

# Antenna Composite Gain Test Report

## 1. Test Information

Equipment	Campus Access Points
Brand Name	Aruba
Model Name	Blackbird
Applicant	Aruba
Manufacturer	Aruba

## 2. Testing Location

Testing Location	
WNC	ADD : 20 Park Ave. II, Hsinchu Science Park, Hsinchu 308 Taiwan

Test Condition	Test Engineer	Test Environment (°C / %)	Test Date
Radiated	Roye Chen	20-24 / 45-60	07.03.2023~07.07.2023

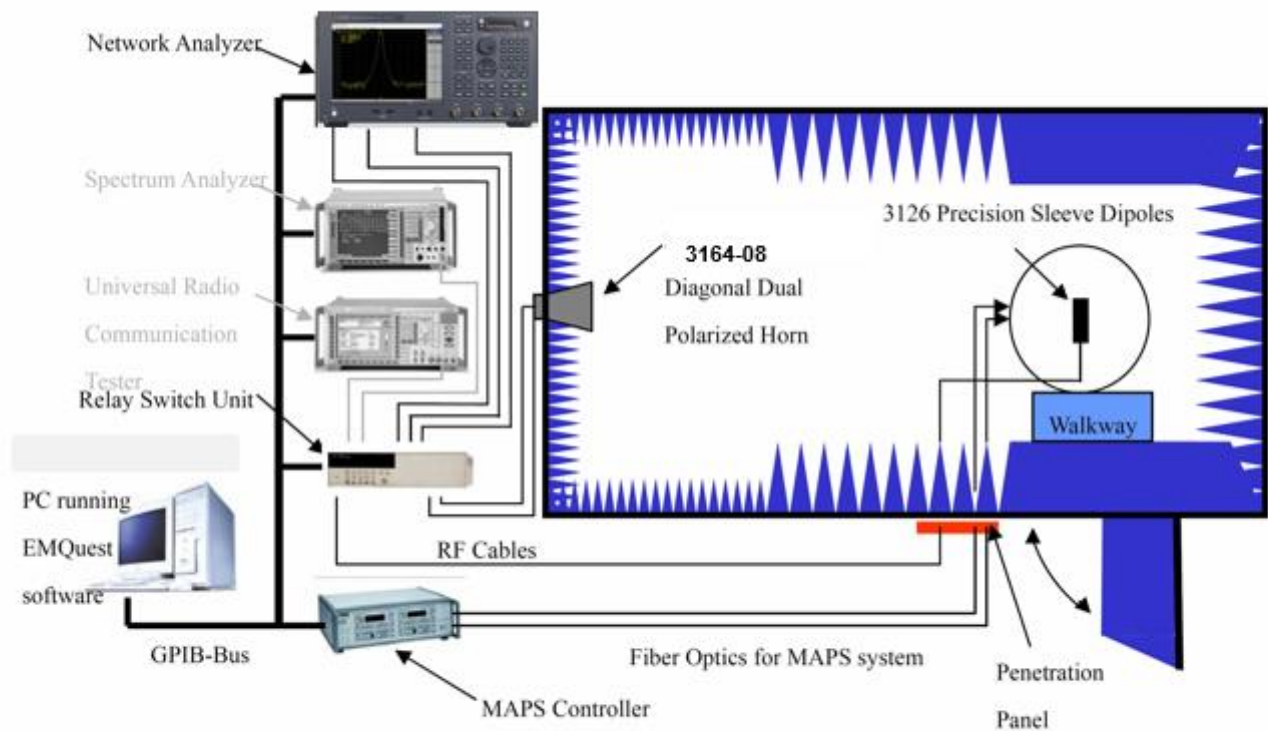
## 3. Test Frequency

Frequency (MHz) Uplink / Downlink	Test Frequency (MHz)
2400-2480	2450
5150-5250	5150
5470-5725	5550
5725-5850	5850
5850~5895	5895
5925-6425	5925
6425-6525	6500
6875-7125	7000

## 4. Antenna Information

Ant. Position	Brand Name	Model Name	Ant. Type	Connector
Antenna 1 (2G/5G)	Aruba	95XEAK15.GAH	PIFA	I-PEX
Antenna 2 (2G/5G)	Aruba	95XEAK15.GAI	PIFA	I-PEX
Antenna 3 (2G/6G)	Aruba	95XEAK15.GAJ	Dipole	I-PEX
Antenna 4 (2G/6G)	Aruba	95XEAK15.GAK	Dipole	I-PEX
Antenna 5 (BLE)	Aruba	95XEAK15.GAN	PIFA	I-PEX

5. Test Configuration

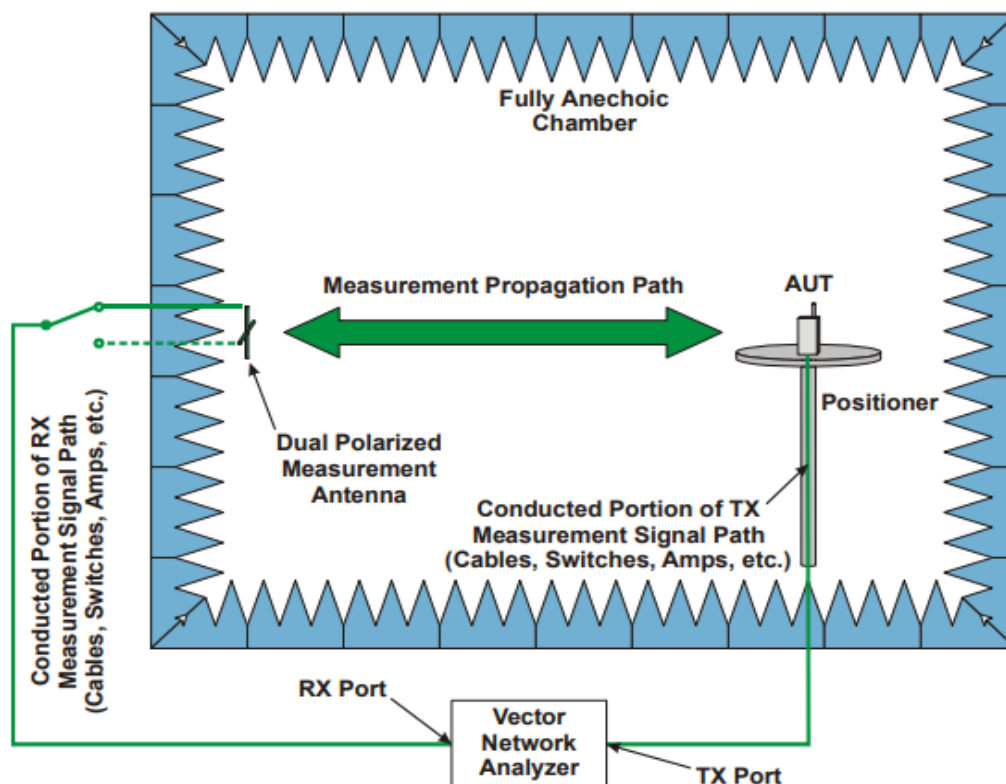


ETS-AMS 8500 System

Item	Device	Type/Model	Serial#	Manufacturer	Cal. Date	Cal. Due Date
1	Anechoic Chamber	ETS-AMS	8500	ETS-Lindgren	2023/03/09	2024/03/08
2	Turn Table	ETS		ETS-Lindgren	2023/03/09	2024/03/08
3	Multi-Device Positioning Controller	Model 2090	142407	ETS-Lindgren	2023/03/09	2024/03/08
4	Network Analyzer	E5071C	0171E5485A6J	Keysight	2023/05/31	2024/05/30
5	Horn antenna	3164-08	140264	ETS-Lindgren	2023/03/09	2024/03/08
6	Cable 7.5m 400MHz to 18GHz (H-pol)	SS402	00100A1F5A1XXS	Woken	2023/03/09	2024/03/08
7	Cable 7.5m 400MHz to 18GHz (V-pol)	SS402	00100A1F5A1XXS	Woken	2023/03/09	2024/03/08
8	Cable 14m 400MHz to 18GHz	SS402	00100A1F5A1XXS	Woken	2023/03/09	2024/03/08
9	Temperature & Humidity Meter	HTC-01		Metravi	2023/03/09	2024/03/08

## 6. Reference Calibration

# Range Calibration Configuration (Passive)



## 7. Test Method

The “great circle” cut method, whereby the Measurement Antenna remains fixed and the EUT is rotated about two axes in sequential order. The radiated RF performance of the Equipment Under Test (EUT) is measured by sampling the radiated transmit power of the mobile at various locations surrounding the device. A three-dimensional characterization of the 'transmit' performance of the EUT is pieced together by analyzing the data from the spatially distributed measurements.

Data points taken every 15 degrees in the theta and in the phi axes are deemed sufficient to fully characterize the EUT's Far-Field radiation pattern and total radiated power. All of the measured power values will be integrated.

## 8. Measured Values and Calculation of Correlated / Uncorrelated Gains

**Antenna Peak Gain Table (Ant. Position : 2G/5G Ant.1~2)**

<b>Band (MHz)</b>	2400-2480
<b>Frequency (MHz)</b>	2450
<b>Ant.1 Max Gain (dBi)</b>	3.5
<b>Ant.2 Max Gain (dBi)</b>	4.1
<b>Max Gain (dBi)</b>	4.1

<b>Band (MHz)</b>	5150-5470	5470-5725	5725-5850	5850~5895
<b>Frequency (MHz)</b>	5150	5550	5850	5895
<b>Ant.1 Max Gain (dBi)</b>	3.6	5.3	5.8	5.8
<b>Ant.2 Max Gain (dBi)</b>	5.8	5.1	5.0	4.8
<b>Max Gain (dBi)</b>	5.8	5.3	5.8	5.8

**Antenna Peak Gain Table (Ant. Position : 2G/6G Ant.3~4)**

<b>Band (MHz)</b>	2400-2480
<b>Frequency (MHz)</b>	2450
<b>Ant.3 Max Gain (dBi)</b>	3.4
<b>Ant.4 Max Gain (dBi)</b>	2.3
<b>Max Gain (dBi)</b>	3.4

<b>Band (MHz)</b>	5925-6425	6425-6525	6525-7125
<b>Frequency (MHz)</b>	5925	6500	7000
<b>Ant.3 Max Gain (dBi)</b>	4.4	3.1	3.6
<b>Ant.4 Max Gain (dBi)</b>	4.1	4.4	4.3
<b>Max Gain (dBi)</b>	4.4	4.4	4.3

**Antenna Peak Gain Table (Ant. Position : BLE Ant.5)**

<b>Band (MHz)</b>	2400-2480
<b>Frequency (MHz)</b>	2450
<b>Max Gain (dBi)</b>	2.3

**Antenna Correlated / Uncorrelated Gain Table (Ant. Position : 2G/5G Ant.1~2)**

<b>Frequency (MHz)</b>	<b>Correlated Gain (dBi)</b>	<b>Uncorrelated Gain (dBi)</b>
2450	5.0	2.2
5150	7.1	4.3
5550	7.8	4.8
5850	7.3	4.4
5895	7.5	4.5

**Antenna Correlated / Uncorrelated Gain Table (Ant. Position : 2G/6G Ant.3~4)**

Frequency (MHz)	Correlated Gain (dBi)	Uncorrelated Gain (dBi)
2450	4.2	1.3
5925	5.3	2.5
6500	6.7	3.7
7000	5.6	2.7

Because the antennas are fixed in location within the device the directional antenna gain for MIMO is calculated over a sphere using the raw spatial data taken at 5 degree steps of theta and phi for each antenna using the equations from KDB 662911 D01. The raw antenna data is located in the appendix of this report.

The correlated antenna gain was calculated using KDB 662911 D01, F(2)(d)(i). The uncorrelated antenna gain was calculated using KDB 662911 D01, F(2)(d)(ii).

The uncorrelated and correlated gains were calculated for each point in the spatial data, and the highest values reported.

Note :

KDB 662911 D01, F(2)(d)(i)

$$\text{Correlated Gain} = 10 \log \left[ \left( 10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + \dots + 10^{\frac{G_n}{20}} \right)^2 / N_{Ant.} \right] \text{ dBi}$$

KDB 662911 D01, F(2)(d)(ii)

$$\text{Uncorrelated Gain} = 10 \log \left[ \left( 10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_n}{10}} \right) / N_{Ant.} \right] \text{ dBi}$$

$N_{Ant.}$  : Number of antenna

$G_n$  : Gain of antenna

**Maximum Correlated / Uncorrelated Gain Calculation (Ant. Position : 2G/5G Ant.1~2)**

Frequency (MHz)	2450	5550
Ant.1 Gain (dBi)	-0.5	5.1
Ant.2 Gain (dBi)	3.9	4.4
Phi ( ° )	5	260
Theta( ° )	55	45
Corr. Ant. Gain (dBi) [10^(G <sub>1</sub> /20)+10^(G <sub>2</sub> /20)] <sup>2</sup> /N <sub>ANT.</sub>	3.1	6.0
Uncor. Ant. Gain (dBi) [10^(G <sub>1</sub> /10)+10^(G <sub>2</sub> /10)]/N <sub>ANT.</sub>	1.7	3.0
Corr. Gain (dBi) 10*log(Corr. Ant. Gain)	5.0	7.8
Uncor. Gain (dBi) 10*log(Uncor. Ant. Gain)	2.2	4.8

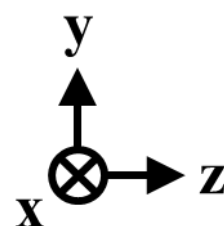
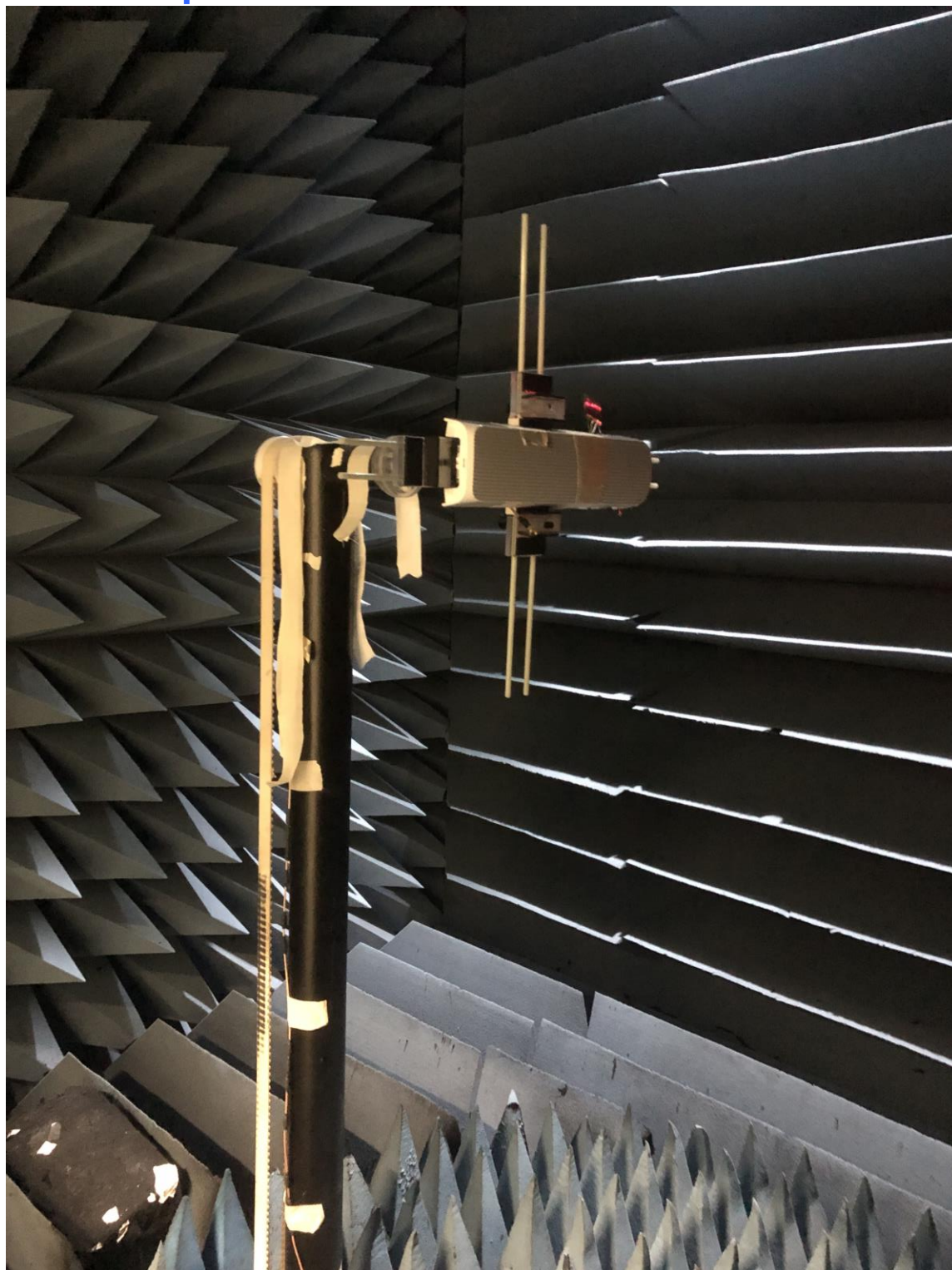
**(Ant. Position : 2G/6G Ant.3~4)**

Frequency (MHz)	2450	6500
Ant.3 Gain (dBi)	1.8	3.1
Ant.4 Gain (dBi)	0.6	4.3
Phi ( ° )	115	50
Theta( ° )	10	45
Corr. Ant. Gain (dBi) [10 <sup>^(G<sub>1</sub>/20)</sup> +10 <sup>^(G<sub>2</sub>/20)</sup> ] <sup>2</sup> /N <sub>ANT.</sub>	2.7	4.7
Uncor. Ant. Gain (dBi) [10 <sup>^(G<sub>1</sub>/10)</sup> +10 <sup>^(G<sub>2</sub>/10)</sup> ]/N <sub>ANT.</sub>	1.3	2.4
Corr. Gain (dBi) 10*log(Corr. Ant. Gain)	4.2	6.7
Uncor. Gain (dBi) 10*log(Uncor. Ant. Gain)	1.3	3.7

Note : Antenna gain is the correlated / uncorrelated gain position in the appendix gain table.



## 9. Test Setup

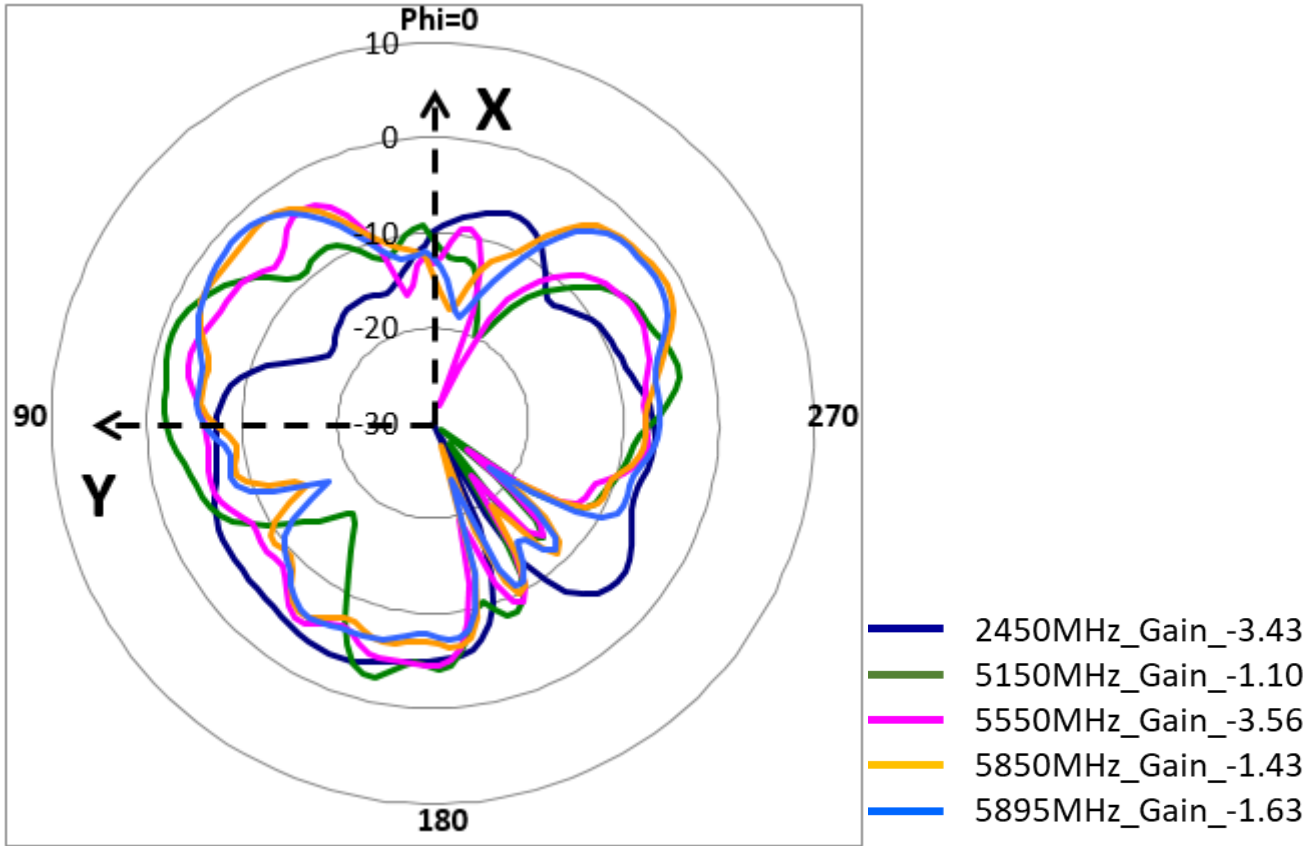


Note :  
Top cover toward +Z direction

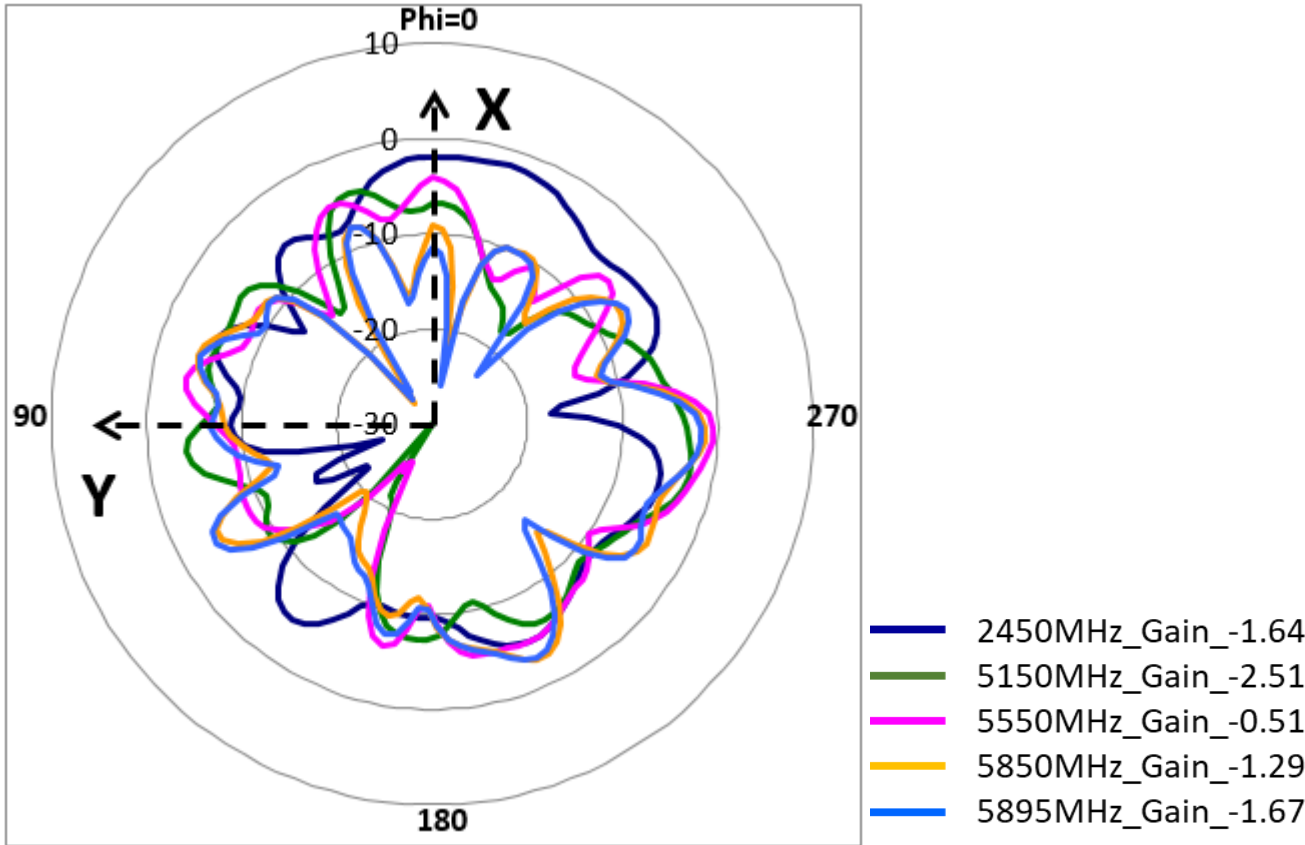
10. Radiation Pattern

Ant. Position : 2G/5G Ant.1~2

XY\_Pol.\_Phi\_Ant.1

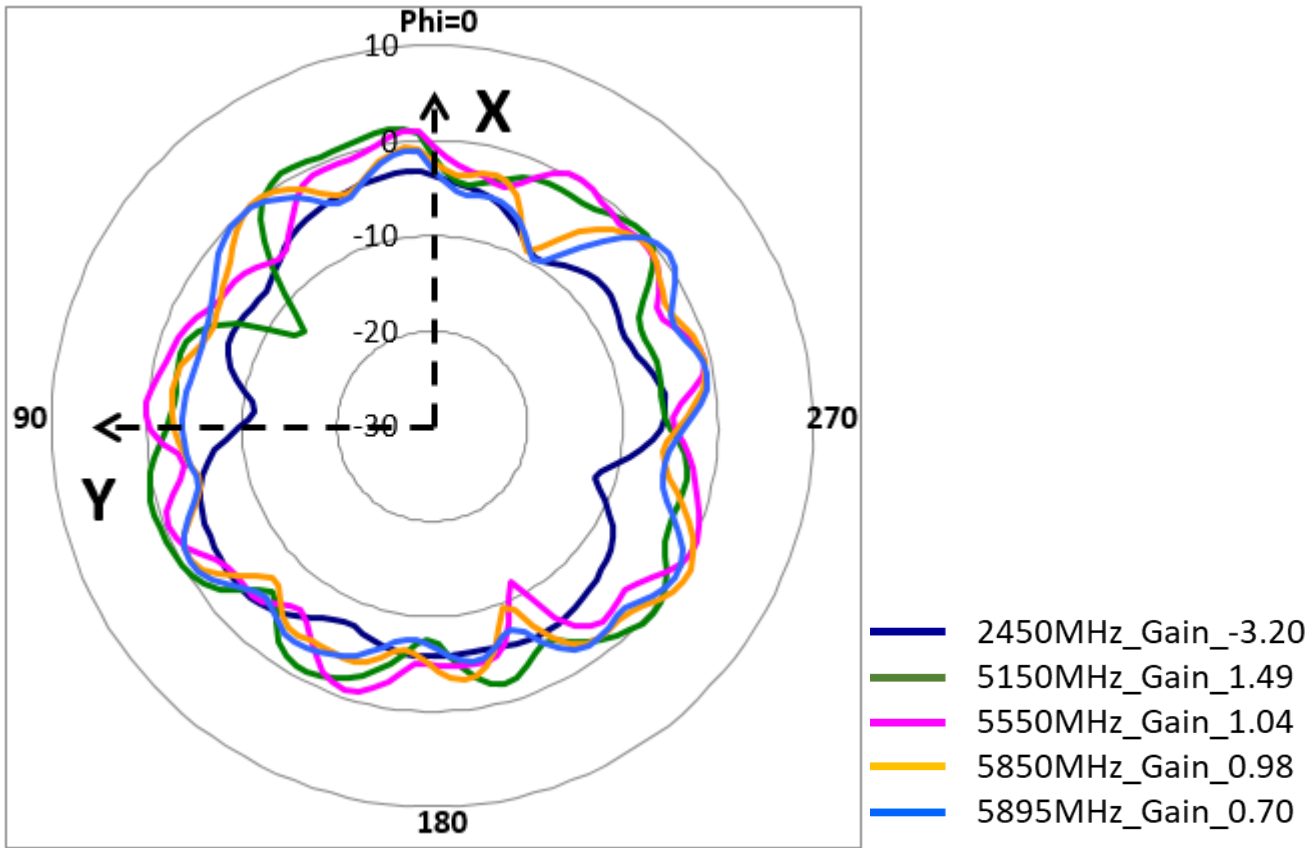


XY\_Pol.\_Phi\_Ant.2

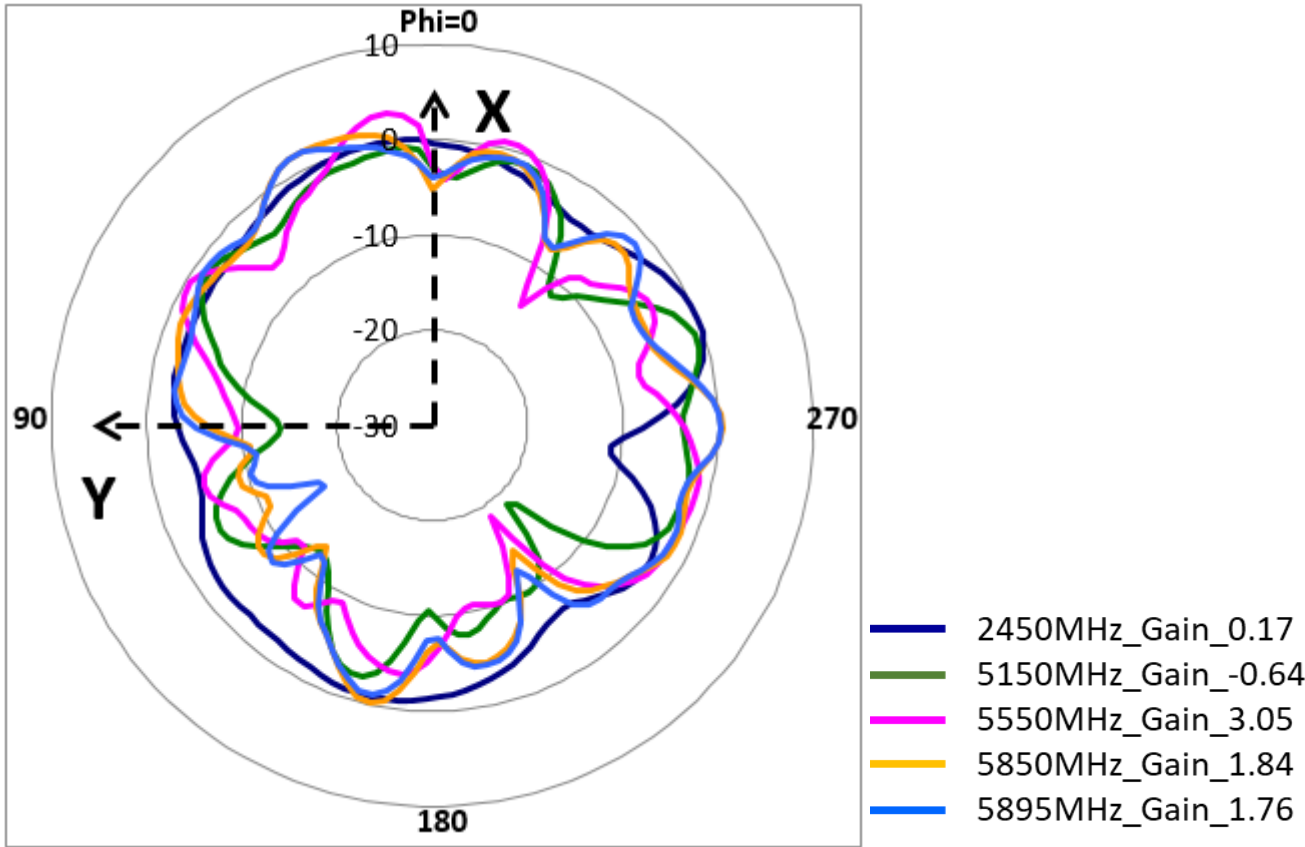




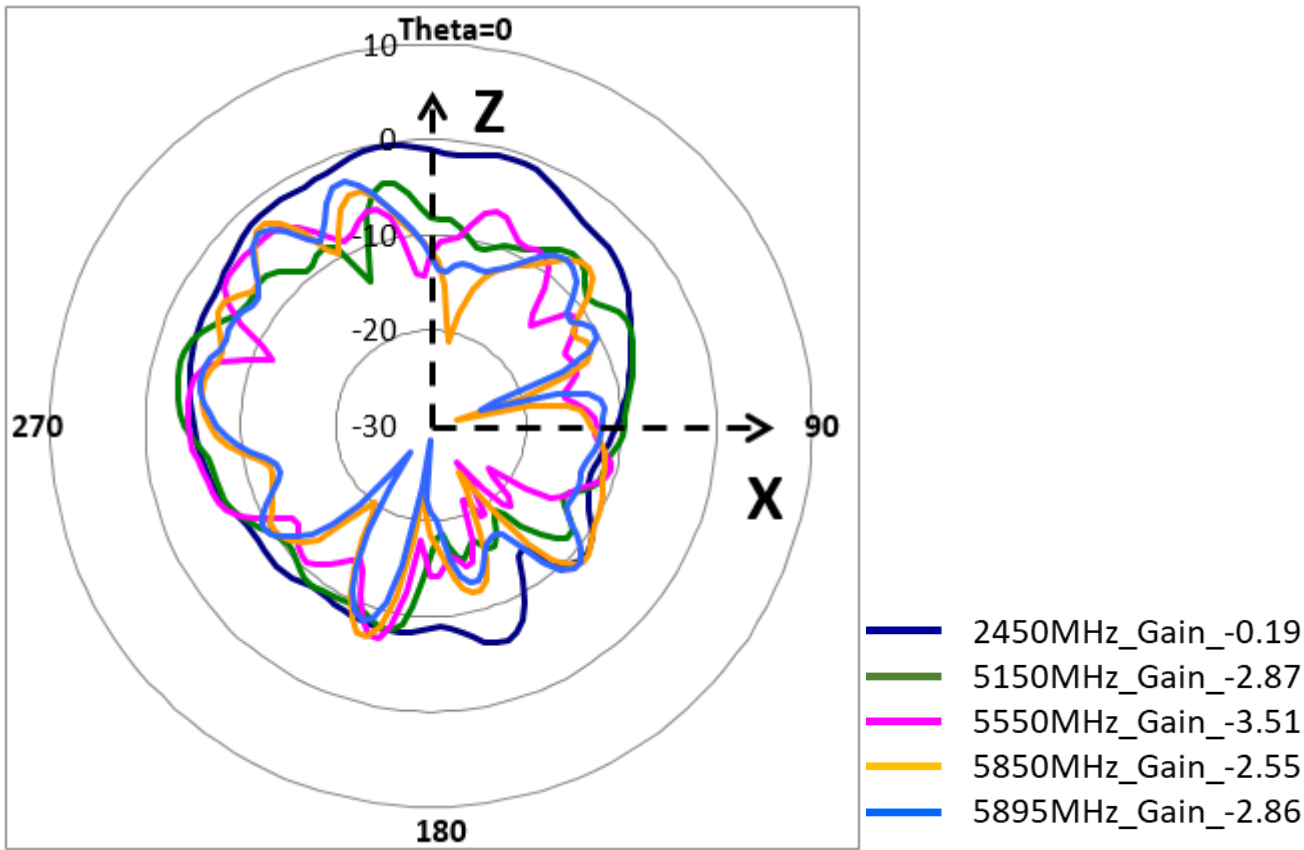
XY\_Pol.\_Theta\_Ant.1



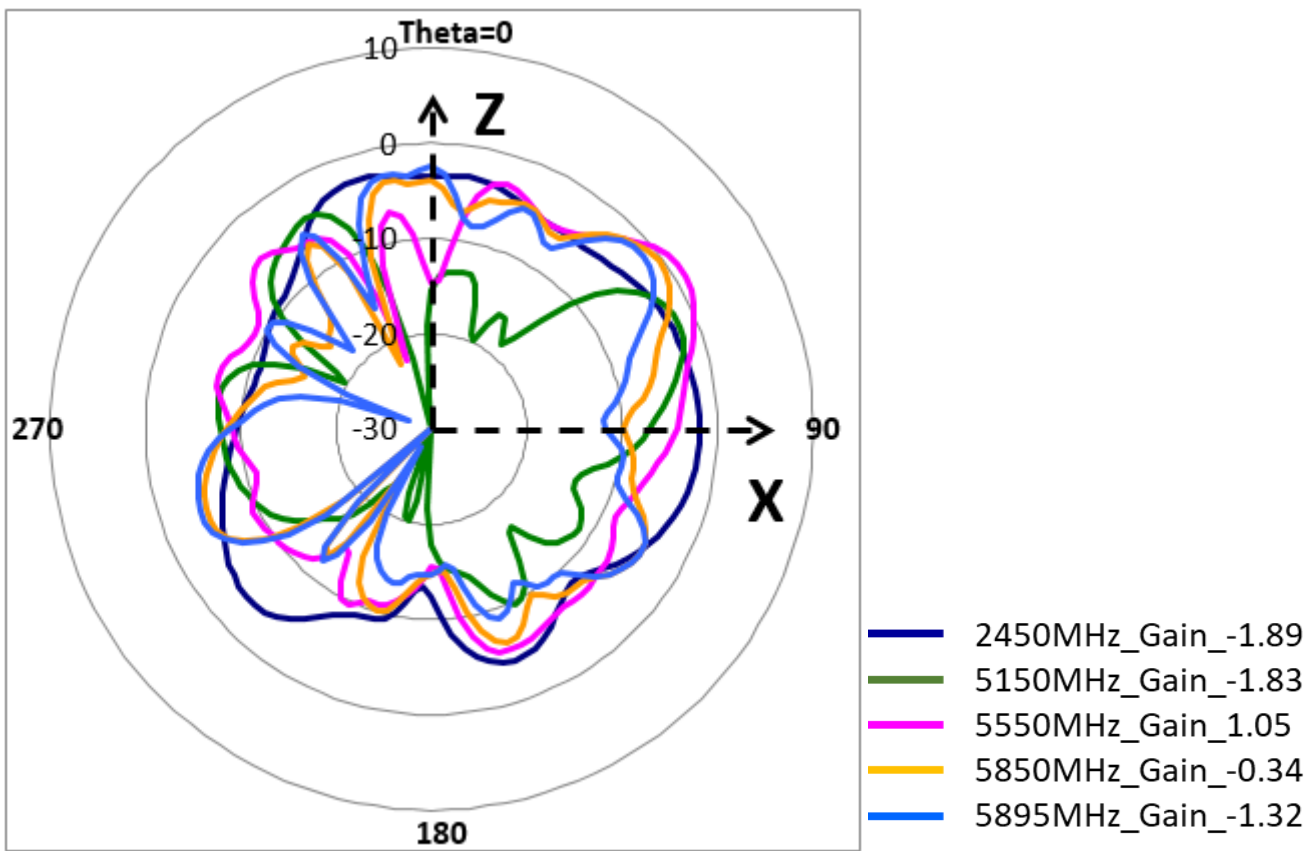
XY\_Pol.\_Theta\_Ant.2



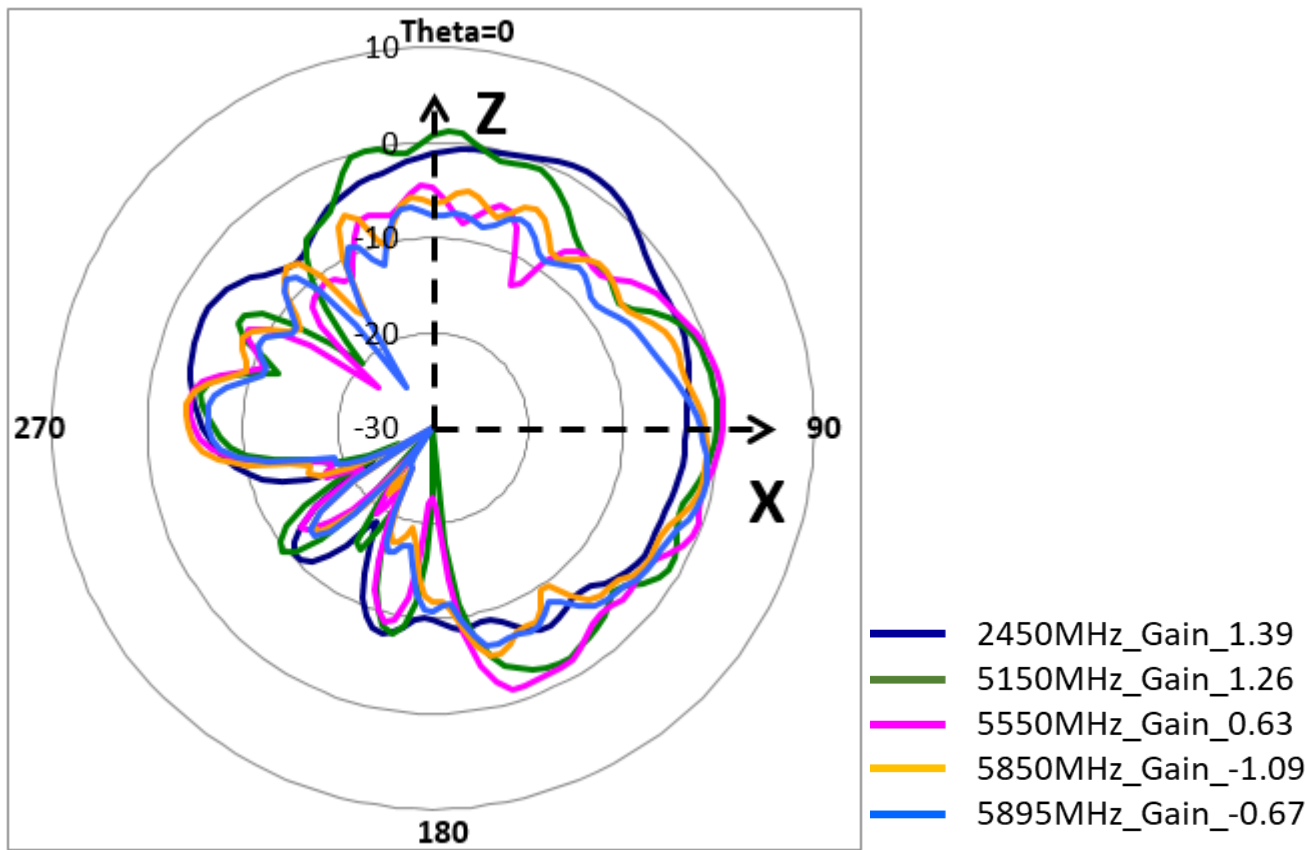
XZ\_Pol.\_Phi\_Ant.1



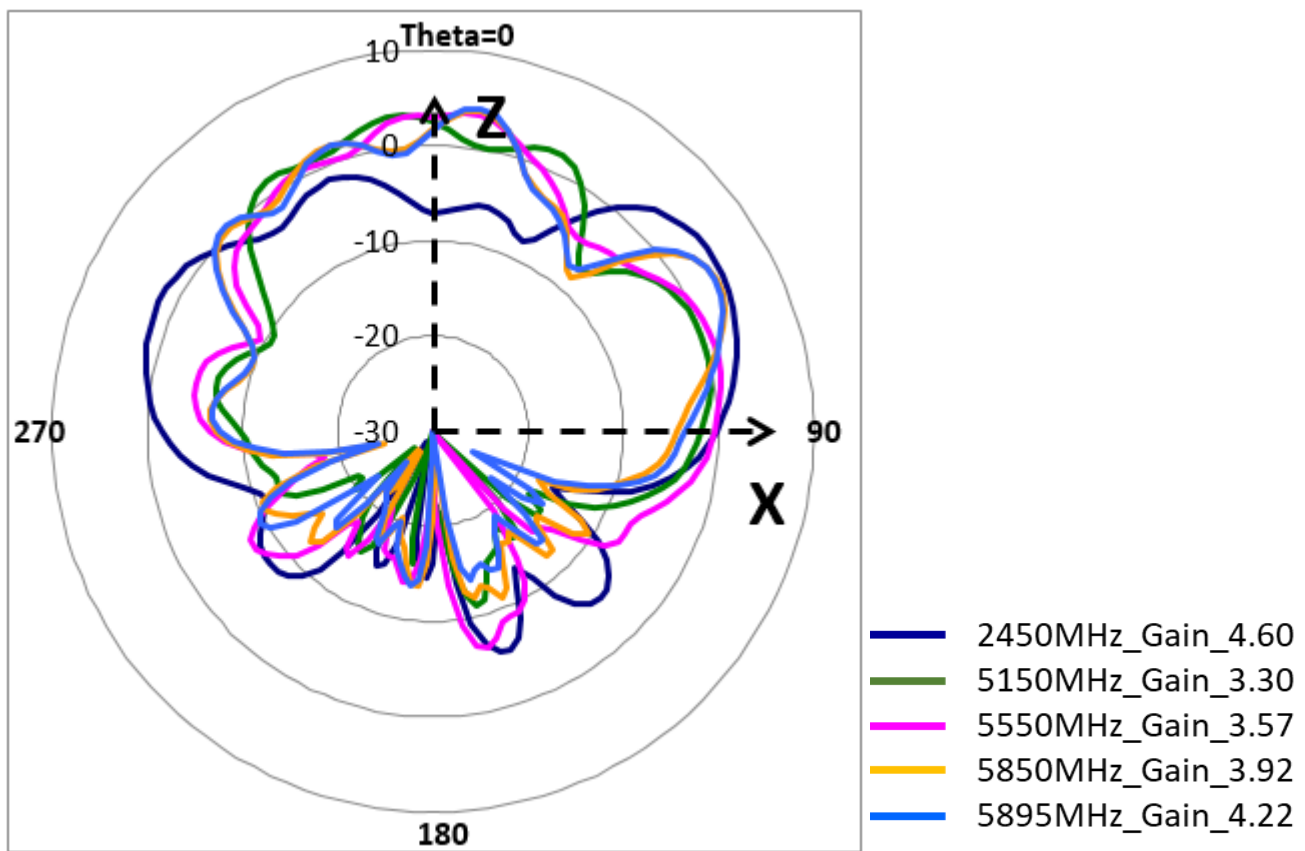
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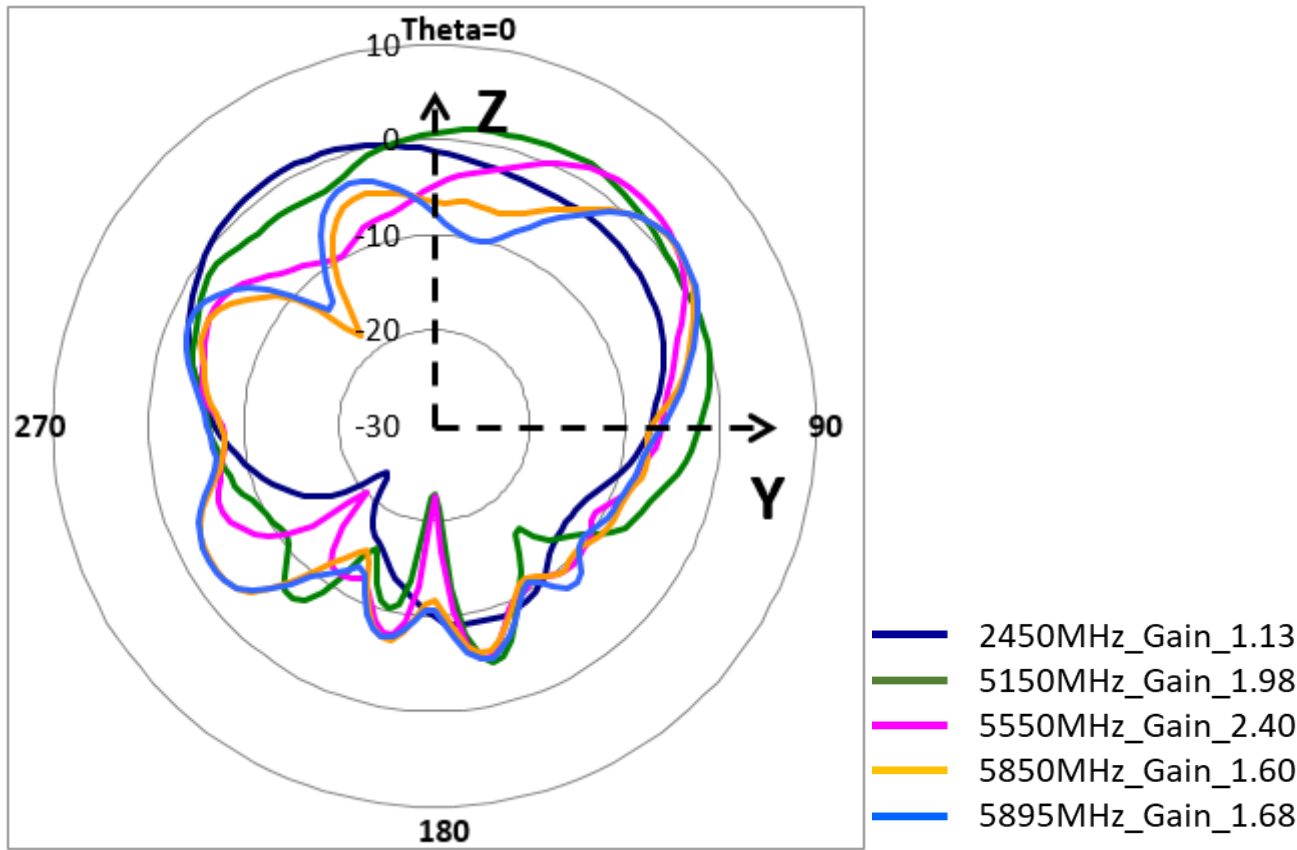
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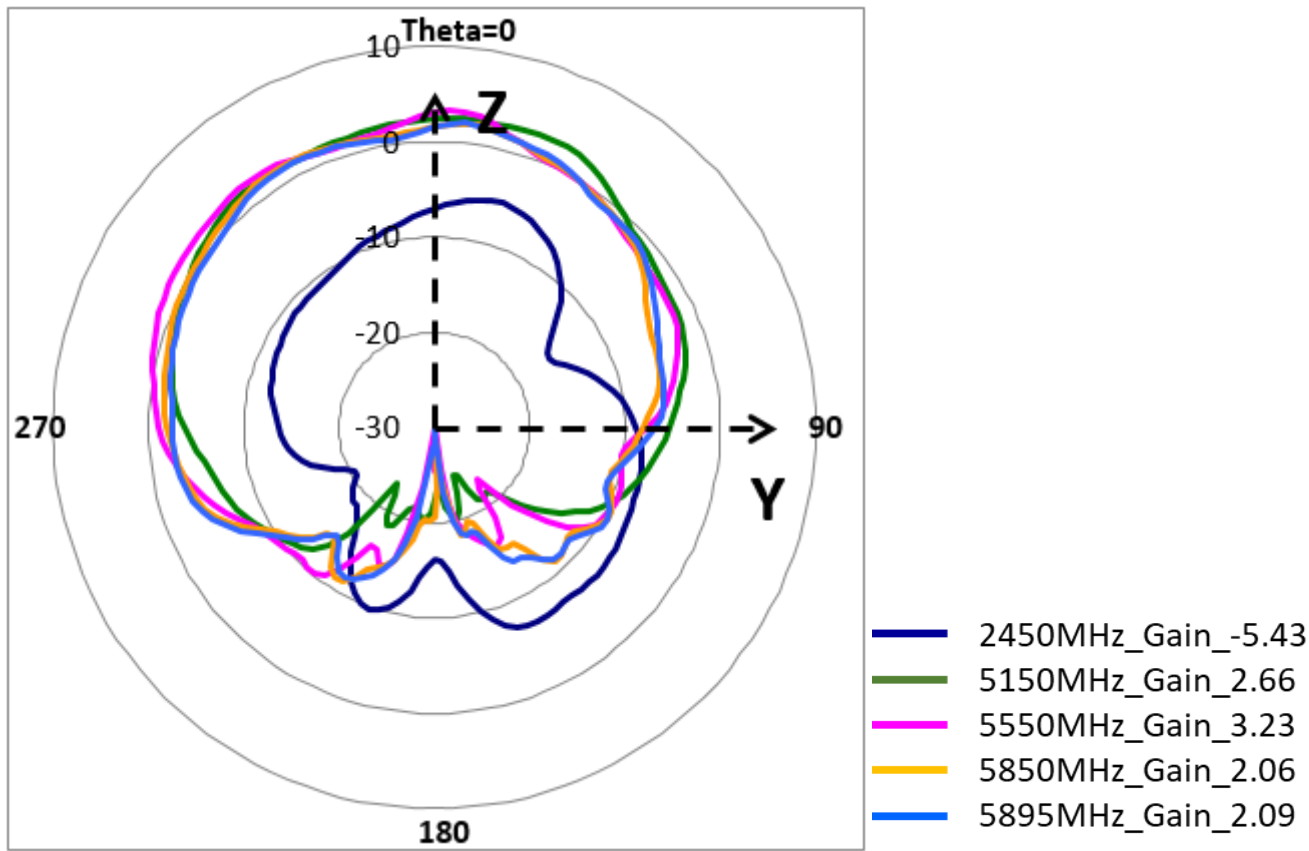
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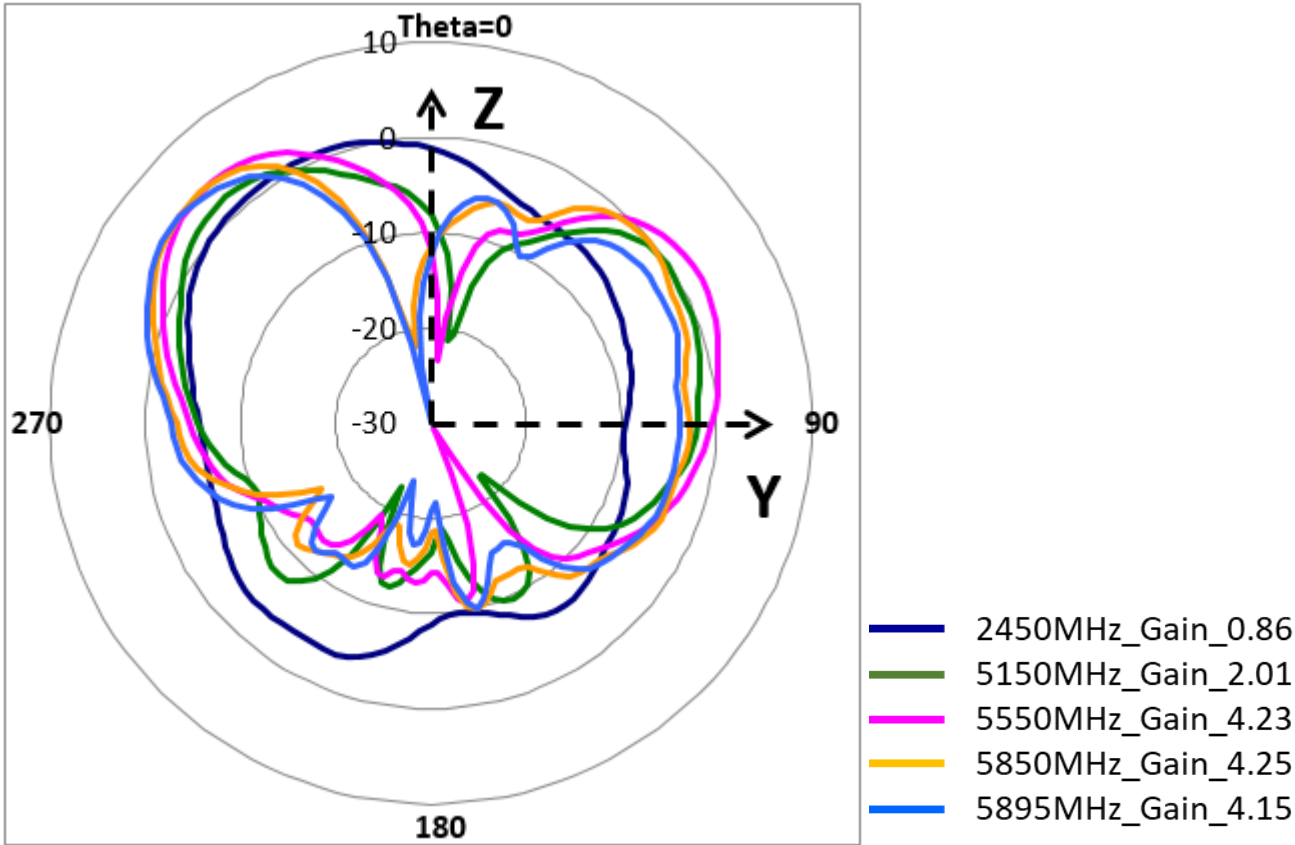
YZ\_Pol.\_Phi\_Ant.1



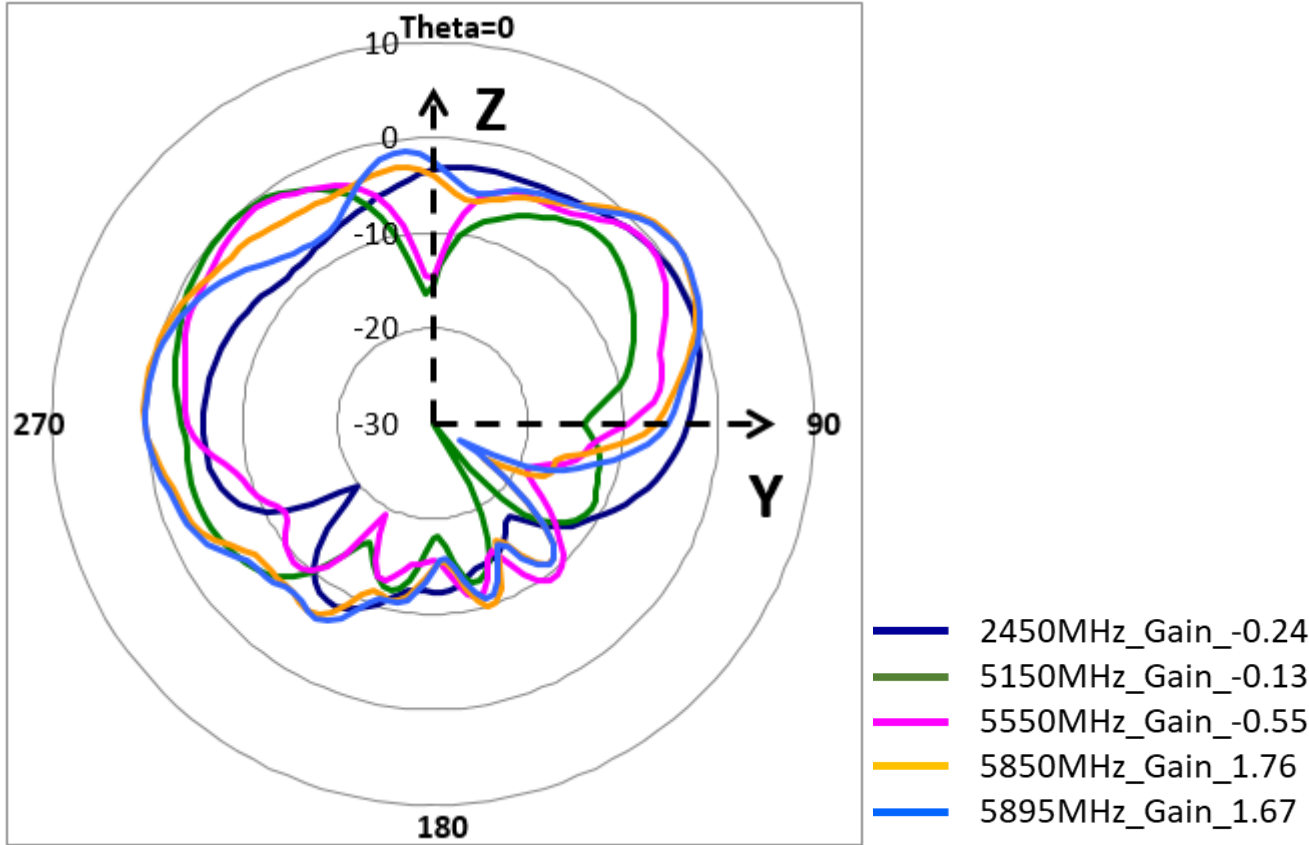
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YZ\_Pol.\_Theta\_Ant.1

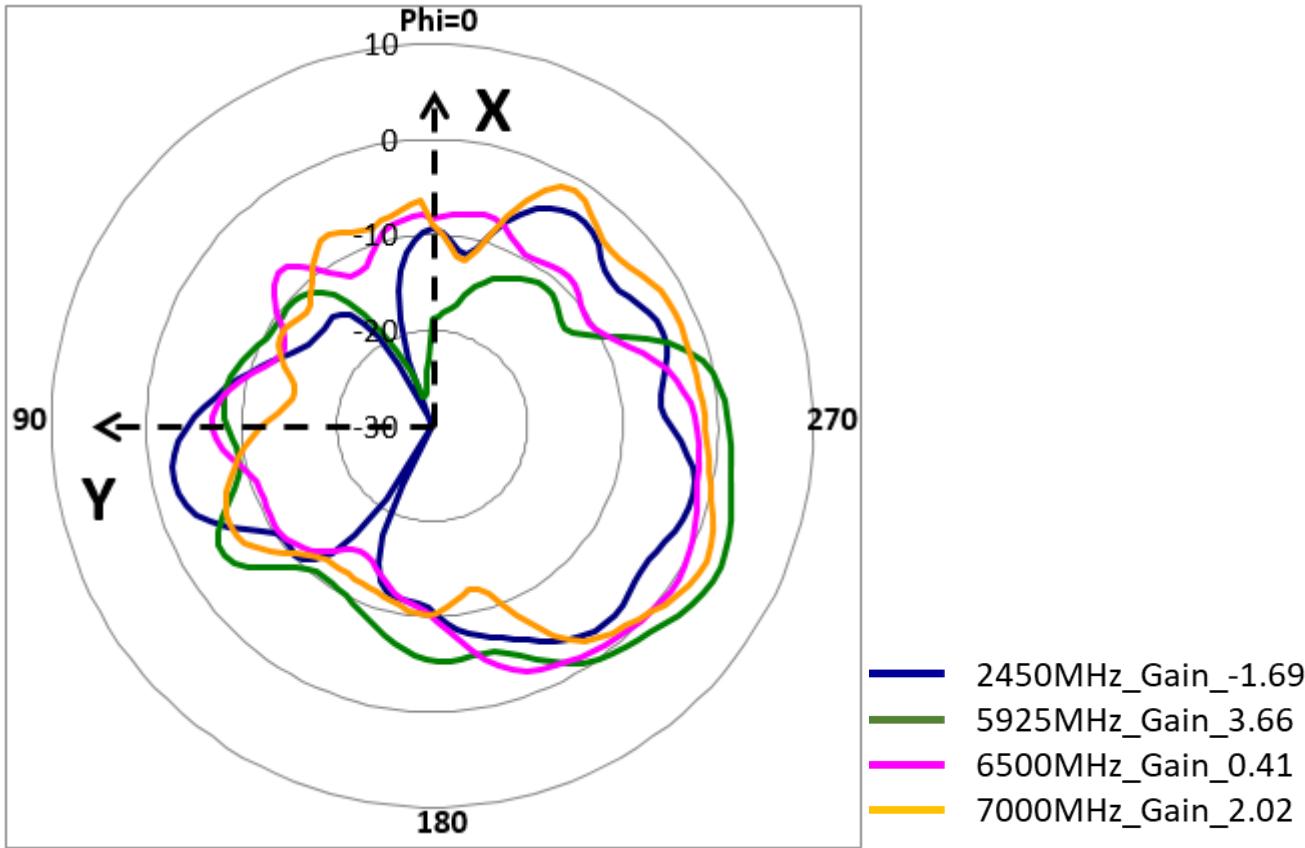


YZ\_Pol.\_Theta\_Ant.2

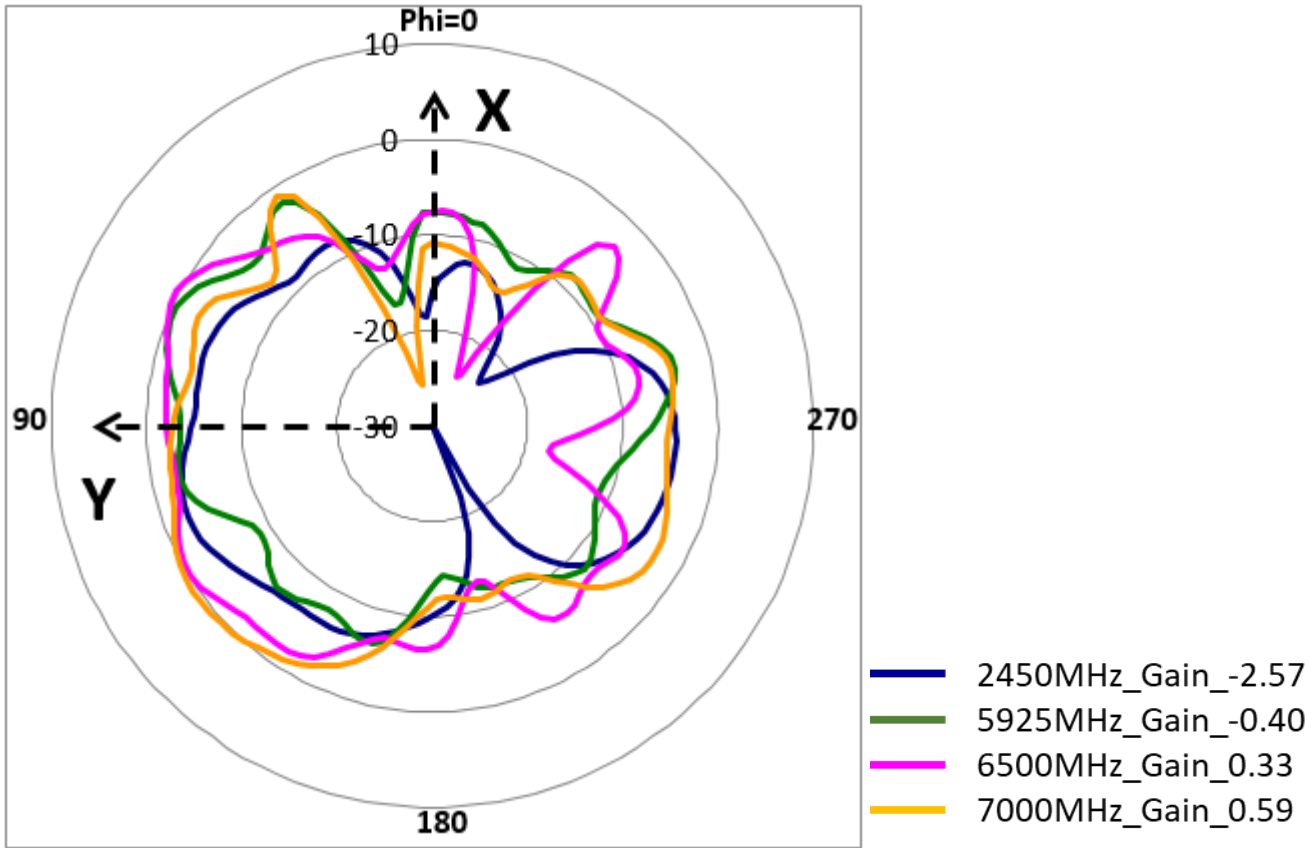


Ant. Position : 2G/6G Ant.3~4

XY\_Pol.\_Phi\_Ant.3

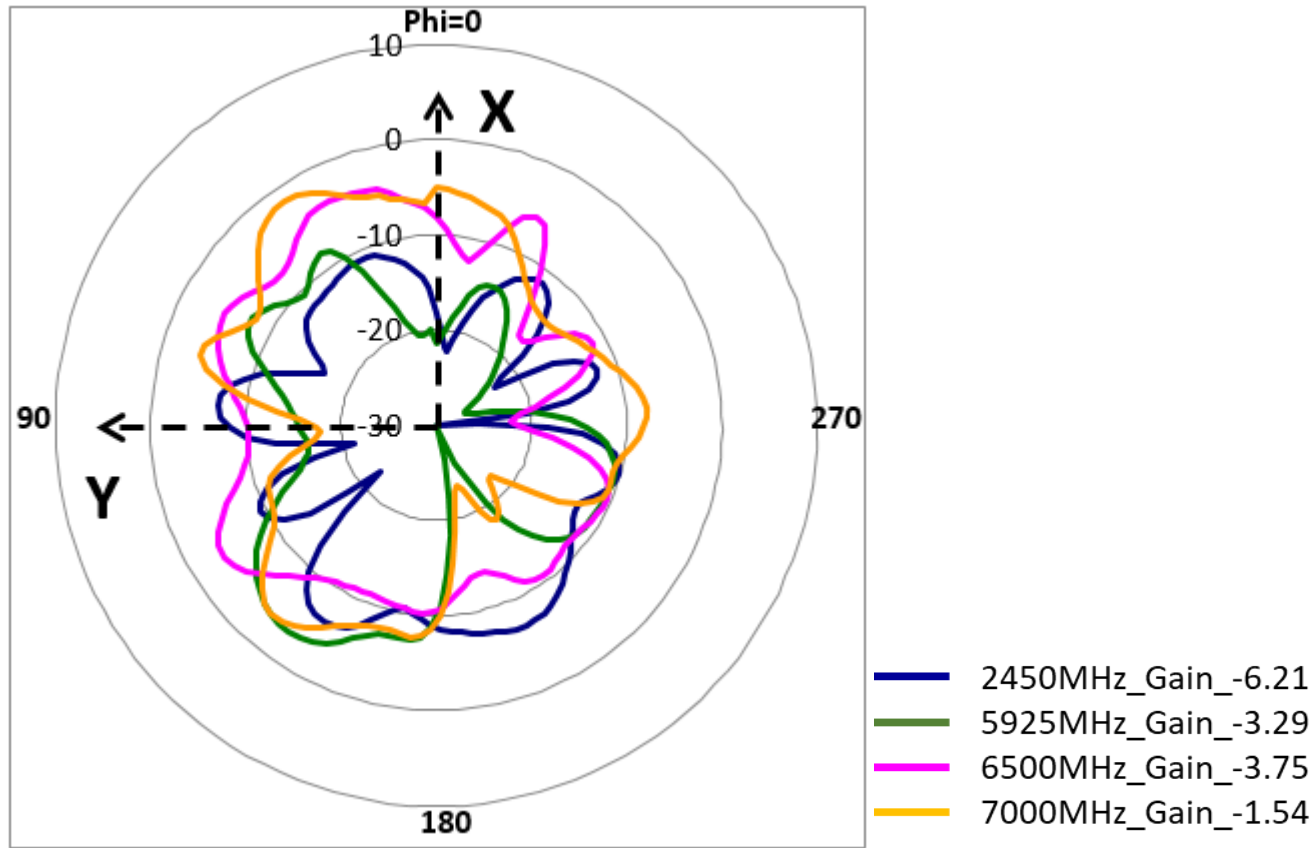


XY\_Pol.\_Phi\_Ant.4

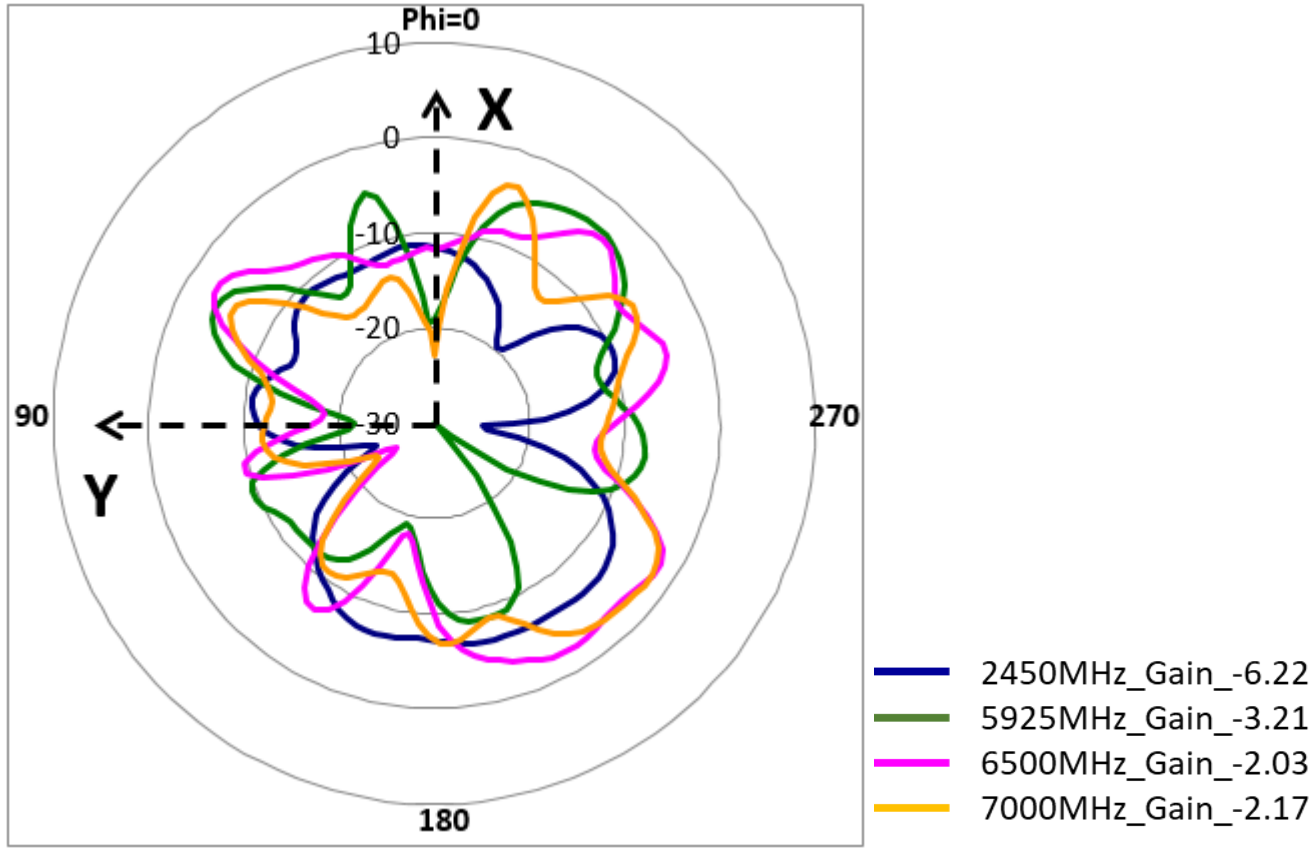




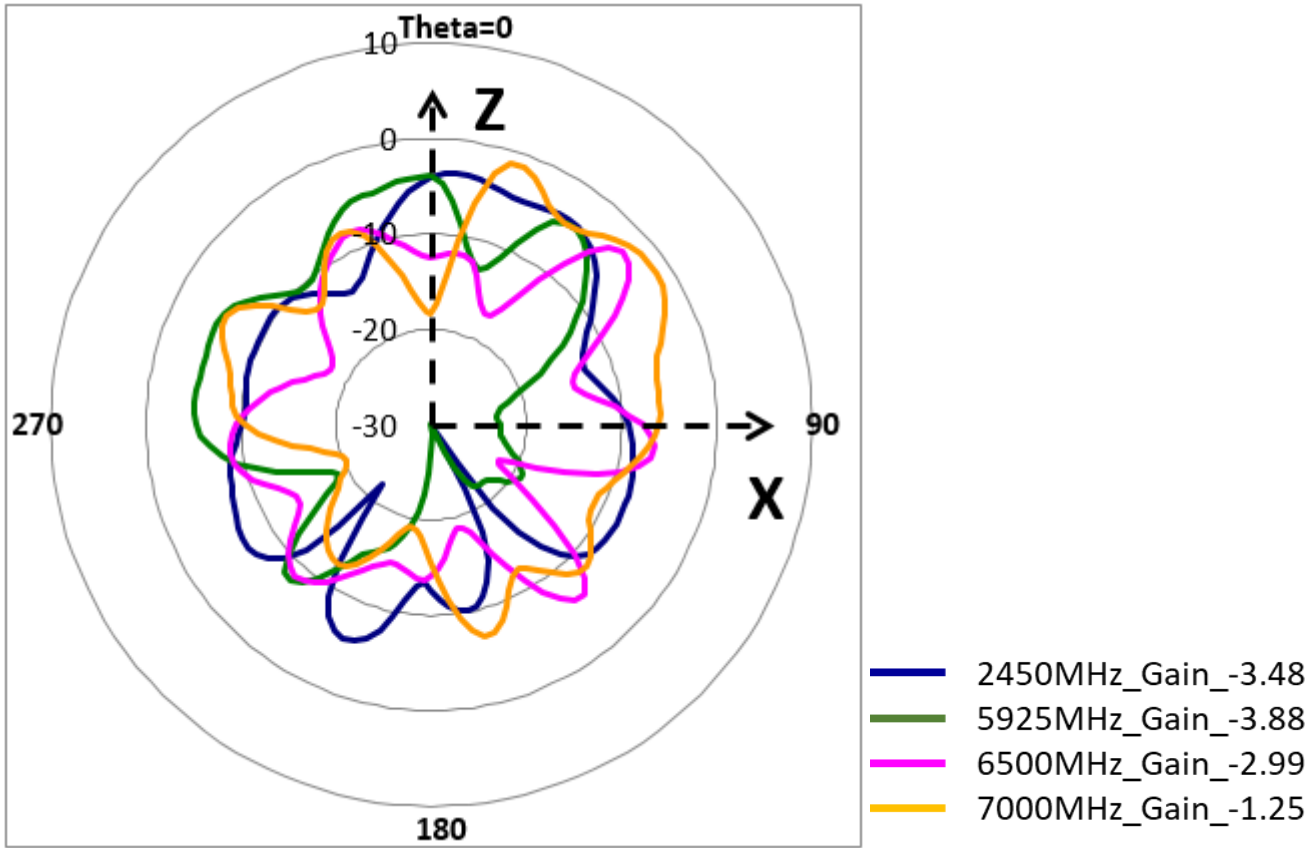
XY\_Pol.\_Theta\_Ant.3



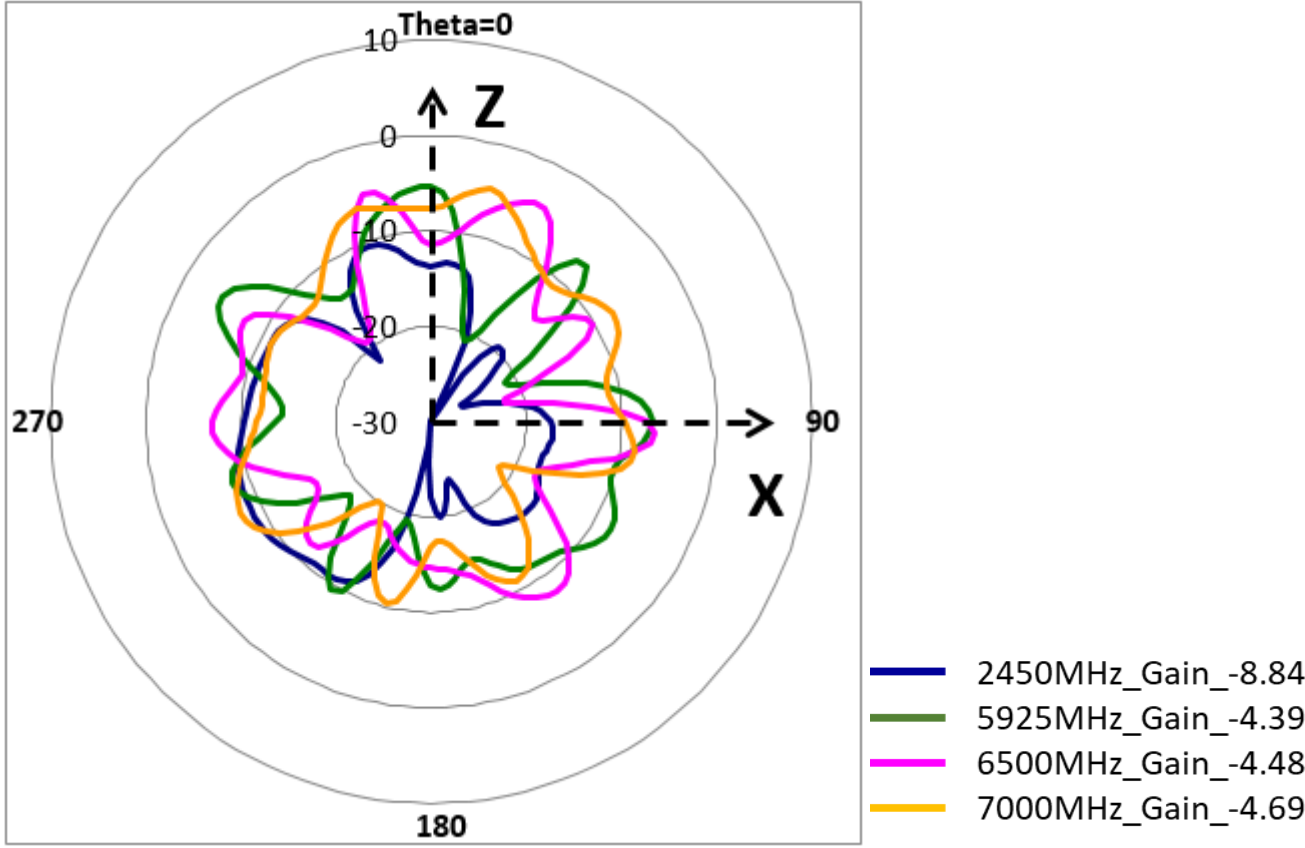
XY\_Pol.\_Theta\_Ant.4



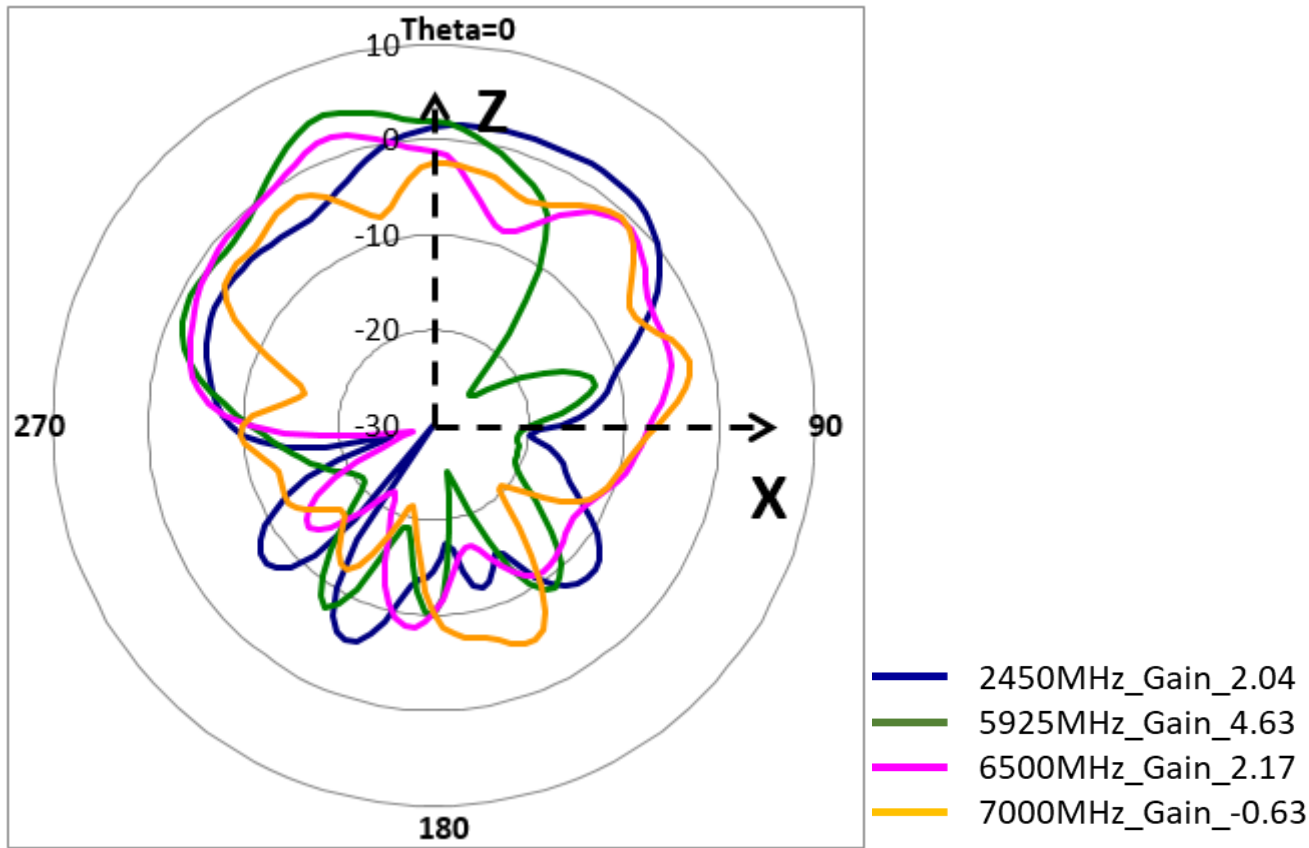
XZ\_Pol.\_Phi\_Ant.3



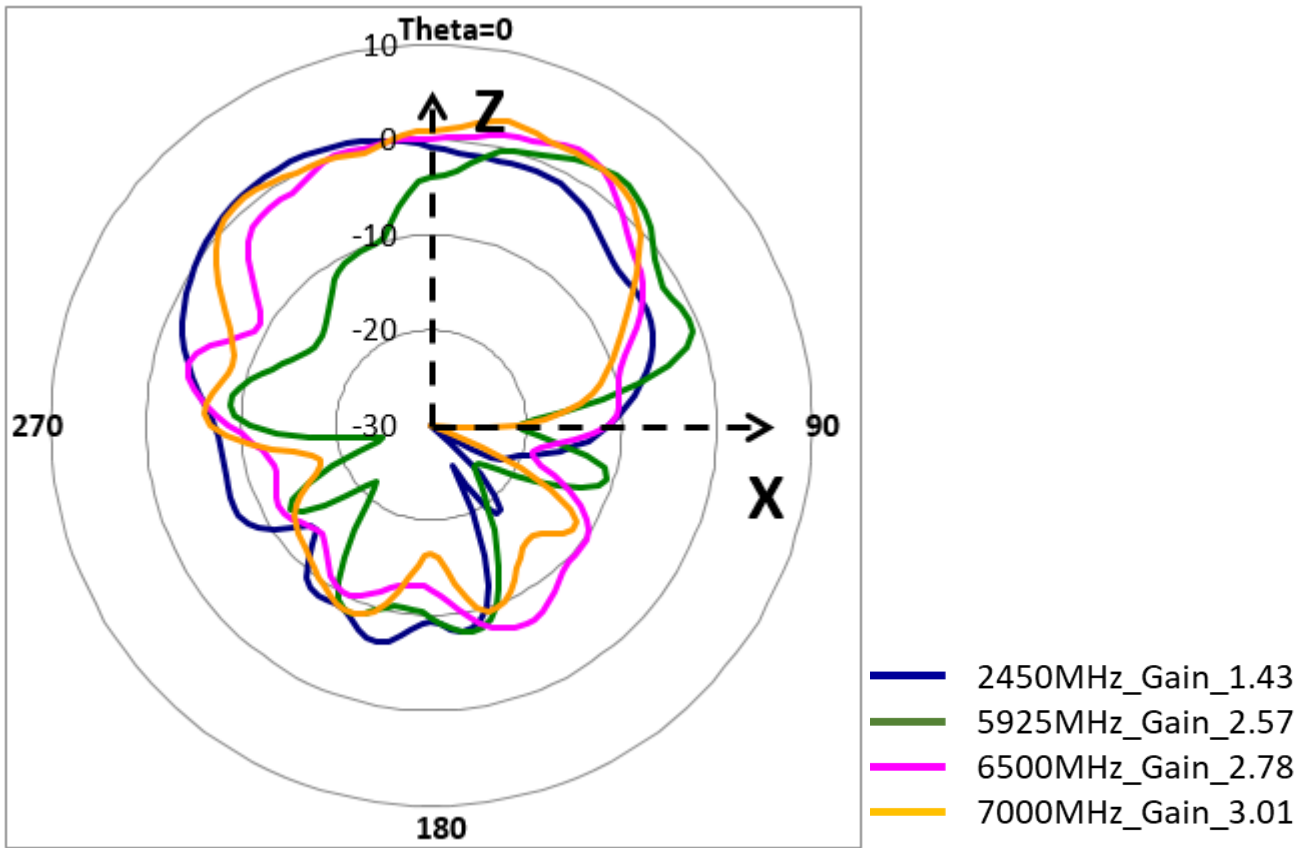
XZ\_Pol.\_Phi\_Ant.4



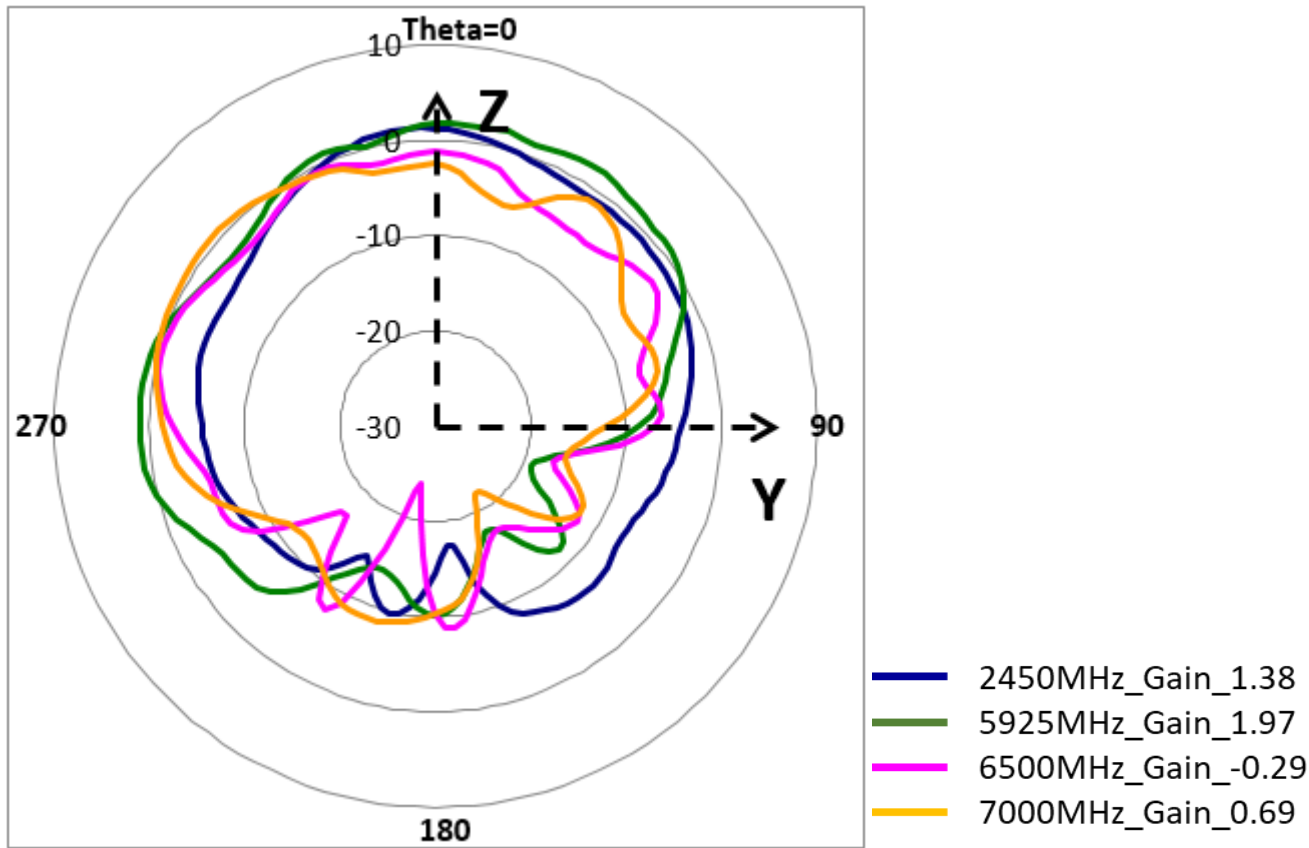
XZ\_Pol.\_Theta\_Ant.3



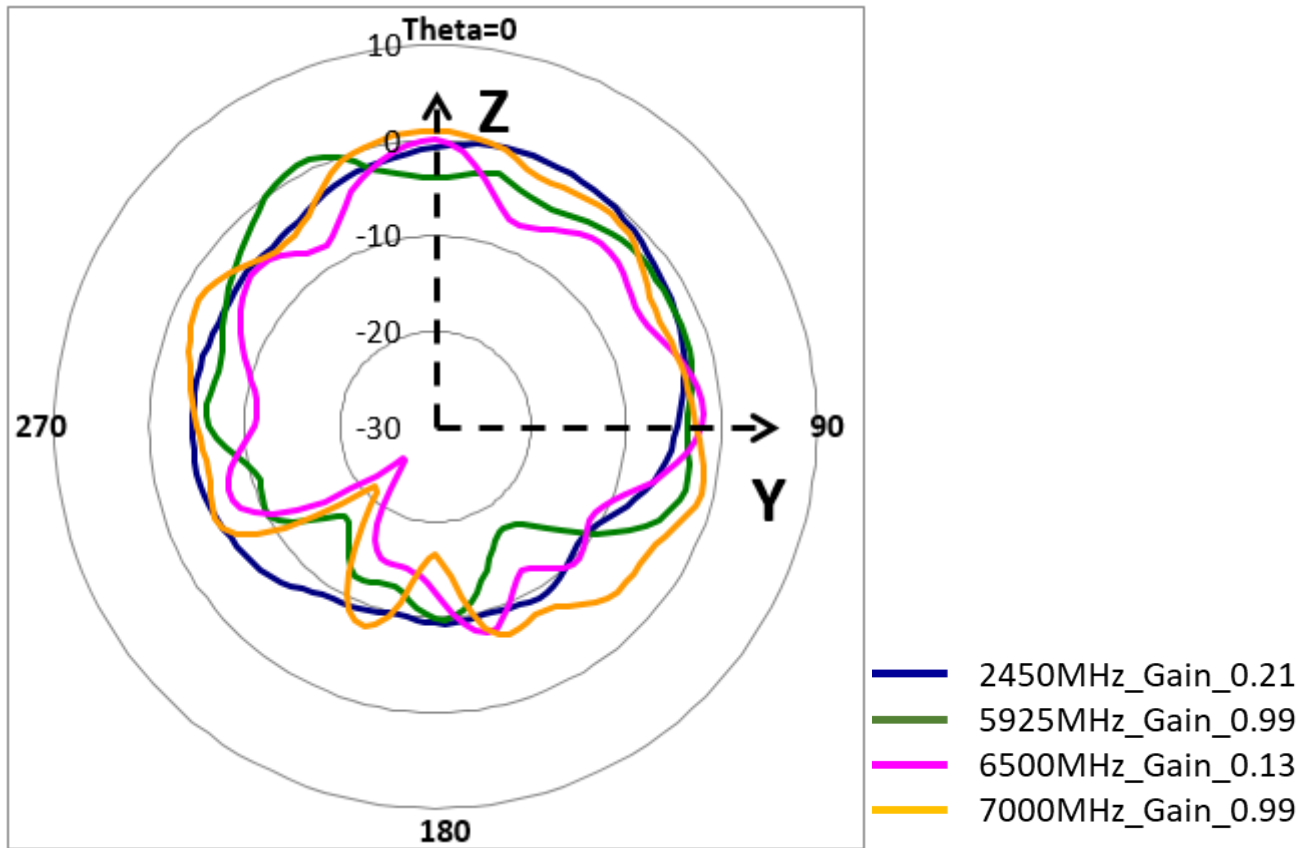
XZ\_Pol.\_Theta\_Ant.4



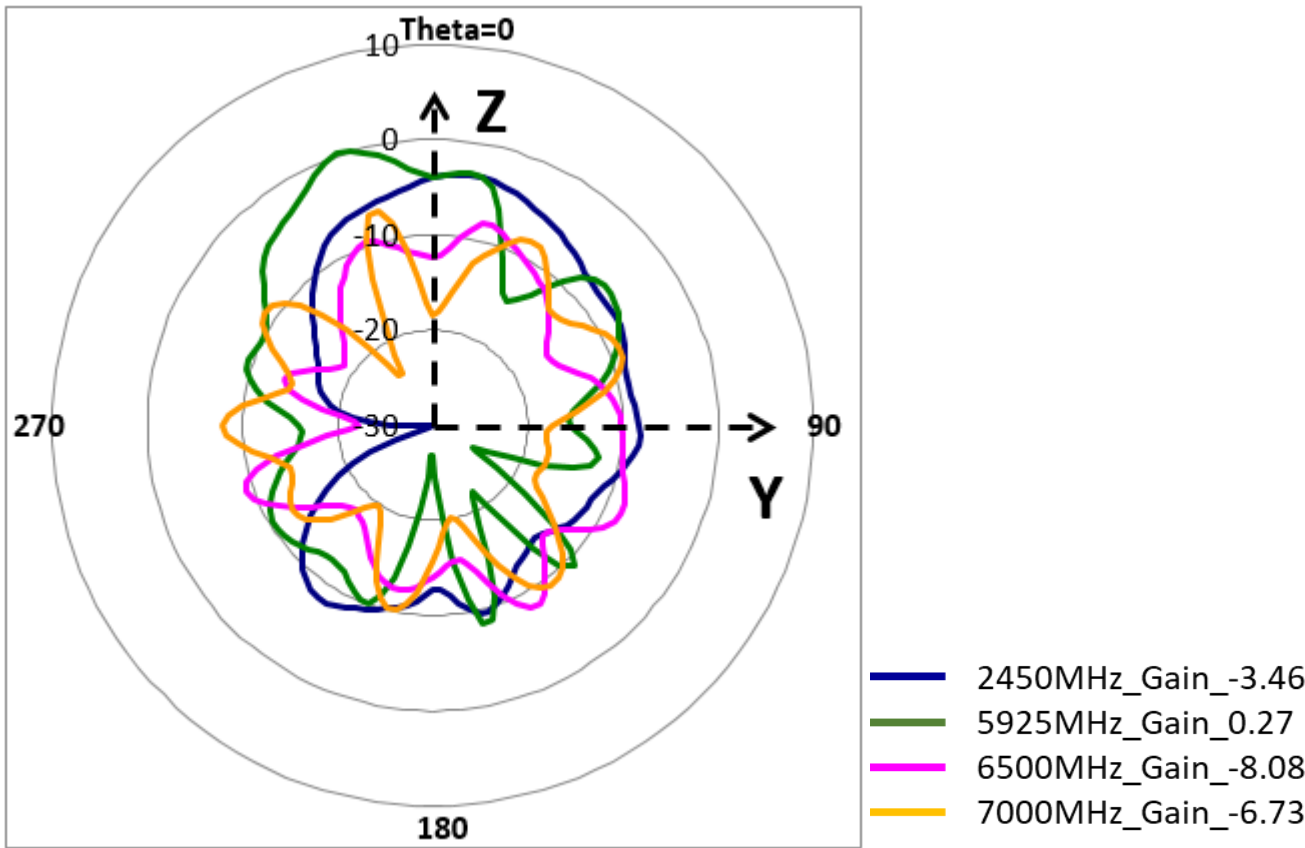
YZ\_Pol.\_Phi\_Ant.3



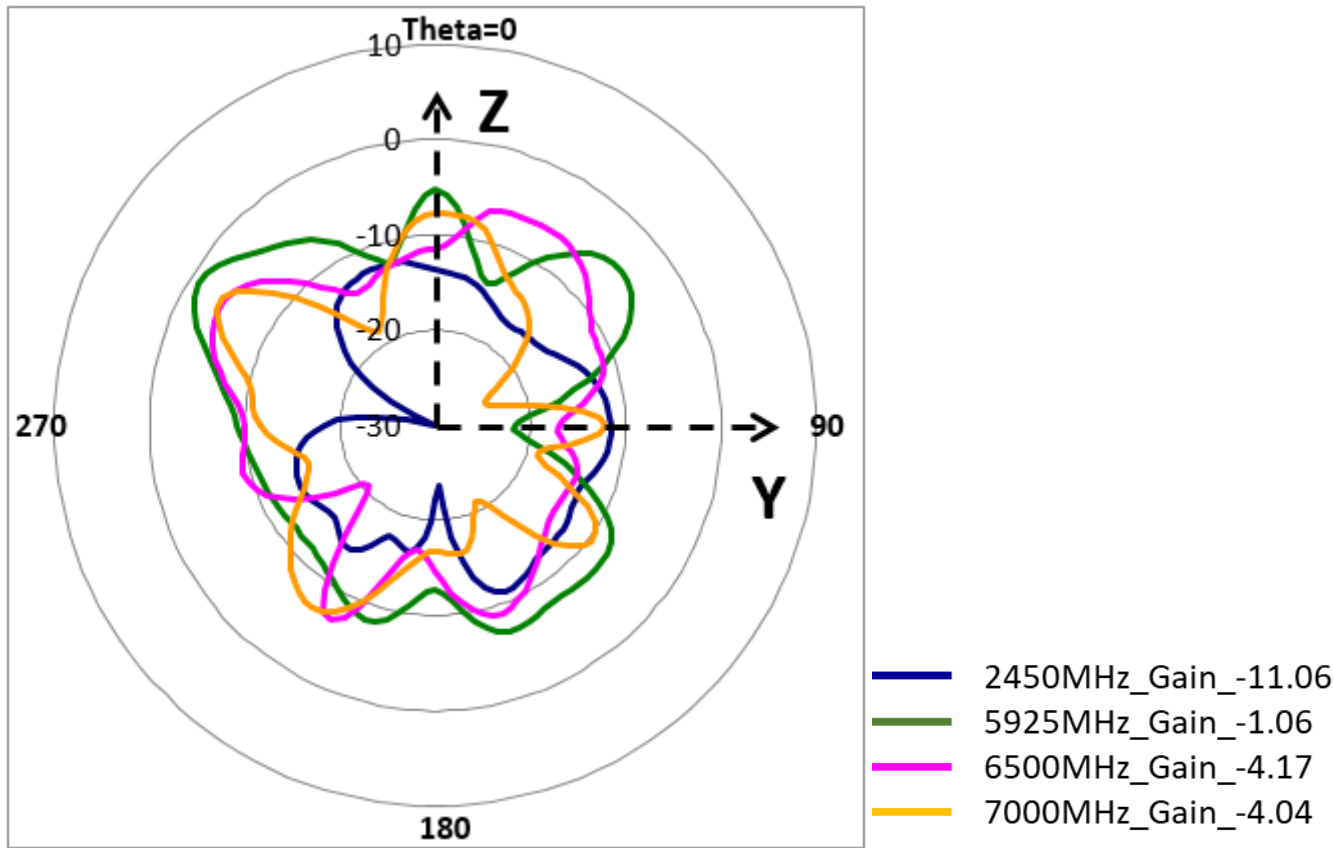
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YZ\_Pol.\_Theta\_Ant.3

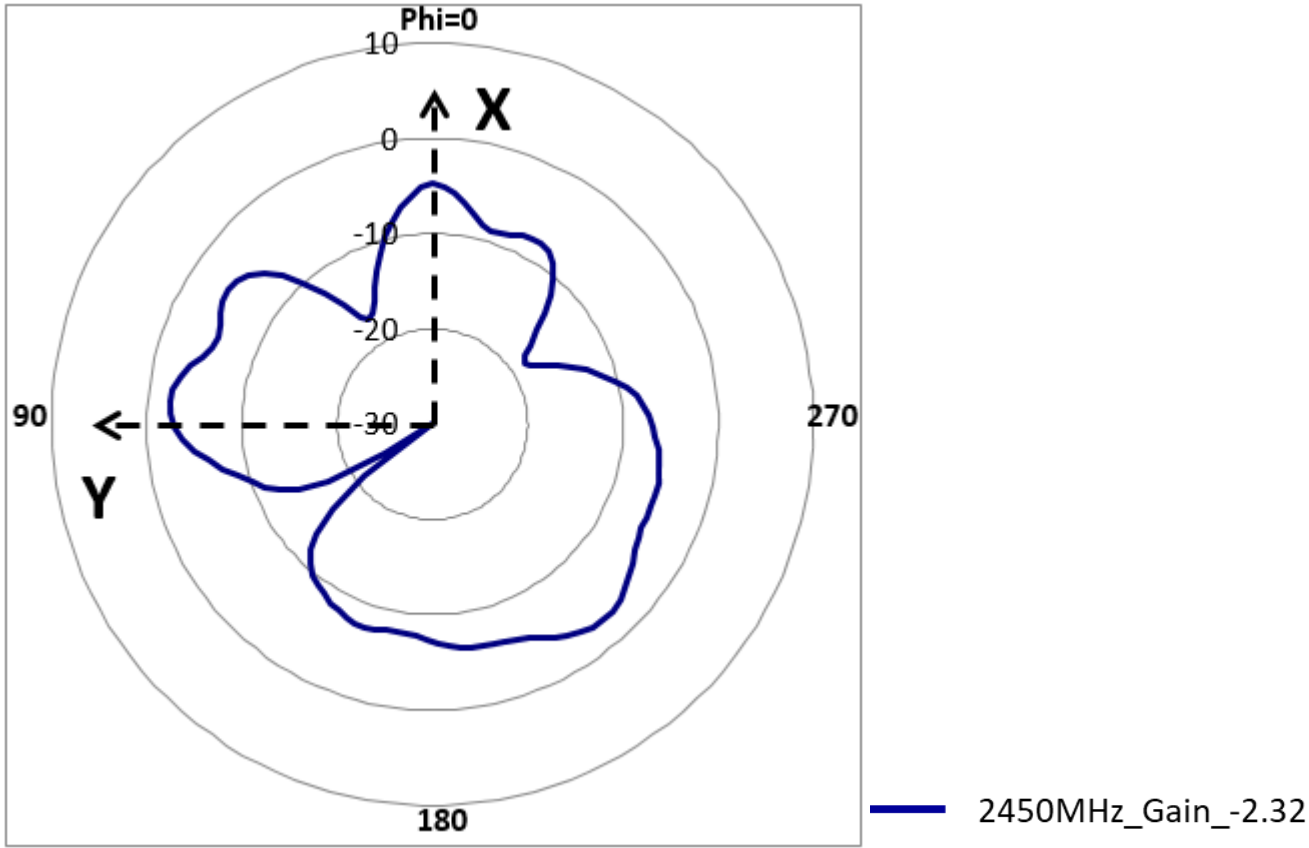


YZ\_Pol.\_Theta\_Ant.4

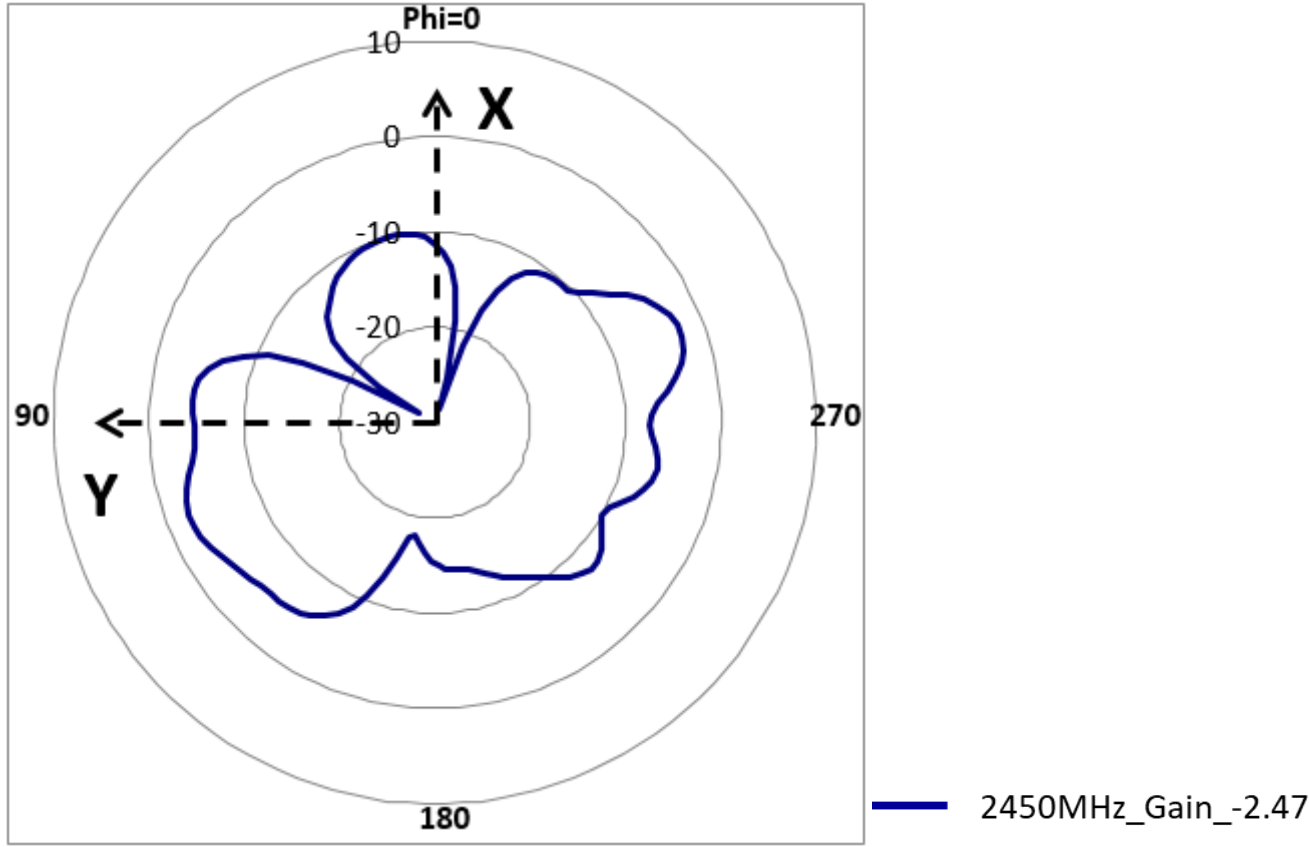


Ant. Position : BLE Ant.5

XY\_Pol.\_Phi\_Ant.5

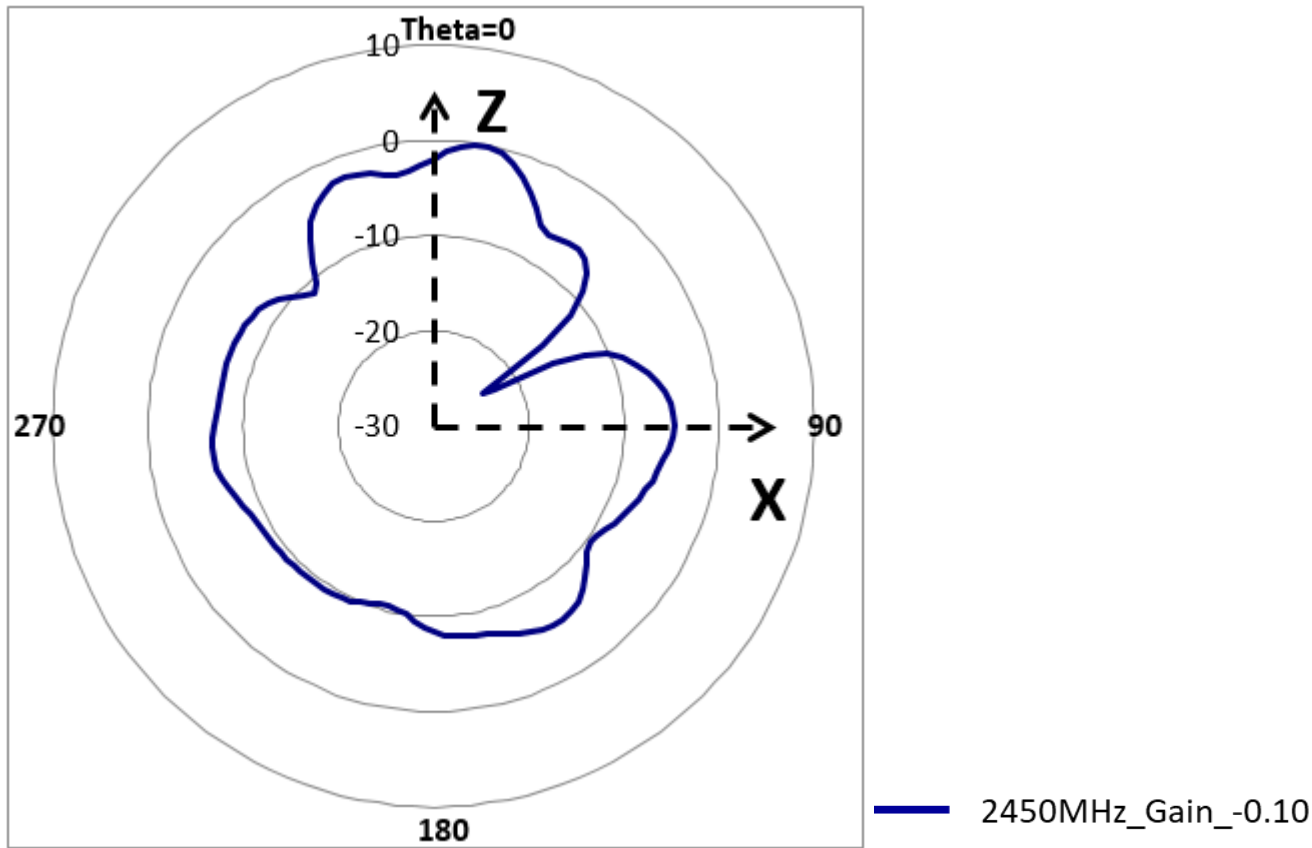


XY\_Pol.\_Theta\_Ant.5

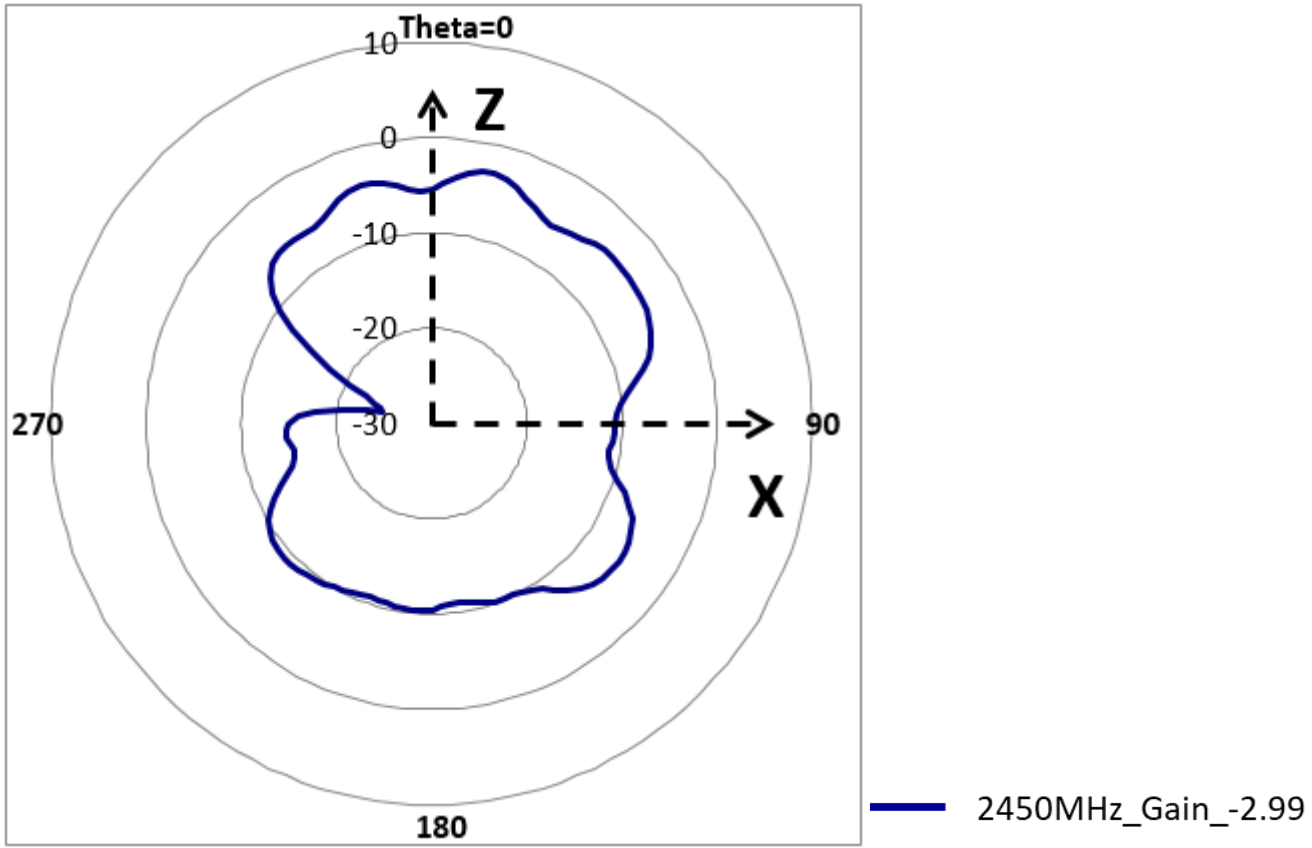




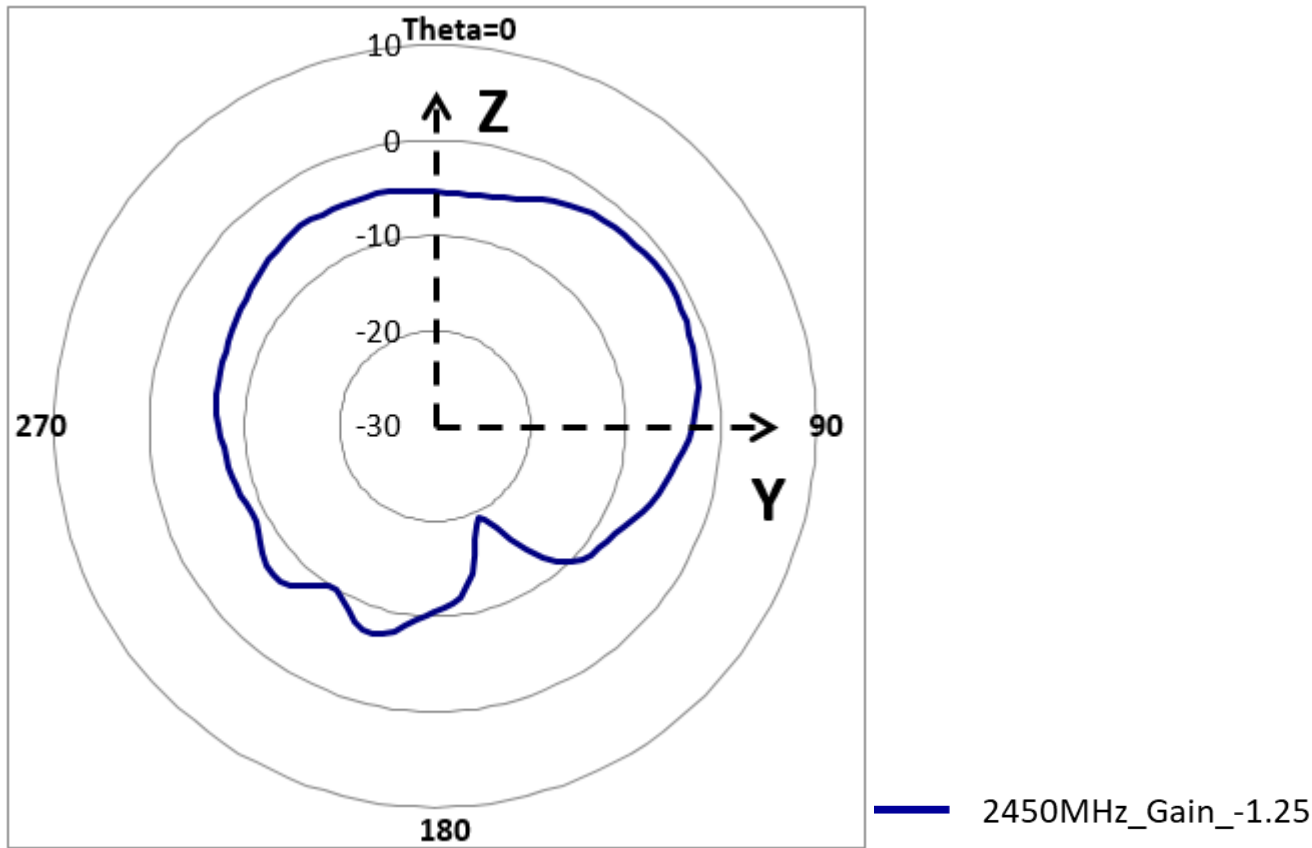
XZ\_Pol.\_Phi\_Ant.5



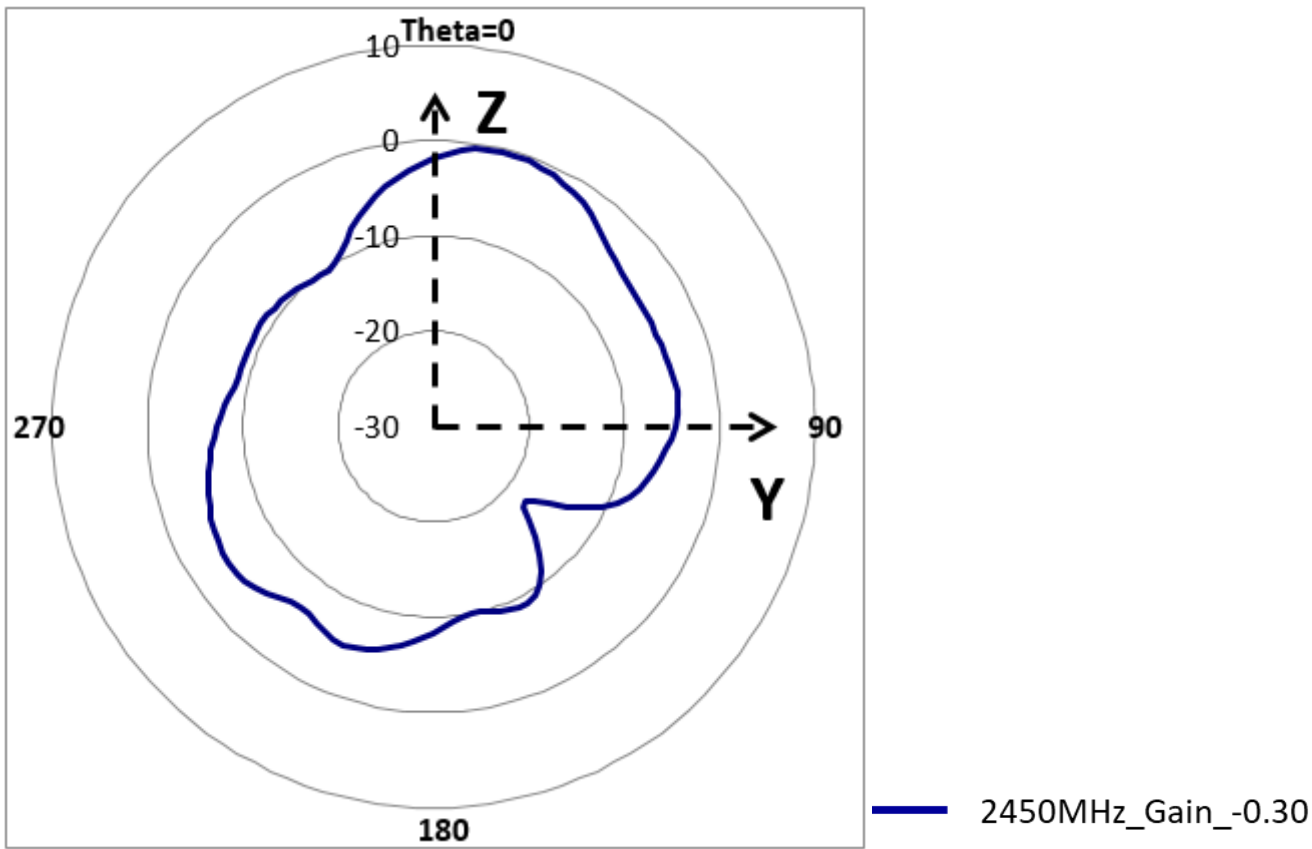
XZ\_Pol.\_Theta\_Ant.5



YZ\_Pol.\_Phi\_Ant.5



YZ\_Pol.\_Theta\_Ant.5



Appendix Radiated Total Gain In Result  
Ant. Position : 2G/5G Ant.1

2450 Theta Azim (°) Phi/Azim (°)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180
Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	
0	1.33	1.46	1.73	2.06	2.31	2.43	2.39	2.17	1.70	1.06	0.18	-0.53	-0.98	-1.20	-1.46	-1.86	-2.38	-2.85	-3.16	-3.31	-3.40	-3.44	-3.38	-3.35	-3.22	-3.04	-2.84	-2.53	-2.30	-2.10	-2.01	-2.00	-2.07	-2.16	-2.34	-2.63	
5	1.33	1.41	1.69	2.02	2.27	2.39	2.35	2.13	1.66	0.92	0.04	-0.71	-1.16	-1.38	-1.64	-2.04	-2.51	-2.98	-3.29	-3.44	-3.53	-3.57	-3.50	-3.47	-3.34	-3.14	-2.94	-2.63	-2.40	-2.20	-2.11	-2.10	-2.17	-2.35	-2.64		
10	1.33	1.36	1.56	1.86	2.08	2.16	2.09	1.80	1.34	0.57	0.18	-0.71	-1.14	-1.36	-1.62	-2.02	-2.48	-2.88	-3.17	-3.32	-3.41	-3.45	-3.40	-3.37	-3.24	-3.04	-2.84	-2.53	-2.30	-2.10	-2.01	-2.00	-2.07	-2.25	-2.54		
15	1.33	1.31	1.46	1.74	1.93	1.86	1.83	1.59	1.25	0.73	-0.03	-0.94	-1.39	-1.62	-1.98	-2.44	-2.91	-3.42	-3.71	-3.80	-3.84	-3.88	-3.84	-3.80	-3.67	-3.47	-3.27	-2.96	-2.73	-2.53	-2.44	-2.43	-2.50	-2.68	-2.97		
20	1.33	1.26	1.36	1.59	1.75	1.71	1.59	1.18	0.81	0.34	-0.32	-1.19	-1.61	-1.89	-2.30	-2.76	-3.28	-3.74	-4.04	-4.13	-4.14	-4.17	-4.14	-4.08	-3.95	-3.75	-3.55	-3.24	-3.01	-2.81	-2.70	-2.69	-2.76	-2.94	-3.23		
25	1.33	1.24	1.34	1.57	1.73	1.69	1.57	1.16	0.79	0.30	-0.28	-1.14	-1.56	-1.83	-2.23	-2.69	-3.20	-3.66	-4.00	-4.18	-4.26	-4.29	-4.26	-4.19	-4.06	-3.86	-3.66	-3.35	-3.12	-2.92	-2.81	-2.80	-2.87	-3.05	-3.34		
30	1.33	1.15	1.13	1.28	1.32	1.15	0.75	0.19	-0.29	-0.67	-1.03	-1.51	-2.10	-2.72	-3.35	-3.89	-4.37	-4.68	-4.84	-5.14	-5.72	-6.32	-6.93	-7.44	-8.35	-9.48	-10.76	-12.29	-14.06	-16.07	-18.34	-20.87	-23.68	-26.71	-30.00		
35	1.33	1.10	1.01	1.07	1.08	0.85	0.37	-0.26	-0.83	-1.20	-1.48	-1.80	-2.27	-2.83	-3.36	-3.79	-4.15	-4.55	-5.11	-5.81	-6.62	-7.49	-8.38	-9.18	-10.47	-11.89	-13.49	-15.34	-17.44	-19.80	-22.43	-25.24	-28.25	-31.46			
40	1.33	1.05	0.88	0.87	0.83	0.58	0.06	-0.61	-1.24	-1.60	-1.92	-2.28	-2.69	-3.21	-3.74	-4.22	-4.66	-5.10	-5.87	-6.74	-7.74	-8.82	-10.05	-11.40	-12.87	-14.54	-16.42	-18.51	-20.81	-23.31	-26.01	-28.91	-32.01	-35.31			
45	1.33	1.00	0.76	0.67	0.58	0.32	-0.17	-0.83	-1.48	-2.02	-2.44	-2.85	-3.33	-3.86	-4.37	-4.85	-5.39	-5.87	-6.78	-7.72	-8.83	-10.02	-11.31	-12.70	-14.19	-15.88	-17.77	-19.86	-22.16	-24.66	-27.36	-30.26	-33.36	-36.66			
50	1.33	0.95	0.63	0.44	0.32	0.00	-0.34	-1.00	-1.65	-2.15	-2.57	-3.02	-3.44	-3.92	-4.41	-4.84	-5.42	-5.92	-6.86	-7.82	-8.96	-10.24	-11.59	-13.02	-14.54	-16.16	-17.88	-19.71	-21.74	-23.96	-26.38	-29.00	-31.81	-34.81			
55	1.33	0.91	0.52	0.25	0.07	-0.15	-0.48	-0.93	-1.48	-2.08	-2.54	-3.06	-3.49	-3.94	-4.41	-4.88	-5.46	-5.92	-6.87	-7.84	-8.97	-10.27	-11.64	-13.09	-14.62	-16.24	-17.96	-19.79	-21.82	-23.94	-26.26	-28.78	-31.49	-34.40			
60	1.33	0.87	0.41	0.08	-0.18	-0.38	-0.61	-0.94	-1.37	-1.90	-2.37	-2.89	-3.40	-3.92	-4.40	-4.81	-5.28	-5.82	-6.81	-7.83	-8.96	-10.26	-11.63	-13.08	-14.61	-16.23	-17.95	-19.78	-21.81	-23.93	-26.25	-28.77	-31.48	-34.39			
65	1.33	0.84	0.31	-0.13	-0.42	-0.62	-0.78	-0.99	-1.30	-1.74	-2.29	-2.82	-3.35	-3.84	-4.30	-4.74	-5.20	-5.69	-6.67	-7.69	-8.83	-10.13	-11.50	-12.94	-14.47	-16.09	-17.81	-19.64	-21.67	-23.79	-26.11	-28.63	-31.34				
70	1.33	0.82	0.23	-0.23	-0.55	-0.68	-0.98	-1.11	-1.32	-1.85	-2.40	-2.96	-3.50	-4.02	-4.53	-5.11	-5.76	-6.44	-7.13	-7.79	-8.45	-9.11	-9.81	-10.55	-11.31	-12.14	-13.03	-13.99	-14.99	-16.04	-17.14	-18.29	-19.49				
75	1.33	0.80	0.19	-0.42	-0.68	-0.78	-1.10	-1.28	-1.46	-1.98	-2.54	-3.11	-3.65	-4.17	-4.70	-5.28	-5.93	-6.61	-7.30	-7.96	-8.61	-9.26	-9.91	-10.63	-11.35	-12.12	-12.94	-13.81	-14.72	-15.68	-16.69	-17.74	-18.84				
80	1.33	0.78	0.12	-0.51	-0.69	-0.78	-1.18	-1.45	-1.65	-1.73	-1.97	-2.26	-2.58	-3.00	-3.56	-4.08	-4.68	-5.28	-5.97	-6.61	-7.33	-8.10	-8.88	-9.48	-10.22	-11.00	-11.82	-12.68	-13.58	-14.52	-15.50	-16.52	-17.58				
85	1.33	0.78	0.10	-0.56	-0.67	-0.73	-1.19	-1.45	-1.62	-1.78	-2.01	-2.29	-2.60	-3.00	-3.54	-4.23	-5.02	-5.78	-6.42	-7.02	-7.60	-8.18	-8.42	-8.51	-8.41	-8.15	-7.64	-6.89	-6.05	-5.41	-5.18	-5.37	-5.82	-6.28			
90	1.33	0.78	0.10	-0.56	-0.68	-0.73	-1.19	-1.48	-1.53	-1.67	-1.90	-2.20	-2.51	-2.85	-3.30	-3.89	-4.56	-5.22	-5.76	-6.20	-6.55	-6.80	-6.93	-6.97	-6.95	-6.84	-6.57	-6.10	-5.58	-5.24	-5.28	-5.68	-6.12	-6.68			
95	1.33	0.78	0.10	-0.56	-0.68	-0.73	-1.19	-1.48	-1.53	-1.67	-1.90	-2.20	-2.51	-2.85	-3.30	-3.89	-4.56	-5.22	-5.76	-6.20	-6.55	-6.80	-6.93	-6.97	-6.95	-6.84	-6.57	-6.10	-5.58	-5.24	-5.28	-5.68	-6.12	-6.68			
100	1.33	0.80	0.17	-0.42	-0.68	-0.73	-1.18	-1.48	-1.77	-2.05	-2.33	-2.60	-3.14	-3.69	-4.26	-4.78	-5.12	-5.56	-5.91	-6.26	-6.55	-6.77	-6.82	-6.73	-6.48	-6.23	-6.11	-6.47	-6.87	-7.30	-7.80	-8.30					
105	1.33	0.82	0.24	-0.38	-0.66	-0.73	-1.15	-1.44	-1.61	-1.81	-2.01	-2.23	-2.50	-2.85	-3.28	-3.76	-4.28	-4.80	-5.32	-5.79	-6.22	-6.60	-6.94	-7.23	-7.47	-7.62	-7.73	-7.14	-6.42	-5.58	-4.66	-3.80	-3.00				
110	1.33	0.85	0.31	-0.15	-0.42	-0.40	-0.81	-1.09	-1.29	-1.48	-1.68	-1.94	-2.22	-2.55	-2.93	-3.34	-3.84	-4.44	-5.02	-5.47	-5.84	-6.14	-6.39	-6.58	-6.68	-6.68	-6.58	-6.42	-6.14	-5.74	-5.24	-4.64	-4.04				
115	1.33	0.85	0.40	0.01	-0.16	-0.08	-0.39	-0.75	-1.12	-1.33	-1.53	-1.75	-2.01	-2.31	-2.67	-3.08	-3.53	-4.03	-4.58	-5.07	-5.50	-5.83	-6.05	-6.23	-6.34	-6.28	-6.08	-5.78	-5.38	-4.88	-4.28	-3.68	-3.08				
120	1.33	0.81	0.31	0.04	-0.16	-0.10	-0.36	-0.64	-1.00	-1.26	-1.50	-1.75	-2.04	-2.36	-2.71	-3.09	-3.50	-3.95	-4.43	-4.90	-5.31	-5.66	-5.94	-6.15	-6.28	-6.22	-6.02	-5.72	-5.32	-4.82	-4.22	-3.62	-3.02				
125	1.33	0.99	0.59	0.36	0.31	0.52	0.91	1.33	1.65	1.81	1.65	1.33	0.89	0.38	-0.14	-0.63	-1.11	-1.61	-2.13	-2.68	-3.28	-3.90	-4.51	-5.11	-5.68	-6.21	-6.78	-7.37	-7.92	-8.49	-9.01	-9.46	-9.84				
130	1.33	0.99	0.68	0.50	0.50	0.74	1.10	1.46	1.86	1.70	1.59	1.37	1.06	0.24	-0.22	-0.66	-1.12	-1.66	-2.23	-2.87	-3.56	-4.28	-4.99	-5.62	-6.22	-6.78	-7.30	-7.84	-8.31	-8.74	-9.15	-9.48	-9.74				
135	1.33	1.03	0.77	0.63	0.66	0.89	1.21	1.48	1.58	1.47	1.26	1.02	0.77	0.49	-0.15	-0.65	-1.10	-1.79	-2.54	-3.40	-4.31	-5.21	-6.13	-7.12	-8.10	-9.06	-9.81	-10.44	-10.96	-11.44	-11.88	-12.27					
140	1.33	1.06	0.74	0.62	0.72	0.94	1.20	1.44	1.44	1.33	1.12	0.88	0.64	0.37	-0.11	-0.61	-1.14	-1.83	-2.69	-3.61	-4.57	-5.56	-6.57	-7.54	-8.48	-9.29	-10.00	-10.60	-11.08	-11.52	-11.91	-12.26					
145	1.33	1.12	0.84	0.62	0.63	0.89	1.21	1.33	1.24	0.99	0.76	0.65	0.62	0.54	0.30	-0.12	-0.70	-1.40	-2.22	-3.10	-4.02	-4.97	-5.91	-6.81	-7.57	-8.25	-8.83	-9.30	-9.65	-10.01	-10.31	-10.58					
150	1.33	1.16	1.01	0.88	0.84	0.93	1.10	1.16	1.04	0.83	0.68	0.70	0.77	0.72	0.45	-0.06	-0.73	-1.52	-2.40	-3.36	-4.40	-5.50	-6.56	-7.57	-8.42	-9.10	-9.62	-10.01	-10.33	-10.58	-10.78						
155	1.33	1.21	1.07	0.92	0.81	0.82	0.91	0.93	0.81	0.66	0.64	0.77	0.89	0.83	0.48	-0.01	-0.63	-1.42	-2.40	-3.42	-4.41	-5.46	-6.55	-7.59	-8.57	-9.40	-10.00	-10.36	-10.58	-10.76	-10.88						
160	1.33	1.25	1.13	0.94	0.74	0.65	0.65	0.62	0.51	0.34	0.52	0.72	0.85	0.74	0.38	-0.23	-0.95	-1.73	-2.55	-3.46	-4.33	-5.16	-6.04	-6.87	-7.58	-8.15	-8.58	-8.90	-9.12	-9.26	-9.35	-9.37					
165	1.33	1.28	1.16	0.96	0.78	0.61	0.50	0.45	0.34	0.16	0.30	0.47	0.54	0.43	0.18	-0.14	-0.84	-1.61	-2.36	-3.14	-3.94	-4.72	-5.48	-6.21	-6.89	-7.48	-7.94	-8.26	-8.46	-8.54	-8.56						
170	1.33	1.23	1.03	0.95	0.65	0.21	-0.01	-0.17	-0.32	-0.38	-0.25	-0.02	0.10	-0.01	-0.35	-0.83	-1.37	-2.00	-2.72	-3.53	-4.39	-5.34	-6.43	-7.46	-8.26	-8.75	-9.14	-9.31	-9.38	-9.39	-9.31	-9.18					
175	1.33	1.38	1.27	0.95	0.46	-0.01	-0.34	-0.57	-0.77	-0.89	-0.81	-0.59	-0.43	-0.47	-0.70	-1.08	-1.55	-2.13	-2.83	-3.65	-4.56	-5.46	-6.45	-7.59	-8.10	-8.58	-8.89	-8.81	-8.80	-8.78	-8.65	-8.59					
180	1.33	1.42	1.32	0.96	0.38	-0.20	-0.62	-0.90	-1.14	-1.32	-1.32	-1.14	-0.92	-0.84	-0.95	-1.23	-1.67	-2.24	-2.92	-3.65	-4.41	-5.30	-6.26	-7.25	-8.34	-8.66	-8.68	-8.61	-8.58	-8							

5850 Theta Angle (°)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	140	145	150	155	160	165	170	175	180			
Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)			
5	-6.28	-6.02	-5.51	-7.20	-6.11	-4.95	-5.76	-6.18	-5.04	-3.91	-4.54	-5.13	-5.59	-4.60	-3.31	-4.06	-3.76	-2.82	-2.09	-1.81	-1.71	-1.83	-2.30	-3.76	-3.51	-4.21	-4.75	-5.80	-10.03	-5.29	-7.65	-6.33	-5.36	-7.43	-10.95	-11.85			
5	-6.28	-5.86	-5.95	-7.41	-6.38	-4.94	-5.79	-6.80	-6.14	-4.31	-5.16	-5.55	-4.55	-3.70	-3.19	-3.15	-2.21	-1.34	-1.02	-0.89	-0.95	-1.77	-2.78	-2.81	-2.84	-3.34	-3.73	-5.84	-6.06	-5.05	-6.67	-5.84	-5.21	-7.36	-10.94	-11.85			
10	-6.28	-6.11	-6.05	-7.60	-6.80	-5.35	-6.20	-7.39	-6.32	-5.07	-6.40	-5.58	-4.23	-4.14	-4.05	-3.72	-3.37	-2.65	-1.88	-1.37	-1.17	-1.64	-2.42	-2.43	-2.96	-3.73	-4.19	-5.98	-6.05	-4.05	-5.91	-6.68	-5.16	-7.32	-10.92	-11.85			
15	-6.28	-6.16	-6.12	-7.80	-7.70	-6.14	-6.76	-8.25	-7.80	-7.41	-7.41	-5.61	-4.51	-4.22	-4.57	-4.27	-4.23	-3.80	-3.24	-2.50	-1.78	-1.72	-1.84	-2.17	-3.03	-4.61	-4.70	-6.70	-7.22	-5.28	-5.39	-6.57	-5.20	-7.33	-10.89	-11.85			
20	-6.28	-6.20	-6.14	-8.02	-8.71	-7.07	-7.09	-8.37	-8.71	-7.79	-7.79	-5.08	-4.36	-4.88	-4.49	-4.49	-4.49	-4.49	-3.98	-3.28	-2.60	-1.50	-1.17	-1.09	-1.48	-2.05	-4.29	-4.74	-7.18	-6.42	-4.73	-5.08	-5.57	-5.30	-7.36	-10.84	-11.85		
25	-6.28	-6.24	-6.16	-8.26	-9.31	-7.36	-7.36	-8.46	-9.31	-8.46	-8.46	-5.41	-4.64	-5.16	-4.64	-4.64	-4.64	-4.64	-4.10	-3.30	-2.62	-1.33	-1.03	-1.36	-1.93	-2.47	-4.89	-5.34	-7.78	-6.92	-5.21	-5.51	-6.47	-5.70	-7.76	-10.79	-11.85		
30	-6.28	-6.27	-6.09	-7.66	-8.83	-7.31	-6.82	-8.59	-9.12	-8.47	-7.97	-4.39	-4.24	-4.49	-4.20	-4.13	-4.03	-3.76	-3.71	-3.13	-2.23	-1.61	-1.08	-0.95	-0.67	-2.04	-4.38	-4.99	-7.52	-6.52	-4.28	-4.29	-4.89	-5.64	-4.77	-7.39	-10.70	-11.85	
35	-6.28	-6.29	-6.04	-7.22	-8.25	-7.38	-6.28	-8.27	-8.47	-8.15	-7.42	-4.37	-4.20	-4.31	-4.04	-3.87	-3.89	-3.65	-3.65	-3.23	-2.24	-1.69	-1.09	-0.97	-0.85	-0.29	-4.58	-4.97	-8.05	-7.10	-4.97	-5.04	-4.27	-4.85	-5.57	-4.46	-7.34	-10.60	-11.85
40	-6.28	-6.31	-5.97	-6.72	-8.25	-7.39	-6.49	-8.22	-8.24	-8.28	-8.54	-3.31	-3.24	-4.46	-4.01	-3.38	-3.14	-2.88	-2.88	-2.40	-1.76	-1.16	-1.84	-2.61	-3.16	-4.63	-4.92	-8.27	-6.70	-5.74	-5.80	-4.25	-4.75	-5.38	-5.33	-7.23	-10.47	-11.85	
45	-6.28	-6.31	-5.91	-6.24	-7.23	-6.43	-6.10	-8.18	-8.11	-8.07	-8.10	-3.37	-3.33	-4.53	-4.07	-3.38	-3.10	-2.88	-2.88	-2.39	-1.79	-1.18	-2.44	-3.03	-3.69	-4.90	-5.79	-4.67	-6.74	-6.39	-5.49	-4.20	-4.62	-5.12	-5.76	-5.16	-7.32	-10.32	-11.85
50	-6.28	-6.30	-5.91	-6.46	-7.43	-6.49	-6.10	-8.18	-8.11	-8.07	-8.10	-3.37	-3.33	-4.53	-4.07	-3.38	-3.10	-2.88	-2.88	-2.39	-1.79	-1.18	-2.44	-3.03	-3.69	-4.90	-5.79	-4.67	-6.74	-6.39	-5.49	-4.20	-4.62	-5.12	-5.76	-5.16	-7.32	-10.32	-11.85
55	-6.28	-6.28	-5.93	-6.57	-7.67	-5.85	-6.41	-8.51	-8.63	-8.03	-8.05	-4.04	-3.86	-4.14	-4.46	-4.22	-4.06	-3.76	-3.71	-3.19	-2.39	-1.79	-1.53	-1.93	-2.48	-3.69	-4.58	-5.68	-7.08	-7.13	-5.50	-4.42	-4.66	-4.61	-4.64	-6.61	-8.91	-10.95	-11.85
60	-6.28	-6.24	-5.79	-6.40	-5.34	-5.21	-4.69	-3.61	-2.28	-0.92	0.28	1.09	1.60	2.02	2.12	1.53	0.46	-0.46	-1.22	-2.53	-4.34	-5.59	-6.83	-7.95	-8.75	-9.68	-10.21	-7.16	-7.40	-5.82	-4.88	-4.62	-4.53	-4.48	-6.39	-8.80	-11.85		
65	-6.28	-6.18	-5.75	-6.30	-5.08	-4.82	-4.47	-3.97	-3.17	-1.96	-0.60	0.51	1.29	1.81	1.84	1.10	-0.15	-1.16	-1.84	-3.03	-4.07	-4.68	-5.48	-6.42	-7.21	-8.00	-7.10	-7.28	-6.28	-5.90	-5.59	-4.62	-4.41	-4.18	-6.83	-10.85	-11.85		
70	-6.28	-6.11	-5.68	-6.23	-4.96	-4.60	-4.07	-3.46	-2.56	-1.41	-0.29	0.99	1.22	1.55	1.33	0.40	-0.92	-1.90	-2.35	-2.79	-3.27	-3.26	-2.95	-3.06	-3.79	-4.60	-5.07	-6.08	-6.34	-7.49	-8.00	-7.49	-6.42	-6.02	-8.47	-10.85	-11.85		
75	-6.28	-6.14	-5.54	-6.34	-4.96	-4.58	-4.04	-3.46	-2.56	-1.41	-0.29	0.99	1.22	1.55	1.33	0.40	-0.92	-1.90	-2.35	-2.79	-3.27	-3.26	-2.95	-3.06	-3.79	-4.60	-5.07	-6.08	-6.34	-7.49	-8.00	-7.49	-6.42	-6.02	-8.47	-10.85	-11.85		
80	-6.28	-6.21	-5.59	-6.49	-4.81	-4.57	-3.81	-2.45	-0.92	0.93	2.00	2.67	2.74	2.14	1.56	0.51	-0.57	-1.37	-1.76	-1.97	-2.18	-2.28	-2.40	-2.90	-3.77	-4.69	-5.63	-6.46	-7.25	-8.00	-8.11	-7.60	-5.82	-4.84	-5.80	-8.22	-11.85		
85	-6.28	-6.29	-5.16	-6.72	-4.55	-4.37	-3.39	-1.71	0.03	1.50	2.40	2.73	2.52	1.93	1.17	0.30	-0.85	-1.46	-1.80	-1.80	-2.41	-2.72	-3.21	-3.98	-4.88	-5.82	-6.59	-7.47	-8.04	-8.59	-8.24	-6.40	-5.12	-5.76	-8.14	-11.85			
90	-6.28	-6.56	-4.89	-6.34	-4.10	-3.71	-2.26	-0.34	1.19	2.26	2.76	2.69	2.16	1.43	0.63	-0.24	-1.25	-2.13	-2.49	-2.60	-2.87	-3.26	-3.50	-3.76	-4.46	-5.54	-6.42	-7.21	-7.38	-8.05	-8.73	-8.98	-7.22	-5.45	-5.75	-8.10	-11.85		
95	-6.28	-6.55	-4.60	-6.38	-3.95	-2.82	-0.93	1.12	2.42	3.12	3.33	2.99	2.23	1.34	0.41	-0.80	-1.90	-2.84	-3.53	-3.97	-4.45	-5.05	-5.10	-4.98	-5.49	-6.43	-7.05	-8.11	-10.26	-8.94	-7.95	-8.53	-8.77	-8.10	-11.85				
100	-6.28	-6.40	-4.37	-6.36	-3.86	-2.10	0.02	2.45	3.17	3.66	3.70	3.27	2.40	1.40	0.45	-0.62	-2.07	-3.42	-4.25	-5.06	-5.86	-6.47	-6.89	-6.80	-6.47	-6.93	-8.23	-9.47	-10.41	-11.33	-9.57	-8.62	-8.94	-9.16	-11.85				
105	-6.28	-6.26	-4.05	-6.28	-3.77	-1.82	0.18	2.08	3.12	3.53	3.53	3.05	2.22	1.40	0.63	-0.40	-1.78	-3.19	-4.26	-4.94	-5.46	-5.95	-6.95	-7.55	-8.29	-8.77	-9.61	-10.62	-11.36	-12.70	-10.74	-9.07	-11.31	-9.57	-8.62	-8.94	-9.16	-11.85	
110	-6.28	-6.16	-3.83	-6.09	-2.76	-2.00	-0.42	1.24	2.21	2.71	2.84	2.48	1.86	1.27	0.68	-0.14	-1.21	-2.32	-3.11	-3.37	-3.49	-3.92	-4.34	-5.31	-6.48	-7.50	-8.67	-11.48	-16.02	-15.88	-12.53	-8.67	-6.00	-6.16	-6.40	-11.85			
115	-6.28	-6.07	-3.68	-6.02	-2.30	-1.78	-0.35	1.75	1.82	2.12	2.16	1.85	1.60	1.04	0.30	-0.52	-1.30	-1.82	-2.00	-2.14	-2.32	-2.58	-3.24	-4.60	-5.95	-6.81	-13.02	-18.00	-13.34	-15.34	-11.72	-8.33	-6.09	-6.43	-8.60	-11.85			
120	-6.28	-6.06	-3.55	-6.03	-2.49	-1.51	-0.37	-2.25	0.65	1.56	1.95	1.87	1.63	1.14	0.42	-0.48	-1.31	-1.78	-1.95	-2.11	-2.37	-2.58	-3.25	-4.74	-7.04	-10.08	-10.86	-17.78	-14.84	-12.02	-10.99	-8.00	-6.27	-6.83	-8.86	-11.85			
125	-6.28	-6.04	-3.44	-6.00	-2.48	-1.48	-0.38	-2.48	0.72	1.60	2.00	1.92	1.68	1.17	0.42	-0.48	-1.31	-1.78	-1.95	-2.11	-2.37	-2.58	-3.25	-4.74	-7.04	-10.08	-10.86	-17.78	-14.84	-12.02	-10.99	-8.00	-6.27	-6.83	-8.86	-11.85			
130	-6.28	-6.04	-3.44	-6.00	-2.48	-1.48	-0.38	-2.48	0.72	1.60	2.00	1.92	1.68	1.17	0.42	-0.48	-1.31	-1.78	-1.95	-2.11	-2.37	-2.58	-3.25	-4.74	-7.04	-10.08	-10.86	-17.78	-14.84	-12.02	-10.99	-8.00	-6.27	-6.83	-8.86	-11.85			
135	-6.28	-6.04	-3.44	-6.00	-2.48	-1.48	-0.38	-2.48	0.72	1.60	2.00	1.92	1.68	1.17	0.42	-0.48	-1.31	-1.78	-1.95	-2.11	-2.37	-2.58	-3.25	-4.74	-7.04	-10.08	-10.86	-17.78	-14.84	-12.02	-10.99	-8.00	-6.27	-6.83	-8.86	-11.85			
140	-6.28	-6.04	-3.44	-6.00	-2.48	-1.48	-0.38	-2.48	0.72	1.60	2.00	1.92	1.68	1.17	0.42	-0.48	-1.31	-1.78	-1.95	-2.11	-2.37	-2.58	-3.25	-4.74	-7.04	-10.08	-10.86	-17.78	-14.84	-12.02	-10.99	-8.00	-6.27	-6.83	-8.86	-11.85			
145	-6.28	-6.04	-3.44	-6.00	-2.48	-1.48	-0.38	-2.48	0.72	1.60	2.00	1.92	1.68	1.17	0.42	-0.48	-1.31	-1.78	-1.95	-2.11	-2.37	-2.58	-3.25	-4.74	-7.04	-10.08	-10.86	-17.78	-14.84	-12.02	-10.99	-8.00	-6.27	-6.83	-8.86	-11.85			
150	-6.28	-6.04	-3.44	-6.00	-2.48	-1.48	-0.38	-2.48	0.72	1.60	2.00	1.92	1.68	1.17	0.42	-0.48	-1.31	-1.78	-1.95	-2.11	-2.37	-2.58	-3.25	-4.74	-7.04	-10.08	-10.86	-17.78	-14.84	-12.02	-10.99	-8.00	-6.27	-6.83	-8.86	-11.85			
155	-6.28	-6.04	-3.44	-6.00	-2.48	-1.48	-0.38	-2.48	0.72	1.60	2.00	1.92	1.68	1.17	0.42	-0.48	-1.31	-1.78	-1.95	-2.11	-2.37	-2.58	-3.25	-4.74	-7.04	-10.08	-10.86	-17.78	-14.84	-12.02	-10.99	-8.00	-6.27	-6.83	-8.86	-11.85			
160	-6.28	-6.04	-3.44	-6.00	-2.48	-1.48	-0.38	-2.48	0.72	1.60	2.00	1.92	1.68	1.17	0.42	-0.48	-1.31	-1.78	-1.95	-2.11	-2.37	-2.58	-3.25	-4.74	-7.04	-10.08	-10.86	-17.78	-14.84	-12.02	-10.99	-8.00	-6.27	-6.83	-8.86	-11.85			
165	-6.28	-6.04	-3.44	-6.00	-2.48	-1.48	-0.38	-2.48	0.72	1.60	2.00	1.92	1.68	1.17	0.42	-0.48	-1.31	-1.78	-1.95	-2.11	-2.37	-2.58	-3.25	-4.74	-7.04	-10.08	-10.86	-17.78	-14.84	-12.02	-10.99	-8.00	-6.27	-6.83	-8.86	-11.85			
170	-6.28	-6.04	-3.44	-6.00	-2.4																																		

Phase Angle (°)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180
Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)	Response (m)
5	-3.40	-3.15	-2.94	-3.10	-3.35	-4.61	-4.06	-4.15	-3.93	0.28	1.59	3.07	3.63	3.78	3.57	3.13	2.62	2.00	1.32	-0.57	-0.33	-1.41	-2.59	-3.91	-4.95	-5.44	-5.30	-4.89	-4.00	-3.49	-6.62	-6.28	-4.40	-3.37	-3.54	-3.07	-4.23
10	-3.40	-3.12	-2.81	-2.94	-3.66	-4.55	-4.41	-3.93	0.43	2.21	3.34	3.92	4.05	3.84	3.42	2.85	2.20	1.47	0.63	-0.38	-1.57	-2.90	-4.18	-5.08	-5.30	-4.89	-4.07	-4.27	-5.06	-6.41	-6.32	-4.54	-3.46	-4.02	-4.40	-4.08	-3.32
15	-3.40	-3.07	-2.70	-2.77	-3.44	-4.40	-4.19	-3.07	0.35	2.20	3.38	3.98	4.13	3.93	3.49	2.91	2.22	1.41	0.46	-0.63	-0.25	-3.51	-4.80	-5.49	-5.36	-4.68	-4.07	-4.08	-5.04	-6.58	-6.52	-4.68	-3.59	-4.15	-6.51	-4.12	-3.32
20	-3.40	-3.02	-2.59	-3.00	-3.25	-4.28	-4.33	-2.40	0.02	1.92	3.15	3.80	3.98	3.81	3.38	2.77	2.02	1.12	0.02	-1.32	-2.08	-4.50	-5.74	-6.06	-6.45	-4.56	-4.00	-4.21	-5.45	-7.16	-6.87	-4.86	-3.78	-4.36	-6.86	-4.19	-3.32
25	-3.40	-3.07	-2.39	-2.70	-3.00	-3.44	-4.28	-4.28	-1.30	0.26	1.38	2.62	3.40	3.47	3.06	2.40	1.68	0.82	-0.26	-1.38	-2.59	-4.58	-5.74	-6.06	-6.45	-4.56	-4.00	-4.21	-5.45	-7.16	-6.87	-4.86	-3.78	-4.36	-6.86	-4.19	-3.32
30	-3.40	-3.23	-2.41	-2.35	-2.75	-3.75	-4.40	-3.40	-1.42	0.51	0.89	2.72	3.94	3.02	2.66	0.95	1.22	0.17	-1.13	-2.69	-4.45	-6.04	-6.71	-6.14	-6.15	-4.40	-4.54	-5.61	-7.93	-8.09	-7.05	-5.36	-4.31	-5.91	-7.22	-4.00	-4.32
35	-3.40	-2.89	-2.34	-2.15	-2.51	-3.40	-4.27	-4.00	-2.42	0.59	0.85	1.78	2.95	2.32	2.06	1.51	0.74	-0.25	-1.43	-2.81	-4.28	-5.55	-6.55	-6.45	-4.74	-5.36	-7.15	-10.24	-11.54	-8.29	-6.68	-4.78	-5.46	-7.58	-10.54	-4.32	
40	-3.40	-2.86	-2.28	-2.03	-2.28	-3.03	-3.95	-4.23	-3.35	-1.86	-0.47	0.54	1.13	1.20	0.80	0.17	-0.63	-1.56	-2.17	-3.70	-4.81	-5.69	-6.11	-6.06	-4.64	-4.77	-6.57	-10.48	-13.20	-8.58	-6.64	-5.28	-6.99	-7.98	-10.89	-4.32	
45	-3.40	-2.84	-2.25	-1.94	-2.08	-2.66	-3.48	-4.06	-3.90	-2.02	-1.92	-0.97	-0.33	0.00	0.02	-0.21	-0.63	-1.19	-1.84	-2.97	-3.36	-4.11	-4.70	-5.14	-5.65	-6.67	-6.78	-12.92	-13.27	-13.56	-8.74	-6.40	-5.88	-6.59	-8.40	-10.85	-4.32
50	-3.40	-2.81	-2.32	-1.92	-2.06	-2.66	-3.48	-4.06	-3.90	-2.02	-1.92	-0.97	-0.33	0.00	0.02	-0.21	-0.63	-1.19	-1.84	-2.97	-3.36	-4.11	-4.70	-5.14	-5.65	-6.67	-6.78	-12.92	-13.27	-13.56	-8.74	-6.40	-5.88	-6.59	-8.40	-10.85	-4.32
55	-3.40	-2.82	-2.32	-1.84	-1.73	-2.04	-2.46	-2.88	-3.14	-3.34	-3.34	-3.23	-3.13	-3.07	-3.07	-3.13	-3.23	-3.37	-3.40	-3.46	-4.46	-5.10	-5.86	-6.81	-7.31	-8.06	-8.25	-8.17	-8.29	-9.20	-9.21	-9.69	-9.31	-9.34	-10.14	-10.32	-10.32
60	-3.40	-2.81	-2.33	-1.84	-1.73	-2.03	-2.26	-2.42	-2.57	-2.77	-3.04	-3.34	-3.59	-3.76	-3.83	-3.83	-3.79	-3.74	-3.78	-3.95	-4.29	-4.77	-5.38	-6.12	-7.11	-8.40	-10.30	-11.88	-11.54	-9.78	-8.42	-8.02	-8.55	-8.80	-11.34	-12.32	
65	-3.40	-2.81	-2.35	-1.87	-1.72	-1.72	-1.79	-1.76	-1.79	-1.76	-1.72	-1.68	-1.66	-1.64	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61
70	-3.40	-2.82	-2.35	-1.93	-1.76	-1.71	-1.65	-1.62	-1.55	-1.54	-1.26	-1.14	-1.06	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04
75	-3.40	-2.82	-2.35	-1.96	-1.76	-1.76	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68	-1.68
80	-3.40	-2.84	-2.39	-1.92	-1.88	-1.82	-1.79	-1.86	-1.82	-1.80	-1.80	-1.81	-1.80	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81
85	-3.40	-2.85	-2.45	-2.23	-2.15	-2.12	-2.03	-2.01	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92
90	-3.40	-2.86	-2.51	-2.34	-2.32	-2.34	-2.31	-2.16	-2.11	-1.64	-1.40	-1.24	-1.19	-1.29	-1.53	-1.91	-2.38	-2.89	-3.39	-3.90	-4.60	-5.24	-6.07	-6.84	-7.40	-8.00	-8.23	-8.72	-9.33	-9.88	-10.41	-10.85	-11.34	-11.88	-12.32	-12.32	
95	-3.40	-2.88	-2.56	-2.44	-2.47	-2.56	-2.61	-2.65	-2.39	-2.17	-1.94	-1.74	-1.62	-1.64	-1.61	-1.66	-1.62	-1.68	-1.70	-1.65	-1.67	-1.63	-1.63	-1.64	-1.68	-1.73	-1.72	-1.75	-1.74	-1.73	-1.72	-1.75	-1.74	-1.73	-1.72	-1.75	-1.74
100	-3.40	-2.90	-2.63	-2.57	-2.65	-2.66	-2.69	-2.69	-2.35	-2.17	-1.96	-1.76	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64	-1.64
105	-3.40	-2.91	-2.65	-2.58	-2.65	-2.68	-2.69	-2.69	-2.31	-2.15	-1.93	-1.73	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61
110	-3.40	-2.92	-2.64	-2.54	-2.57	-2.67	-2.64	-2.60	-2.40	-2.14	-1.93	-1.73	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61	-1.61
115	-3.40	-2.92	-2.62	-2.47	-2.42	-2.45	-2.58	-2.61	-2.37	-2.14	-1.94	-1.74	-1.62	-1.64	-1.61	-1.66	-1.62	-1.68	-1.70	-1.65	-1.67	-1.63	-1.63	-1.64	-1.68	-1.73	-1.72	-1.75	-1.74	-1.73	-1.72	-1.75	-1.74	-1.73	-1.72	-1.75	-1.74
120	-3.40	-2.93	-2.64	-2.52	-2.47	-2.58	-2.61	-2.58	-2.32	-2.10	-1.90	-1.70	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58
125	-3.40	-2.93	-2.64	-2.52	-2.47	-2.58	-2.61	-2.58	-2.32	-2.10	-1.90	-1.70	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58
130	-3.40	-2.93	-2.64	-2.52	-2.47	-2.58	-2.61	-2.58	-2.32	-2.10	-1.90	-1.70	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58
135	-3.40	-2.93	-2.64	-2.52	-2.47	-2.58	-2.61	-2.58	-2.32	-2.10	-1.90	-1.70	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58
140	-3.40	-2.93	-2.63	-2.53	-2.47	-2.58	-2.61	-2.58	-2.32	-2.10	-1.90	-1.70	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58
145	-3.40	-2.93	-2.63	-2.53	-2.47	-2.58	-2.61	-2.58	-2.32	-2.10	-1.90	-1.70	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58
150	-3.40	-2.93	-2.63	-2.53	-2.47	-2.58	-2.61	-2.58	-2.32	-2.10	-1.90	-1.70	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58
155	-3.40	-2.93	-2.63	-2.53	-2.47	-2.58	-2.61	-2.58	-2.32	-2.10	-1.90	-1.70	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58
160	-3.40	-2.93	-2.63	-2.53	-2.47	-2.58	-2.61	-2.58	-2.32	-2.10	-1.90	-1.70	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58
165	-3.40	-2.93	-2.63	-2.53	-2.47	-2.58	-2.61	-2.58	-2.32	-2.10	-1.90	-1.70	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58
170	-3.40	-2.93	-2.63	-2.53	-2.47	-2.58	-2.61	-2.58	-2.32	-2.10	-1.90	-1.70	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58	-1.58
175																																					

5150	5160	5170	5180	5190	5200	5210	5220	5230	5240	5250	5260	5270	5280	5290	5300	5310	5320	5330	5340	5350	5360	5370	5380	5390	5400	5410	5420	5430	5440	5450	5460	5470	5480	5490	5500		
Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc	Ph.Anc		
Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response		
0	251	116	0.31	0.73	1.61	2.03	0.79	-2.53	0.64	-5.96	-2.44	0.15	1.21	1.97	2.06	1.68	1.03	0.23	0.68	-1.61	-2.07	-4.85	-7.14	0.97	-10.4	-10.30	0.155	-13.3	0.354	12.7	-1.93	-4.71	-0.37	0.22	-11.01	-13.97	-16.55
5	251	116	0.38	0.84	1.97	2.41	1.25	-1.47	-4.25	-3.66	-1.19	0.63	1.67	2.17	2.22	1.86	1.31	0.70	0.11	-0.57	-1.74	-3.46	-5.47	-8.35	-13.31	-10.89	-8.76	-13.85	-14.14	-12.28	-7.89	-3.52	-10.53	-8.81	-13.11	-13.88	-16.56
10	251	117	0.40	0.96	2.21	2.69	1.61	-0.76	-2.83	-2.31	-0.59	0.56	1.11	3.22	1.92	1.02	0.69	0.43	0.26	-0.11	-1.03	-2.42	-4.16	-7.14	-10.4	-10.30	-8.76	-13.85	-14.14	-12.28	-7.89	-3.52	-10.53	-8.81	-13.11	-13.88	-16.56
15	251	120	0.42	1.08	2.46	2.98	1.86	-0.46	-2.16	-1.64	-0.29	0.49	0.79	3.50	2.12	1.12	0.76	0.50	0.30	-0.16	-1.10	-2.58	-4.38	-7.42	-10.7	-10.60	-9.06	-14.18	-14.47	-12.61	-8.20	-3.83	-10.84	-9.11	-13.40	-14.17	-16.88
20	251	124	0.51	1.16	2.47	3.00	2.16	-0.55	-1.58	-1.46	-0.10	0.25	-0.82	-3.42	-2.41	-0.91	-0.35	-0.14	0.21	-0.51	-0.42	-1.21	-3.39	-5.26	-7.57	-9.58	-14	-11.46	-11.86	-12.00	-14.68	-16.53	-12.53	-12.42	-14.02	-16.56	
25	251	129	0.59	1.24	2.52	3.08	2.46	1.27	-0.47	0.50	0.74	0.68	0.41	0.19	0.07	-0.05	-0.08	0.02	0.04	-0.34	-1.25	-2.83	-4.55	-6.23	-7.49	-10.27	-11.84	-12.88	-12.82	-15.87	-17.56	-13.54	-12.77	-14.04	-16.56		
30	251	135	0.69	1.31	2.54	3.18	2.84	2.05	1.52	1.44	1.25	1.05	0.84	0.63	0.17	-0.41	-0.64	-1.32	-2.19	-3.51	-5.09	-6.66	-7.29	-7.95	-8.31	-11.41	-11.19	-10.83	-12.13	-14.28	-17.50	-17.33	-14.44	-13.84	-16.56		
35	251	143	0.81	1.39	2.55	3.27	3.24	2.84	2.52	2.31	2.01	1.62	1.40	1.31	0.85	0.07	-1.01	-1.88	-2.94	-4.24	-5.68	-6.85	-7.48	-7.95	-8.31	-11.41	-11.19	-10.83	-12.13	-14.28	-17.50	-17.33	-14.44	-13.84	-16.56		
40	251	151	0.95	1.46	2.56	3.36	3.57	3.66	3.37	3.46	3.12	2.69	2.46	2.16	1.65	0.90	-0.18	-1.86	-3.09	-4.12	-5.45	-6.81	-7.84	-8.31	-8.67	-11.41	-11.19	-10.83	-12.13	-14.28	-17.50	-17.33	-14.44	-13.84	-16.56		
45	251	161	1.08	1.60	2.63	3.40	3.96	4.18	4.22	3.91	3.16	2.26	1.61	1.70	1.54	0.81	-0.26	-1.35	-2.42	-3.74	-5.10	-6.25	-7.42	-8.60	-9.83	-12.11	-11.53	-11.73	-12.91	-16.21	-15.23	-12.99	-13.89	-14.47	-16.16	-16.56	
50	251	171	1.24	1.72	2.71	3.62	4.24	4.65	4.68	4.40	3.60	2.51	2.38	2.24	1.71	0.91	0.08	-0.86	-1.24	-2.70	-3.58	-4.73	-5.77	-6.71	-7.81	-9.14	-10.42	-11.64	-12.88	-16.21	-15.23	-12.99	-13.89	-14.47	-16.16	-16.56	
55	251	182	1.41	1.86	2.81	3.74	4.45	4.97	5.31	5.31	4.97	4.13	3.45	3.01	2.62	2.02	1.30	0.61	-0.21	-1.40	-3.20	-4.07	-5.07	-5.97	-6.97	-8.20	-9.48	-10.81	-12.08	-16.28	-16.86	-14.81	-13.42	-12.69	-12.47	-14.32	-16.56
60	251	193	1.59	2.00	2.95	3.87	4.58	5.09	5.42	5.42	5.09	4.13	3.45	2.91	2.47	1.87	1.15	0.42	-0.73	-1.50	-2.27	-3.14	-4.04	-4.94	-5.94	-7.17	-8.45	-9.72	-10.99	-15.29	-16.86	-17.44	-15.49	-14.10	-14.46	-16.56	
65	251	205	1.74	2.14	2.99	3.89	4.60	5.15	5.58	5.58	5.25	4.27	3.48	2.94	2.41	1.81	1.01	-0.17	-1.01	-3.03	-3.86	-4.74	-5.64	-6.54	-7.54	-8.77	-10.04	-11.31	-12.58	-16.86	-17.44	-15.49	-14.10	-14.46	-16.56		
70	251	217	1.97	2.29	3.04	3.84	4.48	4.94	5.31	5.53	5.48	5.08	4.33	3.36	2.24	0.95	-0.43	-1.73	-2.90	-4.15	-5.09	-5.97	-6.87	-7.75	-8.69	-9.55	-10.32	-11.07	-12.26	-16.86	-17.44	-15.49	-14.10	-14.46	-16.56		
75	251	229	2.17	2.43	3.05	3.70	4.18	4.48	4.70	4.81	4.72	4.35	3.72	2.86	2.08	1.01	0.37	-1.85	-3.53	-5.17	-7.12	-9.18	-10.24	-11.34	-12.44	-13.54	-14.64	-15.74	-16.84	-17.94	-19.04	-20.14	-21.24	-22.34	-23.44	-24.54	
80	251	241	2.37	2.59	3.05	3.51	3.75	3.80	3.77	3.69	3.46	3.09	2.55	1.97	1.29	0.30	-1.13	-2.94	-4.58	-6.79	-8.94	-10.90	-11.19	-11.00	-10.47	-9.78	-8.81	-12.17	-12.23	-11.15	-10.78	-10.86	-10.56	-10.81	-12.24	-15.50	-16.56
85	251	253	2.56	2.75	3.07	3.30	3.28	3.19	3.16	3.03	2.86	2.59	2.13	1.55	0.87	0.19	-0.41	-1.81	-3.28	-4.78	-6.73	-8.74	-10.47	-12.17	-13.87	-15.57	-17.27	-18.97	-20.67	-22.37	-24.07	-25.77	-27.47	-29.17	-30.87	-32.57	
90	251	265	2.76	2.93	3.06	3.15	3.07	2.89	2.02	1.25	0.56	0.07	-0.25	-0.40	-0.66	-0.86	-1.26	-1.56	-2.79	-4.37	-5.95	-6.40	-6.80	-7.20	-7.60	-8.00	-8.40	-8.80	-9.20	-9.60	-10.00	-10.40	-10.80	-11.20	-11.60	-12.00	
95	251	276	2.98	3.10	3.20	3.18	3.09	2.59	2.00	1.41	0.54	0.59	0.29	0.00	-0.27	-0.58	-1.07	-1.88	-2.89	-4.00	-5.12	-6.24	-7.36	-8.48	-9.60	-10.72	-11.84	-12.96	-14.08	-15.20	-16.32	-17.44	-18.56	-19.68	-20.80	-21.92	
100	251	285	3.24	3.30	3.17	2.98	2.54	2.17	1.89	1.70	1.49	1.13	0.63	0.04	-0.68	-1.36	-2.34	-3.50	-4.63	-5.75	-6.87	-7.99	-9.11	-10.23	-11.35	-12.47	-13.59	-14.71	-15.83	-16.95	-18.07	-19.19	-20.31	-21.43	-22.55	-23.67	
105	251	296	3.45	3.48	3.20	2.98	2.54	2.13	1.86	1.67	1.40	1.04	0.54	0.05	-0.72	-1.40	-2.38	-3.54	-4.69	-5.84	-6.99	-8.14	-9.29	-10.44	-11.59	-12.74	-13.89	-15.04	-16.19	-17.34	-18.49	-19.64	-20.79	-21.94	-23.09	-24.24	
110	251	312	3.45	3.36	3.01	2.61	2.49	2.62	2.75	2.68	2.37	1.84	1.11	0.23	-0.71	-1.68	-2.84	-3.49	-4.10	-5.56	-6.10	-7.51	-8.27	-9.11	-10.04	-11.08	-12.12	-13.16	-14.20	-15.24	-16.28	-17.32	-18.36	-19.40	-20.44	-21.48	
115	251	318	351	337	2.89	2.50	2.53	2.79	2.93	2.75	2.28	1.61	0.79	0.13	-1.12	-2.17	-3.23	-4.06	-4.86	-5.66	-6.46	-7.26	-8.06	-8.86	-9.66	-10.46	-11.26	-12.06	-12.86	-13.66	-14.46	-15.26	-16.06	-16.86	-17.66	-18.46	
120	251	324	356	333	2.78	2.47	2.62	2.90	2.97	2.70	2.08	1.20	0.18	-0.88	-2.00	-3.22	-4.44	-5.45	-6.55	-7.55	-8.55	-9.55	-10.55	-11.55	-12.55	-13.55	-14.55	-15.55	-16.55	-17.55	-18.55	-19.55	-20.55	-21.55	-22.55		
125	251	330	328	327	2.65	2.53	2.76	2.63	2.93	2.65	2.11	1.08	-0.77	-2.46	-3.97	-5.46	-6.97	-8.46	-9.97	-11.46	-12.97	-14.46	-15.97	-17.46	-18.97	-20.46	-21.97	-23.46	-24.97	-26.46	-27.97	-29.46	-30.97	-32.46	-33.97		
130	251	332	358	321	2.76	2.87	2.95	3.08	2.96	2.45	1.48	0.13	-1.33	-2.86	-4.35	-5.84	-7.33	-8.82	-10.31	-11.80	-13.29	-14.78	-16.27	-17.76	-19.25	-20.74	-22.23	-23.72	-25.21	-26.70	-28.19	-29.68	-31.17	-32.66	-34.15	-35.64	
135	251	334	356	314	2.71	2.86	3.18	3.23	2.88	2.07	0.80	-0.81	-2.40	-4.04	-5.59	-7.13	-8.67	-10.21	-11.75	-13.29	-14.83	-16.37	-17.91	-19.45	-20.99	-22.53	-24.07	-25.61	-27.15	-28.69	-30.23	-31.77	-33.31	-34.85	-36.39	-37.93	
140	251	336	353	306	2.73	3.05	3.44	3.39	2.74	1.48	-0.25	-2.22	-4.00	-5.84	-7.28	-8.72	-10.16	-11.60	-13.04	-14.48	-15.92	-17.36	-18.80	-20.24	-21.68	-23.12	-24.56	-26.00	-27.44	-28.88	-30.32	-31.76	-33.20	-34.64	-36.08	-37.52	
145	251	337	348	297	2.72	3.02	3.68	3.56	2.62	0.82	-1.28	-3.75	-6.30	-8.19	-9.48	-10.75	-12.02	-13.29	-14.56	-15.83	-17.10	-18.37	-19.64	-20.91	-22.18	-23.45	-24.72	-25.99	-27.26	-28.53	-29.80	-31.07	-32.34	-33.61	-34.88	-36.15	
150	251	340	346	288	2.68	3.00	3.48	3.40	2.54	1.00	-1.40	-3.74	-6.17	-8.10	-9.39	-10.68	-11.97	-13.26	-14.55	-15.84	-17.13	-18.42	-19.71	-21.00	-22.29	-23.58	-24.87	-26.16	-27.45	-28.74	-30.03	-31.32	-32.61	-33.90	-35.19	-36.48	
155	251	336	336	274	2.51	3.16	3.80	3.67	2.55	0.55	-1.20	-5.42	-9.16	-10.89	-12.62	-14.35	-16.08	-17.81	-19.54	-21.27	-23.00	-24.73	-26.46	-28.19	-29.92	-31.65	-33.38	-35.11	-36.84	-38.57	-40.30	-42.03	-43.76	-45.49	-47.22	-48.95	
160	251	335	329	260	2.30	2.93	3.59	3.45	2.26	0.11	-2.81	-6.53	-10.92	-12.77	-14.62	-16.46	-18.30	-20.14	-21.98	-23.82	-25.66	-27.50	-29.34	-31.18	-33.02	-34.86	-36.70	-38.54	-40.38	-42.22	-44.06	-45.90	-47.74	-49.58	-51.42	-53.26	
165	251	333	323	245	2.04	2.59	3.22	3.04	1.72	-0.68																											



5850 There Ph.Anc (°)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180		
Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)		
0	2.66	3.95	4.15	4.55	0.31	-0.59	-1.49	-2.53	0.12	-0.47	2.00	4.12	4.93	4.48	3.26	1.48	0.37	-2.15	0.32	-3.71	-4.51	-5.77	-5.76	-4.92	-3.36	-3.96	-5.82	-6.26	-6.81	-7.39	-7.70	-5.86	-5.19	-4.40	-3.51	-1.42	-1.37		
5	2.66	3.99	4.25	2.79	0.81	-0.01	-1.06	-2.17	-1.37	0.39	2.42	3.99	4.38	3.69	2.43	1.12	-0.01	-0.72	-0.82	-2.08	-3.64	-4.51	-5.61	-4.53	-4.06	-7.46	-5.86	-6.28	-7.04	-6.46	-5.99	-5.25	-4.29	-3.21	-1.45	-1.37			
10	2.66	4.02	4.34	3.01	1.27	0.63	-0.64	-2.00	-1.38	-0.06	1.34	2.41	2.53	1.87	1.06	0.54	0.30	0.45	0.99	-0.82	-2.46	-3.27	-3.70	-5.07	-4.64	-4.94	-5.85	-6.48	-6.91	-6.88	-5.46	-4.91	-4.88	-4.56	-3.75	-4.40	-1.45	-1.37	
15	2.66	4.06	4.08	3.42	1.66	1.07	-0.78	-1.67	-1.02	0.40	1.81	2.96	2.81	2.04	1.24	0.72	0.41	0.58	1.12	-1.07	-2.62	-3.43	-3.86	-5.23	-4.80	-5.10	-6.01	-6.64	-7.07	-6.98	-5.56	-5.01	-4.98	-4.66	-3.85	-1.45	-1.37		
20	2.66	4.06	4.49	3.41	2.00	1.39	-0.42	-1.15	-1.54	-1.20	-0.58	0.15	0.61	0.83	0.99	0.26	0.13	0.88	1.01	0.98	-0.37	-1.29	-1.91	-3.70	-3.38	-3.71	-5.32	-5.70	-7.10	-7.13	-6.87	-5.87	-5.74	-5.42	-4.12	-1.38	-1.37		
25	2.66	4.06	4.55	3.58	2.30	1.81	1.20	-0.02	-0.69	-0.34	-0.59	0.33	1.49	2.24	2.53	2.62	2.54	2.23	1.74	0.88	-0.28	-1.13	-1.93	-4.50	-3.35	-3.60	-7.00	-7.44	-8.30	-10.09	-10.40	-9.31	-7.93	-8.29	-8.12	-6.37	-1.37		
30	2.66	4.04	4.58	3.74	2.58	2.28	2.08	1.34	0.55	-0.11	-0.95	0.96	0.21	1.75	2.74	3.03	2.85	2.37	1.62	0.85	-0.07	-0.93	-1.85	-2.94	-5.56	-4.99	-5.13	-7.13	-7.61	-11.21	-11.52	-11.24	-10.28	-12.55	-10.73	-8.52	-8.40	-11.53	-1.37
35	2.66	4.01	4.60	3.87	2.85	2.72	2.36	2.05	1.09	0.89	-0.91	-0.92	-0.24	1.95	2.81	2.47	2.13	1.25	0.10	-0.79	-1.36	-1.95	-2.55	-3.46	-5.62	-5.06	-5.47	-7.47	-7.92	-12.87	-12.93	-15.19	-11.83	-10.90	-9.64	-11.43	-11.37		
40	2.66	3.99	4.51	3.96	3.18	3.15	2.71	2.41	1.39	1.35	0.86	-0.97	-0.30	2.06	2.80	2.41	1.99	1.00	-0.40	-1.04	-1.61	-2.20	-2.80	-3.80	-5.92	-5.36	-5.77	-7.77	-8.22	-13.80	-13.87	-16.17	-12.46	-11.54	-10.34	-12.35	-12.35		
45	2.66	3.90	4.55	4.07	3.33	3.50	3.28	2.45	1.94	1.25	0.41	-0.94	-0.24	1.94	2.56	2.01	1.44	0.79	0.07	0.86	-0.67	-1.36	-2.09	-2.68	-3.68	-4.94	-4.40	-5.84	-7.54	-8.41	-10.04	-12.22	-12.97	-12.87	-9.85	-9.66	-13.32	-1.37	
50	2.66	3.83	4.48	4.11	3.51	3.75	3.56	2.66	2.46	1.46	0.39	-0.97	-0.24	1.94	2.56	2.01	1.44	0.79	0.07	0.86	-0.67	-1.36	-2.09	-2.68	-3.68	-4.94	-4.40	-5.84	-7.54	-8.41	-10.04	-12.22	-12.97	-12.87	-9.85	-9.66	-13.32	-1.37	
55	2.66	3.73	4.37	4.11	3.64	3.88	3.64	2.69	2.47	1.48	0.42	-0.97	-0.24	1.94	2.56	2.01	1.44	0.79	0.07	0.86	-0.67	-1.36	-2.09	-2.68	-3.68	-4.94	-4.40	-5.84	-7.54	-8.41	-10.04	-12.22	-12.97	-12.87	-9.85	-9.66	-13.32	-1.37	
60	2.66	3.68	4.32	4.11	3.64	3.88	3.64	2.69	2.47	1.48	0.42	-0.97	-0.24	1.94	2.56	2.01	1.44	0.79	0.07	0.86	-0.67	-1.36	-2.09	-2.68	-3.68	-4.94	-4.40	-5.84	-7.54	-8.41	-10.04	-12.22	-12.97	-12.87	-9.85	-9.66	-13.32	-1.37	
65	2.66	3.60	4.03	3.90	3.42	3.68	3.42	2.47	2.25	1.42	0.42	-0.97	-0.24	1.94	2.56	2.01	1.44	0.79	0.07	0.86	-0.67	-1.36	-2.09	-2.68	-3.68	-4.94	-4.40	-5.84	-7.54	-8.41	-10.04	-12.22	-12.97	-12.87	-9.85	-9.66	-13.32	-1.37	
70	2.66	3.36	3.80	3.70	3.40	3.60	3.92	4.17	4.31	4.22	3.77	3.16	2.97	1.12	2.93	2.55	1.29	0.70	0.08	-0.73	-1.40	-2.27	-3.34	-4.96	-7.40	-10.84	-12.97	-13.02	-12.51	-11.84	-10.58	-11.91	-11.66	-11.42	-9.79	-8.37	-10.98	-11.37	
75	2.66	3.22	3.53	3.40	3.20	3.25	3.48	3.76	4.11	4.28	3.93	3.25	2.83	2.80	2.56	1.87	1.16	0.57	-0.28	-1.33	-2.15	-3.11	-4.64	-6.53	-8.35	-10.80	-13.49	-13.07	-11.04	-10.58	-11.59	-11.54	-11.46	-9.83	-7.78	-9.81	-10.29	-11.37	
80	2.66	3.06	3.22	3.04	2.81	2.79	2.95	3.29	3.89	3.95	4.22	3.55	2.84	2.35	1.82	1.04	0.27	-0.40	-1.35	-2.59	-3.86	-5.55	-8.21	-10.85	-11.75	-13.35	-14.87	-11.81	-11.81	-10.38	-9.46	-10.67	-11.70	-12.71	-12.61	-11.82	-10.62	-10.61	-11.37
85	2.66	2.90	2.90	2.82	2.54	2.26	2.34	2.71	3.41	3.39	4.04	4.12	3.59	2.77	2.04	1.30	0.34	-0.68	-1.40	-2.91	-4.82	-6.74	-10.11	-13.62	-13.85	-15.65	-16.28	-14.28	-10.80	-9.44	-9.50	-11.86	-12.47	-12.46	-11.86	-11.50	-10.81	-11.37	
90	2.66	2.74	2.57	2.15	1.87	1.73	1.68	1.83	2.33	2.95	3.21	2.29	1.53	0.65	-0.40	-1.76	-2.95	-4.45	-6.83	-9.18	-9.85	-13.36	-14.74	-16.36	-16.68	-18.50	-18.34	-10.45	-12.60	-11.51	-9.71	-9.82	-12.63	-13.53	-13.71	-12.82	-12.82	-13.37	
95	2.66	2.58	2.26	1.80	1.45	1.26	1.02	0.72	0.68	0.99	1.36	1.50	1.37	0.99	0.19	-1.16	-2.87	-4.75	-7.03	-9.86	-11.63	-10.85	-15.00	-16.86	-16.30	-18.42	-18.31	-10.40	-12.90	-11.00	-9.66	-12.26	-14.02	-11.72	-9.69	-10.53	-13.50	-15.21	-13.71
100	2.66	2.42	1.98	1.49	1.13	0.87	0.41	-0.37	-0.17	-0.14	-0.87	-0.12	0.31	0.39	-0.10	-1.54	-3.44	-5.61	-7.77	-9.82	-10.83	-15.06	-17.07	-17.37	-19.11	-17.11	-11.55	-12.57	-14.87	-14.81	-10.88	-11.11	-10.52	-13.00	-15.13	-13.71	-13.71		
105	2.66	2.27	1.75	1.28	0.95	0.55	-0.11	-0.68	-0.11	-0.17	-0.91	-0.59	-0.57	-0.87	-1.62	-2.86	-4.33	-5.75	-7.20	-8.56	-9.37	-13.76	-17.07	-17.37	-19.11	-17.11	-11.55	-12.57	-14.87	-14.81	-10.88	-11.11	-10.52	-13.00	-15.13	-13.71	-13.71		
110	2.66	2.12	1.53	1.07	0.72	0.35	-0.21	-0.78	-0.21	-0.28	-1.04	-0.72	-1.04	-1.87	-3.12	-4.59	-6.06	-7.47	-8.82	-9.63	-14.02	-17.33	-17.63	-19.37	-17.37	-11.71	-12.73	-15.03	-14.97	-11.04	-11.27	-10.68	-13.16	-15.29	-13.71	-13.71			
115	2.66	2.00	1.44	1.16	0.85	0.19	-0.68	-1.02	-0.41	-0.48	-0.75	-0.06	-1.23	-2.17	-3.28	-4.75	-6.23	-7.59	-8.97	-9.91	-14.30	-17.61	-17.91	-19.65	-17.65	-11.85	-12.87	-15.17	-15.11	-11.18	-11.41	-10.82	-13.30	-15.43	-13.71	-13.71			
120	2.66	1.89	1.37	1.23	0.95	0.16	-0.73	-0.62	-0.35	-0.38	-1.01	-0.20	-1.36	-1.80	-2.77	-4.22	-5.68	-6.88	-7.84	-8.54	-12.94	-16.25	-16.55	-18.29	-16.29	-11.95	-12.97	-15.27	-15.21	-11.24	-11.47	-10.88	-13.36	-15.49	-13.71	-13.71			
125	2.66	1.78	1.34	1.34	1.08	0.15	-0.74	-0.15	-0.88	1.02	0.61	-0.40	-1.14	-1.52	-1.90	-2.58	-3.65	-4.79	-5.60	-6.38	-10.78	-14.09	-14.39	-16.13	-14.13	-11.95	-12.97	-15.27	-15.21	-11.24	-11.47	-10.88	-13.36	-15.49	-13.71	-13.71			
130	2.66	1.70	1.27	1.27	1.08	0.12	-0.75	-0.12	-0.85	1.05	0.62	-0.41	-1.15	-1.53	-1.91	-2.59	-3.66	-4.80	-5.61	-6.39	-10.79	-14.10	-14.40	-16.14	-14.14	-11.97	-12.99	-15.29	-15.23	-11.27	-11.50	-10.91	-13.38	-15.51	-13.71	-13.71			
135	2.66	1.62	1.37	1.64	1.34	0.03	-0.40	1.05	2.10	2.02	1.37	0.53	-0.58	-2.04	-3.02	-3.79	-5.09	-6.83	-8.15	-9.43	-13.71	-14.74	-15.04	-16.78	-14.78	-12.60	-13.62	-15.92	-15.86	-11.51	-11.74	-11.15	-13.68	-15.81	-13.71	-13.71			
140	2.66	1.56	1.41	1.79	1.45	0.09	0.15	1.27	2.77	2.77	1.87	0.82	-0.35	-1.70	-3.13	-4.56	-6.08	-7.72	-9.35	-10.67	-14.95	-15.97	-16.27	-18.01	-16.01	-12.81	-13.83	-16.13	-16.07	-11.79	-11.99	-11.41	-13.88	-15.98	-13.71	-13.71			
145	2.66	1.50	1.45	1.92	1.56	0.38	1.04	2.29	2.05	0.76	-0.88	-2.63	-4.00	-4.63	-4.97	-5.59	-6.25	-7.44	-8.74	-9.81	-14.09	-15.11	-15.41	-17.15	-15.15	-12.95	-13.97	-16.27	-16.21	-12.32	-12.58	-12.38	-15.27	-17.41	-13.71	-13.71			
150	2.66	1.46	1.40	1.94	1.68	0.79	1.80	2.69	1.68	-0.42	-2.90	-5.12	-6.65	-5.12	-6.15	-5.58	-6.44	-7.51	-8.33	-9.44	-13.71	-14.74	-15.04	-16.78	-14.78	-12.60	-13.62	-15.92	-15.86	-11.51	-11.74	-11.15	-13.68	-15.81	-13.71	-13.71			
155	2.66	1.42	1.39	1.94	1.68	0.79	1.80	2.69	1.68	-0.42	-2.90	-5.12	-6.65	-5.12	-6.15	-5.58	-6.44	-7.51	-8.33	-9.44	-13.71	-14.74	-15.04	-16.78	-14.78	-12.60	-13.62	-15.92	-15.86	-11.51	-11.74	-11.15	-13.68	-15.81	-13.71	-13.71			
160	2.66	1.39	1.55	1.77	1.68	1.46	2.69	2.89	1.42	-0.58	-2.25	-3.20	-4.17	-4.49	-5.32	-5.77	-6.49	-7.47	-8.19	-9.44	-13.71	-14.74	-15.04	-16.78	-14.78	-12.60	-13.62	-15.92	-15.86	-11.51	-11.74	-11.15	-13.68	-15.81					

Ant. Position : 2G/6G Ant.3

2450 Thera	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	
Ant. Position	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)	Response (dB)		
0	2.40	2.77	2.89	2.80	2.75	2.78	2.93	2.95	2.76	2.74	1.06	0.55	-2.55	-4.33	-7.01	-9.27	-8.45	-8.47	0.82	-0.55	-0.33	-0.56	-0.72	-0.97	-0.62	-0.46	-0.14	-0.54	-0.14	-0.25	-0.72	-1.30	-1.02	-0.40	-0.80	-1.02	-1.55	
5	2.40	2.77	2.83	2.75	2.68	2.85	3.05	3.10	2.78	2.00	0.74	-0.98	-3.09	-5.32	-7.07	-9.27	-8.01	-8.37	-0.96	-0.33	-0.10	-0.22	-0.41	-0.62	-0.31	-0.14	-0.54	-0.14	-0.25	-0.72	-1.30	-1.02	-0.40	-0.80	-1.02	-1.55		
10	2.40	2.75	2.78	2.67	2.67	2.88	3.11	3.10	2.68	1.70	0.23	-1.68	-3.88	-5.89	-7.35	-9.79	-8.05	-8.69	-0.79	-0.17	-0.05	-0.13	-0.27	-0.47	-0.21	-0.11	-0.62	-0.22	-0.12	-0.33	-0.75	-1.02	-0.48	-0.91	-1.09	-1.62		
15	2.40	2.73	2.72	2.63	2.63	2.87	3.10	3.03	2.68	1.30	-0.38	-2.51	-4.85	-6.90	-7.88	-9.97	-8.28	-8.94	-0.47	-0.17	-0.07	-0.13	-0.25	-0.43	-0.21	-0.11	-0.62	-0.22	-0.12	-0.33	-0.75	-1.02	-0.48	-0.94	-1.09	-1.62		
20	2.40	2.71	2.69	2.58	2.61	2.82	2.90	2.83	2.69	0.90	-0.97	-3.01	-5.38	-7.21	-8.88	-10.97	-9.26	-9.87	0.28	-0.84	-0.32	-0.14	-0.28	-0.48	-0.21	-0.11	-0.62	-0.22	-0.12	-0.33	-0.75	-1.02	-0.48	-0.98	-1.09	-1.62		
25	2.40	2.68	2.61	2.44	2.47	2.71	2.91	2.76	2.68	0.75	-1.18	-3.58	-6.15	-8.16	-9.56	-11.64	-9.86	-10.42	-0.34	-1.32	-0.64	-0.24	-0.42	-0.62	-0.31	-0.14	-0.62	-0.22	-0.12	-0.33	-0.75	-1.02	-0.48	-0.98	-1.09	-1.62		
30	2.40	2.65	2.55	2.36	2.36	2.57	2.76	2.62	1.97	0.71	-1.14	-3.49	-6.13	-8.29	-8.80	-10.42	-8.55	-9.41	-0.58	-1.17	-0.22	-0.33	-0.58	-0.77	-0.43	-0.21	-0.62	-0.22	-0.12	-0.33	-0.75	-1.02	-0.48	-0.98	-1.09	-1.62		
35	2.40	2.63	2.50	2.27	2.23	2.41	2.59	2.50	1.95	0.83	-1.10	-3.70	-6.72	-9.11	-9.06	-10.66	-8.91	-9.51	-0.18	-0.88	-0.38	-0.19	-0.34	-0.53	-0.28	-0.14	-0.62	-0.22	-0.12	-0.33	-0.75	-1.02	-0.48	-0.98	-1.09	-1.62		
40	2.40	2.60	2.44	2.16	2.08	2.25	2.40	2.32	1.96	0.62	-1.30	-4.02	-6.57	-9.21	-9.11	-10.78	-9.08	-9.68	-0.10	-0.88	-0.32	-0.19	-0.34	-0.53	-0.28	-0.14	-0.62	-0.22	-0.12	-0.33	-0.75	-1.02	-0.48	-0.98	-1.09	-1.62		
45	2.40	2.57	2.39	2.05	1.93	2.03	2.18	2.22	1.93	0.18	-1.02	-3.56	-6.29	-8.79	-8.73	-10.52	-8.98	-9.82	-0.13	-0.87	-0.38	-0.19	-0.34	-0.53	-0.28	-0.14	-0.62	-0.22	-0.12	-0.33	-0.75	-1.02	-0.48	-0.98	-1.09	-1.62		
50	2.40	2.54	2.34	2.00	1.77	1.79	1.94	2.02	1.84	0.15	-0.16	-3.45	-6.51	-9.16	-7.71	-9.85	-9.55	-10.05	-0.10	-0.40	-0.35	-0.63	-1.00	-1.27	-1.40	-1.02	-0.81	-1.56	-1.40	-1.20	-1.11	-1.07	-1.00	-0.98	-0.98	-1.02	-1.55	
55	2.40	2.51	2.29	1.92	1.63	1.56	1.67	1.77	1.67	1.22	0.32	-1.06	-2.83	-4.79	-6.63	-8.11	-9.22	-10.17	-0.84	-0.31	-0.38	-1.14	-1.63	-1.77	-1.42	-1.28	-1.17	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08	-1.08	
60	2.40	2.49	2.25	1.84	1.49	1.35	1.40	1.49	1.44	1.09	0.36	-0.78	-2.27	-3.98	-5.73	-7.37	-8.88	-10.29	-1.61	-0.66	-1.22	-1.93	-2.43	-2.68	-2.40	-2.16	-2.02	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	
65	2.40	2.46	2.21	1.70	1.31	1.15	1.13	1.13	1.15	0.89	0.32	-0.54	-1.74	-3.16	-4.75	-6.41	-8.07	-9.80	-1.28	-0.95	-1.46	-2.30	-2.95	-3.46	-3.68	-3.40	-3.16	-2.95	-2.84	-2.84	-2.84	-2.84	-2.84	-2.84	-2.84	-2.84	-2.84	
70	2.40	2.43	2.17	1.73	1.28	0.98	0.89	0.90	0.86	0.67	0.26	-0.36	-1.19	-2.26	-3.55	-5.01	-6.49	-7.88	-1.13	-1.04	-1.21	-1.45	-1.69	-1.93	-2.17	-2.40	-2.63	-2.86	-3.09	-3.32	-3.55	-3.78	-4.01	-4.24	-4.47	-4.70	-4.93	-5.16
75	2.40	2.40	2.13	1.68	1.20	0.85	0.68	0.64	0.60	0.46	0.20	-0.17	-0.69	-1.41	-2.38	-3.53	-4.70	-5.70	-0.82	-1.33	-0.85	-1.00	-1.28	-1.67	-2.07	-2.47	-2.87	-3.26	-3.65	-4.04	-4.43	-4.82	-5.21	-5.60	-5.99	-6.38	-6.77	
80	2.40	2.37	2.10	1.65	1.15	0.75	0.53	0.44	0.38	0.28	0.13	-0.06	-0.34	-0.80	-1.51	-2.39	-3.27	-3.88	-0.45	-0.97	-0.76	-0.63	-0.78	-1.05	-1.32	-1.59	-1.86	-2.13	-2.40	-2.67	-2.94	-3.21	-3.48	-3.75	-4.02	-4.29	-4.56	
85	2.40	2.34	2.07	1.63	1.13	0.70	0.43	0.29	0.21	0.13	0.04	-0.05	-0.19	-0.48	-1.00	-1.88	-2.36	-2.91	-0.33	-0.75	-0.42	-0.58	-0.79	-1.02	-1.25	-1.48	-1.71	-1.94	-2.17	-2.40	-2.63	-2.86	-3.09	-3.32	-3.55	-3.78	-4.01	
90	2.40	2.31	2.04	1.61	1.13	0.67	0.27	0.21	0.10	-0.01	-0.07	-0.12	-0.20	-0.40	-0.77	-1.24	-2.32	-2.72	-0.14	-0.87	-0.43	-0.53	-0.63	-0.83	-1.03	-1.23	-1.43	-1.63	-1.83	-2.03	-2.23	-2.43	-2.63	-2.83	-3.03	-3.23	-3.43	
95	2.40	2.28	2.01	1.60	1.11	0.67	0.35	0.16	0.03	-0.09	-0.19	-0.25	-0.32	-0.46	-0.73	-1.10	-1.52	-1.86	-2.38	-0.36	-0.61	-0.24	-0.37	-0.56	-0.75	-0.94	-1.13	-1.32	-1.51	-1.70	-1.89	-2.08	-2.27	-2.46	-2.65	-2.84	-3.03	-3.22
100	2.40	2.25	1.97	1.58	1.12	0.68	0.36	0.14	0.01	-0.18	-0.31	-0.43	-0.53	-0.67	-0.86	-1.11	-1.38	-1.74	-2.17	-0.68	-1.18	-0.66	-0.40	-0.58	-0.76	-0.94	-1.12	-1.30	-1.48	-1.66	-1.84	-2.02	-2.20	-2.38	-2.56	-2.74	-2.92	
105	2.40	2.22	1.94	1.56	1.12	0.70	0.37	0.12	-0.09	-0.23	-0.47	-0.66	-0.88	-1.08	-1.28	-1.45	-1.62	-1.77	-2.24	-1.71	-1.37	-0.58	-0.38	-0.44	-0.58	-0.72	-0.86	-1.00	-1.14	-1.28	-1.42	-1.56	-1.70	-1.84	-1.98	-2.12	-2.26	
110	2.40	2.18	1.90	1.48	1.04	0.62	0.34	0.10	0.04	-0.18	-0.34	-0.58	-0.80	-1.04	-1.24	-1.41	-1.58	-1.73	-2.18	-1.65	-1.21	-0.42	-0.22	-0.28	-0.42	-0.56	-0.70	-0.84	-0.98	-1.12	-1.26	-1.40	-1.54	-1.68	-1.82	-1.96	-2.10	
115	2.40	2.15	1.84	1.46	1.07	0.68	0.32	0.01	-0.34	-0.67	-0.98	-1.36	-1.88	-2.54	-3.19	-3.63	-3.84	-3.99	-4.28	-4.74	-4.24	-3.54	-2.64	-1.64	-0.64	-0.14	-0.76	-1.28	-1.80	-2.32	-2.84	-3.36	-3.88	-4.40	-4.92	-5.44	-5.96	-6.48
120	2.40	2.11	1.79	1.41	1.01	0.62	0.24	-0.15	-0.95	-0.95	-1.32	-1.75	-2.38	-3.27	-4.08	-4.81	-5.28	-5.75	-6.08	-6.51	-7.14	-6.81	-5.81	-4.81	-3.81	-2.81	-1.81	-0.81	-0.21	-1.18	-2.08	-2.98	-3.88	-4.78	-5.68	-6.58	-7.48	-8.38
125	2.40	2.07	1.72	1.33	0.92	0.52	0.11	-0.33	-0.81	-1.27	-1.67	-2.09	-2.68	-3.60	-4.83	-6.18	-7.73	-8.23	-8.18	-10.44	-11.11	-10.34	-9.33	-8.27	-7.28	-6.25	-5.18	-4.11	-3.04	-1.97	-0.90	-0.11	-1.28	-2.18	-3.08	-3.98	-4.88	
130	2.40	2.03	1.64	1.22	0.75	0.37	-0.07	-0.56	-1.10	-1.60	-2.01	-2.35	-2.80	-3.51	-4.68	-6.07	-7.24	-8.56	-9.86	-11.71	-13.35	-15.57	-18.48	-21.75	-24.15	-26.11	-27.41	-28.41	-29.11	-29.61	-30.01	-30.41	-30.81	-31.21	-31.61	-32.01		
135	2.40	1.99	1.58	1.09	0.62	0.19	-0.10	-0.59	-1.07	-1.63	-2.18	-2.63	-2.93	-3.13	-3.27	-3.76	-4.34	-5.10	-5.95	-6.90	-7.94	-9.05	-10.02	-10.85	-11.64	-12.33	-13.01	-13.69	-14.37	-15.05	-15.73	-16.41	-17.09	-17.77	-18.45	-19.13	-19.81	
140	2.40	1.91	1.36	0.76	0.16	-0.40	-0.89	-1.37	-1.87	-2.39	-2.88	-3.26	-3.48	-3.64	-3.85	-4.21	-4.75	-5.46	-6.30	-7.25	-8.25	-9.27	-10.21	-10.98	-11.37	-11.92	-12.46	-13.00	-13.54	-14.08	-14.62	-15.16	-15.70	-16.24	-16.78	-17.32	-17.86	
145	2.40	1.87	1.25	0.57	-0.14	-0.76	-1.27	-1.70	-2.12	-2.58	-3.06	-3.50	-3.81	-3.98	-4.13	-4.48	-5.44	-6.41	-7.44	-8.51	-9.59	-10.68	-11.76	-12.83	-13.91	-15.00	-16.08	-17.16	-18.24	-19.32	-20.40	-21.48	-22.56	-23.64	-24.72	-25.80		
150	2.40	1.82	1.26	0.51	-0.17	-0.78	-1.18	-1.73	-2.12	-2.44	-2.76	-3.16	-3.46	-3.61	-3.76	-4.04	-4.84	-5.74	-6.76	-7.78	-8.80	-9.82	-10.84	-11.86	-12.88	-13.90	-14.92	-15.94	-16.96	-17.98	-19.00	-20.02	-21.04	-22.06	-23.08	-24.10		
155	2.40	1.79	1.03	0.13	-0.81	-1.02	-2.24	-2.62	-2.81	-2.96	-3.22	-3.59	-3.89	-4.06	-4.15	-4.35	-4.66	-5.36	-6.36	-7.36	-8.36	-9.36	-10.36	-11.36	-12.36	-13.36	-14.36	-15.36	-16.36	-17.36	-18.36	-19.36	-20.36	-21.36	-22.36	-23.36		
160	2.40	1.76	0.92	-0.09	-1.18	-1.25	-2.83	-3.17	-3.23	-3.22	-3.30	-3.53	-3.89	-4.35	-4.88	-5.47	-6.17	-6.97	-7.85	-8.82	-9.89	-10.96	-12.03	-13.10	-14.17	-15.24	-16.31	-17.38	-18.45	-19.52	-20.59	-21.66	-22.73	-23.80	-24.87	-25.94		
165	2.40	1.73	0.01	-0.32	-1.54	-2.64	-3.40	-3.68	-3.60	-3.42	-3.33	-3.42	-3.67	-4.09	-4.67	-5.35	-6.08	-6.90	-7.89	-8.98	-10.19	-11.49	-12.89	-14.29	-15.69	-17.09	-18.49	-19.89	-21.29	-22.69								

600 Data Rows (A)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180
Response (A)	Response (B)	Response (C)	Response (D)	Response (E)	Response (F)	Response (G)	Response (H)	Response (I)	Response (J)	Response (K)	Response (L)	Response (M)	Response (N)	Response (O)	Response (P)	Response (Q)	Response (R)	Response (S)	Response (T)	Response (U)	Response (V)	Response (W)	Response (X)	Response (Y)	Response (Z)	Response (AA)	Response (AB)	Response (AC)	Response (AD)	Response (AE)	Response (AF)	Response (AG)	Response (AH)	Response (AI)	Response (AJ)	Response (AK)	Response (AL)
1	0.13	-1.34	-3.40	-5.17	-6.43	-4.06	-3.51	-1.68	0.15	1.90	0.79	0.33	-1.58	0.20	-2.40	-2.05	-3.00	-3.32	0.55	-4.33	-5.05	-5.85	-7.75	-9.71	-11.74	-13.81	-11.41	-4.13	-5.79	-6.47	-7.72	-9.71	-11.74	-13.75	-15.71	-17.67	-17.77
5	0.13	-1.69	-5.90	-9.32	-4.71	-4.00	-3.50	-1.70	0.10	1.90	0.83	-0.84	-2.20	-2.26	-3.10	-2.36	-2.70	-3.04	-3.38	-4.92	-5.92	-7.37	-9.72	-12.06	-9.70	-7.14	-4.08	-6.10	-7.21	-8.33	-10.67	-13.01	-15.36	-12.83	-10.30	-7.77	
10	0.13	-1.99	-4.11	-4.23	-6.40	-4.58	-3.76	-1.72	0.31	2.35	0.67	-1.01	-2.70	-2.33	-1.96	-1.89	-1.84	-2.13	-2.39	-3.47	-5.36	-7.50	-9.64	-11.77	-9.62	-7.47	-5.33	-6.34	-7.37	-10.64	-12.96	-15.24	-12.75	-10.26	-7.77		
15	0.13	-2.31	-4.75	-7.19	-6.02	-4.84	-3.67	-1.64	0.39	2.41	0.54	-1.33	-3.21	-2.33	-1.44	-0.56	-1.53	-2.01	-3.40	-4.84	-6.26	-7.93	-9.61	-11.28	-9.81	-7.33	-6.86	-7.79	-8.81	-10.59	-12.59	-14.69	-12.38	-10.07	-7.77		
20	0.13	-2.64	-5.40	-8.00	-6.40	-4.80	-3.60	-1.60	0.45	2.67	0.71	-1.71	-3.47	-2.67	-1.66	-0.41	-1.37	-2.05	-3.68	-5.19	-6.88	-8.48	-10.08	-11.68	-10.08	-7.88	-6.88	-8.25	-9.68	-11.11	-12.54	-14.54	-12.77	-10.27	-7.77		
25	0.13	-2.96	-6.04	-8.12	-7.15	-5.16	-3.21	-1.41	0.39	2.96	0.92	-2.39	-4.34	-3.26	-2.09	-0.83	-1.63	-2.27	-3.76	-5.45	-7.42	-9.10	-10.77	-11.85	-9.83	-8.02	-8.62	-10.22	-10.82	-12.88	-14.88	-16.88	-15.10	-13.02	-10.77		
30	0.13	-3.28	-6.68	-10.08	-7.74	-5.39	-3.05	-1.38	0.28	1.95	0.15	-1.66	-3.46	-2.90	-2.34	-1.77	-1.97	-2.36	-3.80	-5.23	-6.67	-7.98	-9.80	-10.01	-10.77	-11.33	-11.99	-12.52	-13.08	-13.58	-14.22	-14.88	-15.72	-16.77	-17.72	-17.77	
35	0.13	-3.50	-7.12	-10.75	-8.13	-5.51	-2.89	-1.32	0.26	1.83	0.46	-0.84	-3.32	-1.84	-1.55	-1.17	-1.69	-2.21	-2.73	-3.95	-5.17	-6.39	-8.14	-10.29	-12.37	-11.97	-14.91	-16.25	-15.98	-15.72	-16.45	-17.09	-17.72	-17.77			
40	0.13	-3.65	-7.47	-11.20	-8.38	-5.56	-2.73	-1.16	0.41	1.99	1.18	0.38	-0.43	-0.35	-0.20	-0.20	-0.27	-0.34	-0.40	-0.60	-0.78	-0.97	-1.03	-1.43	-17.96	-16.40	-19.01	-19.93	-18.16	-17.67	-15.42	-13.98	-12.53	-11.08	-9.57	-8.07	
45	0.13	-3.77	-7.61	-11.37	-8.47	-5.67	-2.81	-1.10	0.47	2.08	1.30	0.47	-0.38	-0.30	-0.16	-0.16	-0.20	-0.26	-0.32	-0.48	-0.64	-0.80	-0.96	-1.02	-1.46	-16.44	-19.04	-19.94	-18.17	-17.68	-15.43	-13.99	-12.54	-11.09	-9.58	-8.07	
50	0.13	-3.90																																			

1000 Years Arcs (°)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180
Response (°)	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response
5	-2.33	-1.47	-0.53	-0.37	-0.1	-0.38	-0.76	-0.85	0.84	1.21	0.74	0.15	-0.45	0.53	-0.61	-0.71	-1.68	-2.48	-3.36	-4.41	-5.58	-6.83	-7.54	-8.33	-9.21	-9.77	-4.30	-7.84	-0.07	-6.31	-5.54	-4.93	-4.44	-3.89	-5.55	-7.42	-9.13
6	-2.33	-1.47	-0.62	0.23	-0.12	-0.48	-0.83	0.85	0.93	1.81	0.84	0.07	-0.80	-1.19	0.41	-1.04	-1.88	-3.33	-3.90	-4.46	-5.02	-5.62	-6.02	-6.02	-6.10	-4.39	-7.80	-6.26	-5.44	-6.43	-6.64	-6.64	-6.48	-6.18	-6.07	-6.18	
10	-2.33	-1.52	-0.71	0.10	-0.03	-0.15	-0.27	0.59	1.46	2.32	1.33	0.35	-0.64	0.27	1.17	2.08	0.24	-1.61	-3.46	-3.83	-3.80	-3.98	-5.92	-7.87	-8.81	-8.05	-7.89	-6.83	-5.15	-5.37	-5.59	-5.33	-4.68	-4.83	-7.62	-8.40	-9.18
15	-2.33	-1.58	-0.80	-0.04	-0.04	-0.04	0.62	1.27	1.82	1.37	0.41	-0.34	0.31	0.86	1.61	0.04	-1.52	-3.09	-3.38	-3.67	-3.96	-5.56	-7.17	-8.77	-8.62	-8.47	-8.32	-7.06	-5.80	-4.54	-5.65	-7.15	-4.48	-6.89	-8.94	-9.18	
20	-2.33	-1.61	-0.89	-0.17	-0.11	-0.04	0.02	0.52	1.02	1.55	1.26	0.10	0.15	0.88	1.01	1.14	0.00	-1.15	-2.29	-2.81	-3.33	-3.84	-5.41	-6.98	-6.54	-6.95	-10.18	-8.14	-6.24	-4.33	-5.41	-6.81	-7.24	-8.62	-8.71	-9.18	
25	-2.33	-1.65	-0.95	-0.26	-0.15	-0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	0.93	1.56	0.25	-0.82	-1.70	-2.22	-2.74	-3.26	-4.78	-6.30	-6.16	-6.95	-10.18	-8.14	-6.24	-4.33	-5.41	-6.81	-7.24	-8.62	-8.71	-9.18	
30	-2.33	-1.69	-1.06	-0.41	-0.39	-0.14	-0.14	-0.63	0.23	1.08	1.63	1.17	2.71	1.44	0.57	-0.50	-0.60	-0.69	-0.79	-1.69	-2.60	-3.50	-4.20	-4.90	-5.59	-7.76	-9.32	-12.08	-9.34	-6.80	-3.98	-5.44	-6.89	-7.35	-8.63	-9.11	-9.18
35	-2.33	-1.72	-1.12	-0.52	-1.14	-0.76	-0.28	-1.30	-0.22	0.86	1.67	2.47	3.28	1.55	0.17	-0.88	-1.56	-1.23	-0.90	-1.43	-1.97	-2.51	-3.14	-4.76	-6.39	-6.52	-6.66	-10.79	-8.74	-6.69	-4.65	-6.33	-8.02	-7.70	-9.53	-9.38	-9.18
40	-2.33	-1.74	-1.16	-0.58	-1.48	-0.37	-0.28	-1.85	-0.43	0.98	1.77	2.56	3.34	1.10	-1.13	-1.37	-2.91	-2.46	-2.00	-3.16	-4.33	-5.49	-6.16	-6.83	-7.50	-8.41	-9.32	-12.04	-9.16	-8.08	-7.00	-6.49	-9.88	-11.47	-10.71	-9.95	-9.18
45	-2.33	-1.78	-1.24	-0.68	-1.78	-0.27	-0.38	-1.98	-0.79	1.07	2.45	2.95	3.16	-0.56	-0.27	-1.10	-2.29	-2.49	-2.68	-3.31	-4.14	-5.37	-6.11	-6.85	-7.55	-8.10	-13.58	-11.73	-9.86	-8.03	-7.05	-10.46	-11.11	-10.74	-10.02	-9.18	
50	-2.33	-1.80	-1.29	-0.74	-1.93	-0.36	-0.46	-2.06	-1.23	1.06	2.36	2.82	3.10	-0.86	-0.34	-1.19	-																				

Regulatory WIFI Antenna Information 30/32

1000 Theta Angle (°)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180					
Theta (°)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180					
5	155	229	333	377	371	317	251	210	160	0.94	-0.68	-2.31	-3.33	-3.31	-4.46	-4.08	-4.51	-4.31	-3.37	-4.55	-3.79	-3.95	-3.19	-2.12	-1.12	-0.24	-0.21	-0.32	-0.46	-0.55	-0.64	-0.73	-0.81	-0.89	-0.97	-1.05	-1.13	-1.20	-1.26	-1.33		
10	155	233	332	390	371	327	255	230	240	160	-0.40	-2.40	-3.40	-4.40	-4.40	-4.04	-3.64	-3.04	-1.95	-1.15	-0.66	-0.36	-0.19	-0.11	-0.20	-0.27	-0.32	-0.37	-0.42	-0.48	-0.53	-0.58	-0.64	-0.69	-0.74	-0.79	-0.84	-0.89	-0.94	-0.99	-1.04	
15	155	235	336	396	374	351	329	280	251	212	-0.37	-1.38	-2.37	-3.38	-3.37	-4.09	-3.65	-3.01	-1.81	-1.21	-0.62	-0.32	-0.02	-0.20	-0.27	-0.32	-0.37	-0.41	-0.46	-0.51	-0.56	-0.61	-0.66	-0.71	-0.76	-0.81	-0.86	-0.91	-0.96	-1.01	-1.06	
20	155	239	305	381	372	363	354	309	265	220	0.85	-0.55	-1.86	-4.11	-4.35	-4.95	-4.09	-3.18	-1.60	-0.74	-0.33	-0.16	-0.06	-0.04	-0.07	-0.10	-0.13	-0.16	-0.19	-0.22	-0.25	-0.28	-0.31	-0.34	-0.37	-0.40	-0.43	-0.46	-0.49	-0.52	-0.55	
25	155	229	303	378	375	373	371	313	254	196	1.08	0.20	-0.68	-2.63	-4.56	-4.62	-4.06	-3.40	-1.74	-1.15	-0.31	-0.22	-0.13	-0.12	-0.13	-0.16	-0.19	-0.22	-0.25	-0.28	-0.31	-0.34	-0.37	-0.40	-0.43	-0.46	-0.49	-0.52	-0.55	-0.58	-0.61	
30	155	230	239	365	383	382	381	320	260	188	0.80	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
35	155	225	296	366	363	375	359	299	242	186	1.53	1.22	0.91	-1.14	-3.18	-5.22	-4.30	-3.30	-2.46	-1.59	-0.84	-0.55	-0.14	-0.13	-0.17	-0.20	-0.23	-0.27	-0.30	-0.34	-0.38	-0.42	-0.46	-0.50	-0.54	-0.58	-0.62	-0.66	-0.70	-0.74	-0.78	
40	155	216	282	345	340	334	329	290	252	213	1.84	1.55	1.26	0.97	-1.19	-4.62	-4.59	-3.77	-2.95	-2.75	-1.52	-1.12	-0.47	-0.45	-0.11	-0.45	-0.18	-0.75	-0.82	-0.88	-0.94	-1.00	-1.06	-1.12	-1.18	-1.24	-1.30	-1.36	-1.42	-1.48	-1.54	-1.60
45	155	213	271	329	316	310	303	290	255	220	1.85	1.56	1.26	0.96	-0.99	-2.94	-4.09	-4.38	-4.12	-3.70	-1.05	-0.32	-0.11	-0.47	-0.33	-0.38	-0.36	-0.34	-0.32	-0.30	-0.28	-0.26	-0.24	-0.22	-0.20	-0.18	-0.16	-0.14	-0.12	-0.10	-0.08	
50	155	209	267	324	310	304	297	284	249	214	1.87	1.57	1.27	0.97	-1.00	-2.97	-4.12	-4.38	-4.12	-3.70	-1.																					

Ant. Position : BLE Ant.5

2450	Theta Angle (°)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180		
		Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)	Response (dBi)		
0	0.02	1.27	1.55	1.87	0.35	-1.48	-2.75	-2.91	-5.12	-2.23	-3.03	-3.82	-3.97	-3.68	-3.55	-3.02	-3.65	-3.52	-3.50	-3.83	-3.10	-4.40	-4.68	-4.39	-4.01	-3.89	-3.84	-3.64	-3.46	-3.41	-3.50	-3.94	-4.36	-4.33	-5.36	-5.18	-5.12	-5.82	-5.59	
5	0.02	1.32	2.02	1.75	0.46	-1.40	-2.58	-2.33	-1.82	-1.92	-2.61	-3.34	-3.67	-3.55	-3.72	-4.04	-4.21	-4.17	-4.13	-4.29	-4.54	-4.46	-4.61	-3.81	-3.50	-3.54	-3.58	-3.68	-3.88	-4.09	-4.27	-4.46	-4.27	-5.32	-5.18	-5.80	-5.59	-5.59		
10	0.02	1.35	2.08	1.83	0.57	-1.29	-2.48	-2.25	-1.72	-1.75	-2.39	-3.15	-3.60	-3.68	-4.29	-4.79	-5.15	-5.32	-5.37	-5.29	-4.98	-4.44	-4.86	-3.51	-3.46	-3.58	-3.77	-4.15	-4.61	-4.85	-4.79	-4.65	-4.77	-5.28	-5.84	-5.80	-5.59	-5.59		
15	0.02	1.38	2.13	1.82	0.71	-1.14	-2.41	-2.33	-1.79	-1.74	-2.38	-3.16	-3.75	-4.28	-4.80	-5.53	-6.05	-6.82	-6.76	-6.37	-5.40	-4.48	-3.73	-3.47	-3.81	-3.73	-4.13	-4.82	-5.62	-5.82	-5.54	-4.98	-4.84	-5.28	-5.81	-6.06	-5.59	-5.59		
20	0.02	1.39	2.17	2.01	0.87	-0.95	-2.40	-2.51	-2.08	-1.83	-2.22	-2.96	-3.70	-4.46	-5.32	-6.19	-6.84	-7.66	-8.08	-7.21	-6.71	-5.46	-3.75	-3.51	-3.57	-3.86	-4.48	-5.54	-6.88	-7.27	-6.40	-5.44	-4.98	-5.31	-5.95	-6.13	-5.59	-5.59		
25	0.02	1.40	2.20	2.10	1.05	-0.71	-2.33	-2.73	-2.29	-1.97	-2.14	-2.68	-3.88	-4.26	-5.43	-6.75	-7.93	-8.85	-8.99	-7.79	-6.88	-4.81	-4.12	-3.81	-3.74	-3.97	-4.72	-6.12	-7.95	-8.80	-7.59	-5.98	-5.19	-5.37	-6.02	-6.21	-5.59	-5.59		
30	0.02	1.39	2.22	2.18	1.25	-0.42	-2.15	-2.69	-2.81	-2.19	-2.09	-2.37	-2.92	-3.79	-5.15	-6.93	-8.76	-9.88	-9.74	-8.35	-7.73	-5.58	-4.86	-4.36	-4.04	-4.11	-4.85	-6.46	-8.80	-10.27	-7.73	-6.54	-5.43	-5.47	-6.18	-6.28	-5.59	-5.59		
35	0.02	1.38	2.21	2.25	1.44	-0.07	-2.03	-2.91	-2.93	-2.52	-2.32	-2.24	-2.66	-3.28	-4.88	-6.47	-8.57	-10.06	-10.89	-10.72	-9.55	-8.73	-6.96	-6.24	-5.22	-6.81	-8.59	-10.25	-11.35	-10.68	-7.68	-6.48	-5.58	-5.19	-5.19	-5.59	-5.59			
40	0.02	1.35	2.20	2.30	1.64	0.31	-1.37	-2.71	-3.17	-2.99	-2.65	-2.46	-2.95	-3.00	-3.98	-5.54	-7.36	-8.70	-8.94	-8.36	-7.59	-6.86	-6.03	-5.11	-4.37	-4.22	-4.95	-6.70	-9.44	-11.75	-10.12	-7.39	-5.91	-5.58	-6.31	-6.42	-5.59	-5.59		
45	0.02	1.32	2.16	2.32	1.81	0.69	-0.81	-2.24	-3.17	-3.58	-3.40	-3.15	-2.97	-3.04	-3.53	-4.86	-6.62	-8.44	-8.64	-8.45	-8.17	-6.81	-5.81	-5.25	-4.59	-4.14	-4.24	-5.17	-7.01	-9.82	-11.43	-8.80	-7.46	-6.10	-5.93	-6.44	-6.40	-5.59	-5.59	
50	0.02	1.27	2.10	2.32	1.94	1.06	-0.19	-1.96	-2.76	-3.76	-4.28	-4.23	-3.87	-3.52	-3.44	-3.75	-4.27	-4.66	-4.77	-4.74	-4.68	-4.54	-4.29	-4.06	-4.07	-4.58	-5.78	-7.68	-9.88	-10.91	-9.11	-7.32	-6.24	-6.13	-6.59	-6.55	-5.59	-5.59		
55	0.02	1.22	2.03	2.28	2.04	1.36	0.39	-0.71	-2.02	-2.39	-4.66	-5.28	-5.11	-4.56	-4.00	-3.89	-3.92	-3.99	-4.02	-4.06	-4.12	-4.14	-4.13	-4.23	-4.63	-5.48	-6.88	-8.82	-9.78	-12.24	-10.86	-8.98	-8.14	-7.34	-6.36	-6.13	-6.01	-5.59	-5.59	
60	0.02	1.16	1.93	2.21	2.07	1.62	0.90	-0.00	-1.68	-2.35	-3.84	-5.08	-5.65	-5.59	-5.26	-4.92	-4.82	-4.80	-4.29	-4.38	-4.53	-4.70	-4.88	-5.20	-5.78	-6.73	-8.06	-9.16	-9.84	-12.77	-10.47	-8.61	-8.44	-8.62	-8.93	-8.67	-5.59	-5.59		
65	0.02	1.09	1.82	2.11	2.06	1.77	1.29	0.64	-0.13	-1.07	-2.18	-3.25	-4.10	-4.73	-5.14	-5.31	-5.12	-4.81	-4.67	-4.81	-5.01	-5.13	-5.46	-5.75	-6.12	-6.63	-7.33	-8.14	-8.40	-7.67	-8.68	-10.25	-8.31	-8.57	-8.91	-7.12	-6.72	-5.59	-5.59	
70	0.02	1.01	1.69	1.98	1.98	1.82	1.53	1.10	0.58	0.82	-0.57	-1.14	-1.69	-2.29	-2.92	-3.41	-3.57	-3.54	-3.63	-3.97	-4.46	-4.93	-5.33	-5.73	-6.11	-6.48	-6.87	-6.85	-6.46	-6.88	-8.80	-10.28	-8.78	-7.23	-7.38	-6.76	-5.59	-5.59		
75	0.02	0.92	1.55	1.81	1.85	1.78	1.61	1.34	1.01	0.72	0.52	0.36	0.14	-0.22	-0.67	-1.06	-1.27	-1.47	-1.68	-2.18	-2.70	-3.37	-3.92	-4.48	-4.94	-5.27	-5.57	-5.82	-5.78	-5.60	-6.75	-8.54	-10.11	-7.58	-7.46	-6.80	-5.59	-5.59		
80	0.02	0.83	1.39	1.63	1.67	1.65	1.57	1.37	1.13	0.95	0.99	1.05	1.05	0.88	0.62	0.40	0.25	0.06	0.31	-0.68	-1.54	-2.20	-2.90	-3.67	-4.35	-4.78	-5.14	-5.58	-5.87	-5.54	-6.15	-8.76	-10.55	-7.93	-7.59	-6.82	-5.59	-5.59		
85	0.02	0.74	1.23	1.43	1.47	1.47	1.42	1.25	1.02	0.89	0.93	1.05	1.11	1.05	0.91	0.81	0.71	0.50	0.08	-0.58	-1.28	-2.00	-2.84	-3.64	-4.61	-5.44	-5.89	-6.45	-6.91	-6.99	-7.04	-7.46	-8.06	-8.21	-7.67	-6.83	-5.59	-5.59		
90	0.02	0.64	1.06	1.23	1.26	1.27	1.23	1.09	0.84	0.85	0.81	0.68	0.68	0.57	0.46	0.41	0.34	0.09	-0.43	-1.17	-1.96	-2.76	-3.73	-5.02	-6.41	-7.39	-7.97	-8.62	-9.08	-8.03	-8.36	-8.29	-8.51	-8.36	-7.68	-6.83	-5.59	-5.59		
95	0.02	0.54	0.89	1.04	1.07	1.08	1.00	0.80	0.59	0.47	0.24	0.30	0.11	-0.08	-0.19	-0.32	-0.64	-1.30	-2.22	-3.18	-4.12	-5.24	-6.43	-8.04	-10.50	-11.40	-12.13	-12.33	-11.21	-10.75	-8.84	-8.67	-8.76	-7.67	-6.81	-5.59	-5.59			
100	0.02	0.43	0.73	0.86	0.96	0.95	1.03	1.06	1.01	0.91	0.82	0.74	0.58	0.33	0.02	-0.24	-0.55	-1.00	-1.83	-2.98	-4.22	-5.37	-6.64	-8.45	-11.11	-13.85	-14.63	-14.34	-13.92	-12.29	-10.22	-8.89	-8.34	-8.00	-7.47	-6.79	-5.59	-5.59		
105	0.02	0.33	0.58	0.70	0.78	0.88	1.06	1.25	1.38	1.44	1.45	1.40	1.25	0.97	0.60	0.20	-0.22	-0.82	-1.75	-3.05	-4.53	-5.93	-7.32	-9.19	-11.88	-13.92	-12.86	-11.46	-10.88	-10.37	-9.06	-7.96	-7.55	-7.48	-7.27	-6.76	-5.59	-5.59		
110	0.02	0.23	0.43	0.58	0.63	0.86	1.13	1.45	1.71	1.88	1.93	1.88	1.70	1.39	0.95	0.45	-0.06	-0.71	-1.64	-2.96	-4.54	-6.09	-7.55	-9.35	-11.54	-11.95	-9.82	-8.35	-7.89	-7.75	-7.17	-6.56	-6.51	-6.84	-7.02	-6.71	-5.59	-5.59		
115	0.02	0.13	0.30	0.48	0.63	0.86	1.16	1.54	1.84	1.99	1.99	1.88	1.61	1.20	0.67	0.09	-0.48	-1.13	-2.03	-3.31	-4.89	-6.42	-7.79	-9.38	-10.91	-10.26	-7.93	-6.39	-5.86	-5.76	-5.44	-5.16	-5.44	-5.17	-5.45	-6.17	-6.01	-5.59	-5.59	
120	0.02	0.04	0.18	0.41	0.62	0.86	1.16	1.47	1.80	1.70	1.57	1.30	0.91	0.38	-0.24	-0.80	-1.56	-2.11	-3.81	-4.13	-5.60	-6.88	-7.91	-9.08	-10.07	-9.11	-6.82	-5.37	-4.74	-4.80	-4.16	-4.01	-4.60	-5.55	-6.48	-6.42	-6.58	-6.48	-5.59	-5.59
125	0.02	-0.05	0.09	0.36	0.62	0.84	1.05	1.23	1.27	1.69	0.73	0.38	-0.18	-0.74	-1.39	-2.06	-2.82	-3.12	-3.83	-4.15	-5.68	-7.12	-8.05	-9.44	-10.43	-9.57	-6.80	-4.33	-4.07	-4.03	-3.59	-3.14	-3.16	-3.75	-5.02	-6.24	-6.17	-5.59	-5.59	
130	0.02	-0.14	0.01	0.33	0.62	0.78	0.86	0.85	0.64	0.22	-0.31	-0.80	-1.20	-1.60	-2.10	-2.65	-3.12	-3.63	-4.13	-5.09	-6.09	-6.55	-6.66	-7.18	-8.08	-8.05	-6.67	-5.30	-4.46	-3.73	-2.93	-2.62	-3.22	-4.61	-6.04	-6.53	-6.59	-5.59	-5.59	
135	0.02	-0.22	-0.06	0.32	0.61	0.70	0.62	0.37	-0.08	-0.68	-1.24	-1.57	-1.70	-1.83	-2.12	-2.56	-2.98	-3.35	-3.91	-4.77	-5.55	-6.11	-6.68	-6.83	-7.03	-7.55	-8.18	-8.71	-8.42	-7.07	-5.81	-4.91	-4.37	-3.91	-4.34	-5.80	-6.49	-5.59	-5.59	
140	0.02	-0.30	-0.12	0.31	0.60	0.55	0.33	0.14	-0.75	-1.36	-1.74	-1.85	-1.88	-2.02	-2.35	-2.86	-3.36	-3.72	-4.38	-5.40	-6.41	-7.15	-7.68	-8.07	-8.40	-8.91	-9.45	-9.82	-8.32	-6.82	-5.57	-4.62	-3.86	-3.36	-2.86	-3.46	-4.81	-5.59	-5.59	
145	0.02	-0.38	-0.18	0.30	0.57	0.46	0.03	-0.60	-1.25	-1.76	-1.84	-1.74	-1.60	-1.65	-1.98	-2.43	-2.87	-3.19	-3.76	-4.31	-5.27	-5.78	-6.35	-7.07	-7.80	-8.35	-8.67	-9.36	-9.51	-8.46	-6.99	-5.45	-4.68	-3.57	-2.88	-2.42	-2.79	-4.43	-5.59	-5.59
150	0.02	-0.45	-0.22	0.29	0.53	0.32	-0.26	-0.97	-1.55	-1.81	-1.81	-1.73	-1.65	-1.62	-2.51	-2.97	-3.29	-3.67	-4.19	-4.37	-5.46	-6.46	-7.06	-7.88	-8.66	-9.42	-10.06	-10.46	-9.36	-8.13	-6.19	-5.19	-3.82	-2.96	-1.15	-1.38	-0.63	-4.42	-5.59	-5.59
155	0.02	-0.51	-0.25	0.27	0.48	0.16	-0.53	-1.30	-1.88	-1.94	-1.93	-2.00	-2.30	-2.88	-3.52	-3.94	-4.22	-4.63	-5.08	-6.03	-6.48	-7.43	-8.24	-9.02	-9.77	-10.24	-10.90	-11.41	-10.21	-9.40	-7.44	-6.56	-4.41	-3.47	-3.57	-4.05	-5.53	-6.41	-5.59	-5.59
160	0.02	-0.57	-0.30	0.25	0.41	0.00	-0.																																	