

Antenna Composite Gain Test Report

1. Test Information

Equipment	Campus Access Points
Brand Name	Aruba
Model Name	AP32
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	Leo Chuang	20-24 / 45-60	08.07.2023~08.11.2023

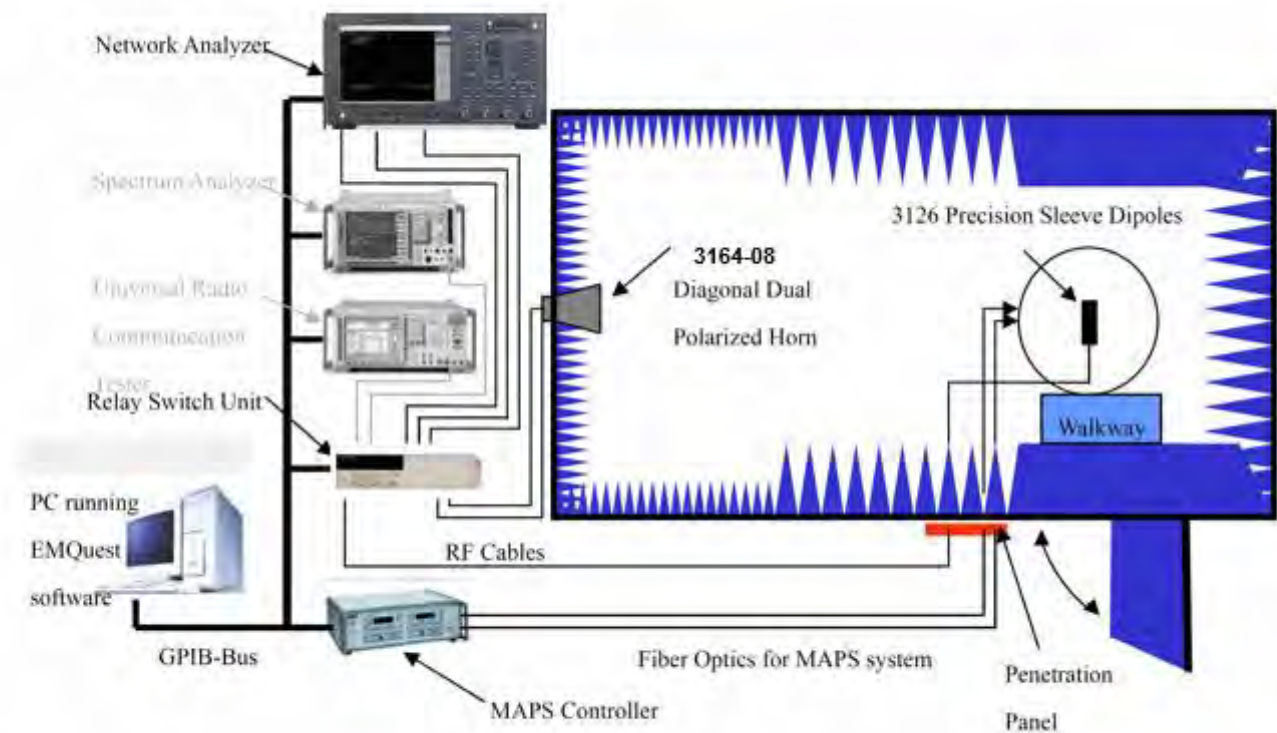
3. Test Frequency

Band (MHz)	Test Frequency (MHz)
2400-2480	2450
5150-5250	5150
5470-5725	5550
5725-5850	5850
5850~5895	5850, 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	95XKAN15.G92	PIFA	I-PEX
Antenna 2 (2G/5G)	Aruba	95XKAN15.G93	PIFA	I-PEX
Antenna 3 (2G/6G)	Aruba	95XPAD15.G14	PIFA	I-PEX
Antenna 4 (2G/6G)	Aruba	95XKAN15.G95	PIFA	I-PEX

5. Test Configuration

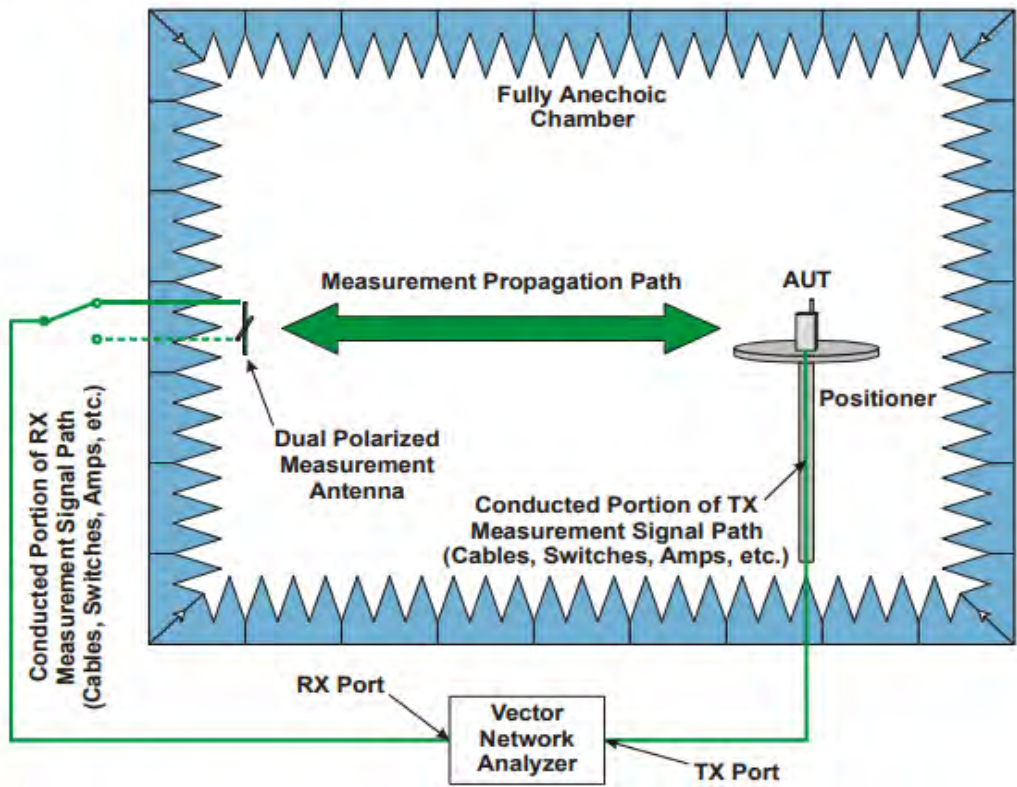


ETS-AMS 8500 System

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)

Band (MHz)	2400-2480
Frequency (MHz)	2450
Ant.1 Max Gain (dBi)	2.9
Ant.2 Max Gain (dBi)	2.5
Max Gain (dBi)	2.9

Band (MHz)	5150-5470	5470-5725	5725-5850	5850~5895	
Frequency (MHz)	5150	5550	5850	5850	5895
Ant.1 Max Gain (dBi)	5.7	5.6	5.6	5.6	5.6
Ant.2 Max Gain (dBi)	4.9	5.0	5.0	5.0	5.0
Max Gain (dBi)	5.7	5.6	5.6	5.6	5.6

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

Band (MHz)	2400-2480
Frequency (MHz)	2450
Ant.3 Max Gain (dBi)	3.1
Ant.4 Max Gain (dBi)	2.6
Max Gain (dBi)	3.1

Band (MHz)	5925-6425	6425-6525	6525-7125
Frequency (MHz)	5925	6500	7000
Ant.3 Max Gain (dBi)	6.0	5.8	5.8
Ant.4 Max Gain (dBi)	5.1	5.1	5.9
Max Gain (dBi)	6.0	5.8	5.9

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

Frequency (MHz)	Correlated Gain (dBi)	Uncorrelated Gain (dBi)
2450	4.5	1.6
5150	6.8	3.8
5550	6.3	3.4
5850	6.3	3.5
5895	6.1	3.3

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

Frequency (MHz)	Correlated Gain (dBi)	Uncorrelated Gain (dBi)
2450	4.4	1.5
5925	6.4	3.6
6500	6.7	3.7
7000	6.9	3.9

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)**

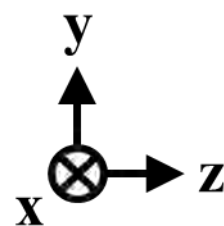
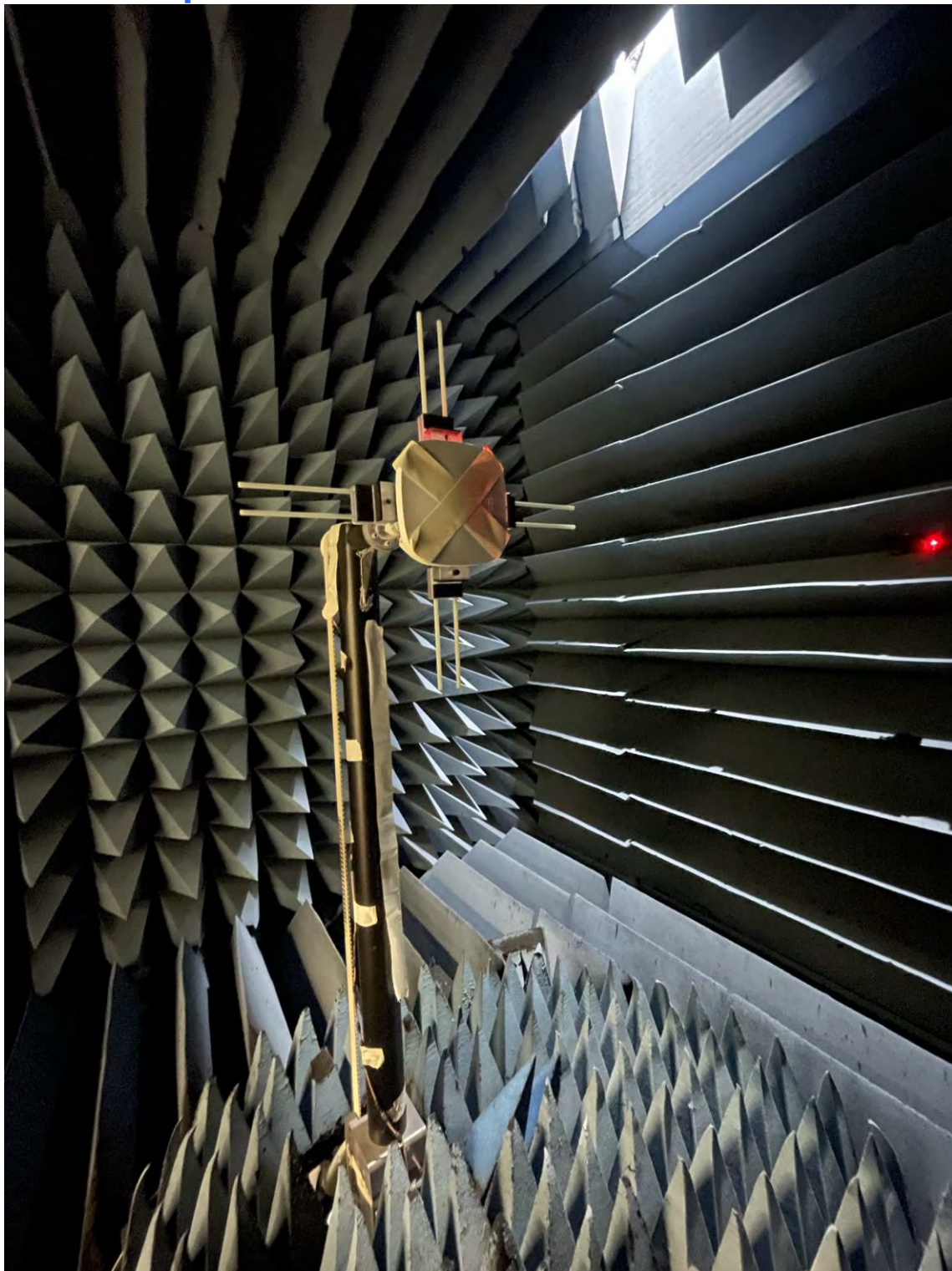
Frequency (MHz)	2450	5150
Ant.1 Gain (dBi)	2.85	4.70
Ant.2 Gain (dBi)	-0.04	2.70
Phi (°)	10	320
Theta (°)	50	60
Corr. Ant. Gain (dBi) [10 ^{^(G₁/20)} +10 ^{^(G₂/20)}] ² /N _{ANT.}	2.84	4.76
Uncor. Ant. Gain (dBi) [10 ^{^(G₁/10)} +10 ^{^(G₂/10)}]/N _{ANT.}	1.45	2.41
Corr. Gain (dBi) 10*log(Corr. Ant. Gain)	4.5	6.8
Uncor. Gain (dBi) 10*log(Uncor. Ant. Gain)	1.6	3.8

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

Frequency (MHz)	2450	7000
Ant.3 Gain (dBi)	1.45	3.54
Ant.4 Gain (dBi)	1.36	4.22
Phi (°)	180	140
Theta (°)	50	50
Corr. Ant. Gain (dBi) [10 ^{^(G₁/20)} +10 ^{^(G₂/20)}] ² /N _{ANT.}	2.77	4.89
Uncor. Ant. Gain (dBi) [10 ^{^(G₁/10)} +10 ^{^(G₂/10)}]/N _{ANT.}	1.39	2.45
Corr. Gain (dBi) 10*log(Corr. Ant. Gain)	4.4	6.9
Uncor. Gain (dBi) 10*log(Uncor. Ant. Gain)	1.5	3.9

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

9. Test Setup

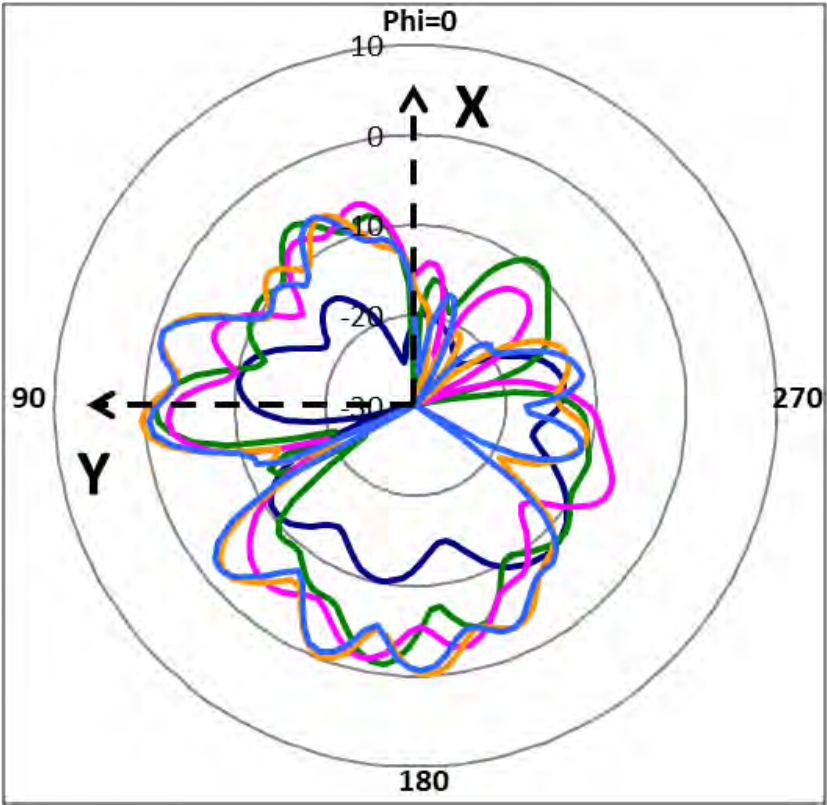


Note :
Top cover toward +Z direction

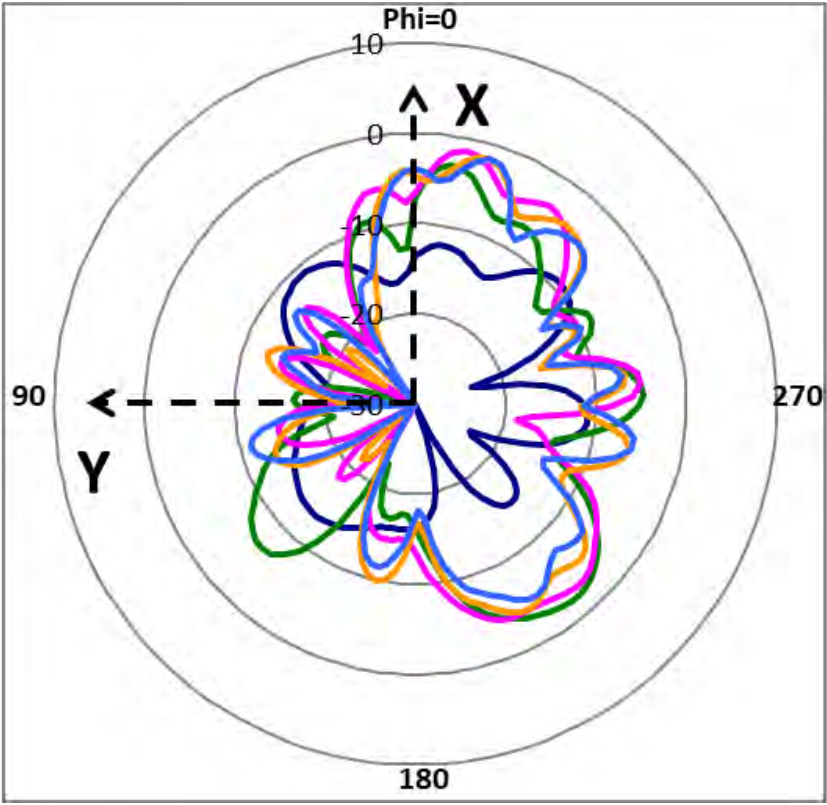
10. Radiation Pattern

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

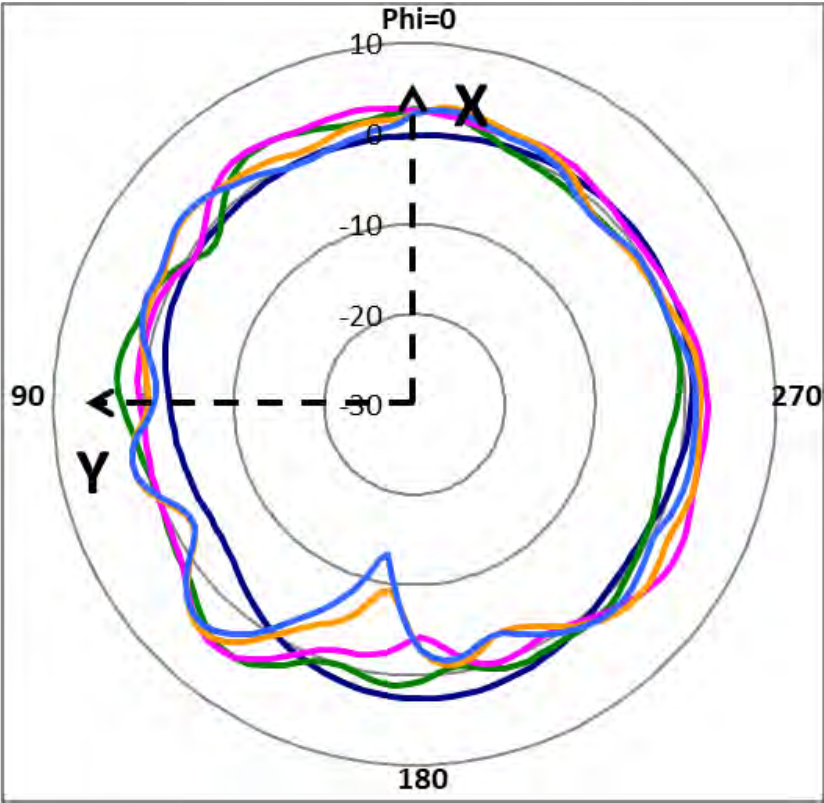
XY_Pol._Phi_Ant.1



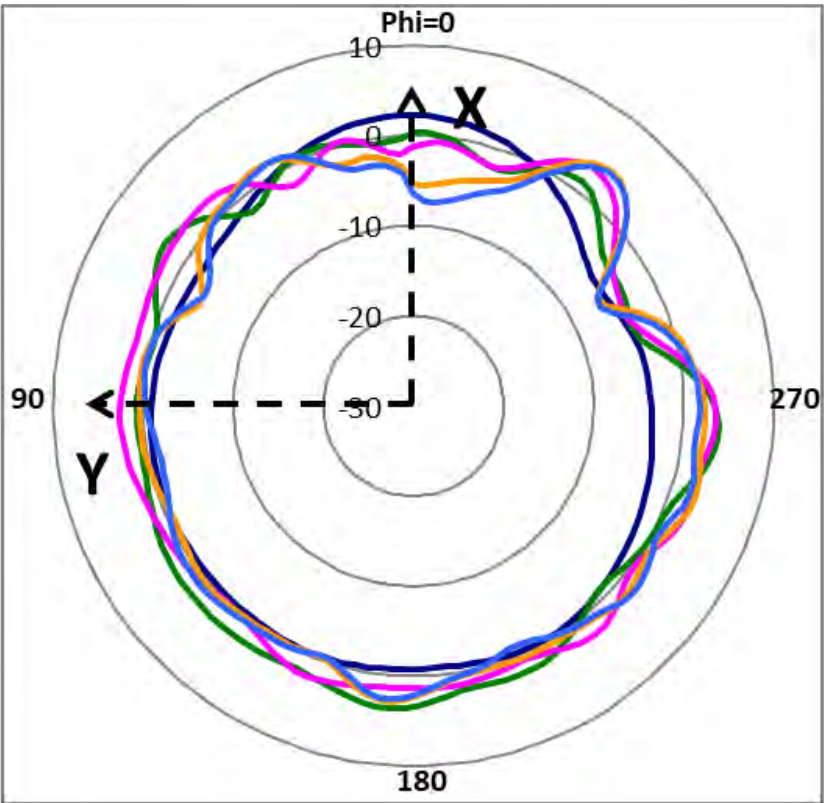
XY_Pol._Phi_Ant.2



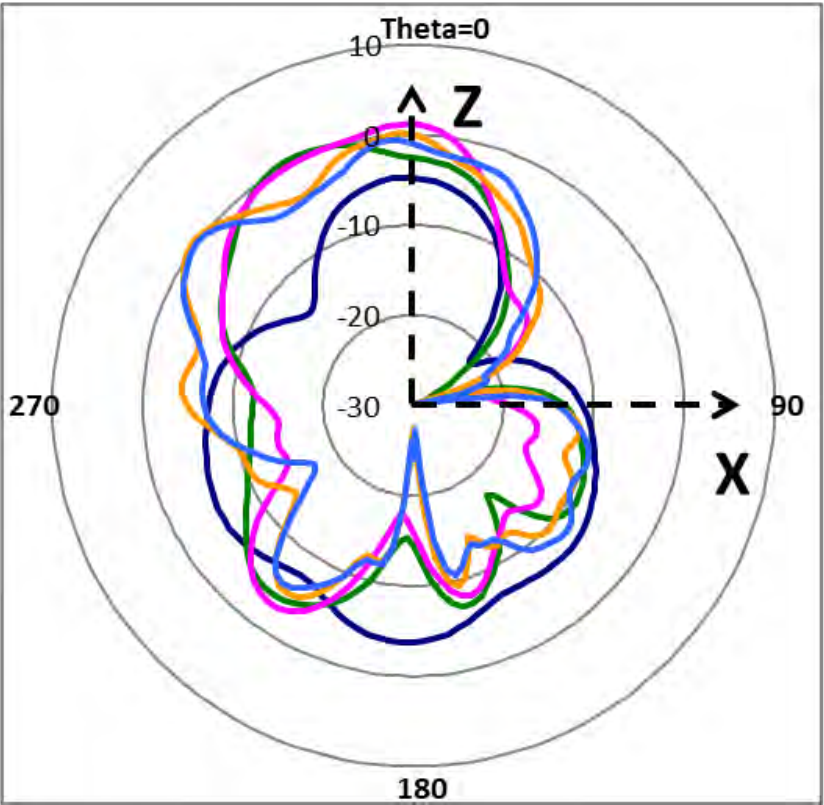
XY_Pol._Theta_Ant.1



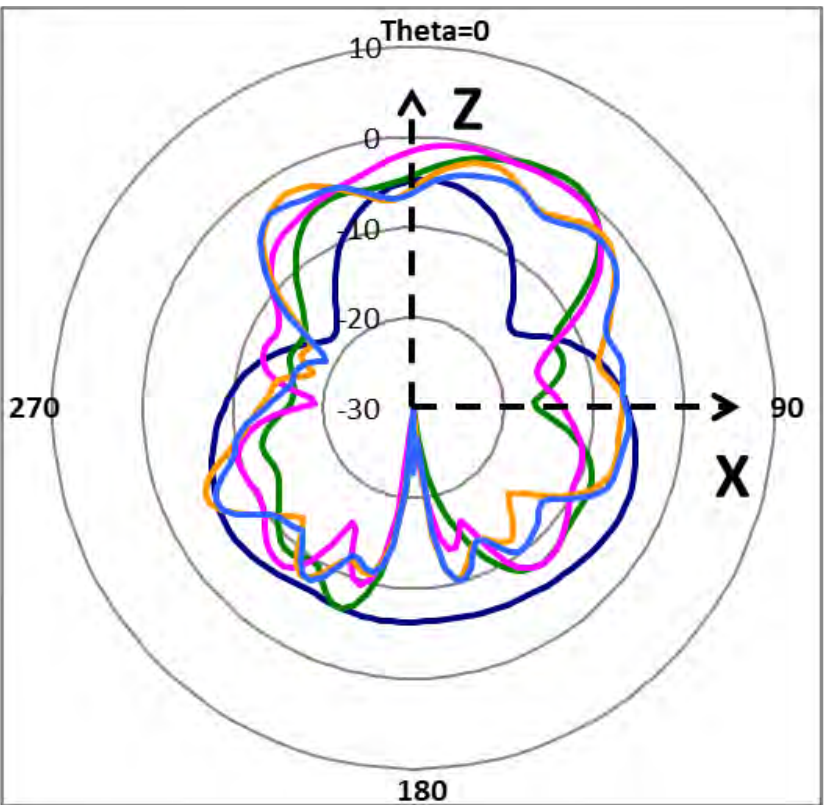
XY_Pol._Theta_Ant.2



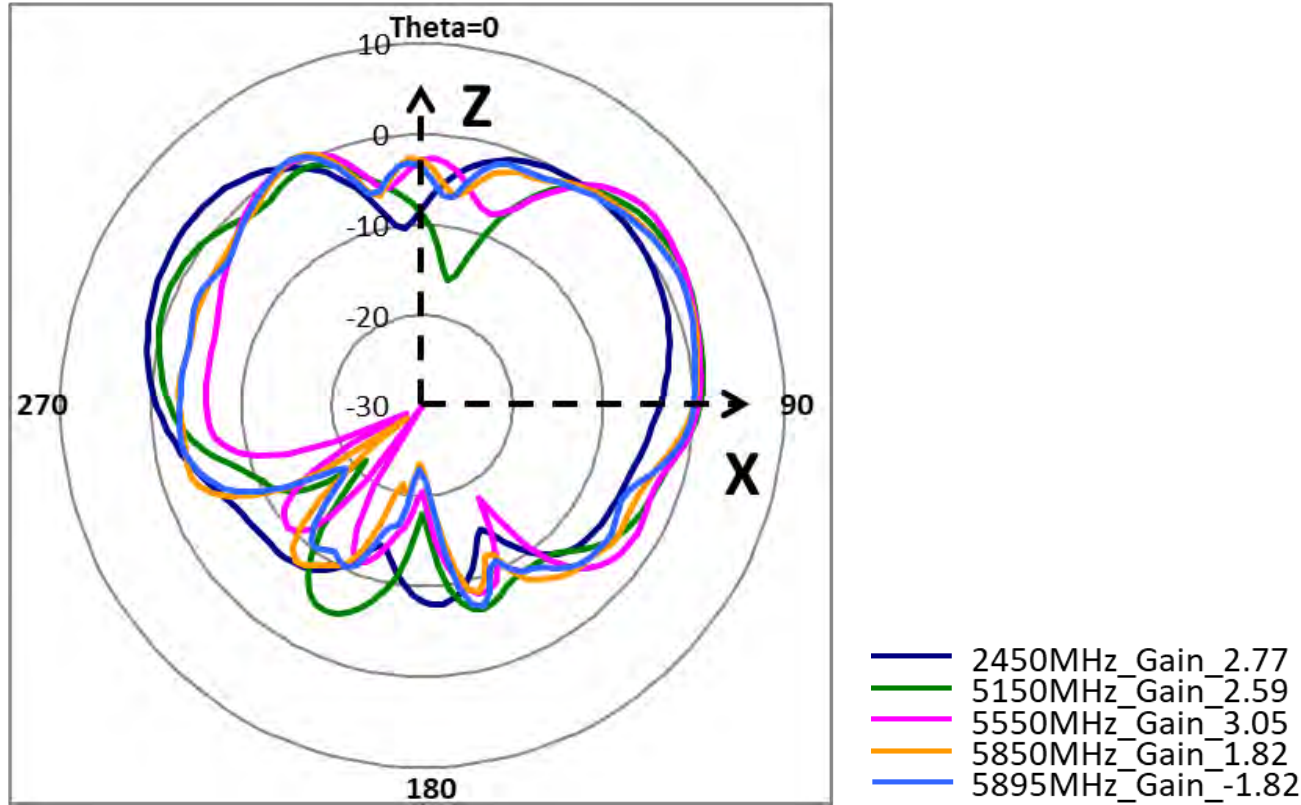
XZ_Pol._Phi_Ant.1



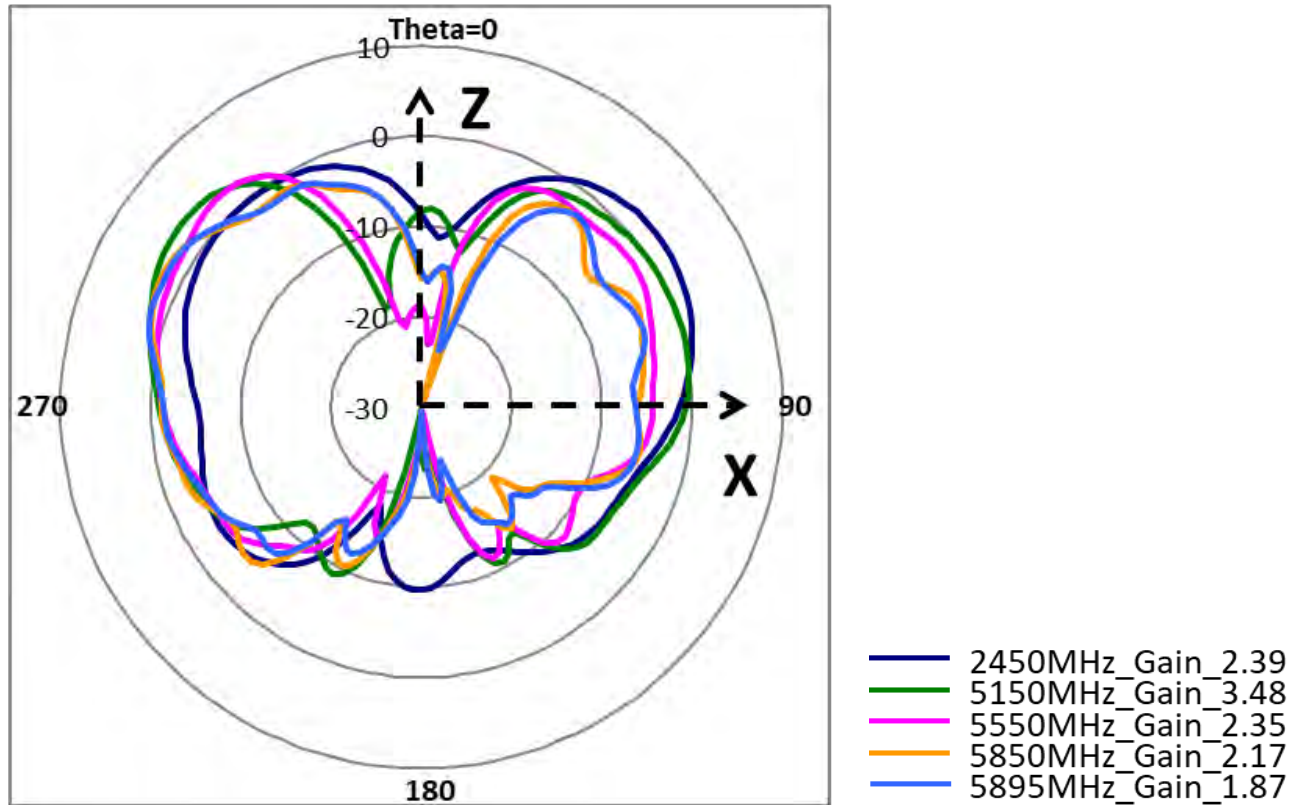
XZ_Pol._Phi_Ant.2



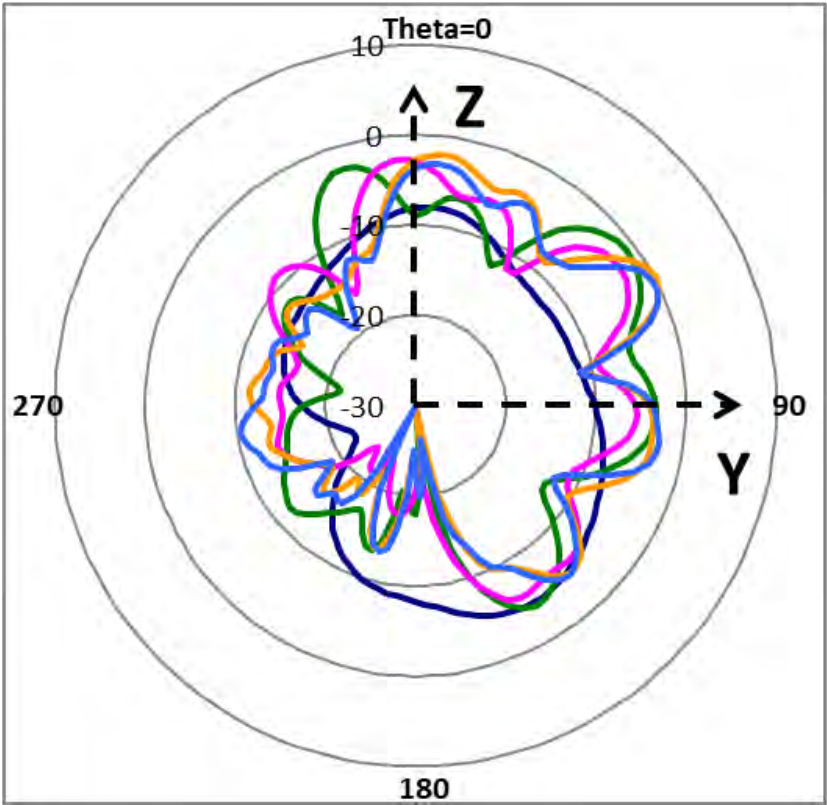
XZ_Pol._Theta_Ant.1



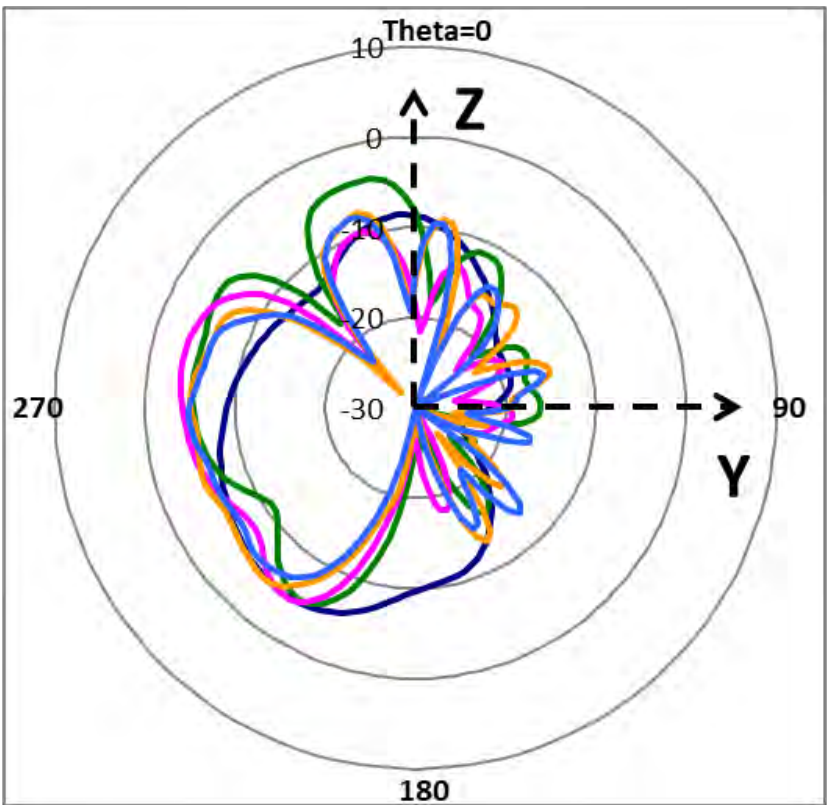
XZ_Pol._Theta_Ant.2



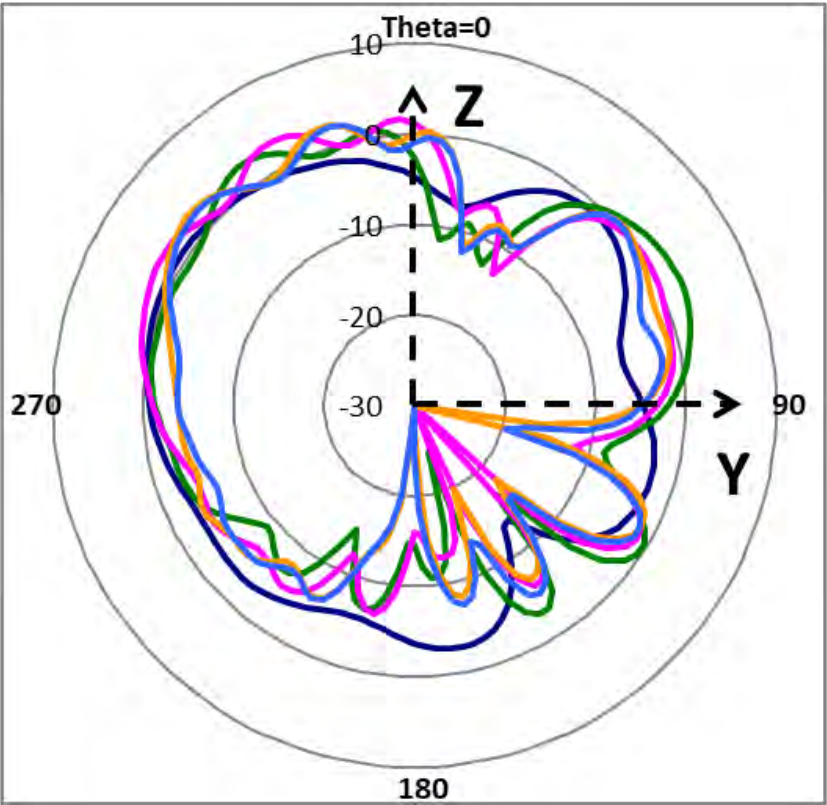
YZ_Pol._Phi_Ant.1



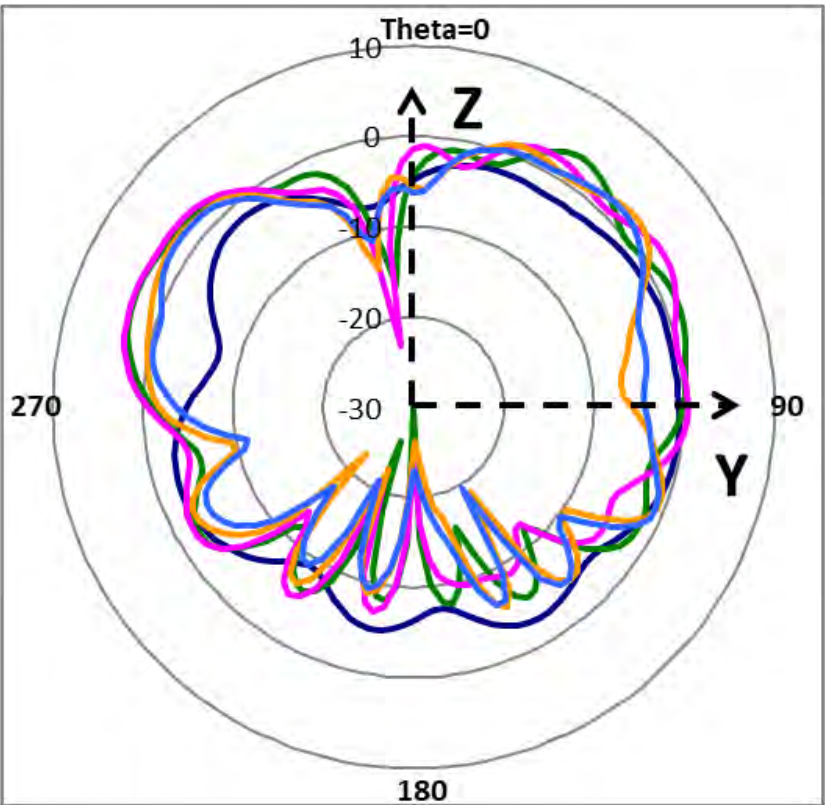
YZ_Pol._Phi_Ant.2



YZ_Pol._Theta_Ant.1

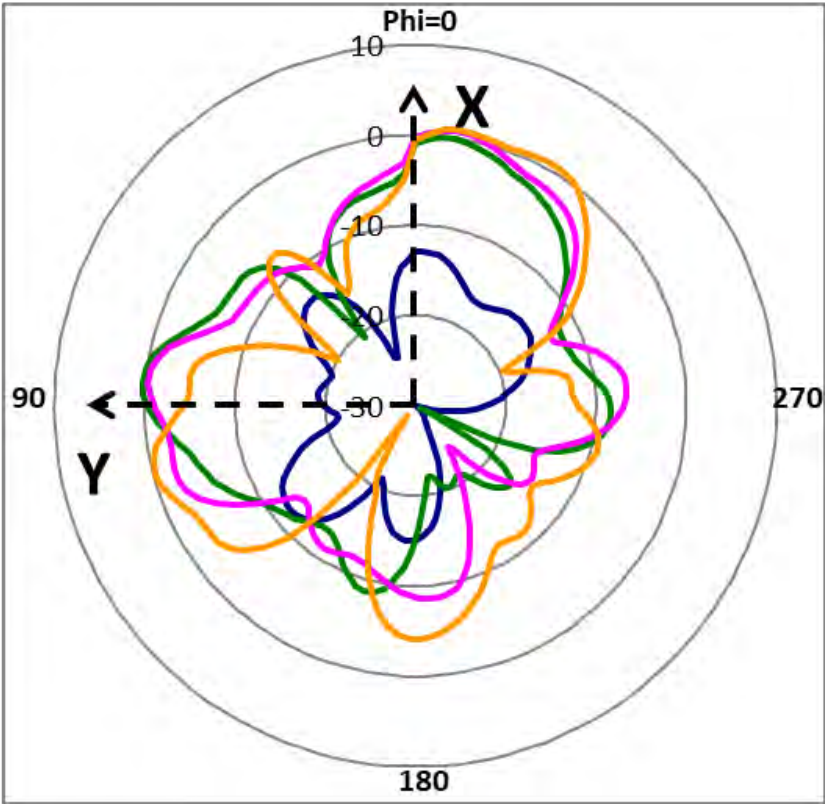


YZ_Pol._Theta_Ant.2

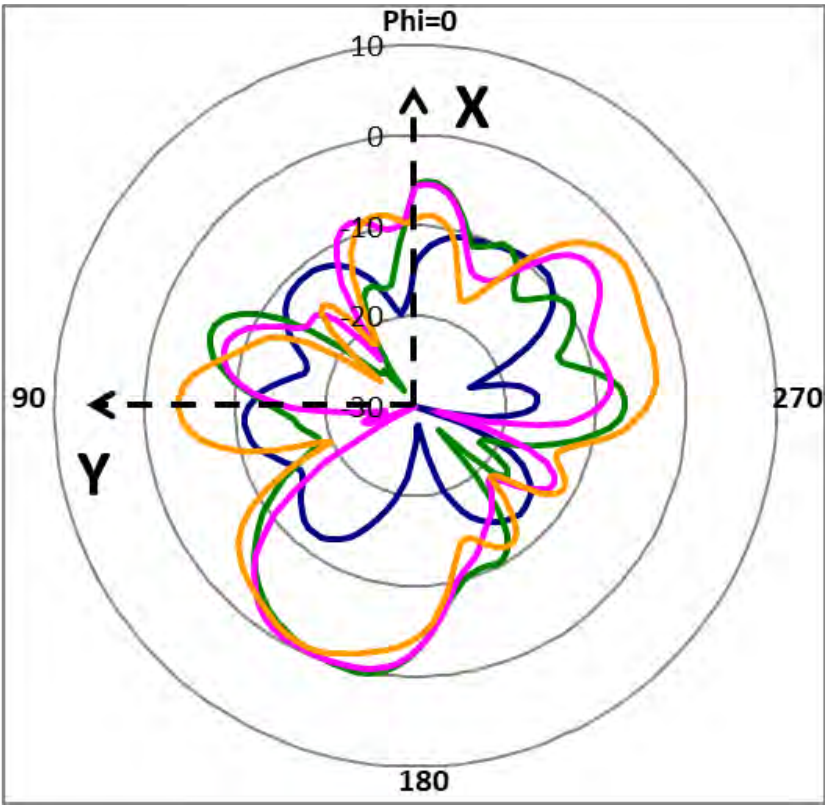


Ant. Position : 2G/6G Ant.3~4

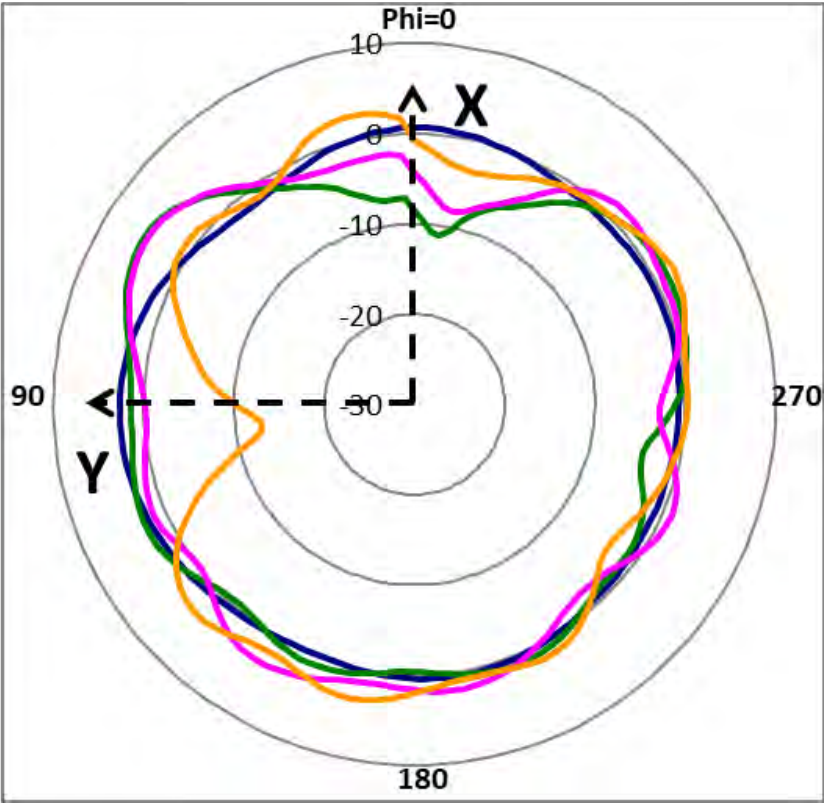
XY_Pol._Phi_Ant.3



XY_Pol._Phi_Ant.4

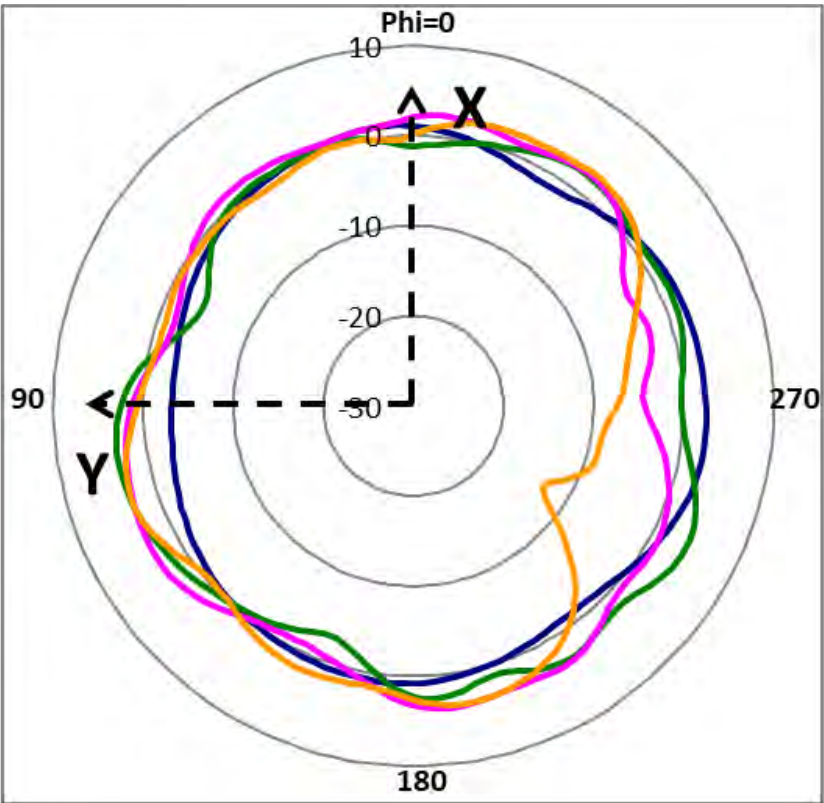


XY_Pol._Theta_Ant.3



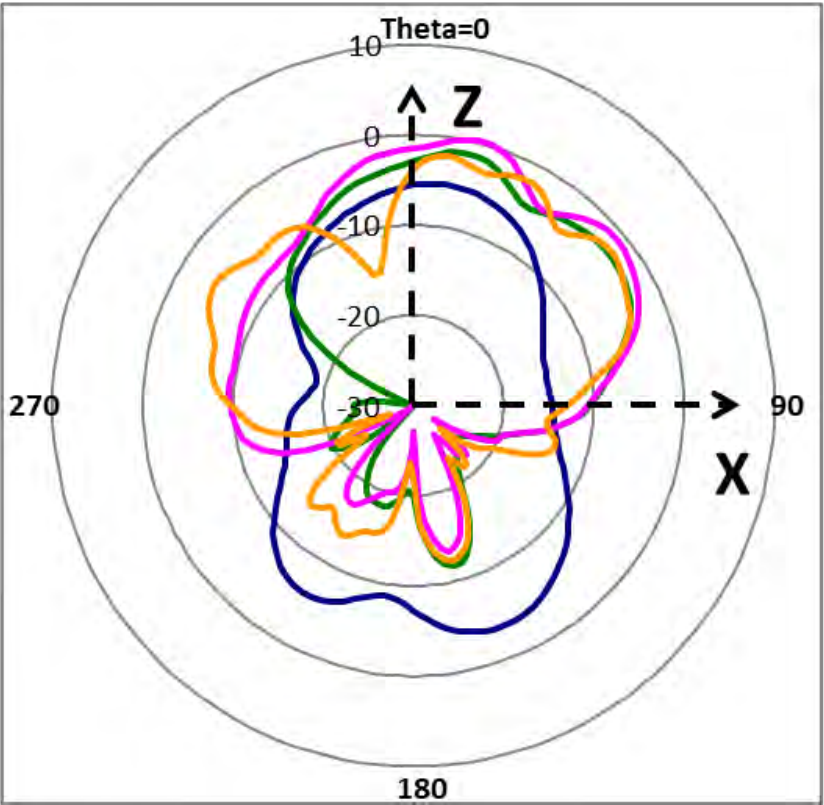
- 2450MHz_Gain_2.64
- 5925MHz_Gain_5.25
- 6500MHz_Gain_4.84
- 7000MHz_Gain_3.49

XY_Pol._Theta_Ant.4

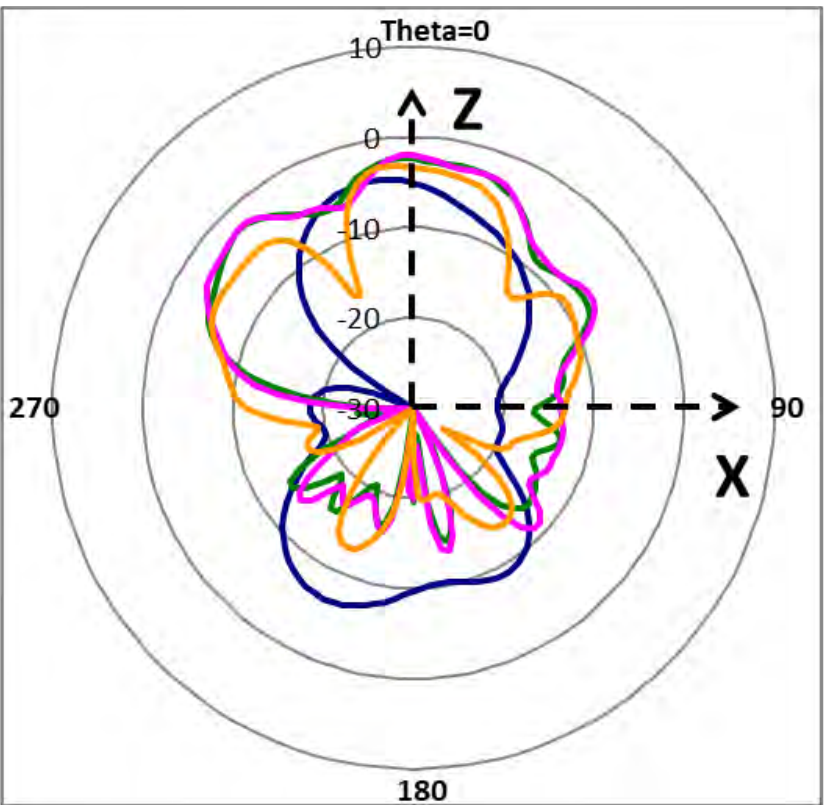


- 2450MHz_Gain_2.59
- 5925MHz_Gain_4.14
- 6500MHz_Gain_3.84
- 7000MHz_Gain_3.63

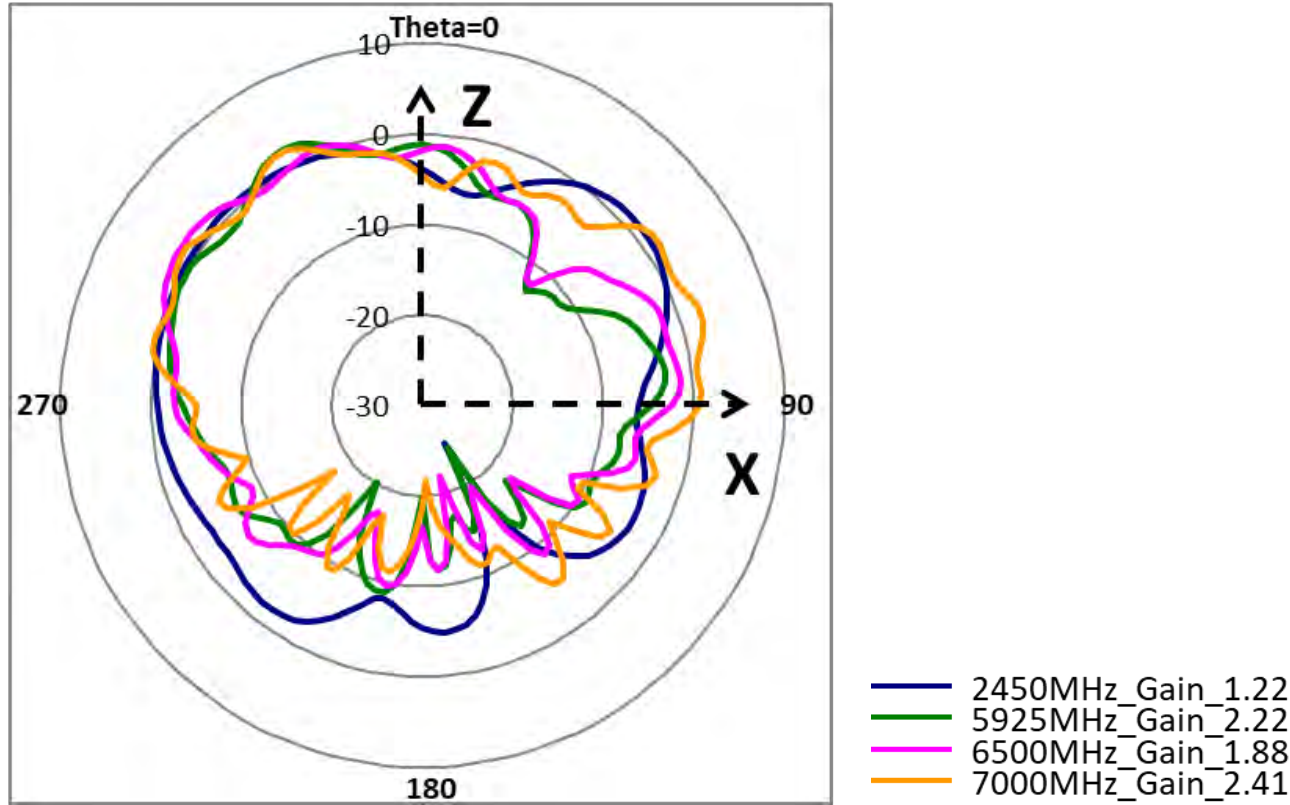
XZ_Pol._Phi_Ant.3



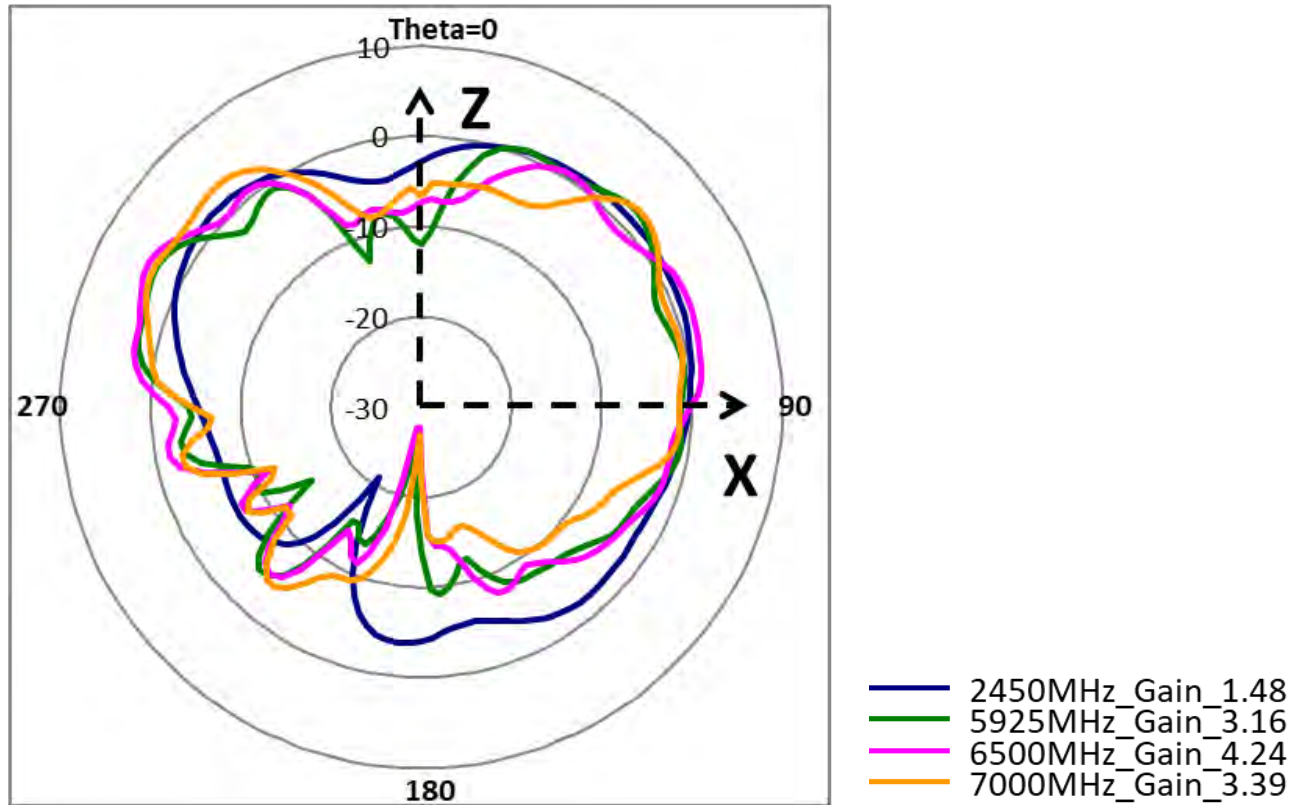
XZ_Pol._Phi_Ant.4



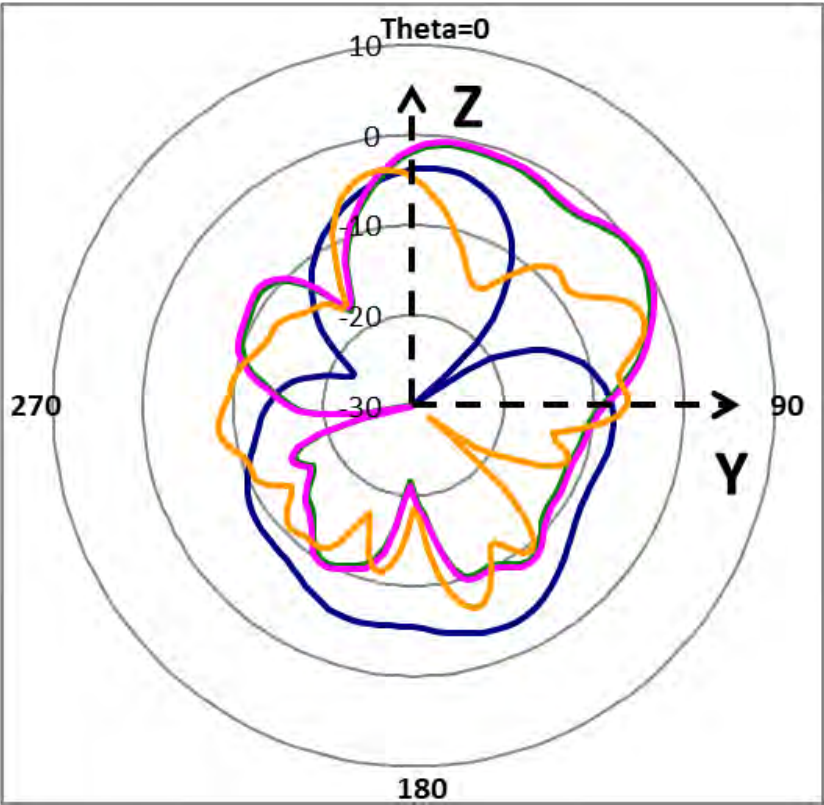
XZ_Pol._Theta_Ant.3



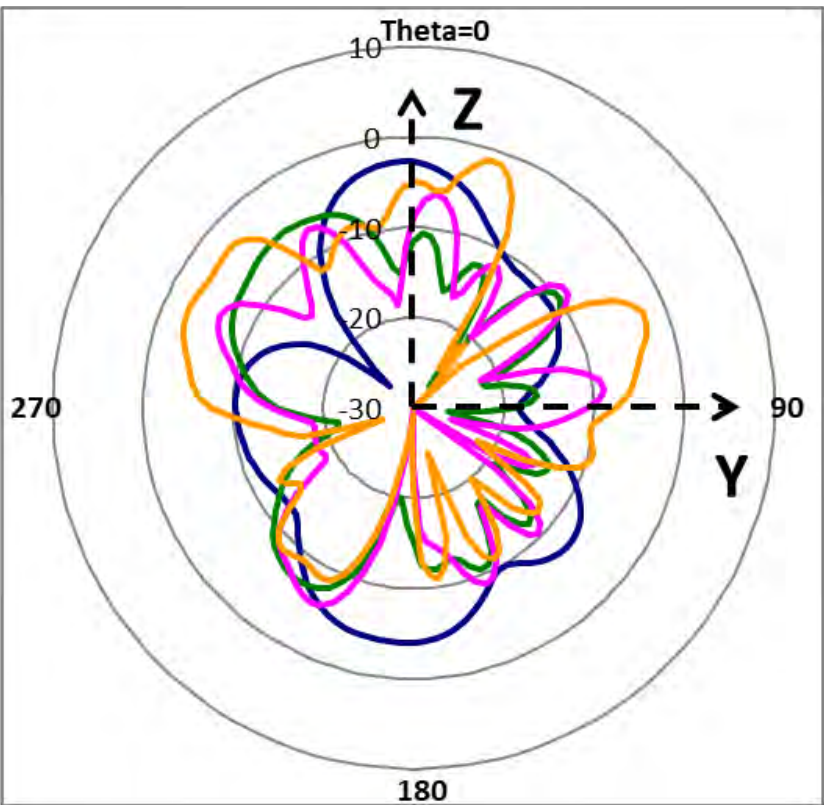
XZ_Pol._Theta_Ant.4



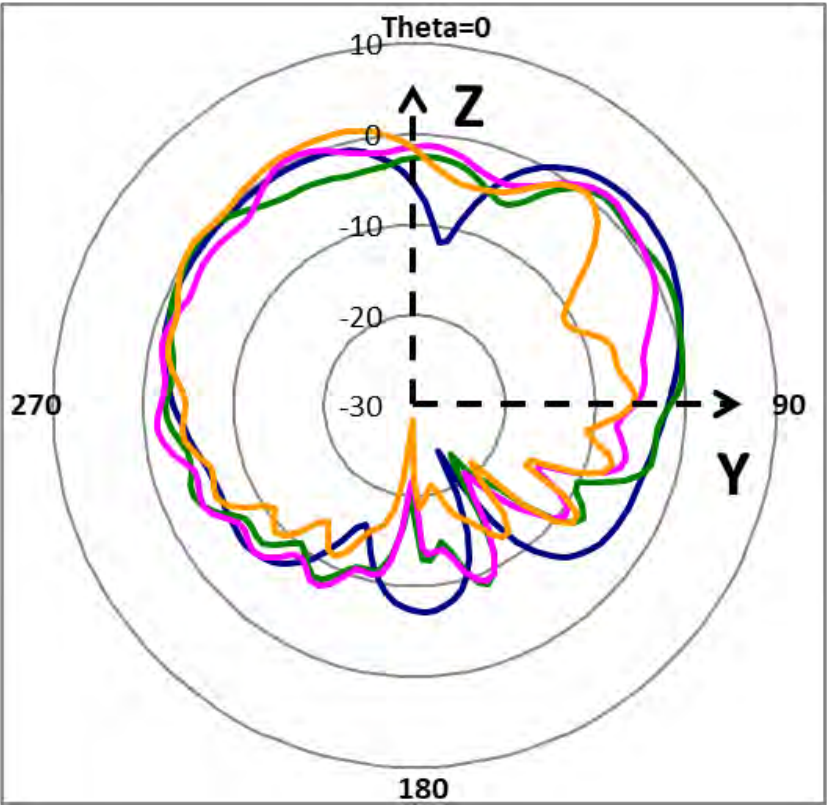
YZ_Pol._Phi_Ant.3



YZ_Pol._Phi_Ant.4

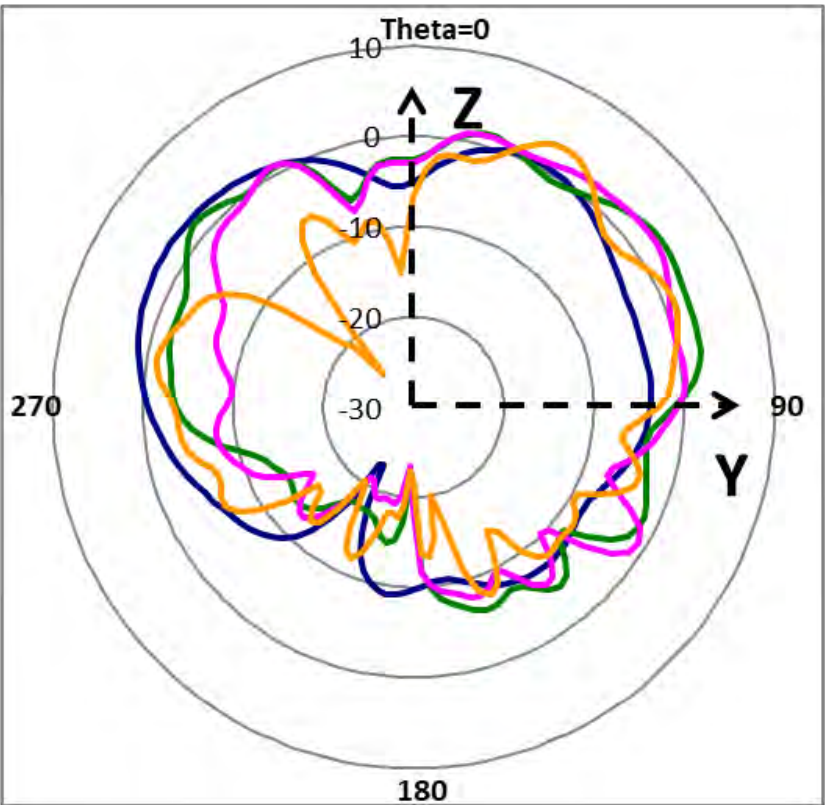


YZ_Pol._Theta_Ant.3



- 2450MHz_Gain_3.04
- 5925MHz_Gain_1.30
- 6500MHz_Gain_1.51
- 7000MHz_Gain_1.33

YZ_Pol._Theta_Ant.4



- 2450MHz_Gain_2.43
- 5925MHz_Gain_3.12
- 6500MHz_Gain_2.49
- 7000MHz_Gain_3.20

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

[illegible]

5550	Thrs/Ave	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		
Ph/Ave	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	2.67	2.13	1.53	1.97	2.77	3.23	3.19	2.80	2.19	1.27	0.18	-0.98	-1.90	-2.79	-3.50	-4.09	-4.43	-5.07	-5.46	-5.74	-6.01	-6.28	-6.55	-6.82	-7.09	-7.36	-7.63	-7.90	-8.17	-8.44	-8.71	-8.98	-9.25	-9.52	-9.79	-10.06	-10.33	-10.60	-10.87	
5	4.67	2.67	2.13	1.53	1.97	2.77	3.23	3.19	2.80	2.19	1.27	0.18	-0.98	-1.90	-2.79	-3.50	-4.09	-4.43	-5.07	-5.46	-5.74	-6.01	-6.28	-6.55	-6.82	-7.09	-7.36	-7.63	-7.90	-8.17	-8.44	-8.71	-8.98	-9.25	-9.52	-9.79	-10.06	-10.33	-10.60	-10.87
10	2.67	2.13	1.53	1.97	2.77	3.23	3.19	2.80	2.19	1.27	0.18	-0.98	-1.90	-2.79	-3.50	-4.09	-4.43	-5.07	-5.46	-5.74	-6.01	-6.28	-6.55	-6.82	-7.09	-7.36	-7.63	-7.90	-8.17	-8.44	-8.71	-8.98	-9.25	-9.52	-9.79	-10.06	-10.33	-10.60	-10.87	
15	2.67	2.51	2.05	1.83	1.63	1.62	1.13	0.70	0.70	1.06	1.46	1.82	1.46	0.97	0.32	-0.30	-1.15	-2.12	-4.00	-4.98	-4.72	-3.30	-2.25	-0.07	-0.89	-4.75	-6.19	-4.44	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40
20	2.67	2.62	2.20	1.84	1.63	1.37	1.02	0.81	0.91	1.16	1.37	1.22	0.85	0.27	-0.40	-1.17	-1.96	-2.80	-4.00	-4.54	-4.78	-4.98	-5.15	-5.30	-5.45	-5.60	-5.75	-5.90	-6.05	-6.20	-6.35	-6.50	-6.65	-6.80	-6.95	-7.10	-7.25	-7.40	-7.55	-7.70
25	2.67	2.72	2.33	1.88	1.57	1.27	0.97	1.46	1.56	1.95	1.31	0.83	0.17	-0.58	-1.35	-2.09	-2.73	-3.28	-4.03	-4.83	-4.95	-4.98	-4.98	-4.92	-4.71	-4.58	-4.37	-4.07	-3.68	-3.28	-2.88	-2.48	-2.08	-1.68	-1.28	-0.88	-0.48	-0.08	0.32	0.72
30	2.67	2.87	2.46	1.91	1.60	1.30	1.01	1.48	1.58	1.97	1.33	0.85	0.19	-0.48	-1.25	-1.99	-2.63	-3.18	-3.93	-4.73	-4.85	-4.88	-4.88	-4.82	-4.61	-4.39	-4.09	-3.70	-3.30	-2.90	-2.50	-2.10	-1.70	-1.30	-0.90	-0.50	-0.10	0.30	0.70	1.10
35	2.67	2.88	2.52	1.96	1.64	1.37	1.11	2.32	2.25	1.88	1.36	0.88	0.09	-0.46	-1.26	-2.06	-2.68	-3.16	-3.81	-4.61	-4.73	-4.76	-4.76	-4.70	-4.49	-4.27	-3.97	-3.58	-3.18	-2.78	-2.38	-1.98	-1.58	-1.18	-0.78	-0.38	0.02	0.42	0.82	
40	2.67	2.94	2.57	1.96	1.64	1.41	1.12	2.19	1.86	1.55	1.23	1.00	1.30	1.51	1.33	0.79	-0.03	-0.80	-1.95	-2.84	-3.43	-3.58	-3.57	-3.78	-4.37	-5.14	-5.70	-6.19	-6.56	-6.84	-7.12	-7.40	-7.68	-7.96	-8.24	-8.52	-8.80	-9.08	-9.36	
45	2.67	2.99	2.59	1.91	1.66	1.71	1.91	1.81	1.47	1.22	1.37	1.86	2.34	2.59	2.22	1.55	0.82	-0.37	-1.30	-2.80	-3.44	-3.20	-2.94	-3.24	-4.02	-5.22	-6.42	-7.62	-8.82	-10.02	-11.22	-12.42	-13.62	-14.82	-16.02	-17.22	-18.42	-19.62		
50	2.67	3.04	2.64	1.84	1.59	1.34	1.49	1.38	1.26	1.60	1.80	2.00	2.36	2.70	2.36	1.50	0.40	-0.12	-1.12	-2.84	-3.48	-3.24	-3.00	-3.24	-4.04	-5.24	-6.44	-7.64	-8.84	-10.04	-11.24	-12.44	-13.64	-14.84	-16.04	-17.24	-18.44	-19.64		
55	2.67	3.07	2.46	1.44	0.98	1.26	1.57	1.64	1.76	2.25	2.58	2.59	3.02	3.60	3.82	3.60	2.86	1.68	-0.08	-1.70	-3.34	-3.98	-3.74	-3.50	-3.74	-4.54	-5.74	-6.94	-8.14	-9.34	-10.54	-11.74	-12.94	-14.14	-15.34	-16.54	-17.74	-18.94		
60	2.67	3.08	2.37	1.22	0.82	1.34	1.87	2.02	2.05	2.34	2.80	3.30	3.37	3.37	3.20	1.97	0.76	-0.40	-1.51	-2.20	-2.50	-2.76	-2.88	-3.25	-4.00	-5.37	-6.70	-8.03	-9.36	-10.69	-12.02	-13.35	-14.68	-16.01	-17.34	-18.67	-20.00			
65	2.67	3.08	2.26	1.02	0.77	1.59	2.26	2.34	2.30	2.60	3.00	3.40	3.40	3.20	2.40	2.00	0.98	-0.80	-1.81	-2.40	-2.68	-2.75	-3.00	-3.68	-4.58	-5.75	-6.92	-8.09	-9.26	-10.43	-11.60	-12.77	-13.94	-15.11	-16.28	-17.45	-18.62			
70	2.67	3.08	2.15	0.86	0.86	1.94	2.46	2.54	2.46	2.84	3.36	3.76	3.76	3.46	2.84	2.44	1.31	0.38	-0.56	-1.55	-2.40	-2.68	-2.75	-3.00	-3.68	-4.58	-5.75	-6.92	-8.09	-9.26	-10.43	-11.60	-12.77	-13.94	-15.11	-16.28	-17.45	-18.62		
75	2.67	3.05	2.03	0.74	1.05	2.33	2.98	2.82	1.85	1.75	1.71	2.39	2.82	1.78	1.64	1.01	0.25	-0.61	-1.47	-2.30	-3.08	-3.65	-3.79	-3.84	-4.41	-5.68	-6.84	-8.02	-9.20	-10.38	-11.56	-12.74	-13.92	-15.10	-16.28	-17.46	-18.64			
80	2.67	3.02	1.93	0.70	1.33	2.69	3.20	2.81	1.42	0.97	1.73	2.48	2.45	1.36	1.06	1.35	0.68	-0.13	-0.97	-1.77	-2.59	-3.31	-3.81	-3.81	-4.54	-5.81	-7.08	-8.35	-9.62	-10.89	-12.16	-13.43	-14.70	-15.97	-17.24	-18.51	-19.78			
85	2.67	3.00	1.84	0.74	1.63	2.98	3.31	2.51	1.23	0.90	1.73	2.46	2.56	1.81	1.29	0.84	-0.14	-0.93	-1.70	-2.57	-3.35	-3.83	-4.08	-4.11	-4.79	-5.97	-7.15	-8.33	-9.51	-10.69	-11.87	-13.05	-14.23	-15.41	-16.59	-17.77	-18.95			
90	2.67	2.97	1.76	0.76	2.30	3.30	3.26	2.12	0.85	0.74	1.86	2.56	2.66	1.80	1.36	1.19	0.76	0.20	-0.40	-1.14	-1.82	-2.75	-3.40	-3.69	-4.14	-5.44	-6.69	-7.94	-9.19	-10.44	-11.69	-12.94	-14.19	-15.44	-16.69	-17.94	-19.19			
95	2.67	2.91	1.66	1.09	2.44	3.43	3.14	1.87	0.70	0.73	1.97	1.87	1.90	1.17	0.86	0.54	0.05	-0.60	-1.25	-1.90	-2.67	-3.00	-3.40	-3.51	-4.25	-5.41	-6.70	-7.97	-9.20	-10.43	-11.66	-12.89	-14.12	-15.35	-16.58	-17.81	-19.04			
100	2.67	2.87	1.63	1.23	2.63	3.49	3.01	1.82	0.59	0.82	1.99	1.48	1.12	0.85	0.31	-0.01	-0.51	-1.14	-1.78	-2.42	-3.32	-4.00	-4.50	-4.70	-4.87	-5.82	-7.00	-8.20	-9.40	-10.60	-11.80	-13.00	-14.20	-15.40	-16.60	-17.80	-19.00			
105	2.67	2.84	1.60	1.35	2.74	3.53	2.88	1.39	0.60	1.07	2.03	1.40	0.74	0.60	-0.05	-0.70	-1.23	-2.06	-2.86	-3.52	-4.08	-4.58	-4.98	-5.01	-5.87	-7.07	-8.27	-9.47	-10.67	-11.87	-13.07	-14.27	-15.47	-16.67	-17.87	-19.07				
110	2.67	2.81	1.56	1.44	2.85	3.58	2.85	1.27	0.56	1.05	2.14	1.33	0.65	-0.45	-0.48	-0.35	-1.08	-1.42	-2.48	-3.16	-3.84	-4.34	-4.74	-4.77	-5.63	-6.83	-8.03	-9.23	-10.43	-11.63	-12.83	-14.03	-15.23	-16.43	-17.63	-18.83				
115	2.67	2.77	1.56	1.49	2.97	3.66	2.91	1.18	0.18	0.83	1.40	1.32	0.40	-0.68	-1.06	-0.90	-0.49	-0.79	-1.54	-2.16	-2.80	-3.30	-3.69	-4.08	-4.47	-5.33	-6.53	-7.73	-8.93	-10.13	-11.33	-12.53	-13.73	-14.93	-16.13	-17.33	-18.53			
120	2.67	2.74	1.53	1.48	2.99	3.76	3.09	1.34	0.08	0.57	1.35	1.36	0.70	-0.32	-1.40	-1.53	-1.25	-0.80	-1.68	-2.27	-2.80	-3.28	-3.66	-4.04	-4.42	-5.28	-6.48	-7.68	-8.88	-10.08	-11.28	-12.48	-13.68	-14.88	-16.08	-17.28	-18.48			
125	2.67	2.70	1.49	1.41	2.94	3.84	3.37	1.75	0.23	0.41	1.22	1.46	1.08	0.38	-0.45	-1.33	-1.19	-0.80	-1.54	-2.05	-2.48	-2.86	-3.24	-3.62	-4.00	-4.38	-5.24	-6.44	-7.64	-8.84	-10.04	-11.24	-12.44	-13.64	-14.84	-16.04	-17.24			
130	2.67	2.67	1.47	1.27	2.97	3.97	3.60	1.80	0.30	0.40	1.24	1.54	1.02	0.18	-0.42	-1.30	-1.16	-0.68	-1.42	-1.93	-2.36	-2.74	-3.12	-3.50	-3.88	-4.26	-5.12	-6.32	-7.52	-8.72	-9.92	-11.12	-12.32	-13.52	-14.72	-15.92	-17.12			
135	2.67	2.63	1.38	1.06	2.93	3.76	3.92	2.07	1.82	1.06	1.42	1.80	1.31	1.84	1.81	1.12	0.46	-0.33	-0.95	-1.60	-2.08	-2.46	-2.84	-3.22	-3.60	-4.46	-5.66	-6.86	-8.06	-9.26	-10.46	-11.66	-12.86	-14.06	-15.26	-16.46	-17.66			
140	2.67	2.59	1.31	1.78	2.12	3.54	4.01	3.40	2.42	1.47	1.63	1.83	1.80	2.81	2.13	2.10	1.73	1.05	0.29	-0.33	-0.82	-1.44	-2.30	-3.16	-4.02	-4.88	-5.74	-6.60	-7.46	-8.32	-9.18	-10.04	-10.90	-11.76	-12.62	-13.48	-14.34			
145	2.67	2.55	1.23	1.43	1.53	3.07	3.80	3.79	3.07	2.27	1.84	1.74	1.82	1.89	2.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80			
150	2.67	2.50	1.15	0.84	1.56	2.31	3.74	3.74	3.29	2.48	2.39	2.48	1.80	1.80	1.79	1.12	0.88	0.40	-0.40	-0.80	-1.30	-1.80	-2.30	-2.80	-3.30	-3.80	-4.30	-4.80	-5.30	-5.80	-6.30	-6.80	-7.30	-7.80	-8.30	-8.80	-9.30			
155	2.67	2.46	1.07	0.37	-0.30	1.23	2.84	3.44	3.60	3.38	2.71	2.71	1.92	1.86	1.40	1.32	0.99	0.57	0.30	-0.41	-1.26	-2.10	-2.94	-3.78	-4.62	-5.46	-6.30	-7.14	-7.98	-8.82	-9.66	-10.50	-11.34	-12.18	-13.02	-13.86	-14.70			
160	2.67	2.40	0.98	-0.75	-1.29	-0.22	1.36	2.84	3.34	3.46	3.15	2.82	2.14	1.82	1.82	1.38	1.12	0.82	-0.40	-0.80	-1.58	-2.36	-3.14	-3.92	-4.70	-5.48	-6.26	-7.04	-7.82	-8.60	-9.38</									

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		
Theta Angle (°)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)	Response (a.u.)			
0	0.32	-2.42	-1.96	-1.34	-0.84	-0.44	-0.24	-0.10	-0.05	-0.00	-0.21	-0.44	-0.70	-1.23	-1.78	-2.33	-2.93	-3.40	-3.66	-3.55	-3.23	-2.74	-2.14	-1.48	-0.78	-0.16	0.27	-0.19	-0.47	-0.76	-1.05	-1.34	-1.62	-1.89	-2.14	-2.35	-2.48	-2.45	
5	-0.32	-2.70	-2.01	-1.37	-0.83	-0.42	-0.14	0.01	0.07	0.01	-0.14	-0.40	-0.70	-1.00	-1.29	-1.60	-1.96	-2.39	-2.82	-3.20	-3.42	-3.40	-3.22	-2.86	-2.46	-2.01	-1.52	-1.04	-0.71	-0.48	-0.32	-0.41	-0.56	-0.82	-1.11	-1.42	-1.71	-1.95	-2.05
10	-0.32	-2.74	-2.00	-1.36	-0.83	-0.43	-0.07	0.12	0.18	-0.13	-0.34	-0.53	-0.72	-1.01	-1.35	-1.70	-2.07	-2.46	-2.89	-3.24	-3.40	-3.20	-2.82	-2.35	-1.84	-1.30	-0.78	-0.40	-0.24	-0.44	-0.64	-0.93	-1.24	-1.56	-1.87	-2.16	-2.41	-2.60	-2.66
15	-0.32	-2.72	-2.00	-1.36	-0.83	-0.43	-0.07	0.12	0.18	-0.13	-0.34	-0.53	-0.72	-1.01	-1.35	-1.70	-2.07	-2.46	-2.89	-3.24	-3.40	-3.20	-2.82	-2.35	-1.84	-1.30	-0.78	-0.40	-0.24	-0.44	-0.64	-0.93	-1.24	-1.56	-1.87	-2.16	-2.41	-2.60	-2.66
20	-0.32	-2.69	-2.05	-1.56	-0.93	-0.44	-0.03	0.21	0.31	0.29	-0.15	-0.39	-0.61	-0.79	-1.10	-1.54	-1.83	-2.04	-2.18	-2.31	-2.40	-2.35	-2.16	-1.85	-1.42	-0.97	-0.62	-0.42	-0.58	-0.78	-1.00	-1.23	-1.47	-1.74	-1.94	-2.17	-2.34	-2.44	-2.45
25	-0.32	-2.56	-2.36	-1.80	-1.03	-0.50	-0.10	0.16	0.28	0.38	-0.10	-0.32	-0.58	-0.80	-1.00	-1.20	-1.40	-1.46	-1.50	-1.40	-1.24	-1.03	-0.78	-0.51	-0.30	-0.14	-0.03	-0.19	-0.40	-0.73	-1.03	-1.41	-1.77	-2.07	-2.34	-2.54	-2.64	-2.65	
30	-0.32	-2.34	-2.46	-1.82	-1.17	-0.63	-0.22	0.04	0.18	0.19	-0.11	-0.34	-0.55	-0.74	-0.93	-1.11	-1.28	-1.24	-1.10	-0.90	-0.74	-0.58	-0.39	-0.24	-0.10	-0.01	-0.14	-0.34	-0.68	-1.01	-1.42	-1.80	-2.17	-2.43	-2.61	-2.73	-2.75	-2.68	
35	-0.32	-2.12	-2.42	-1.98	-1.26	-0.69	-0.25	0.05	0.02	0.01	-0.26	-0.47	-0.68	-0.87	-1.03	-1.19	-1.30	-1.24	-1.08	-0.90	-0.70	-0.54	-0.38	-0.24	-0.10	-0.01	-0.14	-0.34	-0.68	-1.01	-1.42	-1.80	-2.17	-2.43	-2.61	-2.73	-2.75	-2.68	
40	-0.32	-2.12	-2.42	-1.98	-1.26	-0.69	-0.25	0.05	0.02	0.01	-0.26	-0.47	-0.68	-0.87	-1.03	-1.19	-1.30	-1.24	-1.08	-0.90	-0.70	-0.54	-0.38	-0.24	-0.10	-0.01	-0.14	-0.34	-0.68	-1.01	-1.42	-1.80	-2.17	-2.43	-2.61	-2.73	-2.75	-2.68	
45	-0.32	-2.31	-2.96	-2.46	-1.81	-1.31	-0.84	-0.72	-0.62	-0.61	-0.66	-0.76	-0.85	-0.93	-1.00	-1.23	-1.37	-1.53	-1.70	-1.88	-2.00	-2.27	-2.51	-2.6															

5150 Thru:4500		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	
Ph/Ch (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)		
15	-27.9	-3.77	-4.46	-4.08	-4.77	-3.55	-3.51	0.00	2.28	3.14	3.51	3.51	3.24	2.73	2.82	1.21	0.42	-0.25	-0.78	-1.23	-1.42	-1.21	-1.42	-2.17	-2.83	-3.46	-4.17	-5.38	-4.83	-7.28	-7.07	-7.00	4.14	-5.18	-5.57	-7.90	-3.72	-2.42	-24.07
5	-27.9	-3.80	-4.41	-4.05	-4.71	-3.00	-3.25	0.00	1.78	2.50	2.80	2.86	2.54	1.88	1.24	0.40	0.41	-1.12	-1.68	-2.11	-2.05	-2.72	-4.46	-5.11	-5.70	-6.58	-6.92	-6.00	-8.38	-8.22	-5.14	-5.18	-4.09	-4.40	-33.08	-29.78	-24.07		
10	-27.9	-3.80	-4.41	-4.05	-4.71	-3.00	-3.25	0.00	1.78	2.50	2.80	2.86	2.54	1.88	1.24	0.40	0.41	-1.12	-1.68	-2.11	-2.05	-2.72	-4.46	-5.11	-5.70	-6.58	-6.92	-6.00	-8.38	-8.22	-5.14	-5.18	-4.09	-4.40	-33.08	-29.78	-24.07		
15	-27.9	-4.14	-4.07	-4.28	-2.90	-3.37	0.69	1.32	2.22	2.27	2.96	2.86	2.50	1.94	1.18	0.28	0.44	-1.34	-2.04	-2.55	-3.02	-3.58	-4.95	-4.91	-6.05	-6.24	-5.21	-8.00	-8.40	-4.58	-4.58	-7.88	-8.00	-6.09	-6.23	-29.78	-24.07		
20	-27.9	-4.24	-4.02	-4.28	-3.23	-3.86	0.52	1.73	2.82	3.15	3.34	3.24	2.82	2.38	1.44	0.82	-0.02	-0.71	-1.22	-1.81	-2.10	-2.90	-3.99	-4.57	-7.28	-7.48	-6.78	-4.07	-6.27	-7.30	-8.85	-4.58	-4.74	-33.08	-29.78	-24.07			
25	-27.9	-4.33	-4.20	-4.40	-2.74	-3.40	0.43	1.65	2.57	3.14	3.35	3.28	3.01	2.54	1.68	1.12	0.34	-0.37	-1.00	-1.67	-2.53	-3.72	-5.38	-7.28	-8.31	-7.70	-6.91	-7.08	-6.47	-10.28	-10.28	-10.42	-7.91	-7.98	-33.08	-29.78	-24.07		
30	-27.9	-4.46	-4.00	-4.35	-3.14	-3.44	-0.24	-0.88	0.94	1.26	1.35	1.34	1.26	2.35	2.39	1.40	1.15	-0.88	-1.38	-2.42	-3.40	-5.13	-6.46	-7.18	-8.43	-8.53	-7.82	-5.38	-8.28	-11.88	-10.81	-8.28	-8.07	-33.08	-29.78	-24.07			
35	-27.9	-4.47	-4.11	-4.41	-3.04	-3.44	-0.44	-0.28	0.78	1.50	2.20	2.27	1.80	1.46	0.76	0.80	-1.08	-1.28	-2.08	-2.86	-4.57	-6.46	-7.58	-8.11	-9.11	-8.46	-6.46	-6.47	-7.40	-9.40	-10.41	-8.46	-8.46	-33.08	-29.78	-24.07			
40	-27.9	-4.52	-4.01	-4.16	-2.48	-3.14	-0.78	-1.46	-0.22	0.77	1.40	1.74	1.80	1.28	0.58	-0.28	-1.31	-2.62	-3.91	-5.31	-6.34	-8.46	-8.86	-9.46	-10.22	-7.68	-8.34	-8.11	-7.12	-6.08	-8.01	-8.41	-8.18	-6.88	-6.88	-34.05	-24.07		
45	-27.9	-4.55	-3.86	-4.38	-2.82	-3.38	-1.85	-0.31	0.87	1.23	1.38	1.11	0.48	-0.38	-1.34	-2.40	-3.53	-4.88	-6.45	-8.44	-9.54	-11.46	-10.88	-9.55	-11.51	-8.53	-6.18	-8.74	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
50	-27.9	-4.56	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
55	-27.9	-4.56	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
60	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
65	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
70	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
75	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
80	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
85	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
90	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
95	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
100	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
105	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
110	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
115	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
120	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
125	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
130	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
135	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
140	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
145	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
150	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
155	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48	-4.01	-4.98	-5.88	-7.35	-8.82	-11.46	-11.18	-8.28	-6.73	-8.48	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	-10.46	
160	-27.9	-4.57	-4.02	-3.38	-2.57	-3.28	-2.48	-0.83	0.35	1.30	1.22	0.82	0.21	-0.47	-1.12	-1.77	-2.40	-2.98	-3.48																				

[illegible]

6500 Thru/Ave	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	
Ph/Ave (°)	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	1.71	2.05	1.32	1.32	0.30	-1.00	-2.25	-2.40	-3.30	-0.89	0.32	0.37	0.68	0.54	0.00	0.54	0.54	-1.28	-3.61	-6.00	-5.37	-4.76	-10.82	-10.45	-10.28	-10.81	-11.48	-8.40	-10.27	-10.33	-13.44	-11.05	-12.81	-11.47	-10.42	-13.36	-15.97	
5	1.71	2.04	0.62	0.62	0.14	-0.47	-1.72	-1.87	-2.73	-0.36	0.14	0.14	0.34	0.29	0.14	0.14	0.14	-3.92	-6.25	-8.64	-8.01	-9.48	-14.42	-14.05	-14.28	-14.81	-15.48	-12.40	-14.27	-14.33	-17.44	-15.05	-16.81	-15.47	-14.42	-17.36	-20.00	
10	1.71	2.04	1.68	0.62	0.60	-0.21	-0.60	-2.36	-2.36	-1.81	-1.90	-0.67	0.58	-0.27	0.60	1.13	0.86	0.03	-0.14	-2.07	-4.46	-4.83	-4.21	-5.69	-10.47	-10.81	-11.38	-13.64	-13.43	-13.33	-15.44	-11.02	-12.82	-11.58	-10.42	-13.36	-15.97	
15	1.71	2.03	1.55	0.22	-0.40	-0.62	-1.15	-1.40	-3.28	-2.60	-3.28	-2.81	-0.62	1.11	1.62	1.14	0.67	-0.25	-0.60	-5.56	-5.90	-5.91	-6.84	-11.31	-11.59	-11.88	-15.08	-15.16	-15.46	-12.74	-10.47	-12.81	-11.48	-10.42	-13.36	-15.97		
20	1.71	2.01	1.40	-1.16	-1.80	-2.80	-3.46	-4.32	-4.56	-4.37	-4.48	-3.99	-0.84	1.14	1.31	0.75	0.10	-1.14	-3.62	-5.56	-5.66	-5.25	-7.55	-11.55	-11.83	-11.40	-13.40	-13.88	-14.28	-12.83	-11.4	-10.42	-11.45	-10.45	-13.36	-15.97		
25	1.71	1.99	1.25	0.84	-2.37	-3.38	-3.83	-5.50	-4.24	-4.89	-4.40	-4.89	-1.89	1.10	1.27	0.14	0.84	-1.67	-4.40	-6.41	-6.41	-4.47	-7.53	-12.22	-12.86	-15.58	-13.07	-13.58	-15.25	-13.32	-12.47	-10.75	-10.38	-10.38	-13.36	-15.97		
30	1.71	1.99	1.25	0.84	-2.37	-3.38	-3.83	-5.50	-4.24	-4.89	-4.40	-4.89	-1.89	1.10	1.27	0.14	0.84	-1.67	-4.40	-6.41	-6.41	-4.47	-7.53	-12.22	-12.86	-15.58	-13.07	-13.58	-15.25	-13.32	-12.47	-10.75	-10.38	-10.38	-13.36	-15.97		
35	1.71	1.95	1.00	-1.12	-2.84	-3.25	-4.27	-4.08	-6.82	-4.64	-4.32	-3.24	-3.39	2.82	1.72	0.66	0.58	-0.27	-2.08	-4.46	-5.21	-5.36	-10.82	-11.76	-12.00	-10.76	-12.07	-10.87	-10.56	-10.85	-7.80	-6.82	-6.03	-4.86	-4.24	-15.97		
40	1.71	1.92	0.81	-1.36	-2.86	-3.33	-5.06	-4.84	-7.72	-4.56	-4.12	-3.09	1.81	3.18	2.79	1.80	2.10	-1.67	-3.89	-5.85	-5.85	-3.79	-11.55	-12.71	-12.76	-11.81	-12.60	-11.79	-12.49	-10.38	-9.30	-8.11	-5.54	-3.37	-3.28	-15.97		
45	1.71	1.90	0.84	-1.40	-3.01	-3.39	-5.16	-5.76	-4.06	-3.73	-3.93	0.93	3.35	4.38	3.88	3.14	3.15	-2.57	-3.17	-3.58	-3.72	-3.18	-10.86	-12.41	-12.46	-11.56	-12.25	-11.45	-12.05	-10.40	-9.40	-8.01	-5.68	-3.96	-3.28	-15.97		
50	1.71	1.88	0.81	-1.40	-3.01	-3.39	-5.16	-5.76	-4.06	-3.73	-3.93	0.93	3.35	4.38	3.88	3.14	3.15	-2.57	-3.17	-3.58	-3.72	-3.18	-10.86	-12.41	-12.46	-11.56	-12.25	-11.45	-12.05	-10.40	-9.40	-8.01	-5.68	-3.96	-3.28	-15.97		
55	1.71	1.86	0.81	-1.35	-2.97	-3.30	-5.06	-5.27	-3.49	-3.69	-3.88	1.06	5.91	5.72	5.15	4.15	3.58	2.34	-3.31	-4.88	-5.06	-3.96	-11.41	-12.65	-12.66	-11.75	-12.44	-11.65	-12.25	-10.40	-9.40	-8.01	-5.68	-3.96	-3.28	-15.97		
60	1.71	1.84	0.83	-1.21	-2.85	-3.08	-4.78	-4.89	-3.66	-4.00	1.13	3.19	5.03	5.75	5.29	4.24	3.24	-3.55	-4.56	-5.34	-4.70	-7.88	-12.00	-12.06	-11.16	-12.00	-11.21	-12.00	-10.40	-9.40	-8.01	-5.68	-3.96	-3.28	-15.97			
65	1.71	1.82	0.87	-1.01	-2.83	-2.77	-3.72	-4.28	-3.74	0.99	1.42	2.93	4.57	5.29	4.95	4.01	3.16	2.04	-5.55	-6.01	-4.34	-5.68	-7.73	-12.09	-12.29	-11.29	-12.00	-11.40	-12.19	-11.33	-10.41	-10.47	-12.82	-12.61	-12.68	-15.97		
70	1.71	1.80	0.94	-0.76	-2.32	-2.47	-3.88	-4.88	-4.03	1.84	2.01	1.90	2.88	3.97	4.58	4.15	3.34	2.57	-1.55	-4.68	-5.25	-4.48	-7.97	-12.43	-12.42	-11.72	-12.43	-11.58	-12.42	-10.40	-9.40	-8.01	-5.68	-3.96	-3.28	-15.97		
75	1.71	1.78	1.00	-0.49	-1.81	-2.02	-3.52	-4.52	-3.54	2.29	2.86	2.74	3.89	3.47	4.16	3.15	2.36	1.68	-1.80	-3.45	-4.55	-4.49	-6.41	-8.86	-9.06	-11.46	-11.76	-12.00	-10.76	-12.07	-10.87	-10.56	-7.80	-6.82	-6.03	-4.86	-4.24	-15.97
80	1.71	1.82	0.91	-0.16	-2.42	-1.58	-0.62	1.89	2.88	3.23	3.21	3.36	3.42	3.00	2.16	3.14	0.71	0.25	-1.85	-3.42	-4.48	-6.24	-8.80	-9.46	-5.56	-6.27	-11.31	-11.01	-11.88	-10.83	-9.27	-7.03	-6.78	-11.92	-12.43	-13.11	-15.97	
85	1.71	1.74	1.13	0.10	-0.90	-1.08	0.16	1.80	2.78	3.05	3.10	3.19	2.86	2.15	1.03	0.23	0.36	-1.48	-3.19	-3.98	-4.00	-6.67	-7.15	-9.55	-10.94	-10.62	-10.80	-10.40	-10.68	-9.40	-7.81	-6.30	-7.43	-10.41	-11.42	-13.06	-15.97	
90	1.71	1.71	1.10	0.35	-0.48	-0.40	0.40	1.99	2.31	2.59	2.58	2.54	2.23	1.08	-0.35	-1.17	-1.68	-2.95	-1.51	-5.68	-6.68	-5.76	-10.12	-11.27	-11.37	-10.25	-11.17	-10.02	-10.68	-9.46	-7.70	-6.19	-7.12	-10.41	-11.42	-13.06	-15.97	
95	1.71	1.68	1.20	0.56	-1.16	-1.16	0.83	1.59	2.00	2.80	2.27	2.97	1.89	0.80	-0.26	-2.49	-3.58	-3.58	-7.79	-6.88	-4.56	-11.71	-12.35	-12.44	-11.68	-12.00	-11.20	-12.00	-10.40	-9.40	-8.01	-5.68	-3.96	-3.28	-15.97			
100	1.71	1.64	1.20	0.68	0.50	-0.82	1.43	1.96	2.16	2.23	2.40	2.59	2.25	1.20	-0.25	-1.24	-1.55	-2.64	-5.20	-7.47	-5.34	-11.41	-12.45	-12.43	-11.65	-12.00	-11.20	-12.00	-10.40	-9.40	-8.01	-5.68	-3.96	-3.28	-15.97			
105	1.71	1.60	1.17	0.74	0.77	1.35	2.05	2.50	2.64	2.72	2.91	3.03	2.73	1.90	0.80	-0.02	-0.46	-1.39	-3.52	-5.60	-5.68	-5.57	-7.00	-11.01	-11.00	-10.46	-11.00	-10.46	-11.00	-9.46	-7.70	-6.47	-10.46	-11.47	-13.06	-15.97		
110	1.71	1.56	1.11	0.72	0.91	1.70	2.53	2.99	3.07	3.05	3.09	3.03	2.68	1.95	1.06	0.46	-0.06	-0.02	-2.59	-4.32	-4.76	-5.00	-6.22	-6.86	-7.30	-11.46	-11.46	-11.46	-10.46	-9.46	-8.01	-5.68	-3.96	-3.28	-15.97			
115	1.71	1.51	1.03	0.64	0.81	1.88	2.79	3.23	3.22	2.98	2.74	2.74	1.88	1.17	0.47	-0.07	-0.47	-1.15	-3.23	-3.35	-3.82	-4.38	-5.33	-5.55	-5.89	-6.48	-6.85	-6.88	-11.46	-10.46	-9.46	-8.01	-5.68	-3.96	-3.28	-15.97		
120	1.71	1.49	0.94	0.46	0.78	1.81	2.81	3.32	3.07	2.95	2.84	2.84	1.90	1.06	0.46	-0.07	-0.47	-1.15	-3.23	-3.35	-3.82	-4.38	-5.33	-5.55	-5.89	-6.48	-6.85	-6.88	-11.46	-10.46	-9.46	-8.01	-5.68	-3.96	-3.28	-15.97		
125	1.71	1.42	0.83	0.32	0.59	1.67	2.66	3.03	2.78	2.72	2.74	2.74	0.81	0.40	-0.47	-0.72	-0.88	-0.72	-1.19	-3.78	-3.88	-3.90	-5.52	-6.34	-6.64	-6.99	-7.48	-7.49	-11.46	-10.46	-9.46	-8.01	-5.68	-3.96	-3.28	-15.97		
130	1.71	1.37	0.73	0.14	0.36	1.43	2.43	2.79	2.55	1.96	1.34	0.82	0.65	0.38	0.15	0.13	0.10	-0.47	-1.17	-3.35	-3.24	-4.83	-5.60	-6.31	-7.27	-6.54	-6.30	-7.57	-7.52	-11.46	-10.46	-9.46	-8.01	-5.68	-3.96	-3.28	-15.97	
135	1.71	1.32	0.63	0.00	0.18	1.22	2.20	2.63	2.54	2.25	2.04	2.02	2.01	1.79	1.42	1.16	0.88	0.32	-0.88	-1.12	-3.89	-4.47	-5.58	-6.17	-6.82	-7.55	-7.46	-7.23	-7.59	-11.46	-10.46	-9.46	-8.01	-5.68	-3.96	-3.28	-15.97	
140	1.71	1.27	0.57	0.19	1.44	1.80	2.06	2.46	2.70	2.17	2.17	2.17	2.16	2.16	2.16	2.16	2.16	2.16	-1.74	-2.54	-4.16	-4.72	-5.68	-6.41	-7.42	-6.88	-7.13	-7.42	-7.42	-11.46	-10.46	-9.46	-8.01	-5.68	-3.96	-3.28	-15.97	
145	1.71	1.23	0.50	-0.07	0.14	1.09	2.00	2.54	2.84	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	-1.82	-2.74	-4.14	-4.82	-5.67	-7.32	-8.49	-7.35	-7.44	-7.44	-7.44	-11.46	-10.46	-9.46	-8.01	-5.68	-3.96	-3.28	-15.97	
150	1.71	1.20	0.48	0.03	0.33	1.19	1.99	2.47	2.80	1.99	3.37	3.42	3.33	2.91	2.23	1.50	0.82	-0.08	-1.36	-2.40	-2.46	-2.40	-3.16	-4.21	-5.43	-6.76	-7.40	-7.40	-7.40	-11.46	-10.46	-9.46	-8.01	-5.68	-3.96	-3.28	-15.97	
155	1.71	1.17	0.48	0.18	0.56	1.33	1.94	2.28	2.53	2.79	2.94	2.94	2.77	2.32	1.80	0.76	-0.02	-0.07	-1.95	-2.07	-3.00	-3.11	-3.81	-4.71	-5.68	-7.07	-7.07	-7.07	-7.07	-11.46	-10.46	-9.46	-8.01	-5.68	-3.96	-3.28	-15.97	
160	1.71	1.14	0.53	0.48	0.86	1.40	1.85	1.96	2.26	2.35	2.37	2.36	2.19	1.68	0.85	0.07	-0.07	-1.76	-2.42	-3.03	-3.37	-3.64	-4.71	-5.68	-7.07	-7.07	-7.07	-7.07	-11.46	-10.46	-9.46	-8.01	-5.68	-3.96	-3.28	-15.97		
165	1.71	1.12	0.50	0.63	1.14	1.61	1.71	1.81	1.46	1.85	1.85	1.83	1.65	1.29	0.88	0.46	-0.56	-2.58	-3.68	-3.68	-3.68	-4.72	-5.68	-7.07	-7.07	-7.07	-7.07	-11.46	-10.46	-9.46	-8.01	-5.68						

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

2450 Theta/Azide	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		
Phi/Azide (°)	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	-4.76	-1.21	-1.50	-1.20	-0.46	-0.12	0.58	1.10	1.47	1.45	1.10	1.17	0.65	-0.03	-0.87	-1.03	-2.81	-3.07	-4.48	-6.76	-4.31	-4.52	-4.48	-4.36	-4.06	-3.57	-3.03	-4.03	-4.44	-4.13	-4.15	-4.33	-4.23	-4.21	-2.55	-2.99			
5	-4.76	-1.30	-1.58	-1.42	-0.86	-0.12	0.58	1.10	1.40	1.48	1.34	1.10	0.46	-0.29	-1.26	-2.46	-3.91	-5.43	-6.91	-7.82	-8.14	-7.97	-6.93	-6.11	-5.66	-5.38	-5.43	-5.86	-6.64	-7.42	-7.38	-6.16	-4.95	-3.27	-2.58	-2.99			
10	-4.76	-1.37	-1.70	-1.78	-1.44	-0.82	0.11	0.71	0.86	0.82	0.50	-0.07	-1.09	-2.53	-4.46	-7.02	-9.46	-11.43	-13.06	-13.46	-12.88	-11.64	-10.06	-8.96	-8.04	-7.44	-6.98	-6.70	-6.84	-7.42	-8.48	-9.72	-11.21	-12.93	-15.41	-18.99			
15	-4.76	-1.34	-1.97	-1.84	-1.44	-0.42	0.27	0.79	1.08	1.15	0.97	0.55	-0.13	-1.11	-2.46	-4.27	-6.45	-9.34	-11.28	-10.83	-9.58	-7.94	-6.40	-5.42	-4.82	-4.06	-4.02	-4.42	-5.57	-6.92	-8.74	-10.17	-12.38	-14.98	-18.37	-25.40			
20	-4.76	-1.35	-1.74	-1.71	-1.23	-0.82	0.10	0.70	0.98	1.02	0.80	0.31	-0.46	-1.58	-3.14	-4.29	-6.08	-11.12	-11.86	-10.47	-8.63	-6.40	-5.43	-4.40	-3.70	-3.30	-3.47	-4.01	-5.13	-6.96	-9.24	-10.78	-12.94	-16.40	-23.55	-24.90			
25	-4.76	-1.36	-1.76	-1.74	-1.42	-0.87	0.13	0.65	0.93	0.94	0.87	0.11	-0.77	-2.04	-3.81	-4.23	-5.34	-12.04	-11.24	-9.45	-7.42	-6.40	-5.48	-4.70	-3.68	-3.07	-3.00	-3.68	-4.88	-6.80	-9.04	-10.48	-12.27	-14.40	-25.56	-24.90			
30	-4.76	-1.35	-1.75	-1.74	-1.28	-0.87	0.14	0.66	0.92	0.96	0.89	0.05	-1.00	-2.38	-4.01	-4.91	-6.03	-11.77	-10.99	-9.38	-7.40	-6.40	-5.48	-4.70	-3.68	-3.07	-3.01	-3.74	-4.81	-6.68	-8.94	-10.77	-12.51	-14.54	-24.97	-24.90			
35	-4.76	-1.34	-1.74	-1.74	-1.44	-0.82	0.11	0.71	0.86	0.82	0.50	-0.07	-1.09	-2.53	-4.46	-7.02	-9.46	-11.43	-13.06	-13.46	-12.88	-11.64	-10.06	-8.96	-8.04	-7.44	-6.98	-6.70	-6.84	-7.42	-8.48	-9.72	-11.21	-12.93	-15.41	-18.99			
40	-4.76	-1.32	-1.67	-1.63	-1.15	-0.41	0.27	0.79	1.04	1.00	0.66	0.01	-0.80	-2.38	-4.17	-4.33	-4.22	-4.40	-7.07	-6.33	-5.02	-3.90	-2.30	-1.60	-0.99	-2.30	-2.97	-4.14	-5.96	-8.30	-9.54	-12.72	-15.18	-23.53	-24.90				
45	-4.76	-1.28	-1.60	-1.51	-1.04	-0.32	0.39	0.88	1.15	1.12	0.82	0.24	-0.65	-1.85	-3.34	-4.08	-4.24	-4.56	-6.34	-3.26	-2.40	-1.80	-1.77	-1.82	-2.15	-2.81	-3.82	-5.58	-7.68	-10.00	-11.31	-15.01	-18.34	-25.51	-24.90				
50	-4.76	-1.25	-1.52	-1.40	-0.90	-0.19	0.49	1.00	1.10	1.30	1.07	0.60	-0.11	-1.86	-2.28	-3.91	-4.91	-4.60	-4.20	-3.46	-2.70	-2.12	-1.77	-1.64	-1.74	-2.09	-2.73	-3.78	-5.26	-7.18	-9.12	-10.80	-14.03	-18.25	-25.51	-24.90			
55	-4.76	-1.21	-1.41	-1.26	-1.14	-0.86	0.61	1.17	1.40	1.37	1.06	0.54	-0.74	-1.80	-3.80	-2.57	-3.98	-2.78	-2.33	-1.76	-1.82	-2.18	-2.78	-3.38	-4.28	-4.88	-5.48	-6.48	-7.48	-8.48	-9.48	-10.48	-11.48	-12.48	-13.48				
60	-4.76	-1.17	-1.31	-1.08	-0.57	0.05	0.73	1.23	1.56	1.71	1.03	1.55	1.13	-0.77	-2.08	-4.64	-5.38	-3.34	-2.25	-2.31	-2.01	-2.68	-3.00	-2.15	-2.41	-3.05	-3.97	-5.26	-6.18	-7.12	-8.13	-9.48	-11.38	-14.48	-25.56	-25.99			
65	-4.76	-1.12	-1.19	-0.93	-0.40	0.24	0.84	1.33	1.68	1.88	1.08	1.94	1.27	-1.44	0.86	0.33	-0.37	-1.07	-1.68	-2.00	-2.30	-2.40	-2.56	-2.70	-3.01	-3.53	-4.38	-5.62	-6.47	-7.40	-8.53	-9.88	-11.34	-12.98	-15.98	-25.99			
70	-4.76	-1.06	-1.06	-0.76	-0.22	0.38	0.94	1.47	1.77	2.04	2.21	2.27	2.21	1.89	1.00	1.04	0.34	-0.44	-1.23	-1.94	-2.51	-2.80	-3.19	-3.37	-3.53	-3.78	-4.27	-4.97	-6.07	-6.88	-8.00	-9.65	-11.23	-12.82	-16.82	-25.99			
75	-4.76	-1.01	-0.94	-0.88	-0.65	0.62	1.04	1.47	1.84	2.11	2.26	2.40	2.49	2.34	2.01	1.51	0.03	-0.02	-0.88	-1.75	-2.05	-2.37	-2.86	-3.24	-3.46	-3.68	-4.46	-5.08	-6.27	-7.13	-8.25	-9.51	-11.15	-12.81	-24.97	-25.99			
80	-4.76	-0.96	-0.81	-0.46	-0.24	0.29	0.79	1.21	1.56	1.87	2.15	2.38	2.50	2.60	2.35	2.05	1.28	0.54	-0.30	-1.23	-2.22	-3.21	-4.17	-4.86	-5.56	-6.44	-7.56	-7.97	-9.21	-10.74	-12.58	-14.41	-16.21	-24.97	-25.99				
85	-4.76	-0.83	-0.56	-0.06	-0.45	0.92	1.30	1.60	1.87	2.11	2.31	2.46	2.40	2.38	2.15	1.77	1.25	0.82	-1.00	-1.90	-2.77	-3.68	-4.62	-5.29	-6.01	-6.73	-7.48	-8.97	-10.78	-12.59	-14.39	-16.19	-18.01	-24.97	-25.99				
90	-4.76	-0.77	-0.46	0.07	0.60	1.05	1.39	1.64	1.86	2.06	2.22	2.33	2.33	2.22	1.97	1.40	1.13	0.80	-0.02	-0.88	-1.76	-2.58	-3.43	-4.17	-5.08	-6.06	-7.26	-7.93	-9.74	-11.24	-12.94	-14.74	-16.54	-18.34	-24.97	-25.99			
95	-4.76	-0.70	-0.35	-0.11	0.45	1.15	1.45	1.65	1.85	2.05	2.25	2.45	2.45	2.35	2.10	1.50	0.93	-0.40	-0.87	-1.75	-2.76	-3.46	-4.16	-4.86	-5.56	-6.26	-7.46	-8.46	-10.46	-11.96	-13.86	-15.36	-17.26	-19.06	-24.97	-25.99			
100	-4.76	-0.66	-0.24	0.33	0.86	1.28	1.56	1.74	1.87	1.98	2.07	2.10	2.04	1.86	1.56	1.16	0.70	0.23	-0.23	-0.68	-1.58	-2.13	-2.83	-3.65	-4.60	-5.64	-6.68	-7.92	-9.44	-11.06	-12.68	-14.29	-15.91	-17.53	-19.15	-24.97	-25.99		
105	-4.76	-0.61	-0.15	0.43	0.97	1.37	1.64	1.79	1.88	1.96	2.00	2.00	1.92	1.72	1.39	0.87	0.48	0.01	-0.40	-1.14	-1.52	-1.99	-2.62	-3.40	-4.34	-5.46	-6.48	-7.91	-9.58	-11.29	-12.99	-14.69	-16.39	-18.09	-19.79	-24.97	-25.99		
110	-4.76	-0.55	-0.07	0.52	1.06	1.45	1.69	1.82	1.87	1.89	1.90	1.87	1.78	1.55	1.21	0.78	0.29	-0.19	-0.61	-0.95	-1.42	-1.56	-1.88	-2.57	-3.34	-4.28	-5.35	-6.45	-7.82	-9.60	-11.47	-13.17	-14.73	-16.33	-17.93	-19.53	-24.97	-25.99	
115	-4.76	-0.51	0.01	0.80	1.12	1.50	1.73	1.82	1.83	1.80	1.74	1.68	1.52	1.29	0.86	0.34	0.08	-0.38	-0.78	-1.36	-1.70	-2.06	-2.63	-3.41	-4.37	-5.45	-6.56	-7.96	-10.00	-11.91	-13.61	-15.01	-16.41	-17.81	-19.21	-24.97	-25.99		
120	-4.76	-0.48	0.07	1.13	1.54	1.74	1.78	1.64	1.58	1.45	1.35	1.06	0.74	0.46	0.13	0.02	-0.16	-0.46	-0.91	-1.53	-2.04	-2.51	-2.98	-3.68	-4.54	-5.64	-6.94	-8.44	-10.14	-11.64	-12.94	-14.24	-15.54	-16.84	-18.14	-19.44	-24.97	-25.99	
125	-4.76	-0.42	0.12	1.70	1.54	1.73	1.75	1.65	1.46	1.21	0.93	0.44	0.32	0.03	-0.40	-0.78	-1.12	-1.42	-1.64	-1.85	-2.11	-2.50	-3.00	-3.81	-4.73	-5.77	-6.82	-7.68	-9.12	-10.91	-12.74	-14.67	-16.67	-18.67	-20.67	-24.97	-25.99		
130	-4.76	-0.39	0.16	0.72	1.20	1.53	1.69	1.69	1.54	1.26	0.89	0.47	0.03	-0.40	-0.82	-1.21	-1.56	-1.85	-2.07	-2.25	-2.41	-2.63	-2.95	-3.43	-4.07	-4.88	-5.74	-6.65	-7.48	-8.98	-10.78	-12.68	-14.58	-16.41	-18.21	-20.01	-24.97	-25.99	
135	-4.76	-0.35	0.20	0.74	1.19	1.50	1.65	1.62	1.43	1.08	0.61	0.06	-0.05	-1.15	-1.80	-2.17	-2.55	-2.80	-3.05	-3.15	-3.29	-3.58	-3.96	-4.32	-4.65	-5.47	-6.15	-6.98	-7.78	-9.55	-11.28	-13.00	-14.72	-16.44	-18.16	-20.00	-24.97	-25.99	
140	-4.76	-0.30	0.26	1.14	1.41	1.46	1.55	1.45	1.26	0.85	0.46	0.04	-0.04	-1.06	-1.86	-2.24	-2.62	-2.85	-3.08	-3.18	-3.32	-3.61	-4.00	-4.38	-4.76	-5.14	-5.52	-6.34	-7.44	-8.84	-10.64	-12.44	-14.24	-16.04	-17.84	-19.64	-24.97	-25.99	
145	-4.76	-0.29	0.24	0.74	1.13	1.40	1.53	1.51	1.32	0.86	0.45	0.08	-0.06	-1.06	-1.85	-2.25	-2.60	-2.86	-3.06	-3.16	-3.31	-3.61	-4.01	-4.39	-4.78	-5.16	-5.54	-6.36	-7.46	-8.86	-10.66	-12.46	-14.26	-16.06	-17.86	-19.66	-24.97	-25.99	
150	-4.76	-0.27	0.26	0.73	1.10	1.35	1.40	1.47	1.33	1.03	0.58	0.04	-0.02	-1.34	-2.10	-2.68	-2.98	-3.25	-3.45	-3.78	-4.14	-4.50	-4.82	-5.18	-5.54	-5.90	-6.26	-7.02	-8.32	-10.02	-11.72	-13.42	-15.12	-16.82	-18.52	-19.99	-24.97	-25.99	
155	-4.76	-0.25	0.28	0.72	1.06	1.30	1.43	1.46	1.36	1.15	0.62	0.40	-0.11	-0.68	-1.31	-1.97	-2.44	-2.79	-3.08	-3.38	-3.68	-4.05	-4.42	-4.79	-5.16	-5.53	-5.90	-6.27	-7.03	-8.33	-10.03	-11.73	-13.43	-15.13	-16.83	-18.53	-19.99	-24.97	-25.99
160	-4.76	-0.23	0.29	0.71	1.03	1.32	1.36	1.48	1.37	1.18	0.67	0.39	-0.14	-0.88	-1.60	-2.02	-2.35	-2.58	-2.78	-3.08	-3.37	-3.65	-4.02	-4.39	-4.76	-5.13	-5.50	-5.87	-6.63	-7.93	-9.63	-11.33	-13.03	-14.73	-16.43	-18.13	-19.99	-24.97	-25.99
165	-4.76	-0.21	0.27	0.71	1.00	1.22	1.30	1.42	1.31	1.24	0.73	0.47	0.07	-0.83	-1.54	-1.94	-2.26	-2.48	-2.68	-2.97	-3.26	-3.54	-3.92	-															

6500 Thru/Ave	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	
Ph/Ave (°)	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	-9.94	-1.52	-1.11	-0.01	1.02	1.42	0.90	0.16	-0.23	0.26	1.34	2.21	2.36	2.08	1.90	1.59	0.93	-0.88	-1.73	-1.88	-1.82	-1.82	-2.57	-3.36	-3.68	-4.04	-4.44	-4.18	-3.47	-2.78	-3.32	-4.02	-4.97	-4.18	-3.18	-2.57	-2.80	
5	-9.94	-1.52	-1.11	-0.01	1.02	1.42	0.90	0.16	-0.23	0.26	1.34	2.21	2.36	2.08	1.90	1.59	0.93	-0.88	-1.73	-1.88	-1.82	-1.82	-2.57	-3.36	-3.68	-4.04	-4.44	-4.18	-3.47	-2.78	-3.32	-4.02	-4.97	-4.18	-3.18	-2.57	-2.80	
10	-9.94	-1.58	-0.86	-0.04	1.09	1.89	2.10	1.93	0.65	-0.11	0.82	1.43	1.68	1.08	0.48	0.01	-0.73	-1.68	-2.48	-2.71	-3.03	-3.87	-4.41	-4.99	-5.65	-6.22	-5.76	-4.96	-4.36	-3.94	-3.64	-3.34	-3.18	-3.44	-3.76	-4.14	-4.53	-4.80
15	-9.94	-0.83	-0.37	0.62	1.62	2.28	2.39	1.80	1.03	0.44	0.44	0.96	1.37	1.29	0.79	0.17	-0.40	-1.14	-1.96	-2.68	-3.19	-3.81	-4.65	-5.55	-6.34	-6.48	-5.68	-4.78	-4.06	-3.50	-3.15	-2.94	-3.07	-3.42	-3.81	-4.24	-4.61	-4.98
20	-9.94	-0.60	0.09	1.14	2.05	2.56	2.55	2.03	1.27	0.74	0.74	1.18	1.38	1.19	0.65	-0.02	-0.78	-1.40	-2.18	-2.88	-3.33	-4.23	-5.38	-6.48	-7.07	-6.33	-5.28	-4.28	-3.50	-2.88	-2.45	-2.31	-2.61	-3.07	-3.47	-3.88	-4.33	-4.78
25	-9.94	-0.38	0.40	1.58	2.30	2.76	2.65	2.00	1.32	0.80	0.80	1.22	1.31	1.03	0.43	-0.31	-1.11	-1.86	-2.55	-3.25	-3.46	-4.37	-5.63	-6.72	-7.22	-6.33	-5.08	-4.01	-3.47	-2.82	-2.23	-2.09	-2.48	-2.93	-3.38	-3.83	-4.28	-4.73
30	-9.94	-0.16	0.70	1.89	2.42	2.80	2.60	1.85	1.20	0.80	0.80	1.18	1.24	0.90	0.29	-0.40	-1.18	-1.86	-2.48	-3.06	-3.40	-4.30	-5.56	-6.55	-7.05	-6.16	-4.81	-3.64	-3.07	-2.42	-1.83	-1.69	-2.08	-2.53	-2.98	-3.43	-3.88	-4.33
35	-9.94	0.02	1.12	2.10	2.58	2.88	2.17	1.56	1.07	1.00	1.28	1.51	1.36	0.82	0.03	-0.81	-1.40	-2.08	-2.68	-3.05	-3.46	-4.36	-5.62	-6.51	-7.01	-6.12	-4.77	-3.60	-3.03	-2.38	-1.79	-1.65	-2.04	-2.49	-2.94	-3.39	-3.84	-4.29
40	-9.94	0.19	1.34	2.26	2.54	2.38	1.86	1.28	0.86	0.88	1.29	1.58	1.42	0.86	0.12	-0.88	-1.48	-2.08	-2.48	-2.88	-3.38	-4.28	-5.54	-6.43	-6.93	-6.04	-4.69	-3.52	-2.95	-2.30	-1.71	-1.57	-1.96	-2.41	-2.86	-3.31	-3.76	
45	-9.94	0.34	1.51	2.26	2.41	2.08	1.53	0.95	0.97	0.85	1.10	1.24	0.78	0.10	-0.87	-1.34	-1.94	-2.44	-2.84	-3.24	-3.64	-4.54	-5.80	-6.69	-7.19	-6.30	-4.95	-3.78	-3.21	-2.56	-1.97	-1.83	-2.22	-2.67	-3.12	-3.57	-4.02	
50	-9.94	0.49	1.71	2.23	2.19	1.70	1.22	0.75	0.75	0.62	0.84	0.92	0.38	0.01	-0.79	-1.26	-1.86	-2.36	-2.76	-3.16	-3.56	-4.46	-5.72	-6.61	-7.11	-6.22	-4.87	-3.70	-3.13	-2.48	-1.89	-1.75	-2.14	-2.59	-3.04	-3.49	-3.94	
55	-9.94	0.55	1.71	2.15	1.97	1.51	1.00	0.64	-0.07	-0.14	0.18	0.33	0.02	-0.48	-0.74	-0.91	-1.56	-2.24	-2.56	-2.88	-3.20	-4.10	-5.36	-6.25	-6.75	-5.86	-4.51	-3.34	-2.77	-2.12	-1.53	-1.39	-1.78	-2.23	-2.68	-3.13	-3.58	
60	-9.94	0.68	1.74	2.03	1.73	1.29	0.89	0.38	-0.24	-0.40	-0.25	-0.21	-0.58	-0.89	-1.08	-1.02	-1.40	-2.40	-3.28	-3.08	-3.08	-3.91	-5.19	-6.12	-6.62	-5.73	-4.38	-3.21	-2.64	-2.00	-1.41	-1.27	-1.66	-2.11	-2.56	-3.01		
65	-9.94	0.76	1.75	1.88	1.58	1.15	0.92	0.46	-0.18	-0.48	-0.38	-0.40	-0.87	-1.28	-1.30	-1.28	-1.38	-2.32	-3.33	-3.08	-2.95	-3.34	-4.74	-5.68	-6.18	-5.29	-3.94	-2.77	-2.20	-1.56	-1.07	-0.93	-1.32	-1.77	-2.22	-2.67		
70	-9.94	0.81	1.73	1.73	1.38	1.00	1.04	0.68	0.18	-0.15	-0.16	-0.48	-0.86	-1.35	-1.13	-1.18	-1.28	-2.44	-3.08	-3.02	-3.06	-3.37	-4.98	-5.82	-6.32	-5.43	-4.18	-3.18	-2.62	-1.98	-1.49	-1.35	-1.74	-2.19	-2.64	-3.09		
75	-9.94	0.86	1.70	1.57	1.12	0.86	1.21	0.83	0.30	0.30	0.80	0.80	-0.70	-0.38	-0.36	-0.36	-0.36	-1.38	-2.48	-2.48	-2.48	-2.48	-4.08	-4.92	-5.42	-4.53	-3.28	-2.28	-1.72	-1.08	-0.60	-0.46	-0.85	-1.30	-1.75	-2.20		
80	-9.94	0.88	1.65	1.43	0.97	1.05	1.38	1.31	0.83	1.06	1.15	0.79	-0.02	-0.76	-0.73	-0.18	-0.28	-1.38	-2.32	-2.28	-2.28	-2.28	-3.88	-4.72	-5.22	-4.33	-3.08	-2.08	-1.48	-0.81	-0.33	-0.65	-0.34	-0.57	-0.93	-1.38	-1.83	
85	-9.94	0.89	1.60	1.31	0.85	1.03	1.51	1.61	1.06	1.18	1.21	1.09	0.85	0.00	-0.12	-0.02	-0.07	-1.37	-2.25	-2.16	-2.16	-2.16	-3.76	-4.60	-5.10	-4.21	-2.96	-1.96	-1.36	-0.69	-0.21	-0.53	-0.22	-0.46	-0.82	-1.27		
90	-9.94	0.88	1.54	1.22	0.75	0.99	1.57	1.68	1.06	1.23	1.23	1.09	0.83	0.07	0.05	0.05	0.01	-1.48	-2.33	-2.17	-2.17	-2.17	-3.76	-4.60	-5.10	-4.21	-2.96	-1.96	-1.36	-0.69	-0.21	-0.53	-0.22	-0.46	-0.82	-1.27		
95	-9.94	0.87	1.49	1.15	0.65	0.92	1.57	1.65	1.02	1.17	1.10	1.00	0.79	0.12	0.10	0.10	0.01	-1.57	-2.42	-2.26	-2.26	-2.26	-3.86	-4.70	-5.20	-4.31	-3.06	-2.06	-1.46	-0.79	-0.31	-0.61	-0.30	-0.66	-1.11	-1.56		
100	-9.94	0.84	1.43	1.11	0.64	0.85	1.58	1.60	1.04	1.14	1.05	1.00	0.78	0.09	-0.11	-0.11	-0.11	-1.66	-2.57	-2.37	-2.37	-2.37	-3.96	-4.80	-5.30	-4.41	-3.16	-2.16	-1.56	-0.89	-0.41	-0.71	-0.40	-0.76	-1.21	-1.66		
105	-9.94	0.80	1.37	1.10	0.67	0.79	1.40	1.20	0.82	0.78	0.42	0.37	0.27	0.12	0.14	0.14	0.02	-1.70	-2.67	-2.40	-2.40	-2.40	-4.00	-4.84	-5.34	-4.45	-3.20	-2.20	-1.60	-0.93	-0.45	-0.75	-0.44	-0.80	-1.25	-1.70		
110	-9.94	0.74	1.31	1.10	0.73	0.81	1.33	1.03	0.76	0.76	0.47	0.38	0.30	0.18	0.13	0.16	-0.02	-1.72	-2.65	-2.70	-2.70	-2.70	-4.30	-5.14	-5.64	-4.75	-3.40	-2.40	-1.80	-1.13	-0.65	-0.95	-0.64	-1.00	-1.45	-1.90		
115	-9.94	0.68	1.25	1.13	0.85	0.82	1.35	1.08	0.82	0.82	0.50	0.41	0.32	0.20	0.29	0.18	0.08	-1.44	-2.24	-2.30	-2.30	-2.30	-3.90	-4.74	-5.24	-4.35	-3.00	-2.00	-1.40	-0.73	-0.47	-0.77	-0.46	-0.82	-1.27			
120	-9.94	0.61	1.17	1.15	1.00	1.13	1.26	1.18	0.86	0.86	0.54	0.44	0.34	0.22	0.31	0.20	0.10	-1.34	-2.08	-2.14	-2.14	-2.14	-3.74	-4.58	-5.08	-4.19	-2.94	-1.94	-1.34	-0.67	-0.41	-0.71	-0.40	-0.76	-1.21			
125	-9.94	0.51	1.07	1.16	1.16	1.14	1.80	1.26	0.68	0.54	0.42	0.28	0.21	0.24	0.17	0.17	0.07	-1.07	-1.99	-2.05	-2.05	-2.05	-3.65	-4.49	-4.99	-4.10	-2.85	-1.85	-1.25	-0.58	-0.32	-0.62	-0.31	-0.67	-1.12			
130	-9.94	0.40	0.95	1.14	1.18	1.08	1.25	0.64	0.50	0.34	0.17	0.20	0.20	0.16	0.08	-0.16	-1.00	-1.88	-1.94	-1.94	-1.94	-3.54	-4.38	-4.88	-3.99	-2.74	-1.74	-1.14	-0.48	-0.22	-0.52	-0.21	-0.57	-1.02				
135	-9.94	0.29	0.80	1.07	1.34	1.88	2.56	3.02	3.11	3.26	3.10	2.89	2.18	1.56	0.72	0.01	0.15	-0.09	-0.48	-0.72	-0.58	-0.32	-0.08	-0.27	-0.08	-0.27	-0.08	-0.27	-0.08	-0.27	-0.08	-0.27	-0.08	-0.27	-0.08	-0.27		
140	-9.94	0.18	0.71	0.98	1.10	1.31	1.68	2.14	2.23	2.38	2.22	1.91	1.40	0.78	0.14	0.01	0.14	-0.14	-0.38	-0.52	-0.36	-0.10	0.00	-0.19	-0.08	-0.19	-0.08	-0.19	-0.08	-0.19	-0.08	-0.19	-0.08	-0.19	-0.08	-0.19		
145	-9.94	0.01	0.40	0.71	1.09	1.80	2.76	3.46	3.72	3.82	3.26	2.76	2.27	1.56	0.41	-0.91	-1.76	-2.24	-2.47	-2.57	-2.48	-2.48	-3.08	-3.92	-4.42	-3.53	-2.28	-1.28	-0.68	-0.40	-0.80	-0.80	-0.96	-0.96	-1.08	-1.08		
150	-9.94	-0.14	0.13	0.39	0.72	1.44	2.57	3.50	3.88	3.78	3.34	2.82	2.38	1.75	0.55	-0.07	-1.36	-1.54	-1.08	-0.98	-0.70	-0.57	-0.11	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07		
155	-9.94	-0.31	-0.19	0.04	0.15	0.83	2.10	3.42	3.99	3.38	2.96	2.40	1.99	0.95	-0.40	-0.63	-1.19	-1.22	-0.74	-0.47	-0.33	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12			
160	-9.94	-0.48	-0.54	-0.82	-0.86	1.88	3.19	3.97	3.07	2.76	2.22	1.68	1.26	0.59	-0.37	-0.37	-0.98	-1.06	-0.96	-0.68	-0.42	-0.26	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10			
165	-9.94	-0.67	-0.80	-1.28	-1.02	1.22	2.88	3.86	3.44	2.99	2.27	1.37	1.22	0.56	-1.32	-1.34	-1.62	-1.48	-1.02	-0.68	-0.46	-0.24	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14			
170	-9.94	-0.88	-1.44	-2.05	-2.02	-0.82	-0.11	2.28	3.35	3.38	2.60	2.01	1.37	0.39	0.18	0.18	-0.18	-1.32	-1.44	-0.88	-0.58	-0.38	-0.21															