



Antenna Composite Gain Test Report

FCC ID	2AVNXCYAF5G
Equipment	AirgainConnect Fleet
Brand Name	Airgain
Model Name	CY-AF5G-B-NAT
Applicant	Airgain, Inc. 3611 Valley Centre Drive, Ste. 150, San Diego, CA 92130 USA
Manufacturer	MitraStar Technology Corporation No. 6, Innovation Rd II, Science-Based Industrial, Hsin-Chu, Taiwan
Standard	KDB662911 D03 v01
Sample Received	Apr. 26, 2024
Start Test Date	May 08, 2024
Final Test Date	May 08, 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.)



Table of Contents

History of this test report.....	3
1. Operation Mode and Antenna Information	4
2. Table for EUT Supports Functions.....	4
3. Test Frequency	4
4. Testing Location.....	4
5. Test Facility and Configuration	5
6. Reference Calibration	6
7. Test Method	7
8. Measured Values and Calculation of Maximum Gain Positions.....	8
9. Summary of Test Result	9
10. Test Setup	10
11. Test Equipment and Calibration Data	11
12. Test Results	12

History of this test report

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1. Operation Mode and Antenna Information

Antenna Position	RF Port	Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
2G5G Ant1	1	Airgain	M03AGDKE-LA1X82BU	Monopole	I-PEX	2.4GHz, 5GHz UNII 1~3
2G5G Ant2	2	Airgain	M03AGDKF-LR1X190BU	Monopole	I-PEX	2.4GHz, 5GHz UNII 1~3

Note:

2.4GHz and 5GHz Operation Mode (2TX/2RX)

2G5G Ant1~2 can be used as transmitting/receiving antenna.

2G5G Ant1~2 could transmit/receive simultaneously.

2. Table for EUT Supports Functions

Function	Support Type	Supports Band
AP Router	Master	2.4GHz and 5GHz UNII 2A~3
Slave	Slave without radar detection	2.4GHz and 5GHz UNII 1~3

Note: The above information was declared by manufacturer.

3. Test Frequency

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

Band [MHz]	Test Frequency [MHz]
2400-2483.5	2450
5150-5250	5200
5250-5350	5300
5470-5725	5600
5725-5850	5785

4. 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	Jamie Yang	23.5-24.5 / 45-55	May 08, 2024

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

5. Test Facility and Configuration

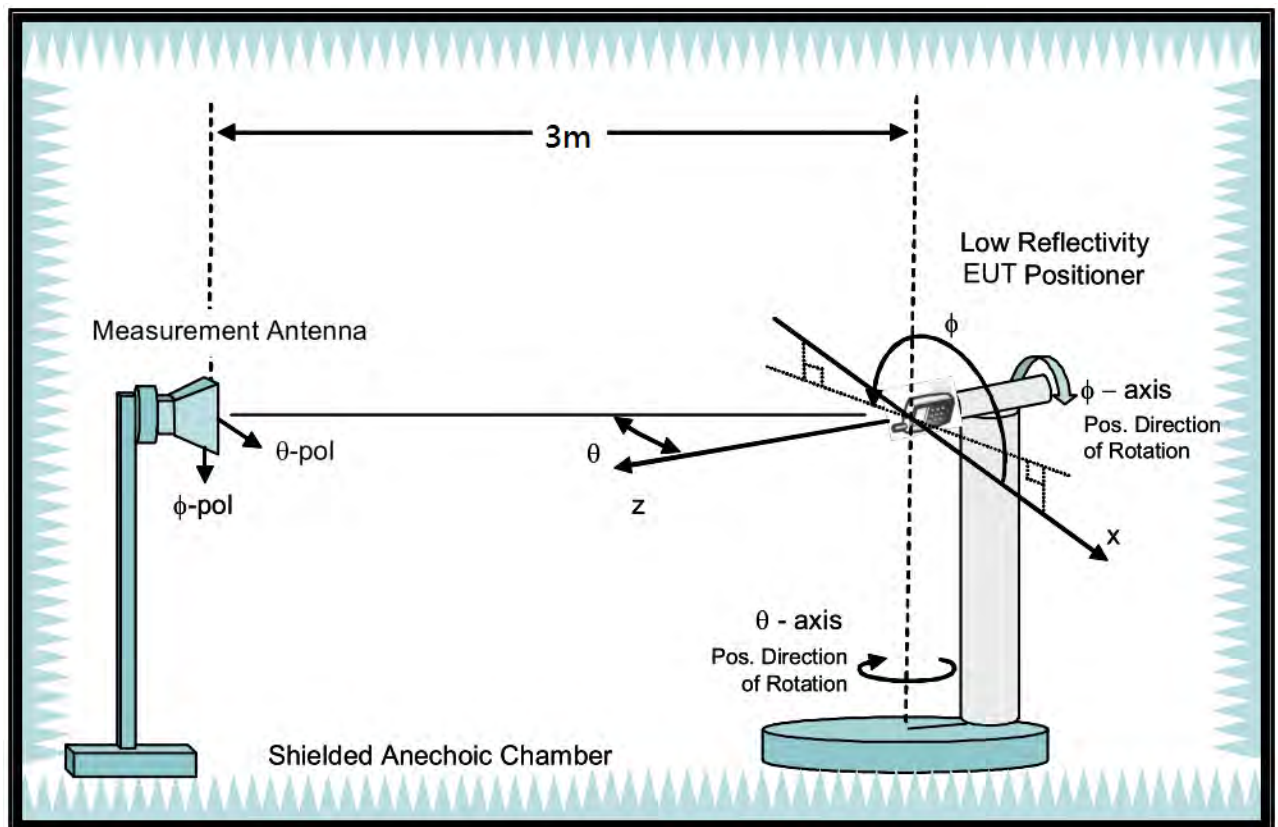
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

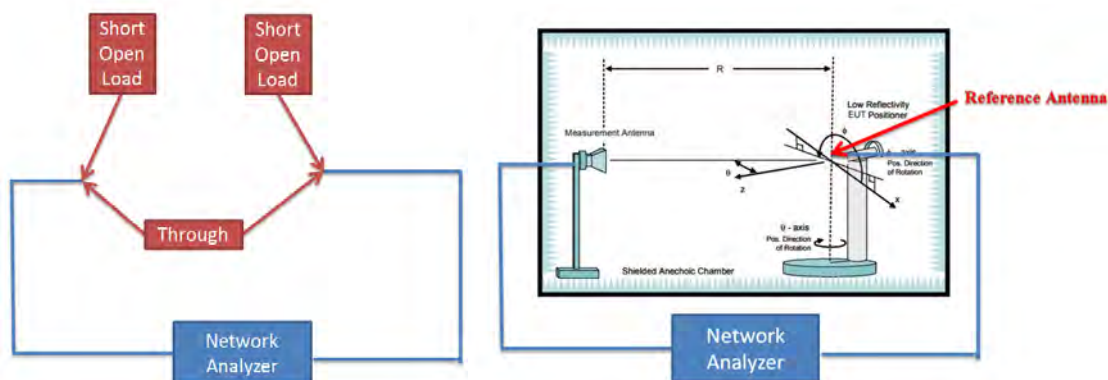
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



6. 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.

Factor = gain factor + power gain conversion= (Reference antenna gain)-(G reading)

7. 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 8 tables.

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

8. Measured Values and Calculation of Maximum Gain Positions

DG_1SS max value position

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	-2.11	3.65	1.21	4.73	4.24
Ant. 2 (dBi)	4.99	2.13	4.24	5.58	4.07
DG [1SS] (dBi)	5.16	5.93	5.87	8.18	7.17
Polarization	Phi	Theta	Theta	Theta	Theta
$\Theta(^{\circ})$	30	67.5	60	30	30
$\Phi(^{\circ})$	180	82.5	105	270	270

Note: The DG 1SS max value position is the maximum value of section 12 table DG 1SS Result.

DG_1SS max value position calculation

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 [$10^{(G/20)}$]	$10^{(-2.11/20)}$	$10^{(3.65/20)}$	$10^{(1.21/20)}$	$10^{(4.73/20)}$	$10^{(4.24/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(4.99/20)}$	$10^{(2.13/20)}$	$10^{(4.24/20)}$	$10^{(5.58/20)}$	$10^{(4.07/20)}$
Ant. 1 [$10^{(G/20)}$] value	0.784	1.522	1.149	1.724	1.629
Ant. 2 [$10^{(G/20)}$] value	1.776	1.278	1.629	1.901	1.598
Sum All Antenna [Amax]	2.561	2.8	2.779	3.625	3.227
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	5.16	5.93	5.87	8.18	7.17

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

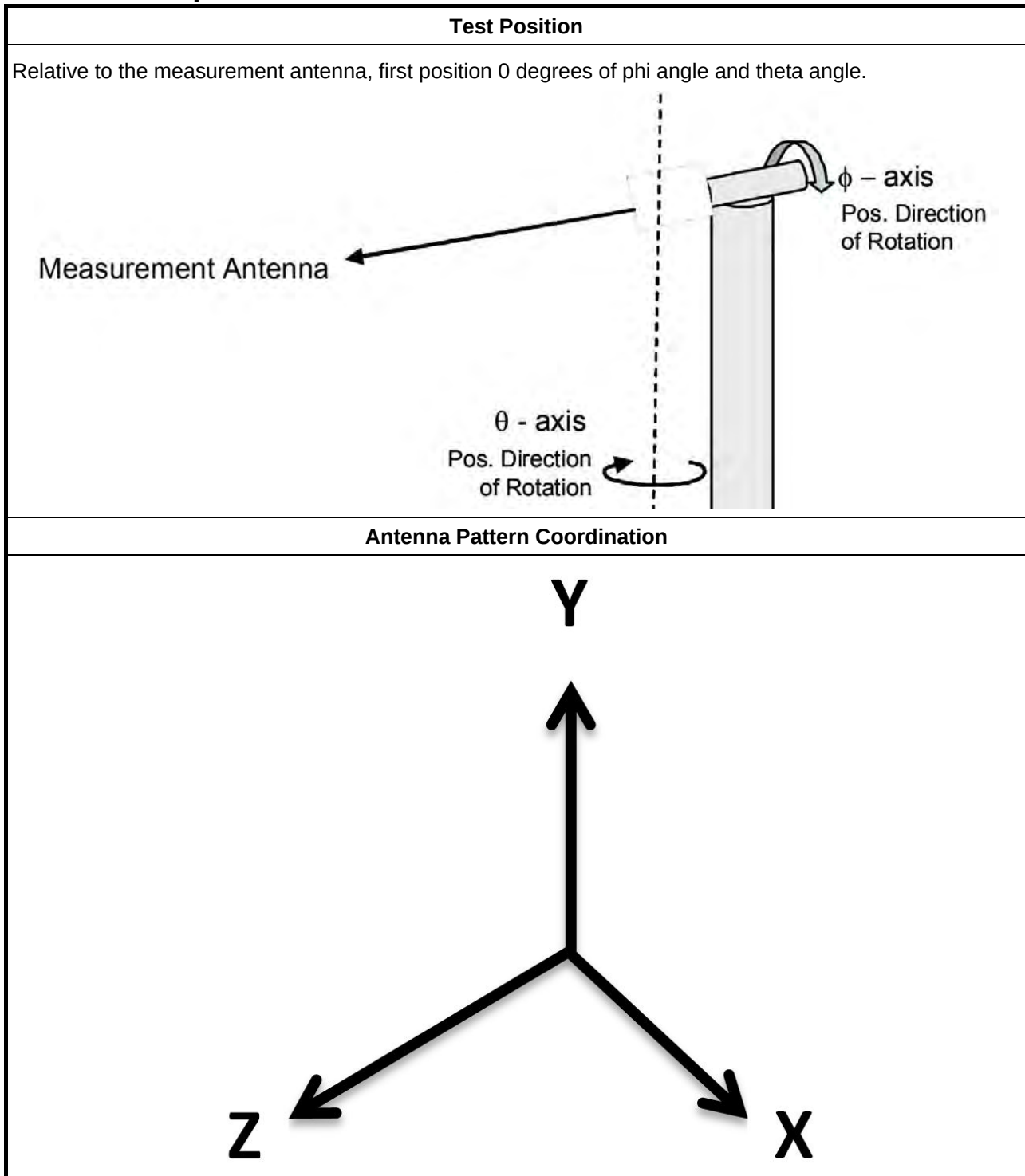
9. Summary of Test Result

Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.96	4.26	3.77	4.92	4.62
Ant. 2 Max Gain (dBi)	5.07	4.24	4.38	5.94	4.07
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/30/0	Theta/75/82.5	Theta/75/82.5	Theta/22.5/112.5	Theta/22.5/270
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/30/172.5	Theta/67.5/97.5	Theta/67.5/105	Theta/30/240	Theta/30/270
Max Gain (dBi)	5.07	4.26	4.38	5.94	4.62
DG [1SS] (dBi)	5.16	5.93	5.87	8.18	7.17
DG [2SS] (dBi)	5.07	4.26	4.38	5.94	4.62

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)

10. Test Setup



Note:

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

**11. 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.



12. Test Results

Please refer to the appendix.

Appendix A – Radiated Composite Gain.....	Page 13
Appendix B – Antenna Pattern.....	Page 22
Appendix C – Test Photos.....	Page 26



Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.96	4.26	3.77	4.92	4.62
Ant. 2 Max Gain (dBi)	5.07	4.24	4.38	5.94	4.07
Ant. 1 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/30/0	Theta/75/82.5	Theta/75/82.5	Theta/22.5/112.5	Theta/22.5/270
Ant. 2 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Phi/30/172.5	Theta/67.5/97.5	Theta/67.5/105	Theta/30/240	Theta/30/270
Max Gain (dBi)	5.07	4.26	4.38	5.94	4.62
DG [1SS] (dBi)	5.16	5.93	5.87	8.18	7.17
DG [2SS] (dBi)	5.07	4.26	4.38	5.94	4.62



Radiated Composite Gain Data

Appendix A

DG 1SS Result

Freq(Hz)	2.45GPol.	Phi-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
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°)	1.421.61	1.751.74	1.581.13	0.950.61	0.300.04	-0.11/-0.22	-0.49/-0.81	-1.09/-1.19	-1.02/-0.8	-0.80/-28	0.79/1.13	1.32/-1.52	1.75/-1.97	2.08/2.06	1.89/-1.59	1.17/0.71	0.19/-0.24	-0.34/-0.22	-0.01/-0.09	0.09/0.08	0.06/0.16	0.40/0.71	0.97/1.14	1.26/-1.32
Θ(7.5°)	1.141.55	1.97/2.26	2.41/2.39	2.22/1.96	1.56/1.19	0.80/0.58	0.30/-1.1	-0.02/-0.03	0.06/0.29	0.86/-41	1.86/2.1	2.19/2.17	1.11/0.18	1.87/1.62	1.19/0.71	0.18/-0.39	-0.86/-1.1	-0.84/-0.56	-0.37/-0.49	-0.61/-0.64	-0.52/-0.31	-0.06/0.25	0.50/0.74	
Θ(15°)	1.62/2.14	2.7/3.08	3.25/3.22	3.01/2.6	2.01/1.32	0.82/0.51	0.31/0.27	0.35/0.41	0.37/0.71	1.03/1.71	2.26/2.6	2.77/2.78	2.67/2.43	2.06/1.58	0.97/0.23	-0.68/-1.5	-2.06/-2.08	-1.66/-1.21	-1.11/-1.41	-1.89/-2.15	-2.36/-2.07	-1.64/-0.98	-0.20/-0.48	0.94/1.24
Θ(22.5°)	2.62/3.09	3.6/3.9	3.95/3.8	3.44/2.84	2.05/1.21	0.61/0.37	0.47/0.7	0.93/-1.1	1.1/1.19	1.55/-2.1	2.69/3.19	3.56/3.72	3.59/3.13	2.42/1.47	0.09/-0.71	-1.76/-2.6	-2.97/-2.69	-2.03/-1.71	-2/-3.03	-4.47/-5.49	-5.64/-4.35	-2.05/-0.16	1.19/1.99	2.26/2.41
Θ(30°)	3.26/3.69	4.08/4.23	4.17/3.84	3.18/2.2	1.02/-0.22	-1.06/-1.23	-0.74/-0.02	0.72/1.29	1.65/1.78	1.92/-18	2.72/3.33	3.95/4.56	5.16/4.21	3.13/1.81	0.05/-1.95	-3.81/4.87	-5.15/-4.38	-3.28/2.95	-3.73/-6.07	-9.74/-9.99	-6.38/-3.33	-1.17/0.44	1.69/2.47	2.76/2.91
Θ(37.5°)	2.7/3.09	3.32/3.39	3.36/2.97	2.08/0.71	-0.96/-2.71	-3.93/-3.66	-2.31/-0.84	0.52/1.44	1.82/1.82	1.77/1.89	2.26/2.89	3.51/3.85	3.72/3.1	2.02/0.53	-1.34/-3.75	-7.13/-9.65	-10.08/-6.69	-4.3/-3.71	-4.86/-8.2	-12.32/-8.18	-3.93/-1.95	-1.17/-0.79	0.18/1.16	1.68/2.05
Θ(45°)	0.98/1.31	1.52/1.8	2.11/1.93	0.89/-1.01	-3.12/-4.91	-7.09/-8.71	-6.98/-3.66	-0.67/1.12	1.81/1.75	1.42/1.05	0.85/-1.25	1.82/2.2	2.17/1.64	0.62/-0.7	-2.63/-4.13	-5.58/-7.52	-10.22/-9.31	-6.25/-5.25	-6.96/-10.53	-10.51/-6.65	-3.58/-2.2	-1.98/-1.66	-0.96/-0.32	0.05/0.09
Θ(52.5°)	-0.95/-0.51	0.14/1.04	1.88/1.86	0.69/-1.48	-3.72/-5.4	-7.15/-10.04	-9.65/-5.6	-1.76/0.48	1.28/1.12	0.51/-0.25	-0.63/-0.1	0.6/0.94	0.77/-0.02	-1.56/-3.71	-5.03/-4.59	-4.33/-5.4	-8.54/-10.45	-4.89/-6.53	-7.5/-8.93	-7.65/-6.69	-3.54/-2.61	-2.46/-1.24	-0.45/-1.66	-1.95/-1.87
Θ(60°)	-3.16/-2.62	-2.11/-0.63	0.91/17	-0.19/-3.09	-6.69/-9.34	-10/-8.74	-6.92/-4.9	-2.04/1.6	0.99/1.08	0.31/-0.97	-1.82/-0.78	-0.45/1.09	1.02/0.17	-1.51/-3.77	-4.84/-4.63	-4.24/-4.63	-6.25/-8.06	-9.09/-7.78	-7.48/-6.8	-4.71/-4.79	-4.4/-3.36	-2.97/-1.74	-1.22/-2.71	-3.68/-3.21
Θ(67.5°)	-5.07/-4.93	-6.33/-4.79	-2.03/-1.45	-3.06/-7.69	-10.88/-12.49	-11.27/-8.91	-7.02/-5.51	-2.5/-0.67	-0/-0.52	-2.16/-4.64	-5.72/-3.09	-1.53/-1.04	-1.4/-2.65	-4.6/-6.65	-5.87/-5.37	-4.59/-4.88	-6.85/-7.4	-6.08/-6.21	-7.19/-7.99	-5.18/-4.47	-4.52/-4.26	-3.12/-1.35	-0.82/-2.51	-6.42/-5.93
Θ(75°)	-6.68/-6.05	-7.14/-5.19	-2.68/-2.47	-5.3/-13.18	-13.98/-11.99	-11.1/-8.87	-6.94/-6.25	-5.16/-3.8	-3.13/-3.61	-5.01/-7.43	-7.73/-4.79	-3.98/-4.76	-6.65/-9.49	-9.94/-8.34	-8.59/-7.78	-5.88/-6.47	-10.26/-12.58	-6.23/-49	-7.55/-14.4	-9.31/-5.26	-4.22/-4.8	-4.3/-2.17	-1.4/-2.82	-7.36/-9.8
Θ(82.5°)	-8.54/-7.34	-7.84/-5.78	-3.51/-4.43	-9.79/-13.78	-14.84/-13.38	-12.67/-7.33	-9.78/-3.34	-2.97/-3.82	-5.93/-6.44	-6.68/-5.83	-5.58/-6.72	-8.85/-11.11	-9.66/-7.3	-6.75/-4.09	-1.76/-2.28	-6.61/-11.1	-5.94/-4.36	-6.95/-12.8	-10.77/-5.7	-13.71/-3.62	-5.18/-4.26	-3.3/-4.63	-9.22/-9.69	
Θ(90°)	-8.63/-7.47	-8.82/-6.47	-3.56/-4.15	-8.93/-11.96	-7.31/-5.66	-6.29/-9.94	-9.89/-11.53	-8.72/-5.56	-4.25/-4.62	-6.62/-8.13	-6.51/-5.85	-5.27/-5.54	-6.79/-6.76	-8.77/-6.71	-6.54/-4.9	-2.52/-2.83	-6.4/-10.28	-7.75/-5.4	-5.61/-9.53	-15.01/-7	-2.9/-2.36	-3.77/-5.57	-6.54/-8.47	-13.57/-10.87
Θ(97.5°)	-6.93/-5.93	-7.88/-8.95	-6.66/-7.7	-14.75/-10.86	-6.49/-6.77	-8.51/-7.37	-5.59/-5.64	-6.11/-5.77	-5.08/-6.19	-8.6/-6.04	-5.01/-4.9	-5.63/-6.95	-8.37/-12.06	-8.85/-5.78	-6.34/-7.9	-5.86/-4.92	-6.81/-10.36	-9.68/-6.91	-6.46/-7.24	-11.65/-9.31	-3.67/-1.47	-1.71/-3.29	-5.67/-9.4	-16.33/-11.55
Θ(105°)	-11.08/-7.86	-7.39/-5.85	-5.11/-7.24	-11.3/-7.86	-4.38/-4.66	-7.84/-9.94	-8.8/-7.72	-10.25/-13.2	-4.24/-5.04	-6.81/-7.55	-10.56/-8.53	-6.35/-6.18	-8.21/-11.06	-8.73/-5.33	-5.28/-7.92	-7.46/-6.68	-8.38/-11	-10.4/-7.79	-4.39/-4.02	-7.84/-12.81	-6.22/-3.06	-2.9/-4.4	-6.79/-7.07	-8.72/-13.71
Θ(112.5°)	-11.33/-11.89	-7.89/-4.52	-3.86/-6.61	-14.64/-10.68	-5.38/-4.4	-6.4/-9.17	-6.37/-4.22	-3.56/-4.09	-5.45/-9.07	-12.6/-10.17	-8.24/-8.92	-8.68/-7.24	-9/-8.4	-6.4/-86	-6.51/-9.69	-12.37/-12.57	-11.55/-9.52	-7/-6.17	-5.57/-4.59	-6.76/-14.51	-7.42/-7.27	-2.27/-4.22	-6.43/-5.25	-4.05/-5.22
Θ(120°)	-6.15/-9.07	-9.47/-6.92	-6.28/-9.19	-11.02/-7.42	-4.98/-4.39	-5.57/-1.12	-5.57/-4.12	-4.48/-4.92	-4.91/-5.78	-8.26/-9.28	-9.76/-12.67	-11.99/-8.02	-7.02/-5.12	-6.45/-8.73	-10.26/-11.25	-10.66/-8.85	-7.06/-6.12	-5.85/-6	-5.09/-5.04	-8.46/-12.38	-4.56/-1.32	-0.68/-2.07	-5.17/-9.76	-5.72/-4.64
Θ(127.5°)	-7.37/-10.95	-11.07/-6.63	-5.76/-8.87	-12.07/-9.03	-7.17/-6.89	-7.2/-6.65	-7.22/-4.92	-7.22/-10.02	-9.47/-10.37	-11.73/-9.73	-9.94/-12.57	-10.57/-9.99	-5.39/-5.55	-8.82/-10.5	-8.74/-6.95	-7.12/-7.34	-8.08/-8.84	-7.38/-5.46	-3.98/-3.02	-3.52/-6.74	-10.84/-6.91	-0.60/-4.27	-5.02/-7.82	-8.89/-7.01
Θ(135°)	-9.79/-11.95	-8.87/-4.82	-3.43/-5.2	-8.91/-10.29	-9.92/-10.36	-10.48/-11.73	-6.29/-6.22	-8.13/-9.88	-9.99/-11.67	-15.88/-12.96	-10.11/-9.76	-10.39/-9.45	-8.65/-9.13	-9.13/-7.9	-7.35/-7.25	-7.24/-6.62	-6.6/-6.55	-6.25/-4.39	-2.52/-2.3	-3.7/-4.63	-8.65/-7.64	-5.26/-3.15	-3.18/-5.01	-7.52/-6.65
Θ(142.5°)	-12.64/-13.83	-9.55/-4.99	-2.96/-3.38	-4.98/-6.23	-6.75/-7.98	-10.13/-11.31	-11.24/-11.27	-10.31/-8.26	-8.46/-11.37	-15.14/-11.86	-9.55/-8.67	-8.39/-7.12	-6.18/-6.58	-5.54/-6.25	-7.82/-8.33	-6.99/-6.04	-6/-5.74	-4.64/-4.29	-5.04/-6.69	-8.31/-8.33	-8.88/-8.47	-6.81/-4.88	-4.04/-4.84	-6.98/-9.87
Θ(150°)	-13.93/-14.9	-12.41/-6.71	-5.19/-4.75	-5.12/-5.51	-5.76/-6.14	-9.61/-14.45	-15.03/-13.17	-10.60/-9.06	-8.88/-10	-12.3/-15.1	-14.14/-11.08	-8.21/-6.63	-4.34/-4.23	-5.14/-7.52	-9.91/-10.18	-9.31/-8.84	-10.23/-9.74	-4.44/-6.1	-4.64/-3.87	-4.4/-4.61	-9.9/-10.91	-10.09/-9.96		
Θ(157.5°)	-12.27/-11.58	-10.56/-9.43	-9.13/-9.67	-9.44/-8.92	-9.18/-9.63	-10.98/-12.1	-11.92/-9.75	-8.32/-6.96	-6.75/-7.76	-9.84/-11.38	-11.41/-10.11	-8.78/-7.39	-6.96/-7.47	-8.18/-9.51	-9.59/-9.48	-10.2/-11.67	-13.21/-13.62	-12.79/-5.6	-7.47/-5.48	-3.72/-2.58	-2.32/-3.08	-4.89/-7.67	-11.59/-12.81	-13.39/-11.95
Θ(165°)	-8.69/-8.57	-8.33/-8.45	-9.25/-10.86	-12.62/-14.1	-14.92/-13.68	-13.4/-15.12	-13.88/-12.83	-11.51/-9.63	-8.33/-7.75	-7.39/-7.28	-7.26/-7.13	-7.08/-7.09	-7.33/-7.58	-7.88/-8.39	-9.12/-10.12	-11.38/-12.22	-12.44/-12.27	-11.38/-9.97	-7.74/-5.86	-4.63/-8.33	-3.78/-4.25	-5.2/-6.72	-4.48/-4.93	-9.61/-9.59
Θ(172.5°)	-9.82/-9.87	-9.67/-9.82	-10.48/-11.45	-12.57/-14.71	-14.84/-14.32	-15.11/-15.49	-15.25/-15.53	-14.88/-13.47	-15.25/-15.53	-9.48/-8.36	-7.25/-6.38	-6.06/-7.09	-8.55/-10.88	-12.13/-12.2	-14.18/-11.95	-9.96/-9.18	-8.6/-8.31	-7.29/-6.66	-6.76/-7.46	-6.83/-9.28	-10.51/-10.66	-10.86/-11.13		
Θ(180°)	-15.42/-16.12	-15.4/-14.5	-14.21/-13.05	-12.24/-11.84	-11.33/-10.68	-10.27/-10.47	-11.28/-12.46	-12.88/-13.4	-13.1/-12.78	-12.03/-11.44	-10.61/-9.53	-9.15/-9.34	-9.33/-10.32	-10.91/-12.18	-13.37/-13.52	-13.93/-13.05	-12.23/-11.43	-10.7/-10.46	-9.89/-10.23	-10.52/-10.74	-11.32/-12.84	-14.51/-14.31	-15.2/-15.58	-15.9/-15.42
Freq(Hz)	2.45GPol.	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°)	-2.14/-1.98	-1.98/-1.93	-1.76/-1.42	-1.12/-0.85	-0.56/-0.21	0.16/0.53	0.76/0.86	0.96/1	0.90/0.64	0.25/-0.14	-0.57/-1.09	-1.62/-1.91	-2.01/-2.06	-2.22/-2.35	-2.38/-2.27	-1.98/-1.83	-1.66/-1.38	-1.03/-0.7	-0.41/-0.17	-0.03/-0.06	-0.34/-0.69	-1.12/-1.47	-1.66/-1.83	-1.95/-1.89
Θ(7.5°)	-1.4/-1.84	-2.17/-2.31	-2.38/-2.57	-2.83/-3.06	-2.85/-2.41	-1.84/-1.28	-0.94/-0.77	-0.76/-0.96	-1.4/-2.05	-2.78/-3.41	-3.81/-3.92	-3.58/-3.02	-2.5/-2.14	-1.9/-1.67	-1.36/-0.8	-0.25/-0.19	0.50/0.75	0.88/1.06	1.17/1.28	1.34/1.32	1.180/99	0.79/0.66	0.49/0.16	-0.48/-1.16
Θ(15°)	-0.45/-1.41	-2.33/-3.09	-3.45/-3.87	-4.48/-5.22	-5.76/-5.43	-4.38/-5.27	-3.22/-3.11	-3.2/-3.59	-4.26/-5.19	-6.07/-6.54	-6.4/-5.91	-5.25/-4.55	-3.84/-3.27	-2.44/-1.73	-1.17/-1.03	-0.42/0.91	1.24/1.44	1.56/1.61	1.64/1.66	1.71/1.71	1.66/1.65	1.83/1.93	1.99/1.81	1.25/0.4
Θ(22.5°)	1.96/1.67	1.30/0.64	-0.51/-1.99	-3.73/-5.56	-7.3/-7.93	-7.86/-7.58	-7.15/-7.13	-7.35/-7.77	-8.32/-7.98	-8.08/-7.79	-7.48/-6.25	-5.12/-3.92	-2.85/-1.92	-1.19/-0.56	-0.03/0.37	0.69/0.85	0.91/0.89	0.97/0.89	0.91/1.09	1.25/1.37	1.47/1.6	1.79/2.05	2.36/2.55	2.45/2.16
Θ(30°)	2.73/2.6	2.41/1.92	0.87/-0.71	-2.75/-5.16	-7.95/-11.29	-13.18/-13.38	-13.56/-11.7	-9.91/-9.49	-8.38/-8.06	-8.33/-8.82	-7.95/-6.56	-4.31/-2.41	-1.11/-0.19	0.35/0.64	0.74/0.73	0.65/0.56	0.39/0.27	0.23/0.32	0.53/0.86	0.99/1	0.88/0.96	1.31/1.78	2.29/2.7	2.92/83
Θ(37.5°)	2.38/2.25	2.14/1.66	0.61/-1.02	-2.99/-5.26	-7.89/-9.92	-14.99/-15.16	-14.99/-14.12	-11.29/-9.22	-8.26/-9.07	-11.65/-12.71	-8.94/-4.69	-1.93/-0.12	0.94/1.6	1.89/1.84	1.46/0.88	0.31/-0.19	-0.68/-1.07	-1.13/-0.98	-0.45/-0.19	0.60/0.67	0.64/0.73	1.08/1.58	2.15/2.53	2.62/2.46
Θ(45°)	1.04/0.46	0.06/-0.44	-1.61/-3.49	-5.61/-7.25	-8.02/-8.48	-9.03/-11.01	-13.22/-12.2																	



Radiated Composite Gain Data

Appendix A

Θ(22.5°)	0.41/1.35	1.92/2.49	2.57/2.22	1.50/4.1	-0.88/-1.93	-2.32/-2.03	-1.69/-1.74	-1.98/-2.1	-1.63/-0.91	-0.59/-0.89	-1.68/-2.76	-3.49/-3.7	-3.25/-2.08	0.02/1.75	2.53/2.48	1.61/-0.23	-3.75/-5.16	-3.71/-2.48	-1.99/-2.1	-2.52/-3.63	-5.38/-4.27	-3.17/-2.59	-2.97/-3.13	-2.35/-1.02
Θ(30°)	-3.78/-1.87	-0.99/-0.72	-1.04/-1.05	-1.38/-2.47	-4.98/-7.78	-8.27/-7.29	-6.59/-5.98	-6.13/-7.42	-8.25/-5.76	-3.93/-3.27	-3.94/-5.99	-8.43/-8.1	-7.78/-5.06	-1.65/0.61	2.05/2.65	2.08/0.05	-2.91/-6.05	-7.67/-9.4	-9.52/-5.98	-4.19/-6.74	-11.85/-4.07	-0.26/0.45	-1.57/-1.7	-7.69/-5.75
Θ(37.5°)	-6.07/-2.23	-1.18/-1.82	-3.95/-9.47	-5.44/-5.34	-7.5/-10.38	-8.68/-7.91	-7.15/-5.2	-3.63/-4.88	-7.16/-5.37	-2.76/-9.4	-1.96/-6.55	-1.02/-10.03	-6.26/-5.7	-4.36/-4.26	-4.52/-4	-4.13/-1.32	-10.41/-9.09	-9.08/-13.46	-13.25/-12.98	-12.4/-10.87	-7.74/-1.25	-2.14/2.15	-1.55/-8.27	-11.58/-4.23
Θ(45°)	-6.06/-1.19	-0.76/-1.7	-2.44/-7.07	-6.6/-2.56	-3.23/-4.68	-4.9/-4.07	-5.84/-2.38	-0.83/-2.27	-4.74/-5.62	-2.94/-0.5	-0.87/-5.4	-13.77/-11.9	-10.82/-8.61	-3.37/-0.85	-1.09/-3.02	-4.51/-4.51	-6.8/-10.22	-11.38/-10.73	-8.34/-9.44	-9.33/-5.92	-5.01/-2.46	-0.21/-0.6	-3.21/-6.08	-8.9/-12.46
Θ(52.5°)	-6.48/-3.17	-2.94/-4.31	-2.62/-6.19	-6.51/-0.7	-0.76/-1.52	-2.7/-4.36	-4.19/-0.18	0.92/-1.15	-4.09/-9.22	-8.31/-3.88	-4.71/-10.36	-12/-9.48	-8.77/-6.42	-3.43/-1.96	-3.1/-2.83	-5.99/-6.32	-6.42/-8.64	-12.33/-9.78	-6.86/-7.5	-6.15/-2.47	-3.44/-5.82	-2.35/-3.13	-3.16/-3.08	-6.6/-10.07
Θ(60°)	-10.43/-8.11	-9.03/-8.38	-1.75/-3.14	-8.78/-0.68	-0.65/-2.94	-3.75/-6.39	-5.38/-0.94	0.45/-1.13	-2.43/-5.96	-3.75/-6.39	-5.38/-0.94	-13.2/-14.95	-14.42/-9.49	-5.38/-2.84	-2.44/-4.75	-9.79/-6.71	-9.7/-9.65	-5.12/-8.62	-9.69/-6.82	-5.88/-6.39	-4.85/-3.88	-4.04/-3.76	-6.79/-15.21	
Θ(67.5°)	-13.16/-7.69	-7.62/-9.17	-1.87/-2.71	-7.79/0.06	-0.45/-6.01	-9.36/-9.87	-5.97/-2.62	-1.23/-1.25	-1.8/-6.38	-6.53/-11.75	-8.38/-8.5	-12.97/-14.77	-11.57/-6.31	-6.2/-6.37	-4.23/-5.11	-11.76/-11.26	-11.48/-4.85	-5.57/-6.63	-4.31/-13.88	-12.72/-8.67	-10.13/-8.28	-6.03/-4.08	-3.83/-6.31	-7.88/-12.64
Θ(75°)	-10.81/-6.22	-5.25/-9.72	-1.66/-2.72	-8.52/-0.64	-0.64/-3.34	-8.11/-12.19	-11.37/-6.81	-3.48/-2.7	-2.49/-6.13	-5.91/-12.28	-7.29/-7.63	-11.76/-10.23	-9.97/-8.34	-7.29/-8.46	-5.09/-3.6	-6.41/-9.5	-14.21/-5.21	-3.73/-7.14	-3.15/-8.07	-13.52/-10.31	-7.71/-4.37	-3.91/-4.01	-3.9/-5.58	-6.73/-7.87
Θ(82.5°)	-12.37/-6.29	-5.03/-7.11	-1.9/-2.88	-9.8/-2.94	-1.93/-3.15	-6.97/-10.1	-13.08/-7.17	-2.81/-0.76	-3.38/-7.69	-6.23/-15.14	-8.14/-7.14	-8.39/-11.35	-14.62/-7.29	-6/-5.92	-4.97/-5.08	-7.39/-10.94	-11.21/-5.46	-5.73/-9.25	-6.8/-10.14	-8.75/-12.78	-7.75/-2.69	-1.5/-6.75	-6.68/-4.6	-7.7/-9.4
Θ(90°)	-13.94/-6.32	-6.17/-9.02	-2.28/-4	-8.27/-7.49	-6.43/-4.2	-4.83/-9.68	-13.83/-6.55	-3.02/-1.37	-3.8/-10.17	-6.3/-11.09	-8.78/-5.74	-7.97/-9.81	-8.99/-7.54	-7.22/-6.45	-6.75/-4.55	-5.01/-5.83	-7.97/-8.32	-5.3/-10.15	-9.58/-11.42	-6.98/-13.76	-9.8/-2.3	-1.5/-5.22	-9.38/-7.26	-11.01/-12.99
Θ(97.5°)	-13.77/-6.41	-4.87/-8.84	-8.2/-10.7	-6.57/-1.78	-6.84/-5.73	-6.88/-9.69	-15.24/-6.25	-3.69/-2.81	-6.78/-9.34	-7.71/-8.74	-9.47/-9.11	-12.63/-11.98	-13.32/-7.16	-5.53/-5.24	-6.34/-5.85	-8.69/-9.45	-9.72/-14.09	-5.52/-9.14	-10.92/-9.02	-7.54/-13.06	-13.54/-5.06	-13.01/-8.61	-12.18/-13.95	
Θ(105°)	-15.32/-8.5	-6.58/-8.19	-7.37/-12.36	-6.26/-6.21	-6.05/-5.53	-9.24/-11.59	-5.53/-7.86	-4.07/-3.4	-6.68/-11.26	-8.79/-6.74	-12.48/-9.89	-9.48/-13.26	-13.14/-7.46	-3.23/-3.42	-6.77/-9.11	-9.09/-13.75	-11.67/-10.73	-6.21/-10.5	-15.07/-7.37	-8.04/-15.06	-14.88/-7.51	-6.83/-10.54	-13.75/-8.18	-10.32/-10.1
Θ(112.5°)	-15.06/-11.1	-11.56/-9.98	-8.22/-8.7	-10.48/-13.21	-8.32/-7.54	-13.43/-14.78	-11.23/-8.42	-5.12/-5.18	-10.95/-9.74	-9.66/-7.55	-10.02/-10.62	-11.83/-12.7	-8.77/-5.84	-6.38/-9.58	-11.83/-14.14	-11/-12.58	-13.39/-7.88	-7.18/-14.95	-10.59/-11.14	-9.8/-11.31	-11.93/-12.55	-5.8/-5	-15.15/-11.12	-13.7/-11.73
Θ(120°)	-10.42/-12.45	-12.28/-15.19	-8.6/-6.98	-9.08/-6.87	-10.17/-10.79	-14.62/-12.7	-10.82/-10.06	-6.14/-5.51	-11.75/-10.84	-10.61/-6.87	-7.26/-9.13	-10.17/-9.84	-10.95/-7.82	-8.76/-10.77	-9.71/-12.89	-10.34/-10.17	-11.14/-13.74	-10.24/-8.39	-7.03/-11.06	-10.12/-15.14	-7.04/-5	-7.14/-10.18	-11.65/-8.84	
Θ(127.5°)	-8.61/-12.72	-13.21/-12.2	-8.03/-9.02	-14.7/-12.26	-12.47/-11.15	-10.29/-14.43	-11.67/-8.59	-6.93/-8.46	-14/-9.42	-10.87/-11.63	-11.27/-11.53	-11.28/-9.7	-12.56/-11.18	-8.57/-8.09	-10.13/-9.96	-11.8/-15.22	-12.34/-15.46	-15.37/-7.89	-4.54/-13.67	-5.71/-5.77	-7.2/-12.43	-10.31/-5.57	-9.43/-9.23	-14.53/-8.99
Θ(135°)	-10.92/-9.81	-12.95/-14.84	-8.19/-9.31	-15.23/-14.12	-14.72/-10.59	-9.12/-9.08	-8.34/-8.31	-8.56/-10.36	-12.17/-10.57	-8.94/-10.24	-11.23/-12.12	-13.44/-13.2	-9.74/-8.59	-7.58/-7.54	-7.62/-10.34	-11.76/-12.34	-13.22/-13.95	-14.56/-12.2	-5.75/-8.94	-13.32/-12.16	-6.23/-6.34	-12.92/-8.91	-6.42/-6.97	-7.64/-15.54
Θ(142.5°)	-13.24/-9.77	-13.01/-13.7	-8.38/-9.41	-15.01/-15.38	-10.6/-8.23	-9.76/-10.79	-11.01/-11.52	-12.12/-10.71	-10.47/-11.63	-10.31/-10.24	-12.81/-13.47	-14.15/-12.72	-8.5/-6.96	-7.86/-8.3	-7.53/-8.63	-13.21/-15.26	-15.65/-14.7	-15.32/-13.64	-11.03/-13.33	-10.88/-9.97	-9.6/-9.43	-11.21/-12.37	-9.16/-10.18	-12.18/-13.95
Θ(150°)	-10.43/-11.21	-13.13/-15.28	-14.64/-13.91	-14.63/-15.02	-13.34/-10.71	-12.15/-15.57	-10.51/-12.53	-12.13/-11.56	-9.59/-8.92	-9.76/-13.3	-13.2/-8.19	-6.23/-10.16	-11.5/-12.78	-14.35/-14.73	-14.3/-14.35	-15.82/-13.67	-9.43/-8.73	-8.63/-8.49	-10.65/-14.54	-14.65/-11.6	-10.01/-13.55	-15.53/-11.29		
Θ(157.5°)	-9.28/-11.34	-14.05/-11.26	-9.99/-9.3	-11.39/-15.02	-15.14/-13.48	-12.29/-12.37	-11.71/-11.35	-10.85/-10.65	-11.07/-12.7	-13.58/-15.95	-14.84/-10.71	-8.35/-7.51	-8.58/-10.99	-13.34/-12.87	-12.22/-12.44	-13.35/-14.36	-13.92/-15.49	-15.15/-13.92	-12.56/-13.74	-11.71/-8.08	-7.4/-10.04	-14.92/-14.44	-11.89/-12.51	-15.55/-12.08
Θ(165°)	-11.31/-10.7	-10.27/-10	-10.67/-12.6	-15.2/-15.64	-14.96/-14.34	-13.42/-13.65	-13.83/-12.5	-12.06/-12	-12.23/-12.79	-12.73/-14.09	-15.17/-14.95	-14.87/-15.13	-15.42/-15.53	-15.54/-16.01	-15.21/-14.96	-15.19/-13.5	-14.24/-15.05	-13.31/-11.22	-10.69/-10.67	-10.76/-10.43	-12.74/-15.64	-15.53/-14.24	-11.19/-10.83	-13.25/-13.63
Θ(172.5°)	-15.29/-13.69	-13.61/-13.18	-11.69/-10.08	-9.91/-10.05	-10.48/-11.9	-13.87/-15.76	-15.14/-12.75	-15.28/-15.12	-13.84/-12.17	-10.23/-8.71	-8.26/-9.03	-9.88/-10.66	-11.51/-14.85	-12.25/-12.76	-13.09/-14.94	-15.32/-13.14	-11.95/-10.46	-9.71/-9.6	-10.66/-11.07	-13.15/-12	-14.74/-15.61	-13.49/-13.36	-12.4/-13.27	-15.28/-15.14
Θ(180°)	-9.44/-9.94	-10.85/-11.75	-13.15/-14.58	-14.77/-14.83	-14.32/-13.55	-12.79/-11.82	-11.07/-10.24	-9.83/-9.46	-8.8/-8.46	-8.13/-9.7	-8.03/-7.85	-4.75/-7.06	-6.89/-7.58	-7.83/-8.43	-8.52/-9.51	-9.9/-9.39	-9.11/-9.15	-9.91/-11.09	-13.41/-14.74	-15.36/-14.9	-15.5/-14.97	-13.28/-14.38	-12.84/-11.92	-9.91/-9.03
Freq(Hz)	5.3GPol.	Theta/Phi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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°)	-1.78/-1.62	-2/-2.47	-3.07/-3.07	-2.26/-1.46	-0.53/0.3	1.15/1.64	1.89/2.03	2.07/1.89	1.72/1.63	1.40/0.68	-0.3/-1.38	-2.72/-3.94	-3.4/-1.65	-0.62/0.17	0.73/0.91	1.08/0.89	0.25/0.35	0.65/1.46	2.01/2.29	2.35/2.22	2.09/1.49	0.79/-0.09	-0.98/-1.6	-2.32/-2.77
Θ(7.5°)	-2.2/-0.79	0.02/0.56	0.91/0.5	1.2/1.3	1.11/0.89	0.91/1.22	1.53/1.74	1.81/1.56	1.27/1.13	0.86/0.01	-1.14/-2.28	-3.37/-3.53	-3.3/-3.62	-4.01/-4.53	-4.27/-3.11	-2.36/-1.88	-1.02/-0.19	0.47/0.91	1.19/1.49	1.68/1.68	1.59/1.33	0.87/0.2	-0.48/-1.36	-2.89/-3.51
Θ(15°)	-3.31/-3.26	-3.39/-3.78	-4.33/-4.42	-3.93/-3.33	-2.87/-2.13	-1.45/-0.6	0.23/0.77	0.94/0.72	0.79/1	0.89/0.15	-1.08/-2.51	-3.92/-5.69	-7.93/-9.34	-9.3/-6.74	-3.65/-2.01	-1.34/-1.22	-1.52/-1.9	-2.23/-2.01	-1.44/-0.5	0.23/0.4	0.21/-0.09	-0.48/-1.32	-2.43/-0.41	-5/-5.12
Θ(22.5°)	1.08/1.76	1.63/1.36	0.53/-0.71	-2.47/-4.39	-7.24/-10	-8.56/-5.84	-3.17/-0.95	0.54/1.2	1.35/0.9	-0.08/-0.91	-1.15/-1.3	-2.39/-5.21	-11.37/-15.36	-9.6/-4.81	-2.13/-0.51	0.37/0.76	1.65/1.79	0.82/-0.83	1.87/-0.42	0.88/1.41	0.87/-0.26	-1.38/-2.36	-3.38/-3.27	-1.68/-0.18
Θ(30°)	-0.17/-0.26	-0.72/-0.24	0.29/0.52	0.66/1.08	1.03/0.06	-2.05/-4.31	-3.31/-1.28	0.08/0.85	1.05/0.2	-1.82/-3.38	-3.18/-2.16	-2.47/-4.04	-5.85/-5.91	-4.85/-3.74	-3.25/-2.45	-0.53/-0.68	3.19/3.68	2.95/0.65	-1.27/-0.2	2.66/3.88	3.46/2.23	0.72/-0.1	-2.99/-3.26	-1.84/-0.42
Θ(37.5°)	-1.42/-2.3	-4.72/-5.28	-3.44/-2.71	-0.85/-1.49	2.93/3.02	1.95/1.38	1.75/2.1	2.1/1.56	0.82/-0.22	-1.49/-3.8	-4.03/-1.88	-2.19/-3.67	-3.85/-3.62	-3.19/-3.68	-5.38/-6.5	-4.29/-0.8	1.88/3.34	3.09/0.91	-1.83/-0.69	2.49/4.1	3.98/2.83	0.85/-2.01	-3.55/-2.5	-0.57/-0.19
Θ(45°)	2.51/0.6	-2.12/-4.92	-6.15/-6.3	-2.87/0.89	3.15/3.8	3.93/0.2	3.82/4.41	4.43/9.2	2.69/1.03	0.25/-1.71	-0.87/2.15	2.2/-0.19	-3.65/-3.47	-1.86/-2.14	-3.51/-3.2	-3.49/-1.46	0.72/2.48	2.6/1.3	1.04/0.41	1.41/2.63	3.12/2.35	0.70/-0.68	-0.60/-1.1	-2.08/2.29
Θ(52.5°)	1.56/0.52	-0.15/-2.62	-6.77/-6.62	-3.05/0.54	3.16/4.21	3.85/3.88	4.69/5.61	5.49/4.42	2.97/1.77	0.8/-1.82	1.83/4.85	4.42/1.47	-1.77/-1.09	-0.83/-2.24	-2.33/-1.53	-0.68/-0.21	0.71/1.07	0.43/-0.26	0.43/0.94	-0.15/0.2	1.91/1.62	-0.26/-0.49	-0.35/0.21	1.49/2.42
Θ(60°)	-0.36/0.87	2.03/0.31	-3.72/-6.33	-6.11/-3.77	1.88/3.73	4.27/4.34	4.58/5.58	5.87/4.55	2.26/0.69	0.72/-2.35	1.23/4.92	4.01/09	-0.59/-0.18	-1.52/-5.74	-3.47/-1.87	-0.64/-0.66	0.30/2.27	-0.87/-3.72	-1.01/0.01	-2.64/-2.97	-0.37/-1.24	-2.9/-2.74	-3.71/-3.85	-2.01/0.68
Θ(67.5°)	-1.05/0.1	2.55/0.62	-3.92/-9	-12.29/-3.64	1.12/3.54	4.86/5.04	3.95/4.56	4.96/6.66	0.99/0.11	0.57/-4.06	1.96/3.55	2.31/0.02	-1.23/-3.42	-5.91/-10.52	-5.4/-2.37	-0.1/-1.28	-1.86/0.1	-0.87/-5.68	-2.24/-3.52	-4.84/-2.25	-7.94/-5.78	-2.24/-0.29		
Θ(75°)	-1.26/0.18	1.79/-0.42	-5.11/-10.22	-13/-4.01	0.75/3.06	4.56/5.38	3.74/3.15	4.03/2.95	-0.03/-0.95	0.72/-4.22	-1.72/-2.39	1.44/-2.52	-4.95/-5.63	-7.68/-12.88	-6.95/-1.52	-0.09/0.07	-3.07/1.06	0.3/-6						



Radiated Composite Gain Data

Appendix A

Θ(75°)	-8.48/-5.68	-7.79/-6.3	-6.36/-13.4	-6.74/-3.56	-5.38/-3.84	-3.06/-7.04	-3.73/-5.96	-7.8/-5.28	-4.2/-9.03	-6.11/-6.04	-8.71/-9.43	-9.35/-14.13	-9.02/-7.75	-3.32/-0.15	1.02/-2.59	-7.36/-10.22	-8.43/-9.31	-4.76/-10.66	-5.37/-9.89	-9.61/-8.08	-8.4/-7.9	-7.64/-3.71	-4.39/-7.1	-13.37/-11.03
Θ(82.5°)	-7.63/-3.95	-9.53/-6.08	-6.45/-11.33	-3.04/-2.08	-5.29/-4.54	-4.01/-6.63	-5.95/-7.24	-6.81/-6.94	-5.3/-10.54	-4.16/-5.64	-11.2/-9.9	-11.59/-6.89	-5.96/-10.23	-4.24/0.74	0.25/-6.2	-7.99/-8.33	-9.73/-11.35	-5.89/-13.21	-7.29/-10.15	-9.65/-8.03	-12.36/-5.58	-7.65/-4.9	-3.62/-6.72	-12.98/-9.05
Θ(90°)	-3.97/-5.66	-8.14/-9.33	-7.62/-10.08	-4.68/-2.43	-4.85/-9.07	-6.47/-8.53	-9.62/-9.08	-7.53/-8.02	-4.87/-10.4	-5.68/-6.5	-8.96/-12.47	-8.94/-8.45	-5.3/-11.7	-3.93/-1.33	-1.13/-4.74	-12.54/-4.49	-9.54/-12.84	-6.47/-13.39	-8.13/-9.76	-11.96/-5.15	-9.76/-4.55	-10.5/-4.99	-4.07/-6.07	-5.92/-8.52
Θ(97.5°)	-6.19/-8.3	-13.21/-13.47	-10.68/-11.12	-6.71/-6.1	-8.02/-8.29	-10.61/-11	-10.34/-8.12	-6.48/-9.92	-7.48/-12.01	-5.08/-7.5	-7.46/-9.61	-5.96/-10.14	-6.16/-10.36	-5.07/-3.07	-3.72/-3.61	-11.59/-7.24	-13.95/-15.31	-7.63/-14.4	-10.47/-9.23	-14.91/-6.47	-9.16/-4.42	-10.74/-6.72	-6.93/-6.98	-5.98/-8.57
Θ(105°)	-10.74/-9.15	-12.58/-12.28	-11.89/-5.72	-5.07/-8.94	-12.27/-15.56	-10.77/-9.23	-12.19/-10.33	-9.04/-10.63	-7.59/-11.71	-6.79/-6.82	-6.21/-7.02	-7.35/-8.41	-12.83/-9.75	-5.03/-4.02	-5.99/-6.28	-10.47/-10.45	-13.69/-10.98	-9.11/-13.34	-15.75/-9.39	-15.21/-11.09	-10.34/-6.1	-10.55/-9.36	-5.71/-6.74	-9.64/-9.57
Θ(112.5°)	-9.19/-14.14	-14.83/-12.86	-11.36/-8.01	-8.15/-7.09	-8.04/-13.25	-9.24/-5.94	-11.34/-10.41	-9.84/-8.36	-9.45/-12.21	-4.78/-7.31	-6.89/-7.03	-7.32/-7.44	-11.97/-8.14	-8.18/-6.94	-7.53/-7.97	-12.36/-6.72	-9.22/-9.15	-10.34/-15.47	-13.81/-8.95	-15.95/-12.64	-12.49/-10.29	-12.65/-11.23	-10.5/-12.85	-12.36/-9.62
Θ(120°)	-7.23/-7.92	-9.9/-14.92	-11.86/-9.65	-12.28/-9.44	-9.08/-13.1	-12.14/-10.24	-11.57/-9.95	-9.61/-10.67	-9.19/-10.73	-6.22/-7.52	-9.65/-7.88	-11.52/-9.75	-8.1/-11.8	-7.97/-6.87	-6.23/-8.4	-6.68/-7.45	-9.21/-10.44	-14.81/-11.28	-13.08/-12.29	-10.41/-11.93	-15.21/-9.15	-9.17/-12.32	-11.95/-11.65	-10.94/-8.75
Θ(127.5°)	-10.48/-8.99	-12.19/-9.55	-6.53/-8.91	-8.53/-7.8	-13.12/-15.2	-13.23/-10.06	-10.79/-14.07	-13.92/-10.61	-13.78/-10.48	-6.4/-8.98	-9.14/-7.22	-14.85/-9.14	-12.99/-10.33	-5.92/-8.12	-10.3/-9.24	-7.75/-10.9	-10.98/-9.46	-14.3/-11.11	-11.3/-8.9	-12.68/-6.89	-8.17/-11.18	-9.72/-9.12	-8.26/-9.13	-7.63/-7.74
Θ(135°)	-14.72/-13.76	-12.04/-14.73	-15.91/-12.59	-14.11/-11.47	-13.82/-14.41	-9.73/-6.9	-8.45/-12.52	-13.69/-13.76	-11.41/-11.93	-9.56/-11.03	-12.82/-9.78	-7.22/-9.41	-10.49/-7.76	-9.12/-10.68	-8.94/-10.34	-11.34/-11.44	-13.91/-9.78	-15.7/-10.23	-13.16/-8.31	-8.45/-14.96	-13/-13.58	-8.47/-6.27	-6.73/-6.61	-8.52/-13.4
Θ(142.5°)	-9.49/-10.9	-8.84/-10.44	-12.37/-13.76	-11.9/-11.63	-10.13/-10.34	-11.1/-10.58	-11.68/-14.45	-13.16/-11.71	-11.77/-12.42	-11.31/-12.53	-12.11/-12.38	-12.4/-14.28	-10.65/-8.55	-9.72/-8.77	-8.63/-12.59	-13.89/-10.96	-9.43/-11.01	-14.57/-11.2	-9.9/-10.63	-15.25/-9.02	-4.23/-6.27	-10.72/-9.1	-8.27/-6.45	-6.19/-9.22
Θ(150°)	-15.79/-14.56	-13.82/-14.27	-13.89/-13.78	-14.98/-16.06	-14.41/-12.3	-13.11/-13.17	-14.14/-14.05	-14.15/-15.6	-14.36/-12.06	-10.83/-11.5	-13.56/-15.3	-12.77/-8.78	-10.74/-12.59	-11.16/-9.87	-11.53/-12.25	-16.35/-15.1	-14.6/-15.52	-11.81/-9.87	-14.85/-9.78	-6.89/-7.36	-7.28/-9.36	-14.57/-11.48	-9.14/-11.52	-12.75/-15.21
Θ(157.5°)	-12.75/-15.25	-13.59/-11.11	-11.95/-15.82	-15.32/-14.1	-11.74/-12.23	-15.11/-15.3	-15.38/-13.45	-13.79/-13.53	-12.54/-11.37	-10.69/-9.98	-11.1/-9.47	-6.8/-6.53	-7.58/-9.31	-13.7/-14.88	-14.98/-12.32	-12.05/-14.31	-16.19/-14.19	-10.55/-7.87	-6.93/-5.94	-6.22/-7.53	-9.77/-12.57	-14.42/-14.72	-16.13/-14.33	-8.83/-7.93
Θ(165°)	-13.47/-12.23	-12.36/-11.93	-11.06/-12.52	-13.48/-13.05	-12.03/-12.27	-12.24/-11.96	-11.41/-11.06	-10.07/-9.26	-8.79/-9.56	-10.4/-10.53	-9.72/-10.54	-12.26/-14.41	-14.83/-13.59	-12.69/-13.67	-15.38/-14.97	-15.58/-14.46	-12.21/-10.21	-8.69/-8.27	-8.69/-9.9	-11.44/-12.16	-15.83/-15.01	-13.89/-12.54	-10.69/-11.34	-13.87/-14.68
Θ(172.5°)	-12.19/-12.85	-14.8/-15.64	-15.12/-15.45	-15.96/-15.14	-15.09/-15.66	-15.36/-15.41	-13.87/-11.77	-10.49/-10.36	-11.25/-12.17	-13.42/-15.53	-15.2/-16.29	-14.55/-13.99	-13.39/-14.53	-14.49/-13.18	-12.03/-11.85	-11.94/-12.41	-11.91/-11.63	-11.98/-11.79	-10.36/-9.52	-8.75/-8.68	-10.37/-12.29	-13.86/-13.99	-14/-13.47	-13.21/-11.83
Θ(180°)	-10.48/-9.87	-9.11/-10.33	-11.82/-11.57	-11.78/-13.23	-13.78/-14.28	-13.39/-13.34	-12.67/-11.91	-10.95/-11.24	-10.8/-10.11	-9.44/-9.64	-10.43/-9.98	-10.26/-10.86	-11.27/-11.6	-12.91/-14.31	-14.54/-13.5	-13.04/-11.48	-10.76/-10.01	-9.76/-9.13	-8.58/-8.72	-8.51/-9.59	-11.35/-12.51	-10.87/-9.23	-8.56/-7.74	-7.8/-9.7
Freq(Hz)	5.785GPol.	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°)	-12.27/-12.07	-11.07/-10.34	-9.3/-9.86	-9.52/-9.76	-8.81/-10.13	-9.67/-10.33	-10.78/-11.1	-11.58/-11.76	-10.27/-9.51	-8.2/-6.95	-5.93/-5.16	-4.79/-4.6	-4.22/-3.57	-3.07/-2.86	-2.99/-2.88	-2.82/-3.28	-4.11/-4.87	-5.56/-6.48	-7.31/-7.64	-7.32/-7.11	-7.24/-7.67	-8.16/-8.15	-9.72/-10.61	-10.8/-11.5
Θ(7.5°)	-1.83/-1.65	-1.15/-1.13	-1.3/-1.45	-1.71/-1.91	-2.47/-3.57	-5.06/-6.58	-7.39/-7.4	-7.48/-7.77	-7.91/-8.2	-8.86/-9.85	-9.99/-10.07	-9.81/-8.92	-7.48/-6.42	-6.18/-6.87	-8.03/-7.98	-7.13/-6.86	-7.12/-6.74	-6.28/-6.26	-6.36/-6.57	-6.27/-5.55	-4.87/-4.4	-3.63/-2.92	-2.25/-2.13	-2.12/-1.57
Θ(15°)	-1.83/-2	-1.82/-0.83	0.35/-1.36	2.18/-2.87	3.18/-3.09	2.81/-9.4	0.83/-0.53	-0.82/-0.29	1.01/-1.24	0.9/-0.04	-1.52/-3.6	-3.97/-2.68	-1.73/-1.61	-2.23/-3.37	-3.92/-2.21	-0.17/-1.45	2.41/-3.17	3.59/-3.47	2.81/-1.6	0.01/-1.82	-3.32/-4	-4.2/-4.04	-3.55/-3.31	-2.87/-2.1
Θ(22.5°)	-5.28/-5.6	-6.52/-5.94	-5.42/-3.52	-1.78/-0.46	0.61/-1.49	2.17/-2.51	2.36/-2.11	3.03/-4.06	4.33/-3.85	2.74/-1.01	-1.03/-3.26	-4.44/-4.1	-4.02/-4.84	-5.77/-5.89	-4.37/-2.06	0.57/-2.56	4.03/-5.21	6.09/-6.8	6.99/-6.27	5/-6.1	2.22/-0.55	-1.9/-4.77	-6.98/-7.99	-6.66/-5.75
Θ(30°)	-5.01/-7.55	-14.37/-11.46	-6.09/-3.27	-2.83/-2.87	-1.56/-0.45	0.52/-1.82	2.32/-2.76	3.73/-88	3.11/-91	0.53/-0.95	-3.06/-4.87	-5.85/-4.29	-2.13/-1.03	-1.13/-2.03	-2.88/-1.81	1.64/-3.92	4.61/-4.38	4.96/-33	7.176.79	5.64/-5.08	5.04/-4.05	1.92/-0.66	-3.08/-4.6	-4.35/-4.24
Θ(37.5°)	-2.11/-1.64	-0.86/-0.15	0.51/-1.02	1.39/-1.43	1.87/-2.8	3.39/-3.06	2.78/-4	4.46/-3.12	1.24/-1.02	1.04/-0.56	-0.51/-1.88	-3.98/-4.21	-2.16/-0.93	-0.45/-0.99	1.27/-2.83	4.05/-4.75	5.16/-4.72	3.41/-4.57	6.01/-5.25	3.74/-4.2	4.76/-3.96	1.94/-0.6	-0.48/-1.9	-2.17/-1.45
Θ(45°)	-0.57/-0.32	0.28/-0.18	-0.02/-1.07	2.41/-3.12	3.19/-3.93	5.24/-6.03	5.14/-4.44	4.92/-4.06	1.91/-1.05	1.09/-0.59	-1.09/-4.45	-4.59/-3.84	-2.79/-1.73	-0.87/-0.82	1.34/-1.49	1.54/-2.15	3.22/-4.11	4.03/-4.17	5.34/-64	2.93/-48	3.44/-1.54	1.07/-1.77	1.86/-0.64	-1.5/-2.45
Θ(52.5°)	-0.06/-0.89	0.74/-0.85	-2.14/-0.93	2.32/-3.38	3.63/-84	4.65/-6.03	5.63/-4.36	4.91/-4.78	2.16/-0.18	0.69/-0.83	-5.82/-1.62	-0.29/-0.75	-2.21/-1	0.21/-1.06	-0.25/-0.1	1.37/-2.37	3.74/-4.05	4.69/-5.21	4.85/-3.9	3.25/-3.64	2.33/-0.32	1.17/-1.02	0.39/-0.28	-1/-0.78
Θ(60°)	3.11/-3.74	1.82/-0.67	1.45/-2.08	1.69/-2.09	3.35/-2.85	2.75/-3.77	4.52/-93	3.65/-24	3.48/-0.93	1.88/-1.11	-4.21/-0.92	1.75/-1.73	-1/-1.49	1.35/-1.78	-0.15/-0.06	0.62/-0.75	1.91/-2.64	3.45/-11	4.92/-3.09	3.48/-2.34	0.56/-1.56	-0.76/-1.69	-1.43/-0.26	0.53/-1.78
Θ(67.5°)	3.99/-3.68	0.29/-0.01	2.22/-3.36	2.45/-0.97	2.29/-2.34	0.87/-0.14	2.91/-1.54	1.97/-5.17	3.21/-1.29	2.41/-0.64	-5.24/-1.3	2.26/-0.69	-2.59/-2.41	0.74/-1.79	0.31/-0.43	0.75/-0.85	1.33/-2.53	3.62/-6.03	5.03/-3.74	3.26/-1.49	-1.22/-0.45	-1.66/-2.51	-0.24/-0.12	-0.58/-1.66
Θ(75°)	1.06/-1	-3.21/-2.51	0.74/-2.41	1.87/-1.43	1.92/-1.95	-0.41/-2.41	1.08/-1.37	-0.92/-4.26	2.76/-0.85	1.26/-0.46	-5.65/-0.15	0.43/-0.19	-2.39/-4.77	-0.28/-2.15	0.41/-0.26	-0.91/-0.98	0.32/-1.98	2.47/-4.35	5.36/-4.5	3.69/-1.94	-1.95/-1.28	-5.14/-0.38	0.63/-1.21	-2.73/-0.27
Θ(82.5°)	-0.99/-0.57	-3.11/-3.9	-1.26/-0.11	-0.06/-0.26	-0.16/-0.94	-0.84/-4.15	0.38/-0.83	-2.19/-3.09	0.3/-1.39	0.03/-2.64	-3.88/-0.3	-2.05/-1.32	-5.38/-5.79	-1.79/-0.61	-0.33/-1.21	-2.8/-1.25	-0.49/-1.57	2.06/-3.65	5.24/-4.49	4.71/-88	-1.13/-2.71	-4.86/-0.49	-1.3/-4.51	-5.75/-1.88
Θ(90°)	-2.11/-1.53	-4.71/-6.72	-2.37/-2.05	-1.64/-1.64	-1.32/-0.31	-1.44/-5.58	-2.31/-0.84	-3.73/-1.06	-1.17/-3.79	-0.81/-3.11	-6.52/-3.72	-4.02/-3.32	-6.41/-11.21	-7.59/-1.41	-1.25/-3.26	-5.35/-1.83	-1.52/-0.1	1.71/-41	4.75/-3.85	3.62/-1.38	-0.88/-4.72	-3.8/-0.89	-4.05/-6.7	-9.68/-2.17
Θ(97.5°)	-5.11/-4.5	-4.53/-4.77	-5.03/-5.94	-3.11/-3.27	-1.83/-0.71	-3.38/-8.71	-4.36/-2.19	-4.03/-0.14	-4.91/-4.89	-1.51/-6.02	-5.52/-4.63	-3.91/-6.72	-8.73/-9.47	-11.54/-3.41	-4.28/-3.88	-6.13/-3.69	-2.52/-2.33	0.02/-0.57	4.09/-3.4	1.76/-0.68	-1.7/-10.25	-6.31/-3.89	-8.44/-8.19	-8.92/-3.36
Θ(105°)	-6.56/-6.1	-6.5/-7.8	-6.31/-6.38	-4.82/-7.47	-4.81/-3.31	-3.93/-7.71	-7.95/-5.96	-5.98/-3.17	-6.04/-7.41	-3.83/-5.97	-7.26/-6.13	-5/-6.98	-8.51/-11.84	-15.23/-8.25	-4.49/-5.25	-4.41/-5.55	-6.44/-7.2	-3.56/-3	1.26/-0.74	-2.5/-3.79	-5.34/-13.83	-6.91/-7.9	-9.5/-8.06	-11.18/-6.39
Θ(112.5°)	-12.65/-8.39	-7.94/-7.48	-7.24/-8.4	-8.46/-7.23	-7.12/-6.47	-5.42/-7.09	-4.58/-5.99	-8.54/-6.52	-13.4/-6.51	-6.74/-6.17	-9.29/-8.69	-5.04/-9.28	-9.17/-14.37	-15.1/-9.48	-7.33/-6.85	-4.14/-4.09	-6.64/-10.72	-9.3/-9.3	-2.99/-3.69	-6.06/-8.73	-9.13/-8.28	-11.19/-8.76	-11.38/-13.44	-7.18/-7.44
Θ(120°)	-10.93/-7.76	-8.5/-9.25	-11.82/-12.81	-13.3/-10.69	-11.61/-6.3	-6.11/-9	-5.21/-3.94	-8.68/-9.4	-11.09/-12.73	-8.12/-8.06	-9.62/-9.59	-4.71/-6.83	-6.67/-13.56	-8.85/-12.25	-8.78/-5.62	-6.78/-4.07	-6.95/-7.97	-7.49/-9.66	-2.57/-2.82	-5.58/-5.1	-8.75/-12.34	-7.87/-10.9	-8.69/-10.45	-12.86/-6.54
Θ(127.5°)	-12.18/-12.61	-15.44/-13.79	-7.69/-7.24	-7.74/-5.73	-9/-8.22	-11.83/-10.29	-9.37/-11.92	-13.59/-9.46																

Gain Result

[illegible]



Radiated Composite Gain Data

Appendix A

Θ(30°)	-14.5/9.33	-5.71/4.91	-4.82/4.96	-6.45/9.17	-13.42/14.39	-9.99/7.72	-7.81/9.79	-13.66/18.3	-15.77/7.42	-3.65/2.44	-2.86/4.66	-7.5/11.08	-16.58/14.49	-7.68/4.56	-2.99/2.74	-3.95/6.08	-6.51/5.49	-7.16/12.81	-13.42/8.74	-7.9/13.15	-17.9/5.94	-2.53/1.99	-3.28/6.01	-10.7/17.05
Θ(37.5°)	-10.05/-8.36	-8.15/-9.01	-8.37/-9.15	-12.61/-17.01	-18.64/-18.05	-10.99/-7.53	-6.62/-6.3	-6.49/-8.06	-8.58/-5.4	-2.53/-1.82	-3.4/-7.04	-12.55/-18.98	-16.18/-8.96	-5.97/-4.93	-4.56/-4.96	-7.47/-14.4	-15.96/-8.73	-9.11/-18.59	-17.08/-12.92	-14.53/-12.09	-6.71/-2.82	-0.75/-1.2	-5.03/-11.71	-19.56/-15.1
Θ(45°)	-10.09/-7	-9.42/-12.46	-9.58/-13.88	-18.35/-9.88	-8.8/-12.96	-9.18/-9.1	-4.57/-2.92	-3.63/-5.4	-7.06/-8.92	-5.46/-3.48	-4.3/-6.69	-16.5/-17.72	-14.54/-9.73	-6.39/-5.65	-6.9/-8.54	-8.49/-1.84	-10.81/-14.22	-13.77/-18.95	-19.04/-16.36	-1.77/-5.28	-3.3/-2.51	-2.53/-3.07	-5.88/-14.12	-18.07/-13.24
Θ(52.5°)	-10.87/-7.52	-9.01/-15.17	-10.34/-13.98	-11.18/-4.03	-2.8/-4.96	-11.1/-12.69	-3.71/0.97	-2.96/-6.97	-10.66/-15.38	-13.69/-10.2	-9.03/-14.84	-12.2/-9.48	-8.15/-9.88	-12.04/-15.02	-10.87/-10.15	-17.92/-18.27	-17.96/-13.64	-17.05/-17.2	-14.2/-11.52	-4.89/-3.32	-3.84/-4.44	-4.2/-4.7	-6.25/-9.65	-15.71/-14.57
Θ(60°)	-10.31/-7.23	-8.41/-17.76	-6.7/-8.65	-10.63/-3.66	-1.6/-2.84	-6.41/-14.22	-5.52/-1.87	-3.67/-1.92	-8.14/-6.93	-12.16/-12.43	-12.54/-18.42	-17.65/-17.51	-19.69/-18.04	-14.25/-9.75	-6.57/-6.67	-13.63/-15.14	-17.9/-9.7	-10.06/-19.32	-10.22/-16.26	-6.59/-6.7	-7/-9.76	-8.52/-5.69	-6.03/-9.05	-16.56/-18.82
Θ(67.5°)	-19.22/-15.03	-11.09/-11.24	-4.43/-5.48	-6.97/-2.59	-1.7/-4.6	-10.05/-16.56	-5.76/-2.52	-3.88/-6.13	-4.32/-5.69	-11.5/-12.46	-18.29/-12.87	-14.68/-17.65	-17.35/-11.7	-9.28/-5.48	-4.15/-6.56	-16.55/-5.35	-5.87/-12.62	-6.04/-18.88	-13.76/-11.69	-13.21/-17.79	-15.84/-8.24	-7.78/-7.96	-7.66/-13.48	
Θ(75°)	-18.1/-12.16	-10.58/-14.76	-3.43/-4.38	-7.78/-2.69	-1.93/-4.02	-12.48/-16.74	-11.53/-5.61	-4.11/-5.84	-5.42/-5.31	-11.65/-16	-13.7/-14.96	-17.58/-16.26	-17.57/-13.66	-11.81/-7.67	-5.96/-7.41	-16.7/-15.65	-16.18/-5.44	-3.18/-15.61	-3.6/-9.07	-17.53/-9.74	-7.43/-6.82	-13.5/-7.47	-7.66/-7.49	-5.41/-9.99
Θ(82.5°)	-17.92/-19.15	-13.23/-7.76	-2.93/-4.47	-9.76/-5.21	-3.53/-4.83	-15.46/-19.02	-14.38/-6.06	-2.24/-2.58	-5.58/-9.92	-15.53/-19.09	-17.81/-11.06	-11.27/-16.69	-18.51/-10.49	-8.08/-5.51	-5.66/-9.28	-16.34/-14	-12.33/-5.94	-4.35/-14.04	-7.1/-12.86	-17.97/-13.99	-7.09/-4.47	-7.36/-12.63	-11.67/-6.12	-6.71/-11.85
Θ(90°)	-19.18/-18.68	-14.38/-9.76	-3.01/-4.46	-6.55/-5.5	-11.06/-18.94	-15.62/-5.38	-1.42/-3.16	-6.81/-9.77	-14.63/-17.6	-14.09/-8.87	-12.04/-17.84	-10.53/-7.79	-10.78/-8.8	-7.89/-7.72	-1.58/-9.31	-5.49/-17.45	-10.72/-14.01	-17.55/-18.31	-9.42/-4.01	-9.27/-12.42	-17.47/-12.1	-12.21/-13.99		
Θ(97.5°)	-16.67/-17.07	-9.14/-7.99	-11.62/-13.41	-7.87/-7	-6.54/-6.74	-14.92/-18.85	-18.83/-5.04	-3.28/-6.24	-7.77/-11.82	-15.39/-12.98	-15.08/-16.22	-15.28/-13.51	-16.99/-11.23	-8.03/-5.75	-5.61/-7.19	-15.02/-13.7	-10.9/-18.01	-6.91/-12.05	-11.01/-11.91	-18.46/-14.7	-15.73/-10.6	-14.08/-13	-19.13/-13.27	-16.05/-14.87
Θ(105°)	-18.02/-18.1	-13.44/-7.13	-8.36/-14.02	-8.29/-5.96	-6.22/-7.38	-16.2/-14.68	-17.72/-7.01	-4.71/-7.02	-9.06/-16.61	-16.35/-11.8	-13.17/-12.26	-9.66/-13.86	-17.27/-7.75	-3.33/-4.19	-6.09/-9.02	-12.89/-18.52	-15.16/-13.09	-7.06/-10.58	-17.54/-7.8	-11.68/-17.74	-18.34/-10.21	-15.13/-14.83	-18.91/-11.73	-11.76/-9.82
Θ(112.5°)	-17.37/-18.99	-15.53/-10.07	-11.1/-15.41	-17.5/-18.86	-9.95/-9.58	-14.97/-18.32	-12.43/-7.57	-6.83/-6.83	-13.29/-3.68	-18.53/-10.24	-10.2/-10.54	-17.23/-17.98	-10.34/-5.98	-6.9/-11.6	-13.29/-15.73	-17.2/-18.41	-14.58/-10.17	-11.35/-18.15	-18.31/-11.23	-11.96/-11.38	-12.45/-15.53	-8.58/-5.51	-16.63/-15.32	-15.17/-12.98
Θ(120°)	-11.48/-13.33	-15.01/-17.81	-18.48/-17.87	-19.11/-9.39	-10.06/-16.55	-17.73/-13.35	-14.06/-9.71	-7.8/-8.27	-11.92/-18.83	-14.2/-7.23	-8.21/-12.02	-18.25/-18.66	-12.98/-12.36	-11.07/-7.67	-10.81/-11.63	-10.54/-13.52	-11.52/-13.02	-18.48/-19.17	-18.46/-7.52	-10.1/-11.75	-9.57/-17.9	-18.25/-9.33	-7.38/-10.65	-12.36/-8.16
Θ(127.5°)	-10.45/-13.44	-17.87/-19.66	-15.08/-18.09	-18.86/-14.37	-13.09/-19.34	-16.24/-16.34	-12.53/-8.15	-5.62/-7.58	-18.46/-14.07	-10.77/-12.01	-18.77/-17.43	-19.1/-18.29	-16.36/-12.64	-7.72/-7.31	-10.63/-11.26	-18.15/-17.51	-18.17/-18.76	-18.23/-11.06	-10.6/-18.16	-9.01/-9.32	-9.36/-16.68	-18.34/-18.4	-10.56/-10.48	-16.44/-12.84
Θ(135°)	-19.26/-17.98	-17.61/-18.67	-18.34/-18.74	-17.86/-15.69	-16.69/-13.68	-10.99/-10.02	-8.68/-7.39	-8.13/-12.53	-15.11/-11.71	-10.16/-10.11	-11.35/-14.09	-16.47/-15.93	-14.63/-11.41	-7.98/-6.6	-10.78/-10.61	-13.54/-18.18	-18.95/-13.75	-16.48/-12.53	-9/-10.55	-16.96/-12.62	-17.19/-11.37	-18.09/-15.34	-11.27/-10.2	-16.82/-18.22
Θ(142.5°)	-17.99/-19.09	-18.38/-15.67	-11.48/-11.17	-18.29/-18.72	-11.17/-8.38	-10.26/-18.06	-14.9/-12.08	-16.42/-18.89	-14.31/-12.77	-10.62/-10.09	-13.37/-18.35	-16.15/-14.05	-10.16/-7.37	-7.22/-7.58	-8.06/-9.61	-16.56/-18.36	-18.51/-17.76	-18.6/-18.17	-13.52/-15.59	-18.4/-13.92	-10.33/-13.77	-17.41/-18.13	-11.01/-10.92	-13.7/-15.79
Θ(150°)	-18.02/-18.91	-18.03/-19.07	-16.93/-14.92	-18.25/-10.95	-17.13/-13.71	-14.11/-18.86	-17.61/-18.29	-18.69/-16.59	-17.72/-7.01	-10.15/-9.18	-10.67/-17.03	-18.74/-19.1	-9.4/-7.35	-7.78/-10.02	-12.24/-13.66	-15.94/-18.7	-18.62/-15.27	-17.23/-17.37	-18.63/-19.05	-15.7/-11.13	-10.54/-11.14	-13.77/-18.86	-17.55/-16.16	-14.08/-19.31
Θ(157.5°)	-11.41/-14.81	-16.13/-11.39	-9.88/-10.32	-13.47/-18.05	-17.87/-14.83	-13.47/-12.97	-12.1/-11.52	-11.3/-10.77	-11.02/-15.85	-18.68/-17.93	-17.28/-14.69	-9.81/-11.32	-14.23/-13.99	-16.58/-13.01	-18.51/-16.07	-15.73/-18.87	-13.27/-19.99	-16.72/-15.1	-13.14/-10.17	-9.91/-12.77	-18.41/-19.79	-18.58/-17.71	-19.07/-14.01	
Θ(165°)	-13.97/-13.36	-12.01/-11.13	-11.23/-13.21	-17.48/-18.99	-18.11/-16.3	-15.29/-15.15	-14.98/-13.66	-12.95/-13.33	-15.62/-19.26	-18.69/-18.15	-17.57/-18.01	-18.57/-18.49	-18.89/-18.57	-19.06/-19.14	-17.55/-18.24	-17.23/-14.67	-16.85/-17.52	-18.87/-15.93	-12.47/-11.17	-11.33/-12.25	-15.78/-18.03	-18.55/-16.27	-14.51/-15.89	-19.13/-17.65
Θ(172.5°)	-18.01/-17.18	-17.92/-15.23	-12.88/-10.98	-10.87/-11.45	-12.45/-13.9	-15.64/-19.24	-18.4/-19.36	-18.65/-18.72	-17.34/-15.82	-13.46/-10.81	-9.51/-9.13	-9.57/-10.39	-11.74/-12.13	-12.96/-13.71	-14.66/-17.36	-17.2/-17.7	-17.99/-14.43	-12.56/-11.1	-10.51/-11.56	-14.24/-18.64	-18.51/-18.9	-15.58/-14.32	-13.17/-14.09	-17.39/-18.33
Θ(180°)	-8.96/-9.52	-10.71/-12.23	-14.09/-16.22	-17.97/-18.37	-18/-16.26	-14.29/-13.44	-12.36/-10.89	-9.79/-9.04	-6.37/-7.88	-7.73/-7.74	-7.99/-8.17	-8.37/-7.77	-7.32/-8.17	-8.77/-9.81	-10.04/-11.16	-11.64/-11.32	-11.13/-11.03	-11.72/-12.54	-14.49/-17.65	-18.66/-18.61	-18.71/-17.91	-18.53/-16.82	-14.37/-12.5	-10.19/-8.95
Freq(Hz)	5.3GPol	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°)	-8.31/-5.96	-4.61/-3.32	-2.25/-1.19	-0.40/-17	0.44/0.69	1.01/1.24	1.31/1.28	1.040/57	0.18/-0.09	-0.92/2.66	-5.15/-0.85	-12.43/-18.04	-15.5/-8.51	-5.28/-2.94	-1.04/0.32	1.37/1.99	2.32/63	2.92/2.91	2.53/2.07	1.52/0.61	-0.35/-1.78	-3.59/-7.57	-8.63/-10.95	-12.57/-11.35
Θ(7.5°)	-10.99/-6.31	-3.61/-8.1	-0.35/0.9	1.78/2.51	2.84/2.98	2.892/74	2.452/0.1	1.14/-0.08	1.3/-2.26	-3.62/5.91	-8.78/-11.54	-12.91/-10.67	-7.81/-6.47	-5.84/-5.31	-4.29/-3.46	-2.75/-2.09	-1.58/-0.98	-0.14/0.36	0.53/0.79	1.07/0.92	0.41/-0.92	-1.49/-2.92	-4.94/-8.44	-15.19/-18.11
Θ(15°)	-3.92/-3.12	-2.71/-2.56	-2.57/-3.02	-1.39/-2.49	-1.95/-1.54	-1.23/-0.8	-0.49/-0.45	-0.68/-0.98	-1.05/-1.13	-1.49/-2.7	-4.66/-7.1	-9.7/-12.76	-15.29/-14.78	-12.94/-10.67	-9.2/-9.24	-10.21/-12.45	-16.61/-18.1	-15.01/-10.17	-6.52/-3.48	-1.2/0.4	0.35/0.16	-0.32/-1.29	-2.94/-5.16	-6.55/-6.15
Θ(22.5°)	-0.84/0.02	0.23/0.06	-0.71/-2.14	-4.15/-4.75	-12.13/-17.02	-14.05/-10.82	-8.59/-6.31	-3.94/-2.34	-1.41/-1.08	-1.41/-1.67	-1.44/-1.27	-2.13/-4.95	-11.25/-17.75	-13.24/-9.06	-7.15/-7.4	-10.92/-17.99	-12.71/-8.1	-6.85/-7.83	-9.17/-8.22	-2.93/-0.23	0.92/1.16	0.54/-1.02	-3.27/-4.69	-3.9/-2.36
Θ(30°)	-1.48/-0.91	-1.04/-0.88	-0.81/-1.27	-2.04/-3.26	-5.01/-7.21	-10.47/-14.58	-13.39/-10.15	-7.69/-5.45	-3.36/-2.25	-2.44/-2.54	-1.48/-0.54	-0.9/-2.23	-4.41/-6.66	-7.3/-3.72	-7.87/-8.23	-8.73/-8.02	-6.37/-4.47	-3.27/-3.95	-7.14/-9.85	-2.95/-1.08	2.31/1.5	-0.76/-3.94	-7.76/-8.35	-4.9/-2.36
Θ(37.5°)	-3.18/-4.01	-6.73/-6.6	-4.5/-3.24	-2/-1.63	-1.74/-2.1	-2.4/-2.51	-2.04/-2.44	-3.64/-5.21	-5.12/-3.51	-2.68/-2.87	-2.45/-1.88	-2.81/-3.04	-3.9/-6.5	-7.79/-9.41	-7.1/-6.96	-5.19/-3.13	-2.7/-4.51	-8.69/-7.04	-2.54/-0.09	-0.46/-1.23	-1.39/-1.71	-19.3/-8.52	-3.21/-2.08	
Θ(45°)	-0.88/-3.61	-7.77/-10.84	-7.44/-4.92	-2.31/-1.29	-0.39/0.23	0.40/9	1.33/1.27	0.41/-1.07	-2.41/-2.22	-1.36/-1.03	-0.51/-1.04	0.75/-1.77	-5.23/-3.79	-1.98/-3.65	-7.8/-6.69	-4.03/-3.77	-5.2/-3.34	-2.37/-3.08	-3.84/-4.47	-3.53/-1.62	-1.39/-3.24	-6.63/-9.02	-7.33/-4.23	-0.29/0.75
Θ(52.5°)	-1.49/-1.49	-4.64/-3.69	-6.54/-6.11	-4.57/-4.28	-0.31/-42	1.81/94	2.38/2.22	1.18/-0.1	-1.09/-1.34	-0.54/-1.66	0.2/61	2.1/-1.67	-6.17/-3.41	-2.59/-4.67	-5.93/-4.71	-1.18/-0.84	-2.6/-3.99	-3.86/-2.46	-2.09/-2.84	-4.59/-4.68	-2.54/-1.77	-3.02/-4.66	-6.56/-9.33	-0.50/7.8
Θ(60°)	-2.94/-3.68	-0.99/0.01	-3.36/-6.58	-7.15/-4.71	-1.971/29	2.62/23	2.071/91	1.21/0.42	-2.19/-2.86	-2.8/-4.97	-0.62/1.52	-0.56/-2.68	-5.71/-5.75	-7.85/-12.93	-7.44/-5.5	-1.68/-4.48	-1.66/-4.93	-5.46/-6.68	-3.58/-3.2	-7.19/-7.09	-5.12/-3.91	-3.73/-5.87	-10.13/-8.28	-3.33/-6.69
Θ(67.5°)	-4.8/-4.62	-0.63/-0.1	-4.94/-13.57	-12.56/-7.52	-2.94/1.75	3.46/2.97	1.43/-0.08	-1.45/-0.89	-2.14/-3.78	-3.96/-6.32	-2.2/-2.19	-1.89/-4.14	-7.79/-13.47	-15.1/-12.43	-5.31/-3.78	-1.10/15	-2.52/-3.45	-3.7/-5.67	-4.05/-2.68	-4.91/-7.12	-7.81/-5.82	-5.52/-8.38	-13.79/-10.78	-5.15/-2.81
Θ(75°)	-5.5/-5.26	-1.32/-1.27	-6.05/-18.4	-14.55/-7.65	-3.52/1.28	2.21/-0.95	-1.96/-1.34	-3.18/-5.94	-6.05/-10.87	-5.43/-2.83	-2.51/-7.27	-12.45/-15.74	-18.63/-14.3	-4.48/-2.27	-2.45/-0.34	-1.76/-7.9	-1.75/-5.15	-5.79/-5.29	-7.7/-9.09	-1				



Radiated Composite Gain Data

Appendix A

Θ (75°)	-8.42/-5.27	-7.41/-17.97	-16.58/-15.79	-10.18/-5.96	-4.06/-6.98	-8.35/-12.33	-6.28/-4.52	-6.92/-7.83	-10.91/-12.08	-11.96/-9.89	-11.99/-9.58	-9.04/-17.66	-12.73/-10.57	-6.89/-2.79	-2.03/-3.19	-6.48/-11.5	-10.09/-11.65	-8.09/-10.77	-5.86/-9.93	-9.25/-12.61	-11.65/-17.09	-18.34/-11.75	-8.18/-7.17	-15.34/-13.04		
Θ (82.5°)	-8.37/-4.25	-9.03/-18.87	-14.41/-12.52	-6.93/-4.48	-4.4/-7.67	-11.1/-15.67	-11.27/-5.97	-6.24/-7.65	-13.05/-10.13	-12.7/-8.5	-11.02/-17.4	-12/-12.65	-10.08/-10.46	-6.95/-2.3	-1.72/-4.99	-9.13/-19.56	-12.24/-13.14	-11.48/-14.59	-11.58/-11.94	-10.68/-19.01	-13.4/-14.89	-14.3/-13.52	-8.43/-8.08	-15.33/-10.97		
Θ (90°)	-4.26/-7.13	-7.68/-14.19	-14.41/-13.71	-7.89/-6.7	-6.91/-11.54	-13.76/-18.23	-14.65/-8.82	-7.7/-7.35	-9.41/-16.37	-11.2/-10.6	-8.98/-15.09	-10.84/-8.84	-8.51/-14.78	-8.26/-3.45	-2.27/-6.19	-13.91/-11.54	-12.05/-16.35	-14.09/-16.77	-13.69/-15.18	-18.76/-13.87	-10.03/-14.7	-15.91/-17.83	-10.75/-6.99	-6.19/-8.14		
Θ (97.5°)	-5.72/-9.35	-17.63/-14.05	-13.4/-11.92	-10.27/-11.06	-14.37/-12.33	-14.74/-16.55	-12.03/-7.54	-6.36/-9.91	-16.83/-12.72	-11.43/-13.3	-7.29/-13.31	-9.57/-10.66	-12.18/-17.33	-10.62/-5.24	-4.48/-6.84	-11.63/-13.85	-18.28/-18.35	-17.64/-18.85	-14.31/-12.43	-18.37/-14.35	-8.58/-12.59	-17.66/-16.73	-18.59/-8.41	-9.7/-11.9		
Θ (105°)	-11.02/-10.23	-16.64/-16.45	-17.27/-9.84	-5.8/-8.87	-17.77/-18.91	-17.08/-13.44	-15.31/-9.34	-8.83/-10.45	-13.44/-18.61	-11.01/-11.23	-6.82/-19.2	-14.31/-12.24	-17.86/-19.31	-14.17/-7.87	-5.17/-8.08	-10.15/-18.66	-14.81/-11.54	-17.1/-17.78	-19.01/-15.81	-16.85/-16.82	-10.21/-14.92	-18.64/-18.07	-14.32/-9.11	-16.23/-10.42		
Θ (112.5°)	-9.96/-16.39	-17.62/-13.79	-16.39/-16.5	-13.65/-10.23	-9.99/-14.35	-16.39/-16.4	-13.66/-10.64	-10.19/-8.29	-13.87/-16.71	-7.83/-13.7	-12.37/-9.3	-14.84/-19.3	-15.4/-18.19	-19.08/-5.56	-6.76/-7.5	-15.98/-9.61	-10.46/-8.59	-17.13/-13.84	-15.52/-16.89	-19.17/-13.84	-16.88/-13.06	-18.11/-14.01	-19.16/-13.42	-18.89/-11.14		
Θ (120°)	-11.57/-11.34	-17.33/-18.23	-18.89/-18.02	-17.83/-11.1	-12.03/-14.84	-16.59/-10.1	-16.03/-10.69	-10.18/-12.62	-17.57/-18.25	-12.14/-11.77	-12.44/-7.62	-14.04/-11.23	-10.35/-18.87	-17.6/-9.86	-8.8/-7.3	-11.95/-7.71	-8.42/-10.36	-16.92/-17.34	-13.91/-17.99	-14.25/-18.17	-17.94/-12.74	-9.83/-15.83	-15.67/-12.31	-10.78/-16.21		
Θ (127.5°)	-10.52/-13.87	-12.85/-9.57	-13.49/-18.72	-14.05/-9.63	-15.5/-18.79	-18.46/-10.95	-14.19/-15.68	-18.22/-17.38	-19.28/-16.21	-9.97/-10.62	-10.48/-11.39	-18.58/-13.86	-17.85/-14.66	-9.77/-13.21	-12.41/-8.58	-9.74/-11.07	-11.32/-9.09	-17.21/-19.07	-11.32/-18.38	-15.12/-12.36	-10.83/-13.81	-17.89/-10.75	-10.09/-8.46	-11.32/-11.14		
Θ (135°)	-18.84/-18.29	-18.14/-16.67	-18.7/-18.1	-18.01/-14.7	-18.72/-18.63	-11.54/-9.25	-10.11/-13.81	-15.96/-17.31	-17.44/-12.49	-12.3/-13.49	-16.1/-14.36	-11.82/-14.32	-15.06/-17.09	-10.38/-9.99	-11.92/-15.57	-15.41/-9.86	-18.22/-17.87	-13.92/-17.94	-12.17/-14.8	-14.13/-14.84	-16.51/-9.39	-10.02/-13.69	-11.99/-18.1			
Θ (142.5°)	-13.07/-13.66	-13.12/-12.87	-13.86/-15.16	-14.7/-13.27	-12.53/-14.76	-13.83/-10.48	-11.82/-17.05	-18.85/-14.43	-12.6/-12.72	-13.17/-13.11	-12.36/-12.92	-17.85/-18.89	-19.04/-18.36	-14.51/-11.51	-8.96/-13.79	-15.25/-14.21	-11.25/-15.73	-18.98/-17.81	-13.19/-14.23	-18.49/-12.13	-7.35/-9.62	-12.95/-12.48	-10.55/-11.25	-11.73/-11.62		
Θ (150°)	-18.96/-17.78	-15.2/-18.52	-17.42/-19.02	-18.85/-19.24	-16.13/-17.4	-17.52/-18.86	-15.99/-15.51	-17.79/-18.99	-16.74/-15.97	-14.95/-14.02	-15.24/-18.19	-18.67/-18.76	-15.23/-13.52	-13.97/-12.39	-11.92/-12.75	-18.92/-17.93	-17.48/-18.41	-11.65/-11.87	-18.06/-14.64	-10.39/-9.52	-9.02/-10.82	-16.5/-17.16	-15.97/-18.5	-18.39/-17.76		
Θ (157.5°)	-15.86/-19	-15.36/-13.72	-15.62/-18.67	-16.83/-15.4	-13.37/-15.12	-18.86/-18.66	-18.75/-18.67	-19.64/-14.92	-13.88/-15.77	-15.09/-14.72	-17.63/-13.45	-12.21/-13.03	-14.04/-14.92	-17.02/-18.08	-19.44/-15.43	-14.57/-17.16	-19.24/-16.54	-11.57/-10.49	-9.12/-8.58	-9.98/-11.93	-16.72/-18.09	-18.77/-18.81	-11.69/-11.34			
Θ (165°)	-14.11/-12.63	-13.1/-12.37	-12.76/-16.39	-17.9/-18.02	-15.1/-14.38	-14.62/-14.38	-13.14/-11.85	-10.17/-8.51	-8.1/-9.01	-11.55/-16.71	-18.13/-18.77	-17.89/-17.94	-18.74/-18.24	-16.25/-15.91	-18.01/-17.29	-18.38/-16.4	-13/-9.96	-8.31/-8.37	-9.76/-12.96	-15.8/-15.55	-18.31/-18.05	-18.54/-18.06	-16.3/-17.53	-18.51/-17.01		
Θ (172.5°)	-18.44/-17.71	-18.34/-16.82	-17.89/-18.17	-18.59/-18.5	-18.11/-18.47	-18.87/-18.28	-14.82/-13.32	-12.24/-11.7	-11.82/-13.1	-14.83/-16.54	-17.5/-19.04	-16.95/-15.09	-15.35/-16.13	-16.62/-15.12	-13.76/-13.94	-13.27/-12.93	-12.19/-12.04	-12.58/-13.39	-14.04/-13.81	-12.47/-11.5	-12.4/-13.74	-15.32/-16.62	-18.7/-19.17	-18.69/-17.86		
Θ (180°)	-11.08/-10.66	-10.41/-11.77	-13/-13.72	-15.16/-16.76	-17.66/-18.99	-18.22/-18.53	-18.85/-18.38	-17.85/-19.36	-18.79/-18.06	-16.78/-16.57	-18.35/-17.79	-16.92/-16.94	-16.56/-15.4	-15.39/-15.99	-16.24/-15.77	-16.37/-15.37	-15.25/-14.29	-13.29/-12.09	-11.64/-11.92	-11.87/-13.1	-15.83/-18.76	-17.62/-15.66	-13.62/-11.37	-10.16/-10.96		
Freq(Hz)	5.785GPol.	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°)	-15.45/-16.05	-17.37/-17.08	-15.95/-19.47	-18.49/-17.5	-17.14/-18.55	-18.18/-18.32	-18.05/-17.64	-18.23/-18.9	-17.18/-16.69	-14.74/-13.38	-13.17/-15.59	-10.62/-10.49	-10.37/-8.86	-7.69/-7.71	-7.93/-7.01	-6.68/-9.2	-6.91/-6.73	-7.14/-8.15	-9.08/-9.96	-10.05/-10.96	-12.54/-15.75	-18.63/-17.22	-19.14/-17.61	-15.12/-14.02		
Θ (7.5°)	-7.44/-7.38	-6.71/-6.04	-5.96/-6.63	-6.71/-6.17	-6.34/-6.67	-6.96/-7.58	-7.89/-8.39	-9.98/-11.74	-13.37/-14.52	-15.4/-14.38	-11.42/-9.79	-9.33/-9.04	-6.83/-9.04	-10.56/-13.46	-17.57/-19.12	-17.68/-18.92	-17.46/-15.43	-13.55/-12.28	-11.8/-11.49	-10.71/-9.98	-10.1/-9.77	-9.29/-9.73	-8.37/-8.1	-8.29/-7.23		
Θ (15°)	-4.86/-3.87	-3.07/-2.08	-1.35/-1.07	-0.8/-0.54	-0.59/-0.68	-0.54/-0.58	-0.45/-0.26	-0.41/-0.67	-1.21/-1.59	-1.85/-1.94	-1.93/-2.34	-2.21/-3.93	-5.24/-7.64	-12.09/-18.31	-1.94/-9.64	-5.22/-2.58	-1.21/-0.34	-0.340/-67	-0.690/-42	-1.0/-0.84	-1.6/-2.72	-4.21/-6.36	-8.28/-9.92	-9.23/-6.79		
Θ (22.5°)	-7.09/-6.47	-6.51/-5.59	-4.54/-3.72	-3.18/-2.85	-2.8/-2.27	-1.070/-6	1.912/-66	3.163/-22	2.791/-96	0.79/-47	-1.63/-2.76	-4.17/-5	-8.23/-10.52	-10.71/-9.48	-7.54/-5.27	-2.77/-0.59	1.082/-23	3.144/-03	4.624/-59	4/-248	0.06/-2.47	-5.16/-8.19	-11.38/-15.2	-12.96/-9.03		
Θ (30°)	-10.44/-12.92	-17.65/-15.67	-7.99/-3.6	-1.44/-0.87	-1.17/-2.59	-3.82/-1.66	0.972/-6	3.343/-26	2.631/-68	0.44/-0.74	-1.96/-1.34	-5.38/-5.97	-5.49/-4.92	-4.07/-3.35	-2.82/-2.42	-1.320/-25	1.291/-82	2.573/-49	3.16/-	4.244/-09	0.32/-1.42	-3.87/-6.27	-8.48/-10.53	-11.16/-9.69		
Θ (37.5°)	-7.94/-7.81	-5.36/-4.58	-3.33/-1.15	-0.45/-1.57	1.971/-16	-0.29/-0.71	0.251/-8	2.842/-58	1.590/-96	0.70/-42	-0.33/-2.26	-6.28/-9.47	-7.73/-4.05	-0.971/-08	1.541/-28	0.980/-67	0.650/-6	0.522/-18	3.713/-4	2.51/-9	0.971/-36	-2.07/-3.43	-4.67/-6.84	-7.84/-7.3		
Θ (45°)	-3.72/-1.25	-0.67/-1.68	-1.73/-0.91	0.251/-2	1.281/-49	2.513/-5	2.311/-63	1.921/-3	-0.23/-0.69	-0.58/-1.25	-2.45/-4.81	-8.62/-11.75	-8.04/-3.34	-0.990/-87	2.051/-55	0.151/-104	-1.7/-1.21	0.422/-46	3.763/-33	2.362/-41	1.28/-2.07	-4.23/-5.21	-5.84/-6.83	-7.77/-7.66		
Θ (52.5°)	-1.110/-87	0.950/-02	-0.670/-36	2.272/-13	0.850/-25	1.883/-64	3.252/-61	2.631/-	2/-347	-4.27/-5.15	-4.32/-4.49	-6.79/-8.36	-9.15/-2.7	-0.180/-5	0.680/-03	-0.39/-1.23	-0.38/-0.11	1.223/-02	4.093/-71	3.523/-17	0.15/-4.45	-6.38/-6.79	-6.05/-9.46	-4.48/-3.34		
Θ (60°)	2.233/-49	1.63/-0.75	0.142/-24	0.342/-83	1.4/-0.93	-0.592/-49	6.241/-09	1.210/-32	0.311/-49	0.210/-32	-2.07/-3.92	-3.84/-3.02	-3.21/-2.96	-4.35/-4.45	-8.82/-5.81	-0.311/-49	0.4/-1.04	-1.52/-3.63	-2.07/-0.56	0.722/-71	3.733/-33	1.552/-27	-1.88/-7.41	-8.52/-5.18	-2.9/-2.89	-3.110/-86
Θ (67.5°)	3.281/-65	0.55/-2.29	0.131/-75	2.672/-85	2.22/-0.18	-2.70/-41	0.35/-0.55	0.680/-25	-1.87/-3.16	-3.16/-2.12	-3.82/-2.22	-3.45/-5.31	-7.01/-5.64	-1.280/-84	0.46/-1.27	-1.66/-3.56	-2.71/-11.7	0.771/-94	2.642/-51	1.7/-1.52	-4.73/-6.84	-4.6/-30.1	-2.51/-2.92	-3.210/-17		
Θ (75°)	0.78/-1.84	-2.36/-4.23	-1.1/-0.61	1.792/-5	2.560/-4	-6.24/-2.58	-2.13/-2.76	-0.68/-0.59	-1.97/-4.26	-6.56/-5.19	-4.57/-3.12	-4.36/-4.3	-5.01/-8.97	-3.290/-21	0.77/-0.68	-1.44/-4.7	-4.1/-2.47	0.042/-4	2.292/-11	1.29/-2.16	-4.67/-7.79	-5.56/-2.35	-3.57/-5.14	-4.98/-1.88		
Θ (82.5°)	-1.18/-0.75	-3.83/-5.67	-4.08/-2.87	-1.380/-04	1.22/-0.44	-6.64/-2.54	-3.27/-4.48	-1.54/-0.71	-3.49/-8.98	-8.6/-5.93	-4.21/-3.71	-5.31/-4.04	-3.72/-4.92	-3.13/-0.35	-0.03/-1.63	-1.82/-4.47	-6.72/-3.06	0.082/-18	1.312/-01	0.81/-89	-2.46/-6.95	-5.96/-3.75	-5.98/-8.2	-6.72/-4.04		
Θ (90°)	-2.93/-3.09	-7.58/-8.36	-4.54/-4.95	-3.63/-1.42	0.38/-1.38	-7.16/-5.19	-5.38/-6.58	-2.88/-4.24	-5.83/-11.42	-9.6/-7.76	-7.91/-8.05	-6.53/-4.94	-7.67/-13.25	-7.13/-2.24	-1.23/-3.22	-3.86/-5.57	-10.59/-6.27	-1.191/-48	0.860/-73	-1.45/-1.94	-2.42/-6.97	-9.56/-7.07	-9.78/-10.99	-12.95/-4.79		
Θ (97.5°)	-5.7/-7.32	-6.55/-6.34	-8.95/-9.32	-3.88/-1.93	-1.43/-3.61	-8.62/-8.05	-6.54/-6.04	-3.37/-4.19	-8.38/-15.44	-11.24/-10.19	-7.57/-6.72	-5.72/-9.29	-9.09/-8.92	-11.87/-4.58	-2.99/-3.96	-4.64/-7.4	-8.55/-12.62	-5.74/-0.78	0.140/-51	-1.75/-2.16	-4.03/-10.99	-15.89/-7.7	-11.8/-11.78	-11.85/-7		
Θ (105°)	-8.43/-9.3	-10.93/-10.26	-7.63/-8.15	-7.97/-6.72	-4.23/-5.38	-8.2/-8.76	-8.24/-9.75	-6.15/-6.21	-9.61/-8.23	-8.9/-12.2	-8.64/-12.95	-18.32/-8.97	-3.98/-3.79	-4.74/-10.04	-8.33/-17.62	-12.01/-4.86	-2.79/-2.7	-5.95/-4.04	-7.12/-15.37	-18.79/-17.95	-10.3/-11.34	-18.29/-10.06				
Θ (112.5°)	-14.22/-11.65	-10.43/-13.98	-11.12/-10.25	-9.69/-7.34	-6.63/-7.96	-8.43/-7.37	-8.39/-10.73	-9.38/-11.23	-15.65/-11.8	-18.66/-12	-8.65/-10.75	-7.07/-8.96	-11.07/-17.25	-17.23/-8.77	-6.39/-5.61	-4.67/-10.46	-8.71/-10.46	-15.38/-11.08	-7.48/-5.01	-10.84/-9.17	-9.73/-9.01	-17.94/-12.51	-12.33/-16.27	-16.3/-18.23		
Θ (120°)	-17.19/-8.04	-8.36/-12.86	-17.94/-18.67	-15.05/-11.68	-12.02/-12.9	-13.9/-12.22	-8.87/-8.31	-9.8/-16.17	-15.1/-13.79	-16.45/-12.72	-9.29/-9.35	-6.21/-9.33	-7.76/-14.57	-12.14/-10.39	-12.52/-6.17	-6.81/-10.19	-7.63/-3.74	-1								



Radiated Composite Gain Data

Appendix A

Θ(120°)	-12.83/-9.74	-10.25/-18.47	-9.67/-7.94	-7.94/-16.78	-10.89/-11.93	-17.84/-14.45	-13.32/-18.15	-8.1/-6.63	-18.74/-10.43	-19.31/-11.66	-16.15/-17.37	-6.94/-4.05	-9.88/-17.64	-18.32/-15.65	-12.17/-17.38	-15.14/-18.58	-16/-18.75	-10.14/-16.75	-13.15/-17.86	-11.48/-14.99	-12.83/-18.4	-6.64/-7.46	-18.08/-16.03	-16.8/-16.23
Θ(127.5°)	-9.58/-15.02	-10.87/-11.12	-9.84/-15.42	-17.72/-17.41	-9.14/-8.85	-12.39/-18.16	-17.34/-15.79	-13.92/-17.47	-15.37/-11.83	-18/-18.83	-10.56/-16.1	-9.16/-9.51	-12.96/-15.68	-18.15/-18.5	-15.21/-15.56	-13.76/-15.46	-14.16/-18.71	-15.37/-8.7	-7.02/-17.17	-8.27/-8.07	-10.73/-12.78	-14.17/-5.47	-9.67/-12.68	-15.78/-11.57
Θ(135°)	-6.5/-5.75	-10.72/-18.42	-11.57/-15.94	-18.57/-18.71	-12.91/-11.82	-13.36/-18.06	-17.56/-19.06	-17.37/-16.61	-13.78/-15.09	-14.63/-17.64	-15.76/-11.74	-18.48/-14.48	-16.92/-17.35	-16.83/-13.99	-19.66/-15.32	-16.64/-19.02	-18.14/-15.25	-8.16/-14.1	-16.41/-14.8	-12.71/-9.02	-14.29/-13.96	-9.26/-8.34	-8.47/-18.41	
Θ(142.5°)	-11.98/-9.15	-14.65/-16.39	-13.32/-18.53	-18.18/-18.07	-16.92/-16.43	-10.58/-9.75	-17.51/-15.64	-10.69/-11.62	-17.8/-18.2	-18.47/-17.68	-13.28/-10.94	-13.09/-15.58	-11.04/-12.15	-18.47/-18.15	-14.86/-16.6	-13.88/-14.52	-17.76/-14.12	-10.52/-12.53	-15.52/-12.66	-11.8/-15.5	-17.75/-16	-18.96/-9.11	-7.81/-12.68	-14.48/-11.78
Θ(150°)	-8.2/-10.29	-13.81/-16.48	-17.7/-18.44	-17.4/-19.2	-17.39/-17.21	-17.32/-19.15	-18.06/-12.16	-11.14/-14.67	-17.95/-17.07	-17.91/-18.03	-15.06/-8.79	-6.67/-7.57	-10.2/-11.19	-10.86/-11.49	-12.52/-15.98	-18.49/-17.93	-12.48/-19.7	-14.47/-13.68	-9.58/-9.1	-13.99/-15.14	-11.79/-11.57	-17.31/-16.88	-11.32/-14.28	-17.98/-10.37
Θ(157.5°)	-13.6/-14.74	-18.14/-18.58	-18.62/-18.3	-18.82/-18.48	-15/-14.97	-17.62/-17.52	-18.58/-18.48	-15.39/-11.66	-10.47/-13.96	-19.03/-13.3	-10.95/-12.23	-14.62/-17.61	-19.32/-18.86	-18.46/-19.16	-18.06/-18	-18.54/-16.7	-19.02/-14.66	-11.56/-11.64	-14.5/-15.39	-13.02/-12.56	-16.95/-16.78	-12.91/-13.57	-18.7/-18.9	
Θ(165°)	-17.14/-16.09	-16.98/-18.07	-18.52/-18.41	-18.46/-19.11	-18.16/-17.82	-19.65/-19.48	-19.14/-18.33	-18.97/-15.84	-13.81/-13.32	-13.05/-14.02	-17.6/-17.31	-18.63/-18.42	-17.93/-17.7	-18.55/-18.85	-17.44/-18.3	-16.22/-11.86	-10.58/-11.3	-14.67/-19.09	-18.03/-18.92	-18.73/-18.53	-18.25/-18.15	-14.44/-14.14	-15.69/-18.49	
Θ(172.5°)	-19.1/-19.32	-18.97/-18.33	-18.54/-18.85	-16.03/-14.7	-14.58/-14.12	-14.43/-15.79	-18.51/-16.06	-18.71/-18.35	-13.87/-12.71	-11.34/-11.57	-12.44/-13.98	-16.65/-18.69	-18.73/-18.59	-18.84/-17.73	-16.71/-16.36	-17.18/-15.06	-12.57/-14.56	-18.19/-19.16	-18.19/-18.65	-19.1/-18.64	-18.57/-18.67	-19.32/-19.13	-18.32/-18.53	
Θ(180°)	-15.25/-16.18	-18.57/-19.25	-18.34/-19.02	-18.25/-18.6	-17.19/-16.86	-16.58/-17.08	-16.46/-15.59	-14.63/-14.18	-14.03/-13.29	-13.86/-13.74	-12.93/-11.97	-11.72/-11.72	-11.65/-11.79	-12.24/-12.85	-13.14/-12.68	-13.02/-13.52	-13.62/-13.94	-14.22/-16.56	-18.52/-18.85	-18.68/-18.35	-17.39/-18.27	-16.25/-14.32	-13.73/-13.95	
Freq(Hz)	5.2GPol	ThetaAnt. 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°)	-5.77/-8.86	-11.47/-12.43	-11/-8.73	-6.66/-3.29	-1.72/-0.5	0.20/-47	0.74/0.08	1.17/1.23	1.16/1.11	0.83/0.23	-0.26/-0.48	-0.69/-1.42	-2.49/-3.96	-5.69/-8.12	-10.85/-15	-18.95/-12.91	-9.47/-7.2	-4.91/-2.93	-1.39/-0.39	0.34/0.59	0.63/0.38	0.06/-0.27	-0.79/-1.74	-3.45/-5.07
Θ(7.5°)	-2.99/-4.46	-6.02/-8.2	-9.84/-13.05	-18.07/-17.79	-12.73/-8.94	-6.51/-4.92	-3.59/-2.39	-1.59/-1.02	-0.73/-0.73	-1.07/-1.59	-1.95/-2.68	-4/-6.22	9.45/-13.02	-14.12/-11.21	-8.97/-6.19	-3.44/-2.2	-1.81/-1.61	-0.94/-0.54	-0.10/-17	0.59/0.72	0.79/0.76	0.67/0.65	0.44/-0.13	-1.11/-1.91
Θ(15°)	-6.44/-7.25	-7.36/-6.82	-7.01/-7.19	-11.39/-17.79	-19.02/-16.88	-10.66/-7.92	-5.36/-4.09	-3.57/-3.74	-4.56/-5.08	-4.78/-4.51	-4.11/-4.12	-5.02/-6.97	-9.24/-12.05	-12.63/-9.85	-5.81/-2.89	-0.67/-0.01	-0.33/-1.05	-1.89/-2.72	-3.47/-3.87	-4.17/-4.05	-3.24/-2.48	-1.82/-1.58	-1.88/-2.69	-3.98/-5.15
Θ(22.5°)	-11.24/-9.55	-8.88/-10.24	-12.69/-12.94	-11.21/-10.41	-9.89/-9.62	-7.93/-5.14	-3/-1.23	-0.5/-0.86	-2.42/-4.98	-8.2/-9.07	-7.73/-6.4	-6.31/-7	-8.15/-11.01	-12.72/-8.42	-3.78/-0.37	1.52/1.3	1.92/0.84	-1.05/-3.42	-5.02/-6.47	-9.31/-14.24	-10.49/-6.73	-5.51/-6.46	-10.43/-17.49	-18.21/-15.79
Θ(30°)	-5.88/-8.1	-10.32/-8.9	-6.35/-5.2	-2.73/-0.77	-0.05/-0.37	-1.07/-1.88	-2.03/-0.97	0.45/1.15	-0.12/-4.23	-13.29/-18.99	-16.2/-10.23	-7.11/-6.3	-7.95/-12	-15.84/-14.16	-8.79/-3.8	-0.35/-1.51	2.65/2.65	1.37/-1.55	-4.4/-3.89	-2.83/-4.8	-11.89/-18.17	-14.24/-17.52	-11.93/-6.79	-4.05/-4.19
Θ(37.5°)	-5.86/-11.06	-13.22/-7.14	-5.19/-6.28	-7.42/-9.1	0.89/1.4	1.33/0.54	-0.56/-0.87	0.37/1.03	-0.95/-4.77	-6.73/-14.6	-12.78/-5.57	-3.74/-5.14	-8.24/-10.23	-8.61/-6.72	-6.7/-5.1	-6.05/-2.26	0.35/1.08	0.41/-1.02	-2.17/-2.66	-2.29/-1.89	-2.81/-3.95	-4.38/-4.67	-4.37/-4.21	-4.09/-3.98
Θ(45°)	-3.91/-4.34	-5.4/-9.01	-14.27/-18.1	-9.28/-2.33	0.06/6	0.89/1.54	0.96/-0.5	0.69/0.81	-1.55/-3.36	-2.44/-6.34	-7.07/-3.06	-2.5/-2.73	-3.77/-1.07	-9.14/-6.27	-4.54/-3.52	-4.84/-4.65	-0.31/-1.65	0.99/-0.68	-2.1/-2.49	-2.46/-3.09	-2.48/-2.02	-2.4/-3.57	-4.24/-3.68	-3.64/-4.35
Θ(52.5°)	-6.04/-2.55	-4.7/-11.67	-16.13/-7.68	-2.55/0.51	0.73/-0.66	-0.38/-1.74	2.61/2.74	1.92/0.2	-1.39/-0.92	-1.21/-3.45	-1.88/0.95	-0.74/-1.99	-3.97/-4.81	-3.67/-4.79	-5.74/-2.55	-1.71/-3.48	-1.46/1.03	0.17/-3.44	-2.85/-1.45	-2.65/-2.51	-1.16/-1.55	-3.33/-4.22	-4.35/-4.03	-4.49/-5.65
Θ(60°)	-5.79/-18.7	-4.51/-16.69	-12.33/-7.77	-3.32/0.33	0.51/-1.15	-0.35/-1.54	3.08/3.79	2.66/0.56	-0.46/-0.32	-1.49/2.58	0.45/-14.5	-2.94/-3.7	-3.22/-5.23	-7.26/-4.6	-2.14/-4.14	-6.65/-1.74	-1.94/-6.62	-4.07/-0.8	-1.46/-2.99	-0.82/-0.32	-6.57/-6.51	-1.97/-8.89	-12.77/-12.66	
Θ(67.5°)	-5.98/-2.01	-4.65/-16.97	-11.68/-9.39	-4.27/-0.56	-0.82/-1.55	0.31/2.13	3.14/2.4	2.35/-0.35	-1.24/0.44	0.46/-7.48	0.48/-14.6	-0.91/-2.07	-7.27/-6.14	-6.11/-18.75	-2.34/-3.71	-6.78/-3.78	-4.11/-1.28	-8.12/-2	-1.67/-2.79	-2.45/-5.1	-10.47/-5.94	-9.92/-14.37	-17.31/-13.95	
Θ(75°)	-5.49/-2.54	-4.03/-14.36	-13.86/-11.21	-7.14/-3.3	-2.57/-3.92	-0.71/0.58	2.28/3.76	2.07/-0.82	-1.29/-0.55	-0.34/-11.01	-1.24/-1.26	-1.35/-3.8	-12.92/-13.25	-8.17/-15.57	-11.38/-6.28	-2.36/-1.88	-8.05/-3.8	-2.87/-10.64	-10.59/-2.03	-2.07/-3.49	-2.61/-9.03	-11.63/-6.68	-9.83/-10.52	-11.1/-9.05
Θ(82.5°)	-7.56/-3.52	-4.43/-12.01	-15.78/-10.63	-7.7/-9.6	-4.03/-6	-2.74/-0.9	0.51/2.37	0.46/-1.7	-1.25/0.16	-1.81/-17.53	-1.11/-1.92	-4.58/-5.08	-13.13/-13.17	-1.71/-8.67	-7.88/-4.76	-3.1/-1.09	-4.51/-7.8	-13.04/-4.09	-4.21/-3.33	-4.31/-10.98	-17.69/-2.76	-10.82/-10.54	-10.53/-6.62	
Θ(90°)	-8.94/-5.71	-7.17/-13.43	-12.36/-8.08	-8.27/-4.5	-4.88/-7.09	-2.95/-3.25	-1.10/-2.07	-1.87/-3.25	-3.81/-1.18	-3.45/-17.26	-1.81/-2.6	-7.02/-7.55	-15.12/-17.47	-9.53/-8.78	-15.9/-11.6	-3.77/-1.05	-6.16/-16.12	-5.34/-8.75	-18.51/-0.14	-1.31/-4.91	-5.11/-16.87	-18.81/-1.35	-11.44/-9.48	-11.49/-6.92
Θ(97.5°)	-9.1/-6.69	-6.92/-14.84	-11.65/-8.67	-10.09/-3.91	-4.08/-6.8	-6.63/-4.34	-2.81/-1.65	-3.39/-4.92	-6.23/-1.65	-5.82/-16.36	-3.23/-5.56	-8.24/-10.74	-10.22/-19.31	-9.59/-8.9	-11.64/-14.98	-5.59/-1.47	-5.19/-17.03	-10.66/-8.71	-18.03/-2.21	-4.5/-6.1	-8.43/-18.89	-15.53/-19.24	-13.11/-9.81	-11.27/-7.74
Θ(105°)	-11.49/-6.25	-9.07/-19.18	-8.05/-6.37	-9.5/-8.16	-5.96/-9.59	-7.39/-6.01	-4.18/-3.52	-3.94/-6.8	-11.57/-7.4	-4.89/-15.5	-6.92/-9.53	-7.98/-11.99	-7.91/-13.83	-8.65/-16.06	-18.31/-18.13	-7.41/-2.55	-4.97/-13.76	-12.75/-7.37	-13.11/-5.9	-6.98/-11.28	-14.24/-15.03	-10.99/-17.49	-10.83/-12.98	-17.72/-10.31
Θ(112.5°)	-12.86/-7.34	-7.17/-15.81	-8.24/-5.84	-7.79/-7.3	-7.31/-11.55	-4.74/-5.91	-2.96/-3.21	-7.65/-13.32	-10.74/-8.7	-5.89/-16.31	-7.03/-7.05	-16.83/-14.37	-4.53/-11.73	-9.71/-16.88	-18.35/-12.76	-16.35/-3.71	-7.41/-7.59	-11.87/-8.7	-18.42/-6.17	-13.95/-10.11	-18.75/-10.21	-11.41/-19.43	-11.81/-12.38	-13.89/-18.92
Θ(120°)	-10.49/-7.41	-9.31/-18.19	-10.39/-6.68	-9.2/-8.5	-7.83/-8.11	-5.82/-7.75	-8.17/-6.67	-12.12/-17.85	-11.8/-6.09	-7.43/-16.81	-14.06/-10.31	-14.98/-15.71	-11.36/-10.72	-8.02/-17.66	-18.72/-18.99	-12.66/-5.22	-7.2/-9.2	-11/-16.35	-19.07/-7.56	-14.55/-11.57	-13.11/-12.5	-12.83/-15.88	-16.15/-18.3	-19.38/-11.41
Θ(127.5°)	-11.94/-15.58	-13.32/-13.02	-11.71/-8.53	-10.32/-11.99	-10.46/-11.38	-8.55/-9.37	-10.92/-10.88	-12.99/-16.84	-8.34/-7.61	-19.5/-13.69	-13.24/-12.12	-10.89/-16.62	-17.33/-9.45	-9/-14.51	-16.32/-13.63	-9.62/-1.67	-8.67/-13.86	-18.64/-9.3	-12.85/-9.06	-9.95/-19.39	-12.77/-11.5	-15.88/-9.66	-12.97/-16.6	-12.05/-7.74
Θ(135°)	-8.43/-10.73	-13.62/-17.28	-14.45/-11.08	-10.92/-12.44	-13.23/-13.98	-13.92/-15.04	-10.33/-6.45	-8.52/-15.54	-18.44/-13.54	-19.2/-15.17	-13.98/-12.32	-10.42/-16.11	-14.47/-10.77	-13.15/-16.32	-17.64/-15.5	-11.22/-10.76	-14.43/-18.53	-12.23/-9.52	-14.03/-13.06	-7.72/-11.29	-18.45/-15.83	-13.62/-18.91	-18.73/-13.14	-16.82/-6.58
Θ(142.5°)	-15.88/-15.03	-12.69/-12.13	-12.81/-11.96	-13.14/-15.79	-14.53/-13.57	-13.74/-14.2	-13.21/-12.04	-14.88/-18.34	-17/-18.18	-18/-16.18	-19.07/-11.92	-11.24/-13.46	-14.36/-14.33	-13.91/-14.13	-17.31/-18.89	-18.57/-14.64	-15.43/-17.16	-12.78/-11.71	-14.75/-16.86	-14.05/-17.66	-17.13/-11.44	-9.88/-17.38	-16.68/-16.55	-15.12/-16.16
Θ(150°)	-18.13/-17.56	-19/-12.85	-11.07/-12.18	-12.76/-12.28	-10.82/-9.83	-13.36/-18.68	-18.36/-15.7	-15.84/-18.45	-15.78/-10.2	-9.68/-14.1	-13.78/-17.18	-15.11/-12.88	-14.4/-14.15	-13.03/-14.59	-17.85/-16.98	-15.05/-12	-15.75/-17.88	-17.36/-17.74	-15.51/-14.27	-17.46/-16.9	-15.06/-16.99	-14.98/-14.91	-18.42/-18.72	-13.06/-12.67
Θ(157.5°)	-18.11/-19.32	-17.56/-18.42	-17.97/-18.73	-19.36/-19.08	-18.66/-18.63	-18.29/-16.06	-15.96/-17.37	-18.86/-18.74	-18.12/-19.07	-17.91/-18.2	-18.04/-17.63	-18.2/-18.1	-18.51/-18.49	-19.03/-15.12	-11.9/-11.37	-15.9/-18.9	-19.28/-17.78	-15/-17.09	-19.3/-15.01	-14.7/-18.36	-19.07/-16.37	-16.3/-18.24	-18.19/-18.21	
Θ(165°)	-16.46/-16.34	-17.94/-19.45	-18.28/-18.03	-17.8/-17.5	-18.56/-18.46	-18.59/-15.71	-12.33/-10.67	-10.71/-11.63	-13.03/-12.86	-13.45/-16.27	-17.7/-16.1	-15.36/-13.17	-11.99/-12.01	-13.61/-16.59	-18.31/-18.68	-18.81/-18.3								



Radiated Composite Gain Data

Appendix A

θ(165°)	-17.17/-16.64	-18.49/-17.73	-15.24/-13.47	-13.89/-14.54	-16.38/-17.24	-18.81/-17.77	-18.94/-17.77	-16.86/-17.04	-18.19/-18.41	-16.2/-14.01	-15.33/-18.43	-17.28/-18.89	-18.03/-17.02	-19.02/-18.25	-18.59/-17.73	-17.98/-17.93	-17.93/-17.67	-17.93/-17.75	-18.72/-16.24	-12.91/-12.79	-16.69/-18.83	-18.73/-16.16	-15.29/-15.97	-17.66/-18.42
θ(172.5°)	-14.67/-18.87	-18.74/-18.26	-18.74/-17.99	-19.12/-17.92	-18.9/-17.99	-17.98/-18.97	-17.77/-18	-18.27/-17.67	-19.03/-18.11	-18.49/-17.67	-16.54/-15.43	-15.14/-15.34	-16.49/-18.09	-17.43/-18.62	-18.76/-18.52	-18.14/-17.75	-17.6/-18.91	-18.27/-18.76	-17.89/-14.63	-13.06/-14.58	-18.79/-17.37	-15.15/-14.64	-15.33/-16.06	-15.96/-14.11
θ(180°)	-17.98/-17.19	-16.16/-15.5	-17.13/-17.02	-16.07/-15.17	-13.86/-13.73	-14.08/-15.49	-18.6/-18.73	-19.32/-16.39	-15.01/-14.24	-13.02/-12.08	-11.68/-11.18	-11.77/-12.68	-12.78/-13.64	-15.04/-14.64	-15.3/-15.83	-15.67/-14.68	-13.75/-13.62	-14.56/-15.52	-16.24/-18.58	-18.08/-17.99	-18.15/-19.18	-15.49/-14.21	-13.64/-12.7	-13.9/-17.24
Freq(Hz)	5.6GPol	ThetaAnt. 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°)	-1.81/-2.45	-3.21/-3.65	-4.28/-5.02	-5.92/-6.81	-7.91/-8.78	-9.09/-9.7	-9.43/-8.34	-7.11/-5.63	-4.1/-3.18	-2.28/-1.44	-0.83/-0.45	-0.28/-0.23	-0.56/-1.38	-2.23/-3.07	-4.08/-5.74	-7.78/-9.55	-11.96/-14.58	-14.32/-11.99	-8.86/-6.57	-5.19/-3.94	-2.68/-2.65	-2.51/-1.86	-1.52/-1.58	-1.57/-1.89
θ(7.5°)	-2.05/-2.49	-3.26/-3.85	-4.48/-6.72	-9.67/-12.31	-15.96/-19.39	-19.01/-16	-10.91/-7.69	-5.88/-4.56	-3.44/-2.94	-2.88/-3.06	-3.24/-3.72	-4.06/-4.26	-4.4/-4.26	-3.73/-3.31	-3.01/-2.74	-2.64/-2.49	-2.58/-3.24	-4.41/-5.21	-5.87/-6.54	-6.99/-5.97	-4.47/-3.46	-2.46/-1.32	-0.8/-0.63	-0.52/-1.13
θ(15°)	-2.34/-4.08	-6.66/-11.12	-14.86/-9.89	-7.29/-6.23	-5.93/-6.7	-9.5/-15.52	-18.74/-15.62	-10.82/-8.32	-6.57/-5.48	-5.36/-5.96	-7.32/-10.04	-15.03/-14.67	-9.78/-6.06	-3.56/-1.88	-0.530/81	1.84/2.42	2.98/3.29	3.28/2.91	1.94/0.11	-2.63/-6.39	-11.61/-13.48	-9.11/-5.72	-4.03/-2.57	-1.78/-2.25
θ(22.5°)	-0.97/-1.75	-2.54/-3.39	-3.47/-2.36	-1.44/-0.75	-0.62/-1.51	-3.67/-7.78	-14.55/-15.53	-10.96/-10.01	-10.77/-10.98	-9.66/-8.46	-7.69/-7.88	-8.33/-7.38	-5.82/-4.64	-3.46/-1.91	0.13/2.2	3.69/4.64	5.18/5.38	5.32/4.08	1.82/-1.47	-4.12/-5.41	-8.23/-10.71	-7.24/-3.45	-1.62/-0.44	-1.62/-0.44
θ(30°)	-1.58/-3.08	-5.95/-9.39	-9.21/-8.57	-6.33/-3.25	-1.5/-0.46	-0.16/-1.3	-4.11/-5.12	-2.84/-1.74	-1.89/-3.8	-8.82/-17.78	-16.67/-11.07	-7.42/-4.53	-2.94/-2.15	-2.03/-2.55	-2.07/0.52	3.51/5.27	5.94/5.33	4.54/4.98	5.58/5.25	3.51/0.69	0.51/-49	0.81/-1.09	-2.44/-1.83	-1.24/-1.67
θ(37.5°)	0.37/-0.06	-0.99/-1.33	-1.07/-1.95	-3.62/-4.15	-1.67/-1.05	2.51/2.1	1.06/0.99	1.76/2.58	2.67/1.27	-1.87/-4.81	-7.47/-9.64	-8.19/-5.35	-4.3/-4.5	-6.18/-9.83	-8.74/-3.07	0.95/3.59	5.06/4.98	3.24/1.42	2.32/3.33	2.1/-0.85	0.17/1.85	1.28/-1.11	-3/-2.35	-1.08/-0.15
θ(45°)	0.2/0.29	-1.19/-3.1	-2.36/-1.41	-1.23/-2.24	-1.65/1.2	2.96/3.23	2.64/2.89	3.58/3.65	3.14/1.76	0.15/-0.77	-5.28/-10.36	-6.23/-4.82	-4.71/-4.08	-3.09/-5.06	-14.34/-16.67	-4.12/0.08	1.57/2.26	1.95/1.06	0.65/0.98	1.01/-1.09	-1.65/-0.26	-1.05/-2.53	-2.63/-1.46	-1.11/-0.16
θ(52.5°)	-3.2/-3.57	-6.24/-8.16	-8.15/-6.42	-2.84/-3.34	-3.21/0.24	2.47/3.2	3.01/2.75	3.47/3.69	2.13/0.69	0.33/-2.93	-9.19/-3.14	-1.06/-1.44	-2.72/-1.27	-0.96/-3.83	-10.89/-15.24	-5.41/-0.97	0.73/-0.46	-1.21/0.44	0.61/-0.09	-0.49/-1.17	-2.38/-4.18	-5.53/-3.81	-2.18/-1.71	-3.24/-3.32
θ(60°)	-1.53/-3.83	-5.49/-5.75	-4.3/-10.29	-8.07/-5.96	-4.48/-1.35	-0.51/-1.38	2.74/1.61	2.58/3.69	1.81/0.04	0.92/-2.06	-14.11/-2.57	0.56/0.21	-0.78/-1.46	-0.58/-1.96	-8.98/-17.34	-5.68/-1.39	-0.83/-2.53	-3.29/-0.6	0.47/-2.98	-2.09/-2.04	-5.6/-7.1	-7.31/-4.99	-4.47/-4.01	-3.39/-1.99
θ(67.5°)	-0.99/-3.61	-6.68/-5.32	-2.69/-7.94	-13.52/-9.11	-6.45/-2.77	-4.73/-1.42	3.17/-0.48	2.25/3.83	1.41/0.55	1.38/-4.08	-6.33/0.59	0.48/-0.89	-2.09/-2.67	-2.08/-3.05	-10.16/-18.45	-10.79/-3.09	-3.38/-5.08	-5.56/-0.77	0.3/-2.85	-2.62/-1.23	-10.3/-9.81	-11.89/-11.68	-6.93/-4.06	-2.39/-0.98
θ(75°)	-2.32/-5.08	-9.33/-5.59	-2.43/-6.45	-14.44/-14.02	-9.18/-3.13	-7.3/-0.7	2.12/-2.1	0.63/0.31	0.16/0.41	2.11/-0.77	-8.23/-0.64	-1.11/-3.41	-3.58/-4.96	-5.16/-3.96	-10.06/-11.8	-18.26/-7.3	-3.48/-4.11	-7.96/-2.13	-1.12/-3.25	-2.32/-0.42	-12.31/-9.23	-18.64/-16.86	-10.66/-5.52	-3.71/-2.41
θ(82.5°)	-5.38/-7.74	-9.83/-5.88	-2.86/-7.18	-14.19/-17.54	-6.91/-1.55	-6.67/-0.75	1.43/-4.69	-1.1/38	-2.74/0.19	1.66/-2.49	-3.91/-1.19	-5.61/-8.33	-7.59/-8.75	-15.06/-8.97	-9.98/-10.03	-7.37/-6.79	-2.33/-2.95	-5.19/-4.56	-0.23/-4.87	-1.66/-1.72	-11.55/-10.78	-18.19/-13.71	-12.34/-6.91	-5.6/-4.37
θ(90°)	-7.75/-8.09	-8.65/-6.45	-3.48/-7.9	-12.28/-17.95	-6.17/-1.25	-4.53/-2.13	0.11/-5.68	-4.19/-1.64	-6.13/-2.24	1.06/-1.32	-5.86/-2.84	-6.13/-11.07	-11.31/-10.9	-12.61/-17.56	-9.34/-12.78	-7.11/-8.17	-4.28/-2.86	-4.3/-5.4	0.71/-4.09	-1.26/-3.4	-13.22/-12.33	-13.22/-15.13	-17.36/-9.06	-6.53/-6.16
θ(97.5°)	-10.2/-7.36	-7.57/-7.47	-4.41/-9.78	-12.75/-18.6	-5.73/-2.45	-5.71/-2.9	-1.13/-7.06	-5.49/-4.6	-11.39/-3.1	-0.52/-4.76	-5.81/-5	-9.7/-18.05	-18.76/-10.61	-10.03/-19.06	-16.1/-14.75	-5.48/-7.96	-12.58/-5.86	-6.82/-6.5	-0.47/-3.13	-4.05/-5.14	-18.68/-16.76	-8.31/-12.46	-18.95/-11.51	-7.26/-6.38
θ(105°)	-12.26/-6.59	-7.66/-6.64	-8.97/-12.92	-19.48/-13.82	-5.6/-3.87	-4.02/-4.38	-2.45/-6.03	-7.95/-6.29	-11.74/-5.28	-2.68/-5.52	-9.48/-6.58	-6.6/-10.71	-19.03/-17.22	-13.76/-17.81	-12.87/-14.11	-10.15/-5.88	-8.55/-10.47	-4.23/-5.48	-7.33/-5.17	-17.95/-17.78	-13.24/-12.03	-18.56/-9.58	-6.94/-6.96	-6.94/-6.96
θ(112.5°)	-9.6/-9.35	-10.51/-7.89	-10.46/-12.94	-17.88/-13.71	-5.63/-2.62	-5.84/-6.44	-4.04/-13.31	-5.88/-5.81	-13.54/-6.15	-5.43/-7.22	-9.26/-8.77	-8.18/-17.88	-15.06/-16.2	-14.68/-17.62	-18.71/-17.05	-11.12/-7.08	-12.06/-18.49	-12.53/-13.87	-10.19/-13.21	-11.55/-9.74	-18.38/-13.08	-16.68/-17.06	-18.32/-14.81	-10.32/-6.7
θ(120°)	-11.11/-11.9	-10.45/-7.93	-9.57/-10.11	-18.14/-17.59	-7.12/-4.41	-9.38/-10.98	-6.69/-12.89	-9.43/-7.32	-16.48/-11.26	-7.94/-9.21	-12.49/-13.89	-9.46/-8.79	-16.44/-17.77	-17.96/-18.52	-17.39/-19.05	-11.32/-8.74	-14.92/-18.7	-13.03/-17.35	-7.12/-9.18	-11.68/-11.59	-19.09/-13.51	-16.1/-16.78	-14.92/-16.12	-13.91/-10.17
θ(127.5°)	-13.28/-15.96	-11.01/-15.62	-11.56/-14.18	-19.42/-18.04	-8.57/-7.22	-10.1/-7.89	-10.87/-14.67	-10.22/-11.55	-18.78/-10.32	-9.47/-11.94	-15.84/-18.15	-15.14/-11.62	-18.73/-14.96	-11.64/-18.52	-16.09/-18.28	-8.07/-5.31	-7.99/-18.43	-17.11/-16.26	-6.38/-5.99	-16.6/-9.56	-9.98/-9.57	-13.01/-13.46	-14.06/-12.48	-18.47/-16.06
θ(135°)	-16.14/-11.09	-9.47/-8.66	-11.47/-11.44	-13.7/-15.64	-9.99/-9.98	-9.48/-5.91	-8.38/-18.65	-11.09/-13.64	-17.2/-11.37	-9.53/-11.76	-18.9/-18.59	-14.32/-13.15	-18.03/-15.19	-18.79/-18.88	-16.42/-12.45	-5.07/-6.55	-7.41/-13.54	-14.16/-17.41	-18.46/-19.83	-18.47/-18.59	-11.76/-9.53	-16.3/-14.69	-14.82/-11.39	-11.04/-12.45
θ(142.5°)	-11.84/-11.23	-16.43/-16.82	-13.78/-17.41	-17.68/-13.77	-12.96/-15.51	-13.47/-10.53	-10.45/-9.77	-10.03/-10.23	-15.58/-17.86	-15.74/-19.22	-19.11/-18.66	-13.57/-16.85	-18.33/-18	-19.32/-17.76	-16.34/-15.73	-12.4/-18.24	-13.18/-18.39	-19.04/-12.17	-12.95/-14.71	-18.8/-13.87	-15.99/-18.48	-16.87/-14.82	-9.33/-8.36	-9.33/-8.36
θ(150°)	-15.97/-15.12	-13.51/-15.58	-14.52/-15.52	-16.91/-17.5	-16.16/-11.54	-9.58/-11.49	-13.68/-11.77	-11.53/-13.89	-16.83/-18.04	-18.75/-18.19	-18.42/-16.44	-17.82/-18.74	-19.16/-17.38	-17.93/-16.22	-17.45/-18.97	-18.76/-17.81	-14.56/-11.71	-14.76/-17.55	-18.26/-13.69	-15.16/-19.18	-18.57/-15.04	-14.23/-17.94	-18.82/-17.51	-18.47/-16.44
θ(157.5°)	-18.05/-18.31	-18.01/-14.99	-13.79/-13.78	-16.62/-18.93	-19.26/-15.96	-13.82/-14.36	-14.81/-18.89	-11.66/-15.59	-18.36/-18.35	-18.68/-18.62	-18.99/-17.09	-15.18/-13.53	-12.51/-11.29	-12.83/-15.73	-15.72/-15.98	-15.12/-14.67	-18.63/-19.06	-15.88/-16.28	-19.18/-18.29	-17.2/-15.67	-17.41/-16.36	-12.82/-13.05	-18.34/-17.83	-17.96/-16.92
θ(165°)	-17.72/-18.47	-17.26/-18.92	-16.43/-13.9	-11.42/-10.87	-10.15/-10.39	-11.45/-11.94	-12.24/-13.21	-15.05/-18.77	-19.23/-18.28	-18.2/-18.93	-18.35/-18.91	-19.14/-18.54	-17.96/-18.34	-12.55/-11.9	-14.58/-16.07	-14.01/-12.57	-11.84/-12.61	-13.17/-15.44	-18.95/-18.59	-18.13/-15.64	-16.42/-17.54	-18.56/-18.38	-18.77/-18.77	-19.59/-19.46
θ(172.5°)	-16.4/-14.84	-13.58/-14.24	-15.89/-19.05	-18.3/-17.75	-17.97/-18.68	-17.49/-15.69	-15.42/-16.4	-17.54/-19.07	-18.61/-19.2	-18.71/-18.88	-18.71/-18.73	-18.8/-18.34	-18.99/-18.96	-19.19/-19.01	-18.23/-19.51	-13.5/-12.07	-11.16/-11.82	-13.65/-19.19	-19.01/-17.9	-18.17/-17.9	-18.46/-17.4	-18.94/-18.63	-18.94/-18.63	-18.94/-18.63
θ(180°)	-15.74/-16.41	-15.81/-15.14	-16.4/-17.69	-18.37/-18.83	-19.39/-17.06	-15.97/-14.89	-14.25/-14.48	-14.71/-15.3	-15.11/-15.08	-15.11/-15.72	-16.55/-16.34	-15.04/-14.1	-13.34/-11.91	-11.49/-12.24	-12.28/-12.51	-13.68/-13.7	-13.4/-13.29	-14.13/-15.43	-16.19/-16.37	-16.1/-17.52	-17.78/-17.74	-17.91/-18.19	-16.03/-14.86	-14.98/-14.42
Freq(Hz)	5.785GPol	PhiAnt. 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°)	-9.71/-9.03	-9.67/-9.84	-8.87/-9.19	-10.45/-10.17	-9.27/-8.49	-8.83/-8.84	-8.27/-8.7	-7.51/-7.04	-6.69/-6.75	-6.94/-7.22	-7.32/-7.94	-8.72/-9.63	-10.40/-10.32	-9.86/-9.53	-9.31/-8.52	-7.39/-6.2	-5.7/-6.02	-6.45/-6.1	-6.6/-7.86	-8.93/-10.89	-13.95/-18.02	-18.4/-12.44	-9.39/-7.27	-6.09/-6.13
θ(7.5°)	-4.75/-4.21	-4.18/-4.4	-4.59/-5.19	-5.2/-5.19	-5.56/-5.99	-6.4/-6.75	-7.14/-8.72	-11.1/-14.43	-17.58/-16.45	-13.3/-11.64	-9.91/-8.38	-8.04/-8.66	-8.94/-9.77	-11.71/-12.8	-12.98/-13.16	-12.53/-10.37	-8.95/-8.24	-						



Antenna Pattern

Appendix B

Θ(22.5°)	2.19/1.50	-0.04/-0.11	-1.07/-1.11	-1.26/-1.60	-2.01/-1.73	-0.72/0.76	1.97/2.76	3.32/3.34	2.84/2.01	0.93/-0.14	-0.93/-1.65	-2.81/-4.45	-6.53/-7.15	-5.10/-2.31	0.03/1.57	2.62/3.15	3.36/3.54	3.92/4.48	4.80/4.61	4.10/3.09	1.91/1.33	0.96/0.72	0.85/1.29	1.66/1.97
Θ(30°)	0.86/-0.34	-2.78/-4.81	-1.77/0.58	1.48/1.09	-0.29/-2.29	-2.64/-0.49	1.45/2.94	3.89/4.00	3.37/2.35	1.20/0.40	0.08/-0.05	-1.35/-3.80	-5.25/-4.18	-2.91/-1.17	0.51/1.90	3.29/4.00	3.68/3.04	3.23/3.92	4.38/4.12	3.22/2.25	1.55/0.82	-0.14/-0.91	-0.92/0.12	0.90/1.19
Θ(37.5°)	-1.07/-2.75	-0.84/-1.31	1.18/0.10	3.88/3.80	3.06/2.26	2.19/2.35	2.10/2.36	3.11/3.00	2.09/1.51	1.56/1.79	1.46/0.02	-3.20/-7.80	-7.10/-1.78	1.69/3.54	4.00/4.00	4.03/3.89	3.37/2.13	1.42/2.72	3.77/3.75	3.34/2.43	1.81/1.61	0.52/-1.15	-2.29/-2.14	-0.92/-0.46
Θ(45°)	-2.20/-0.59	-0.16/0.13	1.74/2.81	3.25/3.24	2.64/2.57	3.84/4.71	3.83/2.35	1.96/1.34	-0.15/-0.58	-0.04/0.07	-0.43/-1.84	-3.91/-7.91	-5.47/-0.76	1.02/1.88	2.80/2.40	1.31/0.81	0.70/0.59	1.38/2.90	3.98/3.83	3.16/2.72	2.59/2.17	1.38/0.92	-2.93/-3.65	-2.74/-3.02
Θ(52.5°)	-0.80/0.99	1.08/0.71	1.30/2.11	3.11/2.83	1.58/0.80	2.24/2.41	4.32/3.41	2.84/1.19	-1.78/-3.32	-3.44/-3.59	-2.49/-1.35	-2.09/-5.24	-5.91/-1.13	0.57/0.83	0.94/0.27	-0.22/-1.01	0.34/1.15	2.01/3.30	4.28/4.00	3.90/3.58	2.57/1.47	-0.46/-2.09	-2.71/-2.23	-2.16/-2.09
Θ(60°)	2.37/3.60	1.78/-0.51	1.02/2.69	3.58/3.13	2.18/0.01	-0.12/2.65	3.49/2.50	1.87/0.69	-1.53/-3.49	-3.30/-2.44	-2.88/-1.54	-0.84/-2.46	-4.66/-2.55	0.62/1.74	1.34/0.33	-0.83/-3.27	-1.74/0.37	1.44/3.07	4.09/3.58	2.88/1.88	2.59/-2.05	-3.78/-3.49	-1.82/-2.51	-2.83/-0.75
Θ(67.5°)	3.56/3.88	0.75/-2.18	0.30/1.88	2.73/3.18	3.08/1.25	-0.89/0.77	1.61/1.39	1.46/0.61	-1.57/-2.61	-2.17/-1.58	-3.82/0.85	-1.56/-4.93	-4.53/-3.36	0.05/1.85	2.22/1.17	-0.47/-2.75	-2.42/-0.40	1.34/2.30	3.23/2.77	2.18/-0.63	-3.11/-5.13	-4.12/-2.45	-1.72/-2.28	-3.09/0.34
Θ(75°)	1.27/2.61	-1.18/-0.45	-0.98/0.71	2.06/3.08	3.42/1.13	-4.16/-2.14	-0.71/-0.54	0.25/0.16	-1.45/-3.60	-5.46/-3.92	-3.85/-2.24	-3.09/-4.10	-4.33/-6.69	-1.72/-1.97	2.60/1.25	-0.26/-3.88	-3.12/-1.97	0.66/2.26	2.91/2.37	1.66/-1.79	-3.88/-7.31	-5.34/-1.88	-2.28/-3.03	-4.60/-1.56
Θ(82.5°)	-0.42/0.85	-2.68/-5.47	-3.70/-2.42	-0.31/1.35	2.27/0.31	-4.55/-2.33	-2.63/-2.15	-0.27/0.09	-3.03/-6.51	-6.97/-4.10	-3.39/-3.08	-4.47/-3.48	-5.47/-6.90	-1.62/-1.79	2.20/0.02	-1.08/-4.34	-5.65/-2.65	0.37/2.27	1.53/2.18	1.10/-1.81	-2.12/-6.30	-5.37/-3.31	-4.02/-5.13	-6.16/-3.24
Θ(90°)	-0.53/-1.65	-4.62/-7.35	-4.11/4.41	-2.25/-0.29	1.12/-0.98	-6.30/-4.98	-4.89/-4.55	-1.84/-1.52	-4.25/-10.21	-7.32/-5.94	-5.40/-7.27	-5.16/-3.46	-5.08/-10.94	-4.65/0.21	1.29/-1.45	-3.45/-4.59	-8.25/-5.86	-0.97/1.54	1.01/0.84	-1.37/-1.67	-1.73/-6.29	-8.65/-6.72	-7.23/-5.53	-5.36/-4.63
Θ(97.5°)	-2.70/-5.21	-5.38/-5.72	-7.62/-7.42	-2.98/-1.43	-1.21/-3.06	-7.67/-7.48	-5.46/-3.72	-1.60/-3.16	-7.80/-10.86	-8.32/-8.46	-4.42/-5.86	-4.22/-6.91	-7.36/-9.11	-8.19/-1.89	-0.66/-2.16	-3.85/-6.48	-8.11/-11.51	-5.47/-0.71	0.29/0.73	-1.66/-1.91	-2.72/-8.71	-13.68/-7.19	-10.97/-6.77	-7.63/-5.78
Θ(105°)	-6.52/-7.44	-9.90/-9.24	-7.18/-5.90	-3.74/-4.65	-4.04/-5.19	-7.67/-7.49	-4.46/-6.78	-4.28/-4.82	-7.97/-15.46	-10.27/-8.90	-4.81/-6.33	-6.18/-6.70	-8.42/-12.05	-12.76/-5.37	-1.52/-2.42	-3.64/-9.48	-7.45/-10.58	-10.84/-6.64	-2.69/-2.49	-5.61/-3.89	-5.44/-12.13	-15.70/-15.00	-8.85/-7.07	-14.13/-7.23
Θ(112.5°)	-8.58/-10.39	-9.67/-10.87	-9.99/-9.33	-8.22/-5.54	-4.98/-7.06	-7.78/-4.66	-7.26/-7.67	-6.76/-6.51	-11.68/-10.58	-7.49/-9.76	-6.03/-7.32	-5.95/-6.12	-9.71/-14.68	-15.05/-5.65	-3.56/-3.44	-4.36/-7.17	-6.49/-6.41	-11.13/-10.39	-8.85/-4.74	-10.24/-7.90	-9.17/-8.60	-15.01/-10.19	-11.51/-11.60	-14.39/-10.36
Θ(120°)	-10.52/-6.37	-7.84/-11.75	-15.38/-15.32	-13.21/-8.37	-9.01/-10.75	-12.03/-8.02	-8.11/-6.33	-6.98/-11.03	-13.75/-12.46	-10.77/-9.21	-7.58/-5.39	-5.55/-6.26	-8.85/-13.20	-11.05/-8.17	-7.26/-3.69	-5.65/-5.77	-5.00/-5.58	-9.45/-9.70	-7.36/-4.30	-9.28/-7.13	-7.55/-14.06	-6.69/-9.10	-9.72/-13.69	-10.68/-2.99
Θ(127.5°)	-9.69/-10.41	-11.93/-9.12	-8.66/-7.89	-6.06/-3.54	-7.83/-11.67	-14.14/-8.92	-10.96/-13.48	-13.71/-14.16	-14.78/-12.02	-9.39/-7.45	-6.13/-7.64	-9.26/-10.06	-9.59/-10.97	-7.99/-8.78	-5.32/-4.09	-5.45/-5.52	-7.84/-5.44	-7.01/-13.00	-10.44/-6.66	-8.15/-5.92	-6.54/-12.80	-11.86/-10.11	-9.46/-7.76	-10.02/-8.65
Θ(135°)	-14.97/-13.85	-11.69/-11.67	-13.46/-11.46	-11.27/-7.60	-10.76/-13.16	-8.99/-7.71	-7.93/-8.45	-10.89/-13.32	-13.21/-9.70	-10.72/-12.13	-9.88/-8.42	-8.28/-9.15	-7.50/-6.69	-8.88/-10.97	-8.29/-6.80	-8.01/-7.54	-13.35/-8.53	-10.14/-14.93	-12.54/-12.06	-9.97/-11.33	-8.97/-9.87	-11.41/-8.25	-6.69/-9.38	-11.04/-15.32
Θ(142.5°)	-8.79/-12.50	-7.84/-11.95	-13.81/-13.23	-13.24/-10.50	-9.38/-10.60	-11.99/-9.94	-11.06/-14.55	-14.29/-12.78	-11.57/-14.12	-11.78/-9.58	-8.16/-7.19	-8.60/-8.07	-8.31/-8.69	-6.58/-0.88	-7.82/-3.80	-9.89/-13.91	-12.14/-14.11	-11.92/-12.82	-9.81/-6.92	-7.04/-9.08	-11.27/-10.74	-9.96/-10.75	-10.68/-2.99	-10.68/-2.99
Θ(150°)	-13.72/-13.94	-12.73/-13.94	-15.03/-15.07	-14.64/-15.96	-12.83/-11.85	-14.10/-14.16	-12.85/-13.79	-15.29/-15.84	-13.92/-14.12	-13.29/-10.08	-8.18/-8.19	-7.62/-7.07	-6.57/-6.62	-5.55/-5.68	-6.20/-6.30	-6.97/-10.35	-14.84/-15.53	-12.91/-10.07	-11.43/-10.97	-9.35/-8.64	-8.50/-10.12	-14.69/-14.64	-13.69/-15.34	-14.96/-14.98
Θ(157.5°)	-13.99/-15.70	-13.11/-11.08	-11.45/-12.73	-11.94/-10.34	-10.08/-12.64	-14.57/-11.72	-10.89/-12.12	-12.45/-10.24	-10.29/-11.57	-13.34/-13.63	-13.36/-10.18	-9.06/-9.52	-10.09/-9.51	-9.16/-10.04	-11.81/-12.54	-12.35/-11.42	-10.10/-10.24	-9.21/-9.21	-8.63/-8.14	-8.52/-8.88	-9.47/-10.11	-11.28/-12.55	-13.34/-14.25	-10.89/-10.43
Θ(165°)	-10.88/-10.89	-11.66/-11.50	-11.91/-14.01	-11.72/-10.63	-9.64/-9.88	-10.20/-10.30	-10.41/-10.88	-9.50/-8.10	-7.68/-8.54	-10.80/-11.74	-11.37/-11.97	-13.78/-15.36	-15.73/-14.78	-14.25/-14.25	-15.14/-14.69	-14.22/-10.78	-7.64/-6.32	-6.38/-6.72	-7.26/-6.59	-10.75/-13.14	-15.58/-15.30	-15.60/-15.60	-13.75/-12.46	-11.63/-11.18
Θ(172.5°)	-15.36/-14.77	-14.87/-15.55	-14.83/-12.82	-11.14/-10.78	-10.86/-12.06	-12.03/-11.73	-11.33/-12.12	-11.23/-10.89	-10.56/-15.37	-12.28/-15.24	-15.36/-15.37	-14.50/-11.56	-10.61/-14.71	-9.30/-8.77	-8.41/-7.78	-6.76/-6.48	-7.04/-7.79	-8.77/-9.46	-10.07/-10.59	-10.65/-10.36	-10.41/-10.10	-10.46/-12.20	-13.57/-14.44	-15.79/-15.17
Θ(180°)	-9.64/-6.92	-9.63/-10.80	-11.63/-12.62	-13.57/-14.69	-14.88/-14.51	-12.84/-12.33	-12.58/-12.71	-12.96/-14.15	-14.16/-13.86	-13.69/-13.95	-15.10/-14.86	-14.42/-14.62	-14.38/-12.99	-12.65/-12.32	-11.45/-10.63	-9.89/-9.10	-8.43/-8.10	-8.18/-8.64	-9.26/-9.64	-9.53/-9.65	-10.08/-10.50	-10.50/-10.50	-8.51/-7.49	-7.84/-8.29
Freq(Hz)	2.45GPol	Total/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°)	2.12/2.24	2.28/2.22	2.12/2.04	1.89/1.72	1.53/1.41	1.37/1.39	1.24/1.04	0.96/1.00	1.08/1.00	0.94/1.08	1.16/1.15	1.03/0.96	0.90/0.78	0.53/0.30	0.17/0.07	0.06/0.04	-0.03/-0.07	0.02/0.33	0.81/1.21	1.59/1.89	2.10/2.37	2.57/2.63	2.55/2.44	2.39/2.41
Θ(7.5°)	-0.06/0.06	0.26/0.43	0.56/0.57	0.57/0.55	0.59/0.63	0.75/0.97	1.14/1.40	1.71/2.09	2.45/2.72	2.95/3.17	3.30/3.31	3.29/3.25	3.22/3.10	2.96/2.75	2.49/2.26	2.02/1.77	1.56/1.38	1.27/1.21	1.21/1.16	1.09/0.93	0.72/0.58	0.46/0.30	0.05/0.10	-0.20/-0.24
Θ(15°)	-1.06/-0.74	-0.38/-0.24	-0.29/-0.45	-0.63/-0.84	-1.07/-1.19	-0.91/-0.44	0.02/0.67	1.42/2.11	2.71/3.15	3.49/3.76	3.95/4.09	4.18/4.25	4.27/4.21	4.01/3.75	3.41/3.05	2.63/2.21	1.85/1.56	1.27/0.90	0.44/-0.16	-0.88/-1.52	-2.15/-2.32	-2.18/-2.10	-1.85/-1.56	-1.39/-1.37
Θ(22.5°)	0.20/0.61	0.92/0.89	0.52/-0.05	-0.80/-1.69	-2.51/-2.95	-2.73/-1.86	-0.61/0.58	1.57/2.29	2.78/3.14	3.43/3.73	4.08/4.42	4.71/4.90	4.94/4.77	4.40/3.84	3.20/2.49	1.83/2.28	0.80/0.31	-0.02/-0.74	-1.51/-2.34	-3.49/-4.51	-5.02/-4.68	-3.75/-2.64	-1.57/-0.82	-0.45/-0.22
Θ(30°)	0.99/1.45	1.64/1.50	0.96/0.61	-1.45/-3.41	-5.66/-7.63	-7.67/-5.43	-2.68/-0.46	1.14/2.06	2.66/2.95	3.15/3.45	3.95/4.48	4.99/5.32	5.43/5.26	4.78/4.01	3.03/1.90	0.65/-0.39	-1.32/-1.76	-1.84/-1.97	-2.48/-3.14	-4.10/-4.68	-4.94/-4.29	-3.17/-2.11	-1.21/-0.51	-0.07/-0.32
Θ(37.5°)	0.40/0.76	0.76/0.48	-0.11/1.28	-3.23/-6.17	-10.30/-14.03	-14.14/-9.04	-4.24/-1.21	0.67/1.60	1.91/1.95	2.17/2.38	3.32/3.92	4.36/4.63	4.64/4.40	3.90/3.09	1.94/0.36	-1.73/-4.17	-6.16/-6.22	4.91/4.13	-3.54/-3.01	-2.56/-2.22	-2.04/-2.01	-1.88/-1.72	-1.56/-1.36	-1.09/-0.59
Θ(45°)	-1.04/-1.37	-2.07/-2.35	-2.52/-3.34	-5.45/-8.98	-12.26/-12.98	-9.05/-4.45	-1.11/0.56	1.06/1.00	1.02/1.38	1.92/2.44	2.70/2.83	2.87/2.85	2.67/2.20	-1.20/-0.48	-1.31/-0.30	-8.94/-8.23	-5.67/-3.49	-1.94/-0.78	-0.19/-0.07	-0.33/-0.70	-0.96/-1.00	-1.37/-1.64	-1.81/-1.80	-1.08/-1.27
Θ(52.5°)	-1.98/-3.46	-5.09/-4.79	-3.55/-3.54	-4.97/-7.68	-9.54/-8.66	-8.50/-10.40	-10.04/-5.40	-1.91/-0.24	0.20/0.15	0.34/0.75	1.09/1.28	1.28/1.10	1.01/1.11	1.16/0.75	-0.10/-1.46	-3.16/-4.62	-5.33/-4.82	-3.41/-2.01	-0.76/0.40	1.25/1.43	1.04/0.28	-0.48/-1.04	-1.46/-1.69	-1.77/-2.07
Θ(60°)	-2.69/-4.80	-8.17/-7.46	-4.58/-3.70	-5.24/-9.33	-13.73/-12.25	-8.89/-8.62	-7.50/-4.60	-1.57/0.04	0.39/0.39	0.31/0.36	0.55/0.53	0.26/-0.03	0.01/0.26	0.32/-0.04	-0.82/-1.87	-2.70/-2.78	-2.37/-1.90	-1.69/-1.41	-0.15/-1.46	2.39/2.49	2.08/1.31	0.26/0.87	-1.79/-2.23	-2.11/-2.21
Θ(67.5°)	-2.59/-4.44	-8.84/-10.35	-6.08/-4.18	-5.55/-10.55	-14.05/-11.52	-9.01/-7.04	-6.33/-4.89	-2.81/-1.62	-1.21/-1.19	-1.20/-1.21	-0.92/-0.91	-0.74/-0.69	-0.88/-1.40	-2.20/-2.78	-2.57/-2.14	-1.68/-0.65	0.33/0.56	0.53/1.35	2.59/3.00	2.35/1.24	0.52/0.19	-0.14/-0.68	-1.26/-1.78	-1.60/-2.25
Θ(75°)	-2.29/-3.82	-7.64/-9.43	-5.56/-4.07	-5.76/-11.14	-12.99/-10.																			



Θ (75°)	-2.20/-4.62	-5.71/-0.89	-0.82/-5.42	-6.84/-12.02	-6.13/-1.47	-5.94/0.15	2.50/-1.50	0.83/-3.15	0.98/0.74	2.53/0.37	-6.26/-0.46	-0.59/-2.25	-3.05/-4.23	-4.08/-2.66	-1.06/-8.25	-15.15/-7.01	-3.36/-2.15	-5.46/-2.01	-0.93/-3.11	-2.22/0.30	-8.22/-4.56	-6.87/-6.75	-6.93/-5.32	-3.27/-2.26
Θ (82.5°)	-5.19/-6.16	-7.42/-2.63	-1.70/-6.05	-6.98/-11.15	-3.68/-0.04	-5.21/0.04	1.97/-3.85	-0.80/-1.44	-1.37/0.30	2.37/-1.42	-3.75/-0.71	-3.26/-4.90	-7.11/-6.40	-8.09/-4.23	-4.04/-8.40	-6.83/-6.51	-2.24/-2.02	-3.03/-4.35	0.09/-4.50	-1.10/-0.61	-10.44/-4.86	-7.53/-7.84	-7.48/-5.76	-5.16/-4.18
Θ (90°)	-6.56/-6.38	-7.78/-4.84	-3.18/-5.86	-7.98/-14.25	-4.16/-0.08	-3.55/-1.32	0.37/-5.30	-4.04/-1.55	-3.85/-2.02	1.72/-0.36	-5.29/-2.67	-3.64/-4.76	-9.06/-8.27	-6.02/-10.11	-5.31/-7.65	-4.99/-7.69	-4.10/-2.49	-3.01/-5.15	1.04/-3.93	-0.87/-2.02	-10.48/-4.72	-9.31/-7.71	-6.90/-6.67	-6.20/-5.88
Θ (97.5°)	-7.42/-6.99	-7.16/-6.78	-4.09/-6.40	-8.31/-9.39	-4.01/-1.89	-4.38/-1.95	-0.85/-6.45	-5.28/-4.14	-8.00/-2.97	0.28/-3.05	-5.57/-4.54	-5.42/-9.86	-12.97/-5.40	-4.80/-9.89	-8.51/-6.76	-4.32/-7.59	-11.72/-5.63	-5.38/-5.95	-0.20/-2.98	-3.62/-4.26	-13.88/-6.39	-6.77/-6.48	-5.27/-6.67	-6.18/-7.25
Θ (105°)	-11.25/-6.27	-7.23/-8.26	-7.68/-4.99	-6.50/-6.30	-4.11/-3.21	-3.63/-2.88	-2.30/-4.98	-7.06/-5.74	-8.30/-5.09	-1.62/-3.26	-8.48/-6.19	-5.16/-7.08	-15.10/-8.86	-5.12/-7.87	-11.83/-9.18	-7.55/-5.64	-14.27/-9.76	-7.22/-9.86	-4.03/-5.25	-6.94/-4.97	-14.86/-6.34	-9.95/-9.46	-6.13/-4.90	-6.53/-5.74
Θ (112.5°)	-8.72/-8.71	-9.38/-8.40	-9.65/-9.77	-10.62/-6.82	-4.37/-2.41	-3.44/-5.21	-3.65/-10.44	-5.42/-5.20	-11.17/-5.88	-3.94/-5.91	-8.69/-7.50	-7.77/-13.83	-13.33/-8.80	-4.47/-11.49	-15.81/-14.51	-10.41/-6.20	-11.26/-15.59	-11.52/-12.74	-9.52/-11.84	-10.83/-8.91	-13.85/-8.13	-11.76/-14.89	-9.18/-10.12	-9.66/-5.02
Θ (120°)	-7.99/-8.89	-6.93/-7.56	-9.09/-9.44	-11.50/-8.97	-6.77/-4.25	-7.53/-10.33	-5.40/-11.13	-8.76/-6.48	-10.62/-10.46	-6.25/-7.45	-11.14/-10.15	-7.43/-6.98	-11.49/-14.66	-13.49/-14.08	-9.93/-11.62	-8.14/-8.23	-12.55/-15.45	-11.04/-13.03	-6.65/-8.18	-8.53/-9.72	-15.51/-8.89	-7.40/-14.54	-13.52/-13.83	-12.81/-9.02
Θ (127.5°)	-11.29/-8.66	-9.77/-14.01	-10.53/-12.87	-10.71/-9.72	-8.10/-6.42	-9.42/-7.49	-8.19/-12.31	-9.59/-10.59	-15.56/-9.63	-7.53/-11.10	-13.22/-9.48	-10.53/-8.13	-13.12/-12.64	-9.86/-12.89	-10.40/-13.16	-7.03/-5.14	-7.53/-14.40	-13.71/-13.46	-5.66/-5.22	-11.71/-6.84	-8.48/-8.89	-5.49/-9.29	-10.37/-11.17	-11.94/-11.20
Θ (135°)	-14.35/-10.22	-7.99/-7.79	-9.53/-10.56	-11.49/-11.01	-9.54/-8.13	-8.52/-5.72	-7.92/-15.50	-10.24/-12.64	-15.04/-10.50	-8.14/-8.31	-16.01/-15.55	-9.09/-11.39	-13.42/-10.43	-13.58/-15.30	-13.09/-11.40	-4.91/-6.14	-7.08/-12.14	-12.13/-14.08	-15.21/-8.68	-10.23/-15.48	-10.98/-8.92	-9.67/-6.19	-10.32/-8.79	-8.69/-11.53
Θ (142.5°)	-10.44/-10.39	-13.32/-11.21	-8.67/-12.95	-15.02/-12.46	-11.94/-13.90	-12.11/-8.44	-8.30/-9.22	-9.26/-9.73	-13.62/-15.35	-12.03/-13.89	-15.42/-14.75	-10.92/-14.50	-15.12/-13.47	-13.60/-14.70	-14.31/-14.01	-11.37/-14.47	-14.54/-9.99	-12.23/-12.53	-11.97/-11.03	-11.93/-11.10	-8.90/-9.57	-13.93/-10.46	-8.98/-8.30	-7.12/-7.90
Θ (150°)	-12.76/-11.11	-12.45/-13.78	-12.25/-13.19	-14.84/-14.73	-14.20/-10.73	-8.97/-10.01	-12.09/-10.91	-9.86/-10.34	-13.35/-13.19	-11.17/-10.69	-13.12/-14.44	-10.33/-9.67	-15.63/-13.30	-15.75/-14.25	-14.52/-15.45	-12.90/-13.36	-14.00/-10.79	-13.10/-15.09	-15.24/-11.49	-10.55/-11.70	-13.38/-13.46	-11.99/-11.05	-10.81/-11.52	-11.73/-13.63
Θ (157.5°)	-10.81/-14.02	-15.48/-12.43	-11.10/-11.37	-13.96/-15.82	-15.64/-14.15	-12.66/-12.92	-13.02/-10.70	-10.34/-13.88	-15.21/-13.90	-12.07/-13.15	-15.60/-10.77	-6.91/-5.86	-5.90/-7.09	-10.93/-13.35	-11.48/-11.71	-13.19/-13.38	-15.60/-15.54	-13.77/-13.59	-14.49/-15.13	-12.13/-9.39	-11.62/-14.28	-11.65/-11.44	-13.84/-13.03	-10.80/-9.66
Θ (165°)	-14.43/-14.45	-14.82/-15.27	-12.78/-10.67	-9.47/-9.29	-9.22/-9.57	-10.72/-10.92	-11.40/-11.91	-12.85/-14.81	-15.67/-15.33	-14.08/-12.80	-13.67/-15.65	-15.10/-15.70	-14.98/-13.97	-11.67/-10.99	-13.13/-13.81	-12.55/-11.46	-10.88/-11.43	-11.92/-13.43	-15.82/-14.25	-11.77/-10.97	-13.54/-15.13	-15.63/-14.12	-13.68/-14.14	-15.51/-15.90
Θ (172.5°)	-12.44/-13.39	-12.42/-12.79	-14.07/-15.48	-15.68/-14.82	-15.40/-15.31	-14.72/-14.02	-13.43/-14.12	-14.88/-15.30	-15.80/-15.61	-15.58/-15.22	-14.48/-13.76	-13.59/-13.58	-14.77/-15.49	-15.21/-15.80	-15.48/-15.98	-15.25/-15.49	-15.07/-14.90	-12.25/-11.23	-10.32/-9.99	-10.33/-13.29	-14.75/-14.62	-13.50/-12.94	-13.61/-13.67	-14.19/-12.80
Θ (180°)	-13.71/-13.77	-12.97/-12.31	-13.74/-14.33	-14.06/-13.62	-12.79/-12.07	-11.91/-12.17	-12.89/-13.09	-13.42/-12.80	-12.05/-11.63	-10.93/-10.52	-10.46/-10.02	-10.09/-10.32	-10.04/-9.68	-9.90/-10.27	-10.52/-10.85	-11.55/-11.15	-10.56/-10.44	-11.33/-12.46	-13.20/-14.33	-13.97/-14.74	-14.95/-15.39	-13.52/-12.75	-11.66/-10.64	-11.40/-12.59
Freq(Hz)	5.785GPol.	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°)	-8.61/-7.88	-7.56/-7.26	-6.28/-6.16	-6.67/-6.93	-6.59/-6.10	-6.07/-6.34	-6.40/-6.29	-6.20/-5.83	-5.21/-4.98	-4.73/-4.35	-3.66/-3.68	-3.93/-4.05	-3.76/-3.70	-3.57/-3.20	-3.21/-3.33	-3.95/-2.93	-3.43/-4.30	-4.95/-4.90	-4.44/-6.27	-6.68/-7.05	-7.36/-7.13	-6.90/-6.26	-6.22/-5.70	-5.23/-5.75
Θ(7.5°)	-0.69/-0.31	-0.06/-0.39	-0.66/-0.78	-1.02/-1.44	-2.09/-3.22	-4.62/-5.66	-6.32/-7.36	-8.05/-8.60	-8.44/-8.13	-7.89/-8.59	-8.72/-7.97	-7.69/-7.97	-7.46/-6.79	-6.47/-6.26	-6.30/-5.95	-5.04/-4.43	-4.36/-4.18	-3.92/-3.57	-3.08/-2.92	-2.46/-1.91	-1.67/-1.69	-1.49/-1.11	-0.81/-0.72	-0.71/-0.56
Θ(15°)	1.44/-1.89	2.27/-2.80	3.06/-3.29	3.28/-3.15	2.80/-2.20	1.31/-0.09	-1.43/-2.89	-3.09/-2.22	-1.13/-0.17	0.54/0.65	0.37/-0.29	-1.46/-1.92	-1.60/-1.24	-0.66/-0.41	-0.49/-0.33	0.02/0.28	0.44/0.84	1.08/1.01	0.59/-0.13	-0.64/-0.99	-1.46/-2.35	-3.25/-3.12	-2.26/-1.29	-0.30/0.75
Θ(22.5°)	-3.41/-3.04	-2.11/-1.63	-0.68/0.56	1.00/1.32	1.60/1.31	0.35/-1.08	-2.16/-2.12	-1.24/0.01	0.60/0.77	0.75/0.18	-0.99/-3.52	-6.51/-6.46	-4.50/-3.28	-2.76/-2.23	-1.11/-0.22	0.61/1.28	1.87/2.60	3.10/3.61	3.81/3.27	2.25/1.32	0.90/0.47	-0.40/-2.06	-5.09/-7.59	-6.34/-4.08
Θ(30°)	-3.08/-1.19	0.38/1.59	2.13/2.71	2.65/2.32	1.65/0.91	0.44/-0.36	-2.63/-4.38	-2.84/-1.83	-2.23/-2.96	-3.52/-4.25	-5.68/-7.14	-8.82/-8.03	-4.44/-2.14	-1.35/-0.64	0.67/1.96	3.15/3.82	3.24/1.97	1.76/3.18	4.20/4.13	3.34/3.19	4.26/4.90	4.45/3.18	0.90/-1.71	-4.06/-4.84
Θ(37.5°)	-1.00/1.00	2.12/-2.90	2.79/2.77	2.17/1.13	0.45/0.67	1.74/1.46	0.15/0.42	0.13/-1.92	-4.65/-4.97	-4.10/-4.50	-5.20/-5.32	-6.18/-5.14	-2.62/-1.68	-1.44/-0.80	1.69/3.31	4.16/4.32	4.22/3.28	1.08/1.12	2.45/1.59	-1.03/0.90	3.93/4.86	4.15/3.51	2.79/1.21	-1.52/-2.21
Θ(45°)	-2.25/-1.74	-2.42/-1.14	-0.120.91	1.73/1.35	0.26/0.64	2.28/3.57	2.69/1.70	2.47/1.76	-0.31/-1.38	-0.58/0.02	-0.41/-2.39	-4.47/-2.68	-2.14/-3.62	-4.64/-3.45	-0.09/1.01	1.05/1.43	2.30/2.95	1.77/-0.04	1.26/0.58	-2.59/-0.43	1.30/1.28	1.61/2.78	4.00/3.02	-0.61/-3.13
Θ(52.5°)	-4.45/-5.73	-6.66/-4.37	-4.04/-4.71	-1.22/-0.04	0.60/1.41	1.62/3.12	2.49/-0.01	1.60/3.28	1.27/-0.02	1.14/0.65	-1.55/-2.15	-0.66/-0.17	-1.00/-1.77	-1.97/-2.37	-0.98/0.23	1.33/1.94	2.25/2.10	2.31/1.37	-0.47/-1.98	-4.02/-1.58	-1.08/-0.37	1.60/1.68	1.54/0.78	-2.24/-3.67
Θ(60°)	-2.21/-2.80	-5.16/-2.12	-1.33/-5.41	-7.14/-4.21	-0.68/0.69	0.11/-0.91	0.90/-1.37	0.07/4.37	3.53/0.81	1.39/0.03	-2.88/-1.63	0.83/1.27	0.20/-0.59	-1.29/-4.18	-6.48/-3.30	-2.04/-0.16	0.60/0.20	0.31/1.48	0.12/-3.87	-1.74/-3.04	-2.60/-0.37	0.10/-2.71	-3.76/-2.29	-1.41/-0.85
Θ(67.5°)	-1.43/-2.98	-6.88/-1.00	0.34/-1.15	-4.31/-7.06	-5.01/-0.45	-0.56/-8.29	-0.15/-2.40	-3.08/4.02	2.81/0.13	1.68/-2.10	-6.54/-0.60	1.41/0.14	-2.97/-2.64	-2.31/-1.47	-4.15/-3.99	-2.60/-0.79	-0.45/0.26	0.64/1.37	1.40/-1.39	-1.40/-1.06	-2.13/-0.16	-2.89/-4.08	-2.30/-2.59	-3.77/-2.72
Θ(75°)	-5.58/-7.98	-11.62/-2.92	-1.44/-1.87	-4.07/-5.21	-7.08/-1.34	0.48/-5.90	-0.65/-0.58	-8.66/-3.06	2.19/-0.18	1.93/-1.11	-10.31/-3.01	-1.02/-2.08	-4.74/-5.34	-1.36/0.26	-1.03/-3.86	-7.00/-3.08	-1.18/0.40	-0.25/0.64	2.56/0.88	0.08/0.34	-4.28/-0.74	-5.50/-0.21	-0.22/-3.06	-6.25/-3.40
Θ(82.5°)	-7.14/-6.09	-8.76/-4.65	-2.29/-3.18	-2.20/-3.96	-10.75/-2.44	-0.20/-5.82	-0.87/-0.31	-10.31/0.97	-0.32/-1.35	1.73/-3.66	-10.22/-2.61	-4.62/-2.93	-5.71/-7.72	-4.20/-0.42	-2.71/-7.50	-10.39/-2.34	-0.90/0.04	-0.89/-1.14	3.31/1.04	2.56/0.44	-5.95/-1.80	-6.06/0.29	-0.87/-5.67	-10.30/-5.12
Θ(90°)	-6.26/-4.90	-7.37/-8.08	-4.07/-4.44	-3.56/-3.27	-8.04/-3.67	-1.00/-6.92	-4.23/-1.65	-11.29/-1.04	-1.28/-3.08	0.52/-3.24	-10.34/-5.19	-6.52/-7.24	-6.51/-11.96	-5.43/-3.22	-4.56/-7.28	-14.88/-1.44	-0.73/-0.35	-0.26/-5.98	2.81/1.23	2.42/0.29	-5.33/-2.47	-3.92/0.57	-1.74/-6.92	-9.67/-3.46
Θ(97.5°)	-9.91/-6.76	-8.78/-9.07	-6.38/-8.02	-6.16/-6.86	-6.46/-2.97	-3.98/-11.11	-7.42/-4.22	-10.93/-2.10	-4.16/-3.76	0.44/-5.19	-8.61/-7.00	-5.34/-9.32	-6.38/-9.62	-5.86/-4.79	-8.87/-5.19	-16.06/-3.83	-3.05/-1.38	0.09/-4.21	2.08/0.52	-0.69/-2.94	-5.23/-3.95	-4.53/-3.02	-4.60/-8.24	-6.78/-4.71
Θ(105°)	-10.08/-7.29	-7.39/-9.69	-9.14/-6.02	-6.09/-13.99	-10.67/-7.04	-4.77/-9.08	-12.01/-7.92	-11.78/-5.93	-5.57/-5.31	-1.22/-4.35	-9.05/-6.76	-5.38/-8.43	-11.67/-8.46	-4.30/-5.65	-11.57/-9.95	-10.63/-5.51	-10.14/-5.95	-2.22/-6.66	-0.75/-1.24	-4.95/-7.99	-9.12/-5.45	-4.37/-4.91	-4.94/-7.61	-7.72/-7.94
Θ(112.5°)	-13.17/-10.34	-10.64/-7.65	-7.79/-6.51	-7.91/-8.69	-10.74/-10.59	-5.94/-8.58	-6.25/-7.15	-12.42/-7.48	-10.27/-6.79	-3.43/-4.44	-9.77/-8.26	-5.90/-10.80	-10.97/-6.92	-6.85/-10.91	-14.59/-14.61	-9.24/-3.46	-9.18/-15.65	-8.44/-12.41	-4.56/-5.80	-7.28/-13.48	-11.28/-8.55	-9.53/-9.45	-9.32/-14.75	-5.71/-5.78
Θ(120°)	-7.15/-9.14	-9.11/-10.71	-9.32/-8.00	-11.98/-12.05	-11.22/-6.43	-5.39/-10.91	-6.58/-5.38	-11.96/-8.63	-7.53/-10.06	-4.42/-6.56	-11.76/-13.94	-8.46/-10.29	-9.03/-11.28	-5.90/-9.29	-7.34/-11.36	-7.01/-4.35	-12.17/-14.80	-10.07/-10.43	-3.32/-6.41	-5.76/-7.27	-12.5			

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 $\Theta(0-180)\Phi(270)$

