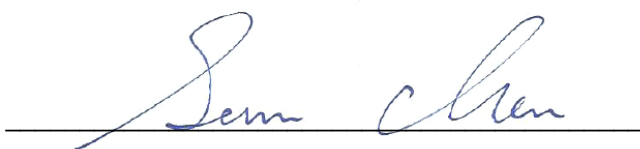


Antenna Composite Gain Test Report

FCC ID	2AHKM-ARIA2513
Equipment	ARIA2513 4x4 11ax wifi router
Brand Name	Hitron
Model Name	ARIA2513/OS2513
Applicant	Hitron Technologies Inc. No. 1-8, Li-Hsin 1st Rd. Hsinchu Science Park, Hsinchu 30078, Taiwan
Manufacturer	Hitron Technologies Inc. No. 1-8, Li-Hsin 1st Rd. Hsinchu Science Park, Hsinchu 30078, Taiwan
Sample Received	May 16, 2022
Start Test Date	Jun. 01, 2022
Final Test Date	Jun. 01, 2022



Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory

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



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History of this test report

[illegible]

1. Operation Mode and Antenna Information

Antenna Position	RF Port	Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
Ant1	1	PSA	RFPCA311513IMLB701	PCB	I-PEX	2.4GHz, 5GHz UNII 1~3
Ant2	4	PSA	RFPCA311513IMLB701	PCB	I-PEX	2.4GHz, 5GHz UNII 1~3
Ant3	3	PSA	RFPCA311513IMLB701	PCB	I-PEX	2.4GHz, 5GHz UNII 1~3
Ant4	2	PSA	RFPCA311513IMLB701	PCB	I-PEX	2.4GHz, 5GHz UNII 1~3

Note:

2.4GHz and 5GHz Operation Mode (4TX/4RX)

Ant1~4 can be used as transmitting/receiving antenna.

Ant1~4 could transmit/receive simultaneously.

2. Table for Multiple Listing

The model names in the following table are all refer to the identical product.

Model Name	Description
ARIA2513	All the models are identical, the difference model served as marketing strategy.
OS2513	

Note 1: From the above models, model: ARIA2513 was selected as representative model for the test and its data was recorded in this report.

Note 2: 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	Rex Liao	22-23 / 50-55	Jun. 01, 2022

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

5. Test Facility and Configuration

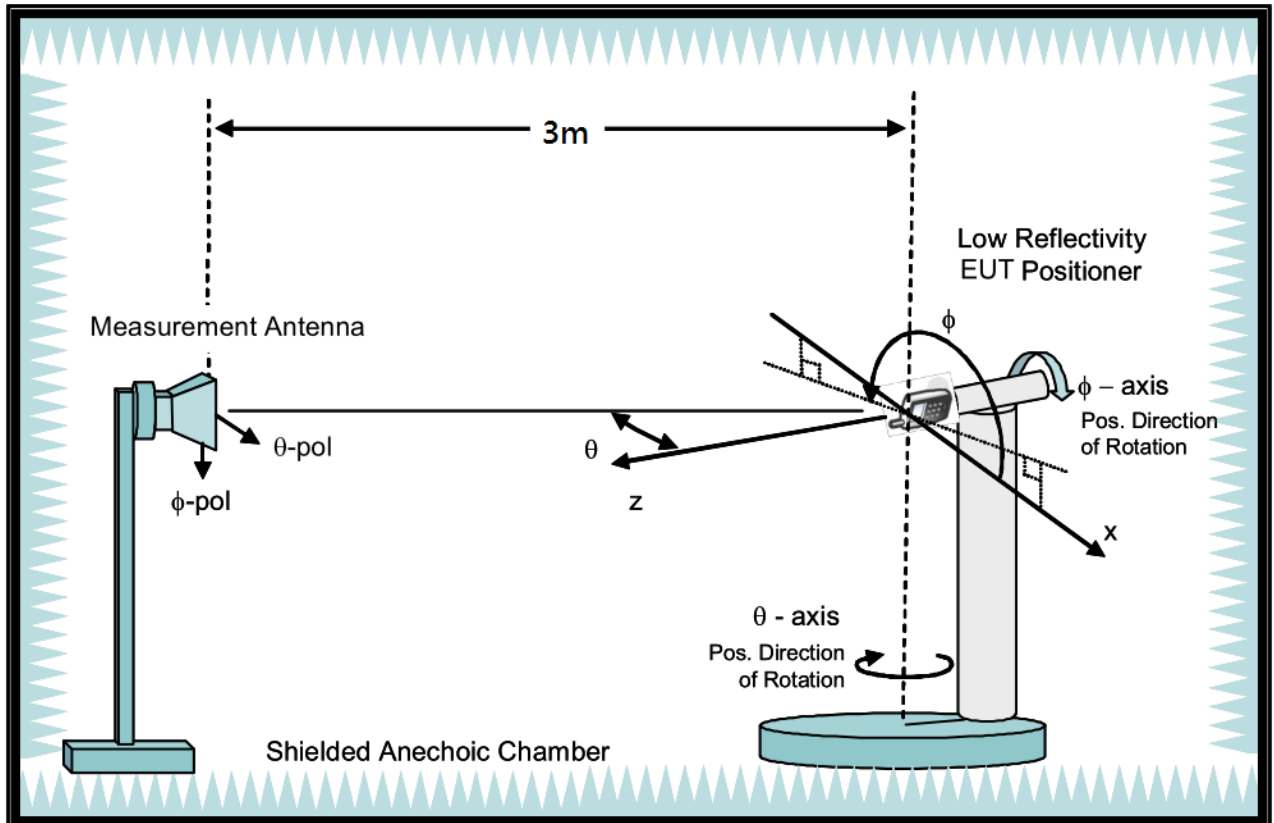
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

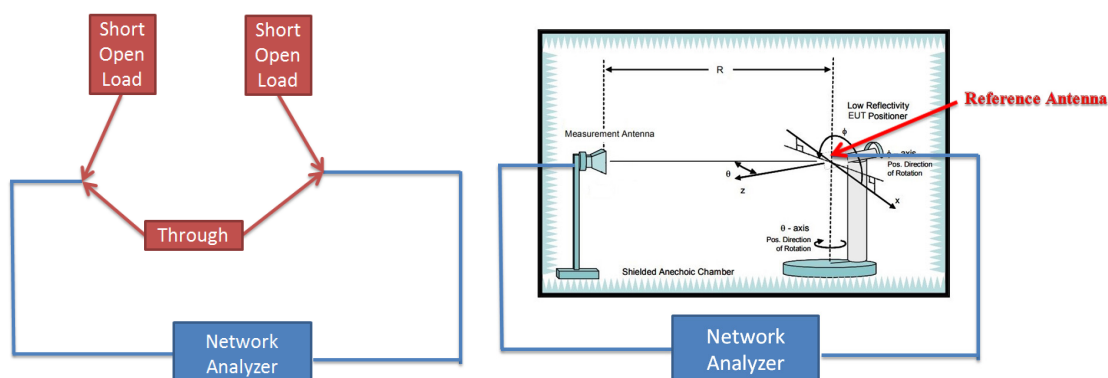
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



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	7500
G reading (dB)	-31.4	-31.4	-31.3	-31.3	-31	-30.7	-30.1	-30.5	-30.5	-30.8	-31.3	-32.8	-34.4	-35.4
Reference gain (dBi)	10.2	10.4	10.6	12.4	12.8	13.4	13.4	13.3	13.3	13.1	13.2	12.3	11.7	11.1
Factor (dB)	41.34	41.55	41.68	43.24	43.56	43.68	43.79	43.91	43.99	44.43	44.49	45.24	46.12	46.31

Note:

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

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

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

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

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 10 degree from 0 to 350 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)	-1.07	-0.19	-0.64	0.75	-3.76
Ant. 2 (dBi)	-3.07	-5.73	-2.24	-4.88	-2.26
Ant. 3 (dBi)	-10.07	-0.63	-7.34	-6.77	2
Ant. 4 (dBi)	1.95	-2.72	0.87	0.41	-6.47
DG [1SS] (dBi)	3.95	3.96	4.18	3.99	3.95
Polarization	Theta	Theta	Theta	Theta	Theta
$\Theta(^{\circ})$	70	100	100	90	80
$\Phi(^{\circ})$	290	240	280	280	180

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 [$10^{(G/20)}$]	$10^{(-1.07/20)}$	$10^{(-0.19/20)}$	$10^{(-0.64/20)}$	$10^{(0.75/20)}$	$10^{(-3.76/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(-3.07/20)}$	$10^{(-5.73/20)}$	$10^{(-2.24/20)}$	$10^{(-4.88/20)}$	$10^{(-2.26/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(-10.07/20)}$	$10^{(-0.63/20)}$	$10^{(-7.34/20)}$	$10^{(-6.77/20)}$	$10^{(2/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(1.95/20)}$	$10^{(-2.72/20)}$	$10^{(0.87/20)}$	$10^{(0.41/20)}$	$10^{(-6.47/20)}$
Ant. 1 [$10^{(G/20)}$] value	0.884	0.978	0.929	1.09	0.649
Ant. 2 [$10^{(G/20)}$] value	0.702	0.517	0.773	0.57	0.771
Ant. 3 [$10^{(G/20)}$] value	0.314	0.93	0.43	0.459	1.259
Ant. 4 [$10^{(G/20)}$] value	1.252	0.731	1.105	1.048	0.475
Sum All Antenna [Amax]	3.152	3.157	3.237	3.167	3.153
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	3.95	3.96	4.18	3.99	3.95

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

Frequency (Hz)	2.45G
Ant. 1 Max Gain (dBi)	2.33
Ant. 2 Max Gain (dBi)	3.59
Ant. 3 Max Gain (dBi)	2.52
Ant. 4 Max Gain (dBi)	2.58
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/50/240
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/150/290
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/30/280
Max Gain (dBi)	3.59
DG [1SS] (dBi)	3.95
DG [2SS] (dBi)	3.59
DG [4SS] (dBi)	3.59

Note:

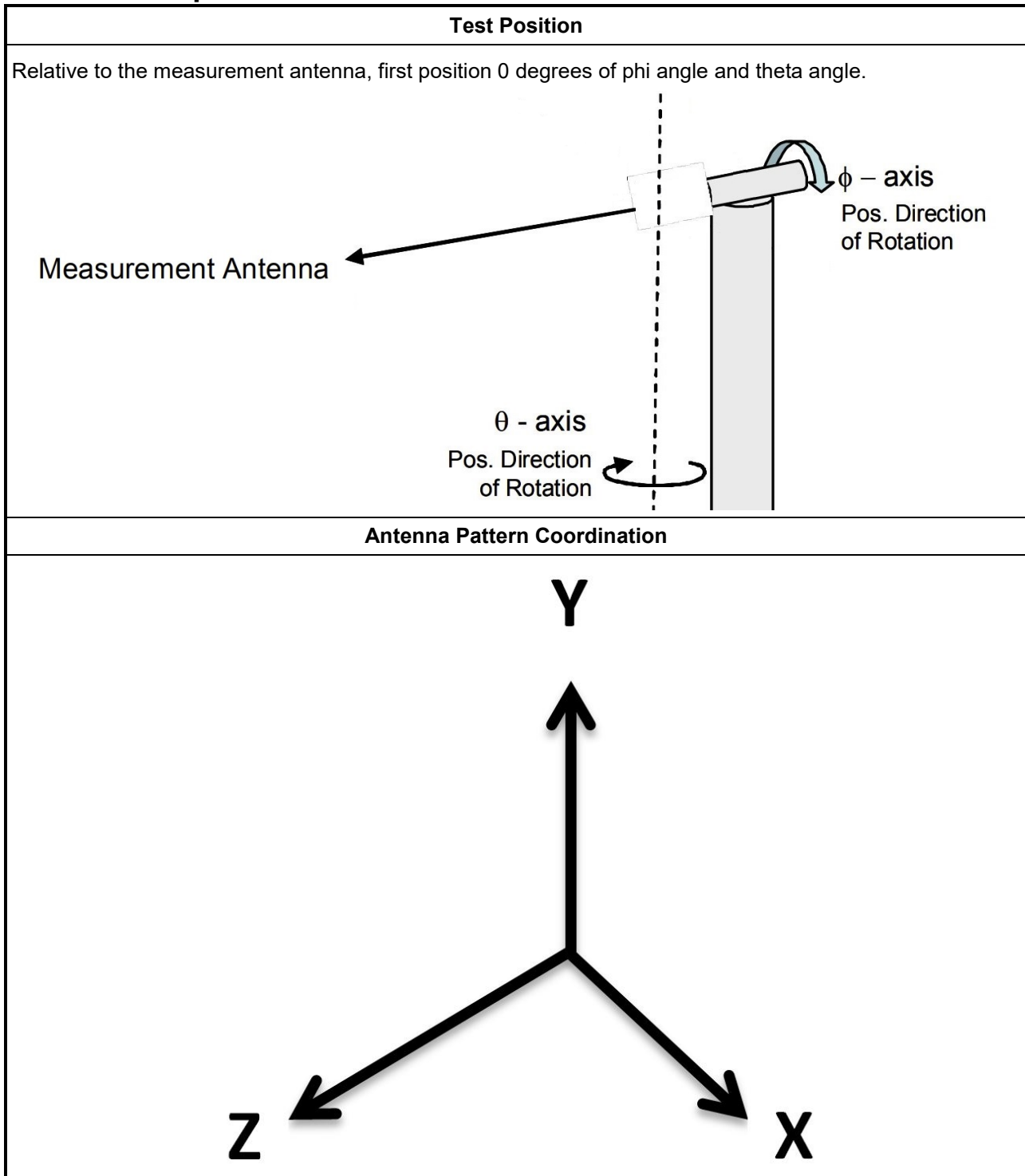
1. Antenna max gain is the max value of each individual antenna through all measurement angles.
2. The max gain is the max value of all antennas.
3. Directional Gain (2SS) = Directional Gain (1SS) – 3dB. If directional gain is less than max gain, use max gain as directional gain.
4. Directional Gain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

Frequency (Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.59	2.18	2.68	2.17
Ant. 2 Max Gain (dBi)	2.25	2.84	2.78	2.8
Ant. 3 Max Gain (dBi)	2.65	2.72	2.43	2.57
Ant. 4 Max Gain (dBi)	2.61	3.31	2.32	2.67
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/90/260	Theta/90/240	Theta/90/260	Theta/40/290
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/30/0	Theta/60/50	Phi/70/180	Theta/50/60
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/60/160	Theta/80/190	Theta/50/160	Theta/80/200
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/60/340	Theta/60/340	Theta/70/340	Theta/60/340
Max Gain (dBi)	2.65	3.31	2.78	2.8
DG [1SS] (dBi)	3.96	4.18	3.99	3.95
DG [2SS] (dBi)	2.65	3.31	2.78	2.8
DG [4SS] (dBi)	2.65	3.31	2.78	2.8

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.
4. Directional Gain (4SS) = Directional Gain (1SS) – 6dB. If directional gain is less than max gain, use max gain as directional gain.

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. 31, 2022	May. 30, 2023
Dual Polarization Horn Antenna	Sporton	S0209DP	S0209DP-001	2GHz~9GHz	N.C.R.	N.C.R.
ENA Series Network Analyzer	AGILENT	E5071C	MY46419201	100kHz~8.5GHz	Feb. 21, 2022	Feb. 20, 2023
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 of 2.4GHz, 5GHz UNII-1~UNII-4.....	Page 14
Appendix B – Antenna Pattern of 2.4GHz, 5GHz UNII-1~UNII-4.....	Page 25
Appendix C – Test Photos.....	Page 31



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Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.33	2.59	2.18	2.68	2.17
Ant. 2 Max Gain (dBi)	3.59	2.25	2.84	2.78	2.8
Ant. 3 Max Gain (dBi)	2.52	2.65	2.72	2.43	2.57
Ant. 4 Max Gain (dBi)	2.58	2.61	3.31	2.32	2.67
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/50/240	Theta/90/260	Theta/90/240	Theta/90/260	Theta/40/290
Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/150/290	Phi/30/0	Theta/60/50	Phi/70/180	Theta/50/60
Ant. 3 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/30/280	Theta/60/160	Theta/80/190	Theta/50/160	Theta/80/200
Ant. 4 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/70/300	Theta/60/340	Theta/60/340	Theta/70/340	Theta/60/340
Max Gain (dBi)	3.59	2.65	3.31	2.78	2.8
DG [1SS] (dBi)	3.95	3.96	4.18	3.99	3.95
DG [2SS] (dBi)	3.59	2.65	3.31	2.78	2.8
DG [4SS] (dBi)	3.59	2.65	3.31	2.78	2.8



DG 1SS Result

Freq(Hz)	2.45GPol.	Phil.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
DG(dB)	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)Φ(350°)
Θ(0°)	-1.46/-0.68	-0.15/0.32	0.61/1.16	0.93/0.41	0.20/3.3	0.55/0.66	0.36/0.82	0.73/0.27	-0.41/-1.28	-1.26/-0.33	0.82/1.17	0.82/1.17	0.80/0.84	0.91/1	0.43/0.68	0.91/1	0.85/0.64	0.09/-0.84
Θ(10°)	-0.24/0.18	0.55/0.93	0.67/0.63	0.3/-0.2	-0.45/-0.13	0.12/0.25	0.16/0.17	0.04/0.23	-0.68/-1.25	-1.16/-0.14	0.53/1.04	1.42/1.53	1.81/1.42	1.07/1.03	1.18/1.54	1.66/1.31	1.07/0.95	0.24/-0.13
Θ(20°)	1.03/1.33	1.69/1.59	1.12/0.47	-0.41/-0.99	-0.65/-0.09	0.25/0.08	-0.17/-0.36	-0.27/-0.16	-0.06/-0.11	0.02/0.73	1.42/1.77	1.86/2.1	1.92/1.56	1.21/1.34	1.73/2.13	2.29/2.14	1.99/1.62	1.27/1.12
Θ(30°)	0.05/0.61	1.56/1.74	1.50/2.1	-1.24/-1.46	-0.49/0.24	0.86/0.93	0.54/0.03	0.03/0.33	0.28/0.09	0.09/0.83	1.54/1.05	2.24/2.24	1.66/1.33	0.89/1.51	2.36/2.58	2.57/2.2	1.61/0.85	0.23/-0.21
Θ(40°)	-2.31/-1.25	-0.32/0.51	0.70/4	-0.67/-1.14	-0.41/0.49	1.02/1.07	0.59/-0.19	-0.43/-0.66	-1.16/-2.13	-2.11/-1.08	-0.20/4	1.17/1.64	1.79/1.35	1.29/1.31	1.45/1.41	0.78/0.58	-0.29/-1.67	-2.04/-2.61
Θ(50°)	-0.70/-6	1.04/1.18	1.23/0.91	0.77/0.17	-0.06/0.22	0.68/1.08	1.32/1.5	1.5/1.06	0.3/-0.55	-0.19/0.56	0.53/0.72	1.07/1.52	1.61/1.32	1.09/0.57	0.56/0.71	1.01/0.41	-0.17/-0.83	-0.86/-0.86
Θ(60°)	-2.12/-0.9	0.81/1.49	1.59/1.36	1.19/0.87	1.19/0.87	0.31/0.23	0.18/0.88	0.86/0.8	-0.89/-2.27	-3.24/-3.06	1.49/0.67	0.42/1.37	1.46/1.47	1.91/1.54	0.42/1.37	1.91/1.54	0.31/-0.35	-1.11/-1.63
Θ(70°)	0.43/1.25	2.32/2.37	1.95/1.67	1.35/0.73	-0.15/-0.85	-0.47/0.03	0.07/-0.23	-0.88/-0.77	-0.43/-0.47	-0.62/-0.34	0.31/1.52	2.24/2.62	2.27/1.34	0.77/0.22	1.08/2.03	2.32/1.77	0.90/35	0.39/0.2
Θ(80°)	-0.83/-0.2	0.44/0.91	0.23/0.36	0.76/0.79	-0.43/-1.42	-1.93/-0.97	0.36/1.06	0.74/-0.21	-1.2/-1.68	-1.52/-0.56	0.79/1.83	2.43/2.49	2.29/1.64	0.53/0.64	1.55/2.16	1.99/1.88	1.65/0.68	-0.37/-1.28
Θ(90°)	-0.58/-0.12	1.33/1.16	0.14/-1.14	-2.19/-1.47	-1.28/-0.77	0.28/1.37	2.06/2.24	1.66/0.99	0.11/-1.01	-1.54/-1.17	-0.26/0.69	1.21/1.17	0.75/1	0.69/0.76	1.86/2.75	2.64/1.98	0.82/-0.1	-1.29/-1.1
Θ(100°)	-1.08/0.04	0.74/0.9	0.15/-0.49	-0.62/-0.74	-1.11/-1.12	0.32/1.12	1.5/1.16	0.37/0.02	-0.04/-0.55	-1.43/-1.19	0.13/1.35	1.71/1.79	1.57/0.99	0.36/-0.1	0.21/1.58	1.87/0.84	-0.9/-2.9	-3.48/-2.27
Θ(110°)	-2.34/-1.38	-0.50/-17	0.01/-0.7	-0.9/-0.93	-1.03/-1.56	-1.74/-1.13	-0.74/-0.57	-0.4/-0.02	0.54/-0.09	-0.78/-0.64	-0.48/-0.03	0.57/1.1	0.81/-0.03	-0.38/-0.78	-0.98/0.61	1.01/0	-1.28/-1.6	-2.08/-2.2
Θ(120°)	-1.98/-2.18	-1.83/-0.85	0.13/0.1	-1.27/-3.67	-4.26/-3.03	-1.85/-0.75	-0.5/-0.77	-1.95/-1.86	0.04/-0.3	-2.32/-3.35	-3.09/-2.48	-1.47/-1.16	-0.37/-1.38	-0.89/1.4	2.29/1.06	-1.46/-3.72	-3.01/-2.08	
Θ(130°)	-1.29/-1.36	-2.11/-1.56	-1.68/-1.86	-2.57/-3.44	-2.31/-1.44	-1.7/-2.12	-2/-2.44	-2.15/-0.5	-0.08/-0.93	-1.35/-0.39	0.48/0.37	-0.21/-1.13	-2.12/-3.09	-4.26/-3.85	-1.48/0.72	1.66/0.35	-1.68/-5.65	-5.65/-3.1
Θ(140°)	-4.28/-2.65	-3.07/-3.56	-4.38/-3.29	-2.33/-2	-2.48/-3.63	-3.84/-2.75	-1.84/-1.67	-2.1/-2.47	-3.61/-4.6	-4.07/-2.47	-1.53/-1.69	-1.39/-1.51	-1.71/-3.25	-5.06/-6.27	-4.58/-2.06	-1/-1.3	-2.47/-4.29	-6.64/-6.37
Θ(150°)	-3.31/-1.78	-0.93/-0.15	-0.92/0.98	-1.48/-1.95	-3.1/-3.97	-3.64/-3.33	-3.07/-3.17	-3.92/-4.2	-4.3/-4.02	-2.9/-1.86	-0.85/-0.38	-0.39/-0.87	-2.37/-4.1	-5.04/-5.02	-3.7/-2.08	-1.32/-1.32	-1.95/-3.48	-4.08/-4.32
Θ(160°)	0.19/0.59	0.53/0.15	-0.46/-1.71	-3.49/-5.25	-5.36/-5	-4.54/-4.56	-4.49/-3.99	-3.17/-2.36	-1.57/-0.86	-4.40/-5.15	-6.9/-7.26	-4.33/-2.35	-4.35/-5.94	-6.38/-4.87	-4.37/-3.23	-2.59/-1.95	-1.05/-0.39	
Θ(170°)	-2.44/-2.06	-2.22/-3.08	-4.44/-6.55	-8.74/-8.14	-7.63/-7.54	-7.72/-7.57	-7.38/-5.93	-4.92/-3.93	-3.25/-2.7	-2.28/-2.12	-2.11/-2.88	-4.24/-6.08	-8.6/-10.45	-11.75/-10.93	-10.72/-9.64	-7.47/-6.93	-5.75/-4.93	-4.36/-3.05
Θ(180°)	-5.09/-4.81	-4.93/-5.58	-6.09/-6.36	-6.4/-6.72	-7.88/-9.14	-10.05/-10.35	-10.66/-10.57	-10.1/-9.96	-9.69/-9.45	-8.46/-7.44	-7.2/-7.28	-7.37/-7.45	-8.73/-9.98	-10.47/-11.09	-10.83/-9.83	-8.83/-8.34	-7.97/-6.92	-5.86/-5.33
Freq(Hz)	2.45GPol.	Thetal.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)Φ(350°)
Θ(0°)	-0.44/0.48	0.91/1.32	1.27/1.02	0.22/-0.59	-1.36/-1.13	-0.26/0.39	0.35/0.98	0.90/0.58	0.04/-0.3	-0.38/0.12	-1.45/-1.07	-0.23/0.6	0.14/-0.26	0.81/0.47	0.14/-0.26	0.98/-1.06		
Θ(10°)	-0.32/0.03	0.28/0.68	0.93/0.81	0.34/-0.49	-1.57/-1.73	-1.35/-0.65	-0.22/0.14	0.25/-0.29	-0.42/-0.72	-1.09/-0.98	-1.03/-0.76	-0.53/-0.9	-1.29/-1.78	-1.95/-1.6	-1.13/-0.2	0.30/0.54	0.63/0.45	0.23/-0.03
Θ(20°)	0.29/0.05	0.05/0.3	0.26/0.26	-0.05/-0.36	-1.12/-1.83	-1.68/-1.57	-0.74/-0.08	0.39/0.34	-0.27/-0.35	-0.7/-0.52	-1.29/-1.71	-1.03/-1.57	-1.93/-1.71	-1.29/-1.26	-0.89/-0.06	0.33/0.75	0.83/0.85	0.84/0.72
Θ(30°)	0.47/0.21	-0.04/-0.25	-0.01/0.15	0.04/-0.38	-0.98/-1.69	-1.99/-1.47	-0.58/0.21	0.63/0.65	0.16/-0.08	-0.28/-0.32	-0.31/-0.3	-0.65/-1.4	-1.74/-1.57	-1.47/-0.93	-0.76/-0.4	0.67/0.92	1.11/1.18	1.05/0.91
Θ(40°)	-0.59/-0.86	-0.95/-1.01	-0.95/-0.57	-0.10/0.63	1.02/0.9	0.91/0.59	0.41/0.18	0.39/0.28	-0.27/-0.76	-0.78/-0.76	-0.95/-0.73	-0.32/-0.07	-0.07/-0.44	-0.47/0.03	0.33/0.39	0.33/0.04	-0.2/-0.75	
Θ(50°)	0.3/-0.21	-0.44/-0.2	0.29/0.52	0.71/1.03	1.04/1.55	1.61/0.82	-0.15/-0.72	-0.72/-1.01	-1.53/-1.99	-1.35/-1.16	-1.2/-0.98	-0.2/0.82	1.5/1.62	1.22/0.8	0.64/0.23	-0.24/-0.43	-0/0.36	0.54/0.52
Θ(60°)	1.95/1.87	1.59/0.95	1.04/1.26	1.21/1.03	1.52/1.4	2.41/2	1.41/0.73	-0.11/-0.66	-1.22/-0.93	-0.62/-0.68	-0.74/-0.28	0.75/1.54	2.09/2.1	2.11/1.99	1.99/2	1.72/1.44	1.23/1.53	1.59/1.88
Θ(70°)	2.28/1.89	1.67/1.6	1.21/1.3	1.26/0.94	1.34/2.04	2.48/2.23	1.59/1.01	-0.32/-1.85	-2.92/-1.88	-1.35/-0.75	-0.23/0.31	1.05/1.72	2.12/2.7	3.06/3.29	3.25/3.95	3.59/2.88	1.81/1.42	1.61/1.89
Θ(80°)	2.59/2.62	1.82/1.3	0.96/1.03	0.99/0.44	0.31/1.34	2.22/2.18	1.88/1.62	-0.06/-1.51	-1.57/-0.64	-0.36/-0.15	-0.14/0.67	1.85/2.52	2.81/2.77	2.35/2.43	2.65/2.31	1.98/1.91	2.18/2.44	2.41/2.43
Θ(90°)	2.46/2.74	2.62/2.23	2.19/2.03	1.83/1.3	0.75/1.49	2.46/2.5	1.88/1.43	-0.21/-2.35	-1.91/-0.44	0.23/0.56	1.14/2.09	2.92/3.29	3.23/2.39	1.54/1.83	2.26/2.14	1.99/1.75	2.13/2.11	2.26/1.9
Θ(100°)	1.86/1.77	1.64/1.62	1.64/2.07	2.51/1.91	1.33/1.66	2.39/2.4	2.16/1.67	0.02/-0.87	-0.89/0.69	0.26/-1.1	2.19/2.74	1.91/1.88	2.52/2.13	3.27/2.98	2.9/2.5	3.27/2.98	1.81/1.81	1.81/1.81
Θ(110°)	1.39/1.3	0.55/0.1	0.49/1.61	2.11/1.56	0.70/0.76	1.86/2.65	2.95/2.3	0.93/0.63	-0.92/-2.95	-2.39/0.22	1.39/1.68	1.87/1.6	0.96/1.16	1.77/2.18	2.43/2.15	2.48/2.62	2.31/1.86	
Θ(120°)	-0.14/-0.16	-0.03/0.25	0.40/0.86	1.35/1.23	0.29/-0.9	-1.01/0.1	0.12/-0.37	-0.62/0.36	0.73/0.24	-1.41/-1.93	-0.15/0.9	0.93/1.09	1.13/0.02	-1.43/-1.08	-0.37/0.28	0.90/0.87	0.63/0.91	0.72/0.28
Θ(130°)	-0.17/-0.15	-0.68/-1.27	-1.1/-0.47	0.55/0.64	0.13/-0.99	-2.07/-1.89	-1.64/-1.07	-0.94/-1.07	-1.13/-2.18	-3.82/-3.76	-2.65/-1.88	-1.84/-0.1	0.63/0.91	0.84/0.79	1.43/2.02	1.56/1.13	0.22/-1.26	-1.34/-0.76
Θ(140°)	-1.72/-0.48	-1.74/-2.82	-1.99/-0.8	-0.02/-0.66	-0.9/-2.22	-4.44/-7.16	-6.36/-4.29	-2.21/-1.56	-1.73/-2.54	-3.28/-3.5	-3.63/-3.41	-2.56/-1.71	-0.41/0.32	0.44/0.67	0.97/0.83	0.32/0.04	-0.81/-2.13	-3.41/-3.01
Θ(150°)	-6.18/-5.83	-4.6/-3.74	-2.93/-1.9	-1.59/-1.36	-1.31/-0.79	-0.42/-0.26	-0.55/-1	-1.64/-2.59	-3.12/-3.93	-4.92/-5.57	-4.67/-2.96	-1.49/0.15	1.62/2.37	2.91/3.32	3.14/3.5	2.39/1.26	0.41/-1.58	-3.48/-4.42
Θ(160°)	-4.96/-5.47	-5.27/-4.97	-3.96/-3.04	-2.91/-2.68	-2.42/-1.71	-0.84/-0.22	-4.96/-3.48	-0.04/-0.8	-4.67/-5.32	-4.07/-4.63	-1.37/1.76	-1.21/1.76	-0.97/-0.93	0.52/0.82	1.13/1.21	0.52/0.4	-1.86/-3.4	
Θ(170°)	-5.67/-7.68	-7.68/-6.84	-5.8/-4.95	-4.25/-3.83	-3.04/-2.76	-2.81/-3.16	-2.93/-2.75	-2.93/-3.16	-3.77/-4.9	-6.44/-7.51	-7.71/-7.01	-6.66/-6.38	-6.26/-6.6	-6.56/-6.65	-4.76/-3.64	-3.37/-2.88	-2.85/-3.19	-3.93/-4.53
Θ(180°)	-9.59/-9.86	-9.14/-8.57	-7.33/-6.16	-4.77/-4.4	-3.94/-3.86	-4.04/-4.25	-4.74/-4.9	-5.22/-5.84	-6.58/-7.9	-9.38/-10.36	-10.19/-9.06	-7.63/-6.36	-5.39/-4.72	-4.24/-4.13	-4.21/-4.43	-4.87/-4.87	-5.47/-5.87	-6.78/-8.48
Freq(Hz)	5.2GPol.	Phil.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)Φ(350°)
Θ(0°)	-1.28/-0.39	0.94/1.91	2.06/1.87	1.27/0.64	0.06/0.08	0.86/1.53	1.85/1.92	1.76/1.35	0.74/-0.49	-0.96/-0.41	1.07/1.76	1.82/1.55	1.31/0.73	0.33/0.13	0.41/1.37	1.69/1.51	1.29/0.72	0.13/-0.86
Θ(10°)	-0.01/0.79	1.41/1.5	1.78/1.53	1.06/0.62	0.13/-0.56	-0.18/0.32	1.02/1.51	1.54/1.01	-0.17/-0.56	-0.18/0.32	1.78/2.08	2.08/1.91	1.58/1.21	0.56/1.27	1.77/1.94	1.76/1.18	0.36/-0.49	
Θ(20°)	-0.2/-0.17	0.52/1.28	1.16/0.66	-0/-0.4	-1.3/-1.2	-0.66/0.12	0.6/1.15	1.42/1.42	1.06/0.38	0.28/1.21	2.14/2.32	2.15/1.85	1.54/1.04	0.20/0.24	0.72/1.44	1.71/1.63	1.25/0.96	0.25/-0.45
Θ(30°)	0.56/0.01	0.52/0.73	0.66/0.57	0.37/-0.5	-1.43/-1.24	-1.05/-0.54	0.11/0.51	0.75/0.54	-0.18/-0.92	-0.68/-0.11	0.61/1.59	2.56/2.61	1.85/0.27	-0.31/-0.03	0.9			



Radiated Composite Gain Data

Appendix A

Θ(60°)	1.18/1.03	1.28/2.22	2.61/3.3	2.41/1.24	1.53/1.91	2.08/1.36	0.94/0.59	0.98/2.17	2.51/1.93	0.79/0.03	1.32/1.97	2.17/1.4	0.92/-0.77	-0.24/0.37	0.31/0.61	0.53/0.52	1.64/2.27	2.46/1.88
Θ(70°)	2.75/2.51	1.85/1.96	2.05/2.35	3.04/2.83	2.77/2.35	2.58/2.7	1.86/0.21	1.03/2.16	2.28/2.26	1.91/2.26	1.65/2.59	2.11/1.79	0.92/-1.29	0.74/1.73	2.61/1.84	0.37/1.25	1.93/2.1	2.4/2.54
Θ(80°)	3.25/2.43	2.29/2.2	1.82/1.74	2.68/2.5	2.41/1.7	2.16/2.09	2.63/1.46	1.35/2.77	3.29/3.59	2.79/3.6	3.08/2.2	2.2/2.88	2.9/0.95	1.68/2.04	3.6/3.31	2.39/1.98	2.73/1.48	2.39/3.1
Θ(90°)	4.13/2.42	2.54/3	1.44/-0.47	2.04/2.82	2.63/2.54	3.33/2.64	2.53/1.87	1.51/1.84	3.11/2.46	3.71/3.48	2.62/3.7	3.75/3.72	4.13/3.11	3/3.55	3.79/3.49	2.57/2.27	2.92/2.48	2.16/2.34
Θ(100°)	2.63/1.87	2.78/3.49	1.86/-0.11	1.16/2.55	2.89/1.79	2.83/1.58	2.12/1.96	1.64/0.38	2.55/1.87	3.6/3.77	3.22/3.68	3.96/3.46	4.07/3.57	3.85/3.81	4.18/3.95	3.01/2.27	2.26/1.22	1.38/0.68
Θ(110°)	1.66/0.75	1.68/2.64	-1.23/-1.38	1.14/1.47	0.86/0.43	1.67/1.44	1.12/0.57	1.61/-0.01	1.58/1.48	2.4/2.15	0.51/0.92	2.89/2.22	2.77/3.1	2.21/3.4	2.43/3.43	2.66/0.33	0.99/-0.98	-0.45/0.69
Θ(120°)	0.3/-0.02	-0.1/0.36	-1.71/-1.87	0.65/0.74	0.56/0.13	-0.11/0.16	-1.08/-1.03	-0.57/-0.25	0.16/-1.9	0.89/1.97	-0.31/-0.11	1.74/1.05	0.84/0.68	-0.72/0.55	-0.59/-0.16	-1.21/-2.44	-1.18/-3.95	-0.86/-1.13
Θ(130°)	-0.93/-3.33	-1.2/-2.38	-1.34/-2.39	-1.33/-0.66	-0.55/-0.76	-0.69/-1.56	-1.89/-2.13	-1.72/-1.12	-0.96/-2.67	-0.32/0.52	-2.66/-1.15	1.1/0.3	0.29/-0.12	-0.57/0.2	0.29/-4.43	-1.52/-2.19	-2.35/-0.94	-2.68/-0.9
Θ(140°)	-2.35/-2.88	-3.47/-1.58	-0.93/-1.36	-2.41/-1.92	-1.12/-1.64	-1.75/-3.05	-3.99/-3.74	-1.62/-3.29	-0.53/-0.41	-0.73/-5.36	-3.25/-0.51	-0.73/-5.36	-3.4/-0.72	-0.51/-4.86	-5.48/-4.1	-3.59/-4.79	-3.2/-3.72	
Θ(150°)	-2.15/-2.37	-3.45/-2.59	-1.79/-2.92	-4.51/-4.8	-3.46/-2.25	-1.34/-2.03	-2.98/-1.92	-1.75/-3.35	-3.12/-1.9	-1.38/-1.43	-2.82/-4.79	-6.32/-4.39	-4.82/-4.23	-4.1/-3.75	-5.13/-4.86	-6.34/-7.86	-3.92/-2.29	-2.16/-1.92
Θ(160°)	-3.16/-3.68	-3.36/-2.75	-3.07/-4.06	-5.54/-6.18	-5.22/-4.65	-5.05/-5.86	-4.96/-4	-3.72/-3.06	-2.59/-3.29	-4.81/-5.74	-6.1/-7.75	-7.83/-7.1	-7.38/-6.5	-6.01/-5.47	-4.32/-3.32	-3.43/-4.86	-5.74/-5.08	-4.32/-3.59
Θ(170°)	-7.02/-5.74	-5.3/-5.21	-6.51/-7.65	-7.12/-5.55	-4.15/-2.91	-2.44/-2.61	-2.98/2.29	-2.44/-3.06	-4.65/-6.01	-7.13/-7.79	-7.54/-6.98	-7.17/-8.48	-8.66/-7.82	-5.96/-4.77	-3.73/-3.45	-1.8/-0.96	-1/1.61	-3.51/-6.02
Θ(180°)	-8.54/-10.2	-11.13/-11.39	-9.62/-6.86	-5.46/-4.92	-4.84/-4.98	-4.55/-3.65	-2.46/-2.51	-2.34/-2.32	-2.3/-2.58	-3.83/-4.98	-6.13/-7.02	-7.34/-7.42	-6.14/-5.3	-5.04/-4.25	-3.7/-2.99	-2.96/-3.74	-4.6/-5.66	-6.37/-7.11
Freq(Hz)	5.6GPol.	Phi-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(ΘB)	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-3.82/-3.46	-2.14/-1.29	-0.57/-0.37	-0.31/-0.51	-0.46/0.02	-0/0.43	0.67/0.68	0.59/0.01	-1.22/-2.48	-4.1/-3.5	-2.22/-1.32	-0.92/-0.65	-0.51/-0.61	-0.46/-0.22	0.33/0.72	1/1.1	0.54/-0.35	-1.14/-2.73
Θ(10°)	-1.88/-1.32	-0.59/0.21	0.69/0.57	-0.35/-1.29	-1.66/-1.59	-1.41/-1.2	-0.1/0.25	0/-0.75	-1.27/-1.94	-1.95/-1.16	-0.36/-0.05	0.16/0.2	-0.3/-0.98	-1.03/-0.5	0.29/1.06	1.7/2.2	1.49/0.76	-0.18/-1.4
Θ(20°)	-0.68/-0.53	-0.13/0.6	0.55/0.1	-0.21/-0.61	-0.86/-1.02	-1.1/-0.69	-0.41/-0.52	-1.09/-1.36	-1.25/-0.65	-0.28/0.23	0.4/-0.38	-0.72/-1.02	-0.55/-0.41	0.52/1.76	2.19/1.84	1.05/0.56	-0.1/-0.8	
Θ(30°)	-1.45/-1.82	-0.86/-0.41	-0.53/-1.18	-1.48/-1.96	-1.98/-2.06	-1.36/-0.52	-0.89/-1.24	-1.21/-1.23	-0.83/-0.6	-0.24/0.12	0.71/1.13	0.6/-0.22	-0.83/-0.74	-1.82/-1.53	0.48/0.54	0.86/1.02	0.47/0.17	-0.17/-0.79
Θ(40°)	-1.1/-0.77	-0.6/-0.21	0.18/-0.15	-1.76/-3.77	-2.77/-1.48	-0.71/-0.85	-1.24/-0.37	-0.01/0.37	-0.38/-1.09	-0.74/0.1	0.84/1.07	0.68/0.11	-0.41/-0.86	-1.27/-2.03	-0.58/0.59	0.28/0.32	0.61/0.53	0.29/-0.52
Θ(50°)	0.79/0.76	1.54/1.6	1.36/0.54	-0.69/-0.57	-0.72/-2.08	-1.29/-1.11	0.44/0.61	0.16/-0.29	0.24/0.95	-1.39/-1.18	0.65/-3.51	-6.83/-5.42	-6.67/-4.7	-5.26/-6.78	-6.93/-6.5			
Θ(60°)	-0.84/-0.26	-0.40/0.58	1.06/0.45	0.2/-0.35	-0.4/-1.01	-1.11/-2.54	-2.54/-0.4	1.28/1.14	-0.38/-0.52	-0.58/0.06	-0.25/-0.31	-1.32/-3.13	-3.35/-2.64	-1.62/-1.81	-1.79/-1.16	-1.06/0.02	1.93/1.91	0.86/-0.34
Θ(70°)	-0.83/-0.36	-0.68/0.38	0.97/0.39	-0.67/0.2	0.31/-0.56	-1.51/-3.45	-2.81/-0.7	0.64/0.79	0.1/-0.42	0.68/0.4	0.62/0.86	-1.39/-2.53	-3.34/-2.6	-1.55/-1.89	-0.25/-0.62	-1.99/-0.53	1.57/1.69	-0.09/-0.83
Θ(80°)	-1.4/-1.57	-2.98/-3.24	-1.35/-0.84	-0.5/-0.97	-1.12/-0.83	-0.9/-1.98	-1.38/-2.27	-1.02/-0.68	-2.01/-1.79	-1.22/-0.68	-2.01/-1.79	-1.22/-0.68	-2.01/-1.79	-1.22/-0.68	-2.01/-1.79	-1.22/-0.68	-2.01/-1.79	-1.22/-0.68
Θ(90°)	-1.51/-3.18	-4.51/-6.3	-4.6/-3.12	-2.84/-3.33	-1.23/-0.47	-0.64/-2.39	-3.11/-5.4	-3.23/-1.71	-1.76/-2.05	-1.34/-1.73	-3.05/-3.04	-0.58/-2.55	-4.54/-4.98	-2.52/-2.08	0.26/-0.16	-1.66/-2.32	-1.48/-4.54	-5.05/-3.5
Θ(100°)	-1.68/-3.38	-3.15/-4.1	-7.46/-6.82	-4.31/-3.92	-1.87/-0.81	-3.05/-4.69	-4.55/-4.69	-3.54/-2.67	-3.58/-1.36	-0.45/-1.21	-3.86/-3.68	-2.52/-3.39	-4.14/-4.85	-5.48/-3.2	-1.93/-2.46	-2.99/-3.55	-4.03/-4.51	-5.71/-3.93
Θ(110°)	-5.81/-5.7	-4.45/-6.01	-6.32/-6.1	-6.17/-3.33	-5.48/-5.02	-7.05/-6.24	-6.31/-3.31	-2.55/-4.29	-6.88/-5.42	-6.67/-4.7	-5.26/-6.78	-6.93/-6.5						
Θ(120°)	-5.87/-3.08	-3.91/-3.52	-4.65/-6.94	-8.1/-6.42	-6.64/-8.67	-5.91/-8.08	-5.64/-5.42	-2.78/-3.31	-4.59/-4.57	-4.97/-1.04	-2.32/-3.91	-3.34/-4.65	-4.17/-8.4	-11.24/-8.33	-6.43/-4.78	-6.49/-5.53	-4.32/-5.43	-4.99/-3.38
Θ(130°)	-5.34/-5.7	-5.13/-3.03	-4.13/-2.82	-2.47/-2.27	-1.89/-0.37	-4.5/-6.34	-2.75/-2.45	-2.38/-2.36	-3.03/-3.74	-3.66/-4.11	-4.11/-6.76	-5.32/-3.76	-2.17/-2.89	-4.84/-4.27	-2.63/-5.64	-3.49/-3.15	-1.67/-3	-5.17/-6.2
Θ(140°)	-1.88/-5.9	-6.61/-7.07	-5.83/-5.9	-4.78/-3.91	-2.55/-4.19	-6.34/-5.23	-6.29/-5.05	-3.19/-2.56	-1.5/-3.84	0.58/-1.26	-3.17/-3.37	-6.03/-1.96	-3.83/-5.12	-5.12/-3.68	-0.99/-4.96	-3.55/-4.19	-7.18/-6.74	-5.07/-2.63
Θ(150°)	-8.79/-8.51	-6.37/-5.86	-5.94/-5.6	-5.11/-5.6	-7.1/-7.93	-6.22/-4.92	-6.42/-7.76	-5.94/-4.5	-4.5/-3.2	-4.07/-5.21	-4.17/-4.15	-5.29/-4.02	-6.15/-7.74	-7.88/-5.87	-3.07/-2.95	-6.15/-7.74	-8.88/-5.89	-3.98/-5.64
Θ(160°)	-9.59/-10.82	-9.17/-7.21	-5.55/-4.97	-5.82/-7.32	-8.1/-7.9	-8.33/-8.26	-7.71/-6.06	-4.46/-3.99	-3.72/-3.04	-3.38/-4.88	-6.33/-8.15	-8.31/-6.42	-5.61/-7.17	-8.55/-8.53	-8.78/-8.32	-8.26/-8.16	-7.43/-6.03	-6.51/-7.83
Θ(170°)	-7.47/-7.77	-6.99/-5.94	-5.28/-4.94	-5.02/-5.54	-7.52/-8.89	-8.06/-7.26	-6.88/-6.63	-5.61/-5.4	-5.13/-4.09	-3.58/-3.79	-4.1/-3.1	-2.58/-3.33	-5.36/-7.55	-10.32/-10.68	-9.58/-7.94	-7.15/-7.45	-8.51/-8.4	-7.28/-6.76
Θ(180°)	-6.76/-5.24	-5.63/-6.44	-6.76/-6.21	-7.05/-7.34	-7.43/-7.71	-7.43/-6.99	-7.67/-6.29	-7.67/-6.29	-7.67/-6.29	-7.67/-6.29	-7.67/-6.29	-7.67/-6.29	-7.67/-6.29	-7.67/-6.29	-7.67/-6.29	-7.67/-6.29	-7.67/-6.29	-7.67/-6.29
Freq(Hz)	5.6GPol.	Theta-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(ΘB)	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	0.49/0.66	0.83/1.11	0.89/0.36	-0.4/-1.28	-2.39/-3.52	-3.6/-2.43	-1.28/-0.49	-0.16/-0.14	-0.32/-0.31	-0.01/0.37	0.82/1.12	0.9/0.48	-0.36/-1.31	-2.72/-3.49	-3.46/-1.84	-0.93/-0.4	-0.32/0.08	-0.03/-0.01
Θ(10°)	0.91/0.63	0.76/0.71	0.57/0.18	-0.26/-1.13	-2.65/-4.34	-4.76/-3.97	-3.08/-1.99	-1.47/-1.69	-1.76/-1.23	-0.66/-0.08	0.64/1.22	1.22/0.68	-0.15/-0.9	-1.82/-2.28	-2.26/-1.53	-0.58/0.52	1.06/1.4	1.31/1.14
Θ(20°)	0.21/-0.05	-0.13/0.09	0.15/0.16	-0.03/-0.89	-3.09/-4.62	-4.64/-3.48	-0.2/0.13	-0.74/-1.73	-1.35/-0.25	0.44/1.03	1.12/0.94	0.45/-0.08	0.26/0.14	-0.32/-0.04	0.73/1.88	2.56/2.68	2.21/1.28	
Θ(30°)	0.44/-0.37	-0.81/-0.48	0.06/-0.75	-1.84/-1.98	-1.61/-1.51	-2.26/-1.92	-0.89/0.72	0.2/0.23	-0.29/-0.71	0.13/1.26	1.79/1.27	0.54/0.31	-0.07/0.14	-0.52/0.1	0.31/1.3	2/2.54	2.07/1.64	1.17/0.41
Θ(40°)	-0.1/0.2	0.57/0.22	0.51/0.7	-0.36/-1.66	-1.42/-1.06	-1.4/-1.98	-1.51/-0.76	-0.02/0.19	0.21/-0.38	-0.21/-0.6	-0.21/0.89	1.18/1.22	1.44/-1.97	2.46/2.34	1.17/1.19	1.42/1.19	1.47/1.47	1.04/0.4
Θ(50°)	0.69/0.54	0.83/0.98	1.07/0.41	-0.33/-0.96	-1.49/-0.33	0.05/0.04	-0.75/-0.75	-0.03/0.27	0.49/-0.33	-0.96/-0.85	-0.51/0.16	0.24/0.84	1.38/2.02	2.03/2.55	0.74/0.33	0.27/0.43	0.87/0.5	
Θ(60°)	0.03/0.62	1.41/-3.7	1.74/1.63	0.82/-0.52	-0.71/-1.12	2.07/1.25	0.62/-1.54	-0.27/1.2	0.79/0.02	-0.52/0.14	0.62/1.43	0.34/-0.4	-0.07/-0.75	-0.53/-1.42	1.5/0.6	-0.55/-1.39	-0.83/0.92	0.85/0.3
Θ(70°)	0.24/0.23	1.36/1.96	2.62/57	1.93/0.64	0.58/2.53	2.86/0.98	-0.27/-0.56	1.12/1.19	1.71/1.19	1.11/1.35	1.5/2.2	0.7/-0.47	0.02/-1.38	-1.89/-0.2	0.72/0.48	-0.23/0.22	0.25/1.5	1.84/0.9
Θ(80°)	2.07/0.68	1.04/1.03	1.37/1.6	1.99/1.54	1.05/2.42	3.06/2.11	0.35/-0.12	1.1/1.89	2.06/1.9	2.47/2.06	0.99/1.3	1/1.41	1.61/0.25	0.42/1.45	2.38/1.94	0.45/1.1	1.25/0.89	1.38/1.89
Θ(90°)	3.31/1.01	0.89/1.39	1.36/-0.25	0.99/2.05	2.21/3.06	3.42/2.28	1.60/0.72	0.07/1.41	1.76/1.77	3.05/2.184	2.56/3.4	3.05/2.85	3.99/3.21	1.5/1.18	1.68/1.22	1.39/2.25		
Θ(100°)	3.15/-0.62	0.79/1.4	1.28/0.42	0.98/0.62	1.15/2.66	2.09/0.3	0.97/-0.06	-0.40/0.91	1.63/0.89	3.03/0.91	0.64/0.73	1.28/2	3.25/2.56	2.11/1.22	2.55/3.06	0.24/1.45	-0.27/0.76	-0.95/1.14
Θ(110°)	1.13/-0.22	0.48/2.07	0.52/-0.52	-0.53/-0.81	0.43/1.25	2.47/1.89	0.97/-0.73	-0.4/-0.09	0.79/-0.39	1.71/-0.08	-0.99/-0.17	0.6/0.5	1.58/1.9	1.24/1.7	1.61/2.38			



Radiated Composite Gain Data

Appendix A

Gain Result

Freq(Hz)	2.45GPol.	Phi/Ant. 1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-3.21/-3.46	-4.26/-5.01	-5.86/-4.99	-6.21/-7.92	-9.19/-9.61	-6.21/-9.47	-7.06/-5.59	-4.49/-3.69	-3.13/-2.88	-2.89/-3.03	-3.49/-4.21	-5.17/-6.25	-7.2/-8.22	-8.92/-8.87	-8.34/-7.68	-6.96/-5.36	-4.57/-3.62	-3.18/-3.35
Θ(10°)	-1.8/-1.99	-2.9/-4.13	-5.24/-6.19	-7.02/-7.24	-7.18/-7.3	-7.9/-8.48	-8.43/-7.46	-6.07/-4.55	-3.35/-2.46	-2.07/-1.81	-1.99/-2.56	-3.48/-4.85	-6.29/-7.88	-8.87/-8.89	-7.85/-7.36	-5.21/-4.92	-4.02/-3.1	-2.37/-1.82
Θ(20°)	-0.64/-1.02	-1.59/-3.08	-5.18/-7.54	-9.27/-8.16	-8.86/-6.47	-6.95/-8.27	-9.84/-9.62	-7.16/-6.41	-2.75/-1.65	-1/-0.76	-1.04/-1.78	-3.02/-4.44	-6.24/-8.09	-9.23/-8.42	-6.49/-4.51	-4.1/-3.01	-1.52/-1.12	-0.99/-0.53
Θ(30°)	-3.37/-3.66	-3.51/-3.69	-4.88/-9.62	-15.61/-13.09	-8.77/-6.77	-1.63/-11.04	-8.11/-4.96	-2.96/-2.04	-1.91/-2.69	-3.75/-5.39	-7.61/-9.67	-9.91/-7.87	-5.36/-3.46	-2.41/-1.96	-1.73/-1.93	-2.41/-2.98		
Θ(40°)	-6.23/-7.52	-9.9/-9.88	-9.69/-10.8	-16.8/-20.56	-12.78/-7.98	-6.11/-6.2	-8.02/-10.14	-9.39/-7.11	-5.33/-4.6	-4.4/-4.39	-4.47/-4.72	-5.31/-6.57	-8.89/-11.58	-11.33/-8.67	-6.64/-5.39	-5.62/-4.6	-4.08/-4.96	-3.77/-5.17
Θ(50°)	-1.2/-1.94	-2.75/-4.83	-7.14/-9.34	-11.78/-15.45	-13.78/-8.68	-6.03/-5.44	-5.96/-6.26	-5.74/-5	-4.66/-4.76	-4.91/-4.93	-5.32/-5.75	-6.44/-7.89	-10.54/-13.7	-12.38/-10.86	-10.55/-9.88	-6.24/-4.98	-2.87/-1.44	-0.81/-1.06
Θ(60°)	-5.2/-4.65	-4.38/-5.31	-6.86/-8.67	-10.3/-11.82	-14.54/-16.19	-4.97/-3.83	-3.46/-3.79	-4.2/-4.74	-5.71/-6.08	-6.5/-8.8	-14.54/-16.73	-11/-9.91	-10.47/-7.36	-3.79/-2.92	-5.35/-4.5	-5.14/-5.1		
Θ(70°)	-1.38/-1.48	-2.12/-3.44	-5.52/-7.29	-8.11/-9.86	-14.83/-19.99	-15.05/-10.03	-8.45/-9.08	-10.53/-9.02	-6.45/-4.68	-4.01/-4.29	-4.77/-4.55	-5.25/-7.58	-13.18/-21.08	-15.82/-18.89	-12.82/-6.26	-3.78/-4.05	-4.14/-3.12	-2.06/-1.48
Θ(80°)	-3.22/-3.63	-4.78/-6.97	-10.86/-15.04	-12.78/-11.97	-16.02/-20.73	-19.7/-9.18	-4.76/-3.17	-3.59/-5.24	-6.77/-6.25	-5.33/-4.89	-4.13/-3.54	-3.66/-4.85	-7.93/-12.63	-14.26/-11.02	-7.89/-5.96	-5.03/-3.44	-2.46/-2.31	-2.26/-2.95
Θ(90°)	-2.44/-1.52	-1.82/-3.5	-7.39/-15.3	-19.26/-15.62	-19.41/-19.68	-13.53/-7.3	-3.46/-2.15	-2.28/-2.93	-3.56/-3.87	-3.92/-4	-4.25/-5.29	-7.64/-12.23	-16.54/-12.11	-9.41/-8.54	-8.58/-5.44	-2.5/-0.8	-1.42/-2.87	-4.15/-3.62
Θ(100°)	-2.27/-0.74	-0.16/-0.97	-3.11/-6.99	-12.33/-11.39	-12.14/-15.08	-13.55/-8.92	-5.3/-3.83	-3.8/-3.99	-3.74/-3.85	-4.6/-5.66	-5.86/-6.89	-10.33/-14.69	-11.37/-9.72	-9.15/-10.18	-16.05/-8.11	-4.08/-4.08	-5.2/-5.9	-4.78/-3.75
Θ(110°)	-4.73/-2.97	-1.96/-2.37	-6.47/-9.44	-20.21/-12.28	-10.98/-14.02	-16.28/-12.47	-8.02/-4.66	-2.63/-1.97	-2.27/-2.6	-2.54/-2.08	-2.37/-4.45	-7.7/-10.78	-15.15/-20.52	-15.24/-15.34	-18/-6.58	-3.86/-4.1	-5.57/-6	-5.62/-5.18
Θ(120°)	-4.26/-3.34	-2.8/-2.75	-4.23/-6.67	-11.49/-18.59	-18.13/-18.8	-14.84/-10.75	-8.11/-6.08	-4.41/-4.39	-4.07/-4.83	-7.47/-11.75	-12.95/-11.29	-9.48/-9.92	-1.44/-2.47	-5.09/-8.02	-9.17/-3.04	-1.44/-2.47	-5.09/-8.02	-7.4/-5.06
Θ(130°)	-3.51/-2.85	-2.35/-1.62	-3.84/-6.2	-9.74/-15.76	-18.13/-14.45	-11.12/-7.77	-5.23/-3.59	-2.62/-1.96	-1.52/-1.49	-2.26/-3.72	-5.25/-6.81	-9.18/-11.67	-12.45/-12.62	-12.21/-11.67	-6.77/-3.17	-1.85/-3.67	-7.17/-11.54	-8.16/-5.29
Θ(140°)	-5.44/-3.03	-4.95/-2.02	-2.11/-2.58	-5.57/-8.31	-11.81/-13.99	-13.84/-12.5	-10.16/-7.63	-5.81/-5.22	-5.68/-6.73	-8.38/-10.04	-12.21/-13.23	-10.02/-7.08	-5.98/-6.3	-8.09/-10.28	-7.71/-4.32	-3.1/-3.87	-5.84/-8.75	-10.19/-7.48
Θ(150°)	-9.18/-6.65	-4.95/-2.62	-3.68/-4.43	-6.12/-8.72	-1.07/-10.35	-1.87/-15.91	-19.75/-20.8	-15.67/-10.35	-7.07/-4.98	-3.54/-2.64	-0.71/-0.17	-0.02/-0.71	-2.34/-5.06	-8.45/-9.52	-7.55/-5.98	-5.83/-6.91	-9.45/-15.72	-20.76/-13.28
Θ(160°)	-2.4/-1.76	-1.46/-1.89	-2.61/-3.99	-6.11/-8.81	-11.54/-14.57	-16.56/-16.11	-12.27/-8.13	-4.9/-2.62	-0.880.33	1.11/-1.56	1.721.44	0.49/-1.51	-4.51/-8.95	-14.9/-16.13	-14.97/-15.35	-20.28/-13.8	-10.58/-7.33	-5.17/-3.79
Θ(170°)	-1.17/-0.71	-0.81/-1.62	-2.83/-4.69	-7.08/-9.82	-12.67/-16.01	-19.18/-19.45	-18.91/-13.67	-10.05/-7.2	-5.3/-4.16	-3.71/-3.77	-4.18/-5.3	-7.53/-11.31	-17.58/-20.1	-20.95/-19.31	-20.22/-18.99	-12.09/-10.11	-7.4/-5.3	-3.96/-1.22
Θ(180°)	-4.86/-4.8	-5.04/-5.73	-6.77/-8.93	-9.89/-11.87	-14.51/-17.52	-20.63/-20.47	-20.96/-20.45	-20.79/-19.76	-20.48/-19.21	-16.07/-14.55	-13.77/-13.37	-12.17/-11.43	-11.31/-11.85	-12.89/-13.94	-14.04/-12.49	-9.59/-8.98	-8.47/-7.51	-6.38/-5.51
Freq(Hz)	2.45GPol.	Theta/Ant. 1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-14.58/-10.25	-9/-6.42	-5.39/-4.51	-2.32/-2.66	-1.17/-9.85	-0.24/-2.29	-5.88/-8.01	-10.14/-11.29	-3.6/-3.54	-3.28/-4.81	-4.29/-3.89	-8.31/-4.72	-8.31/-4.72	-8.31/-4.72	-8.31/-4.72	-8.31/-4.72	-8.31/-4.72	-8.31/-4.72
Θ(10°)	-20.06/-15.87	-12.61/-10.25	-8.02/-6.62	-6.56/-6.63	-6.72/-6.62	-6.38/-6.4	-6.61/-7.26	-8.94/-10.87	-13.33/-15.14	-14.58/-12.05	-9.63/-7.57	-6.04/-4.9	-4.29/-3.87	-3.62/-3.51	-4.29/-4.71	-5.33/-6.08	-6.95/-8.33	-10.75/-14.53
Θ(20°)	-13.47/-15.88	-15.36/-13.06	-11.23/-10.61	-9.56/-9.06	-10.73/-11.74	-10.99/-9.61	-8.98/-9.05	-10.19/-12.26	-14.79/-14.62	-6.35/-6.44	-3.39/-2.64	-2.26/-2.22	-2.34/-2.47	-2.64/-2.94	-4/-4.62	-5.66/-6.78	-8.23/-10	
Θ(30°)	-11.55/-13.39	-14.59/-15.53	-12.33/-9.99	-9.74/-10.98	-13.92/-20.08	-20.99/-15.84	-12.77/-12.19	-13.33/-14.84	-8.86/-6.47	-4.56/-3.1	-2.02/-1.47	-1.31/-1.35	-1.44/-1.49	-1.79/-1.99	-2.24/-3.41	-4.71/-6.34	-8.14/-9.22	
Θ(40°)	-20.53/-20.59	-16.99/-17.63	-17.18/-16.9	-14.94/-12.13	-11.87/-12.32	-12.63/-12.58	-13.03/-14.04	-15.19/-13.8	-11.39/-8.62	-6.61/-5.02	-3.76/-2.69	-1.72/-0.95	-0.36/-0.12	-0.19/-0.43	-0.48/-0.98	-1.89/-3.53	-6.23/-10.08	-13.44/-17.71
Θ(50°)	-10.48/-13.57	-16.61/-14.78	-13.27/-17.11	-21.31/-16.49	-12.05/-9.4	-7.94/-7.86	-8.92/-10.3	-10.36/-8.76	-6.25/-4.32	-3/-2.08	-1.43/-0.61	0.69/-1.93	2.33/-1.9	0.91/-0.18	-0.94/-2.34	-4.45/-4.79	-8.21/-7.75	-8.11/-8.89
Θ(60°)	-7.62/-7.84	-10.14/-15.58	-15.97/-12.94	-12.52/-12.96	-8.22/-5.63	-4.74/-4.98	-6.49/-8.66	-9.3/-8.11	-6.37/-5.16	-2.31/-1.33	-0.01/0.84	0.58/-0.27	-1.15/-1.64	-0.19/-0.43	-0.48/-0.98	-1.89/-3.53	-6.23/-10.08	-13.44/-17.71
Θ(70°)	-8.57/-8.87	-8.17/-5.58	-8.63/-10.03	-13.16/-20.24	-14.21/-8.43	-6.19/-5.12	-5.3/-6.61	-7.84/-8.35	-6.36/-7.37	-5.68/-4.04	-3.63/-3.08	-1.66/-0.43	0.090.33	-0.07/-0.62	-1.58/-1.07	-3.11/-4.25	-5.72/-7.82	-7.86/-8.6
Θ(80°)	-8.37/-6.94	-9.45/-11.12	-10.44/-10.91	-11.45/-17.66	-17.43/-9.69	-6.53/-4.85	-3.87/-4.85	-7.18/-3.97	-9.58/-7.14	-5.02/-4.2	-3.99/-2.02	-0.250.51	0.860.36	-1.42/-2.71	-3.54/-5.91	-7.14/-4.85	-8.58/-4.67	-9.07/-10.45
Θ(90°)	-4.89/-3.67	-3.74/-4.82	-4.11/-3.12	-4.65/-6.67	-14.14/-9.8	-5/-2.53	-4.04/-5.99	-5.55/-4.56	-4.01/-4.14	-3.48/-2.49	-1.83/-1.07	-0.98/-3.11	-5.72/-6.64	-8.4/-11.27	-8.99/-7.34	-6.18/-7.27	-6.02/-7.8	
Θ(100°)	-13.45/-8.55	-6.52/-6.37	-6.62/-2.51	-1.95/-4.69	-5.02/-4.07	-7.86/-7.18	-4.28/-2.54	-3.85/-5.31	-1.95/-2.21	-3.63/-3.47	-4.95/-7.43	-7.57/-16	-6.92/-6.7	-7.57/-16	-6.32/-7.33	-8.7/-10.81	-20.2/-20.24	
Θ(110°)	-14.6/-10.28	-9.98/-13.22	-10.05/-3.05	-1.37/-2.93	-6.14/-6.4	-2.56/-0.02	0.680.01	-1.38/-2.58	-2.91/-3.11	-4.37/-6.05	-6.02/-8.32	-2.94/-3.48	-4.73/-6.49	-9.28/-9.59	-10.91/-15.37	-15.52/-13.84	-11.65/-10.29	-7.22/-9.54
Θ(120°)	-8.85/-7.24	-3.74/-4.42	-7.72/-4.45	-0.73/-0.02	-1.24/-3.33	-3.08/-0.81	0.270.09	-0.63/-0.9	-0.81/-1.1	-2.04/-2.66	-2.6/-3.09	-4.79/-6.31	-7.64/-12.49	-21.05/-16.83	-14.63/-12.84	-11.94/-9.27	-5.99/-4.86	-5.3/-6.24
Θ(130°)	-6.59/-4.8	-3.11/-2.55	-3.34/-2.49	-0.650.13	-0.71/-2.97	-0.97/-1.67	-0.650.13	-0.71/-2.97	-0.97/-1.67	-0.650.13	-0.71/-2.97	-0.97/-1.67	-0.650.13	-0.71/-2.97	-0.97/-1.67	-0.650.13	-0.71/-2.97	-0.97/-1.67
Θ(140°)	-13.67/-1.27	-6.68/-4.8	-3.02/-1.83	-0.91/-0.04	0.05/-1.03	-3.55/-6.61	-7.01/-5.18	-4.13/-4.03	-4.5/-5.25	-6.14/-7.23	-9.03/-11.51	-13.57/-12.87	-9.71/-7.54	-6.93/-6.88	-6.55/-7.01	-8.17/-9.45	-13.53/-19.27	-21.2/-20.15
Θ(150°)	-21.31/-14.22	-7.91/-4.68	-3.13/-1.49	-0.65/-0.08	0.420.74	0.670.17	-0.56/-1.41	-2.33/-3.47	-5.08/-7.57	-11.41/-14.58	-10.76/-6.64	-3.82/-1.67	-0.30/-1	-0.14/-0.83	-3.32/-2.43	-5.24/-6.67	-7.75/-12.55	-13.83/-13.27
Θ(160°)	-9.66/-8.74	-6.68/-5.59	-3.52/-1.76	-0.99/-0.62	-0.53/-0.42	0.270.27	-0.1/-0.33	-0.95/-2.01	-3.29/-4.54	-3.48/-2.63	-2.09/-2.19	-3.89/-4.51	-2.02/-2.19	-3.89/-4.51	-2.02/-2.19	-3.89/-4.51	-2.02/-2.19	-3.89/-4.51
Θ(170°)	-6.97/-10.47	-8.55/-6.37	-4.55/-3.05	-2.34/-2.06	-2.2/-2.68	-3.15/-3.74	-4.18/-4.53	-5.17/-5.77	-6.47/-7.31	-8.39/-9.85	-11.52/-13.26	-15.23/-17	-18.26/-21.56	-16.14/-11.07	-7.84/-5.72	-4/-2.85	-2.64/-3.1	-4.19/-5.24
Θ(180°)	-14.52/-17.29	-16.66/-13.57	-11.18/-9.41	-7.82/-6.72	-6.19/-5.98	-6.18/-6.41	-7.04/-7.75	-8.95/-10.52	-12.37/-15.2	-17.6/-20.38	-17.72/-13.37	-10.38/-8.29	-6.89/-5.93	-5.08/-4.58	-4.35/-4.58	-5.26/-5.8	-6.7/-8.06	-9.61/-12.5
Freq(Hz)	5.2GPol.	Phi/Ant. 1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-3.79/-3.7	-3.4/-3.1	-3.8/-5.42	-8.14/-12.18	-17.83/-19.79	-19.34/-16.29	-11.7/-8.49	-6.51/-5.07	-3.98/-3.58	-3.28/-3.36	-3.54/-3.97	-4.8/-6.54	-8.6/-10.79	-14.59/-19.65	-20.27/-13.76	-9.87/-8.31	-6.63/-4.86	-3.17/-2.8
Θ(10°)	-1.94/-2.07	-2.51/-3.31	-4.32/-5.99	-7.97/-11.43	-4.32/-19.71	-2.71/-15.6	-2.07/-7.13	-4.52/-3.49	-2.18/-3.09	-4.05/-2.18	-7.3/-9.62	-7.18/-4.54	-16.83/-10.64	-7.3/-9.62	-14.59/-19.65	-20.27/-13.76	-9.87/-8.31	-6.63/-4.86
Θ(20°)	-3.34/-4.43	-4.6/-6.63	-5.76/-8.46	-11.53/-14.2	-17.9/-20.17	-19.74/-12.93	-9.96/-7	-4.75/-3.18	-2.36/-1.86	-1.27/-0.89	-1.							



Radiated Composite Gain Data

Appendix A

Θ (60°)	-6.84/9.56	-10.29/5.62	-8.04/8.23	-10.83/18.01	-16.38/13.09	-11.12/10.13	-8.43/10.4	-8.98/8.6	-7.11/7.85	-5.86/3.85	-2.46/0.68	0.76/0.39	0.76/-0.21	-0.17/-0.27	-1.54/1.58	-1.55/-2.66	-2.98/3.71	-2.89/3.65
Θ (70°)	-6.03/8.11	-13.75/7.33	-7.89/-6.4	-8.73/-10.55	-10.23/9.56	-10.44/-7.71	-8.41/-7.54	-8.07/-5.95	-6.24/-6.45	-6.46/-4.08	-2.83/-0.75	0.77/1.06	1.66/-1.16	0.16/-0.63	-0.67/-0.2	-2.13/2.66	-2.72/-4.04	-4.57/-4.15
Θ (80°)	-3.64/9.66	-11.67/3.76	-9.26/-6.16	-6.36/-8.1	-10.03/-5.95	-6.05/-6.86	-4.92/-6.88	-1.91/-1	-2.32/-4.03	-3.68/-4.65	-1.14/-0.77	-2.15/-2.08	-3.56/-1.93	-4.45/-7.3	-4.34/-14.17	-12.65/-5.48		
Θ (90°)	-0.84/6.67	-10.18/-4.11	-7.19/-7.78	-7.29/-6.28	-7.58/-7.32	-3.04/-3.89	-2.05/-1.55	-2.18/-4.4	-4.25/-7.33	-5.65/-4.82	-0.91/-0.4	-0.43/1.41	2.18/1.63	1.71/0.5	0.67/0.44	-2.94/-1.51	-2.08/-3.6	-3.9/-2.57
Θ (100°)	-2.67/9.06	-9.02/-5.66	-8.45/-4.95	-6.2/-6.42	-5.19/-7.8	-2.43/-2.47	-1.86/0.22	-0.92/-4.32	-3.31/-5.05	-3.68/-5.1	-0.91/-9.7	-1.19/-0.01	1.45/1.48	0.83/0.73	-0.64/-1.19	-1.7/-0.25	-0.58/-3.99	-5.16/-4.25
Θ (110°)	-4.26/-10.49	-9.18/-5.93	-11.03/-5.95	-6.05/-6.86	-4.92/-6.88	-1.91/-1	-1.7/-0.68	-0.86/-1.66	-4.24/-3.03	-3.68/-4.65	-1.14/-0.77	-2.15/-2.08	-3.56/-1.93	-4.45/-7.3	-4.34/-14.17	-12.65/-5.48		
Θ (120°)	-10.03/17.15	-13.43/8.29	-11.26/-8.07	-4.95/-4.2	-4.24/-4.62	-3.66/-2.4	-2.47/-1	-1.68/-1.79	-3.73/-4.08	-6.1/-5.87	-3.93/-2.76	-4.19/-8.58	-4.53/-2.3	-5.39/-8.44	-11.19/-8.2	-8.36/-9.55	-6.77/-19.83	-20.82/-12.97
Θ (130°)	-8.13/-20.76	-9.27/-13.34	-7.07/-11.26	-7.94/-5.89	-6.43/-8.32	-3.81/-2.38	-2.87/-2	-3.04/-2.74	-3.09/-3.27	-4.46/-4.92	-5.12/-6.83	-9.5/-11.22	-6.53/-5.59	-9.29/-12.56	-10.03/-11.5	-8.64/-6.78	-8.96/-12.5	-20.1/-11.94
Θ (140°)	-10.52/-17.77	-15.8/-11.91	-7.59/-7.41	-10.97/-11.69	-8.01/-10.67	-7.67/-4.56	-2/1.65	-1.35/-1.7	-2.5/-3.18	-5.19/-6.33	-4.9/-7.63	-12.17/-16.55	-13.39/-19.07	-14.72/-17.07	-10.48/-12.39	-15.26/-10.28	-16.11/-20.08	-15.37/-11
Θ (150°)	-8.11/-10.35	-19.87/12.63	-11.36/-15.75	-20.53/-16.93	-9.68/-8.46	-8.05/-6.57	-6.67/-5.61	-5.39/-5.05	-5.4/-5.91	-7.17/-7.77	-8.62/-11.29	-16.25/-20.8	-14.87/-7.52	-9.9/-13.79	-17.05/-11.67	-12.32/-17.28	-20.3/-15.59	-14.55/-11.29
Θ (160°)	-13.71/-14.27	-20.37/-20.75	-20.8/-20.58	-17.24/-15.9	-15.77/-14.51	-11.49/-10.73	-9.27/-9.43	-9.87/-8.29	-7.14/-7.26	-9.31/-12.02	-13.22/-13.22	-13.94/-18.37	-20.39/-20.19	-15.61/-11.91	-9.97/-9.92	-11.5/-14.42	-19.15/-20.75	-20.33/-17.19
Θ (170°)	-21.5/-20.06	-20.1/-19.97	-20.59/-19.65	-14.27/-9.61	-7.47/-6.12	-5.23/-5.04	-4.29/-3.52	-3.41/-4.09	-5.4/-6.93	-9.11/-12.09	-14.71/-15.14	-14.79/-17.53	-20.17/-18.01	-10.84/-7.63	-6.33/-6.86	-7.38/-7.68	-7.85/-7.9	-10.35/-14.75
Θ (180°)	-13.9/-15.09	-16.32/-18.62	-15.42/-12.2	-8.48/-6.92	-6.32/-6.38	-6.09/-6.23	-6.51/-7.04	-7.75/-8.9	-10.28/-12.32	-16.35/-19.74	-19.71/-15.54	-12.19/-9.59	-8.16/-7.07	-6.15/-5.53	-6.33/-6.82	-7.3/-8.9	-9.38/-10.08	-10.43/-11.81
Freq(Hz)	5.6G/Pol.	Phi/Ant. 1	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ (0°)	-6.25/-4.93	-4.94/-6.58	-8.66/-11.06	-13.1/-16.29	-20.97/-21.06	-21.07/-16.47	-10.68/-8.38	-7.31/-6.66	-6.39/-6.03	-5.59/-5.64	-6.15/-6.85	-7.79/-9.99	-13.21/-17.28	-19.74/-20.62	-15.53/-12.55	-10.67/-9.67	-8.19/-6.23	-5.08/-6.14
Θ (10°)	-2.67/2.58	-2.96/-3.51	-4.63/-7.29	-10.43/-14.73	-20.09/-20.7	-20.49/-16.25	-9.82/-7.66	-6.05/-5.51	-4.32/-3.5	-2.74/-2.85	-3.65/-4.89	-6.46/-7.33	-10.52/-16.95	-20.35/-20.09	-14.55/-11.1	-7.92/-6	-4.47/-4.1	-3.31/-2.52
Θ (20°)	-2.48/-3.68	-4.1/-3.91	-4.59/-7.17	-10.44/-13.23	-16.86/-18.94	-20.33/-19.77	-1.85/-2.01	-1.92/-2.31	-3.65/-6.11	-8.86/-17.55	-19.39/-18.74	-12.71/-8.34	-5.87/-4.5	-3.33/-2.53	-1.76/-1.38			
Θ (30°)	-2.32/-3.25	-4.04/-5.24	-7.1/-9.93	-11.25/-10.45	-13.34/-20.22	-20/-15.95	-14.7/-12.2	-7.38/-3.79	-1.44/-0.8	-1.05/-1.7	-2.33/-2.91	-4.13/-7.08	-11.62/-13.78	-18.14/-21.33	-13.81/-13.42	-7.93/-5.71	-5.29/-4.67	-2.84/-1.95
Θ (40°)	-3.88/-4.25	-5.56/-8.3	-7.83/-7.28	-10.03/-14.87	-16.44/-19.26	-20.85/-19.86	-16.69/-10.74	-7.84/-6.65	-2.77/-2.44	-2.38/-2.48	-2.12/-2.48	-5.34/-9.07	-9.6/-11.49	-18.25/-21.13	-9.76/-6.46	-6.02/-6.43	-3.92/-3.34	-3.03/-3.66
Θ (50°)	-1.53/-1.92	-2.46/-2.82	-5.05/-8.18	-9.6/-13.67	-14.69/-21.24	-20.9/-19.56	-14.72/-8.82	-6.11/-4.13	-0.91/-0.46	-20.9/-19.56	-6.12/-12.91	-18.42/-18.37	-20.5/-20.84	-12.3/-2.96	-8.29/-5.49	-3.08/-2.35	-2.46/-1.83	
Θ (60°)	-1.04/-1.42	-3.93/-4.79	-4.9/-6.06	-7.56/-10.62	-13.41/-15.89	-19.56/-20.81	-14.21/-9.03	-7.34/-5.11	-3.58/-3.16	-2.98/-2.99	-3.36/-4.25	-7.3/-12.08	-14.31/-18.58	-16.84/-19.59	-15.32/-11.28	-11.02/-7.99	-5.05/-3.86	-2.2/-0.87
Θ (70°)	0.15/-0.64	-2.82/-3.53	-5.36/-6.04	-10/-11.23	-10.49/-12.02	-14.82/-17.15	-13.14/-8.76	-7.94/-6.09	-5.36/-5.43	-6.5/-5.59	-4/-3.96	-6.71/-10.16	-16.22/-20.75	-19.1/-20.32	-13.54/-9.48	-8.81/-9.1	-4.79/-3.44	-1.89/0.16
Θ (80°)	0.00/-0.96	-2.49/-5.74	-5.28/-6.22	-8.54/-16.17	-14.12/-14.96	-15.66/-16.57	-21.19/-9.71	-8.54/-6.98	-3.89/-6.94	-6.6/-6.58	-6.21/-6.8	-7.77/-10.03	-19.31/-19.13	-11.77/-9.3	-13.75/-6.73	-3.4/-3.28	-2.85/-0.25	
Θ (90°)	-0.28/-2.41	-5.53/-12.94	-7.87/-5.87	-9.04/-18.12	-14/-17.81	-20.84/-14.39	-13.1/-18.52	-13.31/-8.45	-9.01/-8.43	-8.64/-7.95	-7.4/-6	-6.52/-13.24	-18.09/-20.14	-19.6/-15.73	-8.17/-9.54	-9.31/-5.78	-4.61/-7.44	-6.07/-2.22
Θ (100°)	-2.65/-5.63	-7.36/-10.04	-16.91/-13.04	-10.65/-19.54	-11.43/-11.45	-20.38/-18.56	-11.21/-7.58	-10.14/-4.87	-7.98/-5.77	-6.59/-5.44	-6.52/-6.48	-10.47/-16.78	-20.33/-15.12	-18.78/-13.49	-8.39/-12.04	-10.61/-7.25	-8.39/-15.52	-11.81/-9.44
Θ (110°)	-11.62/-16.93	-9.71/-0.71	-7.10/-10.71	-13.65/-20.53	-13.87/-16.82	-19.9/-17.17	-17.15/-8.7	-7.3/-6.27	-7.07/-6.95	-9.57/-16.95	-15.84/-17.85	-19.52/-17.22	-10.59/-15.08	-16.35/-18.13	-10.59/-12.04	-15.54/-10.68	-14.35/-14.38	
Θ (120°)	-8.94/-7.13	-5.97/-6.79	-9.29/-18.27	-18.9/-15.66	-16.49/-19.43	-20.24/-21.19	-20.54/-20.99	-9.45/-6.49	-3.78/-4.04	-3.59/-3.62	-5.12/-7.48	-9.39/-13.65	-15.44/-20.98	-20.9/-20.12	-9.36/-18.1	-13.61/-8.53	-10.55/-15.07	-11.28/-14.24
Θ (130°)	-6.78/-5.9	-4.72/-6.64	-10.51/-7.5	-9.65/-10.78	-9.55/-13.02	-20.73/-18.55	-11.67/-10.88	-8.7/-5.61	-6.02/-5.39	-6.55/-7.62	-9.55/-11.65	-16.02/-9.08	-19.9/-10.57	-13.65/-20.31	-9.45/-15.27	-13.4/-4.99	-7.93/-15.45	-17.25/-12.99
Θ (140°)	-3.76/-4.55	-6.49/-11.08	-8.44/-10	-8.65/-13.05	-9.9/-16.07	-16.57/-16.96	-17.81/-12.15	-5.54/-3.84	-1.41/-1.06	-1.27/-0.99	-2.89/-5.64	-7.36/-11.55	-13.56/-13.28	-12.66/-17.81	-9.19/-11.89	-11.4/-8.16	-10.54/-18.39	-13.23/-5.44
Θ (150°)	-9.66/-9.82	-8.63/-9.36	-8.77/-10.41	-13.43/-19.41	-20.29/-17.61	-16.77/-13.18	-10.5/-6.55	-6.04/-7.72	-6.12/-5.67	-6.69/-7.19	-8.3/-8.82	-13.61/-20.56	-15.2/-13.62	-10.11/-11.48	-17.85/-12.34	-10.59/-12.61	-14.64/-13.55	
Θ (160°)	-14.75/-13.44	-13.08/-13.28	-12.88/-14.46	-18.84/-21.08	-20.74/-18.27	-17.38/-13.53	-11.22/-10.62	-8.86/-6.51	-5.12/-5.73	-7.55/-9.75	-10.94/-11.51	-8.75/-8.17	-12.9/-16.53	-13.73/-13.19	-15.15/-19.1	-18.55/-17.86	-21.74/-17.96	
Θ (170°)	-19.98/-19.85	-18.71/-19.14	-13.28/-9.86	-9.52/-9.78	-12.02/-18.28	-21.26/-19.94	-14.82/-10.68	-6.79/-5	-3.06/-2.03	-1.89/-1.95	-2.1/-2.01	-2.6/-4.47	-7.13/-11.08	-16.17/-18.8	-20.87/-20.51	-21.15/-20.56	-20.84/-20.83	-20.84/-19.68
Θ (180°)	-6.48/-5.88	-6.48/-7.74	-8.91/-8.39	-9.18/-10.54	-12.06/-13.89	-8.3/-6.98	-16.61/-13.09	-12.22/-11.32	-10.78/-10.28	-8.3/-6.98	-16.61/-8.25	-9.27/-10.35	-11.56/-14.55	-18.02/-20.13	-14.12/-12.16	-9.01/-7.4	-8.5/-7.99	
Freq(Hz)	5.6G/Pol.	Theta/Ant. 1	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ (0°)	-20.67/-17.81	-13.51/-10.48	-8.33/-7.55	-6.84/-5.98	-5.33/-5.23	-5.46/-6.15	-7.05/-8	-9.73/-11.74	-14.6/-20.23	-20.72/-17.54	-13.77/-10.57	-8.68/-7.44	-6.88/-5.91	-5.09/-4.9	-5.22/-5.88	-7.23/-8.33	-17.73/-13.04	-16.27/-20.74
Θ (10°)	-19.99/-20.58	-14.98/-10.75	-9.06/-8.21	-7.49/-7.37	-7.42/-6.97	-8.48/-9.93	-11.33/-11.61	-12.88/-15.5	-19.48/-20.52	-14.79/-10.54	-7.77/-5.78	-4.46/-4.28	-3.81/-3.66	-3.29/-3.28	-3.43/-4	-4.35/-4.7	-5.64/-7.06	-10.45/-10.95
Θ (20°)	-18.98/-19.95	-20.56/-14.75	-11.19/-8.72	-8.31/-8.32	-9.71/-10.49	-14.14/-9.123	-11.03/-11.93	-16.79/-20.61	-14.14/-9.26	-6.11/-3.72	-2.25/-1.9	-1.56/-1.5	-2.08/-2.49	-1.8/-1.87	-2.3/-2.26	-2.75/-3.75	-6.11/-10.95	
Θ (30°)	-13.12/-14.46	-20.61/-21	-18.02/-16.07	-14.78/-9.84	-6.62/-6.72	-9.02/-11.15	-11.23/-10.29	-8.95/-11.4	-8.26/-5.67	-4.17/-2.53	-1.38/-1.09	-1.13/-1.41	-1.98/-0.36	0.95/0.59	-0.04/-1.51	-4.26/-6.3	-7.12/-9.42	
Θ (40°)	-12.14/-13.94	-12.91/-18.96	-21.27/-15.59	-13.51/-15.51	-11.96/-10.52	-10.59/-12.27	-10.68/-10.21	-11.58/-12.15	-13.31/-13.62	-7.5/-5.51	-3.49/-1.68	-0.64/0.53	1.22/1.04	0.94/1.03	1.05/0.93	-0.64/-2.8	-3.82/-4.58	-5.87/-8.18
Θ (50°)	-6.36/-7.51	-10.16/-12.59	-14.28/-17.82	-17.61/-13.55	-20.83/-14.06	-14.59/-12.87	-9.84/-11.88	-11.72/-11.21	-8.65/-5.91	-3.65/-1.12	-0.16/0.43	1.06/1.52	0.22/0.97	1.6/0.5	-0.03/-0.07	-0.96/-3.65	-6.2/-7.56	
Θ (60°)	-10.14/-13.31	-8.89/-7.9	-9.37/-12.07	-20.86/-15.5	-13.17/-16.9	-8.8/-8.16	-3.89/-7.43	-5.77/-5.34	-4.09/-1.33	-0.35/-0.06	-0.10/0.8	-1.62/0.86	0.78/-1.27	-1.05/-1.03	-2.51/-2.87	-4.24/-7.34		
Θ (70°)	-9.41/-11.56	-10.8/-7.7	-5.78/-6.11	-11.9/-18.67	-17.9/-12.17	-10.03/-11.31	-7.89/-7.74	-6.07/-7.47	-6.42/-7.85	-5.67/-5.55	-2.91/-0.85	-0.52/-0.64	1.07/-0.05	-0.51/0.26	-1.46/-2.11	-2.6/-3	-3.21/-3.65	-4.09/-5.61
Θ (80°)	-5.14/-9.11	-11.32/-7.63	-6.77/-7.04	-10.38/-11.72	-16.72/-10.7	-7.78/-5.86	-6.49/-7.14	-6.11/-5.59	-4.81/-7.14	-5.42/-6.21	-3.67/-1.75	-1.3/-1.23	1.04/-0.32	-0.17/-0.55	-3.43/-3.48	-3.89/-6.68	-5.43/-3.3	
Θ (90°)	-1.61/-10.46	-17.7/-5.37	-6.41/-13.55	-11.65/-10.47	-4.75/-5.59	-7.21/-6.86	-3.25/-3.29	-9.44/-6.84	-5.55/-7.17	-6.24/-7.76	-3.55/-3.26	-1.6/0.15	1.46/0.2	2.68/1.14	0.75/0.59			



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Radiated Composite Gain Data

Appendix A

θ(50°)	-0.51/-0.62	-0.65/-1.75	-3.78/-6.93	-15.43/-11.92	-11.52/-16.43	-9.55/-7.71	-9.56/-6.95	-4.05/-2.82	-1.49/-2.45	-1.79/-1.43	-1/-1.43	-3.83/-6.59	-13.08/-16.04	-16.19/-20.67	-10.82/-7.39	-5.36/-3.93	-2.88/-1.19	-0.61/-0.96
θ(60°)	-3/-2.62	-2.29/-2.34	-4.22/-3.97	-17.64/-16.75	-13.27/-15.39	-10.83/-13.48	-11.65/-6.05	-2.27/-2.16	-2.67/-0.05	-0.26/-0.43	-2.23/-2.77	-3.43/-7.51	-13.51/-17.94	-15.34/-11.48	-9.49/-6.64	-3.44/-3.23	-1.41/-0.93	-1.87/-3.15
θ(70°)	-4.62/-3.97	-3.46/-2.01	-3.63/-5.58	-20.94/-12.77	-10.75/-19.17	-6.61/-19.11	-10.69/-5.65	-3.1/-1.25	-0.40/-1.19	2.78/1.08	-5.52/-2.01	-4.02/-7.8	-12.46/-19.88	-3.86/-13.09	-8.77/-8.03	-2.91/-2.19	-3.89/-4.64	
θ(80°)	-7.99/-6.95	-9.21/-9.05	-8.25/-12.26	-20.02/-16.18	-13.81/-14.2	-12.93/-9.14	-8.56/-6.33	-4.05/-4.07	-1.480/-3	0.35/-0.94	-5.57/-6.35	-5.33/-9.95	-14.96/-19.55	-13.63/-20.4	-11.14/-9.43	-10.22/-12.26	-7.46/-5.82	-5.83/-5.21
θ(90°)	-8.76/-9.39	-9.6/-10.06	-11.73/-16.4	-21.23/-20.65	-13.46/-10.33	-8.36/-8.18	-6.3/-7.29	-4.02/-3.34	-1.36/-0.56	0.83/-1.49	-5.84/-11.26	-5.84/-9.27	-14.95/-19.06	-15.26/-18.71	-12.42/-8.66	-10.68/-10.15	-9.99/-9.42	-8.94/-8.83
θ(100°)	-4.96/-9.02	-7.86/-9.18	-14.12/-10.46	-21.14/-13.63	-13.61/-12.77	-11.31/-10.55	-8.64/-8.84	-8.27/-2.61	-6.13/-5.74	0.15/-0.88	-5.29/-8.22	-5.17/-9.24	-9.24/-10.73	-20.04/-19.14	-11.98/-9.87	-8.65/-7.05	-5.57/-6.75	
θ(110°)	-6.03/-6.28	-9.04/-13.55	-16.36/-14.47	-14.14/-12.41	-14.59/-12.98	-12.73/-12.12	-13.1/-10.28	-7.41/-7.1	-17.75/-7.98	-2.93/-6.66	-12.17/-9.04	-4.94/-8.76	-21.12/-12.32	-17.13/-14.92	-11.43/-10.77	-7.92/-5.65	-5.92/-6.4	-7.08/-6.22
θ(120°)	-7.82/-6.04	-11.56/-15.64	-17.92/-12.01	-12.83/-10.15	-11.09/-16.3	-11.36/-20.85	-10.66/-6.09	-4.76/-6.57	-13.03/-10.57	-15/-3.6	-7.83/-8.24	-8.42/-15.35	-18/-19.5	-20.46/-21.1	-14.61/-8	-10.87/-8.28	-4.59/-3.68	-4.06/-2.95
θ(130°)	-9.4/-10.41	-13.71/-13.16	-11.6/-10.43	-8.98/-7.52	-6.96/-8.71	-12.88/-19.59	-7.07/-4.8	-4.02/-7.71	-8.04/-8.84	4.76/-5.95	-11.03/-11.28	-10.11/-17.84	-20.08/-13.43	-15.55/-17.7	-13.11/-10.16	-10.35/-10.23	-6.08/-2.11	-4.34/-6.42
θ(140°)	-5.67/-12.81	-20.71/-14.13	-20.73/-13.55	-11.42/-9.58	-10.35/-10.49	-19.94/-13.81	-12.11/-7.79	-8.24/-11.26	-12.08/-13.45	-2.84/-5.55	-7.45/-8.6	-20.21/-8.45	-11.04/-20.39	-19.92/-15.06	-11.63/-12.02	-8.05/-14	-10.29/-6.11	-3.74/-7.89
θ(150°)	-20.21/-20.19	-15.17/-19.03	-19.58/-20.12	-18.98/-17	-14.19/-18.37	-21.19/-15.34	-11.8/-8.42	-7.55/-8.87	-16.53/-14.18	-9.98/-8.63	-8.25/-14.65	-8.98/-6.98	-9.37/-14.02	-15/-20.25	-16.82/-19.29	-18.95/-14.63	-11.9/-9.5	-10.59/-13.44
θ(160°)	-17.48/-19.67	-12.83/-9.8	-7.87/-8	-10.07/-11.57	-14.13/-14.98	-14.76/-15.61	-15.74/-11.74	-9.7/-9.34	-12.62/-17.2	-8.97/-8.71	-11.79/-14.67	-12.59/-10.62	-20.61/-19.77	-20.67/-20.86	-21.56/-20.04	-17.52/-12.24	-11.29/-13.98	
θ(170°)	-5.51/-5.92	-6.46/-6.46	-8.39/-11.29	-13.69/-15.62	-19.17/-18.31	-17.24/-16.29	-17.53/-18.24	-14.65/-13.24	-14.55/-12.63	-10.89/-12.41	-16.78/-17.64	-15.46/-14.83	-16.7/-15.53	-19.69/-19.21	-20.16/-20.5	-15.24/-12.51	-10.24/-7.26	-4.89/-4.45
θ(180°)	-17.62/-12.54	-11.43/-11.55	-11.53/-11.08	-14.99/-16.98	-19.8/-19.23	-18.24/-17.24	-19.61/-19.5	-13.18/-10.82	-10.75/-9.95	-7.73/-6.56	-6.51/-7.14	-7.63/-9.04	-8.85/-9.57	-10.69/-10.95	-12.78/-15.79	-19.61/-20.36	-20.67/-19.74	-20.59/-21.13
Freq(Hz)	5.65GPol.	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
θ(0°)	-14.63/-12.39	-10.31/-8.01	-7.23/-6.02	-5.65/-5.15	-4.83/-4.65	-5.35/-6.28	-7.5/-8.39	-10.5/-14.3	-20.17/-20.25	-17.04/-13.48	-10.25/-7.63	-6.26/-5.42	-4.73/-4.33	-4.43/-4.72	-5.79/-5.69	-6.61/-8	-11.29/-15.05	-20.88/-20.13
θ(10°)	-13.53/-11.44	-9/-7.61	-5.63/-4.81	-4.32/-4.05	-4.22/-4.72	-20.42/-16.2	-6.85/-7.81	-9.29/-13.7	-20.21/-20.89	-4.48/-5.25	-6.22/-5.24	-5.16/-4.42	-4.58/-5.25	-7.35/-8.91	-10.01/-11.99	-15.25/-16.96	-17.69/-15.99	
θ(20°)	-18.8/-14.92	-9.49/-6.61	-5.31/-4.78	-3.46/-3.01	-3.62/-4.86	-5.45/-5.79	-6.43/-6.4	-6.57/-7.21	-11.25/-21.36	-21.26/-13.34	-10.23/-7.75	-5.89/-4.93	-4.25/-4.01	-2.95/-3.03	-4.61/-7.38	-8.84/-9.22	-10.6/-11.56	-14.41/-17.04
θ(30°)	-11.78/-10.62	-6.79/-2.97	-1.51/-2.4	-3.09/-3.03	-2.41/-2.25	-2.79/-2.29	-3.37/-3.14	-3.93/-6.58	-9.36/-12.06	-20.21/-21.03	-12.11/-7.07	-4.59/-3.54	-3.07/-2.78	-3.5/-4.89	-6.26/-8.06	-10.5/-8.49	-8.42/-10.47	-14.64/-16.81
θ(40°)	-9.5/-6.52	-3.36/-1.21	0.051/0	0.59/-0.31	-1.69/-2.65	-3.67/-3.71	-3.85/-4.36	-7.22/-9.71	-14.23/-15.83	-14.63/-9.16	-6.79/-6.35	-10.98/-11.77	-9.95/-16.01	-15.35/-13.01	-10.98/-11.77	-13.17/-11.91		
θ(50°)	-8.25/-6.26	-2.61/0.08	0.81/2.9	0.93/-1.09	-2.22/-2.97	-2.36/-1.57	-1.89/-2.87	-5.19/-6.92	-10.73/-12.07	-14.42/-14.99	-14.43/-20.5	-21.15/-13.98	-8.21/-5.76	-4.74/-5.84	-9.97/-13.2	-12.21/-15.81	-18.66/-19.12	-14.23/-10.74
θ(60°)	-6.13/-4.51	-2.63/-0.87	0.11/0.6	0.85/-1.45	-3.13/-1.54	-0.66/-1.55	-3.58/-4.61	-3.49/-2.94	-6.11/-6.82	-11.99/-11.48	-10.09/-12.67	-16.67/-21.07	-17.78/-20.62	-13.23/-12.18	-16.34/-20.06	-19.3/-20.06	-15.17/-16.04	-11.87/-8.12
θ(70°)	-6.25/-4.66	-2.82/-0.35	0.961/4.8	-0.24/-2.09	-0.84/0.24	-0.45/-2.64	-1.12/-3.1	-1.58/-1.22	-3.24/-4.69	-6.82/-9.5	-10.36/-9.44	-10.34/-17.95	-19.91/-18.39	-16.8/-13.02	-11.33/-13.91	-8.99/-7.17	-7.28/-6.06	-6.92/-8
θ(80°)	-5.99/-4.25	-3.58/-1.47	-0.33/0.08	-0.91/-2.3	-0.85/-0.01	-1.11/-5.12	-5.04/-1.21	0.66/-1.12	-4.43/-3.22	-2.12/-3.82	-9.21/-7.68	-4.93/-6.8	-14.02/-11.64	-9/-10.32	-8.25/-4.62	-4.11/-4.19	-5.6/-7.06	
θ(90°)	-6.35/-3.4	-3.66/-1.91	-0.59/-2.22	-3.3/-1.56	-0.78/-0.6	-0.72/-7.21	-4.87/-3.48	-1.4/-2.47	-5.65/-5.39	-0.11/-6.16	-13.29/-4.92	-1.23/-3.81	-10.91/-7.84	-14.68/-8.85	-4.88/-4.4	-8.19/-6.1	-3.94/-3.38	-5.17/-6.6
θ(100°)	-5.45/-7.74	-4.11/-4.19	-2.14/-1.64	-2.9/-3.02	-1.5/-1.21	-3.06/-6.86	-6.37/-6.97	-4.38/-2.57	-8.78/-5.59	-0.6/-5.82	-14.7/-5.2	-2.73/-4.39	-7.22/-6.23	-14.47/-8.36	-4.47/-4.07	-5.67/-7.36	-7.52/-5.09	-6.02/-8.27
θ(110°)	-7.87/-6.94	-5.4/-3.04	-2.85/-4.14	-5.07/-5.04	-3.89/-5.65	-3.91/-5.29	-6.77/-9.96	-8.47/-5.47	-11.09/-8.82	-2.57/-7.75	-17.41/-6.82	-2.59/-3.91	-11.52/-2.65	-10.59/-4.23	-4.27/-4.92	-4.97/-4.68	-5.04/-9.24	-9.96/-12.55
θ(120°)	-10.87/-5.24	-7.11/-4.39	-4.33/-5.07	-11.58/-7.85	-5.59/-7.04	-11.96/-6.88	-15.49/-13.9	-12.93/-11.03	-10.84/-12.74	-3.91/-8.9	-20.91/-11.06	-1.58/-3.84	-7.59/-4.06	-19.32/-5.64	-3.09/-4.67	-3.43/-8.57	-8.24/-4.48	-9/-9
θ(130°)	-8.54/-7.76	-10.19/-9.86	-6.71/-10.5	-14.45/-9.18	-12.34/-10.65	-9.99/-12.91	-13.17/-15.11	-18.05/-20.48	-10.49/-13.68	-8.4/-15.42	-17.84/-7.7	-2.86/-7.91	-7.22/-3.48	-10.63/-12.75	-1.07/-3.04	-8.09/-5.15	-5.08/-3.17	-6.1/-8.03
θ(140°)	-6.5/-9.72	-10.68/-8.74	-11/-9.81	-10.19/-13.13	-8.89/-8.86	-20.19/-20.3	-4.97/-12.61	-13.37/-20.97	-18.3/-11	-12.61/-12.08	-13.3/-4.85	-3.57/-4.46	-4.44/-11.06	-2.66/-4.52	-3.7/-20.82	-7.04/-4.33	-3.9/-8.9	
θ(150°)	-14/-10.18	-15.46/-17.54	-15.16/-18.73	-21.12/-20.14	-19.66/-18.52	-10.81/-6.85	-6.27/-7.51	-9.14/-12.56	-14.49/-10.85	-11.61/-11.73	-13.55/-17.48	-15.48/-5.43	-6.64/-10.21	-12.66/-7.43	-9.64/-7.58	-14.98/-13.27	-9.14/-5.79	-5.38/-9.6
θ(160°)	-14.23/-13.18	-14.11/-14.5	-13.15/-13.26	-13.58/-15.11	-19.7/-15.8	-13.95/-18.21	-20.8/-18.42	-17.41/-17.51	-20.67/-18.74	-20.92/-21.55	-14.37/-12.62	-14.74/-9.72	-8.29/-10.21	-10.84/-10.57	-11.56/-11.54	-9.48/-12.35	-15.81/-15.66	-20.9/-19.01
θ(170°)	-11.05/-14.03	-20.54/-19.28	-20.76/-20.22	-18.84/-13.42	-9.07/-6.71	-6.45/-7.12	-2.96/-8.14	-10.71/-11.56	-12.94/-15.81	-15.54/-14.47	-11.49/-9.66	-9.57/-9.62	-12.03/-12.69	-10.23/-9.45	-7.74/-6.99	-6.65/-5.36	-5.72/-7.66	
θ(180°)	-11.69/-16.81	-20.46/-17.8	-16.41/-14.12	-11.99/-11.2	-10.28/-11.29	-12.18/-10.83	-8.89/-7.61	-6.84/-7.03	-7.92/-9.48	-10.23/-11.98	-15.59/-19.43	-20.88/-18.66	-15.84/-14.11	-14.52/-13.73	-10.78/-8.5	-7.24/-7.27	-7.61/-8.32	-10.53/-10.76
Freq(Hz)	5.785GPol.	PhiAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
θ(0°)	-5.35/-6.33	-7.22/-9.13	-10.1/-11.85	-14.68/-17.76	-20.01/-16.73	-13.98/-12.07	-10.28/-7.55	-5.9/-6.22	-6.5/-6.55	-5.74/-6.37	-7.74/-8.76	-10.34/-12.94	-14.71/-21.32	-19.92/-19.72	-14.59/-12.65	-11.09/-9.05	-7.23/-6.83	-6.65/-5.6
θ(10°)	-2.43/-3	-3.06/-3.81	-4.66/-5.98	-8.61/-11.8	-14.27/-12.97	-11.43/-10.27	-9.98/-8.73	-7.18/-6.36	-5.75/-5.93	-5.62/-4.63	-5.75/-6.68	-8.49/-12.22	-19.09/-21.09	-20.73/-18.85	-13.27/-11.32	-8.92/-6.7	-5.25/-4.2	-3.24/-2.64
θ(20°)	-1.97/-1.83	-2.61/-1.92	-3.01/-4.22	-6.34/-9.36	-3.95/-3.18	-15.34/-15.44	-3.16/-3.47	-4.76/-4.76	-4.43/-6.76	-10.64/-11.96	-10.79/-8.25	-6.17/-4.76	-10.79/-8.25	-6.17/-4.76	-10.79/-8.25	-6.17/-4.76	-2.46/-1.85	
θ(30°)	-0.20/-0.5	-0.41/-1.46	-2.48/-4.33	-7.64/-11.61	-14.14/-11.55	-9.33/-7.18	-6.08/-6.29	-6.29/-4.36	-3.51/-2.72	-3.52/-4.73	-4.77/-5.07	-6.96/-9.06	-9.39/-9.94	-15.29/-21.14	-18.09/-15.34	-13/-9.98	-6.42/-3.75	-1.71/-0.84
θ(40°)	-0.63/-1.12	-1.58/-2.23	-2.6/-1.56	-10.81/-16.48	-16.25/-12.2	-8.83/-6.8	-7.15/-7.23	-5.67/-3.85	-3.56/-4.13	-1.97/-3.1	-3.99/-3.72	-5.01/-8.68	-11.21/-10.3	-13.67/-21.48	-11.03/-9.4	-7.42/-4.83	-2.92/-2.34	-1.41/-1.16
θ(50°)	-0.22/-0.15	-0.47/-1.65	-3.66/-5.32	-10.34/-17.66	-13.78/-12.64	-4.42/-2.76	-3.61/-2.54	-4.22/-2.95	-2.36/-2.13	-3.61/-7.78	-8.62/-11.51	-12.82/-19.78	-12.58/-9.81	-5.86/-4.1	-1.87/-2.98	-1.07/-0.52	-0.98/-0.84	
θ(60°)	-0.39/0.15	-0.36/-1.23	-3.7/-6.96	-13.02/-18.83	-10.73/-13.72	-10.62/-9.71	-10.06/-9.82	-3.49/-1.74	-1.55/-0.33	0.43/-0.33	-1.56/-2.46	-3.16/-5.69	-9.79/-12.26	-16.91/-14.5	-11.58/-8.3	-4.88/-2.83	-1.73/-1.16	-1.83/-1.17
θ(70°)	-0.87/-2.22	-3.12/-3.13	-4.71/-5.41	-10.55/-21.58	-10.87/-18.92	-16.89/-16.35	-14.6/-6.32	-2.08/-1.47	-0.54/-1.4	2.771/5.5	-2.09/-2.96	-3.5/-6.35	-10.83/-12.39	-12.45/-11.08	-7.54/-9.69	-7.16/-8.21	-2.5/-3.32	-2.17/-1.74
θ(80°)	-4.42/-5.22	-6.69/-8.15	-6.36/-6.54	-16.1/-17.3	-14.35/-21.21	-10.19/-7.48	-3.46/-2.94	-2.48/0.17										



Radiated Composite Gain Data

Appendix A

Θ(150°)	-5.74/-5.77	-7.13/-9.3	-10.52/-9.99	-9.69/-10.4	-11.56/-11.94	-11.49/-11.77	-13.11/-15.24	-15.97/-14.98	-14.02/-13.72	-14.49/-14.74	-14.39/-13.55	-12.44/-11.22	-10.87/-12.49	-15.18/-15.82	-14.02/-11.32	-8.78/-7.08	-6.5/-7.13	-7.59/-6.72
Θ(160°)	-14.49/-15.35	-16.49/-16.52	-16.33/-15.33	-13.97/-12.16	-10.7/-10.37	-11.05/-12.78	-15.63/-19.1	-19.99/-20.5	-20.05/-20.21	-20.83/-18.93	-17.66/-16.14	-14.42/-12.91	-12.43/-13.23	-14.37/-15.61	-14.68/-13.26	-11.66/-14.24	-9.45/-9.94	-11.11/-12.97
Θ(170°)	-13.16/-13.49	-16.93/-18.17	-18.14/-16.85	-15.89/-14.64	-13.6/-14.12	-17.01/-21.35	-20.55/-20.37	-21.22/-20.04	-19.24/-19.12	-18.63/-18.18	-17.75/-16.73	-15.52/-14.77	-14.69/-15.31	-16.32/-14.99	-13.31/-11.79	-10.86/-10.29	-10.61/-12.96	-10.14/-12.76
Θ(180°)	-20.7/-20.02	-19.49/-20.49	-20.99/-20.45	-19.9/-20.58	-21.03/-21.06	-20.89/-18.99	-16.57/-14.91	-13.52/-12.64	-12.23/-12.48	-13.21/-14.13	-15.26/-16.45	-18.08/-20.5	-20.71/-19.96	-20.48/-19.59	-20.46/-20.99	-20.54/-20.29	-21.01/-20.12	-21.51/-21.31
Freq(Hz)	5.2G/Pol.	PhiAnt. 3	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-21.25/-14.46	-9.67/-6.28	-4.43/-3.02	-2.14/-1.25	-0.38/-0.14	-0.04/-0.14	-0.68/-1.68	-3.25/-5.28	-8.4/-14.3	-19.65/-14.21	-8.8/-5.75	-4.08/-2.73	-1.57/-1.13	-0.72/-0.35	-0.25/-0.49	-1.05/-1.97	-3.65/-5.89	-8.74/-14.78
Θ(10°)	-20.73/-13.08	-8.8/-6.16	-3.87/-2.59	-1.6/-0.8	-0.63/-0.76	-0.75/-1.15	-1.71/-2.91	-4.9/-7.43	-11.18/-17.02	-20.53/-13.59	-9.15/-6.43	-4.31/-2.95	-1.94/-1.27	-0.92/-0.78	-0.87/-1.46	-2.28/-3.81	-5.76/-8.37	-12.07/-20.85
Θ(20°)	-16.25/-11.92	-8.77/-5.63	-3.87/-2.87	-1.96/-1.58	-1.36/-1.06	-1.42/-2.13	-3.2/-4.66	-6.75/-9	-11.55/-16.19	-21.23/-14.86	-9.16/-5.84	-3.82/-2.73	-2.1/-1.81	-1.75/-1.46	-1.46/-1.56	-2.22/-3.56	-5.79/-9.67	-15.53/-21.1
Θ(30°)	-16.81/-11.44	-8.05/-5.58	-3.53/-2.19	-1.34/-1.37	-1.66/-2.03	-2.44/-2.64	-3.02/-4.29	-6.05/-7.5	-10.48/-16.67	-19.84/-14	-10.21/-7.79	-5.32/-4.05	-3.72/-3.73	-3.86/-4.48	-4.62/-5.37	-6.89/-8.36	-10.24/-13.24	-17.46/-20.22
Θ(40°)	-16.35/-21.09	-14.28/-8.43	-5.5/-3.21	-1.84/-1.38	-1.71/-2.2	-3.27/-5.18	-7.07/-7.07	-7.41/-9.64	-15.38/-21.16	-15.18/-10.43	-9.68/-10.13	-9.88/-7.37	-5.57/-5.17	-5.59/-6.59	-7.45/-7.87	-7.27/-8.76	-12.79/-13.63	-11.27/-12.72
Θ(50°)	-10.37/-11.49	-11.57/-8.28	-5.02/-2.81	-1.65/-0.89	-0.64/-0.81	-1.94/-3.88	-6.51/-8.93	-9.79/-12.38	-19.17/-16.88	-12.78/-11.24	-11.92/-12.82	-9.44/-7.32	-6.04/-5.51	-7.01/-7.37	-6.13/-4.54	-4.13/-6.04	-8.72/-9.32	-7.89/-7.95
Θ(60°)	-11.66/-17.99	-14.29/-9.15	-6.56/-4.67	-2.54/-1	-0.96/-1.15	-2.35/-4.71	-7.1/-8.29	-8.21/-9.26	-14.23/-20.45	-18.33/-13.21	-11.81/-10.37	-13.48/-10.17	-7.23/-5.31	-6.2/-6.52	-6.03/-5.49	-5.08/-5.6	-8.25/-8.5	-6.98/-9.11
Θ(70°)	-20.61/-21.09	-19.02/-11.12	-7.93/-5.87	-4.13/-2.32	-1.3/-1.83	-3.34/-5.78	-8.05/-9.57	-11.54/-12.56	-15.8/-20.72	-18.06/-10.66	-7.86/-8.86	-7.84/-7.05	-6.4/-6.12	-4.84/-6.38	-5.37/-3.39	-2.84/-5.61	-8.62/-10.53	-13.36/-17.77
Θ(80°)	-20.77/-14.21	-17.18/-20.91	-17.24/-11.53	-6.52/-4.04	-1.98/-1.72	-2.83/-4.76	-8.73/-11.04	-8.4/-9.11	-12.68/-19.94	-21.31/-10.68	-8.4/-9.11	-7.71/-6.67	-5.21/-5.53	-4.31/-5.31	-2.63/-5.29	-9.84/-10.87	-13.05/-19.88	-13.05/-19.88
Θ(90°)	-15.29/-11.33	-10.61/-13.36	-20.39/-15.76	-10.02/-5.77	-3.2/-2.9	-5.56/-6.61	-8.91/-13.91	-10.9/-9.61	-13.53/-21.34	-14.96/-10.12	-8.99/-10.28	-10.22/-9.62	-7.68/-6.22	-5.58/-3.67	-6.14/-4.38	-3.06/-5.22	-7.97/-10.45	-13.96/-20.32
Θ(100°)	-19.61/-11.7	-8.04/-6.28	-7.21/-9.5	-11.94/-9.5	-4.96/-4.61	-4.75/-6.72	-7.26/-7.39	-7.56/-9.42	-15.83/-13.59	-12.79/-13.64	-13.67/-13.49	-15.68/-12.08	-8.23/-6.07	-7.18/-6.83	-6.7/-4.9	-10.62/-13.97	-12.64/-19.93	-12.64/-19.93
Θ(110°)	-19.86/-13.39	-9.56/-7.21	-7.28/-9.01	-6.56/-4.31	-5.47/-8.86	-6.95/-6.1	-13.24/-12.43	-13.54/-18	-15.09/-20.19	-19.86/-15.13	-13.24/-12.43	-13.54/-18	-14.88/-11	-15.23/-12.88	-14.88/-11	-15.23/-12.88	-12.78/-20.62	-12.78/-20.62
Θ(120°)	-20.22/-21.72	-12.72/-8.9	-7.69/-7.27	-7.36/-6.4	-6.7/-8.63	-9.5/-6.22	-6.04/-6.17	-7.53/-9.54	-13.34/-19.7	-14.99/-9.75	-8.84/-7.85	-9.05/-15.93	-16.83/-11.19	-9.81/-7.98	-10.16/-9.31	-11.57/-12.13	-13.25/-14.52	-14.32/-17.26
Θ(130°)	-19.62/-21.03	-14.02/-10.28	-6.53/-5.12	-4.96/-6.24	-4.64/-2.7	-3.61/-5.67	-7.78/-9.4	-10.81/-11.37	-13.43/-12.75	-14.06/-10.66	-7.64/-13.86	-20.58/-10.58	-11/-10.46	-9.63/-10.05	-11.34/-11.83	-7.71/-10.28	-9.09/-13.95	-9.33/-13.92
Θ(140°)	-15.82/-6.98	-15.72/-7.48	-5.25/-4.03	-3.97/-3.64	-1.99/-2.03	-3.46/-4.04	-10.36/-13.45	-16.18/-16.39	-19.87/-12.82	-9.56/-12.66	-13.07/-12.82	-13.75/-9.56	-16.59/-13.88	-9.57/-12.08	-13.75/-9.56	-16.59/-13.88	-13.87/-11.84	-13.87/-11.84
Θ(150°)	-14.01/-18.76	-12.19/-7.41	-4.45/-2.56	-1.66/-2.28	-3.19/-3.72	-4.26/-4.68	-7.02/-11.21	-13.96/-13.85	-14.95/-14.93	-20.25/-21.45	-14.16/-12.58	-10.86/-14.75	-17.01/-16.83	-9.83/-8.01	-11.79/-17.25	-11.4/-8.82	-7.62/-8.79	-9.66/-11.27
Θ(160°)	-15.64/-18.25	-13.66/-9.52	-7.08/-6.69	-5.15/-5.15	-5.58/-5.41	-4.54/-4.2	-5.27/-8.01	-12.67/-20.31	-18.07/-15.99	-20.88/-20.91	-16.89/-16.11	-11.92/-9.29	-10.68/-17.04	-21.33/-15.78	-13.6/-11.34	-9.68/-10.1	-10.85/-10.9	-11.23/-12.23
Θ(170°)	-20.15/-17.84	-14.77/-11.61	-9.89/-8.31	-7.65/-7.14	-7.21/-7.74	-8.01/-8.89	-20.15/-21.06	-15.96/-11.77	-8.77/-13.3	-10.92/-15.34	-9.88/-7.9	-14.32/-17.06	-20.99/-20.79	-15.89/-11.85	-10.11/-11.09	-14.32/-19.76	-20.68/-20	-20.68/-20
Θ(180°)	-13.02/-14.26	-16.2/-16.69	-17.76/-19.78	-19.86/-20.48	-19.78/-18.52	-18.6/-18.76	-16.46/-15.2	-14.48/-15.06	-16.28/-16.58	-16.4/-16.46	-15.61/-15.38	-15.66/-16.33	-18.58/-20.95	-18.62/-15.08	-13.1/-12.71	-12.2/-12.93	-13.71/-13.51	-13.68/-13.5
Freq(Hz)	5.2G/Pol.	ThetaAnt. 3	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-0.75/-0.68	-1.2/-1.92	-2.84/-4.22	-6.02/-9.18	-14.23/-21.29	-14.78/-9.43	-5.8/-3.84	-2.36/-1.27	-0.59/-0.13	0.02/-0.24	-0.92/-1.69	-2.91/-4.48	-6.3/-9.27	-13.33/-20.15	-15.21/-9.17	-6.05/-3.84	-2.16/-1.5	-0.77/-0.67
Θ(10°)	-1.64/-1.91	-2.22/-2.67	-3.88/-5.52	-8.06/-11.91	-21.03/-17.15	-10.3/-6.68	-4.47/-2.83	-1.71/-0.74	-0.24/-0.02	-0.07/-1.07	-0.66/-1.47	-2.69/-4.54	-6.69/-9.34	-13.95/-20.9	-18.31/-10.98	-7.05/-4.85	-3.5/-2.7	-2.11/-1.87
Θ(20°)	-5.06/-4.77	-4.98/-5.12	-5.63/-6.78	-10.74/-14.98	-20.45/-18.42	-10.99/-7.16	-0.65/-1.29	-0.81/-0.23	-0.01/-0.23	-0.65/-1.29	-2.12/-4.96	-8.4/-5.36	-4.2/-3.76	-13.15/-19.94	-12.24/-10.58	-8.4/-5.36	-4.2/-3.76	-3.81/-4.29
Θ(30°)	-5.83/-5.35	-4.77/-5.1	-6.64/-9.51	-13.68/-20.27	-20.97/-13.65	-9.17/-6.25	-4.33/-2.98	-2.21/-1.25	-0.38/-0.1	-0.10/-2.1	0.41/-0.04	-0.92/-2.57	-5.45/-9.54	-14.64/-18.38	-19.71/-14.84	-12.29/-10.24	-8.65/-7.62	-6.67/-6.04
Θ(40°)	-12.93/-11.42	-10.02/-10.28	-13.31/-15.58	-21.09/-20.35	-14.37/-10.16	-7.37/-17.57	-4.13/-3.03	-1.62/-0.56	0.14/-0.02	-0.21/-0.62	-1.13/-1.48	-1.46/-1.94	-3.19/-4.69	-6.85/-9.29	-11.85/-15.75	-19.23/-13.96	-10.15/-9.87	-11.49/-12.57
Θ(50°)	-21.51/-17.31	-14.59/-13.32	-14.45/-16.08	-16.95/-12.56	-8.41/-5.26	-3.98/-3.26	-1.83/-0.1	-1.12/-0.5	-0.13/-1.47	1.12/-0.5	-0.07/-6.7	-1.87/-4.12	-15.01/-9.65	-6.07/-6.7	-7.59/-9.13	-12.03/-19.92	-10.96/-9.41	-10.96/-9.41
Θ(60°)	-19.36/-20.13	-20.79/-20.22	-14.53/-10.41	-9.45/-9.31	-6.94/-4.48	-3/-2.45	-2.72/-4.43	-0.90/-8.2	2.65/0.65	0.03/-0.15	0.18/-0.09	-1.58/-2.2	-3.22/-5.7	-7.86/-8.88	-7.17/-7.34	-10.87/-15.4	-13.45/-9.53	-10.86/-12.84
Θ(70°)	-10.67/-12.2	-12.85/-12.69	-10.03/-8.39	-6.85/-7.06	-5.09/-1.65	-0.51/-0.14	-1.62/-4.84	-1.54/-0.29	0.58/0.89	-0.18/-1.14	1.08/0.61	-2.19/-3.41	-3.94/-6.18	-6.95/-8.92	-8.35/-10.07	-13.11/-21.03	-14.53/-11.1	-10.91/-8.77
Θ(80°)	-9.28/-9.37	-9.75/-9.2	-8.12/-6.74	-5.75/-5.45	-0.05/-0.7	-0.05/-0.7	-0.521/0.65	0.38/-1.23	1.01/-1.44	-0.521/0.65	-3.73/-5.8	-4.1/-5.06	-12.61/-20.64	-9.77/-9.19	-10.81/-10.66	-8.28/-4.16	-1.55/-2.28	-1.55/-2.28
Θ(90°)	-6.31/-6.39	-5.41/-5.43	-5.06/-5.58	-4.28/-4.61	-3.77/-0.74	0.5/-0.55	-1.12/-4.61	-2.22/-0.11	-0.66/-0.43	-0.771/3.2	0.54/-0.79	-3.3/-2.86	-0.64/-2.85	-3.3/-5.23	-10.59/-5.37	-6.52/-12.08	-9.08/-7.95	-5.93/-6.23
Θ(100°)	-4.58/-3.82	-3.07/-2.4	-2.34/-3.8	-3.84/-4.67	-5.07/-3	-2.28/-3.74	-3.19/-4.71	-4.24/-3.71	-4.53/-3.04	-3.95/-4.14	-1.31/-2.59	-4.88/-4.04	-0.63/-2.67	-2.53/-3.17	-7.28/-4.14	-6.13/-14.53	-6.83/-4.56	-4.13/-3.61
Θ(110°)	-3.15/-3.2	-2.96/-2.06	-2.47/-6.04	-6.17/-7.19	-6.02/-3.88	-4.26/-5.15	-2.71/-6.39	-4.7/-6.21	-8.2/-7.7	-8.83/-3.77	-6.2/-9	-9.75/-12.21	-4.89/-7.82	-4.37/-6.04	-8.4/-6.51	-6.14/-12.66	-8.28/-4.16	-1.55/-2.28
Θ(120°)	-2.22/-2.1	-0.56/-0.05	-0.67/-1.78	-3.87/-4.31	-4.02/-4.46	-6.37/-6.7	-9.52/-12.78	-13.86/-8.34	-9.5/-19.96	-7.36/-9.69	-7.62/-8.29	-12.06/-10.09	-14.66/-8.93	-8.54/-7.72	-2.53/-3.44	-14.66/-8.93	-8.54/-7.72	-2.53/-3.44
Θ(130°)	-3.88/-2.92	-1.24/-0.3	-0.87/-1.86	-2.77/-2.61	-1.89/-1.33	-5.35/-2.74	-8.58/-8.28	-6.85/-7.58	-11.89/-13.09	-19.92/-10.01	-14.22/-13.13	-9.26/-8.05	-10.19/-10.78	-8.11/-5.41	-8.74/-9.85	-8.8/-6.4	-5.7/-5.94	-3.47/-3.79
Θ(140°)	-5.42/-2.73	-1.38/0.25	0.31/-0.71	-2/-2.78	-3.09/-4.24	-6.32/-8.15	-12.81/-18.05	-11.83/-14.04	-15.79/-18.5	-20.63/-12.99	-13.69/-16.62	-13.46/-14.23	-13.58/-12.24	-7.86/-6.3	-9.63/-15.87	-13.45/-8.98	-7.72/-7.59	-6.57/-6.53
Θ(150°)	-3.47/-3.31	-1.97/-1.17	-1.26/-1.96	-3.07/-4.56	-5.82/-6.17	-19.38/-17.12	-13.16/-20.49	-13.16/-20.49	-13.16/-20.49	-14.22/-11.09	-10.12/-12.03	-20.29/-19.92	-16.4/-9.19	-6.78/-8.29	-15.7/-15.85	-12.03/-7.01	-4.92/-3.04	-2.15/-2.94
Θ(160°)	-5.41/-4.31	-3.16/-2.84	-3.44/-4.36	-5.85/-7.74	-9.36/-10.7	-14.04/-18.15	-15.85/-12.86	-11.95/-12.25	-15.23/-19.92	-15.44/-13.69	-17.4/-20.46	-20.44/-20.32	-15.44/-11.1	-11.35/-13.48	-14.28/-11.3	-8.48/-7.09	-6.34/-5.59	-4.98/-5.17
Θ(170°)	-11.87/-10.95	-10.66/-10.03	-11.25/-13.97	-17.17/-19.16	-19.14/-17.95	-16.08/-14.03	-13.13/-14.48	-18.51/-18.32	-15.38/-12.57	-10.62/-10.13	-10.84/-13	-18.41/-21.11	-16.81/-14.97	-15.				



Radiated Composite Gain Data

Appendix A

Θ(40°)	-7.73/-9.27	-10.76/-13.78	-15.6/-16.96	-20.57/-20.81	-12.88/-8.53	-5.94/-4.66	-3.73/-2.66	-0.29/0.59	1.27/-1.1	0.66/0.32	-0.6/-1.29	-2.29/-3.38	-5.49/-7.81	-8.66/-11.08	-16.18/-15.47	-12.3/-10.43	-8.56/-7.98	-7.08/-7.23
Θ(50°)	-13.42/-17.67	-18.18/-20.69	-20.28/-19.11	-15.18/-12.12	-8.76/-5.59	-4.13/-3.82	-3.1/-2.9	-0.51/-1.05	2.43/-1.7	0.99/0.26	-0.78/-0.91	-0.97/-1.36	-3.61/-6.16	-7.21/-6.51	-8.34/-11.81	-16.19/-19.61	-13.43/-11.45	-9.93/-11.94
Θ(60°)	-19.46/-17.53	-14.38/-17.24	-14.69/-13.66	-11.79/-9.09	-6.25/-4.88	-1.52/-3.35	-2.45/-0.88	0.25/0.41	1.30/-2.7	-2.45/-0.38	-1.23/-2.63	-1.23/-2.63	-5.54/-9.58	-9.98/-9.11	-17.59/-20.23	-21.28/-19.23	-17.31/-21.08	
Θ(70°)	-14.58/-12.92	-13.24/-14.28	-16.44/-14.11	-6.59/-3.13	-3.1/-1.28	-0.22/-1.47	-2.52/-3.56	-2.76/0.61	1.22/0.86	0.73/-1.78	1.42/0.27	-2.51/-3.23	-6.32/-12.89	-14.78/-14.18	-10.73/-9.98	-15.25/-13.35	-19.42/-19.69	-20.82/-18.01
Θ(80°)	-8.97/-10.05	-11.07/-13.05	-15.53/-14.86	-6.48/-2.28	-2.1/-0.88	0.71/-0.1	-2.18/-4.6	-4.63/-0.08	1.18/0.24	0.24/-1.06	0.39/-1.52	-3.67/-3.15	-3.78/-7.09	-5.68/-7.96	-6.88/-8.54	-9.75/-15.23	-20.37/-20.33	-15.21/-11.81
Θ(90°)	-5.71/-6.26	-6.6/-7.37	-10.42/-13.58	-6.53/-1.84	-0.15/-0.78	-1.74/-0.1	-1.44/-1.65	-0.84/-1.57	-2.4/-1.4	-6.14/-1.89	0.15/-0.48	-2.2/-8.7	-10.35/-9.32	-17.05/-18.97	-9.52/-7.71	-10.35/-9.32	-17.05/-18.97	-9.52/-7.71
Θ(100°)	-3.26/-4.29	-2.77/-3.91	-5.18/-8.89	-6.27/-2.77	-4.29/-3	-0.66/-2.78	-3.93/-4.2	-7.62/-3.61	-0.98/-2.56	-2.65/-1.51	-1.69/-5.08	-7.79/-4.7	-3.27/-5.92	-3.12/-8.67	-7.34/-5.44	-12.97/-10.46	-11.91/-15.03	-6.68/-5.27
Θ(110°)	-3.05/-3.97	-2.46/-2.86	-3.43/-6.41	-4.72/-3.61	-5.73/-4.9	-2.18/-2.49	-3/-3.51	-7.93/-5.95	-4.29/-7.18	-7.7/-5.15	-5.46/-7.99	-9.25/-12.74	-6.65/-20.81	-4.85/-9.17	-7.32/-4.62	-11.89/-20.36	-11.94/-13.7	-5.53/-5.56
Θ(120°)	-2.73/-2.51	-1.25/-1.06	-0.81/-1.26	-2.33/-3.44	-4.34/-4.61	-5.7/-5.07	-6.52/-8.16	-11.21/-12	-11.03/-17.47	-17.76/-13.38	-10.99/-18.74	-18.81/-17.81	-9.65/-20.27	-9.18/-12.63	-13.22/-8.56	-15.17/-14.33	-11.01/-12.98	-6.05/-6.56
Θ(130°)	-3.86/-2.15	-2.06/-1.5	-1.34/-1.7	-2.1/-2.67	-3.4/-3.27	-3.29/-3.14	-4.75/-7.91	-11/-11.36	-11.61/-13.54	-17.2/-20.93	-20.38/-17.2	-17.54/-12.98	-11.18/-14.49	-7.48/-6.75	-10.71/-9.14	-9.86/-9.72	-10.38/-6.94	-3.11/-3.52
Θ(140°)	-5.56/-3.68	-1.66/-0.51	-0.44/-0.63	-1.26/-1.5	-2.4/-4.37	-6.72/-10.25	-11.91/-15.82	-19.28/-13.74	-13.28/-14.34	-18.69/-18.41	-20.44/-17.5	-20.09/-13.48	-13.28/-21.04	-10.13/-6.37	-8.39/-17.78	-11.15/-9.42	-10.21/-17.65	-10.05/-8.8
Θ(150°)	-2.13/-1.56	-0.63/0.03	-0.13/-0.73	-2.2/-4.82	-7.09/-7.86	-12.76/-10.42	-20.04/-15.09	-12.96/-12.56	-12.76/-10.42	-9.88/-10.76	-15.99/-21.25	-20.96/-11.61	-12.77/-11.83	-11.91/-18.66	-12.7/-6.86	-6.11/-4.93	-3.81/-2.98	
Θ(160°)	-3.07/-2.4	-1.85/-2.12	-2.77/-3.81	-5.14/-7.26	-9.68/-10.84	-11.13/-12.63	-13.67/-14.65	-14.8/-13.99	-12.56/-12.32	-13.51/-16.66	-19.73/-20.32	-15.22/-12.56	-15.72/-20.65	-20.82/-17.63	-21.14/-15.61	-14/-14.09	-8.93/-6.42	-4.08/-3.75
Θ(170°)	-11.21/-9.84	-9.01/-8.05	-8.04/-9.02	-10.2/-12.02	-13.31/-15.06	-14.54/-11.03	-9.27/-9.55	-11.14/-13.6	-15.35/-16.35	-13.94/-13.31	-14.72/-18.4	-19.98/-20.04	-16.25/-13.99	-13.76/-14.36	-15.27/-15.46	-13.9/-11.07	-9.3/-8.25	-9.7/-10.72
Θ(180°)	-16.04/-16.89	-19.75/-17.2	-16.25/-15.8	-14.61/-16.22	-17.03/-18.47	-19.43/-20.01	-19.41/-21.33	-20.4/-16.72	-17.47/-17.34	-19.32/-21.04	-20.13/-20.43	-19.5/-20.6	-20.63/-20.65	-20.7/-21.1	-19.22/-21.4	-19.71/-20.73	-19.46/-20.05	-17.17/-17.53
Freq(Hz)	5.785G/Pol.	PhiAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-19.94/-16.44	-1.25/-7.16	-4.79/-3.31	-1.86/-0.73	-0.53/-0.44	-0.71/-0.82	-1.13/-1.87	-3.07/-4.88	-7.3/-11.06	-16.58/-16.44	-10.74/-6.73	-3.94/-2.06	-1.41/-2.64	0.12/0.14	-0.11/-0.53	-0.17/-3.94	-4.11/-6.46	-9.58/-13.52
Θ(10°)	-14.18/-12.78	-9.8/-7.42	-5.73/-4.49	-3.31/-2.57	-2.43/-2.44	-2.25/-2.08	-2.23/-2.5	-3.74/-5.31	-8.26/-13.02	-20.92/-16.47	-9.56/-6.45	-4.12/-2.62	-1.76/-1.15	-0.55/-0.46	-0.49/-1.03	-2.12/-3.56	-5.14/-7.05	-9.27/-12.27
Θ(20°)	-19.61/-13.28	-10.14/-8.78	-7.36/-5.37	-4.31/-3.7	-3.1/-2.43	-1.81/-1.93	-2.32/-3.28	-4.28/-6.35	-9.12/-16.23	-20.09/-13.61	-9.57/-4.23	-3.34/-2.32	-1.42/-3.6	-1.96/-2.67	-4.18/-5.61	-7.8/-10.32	-12.67/-11.57	
Θ(30°)	-17.91/-12.09	-8.53/-3.33	-4.48/-4.26	-4.77/-4.35	-3.91/-3.67	-3.64/-4.48	-9.95/-6.79	-5.15/-4.86	-12.19/-68	-20.39/-15.61	-3.52/-4.15	-4.7/-5.04	-5.06/-4.5	-4.38/-4.45	-6.7/-69	-12.06/-21.27		
Θ(40°)	-16.78/-14.18	-11.17/-8.92	-6.51/-4.99	-4.24/-3.61	-3.14/-2.73	-3.22/-4.18	-4.26/-4.09	-5.61/-8.01	-12.04/-20.07	-18.28/-10.83	-8.63/-6.87	-6.86/-6.68	-5.55/-4.42	-3.2/-3.51	-4.76/-5.83	-7.01/-6.38	-7.65/-10.59	-17.98/-21.11
Θ(50°)	-12.65/-11.84	-10.05/-6.75	-3.17/-3.17	-1.18/-3.12	-2.86/-2.36	-2.5/-2.74	-3.32/-4.02	-4.26/-5.76	-11.05/-19.83	-14/-12.73	-11.36/-10.45	-7.6/-4.72	-2.68/-4.38	-4.19/-4.83	-6.28/-7.41	-8.08/-12.61	-19.94/-15.99	
Θ(60°)	-14.54/-13.48	-10.08/-6.94	-4.44/-2.5	-1.21/-1.71	-2.88/-2.3	-2.38/-3.39	-4.91/-6.58	-7.32/-8.67	-14.47/-19.64	-18.66/-16.97	-13.41/-9.88	-8.68/-9.22	-6.7/-5.34	-4.45/-5.45	-5.94/-7.69	-8.02/-5.15	-6.03/-7.07	-14.20/-75
Θ(70°)	-18.17/-17.68	-15.18/-10.19	-5.36/-3.51	-2.74/-2.65	-1.53/-0.45	-0.93/-3.02	-4.71/-5.64	-5.58/-7.48	-13.81/-18.2	-20.46/-17.99	-13.21/-8	-9.1/-9.68	-8.83/-6.14	-3.53/-5.81	-6.91/-6.14	-6.35/-4.5	-4.89/-8.39	-12.95/-20.85
Θ(80°)	-20.3/-14.52	-12.86/-9.5	-6.04/-3.14	-1.28/-1.16	-1.51/-2.08	-2.5/-4.57	-5.62/-7.67	-6.81/-8.89	-12.58/-14.75	-19.74/-14.27	-12.05/-8.77	-9.03/-8.07	-6.64/-4.62	-2.41/-2.9	-5.04/-6.53	-5.37/-10.56	-7.31/-19.76	
Θ(90°)	-19.79/-13.57	-14.76/-12.25	-9.3/-7.77	-3.34/-3.54	-2.71/-5.58	-1.94/-4.12	-5.99/-8.91	-13.41/-15.61	-6.19/-4.57	-8.98/-9.82	-8.62/-7.6	-10.83/-15.09	-4.82/-7.79	-3.36/-3.28	-10.39/-15.09	-16.61/-21.04		
Θ(100°)	-12.64/-11.84	-11.55/-11.15	-13.33/-11.02	-4.57/-3.36	-2.04/-1.42	-3.46/-9.14	-13.78/-16.22	-12.13/-10.22	-11.44/-12.75	-16.44/-15.32	-13.86/-14.14	-14.29/-10.67	-8.02/-5.88	-5.32/-4.58	-7.67/-6.92	-6.36/-8.36	-10.4/-16.2	-19.08/-15.29
Θ(110°)	-14.06/-10.49	-10.91/-12.6	-9.74/-7.12	-9.03/-13.12	-9.98/-7.85	-9.01/-6.46	-5.57/-7.9	-7.91/-12.14	-13.77/-11.49	-17.35/-20.69	-16.02/-20.92	-16.4/-10.83	-12.58/-12.52	-8.24/-167	-14.65/-16	-20.98/-15.29	-12.72/-14.92	-13.38/-13.3
Θ(120°)	-15.48/-11.7	-10.93/-9.64	-8.83/-9.62	-11.44/-11.97	-10.78/-9.35	-7.81/-6.78	-8.92/-9.67	-11.97/-15.58	-19.57/-20.86	-15.93/-18.65	-12.95/-13.86	-17.21/-13.69	-12.08/-16.26	-12.32/-8.58	-16.95/-19.61	-15.35/-16.28	-17.62/-21.93	-18.2/-18.59
Θ(130°)	-19.75/-21.03	-14.87/-10.28	-8.95/-7.45	-5.84/-6.05	-8.93/-8.71	-11.5/-10.9	-6.63/-6.78	-11.87/-9.41	-11.29/-10.39	-20.23/-6.61	-9.53/-10.7	-5.79/-10.34	-11.51/-17.13	-14.38/-15.31	-20.67/-16.72	-9.87/-17.06	-12.5/-13.86	
Θ(140°)	-21.2/-20.76	-14.25/-14.61	-10.98/-11.92	-10.42/-6.25	-4.57/-5.59	-7.06/-7.31	-9.09/-9.96	-11.61/-13.42	-10.73/-15.38	-8.44/-13.65	-19.32/-16.82	-13.69/-11.96	-12.53/-11.39	-13.68/-13.89	-12.58/-13.79	-10.03/-15.04	-15.83/-18.51	-15.99/-14.27
Θ(150°)	-10.35/-13.25	-11.75/-9.33	-9.15/-8.56	-10.07/-9.68	-6.51/-5.35	-7.32/-10.79	-19.43/-18.69	-12.34/-8.74	-9.41/-18.42	-15.6/-13.26	-10.78/-10.05	-16.09/-14.79	-8.02/-7.08	-12.03/-13.39	-6.97/-5.44	-5.92/-9.34	-11.24/-9.31	
Θ(160°)	-14.4/-20.68	-19.74/-16.53	-12.17/-8.89	-8.35/-10.52	-12.47/-12.68	-8.68/-6.9	-8.17/-12.68	-14.06/-12.63	-20.23/-18.56	-20.06/-20.92	-19.12/-14.96	-9.86/-9.81	-12.24/-14.23	-9.8/-6.93	-5.86/-5.63	-6.55/-10.02		
Θ(170°)	-20.66/-9.105	-19.78/-17.79	-13.63/-12.47	-10.84/-9.59	-9.11/-8.22	-7/-7.1	-9.19/-13.13	-17.03/-17.59	-16.49/-15.88	-16.63/-20.1	-15.22/-11.73	-10.14/-10.52	-13.95/-18.92	-19.88/-18.16	-14.96/-15.44	-13.93/-13.93	-16.87/-18.27	-21.22/-20.47
Θ(180°)	-14.29/-15.8	-17.21/-16.1	-15.4/-18.49	-20.25/-20.53	-18.53/-13.74	-12.36/-12.29	-14.18/-19.92	-20.36/-19.62	-17.93/-15.34	-12.73/-11.41	-10.42/-10.64	-11.74/-12.83	-15.91/-18.73	-20.64/-19.73	-21.2/-18.84	-18.31/-18.68	-18.47/-18.19	-17.25/-15.54
Freq(Hz)	5.785G/Pol.	ThetaAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-0.46/-0.63	-1.11/-1.58	-2.49/-3.74	-5.3/-8.77	-14.35/-21.36	-15.99/-10.28	-6.19/-4.03	-2.31/-1.14	-0.61/-0.29	-0.41/-0.46	-0.71/-1.35	-2.53/-4.01	-6.12/-9.14	-14.78/-19.79	-15.68/-10.02	-6.46/-1.84	-2.79/-1.67	-1.18/-0.62
Θ(10°)	-2.13/-2.64	-3.58/-4.68	-6.12/-7.45	-10.14/-15.03	-20.42/-16.65	-11.51/-7.87	-5.28/-3.33	-1.01/-0.79	-0.02/0.35	0.73/0.86	0.55/-0.1	-0.19/-2.51	-4.34/-7.37	-12.27/-20.49	-16.55/-9.37	-6.07/-4.18	-3.03/-2.29	-1.76/-1.59
Θ(20°)	-4.2/-4.7	-6.12/-7.37	-8.34/-10.1	-13.48/-16.54	-14.28/-10.95	-7.54/-5.2	-2.85/-1.39	-0.68/0.19	0.77/0.99	0.45/-0.61	-1.49/-2.3	-2.57/-3.33	-4.16/-6.3	-10.63/-19.44	-12.76/-8.85	-6.98/-4.99	-4/-4.29	-3.93/-4.23
Θ(30°)	-5.48/-5.93	-7.32/-8.71	-9.91/-12.97	-15.53/-16.84	-15.56/-9.76	-6.12/-4.04	-0.08/0.95	1.42/1.83	1.56/0.67	0.22/-0.03	-1.06/-3.1	-5.22/-8.22	-12.4/-17.84	-17.28/-11.68	-8.33/-7.26	-6.86/-5.59	-5.06/-5.31	
Θ(40°)	-11.56/-11.07	-10.31/-13.33	-19.25/-20	-20.41/-19.13	-16.11/-12.53	-7.51/-4.6	-2.39/-1.32	2.25/2.3	1.59/1.83	1.08/-0.23	-1.36/-3.4	-6.62/-9.43	-8.17/-7.97	-12.01/-14.11	-9.59/-7.09	-7.27/-7.52	-7.63/-9.33	
Θ(50°)	-10.6/-9.62	-8.19/-8.97	-12.46/-20.57	-16.5/-9.87	-8.45/-7.46	-5.28/-3.26	-2.42/-3.12	-1.5/-8.2	1.88/1.7	1.28/1.4	0.17/0.01	-0.13/-0.73	-2.94/-5.09	-4.78/-7.59	-9.04/-12.82	-15.99/-12.39	-9.34/-8.58	-10.72/-11.63
Θ(60°)	-11.66/-10.5	-11.25/-12.23	-14.81/-19.56	-16.6/-14	-8.93/-5.9	-1.76/-0.32	-0.53/-1.62	-1.35/1.79	2.38/1.52	1.38/1.37	1.37/0.63	-0.78/-2.02	-5.02/-6.98	-5.87/-6.01	-7.84/-11.64	-15.99/-20.88	-14.62/-17.25	-16.36/-17.35
Θ(70°)	-13.07/-13.21	-17.68/-20.17	-19.67/-16.97	-7.34/-3.71	-3.41/-2.91	-0.38/0.22	-0.41/-1.83	-1.65/-4.5	2									



Radiated Composite Gain Data

Appendix A

Θ(140°)	-20.45/-14.41	-13.53/-16.78	-13.06/-19.51	-21.13/-17.3	-16.61/-9.95	-8.16/-9.14	-14.51/-11.71	-11.21/-10.8	-11.91/-17.62	-13.28/-20.1	-13.44/-11.8	-6.59/-4.07	-5.4/-4.23	-2.9/-0.13	0.37/-2.84	-6.3/-5.02	-12.04/-15.29	-17/-17.57
Θ(150°)	-18.93/-13.61	-11.31/-12.86	-12.8/-14.27	-15.21/-14.22	-12.03/-10.98	-13.35/-14.97	-11.1/-8.46	-7.72/-9.68	-10.78/-10.3	-12.71/-18.31	-19.01/-14.03	-8.72/-7.44	-6.34/-7.21	-7.55/-4.44	-3.83/-7.6	-17.69/-15.6	-12.46/-17.13	-20.4/-20.66
Θ(160°)	-15.26/-20.12	-20.36/-19.19	-14.04/-10.98	-11.22/-13.84	-15.04/-13.89	-16.27/-20.01	-14.36/-10.13	-8.04/-7.91	-8.76/-10.47	-12.81/-15	-16.51/-16.72	-14.64/-13.32	-13.65/-12.68	-11.75/-12.3	-14.27/-14.01	-16.88/-17.09	-13.62/-14.26	-16.62/-14.22
Θ(170°)	-20.65/-19.76	-18.19/-13.03	-11.68/-11.72	-12.02/-13.82	-14.58/-15.38	-12.53/-10.05	-8.39/-8.27	-9.34/-12.16	-16.93/-21.42	-20.42/-21.11	-19.24/-17.65	-12.76/-10	-8.94/-8.89	-9.96/-10.84	-10.94/-10.88	-11.19/-13.1	-15.52/-18.59	-19.06/-19.92
Θ(180°)	-15.55/-13.77	-12.55/-11.34	-9.21/-7.23	-6.43/-6.32	-6.35/-7.01	-7.87/-9.31	-11.17/-13.03	-14.85/-16.49	-18.27/-17.46	-14.28/-12.3	-10.1/-8.3	-6.88/-6.7	-6.85/-7.23	-7.67/-8.24	-9.02/-10.93	-12.29/-15.5	-20.47/-20.55	-20.92/-18.3
Freq(Hz)	5.2GPol.	ThetaAnt. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)Φ(350°)
Θ(0°)	-1.1/-1.57	-2.1/-3.34	-4.24/-5.8	-7.67/-10.68	-15.96/-21.3	-14.2/-9.28	-5.4/-3.74	-2.59/-1.98	-1.37/-1.14	-1.29/-1.71	-2.23/-3.26	-4.66/-6.39	-9.5/-13.42	-20.25/-19.16	-10.69/-7.45	-4.61/-3.13	-2.03/-1.34	-0.82/-0.86
Θ(10°)	-0.45/-1	-1.86/-3.41	-4.32/-6.11	-7.56/-10.75	-16.42/-20.03	-21.01/-14.04	-9.31/-6.99	-5.21/-4.13	-3.3/-3.8	-4.57/-5.34	-6.8/-8.51	-10.64/-15.06	-20.59/-15.21	-8.42/-5.28	-2.93/-1.65	-0.630/-0.2	0.29/-0.04	
Θ(20°)	-0.56/-0.44	-0.88/-1.69	-3.35/-6.14	-9.05/-12.99	-15.72/-20.91	-21.12/-20.4	-16.08/-12.9	-9.55/-7.47	-6.24/-5.38	-5.22/-5.47	-6.13/-7.01	-7.17/-7.42	-8.81/-12.95	-19.65/-14.24	-7.39/-4.31	-2.63/-1.74	-1.14/-0.71	-0.86/-0.71
Θ(30°)	-0.51/0.19	-0.26/-0.69	-1.73/-3.13	-5.26/-8.33	-11.27/-15.28	-20.1/-20.32	-20.75/-20.02	-17.15/-13.54	-10.33/-8.11	-7.43/-7.07	-7.67/-8.89	-9.73/-11.01	-12.8/-15.11	-16.16/-11.19	-5.69/-2.42	-1.42/-0.86	-1.08/-1.68	-1.85/-1.3
Θ(40°)	0.28/0.89	0.5/-0.88	-2.19/-2.86	-3.85/-5.97	-8.36/-9.61	-7.87/-7.78	-12.81/-10.6	-18.11/-21	-13.61/-9.43	-8.73/-7.82	-7.66/-10.22	-11.25/-13.32	-13.01/-11.58	-11.54/-9.19	-5.99/-4.03	-2.57/-1.63	-0.79/-0.09	0.44/0.6
Θ(50°)	0.36/0.11	-0.66/-2.11	-2.14/-2.15	-2.53/-3.62	-6.26/-8.06	-7.55/-6.97	-7.59/-9.26	-12.53/-11.92	-11.17/-10.95	-10.39/-10.23	-12.59/-13.38	-11.83/-11.39	-10.26/-8.76	-7.19/-4.48	-2.62/-1.69	-2.16/-1.62	-0.46/0.13	1.66/1.2
Θ(60°)	1.06/0.79	0.56/-0.26	-2.3/-2.95	-2.37/-2.42	-4.8/-7.83	-8.34/-17.7	-10.07/-13.88	-12.4/-9.71	-9.83/-9.56	-12.86/-12.95	-14.07/-13.62	-11.98/-11.83	-10.19/-10.75	-8.83/-4.75	-3.74/-4.1	-5.66/-4.09	-0.91/1.25	2.61/2.02
Θ(70°)	1.23/0.66	0.27/-2.03	-3.44/-4.25	-1.84/-0.19	-1.61/-4.74	-12.44/-8.53	-10.88/-19.73	-12.8/-8.81	-6.4/-6.06	-7.08/-6.62	-7.5/-7.98	-10.89/-10.32	-4.78/-3.16	-2.38/-3.36	-4.44/-1.61	0.44/0.12	0.91/1.25	1.96/1.13
Θ(80°)	1.03/0.83	0.28/-1.86	-4.28/-7.32	-3.49/-2.1	-1.81/-4.64	-6.63/-5.88	-8.11/-14.43	-21.01/-12.75	-6.89/-5.47	-5.95/-4.57	-6.13/-6.57	-9.12/-7.01	-7.33/-5.61	-3/-0.56	-0.57/-1.45	-1.44/-1.44	0.06/-0.77	0.23/-0.2
Θ(90°)	1.39/-0.06	-0.17/-1.48	-4.25/-9.55	-3.94/-2.22	-2.41/-6.9	-9.61/-6.99	-5.27/-13.92	-12.05/-9.99	-4.05/-4.98	-2.55/-2.8	-3.12/-3.89	-4.13/-3.2	-1.55/-0.55	-0.59/-3.03	-2.47/-3	-0.42/-0.06	-0.66/0.09	
Θ(100°)	-1.1/-2.07	-1.39/-2.04	-5.91/-9.46	-3.63/-2.41	-3.44/-6.58	-7.69/-7.1	-2.17/-12.32	-9.27/-11.93	-1.03/-1.24	-1.79/-1.16	-1.05/-2.97	-2.72/-4.35	-1.97/-2.15	-1.74/-1.99	-2.03/-2.55	-1.47/-1.02	-3.13/-3.04	
Θ(110°)	-4.37/-4.49	-3.19/-4.49	-14.28/-13.34	-5.58/-4.06	-5.72/-8.26	-6.92/-5.87	-7.89/-12.3	-8.69/-9.07	-3.03/-2.86	-0.74/-0.8	-3.21/-2.64	-1.32/-0.29	-4.14/-5.15	-4.12/0.2	-2.69/-2.62	-1.4/-3.51	-4.68/-8.55	-11.33/-8.76
Θ(120°)	-7.56/-6.58	-9.15/-8.12	-17.7/-14.2	-9.72/-11.92	-13.15/-12.68	-8.17/-12.49	-11.19/-12.38	-11.93/-5.3	-2.92/-4.61	-0.72/1.1	-1.81/-1.58	0.15/-0.11	-4.46/-7.59	-6.93/-2.03	-8/-13.38	-6.11/-9.39	-9.3/-10.05	-12.64/-12
Θ(130°)	-11.58/-12.56	-16.08/-19.29	-20.04/-16.33	-19.15/-20.21	-20.89/-14.31	-7.92/-4.07	-11.49/-11.93	-10.55/-13.43	-4.36/-7.97	-1.45/-4.09	-4.27/-3.67	-0.22/-1.76	-2.26/-6.82	-6.83/-2.59	-8.76/-20.85	-16.78/-12.21	-12.95/-11.56	-19.04/-16.76
Θ(140°)	-11.41/-18.28	-21.04/-15.12	-20.86/-20.37	-20.13/-19.49	-20.94/-13.3	-8.77/-12.78	-20.46/-15.88	-7.56/-6.6	-20.41/-8.07	-2.13/-1.1	-5.22/-5.59	-3.21/-1.88	-3.82/-11.26	-10.93/-4.73	-6.96/-19.52	-20.92/-12.59	-10.18/-16.08	-15.54/-12.12
Θ(150°)	-9.39/-8.2	-11.88/-20.25	-17.16/-17.48	-20.63/-20.79	-12.95/-8.96	-7.51/-8.39	-9.44/-9.19	-7.06/-8.16	-6.14/-3.55	-3.44/-5.23	-7.33/-8.24	-7.75/-7.23	-8.61/-10.66	-11.5/-9.11	-9.75/-15.31	-15.41/-18.02	-13.27/-13.54	-17.7/-13.62
Θ(160°)	-18.27/-16.62	-13.84/-10.86	-12.42/-17.46	-20.43/-18.38	-12.88/-10.31	-9.86/-10.31	-4.1/-3.09	-2.27/-2.48	-3.62/-5.95	-9.19/-11.25	-12/-11.27	-11.82/-11.67	-10.95/-9.26	-11.19/-13.47	-7.48/-8.85	-12.43/-10.52	-11.51/-12.75	
Θ(170°)	-12.23/-8.24	-7.18/-8.18	-11.22/-16.3	-20.5/-19.74	-18.16/-16.34	-17.14/-19.02	-16.38/-11.85	-9.31/-8.43	-8.56/-10.04	-13.43/-17.2	-15.75/-13.75	-13.04/-14.77	-20.34/-20.88	-20.22/-15.29	-13.58/-11.52	-9.48/-9.24	-9.73/-13.87	-20.66/-17.21
Θ(180°)	-14.09/-15.21	-17.65/-16.02	-14.76/-16.53	-20.57/-20.28	-17.61/-14.61	-11.36/-9.15	-7.43/-6.61	-6.37/-5.92	-5.44/-5.43	-6.61/-6.87	-7.91/-10.35	-13.62/-16.54	-17.6/-17.82	-14.62/-13.87	-9.91/-7.61	-6.91/-6.94	-8.58/-11.6	-13.04/-14.16
Freq(Hz)	5.3GPol.	PhiAnt. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)Φ(350°)
Θ(0°)	-13.27/-11.79	-9.48/-6.2	-3.68/-1.63	-0.54/-0.03	0.24/0.26	-0.16/-0.94	-1.92/-3	-4.52/-7.27	-10.92/-15.13	-18.99/-13.58	-8.87/-5.95	-3.81/-2.32	-1.22/-0.63	-0.36/-0.04	-0.36/-1.24	-1.95/-2.78	-4.09/-6.89	-10.11/-12.81
Θ(10°)	-11.75/-10.28	-8.07/-5.89	-4.34/-2.95	-1.93/-1.67	-1.54/-1.2	-1.72/-2.84	-4.39/-5.94	-8.76/-12.38	-17.95/-20.83	-15.23/-9.77	-7.19/-5.61	-4.05/-2.96	-2.27/-1.83	-0.78/-0.06	0.18/-0.18	-1.14/-2.45	-4.64/-7.57	-12.46/-14.97
Θ(20°)	-14.68/-11.39	-9.51/-8.01	-7.03/-5.63	-4.08/-2.98	-2.14/-1.8	-9.32/-7.85	-9.84/-12.81	-16.44/-14.83	-9.22/-7.33	-3.75/-2.8	-5.68/-4.62	-1.22/-3.23	-2.43/-1.73	-0.73/-0.36	-0.66/-0.51	-6.65/-10.15	-19.74/-20.99	
Θ(30°)	-19.64/-14.36	-9.97/-7.78	-6.28/-5.08	-4.22/-3.75	-3.18/-2	-1.66/-1.8	-1.93/-9.03	-6.72/-4.71	-3.76/-3.42	-3.16/-1.72	-0.43/-0.97	0.84/-6.76	-2.66/-5.78	-9.37/-14.71	-17.53/-20.7			
Θ(40°)	-10.85/-10.62	-8.06/-5.95	-5.21/-3.84	-2.53/-1.92	-2.12/-2.68	-1.78/-1.22	-2.07/-4.29	-7.74/-10.86	-13.84/-18.79	-20.68/-15.38	-10.18/-6.93	-4.87/-4.26	-4.9/-5.21	-3.39/-1.95	-1.41/-2.7	-7.48/-5.49	-6.17/-7.21	-10.55/-13.44
Θ(50°)	-8.77/-7.97	-7.05/-6.18	-3.92/-2.47	-1.7/-2.13	-5.96/-5.67	-8.34/-11.77	-2.82/-2.25	-2.42/-2.51	-7.2/-4.49	-20.52/-16.08	-10.38/-7.76	-6.49/-6.34	-5.58/-4.91	-4.27/-3.59	-4.54/-6.03	-7.43/-5.8	-5.27/-6.79	-7.35/-10.2
Θ(60°)	-14.6/-8.47	-4.69/-3.19	-2.74/-3.02	-3.03/-2.61	-2.67/-3.28	-2.62/-2.63	-4.16/-6.39	-5.52/-3.72	-4.99/-8.48	-19.65/-20.24	-12/-8.81	-9.67/-9.73	-9.56/-9.14	-6.65/-9.58	-5.11/-6.81	-8.86/-8.36	-9.48/-8.65	-11.37/-13.04
Θ(70°)	-16.37/-11.18	-8.56/-7.19	-4.9/-4.71	-4.48/-4.75	-4.33/-2.3	-1.67/-2.4	-3.89/-5.89	-5.01/-4.17	-5.84/-10.78	-19.66/-16.15	-12.21/-9.12	-8.96/-7.02	-7.45/-7.11	-6.89/-5.95	-5.8/-6.1	-8.1/-7.05	-7.52/-9.19	-16.4/-19.14
Θ(80°)	-13.85/-11.77	-8.57/-8.32	-8.79/-8.74	-4.76/-5.41	-6.14/-5.34	-7.32/-2.8	-4.62/-7.04	-5.21/-3.9	-7.01/-11.59	-19.98/-15.32	-11.64/-10.34	-8.47/-12.49	-9.25/-6.63	-7.03/-9.35	-9.25/-6.63	-11.5/-9.71	-15.1/-16.21	-16.06/-20.56
Θ(90°)	-17.06/-15.15	-11.21/-10.14	-10.99/-9.85	-7.52/-5.95	-5.19/-3.84	-4.29/-5.79	-8.21/-8.74	-8.36/-6.14	-8.78/-11.51	-15.81/-15.7	-15.62/-12.36	-5.72/-5.13	-13.6/-15.87	-11.28/-10.27	-11.25/-11.67	-12.62/-14.89	-10.7/-16.1	-16.16/-20.22
Θ(100°)	-15.71/-10.6	-12.24/-9.88	-12.59/-11.28	-12.98/-11.28	-5.73/-4.83	-3.73/-7.29	-11.04/-11.61	-9.83/-9.73	-14.17/-17.05	-9.38/-9.52	-15.02/-10.08	-6.78/-7.99	-7.57/-4.43	-7.34/-8.85	-10.13/-7.82	-11.01/-10.14	-15.23/-14.25	-21.16/-15.06
Θ(110°)	-14.98/-13.73	-11.19/-10.37	-12.12/-12.95	-12.39/-8.73	-5.87/-6.36	-8.85/-9.99	-20.37/-12.91	-17.02/-19.51	-13.05/-13.99	-20.12/-19.97	-13.48/-9.58	-3.63/-3.2	-5.02/-4.49	-4.88/-5.51	-12.15/-16.4	-18.24/-15.62		
Θ(120°)	-18.98/-8.41	-9.55/-7.7	-8.68/-12.48	-11.09/-9.6	-9.31/-7.9	-10.1/-8.6	-16.7/-17.43	-17.62/-11.42	-9.13/-14.09	-19.1/-18.51	-20.69/-16.11	-19.47/-8.86	-3.85/-5.04	-6.16/-3.66	-2.73/-3.96	-5.6/-9.58	-11.08/-17.19	-20.36/-13.74
Θ(130°)	-19.51/-10.76	-10.3/-6.76	-7.59/-7.49	-7.32/-6.6	-13.11/-11.83	-9.8/-17.83	-14.39/-16.11	-15.33/-10.97	-7.18/-8.71	-11.83/-13.83	-13.16/-10.76	-8.72/-3.48	-2.14/-3.61	-2.96/0.2	-0.05/-6.22	-3.51/-8.18	-7.51/-8.67	-18.23/-9.45
Θ(140°)	-15.61/-14.83	-11.97/-13.85	-10.38/-16.23	-20.32/-18.15	-15.26/-10.2	-7.89/-8.72	-11.48/-14.09	-9.45/-17.93	-9.96/-15.89	-6.51/-4.57	-6.61/-4.43	-3.09/-0.61	0.88/-3.53			-12.07/-12.29	-13.59/-11.79	
Θ(150°)	-18.85/-12.47	-10.07/-10.58	-10.04/-10.64	-12.07/-10.5	-9.74/-10.55	-18.75/-19.02	-12.31/-9.51	-7.12/-8.14	-8.62/-8.51	-10.74/-15.18	-15.29/-12.74	-9.51/-8.64	-6.56/-6.43	-6.65/-3.53	-3.75/-9.72	-20.77/-18.45	-10.86/-12.19	-16.19/-17.44
Θ(160°)	-16.13/-20.49	-20.31/-20.03	-14.41/-10.72	-10.21/-11.91	-14.43/-15.2	-16.08/-10.43	-1.4/-10.7	-7.98/-8.69	-6.64/-8.12	-10.54/-13.59	-17.25/-19.35	-16.07/-13.78	-13.26/-12.91	-10.98/-10.35	-12.39/-17.35	-18.92/-17.42	-14.05/-13.84	-14.19/-13.71
Θ(170°)	-13.88/-19.47	-19.83/-16.9	-13.32/-11.84	-11.48/-12.27	-14.55/-20.76	-10.82/-16.73	-7.74/-7.48	-8.38/-10.25	-14.									



Radiated Composite Gain Data

Appendix A

Θ (30°)	-20.3/-11.31	-8.47/-6.92	-6.65/-6.52	-6.15/-5.59	-4.67/-3.73	-3.4/-4.14	-5.25/-5.8	-6.81/-10.34	-16.91/-19.6	-12.55/-9.99	-8.29/-6.59	-4.46/-3.03	-2.42/-1.33	-0.9/-0.66	-0.83/-0.32	-0.85/-1.73	-3.46/-5.66	-9.96/-17.05
Θ (40°)	-20.42/-20.39	-15.35/-12.8	-10.69/-7.82	-6.56/-5.22	-4.57/-3.76	-3.81/-4.21	-5.28/-5.76	-6.96/-10.88	-19.91/-14.03	-11.95/-11.73	-10.2/-8.68	-5.74/-2.99	-0.80/-1.7	0.05/-0.69	-1.25/-1.5	-1.53/-2.84	-3.98/-5.47	-10.06/-20.12
Θ (50°)	-17.43/-20.69	-20.09/-12.82	-8.11/-6.69	-6.09/-5.84	-4.84/-3.33	-3.5/-4.25	-4.56/-4.16	-4.9/-8.71	-16.8/-14.76	-13.15/-10.34	-11.1/-9.28	-6.79/-4.86	-2.97/-1.27	-1.11/-1.15	-1.65/-2.9	-3.24/-4	-5.26/-6.34	-8.38/-11.37
Θ (60°)	-18.47/-19.73	-19.76/-15.69	-11.32/-7.54	-4.39/-3.3	-3.6/-3.71	-4.73/-5.53	-5.92/-4.56	-3.85/-6.06	-12.71/-20.09	-19.49/-14.59	-12.97/-12.74	-11.16/-9.42	-5.09/-2.44	-2.15/-2.5	-4.13/-4.88	-5.65/-7.51	-6.57/-6.06	-7.34/-12.52
Θ (70°)	-17.7/-21.03	-20.84/-10.78	-9.77/-7.36	-4.85/-4.08	-3.49/-3.09	-4.05/-5.95	-6.93/-4.93	-4.52/-5.91	-10.34/-16.7	-19.21/-20.93	-18.38/-11.86	-10.31/-10.25	-6.42/-3.85	-2.83/-3.48	-3.01/-4.89	-7.2/-6.01	-6.24/-6.37	-10.23/-13.54
Θ (80°)	-20.43/-20.91	-20.99/-15.33	-10.94/-6.53	-4.48/-3.08	-2.32/-3.56	-4.32/-6.48	-6.84/-6.7	-5.5/-7.94	-12.26/-16.96	-19.65/-20.75	-15.22/-11	-12.01/-10.64	-7.54/-3.96	-2.4/-2.59	-2.94/-4.17	-4.13/-3.9	-5.9/-9.83	-15.09/-17.64
Θ (90°)	-19.46/-20.21	-14.25/-10.3	-10.64/-9.14	-4.61/-2.56	-1.82/-2.44	-3.93/-6.37	-8.33/-10.49	-8.39/-11.25	-14.45/-18.33	-20.61/-14.37	-12.7/-8.77	-6.37/-4.75	-5.1/-7.32	-4.96/-4.44	-4.78/-5.69	-6.01/-6.05	-6.52/-12.85	-20.59/-21.22
Θ (100°)	-20/-21.14	-16.49/-10.2	-11.3/-8.34	-5.56/-2.83	-3.44/-4.82	-9.84/-10.9	-11.48/-15.4	-11.93/-11.19	-14.73/-16.21	-17.67/-17.73	-11.18/-8.58	-4.43/-3.49	-4.67/-8.26	-6.23/-5.44	-6.21/-7.15	-8.04/-15.05	-10.82/-12.9	-20.33/-21.42
Θ (110°)	-20/-15.29	-17.07/-9.45	-9.29/-8.62	-10.28/-6.64	-5.21/-3.86	-7.95/-10.89	-14.15/-19.91	-21.1/-19.61	-21.08/-20.76	-18.55/-13.79	-11.54/-11.53	-8.06/-4.64	-5.44/-7.76	-8.66/-6.61	-13.58/-8.51	-11.05/-13.46	-19.64/-18.99	-21.08/-15.67
Θ (120°)	-16.19/-21.12	-17.37/-10.13	-12.55/-11.95	-16.18/-9.87	-6.78/-8.68	-10.27/-12.99	-12.53/-18.15	-19.17/-18.32	-20.18/-19.59	-21.39/-9.6	-6.3/-9.16	-6.34/-4.25	-3.63/-9.74	-10.96/-6.73	-13.32/-7.19	-12.8/-13.13	-19.59/-19.59	-21.02/-10.7
Θ (130°)	-12.65/-20.46	-17.85/-7.28	-7.44/-10.52	-12.91/-10.41	-6.55/-7.97	-13.58/-13.48	-10.71/-16.16	-17.64/-12.51	-14.4/-16.24	-20.83/-12.8	-11.85/-20.87	-5.44/-3.05	-0.14/-4.26	-6.43/-1.43	-3.34/-7.42	-2.77/-9.87	-6.01/-11.95	-16.3/-11.49
Θ (140°)	-12.23/-13.76	-19.83/-12.32	-10.71/-13.14	-15.79/-15.55	-20.43/-20.01	-20.63/-12.97	-12.61/-20.72	-21.08/-14.01	-10.82/-20.45	-13.32/-15.05	-19.55/-11.59	-13.54/-4.72	-4.71/-6.21	-5.44/-2.22	-1.16/-8.55	-5.56/-4.73	-12.78/-7.93	-17.64/-10.61
Θ (150°)	-20.51/-14.11	-9.6/-10.46	-11.32/-15.15	-19.84/-19.97	-17.98/-10.13	-10.39/-15.81	-11.56/-8.89	-8.68/-7.98	-7.13/-7.19	-9.93/-20.03	-18.5/-14.88	-9.25/-7.89	-12.96/-12.49	-9.3/-4.8	-5.92/-13.72	-14.28/-17.85	-13.48/-18.67	-14.47/-15.24
Θ (160°)	-11.83/-10.97	-12.54/-19.83	-21.22/-15.58	-13.28/-14.3	-12.42/-11.55	-16.14/-19.2	-15.65/-12.57	-9.07/-7.07	-6.81/-8.6	-11.53/-14.62	-15.23/-17.12	-18.57/-14.83	-13.36/-15.19	-18.32/-14.01	-13.07/-14.41	-16.19/-15.2	-15.55/-13.43	-11.17/-11.12
Θ (170°)	-17.96/-18.79	-13.51/-10.09	-9.33/-9.42	-10.67/-12.8	-17.99/-20.56	-14.51/-11.61	-10.09/-9.29	-10.74/-13.88	-20.44/-19.69	-19.86/-19.65	-20.01/-17.62	-13.49/-11.09	-11.73/-12.47	-12.38/-11.27	-10.8/-9.28	-10.15/-13.4	-17.05/-20.29	-19.27/-19.15
Θ (180°)	-12.95/-12.95	-14.97/-15.81	-15.12/-13.68	-11.59/-10.45	-9.53/-9.41	-8.68/-8.52	-8.2/-8.2	-8.29/-8.9	-9.6/-10.55	-10.57/-10.52	-10.7/-10.33	-10.14/-10.74	-11.85/-10.85	-9.49/-8.23	-7.02/-7.03	-8.01/-9.96	-12.01/-15.03	-16.05/-15.21
Freq(Hz)	5.785G/Pol.	Theta/Ant. 4	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ (0°)	-1.79/-2.25	-2.65/-3.47	-5.15/-6.98	-9.63/-15.39	-20.73/-18.24	-11.96/-8.54	-6.69/-4.78	-3.43/-2.73	-2.16/-2.29	-2.35/-2.61	-3.31/-4	-5.51/-8.2	-11.85/-15.99	-19.65/-15.94	-10.18/-7.02	-4.88/-3.12	-2.21/-1.72	-1.62/-1.68
Θ (10°)	-0.29/-0.83	-1.42/-2.32	-3.27/-4.37	-6.13/-9.42	-14.95/-20.78	-15/-10.12	-7.37/-5.71	-4.64/-4.15	-3.75/-3.14	-2.93/-3.13	-3.74/-4.66	-6.63/-9.76	-13.59/-20.95	-21.42/-11.59	-7.44/-4.51	-2.77/-1.35	-0.130/-2.1	0.140/-0.18
Θ (20°)	1.42/0.42	-0.84/-2.66	-4.06/-4.53	-5.73/-8.45	-13.46/-20.21	-16.48/-10.43	-7.75/-6.32	-5.17/-4.6	-3.44/-2.95	-2.83/-3.28	-4.26/-5.56	-7.38/-10.62	-17.32/-21.09	-14.09/-8.53	-6.46/-4.95	-3.49/-1.4	-0.071/-1.4	1.651/0.89
Θ (30°)	0.82/-0.37	-2.09/-2.67	-2.46/-2.73	-3.57/-5.53	-8.31/-13.02	-18.3/-13.99	-9.5/-6.54	-5.33/-5.51	-6.02/-6.14	-6.72/-7.91	-9.17/-9	-10.56/-13.54	-19.01/-21.05	-10.32/-6.53	-4.82/-3.04	-1.69/-0.61	0.41/0.8	0.821/-1.1
Θ (40°)	0.88/1.67	0.08/-1.38	-1.7/-3.78	-5.59/-6.47	-8.69/-11.96	-21.37/-19.68	-17.69/-13.96	-9.36/-8.22	-8.32/-10.45	-13.19/-12	-10.43/-9.48	-10.32/-13.44	-18.49/-10.69	-6.52/-4.14	-4.23/-3.36	-1.88/-1.19	-0.2/0.97	1.07/0.33
Θ (50°)	-0.09/0.64	0.26/-0.52	-0.28/-2.88	-5.01/-5.84	-5.97/-6.68	-8.87/-12.2	-18.06/-20.55	-12.72/-11.48	-12.18/-13.62	-11.48/-9.67	-10.97/-10.76	-13.11/-19.5	-20.82/-10.1	-7.1/-4.57	-2.67/-2.91	-1.49/-1.04	-0.35/1.49	1.38/0.48
Θ (60°)	0.6/0.51	0.77/0.12	0.39/-1.02	-2.72/-5.69	-4.98/-3.92	-6.4/-9.8	-16.85/-19.56	-14.87/-15.82	-19.31/-17.65	-14.59/-12.33	-14.78/-13.77	-18.75/-20.87	-15.58/-7.52	-6.52/-4.9	-3.19/-1.81	-2.23/-4.06	-2.61/1.19	2.671/-0.93
Θ (70°)	1.06/0.4	1.29/-0.26	-0.05/-0.46	-1.68/-5.07	-3.88/-2.24	-3.95/-6.75	-17.4/-20.42	-19.71/-20.02	-16.71/-11.87	-10.92/-12.59	-16.28/-15.57	-19.39/-21.16	-7.69/-6.6	-5.43/-4.62	-1.27/-1.98	-2.32/-2.47	-1.91/1.99	2.53/2.06
Θ (80°)	0.91/-0.18	0.69/-1.99	-2.03/0.01	-0.54/-4.37	-4.16/-3.52	-4.46/-7.1	-14.06/-17.49	-17.97/-11.44	-6.98/-5.92	-6.47/-9.63	-12.28/-13.29	-16.28/-13.07	-6.88/-6.52	-5.93/-4.03	-0.08/-0.35	-0.45/-0.3	-0.63/0.73	1.061/-1.1
Θ (90°)	1.15/-1.54	0.98/-2.5	-4.44/-1.2	-2.02/-6.86	-5.95/-5.29	-5.96/-5.4	-8.32/-12.94	-19.07/-9.23	-5.86/-5.29	-6.24/-6.69	-8.79/-8.08	-9.94/-6.03	-2.2/-1.73	-3.36/-0.12	1.45/0.52	1.49/0.09	-0.22/-0.29	-1.2/0.15
Θ (100°)	-0.35/-3.16	-0.58/-6.52	-5.78/-1.77	-2.63/-5.42	-3.6/-5.48	-9.87/-6.99	-9.19/-20.4	-18.29/-8.31	-3.42/-3.78	-4.13/-4.29	-4.72/-4.3	-5.83/-8.09	-0.93/-1.13	-2.84/-3.48	-1/-1.95	0.72/-1.17	-3.25/-2.26	-3.92/-2.96
Θ (110°)	-2.2/-6.23	-4.29/-10.55	-9.04/-4.28	-6.38/-5.76	-3.98/-6.97	-13.17/-7.36	-7.94/-15.46	-11.73/-6.79	-1.04/-2.21	-2.29/-0.98	-2.27/-3.6	-4.03/-5.18	0.45/-0.46	-3.79/-1.71	-3.56/-3.37	-2.07/-3.52	-7.84/-7.17	-10.27/-4.41
Θ (120°)	-9.58/-12.86	-9.32/-13.85	-12.9/-8.87	-8.14/-6.26	-4.63/-6.24	-7.54/-8.89	-11.51/-21.09	-19.93/-11.29	-2.96/-3.29	-3.14/-1	-1.96/-7.85	-4.13/-2.75	-1.35/-2.15	-5.6/-0.57	-3.18/-6.08	-3.58/-4.63	-9.38/-13.91	-13.49/-9.22
Θ (130°)	-9.81/-12.75	-16.75/-18.67	-20.15/-13.44	-8.65/-6.06	-6.12/-7.61	-5.67/-8.32	-15.39/-13.83	-10.37/-6.9	-2.09/-3.48	-0.55/-0.25	-10.01/-6.67	-0.72/-0.61	-0.54/-2.59	-7.77/-1.23	-7.86/-18.23	-6.52/-7.95	-9.92/-19.67	-14.81/-14.37
Θ (140°)	-12.27/-20.76	-14.91/-19.24	-19.2/-15.02	-9.98/-6.74	-5.19/-5.94	-7.1/-8.92	-11.06/-17.68	-19.13/-10.16	-5.59/-9.63	-3.29/-1.77	-6.26/-6.36	-1.63/-2.13	-0.97/-8.57	-7.55/-0.53	-6.44/-18.77	-11.61/-7.86	-21.54/-20.74	-14.33/-18.84
Θ (150°)	-11.31/-13.53	-21.4/-20.23	-15.97/-11.43	-8.9/-8.14	-7.54/-6.56	-9.47/-17.49	-16.29/-11.1	-7.98/-5.61	-3.79/-1.88	-2.35/-5.21	-7.36/-6.98	-6.4/-4.7	-10.14/-18.37	-20.77/-8.27	-12.68/-14.12	-16.6/-14.64	-14.54/-20.65	-20.01/-16.57
Θ (160°)	-9.82/-12.53	-20.51/-14.22	-11.17/-10.78	-11.96/-13.35	-13.86/-18.65	-17.81/-18.9	-17.48/-15.59	-12.8/-7.63	-3.91/-2.27	-3.25/-5.92	-7.46/-7.92	-8.93/-10.77	-12.69/-14.65	-15.85/-14.13	-14.14/-11.91	-11.54/-11.63	-9.42/-10.2	-10.07/-9.25
Θ (170°)	-15.43/-11.96	-10.89/-12.33	-14.49/-15.71	-17.61/-17.27	-14.37/-13.24	-13.39/-14.78	-16.18/-13.44	-10.44/-8.45	-8/-8.65	-10.25/-14.76	-18.73/-17.67	-18.34/-18.26	-19.14/-20.36	-20.51/-20.1	-19.33/-19.06	-13.78/-12.66	-13.78/-13.83	-20.02/-20.48
Θ (180°)	-13.91/-11.8	-11.48/-10.36	-9.58/-9.58	-8.65/-9.16	-10.18/-10.92	-11.27/-11.93	-11.73/-10.69	-10.53/-9.73	-9.11/-8.15	-7.45/-7.48	-7.63/-8.04	-8.54/-8.93	-8.9/-9.39	-10.84/-12.5	-13.46/-15.22	-13.79/-14.11	-15.95/-16.27	-14.75/-15.03



Total Gain Data

Freq(Hz)	2.45GPol.	TotalAnt. 1	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-2.90/-2.63	-2.73/-2.65	-2.61/-1.73	-1.89/-1.82	-1.74/-1.64	-1.53/-1.65	-1.73/-1.88	-2.12/-2.32	-2.34/-2.29	-2.29/-2.21	-2.23/-2.20	-2.12/-2.24	-2.20/-2.53	-2.48/-2.42	-2.10/-3.00	-2.29/-2.94	-3.04/-2.80	-2.96/-3.08
Θ(10°)	-1.74/-1.82	-2.46/-3.18	-3.40/-3.39	-3.77/-3.91	-3.93/-3.94	-4.06/-4.31	-4.42/-4.35	-4.26/-3.64	-2.93/-2.23	-1.83/-1.42	-1.30/-1.37	-1.56/-1.86	-2.17/-2.42	-2.49/-2.40	-2.70/-2.83	-2.26/-2.45	-2.23/-1.96	-1.78/-1.59
Θ(20°)	-0.42/-0.88	-1.41/-2.66	-2.22/-5.80	-6.40/-5.58	-5.37/-5.34	-5.51/-5.88	-6.38/-6.32	-5.41/-3.92	-2.49/-1.44	-0.65/-0.13	0.08/0.03	-0.19/-0.44	-0.80/-1.22	-1.53/-1.49	-1.14/-0.64	-1.04/-0.73	-0.10/-0.08	-0.24/-0.07
Θ(30°)	-2.76/-3.22	-3.18/-3.41	4.16/-6.79	-8.74/-8.90	-7.61/-6.57	-7.84/-8.57	-6.97/-4.54	-2.65/-1.58	-0.88/-0.32	-0.03/0.12	0.21/0.01	-0.40/-0.75	-0.86/-0.59	-0.21/0.35	0.04/-0.59	0.04/-0.59	-1.38/-2.05	-2.96/-3.08
Θ(40°)	-6.07/-7.31	-9.12/-9.21	-8.98/-9.85	-12.76/-11.55	-9.29/-6.62	-5.24/-5.30	-6.83/-6.66	-8.38/-6.27	-4.37/-3.15	-2.36/-1.68	-1.09/-0.58	-0.14/0.10	0.21/0.18	0.13/0.18	0.46/0.36	-0.36/-1.02	-2.01/-3.80	-3.33/-4.93
Θ(50°)	-0.72/-1.65	-2.57/-4.41	-6.19/-8.67	-11.32/-12.93	-9.82/-5.92	-3.87/-3.47	-4.18/-4.82	-4.45/-3.47	-2.37/-1.52	-0.84/-0.26	0.06/0.55	1.46/2.36	2.55/2.02	1.11/0.18	-0.49/-1.64	-2.24/-3.05	-1.76/-0.53	-0.07/-0.40
Θ(60°)	-3.23/-2.95	-3.36/-4.92	-6.36/-7.29	-8.26/-9.34	-7.31/-5.26	-3.96/-3.58	-4.06/-4.44	-3.61/-2.45	-1.67/-1.41	-1.13/-0.88	-0.68/-0.08	0.87/1.29	0.71/-0.17	-0.72/-1.04	-1.48/-1.30	-0.44/-0.49	-1.38/-2.19	-3.09/-3.21
Θ(70°)	-0.62/-0.75	-1.16/-1.72	-3.79/-5.44	-6.93/-9.48	-11.50/-8.14	-5.66/-3.90	-3.59/-4.66	-5.97/-5.66	-4.29/-2.81	-1.75/-1.15	-1.15/-0.74	-0.08/0.34	0.29/0.36	0.04/-0.56	-1.27/0.08	-0.42/-1.14	-1.85/-1.85	-1.05/-0.71
Θ(80°)	-2.06/-1.97	-3.51/-5.56	-7.63/-9.49	-9.05/-10.93	-13.66/-9.36	-6.33/-3.49	-1.28/-0.92	-2.01/-3.82	-4.94/-3.66	-2.16/-1.52	-1.05/0.30	1.38/1.62	1.40/0.57	-1.20/-2.11	-2.18/-2.92	-2.95/-2.25	-1.51/-1.37	-1.44/-2.24
Θ(90°)	-0.48/0.55	0.34/-1.10	-2.44/-2.86	-4.50/-7.87	-13.01/-9.38	-4.43/-1.28	0.73/1.02	-0.06/-1.19	-1.43/-1.19	-0.95/-1.06	-0.84/-0.66	-0.82/-0.75	-0.86/-2.60	-4.17/-4.48	-5.48/-4.43	-1.62/0.07	-0.17/-1.52	-1.97/-2.22
Θ(100°)	-1.95/-0.07	0.74/0.13	-0.81/-1.19	-1.57/-3.85	-6.48/-6.53	-3.79/-1.64	-0.19/0.07	-0.81/-1.59	-1.32/-0.95	-1.12/-1.90	-2.41/-2.85	-3.03/-3.15	-4.06/-5.42	-5.24/-5.40	-6.42/-4.28	-2.05/-2.40	-3.60/-4.68	-4.86/-3.65
Θ(110°)	-4.30/-2.23	-1.32/-0.23	-3.56/-2.15	-1.31/-2.45	-4.91/-5.71	-2.38/0.22	1.23/-1.28	1.05/0.75	0.43/0.16	-0.35/-0.62	-0.81/-1.11	-1.69/-2.74	-4.35/-6.32	-8.30/-8.57	-10.13/-6.04	-3.57/-3.66	-4.61/-4.63	-3.34/-3.82
Θ(120°)	-2.96/-1.86	-0.23/-0.49	-2.62/-2.41	-0.38/0.04	0.76/0.57	0.86/1.03	0.79/0.72	-2.80/-0.39	0.67/0.83	0.07/0.60	-1.38/-2.54	-4.17/-5.11	-5.45/-8.01	-11.51/-15.00	-8.08/2.61	-1.07/-1.65	-2.51/-3.15	-3.21/-2.60
Θ(130°)	-1.77/-0.71	0.30/0.95	-0.57/-0.95	-0.15/0.24	-0.63/-2.67	-3.33/-1.18	0.58/1.26	1.29/1.20	0.94/0.45	-0.60/-2.15	-3.91/-5.95	-8.44/-10.94	-10.76/-8.07	-6.70/-6.74	-4.49/-1.71	-0.83/-2.10	-4.79/-7.10	-5.80/-3.71
Θ(140°)	-4.83/-1.64	-1.42/-0.18	0.47/0.82	0.37/0.56	0.32/-0.82	-3.16/-5.61	-5.30/-3.22	-1.88/-1.57	-2.04/-2.92	-4.11/-5.40	-7.32/-9.28	-8.43/-6.06	-4.45/-3.87	-4.66/-5.25	-4.08/-2.45	-1.92/-2.81	-5.16/-8.38	-9.86/-7.25
Θ(150°)	-8.92/-9.95	-3.17/-5.02	-0.39/0.29	0.44/0.48	0.67/0.83	0.10/0.20	-1.07/-1.15	-1.23/-1.43	-1.35/-1.06	-0.30/0.71	1.49/1.85	1.81/1.26	0.46/-0.28	-1.93/-0.84	-2.51/-3.78	-5.51/-10.84	-13.03/-10.26	-12.85/-10.56
Θ(160°)	-1.65/-0.97	-0.32/-0.35	-0.03/0.28	0.17/-0.01	-0.20/-0.26	-0.12/0.11	0.51/0.86	1.29/1.68	2.10/2.33	2.46/2.52	2.56/2.44	1.95/0.98	-0.12/-1.36	-2.75/-3.78	-4.25/-4.10	-3.85/-3.12	-3.04/-2.68	-2.74/-2.37
Θ(170°)	-0.16/-0.27	-0.13/-0.37	-0.60/-0.78	-1.08/-1.39	-1.83/-2.48	-3.04/-3.62	-4.04/-4.03	-3.95/-3.42	-2.80/-2.45	-2.44/-2.81	-3.44/-4.66	-6.85/-10.27	-15.33/-17.76	-14.90/-10.46	-7.60/-5.52	-3.37/-2.10	-1.39/-1.05	-1.06/-0.40
Θ(180°)	-4.41/-4.56	-4.75/-5.07	-5.43/-6.15	-5.71/-5.56	-5.59/-5.69	-6.03/-6.24	-6.87/-7.52	-8.67/-10.03	-11.74/-13.75	-13.76/-13.54	-12.30/-10.36	-8.17/-6.57	-5.55/-4.94	-4.41/-4.10	-3.91/-3.93	-3.90/-4.09	-4.49/-4.77	-4.69/-4.72
Freq(Hz)	5.2GPol.	TotalAnt. 1	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-3.69/-3.60	-3.05/-2.19	-2.13/-2.64	-3.34/-3.77	-4.34/-4.12	-3.65/-3.50	-2.95/-2.96	-3.11/-3.09	-3.09/-3.24	-2.62/-2.58	-3.07/-3.43	-3.52/-2.92	-3.91/-3.41	-3.46/-4.18	-2.68/-3.18	-3.46/-4.18	-2.57/-2.69	-2.57/-2.69
Θ(10°)	-1.88/-1.99	-2.10/-2.16	-2.31/-2.73	-3.08/-3.82	-4.45/-4.84	-4.85/-4.77	-4.30/-3.63	-2.75/-2.71	-2.38/-2.17	-1.85/-1.49	-1.26/-1.32	-1.54/-1.95	-2.11/-1.90	-1.64/-1.30	-0.97/-0.77	-1.21/-1.24	-1.24/-1.17	-1.49/-1.40
Θ(20°)	-3.26/-4.31	-4.07/-3.72	-4.41/-5.73	-5.81/-5.57	-5.18/-4.72	-4.88/-5.08	-5.33/-6.40	-3.55/-2.76	-2.28/-1.80	-1.12/-0.40	-0.30/-0.83	-1.00/-0.91	-1.13/-1.20	-0.72/-1.26	-0.32/-0.35	-0.72/-1.57	-1.52/-1.06	-1.00/-1.76
Θ(30°)	-5.35/-5.95	-5.32/-6.18	-6.69/-6.63	-6.94/-7.88	-8.40/-7.81	-6.62/-6.28	-6.26/-7.02	-5.55/-4.52	-3.87/-3.13	-2.44/-2.01	-1.50/-0.87	-0.33/-0.72	-1.39/-1.55	-1.66/-0.79	0.35/0.06	-0.97/-1.57	-1.81/-2.21	-3.22/-4.16
Θ(40°)	-0.90/-1.87	-3.46/-4.57	-5.70/-6.70	-7.57/-8.66	-10.87/-12.41	-9.93/-7.47	-6.93/-6.25	-4.67/-2.53	-1.59/-1.24	-0.44/-0.04	-0.04/-0.48	-0.68/0.02	0.43/-0.53	-0.50/0.80	0.34/-0.41	-0.52/-0.56	-1.02/-1.51	-1.34/-1.08
Θ(50°)	-2.58/-2.55	-2.03/-2.90	-5.81/-6.95	-6.87/-8.44	-9.05/-10.15	-9.38/-6.76	-7.36/-8.70	-6.42/-4.52	-4.01/-3.90	-3.21/-3.02	-0.99/0.10	0.73/0.27	0.02/-0.83	0.59/1.27	0.67/-0.49	0.33/-0.33	-0.83/-0.13	-0.54/-1.84
Θ(60°)	0.42/0.03	-2.06/-2.41	-2.98/-3.49	-6.37/-10.23	-12.33/-11.89	-9.83/-9.92	-6.57/-6.00	-6.90/-4.68	-2.82/-2.86	-1.73/-0.62	0.64/1.03	0.47/0.72	0.51/-0.29	0.81/-0.47	-0.80/-0.61	-1.30/-0.97	-0.41/-0.65	0.05/0.58
Θ(70°)	-1.58/-2.61	-3.71/-3.53	-4.23/-3.54	-4.64/-8.51	-9.29/-7.89	-7.25/-6.96	-5.88/-5.01	-6.95/-4.62	-3.20/-2.39	-1.61/-0.69	-0.06/0.23	0.37/1.78	0.88/-1.68	0.16/-0.36	-0.01/-0.29	-2.07/-1.42	-0.10/-0.40	-0.34/-0.18
Θ(80°)	1.03/-1.70	-4.78/-3.98	-5.37/-4.36	-5.65/-6.38	-6.02/-6.60	-5.55/-6.32	-3.76/-2.30	-5.89/-5.58	-3.69/-2.58	-1.65/-0.40	0.68/0.72	1.80/1.99	0.50/0.62	1.08/0.17	0.85/-0.17	-1.34/-0.93	-1.12/-2.25	-2.21/0.48
Θ(90°)	0.85/-2.42	-3.01/-3.75	-6.84/-4.23	-6.46/-7.75	-7.53/-5.17	-2.30/-3.57	-1.93/-1.00	-2.48/-3.16	-2.48/-1.75	-0.93/-0.98	0.38/0.10	0.40/1.85	1.19/1.29	2.61/1.56	0.28/-0.39	-0.90/0.90	0.01/-1.65	-0.83/-0.05
Θ(100°)	-0.93/-6.13	-8.10/-4.09	-7.13/-4.87	-6.56/-5.48	-5.60/-7.00	-2.00/-1.85	-2.40/0.16	-0.38/-1.84	-0.05/0.42	-2.22/-1.85	-0.10/-0.66	1.13/1.10	-1.24/-0.56	1.61/-5.47	-1.44/-0.46	-1.61/-5.47	-4.75/-2.22	-1.61/-5.47
Θ(110°)	-2.91/-10.95	-8.73/-3.64	-5.93/-9.66	-7.21/-5.40	-4.58/-7.62	-2.65/-1.69	-1.21/-0.93	-1.48/-1.14	-1.37/-1.18	-2.37/-1.74	-0.65/-3.27	-4.79/-3.61	-2.74/-2.50	-1.75/-0.94	-2.01/-2.28	-5.52/-4.70	-6.71/-17.42	-14.28/-4.78
Θ(120°)	-9.31/-11.02	-6.95/-5.46	-8.26/-9.75	-5.47/-3.34	-3.81/-5.00	-4.67/-3.18	-2.54/-1.41	-1.45/-1.88	-2.36/-2.38	-2.37/-2.81	-2.16/-3.13	-6.98/-7.82	-4.16/-4.88	-5.98/-6.28	-7.06/-6.56	-6.84/-6.76	-7.96/-15.09	-13.24/-13.93
Θ(130°)	-6.14/-12.00	-6.20/-6.75	-5.75/-9.07	-7.26/-5.07	-0.81/-1.71	-5.07/-5.88	-4.56/-2.00	-0.12/-1.80	-3.72/-3.11	-3.15/-6.22	-1.22/-1.80	-9.10/-6.45	-5.80/-6.55	-6.43/-7.38	-5.79/-2.64	-4.85/-11.95	-17.33/-14.93	-17.33/-14.93
Θ(140°)	-1.42/-21.77	-4.83/-9.96	-7.08/-6.62	-7.51/-8.97	-7.24/-9.02	-7.33/-5.57	-1.77/-0.79	-0.94/-0.34	0.24/-0.09	-0.71/-0.21	-1.36/-3.38	-6.79/-6.37	-8.69/-9.61	-10.47/-12.35	-5.63/-8.70	-7.63/-4.15	-6.12/-13.06	-11.41/-3.94
Θ(150°)	-7.92/-8.11	-11.76/-11.41	-10.16/-10.33	-11.90/-10.95	-9.16/-7.28	-7.05/-5.06	-5.39/-4.78	-4.02/-3.92	-3.76/-4.38	-5.13/-4.47	-4.33/-5.40	-6.58/-9.94	-9.77/-6.96	-9.40/-11.68	-7.84/-8.86	-10.40/-8.71	-8.97/-10.83	-12.75/-14.27
Θ(160°)	-10.52/-10.95	-13.96/-14.61	-14.13/-13.42	-14.10/-12.96	-12.58/-12.39	-11.36/-9.79	-6.65/-5.24	-5.12/-4.16	-3.06/-2.21	-2.50/-4.29	-6.05/-7.21	-7.76/-8.27	-12.34/-9.67	-8.78/-9.91	-10.33/-11.62	-13.35/-16.53	-14.73/-12.20	-14.73/-12.20
Θ(170°)	-13.42/-13.58	-14.35/-14.38	-11.85/-9.62	-8.04/-7.21	-6.39/-5.63	-5.51/-5.42	-4.49/-2.62	-1.44/-1.01	-0.55/-0.13	-0.05/-0.46	-1.35/-1.97	-2.92/-5.42	-9.14/-12.47	-9.67/-6.72	-5.72/-6.06	-6.90/-7.56	-9.04/-10.60	-11.77/-14.19
Θ(180°)	-3.53/-4.45	-5.51/-6.58	-5.72/-5.74	-6.00/-6.24	-5.77/-5.19	-5.19/-5.07	-5.61/-5.69	-5.77/-5.49	-5.17/-5.21	-5.49/-5.42	-5.10/-5.53	-5.99/-6.69	-6.44/-5.61	-4.83/-4.63	-5.02/-5.73	-5.64/-6.15	-5.69/-4.76	-3.83/-2.91
Freq(Hz)	5.3GPol.	TotalAnt. 1	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-	+-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-2.56/-1.93	-2.50/-3.00	-2.69/-1.85	-1.71/-1.99	-2.42/-2.78	-2.97/-2.86	-2.47/-2.28	-2.42/-2.54	-2.60/-2.29	-2.14/-2.24	-2.48/-2.86	-2.56/-2.21	-2.13/-2.36	-2.25/-2.19	-2.27/-2.26	-2.30/-2.39	-2.08/-1.71	-2.53/-4.30
Θ(10°)	-0.85/-0.72	-0.58/-1.13	-1.93/-2.23	-2.56/-2.59	-3.31/-3.50	-3.41/-3.41	-3.25/-3.24	-3.11/-2.81	-3.25/-3.24	-3.01/-2.81	-1.02/-0.82	-1.02/-0.82	-0.33/-0.04	0.04/-0.46	-0.33/-0.04	0.04/-0.46	-0.33/-0.04	0.04/-0.46
Θ(20°)	-2.22/-3.07	-4.06/-5.20	-5.80/-4.89	-4.11/-3.78	-3.34/-3.52	-3.88/-4.54	-4.75/-3.94	-2.98/-2.45	-									



Antenna Pattern

Appendix B

Θ(60°)	0.28/0.14	0.97/1.71	2.26/1.77	0.89/-0.11	-1.17/-1.38	-1.53/-1.32	-0.91/-0.68	-1.62/-2.52	-3.30/-3.59	-4.10/-5.64	-7.00/-10.42	-9.51/-7.55	-6.65/-6.29	-6.42/-7.56	-6.43/-4.26	-3.07/-2.08	-1.92/-0.20	0.43/0.94
Θ(70°)	1.66/1.45	1.33/0.58	0.56/0.87	0.47/0.07	-0.48/-1.42	-1.53/-1.76	-1.52/-0.76	-1.12/-0.95	-0.44/-0.03	-0.62/-1.40	-2.29/-3.80	-6.09/-7.95	-9.73/-9.67	-7.10/-4.38	-2.89/-1.55	-0.79/-0.11	-0.41/-0.04	0.45/1.24
Θ(80°)	1.85/1.58	1.06/0.92	-0.00/0.03	-1.19/-2.04	-2.88/-2.80	-2.29/-2.63	-2.09/-0.67	-0.91/-1.24	-0.60/-0.37	-0.16/-1.14	-1.36/-3.50	-5.79/-7.57	-1.06/-7.94	-8.16/-5.67	-2.81/-1.15	-0.98/-0.32	-0.80/0.07	0.96/1.37
Θ(90°)	1.37/0.65	0.89/-0.25	-1.22/-1.95	-2.71/-2.95	-3.04/-3.30	-3.07/-2.09	-1.04/-0.35	-1.65/-3.09	-2.72/-1.69	-1.13/-0.80	-1.40/-2.16	-2.50/-3.26	-4.83/-5.82	-6.49/-3.85	-0.86/0.63	0.60/-0.29	-0.45/0.70	1.13/1.52
Θ(100°)	0.78/-0.10	-1.74/-3.06	-3.94/-3.41	-2.73/-3.32	-4.20/-4.86	-3.36/-1.71	-0.97/-2.12	-4.53/-6.16	-4.45/-2.56	-1.83/-1.73	-0.92/-0.30	-0.37/-0.73	-2.42/-3.44	-3.63/-2.70	-1.28/0.65	1.46/1.26	0.77/-0.02	-0.01/0.65
Θ(110°)	-0.12/-0.57	-1.35/-2.19	-2.84/-3.72	-3.92/-6.03	-7.06/-6.69	-4.90/-3.76	-3.83/-4.92	-7.15/-6.72	-2.38/-0.69	-1.84/-2.18	-2.10/-1.40	-0.97/-1.18	-2.63/-4.22	-3.76/-1.77	-0.56/0.12	0.74/0.06	0.09/1.17	0.71/0.35
Θ(120°)	0.21/-1.16	-2.85/-3.82	-2.73/-2.42	-3.48/-6.50	-9.50/-7.84	-5.78/-4.91	-5.46/-5.90	-10.74/-6.39	-1.94/-1.76	-4.05/-5.48	-1.92/0.04	0.68/-0.34	-0.91/-1.75	-1.37/-0.27	0.02/-0.57	0.32/-0.19	-2.77/-2.29	-0.19/0.33
Θ(130°)	-0.44/-1.23	-3.37/-6.36	-7.37/-8.52	-10.79/-12.32	-9.30/-8.03	-8.83/-8.94	-8.10/-9.84	-10.94/-4.30	-1.91/-2.60	-2.77/-0.15	1.94/2.13	1.39/-0.23	-0.90/-1.05	-0.43/0.88	2.11/2.07	1.04/0.24	-0.27/-4.60	-4.42/-1.90
Θ(140°)	-2.67/-2.19	-3.12/-6.62	-10.67/-10.83	-8.96/-8.33	-8.56/-9.40	-6.43/-8.11	-8.75/-7.65	-3.71/-1.09	-0.21/-7.35	-5.53/-5.51	0.47/0.14	-0.44/-1.86	-0.98/-0.20	0.51/1.13	1.41/1.13	-0.10/-0.42	-0.31/-0.93	-3.88/-4.40
Θ(150°)	-2.63/-1.60	-1.31/-1.24	-2.07/-2.90	-4.69/-5.98	-8.54/-8.72	-7.13/-5.64	-6.17/-8.22	-12.48/-15.98	-12.43/-9.67	-7.00/-5.44	-4.71/-4.82	-5.28/-4.46	-3.32/-1.87	0.17/2.02	3.27/3.76	2.99/1.61	1.04/0.42	-0.55/-2.18
Θ(160°)	0.41/0.47	0.08/-0.16	-1.04/-1.39	-6.96/-12.37	-16.01/-12.72	-8.22/-5.75	-4.58/-4.07	-4.43/-4.47	-4.58/-4.33	-4.06/-4.05	-4.10/-5.42	-5.35/-5.92	-3.84/-1.87	-0.22/0.60	1.26/1.44	0.87/0.81	0.79/0.86	
Θ(170°)	-6.33/-6.49	-6.86/-8.07	-10.45/-15.11	-17.73/-15.79	-11.56/-8.59	-4.39/-3.63	-3.27/-3.02	-3.01/3.11	-3.20/-3.09	-3.28/-3.60	-4.04/-4.41	-4.85/-5.58	-6.55/-6.35	-6.59/-5.65	-6.63/-7.07	-7.01/-7.12	-6.87/-6.32	
Θ(180°)	-9.02/-8.28	-8.35/-8.66	-8.22/-7.01	-5.68/-5.60	-5.06/-4.80	-4.79/-5.23	-6.09/-6.47	-6.85/-7.40	-7.53/-8.00	-8.19/-7.61	-7.73/-7.91	-7.76/-6.93	-7.37/-7.34	-6.47/-6.65	-7.02/-7.22	-7.56/-6.87	-7.72/-8.12	-8.57/-9.06
Freq(Hz)	5.2GPol.	TotalAnt. 2	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-1.16/-1.83	-1.19/-1.02	-1.24/-1.32	-1.21/-1.09	-1.22/-1.44	-1.64/-1.57	-1.62/-1.59	-1.27/-1.00	-0.71/-0.86	-1.14/-0.92	-0.66/-0.39	-0.91/-1.45	-1.45/-2.28	-2.48/-2.98	-2.98/-2.40	-2.30/-2.20	-1.93/-1.98	-2.01/-1.87
Θ(10°)	-0.33/-0.49	-0.50/-0.87	-0.88/-1.26	-1.14/-0.41	0.12/-0.25	-0.14/-0.36	-0.53/-0.55	-0.43/-0.39	-0.40/-0.56	-0.70/-0.63	-0.35/-0.52	-1.13/-1.70	-2.91/-4.31	-5.09/-6.29	-4.46/-5.30	-2.44/-1.86	-1.32/-1.55	-1.09/-1.07
Θ(20°)	-0.31/-0.26	-0.37/-0.86	-1.37/-1.02	-0.66/-0.15	0.22/0.57	0.69/0.21	0.63/0.88	0.88/0.55	0.34/0.03	0.13/-0.27	-0.99/-1.51	-1.58/-2.02	-3.24/-5.04	-4.71/-2.32	-0.74/-0.56	-0.58/-0.36	-0.82/-1.03	
Θ(30°)	2.55/1.96	1.86/1.54	0.95/0.11	-0.30/-0.31	-0.07/0.62	0.64/0.26	0.33/0.43	-0.19/-0.84	-1.58/-2.07	-2.00/-2.57	-3.12/-2.08	-1.08/-0.52	-0.66/-1.58	-2.55/-3.62	-3.24/-2.93	-2.37/-2.58	-3.17/-1.86	-0.63/1.47
Θ(40°)	1.25/1.69	2.38/1.94	0.79/0.81	1.25/0.98	0.46/0.67	1.00/0.84	0.50/-0.12	-0.51/-0.91	-1.13/-0.05	-0.45/-1.97	-2.19/-1.71	-2.83/-3.59	-3.62/-4.78	-5.11/-4.48	-4.77/-6.41	-5.58/-4.87	-2.31/-0.57	0.73/1.00
Θ(50°)	0.15/1.00	2.18/2.03	1.29/1.23	1.25/1.36	0.06/-0.31	0.25/0.25	0.06/-0.03	-0.20/-0.47	-2.11/-2.46	-2.04/-2.31	-3.11/-4.49	-6.23/-10.43	-14.91/-13.38	-12.39/-10.98	-7.42/-3.89	-2.19/-1.66	-1.43/-0.72	
Θ(60°)	-0.74/-0.12	1.15/1.79	2.06/2.01	0.52/0.01	0.64/-0.58	-0.33/-1.70	-1.98/-0.55	1.04/0.79	0.35/0.41	0.58/-0.45	-2.19/-2.74	-3.18/-4.76	-6.37/-8.07	-11.23/-13.69	-11.15/-11.03	-7.86/-4.89	-3.66/-3.13	-1.97/-1.14
Θ(70°)	-0.80/-0.77	-0.80/-0.51	-0.74/0.29	-0.01/0.05	-0.04/-1.76	-0.21/-2.24	-1.98/-0.60	0.64/0.73	1.54/1.74	1.06/-1.19	-4.47/-3.62	-3.53/-5.41	-8.16/-9.02	-9.77/-7.25	-6.72/-8.87	-5.59/-4.65	-4.47/-3.57	-1.56/-1.22
Θ(80°)	-3.64/-1.73	-2.16/-1.16	-1.31/-2.29	-2.09/-2.10	-1.72/-3.17	-2.73/-1.51	-0.87/-0.37	-0.35/-0.28	0.59/1.45	-5.83/-4.73	-2.44/-3.66	-5.61/-8.22	-14.13/-14.85	-6.83/-6.09	-2.49/-2.70	-2.54/-3.62	-4.67/-3.98	
Θ(90°)	-3.65/-4.01	-2.63/-2.14	-2.92/-3.02	-2.45/-2.53	-2.13/-3.19	-2.23/-3.48	-0.00/-1.02	-0.43/-1.21	0.73/1.51	2.82/0.28	-3.11/-4.62	-2.02/-2.43	-4.79/-9.37	-16.16/-8.88	-3.25/-3.29	-2.70/-2.87	-3.42/-3.31	-3.66/-5.75
Θ(100°)	-6.17/-2.87	-3.61/-2.53	-4.96/-4.74	-3.40/-1.21	-0.56/-2.02	-2.12/-4.87	-5.04/-1.97	-2.10/-3.46	-1.63/0.39	3.19/0.15	-4.58/-4.12	-0.34/-3.01	-5.20/-6.01	-8.56/-5.81	-0.71/-2.47	-0.87/-2.72	-2.25/-2.84	-1.58/-4.54
Θ(110°)	-7.84/-2.85	-7.09/-5.96	-9.93/-4.03	-1.91/-2.54	-3.50/-3.52	-4.37/-9.43	-9.56/-8.10	-2.84/-6.34	-6.14/-5.53	0.69/-4.73	-10.89/-7.29	-0.11/-5.56	-7.20/-2.30	-5.21/-6.31	-2.13/-1.42	-0.42/-2.32	-0.87/-0.07	-1.32/-3.10
Θ(120°)	-4.31/-5.27	-7.78/-7.84	-10.63/-6.69	-3.31/-3.60	-6.13/-5.56	-6.63/-1.97	-6.14/-7.77	-5.69/-11.05	-9.45/-12.20	-4.47/-7.85	-13.76/-6.81	-3.63/-6.05	-7.55/-7.33	-8.93/-9.97	-2.66/-0.84	-4.09/-4.60	-2.41/-2.13	-0.53/-1.86
Θ(130°)	-6.22/-11.42	-8.54/-7.55	-9.65/-7.15	-6.34/-7.50	-8.09/-8.13	-16.36/-10.17	-5.81/-3.59	-4.91/-12.22	-7.80/-8.82	-5.03/-6.73	-16.90/-6.38	-6.04/-5.19	-6.81/-4.47	-4.17/-8.94	-1.85/-6.58	-2.51/-6.33	-5.20/-0.12	-3.23/-5.02
Θ(140°)	-12.32/-7.30	-11.22/-14.17	-11.30/-11.48	-13.01/-9.36	-7.69/-8.71	-10.40/-10.41	-7.22/-5.40	-4.76/-7.00	-10.96/-6.59	-2.05/-6.59	-5.64/-11.76	-11.30/-4.45	-5.35/-6.62	-5.86/-5.75	-4.45/-4.52	-4.63/-9.07	-7.64/-4.88	-2.99/-7.62
Θ(150°)	-15.04/-18.06	-14.07/-16.59	-15.47/-12.56	-10.60/-10.80	-10.47/-8.97	-6.27/-5.29	-5.07/-3.85	-4.03/-7.31	-10.07/-11.70	-8.05/-9.58	-5.80/-4.88	-6.79/-8.89	-7.64/-6.10	-6.49/-5.21	-9.11/-15.20	-14.11/-7.78	-7.10/-9.02	
Θ(160°)	-8.40/-7.34	-6.04/-5.74	-5.91/-6.88	-10.51/-13.38	-12.27/-12.20	-10.99/-9.54	-8.38/-8.49	-9.51/-11.60	-12.80/-10.90	-9.32/-11.36	-13.19/-13.64	-10.25/-6.43	-6.37/-7.31	-8.80/-8.58	-8.70/-1.72	-6.55/-8.13	-10.87/-1.16	-10.55/-6.68
Θ(170°)	-4.90/-5.88	-8.30/-8.71	-10.51/-12.08	-9.68/-7.96	-7.80/-8.60	-6.90/-8.50	-9.24/-8.97	-11.96/-14.61	-12.73/-11.21	-11.10/-11.42	-11.65/-9.84	-8.37/-6.82	-6.46/-6.82	-7.59/-8.10	-10.48/-10.60	-6.89/-4.54	-4.00/-3.82	-3.80/-4.71
Θ(180°)	-9.25/-8.92	-9.27/-8.82	-9.38/-8.41	-7.45/-7.20	-7.57/-8.06	-4.60/-4.45	-6.44/-5.05	-4.60/-4.45	-3.96/-3.74	-4.17/-5.89	-6.61/-7.55	-7.96/-7.79	-7.57/-8.17	-8.90/-8.89	-7.70/-7.32	-7.30/-8.22	-7.41/-8.10	-9.17/-9.61
Freq(Hz)	5.3GPol.	TotalAnt. 2	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-0.33/-0.59	-1.24/-1.47	-1.26/-1.09	-0.92/-0.99	-1.05/-0.78	-0.76/-0.82	-0.99/-0.76	-0.61/-0.90	-0.63/-0.70	-1.19/-1.09	-0.97/-1.06	-0.97/-0.84	-0.42/-1.08	-1.51/-1.69	-1.41/-1.09	-1.04/-0.85	-0.91/-0.96	-0.92/-1.00
Θ(10°)	-1.25/-0.89	-0.68/-1.02	-1.01/-1.08	-1.15/-1.63	-1.03/-1.38	-1.15/-1.36	-1.28/-1.16	-0.87/-0.80	-0.89/-1.24	-1.74/-1.18	-1.13/-1.19	-1.63/-1.98	-2.32/-2.70	-2.62/-2.26	-2.00/-1.85	-1.91/-2.05	-2.23/-1.78	-1.12/-1.33
Θ(20°)	0.20/0.36	0.16/0.26	-0.05/-0.64	-1.06/-1.16	-0.66/-0.63	-0.44/-0.59	-0.49/0.02	0.55/0.41	-0.13/-0.69	-1.10/-1.35	-1.38/-1.43	-1.13/-1.18	-1.76/-2.55	-3.23/-2.61	-1.88/-1.13	-1.54/-2.40	-2.39/-1.51	-0.99/-0.50
Θ(30°)	1.92/1.63	1.91/1.60	0.94/0.32	0.16/-0.68	0.16/-0.63	0.16/-0.68	0.16/-0.68	0.16/-0.68	0.16/-0.68	-0.90/-1.09	-1.44/-0.67	-0.90/-1.26	-2.42/-3.61	-3.67/-2.98	-2.42/-2.38	-2.60/-3.58	-2.30/-0.34	0.82/1.62
Θ(40°)	1.83/2.16	2.04/2.31	1.88/-0.04	-0.29/0.62	0.46/0.11	0.25/0.13	-0.07/-0.40	-0.70/-0.58	-1.00/-0.57	0.19/-0.65	-1.39/-1.21	-2.19/-2.59	-2.53/-3.88	-5.73/-7.03	-5.85/-4.69	-4.24/-2.71	-1.39/-0.40	0.42/0.98
Θ(50°)	0.64/1.63	1.60/1.69	2.33/1.12	0.17/0.63	1.38/1.12	0.62/-0.22	-1.16/-2.34	-1.17/-0.06	-0.46/0.62	-1.09/-2.17	-1.18/-1.42	-2.82/-4.67	-6.57/-8.77	-10.22/-9.84	-8.94/-8.92	-5.34/-3.58	-2.85/-3.30	-1.67/-0.26
Θ(60°)	0.39/0.68	0.89/1.24	2.48/3.29	1.65/0.57	0.84/-0.28	0.73/1.04	-1.13/-2.95	-2.26/-1.11	0.37/1.04	-1.83/-1.18	-2.44/-4.64	-7.42/-10.92	-12.87/-12.42	-9.47/-10.36	-6.70/-3.63	-5.70/-3.63	-3.12/-1.90	-0.70/-0.01
Θ(70°)	0.08/1.05	0.99/0.84	0.35/-0.13	0.17/0.51	1.02/-0.37	-2.03/-2.26	-1.57/-0.15	0.11/0.46	1.14/2.14	1.71/-0.36	-3.55/-2.19	-2.62/-5.37	-7.65/-10.18	-12.30/-9.11	-7.82/-8.29	-4.50/-4.27	-3.38/-1.91	-0.83/-0.39
Θ(80°)	-2.65/-0.90	-0.30/0.04	-0.55/-1.38	-1.85/-2.10	-0.70/-2.51	-2.77/-1.59	-1.07/-0.04	-0.06/0.09	1.13/2.12	2.95/0.42	-4.67/-4.44	-1.55/-2.44	-6.45/-11.87	-17.19/-10.12	-5.45/-4.67	-1.85/-3.44	-4.10/-3.26	-3.28/-2.16
Θ(90°)	-2.23/-2.51	-1.61/-1.41	-2.47/-3.68	-2.25/-1.98	0.94/1.63	-3.79/-3.11	-1.76/-1.46	-1.44/-1.40	-0.81/1.63	-3.88/-4.25	-6.77/-9.30	-3.68/-4.25	-4.14/-2.58	-2.11/-3.07	-4.23/-2.20	-2.89/-4.15		
Θ(100°)	-3.93/-1.98	-1.93/-0.51	-2.24/-5.01	-3.33/-0.82	0.26/-1.52	-2.36/-4.42	-3.79/-1.89	-2.19/-3.17	-1.24/0.5									



Antenna Pattern

Appendix B

Θ(160°)	-13.45/-14.13	-14.53/-13.77	-12.22/-10.08	-7.66/-5.66	-4.35/-3.86	-3.90/-4.50	-5.74/-7.45	-9.57/-12.29	-15.14/-16.96	-16.83/-14.81	-13.18/-11.98	-11.59/-11.29	-11.15/-11.05	-10.34/-9.50	-8.79/-8.46	-8.39/-8.54	-8.70/-9.67	-10.62/-12.36
Θ(170°)	-12.73/-14.18	-15.45/-15.96	-15.84/-15.10	-14.24/-11.88	-10.25/-9.63	-10.14/-10.73	-11.39/-12.65	-14.42/-16.10	-17.02/-16.93	-16.01/-14.73	-13.36/-12.48	-12.00/-11.58	-11.45/-11.33	-11.14/-10.53	-9.80/-9.36	-9.22/-9.19	-9.23/-9.57	-10.19/-11.22
Θ(180°)	-17.62/-16.57	-16.56/-17.79	-18.10/-17.79	-17.31/-17.28	-17.79/-17.01	-16.36/-15.50	-14.50/-13.81	-13.64/-12.01	-16.21/-11.79	-12.13/-12.09	-12.15/-12.83	-14.07/-15.30	-16.17/-16.50	-17.44/-16.99	-17.59/-17.73	-17.77/-17.00	-18.08/-17.32	-17.23/-17.86
Freq(Hz)	5.2GPol.	TotalAnt. 3	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-0.71/-0.50	-0.62/-0.56	-0.55/-0.57	-0.65/-0.60	-0.50/-0.11	0.100.34	0.480.38	0.230.18	0.07/-0.07	-0.49/-0.30	-0.26/-0.25	-0.45/-0.51	0.17/-0.15	0.140.21	-0.110.06	-0.280.04	-0.17/-0.15	-0.13/-0.50
Θ(10°)	-1.59/-1.59	-1.36/-1.06	-0.86/-0.80	-0.72/-0.48	-0.59/-0.66	-0.29/-0.08	0.140.14	0.100.10	0.100.11	-0.030.02	-0.08/-0.27	-0.41/-0.66	-0.69/-0.64	-0.71/-0.74	-0.79/-0.96	-1.03/-1.29	-1.47/-1.66	-1.69/-1.82
Θ(20°)	-4.74/-4.00	-3.46/-2.36	-1.65/-1.63	-1.42/-1.38	-1.31/-0.98	-0.97/-0.94	-1.00/-1.16	-1.21/-0.93	-0.46/-0.12	-0.03/-0.05	-0.080.02	0.06/-0.25	-0.75/-1.09	-1.45/-1.40	-1.41/-1.37	-1.28/-1.36	-1.91/-2.77	-3.53/-4.20
Θ(30°)	-5.50/-4.39	-3.10/-2.32	-1.80/-1.45	-1.09/-1.31	-1.61/-1.74	-1.60/-1.07	-0.62/-0.58	-0.71/-0.33	0.04/-0.01	0.050.37	0.770.63	0.43/-0.24	-1.49/-2.72	-3.51/-4.31	-4.49/-4.91	-5.79/-6.19	-6.36/-6.57	-6.32/-5.88
Θ(40°)	-11.30/-10.98	-8.63/-6.25	-4.49/-2.97	-1.79/-1.33	-1.48/-1.56	-1.84/-2.16	-2.35/-1.59	-0.60/-0.05	0.260.05	-0.07/-0.19	-0.56/-0.92	-0.88/-0.85	-1.21/-1.91	-3.16/-4.72	-6.10/-7.21	-7.00/-7.61	-8.26/-8.34	-8.37/-9.63
Θ(50°)	-10.05/-10.48	-9.63/-7.10	-4.55/-2.61	-1.52/-0.60	0.030.52	0.17/-0.55	-1.75/-3.19	-1.190.34	-1.616.58	0.10/-1.03	-1.62/-1.13	-0.340.20	-0.46/-1.75	-3.50/-4.01	-3.79/-3.24	-3.80/-5.87	-6.69/-6.35	-6.47/-7.68
Θ(60°)	-10.98/-15.92	-13.41/-8.82	-5.92/-3.64	-1.73/-0.40	0.020.51	0.35/-0.42	-0.16/-1.23	2.740.68	0.090.06	0.450.30	-1.31/-1.56	-1.77/-2.49	-3.94/-4.53	-3.55/-3.31	-4.06/-5.35	-7.10/-5.97	-5.49/-7.58	
Θ(70°)	-10.25/-11.67	-11.91/-8.82	-5.84/-3.94	-2.27/-1.06	0.22/-1.27	1.310.22	-0.73/-3.58	-1.130.51	0.680.92	-0.11/-1.46	1.60/-0.00	-1.14/-1.85	-1.99/-3.14	-2.76/-4.46	-3.60/-2.55	-2.45/-5.49	-7.63/-7.80	-8.95/-9.34
Θ(80°)	-8.98/-8.14	-9.03/-8.92	-7.62/-5.50	-3.11/-1.68	0.11/-2.09	-1.11/-3.72	-1.740.32	0.180.41	-0.48/-1.90	1.48/-0.75	-2.96/-3.20	-1.61/-2.28	-1.00/-2.54	-5.33/-2.89	-2.21/-5.17	-7.29/-7.47	-6.80/-7.55	
Θ(90°)	-5.79/-5.18	-4.26/-4.78	-4.93/-5.18	-3.25/-2.14	-0.47/-1.32	1.460.41	-1.670.35	-0.44/-0.39	-0.61/-1.62	1.00/-0.33	-1.28/-1.37	-1.44/-4.41	-1.03/-4.54	-1.00/-4.31	-1.00/-4.31	-1.00/-4.31	-1.00/-4.31	-1.00/-4.31
Θ(100°)	-4.45/-3.16	-1.87/-0.91	-1.12/-2.76	-3.21/-3.44	-2.00/-0.72	-0.33/-1.97	-1.75/-2.84	-2.58/-2.68	4.22/-2.96	-3.880.32	-1.01/-2.26	4.34/-3.57	-0.50/-2.20	-1.49/-1.37	4.22/-2.27	-3.05/-6.71	-5.31/-4.89	-3.56/-3.51
Θ(110°)	-3.06/-2.80	-2.10/-0.90	-1.23/-2.47	-3.35/-2.51	-2.73/-2.68	-1.29/-3.67	-3.47/-5.05	-7.38/-7.46	-8.50/-3.48	-5.42/-7.37	-8.23/-11.19	-1.77/-7.63	4.00/-4.84	-7.37/-4.84	-5.87/-8.42	-7.48/-3.72	-1.23/-2.22	
Θ(120°)	-2.15/-1.17	-0.300.48	0.12/-0.70	-2.26/-2.22	-2.15/-3.05	-2.33/-3.13	-8.70/-12.79	-11.38/-5.49	-6.15/-7.59	-9.84/-10.51	-6.90/-7.37	-5.57/-5.12	-8.00/-6.67	-9.84/-7.23	-3.05/-2.02	-4.69/-4.81	-2.25/-3.26	
Θ(130°)	-3.77/-2.85	-1.020.12	0.17/-0.18	-0.72/-1.05	-0.31/-0.11	-1.38/-3.37	-5.15/-5.79	-5.38/-6.06	-9.58/-9.91	-13.06/-7.31	-6.78/-10.47	-8.95/-6.12	-7.57/-7.61	-5.79/-4.13	-6.84/-7.72	-5.21/-5.22	-4.06/-5.30	-2.47/-3.39
Θ(140°)	-5.04/-2.57	-1.220.93	1.380.95	0.14/-0.05	0.21/-0.08	-1.61/-1.96	-6.53/-8.14	-8.02/-8.68	-11.79/-16.36	-17.58/-12.30	-11.75/-13.49	-12.57/-10.46	-10.65/-7.69	-5.62/-5.28	-8.07/-14.76	-12.56/-7.76	-7.19/-6.67	-5.83/-5.41
Θ(150°)	-3.10/-3.19	-1.58/-0.24	0.440.76	0.70/-0.26	-1.30/-1.76	-0.39/-1.76	-2.94/-4.34	-6.65/-8.66	-10.53/-13.00	-13.25/-10.71	-8.68/-9.29	-13.61/-12.88	-5.03/-5.14	-10.31/-14.53	-8.69/-4.81	-3.05/-2.02	-4.41/-2.34	
Θ(160°)	-5.02/-4.14	-2.79/-2.00	-1.88/-1.96	-2.48/-3.24	-4.06/-4.28	-4.08/-4.03	-4.91/-6.78	-9.28/-11.62	-13.41/-14.51	-14.35/-12.94	-14.13/-14.75	-11.35/-8.96	-9.43/-10.11	-10.93/-11.47	-10.92/-8.31	-6.03/-5.33	-5.02/-4.47	-4.06/-4.39
Θ(170°)	-11.27/-10.14	-8.80/-7.74	-7.51/-7.27	-7.19/-6.88	-6.94/-7.34	-7.38/-7.73	-8.88/-11.88	-16.24/-16.47	-14.33/-11.95	-9.51/-7.86	-6.63/-6.13	-6.68/-7.70	-10.32/-12.88	-14.74/-16.24	-14.39/-10.84	-8.16/-7.15	-7.36/-7.78	-8.38/-10.10
Θ(180°)	-12.21/-12.56	-13.23/-12.84	-12.01/-11.23	-11.13/-11.80	-12.21/-13.04	-12.83/-14.11	-13.40/-13.40	-12.10/-11.29	-10.74/-10.46	-10.74/-11.07	-10.91/-10.81	-10.77/-10.97	-11.67/-12.21	-12.57/-11.84	-10.73/-11.29	-11.24/-12.23	-12.80/-12.81	-12.76/-12.50
Freq(Hz)	5.3GPol.	TotalAnt. 3	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-1.22/-1.26	-1.13/-1.23	-1.05/-1.03	-0.83/-0.70	-0.80/-0.84	-0.78/-0.69	-0.76/-0.81	-0.90/-0.68	-0.68/-0.79	-0.71/-0.53	-0.43/-0.29	-0.43/-0.21	-0.39/-0.64	-0.67/-0.64	-0.67/-0.80	-1.05/-0.84	-0.67/-1.00	-1.06/-0.97
Θ(10°)	-1.36/-1.01	-0.93/-1.34	-1.48/-1.67	-1.80/-1.97	-2.02/-1.89	-1.71/-1.27	-0.96/-0.59	-0.50/-0.43	-0.41/-0.49	-0.67/-0.36	-0.06/-0.01	0.180.18	0.060.09	-0.18/-0.35	-0.70/-1.29	-1.53/-1.56	-1.57/-1.80	-2.07/-1.73
Θ(20°)	-2.90/-1.95	-1.29/-1.36	-1.78/-1.77	-1.49/-1.19	-0.62/-0.58	-0.58/-0.62	-0.31/-0.16	-0.180.03	0.490.85	0.860.35	0.200.21	0.460.65	0.650.49	0.09/-0.68	-1.60/-2.25	-2.56/-2.70	-3.07/-3.55	-4.16/-3.68
Θ(30°)	-4.67/-3.66	-2.84/-2.78	-2.77/-2.32	-1.81/-1.77	-1.37/-1.38	1.260.71	-1.55/-1.61	0.620.61	-1.80/-1.78	-1.99/-3.31	-1.99/-3.31	-1.99/-3.31	-1.99/-3.31	-1.99/-3.31	-1.99/-3.31	-1.99/-3.31	-1.99/-3.31	-1.99/-3.31
Θ(40°)	-8.86/-7.27	-6.13/-5.27	-4.24/-2.61	-1.53/-1.14	-0.96/-1.22	-0.65/-0.29	-0.48/-0.48	0.050.78	1.080.67	0.820.50	0.18/-0.19	0.03/-0.30	-1.08/-1.45	-1.94/-2.91	-3.73/-4.29	-5.24/-7.94	-10.68/-10.50	-10.09/-9.45
Θ(50°)	-10.18/-8.31	-7.26/-6.61	-4.07/-2.86	-2.05/-1.61	-0.450.33	0.790.85	0.48/-0.36	0.37/-1.31	1.290.89	0.73/-0.04	-0.54/-0.11	0.270.89	0.28/-1.10	-2.51/-3.58	-3.55/-2.51	-3.81/-6.42	-7.33/-7.89	-9.19/-11.20
Θ(60°)	-12.27/-11.04	-8.37/-5.64	-3.97/-3.55	-1.51/-1.47	0.49/-1.68	1.430.46	0.36/-1.61	0.21/-1.53	0.920.88	-0.61/-1.13	4.09/-4.84	-2.52/-3.94	-4.07/-2.67	-5.25/-5.86	-4.07/-2.67	-5.25/-5.86	-4.07/-2.67	-5.25/-5.86
Θ(70°)	-14.95/-13.78	-11.63/-7.14	-4.44/-2.55	-1.08/-0.47	0.52/-1.76	2.21/-1.39	0.00/-2.82	-0.29/-1.35	1.85/-1.87	1.14/-2.51	2.30/-1.14	-1.13/-1.69	-2.34/-3.95	-2.73/-3.00	-3.03/-2.49	-2.90/-6.15	-5.95/-6.92	-9.06/-12.22
Θ(80°)	-9.21/-7.37	-7.60/-6.73	-5.27/-2.98	-1.55/-0.78	0.06/-1.97	2.120.59	-0.93/-3.03	-0.45/-1.73	1.64/-1.96	0.392.90	2.630.83	-1.51/-2.27	-0.70/-1.40	-1.03/-1.88	-4.41/-1.26	-1.46/-4.41	-6.70/-7.42	-7.28/-9.32
Θ(90°)	-4.93/-4.72	-3.30/-3.92	-4.11/-5.16	-1.71/-1.86	-0.75/-1.52	2.35/-1.29	-0.670.84	-0.25/-0.63	-2.42/-1.26	0.47/-0.58	-2.64/-2.22	0.38/-0.01	0.01/-0.70	-3.16/-1.69	-2.24/-3.61	-4.45/-5.72	-5.44/-6.48	
Θ(100°)	-5.51/-3.40	-2.25/-1.90	-1.71/-3.44	-3.24/-1.94	-1.280.29	1.34/-0.46	-1.36/-2.13	-2.82/-2.35	-2.63/-3.36	-4.670.88	-0.17/-0.89	-3.28/-3.00	-5.27/-2.42	-1.27/-1.99	-2.72/-1.93	-3.53/-6.58	-6.63/-7.07	-4.81/-5.50
Θ(110°)	-3.50/-3.09	-1.88/-0.80	-1.08/-3.44	-2.41/-1.79	-2.62/-2.20	-1.17/-1.34	-0.66/-0.35	-2.93/-4.23	-4.73/-6.69	-7.40/-7.98	-3.67/-5.45	-0.06/-7.87	-3.37/-7.15	-5.37/-6.59	-7.84/-3.92	-6.14/-8.81	-7.04/-5.88	-2.58/-3.95
Θ(120°)	-1.83/-1.26	-0.160.16	0.04/-0.28	-1.10/-1.23	-1.18/-1.81	-3.16/-2.52	-1.90/-3.71	-4.20/-5.23	-6.68/-14.07	-13.57/-5.94	-5.37/-7.40	-6.94/-8.83	-5.95/-6.29	-5.80/-5.64	-8.26/-7.41	-14.00/-9.49	-9.01/-8.55	-2.59/-4.22
Θ(130°)	-3.86/-2.17	-0.68/-0.29	-0.03/-0.29	-0.19/-0.21	0.500.86	-0.06/-1.70	-0.46/-4.64	-5.06/-5.41	-7.08/-10.11	-17.53/-8.70	-5.95/-9.22	-6.49/-6.92	-5.74/-4.00	-6.03/-6.63	-4.92/-6.01	-6.03/-6.63	-4.92/-6.01	-6.03/-6.63
Θ(140°)	-4.44/-2.39	-1.000.69	1.28/-1.14	0.810.84	0.850.05	-1.68/-1.58	-5.89/-8.12	-7.10/-6.65	-9.30/-11.71	-17.14/-12.72	-10.88/-11.42	-10.54/-9.12	-9.34/-7.17	-6.15/-5.05	-6.80/-15.04	-13.46/-9.05	-8.27/-8.26	-6.94/-5.83
Θ(150°)	-2.16/-1.35	-0.140.66	0.900.95	0.62/-0.19	-1.28/-1.77	-3.44/-5.69	-7.46/-7.37	-7.62/-9.11	-10.14/-9.33	-11.45/-12.27	-8.79/-7.86	-8.40/-10.07	-10.99/-7.27	-5.13/-5.42	-10.44/-13.35	-8.14/-1.49	-2.36/-1.73	-1.27/-1.57
Θ(160°)	-3.95/-2.59	-1.51/-1.03	-1.08/-1.37	-2.19/-3.10	-3.90/-4.59	-4.36/-4.46	-5.12/-6.37	-7.97/-9.40	-10.27/-12.97	-16.91/-12.33	-11.83/-12.33	-10.58/-8.56	-9.17/-11.49	-6.30/-5.81	-6.30/-5.81	-6.30/-5.81	-6.30/-5.81	-6.30/-5.81
Θ(170°)	-11.96/-10.63	-8.35/-8.88	-6.49/-6.16	-5.79/-5.61	-6.15/-6.27	-6.44/-6.03	-6.23/-8.85	-12.10/-14.66	-15.83/-14.73	-10.89/-7.85	-6.64/-5.89	-6.12/-7.10	-9.12/-10.86	-11.55/-10.83	-9.46/-8.26	-6.74/-6.03	-5.95/-6.70	-8.60/-10.57
Θ(180°)	-10.53/-10.83	-11.43/-12.51	-13.34/-12.51	-12.00/-12.93	-12.54/-13.37	-14.06/-14.17	-14.32/-13.59	-13.11/-12.57	-12.13/-11.26	-11.32/-10.84	-11.09/-12.03	-12.16/-13.14	-13.69/-13.71	-14.05/-13.29	-12.71/-12.36	-13.31/-13.91	-14.21/-13.89	-12.97/-11.55
Freq(Hz)	5.6GPol.	TotalAnt. 3	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°									



Antenna Pattern

Appendix B

Θ(50°)	0.54/0.42	0.17/-0.35	-0.05/-0.19	-0.36/-0.64	-1.52/-2.64	-3.13/-2.78	-2.93/-4.80	-7.84/-7.84	-7.53/-7.80	-8.70/-9.43	-8.94/-6.51	-4.66/-4.32	-3.11/-2.16	-1.04/-0.33	-0.27/-0.18	-0.53/-0.03	0.81/1.65	1.81/1.30
Θ(60°)	1.12/1.14	1.43/-0.31	-0.47/-0.69	0.05/-0.17	-1.44/-2.09	-1.60/-1.39	-2.93/-5.32	-7.21/-6.85	-6.62/-7.03	-10.23/-10.84	-8.66/-6.45	-6.18/-5.70	-4.84/-4.10	-2.73/-1.46	-1.14/-1.78	-2.82/-1.71	0.09/1.79	2.84/2.15
Θ(70°)	1.26/0.86	0.90/-0.65	-0.92/-1.60	-0.58/0.64	-0.44/-2.75	-2.50/-1.87	-3.85/-6.00	-7.14/-5.57	-4.71/-5.45	-6.82/-5.75	-5.58/-4.64	-5.31/-4.39	-4.19/-3.95	-1.76/-0.77	-0.36/-1.84	-3.34/-0.79	0.86/1.20	2.01/1.16
Θ(80°)	1.14/1.12	0.79/-1.03	-3.19/-5.61	-1.96/-1.21	-0.79/-2.61	-2.63/-1.38	-2.59/-5.67	-6.38/-5.00	-4.57/-4.74	-5.68/-3.97	-4.81/-5.07	-5.86/-3.48	-4.34/-4.11	-1.67/-1.14	0.70/-0.67	-0.60/-0.37	0.89/-0.56	0.44/-0.13
Θ(90°)	1.47/0.11	0.12/-1.08	-3.95/-8.38	-3.16/-1.39	-1.39/-3.28	-4.39/-4.26	-3.61/-7.42	-6.86/-5.82	-3.05/-4.21	-2.02/-2.21	-4.41/-2.54	-1.80/-1.81	-2.60/-1.38	-0.02/0.85	0.50/-1.85	-1.54/-1.73	0.39/0.23	-0.48/0.13
Θ(100°)	-0.97/-1.70	-1.28/-1.80	-5.77/-8.62	-3.43/-2.22	-2.51/-3.45	-3.18/-4.79	-4.19/-9.44	-6.50/-7.20	-1.82/-2.07	-0.34/-0.71	-1.54/-0.80	-0.51/-1.86	-0.52/-0.13	0.19/-0.13	-0.34/-0.54	-1.21/-1.60	-2.16/-1.72	-3.10/-2.95
Θ(110°)	-3.98/-4.25	-2.99/-3.95	-12.26/-12.00	-5.20/-3.16	-3.38/-5.25	-4.85/-4.60	-7.14/-10.64	-7.20/-7.99	-2.95/-2.78	-0.58/-0.64	-3.05/-2.58	-1.27/0.13	-0.24/-0.20	-0.30/2.29	-0.05/-0.90	-0.72/-2.68	-3.49/-8.13	-10.46/-8.46
Θ(120°)	-6.94/-4.14	-6.57/-7.46	-11.33/-13.23	-8.76/-8.07	-8.73/-7.19	-5.36/-2.28	-8.26/-9.59	-9.09/-3.54	-2.17/-4.50	-0.67/1.20	-1.75/-1.50	0.36/0.84	-1.18/-2.95	-3.19/0.70	-1.65/-4.39	-2.92/-6.03	-6.63/-9.07	-11.58/-11.03
Θ(130°)	-10.98/-8.08	-9.86/-8.50	-9.64/-9.20	-8.83/-9.71	-9.88/-8.54	-8.69/-10.77	-6.70/-3.14	-2.88/-5.70	-1.18/-0.45	-3.86/-2.43	0.75/0.64	0.55/-2.21	-1.77/2.02	0.75/-5.45	-3.98/-6.15	-6.96/-7.43	-15.04/-9.04	
Θ(140°)	-10.90/-12.92	-12.82/-12.86	-12.39/-16.91	-17.59/-15.25	-15.25/-8.30	-5.44/-7.58	-13.53/-10.30	-6.00/-5.20	-11.34/-7.61	-1.81/-1.05	-4.61/-4.66	-1.57/0.17	-1.53/-3.44	-2.27/1.16	1.11/-2.75	-6.15/-4.32	-8.00/-12.66	-13.20/-11.03
Θ(150°)	-8.93/-7.10	-8.62/-12.13	-11.44/-12.66	-14.11/-13.36	-9.46/-6.84	-6.50/-7.53	-7.18/-5.31	-4.37/-5.84	-4.86/-2.72	-2.95/-5.02	-7.04/-7.22	-5.20/-4.32	-4.32/-5.59	-6.08/-3.17	-2.84/-6.92	-13.39/-13.63	-9.84/-11.96	-15.83/-12.84
Θ(160°)	-13.50/-16.85	-12.97/-10.26	-10.14/-10.10	-10.73/-12.53	-10.82/-8.73	-7.18/-4.57	-2.63/-1.85	-1.39/-1.84	-1.33/-5.44	-8.45/-10.17	-10.11/-9.16	-9.97/-8.99	-8.32/-7.51	-7.14/-7.69	-10.15/-11.90	-9.97/-8.99	-10.27/-10.41	
Θ(170°)	-11.65/-7.94	-6.85/-6.95	-8.43/-10.42	-11.44/-12.83	-13.00/-12.82	-11.24/-9.53	-7.75/-6.69	-6.31/-6.90	-7.97/-9.73	-12.64/-15.72	-14.14/-12.27	-9.89/-8.75	-8.64/-8.62	-9.57/-9.51	-9.05/-8.18	-7.24/-7.74	-8.71/-12.61	-16.78/-15.35
Θ(180°)	-11.75/-11.42	-10.89/-10.07	-8.14/-6.75	-6.27/-6.15	-6.04/-6.31	-6.26/-6.22	-5.90/-5.72	-5.79/-5.55	-5.22/-5.17	-5.41/-5.78	-5.86/-6.19	-6.05/-6.27	-6.50/-6.87	-6.87/-7.03	-6.43/-5.95	-5.80/-6.37	-8.31/-11.08	-12.38/-12.74
Freq(Hz)	5.3G/Pol.	Total/Ant. 4	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-0.36/-0.30	-0.41/-0.32	-0.20/0.28	0.36/0.34	0.42/0.45	0.23/-0.19	-0.22/-0.22	-0.21/-0.45	-0.40/-0.38	-0.59/-0.63	-0.63/-0.67	-0.69/-0.57	-0.34/-0.28	-0.23/0.14	0.01/-0.31	-0.21/-0.07	-0.16/-0.37	-0.27/-0.30
Θ(10°)	-0.17/-0.64	-0.80/-0.73	-0.89/-0.84	-0.93/-1.28	-1.49/-1.09	-1.35/-1.79	-2.29/-2.54	-2.72/-3.03	-2.90/-2.67	-1.58/-1.53	-1.99/-2.28	-2.06/-1.69	0.68/0.47	0.32/0.06				
Θ(20°)	-0.11/-0.50	-1.18/-2.26	-2.92/-3.13	-2.64/-2.27	-1.81/-1.72	-2.24/-3.13	-4.25/-5.28	-5.90/-5.37	-4.41/-3.54	-3.03/-2.94	-3.14/-3.19	-2.95/-2.26	-2.10/-1.59	-0.68/-0.27	0.31/0.88	1.30/1.34	1.08/0.67	0.24/0.13
Θ(30°)	-0.19/-0.17	-0.11/-1.14	-1.78/-2.13	-2.33/-2.84	-2.60/-1.68	-1.54/-1.74	-3.21/-4.91	-7.17/-8.33	-7.10/-5.85	-5.42/-3.96	-4.82/-3.96	-3.54/-3.30	-2.98/-1.50	-0.14/-1.32	0.95/1.85	1.80/1.19	0.56/-0.25	-0.41/-4.04
Θ(40°)	0.93/-1.44	1.37/0.35	-0.52/-0.40	-0.75/-1.09	-1.51/-1.99	-1.28/-0.96	-4.20/-4.60	-7.49/-8.54	-6.27/-7.36	-7.17/-6.52	-4.64/-3.83	-3.78/-3.64	0.22/0.71	0.80/1.29	1.51/1.80	1.62/0.88		
Θ(50°)	1.60/1.50	1.14/0.45	0.52/1.02	0.96/-0.38	-1.20/-1.30	-1.34/-1.42	-1.92/-4.00	-5.41/-4.58	-5.68/-7.22	-9.31/-9.49	-8.83/-6.58	-5.42/-4.79	-3.71/-3.61	-2.75/-1.27	-0.13/0.07	-0.07/0.98	2.26/2.89	2.94/2.33
Θ(60°)	1.05/1.29	1.80/0.97	1.01/0.39	0.25/-0.01	-0.80/-1.50	-0.86/-1.22	-3.28/-6.51	-5.10/-2.98	-4.00/-6.47	-12.11/-14.84	-9.99/-7.64	-7.19/-7.23	-7.12/-7.29	-4.12/-1.43	0.26/0.04	-1.43/-1.11	0.36/2.39	3.46/2.36
Θ(70°)	2.62/1.54	1.48/-0.84	-0.44/-1.00	-0.53/0.24	-1.15/-1.54	-0.45/-0.91	-10.54/-9.08	-4.90/-4.02	-5.20/-8.43	-10.54/-9.08	-4.90/-4.02	-5.20/-8.43	-10.54/-9.08	-4.90/-4.02	-5.20/-8.43	-10.54/-9.08	-4.90/-4.02	-5.20/-8.43
Θ(80°)	2.50/1.41	1.23/-0.38	-1.59/-3.24	-0.09/-0.20	-1.33/-3.29	-3.00/-1.88	-3.28/-6.79	-5.07/-3.34	-4.05/-4.24	-5.61/-3.89	-5.01/-4.71	-5.58/-3.06	-4.29/-6.19	-2.74/0.47	1.55/-0.26	-1.75/-0.76	1.11/0.56	1.46/1.19
Θ(90°)	0.91/0.06	0.04/-1.42	-3.62/-6.56	-1.62/-0.12	-0.26/-1.87	-3.71/-4.06	-5.01/-7.74	-7.69/-4.91	-3.36/-3.94	-2.47/-2.02	-4.93/-9.20	-1.09/-1.08	-3.69/-4.28	-1.93/0.65	1.39/-0.30	0.25/-1.41	1.01/0.65	-0.26/-0.63
Θ(100°)	-0.45/-0.71	0.18/-0.88	-4.30/-8.65	-4.97/-3.84	-2.55/-2.75	-2.42/-4.35	-4.58/-10.85	-7.64/-8.33	-2.85/-3.25	-0.62/-0.92	-2.42/-1.35	-0.75/-1.68	-0.96/-0.62	-0.41/0.14	1.20/1.24	-0.10/-1.59	-2.47/-1.18	-2.19/-2.19
Θ(110°)	-1.89/-3.15	-1.09/-2.93	-8.81/-12.02	-6.98/-4.72	-4.46/-4.37	-5.76/-3.94	-5.07/-13.17	-7.04/-8.48	-2.23/-2.47	-0.18/-0.49	-3.63/-3.11	-1.37/0.84	0.45/0.34	-0.28/2.62	0.63/0.51	-1.05/-2.96	-2.94/-5.17	-6.82/-4.63
Θ(120°)	-5.98/-4.61	-6.21/-4.65	-8.20/-11.17	-8.82/-8.92	-7.78/-5.66	-5.96/-3.64	-12.10/-12.58	-11.79/-5.04	-2.30/-3.69	-0.82/1.60	-2.14/-2.41	0.25/1.38	0.04/-2.00	-2.91/1.84	-0.11/-2.38	-1.17/-2.59	-6.60/-9.31	-10.30/-8.19
Θ(130°)	-10.27/-9.38	-9.82/-6.60	-7.36/-6.96	-7.10/-8.35	-12.29/-9.17	-7.07/-13.08	-10.71/-12.60	-8.70/-5.17	-3.12/-5.43	-0.91/0.51	-3.64/-2.72	1.39/1.27	1.52/-1.16	-0.80/3.38	1.53/-5.84	-2.25/-5.75	-5.84/-6.08	-15.96/-7.58
Θ(140°)	-8.46/-12.10	-11.36/-10.49	-9.70/-15.01	-17.33/-15.46	-12.97/-6.93	-10.20/-6.83	-14.90/-12.10	-6.56/-5.44	-9.10/-9.97	-1.02/0.22	-3.91/-3.93	-0.99/1.09	-6.99/-3.21	2.14/-3.26	-6.99/-3.21	-6.99/-3.21	-6.99/-3.21	-6.99/-3.21
Θ(150°)	-9.99/-8.86	-8.57/-9.95	-8.79/-9.37	-11.10/-9.94	-7.96/-6.40	-6.31/-7.45	-8.03/-6.14	-4.96/-5.61	-4.49/-1.93	-1.15/-2.29	-3.97/-5.36	-4.71/-4.09	-4.42/-5.07	-5.61/-2.59	-2.57/-6.95	-11.91/-14.28	-7.67/-9.24	-12.66/-11.22
Θ(160°)	-10.35/-17.55	-13.32/-9.65	-9.33/-9.20	-9.60/-9.97	-8.71/-7.92	-9.03/-9.48	-7.71/-5.09	-3.14/-2.26	-1.84/-2.08	-3.37/-5.39	-7.44/-9.73	-10.18/-10.27	-9.70/-8.31	-6.57/-6.23	-5.98/-6.94	-8.29/-9.35	-8.07/-7.66	-7.34/-7.63
Θ(170°)	-11.56/-8.90	-7.28/-6.88	-8.14/-9.38	-10.38/-11.22	-11.25/-9.41	-8.31/-7.05	-6.47/-5.68	-5.22/-5.35	-7.02/-9.46	-12.68/-15.97	-14.35/-11.56	-9.94/-9.70	-9.68/-9.64	-10.62/-11.69	-9.29/-7.62	-6.13/-6.12	-7.14/-9.26	-12.36/-13.77
Θ(180°)	-10.75/-16.94	-11.16/-9.29	-8.20/-6.70	-6.06/-6.08	-6.23/-6.62	-6.38/-5.92	-5.32/-5.32	-5.26/-5.26	-4.83/-4.36	-4.22/-4.31	-4.68/-4.82	-4.95/-5.14	-5.85/-6.20	-5.85/-5.85	-5.95/-5.55	-5.39/-6.00	-8.23/-10.70	-11.27/-11.20
Freq(Hz)	5.6G/Pol.	Total/Ant. 4	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
Θ(0°)	-0.78/-1.09	-1.30/-1.20	-1.22/-1.24	-1.17/-1.26	-1.39/-1.05	-1.24/-0.97	-0.98/-1.16	-1.03/-0.88	-0.96/-0.94	-1.06/-1.18	-1.18/-1.20	-1.46/-1.37	-1.25/-1.50	-1.63/-1.34	-1.62/-1.76	-1.30/-1.20	-0.98/-0.79	-0.76/-0.81
Θ(10°)	0.60/0.08	-0.11/-0.33	-1.03/-1.44	-2.40/-3.34	-3.93/-4.43	-4.26/-4.70	-4.42/-3.99	-3.95/-3.72	-3.04/-2.66	-2.35/-2.37	-2.00/-1.89	-1.68/-1.43	-1.06/-0.79	-0.14/0.36	0.40/0.74	0.98/1.36	1.31/1.17	1.17/0.78
Θ(20°)	0.36/-0.22	-0.50/-0.49	-0.79/-1.14	-1.45/-1.79	-2.62/-3.44	-4.45/-4.86	-5.56/-5.10	-5.01/-4.69	-4.82/-4.95	-5.15/-4.60	-4.47/-4.27	-4.13/-3.87	-3.04/-1.86	-0.28/0.35	0.58/1.11	1.39/1.22	1.27/1.26	1.33/0.88
Θ(30°)	0.99/0.34	-1.05/-1.67	-1.74/-2.11	-2.72/-3.50	-4.10/-4.15	-4.05/-3.96	-5.16/-5.71	-5.95/-5.83	-5.50/-5.21	-6.15/-7.63	-8.42/-7.02	-5.49/-3.63	-1.87/-1.39	-1.71/-0.95	1.05/1.82	2.43/2.13	1.35/0.91	0.89/0.77
Θ(40°)	-0.09/0.29	-0.42/-0.76	-0.26/-0.91	-2.81/-4.34	-3.89/-2.62	-2.84/-4.19	-6.32/-6.77	-5.62/-5.15	-5.34/-7.03	-8.75/-9.45	-9.89/-8.04	-6.66/-4.94	-3.43/-1.69	-0.12/0.40	0.66/1.68	2.06/1.75	1.44/1.46	0.99/0.30
Θ(50°)	0.85/0.86	0.60/-0.34	0.01/-0.98	-1.87/-1.61	-7.99/-12.32	-0.99/-2.58	-6.15/-6.02	-5.94/-6.86	-1.87/-12.32	-12.57/-11.84	-11.08/-8.73	-9.16/-7.38	-4.36/-1.97	-0.68/-0.83	-0.17/0.04	-0.17/0.04	0.24/1.62	2.18/1.54
Θ(60°)	0.82/0.72	0.69/-0.33	0.27/0.01	0.21/-1.22	-1.65/-0.29	-0.75/-3.90	-6.01/-4.66	-4.28/-5.42	-9.47/-17.25	-17.93/-11.63	-11.16/-9.94	-10.72/-10.16	-5.37/-1.84	-0.47/-0.36	-0.16/0.14	-1.34/-2.08	0.11/1.86	2.09/1.47
Θ(70°)	0.41/-0.04	1.13/0.21	0.27/-0.25	0.07/-0.97	-1.74/-0.53	-0.71/-3.64	-7.41/-6.51	-4.37/-5.95	-12.42/-12.95	-10.44/-9.57	-10.79/-7.34	-10.16/-8.22	-4.61/-2.14	-1.54/-1.53	0.32/0.10	-1.90/-1.12	-0.01/1.95	2.59/1.42
Θ(80°)	1.07/-1.01	0.41/-1.87	-1.73/-1.07	0.36/-0.84	-2.23/-1.42	-1.67/-3.21	-7.03/-6.99	-5.96/-7.52	-10.13/-9.23	-9.24/-9.31	-11.10/-8.75	-8.54/-5.84	-4.64/-2.76	-1.89/-0.78	1.22/-0.08	-1.71/-0.27	0.40/0.70	0.91/0.87
Θ(90°)	1.41/-2.06	-0.27/-1.10	-3.56/-1.91	-0.73/-1.90	-1.31/-1.18	-1.71/-3.0												

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

