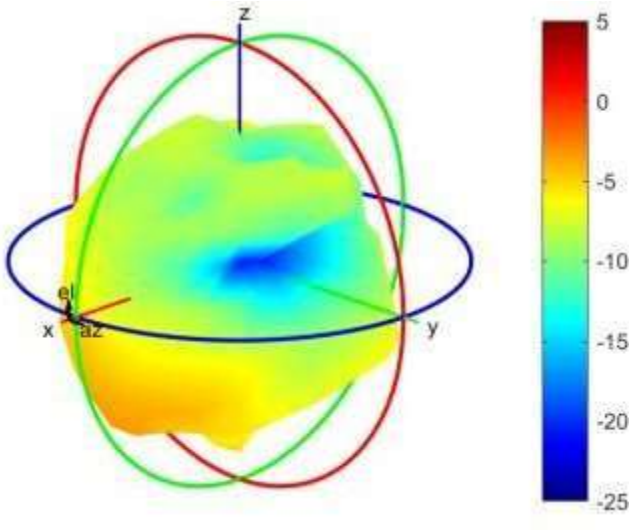
Center Frequency	**1755 MHz**
Peak Gain W/ Cable loss (dBi)	**-2.97**

1780 MHz



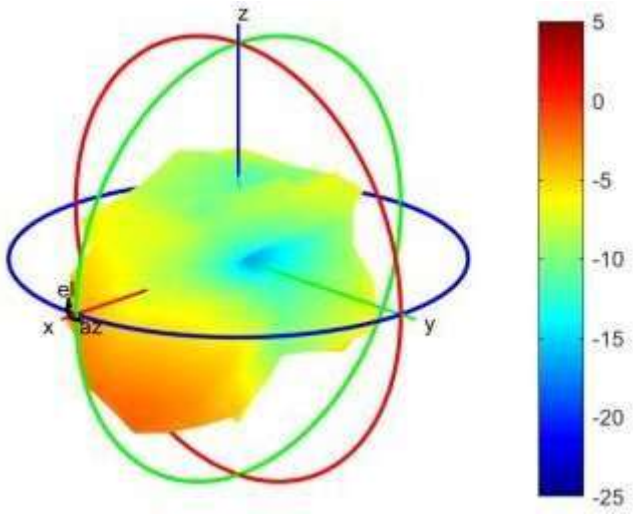
Center Frequency	**1780 MHz**
Peak Gain W/ Cable loss (dBi)	**-3.33**

1785 MHz



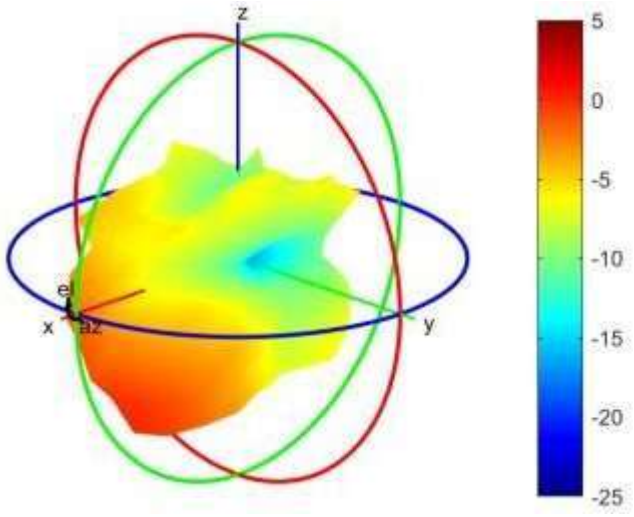
Center Frequency	**1785 MHz**
Peak Gain W/ Cable loss (dBi)	**-3.64**

1850 MHz



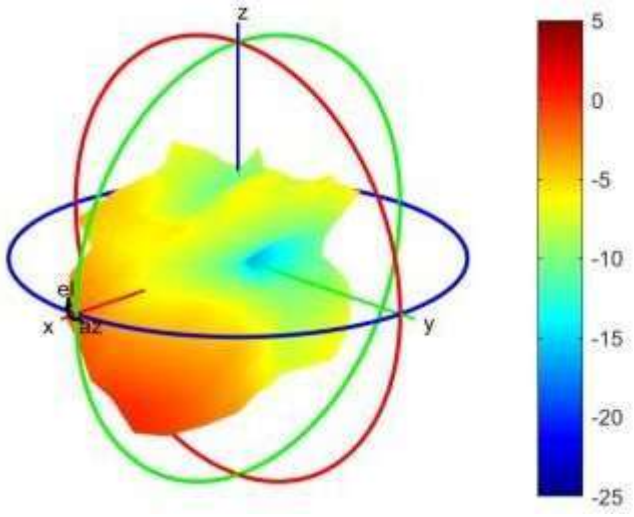
Center Frequency	**1850 MHz**
Peak Gain W/ Cable loss (dBi)	**-3.4**

1880 MHz



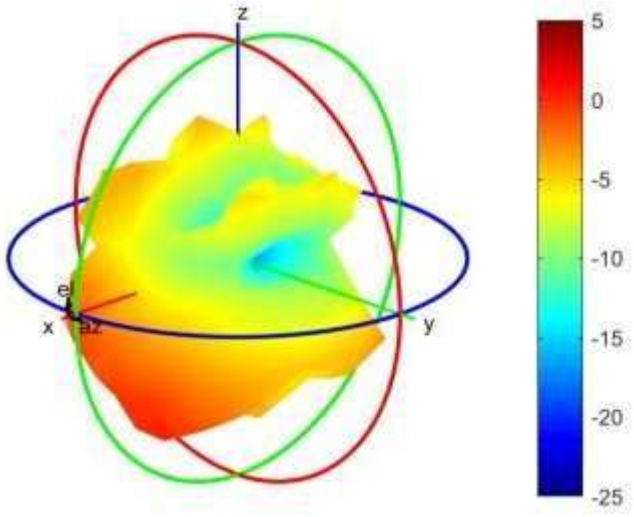
Center Frequency	**1880 MHz**
Peak Gain W/ Cable loss (dBi)	**-3.28**

1882.5 MHz



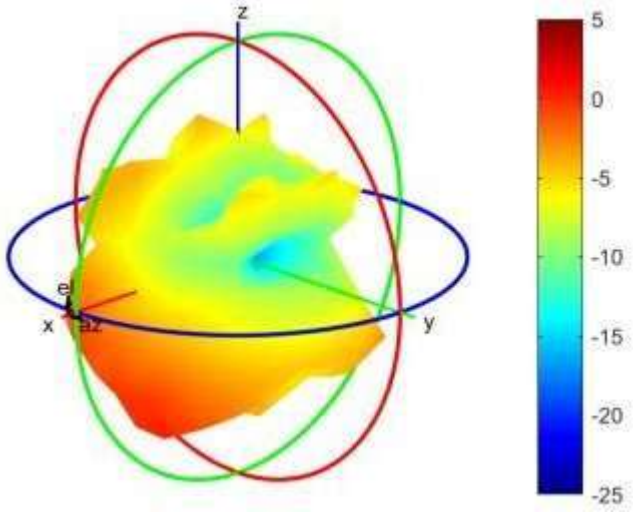
Center Frequency	**1882.5 MHz**
Peak Gain W/ Cable loss (dBi)	**-3.02**

1900MHz



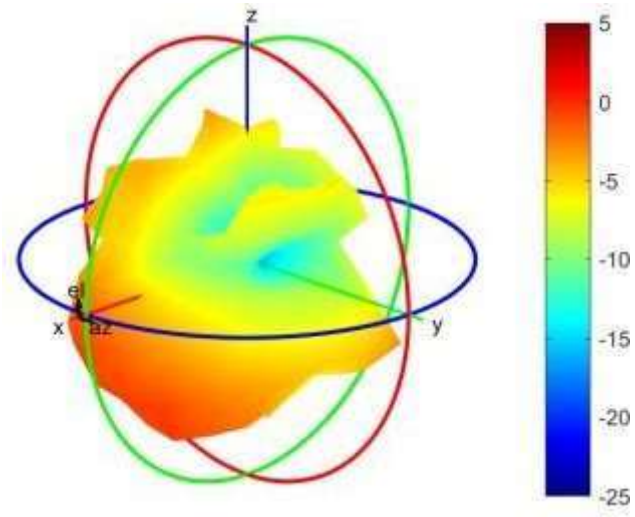
Center Frequency	**1900MHz**
Peak Gain W/ Cable loss (dBi)	**-3.42**

1910MHz



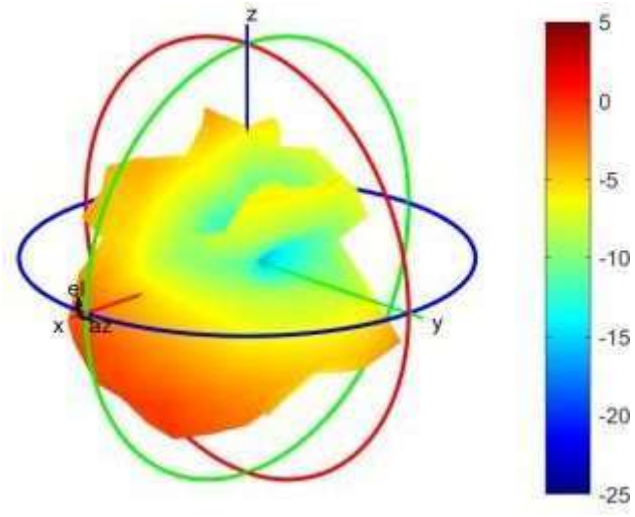
Center Frequency	**1910MHz**
Peak Gain W/ Cable loss (dBi)	**-3.28**

1915MHz



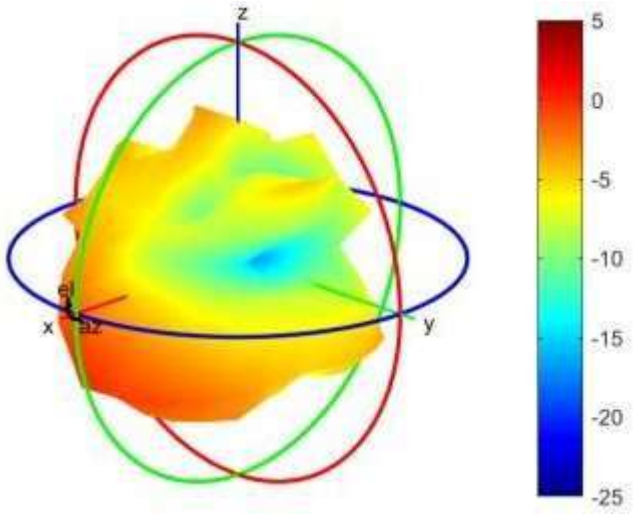
Center Frequency	1915MHz
Peak Gain W/ Cable loss (dBi)	-3.01

1920MHz



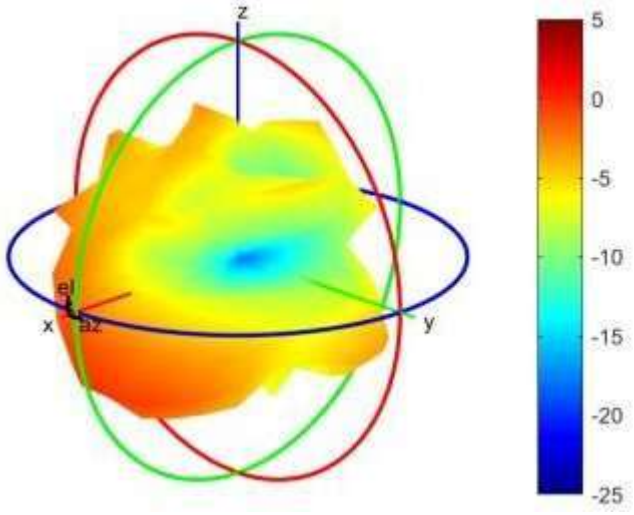
Center Frequency	1920MHz
Peak Gain W/ Cable loss (dBi)	-2.96

1950MHz



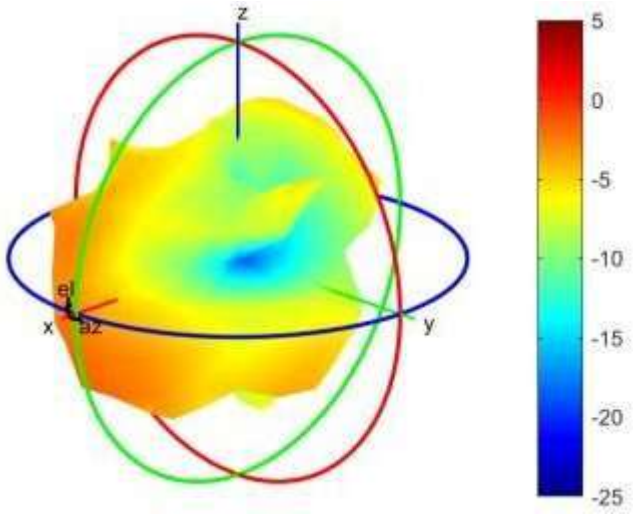
Center Frequency	**1950MHz**
Peak Gain W/ Cable loss (dBi)	**-2.82**

1980MHz



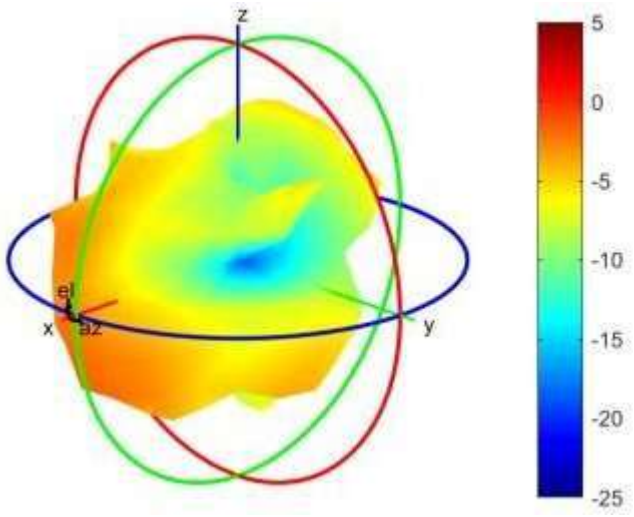
Center Frequency	**1980MHz**
Peak Gain W/ Cable loss (dBi)	**-2.23**

2010MHz



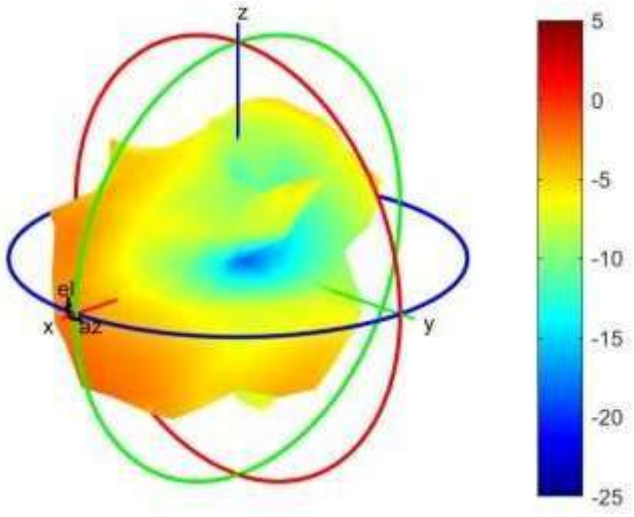
Center Frequency	**2010MHz**
Peak Gain W/ Cable loss (dBi)	**-2.74**

2017.5MHz



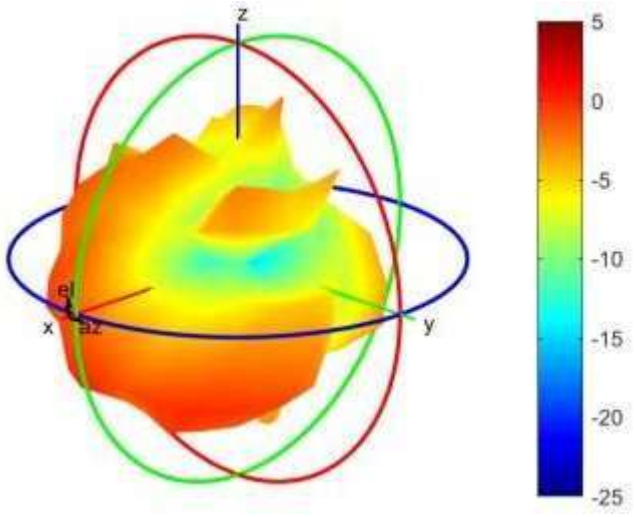
Center Frequency	**2017.5MHz**
Peak Gain W/ Cable loss (dBi)	**-2.66**

2025MHz



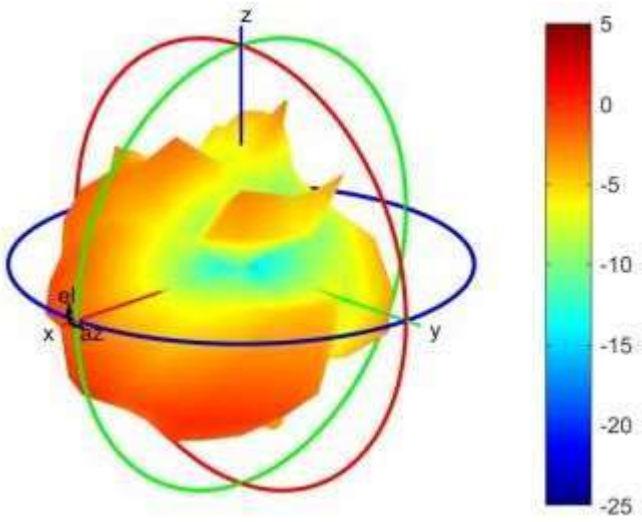
Center Frequency	**2025MHz**
Peak Gain W/ Cable loss (dBi)	**-2.71**

2300MHz



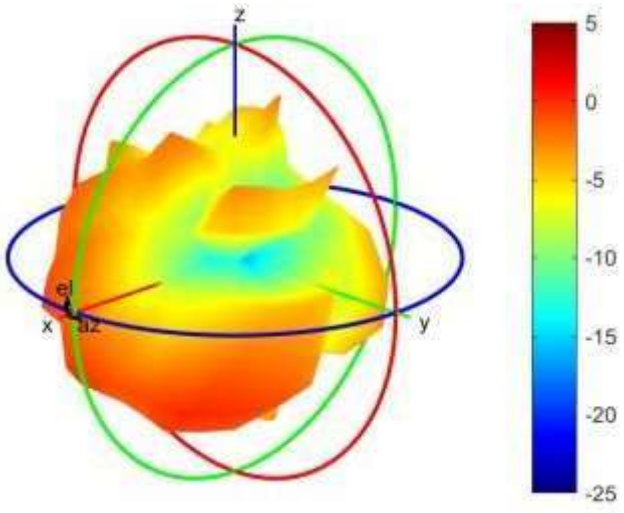
Center Frequency	**2300MHz**
Peak Gain W/ Cable loss (dBi)	**-1.76**

2305MHz



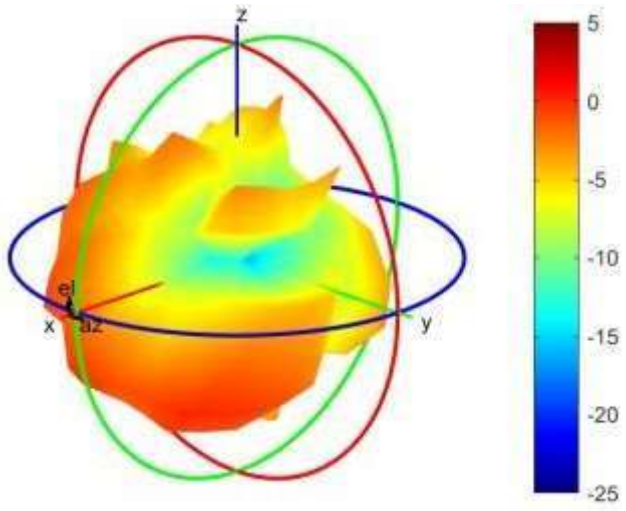
Center Frequency	**2305MHz**
Peak Gain W/ Cable loss (dBi)	**-1.87**

2310MHz



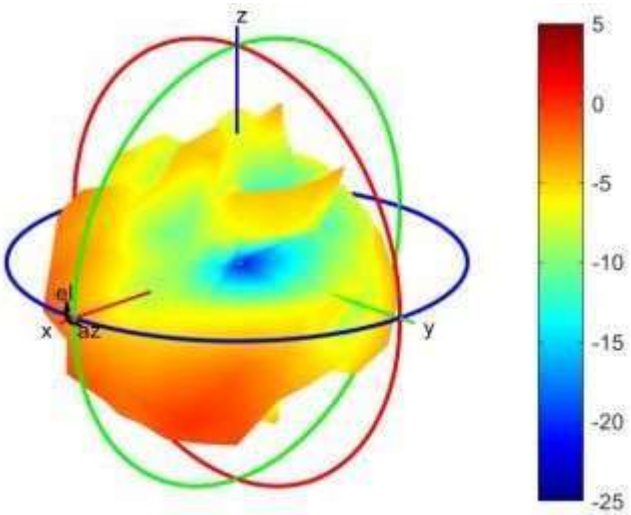
Center Frequency	**2310MHz**
Peak Gain W/ Cable loss (dBi)	**-1.65**

2315MHz



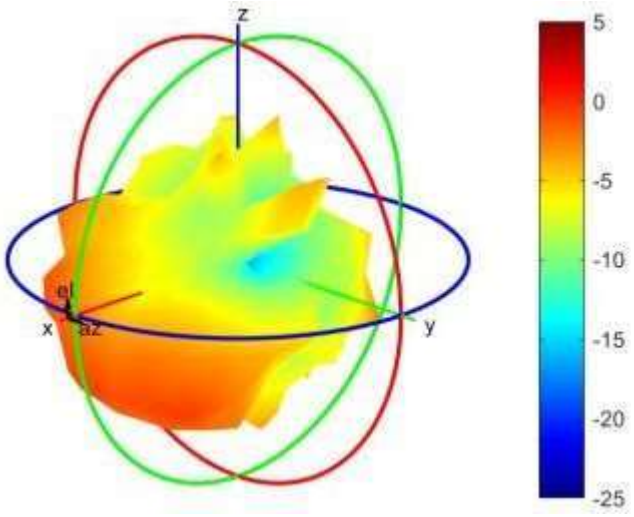
Center Frequency	**2315MHz**
Peak Gain W/ Cable loss (dBi)	**-1.4**

2350MHz



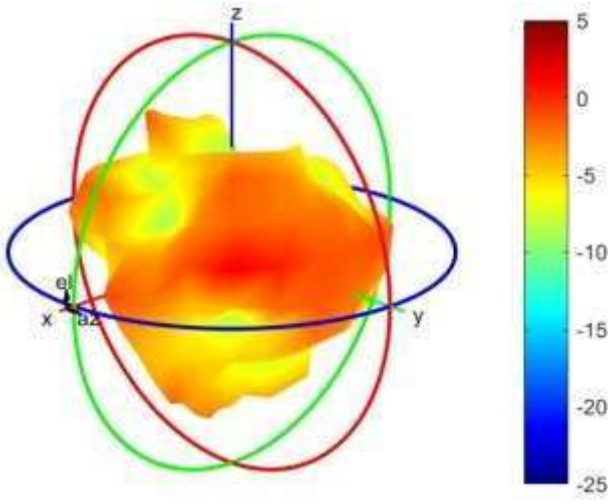
Center Frequency	**2350MHz**
Peak Gain W/ Cable loss (dBi)	**-1.83**

2400MHz



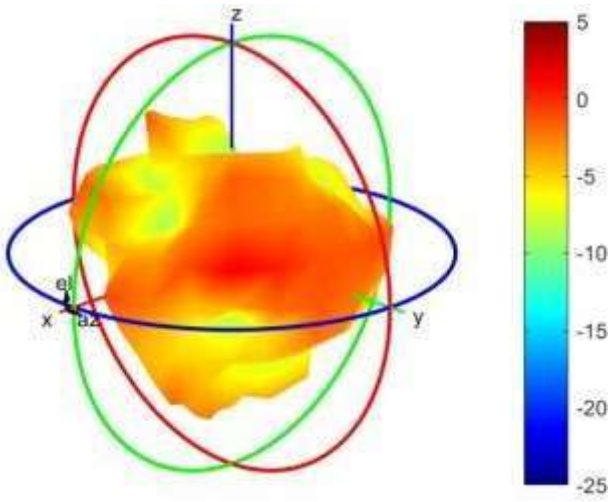
Center Frequency	**2400MHz**
Peak Gain W/ Cable loss (dBi)	**-1.59**

2483.5MHz



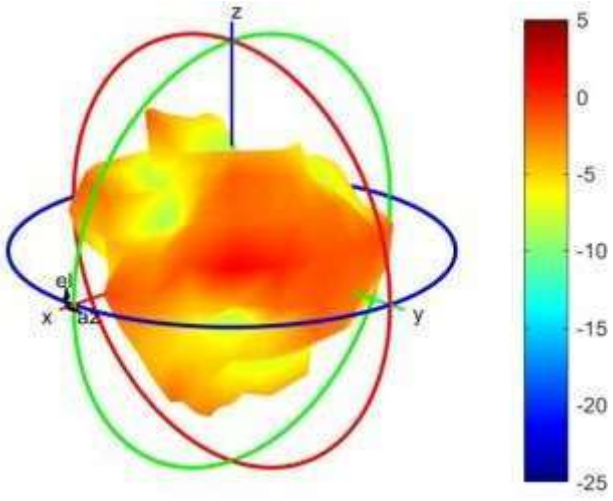
Center Frequency	**2483.5MHz**
Peak Gain W/ Cable loss (dBi)	**-1.43**

2489.25MHz



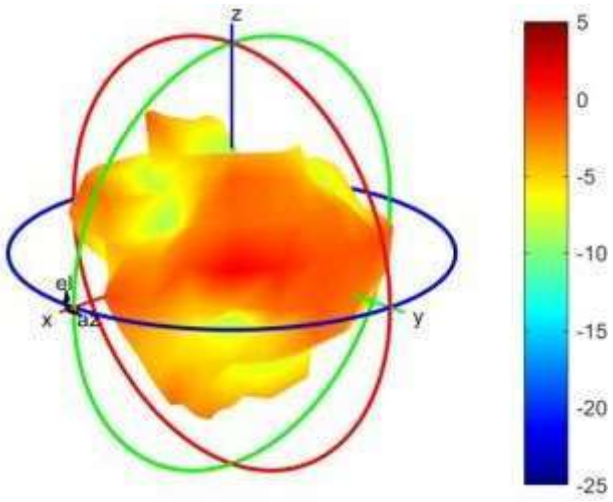
Center Frequency	**2489.25MHz**
Peak Gain W/ Cable loss (dBi)	**-1.62**

2495MHz



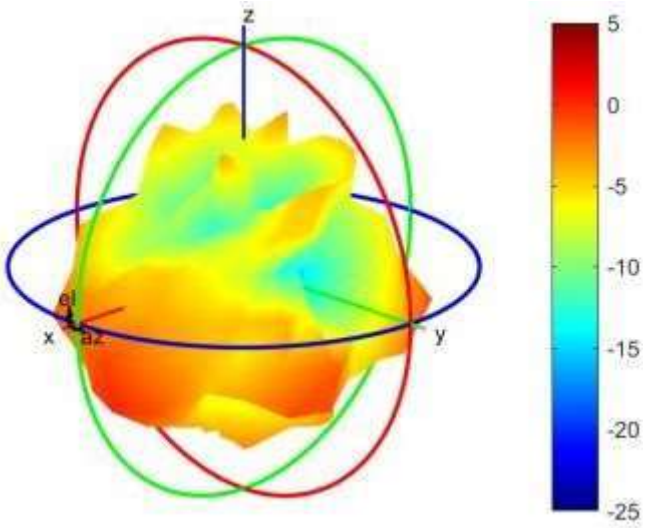
Center Frequency	**2495MHz**
Peak Gain W/ Cable loss (dBi)	**-1.70**

2496MHz



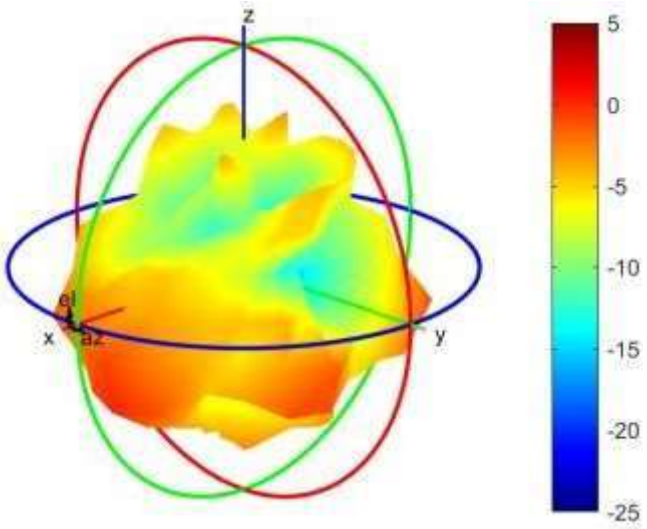
Center Frequency	**2496MHz**
Peak Gain W/ Cable loss (dBi)	**-1.77**

2500MHz



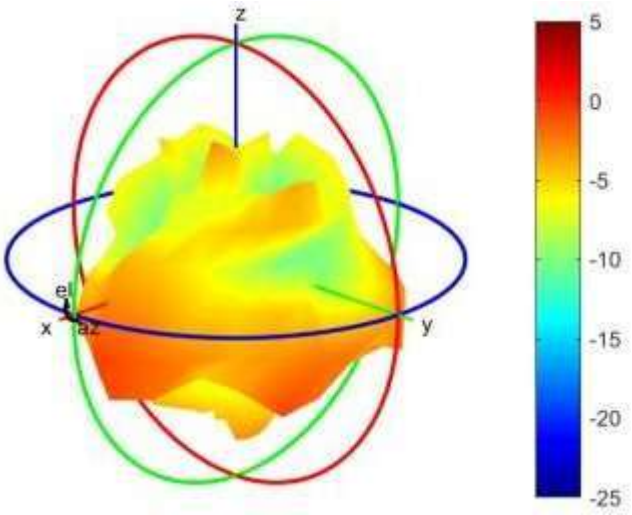
Center Frequency	**2500MHz**
Peak Gain W/ Cable loss (dBi)	**-2.17**

2535MHz



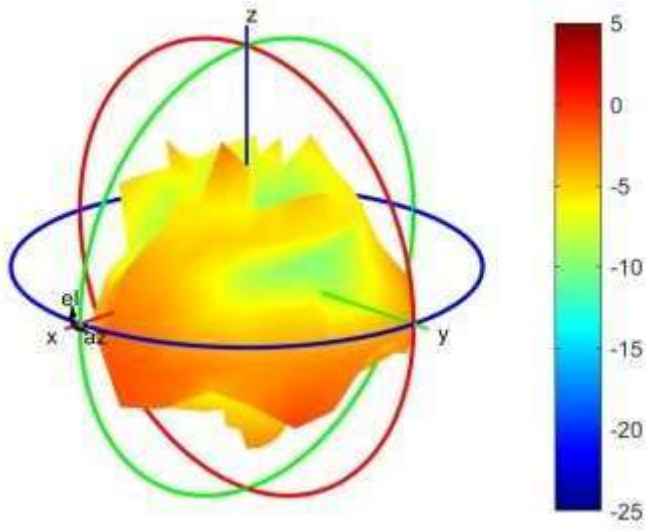
Center Frequency	**2535MHz**
Peak Gain W/ Cable loss (dBi)	**-1.83**

2570MHz



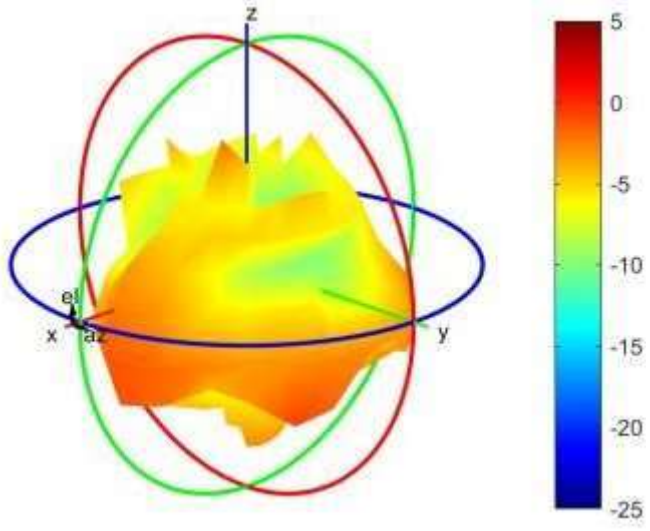
Center Frequency	**2570MHz**
Peak Gain W/ Cable loss (dBi)	**-1.66**

2593MHz



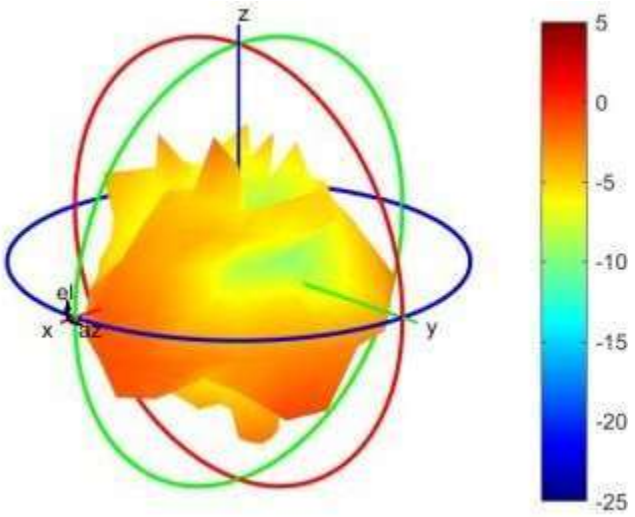
Center Frequency	**2593MHz**
Peak Gain W/ Cable loss (dBi)	**-1.89**

2595MHz



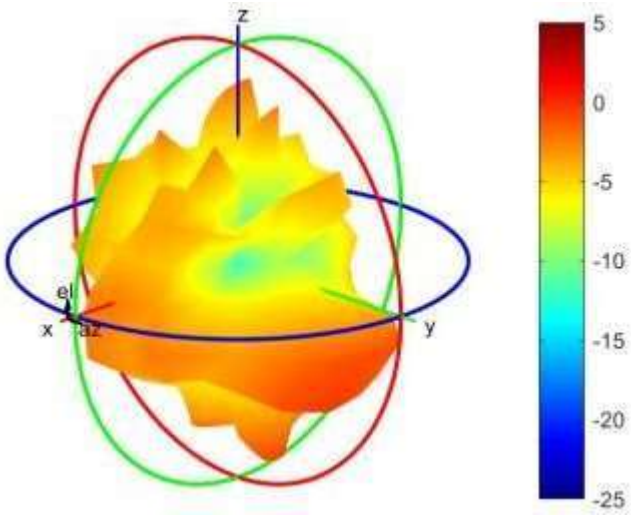
Center Frequency	**2595MHz**
Peak Gain W/ Cable loss (dBi)	**-2.24**

2620MHz



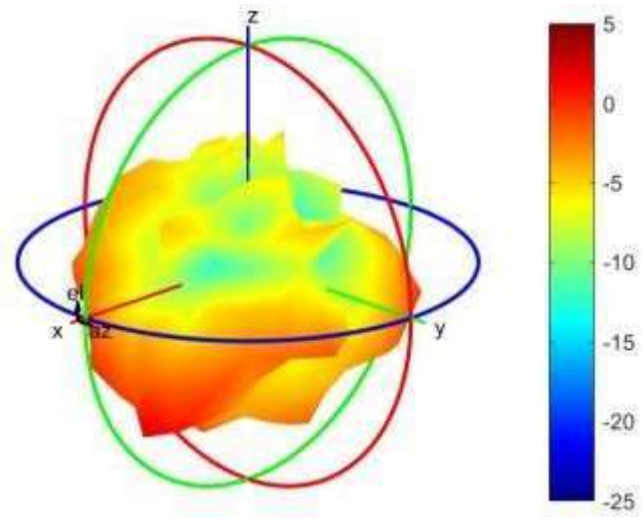
Center Frequency	**2620MHz**
Peak Gain W/ Cable loss (dBi)	**-2.44**

2690MHz



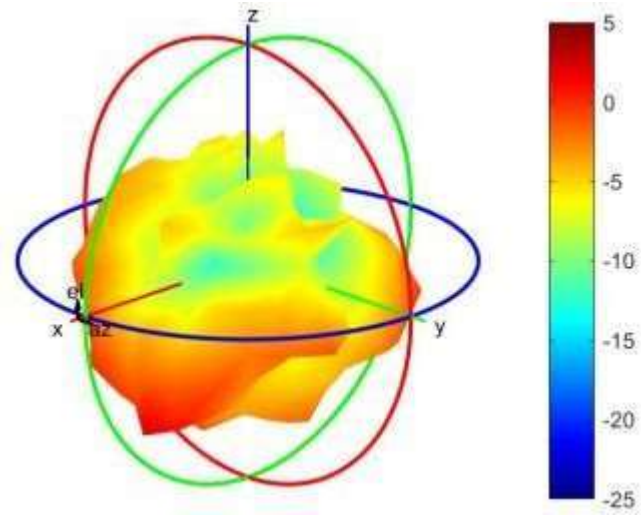
Center Frequency	**2690MHz**
Peak Gain W/ Cable loss (dBi)	**-2.24**

3300MHz



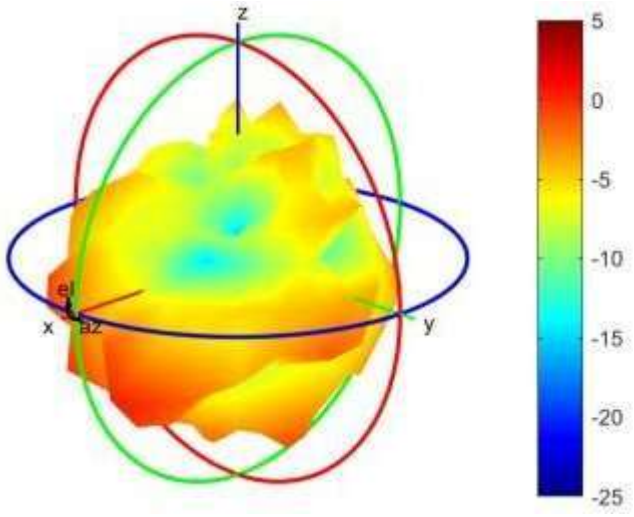
Center Frequency	**3300MHz**
Peak Gain W/ Cable loss (dBi)	**-1.12**

3400MHz



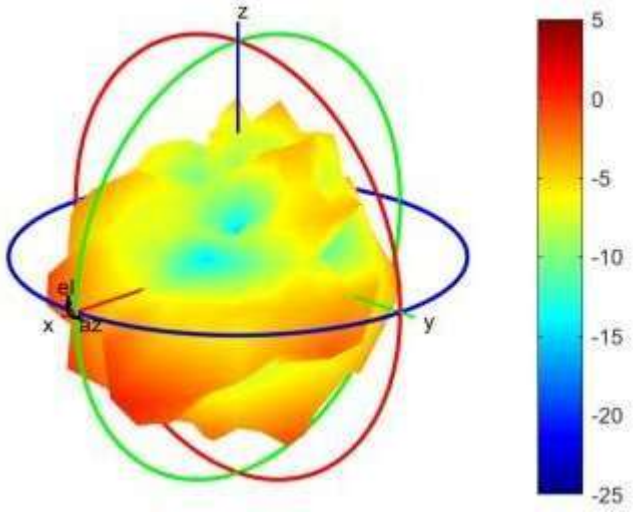
Center Frequency	**3400MHz**
Peak Gain W/ Cable loss (dBi)	**0.02**

3500MHz



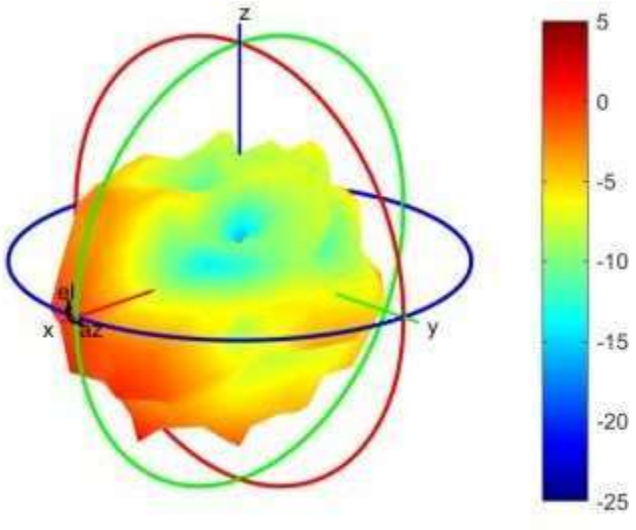
Center Frequency	**3500MHz**
Peak Gain W/ Cable loss (dBi)	**-0.11**

3550MHz



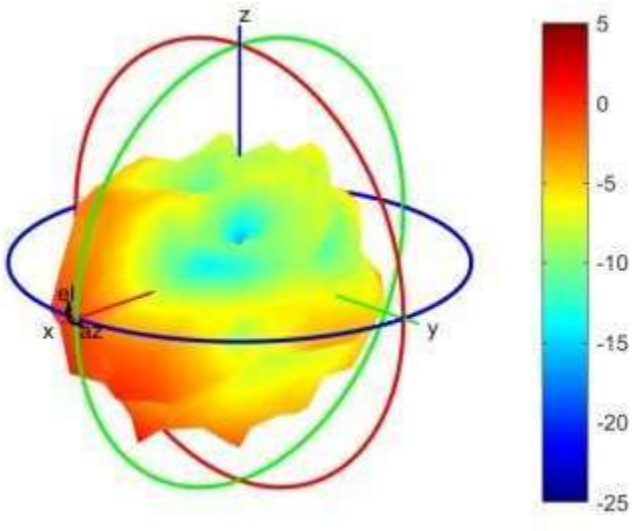
Center Frequency	**3550MHz**
Peak Gain W/ Cable loss (dBi)	**0.02**

3600MHz



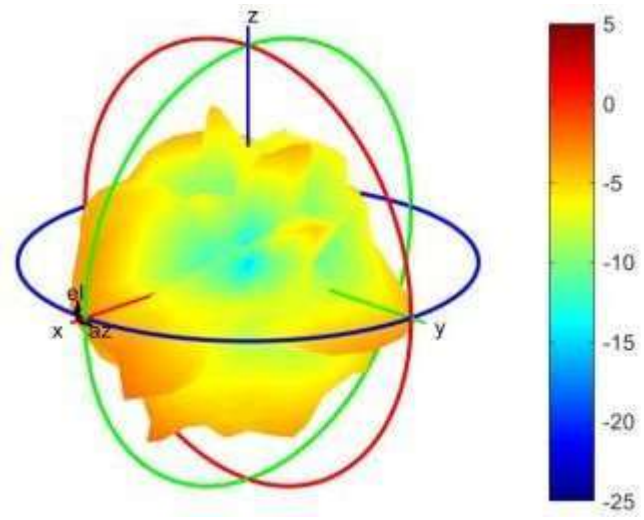
Center Frequency	**3600MHz**
Peak Gain W/ Cable loss (dBi)	**0.49**

3625MHz



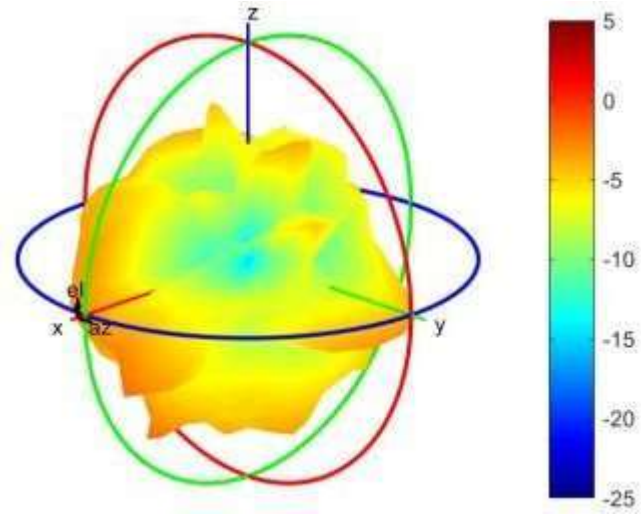
Center Frequency	**3625MHz**
Peak Gain W/ Cable loss (dBi)	**-1.11**

3700MHz



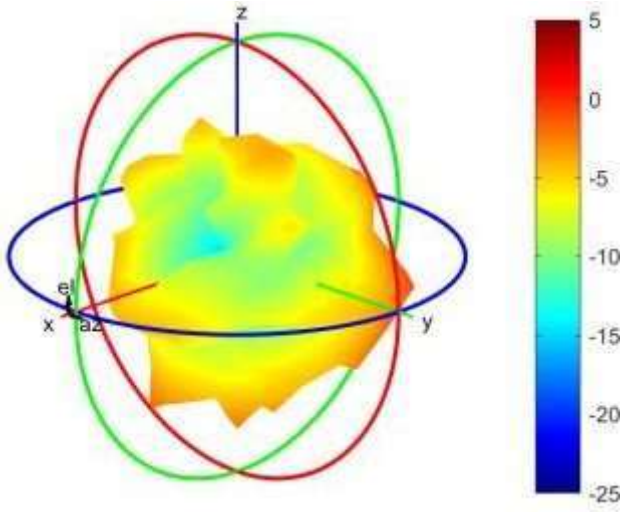
Center Frequency	3700MHz
Peak Gain W/ Cable loss (dBi)	-2.29

3750MHz



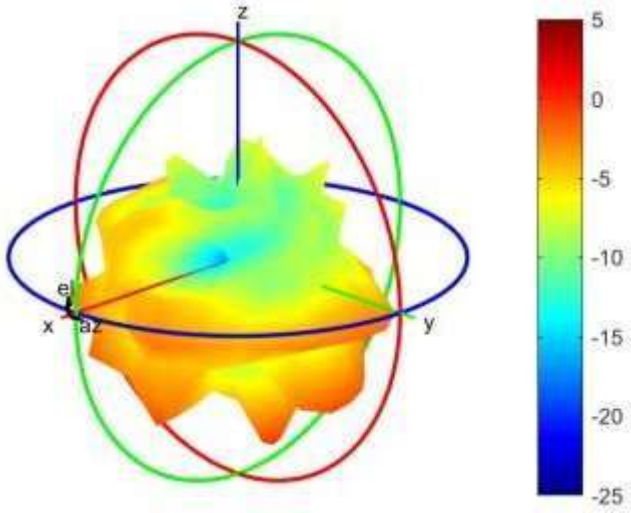
Center Frequency	3750MHz
Peak Gain W/ Cable loss (dBi)	-1.02

3800MHz



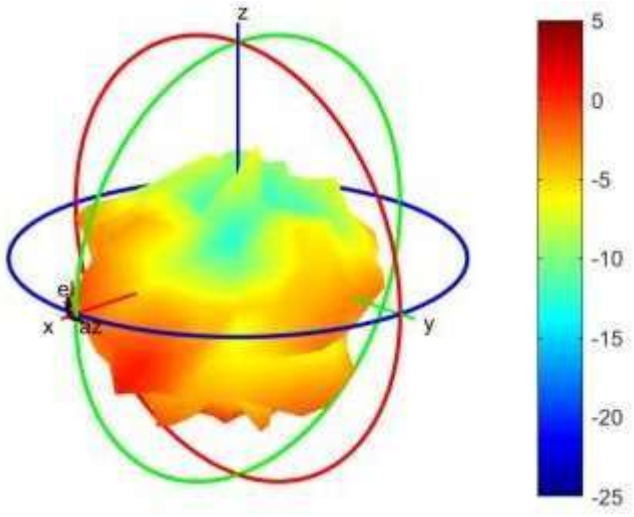
Center Frequency	3800MHz
Peak Gain W/ Cable loss (dBi)	0.01

4200MHz



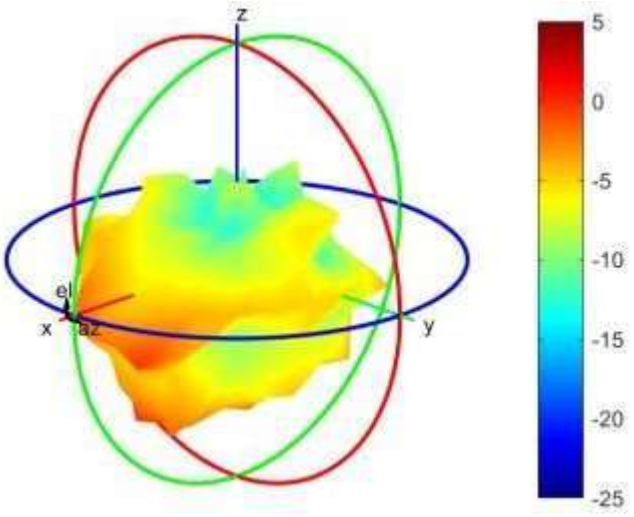
Center Frequency	4200MHz
Peak Gain W/ Cable loss (dBi)	0.09

4400MHz



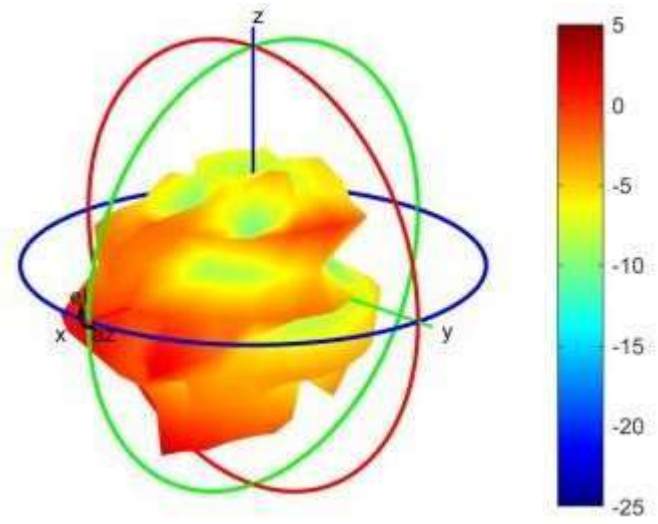
Center Frequency	4400MHz
Peak Gain W/ Cable loss (dBi)	-0.37

4700MHz



Center Frequency	4700MHz
Peak Gain W/ Cable loss (dBi)	-0.91

5000MHz

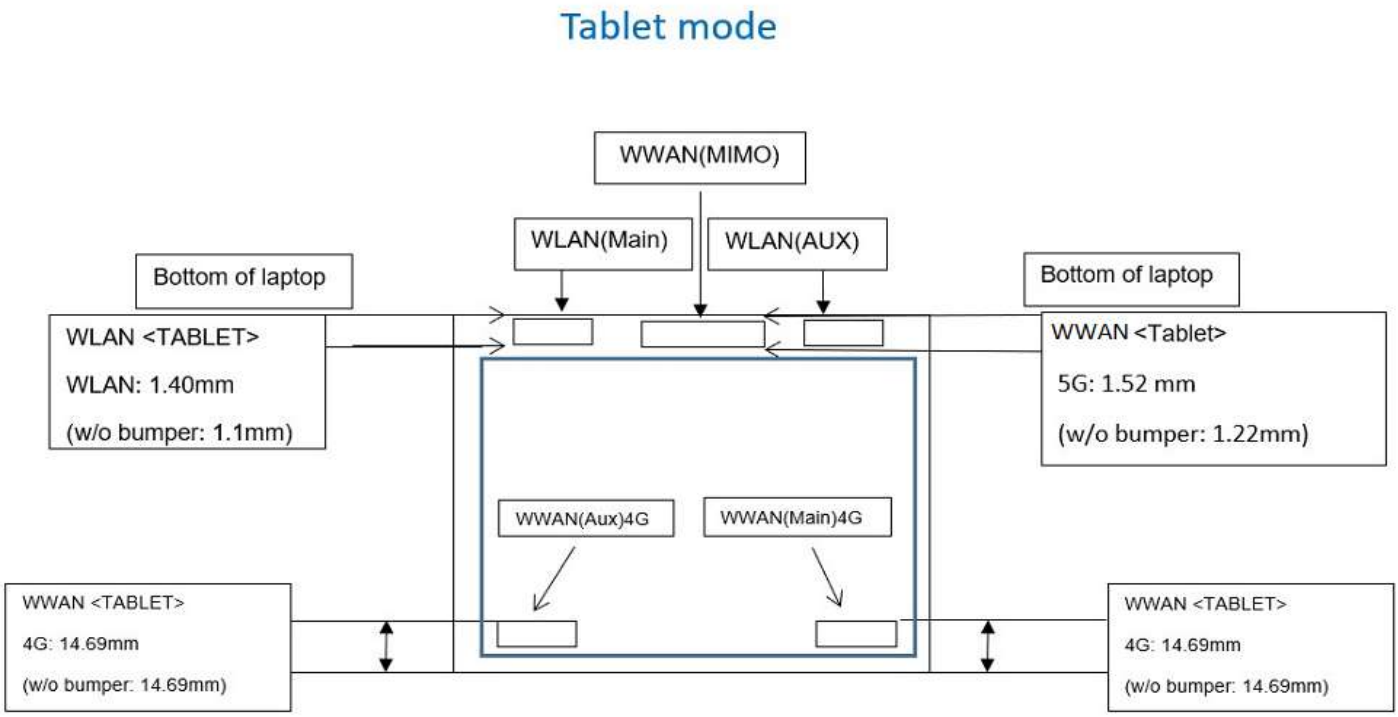


Center Frequency	**5000MHz**
Peak Gain W/ Cable loss (dBi)	**-1.99**

Section 4. Antenna Host Platform Location Information

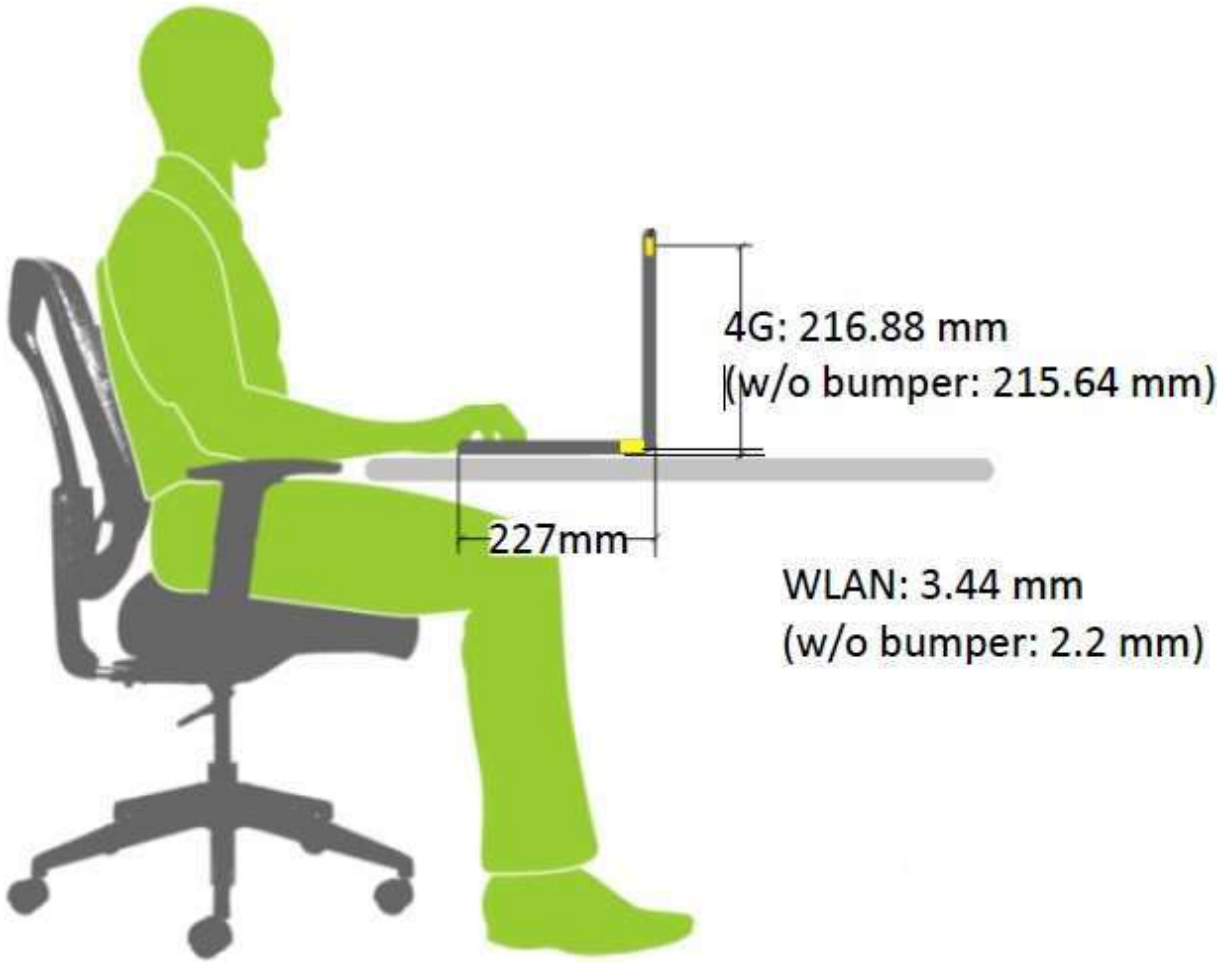
Include a **dimensioned photo(s) or dimensioned drawing(s)** of Main and Aux antenna placements (measurements are not required for receive-only antenna).
Any antenna that transmits must show dimensions to bottom of laptop. Provide a description of the materials that are used for supporting or surrounding transmit antennas; for example, non-conductive plastics vs. conductive coated plastic or metallic materials.

<TB mode>



Section 5. Antenna dimensional information for SAR evaluation

Include a **dimensioned photo(s) or dimensioned drawing(s)** showing the distance (mm) between the transmit antennas and the user. For notebook/laptop hosts show lapheld position (example below). For tablet hosts show all orientations including lapheld, primary & secondary portrait, primary & secondary landscape positions. Include a description of any proximity sensors or power throttling implementations that limit or exclude use of any host orientation.



Section 6. Diagram Example of Co-Location Antenna Separation

Include a **dimensioned photo or dimensioned drawing** showing the distance (mm) between **all WLAN transmit antennas** and other co-located radiator transmit antenna such as Bluetooth, WWAN,..

(Note: Due to the evolving rules regarding co-location, each platform will need to be reviewed on a case by case basis)