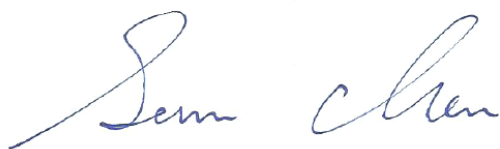


Antenna Composite Gain Test Report

FCC ID	O6ZHS17R2
Equipment	Digital Satellite Receiver(Headless DVR Server)
Brand Name	DIRECTV
Model Name	HS17-500
Applicant	HUMAX Co., Ltd. HUMAX BLDG., 2, Yeongmun-ro, Cheoin-gu , Yongin-si, Gyeonggi-do, South Korea 17040
Manufacturer	HUMAX Co., Ltd. HUMAX BLDG., 2, Yeongmun-ro, Cheoin-gu , Yongin-si, Gyeonggi-do, South Korea 17040
Standard	KDB662911 D03 v01
Sample Received	Jan. 16, 2024
Start Test Date	Jan. 18, 2024
Final Test Date	Jan. 18, 2024



Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory

No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



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History of this test report

[illegible]

1. Operation Mode and Antenna Information

Antenna Position	RF Port	Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
5G Ant 1	2	Airgain	N5X35B2YN-E57U	PIFA	U.FL	5GHz UNII 1~3
5G Ant 2	1	Airgain	N5X35B2YN-R137U	PIFA	U.FL	5GHz UNII 1~3
5G Ant 3	3	Airgain	N5X35B2YW-G80U	PIFA	U.FL	5GHz UNII 1~3
5G Ant 4	4	Airgain	N5X35BYN-A100U	PIFA	U.FL	5GHz UNII 1~3

Note:

5GHz Operation Mode (4TX/4RX)

5G Ant 1~4 can be used as transmitting/receiving antenna.

5G Ant 1~4 could transmit/receive simultaneously.

2. Test Frequency

The listed frequency of each bands are selected to represent each frequency bands

Band [MHz]	Test Frequency [MHz]
5150-5250	5200
5250-5350	5300
5470-5725	5600
5725-5850	5785

3. Testing Location

Testing Location		
Sporton International Inc. Hsinhua Laboratory		
☒	HWA YA	ADD : No.13-1 & 14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333, Taiwan R.O.C.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated	05CH03-HY	Rofy Chen	23.5-24.5 / 45-55	Jan. 18, 2024

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

4. Test Facility and Configuration

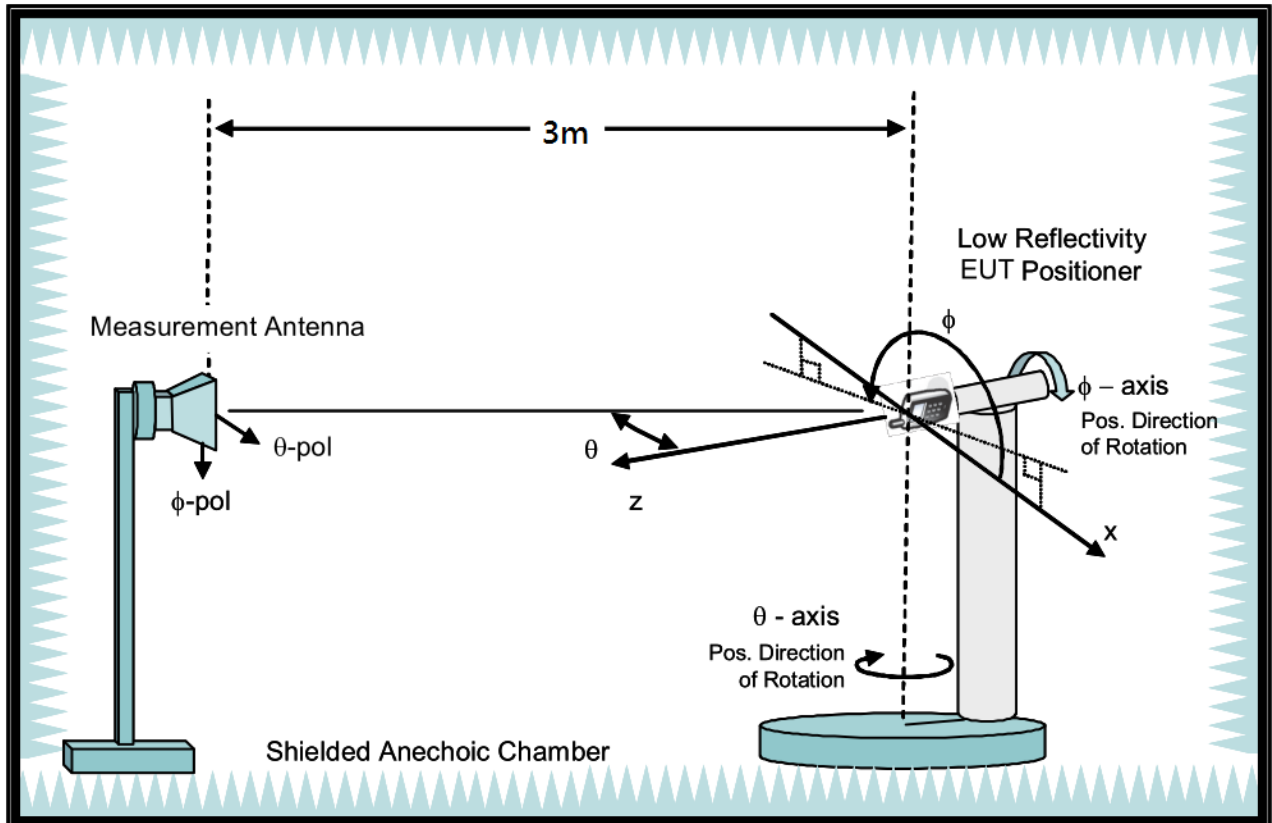
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

Turntable: Multi-axis positioner (Theta and Phi angle).

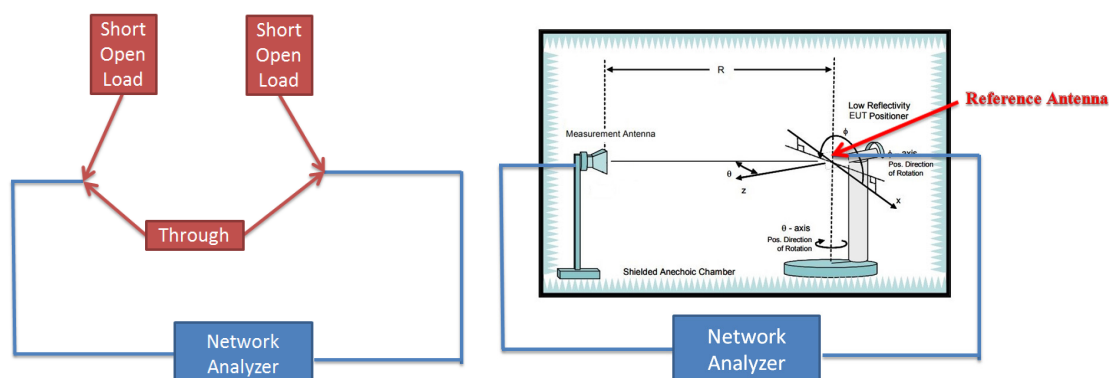
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



5. Reference Calibration

Connected cables to VNA calibration kit and use network analyzer internal function to do calibration. Do short, open and load to each side. Then connect through to both side and calibrate G values. The cable loss is calibrated and set inside the network analyzer.

Measurement Antenna is connected to port1 of Network analyzer and reference antenna connected to port 2 of Network Analyzer. Record G values and used with reference antenna gain to calculate gain factor.



Frequency (MHz)	2400	2450	2500	5150	5200	5300	5600	5750	5800	5900	6000	6500	7000	7200
G(theta) reading (dB)	-33.75	-33.64	-32.91	-32.21	-32.45	-32.33	-32.57	-32.94	-32.78	-33.35	-32.91	-33.81	-34.54	-35.64
G(phi) reading (dB)	-33.19	-32.12	-32.48	-32.51	-32.64	-31.68	-32.24	-32.45	-32.45	-32.85	-32.45	-33.62	-34.48	-35.24
Reference gain (dBi)	10	10.4	10.6	12.3	12.5	13.3	13.3	13.2	13.1	13	13.2	12.4	11.8	11.1
Factor(theta) (dB)	43.75	44.04	43.51	44.51	44.95	45.63	45.87	46.14	45.88	46.35	46.11	46.21	46.34	46.74
Factor(phi) (dB)	43.19	42.52	43.08	44.81	45.14	44.98	45.54	45.65	45.55	45.85	45.65	46.02	46.28	46.34

Note:

$$G \text{ reading (dB)} = 20 \cdot \log(V_2/V_1) = 10 \cdot \log(P_2/P_1)$$

V2 is the voltage of VNA port2 is measured, V1 is the voltage of VNA port1 is the reference source.

P2 is the power of VNA port2 is measured, P1 is the power of VNA port1 is the reference source.

$$\text{Factor} = \text{gain factor} + \text{power gain conversion} = (\text{Reference antenna gain}) - (G \text{ reading})$$

6. Test Method

EUT set on multi-axis positioner and adjust EUT's physical center to measurement reference center. Measurement antenna set at phi polarization and 1.5 meter height. Port 1 of Network analyzer connect to antenna 1 of EUT. Record G value every 7.5 degree from 0 to 352.5 degree on Phi angle and 0 to 180 on theta angle of multi-axis positioner. Then set measurement antenna to theta polarization and repeat process. Repeat process to each antenna of EUT.

DG steps:

1. Each Phi and Theta polarization antenna gain are measured for all test angles.
2. Composite Phi and Theta antenna gain are computed, using formula in KDB662911 D01 d) (i) and e) (ii), for all angles.
3. Composite antenna gain are examined for all angles to determine max gain and Phi/Theta position. Max gain and phi/theta position are listed in section 7 tables.

Note: Antenna gain = G reading + factor, The factor of chapter five includes reference antenna gain factor and power gain conversion.

7. Measured Values and Calculation of Maximum Gain Positions

DG_1SS max value position

Frequency (Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	-1.12	-1.55	-2.28	0.07
Ant. 2 (dBi)	1.44	-0.19	0.05	0.12
Ant. 3 (dBi)	-2.12	-0.28	4.42	4.59
Ant. 4 (dBi)	-1.55	-2.88	-4.62	-12.94
DG [1SS] (dBi)	5.29	4.86	6.08	5.9
Polarization	Theta	Theta	Theta	Theta
$\Theta(^{\circ})$	67.5	67.5	105	105
$\Phi(^{\circ})$	330	337.5	292.5	285

Note: The DG 1SS max value position is the maximum value of section 11 table DG 1SS Result.

DG_1SS max value position calculation

Frequency (Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 [$10^{(G/20)}$]	$10^{(-1.12/20)}$	$10^{(-1.55/20)}$	$10^{(-2.28/20)}$	$10^{(0.07/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(1.44/20)}$	$10^{(-0.19/20)}$	$10^{(0.05/20)}$	$10^{(0.12/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(-2.12/20)}$	$10^{(-0.28/20)}$	$10^{(4.42/20)}$	$10^{(4.59/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(-1.55/20)}$	$10^{(-2.88/20)}$	$10^{(-4.62/20)}$	$10^{(-12.94/20)}$
Ant. 1 [$10^{(G/20)}$] value	0.879	0.837	0.769	1.008
Ant. 2 [$10^{(G/20)}$] value	1.18	0.978	1.006	1.014
Ant. 3 [$10^{(G/20)}$] value	0.783	0.968	1.663	1.696
Ant. 4 [$10^{(G/20)}$] value	0.837	0.718	0.587	0.225
Sum All Antenna [Amax]	3.679	3.501	4.026	3.944
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	5.29	4.86	6.08	5.9

Note:

Directional Gain (1SS) is the max value of every look angle. Each position value is calculated by KDB662911 D01 d) (i).

Directional gain (1SS) = $10 \cdot \log(10^{(G_{ant1}/20)} + 10^{(G_{ant2}/20)} + 10^{(G_{ant3}/20)} + 10^{(G_{ant4}/20)} + \dots)^{2/N_{ant}}$

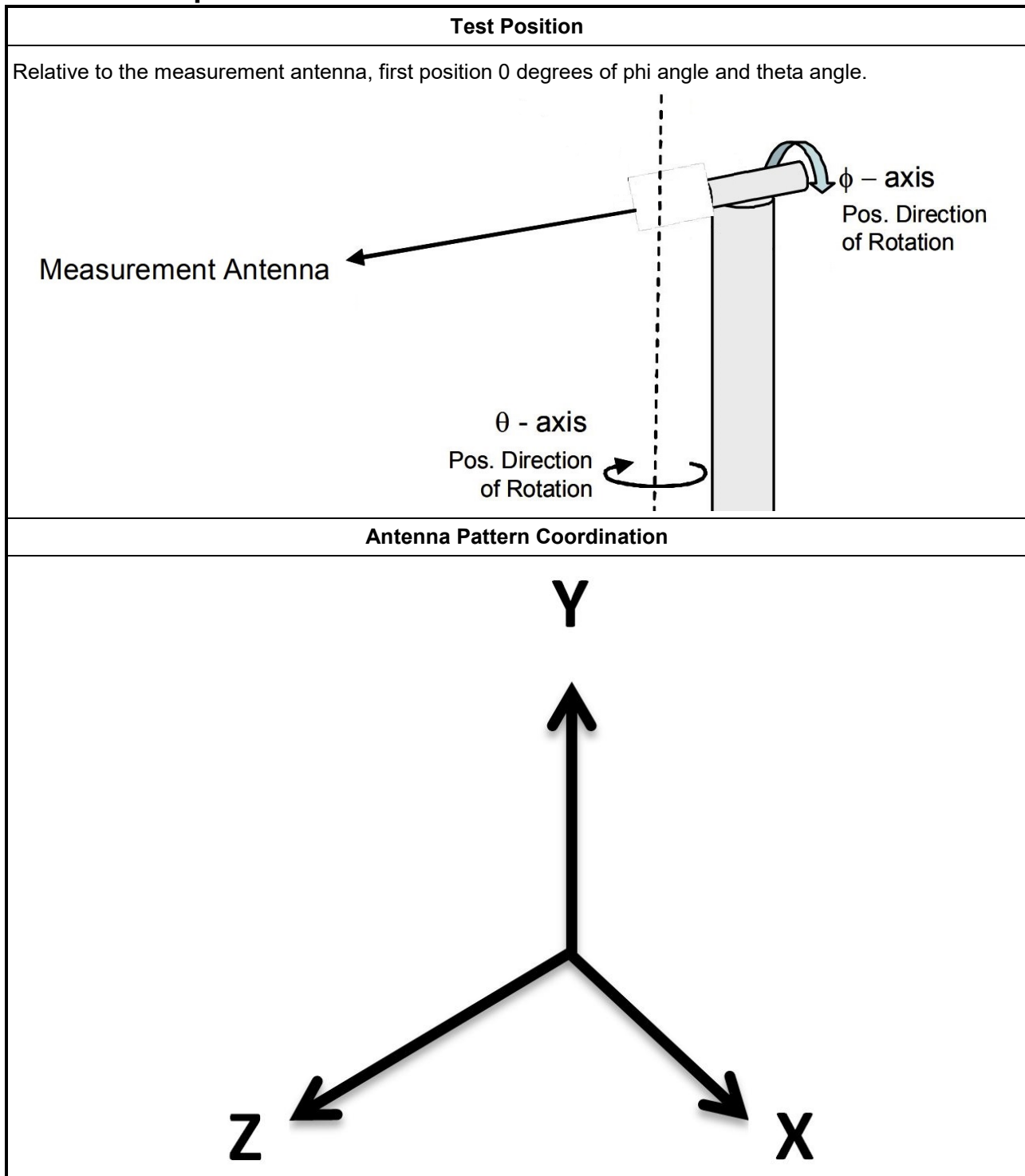
8. Summary of Test Result

Freq(Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.46	2.59	3.58	3.38
Ant. 2 Max Gain (dBi)	2.93	3.23	4.55	3.68
Ant. 3 Max Gain (dBi)	3.5	3.28	4.42	4.59
Ant. 4 Max Gain (dBi)	4.57	4.23	5.18	5.06
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/52.5/277.5	Theta/60/262.5	Theta/45/255	Theta/37.5/255
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/82.5/300	Theta/127.5/0	Theta/82.5/322.5	Theta/127.5/15
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/105/277.5	Theta/112.5/285	Theta/105/292.5	Theta/105/285
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/45/82.5	Phi/82.5/135	Phi/90/135	Phi/90/232.5
Max Gain (dBi)	4.57	4.23	5.18	5.06
DG [1SS] (dBi)	5.29	4.86	6.08	5.9
DG [2SS] (dBi)	4.57	4.23	5.18	5.06
DG [4SS] (dBi)	4.57	4.23	5.18	5.06

Note:

1. Antenna max gain is the max value of each individual antenna through all measurement angles.
2. The max gain is the max value of all antennas.
3. Directional Gain (2SS) = Directional Gain (1SS) – 3dB. If directional gain is less than max gain, use max gain as directional gain. Refer to KDB662911D01 (F) (2) (e) (ii)
4. Directional Gain (4SS) = Directional Gain (1SS) – 6dB. If directional gain is less than max gain, use max gain as directional gain. Refer to KDB662911D01 (F) (2) (e) (ii)

9. Test Setup



Note:

Photos of Test Position: Please refer to the test photos in the appendix.

**10. Test Equipment and Calibration Data**

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1543	1GHz~18GHz	May 11, 2023	May 10, 2024
Dual Polarization Horn Antenna	Sporton	S0209DP	S0209DP-001	2GHz~9GHz	N.C.R.	N.C.R.
ENA Series Network Analyzer	AGILENT	E5071C	MY46419477	100kHz~8.5GHz	Jul. 28, 2023	Jul. 27, 2024
VNA Calibration Kit	TS RF	TS85033E-F	-	DC~9GHz	N.C.R.	N.C.R.
Multi-axis positioner	Sporton	MAPS01	MAPS01-001	Theta / Phi axis	N.C.R.	N.C.R.
Test Software	SPORTON	SENSE-RDG	V1.0.8	-	N.C.R.	N.C.R.

Note: Calibration Interval of instruments listed above is one year.

NCR means Non-Calibration required.



11. Test Results

Please refer to the appendix.

Appendix A – Radiated Composite Gain of 5GHz.....	Page 14
Appendix B – Antenna Pattern of 5GHz.....	Page 25
Appendix C – Test Photos.....	Page 31



-

Freq(Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.46	2.59	3.58	3.38
Ant. 2 Max Gain (dBi)	2.93	3.23	4.55	3.68
Ant. 3 Max Gain (dBi)	3.5	3.28	4.42	4.59
Ant. 4 Max Gain (dBi)	4.57	4.23	5.18	5.06
Ant. 1 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/52.5/277.5	Theta/60/262.5	Theta/45/255	Theta/37.5/255
Ant. 2 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/82.5/300	Theta/127.5/0	Theta/82.5/322.5	Theta/127.5/15
Ant. 3 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/105/277.5	Theta/112.5/285	Theta/105/292.5	Theta/105/285
Ant. 4 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Phi/45/82.5	Phi/82.5/135	Phi/90/135	Phi/90/232.5
Max Gain (dBi)	4.57	4.23	5.18	5.06
DG [1SS] (dBi)	5.29	4.86	6.08	5.9
DG [2SS] (dBi)	4.57	4.23	5.18	5.06
DG [4SS] (dBi)	4.57	4.23	5.18	5.06



Radiated Composite Gain Data

Appendix A

DG 1SS Result

Freq(Hz)	5.2GPol.	PhiL	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)	
DG(dB)	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)	
Θ(0°)	-0.6/-0.51	-0.22/-0.09	0.35/-0.07	0.3/-0.09	-0.84/-1.24	-0.20/-2.43	-2.79/-3.35	-3.46/-3.19	-2.82/-1.86	-0.79/-0.25	0.68/-0.07	1.16/-1.15	1.35/-1.72	2.15/-2.41	2.23/-1.88	1.14/-0.22	0.78/-0.13	0.26/-0.53	-0.99/-1.84	-2.34/-2.88	-2.71/-2.52	-2.19/-1.5	-0.81/-0.71	-0.81/-0.77	-1.22/-1.07
Θ(7.5°)	1.06/-0.69	0.62/-0.39	-0.22/-0.91	-1.55/-2.02	2.39/-2.8	3.59/-4.35	-4.38/-4.24	-3.53/-3.22	-2.54/-2.11	-1.75/-1.38	-1.02/-0.88	-0.92/-0.43	0.28/-0.85	1.32/-1.37	1.35/-1.21	1.10/-7.5	0.08/-0.68	1.42/-2.17	-2.63/-3.21	-3.33/-3	-2.92/-2.22	-1.39/-0.66	0.01/-0.88	1.31/-21	
Θ(15°)	1.11/-0.05	-0.69/-1.3	-1.93/-3.27	-3.03/-2.92	-2.21/-1.37	-1.12/-1.44	-1.93/-2.68	-2.83/-2.75	-2.75/-2.1	-1.67/-1.55	-1.3/-1.49	-2.11/-2.12	-1.23/-0.15	1.12/-1.78	2.32/-4.7	2.14/-1.36	0.78/-0.26	-0.26/-0.53	-0.99/-1.84	-2.18/-2.09	-1.6/-0.79	-0.24/-0.23	0.57/-1.3	1.87/-1.89	
Θ(22.5°)	1.23/-0.18	-1.42/-2.41	-3.29/-3.33	-3.27/-2.99	-2.03/-1.22	-0.32/-0.34	-1.54/-3.02	-4.16/-3.32	-2.34/-0.74	-0.3/-0.32	-0.69/-1.14	-1.91/-3.02	-2.28/-0.52	0.69/-1.8	2.22/-2.22	1.03/-0.07	0.09/-0.08	-0.9/-2.5	-3.19/-2.19	-2.71/-3.19	-1.25/-2.11	-1.13/-1.97	2.23/-1.98		
Θ(30°)	-3.17/-2.59	-2.82/-2.92	-3.12/-2.55	-2.33/-2.79	-2.58/-2.58	-2.57/-2.62	-2.79/-3.28	-4.57/-4.41	-3.48/-1.81	-0.25/-0.32	0.04/-0.86	-2.18/-3.45	-2.33/-0.83	0.14/-0.5	0.47/-0.02	-0.19/-0.37	0.41/-0.26	0.16/-0.69	0.58/-0.3	-1.48/-2.12	-2.16/-2.27	-2.88/-2.69	-3.18/-3.34	-2.98/-2.84	
Θ(37.5°)	-1.51/-0.76	-0.4/-0.85	-1.38/-2.62	-3.25/-3.57	-3.18/-3.19	-1.91/-0.58	0.52/-0.1	-2.38/-5.56	-4.91/-2.42	-1.09/-0.56	-0.37/-0.37	-0.67/-1.66	-2.08/-0.67	-0.02/-0.01	-1.15/-0.94	0.07/-0.97	1.39/-1.33	1.46/-1	0.69/-1.02	1.08/-0.71	0.78/-0.41	-0.27/-0.54	-0.86/-1.45	-2.61/-2.58	
Θ(45°)	-2.99/-2.35	-1.56/-1.88	-3.79/-3.87	-2.73/-1.59	-0.43/-0.56	2.23/-0.6	2.43/-1.78	1.37/-0.21	-2.43/-4.57	-3.71/-2.68	-2.48/-4.4	1.59/-0.84	-2.64/-2.98	-1.84/-1.94	-1.95/-1.55	0.31/-1.03	0.65/-1.21	1.18/-1.44	0.91/-0.66	-0.67/-0.87	1.71/-1.34	0.71/-0.52	-2.29/-3.63	-3.52/-3.65	
Θ(52.5°)	-1.93/-0.32	-0.71/-1.11	-2.14/-3.87	-2.56/-0.27	0.75/-1.08	0.77/-0.05	0.71/-62	1.97/-1.03	-0.42/-0.84	-1.62/-1.25	-1.43/-0.02	1.72/-0.65	-1.69/-3.24	-2.52/-2.67	-3.38/-3.2	-2.55/-2.33	-0.97/-0.02	0.72/-0.29	-1.03/-1.23	-1.2/-1.27	-1.59/-1.08	-0.43/-0.14	1.26/-1.15	-1.24/-2.72	
Θ(60°)	-2.65/-1.76	-2.37/-2.22	-1.16/-1.02	-1.51/-2.02	-2.84/-2.21	-1.82/-1.83	-0.79/-0.58	-0.84/-0.25	0.49/-0.58	-0.6/-1.87	-1.41/-0.33	0.83/-0.4	-2.05/-4.46	-4.18/-4.16	-4.23/-3.49	-0.94/-0.66	0.95/-0.93	-1.52/-1.6	-1.06/-1.83	-1.22/-0.64	-0.76/-0.33	0.64/-0.9	-3.22/-4.28		
Θ(67.5°)	-2.68/-3.94	-1.78/-1.22	-1.96/-3.11	-4.85/-5.62	-5.01/-3.46	-1.76/-1.25	-1.82/-3.1	-3.9/-2.35	-0.69/-0.86	-0.49/-0.09	-0.93/-1.54	-0.49/-0.64	-2.74/-5.87	-6.92/-6.98	-5.57/-3.22	-1.92/-3.17	-2.5/-2.04	-1.81/-2.19	-2.59/-5.16	-5.05/-3.33	-1.55/-1.39	-1.85/-3.19	-3.43/-4.24	-4.93/-3.59	
Θ(75°)	-1.71/-0.78	0.35/-0.69	-0.62/-2.77	-4.72/-4.74	-3.38/-2.76	-2.51/-2.02	-0.98/-1.04	-2.82/-5.64	-2.77/-0.25	-0.39/-0.87	-1.3/-1.61	-1.47/-1.33	-1.43/-1.79	-1.94/-3.19	-3.85/-5.08	-6.02/-4.93	-4.76/-4.44	-3.03/-3.95	-7.71/-7.12	-3.65/-2.83	-3.3/-4.01	-4.29/-4.68	-4.06/-4.03	-7.33/-5.53	
Θ(82.5°)	-9.4/-1.8	-3.12/-2.14	-1.36/-2.26	-5.43/-5.44	-1.26/-0.74	0.98/-0.24	0.39/-0.31	-1.3/-3.65	-4.32/-1.4	-1.33/-1.37	-1.59/-2.25	-2.43/-2.28	-2.68/-3.5	-3.94/-5.79	-7.03/-7.86	-5.24/-4.46	-4.99/-5.4	-4.78/-4.76	-5.8/-3.64	-2.33/-0.8	-1.98/-5.27	-7.86/-5.66	-4.32/-6.04	-9.53/-6.37	
Θ(90°)	-6.71/-4.73	-2.32/-2.17	-3.32/-4.84	-4.14/-1.93	0.13/-0.58	0.19/-0.38	0.15/-1.21	0.59/-1.7	-6.28/-4.76	-2.3/-2.26	-3.01/-2.16	-2.93/-3.6	-4.6/-5.08	-3.04/-3.94	-5.71/-7.34	-7.42/-7.43	-5.25/-2.75	-0.96/-0.9	-1.67/-2.54	-1.19/-0.92	-2.05/-3.8	-7.15/-3.63	-3.99/-5.64	-5.42/-5.89	
Θ(97.5°)	-8.35/-8.12	-4.42/-5	-2.19/-3.21	-3.07/-1.16	0.25/-0.91	1.16/-0.02	0.13/-1.15	0.84/-1.17	-3.96/-7.19	-5.32/-4.79	-4.91/-5.86	-6.11/-2.84	-4/-2.69	-4.15/-3.46	-4.09/-5.12	-6.18/-1.73	-1.07/-1.34	-0.72/-0.17	-1.94/-0.71	-0.86/-0.84	-3.44/-3.57	-3.14/-3.17	-3.3/-6.09	-6.31/-5.42	
Θ(105°)	-7.74/-6.39	-3.47/-3.85	-3.19/-3.93	-5.75/-1.49	0.69/-1.67	0.70/-0.58	-0.46/-0.43	-0.93/-0.56	-2.71/-6.92	-4.66/-4.86	-6.23/-5.15	-4.4/-4.05	-2.81/-5.76	-5.94/-6.15	-4.84/-3.53	-4.14/-2.5	-1.81/-2.39	-0.47/-0.97	1.30/-49	-2.04/-1.89	-3.99/-4.98	-1.82/-2.34	-7.57/-4.85	-5.42/-5.89	
Θ(112.5°)	-7.91/-6.61	-3.23/-4.23	-4.14/-1.59	-2.81/-1.88	-0.69/-0.02	0.12/-0.07	-0.02/-0.37	-0.39/-1.57	-0.33/-6.68	-7.97/-4.88	-6.21/-7.62	-3.64/-1.88	-2.61/-5.48	-4.55/-3.72	-3.86/-4.98	-3.15/-3.94	0.09/-0.89	-1.68/-0.93	-2.35/-2.9	-1.29/-3.43	-1.81/-2.24	-3.22/-2.41	-2.58/-4.39	-2.53/-5.3	
Θ(120°)	-9.26/-5.29	-5.23/-7.69	-5.4/-3.85	-2.41/-2.34	-0.25/-0.7	1.16/-0.97	0.48/-0.06	-0.11/-0.56	-0.25/-0.96	-0.52/-3.44	-5.38/-7.97	-6.38/-7.48	-4.35/-1.51	-4.67/-2.04	-1.34/-2.76	-1.74/-0.47	0.09/-0.74	-0.18/-4.09	-2.57/-1.07	-2.19/-1.86	-6.73/-6.57	-6.02/-7.27	-8.6/-5.61	-4.05/-7.96	
Θ(127.5°)	-7.72/-4.54	-3.88/-2.93	-2.1/-2.7	-2.52/-2.46	-1.71/-1.78	-3.2/-2.24	-0.89/-1.45	-2.33/-2.02	-1.92/-0.48	0.37/-0.78	-2.79/-3.72	-4.23/-1.08	-1.57/-1.17	-5.23/-5.45	-0.19/-3.6	-3.81/-2.02	-2.29/-1.35	-0.16/-2.99	-8.12/-4.11	-3.13/-3.56	-3.9/-7.19	-8.12/-6.57	-6.48/-5.52	-5.49/-6.64	
Θ(135°)	-2.67/-0.84	-1.26/-1.4	-0.63/-0.71	-1.17/-0.85	-0.37/-0.06	-0.73/-3.06	-4.11/-2.82	-3.47/-3.24	-1.23/-0.58	0.22/-0.09	-3.03/-5.85	-6.88/-4.52	-3.38/-5.47	-3.91/-5	-2.63/-3.5	0.51/-0.51	-0.29/-1.49	-4.3/-6.82	-4.59/-5.12	-6.63/-2.56	-2.06/-2.87	-1.07/-2.06	-5.52/-5.62		
Θ(142.5°)	-6.56/-3.08	1.46/-1.97	0.91/-0.78	-1.69/-2.02	-1.91/-1.95	-2.25/-2.26	-3.14/-4.77	-5.48/-6.41	-6.82/-5.32	-5.06/-7.44	-4.76/-4.69	-2.98/-0.91	-2.03/-3.35	-3.75/-4.02	-0.23/-3.4	-2.28/-0.09	0.68/-0.94	-3.28/-2.66	-3.54/-3.21	-2.64/-1.8	-2.37/-3.76	-2.01/-4.79	-5.62/-4.97	-7.42/-4.02	
Θ(150°)	-2.66/-4.57	-4.19/-3.97	-3.99/-3.95	-3.13/-1.73	-0.6/-0.59	-1.06/-1.36	-1.26/-1.16	-1.14/-1.54	-2.39/-3.37	-3.25/-2.99	-4.73/-6.03	-3.43/-1.04	-3.35/-5.79	-3.77/-3.83	-6.09/-6.23	-2.58/-2.66	-1.54/-1.4	-0.38/-0.06	-0.65/-2.44	-5.59/-4.94	-2.61/-1.87	-1.42/-1.27	-4.07/-5.57	-1.93/-0.88	
Θ(157.5°)	-2.84/-1.3	-0.55/-0.91	-1.89/-1.82	-1.16/-0.05	0.28/-0.15	-1.23/-1.79	-1.6/-1.17	-1.26/-1.77	-1.89/-1.87	-2.66/-5.02	-8.72/-7.56	-4.82/-3.03	-2.52/-2.63	-3.78/-6.57	-7.03/-4.17	-3.45/-6.06	-8.97/-8.17	-5.51/-3.3	-2.95/-4.56	-6.81/-7.54	-3.66/-2.37	-2.88/-3.93	-4.85/-4.47	-4.45/-4.07	
Θ(165°)	0.05/-0.15	-0.37/-1.19	-1.59/-2.23	-3.04/-3.76	-3.88/-2.99	-2.39/-2.05	-2.01/-1.63	-1.44/-1.8	-2.67/-4.25	-5.74/-6.47	-5.59/-4.01	-2.74/-1.93	-2.26/-1.73	-3.52/-3.56	-4.11/-5.09	-6.77/-8.61	-9.42/-6.36	-3.65/-2.18	-1.92/-2.63	-3.46/-3.96	-3.21/-2.26	-2.11/-2.81	-2.53/-1.55	-0.57/-0.44	
Θ(172.5°)	-4.57/-4.43	-3.86/-2.56	-1.57/-1.26	-0.99/-0.88	-1.12/-1.69	-2.39/-3.07	-3.73/-4.01	-4.4/-4.51	-4.44/-4.57	-4.42/-4.31	-3.59/-2.79	-2.43/-2.53	-2.68/-2.4	-2.27/-2.4	-2.86/-3.91	-4.19/-4.12	-3.69/-3.55	-3.27/-3.14	-3.47/-4.22	-5.34/-7.11	-7.65/-6.34	-5.37/-4.8	-4.37/-4.13	-3.65/-4.04	
Θ(180°)	-3.67/-3.92	-3.13/-1.87	-1.13/-1.51	-2.57/-3.8	-4.13/-0.45	-4.05/-4.34	-5.61/-6.5	-6.4/-6.32	-5.99/-5.75	-5.31/-4.39	-3.71/-3.48	-3.56/-3.62	-3.57/-2.82	-2.18/-2.03	-2.08/-2.15	-2.11/-2.57	-3.93/-5.7	-7.15/-8.26	-8.47/-8.84	-9.68/-10.95	-10.94/-10.54	-8.7/-6.51	-5.31/-4.66	-4.15/-3.95	
Freq(Hz)	5.2GPol.	ThetaL	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)	
Θ(0°)	-4.21/-4.24	-4.26/-3.61	-2.86/-2.49	-2.15/-1.59	-1.49/-0.99	-0.31/-0.18	0.45/-0.82	0.32/-0.35	-0.19/-0.68	-1.28/-1.85	-2.33/-3.06	-3.69/-4.14	-4.63/-3.75	-2.85/-2.12	-1.69/-1.15	-0.79/-0.19	0.05/-0.08	-0.22/-0.27	-0.3/-0.65	-0.82/-1.22	-1.69/-1.9	-2.06/-2.81	-3.42/-4.13		
Θ(7.5°)	-4.59/-4.62	-3.77/-3.01	-2.13/-1.53	-0.87/-0.65	-0.86/-1.18	-1.48/-1.77	-2.33/-2.82	-2.74/-2.31	-1.89/-1.81	-1.97/-2.2	-2.65/-3.05	-4.38/-4.21	-4.84/-4.4	-3.95/-3.43	-3.06/-2.38	-1.59/-1.22	-1.25/-0.44	0.25/-0.75	0.98/-1.03	1.15/-1.04	0.95/-0.63	0.1/-0.44	-0.95/-1.86	-3.4/-2.4	
Θ(15°)	-4.71/-3.21	-2.26/-1.69	-1.85/-2.13	-2.16/-2.21	-2.69/-3	-2.71/-1.98	-1.39/-1.17	-1.33/-1.5	-2.01/-2.53	-2.9/-3.19	-3.4/-3.83	-4.39/-4.43	-4.59/-3.46	-3.59/-3.08	-2.51/-2.18	-1.34/-0.41	0.48/-0.87	0.95/-1.31	1.82/-1.92	1.88/-1.71	1.49/-1	0.22/-0.99	-2.5/-4	-5.14/-5.86	
Θ(22.5°)	-1.18/-1.27	-1.43/-1.92	-2.42/-3.95	-3.69/-3.96	-4.12/-3.95	-4.24/-4.09	-3.63/-3.56	-3.49/-3.25	-2.95/-3.23	-3.42/-4.23	-1.81/-2.19	-3.34/-3.93	-3.95/-3.88	-4/-4.17	-4.18/-3.21	-1.96/-1.35	-0.62/-0.29	1.22/-11	2.52/-6.68	2.38/-1.66	1.13/-0.85	0.35/-0.53	-1.61/-2.12	-1.72/-1.28	
Θ(30°)	-1.72/-1.28	-1.01/-1.89	-4.16/-7.22	-6.67/-3.72	-2.33/-1.36	-0.89/-0.92	-1.76/-2.55	-3.34/-4.01	-3.96/-3.37	-2.81/-1.91	-1.21/-0.87	-0.54/-0.78	-1.31/-1.3	-1.0/-93	-0.99/-1.01	0.29/-0.35	-0.21/-0.51	0.34/-1.94	3.09/-3.56	3.47/-7.2	1.92/-2.4	0.23/-0.75	-1.64/-1.98		
Θ(37.5°)	-0.47/-0.38	-0.26/-0.58	-2.14/-4.23	-3.11/-0.68	-0.01/-0.41	-1.19/-1.74	-1.89/-2.53	-2.91/-2.3	-1.53/-1.42	-1.71/-1.16	-0.37/-0.39	0.41/-0.97	-2.69/-3.09	-2.01/-0.96	-0.86/-0.03	1.89/-2.5	1.98/-1.5	-1.29/-0.2	1.32/-2	2.52/-3.08	3.63/-4.5	3.08/-3.2	2.99/-1.69	0.34/-0.39	
Θ(45°)	1.13/-0.41	-0.87/-1.55	-1.89/-1.52	-1.31/-0.9	-0.67/-0.94	-1.81/-3.66	-4/-3.																		



Radiated Composite Gain Data

Appendix A

Θ(22.5°)	1.220.16	0.41/-0.18	-0.25/-1.89	-4.17/-3.58	-1.71/-0.41	0.47/0.73	0.34/-0.17	-0.67/-0.78	-0.95/-1.37	-1.79/-1.08	-1.05/-1.53	-2.23/-2.49	-2.24/-2.38	-2.15/-0.84	0.20/0.41	0.63/-1.28	2.06/2.19	1.95/-1.88	1.95/-1.92	1.51/1	0.35/0.49	1.09/-1.49	1.68/-1.6	1.41/-1.61
Θ(30°)	-0.49/-0.62	-1.25/-0.85	-0.59/-0.04	-0.13/-0.54	-0.26/0.2	0.39/0.1	0.33/-1.96	3.2/1	2.71/2.26	1.61/-1.28	0.52/-1.04	-2.88/-3.48	-2.45/-1.3	-1.02/-0.3	1/1.2	1.08/-1.56	1.42/0.94	-0.11/-1.56	-2.27/-1.6	-1.38/-1.65	-2.33/-2.88	-1.85/-0.88	-0.64/-0.34	-0.16/-0.17
Θ(37.5°)	-1.11/-0.66	-0.08/-1.97	2.79/2.12	0.00/-2.67	-3.29/-3.52	-3.01/-2.16	-0.43/-1.37	2.25/-1.61	0.67/2.06	3.08/2.89	1.71/-0.23	-2.12/-3.79	-1.66/-1.05	-1.87/0.14	0.7/-0.6	-2.79/-2.49	-1.12/-1.28	-2.31/-2.1	-2.07/-1.48	-1.48/-1.32	-1.53/-1.76	-2.56/-2.61	-2.08/-1.34	-0.24/-0.74
Θ(45°)	-3.57/-6.34	-5.58/-1.46	-0.47/-1.97	-3.71/-4.38	-2.29/-0.39	1.55/2.26	2.22/-1.76	0.73/-1.66	-3.2/-1.71	0.58/2.23	2.40/93	-0.93/-3.95	-4.06/-2.76	-0.91/-1.11	-2.24/-4.08	-5.42/-3.94	-0.60/7.1	1.04/0.13	0.18/-1.15	1.34/0.49	0.01/-1.35	-1.31/-2.99	-4.97/-3.93	-2.55/-1.57
Θ(52.5°)	-2.51/-4.79	-2.63/-2.46	-2.28/-3.02	-4.57/-3.6	-1.40/9	2.573/0.7	3.88/3.81	2.60/98	-0.96/-3.97	-2.88/-0.41	0.59/0.85	-0.22/-1.6	-1.74/-0.62	-0.94/-3.03	-4.96/-3.48	-1.05/-1.23	1.12/-1.08	0.73/-1.59	1.64/1	1.19/-1.78	2.35/2.17	1.54/0.13	-2.33/-1.63	-0.39/-0.88
Θ(60°)	-3.19/-4.45	-1.99/-1.98	-0.32/-1.3	-3.75/-3.75	-4.89/-4.79	-3.16/-1.51	-1.28/-1.46	-0.83/0.05	-0.75/-1.87	-1.44/-0.87	-0.33/0.96	2.24/-1.88	-2.07/-4.71	-3.46/-4.17	-5.98/-3.43	-1.85/-1.04	0.31/2	2.23/-1.52	1.70/36	-0.52/0.25	1.16/-1.11	0.58/-0.53	-0.60/0.53	1.52/0.32
Θ(67.5°)	-3.05/-6.88	-5.27/-1.56	0.36/-0.58	-4.08/-3.95	-2.08/-2.03	-2.56/-2.32	-3.52/-2.4	0.16/-1.4	2.16/-1.24	0.29/-0.91	-1.84/-1.59	-0.16/-0.31	-1.11/-1.98	-1.56/-2.6	-3/-2.82	-3.85/-0.96	0.36/0.23	-0.04/0.48	-0.99/-0.94	-1.74/-3.35	-0.72/0.81	1.03/0.57	-1.98/-2.25	-0.02/-0.42
Θ(75°)	-6.56/-5.3	-4.48/-2.97	-0.37/-0.51	-8.58/-9.86	-5.68/-4.52	-3.36/-1.92	-2.15/-3.01	-3.58/-1.12	1.72/-1.39	0.23/-0.54	-0.92/-1.49	-0.79/-0.49	-1.87/-2.64	-2.5/-2.13	-3.29/-3.21	-1.38/-1.39	0.51/-1.56	-0.37/-2.41	-3.15/-2.24	-3.5/-7.34	-3.59/-1.44	-1.37/-2.49	-2.24/-2.42	-3.44/-5.47
Θ(82.5°)	-3.35/-5.2	-5.59/-3.14	-3.32/-5.73	-4.44/-1.16	-0.67/-2.24	-1.68/-2.51	-2.55/-2.72	-3.95/-2.04	1.22/-1.8	1.4/-1.49	-2.18/-1.89	-0.50/-4	-0.34/-1.48	-2.19/-1.86	-1.44/-2.39	-1.32/-0.28	0.17/-1.44	-0.74/-1.97	-4.71/-2.87	-3.27/-7.7	-5.34/-2.55	-1.61/-3.14	-5.95/-2.02	-0.5/-0.74
Θ(90°)	-7.88/-7.28	-4.11/-1.5	-2.71/-4.45	-5.37/-1.72	-0.53/-1.05	-1.9/-0.51	0.17/-0.21	-2.05/-5.89	-1.71/-1.7	2.13/0.93	-1.51/-2.27	-1.99/-1.96	-0.76/-1.02	-1.44/-1.72	-5.65/-4.45	-2.66/0.41	0.51/-3.61	-2.99/-1.9	-4.95/-5.43	-5.05/-2.84	-3/-1.3	-2.38/-4.03	-1.63/-0.78	-3.23/-4.75
Θ(97.5°)	-5.99/-8.38	-5.25/-1.63	-3.38/-5.38	-4.16/-2.49	-1.1/-1.23	-1.26/-0.31	0.64/-1.16	0.55/-1.15	-3.45/-1.7	1.64/0.15	-0.22/-1.47	-3.03/-1.98	-0.32/-0.8	-1.18/-3.56	-6.19/-4.32	-3.21/-1.2	-3.6/-3.02	-0.9/-0.55	-2.56/-1.14	-2.31/-5.23	-4.62/-2.69	-3.77/-2.34	-2.23/-1.64	0.25/-2.33
Θ(105°)	-3.54/-4.43	-1.69/-2.98	-3.89/-4.64	-3.51/-0.6	0.42/-0.72	-0.08/0.47	1.47/2.92	2.62/-0.59	-6.59/-7.74	-2.54/-3.25	-3.55/-2.98	-4.56/-2.6	-2.38/-2.45	-3.85/-3.36	-4.56/-6.89	-7.02/-6.94	-3.81/-1.35	0.28/0.35	-0.13/-0.11	-0.51/-0.7	-0.93/-1.91	-4.23/-7.9	-6.76/-3.94	-2.31/-2.59
Θ(112.5°)	-2.28/-6.35	-5.76/-4.74	-2.71/-3.61	-3.83/-1.31	-1.15/-1.33	-0.18/-1.3	2.37/-1.68	-0.15/-2.81	-4.32/-1.84	-1.34/-1.95	-2.82/-2.43	-4.29/-3.51	-3.65/-3.51	-2.43/-5.01	-4.29/-4.03	-3.73/-4.32	-2.74/-1.13	-1.18/0.63	-1.99/-0.75	-0.21/-0.92	-0.53/-0.68	-3.29/-2.22	-3.05/-3.27	-0.71/0.55
Θ(120°)	-4.29/-5.2	-1.17/-3.29	-2.9/-4.98	-4.94/-1.07	0.20/0.5	1.572/-2.9	1.95/-1.61	0.17/-2.45	-3.23/-2.59	-2.66/-2.73	-3.76/-3.14	-2.29/-2.08	-4.07/-1.99	-1.97/0.19	-0.27/-3	-0.69/-3.74	-1.53/-0.91	2.46/-0.72	-2.3/-6.43	-6.13/-7.8	-8.12/-6.7	-5.51/-2.49	-1.72/-4.52	
Θ(127.5°)	-4.41/-1.76	-1.61/-1.65	-2.01/-2.99	-2.01/-3.28	-3.55/-2.41	-2.22/-0.47	0.03/0.25	-0.91/-2.38	-0.58/-1.01	0.78/-1.44	-2.46/-3.36	-0.21/-1.06	1.03/0.61	-3.73/-2.21	-2.22/-2.37	-1.88/-1.26	-0.68/0.04	1.09/-1.69	-6.34/-0.86	-3.66/-1.58	-6.03/-8.78	-9.17/-8.62	-9.17/-7.53	-7.66/-6.24
Θ(135°)	-3.31/-1.54	2.03/-1.9	0.89/-1.12	-1.56/-1.81	-2.7/-6.91	-5.74/-3.92	-1.96/-1.46	-1.98/-3.55	-2.49/-0.95	-0.92/-1.48	-2.94/-2.6	-3.07/-2.21	-0.29/-1.3	-5.89/-1.16	0.98/-1.28	-2.32/3.45	2.44/-1.66	-2.41/-1.6	-5.22/-4.92	-3.14/-3.46	-1.79/-1.06	-1.22/-0.57	-0.25/-1.73	-5.5/-2.73
Θ(142.5°)	-3.88/-1.58	0.71/-0.03	-0.25/-2.13	-3.2/-0.21	-0.87/-0.98	-1.04/-1.6	-3.33/-4	-5.7/-6.81	-6.76/-4.76	-2.23/-3.59	-4.78/-3.64	-1.66/-0.1	-2.27/-2.26	-0.66/0.36	1.02/0.54	-2.16/0.98	1.59/2.45	-4.69/-3.26	-3.32/-1.32	-3.1/-1.81	-2.74/-1.57	-2.44/-9.31	-4/-2.72	-1.72/-4.52
Θ(150°)	-3.84/-2.03	-1.86/-1.05	-5.56/-2.7	-1.39/0.86	0.29/-1.22	-1.41/-0.76	-0.87/-1.51	-2.84/-4.24	-3.72/-3.65	-4.4/-3.78	-4.09/-5.33	-0.88/-3.34	-3.89/-4.3	-4.39/-2.6	-3.17/-4.45	-1.55/0.44	0.48/-1.05	-2.28/-0.77	-0.97/-1.87	-3.59/-2.49	-0.61/-4.14	-2.37/-2.54	-7.53/-4.38	-1.85/-3.72
Θ(157.5°)	-1.12/0.29	0.68/0.17	-0.46/0.42	-0.67/0.16	2.22/-1.94	1.36/0.2	-1.24/-2.41	-3.19/-3.72	-4.5/-4.85	-4.83/-5.36	-6.54/-4.09	-1.91/-0.88	-0.68/-2.02	-4.99/-7.95	-4.29/-0.29	0.1/-1.83	-1.63/-2.14	-3.08/-2.2	-2.54/-5	-4.74/-1.85	-1.12/-1.43	-1.82/-2.14	-3.54/-3.81	-3.88/-3.2
Θ(165°)	0.10/33	-0.15/-0.33	-0.27/-1.21	-1.94/-2.6	-3.19/-3.77	-4.29/-4.53	-4.25/-3.93	-3.87/-4.38	-4.98/-5.58	-6.5/-6.66	-4.08/-1.52	-0.01/-1.1	1.42/-2.1	0.61/-0.62	-3.22/-6.17	-8.81/-9.42	-8.18/-5.72	-3.47/-2.92	-4.22/-5.91	-5.54/-3.17	-1.77/-2.14	-3.48/-3.85	-2.42/-0.75	-0.07/-0.11
Θ(172.5°)	-1.33/0.11	0.64/-0.06	0.3/-0.03	-0.21/-0.21	-0.5/-0.96	-1.08/-1.3	-1.93/-2.13	-2.45/-3.48	-4.77/-6.35	-7.02/-7.05	-6.18/-6.25	-3.35/-1.88	-0.77/-0.49	-0.56/-0.79	-1.59/-2.7	-2.87/-3.3	-3.84/-4.07	-4.1/-4.54	-4.94/-4.84	-4.27/-1.49	-3.87/-4.46	-4.46/-4.46	-4.87/-4.2	-3.21/-3.68
Θ(180°)	-2.75/-1.97	-1.22/-1.13	-0.78/-0.39	-0.69/-1.3	-1.81/-2.07	-2.12/-2.79	-3.98/-4.42	-5/-5.38	-5.56/-5.12	-4.47/-3.71	-3.54/-3.24	-2.68/-1.92	-1.29/-0.9	-0.98/-1.5	-1.78/-1.74	-1.95/-2.82	-4.66/-6.21	-7.61/-7.94	-7.41/-6.68	-6.29/-7.4	-8.73/-8.89	-7.91/-6.08	-3.99/-3.28	-3.07/-2.98
Freq(Hz)	5.66GPol.	Theta/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	0.84/0.77	0.81/1	1.27/-1.2	1.37/0.87	0.35/0.29	-0.06/-0.18	-0.20/2.2	0.71/-1	1.34/-1.56	1.44/-1.38	1.25/-1.1	1.15/-1.15	0.99/0.8	0.49/0.44	0.25/0.12	0.05/-0.25	-0.74/-1.13	-1.45/-1.13	-0.82/-0.66	-0.03/9	0.58/0.71	0.91/-0.9	1.31/-26	1.14/-1
Θ(7.5°)	0.64/0.16	0.24/0.53	0.42/0.49	0.36/-0.19	-0.68/-1.36	-1.96/-2.23	-1.77/-1.37	-0.79/-0.2	0.55/0.65	0.85/-1	0.98/-0.05	1.18/-1.37	1.45/-1.8	1.94/-1.97	1.82/-1.74	1.64/-1.72	1.61/-52	1.48/-1.23	0.88/0.45	0.54/-1.08	1.44/-1.47	1.95/-22	2.11/-97	1.71/-28
Θ(15°)	0.31/0.4	0.91/-1.7	1.33/-1.27	1.01/0.69	0.22/-0.25	-0.57/-1.1	-0.86/-0.36	0.18/0.71	1.21/-54	2.01/-2.22	2.09/-1.64	0.95/0.69	0.82/-1.35	1.94/-2.38	2.44/-1.99	1.28/0.77	0.76/-1.05	1.51/-1.57	1.22/0.63	0.23/0.23	0.67/-1.04	1.61/-203	2.07/-203	1.62/-107
Θ(22.5°)	-0.3/-0.82	-0.23/-0.58	1.08/-0.02	0.68/-0.05	-0.71/-1.27	-1.48/-1.3	-0.95/-0.5	0.31/-14	1.94/-2.61	3.26/3.68	3.69/-3.2	2.11/0.66	0.31/-1.35	2.53/-37	3.74/-34	1.88/-65	0.70/-37	0.61/0.95	1.11/0.87	0.64/-0.78	1.04/-143	1.96/-2	2.43/-233	1.45/0.91
Θ(30°)	0.78/0.41	0.22/0.36	0.09/-1.04	0.14/-0.8	-2.17/-3.6	-2.94/-3.33	-4.59/-4.61	-2.91/-1.19	0.14/-1.31	2.44/-23	3.58/-29	2.43/-1.16	0.78/0.95	1.54/-2.68	3.57/-49	2.50/-79	0.41/-1.58	2.35/-64	2.42/-14	1.94/-151	2.25/-164	3.13/-244	1.76/-169	1.61/-137
Θ(37.5°)	1.53/-1	0.47/-0.46	-0.72/-0.73	0.81/-0.27	0.95/-1.56	1.55/-1.25	0.14/-1.8	-3.97/-3.28	-2.04/-1.06	1.09/-2.85	3.15/-2.6	1.1/-0.4	-0.26/0.38	1.63/-2.69	3.57/-9.9	2.55/-1.36	2.02/-24	2.92/-39	4.13/-39	2.86/-2.85	3.06/-3.48	3.51/-352	3.2/-6	2.38/-2
Θ(45°)	2.65/2.45	1.91/-1.7	1.84/-1.72	2.11/-1.83	1.64/-1.53	0.91/-0.3	0.15/0.02	-0.78/-1.31	2.31/-24	1.46/0.4	0.92/-1.6	2.97/-2.96	3.64/-	3.09/-1.99	2.69/-3.5	0.98/0.98	2.07/-2.14	2.91/-3	3.42/-37	5.45/-92	5.84/-24	3.06/-31		
Θ(52.5°)	2.74/-2.79	2.48/-2.16	2.72/-39	2.39/-1.99	2/-1.82	1.38/-1.2	0.66/-0.76	1.2/-44	2.89/-245	0.89/-1.13	1.54/-1.48	0.32/-0.52	0.09/-1.83	2.71/-2.63	2.45/-43	1.56/-1.39	1.44/-1.79	2.57/-3.22	1.4/-0.15	0.76/-1.24	1.42/-94	3.94/-6	4.36/-13	3.63/-85
Θ(60°)	3.93/-54	3.36/0.43	4.84/-45	2.51/-1.88	2.38/-3.51	3.78/3.44	2.29/-79	-0.23/0.58	2.32/-2.79	2.84/-22	0.76/0.84	0.31/-0.3	-0.63/-1.6	2.46/-2.85	3.55/-3.87	4.11/-3.7	3.83/-83	4.06/-4.7	1.66/-2.18	2.89/-2.16	0.95/-2.58	4.49/-5	5.95/-1.7	3.74/-3
Θ(67.5°)	3.74/-	3.52/-91	3.84/-398	2.32/0.93	0.56/2.63	3.03/-41	2.65/0.97	0.60/-58	0.85/-2.21	3.33/-29	0.88/0.99	0.61/-0.61	-0.68/-0.25	3.27/-39	4.48/-2.3	3.23/-49	4.07/-2.49	2.73/-0.23	3.52/-2.94	2.83/-45	4.54/-92	5.84/-24	3.06/-31	
Θ(75°)	2.66/-5.3	3.11/-1.49	4.63/-26	1.45/0.76	2.05/-29	3.68/-83	3.67/-1.82	2.11/-2.66	1.92/-33	2.74/-2.73	0.98/-0.64	-0.39/-1.19	-0.31/-2.5	2.58/-0.44	4.21/-3.51	2.56/-2.96	3.44/-1.93	0.74/-1.09	1.44/-1.83	2.84/-2.39	2.41/-2.72	4.04/-4.88	5.44/-13	3.19/-98
Θ(82.5°)	3.56/-3	2.98/2.65	2.74/-3.14	3.03/-1.34	2.62/-3.34	2.56/2.62	2.91/-15	1.57/-2.45	0.62/-0.19	1.36/0.95	-1.26/-0.9	0.77/-1.24	1.01/-2.86	3.17/-2.57	3.63/-14	1.78/-14	2.51/-0.27	1.62/-0.91	1.65/-2.39	3.65/-3.98	3.23/-45	4.63/-5.14	5.41/-27	3.33/-0.2
Θ(90°)	3.76/-4.34	2.19/-2.03	1.11/-1.3	3.1																				

Gain Result

5.2GHz		5.3GHz		5.4GHz		5.5GHz		5.6GHz		5.7GHz		5.8GHz		5.9GHz		6.0GHz		6.1GHz		6.2GHz		6.3GHz		6.4GHz		6.5GHz		6.6GHz		6.7GHz		6.8GHz		6.9GHz		7.0GHz		7.1GHz		7.2GHz		7.3GHz		7.4GHz		7.5GHz		7.6GHz		7.7GHz		7.8GHz		7.9GHz		8.0GHz		8.1GHz		8.2GHz		8.3GHz		8.4GHz		8.5GHz		8.6GHz		8.7GHz		8.8GHz		8.9GHz		9.0GHz		9.1GHz		9.2GHz		9.3GHz		9.4GHz		9.5GHz		9.6GHz		9.7GHz		9.8GHz		9.9GHz		10.0GHz		10.1GHz		10.2GHz		10.3GHz		10.4GHz		10.5GHz		10.6GHz		10.7GHz		10.8GHz		10.9GHz		11.0GHz		11.1GHz		11.2GHz		11.3GHz		11.4GHz		11.5GHz		11.6GHz		11.7GHz		11.8GHz		11.9GHz		12.0GHz		12.1GHz		12.2GHz		12.3GHz		12.4GHz		12.5GHz		12.6GHz		12.7GHz		12.8GHz		12.9GHz		13.0GHz		13.1GHz		13.2GHz		13.3GHz		13.4GHz		13.5GHz		13.6GHz		13.7GHz		13.8GHz		13.9GHz		14.0GHz		14.1GHz		14.2GHz		14.3GHz		14.4GHz		14.5GHz		14.6GHz		14.7GHz		14.8GHz		14.9GHz		15.0GHz		15.1GHz		15.2GHz		15.3GHz		15.4GHz		15.5GHz		15.6GHz		15.7GHz		15.8GHz		15.9GHz		16.0GHz		16.1GHz		16.2GHz		16.3GHz		16.4GHz		16.5GHz		16.6GHz		16.7GHz		16.8GHz		16.9GHz		17.0GHz		17.1GHz		17.2GHz		17.3GHz		17.4GHz		17.5GHz		17.6GHz		17.7GHz		17.8GHz		17.9GHz		18.0GHz		18.1GHz		18.2GHz		18.3GHz		18.4GHz		18.5GHz		18.6GHz		18.7GHz		18.8GHz		18.9GHz		19.0GHz		19.1GHz		19.2GHz		19.3GHz		19.4GHz		19.5GHz		19.6GHz		19.7GHz		19.8GHz		19.9GHz		20.0GHz		20.1GHz		20.2GHz		20.3GHz		20.4GHz		20.5GHz		20.6GHz		20.7GHz		20.8GHz		20.9GHz		21.0GHz		21.1GHz		21.2GHz		21.3GHz		21.4GHz		21.5GHz		21.6GHz		21.7GHz		21.8GHz		21.9GHz		22.0GHz		22.1GHz		22.2GHz		22.3GHz		22.4GHz		22.5GHz		22.6GHz		22.7GHz		22.8GHz		22.9GHz		23.0GHz		23.1GHz		23.2GHz		23.3GHz		23.4GHz		23.5GHz		23.6GHz		23.7GHz		23.8GHz		23.9GHz		24.0GHz		24.1GHz		24.2GHz		24.3GHz		24.4GHz		24.5GHz		24.6GHz		24.7GHz		24.8GHz		24.9GHz		25.0GHz		25.1GHz		25.2GHz		25.3GHz		25.4GHz		25.5GHz		25.6GHz		25.7GHz		25.8GHz		25.9GHz		26.0GHz		26.1GHz		26.2GHz		26.3GHz		26.4GHz		26.5GHz		26.6GHz		26.7GHz		26.8GHz		26.9GHz		27.0GHz		27.1GHz		27.2GHz		27.3GHz		27.4GHz		27.5GHz		27.6GHz		27.7GHz		27.8GHz		27.9GHz		28.0GHz		28.1GHz		28.2GHz		28.3GHz		28.4GHz		28.5GHz		28.6GHz		28.7GHz		28.8GHz		28.9GHz		29.0GHz		29.1GHz		29.2GHz		29.3GHz		29.4GHz		29.5GHz		29.6GHz		29.7GHz		29.8GHz		29.9GHz		30.0GHz		30.1GHz		30.2GHz		30.3GHz		30.4GHz		30.5GHz		30.6GHz		30.7GHz		30.8GHz		30.9GHz		31.0GHz		31.1GHz		31.2GHz		31.3GHz		31.4GHz		31.5GHz		31.6GHz		31.7GHz		31.8GHz		31.9GHz		32.0GHz		32.1GHz		32.2GHz		32.3GHz		32.4GHz		32.5GHz		32.6GHz		32.7GHz		32.8GHz		32.9GHz		33.0GHz		33.1GHz		33.2GHz		33.3GHz		33.4GHz		33.5GHz		33.6GHz		33.7GHz		33.8GHz		33.9GHz		34.0GHz		34.1GHz		34.2GHz		34.3GHz		34.4GHz		34.5GHz		34.6GHz		34.7GHz		34.8GHz		34.9GHz		35.0GHz		35.1GHz		35.2GHz		35.3GHz		35.4GHz		35.5GHz		35.6GHz		35.7GHz		35.8GHz		35.9GHz		36.0GHz		36.1GHz		36.2GHz		36.3GHz		36.4GHz		36.5GHz		36.6GHz		36.7GHz		36.8GHz		36.9GHz		37.0GHz		37.1GHz		37.2GHz		37.3GHz		37.4GHz		37.5GHz		37.6GHz		37.7GHz		37.8GHz		37.9GHz		38.0GHz		38.1GHz		38.2GHz		38.3GHz		38.4GHz		38.5GHz		38.6GHz		38.7GHz		38.8GHz		38.9GHz		39.0GHz		39.1GHz		39.2GHz		39.3GHz		39.4GHz		39.5GHz		39.6GHz		39.7GHz		39.8GHz		39.9GHz		40.0GHz		40.1GHz		40.2GHz		40.3GHz		40.4GHz		40.5GHz		40.6GHz		40.7GHz		40.8GHz		40.9GHz		41.0GHz		41.1GHz		41.2GHz		41.3GHz		41.4GHz		41.5GHz		41.6GHz		41.7GHz		41.8GHz		41.9GHz		42.0GHz		42.1GHz		42.2GHz		42.3GHz		42.4GHz		42.5GHz		42.6GHz		42.7GHz		42.8GHz		42.9GHz		43.0GHz		43.1GHz		43.2GHz		43.3GHz		43.4GHz		43.5GHz		43.6GHz		43.7GHz		43.8GHz		43.9GHz		44.0GHz		44.1GHz		44.2GHz		44.3GHz		44.4GHz		44.5GHz		44.6GHz		44.7GHz		44.8GHz		44.9GHz		45.0GHz		45.1GHz		45.2GHz		45.3GHz		45.4GHz		45.5GHz		45.6GHz		45.7GHz		45.8GHz		45.9GHz		46.0GHz		46.1GHz		46.2GHz		46.3GHz		46.4GHz		46.5GHz		46.6GHz		46.7GHz		46.8GHz		46.9GHz		47.0GHz		47.1GHz		47.2GHz		47.3GHz		47.4GHz		47.5GHz		47.6GHz		47.7GHz		47.8GHz		47.9GHz		48.0GHz		48.1GHz		48.2GHz		48.3GHz		48.4GHz		48.5GHz		48.6GHz		48.7GHz		48.8GHz		48.9GHz		49.0GHz		49.1GHz		49.2GHz		49.3GHz		49.4GHz		49.5GHz		49.6GHz		49.7GHz		49.8GHz		49.9GHz		50.0GHz		50.1GHz		50.2GHz		50.3GHz		50.4GHz		50.5GHz		50.6GHz		50.7GHz		50.8GHz		50.9GHz		51.0GHz		51.1GHz		51.2GHz		51.3GHz		51.4GHz		51.5GHz		51.6GHz		51.7GHz		51.8GHz		51.9GHz		52.0GHz		52.1GHz		52.2GHz		52.3GHz		52.4GHz		52.5GHz		52.6GHz		52.7GHz		52.8GHz		52.9GHz		53.0GHz		53.1GHz		53.2GHz		53.3GHz		53.4GHz		53.5GHz		53.6GHz		53.7GHz		53.8GHz		53.9GHz		54.0GHz		54.1GHz		54.2GHz		54.3GHz		54.4GHz		54.5GHz		54.6GHz		54.7GHz		54.8GHz		54.9GHz		55.0GHz		55.1GHz		55.2GHz		55.3GHz		55.4GHz		55.5GHz		55.6GHz		55.7GHz		55.8GHz		55.9GHz		56.0GHz		56.1GHz		56.2GHz		56.3GHz		56.4GHz		56.5GHz		56.6GHz		56.7GHz		56.8GHz		56.9GHz		57.0GHz		57.1GHz		57.2GHz		57.3GHz		57.4GHz		57.5GHz		57.6GHz		57.7GHz		57.8GHz		57.9GHz		58.0GHz		58.1GHz		58.2GHz		58.3GHz		58.4GHz		58.5GHz		58.6GHz		58.7GHz		58.8GHz		58.9GHz		59.0GHz		59.1GHz		59.2GHz		59.3GHz		59.4GHz		59.5GHz		59.6GHz		59.7GHz		59.8GHz		59.9GHz		60.0GHz		60.1GHz		60.2GHz		60.3GHz		60.4GHz		60.5GHz		60.6GHz		60.7GHz		60.8GHz		60.9GHz		61.0GHz		61.1GHz		61.2GHz		61.3GHz		61.4GHz		61.5GHz		61.6GHz		61.7GHz		61.8GHz		61.9GHz		62.0GHz		62.1GHz		62.2GHz		62.3GHz		62.4GHz		62.5GHz		62.6GHz		62.7GHz		62.8GHz		62.9GHz		63.0GHz		63.1GHz		63.2GHz		63.3GHz		63.4GHz		63.5GHz		63.6GHz		63.7GHz		63.8GHz		63.9GHz		64.0GHz		64.1GHz		64.2GHz		64.3GHz		64.4GHz		64.5GHz		64.6GHz		64.7GHz		64.8GHz		64.9GHz		65.0GHz		65.1GHz		65.2GHz		65.3GHz		65.4GHz		65.5GHz		65.6GHz		65.7GHz		65.8GHz		65.9GHz		66.0GHz		66.1GHz		66.2GHz		66.3GHz		66.4GHz		66.5GHz		66.6GHz		66.7GHz		66.8GHz		66.9GHz		67.0GHz		67.1GHz		67.2GHz		67.3GHz		67.4GHz		67.5GHz		67.6GHz		67.7GHz		67.8GHz		67.9GHz		68.0GHz		68.1GHz		68.2GHz		68.3GHz		68.4GHz		68.5GHz		68.6GHz		68.7GHz		68.8GHz		68.9GHz		69.0GHz		69.1GHz		69.2GHz		69.3GHz		69.4GHz		69.5GHz		69.6GHz		69.7GHz		69.8GHz		69.9GHz		70.0GHz		70.1GHz		70.2GHz		70.3GHz		70.4GHz		70.5GHz		70.6GHz		70.7GHz		70.8GHz		70.9GHz		71.0GHz		71.1GHz		71.2GHz		71.3GHz		71.4GHz		71.5GHz		71.6GHz		71.7GHz		71.8GHz		71.9GHz		72.0GHz		72.1GHz		72.2GHz		72.3GHz		72.4GHz		72.5GHz		72.6GHz		72.7GHz		72.8GHz		72.9GHz		73.0GHz		73.1GHz		73.2GHz		73.3GHz		73.4GHz		73.5GHz		73.6GHz		73.7GHz		73.8GHz		73.9GHz		74.0GHz		74.1GHz		74.2GHz		74.3GHz		74.4GHz		74.5GHz		74.6GHz		74.7GHz		74.8GHz		74.9GHz		75.0GHz		75.1GHz		75.2GHz		75.3GHz		75.4GHz		75.5GHz		75.6GHz		75.7GHz		75.8GHz		75.9GHz		76.0GHz		76.1GHz		76.2GHz		76.3GHz		76.4GHz		76.5GHz		76.6GHz		76.7GHz		76.8GHz		76.9GHz		77.0GHz		77.1GHz		77.2GHz		77.3GHz		77.4GHz		77.5GHz		77.6GHz		77.7GHz		77.8GHz		77.9GHz		78.0GHz		78.1GHz		78.2GHz		78.3GHz		78.4GHz		78.5GHz		78.6GHz		78.7GHz		78.8GHz		78.9GHz		79.0GHz		79.1GHz		79.2GHz		79.3GHz		79.4GHz		79.5GHz		79.6GHz		79.7GHz		79.8GHz		79.9GHz		80.0GHz		80.1GHz		80.2GHz		80.3GHz		80.4GHz		80.5GHz		80.6GHz		80.7GHz		80.8GHz		80.9GHz		81.0GHz		81.1GHz		81.2GHz		81.3GHz		81.4GHz		81.5GHz		81.6GHz		81.7GHz		81.8GHz		81.9GHz		82.0GHz		82.1GHz		82.2GHz		82.3GHz		82.4GHz		82.5GHz		82.6GHz		82.7GHz		82.8GHz		82.9GHz		83.0GHz		83.1GHz		83.2GHz		83.3GHz		83.4GHz		83.5GHz		83.6GHz		83.7GHz		83.8GHz		83.9GHz		84.0GHz		84.1GHz		84.2GHz		84.3GHz		84.4GHz		84.5GHz		84.6GHz		84.7GHz		84.8GHz		84.9GHz		85.0GHz		85.1GHz		85.2GHz		85.3GHz		85.4GHz		85.5GHz		85.6GHz		85.7GHz		85.8GHz		85.9GHz		86.0GHz		86.1GHz		86.2GHz		86.3GHz		86.4GHz		86.5GHz		86.6GHz		86.7GHz		86.8GHz		86.9GHz		87.0GHz		87.1GHz		87.2GHz		87.3GHz		87.4GHz		87.5GHz		87.6GHz		87.7GHz		87.8GHz		87.9GHz		88.0GHz		88.1GHz		88.2GHz		88.3GHz		88.4GHz		88.5GHz		88.6GHz		88.7GHz		88.8GHz		88.9GHz		89.0GHz		89.1GHz		89.2GHz		89.3GHz		89.4GHz		89.5GHz		89.6GHz		89.7GHz		89.8GHz		89.9GHz		90.0GHz		90.1GHz		90.2GHz		90.3GHz		90.4GHz		90.5GHz		90.6GHz		90.7GHz		90.8GHz		90.9GHz		91.0GHz		91.1GHz		91.2GHz		91.3GHz		91.4GHz		91.5GHz		91.6GHz		91.7GHz		91.8GHz		91.9GHz		92.0GHz		92.1GHz		92.2GHz		92.3GHz		92.4GHz		92.5GHz		92.6GHz		92.7GHz		92.8GHz		92.9GHz		93.0GHz		93.1GHz		93.2GHz		93.3GHz		93.4GHz		93.5GHz		93.6GHz		93.7GHz		93.8GHz		93.9GHz		94.0GHz		94.1GHz		94.2GHz		94.3GHz		94.4GHz		94.5GHz		94.6GHz		94.7GHz		94.8GHz		94.9GHz		95.0GHz		95.1GHz		95.2GHz		95.3GHz		95.4GHz		95.5GHz		95.6GHz		95.7GHz		95.8GHz		95.9GHz		96.0GHz		96.1GHz		96.2GHz		96.3GHz		96.4GHz		96.5GHz		96.6GHz		96.7GHz		96.8GHz		96.9GHz		97.0GHz		97.1GHz		97.2GHz		97.3GHz		97.4GHz		97.5GHz		97.6GHz		97.7GHz		97.8GHz		97.9GHz		98.0GHz		98.1GHz		98.2GHz		98.3GHz		98.4GHz		98.5GHz		98.6GHz		98.7GHz		98.8GHz		98.9GHz		99.0GHz		99.1GHz		99.2GHz		99.3GHz		99.4GHz		99.5GHz		99.6GHz		99.7GHz		99.8GHz		99.9GHz		100.0GHz		100.1GHz		100.2GHz		100.3GHz		100.4GHz		100.5GHz		100.6GHz		1	
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Radiated Composite Gain Data

Appendix A

Θ (15°)	-3.43/-5.54	-6.62/-7.02	-7.5/-8.8	-13.46/-13.51	-16.49/-11.53	-8.33/-6.62	-5.65/-5.18	-6.12/-7.06	-7.55/-7.45	-7.22/-8.02	-9.19/-9.55	-8.58/-6.71	-5.34/-4.37	-3.79/-3.73	-4.47/-5.92	-8.07/-11.21	-14.72/-14.41	-10.79/-7.67	-5.11/-3.54	-2.78/-2.14	-1.76/-1.82	-2.07/-2.79	-3.15/-3.2	-3.32/-4.3
Θ (22.5°)	-5.79/-7.23	-4.51/-6.08	-5.57/-7.52	-12.76/-16.09	-11.08/-7.75	-5.47/-4.98	-6.23/-8.34	-12.46/-16.19	-19.4/-17.99	-17.95/-14.03	-14.22/-14.53	-13.25/-9.77	-6.62/-4.27	-3.12/-3.05	-4.07/-6.39	-10.68/-16.38	-13.02/-9.3	-7.21/-5.16	-3.75/-3.25	-3.22/-3.59	-3.93/-3.68	-3.35/-3.15	-3.66/-4.12	-4.76/-5.31
Θ (30°)	-12.84/-8.89	-7.84/-6.88	-5.11/-2.39	-3.03/-4.37	-5.23/-4.68	-3.31/-3.65	-4.35/-4.96	-5.23/-6.05	-7.08/-9.67	-13.61/-10.44	-7.78/-8.11	-10.13/-13.33	-13.92/-10.67	-8.2/-6.3	-6.22/-8.3	-11.78/-9.63	-6.73/-5.41	-6.23/-8.36	-11.08/-10.57	-10.09/-10.67	-9.69/-8.13	-7.88/-7.27	-7.45/-9.08	-10.23/-11.82
Θ (37.5°)	-6.24/-7.41	-6.02/-4.38	-2.42/-1.57	-3.17/-6.2	-8.98/-6.18	-4.76/-3.65	-1.94/-1.22	-1.82/-3.63	-5.64/-7.82	-10.88/-11.62	-8.57/-6.78	-5.91/-6.86	-6.61/-4.95	-4.38/-4.26	-5.17/-8.5	-12.1/-10.91	-7.5/-7.71	-11.93/-18.69	-17.44/-11.07	-8.47/-8.83	-11.51/-13.68	-17.12/-16.12	-11.08/-8.21	-5.14/-5.6
Θ (45°)	-12.7/-17.76	-13.72/-4.59	-3.99/-5.27	-7.68/-10	-7.66/-7.17	-6.6/-6.16	-5.09/-5.02	-4.9/-6.63	-9.35/-11.51	-12.93/-14.71	-9.64/-6.26	-1.72/-4.04	-8.58/-6.26	-3.74/-4.56	-7.18/-10.03	-11.85/-9.33	-6.75/-6.75	-8.76/-12.06	-14.94/-12.83	-10.93/-10.3	-11.63/-17.3	-19.09/-18.14	-18.58/-17.38	-11.1/-9.13
Θ (52.5°)	-8.43/-13.24	-5.11/-2.39	-1.41/-3.23	-8.34/-10.37	-9.47/-10.5	-8.52/-1.11	-5.81/-5.43	-5.35/-6.69	-6.67/-16.74	-17.41/-15.46	-12.83/-4.88	-2.67/-4.72	-5.74/-3.07	-3.7/-6.62	-6.38/-9.3	-6.94/-8.08	-7.98/-6.18	-6.38/-9.3	-14.32/-18.6	-13.19/-8.59	-7.98/-9.73	-10.67/-13.66	-18.36/-10.09	-5.82/-5.67
Θ (60°)	-8.38/-11.29	-2.6/-0.67	-0.6/-4.69	-12.69/-9.98	-10.82/-13.21	-15.47/-12.7	-10.55/-10	-9.46/-10.21	-12.98/-12.95	-9.38/-8.87	-13.78/-8.34	-2.67/-1.07	-5.73/-7.38	-4/-6.38	-10.93/-7.86	-10.17/-16.56	-6.36/-3.43	-3.63/-5.53	-8.4/-11.07	-13.14/-10.62	-7.71/-8.04	-7.08/-8.7	-14.45/-8.38	-3.12/-3.26
Θ (67.5°)	-10.12/-5.4	-7.16/-5.38	-4.8/-6.69	-8.5/-6.98	-6.66/-7.94	-10.12/-10.11	-11.53/-13.75	-12.42/-10.05	-10.55/-18	-13.28/-8.55	-9.89/-16.39	-5.23/-4.3	-6.41/-7.57	-4.09/-4.51	-6.59/-7.78	-17.83/-11.51	-8.16/-8.34	-6.12/-4.88	-7.86/-14.48	-13.79/-11.4	-9.89/-7.19	-5.13/-4.15	-6.92/-8.4	-5.9/-5.99
Θ (75°)	-17.83/-17.61	-11.32/-8.43	-9.59/-15.34	-17.77/-18.24	-18.47/-18.03	-18.41/-15.65	-14.4/-12.46	-8.96/-7.18	-6.56/-10.47	-17.66/-14.23	-10.55/-16	-8.27/-3.93	-7.58/-7.96	-6.59/-7.43	-8.78/-13.98	-14.49/-9.49	-10.84/-10.88	-8.55/-8.01	-8.28/-9.91	-11.75/-10.89	-9.59/-9.17	-5.42/-4.19	-6.55/-11.06	-12.37/-15.3
Θ (82.5°)	-7.48/-9.19	-6.52/-4.92	-8.25/-10.38	-12.04/-13.3	-15.44/-19.25	-18.27/-17.79	-18.72/-17.44	-13.27/-7.76	-4.93/-7.01	-12.91/-16.62	-8.35/-10.8	-5.98/-2.58	-4.37/-7.98	-9.82/-8.46	-7.99/-11.98	-18.05/-13.72	-9.14/-18.6	-9.24/-5.92	-9.33/-10.23	-11.07/-15.92	-11.84/-12.27	-10.06/-6.43	-7.25/-9.37	-6.95/-5.09
Θ (90°)	-10.57/-12.71	-8.29/-7.5	-13.4/-16.59	-10.79/-9.83	-11.81/-14.44	-17.77/-19.12	-16.5/-15.4	-15.33/-12.81	-8.54/-6.74	-6.79/-9.18	-8.01/-6.25	-8.11/-4.37	-3.3/-10.58	-15/-7.22	-10.83/-18.95	-17.78/-14.4	-10.85/-17.72	-16.29/-10.02	-7.88/-12.51	-12.16/-8.91	-8.92/-7.46	-8.19/-8.4	-5.54/-6.62	-12.31/-23.33
Θ (97.5°)	-12.8/-12.67	-8.54/-4.39	-7.92/-16.03	-18.95/-15.34	-18.55/-19.1	-17.64/-18.57	-17.77/-19.1	-17.47/-9.83	-6.5/-5.78	-7.37/-13.96	-9.03/-8.34	-15.94/-8.25	-6.39/-12.24	-11.59/-14.07	-15.68/-18.98	-15.14/-18.95	-13.48/-12.76	-14.13/-10.39	-9.37/-7.88	-8.56/-10.85	-11.71/-7.83	-11.38/-9.76	-7.07/-5.15	-6.43/-11.49
Θ (105°)	-15.39/-18.62	-9.02/-7.96	-13.29/-11.24	-10.04/-9.47	-7.61/-8.29	-11.32/-17.54	-15.33/-10.68	-12.37/-17.45	-13.87/-15.9	-16.85/-19.27	-8.97/-6.3	-11.58/-7.51	-10.06/-15.08	-18.79/-18.35	-9.54/-16.9	-18.75/-14.45	-19.34/-16.81	-18.88/-15.16	-13.87/-11.28	-6.53/-8.04	-9.68/-10.49	-12.7/-18.34	-15.3/-7.82	-9.19/-12.04
Θ (112.5°)	-8.12/-8.95	-10.23/-6.88	-7.22/-15.07	-18.39/-18.37	-13.96/-12.16	-10.96/-16	-17.91/-16.97	-12.21/-6.59	-10.49/-15.47	-13.16/-10.92	-13.84/-18.5	-19.54/-16.76	-16.6/-12.64	-14.63/-16.13	-13.91/-12.02	-15.43/-14.52	-17.69/-17.66	-18.52/-12.47	-7.07/-9.11	-9.78/-13.05	-8.05/-10.26	-17.32/-14.57	-7.75/-7.23	
Θ (120°)	-10.05/-14.8	-10.72/-13.59	-8.7/-12.1	-10.89/-9.91	-12.4/-11.39	-12.09/-14.08	-17.93/-18.1	-17.33/-15.56	-11.06/-10.6	-8.02/-12.02	-19.44/-8.86	-8.9/-18.59	-13.73/-14.58	-18.2/-11.43	-10.01/-18.49	-19.25/-19.02	-19.04/-14.27	-12.14/-19.27	-17.59/-19.02	-16.39/-14.33	-18.42/-18.04	-13.5/-8.38	-10.94/-17.97	
Θ (127.5°)	-11.22/-6.33	-5.67/-11.68	-9.65/-9.43	-4.96/-7.82	-12.75/-13.62	-13.95/-12.81	-15.69/-14.69	-18.36/-13.43	-9.47/-10.33	-5.83/-5.31	-12.44/-7.44	-5.97/-12.63	-4.2/-2.66	-14.68/-18.14	-17.39/-16.07	-11.65/-11.9	-8.75/-10.02	-9.28/-10.32	-7.72/-10.38	-11.3/-11.85	-18.69/-18.06	-14.61/-15.97	-9.14/-13.57	-10.04/-17.87
Θ (135°)	-3.07/-2.01	-1.28/-1.2	-3.53/-9.44	-13.17/-18.45	-18.08/-18.42	-16.41/-16.99	-15.11/-17.04	-16.01/-19.47	-9.82/-8.01	-6.55/-5.3	-7.01/-17.8	-11.13/-8.43	-8.96/-9.8	-15.21/-9.7	-18.24/-12.1	-13.66/-5.5	-8.02/-6.87	-10.89/-8.6	-11.03/-12.42	-16.82/-9.22	-18.34/-10.54	-13.43/-4.62	-3.85/-8.35	-14.55/-4.44
Θ (142.5°)	-11.62/-4.96	-2.34/-6.68	-5.3/-10.95	-18.94/-15.95	-11.77/-10.37	-9.76/-12.37	-15.61/-17.8	-16.83/-13.48	-17.33/-9.13	-4.45/-8.3	-18.5/-19.81	-8.28/-4.91	-14.34/-10.46	-10.39/-9.88	-11.84/-66	-11.75/-7.56	-18.26/-9.59	-18.69/-9.28	-6.79/-3.88	-6.54/-47	-9.9/-10.7	-11.37/-15.72	-4.77/-3.58	-5.27/-11.07
Θ (150°)	-10.02/-7.09	-5.13/-9.64	-14.03/-10.39	-15.5/-5.63	-5.99/-7.68	-9.62/-11.44	-11.91/-11.72	-14.83/-19.07	-15.71/-10.66	-10.10/-10.21	-10.88/-18.21	-10.26/-5.04	-4.44/-7.21	-11/-18.1	-9.49/-12.83	-13.56/-15.32	-11.23/-19.14	-17.21/-14.57	-11.38/-8.98	-7.1/-3.81	-3.03/-5.95	-6.77/-7.49	-15.88/-8.35	-6.42/-6.27
Θ (157.5°)	-2.06/-3.09	-4.77/-6.01	-6.56/-5.32	-5.4/-84	-3.98/-3.94	-4.6/-6.36	-10.34/-13.49	-17.59/-17.97	-18.71/-18.18	-17.59/-16.33	-16.27/-13.92	-13.24/-15.69	-16.88/-16.64	-16.44/-14.22	-8.14/-4.62	-7.94/-17.88	-11.6/-15.94	-9.4/-6.51	-7.76/-7.19	-10.14/-7.41	-4.98/-4.72	-5.89/-5.74	-6.66/-7.06	-4.72/-3.01
Θ (165°)	1.230/-9	-0.59/-2.18	-1.67/-2.63	-5.41/-8.84	-11.44/-13.82	-16.3/-17.82	-18.88/-19.27	-17.86/-14.76	-15.91/-14.35	-13.11/-11.25	-8.27/-6.81	-5.89/-4.94	-5.04/-6.69	-6.04/-5.83	-6.34/-7.35	-8.66/-10.12	-10.12/-9.57	-9.78/-10.15	-10.62/-12.51	-14.91/-11.3	-8.25/-6.59	-5.95/-5.64	-3.4/-1.26	-0.590-82
Θ (172.5°)	-2.62/-3.56	-5.21/-4.21	-6.23/-6.11	-6.55/-6.7	-7.44/-9.37	-10.47/-12.43	-14.09/-13.6	-13.15/-12.65	-12.39/-13.41	-14.97/-16.96	-17.29/-18.99	-9.48/-11.91	-5.77/-4.58	-8.87/-3.77	-4.19/-5.03	-6.23/-7.85	-9.48/-11.03	-11.93/-11.87	-11.76/-11.67	-9.85/-10.08	-11.18/-11.26	-9.25/-7.65	-7.15/-5.42	-3.19/-3.17
Θ (180°)	-9.48/-5.66	-4.16/-3.88	-3.43/-3.5	-4.55/-5.97	-7.08/-8.52	-10.36/-13.34	-17.77/-17.17	-18.27/-18.01	-17.94/-14.95	-12.95/-11.69	-11.55/-10.1	-8.78/-8.04	-7.54/-7.77	-8.39/-9.19	-8.52/-10.05	-10.28/-10.84	-11.31/-12.18	-12.62/-12.86	-12.7/-12.69	-14.94/-18.56	-14.46/-12.01	-11.4/-11.02	-9.1/-9.22	-9.19/-10.48
Freq(Hz)	5.6GPol.	ThetaAnt. 1	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-7.05/-6.6	-5.41/-4.96	-4.06/-3.68	-2.6/-2.14	-1.68/-1.46	-1.64/-1.77	-1.3/-2.25	-2.85/-3.57	-4.28/-5.06	-6.42/-7.78	-8.19/-9.18	-8.24/-7.38	-6.89/-6.36	-6.05/-5.65	-5.18/-4.88	-4.51/-4.21	-4.41/-4.61	-4.44/-4.04	-4.31/-4.67	-4.94/-5.37	-5.73/-6.05	-6.64/-7.63	-8.04/-8.17	-7.72/-7.52
Θ (7.5°)	-5.47/-5.03	-4.44/-4.4	-4.55/-3.87	-3.42/-3.44	-3.71/-4.37	-4.93/-5.7	-5.94/-7.64	-8.43/-8.92	-11.44/-9.49	-9.91/-9.77	-9.72/-9.44	-9.88/-9.08	-7.88/-6.41	-5.43/-4.31	-3.43/-2.52	-1.71/-1.32	-1.25/-1.44	-1.99/-2.32	-2.77/-3.22	-4.06/-4.81	-5.66/-6.83	-7.21/-7.44	-7.86/-7.53	-6.72/-6.13
Θ (15°)	-5.89/-4.96	-3.78/-3.27	-2.45/-1.81	-1.82/-2.23	-3.08/-4.43	-6.37/-8.79	-8.84/-8.81	-8.99/-10.11	-11.29/-13.18	-14.44/-15.43	-15.88/-16.92	-17.46/-14.54	-16.9/-5.731	-4.76/-2.86	-1.69/-0.95	-0.42/-0.17	-0.08/-0.67	-1.37/-2.06	-2.52/-2.29	-3.01/-3.55	-3.61/-3.99	-3.41/-4.65	-5.28/-5.11	-7.53/-6.28
Θ (22.5°)	-6.72/-5.76	-3.88/-2.39	-1.31/-1.08	-1.06/-1.83	-3.05/-4.63	-5.86/-5.12	-4.39/-4.31	-4.53/-4.55	-7.01/-8.71	-10.22/-11.15	-11.22/-11.07	-12.77/-16.68	-16.24/-10.49	-6.17/-3.3	-1.54/-0.66	-0.21/-0.35	-0.82/-1.24	-1.26/-0.87	-0.5/-0.19	-0.24/-0.48	-0.75/-1.15	-1.64/-2.65	-3.8/-4.04	-5.05/-5.93
Θ (30°)	-6.22/-6.17	-5.68/-4.13	-3.62/-3.74	-4.11/-6.72	-11.1/-17.17	-18.11/-18.69	-19.18/-13.37	-9.05/-6.49	-5.43/-5.1	-5.54/-6.99	-8.48/-10.13	-11.38/-12.08	-12.02/-11.55	-8.71/-5.04	-2.24/-1.05	-1.59/-3.03	-2.530-69	2.433-11	2.611/-65	0.720/-43	0.15/-1.09	-2.54/-4.16	-5.24/-5.94	-6.05/-6.2
Θ (37.5°)	-6.22/-4.94	-4.01/-4.1	-5.13/-9.23	-17.67/-17.08	-9.44/-5.58	-3.75/-3.08	-4.2/-2.71	-12.87/-16.63	-16.35/-16.04	-12.75/-10.92	-11.44/-14.41	-15.09/-13.88	-14.54/-13.66	-9.48/-5	-2.13/-1.1	-2.12/-3.19	-0.79/-1.3	-2.74/-2.22	2.85/-182	0.880/-7	0.371/-83	-4.53/-5.33	-4.57/-4.47	-5.43/-6.74
Θ (45°)	-2.27/-1.74	-1.67/-1.77	-2.92/-4.83	-6.41/-6.82	-4.42/-1.71	-1.95/-4.44	-7.99/-11.43	-17.48/-13.27	-10.02/-10.97	-18.52/-16.94	-14.8/-17.22	-15.8/-11.77	-11/-8.56	-5.12/-3.71	-3.34/-1.8	-0.75/-1.58	-1.24/-1.75	3.582/-75	0.44/-143	-1.38/-2.05	-2.6/-3.61	-5.22/-4.87	-4.18/-3.54	-3.43/-3.41
Θ (52.5°)	-3.22/-1.23	-0.58/-1.73	-3.54/-4.64	-6.41/-5.31	-3.86/-3.33	-4.78/-6.05	-8.82/-19.01	-8.61/-5.33	-5.2/-6.14	-7.59/-9.69	-18.18/-18.52	-15.55/-10.09	-7.29/-5.69	-4.05/-3.7	-3.49/-3.43	-2.42/-1.14	0.21/-49	2.05/-147	0.16/-309	-5.51/-6.46	-10.25/-10.46	-7.99/-4.9	-3.12/-2.13	-2.76/-3.85
Θ (60°)	-1.5/-0.91	0.39/-0.66	-1.78/-3.76	-6.56/-5.38	-4.28/-3.22	-1.68/-2.99	-5.68/-1.92	-8.69/-7.32	-5.76/-7	-9.33/-12.55	-17.92/-18.74	-13.79/-8.23	-5.95/-4.68	-2.76/-1.73	-2.56/-3.1	-0.35/-1.8	2.16/-179	2.09/-204	0.03/-1.85	-4.68/-9.11	-10.35/-5.28	-3.97/-2.57	-1.23/-1.61	-1.4/-1.85



Radiated Composite Gain Data

Appendix A

Θ(67.5°)	-11.33/-18.18	-8.16/-6.72	-8.94/-8.74	-11.69/-17.65	-12.24/-8.5	-7.03/-6.95	-9.42/-11.23	-9.31/-7.68	-7.21/-7.68	-8.24/-12.94	-16.69/-15.21	-11.47/-8.23	-7.35/-9.75	-14.03/-15.45	-13.22/-12.38	-14.65/-16.32	-17.26/-11.53	-8.2/-9.48	-10.4/-16.25	-13.04/-8.84	-5.35/-3.35	-2.16/-5	-7.39/-7.55	-6.17/-7.26
Θ(75°)	-6.67/-4.91	-4.78/-4.75	-5.32/-5.98	-5.2/-6.48	-9.71/-12.08	-13.58/-17.34	-17.44/-15.01	-14.37/-16.55	-12.64/-10.01	-9.61/-8.89	-10.77/-15.18	-18.18/-18.29	-8.48/-4.59	-4.39/-10.38	-10.77/-11.54	-17.69/-8.92	-8.54/-11.21	-8.48/-8.88	-18.86/-16.9	-10.17/-6.17	-5.86/-7.77	-5.95/-4.72	-5.67/-6.62	-14.35/-13.61
Θ(82.5°)	-13.58/-15.47	-13.59/-14.68	-5.87/-3.55	-7.6/-11.52	-7.83/-6.73	-8.61/-10.97	-12.39/-15.53	-18.26/-18.03	-18.11/-14.89	-15.61/-18.43	-15.56/-17.52	-12.51/-10.38	-13.02/-12.04	-11.07/-9.69	-12.51/-15.77	-9.37/-8.65	-11.22/-18.72	-11.81/-10.83	-13.16/-6.9	-5.19/-4.13	-2.94/-7.01	-12.14/-14.63	-9.05/-14.53	-18.57/-12.56
Θ(90°)	-7.41/-7.29	-6.12/-3.94	-4.05/-6.5	-7.76/-5.1	-4.47/-9.2	-8.85/-17.6	-18.46/-17.97	-18.32/-18.81	-18.32/-18.31	-17.1/-14.49	-13.16/-13.77	-14.8/-18.52	-18.58/-11.33	-6.49/-12.24	-17.07/-14.64	-17.53/-9.23	-7.41/-10.35	-6.66/-5	-5.97/-10.15	-7.51/-4.59	-7.17/-7.8	-18.21/-4.25	-6.33/-10.82	-8.83/-6.99
Θ(97.5°)	-10.21/-11.68	-14.9/-17.48	-6.73/-4.09	-6.63/-4.61	-3.15/-4.28	-6.93/-9.17	-11.84/-15.49	-15.15/-19.31	-14.23/-12.25	-18.23/-15.53	-18.89/-18.5	-17.97/-13.44	-18.82/-9.08	-8.23/-7.17	-8.14/-9.23	-9.33/-2.27	-3.04/-10.63	-8.28/-5.79	-19.2/-11.37	-11.24/-12.05	-17.36/-8.48	-8.53/-9.8	-7.81/-14.47	-11.76/-9.17
Θ(105°)	-17.05/-18.36	-18.75/-10.34	-5.99/-7.16	-18.54/-5.88	-1.8/-0.88	-1.87/-4.08	-7.39/-11.75	-14.45/-10.2	-7.65/-16.08	-17.63/-18.57	-16.34/-18.47	-16.48/-18.42	-11.48/-7.71	-12.48/-18.63	-15.22/-12.52	-17.33/-8.05	-6.33/-12.16	-6.31/-4.41	-3.94/-6.58	-13.91/-8.05	-11.73/-10.08	-7.64/-7.8	-16.43/-11.76	-7.56/-9.37
Θ(112.5°)	-14.47/-14.85	-11.95/-10.75	-4.89/-4	-4.71/-5.82	-5.65/-4.95	-4.85/-6.84	-8.6/-7.64	-7.17/-6.32	-6.43/-8.02	-12.75/-10.87	-10.24/-15.56	-18.32/-8.81	-8.87/-14.04	-12.17/-15.29	-17.07/-15.91	-12.24/-19.01	-3.81/-8.46	-19.3/-5.5	-7.33/-9.91	-3.19/-13.61	-8.73/-5.77	-7.09/-6.72	-6.53/-9.23	-9.53/-11.48
Θ(120°)	-18.61/-12.83	-14.33/-14.75	-8.45/-5.59	-6.65/-9.36	-3.77/-2.21	-1.19/-0.59	-1.89/-4.64	-5.73/-5.86	-5.46/-6.1	-5.36/-8.73	-15.21/-10.93	-14.17/-19.04	-6.24/-5.14	-13.1/-12.52	-12.87/-18.48	-9.48/-7.04	-9.51/-8.05	-7.5/-14.14	-3.52/-2.23	-5.36/-1.51	-14.37/-12.49	-12.21/-10.33	-18.71/-15.51	-9.32/-15.56
Θ(127.5°)	-17.96/-8.16	-3.26/-1.74	-1.99/-3.06	-3.71/-5.13	-7.71/-8.66	-7.27/-5.99	-4.87/-5.03	-5.95/-5.48	-5.78/-5.94	-7.26/-6.89	-8.47/-12.47	-14.57/-5.58	-2.67/-6.58	-11.53/-14.52	-13.77/-12.94	-7.08/-8.71	-10.99/-4.12	-7.69/-9.24	-5.81/-11.59	-15.88/-13.42	-19.03/-9.92	-6.89/-11.56		
Θ(135°)	-18.4/-12.93	-5.43/-2.37	-0.95/-1.54	-1.87/-1.9	-1.93/-1.67	-2.59/-5.03	-7.51/-8.21	-7.95/-8.67	-8.43/-7.99	-6.19/-6.9	-7.86/-14.07	-15.23/-14.53	-7.89/-12.54	-7.81/-8.14	-12.22/-15.05	-4.22/-2.5	-11.67/-9.04	-1.97/-2.96	-6.76/-13.28	-5.39/-11.56	-7.63/-6.23	-6.19/-5.89	-7.8/-10.5	-10.64/-13.63
Θ(142.5°)	-18.05/-15.76	-6.72/-2.58	-0.87/-0.47	-1.25/-1.62	-1.96/-1.18	-1.31/-3.59	-9.25/-13.1	-13.71/-12.87	-10.17/-8.45	-8.53/-8.02	-9.48/-14.04	-17.73/-10.68	-10.39/-15.32	-18.55/-8.4	-6.45/-11.62	-10.79/-4.56	-3.77/-6.98	-8.73/-4.44	-1.14/-3.95	-3.07/-6.98	-18.47/-10.63	-5.77/-3.95	-6.32/-10.13	-10.84/-11.69
Θ(150°)	-8.36/-12.11	-17.75/-8.38	-4.26/-2.69	-1.56/-1.12	-1.86/-1.58	-2.55/-4.19	-6.09/-7.39	-8.45/-10.03	-12.7/-15.81	-13.68/-13.93	-18.71/-17.71	-16.19/-15.97	-11.93/-9.35	-3.97/-4.25	-9.25/-18.66	-8.76/-7.11	-17.66/-6.38	-1.41/-10.39	-1.18/-4.75	-12.98/-8.21	-5.62/-7.01	-9.31/-8.52	-10.12/-18.14	-12.24/-7.95
Θ(157.5°)	-8.62/-6.43	-5.91/-5.22	-3.75/-2.56	-1.15/-0.05	0.11/-0.82	-2.26/-3.18	-3.06/-3.02	-3.34/-4.59	-5.43/-4.81	-5.11/-6.97	-10.97/-15.36	-14.94/-13.29	-10.91/-9.17	-11/-18.58	-19.33/-14.63	-12.34/-14.52	-12.25/-7.82	-7.19/-6.21	-3.69/-3.48	-7.94/-18.19	-11.49/-11.19	-16.43/-14.11	-11.97/-15.5	-18.24/-13.18
Θ(165°)	-6.84/-7.31	-8.52/-9.14	-9.66/-9.84	-9.11/-7.63	-5.43/-3.45	-2.1/-144	-1.88/-2.55	-3.35/-14.4	-7.41/-10.35	-12.55/-14.39	-14.8/-15.6	-17.69/-18.11	-17.72/-18.94	-18.71/-16.92	-18.31/-14.98	-13.51/-16.44	-19.2/-9.22	-4.15/-15.1	-0.58/-1.23	-4.19/-10.06	-11.91/-9.89	-10.71/-14.56	-15.91/-12.67	-9.57/-7
Θ(172.5°)	-14.05/-12.42	-10.5/-8.39	-6.38/-4.88	-3.88/-3.35	-2.96/-2.9	-3.06/-3.65	-4.63/-5.3	-6.51/-7.82	-9.65/-11.39	-12.82/-13.35	-13.21/-13.07	-13.12/-13.43	-14.08/-14.37	-14.71/-15.13	-14.56/-12.94	-11.01/-9.14	-6.62/-4.45	-3.01/-2.56	-2.56/-4.07	-7.08/-12.03	-13.65/-12.34	-12.23/-12.86	-11.82/-11.26	-12.13/-13.82
Θ(180°)	-6.44/-6.26	-6.26/-6.57	-7.67/-9.97	-11.85/-13.53	-13.29/-11.94	-10.91/-10.32	-11.53/-12.43	-12.52/-11.91	-11.08/-10.73	-10.4/-9.95	-10.05/-10.34	-10/-9.05	-8.38/-7.57	-6.97/-6.29	-5.79/-5.4	-5.6/-6.41	-7.71/-9.09	-10.41/-11.95	-12.98/-15.35	-18.37/-18.12	-16.3/-16.81	-18.33/-17.6	-16.44/-11.82	-8.77/-7.44
Freq(Hz)	5.2G/Pol.	Theta/Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-12.48/-15.4	-17.3/-18.72	-17.79/-16.22	-13.33/-10.56	-9.83/-8.62	-6.74/-5.26	-4.49/-3.91	-3.73/-3.54	-3.23/-3.19	-3.43/-3.67	-4.34/-5.02	-5.92/-7.44	-9.89/-13.51	-18.85/-18.8	-16.37/-13.52	-11.07/-8.65	-6.36/-4.9	-4.01/-3.62	-3.47/-3.28	-3.3/-3.42	-3.71/-4.21	-5.03/-5.49	-5.96/-7.37	-8.96/-10.83
Θ(7.5°)	-14.14/-15.29	-13.17/-11.31	-9.81/-9.28	-7.58/-7.1	-7.32/-6.66	-6.27/-5.9	-6.2/-6.47	-5.9/-5.61	-5.65/-6.3	-7.49/-6.69	-9.81/-10.5	-11.16/-12.3	-14.17/-16.03	-17.24/-17.78	-18.57/-18.77	-19.14/-18.38	-17.23/-12.82	-9.99/-7.83	-6.28/-5	-4.2/-3.52	-3.21/-3.41	-3.76/-3.83	-4.31/-5.51	-7.23/-10.15
Θ(15°)	-11.81/-10.07	-8.71/-7.72	-7.37/-7.68	-7.13/-6.89	-6.01/-5.05	-4.44/-3.38	-3.63/-3.18	-3.14/-2.88	-3.68/-5.09	-7.57/-10.49	-13.33/-15.3	-16.11/-15.31	-13.93/-11.27	-10.11/-10.21	-12.51/-12.24	-12.10/-14.71	-10.41/-9	-7.88/-6.54	-5.27/-4.91	-5.34/-5.98	-6.91/-7.09	-7.47/-8.62	-10.12/-11.17	-12.25/-14.52
Θ(22.5°)	-5.46/-5.5	-5.92/-6.65	-7.1/-6.99	-5.19/-4.1	-3.62/-3.79	-3.61/-3.59	-3.58/-3.68	-3.67/-4.02	-4.8/-6.21	-7.22/-7.06	-7/-8.81	-12.56/-15.31	-14.93/-13.12	-11.95/-12.37	-14.07/-14.47	-12.05/-9.33	-7.15/-5.41	-4.11/-3.53	-3.48/-4.03	-5.3/-1.75	-8.49/-9.07	-10.6/-12.84	-17.08/-16.5	-9.88/-8.48
Θ(30°)	-4.97/-3.86	-3.35/-4.05	-6.19/-9.72	-8.32/-5.22	-3.74/-3.01	-2.49/-2.09	-2.3/-2.95	-4.26/-4.78	-4.09/-4.1	-4.32/-4.04	-4.68/-6.1	-5.96/-6.69	-8.19/-7.3	-6.1/-6.98	-9.34/-12.78	-13.08/-8.38	-6.53/-6.42	-6.86/-7.56	-7.91/-8.7	-17.17/-6.4	-7.15/-9.38	-9.91/-10.29	-13.99/-16.12	-5.97/-5.61
Θ(37.5°)	-5.08/-4.48	-3.06/-2.64	-5.1/-10.25	-1.12/-7.79	-5.97/-4.39	-3.01/-2.54	-3.81/-4.24	-4.38/-4.2	-2.84/-2.69	-3.91/-3.57	-3.53/-3.03	-3.67/-1.46	-14.21/-14.71	-10.78/-10.09	-16.03/-17.47	-6.91/-4.69	-4.83/-6.89	-10.46/-10.98	-9.01/-9.31	-10.88/-11.13	-7.25/-7.95	-4.25/-5.34	-5.91/-5.61	
Θ(45°)	-2.78/-3.26	-4.85/-5.44	-6.14/-8.6	-10.52/-9.72	-8.17/-6.51	-5.42/-5.2	-4.99/-4.92	-4.74/-4.41	-3.98/-4.3	-6.11/-6.33	-6.13/-5.39	-5.8/-7.4	-7.81/-6.81	-6.11/-6.67	-9.91/-17.45	-12.26/-6.4	-5.91/-10.23	-15.27/-9.58	-10.72/-11.83	-15.1/-15.7	-7.83/-5.72	-2.93/-3.71	-5.25/-6.54	-5.3/-4.04
Θ(52.5°)	-0.87/-0.18	-1.57/-1.72	-11.9/-9.07	-7.49/-9.07	-10.68/-9.83	-8.14/-6.45	-5.54/-5.13	-5.62/-5.54	-4.6/-4.59	-5.03/-4.47	-2.86/-2.25	-2.97/-5.91	-8.55/-15.68	-14.8/-17.94	-16.35/-12.11	-10.04/-16.21	-15.52/-6.68	-4.01/-3.46	-3.36/-6.3	-12.49/-9.18	-10.74/-14.7	-2.35/-1.97	-2.14/-2.47	-5.47/-5.88
Θ(60°)	-8.53/-5.63	-6.36/-7.69	-15.1/-9.66	-4.49/-3.6	-3.16/-2.31	-1.69/-0.98	-1.23/-1.81	-2.18/-1.76	-1.93/-1.79	-2.27/-3.21	-4.93/-9.24	-15.96/-6.76	-4.99/-6.17	-7.39/-8.4	-10.87/-11.35	-11.55/-6.54	-5.66/-5.98	-4.93/-5.4	-7.92/-9.81	-10.88/-11.13	-7.25/-7.95	-4.25/-5.34	-5.91/-5.61	
Θ(67.5°)	-1.27/-0.38	-2.26/-3.27	-4.71/-8.24	-11.83/-10.69	-7.86/-6.07	-5.01/-3.95	-3.38/-3.13	-3.69/-4.84	-2.6/-1.99	-2.55/-3.93	-3.81/-6.27	-8.37/-7.97	-7.78/-8.12	-8.11/-10.17	-12.36/-17.88	-18.09/-16.03	-17.87/-10.44	-4.53/-4.25	-6.36/-6.53	-3.43/-0.93	0.41/0.86	1.86/1.41	1.44/-0.62	-3.25/-2.87
Θ(75°)	-5.07/-1.12	-2.64/-5.22	-4.51/-2.25	-2.31/-4.67	-4.78/-3.71	-3.61/-3.36	-2.64/-2.04	-1.72/-1.48	-1.9/-4.8	-3.11/-4.16	-6.4/-7.05	-5.86/-7.07	-5.84/-6.45	-4.46/-7.82	-14.2/-18.4	-15.97/-12.1	-10.14/-11.2	-14.54/-12.79	-17.83/-19.2	-8.32/-3.17	-0.90/-77	-0.60/-45	1.782/-18	-0.15/-7.27
Θ(82.5°)	-0.29/-0.89	-2.18/-3.58	-4.15/-6.54	-9.61/-10.94	-9.23/-6.17	-4.4/-2.18	-2.01/-2.8	-3.18/-4.24	-4.35/-4.44	-7.01/-3.91	-1.66/-3.11	-7.07/-9.55	-5.35/-4.22	-6.43/-6.28	-6.37/-9.59	-18.79/-18.57	-19.04/-18.96	-8.76/-14.22	-17.99/-7.27	-1.45/-61	2.93/-1.7	2.482/-48	1.91/0.85	-1.61/-1.46
Θ(90°)	-0.63/0.53	-4.02/-2.56	-0.88/-1.1	-2.57/-4.63	-5.14/-4.89	-3.49/-3.42	-2.02/-0.78	-0.82/-2.13	-6.97/-7.33	-6.7/-5.6	-5.67/-5.27	-5.87/-8.55	-5.43/-3.24	-4.32/-5.64	-16.48/-16.57	-14.75/-15.61	-17.86/-18	-14.99/-7.91	-10.45/-13.4	-12.77/-3.37	-0.70/-75	-0.45/-1.37	2.661/-46	-1.42/-4.56
Θ(97.5°)	-1.04/-1.48	-1.26/-2.11	-2.93/-3.69	-6.1/-9.2	-6.63/-5.29	-5.03/-4.6	-2.98/-2.31	-2.5/-2.59	-3.78/-5.25	-4.29/-4.78	-6.2/-5.06	-4.1/-6.84	-9.67/-7.21	-8.8/-11.11	-10.37/-10.22	-11.16/-18.24	-14.81/-8.55	-4.95/-6.33	-3.71/-1.33	-2.75/-0.56	2.540/-57	0.252/-71	0.910/-67	0.5/-0.99
Θ(105°)	2.53/-1.15	-1.34/-1.02	-0.73/-0.66	-6.83/-6.86	-8/-5.16	-3.99/-1.93	-1.55/-2.77	-3.41/-3.92	-4.32/-4.44	-8.68/-9.87	-8.8/-7.57	-7.58/-10.28	-8.29/-9.31	-19.06/-19.05	-18.93/-11.51	-9.94/-8.97	-12.78/-11.77	-9.91/-3.2	-6.98/-9.74	-10.37/-3.28	-2.32/-2.03	-3.85/-2.2	0.96/-0.82	-2.35/-2.46
Θ(112.5°)	1.05/-0.69	-2.1/-6.21	-4.31/-3.71	-8.21/-8.65	-9.86/-5.03	-4.47/-3.71	-3.03/-2.61	-3.62/-5.62	-7.8/-7.77	-6.89/-11.27	-18.1/-10.34	-13.46/-18.88	-8.76/-7.83	-6.45/-9.13	-13.71/-19.9	-7.87/-9.55	-15.56/-2.01	-1.62/-2.22	-2.81/-7.2	-4.31/-2.76	-0.63/-3.09	-3.65/-2.08	-0.25/-0.07	0.470/-1
Θ(120°)	0.08/-1.13	-2.56/-2.27	-0.85/-1.56	-3.29/-6.23	-4.78/-3.98																			



Radiated Composite Gain Data

Appendix A

Θ(112°)	-8.69/-11.6	-13.78/-18.51	-8.53/-10.84	-10.23/-4.01	-3.48/-4.06	-3.31/-3.15	-3.27/-4.61	-7.48/-9.82	-9.86/-9.18	-9.26/-11.71	-16.08/-16.35	-19.15/-16.87	-11.33/-9.76	-15.95/-15.99	-15.67/-12.51	-14.88/-16.72	-4.74/-9.73	-18.26/-7.09	-13.99/-10.71	-6.52/-6.84	-6.05/-4.36	-7.31/-4.57	-8.18/-7.55	-3.68/-3.77
Θ(120°)	-16.08/-13.3	-7.72/-6.21	-6.1/-14.7	-17.37/-5.9	-3.1/-1.5	0.180/68	0.47/-0.29	-3.28/-8.51	-14.35/-17.09	-17.65/-14.0	-12.51/-18.73	-17.92/-8.34	-9.76/-6.03	-16.72/-14.35	-13.57/-18.52	-6.03/-15.05	-9.6/-16.7	-3.28/-13.33	-5.47/-5.8	-1.15/-2.66	-7.27/-11.07	-11.36/-18.4	-18.73/-12.06	-9.08/-8.93
Θ(127.5°)	-9.74/-7.69	-8.62/-8.73	-13.56/-10.25	-11.29/-14.89	-8.37/-6.14	-4.2/-2.4	0.203/-3.63	-3.08/-5.97	-11.31/-18.53	-17.02/-12.82	-7.49/-6.79	-10.24/-14.18	-6.59/-6.14	-16.59/-8.24	-15.83/-7.96	-5.36/-7.31	-10.56/-10.13	-6.8/-5.4	-18.84/-5.84	-17.78/-9.41	-12.57/-17.72	-10.66/-18.62	-19.19/-14.55	-9.71/-18.31
Θ(135°)	-7.04/-6.86	-4.64/-5.01	-5.65/-6.14	-2.56/-1.42	-2.2/-6.05	-7.23/-4.59	-3.4/-3.54	-5.23/-7.07	-9.8/-9.55	-10.97/-14.48	-18.44/-15.21	-14.56/-9.32	-6.59/-6.78	-14.81/-18.82	-7.19/-13.77	-16.21/-7.08	-7.87/-6.85	-14.87/-5.21	-5.14/-13.84	-9.2/-6.9	-3.16/-7.53	-17.48/-7.83	-7.82/-19.03	-9.55/-7.36
Θ(142.5°)	-9.55/-8.13	-4.61/-6.13	-4.58/-6.47	-3.45/-1.3	-0.020/-47	-0.56/-1.79	-3.28/-4.59	-6.25/-9.16	-13.36/-19.24	-15.86/-13.38	-16.11/-18.39	-18.58/-9.08	-9.26/-11.66	-8.2/-9.95	-19.11/-8.05	-10.9/-15.9	-5.49/-3.88	-9.3/-6.9	-8.2/-8.54	-6.87/-9.29	-9.81/-9.87	-13.12/-18.72	-17.51/-12.73	-13.58/-18.22
Θ(150°)	-10.86/-8.51	-8.04/-7.29	-7.99/-3.24	-1.56/-1.04	-1.33/-1.89	-1.46/-0.87	-0.73/-1.34	-2.43/-4.35	-7.59/-12.9	-17.95/-18.61	-15.1/-13.95	-18.57/-18.53	-12.77/-11.42	-11.42/-8.76	-11.71/-11.36	-10.91/-18.12	-16.07/-6.86	-3.61/-4.67	-6.71/-5.69	-14.09/-18.13	-8.33/-13.82	-7.82/-6.72	-10.55/-17.68	-15.51/-17.07
Θ(157.5°)	-5.3/-4.53	-5.16/-6.16	-8.98/-7.59	-2.340/-33	1.54/1.63	0.82/-1.2	-2.96/-4.43	-5.97/-9.07	-14.88/-18.89	-14.34/-9.73	-7.09/-5.11	-3.97/-3.57	-3.78/-3.69	-4.43/-9.18	-19.43/-18.16	-18.63/-17.84	-13.05/-6.86	-7.02/-8.97	-8.9/-13.45	-16.56/-7.43	-6.68/-8.68	-5.96/-4.4	-5.47/-8.54	-15.51/-9.82
Θ(165°)	-5.58/-5.07	-5.45/-7.46	-12.98/-18.06	-10.27/-6.42	-4.7/-3.61	-3.02/-2.6	-2.64/-2.99	-4.2/-5.8	-8.35/-10.35	-11.86/-13.08	-15.09/-15.8	-16.11/-14.1	-12.05/-10.2	-8.12/-7.05	-7.86/-11.86	-19.01/-18.97	-18.84/-18.95	-10.1/-8.01	-9.18/-14.19	-14.79/-9.48	-8.5/-11.37	-18.58/-16.23	-10.21/-7.06	-5.78/-5.41
Θ(172.5°)	-10.86/-7.44	-5.63/-4.69	-4.96/-5.21	-5.11/-4.06	-2.56/-1.06	-0.19/-0.05	-0.44/-1.24	-2.12/-3.52	-5.15/-7.4	-10.22/-13.18	-15.07/-16.46	-17.28/-17.38	-16.64/-17.05	-19.15/-18.68	-18.18/-17.27	-11.19/-8	-5.71/-4.48	-4.09/-4.91	-6.7/-9.71	-14.09/-18.13	-17.46/-18.58	-17.21/-13.69	-12.67/-13.44	-18.16/-18.54
Θ(180°)	-8.65/-10.45	-12.79/-17.35	-17.63/-18.52	-18.83/-16.89	-14.75/-10.15	-7.13/-5.83	-5.22/-5.16	-6.07/-7	-7.57/-8.24	-8.11/-7.5	-7.16/-7.13	-6.75/-6.17	-6/-6.39	-7.04/-7.44	-8.3/-8.94	-9.6/-10.4	-11.9/-13.54	-15/-14.52	-12.57/-11.93	-11.92/-13.33	-16.7/-15.5	-12.09/-9.43	-7.47/-7.03	-7.46/-7.45
Freq(Hz)	5.6G/Pol.	Theta/Ant. 2	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-8.65/-9.85	-11.61/-12.84	-13.74/-16.05	-17.68/-18.23	-18.18/-13.57	-11.26/-9.47	-8.02/-6.82	-5.95/-5.21	-5.03/-5.09	-5.46/-5.61	-6.06/-6.46	-6.68/-7.15	-7.85/-8.69	-9.65/-11.05	-12.22/-13.21	-12.68/-11.55	-10.61/-9.75	-8.71/-8.12	-8.12/-8.13	-8.43/-8.9	-9.46/-8.7	-7.03/-5.8	-6.26/-6.53	-6.78/-7.52
Θ(7.5°)	-9/-9.45	-8.6/-8.05	-8.29/-9.78	-8.7/-8.54	-10.06/-10.95	-11.18/-10.05	-9.27/-8.52	-6.83/-5.78	-5.83/-6.02	-6.25/-6.31	-6.16/-6.1	-6.14/-6.3	-6.53/-6.9	-7.68/-8.94	-11.02/-14.15	-18.9/-16.73	-7.88/-6.56	-6.08/-6.09	-6.15/-5.89	-5.76/-5.75	-4.98/-4.77	-5.66/-6.15	-6.55/-7.27	
Θ(15°)	-6.43/-6.48	-6.15/-6.22	-7.16/-6.804	-6.66/-8.37	-8.11/-7.03	-5.81/-5.26	-4.25/-3.48	-2.88/-2.18	-1.84/-1.8	-1.99/-1.93	-2.38/-3.26	-4.27/-5.32	-5.85/-6.39	-6.92/-7.78	-9.54/-13.42	-18.75/-18.41	-14.01/-10.97	-7.73/-6.4	-6.47/-7.34	-6.49/-9.02	-9.67/-10.45	-9.43/-8.42	-7.84/-7.04	-6.55/-6.18
Θ(22.5°)	-6.61/-7.53	-8.83/-8.29	-7.93/-7.56	-6.94/-6.03	-4.66/-2.89	-1.87/-1.19	-1.2/-1.41	-1.28/-0.91	-0.81/-1.15	-1.43/-1.41	-1.55/-2.32	-4.39/-7.15	-7.82/-6.42	-5.79/-6.42	-8.4/-11.91	-18/-17.83	-19.39/-19.4	-15.61/-12.49	-10.37/-9.86	-10.15/-11.42	-13.01/-15.5	-16.23/-13.98	-10.33/-9.35	-8.99/-6.93
Θ(30°)	-3.9/-4.92	-7.96/-9.48	-8.97/-7.26	-4.73/-3.56	-2.17/-1.57	-0.78/-0.97	-1.98/-3.38	-4.84/-6	-6.1/-5.31	-4.89/-4.66	-4.11/-4.1	-5.52/-6.84	-4.61/-3.72	-4.99/-7.51	-12.1/-19.05	-18.16/-19.2	-18.25/-17.31	-13.2/-15.28	-18.66/-13.5	-9.69/-6.69	-4.29/-3.31	-3.82/-6.51	-11.74/-10.02	-6.53/-4.36
Θ(37.5°)	-1.47/-2.45	-5.9/-8.3	-5.66/-3.02	-1.03/-3.02	0.180/-27	0.15/-1.14	-2.69/-4.74	-6.24/-7.67	-9.09/-9.28	-7.03/-5.46	-5.26/-4.54	-6.56/-7.86	-5.31/-5.68	-8.29/-16.08	-15.95/-13.07	-13.62/-19.09	-11.65/-9.85	-7.1/-5.32	-3.69/-1.83	-1.66/-2.42	-5.63/-8.83	-6.23/-5.21		
Θ(45°)	0.88/0.68	-4.19/-10.16	-3.10/44	1.680/85	-0.45/-1.45	-1.09/-0.4	-0.25/-0.38	-0.76/-1.73	-3.59/-5.86	-5.5/-4.04	-3.83/-3.06	-4.86/-5.22	-4.05/-3.24	-5.67/-13.51	-10.01/-8.59	-11.84/-18.35	-9.79/-8.33	-8.44/-12.77	-17.78/-13.73	-9.46/-5.2	-1.120/-4.1	0.92/0.86	-2.61/-5.78	-3.280/38
Θ(52.5°)	0.36/-1.81	-4.6/-3.27	-0.05/-148	1.620/33	-0.44/-0.42	0.631/67	1.81/-12	0.64/0.18	-1.64/-3.67	-4.38/-3.34	-3.87/-5.96	-7.6/-5.04	-3.3/-3.9	-6.94/-9.89	-8.89/-5.79	-10.16/-17.8	-13.63/-13.51	-8.64/-5.77	-9.14/-18.5	-9.13/-9.27	-0.54/-1.59	2.06/1.93	-0.41/-3.45	-2.97/-0.28
Θ(60°)	-0.03/-1.01	-5.53/-3.17	1.432/89	1.54/86	-1.030/-77	1.812/-17	1.22/38	1.720/6	-1.162/-0.21	-2.49/-1.54	-0.9/-0.64	-2.64/-6.83	-12.11/-6.4	-8.05/-14.4	-8.83/-13.95	-14.85/-6.61	-5.84/-4.61	-4.27/-4.4	-2.78/-1.75	-1.50/-1.1	1.993/12	2.48/0.56	-5.61/-2.96	
Θ(67.5°)	0.09/-0.84	-2.46/-2.2	-0.460/53	-0.55/-2.39	-2.9/-0.38	1.432/45	2.94/227	0.730/17	-1.82/-2.44	-1.16/-1.04	-2.64/-2.3	-2.8/-6.65	-9.09/-6.05	-8.18/-19.27	-8.17/-6.55	-8.36/-15.68	-9.97/-14.91	-8.69/-5.42	-5.22/-2.52	0.140/9	1.48/1.84	2.663/45	2.4/-2.24	-4.54/-1.58
Θ(75°)	-0.510/-26	-0.240/-41	2.35/-27	-1.81/-2.97	-1.61/-1.95	-1.590/03	1.74/25	2.561/03	0.17/-0.24	-2.4/-2.93	-3.82/-4.46	-4.04/-7.3	-5.05/-4.64	-7.99/-6.79	-10.26/-17.5	-14.23/-15.72	-8.5/-5.09	-6.66/-4.26	-6.04/-1.6	1.72/1/62	2.392/63	2.03/-0.44	-3.89/-1.49	
Θ(82.5°)	-0.40/-12	0.50/-33	0.760/06	-2.35/-2.39	-0.710/-74	-0.66/-1.17	-1.140/-67	-0.73/-1.03	-1.84/-2.5	-1.61/-2.61	-4.72/-4.81	-3.83/-5.84	-5.78/-1.5	-2.10/03	-6.64/-6.91	-6.03/-17.99	-16.02/-17.94	-11.61/-6.83	0.82/84	2.372/18	3.054/55	3.16/-1.9	-5.23/-0.89	
Θ(90°)	0.17/-0.12	-0.43/-2.01	2.490/13	-1.23/-0.26	-0.63/-2.55	-3.23/-1.26	1.15/-1.89	0.95/-0.42	-0.780/3	-0.77/-2.32	-5.58/-8.68	-3.31/-4	-5.820	-0.94/-6.01	-14.97/-9.62	-10.21/-9.36	-13.87/-17.55	-5.69/-4.27	-7.03/-16.03	-2.630/14	1.42/-0.52	2.074/07	2.16/-0.03	-1.73/-1.32
Θ(97.5°)	-1.29/-0.48	0.130/82	2.291/03	-0.280/31	1.37/-0.29	-3.12/-4.94	-5.04/-3.2	-1.1/-0.2	0.560/38	-0.33/-1.91	-5.09/-7.8	-4.04/-2.66	-5.24/-3.03	-2.64/-9.18	-13.71/-7.97	-7.47/-11.63	-18.48/-15.31	-5.24/-1.48	-6.34/-3.52	-2.442/-34	1.05/-1.06	1.092/66	2.69/-1.92	-2.260/76
Θ(105°)	0.78/-1.98	-0.34/-11	3.4/-75	-0.391/52	0.84/-1.56	-4.49/-3.64	-0.66/-1.12	0.46/-0.62	2.07/-1.39	-2.41/-2.16	-4.04/-6.96	-4.03/-6.1	-7/-6.02	-6.35/-10.43	-10.99/-18.58	-4.76/-11.81	-11.46/-7.43	-13.37/-14.76	1.280/05	0.673/-324	-3.29/07	0.73/-1.8	1.722/17	
Θ(112.5°)	0.65/-0.95	0.333/53	3.69/117	1.32/172	1.94/-0.51	-4.82/-8.36	-5.14/-2.16	-0.370/73	1.38/1	-0.93/-3.26	-6.7/-11.3	-4.82/-3.6	-5.44/-12.32	-11.84/-8.47	-6.75/-17.78	-7.75/-9.96	-9.49/-5.63	-8.32/-8.44	-10.99/-10.06	-6.69/-1.16	-2.41/-5.25	-1.28/-0.47	-3.07/-0.72	1.34/1.91
Θ(120°)	1.84/-2.29	-0.98/-158	1.75/-3.22	-1.72/173	1.8/-6.62	-3.93/-5.1	-4.56/-2.85	-1.75/-1.44	-0.75/-0.39	-1.77/-4.24	-8.96/-16.55	-10.59/-9.67	-15.92/-18.58	-14.36/-6.63	-4.9/-6.9	-9.17/-14.71	-8.3/-15.69	-10.76/-9.98	-3.82/-4.43	-1.62/-1.52	-4.01/-4.1	0.34/-0.78	-7.22/-0.83	1.553/-16
Θ(127.5°)	-2.77/-5.2	0.133	3.29/-0.3	-3.9/-2.22	-1.69/-3	-5.06/-8.4	-5.23/-1.26	0.621/07	0.560/18	-0.01/-1.93	-4.16/-9.24	-15.93/-17.79	-16.79/-19.42	-12.67/-11.43	-6.52/-2.89	-10.95/-9.44	-9.77/-18.36	-10.15/-8.52	-3.84/-4.61	-11.32/-3.7	-14.51/-3.71	-1.12/-0.25	-2.842/43	2.832/99
Θ(135°)	-3.02/-3.1	-1.3037	-0.59/-3.95	-12.34/-8.87	-6.01/-4.46	-4.83/-5.78	-5.97/-5.34	-3.69/-1.84	-0.430/05	-0.17/-1.16	-2.87/-5.81	-16.71/-15.29	-11.02/-7.7	-10.75/-4.71	-5.51/-1.54	-4.73/-4.69	-7.68/-6.48	-2.72/-6.35	-6.7/-1.87	-0.18/-8.89	-5.9/-18.17	-8.35/-6	-3.622/02	0.74/-1.64
Θ(142.5°)	-4.86/-7.99	-3.31/-2.23	-2.97/-8.76	-12.99/-5.85	-3.19/-2.61	-3.44/-4.83	-4.42/-2.87	-1.66/-1.62	-2.5/-2.57	-1.71/-1.61	-2.58/-4.7	-6.3/-8.24	-6.43/-10.68	-9.99/-7.89	-3.21/-6	-8.44/-17.6	-2.77/-3.47	-12.48/-18.95	-11.23/-18.52	-11.26/-10.98	-19.21/-12.15	-9.06/-8.61	-4.32/-1.42	-2.48/-3.73
Θ(150°)	-4.14/-6.12	-4.79/-4.22	-3.92/-4.24	-6.68/-10.79	-15.56/-14.12	-9.81/-6.25	-4.59/-4.46	-5.53/-6.82	-5.58/-3.49	-2.76/-4.5	-6.92/-9.71	-8.76/-5.7	-6.27/-6.04	-5.33/-5.27	-8.71/-14.65	-7.25/-6.76	-5.04/-7.24	-13.87/-18.83	-18.15/-14.07	-17.95/-16.09	-13.97/-7.71	-4.25/-4.58	-4.73/-4.35	-7.26/-5.31
Θ(157.5°)	-4.12/-7.95	-10.01/-12.43	-13.72/-12.73	-11.73/-10.71	-10.83/-10.75	-16.26/-9.25	-6.61/-4.91	-3.83/-2.93	-2.74/-3.13	-4.15/-4.83	-6.31/-10.64	-13.06/-10.56	-11.16/-9.01	-6.7/-7.21	-10.26/-10.59	-12.07/-17.72	-17.47/-17.68	-16.71/-17.1	-10.44/-12.27	-18.71/-15.84	-10.91/-9.23	-5.74/-1.83	0.662/21	1.93/-0.3
Θ(165°)	-8.63/-6.78	-4.9/-4	-3.85/-3.95	-4.67/-6.6	-10.95/-17.21	-17.51/-13.58	-11.35/-10.91	-10.34/-9.33	-7.96/-6.74	-5.24/-4.9	-5.54/-6.29	-6.86/-6.93	-7.4/-8.56	-10.43/-11.51	-11.07/-10.86	-12.48/-16.47	-18.03/-15.48	-12.73/-10.56	-8.62/-8.72	-12.11/-18.78	-11.13/-6.02	-4.32/-3.76	-4.32/-6.33	



Radiated Composite Gain Data

Appendix A

Θ (150°)	-5.09/6.64	-10.37/17.98	-18.25/17.96	-18.28/16.81	-15.46/17.28	-18.4/-17.5	-12.9/-10.38	-10.09/-9.59	-9.67/-11.81	-10.46/6.24	-5.6/-5.41	-3.16/2.58	-5.63/-11.12	-12.11/13.67	-16.73/10.84	-7/5/87	-4.69/6.05	-11.33/-18.6	-12.5/8.66	-9.39/-14.02	-14.15/9.02	-5.5/5.49	-10.1/9.1	-5.25/4.26
Θ (157.5°)	-17.63/-10.58	-8.2/-8.59	-10.33/-13.59	-18.72/-17.97	-18.1/-16.35	-15.21/-13.86	-12.93/-10.38	-14.58/-17.7	-19.24/-18.82	-14.72/-12.56	-14.83/-19.03	-16.92/-10.98	-7.89/-6.23	-6.42/-10.3	-17.83/-13.98	-12.35/-13.42	-13.92/-17.65	-18.72/-17.29	-18.91/-18.35	-12.35/-8.58	-7.54/-6.83	-5.92/-7.63	-12.21/-11.2	-10.38/-15.48
Θ (165°)	-14.6/-9.9	-7.73/-6.68	-9.37/-9.96	-10.39/-14.23	-18.96/-18.65	-18.12/-18.65	-19.3/-18.5	-19.77/-17.73	-15/-13.83	-14.16/-16.99	-17.83/-18.41	-18.4/-12.8	-8.79/-6.45	-5.44/-5.56	-7.42/-11.67	-16.9/-16.74	-15.48/-16.42	-16.75/-16.66	-17.16/-17.26	-13.45/-9.84	-5.95/-6.83	-8.3/-7.73	-9.3/-17.99	-9.7/-18.9
Θ (172.5°)	-16.74/-17.42	-18.51/-14.1	-8.19/-6.68	-7.24/-7.97	-8.87/-9.12	-10.04/-12.53	-16.01/-17.57	-18.53/-18.96	-18.16/-18	-13.99/-11.58	-9.12/-7.39	-6.02/-4.74	-3.63/-2.97	-2.7/-2.61	-3.25/-4.74	-6.01/-7.39	-9.52/-12.41	-13.5/-15.22	-18.06/-15.59	-12.67/-11.6	-10.68/-9.49	-9.3/-10.54	-14.19/-16.85	-17/-19.17
Θ (180°)	-11.9/-19.33	-19.09/-11.55	-7.39/-6.64	-7.34/-8.25	-8.2/-8.35	-9.19/-11.28	-15.3/-18.47	-17.67/-18.45	-19.1/-18.38	-16.34/-12.6	-10.19/-9.17	-8.61/-8.25	-7.72/-6.53	-5.9/-6.23	-6.96/-7.67	-7.73/-8.51	-10.92/-14.4	-17.8/-18.99	-16.42/-15.91	-16.7/-18.1	-19.49/-18.23	-16.32/-12.82	-11.26/-11.01	-11.19/-10.63
Freq(Hz)	5.2GPol	ThetaAnt.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-19.14/-17.69	-19.38/-14.38	-11.42/-9.89	-8.8/-7.44	-6.39/-5.09	-4.26/-4	-3.89/-3.69	-3.96/-3.98	-4.45/-5.09	-5.73/-6.31	-7.22/-8.74	-11.07/-14.99	-18.34/-17.65	-18.23/-14.29	-10.9/-8.57	-7.25/-6.73	-6.19/-4.75	-4.17/-3.92	-3.76/-4.45	-4.84/-5.46	-5.71/-6.27	-6.76/-7.39	-8.48/-10.56	-13.06/-17.19
Θ (7.5°)	-18.7/-18.75	-14.48/-11.05	-8.83/-6.97	-6.5/-7	-4.61/-4.29	-4.16/-4.31	-4.64/-5.04	-5.36/-5.17	-5.63/-6.57	-7.49/-8.05	-8.51/-9.16	-10.34/-13.06	-17.68/-18.07	-15.93/-13.66	-12.12/-9.48	-6.97/-6.09	-5.93/-4.85	-3.4/-2.75	-2.54/-2.74	-2.86/-3.15	-3.69/-4.09	-4.58/-5.62	-7.26/-9.6	-13/-17.99
Θ (15°)	-17.33/-12.72	-10.29/-9.36	-9.3/-8.46	-7.86/-7.6	-8.33/-8.78	-8.31/-7.06	-6.07/-6.4	-6.69/-6.28	-5.47/-5.62	-6.01/-6.41	-6.65/-7.51	-9.21/-11.43	-14.11/-18.23	-17.67/-14.85	-12.03/-11.08	-9.5/-7.83	-6.75/-5.5	-4.69/-3.75	-2.88/-2.68	-2.32/-2.61	-3.02/-3.53	-4.35/-6.62	-7.72/-10.76	-13.93/-17.08
Θ (22.5°)	-12.83/-14.52	-13.25/-13.27	-13.98/-17.34	-18.89/-17.62	-16.21/-13.95	-13.48/-12.02	-9.22/-8.54	-9.47/-9.55	-7.17/-5.99	-5.95/-6.61	-6.64/-7.77	-9.41/-10.92	-10.89/-10.7	-9.38/-8.7	-8.53/-7.86	-7.56/-7.73	-6.66/-4.1	-3.19/-2.77	-2.72/-2.24	-1.81/-1.96	-2.33/-2.82	-3.25/-3.84	-4.32/-5.01	-6.91/-9.38
Θ (30°)	-9.68/-10.73	-10.28/-11.07	-13.14/-17.56	-15.51/-14.49	-16.75/-14.33	-10.99/-9.78	-10.51/-11.08	-11.73/-11.81	-8.74/-8.55	-5.62/-4.82	-4.92/-5.06	-5.02/-4.54	-3.47/-2.34	-1.68/-1.22	-1.45/-2.79	-4.39/-3.61	-3.3/-4.08	-3.87/-1.94	-0.91/-0.55	-0.51/-0.7	-2.59/-3.81	-4.01/-4.29	-5.68/-6.46	-9.17/-9.9
Θ (37.5°)	-10.74/-9.52	-9.18/-10.09	-10.66/-11.5	-11.57/-10.04	-10.32/-12.06	-12.51/-11.98	-12.47/-11.95	-9.25/-6.96	-5.17/-3.6	-2.21/-1.76	-1.79/-2.36	-3.46/-4.49	-4.8/-4.22	-2.87/-1.48	-0.55/-0.35	-1.11/-1.57	-2.08/-3.88	-4.64/-2.3	-0.78/-0.95	-1.21/-1.42	-2.3/-3.53	-3.44/-4.26	-2.82/-5.06	-8.53/-10.79
Θ (45°)	-9.88/-9.67	-7.97/-8.8	-10.58/-9.68	-11.08/-13.54	-14.07/-12.71	-11.68/-14.44	-17.74/-18.1	-15.92/-8.94	-4.68/-2.95	-1.73/-0.73	-0.75/-1.72	-2.67/-4.04	-4.92/-4.15	-2.27/-0.38	0.68/0.26	-0.55/-0.47	-1.99/-4.74	-4.97/-3.09	-2.16/-2.3	-2.96/-2.6	-1.99/-3.41	-4.89/-4.32	-4.02/-3.95	-4.99/-8.01
Θ (52.5°)	-4.30/-3.88	-4.73/-7.5	-9.69/-8.75	-8.39/-10.44	-10.72/-8.73	-7.1/-5.7	-6.08/-7.85	-12.9/-15.11	-8.17/-4.66	-2.19/-0.54	-0.56/-0.73	-1.88/-4.04	-4.18/-2.18	-0.57/0.69	1.35/1.21	0.83/0.05	-1.5/-3.75	-5.1/-4.82	-3.1/-1.69	-1.68/-0.53	-0.51/-0.7	-2.53/-3.52	-3.15/-2.85	-3.34/-3.9
Θ (60°)	-2.17/-3.91	-5.9/-6.36	-8.12/-8.32	-8.99/-8.96	-8.83/-7.3	-6.55/-5.43	-6.74/-7.8	-9.92/-16.14	-18.98/-7.9	-2.23/0.7	1.08/1.18	0.38/-2.18	-5.75/-7.57	-3.91/-1.7	-0.96/-0.91	-1.53/-2.03	-5.46/-10.38	-7.35/-1.53	0.4/0.2	-0.29/-2.52	-2.22/-1.13	-1.43/-2.22	-3.07/-3.89	-4.2/-3.1
Θ (67.5°)	-3.21/-2.86	-6.03/-7.79	-9.26/-8.47	-8.43/-9.73	-8.63/-5.8	-4.62/-5.28	-4.96/-4.7	-5.08/-8.7	-18.97/-8.25	-2.64/-0.15	0.42/-0.25	-1.3/-2.76	-3.95/-4.36	-3.09/-8.01	0.47/0.12	-0.56/-1.81	-4.97/-8.95	-18.73/-3.33	-1.18/-0.94	-1.53/-1.61	-2.71/-1.56	-1.51/-1.53	-2.12/-2.72	-3.31/-3.5
Θ (75°)	-3.87/-3.48	-7.28/-12.19	-17.91/-16.26	-8.16/-9.7	-8.53/-3.9	-2.95/-2.61	-3.63/-6.81	-7.14/-6.52	-11.18/-10.44	-3.23/-1.47	-0.47/0.33	-0.54/-2.75	-4.32/-5.92	-4.14/-1.26	0.48/0.56	0.19/-2.85	-5.46/-7.52	-16.59/-7.06	-0.45/-1.38	-0.55/-3.39	-3.06/-1.28	-0.47/-2.06	-4.13/-3.33	-2.87/-3.46
Θ (82.5°)	-3.57/-4.98	-11.31/-18.93	-18.18/-18.27	-8.52/-6.75	-4.85/-2.92	-2.88/-2.93	-3.31/-5.57	-8.11/-7.33	-9.24/-5.11	-0.48/0.08	-1.74/-1.46	-3.17/-3.72	-4.32/-6.19	-3.23/-0.36	0.92/0.79	-0.17/-1.25	-0.37/-3.45	-9/-6.44	-1.63/0.37	0.66/-0.57	-3.31/-3.7	-2.03/-3.7	-5.1/-4.15	-4.06/-3.31
Θ (90°)	-2.32/-4.12	-4.8/-9.49	-10.96/-13.86	-9.17/-5.05	-4.57/-3.04	-2.35/-3.36	-4.1/-4.63	-6.62/-8.16	-7.08/-5.05	-1.46/0.09	-0.23/-0.52	-1.35/-2.18	-6.44/-6.85	-1.87/-0.26	-0.08/0.64	-0.61/-3	-2.09/-5.91	-9.87/-3.74	0.66/2.62	2.24/-1.06	-4.11/-1.4	-1.77/-2.53	-3.9/-5.04	-2.82/-1.39
Θ (97.5°)	-1.15/-6.35	-8.97/-9.51	-11.33/-11.97	-8.76/-4.56	-6.02/-4.55	-4.15/-4.74	-3.95/-4.94	-6.13/-12.12	-10.38/-3.41	0.1/-41	1.31/-0.67	-1.68/-2.35	-4.32/-3.47	-2.23/-0.04	1.53/-1.77	0.06/0.79	-0.75/-2.39	-3.85/-1.82	-1.92/-1.46	1.37/-1.95	2.21/0.79	-1.52/-4.64	-8.06/-8.21	-8.42/-6.06
Θ (105°)	-1.01/-4.62	-9.64/-4.82	-8.08/-15.74	-10.33/-4.38	-6.88/-6.31	-6.65/-7.68	-4.61/-4.4	-6.22/-7.85	-9.68/-6.99	-0.82/-1.53	1.86/1.84	0.11/-0.18	-1.02/-5.02	-3.36/-0.35	0.37/0.43	-0.82/-2.27	-1.42/-2.97	-3.01/-0.66	7.27/3.5	3.26/0.16	-2.06/-1.37	-1.15/-5.02	-7.45/-6.84	-8.95/-4.55
Θ (112.5°)	-3.56/-7.02	-9.2/-4.16	-8.59/-7.79	-8.23/-5.57	-8.19/-15.74	-12.24/-9.53	-4.65/-4.94	-11.67/-11.16	-9.38/-6.28	-0.85/0.44	0.81/-23	-0.54/-0.09	-1.6/-2.94	-0.04/-1.34	1.27/0.9	0.71/-1.37	1.19/-2.17	-2.97/-2.38	2.98/1.87	-1.39/-5.06	-2.73/-5.63	-8.12/-10.14	-9.2/-4.44	-12.5/-17.93
Θ (120°)	-4.72/-9.57	-12.33/-7.6	-4.37/-17.8	-15.64/-18.1	-14.53/-18.36	-14.88/-9.03	-6.52/-6.78	-7.71/-10.48	-9.43/-5.98	-4.3/-2.46	0.76/0.87	0.72/-1.7	-1.08/-1.62	-0.11/-0.19	-0.54/-1.06	-2.88/-2.12	-2.94/-2.4	-1.54/-4.2	1.81/2.26	2.09/23	-2.23/-4.14	-6.1/-12.63	-16.33/-17.88	-12.12/-17.93
Θ (127.5°)	-7.3/-11.87	-17.91/-14.04	-7.5/-16.86	-10.15/-8.48	-11.78/-19.06	-18.93/-17.53	-17.95/-18.38	-17.42/-8.72	-5.34/-5.56	-5.58/-3.09	-0.98/-1	-0.19/-1.29	-3.4/-2.27	0.18/1.28	1.31/0.9	-3.07/-5.32	-2.77/-1.92	-0.82/0.1	0.06/0.61	-1.09/-3.56	-3.1/-3.31	-4.45/-6.06	-11.44/-11	-18.64/-12.21
Θ (135°)	-15.9/-16.43	-18.97/-18.59	-13.08/-11.6	-14.34/-18.64	-18.82/-18.69	-15.15/-11.89	-11.25/-12.51	-11.25/-9.02	-6.74/-5.01	-2.99/-1.96	-2.76/-3.12	-2.46/-1.23	-1.65/-2.21	-3.8/-2.17	-0.42/-2.06	-3.86/-1.85	-8.12/-12.7	-0.99/-1.44	-1.6/-1.97	-2.5/-2.8	-6.19/-8.31	-12.5/-8.98	-8.72/-18.06	-11.25/-13.99
Θ (142.5°)	-9.11/-11.31	-14.43/-9.09	-7.53/-11.59	-18.49/-17.86	-18.90/-17.69	-16.63/-16.05	-11.94/-10.21	-8.48/-5.55	-3.22/-3.21	-4.11/-4.3	-6.43/-5.6	-4.41/-1.78	-2.07/-3.38	-1.95/-0.87	-0.91/-1.25	-6.93/-12.35	-7.54/-3.48	-0.97/-1.68	-1.86/-4.58	-6.22/-3.25	-1.86/-18.73	-12.64/-9.52	-15.07/-8.85	-15.07/-8.85
Θ (150°)	-16.6/-13.71	-14.98/-11.48	-9.72/-12.35	-13.02/-10.96	-11.8/-17.54	-18.19/-13.45	-10.77/-9.74	-9.15/-7.28	-5.65/-5.27	-6.29/-8.55	-8.88/-5.48	-3.43/-3.01	-2.9/-2.88	-3.66/-5.55	-7.8/-10.6	-18.29/-18.29	-15.72/-7.44	-5.37/-5.5	-4.67/-5.39	-6.77/-4.73	-5.17/-11.38	-9.95/-12.15	-18.35/-10.62	-12.53/-19.21
Θ (157.5°)	-18.22/-17.7	-17.27/-16.64	-17.78/-13.84	-10.25/-7.73	-6.07/-8.47	-4.85/-5.48	-5.49/-4.64	-3.79/-3.89	-4.9/-6.45	-6.69/-6.06	-4.73/-3.47	-2.94/-3.08	-3.98/-4.85	-5.84/-7.63	-11.05/-15.22	-19.31/-16.46	-11.91/-11.55	-15.91/-12.27	-7.61/-4.64	-7.73/-8.86	-7.18/-5.5	-6.77/-11.65	-16.63/-12.27	-13.16/-16.82
Θ (165°)	-14.42/-12.83	-14.39/-15.45	-14.05/-12.42	-12.09/-12.71	-11.49/-9.11	-7.25/-7.28	-7.52/-6.87	-5.89/-4.92	-4.54/-5.08	-6.24/-7.3	-8.55/-9.4	-9.5/-9.41	-10.11/-11.56	-13.03/-13.44	-13.43/-11.01	-9.1/-8.48	-8.75/-7.22	-5.03/-3.15	-2.33/-2.01	-1.79/-2.22	-3.1/-4.65	-7.58/-12.12	-16.49/-14.7	-13.26/-15.31
Θ (172.5°)	-17.89/-18.33	-18.69/-18.31	-15.45/-13.46	-10.71/-8.33	-6.74/-5.82	-5.91/-5.98	-6.84/-7.32	-7.32/-7.21	-6.91/-6.82	-7.02/-7.69	-8.35/-9.62	-10.94/-12.05	-12.48/-12	-10.54/-8.39	-6.05/-4.48	-3.93/-3.59	-3.93/-3.94	-4.21/-4.37	-5.11/-5.87	-7.24/-8.79	-10.07/-12.7	-14.16/-14.95	-17.81/-18.45	-18.85/-18.92
Θ (180°)	-17.95/-17.04	-17.97/-17.76	-15.44/-15.13	-14.85/-13.69	-12.19/-10.32	-9.69/-9.13	-9.03/-9.46	-9.28/-8.75	-8.67/-8.7	-9.07/-9.51	-10.14/-11.85	-13.36/-15.01	-16/-16.51	-15.93/-14.2	-12.91/-12.31	-12.88/-13.59	-13.64/-13.68	-14.35/-14.93	-13.6/-11.79	-9.29/-7.59	-7.26/-6.88	-6.95/-7.86	-9.44/-11.62	-14.36/-15.33
Freq(Hz)	5.3GPol	PhiAnt.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-2.08/-2.78	-2.57/-2.64	-3.08/-3.37	-3.8/-4.7	-6.33/-8.97	-12.63/-15.18	-17.19/-19.82	-17.74/-12.51	-9.21/-7.15	-5.53/-8.2	-2.77/-2.06	-1.53/-1.04	-1.01/-1.29	-1.59/-1.91										



Radiated Composite Gain Data

Appendix A

Θ(0°)	-17.81/-14.76	-12.46/-10.02	-8.15/-6.49	-4.85/-5.02	-5.49/-5.23	-5.19/-4.47	-4.38/-4.42	-4.7/-4.87	-5.46/-5.59	-6.3/-7.14	-8.39/-10.4	-12.82/-15.46	-18.43/-17.97	-16.78/-12.49	-10.71/-8.7	-7.21/-6.39	-5.74/-5	-4.63/-4.34	-4.26/-4.37	-4.3/-4.77	-5.41/-7.24	-8.88/-9.79	-10.06/-12.97	-16.95/-18.79
Θ(7.5°)	-14.54/-16.96	-15.48/-12.06	-9.46/-7.97	-6.69/-6.37	-5.98/-5.4	-5.08/-4.82	-4.55/-4.71	-5.28/-5.93	-6.85/-8.07	-9.55/-11.8	-15.67/-18.63	-18.52/-17.15	-16.7/-12.72	-10.24/-9.21	-8.78/-7.55	-6.11/-5.27	-5.34/-4.64	-3.73/-3.76	-3.78/-4.04	-4/-3.63	-3.67/-4.41	-4.74/-4.93	-5.61/-6.87	-8.62/-10.82
Θ(15°)	-18.71/-18.86	-14.05/-10.34	-8.29/-7.37	-6.76/-6.41	-5.71/-5.62	-4.8/-4.38	-4.01/-3.86	-3.77/-3.9	-4.56/-4.71	-5.21/-6.47	-6.61/-11.69	-17.13/-17.47	-18.32/-14.04	-11.88/-11.14	-10.81/-12.63	-15.05/-19.07	-18.43/-13.36	-7.88/-5.46	-4.54/-4.21	-3.99/-3.95	-3.82/-3.84	-3.66/-3.9	-4.65/-5.79	-8.09/-11.78
Θ(22.5°)	-16.17/-18.85	-15/-12.76	-11.12/-10.82	-12.38/-14.93	-17.54/-19.4	-17.95/-17.16	-13.54/-10.21	-7.3/-5.43	-3.7/-2.11	-1.2/-1.26	-2.16/-4.09	-6.12/-8.03	-7.95/-8.29	-4.68/-3.64	-3.31/-3.46	-4.66/-6.06	-6.34/-5.15	-3.61/-2.85	-2.82/-3.65	-4/-3.39	-3.48/-3.3	-3.08/-3.1	-3.6/-4.24	-6.9/-9.69
Θ(30°)	-14.14/-13.68	-8.75/-7.21	-8.25/-8.78	-9.72/-11.09	-13.58/-16.42	-13.58/-13.27	-16.45/-18.42	-13.22/-8.24	-5.44/-3.27	-1.61/-1.04	-1.55/-2.94	-4.84/-6.79	-6.75/-5.3	-3.34/-1.47	0.09/0.65	0.3/-0.08	-0.41/-1.38	-1.82/-2.49	-2.4/-1.02	-2.4/-1.02	-1.73/-3.48	-5.12/-5.83	-7.29/-10.17	
Θ(37.5°)	-9.88/-10.89	-9.34/-9.67	-11.36/-10.12	-8.43/-7.3	-6.6/-6.61	-7.18/-6.96	-8.53/-11.15	-14.23/-7.48	-3.75/-2.28	-1.02/-1.02	-1/-3.43	-7.09/-10.13	-8.78/-5.8	-2.86/-0.1	1.94/-21	-1.78/0.39	0.59/-0.23	-0.50/-0.7	-0.50/-0.7	-0.58/-1.6	-2.08/-2.68	-3.45/-5.78		
Θ(45°)	-11.16/-8.08	-5.96/-4.8	-5.36/-8.94	-10.05/-10.3	-10.63/-11.77	-12.81/-12.21	-12.84/-13.06	-9.99/-5.27	-1.10/-47	0.25/-0.18	-1.54/-4.22	-8.12/-13.51	-7.52/-4.1	-1.68/0.22	0.98/1.14	0.56/0.16	0.58/-0.75	-0.98/-1.27	-0.65/0.44	0.53/-0.28	-0.86/-1.88	-4.37/-4.3	-3.22/-2.64	-3.62/-7.91
Θ(52.5°)	-6.45/-5.14	-3.11/-3.55	-5.74/-11.19	-15.67/-13.07	-10.23/-8.58	-8.59/-10.43	-14.3/-13.4	-6.99/-6.39	-1.08/0.52	0.48/-0.56	-1.3/-2.25	-4.81/-10.26	-10.49/-5.61	-2.95/-1.88	-1.96/-1.82	-2.36/-1.53	-2.16/-2.89	-3.94/-1.51	-1.84/-2.03	-0.83/-4.09	-0.91/-2.83	-3.71/-3.94	-3.14/-1.41	-1.98/-4.64
Θ(60°)	-1.65/-1.47	-1.54/-1.83	-3.52/-5.37	-8.89/-7.2	-5.39/-4.4	-6.34/-7.29	-8.89/-11.15	-16.95/-14.38	-5.67/-1.64	1.39/-1.83	-0.4/-3.14	-7.26/-11.53	-7.69/-4.19	-2.13/-1.19	1.67/0.95	-0.07/-1.54	2.21/0.22	2.47/2.07	-0.33/-3.46	-1.89/-0.98	-1/-1.68	-1.92/-1.84		
Θ(67.5°)	-3.02/-2.77	-4.17/-2.46	-3.66/-4.02	-6.86/-6.81	-4.97/-4.03	-5/-4.49	-5.61/-9.47	-10.07/-14.12	-7.44/-1.98	0.0/69	-0.43/-2.74	-6.74/-14.45	-8.24/-3.4	-2.36/-0.8	0.60/46	0.14/-7.19	2.48/2.07	0.15/-3.05	-1.84/-0.02	0.94/0.7	-0.5/-3.58	-3.41/-1.03	-1.27/-1.67	-1.48/-2.55
Θ(75°)	-2.01/-2.55	-4.78/-4.62	-5.36/-4.54	-7.23/-6.29	-4.13/-1.28	-1.59/-2.46	-3.79/-12.33	-7.9/-4.94	-7.1/-2.59	0.24/-0.06	-0.69/-2.6	-6.41/-12.32	-11.66/-5.55	-4.49/-1.13	-0.22/0.68	0.96/2.7	2.61/8.7	-2.03/-4.52	-4.87/-1.66	0.25/0.01	-2.21/-7.16	-3.8/-1.19	-1.91/-1.29	-1.18/-1.73
Θ(82.5°)	-2.87/-1.11	-7.24/-9.76	-6.41/-6.53	-7.78/-4.66	-1.40/-0.8	-0.45/-0.92	-2.57/-9.55	-4.96/-2.56	-4.96/-1.7	0.67/-0.86	-2.92/-3.93	-8.54/-8.36	-6.87/-3.72	-4.11/-1.9	-1.54/-1.14	-0.06/1.09	2.13/2.58	-0.67/-6.57	-2.59/0.35	0.29/0.24	-2.95/-3.92	-2.31/-4.2	-3.6/-6.3	1.31/-0.71
Θ(90°)	-5.82/-2.26	-6.78/-15.72	-15.41/-12.32	-3.44/-3.23	-3.09/-2.01	-2.14/-0.64	-0.6/-6.74	-10.03/-3.65	-1.96/-1.9	2.09/1.6	-1.48/-3.15	-6.85/-14.01	-9.18/-5.13	-9.54/-2.52	-0.32/-0.22	1.59/0.87	3.08/2.46	-2.51/-2.99	0.02/0.68	0.25/0.8	-0.65/-1.12	-1.84/-4.54	-10.43/-3.74	0.05/-4.2
Θ(97.5°)	-0.35/-4.15	-3.12/-11.46	-15.91/-7.17	-5.62/-4.64	-7.08/-3.71	-1.53/-0.1	-0.24/-6.47	-10.21/-5.19	-3.33/-1.74	2.78/0.9	-1.97/-1.79	-6.88/-18.07	-9.21/-10.22	-8.36/-3.54	-1.8/-1.96	1.49/-0.29	-3.15/-2.43	0.27/0.05	3.01/0.96	0.57/-0.71	0.75/-0.6	-3.56/-2.07	-2.45/-2.37	
Θ(105°)	-0.19/-0.42	-3.03/-6.41	-18.29/-12.49	-1.27/-4.39	-6.83/-7.41	-8.09/-3.62	-2.6/-6.73	-6.6/-4.99	-5.57/0.32	3.61/2.68	-1.35/-2.84	-4.54/-7.4	-7.95/-8.16	-6.57/-1.72	-0.68/-0.67	-0.48/-0.98	-1.38/-0.25	-1.47/-1	1.21/1.2	2.12/4.42	-3.63/-1.28	-0.69/-6.15	-8.55/-6.33	
Θ(112.5°)	-4.27/-6.41	-17.31/-7.64	-11.59/-4.89	-9.46/-4.84	-19.15/-10.91	-9.06/-6.34	-4.89/-7.71	-9.81/-5.37	-2.97/-0.34	1.74/-1.59	-0.70/-46	-0.84/-3.35	-1.73/-4.11	-0.99/-1.19	0.82/0.92	0.69/0.15	1.78/-1.17	-1.09/-0.41	2.37/2.63	2.87/2.52	1.78/-1.19	-3.18/-4.58	-9.33/-19.19	-10.41/-15.12
Θ(120°)	-1.73/-13.19	-6.43/-10.67	-10.47/-12.48	-10.58/-6.77	-11.99/-18.79	-11.3/-8.94	-8.59/-16.83	-8.31/-5.9	-7.08/-9.97	1.35/-0.38	-0.75/-69	0.16/0.12	0.17/-2.84	0.04/-1.55	2.21/-92	0.32/-64	-1.32/-4.08	-0.20/-63	-0.84/-0.99	3.01/-6	0.86/-2.01	-0.16/-3.46	-11.69/-11.54	-7.57/-10.96
Θ(127.5°)	-10.31/-5.32	-10.14/-15.85	-5.5/-7.8	-4.51/-3.98	-7.78/-10.23	-14.32/-17.6	-18.69/-13.21	-5.08/-63	-0.46/-31	-2.81/-5.13	-1.73/2.77	-0.65/0.03	-3.78/-3.32	0.78/2.18	2.09/-12	-0.61/-17	1.83/2.23	1.73/-27	0.26/0.46	0.38/-149	0.18/-5.94	-10.09/-12.79	-8.95/-6.13	
Θ(135°)	-8.62/-18.86	-17.42/-10.96	-10.42/-8.19	-10.26/-12.22	-10.97/-9.64	-11.9/-18.61	-15.67/-9.8	-5.82/-2.67	-0.68/-1.07	-3.82/-5.47	-3.31/-0.27	2.17/1.37	0.38/-0.08	-1.67/-2.12	0.78/-1.9	-0.07/-2.21	0.62/-1.35	-1.98/-3.88	-5.88/-5.31	-3.27/-1.52	-0.91/-4.28	-5.32/-5.53	-7.55/-10.15	-8.33/-5.8
Θ(142.5°)	-3.57/-4.43	-8.6/-6.3	-9.13/-18.87	-17.02/-10.82	-12.8/-17.94	-14.51/-8.59	-7.67/-4.35	-1.85/-1.04	-1.29/-2.8	-6.82/-0.52	0.02/1.76	0.91/0.29	-1.73/-2.86	-8.67/-3.8	-2.62/-3.35	-5.17/-16.22	-3.95/-1.34	1.65/0.51	-2.06/-5.55	-5.42/-3.82	-1.12/-1.76	-11.07/-9.63	-15.15/-9.61	-11.05/-4.32
Θ(150°)	-14.4/-8.79	-10.39/-13.32	-18.72/-16.37	-13.75/-18	-15.47/-13.94	-7.49/-4.16	-3.01/-3.43	-4.71/-6.29	-9.38/-12.34	-19.53/-11.36	-6.88/-4.03	-2.13/-2.79	-5.98/-8.07	-9.76/-10.45	-5.94/-3.95	-8.48/-18.54	-8.82/-4.53	-3.13/-5.73	-6.15/-6.44	-5.01/-1.1	-0.13/-2.71	-8.63/-18.79	-12.57/-9.28	-13.67/-16.8
Θ(157.5°)	-9.08/-7.33	-6.67/-5.57	-5.23/-4.27	-4.84/-4.41	-3.86/-4.81	-6.99/-7.15	-6.51/-6.64	-3.76/-5.83	-3.68/-3.71	-4.51/-4.2	-3.12/-18	-2.12/-1.31	-3.63/-8.98	-18.91/-16.25	-10.71/-7.9	-7.97/-8.94	-10.41/-7.27	-5.54/-7.74	-12.07/-17.88	-17.86/-12.67	-9.48/-9.55	-9.48/-12.88	-16.84/-11.69	-8.75/-8.9
Θ(165°)	-15.1/-13.68	-11.52/-8.33	-5.71/-5.56	-6.1/-5.7	-4.83/-5.14	-5.33/-5.59	-6.68/-6.04	-10.94/-11.97	-9.88/-7.99	-6.95/-5.31	-3.45/-2.58	-2.99/-4.25	-5.66/-1.66	-6.1/-5.97	-6.73/-9.41	-12.87/-15.06	-13.77/-13.51	-17.26/-14.05	-6.54/-2.81	-1.23/-4.13	-2.8/-5.49	-8.76/-11.54	-12.53/-11.15	-11.13/-14.45
Θ(172.5°)	-11.07/-14.11	-16.72/-17.89	-19/-18.57	-16.91/-13.9	-12.18/-13.26	-16.84/-17.76	-19.56/-19.05	-13.89/-10.04	-7.14/-5.15	-4.11/-4.22	-4.75/-4.58	-6.91/-10.28	-16.05/-19.31	-14.67/-9.47	-6.46/-4.78	-4.26/-3.65	-3.63/-3.89	-3.84/-3.26	-2.95/-4.41	-5.31/-8.74	-11.65/-12.59	-13.58/-12.84	-13.26/-14.12	-12.7/-10.66
Θ(180°)	-7.09/-6.83	-7.23/-8.87	-10.7/-10.68	-8.74/-9.5	-10.14/-9.12	-8.13/-7.76	-7.38/-6.82	-6.65/-6.69	-6.86/-6.32	-5.75/-5.23	-5.56/-6.61	-8.03/-9.77	-11.04/-10.95	-10.51/-9.02	-7.77/-5.46	-7.66/-6.94	-6.95/-8.26	-10.98/-12.17	-15.12/-19.03	-15.01/-9.6	-17.81/-5.3	-8.4/-8.19	-9.46/-8.86	-7.38/-7.26
Freq(Hz)	5.785GPol.	Phi/Ant. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-12.51/-9.92	-8.6/-8.38	-11.18/-12.69	-10.51/-11.35	-12.42/-11.51	-10.85/-10.29	-11.37/-11.95	-12.02/-10.87	-10.75/-11.42	-11.27/-10.54	-12.37/-9.45	-8.78/-8.89	-9.21/-8.8	-9.19/-10.33	-12.84/-14.81	-13.9/-13.93	-14.93/-19.02	-18.21/-18.7	-17.75/-15.65	-13.71/-13.22	-12.11/-10.6	-10.18/-7.98	-7.16/-6.85	-7.03/-11.4
Θ(7.5°)	-7.07/-6.99	-8.52/-8.15	-9.01/-11.39	-12.77/-16.23	-18.75/-17.97	-18.62/-15.98	-13/-12.08	-13.55/-13.43	-13.12/-13.66	-13.69/-15.39	-17.26/-17.8	-18.74/-18.16	-17.61/-17.87	-18.82/-19.26	-14/-12.63	-12.6/-10.76	-9.15/-9.96	-12.89/-17.36	-17.89/-17.48	-16.57/-15.7	-13.56/-12.98	-11.82/-9.75	-8.69/-7.1	-6.27/-6.42
Θ(15°)	-0.61/-0.61	-2.31/-5.2	-5.71/-7.02	-8.77/-13.45	-16.88/-16.61	-16.38/-18.2	-18.42/-15.85	-15.01/-15.71	-18.21/-18.76	-18.42/-18.48	-18.12/-19	-17.76/-18.29	-15.61/-13.9	-11.19/-57	-9.05/-6.68	-4.62/-3.94	-4.47/-5.1	-5.38/-5.6	-6.39/-7.62	-8.89/-12.11	-17.95/-16.59	-15.68/-10.19	-7.57/-5.54	-4.01/-2.04
Θ(22.5°)	0.96/0.86	-0.87/-4.01	-7.55/-13.47	-18.8/-15.33	-12.99/-12.01	-12.41/-13.46	-10.58/-8.83	-7.94/-7.93	-8.27/-11.85	-14.68/-13.33	-13.14/-17.2	-16.89/-16.9	-12.76/-9.23	-6.53/-5.76	-6.28/-5.73	-4.37/-4.56	-5.33/-4.65	-3.72/-4.08	-4.37/-4.37	-5.13/-7.57	-13.58/-18.95	-14.84/-9.1	-5.71/-2.41	0.17/-1.2
Θ(30°)	-0.13/-1.17	-3.62/-6.26	-7.98/-6.36	-4.13/-3.87	-5.37/-7.78	-12.5/-18.71	-11.85/-7.27	-5.77/-5.39	-5.93/-7.4	-8.56/-9.31	-13.72/-18	-14.97/-10.12	-7.66/-6.4	-5.87/-5.68	-5.89/-5.84	-6.32/-9.02	-9.79/-7.88	-8.86/-10.03	-10.19/-10.78	-12.36/-9.85	-9.42/-10.46	-12.45/-9.9	-7.76/-5.05	-1.92/-0.56
Θ(37.5°)	-4.48/-6.02	-7.82/-10.57	-8.34/-5.98	-4.01/-3.8	-6.41/-12.85	-18.8/-13.48	-7.15/-5.05	-4.56/-3.64	-4.34/-5.3	-7.02/-9.02	-14.18/-18.74	-14.08/-8.84	-5.78/-3.72	-3.64/-5.24	-6.93/-7.7	-8.17/-9.44	-10.15/-11.7	-10.77/-13.01	-18.94/-13.48	-6.78/-3.59	-6.71/-10.51	-11.16/-8.92	-6.56/-5.1	-4.42/-4.84
Θ(45°)	-0.13/-3.99	-1.21/-1.56	-7.43/-5.5	-6.13/-9.58	-18.38/-13.99	-7.21/-4.47	-7.17/-4.55	-4.88/-5.19	-6.19/-9.21	-13.54/-18.57	-10.93/-7.11	-3.97/-2.43	-2.16/-2.74	-3.59/-5.51	-8.22/-9.36	-8.89/-9.48	-14.91/-11.38	-10.31/-16.48	-4.91/-11.38	-8.83/-6.07	-5.42/-4.89	-5.03/-3.04	-1.02/-8.9	
Θ(52.5°)	-3.65/-7.53	-10.72/-9.45	-12.42/-16.06	-16.41/-18.98	-7.85/-2.49	-2.85/-2.89	-4.96/-6.4	-7.51/-9.13	-13.38/-15.87	-10.41/-9.56	-13.63/-19.33	-13.68/-1.43	-4.17/-2.58	-2.74/-7.1	-7.25/-6.94	-7.26/-10.34	-10.48/-7.79	-7.84/-8.44	-10.36/-10.46	-13.82/-9.19	-7.67/-6.94			



Radiated Composite Gain Data

Appendix A

Θ(52.5°)	-6.83/-7.68	-7.15/-5.75	-3.98/-3.26	-3.81/-4.47	-6.51/-11.81	-18.72/-15.71	-8.84/-6.66	-7.54/-9.24	-9.07/-6.89	-6.71/-7.55	-9.3/-9.33	-5.87/-2.48	-1.34/-2.65	-4.12/-5.01	-4.57/-3.71	-3.13/-4.12	-6.14/-8.11	-11.84/-14.16	-17.74/-17.47	-11.95/-7.15	4.58/-3	-1.74/-1.42	-1.33/-2.13	-4.23/-6.1
Θ(60°)	-7.58/-9.54	-10.66/-10.4	-8.5/-6.8	-6.99/-7.74	-9.16/-11.43	-14.2/-15.69	-11.18/-8.51	-8.58/-9.94	-6.24/-3.29	-2.67/-2.5	-4.86/-8.62	-9.4/-6.91	-5.62/-5.77	-6.01/-5.99	-5.73/-4.36	-3/-3.87	-5.7/-9.13	-12.32/-18.39	-17.1/-18.72	-13.83/-12.34	-8.23/-5.22	-3.07/-1.35	-1.84/-3.63	-5.2/-5.79
Θ(67.5°)	-10.43/-9.51	-9.26/-7.79	-6.67/-6.37	-7.49/-6.51	-5.64/-6.74	-9.43/-14.33	-18.91/-13.84	-11.08/-9.09	-6.39/-3.2	-2.05/-1.76	-3.03/-5.95	-5.92/-8.37	-3.43/-3.71	-4.71/-6.82	-8.15/-6.67	-5.9/-7.03	-8.39/-11.94	-14.18/-13.94	-16.61/-18.19	-15.02/-10.72	-10.27/-9.6	-5.34/-2.76	-1.55/-2.5	-5.4/-9.1
Θ(75°)	-7.98/-11.11	-13.19/-15.21	-13.25/-7.8	4.5/-3.37	-3.41/-4.87	-7.31/-11.37	-13.81/-18.81	-18.15/-18.32	-12.7/-8.67	7.81/-7.3	-5/-3.49	-2.98/-4.59	-6.48/-5.86	-4.64/-5.45	-6.42/-6.66	-7.85/-9.31	-12.14/-13.64	-14.74/-13.8	-14.22/-11.25	-9.43/-10.57	-11.16/-7.35	-5.54/-4.42	-4.08/-3.86	-5.52/-7.06
Θ(82.5°)	-7.07/-6.21	-10.51/-14.13	-13.76/-7.15	-3.47/-1.31	-1.54/-5.04	-12.12/-10.76	-7.29/-9.69	-7.85/-9.14	-15.42/-15.67	-7.54/-6.36	-6.24/-6.54	-4.97/-3.81	-5.45/-9.77	-13.88/-15.22	-11.69/-10.58	-9.97/-7.22	-6.55/-7.7	-7.69/-18.69	-19.31/-14.18	-13.61/-10.18	-10.58/-12.06	-5.49/-3.26	-3.01/-5.19	-8.88/-8.57
Θ(90°)	-5.57/-6.9	-9.21/-9.55	-7.58/-4.15	-2.13/-2.81	-4.55/-7.27	-13.81/-17.51	-8.63/-7.47	-7.66/-6.87	-7.49/-12.51	-18.69/-12.17	-5.95/-5.53	-5.01/-6.56	-7.92/-9.25	-10.35/-11.2	-10.98/-10.08	-7.86/-8.61	-4.44/-6.8	-7.29/-10.98	-16.21/-16.86	-13.9/-14.23	-12.63/-7.77	-7.51/-5.15	-5.01/-5.01	-5.35/-5.4
Θ(97.5°)	-7.15/-8.78	-11.37/-12.31	-10.5/-5.62	-3.67/-4.72	-8.04/-14.85	-18.08/-11.55	-6.86/-6.4	-7.35/-7.72	-7.73/-11.26	-13/-10.4	-11.83/-11.15	-12.2/-9.98	-9.35/-11.19	-10.78/-10.57	-11.85/-10.86	-9.61/-7.78	-5.81/-6.42	-6.18/-6.94	-9.16/-10.38	-10.33/-12.88	-16.27/-8.62	-6.76/-5.71	-5.12/-5.17	-5.96/-5.86
Θ(105°)	-7.87/-8.66	-8.11/-8.76	-6.32/-6.89	-5.59/-7.55	-8.87/-13.13	-12.18/-9.35	-7.93/-8.4	-9.01/-7.58	-6.73/-7.45	-11.28/-13.13	-9.09/-7.88	-5.44/-4.37	-4.44/-3.75	-3.4/-3.27	-5.2/-7.84	-11.25/-11.55	-12.06/-11.9	-9.3/-10.88	-12.43/-12	-13.78/-13.22	-12.03/-8.66	-5.78/-7.59	-3.88/-6.25	-5.59/-6.92
Θ(112.5°)	-5.6/-8.93	-9.64/-12.8	-12.93/-12.77	-7.32/-9.23	-10.22/-11.52	-10.88/-9.97	-10.46/-12.23	-14.63/-11.65	-8.88/-9.68	-10.66/-10.16	-6.84/-5.03	-6.48/-5.07	-4.67/-4.13	-2.4/-3.06	-4.34/-4.89	-8.77/-14.71	-16.62/-14.31	-10.35/-13.63	-14.85/-9.96	-11.1/-14.91	-12.23/-8.78	-6.11/-4.42	-8.32/-11.29	-6.78/-4.4
Θ(120°)	-10.64/-7.38	-6.88/-11.16	-9.63/-10.18	-8.62/-9.11	-13.04/-12.63	-11.79/-9.48	-8.5/-8.13	-7.84/-8.74	-11.61/-11.02	-8.75/-11.32	-13.19/-7.21	-5.73/-4.84	-3.08/-3.25	-2.93/-2.24	-2.31/-4.49	-8.88/-14.13	-17.63/-15.54	-18.53/-19.1	-15.64/-15.66	-10.91/-10.88	-12.48/-11.12	-14.36/-10.75	-8.24/-9.98	-10.13/-10.43
Θ(127.5°)	-6.17/-9.4	-9.34/-12.18	-18.71/-14.71	-13.7/-10.58	-11.54/-16.88	-16.04/-11.92	-8.89/-7.83	-10.68/-17.56	-17.88/-16.12	-11.08/-9.49	-7.6/-9.38	-8.15/-6.85	-7.92/-4.94	-5.4/-5.61	-5.93/-6.01	-8.86/-8.27	-7.22/-7.46	-12.3/-18.98	-18.87/-18.29	-19.17/-12.82	-10.69/-10.03	-6.76/-8.83	-11.67/-10.68	-8.93/-6.19
Θ(135°)	-10.1/-11.37	-12.54/-11.36	-18.97/-18.03	-19.08/-16.64	-12.98/-11.12	-9.49/-9.74	-9.11/-7.02	-5.85/-6.34	-9.35/-13.06	-9.15/-7.43	-8.48/-8.3	-8.6/-12.08	-8.93/-2.85	-0.14/-3.82	-8.49/-10.31	-9.29/-7.33	-8.24/-12.14	-12.55/-8.42	-9.35/-17.31	-18.91/-12.74	-15.52/-19.15	-18.45/-12.46		
Θ(142.5°)	-7.96/-14.86	-17.19/-13.49	-18.37/-15.91	-18.27/-15.14	-7.71/-5.5	-4.83/-4.05	-3.43/-2.95	-2.75/-3.02	-4.07/-5.9	-7.4/-7.63	-7.21/-7.7	-8.73/-7.3	-6.22/-6.42	-6.13/-5.22	-5.31/-6.64	-11.05/-11.02	-5.7/-5.35	-6.88/-11.34	-13.69/-16.04	-17.63/-13.63	-14.7/-8.42	-9.11/-11.69	-10.47/-12.11	-12.48/-8.67
Θ(150°)	-18.17/-15.47	-16.53/-15.85	-13.9/-18.89	-10.35/-11.37	-11.36/-10.26	-8.72/-8.15	-7.42/-7.27	-7.73/-8.63	-9.44/-9.27	-8.75/-11.66	-13.89/-11.37	-7.16/-5.93	-7.87/-11.4	-10.09/-6.81	-6.97/-10.98	-10.68/-6.99	-7.34/-7.61	-7.83/-10.43	-15.52/-16.54	-16.37/-18.05	-14.97/-10.26	-13.69/-17.4	-14.26/-17.45	-18.59/-18.93
Θ(157.5°)	-17.9/-18.6	-17.55/-18.5	-19.7/-17.83	-11.7/-11.27	-10.44/-9.79	-9.37/-8.33	-8.63/-10.23	-13.62/-14.81	-12.69/-10.04	-7.6/-5.83	-8.08/-11.75	-15.14/-14.56	-13.36/-13.63	-13.45/-12.51	-12.54/-14.31	-15.19/-11.75	-11.36/-15.27	-18.28/-18.29	-17.91/-18.27	-18.51/-18.85	-18.88/-17.79	-17.22/-15.8	-18.96/-19.15	
Θ(165°)	-10.85/-11.04	-11.5/-13.48	-18.6/-19.4	-13.11/-10.29	-9.13/-8.33	-8.04/-8.42	-8.67/-9.23	-11.31/-14.23	-15.34/-12.61	-10.72/-9.79	-9.85/-12.32	-16.89/-18.72	-14.48/-11.9	-9.7/-8.47	-8.34/-9.33	-10.18/-11.09	-11.81/-11.74	-11.46/-12.13	-13.59/-15.35	-18.31/-19.01	-18.2/-17.77	-17.76/-15.12	-13.46/-13.6	-15.75/-13.15
Θ(172.5°)	-7.9/-8.9	-9.49/-9.74	-9.91/-8.44	-7.62/-7.32	-7.12/-7.38	-7.24/-7.62	-8.56/-9.58	-10.35/-10.61	-10.56/-10.01	-9.47/-8.85	-8.28/-7.9	-7.62/-7.23	-7.05/-7.4	-7.9/-7.82	-7.44/-6.62	-6.86/-8.4	-10.39/-13.2	-14.29/-15.25	-16.21/-16.78	-17.72/-17.38	-17.68/-17.32	-18.27/-17.74	-14.63/-12.24	-10.62/-8.82
Θ(180°)	-12.77/-12.89	-12.25/-11.38	-10.73/-8.97	-7.7/-7.32	-6.98/-7.24	-7.53/-7.71	-8.58/-9.39	-10.44/-11.49	-12.67/-12.91	-12.07/-10.52	-8.61/-7.46	-7.15/-7.74	-9.57/-12.25	-14.25/-13.73	-13.36/-14.32	-15.48/-13.9	-11.31/-10.11	-10.25/-12.04	-14.71/-16	-17/-15.93	-15.82/-16.82	-18.09/-19.49	-18.63/-16.78	-13.46/-12.27
Freq(Hz)	5.3G/Pol.	Phi/Ant. 4	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	Φ	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)*Φ(7.5°)	Φ(15°)*Φ(22.5°)	Φ(30°)*Φ(37.5°)	Φ(45°)*Φ(52.5°)	Φ(60°)*Φ(67.5°)	Φ(75°)*Φ(82.5°)	Φ(90°)*Φ(97.5°)	Φ(105°)*Φ(112.5°)	Φ(120°)*Φ(127.5°)	Φ(135°)*Φ(142.5°)	Φ(150°)*Φ(157.5°)	Φ(165°)*Φ(172.5°)	Φ(180°)*Φ(187.5°)	Φ(195°)*Φ(202.5°)	Φ(210°)*Φ(217.5°)	Φ(225°)*Φ(232.5°)	Φ(240°)*Φ(247.5°)	Φ(255°)*Φ(262.5°)	Φ(270°)*Φ(277.5°)	Φ(285°)*Φ(292.5°)	Φ(300°)*Φ(307.5°)	Φ(315°)*Φ(322.5°)	Φ(330°)*Φ(337.5°)	Φ(345°)*Φ(352.5°)
Θ(0°)	-16.8/-10.9	-9.02/-7.62	-5.81/-4.43	-3.34/-2.5	-1.78/-1.34	-1/-0.47	-0.36/-0.88	-1.28/-1.93	-2.55/-2.99	-3.59/-4.52	-4.73/-6.05	-6.98/-8.3	-8.47/-8.79	-8.28/-7.16	-5.95/-4.69	-3.41/-2.7	-2.12/-1.83	-2.04/-2.08	-2.21/-1.82	-1.91/-2.59	-3.12/-4.01	-5.1/-6.47	-8.42/-11.26	-16.41/-17.08
Θ(7.5°)	-19.24/-13.38	-11.35/-10	-8.73/-7.73	-6.37/-4.96	-3.36/-2.64	-2.3/-2.23	-2.05/-1.85	-1.69/-2.28	-2.42/-3.28	-4.48/-5.97	-7.67/-9.63	-11.44/-12.11	-11.71/-10.44	-8.9/-1.78	-5.99/-5.31	-4.42/-3.57	-2.88/-2.17	-2.03/-2.4	-2.74/-2.53	-2.58/-3.12	-3.36/-3.94	-5/-6.14	-7.67/-9.84	-13.83/-16.27
Θ(15°)	-13.69/-15.58	-14.12/-11.79	-9.57/-8.12	-6.52/-5.31	-4.1/-2.94	-1.69/-1.21	-1.09/-1.27	-1.12/-1.54	-2.13/-3.5	-5.87/-9.84	-11.67/-17.69	-16.71/-12.86	-10.85/-9.01	-5.78/-5.01	-4.82/-3.05	-2.67/-5.81	-5.76/-5.22	-4.57/-5.34	-5.24/-5.05	-4.57/-4.83	-5.64/-6.85	-7.94/-9.13	-18.59/-18.93	
Θ(22.5°)	-8.96/-7.92	-7.76/-7.07	-6.08/-5.66	-5.34/-4.98	-4.8/-5.41	-4.7/-3.93	-3.42/-2.52	-1.51/-0.78	-0.23/-0.14	-1.58/-2.45	-9/-19.37	-16.24/-9.72	-7.33/-6.91	-7.88/-9.46	-11.21/-12.78	-14.68/-16.88	-18.19/-17.06	-13.73/-10.3	-7.67/-5.73	-5.18/-5.36	-5.79/-6.66	-7.79/-9.21	-9.06/-9.55	
Θ(30°)	-9.17/-6.37	-4.42/-4.07	-3.93/-4.46	-5.9/-7.5	-7.83/-7.43	-7.83/-9.49	-12.54/-11.17	-6.9/-4.15	-2.23/-0.82	0.07/-0.38	-0.47/-2.55	-6.48/-13.24	-13.44/-9.92	-9.44/-11.2	-13.18/-13.79	-14.56/-13.44	-11.38/-8.1	-5.3/-3.79	-3.96/-4.31	-4.83/-8.95	-8.94/-9.38	-8.96/-8.51	-7.97/-8.27	-9.32/-10.02
Θ(37.5°)	-6.53/-5.39	-5.41/-7.03	-10.68/-12.05	-9.15/-5.45	-3.61/-2.57	-2.51/-2.95	-4.55/-9.04	-19.01/-13.23	-6.29/-3.26	-1.46/-0.84	-1.69/-4.27	-8.72/-16.71	-14.33/-15.84	-18.55/-17.83	-16.75/-10.85	-6.62/-7.73	-1.05/-0.47	-1.11/-1.83	-2.96/-5.57	-6.67/-13.36	-16.69/-14.26	-10.68/-6.73		
Θ(45°)	-4.59/-5.74	-6.25/-9.82	-11.19/-8.77	-5.53/-2.33	0.162/13	3.373/7	3.131/8.2	-0.27/-3.63	-1.005/-17.55	-8.334/-1.5	-2.03/-2.66	-6.21/9.94	-10.1/-7.85	-10.84/-18.59	-19.42/-11.17	-7.34/-4.34	-1.230/0.1	0.350/5.6	0.560/67	0.370/-0.31	-1.12/-0.26	-4.33/-8.23	-12.37/-13.64	-10.93/-5.43
Θ(52.5°)	-9.74/-10.23	-15.57/-14.92	-11.18/-6.13	-2.20/-43	1.621/9	1.972/25	2.49/-15.2	0.43/-5.02	-2.96/-9.29	-12.32/-3.78	-0.31/-0.15	-0.67/-3.36	-9.17/-11.67	-10.95/-9.42	-7.16/-5.4	-2.720/-13	1.322/19	3.132/75	3.077/-41	0.530/-1	-0.91/-3.43	-6.33/-8.19	-8.21/-9.18	-10.68/-8.82
Θ(60°)	-10.24/-12.56	-18.57/-9.31	-6.01/-5.33	-3.82/-2.66	-1.7/-1.75	-1.52/-0.62	-0.12/-0.13	0.51/5.4	2.19/1.5	-1.45/-4.97	-2.97/-0.98	-1.98/-6.14	-11.13/-14.81	-17.45/-16.69	-11.97/-2	-2.62/-1.04	-0.540/-23	1.512/26	1.880/53	-0.16/-0.07	-0.09/-2.16	-6.61/-12.52	-10.83/-11.6	-12.9/-0.54
Θ(67.5°)	-8.21/-18.25	-9.3/-3.55	-3.17/-3.9	-4.72/-5.99	-8.69/-8.56	-5.21/-2.56	-2.67/-4.59	-6.61/-3.4	0.942/8.5	2.02/-0.41	-1.050/-28	0.24/-2.4	-7.95/-18.11	-18.43/-12.25	-7.91/-4.26	-1.52/-0.99	-0.620/0.3	0.28/-0.1	-1.35/-3.4	-4.87/-1.89	-0.63/-1.1	-4.97/-7.93	-5.86/-7.26	-9.04/-9.74
Θ(75°)	-12.97/-8.96	-6.62/-6.74	-7.35/-11.96	-19.13/-10.22	-4.94/-2.92	-1.45/-0.34	0.2/-0.59	-6.09/-12.02	-1.67/-8.92	2.92/-1.5	-1.75/-1.07	-0.98/-4.1	-10.96/-13.8	-9.33/-9.49	-8.37/-9.6	-5.7/-6.26	-4.97/-4.16	-5.4/-9.36	-8.83/-4.64	-5.28/-5.32	-6.06/-7.46	-10.63/-13.31	-15.52/-15.59	
Θ(82.5°)	-15.29/-18.36	-8.69/-6.11	-9.93/-17.44	-11.57/-5.54	-1.850/-25	1.22/77	3.632/93	0.23/-7.19	-7.881/7	4.233/-31	-1.03/-5.01	-4.48/-7.75	-11.77/-12.42	-10.63/-13.11	-15.9/-81	-8.93/-9.81	-11.43/-11.52	-8.58/-6.32	-7.96/-10.58	-13.33/-9.02	-4.81/-5.26	-8.53/-8.13	-6.26/-6.64	-19.13/-18.04
Θ(90°)	-14.37/-11.84	-7.9/-10	-11.95/-15.94	-8.25/-2.49	-0.420/35	1.412/78	3.653/55	1.77/-2.72	-15.44/-1.66	2.062/3	-0.28/-3.17	-4.64/-8.34	-15.86/-18.94	-17.73/-17.51	-18.35/-15.87	-13.09/-15.93	-11.87/-8.88	-5.1/-2.92	-2.09/-3.47	-4.39/-4.12	-4.87/-8.03	-14.32/-9.85	-8.07/-10.06	-17.46/-18.45
Θ(97.5°)	-17.64/-10.24	-5.96/-6.09	-8.89/-11.08	-6.19/-3.05	-0.071/23	0.741/21	2.463/19	2.870/37	-6.81/-10.45	-1.63/-0.85	-3.64/-7.43	-7.54/-5.85	-13.55/-11.34	-10.71/-10.36	-8.2/-7.8	-5.42/-2.52	-0.840/-96	0.780/3	-0.88/-2.07	-1.76/-6.48	-8.43/-8.68	-7.38/-14.28	-18.97/-18.74	
Θ(105°)	-19.22/-17.89	-14.14/-14.05	-17.27/-14.36	-8.89/-3.25	-0.407/63	0.581/0.5	1.271/39	1.25/-0																



Radiated Composite Gain Data

Appendix A

Θ(90°)	-2.48/-4.76	-9.77/-11.89	-18.61/-5.74	-1.26/-2.24	-7.47/-17.71	-10.68/-3.99	-2.21/-1.49	-1.12/-1.42	-4.93/-14.15	-10.25/-5.61	-6.4/-9.85	-13.91/-6.71	-3.28/-3.48	-6.12/-5.52	-5.09/-6.37	-18.15/-17.96	-18.46/-10.52	-7.01/-7.92	-8.85/-8.49	-7.37/-6.66	-11.78/-17.45	-17.79/-17.96	-5.03/-3.7	-8.19/-5.59
Θ(97.5°)	-5.08/-8.27	-18.01/-19.25	-10.71/-4.29	-1.93/-2.86	-5.45/-13.04	-14.23/-9.84	-9/-7.04	-3.84/-2.64	-5.13/-12.1	-18.41/-17.55	-10.92/-9.6	-12.92/-8.7	-9.89/-10.12	-12.21/-10.52	-11.71/-10.67	-17.89/-16.41	-10.07/-6.09	-4.15/-5.83	-7.74/-7.31	-7.87/-5.43	-10.17/-17.69	-17.77/-17.68	-6.27/-4.52	-5.63/-5.75
Θ(105°)	-6.51/-12.33	-12.95/-14.44	-11.52/-3.99	-2.56/-4.8	-9.39/-9.19	-6.82/-5.94	-6.59/-5.88	-4.31/-4.81	-6.15/-9.8	-18.57/-19.06	-17.35/-16.53	-12.43/-17.47	-10.49/-8.32	-10.2/-7.74	-9.22/-9.17	-11.07/-14.31	-11.51/-9.66	-6.02/-5.08	-7.14/-7.36	-4.96/-4.62	-8.18/-15.81	-15.99/-7.57	-6.51/-7.17	-7.5/-4.64
Θ(112.5°)	-7.19/-12.05	-17.56/-18.02	-17.31/-6.57	-8/-5.68	-6.35/-7.84	-7.86/-7.23	-7.09/-7.5	-9.41/-13.53	-18.41/-16.37	-14.92/-11.89	-6.24/-3.89	-9.16/-11.48	-8.34/-3.96	-2.13/-4.19	-6.02/-7.8	-10.68/-13.22	-10.48/-7.49	-4.82/-6.23	-6.02/-3.55	-6.29/-8.78	-8.46/-18.87	-10.4/-5.64	-5.65/-6.18	-5.99/-6.24
Θ(120°)	-10.03/-16.14	-10.33/-12.37	-12.58/-8.36	-5.09/-7.75	-8.04/-8.03	-8.4/-9.83	-9.8/-7.57	-5.22/-3.03	-3.99/-8.88	-11.42/-12.6	-19.09/-7.09	-4.54/-6.33	-3.52/-3.29	-0.65/-1.86	-0.81/-4.53	-6.48/-8.93	-12.29/-18.57	-18.98/-9.23	-7.36/-8.54	-6.93/-8.75	-13.08/-10.06	-13.12/-12.09	-10.26/-6.91	-5.61/-5.99
Θ(127.5°)	-10.95/-17.48	-16.52/-12.74	-17.86/-18.59	-12.73/-12.34	-14.11/-11.76	-9.03/-7.63	-6.87/-6.53	-3.56/-1.8	-3.91/-8.14	-11.57/-15.65	-16.84/-10.59	-8.7/-9.34	-6.61/-3.67	-2.21/-4.54	-3.1/-2.24	-4.77/-8.29	-8.42/-15.75	-16/-8.65	-6.97/-9.1	-8.67/-11.32	-19.38/-12.46	-5.64/-8.75	-10.02/-14.18	-9.58/-6.69
Θ(135°)	-15.06/-13.37	-18.85/-15.22	-18.84/-18.87	-17.26/-10.82	-6.25/-3.9	-3.23/-2.6	-1.64/-1.93	-2.93/-3.62	-3.91/-7.42	-14.13/-19.27	-11.47/-12.26	-8.68/-5.17	-4.6/-3.9	-1.41/-1.39	2.26/0.11	-6.25/-10.18	-8.71/-10.25	-12.54/-17.59	-13.53/-9.23	-9.77/-5.95	-7.99/-15.34	-17.55/-12.99	-19.19/-11.32	-13.05/-18.74
Θ(142.5°)	-10.54/-12.08	-11.46/-12.16	-8.68/-7.69	-8.89/-6.04	-2.24/-0.94	-0.44/-0.35	-0.57/-0.58	-0.88/-2.01	-3.6/-5.61	-9.86/-17.21	-14.86/-8.6	-9.95/-10.31	-5.87/-5.65	-7.33/-4.7	-1.38/-2.99	-7.4/-9.22	-6.23/-4.56	-6.47/-11.19	-17.79/-19.18	-15.35/-10.13	-11.99/-6.67	-9.05/-14.06	-16.88/-10.5	-12.07/-10.97
Θ(150°)	-14.03/-18.1	-17.58/-11.96	-10.27/-9.65	-7.4/-5.39	-3.98/-1.88	-1.11/-0.83	-0.8/-1.56	-3.05/-4.88	-7.24/-10.67	-12.93/-11.65	-8.49/-7.62	-8.15/-8.99	-9.76/-7.98	-6.35/-4.71	-3.48/-3.65	-6.51/-8.74	-7.31/-9.27	-7.88/-9.39	-14.67/-18.46	-18.86/-12.96	-14.74/-16.17	-18.81/-15.73	-16.04/-15.51	-13.49/-18.21
Θ(157.5°)	-16.24/-17.14	-15.43/-12.35	-10.99/-8.76	-8.09/-7.53	-7.81/-7.89	-7.41/-8.28	-10.87/-13.9	-16.31/-17.93	-18.77/-19.24	-12.22/-8.9	-7.28/-7.52	-8.81/-12.75	-19/-19.02	-17.71/-13.02	-6.91/-5.32	-6.5/-6.51	-6.35/-6.72	-4.95/-5.71	-7.22/-9.38	-10.52/-14.83	-17.59/-16.69	-18.49/-19.24	-16.75/-18.19	-14.34/-10.11
Θ(165°)	-9.71/-11.57	-13/-13.59	-8.5/-6.2	-5.46/-5.58	-5.71/-5.81	-6.07/-6	-6.17/-7.01	-8.38/-9.29	-8.16/-5.72	-2.21/-3.19	-5.04/-7.76	-9.95/-11.09	-12.39/-13.55	-16.27/-18.54	-14.75/-12.3	-13.97/-19.1	-19.67/-14.4	-11.59/-11.02	-11.84/-14.35	-17.95/-18.52	-19.07/-19.27	-18.33/-16.49	-12.31/-9.92	
Θ(172.5°)	-14.71/-12.15	-9.42/-8.15	-6.8/-5.36	-4.44/-4.37	-4.76/-5.01	-4.94/-5.45	-5.61/-6.18	-6.82/-7.16	-7.1/-7.27	-7.67/-8.42	-9.64/-10.68	-11.83/-12.59	-12.33/-12.43	-11.45/-9.09	-7.06/-6	-6.14/-6.02	-5.49/-5.06	-4.34/-5.98	-4.04/-4.47	-5.22/-6.3	-8.23/-10.42	-12.28/-14.64	-17.67/-18.37	-18.77/-17.47
Θ(180°)	-13.52/-13.75	-14/-14.39	-14.22/-14.22	-12.75/-10.23	-8.5/-6.89	-5.56/-5.12	-5.07/-5.07	-4.99/-5.14	-5.06/-4.94	-4.93/-5.19	-5.62/-5.73	-6.38/-7.24	-8.59/-10.16	-11.72/-13.41	-15.02/-17.26	-18.34/-16.53	-11.95/-9.18	-8.34/-7.77	-7.94/-8.3	-8.58/-8.09	-6.72/-5.62	-4.96/-4.83	-5.74/-7.51	-9.83/-12.22
Freq(Hz)	5.785GPol.	Phi/Ant. 4	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-13.09/-7.69	-4.98/-3.2	-1.40/-1.6	1.19/2.01	2.54/2.86	3.16/3.31	3.44/3.23	3.12/2.82	2.32/1.52	0.31/-0.94	-3.28/-6.06	-10.43/-17.78	-17.96/-10.24	-6.32/-3.68	-1.40/-2.6	1.31/2.12	2.63/3.09	3.39/3.46	3.32/2.89	2.31/1.75	0.97/-0.21	-1.45/-3.18	-5.36/-8.73	-13.26/-19.2
Θ(7.5°)	-15.04/-9.34	-6.34/-2.69	-2.41/-1.15	0.02/0.93	1.45/-1.5	1.58/-1.83	1.98/2.04	1.96/-1.44	1.20/0.6	-0.25/-1.52	-3.27/-5.95	-10.85/-17.63	-15.72/-9.81	-6.32/-4.01	-2.2/-1	0.31/0.53	2.23/2.61	3.07/3.31	3.37/3.18	2.85/-2.5	1.98/-1.25	0/-1.6	-3.49/-6.71	-11.92/-18.76
Θ(15°)	-15.16/-19.08	-15.07/-10.61	-7.79/-6.75	-6.24/-5.75	-4.67/-3.79	-3.24/-2.85	-2.47/-1.87	-1.51/-1.64	-1.97/-2.01	-1.96/-2.4	-3.5/-5.19	-6.94/-9.06	-10.34/-9.36	-7.63/-6.62	-5.54/-4.28	-2.68/-1.29	-0.29/0.42	0.63/0.4	0.41/0.47	0.47/0.57	0.60/0.81	0.7/-0.15	-1.31/-2.92	-6.12/-16.19
Θ(22.5°)	-10.43/-11.47	-12.77/-12.99	-12/-9.66	-7.4/-4.91	-3.23/-1.92	-1.03/-0.69	-0.11/0.51	0.59/0.68	0.17/-0.36	-1.14/-2.49	-4.49/-6.08	-6.23/-5.56	-4.77/-4.39	-3.75/-2.82	-1.4/-0.23	0.23/0.4	0.51/0.6	0.22/-0.51	-0.88/-0.9	-1.1/-1.07	-0.78/-0.36	-0.18/-0.83	-2.25/-3.86	-6.61/-8.7
Θ(30°)	-9.46/-10.92	-10.97/-10.3	-8.39/-6.42	-4.42/-2.78	-2.12/-2.03	-2.43/-2.27	-0.83/0.02	0.54/0.93	0.89/0.37	-0.18/-1.03	-2.93/-5.77	-7.98/-7.6	-6.65/-5.55	-3.74/-2.11	-0.94/-0.48	-0.73/-1.3	-0.54/-0.32	-1.41/-2.58	-2.72/-2.75	-3.28/-4.6	-5.34/-5.52	-5.34/-5.47	-4.05/-4.14	-6.71/-10.93
Θ(37.5°)	-14.52/-13.72	-8.42/-8.65	-6.25/-4.73	-4.27/-4.9	-5.63/-5.54	-6.76/-7.35	-6.01/-4.09	-2.1/-0.87	-0.04/-0.07	-0.14/-0.23	-3.79/-5.08	-6.34/-6.41	-5.86/-3.4	-1.23/-0.3	-0.69/-1.26	-1.66/-2.85	-4.34/-5.21	-4.93/-3.97	-5.71/-4.52	-6.51/-6.29	-6.63/-6.39	-6.1/-7.75	-18.77/-16.28	
Θ(45°)	-10.45/-10.04	-7.33/-7.06	-10.22/-13.51	-17.61/-16.49	-11.21/-7.36	-5.1/-4.86	-5.91/-7.51	-10.24/-11.14	-6/-2.21	-0.74/-0.26	-1.16/-3.61	-6.33/-7.26	-7.62/-8.4	-10.59/-9.94	-8.29/-5.77	-4.32/-4.7	-5/-5.73	-7.37/-6.52	-3.92/-2.66	-2.99/-4.35	-6.37/-6.77	-6.77/-6.37	-6.93/-8.11	-9.61/-11.63
Θ(52.5°)	-8.81/-11.17	-17.63/-17.68	-15.07/-18.64	-10.37/-3.14	-0.36/0.56	0.73/0.16	-1.09/-2.12	-2.95/-5.09	-12.2/-13.53	-3.67/0.38	1.25/-0.25	-5.42/-16.52	-17.98/-17.96	-16.13/-12.36	-11.19/-9.89	-9.05/-5.99	-3.75/-2.24	-1.15/-0.22	-0.38/-2.22	-5.37/-5.68	-4.93/-6.26	-6.77/-8.94	-8.67/-8.64	
Θ(60°)	-19/-14.59	-11.94/-17.71	-16.3/-10.25	-5.92/-2.98	-1.87/-1.36	-0.98/-0.33	0.20/37	0.62/0.9	-0.24/-4.43	-15.83/-6.23	-1.3/-0.74	-2.48/-4.33	-6.4/-8.8	-13.11/-13.31	-7.93/-3.91	-0.88/-1.1	2.21/2.82	2.22/0.3	0.14/1.82	1.34/-2.05	-3.07/-2.54	-2.61/-3.2	-5.26/-6.21	-5.61/-9.03
Θ(67.5°)	-18.93/-10.47	-10.64/-18.75	-11.23/-6.58	-4.54/-3.91	-4.46/-7.58	-13.59/-19.06	-12.27/-5.63	-20/-12	1.53/0.72	-3.36/-6.73	-2.54/-1.2	-2.94/-6.46	-7.66/-7.3	-9.38/-14.8	-12.13/-2.93	1.81/3.87	3.77/3.31	3.26/2.96	1.82/0.74	-0.01/-1.31	-7.22/-5.35	-2.37/-5.14	-9.27/-6.34	-6.43/-10.24
Θ(75°)	-18.2/-8.75	-18.22/-7.12	-5.68/-6.23	-7.63/-11.26	-18.56/-7.37	-3.76/-3.05	-4.53/-9.91	-7.57/0.5	3.44/3.32	1.5/-1.91	-3.48/-2.05	-3.36/-5	-7.92/-9.98	-17.55/-18.48	-6.08/-0.41	2.98/3.72	3.54/2.96	2.63/1.65	-1.10/-76	1.06/-3.28	-8.6/-2.93	-6.77/-8.94	-8.89/-8.66	-8.83/-18.68
Θ(82.5°)	-17.73/-18.32	-11.62/-10.34	-8.59/-10.31	-17.77/-17.41	-11.37/-4.34	-0.75/0.51	-0.12/-1.62	-7.3/-10.63	0.37/2.66	1.4/-2.24	-2.91/-1.62	-2.28/-6.15	-15.05/-8.82	-4.64/-2.25	-2.28/0.75	3.384.1	4.17/2.88	0.43/-3.66	-4.44/-2.5	-2.85/-6.3	-11.63/-4.61	-3.76/-7.24	-14.27/-8.96	-9.74/-12.15
Θ(90°)	-9.06/-18.81	-10.26/-7.31	-9.71/-13.69	-18.91/-14.99	-7.32/-4.01	-0.99/0.69	1.11/0.5	-3.21/-12.47	-2.95/2.23	3.61/93	-2.26/-3.92	-6.69/-9.24	-13.08/-10.79	-8.81/-6.98	-2.91/0.08	2.935.06	4.5/0.57	-1.6/-4.23	-3.99/-4.2	-4.65/-12.7	-14.04/-5.65	-4.93/-6.92	-7.41/-6.22	-7.56/-9.42
Θ(97.5°)	-8.35/-11.47	-14.71/-8.5	-7.6/-8.96	-13.84/-12.94	-7.99/-2.43	-0.26/-1.64	1.70/-59	-2.74/-16.02	-4.43/1.62	3.02/2.13	0.94/-0.08	-2.13/-11.39	-17.69/-14.77	-17.47/-10.32	-7.11/-3.83	-1.49/-4.09	-2.15/-2.36	-0.89/-0.67	-1.6/-2.96	-5.16/-12.15	-4.57/-1.94	-4.17/-5.81	-11.08/-11.16	-10.79/-10.89
Θ(105°)	-16.51/-13.76	-5.79/-6.62	-11.07/-11.05	-10.12/-7.3	-3.31/-2.36	-3.92/-3.57	-1.67/-1.28	-1.61/-4.11	-14.56/-4.95	-0.05/-0.25	-1.24/-2.38	-4.5/-6.88	-11.28/-8.64	-9.17/-15.2	-9.56/-7.32	-7.47/-4.28	-1.44/-0.12	1.75/-1.54	-0.54/-0.86	-2.5/-9.73	-7.55/-7.53	-11.32/-14.33	-18.15/-18.8	-14.66/-12.05
Θ(112.5°)	-15.47/-17.96	-11.21/-6.63	-8.95/-16.39	-12.26/-6.3	-3.58/-2.12	-1.43/-1.08	-1.25/-0.64	-1.07/-2.72	-6.08/-11.33	-7.63/-5.42	-8.38/-7.68	-9.33/-8.83	-12.12/-19.01	-18.79/-18.18	-17.76/-18.69	-9.58/-4.15	-1.06/0.54	2.21/1.43	-1.94/-0.5	-0.94/-6.77	-6.9/-4.94	-11.51/-15.54	-18.03/-13.26	-18.34/-18.13
Θ(120°)	-18.9/-12.29	-5.4/-7.56	-16.24/-10	-8.61/-6.02	-3.66/-4.91	-5.22/-2.75	-1.54/-2.81	-5.14/-3.82	-1.14/-1.23	-5.51/-10.44	-8.76/-15.74	-8.76/-9.7	-13.55/-11.79	-10/-5.93	-9.16/-8.78	-5.96/-6.14	-4.03/-0.94	-1.04/-1.38	-4.42/-3	-4.09/-6.83	-4.77/-7.65	-13.9/-16.25	-18.33/-15.47	-13.18/-9.98
Θ(127.5°)	-9.2/-7.15	-5.55/-6.67	-7.21/-9.3	-10.48/-10.41	-9.63/-9.87	-8.8/-5.06	-3.54/-4.26	-10.15/-11.1	-1.67/0.72	-0.51/-0.57	-7.72/-11.62	-8.43/-5.24	-9.94/-12.39	-16.17/-8.05	-5.8/-12.7	-12.04/-6.69	-4.38/-3.7	-4.51/-9.83	-18.19/-11.93	-18.2/-17.74	-11.36/-15.13	-13.74/-10.99	-18.35/-15.89	-11.61/-6.95
Θ(135°)	-10.53/-4.39	-5.25/-4.02	-8.85/-4.24	-9.35/-10.49	-11.32/-15.94	-12.54/-10.15	-10.11/-13.25	-18.3/-12.37	-6.56/-2.34	-2.25/-2.61	-8.57/-8.87	-5.43/-9.83	-17.01/-17.82	-8.51/-7	-8.05/-6.04	-7.41/-6	-7.4/-10.06	-17.51/-8.51	-13.43/-11.22	-5.35/-16.28	-5.99/-11.69	-14.35/-6.16	-7.83/-10.71	
Θ(142.5°)	-11.44/-10.57	-9.07/-6.81	-8.68/-10.53	-12.69/-9.14	-8.86/-8.66	-6.85/-5.9	-6.85/-9.69	-14.45/-10.62	-6.65/-6.86															

Total Gain Data

SZG(Pol.	TotalAnt.1	Φ(15°)φ(22.5°)	Φ(30°)φ(37.5°)	Φ(45°)φ(52.5°)	Φ(60°)φ(67.5°)	Φ(75°)φ(82.5°)	Φ(90°)φ(97.5°)	Φ(105°)φ(112.5°)	Φ(120°)φ(127.5°)	Φ(135°)φ(142.5°)	Φ(150°)φ(157.5°)	Φ(165°)φ(172.5°)	Φ(180°)φ(187.5°)	Φ(195°)φ(202.5°)	Φ(210°)φ(217.5°)	Φ(225°)φ(232.5°)	Φ(240°)φ(247.5°)	Φ(255°)φ(262.5°)	Φ(270°)φ(277.5°)	Φ(285°)φ(292.5°)	Φ(300°)φ(307.5°)	Φ(315°)φ(322.5°)	Φ(330°)φ(337.5°)	Φ(345°)φ(352.5°)
Gain	Φ(0°)φ(7.5°)	Φ(15°)φ(22.5°)	Φ(30°)φ(37.5°)	Φ(45°)φ(52.5°)	Φ(60°)φ(67.5°)	Φ(75°)φ(82.5°)	Φ(90°)φ(97.5°)	Φ(105°)φ(112.5°)	Φ(120°)φ(127.5°)	Φ(135°)φ(142.5°)	Φ(150°)φ(157.5°)	Φ(165°)φ(172.5°)	Φ(180°)φ(187.5°)	Φ(195°)φ(202.5°)	Φ(210°)φ(217.5°)	Φ(225°)φ(232.5°)	Φ(240°)φ(247.5°)	Φ(255°)φ(262.5°)	Φ(270°)φ(277.5°)	Φ(285°)φ(292.5°)	Φ(300°)φ(307.5°)	Φ(315°)φ(322.5°)	Φ(330°)φ(337.5°)	Φ(345°)φ(352.5°)
Θ(0°)	-3.76/-4.59	-3.21/-3.39	-3.37/-3.86	-3.92/-3.85	-4.00/-3.78	-3.62/-3.44	-3.08/-3.19	-3.45/-3.26	-3.16/-3.09	-3.00/-2.72	-2.94/-3.45	-3.91/-4.49	-4.70/-4.36	-4.32/-3.77	-3.95/-4.11	-4.85/-4.71	-5.18/-5.13	-4.89/-4.72	-4.92/-4.90	-4.07/-4.26	-3.84/-4.24	-4.32/-3.70	-3.62/-4.17	-5.00/-4.75
Θ(7.5°)	-2.93/-3.51	-3.53/-4.78	-6.35/-7.13	-8.04/-7.59	-7.44/-7.84	-8.03/-8.07	-8.67/-8.79	-8.43/-8.24	-7.85/-6.98	-6.24/-5.76	-5.49/-5.50	-5.29/-4.92	-4.24/-3.74	-3.15/-2.81	-2.29/-1.96	-1.48/-1.39	-1.69/-1.79	-1.99/-1.91	-2.21/-2.49	-2.27/-2.33	-2.22/-2.61	-3.38/-3.62	-3.06/-3.25	-3.69/-3.84
Θ(15°)	-2.98/-4.16	-5.25/-6.16	-7.27/-8.33	-10.42/-10.36	-10.90/-9.50	-9.62/-10.86	-10.52/-9.32	-8.77/-8.19	-8.48/-8.44	-7.42/-6.44	-6.01/-6.41	-6.89/-6.46	-5.18/-3.87	-2.85/-2.29	-1.80/-1.31	-0.68/-0.31	0.15/-0.06	-0.35/-0.43	-0.56/-1.01	-1.21/-1.16	-0.60/-0.77	-1.62/-2.65	-2.79/-2.97	-3.10/-3.08
Θ(22.5°)	-3.48/-3.90	-4.53/-5.67	-6.73/-6.80	-12.62/-12.07	-9.86/-7.71	-7.57/-8.28	-10.01/-12.58	-10.21/-10.23	-9.85/-9.74	-9.47/-8.33	-8.37/-8.89	-6.17/-11.05	-4.62/-6.30	-4.12/-2.92	-2.37/-1.71	-1.23/-1.46	-1.89/-2.51	-2.43/-1.65	-1.15/-1.04	-0.73/-0.42	-0.16/-0.07	-0.29/-1.40	-0.62/-1.11	-1.90/-2.85
Θ(30°)	-6.11/-5.50	-6.25/-8.34	-11.95/-13.16	-10.29/-6.39	-3.60/-2.90	-3.15/-3.55	-4.11/-4.13	-4.68/-6.91	-10.65/-11.90	-9.84/-9.17	-9.73/-11.46	-11.23/-9.73	-8.20/-6.60	-5.15/-3.94	-2.86/-2.47	-2.11/-1.62	-1.69/-2.14	-3.58/-3.36	-2.34/-1.35	-0.72/-0.73	-0.78/-1.08	-1.18/-1.45	-2.14/-3.80	-5.06/-6.09
Θ(37.5°)	-1.53/-1.06	-1.18/-2.39	-3.62/-5.40	-4.43/-2.06	-0.84/-1.33	-2.09/-2.53	-2.68/-4.19	-7.38/-11.71	-14.23/-14.34	-15.11/-14.97	-11.24/-6.78	-5.70/-7.03	-8.90/-6.65	-5.05/-3.60	-2.79/-1.67	-0.84/-0.94	-1.79/-3.60	-3.65/-2.08	-0.60/-0.40	1.15/-1.39	1.27/-0.79	0.87/-0.62	0.96/-0.64	-0.24/-1.32
Θ(45°)	-0.59/-0.14	0.08/-0.19	-1.77/-3.15	-2.76/-1.91	-1.38/-1.81	-1.96/-2.53	-4.79/-6.45	-6.68/-7.30	-9.37/-8.80	-8.60/-12.75	-15.67/-8.28	-1.64/-1.84	-6.06/-8.21	-3.70/-1.55	-2.57/-4.13	-0.83/-3.50	-4.29/-3.14	-0.38/-0.55	0.93/-0.78	0.64/-0.36	0.25/-0.42	-1.08/-0.46	-1.31/-1.80	-1.50/-1.22
Θ(52.5°)	1.402/89	1.760/96	0.05/-1.92	-1.67/-1.45	-1.86/-2.01	-2.84/-6.02	-7.49/-5.39	-5.81/-8.89	-9.63/-5.77	-3.99/-5.37	-8.89/-6.73	-2.29/-2.72	-4.33/-1.77	-3.56/-2.42	-2.83/-6.60	-4.97/-3.59	-2.44/-2.42	-1.36/-0.68	2.17/-2.52	2.02/-0.96	-0.38/-1.21	-1.03/-0.44	0.60/-0.35	-0.66/-0.00
Θ(60°)	0.99/0.25	-0.83/-1.57	-1.28/-2.80	-4.20/-4.51	-5.31/-5.17	-6.90/-9.40	-12.57/-12.01	-9.04/-7.67	-8.71/-9.79	-5.98/-5.80	-7.61/-12.89	-7.87/-3.51	-4.41/-6.05	-2.74/-1.17	-2.93/-4.14	-1.84/-1.72	-0.56/-0.82	1.49/-1.61	0.87/-0.43	-1.28/-2.04	-1.15/-0.62	-0.25/-0.94	-0.79/-0.72	
Θ(67.5°)	1.39/1.25	-0.21/-1.03	-2.25/-4.81	-7.20/-9.19	-6.89/-4.30	-2.96/-3.45	-4.71/-3.95	-3.04/-3.82	-6.13/-9.19	-8.30/-6.45	-7.35/-11.03	-6.43/-2.14	-2.71/-6.33	-3.31/-3.08	-3.56/-1.80	-1.12/-2.03	-2.35/-2.19	-1.63/-0.39	0.12/-0.35	-1.82/-3.62	-5.18/-4.10	-1.44/-0.61	-0.81/-1.23	-1.69/-0.28
Θ(75°)	1.17/1.12	0.82/0.61	-0.86/-3.69	-12.63/-7.42	-2.65/-2.54	-4.24/-5.50	-6.67/-5.37	-3.09/-2.73	-3.67/-6.87	-12.00/-11.67	-8.30/-8.84	-7.28/-3.77	-3.03/-4.93	-4.69/-3.08	-2.85/-2.56	-3.19/-3.30	-3.40/-2.64	-1.92/-1.22	-1.42/-1.82	-1.22/-1.44	-4.57/-5.40	-1.00/-0.33	0.27/-1.66	-1.89/0.13
Θ(82.5°)	-1.26/-3.05	-2.94/-1.62	-2.26/-6.78	-14.19/-3.54	-1.07/-1.58	-3.07/-5.22	-7.22/-3.83	-1.28/-0.61	-1.37/-3.21	-9.79/-15.34	-10.10/-8.62	-6.93/-2.63	-3.52/-3.32	-2.86/-3.61	-4.53/-2.62	-2.45/-4.15	-3.75/-3.25	-4.39/-3.87	-2.81/-2.19	-2.85/-4.13	-4.05/-4.17	-3.25/-1.30	-1.13/-1.05	-1.29/-0.77
Θ(90°)	-1.70/-3.60	-4.47/-2.82	-2.61/-9.40	-6.66/-2.33	-2.07/-2.43	-3.22/-4.64	-4.93/-2.84	-1.27/-1.54	-2.36/-3.32	-6.91/-5.51	-9.38/-7.27	-7.28/-1.87	-3.28/-6.63	-4.13/-4.15	-2.50/-2.28	-1.43/-2.61	-4.67/-2.19	-0.83/-2.73	-3.88/-3.62	-3.22/-2.46	-5.13/-3.01	-2.50/-0.18	-2.04/-3.42	-2.20/-0.95
Θ(97.5°)	-2.73/-5.41	-4.44/-3.46	-2.63/-6.05	-9.48/-5.40	-3.46/-3.11	-3.08/-4.59	-6.82/-5.60	-4.47/-4.20	-3.22/-2.66	-6.22/-10.47	-10.61/-8.46	-7.02/-3.98	-4.02/-6.18	-4.48/-4.11	-4.27/-3.09	-1.67/-2.71	-1.45/0.39	-0.61/-2.66	-2.36/-2.07	-2.83/-6.06	-11.06/-5.86	-2.23/-1.28	-0.83/-2.45	-3.05/-1.99
Θ(105°)	-4.54/-4.28	-2.70/-1.42	-2.54/-5.12	-4.50/-1.45	-1.18/-3.04	-5.42/-7.48	-9.88/-6.40	-4.09/-3.50	-2.78/-0.92	-3.71/-8.69	-9.72/-8.53	-8.02/-5.76	-2.59/-9.96	-7.77/-6.54	-5.58/-2.43	-0.44/-1.69	-2.05/-0.92	-0.16/-2.96	-2.85/-3.28	-4.75/-6.46	-8.45/-8.66	-5.51/-4.24	-3.83/-2.77	-1.45/-2.82
Θ(112.5°)	-4.29/-6.55	-1.63/-0.99	-2.68/-6.85	-4.55/-1.34	-1.87/-5.07	-5.99/-8.60	-7.67/-9.41	-1.34/-10.62	-5.83/-3.01	-10.45/-8.10	-5.15/-7.46	-8.87/-3.77	-2.12/-10.07	-6.94/-7.52	-7.14/-3.39	-3.17/-0.56	-0.84/-1.43	1.83/-0.67	-1.53/-0.92	-2.19/-3.54	-8.51/-8.23	-6.73/-4.55	-3.55/-2.94	-1.35/-2.19
Θ(120°)	-9.85/-5.58	-2.92/-2.75	-4.99/-8.56	-5.54/-3.62	-4.82/-5.92	-6.45/-9.30	-13.49/-14.04	-9.69/-6.61	-3.22/-4.38	-4.32/-7.58	-2.85/-6.74	-9.80/-9.72	-4.45/-7.43	-7.82/-10.62	-12.81/-8.60	-1.63/-1.81	-3.40/-1.05	1.32/-1.35	-5.89/-4.12	-2.44/-0.05	-5.84/-11.43	-11.00/-9.95	-6.09/-3.52	-4.10/-6.33
Θ(127.5°)	-5.16/-5.53	-3.63/-4.61	-5.22/-5.11	-4.90/-2.90	-2.19/-3.69	-5.91/-5.91	-6.33/-6.97	-11.63/-11.13	-11.78/-8.56	-6.50/-8.14	-4.02/-5.39	-6.68/-6.01	-5.89/-9.42	-7.79/-9.93	-7.24/-11.54	-4.73/-4.51	-2.92/-0.51	1.01/-1.36	-6.17/-5.31	-0.65/-0.83	-2.17/-1.03	-7.92/-7.02	-5.39/-5.94	-5.87/-5.65
Θ(135°)	-2.22/-2.07	-2.01/-2.44	-3.46/-6.36	-9.12/-6.19	-4.80/-3.98	-3.33/-4.62	-6.14/-9.07	-11.82/-10.15	-6.83/-6.85	-4.25/-6.54	-2.39/-5.98	-5.64/-7.95	-10.69/-9.52	-7.94/-7.59	-10.68/-9.15	-4.51/-6.79	-3.69/-6.87	-2.82/-5.23	-4.49/-4.34	-4.61/-4.19	-6.70/-8.30	-4.54/-7.98	-2.52/-2.54	-4.50/-3.62
Θ(142.5°)	-5.47/-1.75	-0.34/-2.99	-5.50/-8.63	-10.08/-9.85	-8.31/-8.11	-8.09/-9.20	-11.69/-12.53	-9.42/-7.41	-8.09/-6.87	-8.09/-12.09	-8.27/-9.68	-6.36/-1.80	-6.63/-9.02	-7.09/-6.99	-0.80/-3.76	-8.89/-6.92	-4.02/-3.51	-3.71/-8.63	-7.06/-6.92	-2.29/-0.45	-0.34/-2.87	-5.80/-6.90	-4.33/-3.35	-4.58/-6.39
Θ(150°)	-6.55/-0.86	-4.37/-5.91	-10.19/-11.63	-9.33/-8.67	-6.10/-7.14	-8.19/-9.94	-10.00/-9.26	-7.44/-7.35	-7.72/-1.92	-7.33/-6.99	-6.54/-9.91	-7.24/-4.96	-7.01/-9.62	-7.45/-5.62	-7.83/-7.28	-5.17/-2.52	-3.17/-2.52	-3.89/-4.31	-4.60/-4.43	-5.10/-3.13	-1.30/-1.76	-2.71/-3.22	-3.78/-3.79	-2.77/-2.29
Θ(157.5°)	-1.07/-1.94	-2.73/-3.09	-4.16/-6.44	-5.50/-4.82	-4.45/-4.88	-5.64/-6.84	-8.61/-8.01	-13.50/-14.58	-14.36/-13.84	-13.27/-11.06	-10.30/-7.82	-5.69/-6.43	-9.24/-9.56	-7.91/-7.75	-6.08/-6.38	-2.00/-3.35	-4.09/-5.15	-7.93/-6.22	-5.33/-6.93	-6.78/-4.46	-3.17/-3.88	-5.21/-5.31	-4.36/-3.58	-3.10/-1.87
Θ(165°)	2.32/1.86	0.71/-0.87	-1.27/-1.72	-3.24/-5.54	-7.03/-9.28	-10.82/-10.88	-10.30/-8.20	-6.25/-5.93	-7.21/-9.58	-11.47/-10.66	-8.45/-5.22	-2.86/-2.09	-3.20/-5.37	-6.67/-6.64	-6.54/-7.13	-8.03/-7.70	-6.17/-4.42	-4.12/-4.16	-4.20/-4.51	-4.74/-4.47	-4.45/-4.55	-4.13/-2.71	-1.03/-0.22	0.84/0.29
Θ(172.5°)	-2.18/-2.61	-2.66/-2.67	-3.31/-3.78	-4.09/-6.53	-5.59/-6.78	-8.64/-9.08	-9.13/-8.81	-8.88/-8.77	-7.89/-7.53	-7.95/-9.12	-9.27/-8.55	-9.13/-10.23	-10.51/-9.25	-8.08/-7.73	-6.48/-10.07	-10.77/-11.69	-12.14/-13.42	-13.92/-14.65	-13.22/-13.26	-13.45/-13.49	-12.60/-9.73	-7.22/-5.66	-4.70/-4.03	-2.58/-1.79
Θ(180°)	-7.25/-5.86	-4.19/-3.30	-2.76/-3.04	-4.91/-5.65	-6.93/-7.50	-8.04/-9.80	-10.35/-11.04	-9.47/-8.85	-6.74/-6.51	-6.11/-5.99	-6.67/-5.62	-6.10/-6.68	-7.14/-7.44	-7.35/-7.24	-6.96/-6.59	-6.36/-6.18	-6.08/-5.88	-6.45/-7.05	-6.54/-6.26	-5.42/-7.77	-4.96/-6.03	-7.84/-9.04	-4.65/-4.84	-2.03/-1.74
Freq(Hz)	5.32GPol.	TotalAnt.1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)φ(7.5°)	Φ(15°)φ(22.5°)	Φ(30°)φ(37.5°)	Φ(45°)φ(52.5°)	Φ(60°)φ(67.5°)	Φ(75°)φ(82.5°)	Φ(90°)φ(97.5°)	Φ(105°)φ(112.5°)	Φ(120°)φ(127.5°)	Φ(135°)φ(142.5°)	Φ(150°)φ(157.5°)	Φ(165°)φ(172.5°)	Φ(180°)φ(187.5°)	Φ(195°)φ(202.5°)	Φ(210°)φ(217.5°)	Φ(225°)φ(232.5°)	Φ(240°)φ(247.5°)	Φ(255°)φ(262.5°)	Φ(270°)φ(277.5°)	Φ(285°)φ(292.5°)	Φ(300°)φ(307.5°)	Φ(315°)φ(322.5°)	Φ(330°)φ(337.5°)	Φ(345°)φ(352.5°)
Θ(0°)	-2.73/-2.97	-3.42/-2.85	-2.68/-3.15	-3.24/-2.63	-2.72/-2.96	-2.86/-2.35	-1.79/-1.51	-1.58/-1.41	-0.94/-0.52	-0.80/-1.11	-1.15/-0.95	-0.58/-0.78	-1.21/-1.54	-2.07/-1.95	-2.18/-2.19	-2.37/-2.20	-2.42/-2.38	-2.03/-2.00	-2.25/-2.27	-2.05/-1.70	-1.47/-1.44	-1.83/-2.51	-2.51/-2.34	-2.08/-3.24
Θ(7.5°)	-0.20/-0.02	-0.55/-1.50	-2.19/-2.83	-3.07/-2.61	-2.90/-3.46	-3.68/-3.91	-3.83/-3.44	-3.20/-3.15	-3.06/-3.16	-3.21/-3.38	-3.23/-3.03	-2.79/-2.62	-2.73/-2.96	-3.03/-2.96	-2.53/-1.93	-1.21/-0.89	-0.77/-0.52	-0.38/-0.13	0.41/0.46	0.25/0.07	0.32/0.70	1.08/1.10	0.82/0.83	0.82/-0.51
Θ(15°)	-2.21/-1.86	-2.32/-2.31	-2.61/-2.70	-2.59/-2.66	-3.34/-3.75	-4.50/-6.03	-6.33/-7.29	-7.99/-7.97	-7.22/-6.64	-6.30/-6.08	-5.42/-4.28	-3.38/-3.42	-6.31/-5.76	-2.42/-1.88	-1.61/-1.17	-0.52/0.17	1.04/0.84	0.67/0.49	0.37/0.25	0.12/-0.49	-0.66/-0.95	-0.83/-0.68	-1.24/-1.68	-2.39/-3.37
Θ(22.5°)	-3.00/-3.29	-2.79/-3.42	-4.14/-4.99	-6.12/-7.44	-8.66/-12.16	-14.01/-13.37	-10.74/-8.55	-8.21/-8.97	-7.36/-6.03	-4.88/-4.95	-5.84/-6.95	-7.01/-7.17	-6.92/-7.03	-4.19/-3.19	-2.87/-2.98	-2.44/-1.28	-0.50/-1.07	-1.99/-2.79	-2.74/-2.39	-1.78/-1.17	-0.56/-0.06	0.20/0.32	-0.57/-1.41	-2.48/-3.60
Θ(30°)	-2.15/-2.36	-3.32/-3.95	-6.05/-12.14	-14.96/-8.58	-5.82/-4.82	-2.85/-1.24	-1.79/-2.51	-3.73/-5.33	-8.57/-11.38	-9.92/-7.29	-6.43/-7.37	-8.52/-6.87	-6.89/-5.22	-4.29/-3.91	-3.06/-2.53	-3.27/-5.11	-5.92/-3.58	-5.32/-4.66	-3.03/-1.23	-0.13/-0.15	0.58/0.66	0.17/-0.71	-1.62/-1.82	-2.21/-2.80
Θ(37.5°)	-2.01/-2.81	-3.12/-3.82	-4.62/-5.44	-4.22/-3.20	-2.13/-2.40	-1.77/-1.46	-2.05/-4.23	-7.26/-10.33	-12.89/-13.48	-11.90/-8.57	-5.70/-4.77	-6.67/-9.12	-8.36/-5.89	-5.00										



Antenna Pattern

Appendix B

Θ(22.5°)	-0.88/2.03	-3.09/4.09	-5.04/4.69	-3.48/-2.71	-1.69/-1.32	-0.34/0.05	-0.58/-1.56	-2.64/3.36	-3.95/-4.74	-5.42/-5.77	-6.24/-7.75	-9.83/-12.13	-13.30/-11.70	-9.85/-7.62	-6.30/-5.79	-5.58/-5.22	-4.59/-4.07	-3.65/-3.40	-3.18/-3.49	-4.61/-6.45	-7.81/-7.52	-7.37/-7.09	-5.01/-3.37	-1.91/-0.86
Θ(30°)	-2.70/-2.26	-2.70/-3.66	-5.89/-8.05	-6.37/-3.90	-2.44/-1.54	-0.59/-0.16	-0.19/-1.02	-2.86/-3.70	-3.04/-3.28	-3.76/-3.39	-3.69/-4.46	-4.33/-4.52	-6.71/-5.06	-3.00/-2.59	-3.62/-6.03	-7.15/-5.49	-4.85/-4.54	-4.19/-3.70	-3.93/-4.88	-4.94/-3.39	-2.69/-3.95	-5.45/-7.42	-12.82/-13.35	-9.37/-5.27
Θ(142.5°)	4.44/-3.69	-2.53/-2.14	-4.38/-8.05	-6.19/-6.68	-5.30/-4.15	-2.67/-1.97	-1.60/-2.42	-2.86/-2.74	-1.40/-1.75	-3.08/-2.76	-2.95/-2.77	-3.22/-6.76	-1.13/-7.83	-4.78/-4.96	-1.10/-11.90	-4.79/-2.18	-1.06/-2.50	-6.37/-8.29	-5.40/-3.29	-2.45/-3.00	-1.83/-6.76	-2.17/-1.82	-2.32/-4.49	-5.75/-5.41
Θ(45°)	-2.67/-3.13	-4.70/-5.18	-5.59/-6.34	-6.08/-6.73	-6.18/-5.56	-4.47/-3.96	-4.20/-4.27	-3.52/-2.76	-2.42/-2.82	-4.61/-5.21	-5.86/-4.80	-4.55/-6.28	-7.48/-5.50	-4.60/-5.67	-5.99/-4.83	-1.86/-0.21	-2.50/-7.69	-13.83/-6.45	-5.65/-7.64	-6.63/-2.28	0.11/0.24	0.79/0.66	-2.95/-4.98	-4.43/-3.52
Θ(52.5°)	-0.06/0.14	-0.51/-3.83	-6.64/-7.25	-7.14/-8.49	-8.62/-7.19	-6.66/-6.16	-5.31/-4.93	-5.03/-4.93	-3.29/-2.45	-2.76/-3.41	-2.77/-2.06	-2.44/-4.91	-7.01/-9.52	-11.45/-15.18	-13.99/-8.74	-6.30/-10.24	-12.05/-6.32	-3.86/-3.29	-3.17/-4.96	-5.83/-6.78	-5.62/-1.27	-0.00/0.03	0.02/0.29	-1.46/-1.48
Θ(60°)	-5.44/-2.33	-2.34/-4.65	-6.09/-3.91	-2.56/-3.24	-3.03/-1.60	-0.92/-0.51	-0.63/-1.24	-1.84/-1.19	-0.50/-0.74	-1.27/-1.87	-3.38/-6.70	-7.73/-6.13	-4.72/-5.96	-6.95/-7.99	-10.12/-9.84	-8.40/-6.63	-9.25/-12.58	-8.33/-3.75	-4.86/-7.88	-3.54/-3.79	-1.39/0.09	0.42/0.10	2.26/1.92	0.79/-2.39
Θ(67.5°)	-0.86/-0.31	-1.27/-1.65	-3.32/-5.47	-8.75/-9.89	-6.51/-4.11	-2.89/-2.19	-2.41/-2.50	-2.84/-3.02	-1.31/-0.95	-1.51/-3.42	-3.59/-6.75	-6.64/-5.09	-4.55/-5.85	-7.12/-9.04	-9.76/-12.78	-13.03/-13.16	-14.54/-7.94	-2.98/-3.11	-4.92/-6.09	-2.98/-0.28	1.43/2.26	3.31/2.30	1.97/0.18	-1.46/-1.52
Θ(75°)	-2.79/0.40	-0.57/-1.97	-1.89/-0.72	-0.51/-2.47	-3.57/-3.12	-3.19/-3.19	-2.50/-1.83	-1.49/-1.35	-1.55/-3.66	-2.23/-2.90	-0.50/-6.43	-3.95/-1.61	-1.41/-5.90	-9.14/-10.73	-13.74/-7.21	-6.26/-8.19	-7.52/-7.40	-15.30/-10.29	-6.14/-1.41	0.30/1.34	0.51/1.60	2.50/2.72	0.01/-6.36	
Θ(82.5°)	-0.23/-0.74	-1.88/-3.26	-1.92/-1.78	-5.48/-8.04	-5.46/-3.43	-3.00/-1.64	-1.72/-2.57	-3.05/-4.06	-4.17/-4.07	-6.45/-3.76	-1.49/-2.96	-5.98/-6.93	-4.66/-3.56	-5.15/-4.65	-5.42/-8.65	-8.84/-7.31	-10.56/-15.83	-7.01/-9.19	-11.93/-4.07	0.08/2.65	3.93/2.25	2.63/2.56	2.24/0.97	-1.52/-1.14
Θ(90°)	0.20/1.19	-1.33/-0.19	0.83/0.00	-1.42/-1.85	-1.78/-1.89	-3.06/-3.26	-1.92/-0.72	-0.74/-2.04	-3.82/-7.00	-6.32/-5.07	-4.96/-4.70	-5.44/-8.13	-5.20/-2.61	-2.26/-4.78	-9.62/-12.49	-12.91/-8.33	-7.04/-9.66	-6.06/-3.21	-4.65/-8.47	-6.38/-0.93	0.18/1.32	-0.38/0.43	3.17/1.71	-0.70/-2.60
Θ(97.5°)	-5.04/-1.08	-1.08/-1.99	-1.42/-0.88	-3.35/-3.31	-1.63/-1.75	-2.87/-3.30	-2.45/-2.11	-2.27/-2.50	-3.41/-4.46	-4.12/-4.60	-5.97/-8.47	-3.93/-5.98	-9.17/-5.03	-5.50/-5.70	-6.10/-6.69	-7.14/-2.16	-2.76/-4.60	-3.29/-3.04	-3.58/-8.34	-2.17/-0.26	2.58/1.08	0.79/2.95	1.46/0.80	0.75/-0.38
Θ(105°)	2.58/1.20	-1.26/-0.54	0.40/0.22	-5.65/-3.33	-0.87/0.50	0.21/0.14	-0.54/-2.25	-3.08/-3.00	-1.18/-5.99	-8.16/-8.86	-8.10/-7.23	-7.05/-9.66	-6.59/-5.43	-11.62/-15.82	-13.68/-8.98	-9.21/-5.48	-5.44/-8.95	-4.74/-0.81	-2.19/-4.87	-8.78/-2.03	-1.85/-1.92	-2.32/-0.29	1.04/-0.48	-1.21/-1.65
Θ(112.5°)	1.17/-0.53	-1.67/-4.90	-1.58/-0.84	-3.11/-4.00	-4.25/-1.98	-1.55/-1.99	-1.97/-1.42	-2.03/-2.95	-4.05/-4.88	-5.73/-8.06	-9.57/-9.20	-12.25/-8.40	-5.80/-6.90	-5.42/-8.19	-12.04/-10.51	-6.52/-9.08	-3.53/-1.12	-1.55/-0.55	-0.74/-5.34	-0.70/-2.42	-0.00/-1.22	-2.03/-0.80	0.67/0.43	0.88/0.31
Θ(120°)	0.14/-0.85	-2.28/-2.03	-0.15/-0.11	-1.64/-5.41	-1.24/0.00	1.49/1.76	0.49/-1.25	-2.39/-3.00	-2.40/-2.58	-2.77/-5.37	-10.10/-9.53	-11.91/-10.66	-5.63/-3.78	-5.62/-6.05	-7.46/-6.10	-5.63/-6.75	-5.20/-5.77	-2.85/-8.06	-1.98/-1.72	-3.27/0.23	-7.19/-4.35	-4.95/-1.18	-2.84/-0.04	-0.06/-1.61
Θ(127.5°)	1.42/1.35	1.29/0.62	0.38/0.41	-1.45/-4.18	-7.00/-6.50	-4.03/-1.67	-0.78/-1.26	-1.55/-1.09	-1.48/-1.58	-3.01/-4.36	-7.51/-10.71	-8.95/-3.25	-1.04/-2.72	-4.91/-6.02	-7.20/-6.38	-4.24/-3.35	-5.79/-3.82	-1.84/-3.32	-8.87/-3.87	-7.14/-6.27	-3.74/-9.04	-3.33/-1.13	-1.62/-1.74	-1.01/-1.06
Θ(135°)	-0.96/-2.31	-2.27/-1.32	0.04/-0.53	-0.65/-0.98	-1.41/-1.36	-2.21/-4.22	-5.92/-6.45	-6.41/-6.93	-6.43/-6.28	-5.04/-5.49	-6.11/-8.67	-8.05/-9.55	-4.91/-6.77	-2.99/-3.03	-4.34/-6.72	-2.27/-2.06	-7.12/-4.91	-1.09/-2.22	-5.68/-8.37	-3.38/-10.15	-6.41/-4.38	-5.07/-4.00	-4.43/-3.16	-0.59/0.45
Θ(142.5°)	-4.56/-6.05	-4.24/-1.67	-0.25/0.22	-0.57/-0.96	-1.66/-1.95	-3.43/-3.18	-4.22/-5.44	-6.52/-7.76	-6.10/-3.83	-2.99/-3.05	-5.12/-9.64	-14.76/-7.40	-5.15/-0.41	-5.01/-4.54	-3.77/-4.45	-4.57/-3.86	-3.59/-7.36	-6.97/-4.09	-3.97/-3.38	-2.77/-6.67	-15.45/-6.51	-3.40/-1.55	-0.94/-0.58	-1.05/-1.18
Θ(150°)	-3.08/-6.18	-6.80/-3.62	-3.42/-2.24	-1.28/-0.93	-1.07/-1.50	-2.44/-4.04	-5.50/-5.56	-4.17/-3.07	-2.71/-3.13	-3.74/-5.13	-9.02/-12.21	-11.84/-5.37	-6.01/-4.78	-1.73/-1.37	-3.44/-11.86	-7.29/-5.33	-11.84/-6.15	-1.27/-0.20	-1.10/-4.59	-11.23/-5.78	-4.03/-6.31	-3.33/-3.14	-2.00/-1.96	-2.88/-2.71
Θ(157.5°)	-0.38/-1.00	-1.91/-1.45	-0.60/-0.13	0.77/1.47	1.27/0.17	-1.35/-2.57	-2.61/-2.56	-2.59/-3.13	-2.91/-1.83	-1.78/-3.03	-5.17/-6.56	-7.77/-10.45	-10.13/-8.72	-10.19/-15.28	-9.42/-5.96	-5.83/-8.48	-8.61/-6.06	-5.46/-4.78	-3.05/-2.91	-5.94/-6.53	-3.77/-3.48	-4.97/-6.64	-6.81/-6.39	-2.88/-1.19
Θ(165°)	-4.58/-6.26	-8.08/-5.88	-8.64/-8.46	-7.89/-6.62	-5.06/-3.33	-1.89/-1.36	-1.74/-3.25	-2.77/-3.71	-4.07/-3.99	-3.59/-3.86	-4.30/-6.05	-5.65/-5.70	-5.58/-6.03	-6.73/-7.39	-7.52/-8.06	-10.02/-14.21	-15.59/-8.67	-3.99/-1.12	-0.00/-0.46	-3.05/-2.78	-6.48/-3.54	-2.29/-1.93	-2.48/-2.76	-3.01/-3.27
Θ(172.5°)	-2.29/-2.06	-2.28/-2.80	-2.51/-2.20	-2.02/-1.91	-1.91/-2.10	-2.49/-3.22	-4.27/-4.98	-6.29/-7.46	-9.22/-10.19	-10.19/-9.81	-9.44/-9.66	-9.89/-9.84	-9.26/-8.34	-7.78/-4.74	-7.00/-6.43	-5.14/-3.99	-2.98/-2.25	-1.98/-2.69	-4.55/-7.67	-9.91/-10.64	-11.03/-10.19	-7.74/-5.39	-3.65/-3.07	
Θ(180°)	-5.77/-5.79	-5.96/-6.11	-6.50/-7.53	-8.29/-8.85	-8.99/-8.62	-8.14/-7.96	-8.85/-8.60	-8.25/-7.88	-7.25/-6.95	-6.18/-5.18	-4.33/-3.70	-3.09/-2.57	-2.60/-2.92	-3.33/-3.65	-4.04/-4.35	-4.74/-5.53	-7.02/-8.62	-9.71/-10.07	-9.84/-10.63	-11.95/-13.46	-13.18/-12.00	-10.38/-9.07	-8.82/-8.20	-7.23/-6.52
Freq(Hz)	5.3GPol	TotalAnt.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-3.85/-4.30	-5.11/-9.58	-6.68/-7.08	-6.93/-6.66	-6.71/-6.84	-7.06/-7.19	-6.85/-6.54	-6.36/-5.68	-6.39/-6.27	-6.05/-5.75	-5.88/-5.98	-6.27/-6.26	-6.30/-6.35	-6.60/-6.93	-6.87/-6.35	-6.31/-6.23	-5.95/-5.73	-4.50/-4.95	-4.55/-4.31	-4.52/-4.54	-4.37/-4.12	-4.10/-4.12	-3.97/-4.15	-4.06/-3.84
Θ(7.5°)	-1.36/-1.67	-2.42/-3.08	-3.69/-3.43	-3.07/-2.67	-2.64/-3.49	-4.62/-5.11	-5.21/-5.67	-6.03/-6.77	-7.59/-7.22	-7.09/-6.98	-7.32/-7.61	-7.50/-7.83	-8.37/-8.91	-9.15/-9.80	-8.63/-8.12	-7.81/-7.06	-6.45/-6.31	-5.98/-5.52	-4.83/-4.21	-3.67/-3.31	-3.07/-2.59	-2.19/-1.79	-1.33/-1.61	-1.71/-1.34
Θ(15°)	-1.25/-0.77	-0.91/-1.09	-1.40/-1.12	-0.76/-0.58	-0.68/-1.14	-1.30/-1.49	-1.81/-2.23	-3.08/-4.17	-4.94/-5.25	-4.92/-4.39	-4.10/-3.81	-3.85/-4.21	-5.25/-6.87	-8.84/-10.18	-9.55/-7.91	-6.36/-5.35	-4.61/-3.93	-3.50/-3.59	-4.22/-4.67	-4.57/-4.19	-3.90/-3.73	-3.45/-2.86	-2.39/-2.45	-2.96/-2.09
Θ(22.5°)	-4.02/-1.98	-1.19/-0.73	-0.66/-1.24	-1.48/-1.59	-2.08/-1.93	-1.24/-0.96	-0.75/-1.07	-1.91/-3.20	-3.96/-4.18	-4.38/-4.67	-4.72/-4.61	-4.44/-3.48	-4.71/-5.89	-8.27/-11.12	-6.99/-7.20	-5.51/-4.50	-4.02/-3.48	-3.54/-3.80	-4.59/-5.55	-5.92/-5.10	-4.60/-3.98	-4.80/-5.25	-5.68/-5.11	-5.95/-5.39
Θ(30°)	-3.21/-2.40	-1.80/-2.17	-2.47/-2.80	-3.13/-3.69	-4.68/-6.34	-2.52/-1.57	-1.60/-1.96	-2.58/-3.22	-3.63/-3.99	-5.28/-3.70	-6.72/-4.95	-3.79/-3.21	-4.18/-3.70	-13.59/-12.91	-9.97/-8.90	-8.30/-8.18	-7.78/-7.35	-6.87/-6.98	-7.09/-7.26	-7.55/-7.84	-7.88/-6.53	-5.99/-8.02	-9.73/-7.87	-5.02/-3.48
Θ(37.5°)	-2.52/-1.15	-0.87/-2.93	-5.84/-6.58	-5.71/-4.41	-4.09/-3.27	-2.71/-2.31	-2.87/-3.13	-3.50/-3.13	-2.66/-2.51	-3.45/-4.90	-6.61/-7.43	-4.68/-4.38	-4.65/-8.49	-11.00/-7.44	-4.93/-5.00	-7.56/-8.48	-5.82/-9.42	-6.28/-7.36	-4.23/-2.07	-2.07/-2.38	-1.92/-1.71	-1.40/-1.96	-5.33/-7.59	-8.88/-4.52
Θ(45°)	-2.88/-2.62	-2.45/-5.19	-8.92/-7.85	-6.62/-4.94	-3.52/-2.52	-2.49/-2.74	-2.78/-3.71	-4.84/-4.79	-3.53/-1.85	-1.63/-3.07	-6.64/-7.44	-3.41/-2.76	-3.54/-6.08	-5.01/-3.50	-2.62/-4.53	-6.14/-4.68	-3.91/-5.14	-7.88/-5.41	-3.19/-2.32	-0.36/0.87	0.88/0.75	0.15/-0.55	-0.50/-2.22	-4.70/-3.43
Θ(52.5°)	-1.09/-0.07	-0.32/-3.12	-8.03/-4.78	-5.52/-5.67	-4.75/-2.83	-3.01/-3.25	-3.22/-3.68	-4.72/-6.67	-5.13/-2.34	-1.33/-1.14	-2.58/-4.10	-3.53/-3.16	-4.74/-9.40	-11.55/-7.14	-9.96/-8.77	-6.06/-2.49	-3.18/-10.31	-10.84/-7.55	-6.40/-5.88	-4.37/-3.71	-1.48/0.24	1.05/0.07	0.14/0.05	-0.87/-1.12
Θ(60°)	-0.24/0.75	-0.20/-3.21	-4.32/-2.77	-1.53/-3.22	-4.09/-3.01	-1.74/-1.02	-1.09/-1.02	-0.92/-2.20	-3.79/-2.82	-1.65/-1.48	-3.32/-3.84	-3.37/-4.37	-4.21/-7.02	-10.22/-10.95	-10.04/-14.69	-10.15/-7.77	-9.66/-14.65	-6.43/-2.35	-1.47/-2.52	-4.08/-3.52	-1.58/-0.44	0.91/0.69	1.01/-0.52	-3.19/-2.63
Θ(67.5°)	-2.01/-0.57	-1.33/-4.55	-3.99/-2.74	-2.47/-3.93	-3.18/-2.55	-1.36/-1.35	-1.15/0.00	-0.10/-1.01	-2.09/-0.17	-2.07/-2.45	-2.04/-4.00	-7.66/-5.66	-4.38/-6.87	-6.74/-6.09	-6.59/-10.17	-10.30/-7.46	-9.00/-14.45	-5.02/-2.13	-2.58/-1.95	-0.53/0.27	0.83/1.28	0.54/0.11	0.84/0.92	0.04/-2.01
Θ(75°)	-1.06/-0.15	-2.03/-2.98	-2.00/0.42	0.55/-1.97	-2.91/-1.79	-0.95/-0.09	0.42/-0.50	-1.23/-0.19	-0.59/-1.91	-3.06/-4.30	-4.92/-4.07	-5.11/-5.63	-4.76/-5.44	-5.75/-7.36	-8.76/-8.53	-9.62/-5.99	-11.11/-9.05	-3.01/-1.43	-3.62/-3.42	-1.56/0.43	-1.00/0.22	1.40/0.99	-3.02/-0.80	



Antenna Pattern

Appendix B

θ(75°)	-2.03/-2.72	-6.30/-8.27	-8.50/-9.64	-6.66/-4.19	-2.60/-2.88	-2.49/-2.25	-2.76/-3.50	-6.80/-6.02	-9.05/-9.46	-4.06/-1.27	-0.210/-77	0.11/-1.55	-2.51/-3.12	-1.77/-0.27	0.920/75	0.26/-2.75	-5.25/-7.15	-13.61/-6.74	-0.32/-1.60	-0.12/-0.32	-2.76/-0.91	-0.29/-1.91	-3.99/-3.08	-2.67/-2.46
θ(82.5°)	-3.40/-4.80	-9.16/-8.27	-6.12/-7.00	-6.12/-6.50	-4.26/-1.95	-1.92/-2.57	-2.66/-3.54	-5.13/-5.94	-6.87/-4.75	-0.42/-0.22	-1.20/-0.71	-2.41/-3.19	-3.01/-3.12	-1.95/-0.18	1.240/98	0.32/-0.51	0.00/-3.05	-8.62/-6.22	-1.300/-7.1	0.97/-0.06	-3.17/-3.57	-1.93/-3.26	-4.54/-3.85	-3.92/-3.00
θ(90°)	-1.97/-3.99	-4.23/-7.10	-6.32/-7.47	-6.32/-6.43	-3.54/-1.95	-1.81/-2.78	-3.05/-3.22	-4.46/-6.43	-6.71/-4.87	-1.39/-0.16	-0.60/-0.17	-0.81/-1.62	-4.49/-5.22	-0.96/-0.88	0.730/98	-0.25/-2.88	-1.83/-5.07	-8.61/-3.25	0.762/68	-2.28/-0.97	-3.55/-1.17	-1.31/-2.41	-3.37/-4.15	-2.36/-1.26
θ(97.5°)	-1.08/-6.03	-7.24/-7.31	-7.58/-9.27	-5.77/-3.12	-4.94/-5.17	-3.52/-4.31	-3.42/-2.13	-2.78/-6.04	-8.38/-3.27	0.071/46	1.36/-0.46	-1.23/-1.53	-2.50/-1.96	-0.910/49	1.68/-1.82	0.911/00	-0.39/-1.84	-3.56/-1.72	1.472/-14	2.460/94	-1.43/-1.20	-1.41/-3.73	-6.13/-6.06	-5.60/-3.11
θ(105°)	-0.33/-4.24	-9.02/-4.83	-6.22/-6.58	-6.80/-2.84	-5.58/-5.52	-6.28/-6.16	-3.22/-3.39	-5.11/-5.93	-8.10/-6.70	-0.74/-1.57	1.911/99	0.53/-0.56	0.01/-2.90	-1.55/-0.32	0.670/72	-0.60/-2.16	-1.32/-8.27	-2.72/-0.18	2.923/55	3.300/28	-1.96/-1.11	-0.73/-4.59	-7.03/-6.01	-8.52/-3.59
θ(112.5°)	-3.42/-6.72	-7.66/-3.99	-8.08/-5.91	-7.43/-4.94	-7.79/-11.06	-9.39/-9.06	-4.47/-3.97	-8.42/-10.44	-8.87/-6.05	1.051/63	0.391/09	-0.63/-1.53	0.581/67	1.610/07	0.761/11	1.28/-1.76	-0.66/-2.22	3.002/41	3.011/95	-0.85/-0.31	-2.29/-4.68	-5.96/-6.81	-6.21/-4.78	
θ(120°)	-4.09/-7.60	-10.36/-6.54	-3.81/-12.59	-8.79/-9.10	-9.37/-12.35	-13.47/-8.45	-5.88/-5.15	-6.18/-8.84	-7.44/-5.37	-3.47/-2.26	0.931/00	0.951/89	-0.440/-0.02	1.270/98	0.47/-0.57	-2.74/-1.97	-2.25/-1.63	-1.13/-1.50	1.872/40	2.140/29	-1.84/-3.98	-5.82/-9.57	-10.81/-12.76	-10.00/-12.78
θ(127.5°)	-6.43/-10.99	-15.16/-9.83	-6.01/-14.63	-9.59/-7.89	-10.04/-13.17	-15.97/-11.68	-9.01/-9.90	-8.82/-9.40	-3.46/-3.86	-3.42/-2.82	-0.89/-0.76	0.76/-0.58	-2.14/-0.56	0.881/37	1.781/06	-2.97/-4.58	-2.29/-1.48	-0.350/-25	0.130/76	-0.47/-2.15	-2.43/-3.19	-4.29/-5.67	-7.07/-7.75	-12.29/-7.42
θ(135°)	-8.11/-8.81	-15.86/-14.06	-11.77/-10.88	-13.07/-15.30	-12.77/-12.24	-12.00/-10.90	-10.33/-8.11	-6.41/-6.28	-5.22/-3.84	-2.55/-1.83	-2.41/-1.99	-1.81/-1.49	-2.16/-1.18	2.190/31	-2.60/-2.51	-1.90/-3.12	-0.88/-1.36	-1.51/-1.86	-2.37/-2.44	-4.58/-3.89	-4.97/-3.95	-3.02/-8.05	-10.45/-9.95	
θ(142.5°)	-7.15/-8.11	-5.24/-2.96	4.02/-6.75	-8.59/-11.65	-15.33/-14.48	-14.18/-11.93	-8.60/-7.89	-6.98/-5.01	-3.09/-3.09	-3.94/-3.91	-3.11/-3.09	-1.370/72	0.01/-1.54	-0.530/21	0.24/-0.77	-4.87/-2.69	-2.28/-1.83	-0.89/-1.11	-1.39/-3.84	-6.00/-3.14	-1.20/-3.08	-9.43/-15.67	-11.10/-7.89	-9.15/-7.06
θ(150°)	-4.79/-5.86	-9.08/-10.60	-9.15/-11.30	-11.89/-9.96	-10.25/-14.40	-15.28/-12.01	-8.70/-7.31	-6.58/-5.27	-4.20/-4.40	-4.88/-4.23	-3.93/-2.43	-0.280/-22	-1.04/-2.27	-3.08/-4.93	-6.69/-6.63	-4.36/-3.68	-4.39/-5.29	-4.01/-3.71	-4.88/-4.25	-4.65/-7.03	-4.17/-4.64	-9.49/-6.78	-4.51/-4.12	
θ(157.5°)	-14.90/-9.81	-7.69/-9.66	-9.61/-10.70	-9.69/-7.34	-5.81/-4.57	-4.47/-4.89	-4.77/-3.96	-3.44/-3.71	-6.74/-6.21	-6.06/-5.18	-4.33/-3.35	-2.77/-2.43	-2.80/-2.48	-3.11/-5.73	-10.22/-11.55	-11.55/-11.67	-9.79/-10.60	-14.08/-11.08	-7.30/-6.17	-6.44/-5.71	-4.35/-3.10	-3.31/-6.18	-10.87/-8.69	-8.54/-7.76
θ(165°)	-11.50/-8.11	-6.88/-7.85	-8.10/-8.01	-8.15/-9.56	-10.77/-8.65	-6.91/-6.97	-7.24/-6.58	-5.72/-4.70	-4.17/-4.54	-5.59/-6.86	-8.07/-8.80	-8.97/-7.77	-6.39/-5.27	-4.74/-4.90	-6.45/-8.32	-8.43/-7.88	-7.91/-6.73	-4.75/-2.96	-2.19/-1.88	-1.50/-1.53	-1.91/-2.50	-3.68/-5.70	-7.69/-6.93	-7.62/-13.40
θ(172.5°)	-14.27/-14.84	-15.59/-12.70	-7.44/-5.85	-5.63/-5.14	-4.67/-4.15	-4.49/-5.11	-6.34/-6.93	-7.00/-6.93	-6.60/-5.60	-6.22/-6.20	-5.71/-5.35	-4.81/-4.00	-3.10/-2.46	-2.04/-1.59	-1.42/-1.60	-1.84/-2.08	-2.87/-3.33	-3.73/-4.03	-4.90/-5.43	-6.15/-6.96	-7.35/-7.79	-8.07/-9.20	-12.62/-14.57	-14.82/-16.03
θ(180°)	-10.40/-15.03	-15.48/-10.62	-6.76/-6.06	-6.63/-7.16	-6.74/-6.21	-6.42/-7.06	-8.11/-8.95	-8.89/-8.31	-8.29/-8.26	-8.32/-7.78	-7.15/-7.40	-7.36/-7.42	-7.12/-6.11	-5.49/-5.59	-5.98/-6.39	-6.57/-7.34	-9.06/-11.02	-12.73/-13.49	-11.77/-10.37	-8.57/-7.22	-7.01/-6.57	-6.47/-6.66	-7.25/-8.29	-9.48/-9.36
Freq(Hz)	5.6GPol.	TotalAnt 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
θ(0°)	-1.91/-2.66	-2.46/-2.50	-2.76/-2.54	-2.27/-2.42	-2.88/-3.23	-3.18/-2.86	-2.64/-2.25	-2.24/-1.94	-1.62/-1.54	-1.26/-0.85	-0.63/-0.69	-0.79/-1.22	-1.50/-1.73	-1.58/-1.78	-2.28/-2.41	-2.16/-2.43	-2.70/-2.14	-1.41/-1.20	-1.02/-1.20	-1.00/-1.72	-1.60/-1.44	-1.00/-4.74	-1.302/2.07	
θ(7.5°)	-0.29/-0.35	-0.79/-1.17	-1.64/-1.85	-2.12/-2.18	-2.16/-2.17	-2.16/-1.78	-1.44/-1.47	-1.45/-1.24	-1.10/-0.96	-0.88/-0.68	-0.83/-0.88	-1.06/-1.22	-1.09/-0.93	-1.16/-2.00	-2.25/-1.81	-1.88/-2.68	-3.05/-2.78	-2.99/-3.39	-3.53/-3.13	-2.77/-2.82	-2.21/-1.83	-1.29/-1.24	-1.30/-0.80	-0.43/-0.75
θ(15°)	-0.540/-23	-0.09/-1.43	-2.96/-3.78	-4.75/-5.44	-6.13/-7.06	-7.50/-7.75	-6.33/-5.52	-4.88/-6.06	-4.24/-3.27	-2.69/-2.52	-2.53/-2.36	-2.20/-2.31	-2.04/-1.51	-1.03/-1.02	-1.26/-1.55	-1.61/-1.99	-2.55/-6.29	-2.81/-2.83	-3.12/-3.93	-2.98/-2.99	-2.01/-1.24	-0.84/-0.98	-1.15/-0.84	-0.41/-1.09
θ(22.5°)	-4.51/-7.09	-4.24/-7.94	-7.40/-8.03	-8.29/-6.82	-6.05/-6.98	-8.64/-10.79	-12.95/-12.97	-10.15/-8.50	-8.07/-5.78	-3.95/-3.55	-1.63/-2.50	-1.19/-1.92	-1.80/-1.85	-1.53/-0.97	-0.94/-1.12	-0.95/-0.90	-1.23/-1.70	-1.82/-1.46	-1.23/-1.56	-2.83/-3.46	-1.84/-1.30	-0.78/-0.76	-1.57/-2.76	
θ(30°)	-1.78/-3.08	-5.29/-5.21	-3.97/-2.85	-3.29/-5.61	-8.01/-8.00	-9.52/-9.84	-8.70/-8.98	-10.29/-8.21	-5.95/-3.96	-2.32/-1.31	-1.63/-2.09	-2.11/-2.23	-2.80/-3.13	-2.65/-1.47	-0.140/53	0.31/-0.33	-0.83/-0.61	-0.66/-0.68	-0.80/-0.59	-0.18/-0.09	-0.55/-0.93	-1.62/-1.19	-0.43/-0.14	-0.52/-1.34
θ(37.5°)	-3.01/-2.95	-2.83/-2.70	-3.39/-3.81	-3.41/-4.98	-7.70/-7.83	-8.59/-10.26	-8.87/-7.65	-8.36/-7.86	-5.05/-4.24	-0.380/59	0.26/-0.50	-0.96/-1.35	-1.99/-1.87	-0.780/65	1.671/78	1.260/73	0.470/08	-0.61/-2.14	-1.74/-4.00	-0.32/-0.62	-0.65/-1.85	-2.17/-1.36	-7.99/-1.18	-1.32/-0.02
θ(45°)	-6.59/-6.20	-3.68/-4.18	-5.98/-8.15	-9.76/-10.45	-9.06/-9.19	-9.58/-9.40	-8.90/-7.22	-6.00/-5.49	-4.27/-1.76	-0.03/-1.12	1.671/09	-0.05/-1.05	-1.99/-1.98	-0.690/86	1.907/87	0.90/-0.47	-1.40/-2.23	-0.260/-1.31	-1.17/-1.30	-1.43/-1.69	-2.94/-2.19	-3.04/-2.20	-1.19/-4.09	-0.86/-4.16
θ(52.5°)	-5.20/-6.25	-5.31/-5.44	-6.80/-9.25	-12.50/-12.47	-9.37/-6.87	-6.31/-6.14	-6.20/-7.38	-8.78/-9.40	-4.98/-1.32	0.891/81	1.540/19	-1.57/-2.41	-1.97/-0.62	1.061/89	1.811/38	0.560/72	-0.22/-1.46	-2.30/-4.18	-2.03/-0.67	0.470/54	-0.64/-3.38	-2.96/-1.30	-0.050/-1.1	-1.44/-3.46
θ(60°)	-2.61/-3.31	-5.42/-6.24	-8.26/-9.13	-10.28/-11.88	-10.76/-6.62	-3.72/-4.26	-5.53/-7.17	-9.56/-12.12	-9.14/-4.24	-0.860/94	1.191/25	0.39/-2.55	-3.59/-2.61	-1.040/30	0.860/20	-1.66/-3.15	-4.53/-4.80	-6.83/-3.99	-1.380/-11	-0.53/-2.02	-0.230/86	-0.60/-1.71	-0.80/-0.80	-2.15/-2.90
θ(67.5°)	-3.15/-3.13	-5.23/-6.80	-7.67/-6.34	-6.26/-6.76	-5.29/-2.70	-2.28/-2.86	-4.40/-5.05	-8.70/-5.02	-1.580/-37	0.520/24	-0.36/-2.61	-4.25/-5.14	-3.09/-0.77	0.680/33	-0.95/-1.66	-4.23/-5.61	-6.93/-3.38	-2.41/-0.89	-0.81/-2.15	-3.05/-0.91	0.104/01	-1.41/-0.09	-0.89/-3.52	
θ(75°)	-3.78/-4.53	-11.08/-10.18	-8.59/-8.78	-6.96/-6.62	-4.67/-2.43	-1.03/-1.35	-2.09/-4.61	-9.93/-9.36	-7.76/-5.46	-2.77/-1.24	-0.640/09	-0.43/-3.05	-4.83/-6.84	-5.23/-1.90	-0.42/-1.08	-1.52/-3.55	-5.70/-7.55	-7.60/-7.21	-2.93/-0.05	0.28/-0.49	-1.55/-1.10	-1.36/-2.38	-2.050/0.2	-0.46/-3.60
θ(82.5°)	-2.72/-3.31	-8.82/-4.14	-5.68/-6.31	-8.73/-6.93	-6.35/-2.52	-0.89/-1.43	-2.59/-2.76	-4.84/-6.58	-3.16/-2.34	-0.85/-0.63	-1.85/-0.63	-1.52/-3.37	-4.07/-3.68	-3.25/-0.78	-0.070/02	0.36/-1.48	-4.86/-5.42	-1.57/-0.15	-0.48/-1.71	-2.06/-1.70	-1.91/-3.36	-2.04/-0.65	-0.47/-0.28	
θ(90°)	-2.61/-4.86	-6.27/-7.24	-5.79/-9.50	-8.13/-5.93	-4.36/-2.33	-1.51/-1.05	-1.20/-3.58	-5.81/-7.38	-5.14/-2.77	-0.750/-16	-1.02/-0.65	-1.62/-1.54	-2.46/-4.17	-3.47/-2.54	-2.44/-1.75	-2.77/-5.59	-3.96/-6.85	-4.72/-3.34	-2.270/29	1.500/44	-0.13/-0.04	-0.81/-3.87	-1.91/-1.27	-2.05/-2.93
θ(97.5°)	-1.31/-4.83	-7.08/-3.57	-6.24/-9.41	-3.86/-4.38	-7.84/-4.74	-3.43/-1.72	-0.34/-1.83	-5.73/-6.54	-4.21/-1.57	-0.18/-0.05	-0.05/-0.57	-0.96/-1.74	-4.53/-5.10	-2.21/-0.55	1.060/64	-1.32/-2.21	-3.39/-2.78	-2.36/-0.66	0.700/09	1.102/61	-1.08/-1.65	-5.33/-6.06	-2.50/-1.33	-5.97/-7.38
θ(105°)	0.11/-2.77	-6.72/-4.63	-6.47/-8.11	-7.68/-4.18	-7.66/-6.25	-4.22/-3.79	-1.80/-2.26	-7.14/-7.77	-6.36/-6.11	-0.61/-65	1.471/33	-0.24/-0.43	-0.60/-3.24	-2.080/12	0.09/-0.44	-1.97/-1.99	-1.25/-2.84	-1.16/-0.32	1.912/23	3.122/66	0.33/-0.45	-0.39/-3.97	-3.83/-4.41	-8.81/-3.95
θ(112.5°)	-3.36/-7.17	-10.70/-4.58	-8.11/-5.88	-9.51/-3.88	-7.79/-12.91	-9.46/-7.51	-6.67/-5.31	-6.26/-8.79	-6.78/-5.66	-0.850/89	0.721/33	-0.270/30	-0.10/-2.11	0.571/86	1.530/92	-0.52/-0.26	1.180/57	-0.24/-1.33	2.892/58	3.442/56	0.620/58	-2.22/-7.22	-7.71/-9.44	-8.00/-4.97
θ(120°)	-1.82/-6.94	-12.44/-7.54	-3.72/-10.83	-11.71/-11.54	-10.03/-11.00	-10.70/-7.19	-3.71/-4.13	-7.40/-8.70	-8.27/-5.31	-1.58/-0.83	1.591/30	0.362/17	0.110/08	2.392/15	1.500/21	-1.36/-1.91	-2.46/-1.05	0.24/-1.92	1.682/61	3.411/89	-0.91/-3.51	-4.32/-7.42	-7.95/-10.37	-9.14/-9.86
θ(127.5°)	-7.62/-9.14	-11.47/-8.60	-6.76/-12.67	-6.16/-5.72	-10.18/-11.29	-10.14/-7.69	-7.33/-9.27	-7.92/-4.32	-3.28/-4.35	-3.90/-5.06	-1.87/-1.95	0.891/59	0.401/37	1.871/38	0.760/33	-2.19/-1.85	-0.830/-97	1.51/-0.94	-1.000/-16	0.800/76	-0.65/-4.66	-8.87/-3.84	-7.90/-8.77	-11.46/-7.49
θ(135°)	-11.59/-11.01	-15.05/-11.64	-10.47/-10.85	-13.37/-14.48	-10.09/-7.91	-9.56/-12.10	-10.45/-8.7																	



Antenna Pattern

Appendix B

Θ(127.5°)	-5.46/-5.49	-7.10/-9.41	-8.03/-5.30	-5.61/-4.57	-1.88/-2.30	-4.38/-4.62	-3.35/-2.99	-5.12/-7.86	-4.89/-1.53	-0.54/-0.13	-0.67/-5.97	-7.69/-3.24	-5.83/-4.78	-4.86/-2.43	0.12/-1.89	-4.31/-1.64	-0.45/-0.41	-2.11/-6.69	-15.22/-12.01	-12.32/-10.83	-9.54/-8.29	-5.72/-7.52	-9.90/-8.21	-7.94/-5.51
Θ(135°)	-7.68/-6.80	-5.53/-6.81	-3.48/-2.12	-2.95/-5.33	-6.10/-5.15	-5.15/-6.41	-5.41/-3.91	-4.23/-3.89	-2.58/-2.21	-2.03/-2.98	-5.53/-5.74	-8.11/-4.58	-5.44/-8.33	-7.30/-2.25	0.00/-2.86	-4.90/-1.53	-0.84/-0.10	-1.91/-4.19	-10.80/-10.59	-10.10/-6.92	-8.77/-10.81	-7.01/-11.79	-12.85/-10.51	-7.99/-10.33
Θ(142.5°)	-7.09/-10.71	-5.60/-4.82	-6.49/-7.60	-10.09/-9.63	-5.58/-4.19	-3.16/-1.84	-1.24/-1.38	-2.05/-2.60	-3.02/-3.47	-5.41/-7.31	-6.92/-5.73	-6.75/-6.99	-5.13/-3.85	-4.72/-4.69	-4.20/-5.27	-5.59/-5.02	-1.56/-1.37	-4.18/-5.65	-8.57/-11.58	-14.86/-9.75	-8.04/-7.95	-6.74/-8.77	-9.71/-9.37	-5.38/-5.42
Θ(150°)	-15.01/-13.79	-10.31/-8.49	-9.16/-9.10	-8.63/-7.15	-4.92/-3.75	-3.06/-2.25	-1.59/-1.32	-1.51/-2.09	-2.92/-3.55	-4.67/-7.50	-12.24/-10.46	-6.13/-4.76	-7.13/-9.75	-7.36/-5.69	-5.93/-7.26	-7.25/-4.35	-2.20/-2.65	-3.76/-4.51	-8.19/-13.97	-14.21/-15.20	-11.63/-6.67	-9.09/-9.63	-11.40/-13.04	-11.78/-15.96
Θ(157.5°)	-15.22/-12.63	-9.34/-9.87	-13.31/-11.40	-8.36/-6.08	-5.11/-5.26	-5.87/-4.96	-4.13/-3.48	-2.95/-2.05	-1.45/-1.68	-2.90/-4.39	-4.81/-6.41	-4.13/-4.07	-5.62/-7.64	-8.23/-8.89	-9.74/-10.20	-10.25/-10.88	-13.22/-10.97	-8.43/-8.84	-11.05/-13.38	-14.49/-13.64	-9.14/-7.59	-8.60/-11.54	-13.53/-12.53	-14.88/-15.42
Θ(165°)	-10.12/-10.38	-10.27/-10.12	-11.30/-11.53	-9.88/-8.44	-7.26/-5.98	-5.57/-5.24	-4.51/-3.83	-3.66/-3.66	-3.59/-3.81	-4.86/-5.91	-6.09/-5.95	-5.66/-6.06	-7.66/-8.60	-7.90/-7.15	-6.82/-7.34	-8.20/-9.12	-9.74/-9.27	-8.54/-8.41	-8.06/-7.97	-8.71/-8.17	-7.36/-8.28	-10.65/-12.95	-12.34/-12.46	-13.77/-11.48
Θ(172.5°)	-7.37/-7.82	-7.85/-7.42	-8.35/-7.87	-7.02/-6.44	-6.38/-6.85	-6.63/-6.42	-6.04/-5.76	-5.66/-5.57	-5.53/-5.22	-5.06/-4.78	-4.47/-4.16	-3.93/-4.15	-4.73/-5.29	-5.85/-5.97	-5.53/-4.93	-4.99/-5.82	-6.61/-7.74	-8.27/-8.37	-8.55/-9.43	-10.26/-11.01	-12.90/-13.77	-14.05/-12.25	-9.86/-8.95	-8.39/-7.66
Θ(180°)	-10.40/-10.71	-10.14/-9.40	-9.06/-7.75	-6.87/-6.57	-6.17/-6.31	-6.24/-5.83	-5.68/-5.26	-5.13/-5.17	-5.16/-5.14	-4.96/-4.80	-4.63/-4.68	-5.07/-6.07	-7.93/-9.73	-10.67/-10.82	-10.94/-11.31	-10.85/-9.93	-9.52/-9.35	-9.47/-10.45	-12.04/-12.07	-12.18/-12.12	-12.56/-13.22	-12.53/-11.58	-11.03/-10.55	-9.29/-9.12
Freq(Hz)	5.3GPol.	TotalAnt.4	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-2.50/-1.90	-1.54/-1.18	-0.77/-0.66	-0.56/-0.28	-0.02/0.03	0.050/0.28	0.18/-0.43	-0.82/-1.33	-1.66/-1.76	-1.90/-2.29	-1.96/-2.18	-2.05/-1.83	-1.34/-1.45	-1.43/-1.39	-1.36/-1.21	-1.01/-0.91	-0.87/-1.02	-1.44/-1.76	-1.94/-1.65	-1.66/-2.00	-2.07/-2.30	-2.60/-2.63	-2.62/-2.73	-2.79/-2.46
Θ(7.5°)	-2.62/-2.62	-2.66/-2.58	-2.69/-2.87	-2.84/-2.43	-1.72/-1.60	-1.70/-1.94	-1.94/-1.74	-1.58/-2.13	-1.88/-2.03	-2.25/-2.62	-2.58/-2.29	-1.81/-1.43	-1.20/-1.24	-1.30/-1.28	-1.22/-1.37	-1.36/-1.28	-1.19/-0.86	-0.91/-1.37	-1.72/-1.67	-1.65/-1.83	-1.86/-2.08	-2.36/-2.48	-2.52/-2.64	-2.70/-2.70
Θ(15°)	-3.26/-4.67	-5.91/-6.18	-4.80/-3.36	-2.48/-2.29	-2.04/-1.67	-0.97/-0.75	-0.83/-1.15	-1.01/-0.94	-0.97/-0.96	-0.79/-0.80	-0.71/-0.50	-0.51/-0.83	-1.75/-2.59	-3.10/-2.94	-2.65/-2.71	-3.31/-4.04	-4.46/-3.88	-3.92/-3.60	-4.11/-4.36	-4.23/-3.83	-3.23/-2.94	-2.87/-2.83	-2.68/-2.45	-2.72/-2.63
Θ(22.5°)	-5.37/-4.00	-2.68/-1.71	-1.72/-1.24	-2.94/-3.32	-3.61/-4.40	-3.77/-3.23	-2.97/-2.32	-1.40/-0.59	0.14/0.87	1.41/1.70	1.76/1.23	-0.07/-2.08	-3.68/-4.16	-3.87/-3.72	-4.26/-5.17	-6.54/-7.55	-8.16/-8.91	-9.71/-10.08	-9.63/-7.58	-5.67/-3.99	-3.18/-3.03	-3.17/-3.55	-4.16/-5.48	-5.91/-6.12
Θ(30°)	-4.47/-3.01	-1.93/-2.04	-2.43/-3.11	-3.94/-4.30	-5.42/-5.95	-7.00/-8.36	-9.88/-8.50	-5.57/-3.62	-1.96/-0.48	0.60/1.29	1.40/1.30	0.55/-0.86	-2.19/-3.33	-4.73/-6.74	-8.59/-9.89	-11.22/-12.11	-10.67/-7.39	-4.79/-3.33	-3.21/-3.24	-3.34/-4.08	-4.40/-4.03	-3.70/-2.87	-2.68/-3.05	-3.86/-4.52
Θ(37.5°)	-3.33/-3.46	-3.59/-4.68	-8.92/-8.22	-6.64/-3.80	-2.53/-1.96	-2.26/-2.80	-4.09/-7.28	-10.32/-9.54	-6.04/-3.07	-1.06/-0.08	0.22/0.02	-1.02/-2.84	-4.57/-7.09	-10.05/-12.10	-11.20/-9.05	-8.51/-6.85	-3.67/-1.29	-0.50/-0.47	-0.38/-0.40	-0.72/-0.43	-0.18/-0.65	-1.54/-1.81	-2.30/-2.98	-3.74/-3.56
Θ(45°)	-1.94/-2.40	-3.44/-5.89	-5.55/-3.89	-2.27/-0.22	1.30/2.61	3.49/3.75	3.33/2.32	0.64/-1.94	-5.96/-10.68	-7.93/-3.98	-1.40/-0.72	-1.87/-2.76	-2.91/-3.64	-6.67/-8.62	-7.22/-5.11	-3.08/-1.59	0.19/1.01	1.13/0.91	0.71/0.72	0.45/0.07	0.01/0.34	0.25/-0.53	-1.52/-2.70	-3.84/-2.38
Θ(52.5°)	-4.96/-5.97	-5.80/-3.82	-2.40/-1.14	0.35/1.99	2.51/2.35	2.08/2.28	2.57/1.67	0.70/0.23	-0.67/-2.42	-3.77/-2.08	-1.10/-0.33	0.36/-0.38	-1.34/-2.77	-3.67/-2.83	-2.17/-1.58	-0.91/-1.55	2.51/2.88	3.43/3.88	3.13/1.49	0.64/0.55	0.30/-0.94	-1.85/-1.73	-1.46/-2.01	-3.06/-3.78
Θ(60°)	-5.07/-5.44	-5.69/-3.94	-1.84/-1.35	-1.29/-1.20	-0.93/-1.33	-1.31/-0.36	0.46/0.66	1.07/2.01	2.73/2.19	-0.32/-3.45	-2.29/-0.54	-0.89/-1.92	-2.20/-3.56	-4.53/-4.27	-3.17/-1.84	-0.18/0.43	0.39/0.97	1.86/2.40	2.00/0.62	-0.05/0.30	0.56/-0.83	-2.25/-1.83	-1.71/-3.36	-5.10/-4.78
Θ(67.5°)	-4.37/-7.80	-5.10/-1.50	-1.30/-1.92	-2.21/-0.22	-3.56/-4.99	-4.11/-2.45	-2.41/-3.78	-6.00/-2.77	1.77/3.82	3.28/1.43	0.51/0.84	0.59/-0.94	-2.63/-5.59	-4.16/-3.68	-2.72/-1.07	0.36/0.13	0.18/0.44	0.41/-0.03	-1.28/-2.39	-4.07/-1.28	-0.07/-0.33	-3.09/-3.66	-1.51/-5.13	-2.80/-4.39
Θ(75°)	-5.28/-4.61	-5.02/-5.72	-5.75/-5.71	-5.23/-2.67	-0.74/-0.13	-0.29/-0.21	0.27/-0.40	-5.68/-1.25	-1.39/2.24	3.26/1.78	0.27/1.17	1.05/-0.91	-3.56/-4.21	-4.76/-5.74	-6.03/-5.17	-5.24/-6.95	-5.03/-5.74	-4.52/-3.95	-5.18/-8.48	-6.60/-2.86	-3.11/-3.64	-0.46/-4.61	-5.62/-5.29	-5.52/-6.95
Θ(82.5°)	-4.56/-5.58	-4.71/-3.82	-5.96/-4.38	-0.95/0.64	0.69/1.06	1.422/0.80	3.823/3.35	0.74/-6.15	-7.53/1.88	4.483/7.70	-0.10/-3.26	-3.12/-5.21	-8.14/-10.32	-7.79/-8.86	-10.01/-6.51	-6.05/-7.00	-8.80/-7.40	-6.79/-6.02	-7.53/-9.11	-8.96/-5.33	-3.66/-4.69	-6.53/-4.77	-2.52/-3.29	-7.68/-6.58
Θ(90°)	-4.42/-5.25	-6.58/-8.85	-7.15/-3.25	-0.77/0.95	1.56/1.16	1.54/2.81	3.75/3.85	2.54/-1.03	-7.41/-1.18	2.10/2.36	0.63/-1.09	-1.79/-5.14	-1.84/-2.10	-13.97/-14.30	-15.91/-13.82	-12.13/-11.32	-7.51/-5.29	-3.09/-1.84	-1.61/-3.09	-3.50/-2.88	-2.97/-6.14	-10.76/-6.56	-4.63/-4.61	-5.20/-2.37
Θ(97.5°)	-4.02/-5.23	-4.84/-4.92	-5.77/-3.00	-0.43/0.67	1.12/1.49	0.48/1.62	2.883/4.45	3.08/0.81	-5.24/-8.49	-1.29/-0.67	-0.34/-5.44	-3.88/-3.17	-2.20/-2.31	-1.27/-1.10	-1.44/-1.70	-1.76/-2.47	2.14/0.17	1.49/-3.83	-4.07/-3.31	-2.19/-3.75	-3.59/-4.88	-6.94/-6.90	-5.03/-6.74	-5.10/-3.16
Θ(105°)	-6.97/-9.23	-8.84/-9.94	-8.23/-3.90	-3.19/-1.43	0.60/1.06	1.05/1.57	1.88/1.83	1.57/0.42	-3.35/-7.98	-4.43/-3.43	-4.84/-4.16	-2.49/-1.57	-2.62/-3.56	-4.60/-3.47	-3.19/-4.58	-3.88/-2.46	-1.57/-0.33	0.88/1.41	0.53/1.17	0.82/0.22	-0.56/-2.33	-3.04/-4.97	-5.71/-5.76	-4.31/-4.36
Θ(112.5°)	-6.74/-9.56	-7.85/-0.54	-11.27/-5.64	-2.43/-1.09	0.78/0.99	0.66/1.39	2.30/1.92	0.57/0.69	-3.83/-10.29	-4.81/-2.18	-4.08/-3.11	-1.77/-0.70	-1.84/-2.02	-0.08/0.46	-0.44/-1.51	-1.78/-1.07	0.96/1.22	0.77/-0.95	-1.92/-0.35	-1.14/-2.21	-0.81/-4.04	-4.32/-1.79	-5.48/-9.33	-5.20/-2.37
Θ(120°)	-12.93/-8.26	-4.18/-7.40	-6.03/-4.46	-1.93/-4.21	-1.10/0.74	-0.31/-0.68	-0.01/0.81	-2.07/-1.74	-3.54/-3.31	-2.16/-2.58	-4.95/-6.04	-3.88/-3.17	-2.20/-2.31	-1.27/-1.10	-1.77/0.70	1.16/2.47	2.14/0.17	1.49/-3.83	-4.07/-3.31	-2.19/-3.75	-3.59/-4.88	-6.94/-6.90	-5.05/-6.80	
Θ(127.5°)	-7.45/-7.35	-7.10/-7.13	-7.81/-5.62	-4.78/-4.05	-2.92/-4.13	-4.96/-3.79	-2.26/-2.37	-3.97/-6.13	-5.07/-0.87	0.61/0.64	-0.43/-6.69	-6.51/-2.19	-3.45/-2.28	-2.88/-2.58	0.23/-0.75	-3.17/-1.89	-1.00/-0.02	-1.11/-5.16	-9.31/-7.46	-6.42/-6.98	-9.56/-12.22	-7.82/-8.72	-7.75/-5.05	-5.73/-4.27
Θ(135°)	-6.88/-7.02	-5.46/-3.50	-2.82/-1.96	-3.35/-5.72	-6.97/-5.94	-6.19/-5.69	-3.96/-2.69	-2.64/-2.67	-1.48/-1.37	-2.01/-3.19	-5.31/-6.59	-8.42/-3.96	-3.04/-5.40	-5.11/-1.04	1.22/-1.15	-4.21/-0.55	0.88/0.98	-2.81/-6.30	-11.62/-10.36	-10.44/-6.98	-8.34/-10.14	-6.45/-10.82	-10.59/-8.63	-6.84/-6.79
Θ(142.5°)	-7.25/-10.37	-6.55/-6.51	-9.63/-10.35	-11.41/-8.60	-4.10/-2.53	-1.79/-1.25	-0.45/-0.19	-1.07/-2.30	-3.20/-3.69	-6.24/-8.56	-8.28/-8.62	-8.14/-7.57	-6.76/-6.70	-5.63/-4.37	-4.11/-6.21	-5.63/-3.37	-0.15/-0.26	-3.64/-5.92	-8.41/-10.08	-15.42/-6.32	-4.70/-7.05	-6.89/-9.72	-13.30/-10.61	-5.70/-5.93
Θ(150°)	-15.70/-12.17	-8.51/-7.61	-7.60/-6.39	-5.63/-4.95	-3.79/-3.00	-2.71/-2.78	-2.65/-2.05	-1.35/-1.55	-2.58/-3.86	-5.07/-7.33	-10.07/-8.73	-6.43/-6.00	-8.21/-9.35	-7.79/-7.34	-6.82/-7.49	-6.08/-3.96	-2.07/-1.97	-3.21/-5.99	-11.63/-14.75	-10.98/-11.36	-12.83/-9.21	-11.92/-11.77	-10.44/-13.32	-12.24/-14.11
Θ(157.5°)	-14.89/-11.58	-8.92/-3.38	-6.76/-4.81	-3.09/-2.67	-3.14/-4.49	-6.02/-6.55	-7.12/-6.93	-5.05/-2.96	-1.60/-1.38	-2.40/-4.03	-4.81/-4.40	-3.58/-3.30	-4.33/-5.40	-6.18/-7.30	-8.44/-8.31	-6.70/-5.99	-8.25/-9.11	-8.47/-8.66	-8.60/-10.19	-10.85/-15.44	-11.29/-9.37	-10.60/-12.99	-11.66/-11.46	-12.31/-15.67
Θ(165°)	-8.57/-8.66	-10.56/-11.49	-8.28/-5.71	-4.46/-4.07	-3.80/-3.12	-2.89/-3.30	-3.23/-3.13	-3.19/-3.61	-4.18/-4.60	-4.41/-3.83	-3.64/-4.30	-5.43/-5.61	-5.09/-4.77	-5.66/-7.62	-9.99/-11.93	-11.38/-11.30	-11.96/-13.14	-12.01/-9.99	-9.27/-8.33	-7.60/-9.04	-11.36/-14.23	-14.08/-14.99	-13.32/-9.22	
Θ(172.5°)	-6.37/-7.42	-7.77/-7.74	-7.51/-7.23	-7.02/-7.41	-8.17/-8.92	-9.34/-9.40	-10.13/-10.21	-9.77/-9.30	-8.61/-8.28	-7.45/-6.53	-5.68/-5.31	-5.36/-5.84	-5.65/-5.49	-5.67/-5.68	-5.24/-4.99	-4.98/-5.38	-6.65/-8.16	-9.12/-8.73	-10.24/-10.28	-10.34/-9.99	-9.14/-8.86	-7.15/-6.17	-5.72/-5.30	
Θ(180°)	-11.12/-11.70	-10.02/-10.15	-9.54/-7.65	-7.01/-6.48	-6.05/-5.74	-5.43/-5.38	-5.46/-5.83	-6.13/-6.00	-5.72/-5.70	-5.75/-5.81	-5.57/-5.72	-5.79/-5.79	-5.80/-6.86	-9.19/-11.07	-10.72/-10.03									

E1(XY plane) – $\Theta(90)\Phi(0-360)$
E2(XZ plane) – $\Theta(0-180)\Phi(0)$ and $\Theta(0-180)\Phi(180)$
E3(YZ plane) – $\Theta(0-180)\Phi(90)$ and $\Theta(0-180)\Phi(270)$

