



Antenna Composite Gain Test Report

Equipment	Wi-Fi 7 Router
Brand Name	Q Fiber
Model Name	W1700K
Applicant	Gemtek Technology Co., Ltd. No. 15-1 Zhonghua Road, Hsinchu Industrial Park, Hukou, Hsinchu, Taiwan, 30352.
Manufacturer	Gemtek Technology Co., Ltd. No. 15-1 Zhonghua Road, Hsinchu Industrial Park, Hukou, Hsinchu, Taiwan, 30352.
Sample Received	Jun. 28, 2023
Start Test Date	Jul. 07, 2023
Final Test Date	Jul. 07, 2023


Approved by: Jackson Tsai

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No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)



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History of this test report

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1. Operation Mode and Antenna Information

Antenna Position	RF Port	Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
2G5G Ant1	1	Gemtek	WAPE-269BE_Dual_Ant1	PIFA	UFL	2.4G+5G
2G5G Ant2	2	Gemtek	WAPE-269BE_Dual_Ant2	PIFA	UFL	2.4G+5G
2G5G Ant3	3	Gemtek	WAPE-269BE_Dual_Ant3	PIFA	UFL	2.4G+5G
2G5G Ant4	4	Gemtek	WAPE-269BE_Dual_Ant4	PIFA	UFL	2.4G+5G
6E Ant1	1	Gemtek	WAPE-269BE_6E_Ant1	PIFA	UFL	6G
6E Ant2	2	Gemtek	WAPE-269BE_6E_Ant2	PIFA	UFL	6G
6E Ant3	3	Gemtek	WAPE-269BE_6E_Ant3	PIFA	UFL	6G
6E Ant4	4	Gemtek	WAPE-269BE_6E_Ant4	PIFA	UFL	6G

Note:

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

2G5G Ant1, 2G5G Ant2, 2G5G Ant3 and 2G5G Ant4 could transmit/receive simultaneously.

6GHz Operation Mode (4TX/4RX)

6E Ant1, 6E Ant2, 6E Ant3 and 6E Ant4 could transmit/receive simultaneously.

2. Test Frequency

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

Band [MHz]	Test Frequency [MHz]
2400-2483.5	2450
5150-5250	5200
5250-5350	5300
5470-5725	5600
5725-5850	5785
5925-6425	6175
6425-6525	6475
6525-6875	6695
6875-7125	6995



3. Testing Location

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
☒ Wen 33rd.St.	ADD:	No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)		
	TEL: 886-3-318-0787	FAX: 886-3-318-0287		
Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated	05CH03-HY	Rex Liao	23.5~24.5°C / 40~50%	Jul. 07, 2023

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

4. Test Facility and Configuration

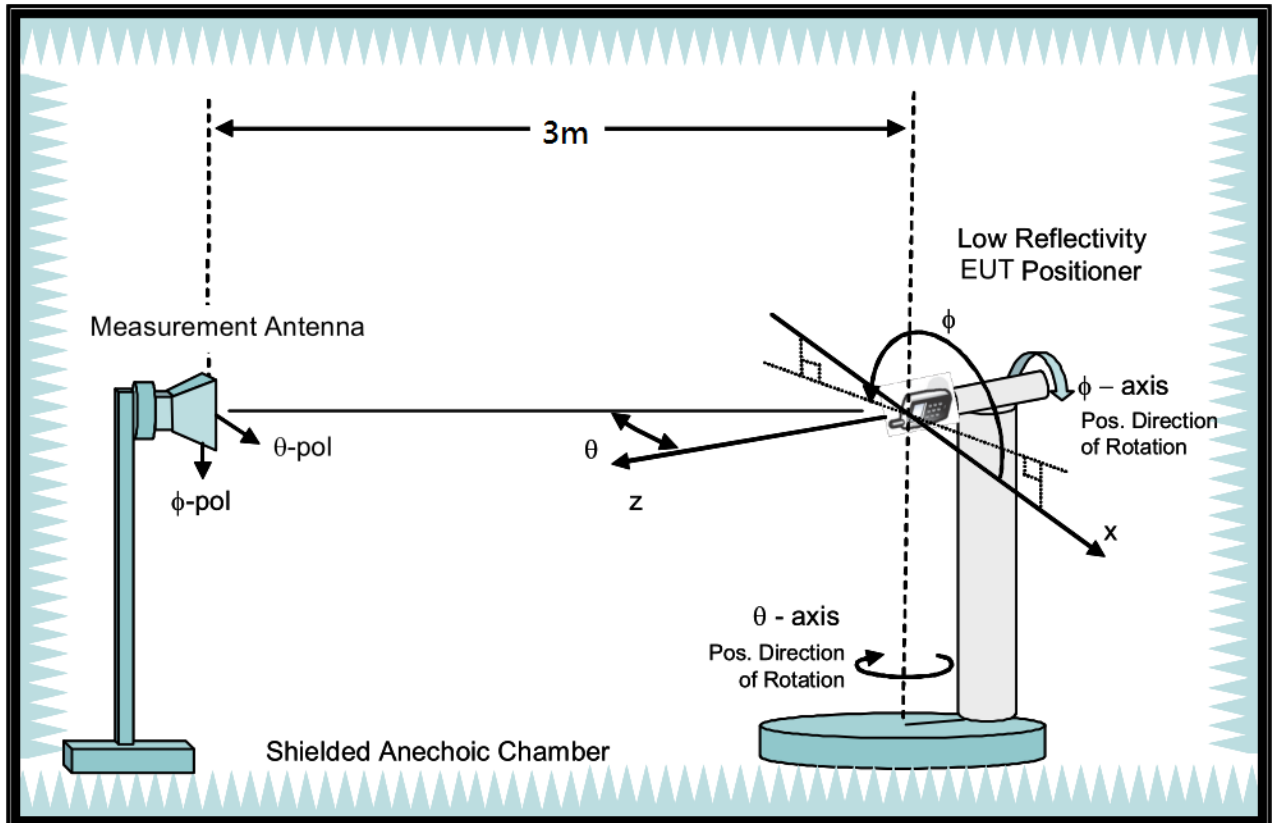
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

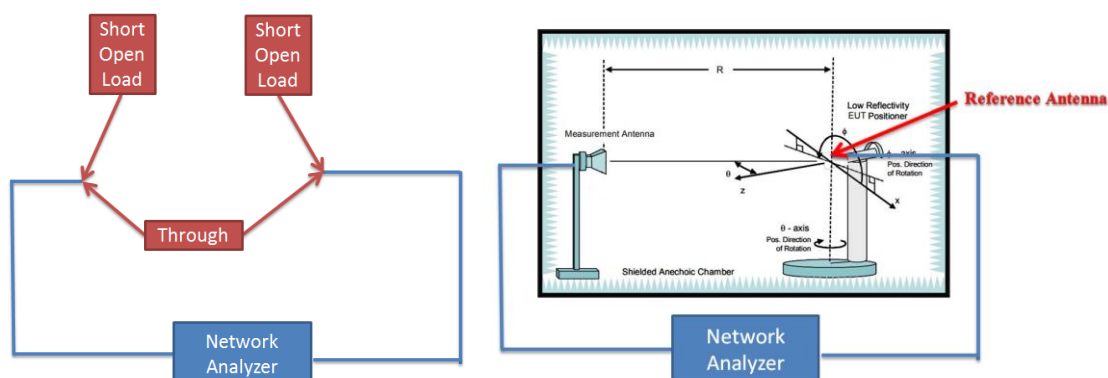
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



5. Reference Calibration

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

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



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

Note:

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

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

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

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



6. Test Method

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

DG steps:

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

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

7. Measured Values and Calculation of Maximum Gain Positions

DG_1SS max value position

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	-11.57	0.24	-1.25	-2.95	-5.24
Ant. 2 (dBi)	-1.26	-2.57	-3.99	-7.71	-6.52
Ant. 3 (dBi)	-0.39	1.87	0.51	1.28	2.23
Ant. 4 (dBi)	1.58	2.02	1.41	0.79	3.16
DG [1SS] (dBi)	4.31	6.6	5.42	4.55	5.46
Polarization	Phi	Phi	Phi	Phi	Theta
$\Theta(^{\circ})$	82.5	0	0	0	45
$\Phi(^{\circ})$	105	300	300	135	0

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

DG_1SS max value position calculation

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 [$10^{(G/20)}$]	$10^{(-11.57/20)}$	$10^{(0.24/20)}$	$10^{(-1.25/20)}$	$10^{(-2.95/20)}$	$10^{(-5.24/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(-1.26/20)}$	$10^{(-2.57/20)}$	$10^{(-3.99/20)}$	$10^{(-7.71/20)}$	$10^{(-6.52/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(-0.39/20)}$	$10^{(1.87/20)}$	$10^{(0.51/20)}$	$10^{(1.28/20)}$	$10^{(2.23/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(1.58/20)}$	$10^{(2.02/20)}$	$10^{(1.41/20)}$	$10^{(0.79/20)}$	$10^{(3.16/20)}$
Ant. 1 [$10^{(G/20)}$] value	0.264	1.028	0.866	0.712	0.547
Ant. 2 [$10^{(G/20)}$] value	0.865	0.744	0.632	0.412	0.472
Ant. 3 [$10^{(G/20)}$] value	0.956	1.24	1.06	1.159	1.293
Ant. 4 [$10^{(G/20)}$] value	1.199	1.262	1.176	1.095	1.439
Sum All Antenna [Amax]	3.284	4.274	3.734	3.378	3.751
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	4.31	6.6	5.42	4.55	5.46

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

DG_1SS max value position

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	-0.51	-1.46	-1.43	-0.12
Ant. 2 (dBi)	0.44	2.46	1.49	1.39
Ant. 3 (dBi)	-0.16	-1.29	-1.32	-0.14
Ant. 4 (dBi)	-2.73	-1.69	-0.73	-4.48
DG [1SS] (dBi)	5.36	5.71	5.61	5.44
Polarization	Theta	Phi	Theta	Theta
$\Theta(^{\circ})$	82.5	90	82.5	90
$\Phi(^{\circ})$	270	270	270	262.5

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

DG_1SS max value position calculation

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [$10^{(G/20)}$]	$10^{(-0.51/20)}$	$10^{(-1.46/20)}$	$10^{(-1.43/20)}$	$10^{(-0.12/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(0.44/20)}$	$10^{(2.46/20)}$	$10^{(1.49/20)}$	$10^{(1.39/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(-0.16/20)}$	$10^{(-1.29/20)}$	$10^{(-1.32/20)}$	$10^{(-0.14/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(-2.73/20)}$	$10^{(-1.69/20)}$	$10^{(-0.73/20)}$	$10^{(-4.48/20)}$
Ant. 1 [$10^{(G/20)}$] value	0.943	0.845	0.848	0.986
Ant. 2 [$10^{(G/20)}$] value	1.052	1.327	1.187	1.174
Ant. 3 [$10^{(G/20)}$] value	0.982	0.862	0.859	0.984
Ant. 4 [$10^{(G/20)}$] value	0.73	0.823	0.919	0.597
Sum All Antenna [Amax]	3.707	3.858	3.814	3.741
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	5.36	5.71	5.61	5.44

Note:

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

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

8. Summary of Test Result

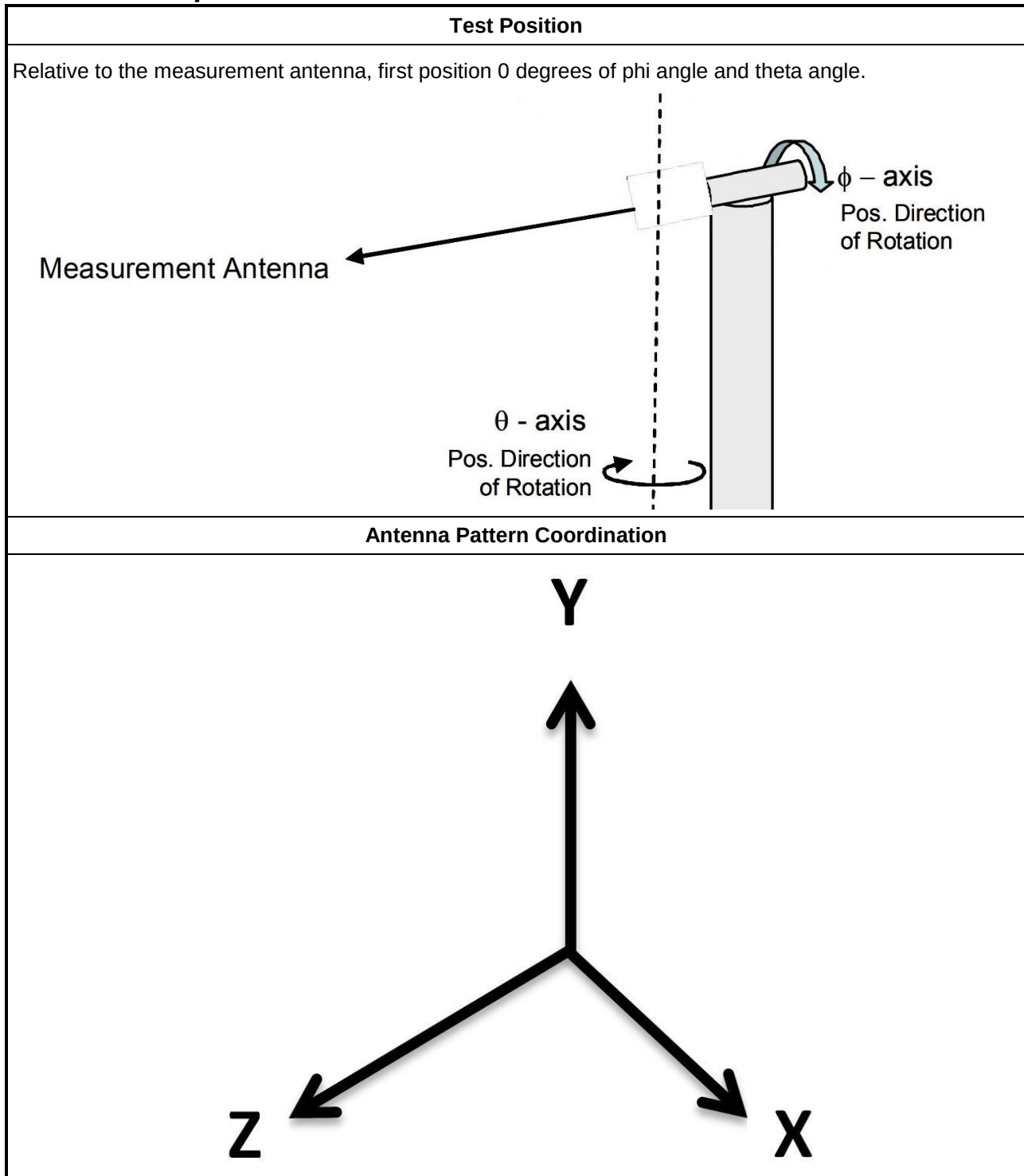
Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	1.13	2.45	1.39	1.42	1.32
Ant. 2 Max Gain (dBi)	1.49	3.28	2.3	1.07	1.57
Ant. 3 Max Gain (dBi)	1.67	3.66	1.55	2.81	2.9
Ant. 4 Max Gain (dBi)	1.69	2.9	2.2	3.28	3.6
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/82.5/352.5	Theta/0/75	Theta/30/240	Theta/45/232.5	Theta/75/240
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/22.5/82.5	Phi/30/52.5	Theta/15/150	Phi/7.5/240	Phi/22.5/45
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/37.5/90	Theta/15/15	Phi/45/292.5	Theta/22.5/22.5	Theta/22.5/7.5
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/90/112.5	Phi/22.5/345	Phi/0/330	Theta/37.5/345	Theta/45/352.5
Max Gain (dBi)	1.69	3.66	2.3	3.28	3.6
DG [1SS] (dBi)	4.31	6.6	5.42	4.55	5.46
DG [2SS] (dBi)	1.69	3.66	2.42	3.28	3.6
DG [4SS] (dBi)	1.69	3.66	2.3	3.28	3.6

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	1.06	1.01	1.22	1.09
Ant. 2 Max Gain (dBi)	1.85	2.46	2.59	1.97
Ant. 3 Max Gain (dBi)	2.9	2.01	2.76	2.71
Ant. 4 Max Gain (dBi)	2.39	2.69	3.3	1.46
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/52.5/225	Phi/52.5/307.5	Theta/52.5/225	Theta/52.5/217.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/45/202.5	Phi/90/270	Phi/90/270	Theta/90/247.5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/52.5/52.5	Theta/75/97.5	Theta/60/67.5	Theta/67.5/82.5
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/75/90	Phi/82.5/105	Theta/75/82.5	Theta/52.5/45
Max Gain (dBi)	2.9	2.69	3.3	2.71
DG [1SS] (dBi)	5.36	5.71	5.61	5.44
DG [2SS] (dBi)	2.9	2.71	3.3	2.71
DG [4SS] (dBi)	2.9	2.69	3.3	2.71

Note:

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

9. Test Setup



Note:

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

**10. Test Equipment and Calibration Data**

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1543	1GHz~18GHz	May 11, 2023	May 10, 2024
Dual Polarization Horn Antenna	Sporton	S0209DP	S0209DP-001	2GHz~9GHz	N.C.R.	N.C.R.
ENA Series Network Analyzer	AGILENT	E5071C	MY46419477	100kHz~8.5GHz	Jul. 20, 2022	Jul. 19, 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.



11. Test Results

Please refer to the appendix.

Appendix A – Radiated Composite Gain of 2.4GHz&5GHz&6GHz	Page 15
Appendix B – Antenna Pattern of 2.4GHz&5GHz&6GHz	Page 40
Appendix C – Test Photos	Page 53

————THE END————



Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	1.13	2.45	1.39	1.42	1.32
Ant. 2 Max Gain (dBi)	1.49	3.28	2.3	1.07	1.57
Ant. 3 Max Gain (dBi)	1.67	3.66	1.55	2.81	2.9
Ant. 4 Max Gain (dBi)	1.69	2.9	2.2	3.28	3.6
Ant. 1 Polarization/Θ(°)/Φ(°)	Phi/82.5/352.5	Theta/0/75	Theta/30/240	Theta/45/232.5	Theta/75/240
Ant. 2 Polarization/Θ(°)/Φ(°)	Phi/22.5/82.5	Phi/30/52.5	Theta/15/150	Phi/7.5/240	Phi/22.5/45
Ant. 3 Polarization/Θ(°)/Φ(°)	Phi/37.5/90	Theta/15/15	Phi/45/292.5	Theta/22.5/22.5	Theta/22.5/7.5
Ant. 4 Polarization/Θ(°)/Φ(°)	Phi/90/112.5	Phi/22.5/345	Phi/0/330	Theta/37.5/345	Theta/45/352.5
Max Gain (dBi)	1.69	3.66	2.3	3.28	3.6
DG [1SS] (dBi)	4.31	6.6	5.42	4.55	5.46
DG [2SS] (dBi)	1.69	3.66	2.42	3.28	3.6
DG [4SS] (dBi)	1.69	3.66	2.3	3.28	3.6



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A.1

DG 1SS Result

Freq(Hz)	2.45GPol.	PhiL	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)		
Θ(0°)	-1.59/-1.31	-0.92/-0.44	0.15/0.74	1.15/-1.56	1.82/-1.9	1.81/-1.59	1.41/-2.7	1.16/-0.97	0.78/-0.41	-0.14/-0.51	-0.87/-1.19	-1.44/-1.61	-1.4/-1.09	-0.12/-0.41	0.74/-0.96	1.09/-1.25	1.32/-1.22	1.04/-0.87	0.84/-0.85	0.92/-0.82	0.57/-0.26	0.04/-0.2	-0.48/-0.81	-1.18/-1.55		
Θ(7.5°)	-0.9/-0.81	-0.73/-0.52	-0.10/-0.38	0.84/-1.12	1.29/-1.35	1.21/-0.93	1.01/-0.88	0.99/-1.08	1.08/-0.85	-0.28/-0.54	-0.84/-1.22	-1.46/-1.22	-0.30/-0.46	1.13/-1.64	2.03/-2.27	2.35/-2.34	2.28/-2.16	2.02/-1.84	1.55/-1.14	0.70/-0.25	-0.15/-0.55	-0.8/-0.9	-1.07/-1.09			
Θ(15°)	0.12/-0.01	-0.23/-0.37	-0.21/-0.17	0.56/-0.99	1.32/-1.61	1.66/-1.51	1.43/-1.44	1.49/-1.53	1.56/-1.37	0.88/-0.36	-0.08/-0.54	-0.45/-0.69	-1.1/-1.18	-0.83/-0.24	1.41/-2.37	2.99/-3.31	3.37/-3.34	3.28/-3.18	3.02/-2.77	2.38/-1.83	1.16/-0.44	-0.22/-0.56	-0.67/-0.56	-0.15/-0.17		
Θ(22.5°)	1.06/-0.9	0.49/-0.09	-0.12/-0.02	0.43/-0.95	1.49/-1.93	2.16/-2.58	2.03/-1.87	1.76/-1.6	1.49/-1.29	0.91/-0.57	0.13/-0.19	-0.42/-0.49	-0.64/-0.7	-0.39/-0.44	1.65/-2.74	3.43/-3.72	3.67/-3.49	3.23/-3	2.82/-6	0.79/-0.04	-0.64/-0.79	-0.51/-0.07	0.38/-0.98			
Θ(30°)	1.32/-1.3	0.98/-0.55	-0.02/-0.03	0.37/-0.98	1.61/-2.11	2.45/-2.6	2.54/-2.33	1.97/-1.51	1.06/-0.86	0.01/-0.92	0.68/-0.2	-0.28/-0.49	-0.55/-0.31	0.02/-0.62	1.44/-2.35	3.02/-3.35	3.28/-3.01	2.62/-21	2.08/-1.99	1.61/-0.6	0.29/-0.52	-0.99/-0.92	-0.51/-0	0.56/-1.05		
Θ(37.5°)	0.82/-1.07	1.04/-0.81	0.35/-0.18	0.68/-1.48	2.18/-2.6	2.83/-2.95	3.45/-3.02	2.61/-86	0.94/-0.47	0.71/-24	1.24/-0.6	-0.37/-0.92	-0.65/-0.03	0.47/-0.78	1.16/-1.68	2.13/-2.37	2.41/-21	1.59/-1.2	1.06/-0.98	0.76/-0.38	-0.05/-0.45	-0.73/-0.68	-0.33/-0.08	0.26/-0.62		
Θ(45°)	-0.04/-0.14	0.33/-0.3	0.04/-0.01	0.78/-1.75	2.51/-2.82	2.65/-2.47	2.68/-0.32	2.95/-2.24	1.09/-0.3	0.44/-1.1	1.80/-37	-1.13/-2.42	-1.93/-0.93	-0.31/-0.06	0.29/-0.58	0.85/-1.1	0.97/-0.53	-0.12/-0.63	-0.72/-0.59	-0.75/-0.94	-1.03/-1.21	-1/-0.78	-0.74/-0.53	-0.29/-0.03		
Θ(52.5°)	-0.44/-0.46	-0.31/-0.01	0.11/-0.67	1.36/-2.28	2.88/-2.82	2.23/-1.58	1.79/-2.55	3.03/-2.54	1.42/-0.52	0.53/-1.06	1.08/-21	-1.32/-2.47	-1.58/-0.53	-0.16/-0.25	-0.49/-0.57	0.25/-0.13	-0.39/-1.01	-1.35/-1.31	-1.34/-1.73	-2.58/-2.58	-1.73/-1.08	-1.27/-1.15	-1.12/-1.5	-1.12/-0.56		
Θ(60°)	-0.17/-0.3	-0.61/-0.44	-0.10/-0.6	0.99/-2.13	2.85/-2.87	2.35/-1.89	2.09/-2.86	3.37/-2.93	1.48/-1.13	-0.27/-0.37	0.65/-0.13	-0.89/-1.54	-0.60/-0.27	0.58/-0.05	-1.13/-1.82	-1.55/-0.86	-0.18/-0.27	0.2/-0.38	-0.69/-0.11	0.42/-0.16	-1.85/-3.04	-2.79/-2.24	-2.52/-2.38	-1.48/-0.5		
Θ(67.5°)	-0.38/-0.48	-0.35/-0.09	0.14/-0.18	0.11/-2.1	1.94/-2.03	2.03/-2.45	3.09/-3.7	3.93/-3.38	1.95/-1.2	-0.59/-0.17	-0.12/-0.67	-1.5/-2.03	-1.26/-0.17	-0.03/-1.19	-2.71/-2.56	-1.98/-1.31	-0.31/-0.52	0.64/-0.19	0.06/-0.89	1.54/-0.86	-1.35/-2.71	-2.41/-2.26	-3.35/-3.7	-2.07/-0.75		
Θ(75°)	-0.86/-1.34	-0.89/-0.42	1.01/-0.61	0.46/-0.95	1.29/-1.37	1.61/-2.31	3.08/-3.73	4.11/-3.78	2.66/-1.07	0.28/-0.29	-1.15/-1.74	-1.97/-2.39	-2.49/-1.98	-1.3/-2.64	-2.29/-2.12	-2.08/-1.89	-1.01/-0.1	0.59/-0.56	0.33/-0.68	1.18/-0.5	-1.86/-3.39	-1.98/-1.31	-2.76/-3.07	-1.3/-0.35		
Θ(82.5°)	-0.99/-2.16	-1.57/-0.11	0.91/-0.61	0.61/-0.56	0.57/-0.94	1.53/-2.2	3.01/-3.93	4.31/-3.73	2.21/-0.94	0.19/-0.23	-0.94/-1.32	-1.62/-2.5	-3.08/-2.34	-1.64/-1.4	-1.54/-2.18	-2.25/-2.33	-2.03/-0.96	-0.13/-0.27	0.66/-1.49	1.96/-1.19	-1.12/-3.12	-1.23/-1.15	-2.14/-2.15	-0.46/-0.7		
Θ(90°)	-1.47/-2.35	-1.45/-0.14	0.66/-0.59	0.91/-1.13	0.65/-0.5	1.19/-2.21	3.18/-3.95	4.08/-3.33	1.98/-1.06	0.67/-0.05	-0.74/-0.57	-1.01/-2.19	-2.43/-1.62	-0.88/-1.39	-2.68/-2.84	-2.01/-1.4	-0.36/-0.66	0.93/-0.87	1.31/-2.27	2.66/-1.5	-1.35/-3.12	-1.58/-0.97	-2.51/-2.33	-0.68/-0.2		
Θ(97.5°)	-1.37/-2.34	-2.14/-0.4	0.21/-0.2	0.63/-1.15	0.74/-0.41	1.11/-2.06	2.78/-3.27	3.45/-2.91	1.86/-0.92	0.21/-0.6	-0.89/-0.7	-1.43/-2.22	-2.93/-2.88	-2.52/-3.27	-3.37/-2.14	-2.1/-2.07	-0.69/-0.87	1.83/-2.05	2.02/-2.32	2.41/-1.2	-1.56/-3.1	-2.16/-2.16	-3.46/-2.89	-0.68/-0.06		
Θ(105°)	-2.24/-2.19	-1.27/-0.26	-0.08/-0.77	-0.50/-61	0.71/-0.42	0.41/-2	2.13/-3.1	3.58/-3.1	1.96/-0.69	-0.41/-1.25	-1.02/-0.72	-1.06/-2.14	-4.13/-4.82	-4.38/-5.2	-3.34/-1.77	-2.07/-2.6	-2.01/-0.34	1.02/-2.07	0.89/-0.74	1.09/-0.33	-1.3/-2.1	-1.27/-1.24	-2.41/-2.58	-1.08/-0.98		
Θ(112.5°)	-2.72/-2.54	-1.34/-0.8	-0.49/-1.11	-0.87/-0.28	0.87/-0.9	0.89/-1.15	1.64/-2.1	2.15/-1.64	0.89/-0.08	-0.86/-0.94	-1.07/-1.45	-2.66/-5.05	-0.8/-4.79	-4.24/-3.32	-1.92/-1.93	-2.76/-3.13	-3.09/-1.42	-0.33/-0.23	-0.24/-0.47	1.10/-47	-1.25/-2.58	-2.43/-2.4	-2.97/-1.96	-0.74/-0.95		
Θ(120°)	-3.12/-4.2	-2.06/-1.17	-0.48/-0.34	-0.68/-0.54	-0.34/-0.39	-0.65/-0.43	0.37/-1.51	2.24/-2.18	1.26/-0.38	-1.62/-2.1	-2.22/-2.8	-3.91/-4.59	-4.36/-3.72	-3.34/-2.97	-3.2/-5.6	-5.49/-4.22	-2.27/-0.09	0.89/-0.31	-1.37/-2.32	-1.86/-1.68	-1.93/-1.99	-2.03/-2.29	-2.75/-2.26	-1.5/-1.51		
Θ(127.5°)	-2/-2.66	-3.03/-3.62	-3.43/-2.57	-1.93/-1.64	-1.44/-1.47	-1.79/-1.76	-2.69/-2.18	-2.80/-3.7	1.21/-1	-0.12/-2.18	-2.69/-2.36	-1.38/-1.43	-2.46/-3.5	-4.06/-5.32	-6.64/-6.32	-5.05/-3.93	-1.23/-0.21	-0.15/-1.5	-3.72/-4.13	-2.62/-1.76	-1.72/-1.9	-2.07/-2.85	-4.22/-4.38	-2.91/-4.3		
Θ(135°)	-2.52/-1.97	-2.13/-3.21	-5.37/-5.36	-4.06/-3.08	-2.18/-1.43	-0.88/-0.31	0.29/-0.91	1.26/-0.86	-0.38/-1.82	-2.71/-2.94	-2.93/-3.56	-4.75/-5.58	-6.27/-6.17	-5.47/-4.56	-4.11/-3.09	-2.75/-2.96	-3.15/-2.78	-3.13/-4.33	-4.93/-3.49	-1.78/-1.07	-1.33/-1.56	-2/-3.9	-5.2/-6.41	-5.18/-3.18		
Θ(142.5°)	-6.07/-4.5	-3.13/-2.58	-2.63/-2.53	-2.32/-2.12	-2.32/-2.55	-2.48/-1.68	-0.67/-0.14	0.44/-0.05	-0.92/-3.21	-3.56/-4.45	-6.4/-4.97	-5.55/-6.1	-6.03/-6.69	-5.3/-4.78	-4.46/-4.44	-4.28/-4.4	-4.16/-3.88	-4.46/-5.77	-6.48/-5.24	-3.56/-2.82	-2.55/-2.54	-2.76/-2.89	-3.49/-4.16	-5.19/-5.98		
Θ(150°)	-6.22/-6.08	-4.5/-3.35	-2.67/-2.22	-2/-2.12	-2.57/-3.22	-2.45/-1.48	-0.93/-0.89	-1.43/-2.23	-2.83/-3.2	-3.71/-3.9	-5.5/-5.98	-6.56/-7.02	-6.63/-6.34	-5.23/-4.14	-3.22/-2.45	-1.95/-1.89	-2.55/-3.94	-5.22/-5.95	-5.9/-5.15	-4.56/-4.08	-3.32/-2.71	-2.52/-2.54	-3.19/-4.3	-3.19/-4.3		
Θ(157.5°)	-5.07/-5.81	-5.54/-4.73	-3.68/-3.38	-2.68/-2.26	-1.83/-1.64	-1.95/-2.21	-2.57/-2.29	-2.37/-2.5	-2.43/-2.98	-2.91/-3.64	-4.01/-4.61	-4.57/-5.34	-6.87/-7.55	-6.79/-5.57	-4.42/-3.24	-2.02/-1.34	-1.01/-1.29	-2.24/-3.58	-5.25/-6.45	-6.39/-5.34	-4.43/-3.78	-2.76/-2.25	-2.33/-2.59	-2.98/-3.77		
Θ(165°)	-6.34/-7.11	-7.11/-6.7	-5.41/-4.73	-3.7/-3.05	-2.62/-2.49	-2.47/-2.95	-3.62/-4.4	-4.56/-6.49	-4.38/-4.48	-4.69/-4.58	-4.08/-3.82	-4.2/-4.57	-5.53/-6.21	-7.31/-7.03	-4.44/-4.22	-3.35/-2.57	-2.95/-3.77	-4.85/-5.87	-6.89/-7.54	-6.88/-5.6	-4.91/-3.84	-3.17/-3.5	-3.51/-3.83	-4.48/-5.54		
Θ(172.5°)	-10.38/-9.84	-9.52/-8.17	-7.33/-6.39	-5.49/-4.66	-4.26/-4.73	-5.41/-6.45	-7.61/-6.84	-7.57/-7.33	-7.5/-7.87	-4.89/-4.9	-5.33/-6.25	-7.89/-8.31	-8.93/-8.37	-7.25/-6.57	-6.39/-6.8	-7.6/-8.19	-9.16/-9.42	-9.22/-8.24	-7.33/-6.46	-6.05/-5.92	-5.65/-5.99	-6.78/-7.77	-8.77/-9.58			
Θ(180°)	-9.13/-8.81	-8.03/-8.29	-7.43/-7.17	-7.61/-7.38	-7.46/-8.45	-9.25/-10.21	-10.67/-9.97	-10.08/-10.02	-9.65/-9.14	-8.25/-7.63	-7.5/-7.67	-8.42/-9.95	-11.14/-11.16	-10.99/-9.79	-10.45/-10.5	-10.96/-11.25	-11.92/-11.13	-10.24/-8.93	-8.45/-7.86	-7.25/-7.78	-8.56/-8.65	-9.38/-9.62	-10.29/-9.28	-10.43/-10		
Freq(Hz)	2.45GPol.	ThetaL	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)		
Θ(0°)	0.17/-0.12	-0.12/-0.54	-0.99/-1.25	-1.31/-1.14	-1.28/-1.53	-1.83/-1.98	-2.02/-2	-1.74/-1.29	0.09/-0.39	0.52/-0.57	0.52/-0.42	0.2/-0.02	-0.18/-0.36	-0.58/-0.82	-1.04/-1.21	-1.43/-1.75	-2.12/-2.35	-2.29/-1.96	-1.61/-1.18	-0.87/-0.54	-0.22/-0.06	0.26/-0.29	0.18/-0.14			
Θ(7.5°)	-0.44/-0.7	-1.04/-1.5	-1.86/-2.01	-1.89/-1.76	-1.73/-1.95	-2.38/-2.83	-3.06/-2.87	-2.33/-1.93	-1.41/-0.87	-0.37/-0.04	0.23/-0.33	0.35/-0.32	0.32/-0.29	0.26/-0.19	-0.02/-0.28	-0.51/-0.72	-0.89/-1.05	-1.17/-1.15	-1/-0.81	-0.56/-0.25	0.03/-0.16	0.33/-0.5	0.60/-0.51	0.23/-0.14		
Θ(15°)	-0.86/-1.59	-2.11/-2.32	-2.67/-2.28	-2.57/-2.21	-2.06/-2.17	-2.58/-2.86	-2.62/-2.13	-1.69/-1.3	-0.85/-0.52	-0.13/-0.1	0.13/-0.06	-0.06/-0.06	0.01/-0.22	0.49/-0.54	0.53/-0.34	0.11/-0	-0.05/-0.06	-0.12/-0.2	-0.23/-0.11	0.14/-0.49	0.67/-0.87	1.1/-25	1.35/-1.22	0.83/-0.1		
Θ(22.5°)	-0.38/-1.61	-2.52/-2.58	-2.87/-3.08	-3.23/-3.34	-3.35/-3.56	-3.71/-3.37	-2.64/-1.75	-0.19/-0.83	-0.54/-0.15	0.11/-0.28	0.10/-0.1	-0.32/-0.31	-0.13/-0.16	0.05/-0.85	0.87/-0.66	0.50/-37	0.71/-0.97	0.98/-0.71	0.35/-0.23	0.37/-0.63	0.83/-1.05	1.29/-1.6	1.85/-1.84	1.45/-0.75		
Θ(30°)	0.21/-1.03	-2.15/-2.33	-2.43/-2.77	-3.47/-4.34	-5/-5.25	-4.77/-3.68	-2.52/-1.83	-1.32/-0.86	-0.42/-0.2	-0.2/-0.32	-0.48/-0.59	-0.58/-0.46	-0.32/-0.17	0.08/-0.5	0.75/-0.69	0.40/-19	0.57/-0.98	1.05/-0.8	0.34/-0.2	0.40/-84						



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A.1

Θ(15°)	2.83/1.89	1.11/1.21	1.73/2.13	2.22/2.11	2.2/21	2.85/3.38	3.89/4.38	4.61/4.51	4.26/4.09	3.77/3.45	3.36/3.47	3.61/3.76	3.79/3.44	3.08/2.85	2.96/2.94	2.66/2.41	2.28/2.12	1.56/0.98	1.01/1.99	2.99/3.66	4.04/4.14	3.97/3.79	3.76/3.69	3.56/3.4
Θ(22.5°)	3.19/2.38	1.97/2.47	2.92/3.27	3.26/2.87	2.28/2.39	2.85/3.62	4.09/4.5	4.69/4.46	3.84/3.17	2.33/1.51	1.41/96	2.59/3.18	3.47/3.35	3.04/2.89	2.56/1.94	1.27/0.81	0.73/0.44	0.17/0.1	0.58/1.77	3.04/3.9	4.08/3.91	3.61/3.44	3.58/4.08	4.28/3.99
Θ(30°)	3.14/2.01	1.41/1.56	2.69/3.11	2.72/2.39	1.67/2.25	3.04/3.69	3.82/3.76	3.68/3.43	2.82/1.99	1.18/0.88	1.44/2.6	3.74/4.11	3.59/2.92	2.09/0.78	-0.24/-0.95	-0.78/-0.78	-0.87/-0.57	-0.02/1.71	3.11/3.8	4.06/3.92	2.56/2.49	3.19/3.98	4.19/3.98	4.29/3.99
Θ(37.5°)	2.99/1.75	1.28/0.63	1.03/1.73	2/1.71	1.24/1.8	2.32/3.39	2.86/3.41	3.11/2.47	1.79/1.33	1.47/1.82	2.68/3.25	3.65/4.11	3.72/2.74	2.19/1.67	0.09/-2.1	-1.96/-1.17	-1.14/-0.64	0.84/1.71	2.63/2.94	3.38/3.73	3.16/2.28	1.87/1.72	2.56/3.78	4.17/3.79
Θ(45°)	2.52/1.81	2.07/1.58	0.33/0.42	1.51/63	0.27/0.26	1.54/1.96	2.56/2.87	2.38/1.98	1.51/25	1.77/1.99	1.44/1.11	1.34/2.6	3.39/3.63	2.75/3.03	2.22/-1	-3.26/-3.29	-2.31/-0.74	1.36/2.66	3.06/2.67	2.66/2.67	2.51/2.48	1.71/1.56	2.02/3.02	3.65/3.34
Θ(52.5°)	2.02/1.44	1.72/1.04	0.49/-0.05	0.56/0.35	-0.79/-0.82	-0.17/0.03	1.38/2.26	2.54/2.49	1.53/0.14	1.27/2.03	1.99/2.02	2.63/2.63	1.39/1.17	0.63/-2.63	-2.82/-1.56	-0.26/0.53	0.68/-0.46	-0.88/0.71	1.82/2.07	2.52/1.81	2.12/2.36	2.12/2.36	2.18/1.87	
Θ(60°)	1.35/0.06	0.37/0.96	0.81/0.22	-0.17/-0.54	-2.07/-0.93	0.75/0.68	1.2/2.07	2.23/1.73	0.17/-0.31	-0.59/-0.85	0.35/1.81	1.84/2.02	2.54/2.5	1.4/0.19	0.08/-2.25	-1.83/-1.02	-1.92/-3.16	-2.05/-0.09	-0.56/-2.02	-1.09/-0.35	0.25/1	1.26/0.68	0.81/1.76	1.26/1.26
Θ(67.5°)	1.18/-0.38	0.16/0.81	-0.37/-1.2	-2.04/-1.1	-2.74/-1.76	0.41/0.58	0.67/1.92	2.05/1.52	-0/-0.88	-1.74/-1.03	-0.15/0.65	0.7/0.75	2.06/1.65	-0.07/-1.18	-1.98/-3.04	-2.02/-1.88	-2.92/-3.22	-3.64/-2.37	-0.85/-2.17	-1.91/-0.71	-0.34/0.72	1.19/0.14	0.11/0.14	0.33/1.63
Θ(75°)	0.72/-0.74	0.72/1.16	-0.77/-1.24	-2.42/-2.38	-3.15/-0.65	0.68/0.67	-0.03/1.62	1.68/0.48	-0.35/-0.4	-1.97/-3.45	-2.6/-1.37	-0.77/-1.01	1.26/1.22	-0.78/-1.62	-2.3/-2.38	-1.45/-1.37	-3.72/-2.69	-0.5/0.65	0.68/0.48	0.21/-0.59	-0.73/-0.46	0.66/-0.81	-0.87/0.32	-0.22/-1.6
Θ(82.5°)	0.16/-0.54	0.85/0.22	-1.53/-2.05	-2.83/-2.21	-3.96/-1.36	0.79/1.06	-0.67/0.74	0.8/-0.46	-1.18/-1.65	-2.71/-3.91	-4.56/-4.01	-2.79/-2.53	0.19/-0.31	-1.43/-2.1	-3.28/-2.5	-0.33/-0.57	-1.68/-1.05	0.09/0.92	1.92/-0.65	0.42/-0.02	-1.46/-1.03	-0.71/-2.44	-2.02/-1.05	-1.59/1.36
Θ(90°)	-0.92/-0.09	1.76/0.28	-1.84/-2	-3.9/-2.97	-3.15/-0.76	-0.16/0.76	0.09/1.27	0.81/-0.36	-1.18/-1.92	-3.08/-5.09	-5.87/-5.51	-3.08/-2.33	-0.41/-0.97	-2.76/-3.46	-2.89/-2.2	-2.16/-1.46	-0.18/-0.03	0.93/2.15	1.52/1.74	1.19/0.45	-1.25/-2.03	-1.05/-2.12	-2.96/-2	-1.39/0.21
Θ(97.5°)	-1.48/-0.04	0.86/-0.12	-0.98/-1.19	-3.53/-3.26	-2.99/-0.46	-0.15/-0.13	-0.09/0.01	-0.85/-1.95	-1.68/-1.56	-3.32/4.79	-4.17/-4.17	-4.95/-3.28	-0.71/-0.43	-3.22/-2.04	-1.14/-0.64	-0.74/0.65	0.74/-0.23	0.11/-1.21	0.73/-1.19	-2.5/-1.91	-1.53/-2.28	-4.51/-1.46	-1.41/-0.36	
Θ(105°)	-0.97/-0.17	0.26/-0.13	-1.22/-1.01	-3.55/-2.26	-2.78/-1.15	0.24/0.93	0.18/0.8	-0.53/-2.16	-1.75/-1.15	-2.34/-4.15	-4.17/-5.17	-5.43/-5.22	-1.98/-2.29	-3.3/-3.39	-3.18/-2.21	-3.05/-1.89	-0.71/-3.9	-1.39/0.95	0.89/-0.43	-0.62/-3.17	-3.71/-4.03	-2.06/-0.81	-3.51/-2.04	-2.31/-1.1
Θ(112.5°)	-0.14/0.78	-0.17/-0.71	-1.76/-2.22	-3.04/-1.99	-2.84/-3.23	-2.48/-0.9	-1.0/08	-1.58/-4.35	-2.96/-2.71	-3.68/-6.41	-7.5/-5.96	-3.99/-3.45	-2.24/-2.54	-4.4/-3.49	-1.33/-2.21	-2.51/-1.58	-2.47/-0.97	-1.73/-1.31	1.23/0	-1.88/-4.64	-4.62/-0.91	-2.06/-2.23	-4.56/-3.13	-2.63/-2.25
Θ(120°)	-2.08/-1.57	-0.32/-0.39	-1.55/-2.37	-4.29/-3.04	-1.41/-3.94	-3.92/-2.67	-2.98/-2.5	-3.02/-5.11	-3.36/-2.55	-4.18/-5.6	-6.03/-7.76	-4.98/-2.31	-1.68/-2.48	-3.81/-4.51	-3.27/-1.09	-2.71/-1.42	-3.56/-1.36	0.31/0.81	0.41/-1.08	-1.61/-5.26	-4.71/-1.88	-1.07/-0.61	-4.97/-4.88	-4.44/-2.84
Θ(127.5°)	-3.1/-4.18	-3.08/-1.4	-1.07/-1.86	-1.87/-1.28	-2.56/-5.05	-5.21/-3.73	-4.56/-3.75	-2.53/-3.86	-4.44/-4.39	-3.5/-5.87	-5.66/-4.82	-4/-2.26	-2.62/-2.55	-4.06/-3.7	-2.24/-2.23	-0.43/-2.46	-1.98/-1.02	-0.65/-1.02	-3.23/-4.27	-4.54/-2.1	-3.11/-4.46	-2.65/-1.63	-2.78/-6.29	-6.07/-3.88
Θ(135°)	-1.12/-2.33	-2.21/-1.52	-1.62/-2.84	-1.48/-4.04	-2.25/-4.77	-4.03/-2.55	-3.05/-3.55	-2.23/-1.6	-3.5/-3.75	-2.89/-3.44	-2.64/-2.79	-3.92/-3.12	-2.18/-1.17	-2.55/-2.61	-2.33/-2.72	-2.81/-6.65	-4.43/-3.04	-2.93/-4.7	-4.11/-3.39	-3.43/-2.76	-2.11/-4.15	-6.32/-5.51	-4.48/-3.78	-3.51/-2.05
Θ(142.5°)	-0.38/-0.47	-0.71/-1.36	-2/-2.18	-1.83/-2.2	-4.07/-3.06	-2.03/-2.14	-2.5/-3.7	-3.57/-2.46	-2.39/-2.85	-2.82/-3.83	-5.57/-4.62	-2.61/-3.53	-3.44/-3.28	-2.4/-2.14	-2.88/-4.55	-8.34/-5.57	-2.97/-1.22	-1.41/-4.09	-6.26/-5.42	-3.78/-3.69	-3.53/-3.49	-6.32/-6.15	-5.02/-3.16	-2.97/-1.24
Θ(150°)	-1.92/-1.17	-0.76/-0.99	-1.96/-5.23	-6.3/-5.91	-4.23/-1.71	-0.75/-0.97	-2.62/-4.39	-3.73/-3.31	-4.34/-6.18	-4.71/-6.67	-4.7/-3.48	-3.32/-4.12	-5.45/-5.23	-4.99/-4.99	-5.62/-5.82	-3.76/-2.79	-2.86/-3.1	-3.56/-4.31	-1.1/-2.27	-1.07/-1.37	-2.87/-3.77	-4.59/-7.48	-7.68/-6.13	-4.88/-2.21
Θ(157.5°)	-4.12/-3.35	-2.21/-1.63	-1.83/-3.11	-3.91/-4.5	-3.57/-1.99	-1.4/-2.49	-4.1/-4.54	-4.23/-5.52	-4.43/-5.35	-6.26/-4.93	-4.17/-4.67	-4.35/-5.11	-5.59/-5.75	-4.64/-4.64	-5.75/-3.94	-2.5/-3.2	-3.27/-2.63	-2.07/-2.34	-2.96/-2.72	-2.49/-2.66	-4.05/-5.06	-4.28/-3.97	-4.44/-5.05	-5.04/-4.13
Θ(165°)	-3.16/-2.66	-1.95/-1.77	-2.09/-1.93	-2.67/-3.23	-3.5/-4.98	-5.94/-7.68	9.59/-9.02	-7.09/-5.76	-4.97/-4.58	-5.95/-6.12	-6.73/-6.65	-6.57/-6.08	-5.22/-5.27	-5.68/-4.17	-3.36/-3.28	-2.48/-2.23	-2.44/-3.01	-4.07/-4.98	-6.08/-6.48	-7.09/-6.56	-5.32/-5.08	-4.87/-4.82	-4.73/-3.41	
Θ(172.5°)	-5.99/-4.88	-3.9/-2.97	-2.61/-2.23	-2.37/-1.87	-2.48/-3.14	-4.68/-6.33	-7.72/-8.03	-7.84/-6.67	-6.16/-6.14	-6.86/-7.18	-7.37/-8.62	-10.35/-10.95	-10.63/-9.6	-7.89/-6.65	-6.04/-5.6	-5.5/-4.58	-4.38/-4.65	-5.06/-5.88	-7.41/-8.96	-10.54/-9.93	-9.1/-7.67	-6.79/-6.82	-6.27/-6	-6.01/-6.48
Θ(180°)	-6.7/-6.17	-3.91/-5.23	-4.4/-4.1	-3.91/-3.81	-4.28/-4.7	-5.33/-5.81	-6.19/-6.51	-6.6/-6.76	-6.66/-6.89	-6.62/-6.38	-6.19/-6.75	-8/-8.73	-8.33/-7.45	-7.3/-7.32	-7.32/-7.29	-6.88/-6.74	-7.5/-7.95	-7.99/-7.7	-7.5/-6.53	-6.48/-6.97	-6.25/-5.69	-5.23/-5.45	-6.24/-6.43	-6.53/-7.01
Freq[Hz]	5.3G/Pol.	Theta1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(15°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	3.75/4.42	4.63/4.61	4.66/4.96	4.97/4.56	4.26/4.06	3.69/3.73	3.67/3.32	2.95/3.1	2.98/2.56	2.24/1.67	1.23/1.3	2.03/2.4	3.07/4	4.68/4.85	4.84/4.72	4.58/4.26	3.68/3.4	3.12/3.07	2.92/2.8	2.56/2.31	2.18/2.1	2.04/1.81	1.64/1.52	2.05/2.77
Θ(7.5°)	2.23/49	4.26/4.52	4.27/4.06	3.57/3.22	2.79/2.54	2.38/2.03	1.31/1.22	1.71/1.65	1.66/1.63	1.49/1.95	2.73/1.2	3.32/3.89	4.59/3.91	4.73/4.33	4.15/4.07	3.74/3.58	3.39/3.37	3.33/3.35	3.08/2.57	1.95/1.32	1.08/2.62	-0.29/-0.33	0.69/1.41	
Θ(15°)	3.2/3.83	4.38/4.65	4.37/3.95	3.84/3.58	2.82/2.43	2.29/1.96	1.47/1.01	0.49/0.18	0.18/0.5	0.5/0.95	1.42/1.28	1.31/1.27	1.23/1.46	2.28/2.96	3.16/2.95	2.72/3.36	2.12/2.15	2.09/2.47	2.88/2.9	2.54/2.01	0.94/-0.17	-0.23/0.07	0.51/0.88	1.44/2.5
Θ(22.5°)	3.16/3.79	4.23/4.29	3.87/3.3	2.98/2.87	2.68/2.25	3.65/3.58	3.29/2.63	1.72/1.1	1.42/2.23	2.52/54	2.39/1.49	0.39/0.43	1.11/1.3	1.45/2.14	2.79/2.79	2.43/1.89	1.11/0.67	0.55/1.24	1.73/1.32	0.67/0.01	-0.45/-0.02	0.53/-1.27	1.75/-1.22	0.96/2.13
Θ(30°)	2.44/3.28	3.32/3.96	2.72/2.44	2.15/2.24	2.48/3.21	3.33/2.77	2.34/2.11	2.02/1.84	1.78/2.2	2.15/1.93	1.82/1.03	-0.32/-0.17	0.29/0.4	2.92/2.96	2.75/2.66	2.27/2.92	0.85/0.91	1.08/0.53	-0.77/-1.49	-0.94/-0.65	-0.11/0.38	0.7/0.4	0.51/1.4	
Θ(37.5°)	3.32/4.34	4.27/3.36	2.69/2.53	2.7/2.2	2.1/53	1.29/1.54	1.64/1.38	1.08/0.66	0.44/0.65	1.28/1.56	1.5/0.65	0.06/0.21	-0.45/0.21	1.25/2.28	2.18/2.79	3.22/3.07	2.11/2.01	2.12/1.95	1.74/1.54	1.3/0.2	-0.96/-1.94	-1.0/-49	0.88/0.7	0.71/2.22
Θ(45°)	1.85/3.2	2.98/1.94	1.43/1.88	2.17/1.87	1.93/1.02	0.64/1.12	1.16/0.39	-1.05/-1.95	-1.15/0.72	1.68/1.8	1.58/1.31	0.67/0.28	-1.34/-0.41	0.49/1.53	1.97/2.61	3.14/2.92	1.88/1.34	0.74/0.96	0.95/0.72	0.39/-0.12	-0.24/-1.05	-0.62/0.43	0.73/0.85	0.2/0.56
Θ(52.5°)	-0.44/0.88	1.88/1.35	0.71/0.91	1.48/1.1	0.99/0.65	0.83/1.29	1.46/0.13	-2.67/-5.28	-1.14/-0.64	-0.49/0	1.17/0.68	-1.19/-3.25	-3.48/-1.3	0.83/1.93	1.92/1.94	2.39/2.03	0.68/0.14	0.07/0.1	1.07/1	0.18/0.26	-0.04/-1.07	-1.04/-0.96	-0.48/-1.17	-2.34/-1.7
Θ(60°)	1.12/1.95	0.97/0.88	1.21/0.93	0.23/0.11	0.67/1.12	0.73/0.22	0.75/-0.22	-1.83/-1.96	-2.34/-1.73	-0.82/-1.46	-1/-1.43	-2.49/-3.24	-3.37/-3.09	-0.59/-0.11	0.78/1.64	1.29/1.16	0.07/0.54	0.94/0.59	0.54/0.71	0.72/-0.24	0.54/-1.22	-3.77/-2.12	-0.78/-0	0.62/-1
Θ(67.5°)	2.05/3.1	1.54/0.75	1.33/1.1	0.41/-0.03	0.54/0.19	0.07/0.88	1.67/0.44	-1.66/-1.23	-1.73/-1.62	-1.39/-2.4	-1.07/-2.09	-1.96/-1.51	-5.01/-2.87	0.13/0.36	1.21/1.7	0.6/0.46	-0.09/0.07	1.25/1.1	0.38/0.84	-0.51/-0.38	0.28/-1.58	-3.4/-1.77	-0.85/-0.07	1.39/0.68
Θ(75°)	1.76/3.34	1.95/0.77	1.15/0.34	-1.01/-0.64	-0.57/-0.13	0.89/1.5	2.02/0.99	-0.01/-0.8	-2.22/-0.89	-0.37/-1.27	-0.66/-1.68	-2.47/-0.83	-1.73/-1.11	-0.91/-0.86	0.86/0.65	-0.13/-1.12	0.58/0.21	0.97/1.						



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A.1

Θ (67.5°)	0.65/0.67	0.83/0.89	-0.34/-2.68	-3.95/-3.48	-1.57/-0.7	-0.77/-0.62	0.37/0.48	-0.78/-1.7	-1.25/-0.79	-1.06/-2.04	-2.36/-0.94	-0.21/0.61	2.52/1.57	-1.25/-3.3	-6.13/-4.01	-3.04/-3.49	-3.76/-4.69	-2.8/-0.28	0.25/-2.33	-2.36/-0.99	-0.87/-1.19	-1.56/-1.55	-0.28/0.07	0.17/0.34
Θ (75°)	0.44/0.14	-0.38/0.35	-1.23/-3.61	-4.2/-3.59	-3.44/-1.12	-0.92/-1.64	-1.05/-1.13	-2.92/-4.51	-2.96/-1.89	-2.31/-3.76	-4.5/-2.38	-0.84/-0.61	1.89/1.18	-2.27/-2.78	-4.38/-4.42	-3.31/-4.13	-4.27/-3.7	-3.6/-1.79	-0.29/-0.94	-3.14/-1.99	-1.72/-0.6	-2.84/-2.53	-1.34/-0.68	-0.45/-0.14
Θ (82.5°)	0.9/-0.23	0.25/0.73	-2.13/-4.4	-4.75/-4.38	-3.47/-1.33	-0.78/-0.48	-1.03/-1.02	-2.37/-4.04	-3.92/-3.17	-3.46/-5.8	-6.41/-3.85	-1.5/-1.03	0.93/-0.55	-2.94/-4.95	-5.03/-4.86	-3.2/-4.16	-4.14/-2.55	-2.04/-0.2	1.11/1.65	-0.83/-1.34	-1.56/-0.44	-2.15/-4.64	-3.65/-1.96	-1.21/0.14
Θ (90°)	0.61/-0.65	-0.13/-0.9	-3.1/-4.15	-4.55/-3.8	-3.54/-0.92	-0.84/-1.12	-1.31/-2.35	-4.98/-4.19	-5.22/-4.99	-4.37/-6.68	-7.44/-6	-2.99/-2.27	0.62/-0.62	-3.52/-5.75	-4.57/-3.59	-3.65/-5.08	-1.75/-0.83	-1.4/0.41	-0.45/-0.29	-1.08/0.32	-0.82/-1.08	-2.84/-5.94	-4.41/-2.6	-2.95/0.11
Θ (97.5°)	0.23/-0.5	-0.03/-1.09	-3.99/-4.26	-5.01/-3.31	-3.53/-2.04	-1.78/-1.96	-1.95/-3.64	-6.96/-4.89	-7.09/-5.45	-5.08/-7.46	-7.38/-6.3	-2.97/-2.79	-0.37/-1.78	-4.65/-6.32	-4.3/-4.06	-4.04/-4.46	-1.64/-1.79	-2.05/0.84	-0.31/-0.89	-3.23/-2.34	-0.49/-1.29	-2.38/-5.52	-4.78/-5.07	-2.86/0.68
Θ (105°)	-1.06/-1.17	-0.22/-1.17	-4.57/-4.28	-3.6/-2.72	-2.4/-2.79	-3.13/-2.91	-1.05/-2.88	-6.01/-8.67	-10.01/-5.25	-4.81/-8.18	-7.32/-5.25	-3.22/-2.46	-1.36/-2.68	-5.46/-5.52	-4.95/-3	-4.81/-5.77	-1.71/-0.93	-1.98/-1.85	-0.06/0.47	-2.49/-2.52	-1.12/-3.08	-4.61/-3.39	-3.63/-3.86	-2.66/-0.58
Θ (112.5°)	-1.53/-2.14	-1.26/-2.4	-5.04/-3.69	-3.93/-2.74	-3.62/-3.49	-4.26/-5.19	-1.8/-2.3	-7.72/-9.32	-8.01/-6.43	-7.74/-8.79	-7.3/-6.22	-5.01/-3.1	-1.37/-3.1	-5.77/-5.71	-2.96/-2.14	-4.49/-2.7	-3.82/-4.04	-2.58/-1.14	-2.39/-1.83	-3.15/-3.14	-2.94/-4.03	-4.82/-3.77	-3.75/-5.36	-3.51/-1.25
Θ (120°)	-3.01/-2.05	-2.41/-3.65	-3.83/-3.71	-3.12/-2.46	-4.16/-4	-4.56/-5.37	-3.43/-3.3	-6.98/-9.34	-9.64/-6.13	-5.4/-8.68	-9.07/-7.59	-7.93/-5.55	-2.7/-3.52	-3.25/-6.38	-4.18/-1.57	-2.28/-1.93	-4.85/-3.95	-4.15/-2.26	-1.32/-1.12	-0.55/-1.05	-2.27/-5.44	-2.17/-2.56	-2.87/-7.37	-5.91/-4.27
Θ (127.5°)	-3.49/-3.35	-1.74/-1.95	-3.77/-3.33	-1.8/-1.23	-4.43/-5.23	-4.63/-5.89	-4.09/-3.37	-5.02/-6.64	-7.09/-5.01	-5.74/-6.25	-7.25/-9.46	-9.44/-5.83	-2.66/-2.72	-5.63/-6.47	-2.05/-0.58	-1.72/-0.89	-3.47/-5.72	-3.84/-0.83	-0.76/-2	-4.57/-5.28	-4.22/-5.77	-3.46/-3.01	-2.39/-4.93	-7.66/-5.3
Θ (135°)	-1.02/0.75	-0.72/-1.5	-1.79/-1.96	-1.22/0.88	-3.03/-2.23	-2.78/-4	-3.35/-3.24	-5.38/-6.36	-5.31/-6.99	-7.02/-5.39	-6.64/-8.04	-9.16/-6.95	-4.18/-2.59	-1.48/-1.89	-2.25/-2.4	-4.37/-3.23	-1.28/-2.23	-4.12/-5.54	-2.63/-1.26	-3.34/-5.56	-6.14/-5.86	-4.78/-5.24	-4.15/-4.31	-2.18/-1.86
Θ (142.5°)	-1.29/-0.81	-1.16/-1.41	-1.11/-2.55	-4.35/-3.61	-2.24/-2	-2.07/-4.32	-3.74/-2.69	-4.84/-7.15	-6.33/-6.55	-7.16/-6.33	-6.43/-7.67	-5.8/-3.51	-1.96/-1.87	-2.68/-2.75	-2.82/-4.53	-5.73/-3.01	-1.21/-1.73	-0.75/-1.8	-4.25/-6.26	-3.15/-4.09	-5.73/-6.25	-5.58/-7.78	-9.12/-5.1	-2.93/-0.97
Θ (150°)	-1.29/-1.67	-2.42/-3.09	-2.47/-2.88	-3.7/-3.99	-4.23/-4.09	-4.16/-4.56	-4.61/-4.99	-5.54/-6.51	-7.1/-8.24	-7.55/-7.22	-6.22/-5.06	-4.12/-3.46	-3.63/-5.24	-4.41/-4.3	-4.66/-4.55	-5.05/-2	-0.42/-0.12	-0.77/-2.94	-5.03/-6.61	-4.63/-4.67	-3.36/-2.76	-4.19/-6.75	-9.26/-6.74	-3.82/-1.97
Θ (157.5°)	-4.39/-4.52	-3.9/-4.59	-4.89/-3.16	-2.04/-1.33	-1.57/-2.02	-2.05/-1.71	-2.15/-3.35	-5.99/-9.36	-8.35/-7.02	-7.5/-7.63	-6.84/-6.74	-7.36/-8.2	-10.28/-9.2	-6.82/-5.85	-6.15/-7.57	-5.89/-3.9	-4.48/-4.44	-2.36/-2.14	-3.17/-3.66	-3.84/-3.88	-2.87/-2.22	-2.78/-4.92	-6.97/-7.66	-5.98/-4.48
Θ (165°)	-3.31/-3.6	-3.76/-4.35	-4.43/-4.4	-4.68/-5.13	-4.76/-3.51	-2.26/-3.02	-2.64/-3.51	-4.55/-5.41	-5.65/-5.47	-5.81/-7.3	-10.73/-12.38	-10.68/-7.73	-6.08/-4.8	-4.17/-4.13	-4.3/-3.76	-2.55/-1.67	-1.19/-1.11	-1.98/-3.69	-5.91/-6.86	-7.8/-7.94	-6.65/-5.66	-4.28/-4.1	-4.69/-4.63	-3.64/-3.16
Θ (172.5°)	-7.67/-8.01	-7.04/-6.3	-5.93/-5.55	-4.84/-4.01	-3.38/-3.35	-2.68/-2.9	-3.45/-3.66	-3.64/-4.02	-5.3/-7.09	-8.64/-9.36	-8.97/-9.24	-8.03/-7.94	-6.34/-5.46	-4.8/-4.37	-3.86/-3.4	-2.67/-2.05	-2.21/-3.6	-5.81/-8.96	-10.48/-11.56	-9.39/-8.29	-7.24/-7.57	-7.71/-7.49	-7/-7.51	
Θ (180°)	-7.39/-6.49	-5.3/-4.47	-3.8/-3.27	-2.25/-2.39	-2.67/-2.88	-3.22/-3.33	-3.31/-3.42	-3.77/-4.3	-5.23/-5.48	-6.73/-7.05	-8.28/-10.32	-12.04/-10.6	-9.17/-7.91	-6.97/-6.27	-6.35/-6.38	-5.58/-5.73	-5.92/-6.53	-7.35/-8.72	-9.2/-9.56	-8.53/-7.28	-6.42/-5.41	-5.39/-6.36	-6.84/-7.09	-7.74/-8.24
Freq(Hz)	5.785G/Pol.	Theta	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(BB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	1.92/2.92	3.74/4.06	4.17/4.24	4.48/4.43	4.13/3.9	3.86/3.61	3.16/2.83	2.55/2.19	2.28/2	1.91/1.59	0.93/0.72	1.07/1.92	2.71/3.32	3.99/4.51	4.52/4.51	4.6/4.42	3.96/3.77	3.78/3.52	3.06/2.79	2.63/2.51	2.31/2.08	1.98/1.71	1.22/0.63	0.88/1.26
Θ (7.5°)	3.07/3.66	4.25/4.61	4.75/4.63	4.31/3.98	3.63/3.22	3.08/3.12	3.01/2.41	2.05/2.02	1.92/2.1	2.22/2.31	1.79/1.09	0.93/-0.02	1.56/2.45	3.12/3.79	4.24/3.5	4.27/4.02	3.74/3.49	3.13/2.69	2.09/1.49	1.14/1.12	0.99/0.97	0.74/0.49	0.17/0.23	1.62/2.57
Θ (15°)	3.97/4.6	5.05/5.04	4.56/3.95	3.34/2.91	2.78/2.88	2.98/3.04	2.63/2.04	1.55/1.19	0.95/1.11	1.18/1	0.66/0.88	1.55/2.01	2.83/3.37	3.61/3.6	3.46/3.07	2.35/1.84	1.42/1.35	1.28/1.21	0.87/0.52	0.45/0.04	-0.36/-1.42	-1.8/-1.45	-0.27/1.07	2.47/3.45
Θ (22.5°)	4.65/4.92	5/4.57	3.93/3.34	2.77/2.1	1.93/2.12	2.39/2.33	1.7/0.89	0.22/-0	-0.24/-0.63	-0.91/-0.97	-0.33/-1.15	2.11/2.64	3.33/3.9	3.94/3.63	3.13/2.45	1.86/1.49	1.12/0.86	0.43/0.31	0.35/0.19	-0.33/-0.76	-1.4/-1.61	-0.84/0.53	1.75/2.87	3.84/4.46
Θ (30°)	3.6/3.74	4.13/3.74	3.02/2.76	2.08/1.57	1.23/1.47	1.79/1.05	-0.06/-0.97	-1/-0.46	-0.29/-0.75	-1.36/-1.09	-0.69/-0.28	0.1/1.13	2.63/3.12	2.51/2.01	2.46/3.22	3.4/3.24	2.14/1.15	0.57/-0.34	-0.67/-0.49	-0.67/-0.49	-0.94/-0.57	-1.05/-1.37	0.35/1.04	2.56/3.53
Θ (37.5°)	4.32/4.24	4.54/3.3	3.37/2.3	1.84/1.75	1.42/1.5	1.73/0.22	-0.97/-1.28	-0.69/-0.33	-0.39/-0.21	-0.88/-1.32	-0.52/0.07	0.42/2.12	2.92/6.4	1.93/1.94	2.18/2.74	2.9/2.17	0.93/0.03	-0.99/-0.65	-0.71/-0.57	0.3/0.85	0.45/-0.44	-1.87/-1.45	-0.26/1.52	3.17/4.23
Θ (45°)	5.46/4.89	4.67/4.44	3.13/1.76	1.88/2.18	1.95/1.79	1.19/-0.31	-1.93/-1.72	-2.33/-2.75	-2.36/-1.61	-1.37/-0.64	0.79/1.4	0.86/0.97	1.79/1.97	1.81/1.84	2.17/2.28	1.35/0.58	-0.18/-1.39	-1.43/-0.7	-0.22/0.35	-0.09/0.53	0.11/-0.78	-0.86/-0.67	1.35/2.07	3.83/5.2
Θ (52.5°)	3.51/3.3	2.26/1.52	1.36/1.43	1.8/1.93	2.03/1.25	-0.17/-1.1	-2.9/-4.13	-1.71/-1.15	-0.97/-1.58	-1.1/0.24	0.88/1.15	-0.87/-0.89	-0.26/-0.61	-1.03/0.17	0.66/1.15	1.01/0.68	-0.09/-0.26	-0.74/-0.64	-0.67/-0.2	0.4/0.87	0.26/0.37	-0.58/-0.43	0.47/1.62	1.77/3.1
Θ (60°)	3.09/2.24	0.9/-1.3	-1.2/0.8	1.24/1.17	1.49/0.95	-0.3/-1.8	-3.02/-3.76	-2.17/-2.04	-0.86/-1.01	-1.93/-1.1	-1.7/-0.84	-1.96/-1.87	-0.78/-0.7	-0.73/-0.12	-0.8/-0.41	0.21/0.44	0.83/0.06	-0.9/-1.43	-1.5/-1.11	-0.28/0.49	0.23/-0.56	-1.49/-0.19	1.61/1.73	1.31/2.23
Θ (67.5°)	3.84/2.49	1.73/-0.74	-1.3/0.94	0.7/0.66	1.26/1.17	0.31/-0.22	-0.83/-2.36	-1.59/-1.26	0.05/-0.73	-1.17/0.24	-0.92/-0.23	-0.68/-0.36	0.41/1.43	1.07/0.15	-2.21/-0.18	0.95/0.78	0.27/0.01	-0.97/-1.28	-0.6/-1.95	-1.16/0.53	0.32/-1.18	-2.29/-0.36	2/2.82	2.94/3.72
Θ (75°)	3.56/2.88	1.58/0.35	-1.09/0.33	-0.08/-0.97	0.18/1.39	0.29/0.63	-0.33/-0.93	0.41/-0.05	0.54/-0.76	-1.31/0.51	-1.2/0.03	-0.09/-0.27	0.51/2.9	1.58/0.39	-1.69/-0.79	1.12/1.61	0.7/-0.36	-0.33/-1.1	0.32/-0.36	-0.92/-0.1	-0.25/-1.94	-3.41/-0.78	1.81/2.49	2.63/3.18
Θ (82.5°)	2.52/2.01	1.39/1.14	-1.42/-1.52	-1.25/-2.07	-0.31/0.41	0.03/1.21	0.52/-0.29	0.77/-0.01	0.59/-1.01	-1.9/-0.32	-1/0.65	-1.29/-0.66	-0.04/0.91	0.45/0.01	-1.53/-0.3	1.34/1.43	-0.12/-0.08	0.39/0.27	2.19/1.19	-0.36/-1.11	-0.35/-1.64	-3.26/-0.39	1.51/5.5	1.92/2.45
Θ (90°)	0.89/1.03	1.18/1.09	-1.71/-3.3	-2.52/-2.33	-0.84/-0.45	-0.11/0.43	0.63/-0.62	-0.10/2.7	0.37/-1.23	-2.55/0.02	-1.45/-0.77	-2.7/-3.26	-1.84/-0.05	-0.67/-1.18	-1.08/-1.89	-0.35/0.69	-0.37/-1.45	-0.89/-0.32	0.54/0.66	-1.92/-1.37	-2.17/-3.31	-4.43/-0.62	0.96/0.21	1.21/3.3
Θ (97.5°)	-0.65/-0.77	0.34/0.43	-3.93/-4.84	-3.82/-2.92	-0.73/-1.07	-1.18/-0.49	-0.02/-1.04	-0.9/-0.82	-0.33/-1.99	-2.63/-0.78	-2.48/-2.48	-5.09/-5.33	-2.64/-0.91	-1.47/-1.37	-1.74/-1.41	-1.49/-1.81	-2.46/-2.21	-3.95/-2.63	-1.55/-2.02	-3.38/-3.35	-4.13/-4.46	-4.55/-0.51	-0.05/-0.94	0.42/0.78
Θ (105°)	-2.39/-2.54	-0.87/-1.93	-5.72/-5.91	-4.79/-2.76	-0.86/-1.42	-1.81/-1.62	-1.28/-1.87	-2.35/-2.4	-1.6/-2.45	-2.92/-1.07	-3.12/-4.91	-6.31/-6.13	-4.87/-1.81	-1.48/-2.36	-2.92/-3.4	-5.03/-4.32	-6.22/-6.25	-8.51/-7.81	-7.22/-7.57	-7.87/-5.3	-5.09/-7.42	-5.9/-2.59	-2.91/-2.4	-0.58/-0.2
Θ (112.5°)	-0.91/-1.19	-2.12/-3.28	-3.85/-3.66	-3.77/-1.97	-2.03/-1.84	-2.71/-3.09	-2.55/-3.87	-4.43/-3.1	-1.52/-2.61	-2.64/-2.54	-2.39/-4.29	-7.34/-4.91	-4.02/-3.52	-3.88/-4.43	-3.67/-3.35	-4.34/-4.3	-7.13/-7.23	-8.1/-7.39	-5.04/-5.38	-7.36/-3.64	-6.67/-7.83	-6.81/-4.61	-4.22/-3.21	-3.49/-1.21
Θ (120°)	-1.22/-3.46	-2.87/-1.78	-1.29/-1.86	-3.45/-4.04	-3.3/-2.6	-3.14/-4.3	-4.69/-5.3	-5.1/-3.06	-1.49/-2.01	-3.04/-2.38	-3.29/-4.55	-6.88/-4.64	-3.52/-2.37	-3.25/-6.08	-5.36/-4.99	-4.46/-2.97	-10.67/-7.87	-4.71/-8.54	-4.51/-5.42	-6.1/-5.94	-7.95/-7.91	-7.92/-8.83	-7.41/-5.85	-4.69/-2.41
Θ (127.5°)	-3.13/-3.37	-3.92/-3.09	-3.18/-4.66	-4.39/-4.82	-4.98/-3.09	-3.08/-4.79	-8.65/-7.22	-4.22/-2.21	-0.98/-2.59	-3.42/-1.4	-1.89/-4.52	-6.16/-4.45	-3.98/-2.6</											

Gain Result

Freq(Hz)	245G/Pol		Phi(Ant.1)		-		-		-		-		-		-		-		-		-		-		-	
Gain	Φ(0°)Ψ(7.5°)	Φ(15°)Ψ(22.5°)	Φ(30°)Ψ(37.5°)	Φ(45°)Ψ(52.5°)	Φ(60°)Ψ(67.5°)	Φ(75°)Ψ(82.5°)	Φ(90°)Ψ(97.5°)	Φ(105°)Ψ(112.5°)	Φ(120°)Ψ(127.5°)	Φ(135°)Ψ(142.5°)	Φ(150°)Ψ(157.5°)	Φ(165°)Ψ(172.5°)	Φ(180°)Ψ(187.5°)	Φ(195°)Ψ(202.5°)	Φ(210°)Ψ(217.5°)	Φ(225°)Ψ(232.5°)	Φ(240°)Ψ(247.5°)	Φ(255°)Ψ(262.5°)	Φ(270°)Ψ(277.5°)	Φ(285°)Ψ(292.5°)	Φ(300°)Ψ(307.5°)	Φ(315°)Ψ(322.5°)	Φ(330°)Ψ(337.5°)	Φ(345°)Ψ(352.5°)		
Θ(0°)	-2.65/-2.68	-2.76/-2.74	-2.73/-2.81	-3.02/-3.34	-3.89/-4.64	-5.57/-6.53	-7.37/-7.87	-7.88/-7.43	-6.89/-6.44	-6.04/-5.39	-4.84/-4.29	-3.77/-3.31	-3.01/-2.81	-2.81/-2.94	-3.25/-3.74	-4.35/-5.03	-5.77/-6.69	-7.75/-8.89	-9.73/-10.02	-9.97/-9.63	-9.07/-8.26	-6.83/-5.34	-4.13/-3.28	-2.83/-2.66		
Θ(7.5°)	-2.77/-3.11	-3.56/-3.95	-4.15/-24.3	-4.38/-4.77	-5.42/-6.36	-7.59/-9.16	-10.61/-13	-11.06/-10.04	-8.77/-7.76	-6.89/-6.04	-5.11/-4.24	-3.52/-2.89	-2.44/-2.09	-1.95/-1.97	-2.23/-2.61	-3.13/-3.65	-4.29/-4.98	-5.74/-6.4	-6.93/-7.25	-6.74/-5.5	-6.88/-5.67	-5.92/-5.04	-4.1/-3.39	-2.96/-2.71		
Θ(15°)	-2.28/-2.7	-3.49/-4.32	-4.96/-5.34	-5.64/-6.11	-6.81/-7.76	-8.96/-10.54	-12.46/-14.19	-14.93/-13.79	-11.69/-9.71	-8.26/-7.04	-5.95/-4.92	-3.98/-3.14	-2.44/-1.83	-1.41/-1.16	-1.13/-1.32	-1.71/-2.25	-2.39/-3	-4.33/-4.96	-5.45/-5.66	-5.64/-5.59	-5.63/-5.77	-5.59/-4.97	-4.16/-3.42	-2.76/-2.23		
Θ(22.5°)	-1.35/-1.66	-2.57/-3.75	-4.92/-7.59	-6.38/-6.85	-7.24/-7.67	-8.35/-9.38	-10.75/-12.36	-14.04/-14.59	-13.07/-10.69	-8.71/-7.32	-6.32/-5.44	-4.61/-3.69	-2.9/-2.15	-1.57/-1.1	-0.79/-0.74	-1.02/-1.57	-2.34/-3.17	-3.98/-4.64	-5.07/-5.22	-5.26/-5.35	-5.68/-6.05	-6/-5.42	-4.44/-3.39	-2.34/-1.58		
Θ(30°)	-0.64/-0.73	-1.48/-2.69	-4.16/-5.56	-6.5/-6.87	-6.85/-7.7	-7.07/-7.71	-8.6/-9.67	-10.92/-11.87	-11.75/-10.19	-8.33/-6.85	-5.82/-5.07	-4.48/-3.82	-3.14/-2.61	-2.21/-1.8	-1.37/-1.11	-1.22/-1.72	-2.53/-4.2	-4.23/-4.8	-5.11/-5.21	-5.22/-5.38	-5.75/-6.24	-6.36/-6.87	-6.69/-6.38	-1.97/-1.01		
Θ(37.5°)	-0.36/-0.28	-0.75/-1.76	-3.42/-5.19	-6.38/-6.23	-6.28/-5.98	-6.24/-7.06	-8.07/-9.11	-10.13/-10.7	-10.35/-8.99	-7.41/-6.17	-5.26/-4.63	-4.17/-3.64	-3.03/-2.61	-2.49/-2.51	-2.3/-1.97	-1.92/-2.35	-3.18/-4.15	-4.87/-5.26	-5.34/-5.26	-5.11/-5.09	-5.33/-5.7	-5.85/-5.21	-3.92/-2.53	-1.41/-0.7		
Θ(45°)	-0.46/-0.42	-0.73/-1.71	-3.4/-3.22	-6.28/-6.4	-6.04/-5.84	-6.84/-8.33	-10.1/-14.2	-12.17/-12.22	-11.44/-9.45	-7.49/-6.43	-5.89/-5.61	-5.58/-5.53	-5.01/-4.29	-3.85/-3.72	-3.62/-3.2	-2.79/-2.8	-3.37/-4.32	-5.33/-5.9	-5.83/-5.31	-4.84/-4.83	-5.22/-5.77	-5.71/-4.59	-2.96/-1.63	-0.84/-0.55		
Θ(52.5°)	-0.77/-0.71	-0.97/-1.88	-3.41/-4.97	-5.93/-6.24	-6.24/-6.65	-8.06/-10.3	-12.26/-12.82	-12.52/-12.81	-13.14/-10.85	-8.05/-6.62	-5.99/-5.61	-5.75/-6.41	-6.65/-5.94	-5.13/-4.74	-4.7/-4.39	-3.77/-3.44	-3.63/-4.32	-5.21/-5.73	-5.35/-4.77	-3.94/-4.19	-5.12/-6.14	-6.22/-4.81	-2.98/-1.59	-0.92/-0.81		
Θ(60°)	-0.87/-0.74	-1.12/-1.38	-3.74/-5.52	-6.84/-7.45	-7.46/-7.6	-8.53/-10.05	-11.19/-11.44	-11.02/-11.45	-14.6/-16.58	-11.58/-8.4	-7.71/-6.63	-6.21/-6	-5.48/-4.29	-3.25/-3.11	-3.83/-4.48	-4.28/-3.82	-3.68/-3.92	-4.36/-4.56	-3.99/-2.93	-2.62/-2.55	-3.83/-5.73	-6.65/-5.66	-3.9/-2.46	-1.58/-1.4		
Θ(67.5°)	-0.5/-0.67	-1.59/-3.21	-5.5/-7.75	-9.2/-9.24	-8.31/-7.66	-8/-9.35	-11.17/-11.74	-10.36/-9.7	-11.54/-18.06	-18.49/-14.19	-13.38/-11.74	-10.13/-9.18	-7.33/-4.7	-3.02/-2.76	-3.71/-4.57	-4.13/-4.32	-3.23/-3.46	-3.81/-4.07	-3.62/-4.24	-1.52/-1.73	-3.24/-5.5	-6.61/-5.62	-4.53/-3.24	-1.94/-0.91		
Θ(75°)	-0.49/-1.46	-3.15/-4.83	-6.26/-7.4	-8.18/-8.66	-8.95/-9.27	-9.98/-11.7	-14.45/-14.5	-11.65/-10.65	-12.27/-17.61	-18.06/-17.5	-19.18/-14.51	-10.53/-10.09	-10.21/-7.49	-4.52/-3.24	-3.67/-4.93	-4.75/-3.61	-3.02/-3.1	-3.39/-3.74	-3.71/-2.86	-2.06/-2.36	-4.19/-7.23	-8.44/-5.22	-4.36/-2.61	-1.18/-0.34		
Θ(82.5°)	-0.74/-1.98	-3.12/-3.85	-4.69/-5.97	-7.67/-9.83	-12.07/-14.08	-15.43/-16.36	-15.66/-13.1	-11.57/-12.7	-17.94/-17.69	-17.39/-16.69	-18.13/-13.11	-9.32/-9.12	-9.72/-7.31	-4.52/-3.11	-3.23/-4.08	-4.22/-3.65	-3.28/-3.38	-3.74/-3.99	-3.5/-2.36	-1.61/-13	-3.6/-5.5	-8.52/-6.25	-3.39/-1.47	-0.38/-1.13		
Θ(90°)	-1.02/-1.92	-3.24/-4.72	-6.38/-7.95	-9.36/-10.49	-10.98/-10.98	-10.42/-9.92	-9.97/-10.71	-12.17/-15.05	-17.99/-15.65	-13.49/-13.92	-14.51/-10.3	-7.57/-8.15	-9.48/-7.47	-4.45/-3.05	-3.37/-4.31	-4.22/-3.43	-2.79/-2.69	-3.27/-4.16	-1.45/-2.7	-1.41/-41.1	-2.83/-5.57	-8.04/-6.76	-4.13/-2.22	-1.11/-0.71		
Θ(97.5°)	-1.71/-2.48	-3.94/-5.32	-6.53/-7.5	-8.42/-9.45	-10.29/-10.31	-9.6/-9.49	-10.97/-13.63	-14.58/-13.96	-12.66/-11.72	-12.59/-13.73	-12.75/-7.84	-7.2/-8.9	-11.07/-6.26	-4.66/-3.03	-3.29/-5.43	-4.91/-4.25	-3.4/-2.86	-2.85/-4.3	-3.87/-2.97	-1.68/-1.59	-3.05/-6.02	-9.1/-8.83	-6.63/-4.66	-2.99/-1.9		
Θ(105°)	-1.97/-3.28	-4.36/-4.21	-6.02/-8.2	-10.5/-12.81	-14.18/-14.28	-13.33/-12.53	-13.07/-13.43	-12.38/-12.25	-12.26/-12.78	-16.05/-17.83	-14.39/-8.86	-6.92/-8.5	-11.76/-11.33	-4.34/-7.6	-4.73/-4.16	-3.77/-3.64	-3.75/-4.09	-4.53/-4.07	-2.66/-2.11	-3.09/-5.53	-8.23/-7.66	-5.18/-3.41	-2.43/-1.95			
Θ(112.5°)	-2.73/-3.21	-3.32/-5.97	-8.02/-9.35	-9.43/-8.84	-8.47/-8.79	-9.59/-10.85	-12.99/-14.84	-14.91/-14.4	-13.31/-15.27	-16.08/-15.68	-15.04/-10.71	-9.26/-11.26	-13.55/-10.94	-6.92/-4.78	-4.71/-5.55	-5.47/-4.57	-3.9/-3.72	-4.04/-4.68	-5.34/-4.88	-3.4/-2.66	-3.29/-5.3	-8.24/-8.62	-5.64/-3.39	-2.53/-2.47		
Θ(120°)	-3.68/-4.42	-4.99/-6.53	-6.52/-7.41	-7.82/-7.98	-8.46/-8.61	-11.69/-14.3	-17.27/-17.18	-14.85/-13.98	-11.85/-14.6	-16.36/-13.73	-11.79/-9.69	-9.91/-13.08	-17.41/-15.58	-8.53/-4.81	-3.82/-4.58	-5.57/-5.55	-4.85/-4.17	-4.16/-4.82	-5.88/-6.36	-5.32/-4.24	-4.12/-4.95	-6.8/-9.26	-8.23/-5.24	-3.53/-2.33		
Θ(127.5°)	-3.59/-4	-5.52/-6.73	-9.24/-11.89	-13.58/-13.91	-13.18/-12.49	-12.47/-13.23	-14.34/-14.32	-12.53/-11.58	-13.27/-19.27	-17.84/-18.18	-11.67/-8.69	-8.81/-10.2	-9.71/-11.95	-9.6/-0.02	-4.68/-4.54	-4.8/-4.81	-4.61/-4.38	-4.52/-4.89	-5.31/-5.44	-5.04/-4.7	-4.87/-5.49	-6.34/-7.7	-9.28/-7.85	-5.15/-3.76		
Θ(135°)	-5.77/-6.35	-8.17/-11.51	-17.01/-18.22	-18.11/-17.64	-13.58/-10.82	-9.84/-10.43	-11.89/-12.6	-12.35/-13.3	-17.74/-18.91	-18.78/-18.53	-13.12/-9.84	-9.34/-9.93	-9.7/-8.49	-7.15/-6.29	-5.87/-5.53	-5.14/-4.76	-4.74/-4.86	-5.45/-6.08	-6.3/-5.74	-4.63/-3.81	-4.24/-4.75	-9.97/-7.51	-7.46/-6.23			
Θ(142.5°)	-11.04/-11.54	-11.91/-11.6	-10.49/-8.86	-10.53/-12	-12.22/-10.95	-10.34/-11.09	-13.05/-15.07	-16.62/-17.95	-18.02/-18.47	-18.48/-17.61	-13.07/-10.12	-10.77/-11.06	-10.41/-12.7	-7.2/-6.45	-6.19/-5.8	-5.15/-4.68	-4.67/-4.19	-6.14/-3.75	-3.89/-6.1	-5.38/-5.32	-5.52/-5.62	-5.9/-6.84	-8.64/-10.3			
Θ(150°)	-7.44/-7.59	-7.3/-6.95	-6.96/-7.65	-6.38/-12.43	-15.73/-15.93	-14.8/-14.94	-16.21/-18.07	-18.86/-17.5	-18.23/-18.85	-16.25/-12.41	-10.45/-9.92	-10.59/-12.06	-13.22/-12.71	-11.15/-9.78	-8.67/-7.43	-6.16/-5.15	-4.74/-7.19	-5.42/-6.45	-7.67/-8.66	-6.28/-6.66	-7.9/-7.36	-7.1/-6.72	-6.1/-5.65	-5.86/-6.64		
Θ(157.5°)	-4.94/-5.98	-6.77/-7.74	-7.66/-10.46	-13.67/-17.94	-18.51/-15.48	-15.82/-16.16	-16.96/-17.98	-19.11/-17.28	-12.18/-11.4	-7.88/-7.73	-7.04/-7.55	-8.12/-9.4	-14.09/-10.68	-14.45/-12.32	-11.41/-10.05	-7.88/-6.88	-6.14/-5.79	-4.49/-6.58	-7.06/-7.28	-6.98/-6.26	-5.52/-4.85	-4.48/-4.34	-2.42/-4.02	-3.88/-4.07		
Θ(165°)	-6.46/-6.48	-10.43/-13.69	-13.41/-15.44	-16.44/-18.43	-18.24/-18.91	-17.66/-17.74	-18.19/-18.24	-13.36/-10.65	-7.54/-6.3	-5.9/-5.59	-4.8/-5.19	-6.54/-8.53	-11.47/-13.53	-17.35/-19.03	-15.1/-13.25	-11.99/-9.16	-9.76/-10.47	-10.27/-9.52	-9.51/-9.01	-8.02/-6.38	-6.69/-4.36	-3.49/-3.39	-3.45/-3.64	-3.98/-5.21		
Θ(172.5°)	-14.97/-16.2	-19.88/-18.24	-19.47/-19.16	-19.32/-17.77	-14.73/-17.14	-18.04/-19.27	-19.46/-11.54	-10.73/-10.65	-7.37/-8.69	-6.01/-6.58	-7.51/-8.45	-10.08/-11.92	-16.18/-15.23	-17.56/-16.37	-14.85/-14.03	-15.15/-14.94	-15.21/-15.14	-14.69/-12.85	-17.89/-7.48	-6.71/-7.05	-7.78/-8.12	-8.91/-10.2	-7.73/-8.12			
Θ(180°)	-47.15/-16.27	-14.27/-19.22	-14.58/-15.06	-19.36/-17.44	-16.19/-18.48	-17.94/-18.25	-17.96/-15.68	-16.84/-18.34	-16.95/-17.47	-6.07/-6.75	-7.81/-18.2	-17.94/-18.87	-17.08/-16.13	-19.24/-13.73	-18.09/-18.31	-17.97/-18.31	-18.81/-18.84	-18.4/-17.18	-17.13/-15.49	-12.43/-13.18	-14.14/-13.24	-14.02/-15.18	-17.73/-14.58	-19.37/-18.28		
Freq(Hz)	245G/Pol		Phi(Ant.1)		-		-		-		-		-		-		-		-		-		-			
Gain	Φ(0°)Ψ(7.5°)	Φ(15°)Ψ(22.5°)	Φ(30°)Ψ(37.5°)	Φ(45°)Ψ(52.5°)	Φ(60°)Ψ(67.5°)	Φ(75°)Ψ(82.5°)	Φ(90°)Ψ(97.5°)	Φ(105°)Ψ(112.5°)	Φ(120°)Ψ(127.5°)	Φ(135°)Ψ(142.5°)	Φ(150°)Ψ(157.5°)	Φ(165°)Ψ(172.5°)	Φ(180°)Ψ(187.5°)	Φ(195°)Ψ(202.5°)	Φ(210°)Ψ(217.5°)	Φ(225°)Ψ(232.5°)	Φ(240°)Ψ(247.5°)	Φ(255°)Ψ(262.5°)	Φ(270°)Ψ(277.5°)	Φ(285°)Ψ(292.5°)	Φ(300°)Ψ(307.5°)	Φ(315°)Ψ(322.5°)	Φ(330°)Ψ(337.5°)	Φ(345°)Ψ(352.5°)		
Θ(0°)	9.26/-9.9	-10.28/-9.99	-9.11/-7.98	-6.84/-5.86	-5.21/-4.68	-4.14/-3.69	-3.52/-3.7	-3.9/-3.96	-4.14/-4.53	-5.05/-5.53	-6.18/-6.88	-7.53/-8.35	-9.27/-10.19	-10.46/-9.9	-8.93/-8.04	-7.32/-6.67	-5.98/-5.24	-4.59/-4.19	-4.06/-4.14	-4.41/-4.82	-5.38/-6.15	-6.65/-6.97	-7.21/-7.46	-7.95/-8.6		
Θ(7.5°)	-9.77/-11.45	-10.02/-13.62	-13.05/-11.7	-10.22/-8.97	-7.98/-6.06	-6.28/-5.64	-5.3/-5.24	-5.26/-5.23	-5.39/-5.71	-6.87/-6.74	-7.02/-7.35	-7.74/-8.16	-8.63/-8.91	-9.57/-7.64	-6.64/-5.75	-4.99/-4.34	-3.68/-3.09	-2.66/-2.41	-2.35/-2.51	-2.92/-3.25	-3.66/-4.06	-6.18/-6.78	-7.42/-8.41			
Θ(15°)	-9.28/-14.21	-16.91/-17.5	-19.31/-16.62	-16.24/-13.51	-11.56/-10.02	-8.84/-7.86	-7.03/-6.57	-6.3/-6.22	-6.99/-6.75	-7.39/-7.36	-7.25/-7.18	-7.21/-7.21	-8.91/-6.24	-5.34/-5.37	-6.34/-6.37	-3.56/-2.86	-2.21/-1.7	-1.36/-1.24	-1.36/-1.66	-2.15/-2.79	-3.59/-3.07	-5.48/-5.76	-5.97/-7.19			
Θ(22.5°)	-8.39/-12.68	-19.25/-18.66	-18.27/-19.24	-17.4/-15.46	-13.71/-12.15	-10.61/-9.09	-7.84/-7.04	-6.58/-6.51	-6.69/-7.01	-7.43/-7.74	-7.8/-7.56	-7.02/-6.38	-5.89/-5.57	-5.24/-4.73	-4.05/-3.34	-2.74/-2.2	-1.67/-1.23	-0.97/-0.99	-1.33/-1.8	-2.35/-2.94	-3.58/-4.25	-4.68/-4.75	-4.63/-4.63	-4.94/-6.09		
Θ(30°)	-7.68/-11.48	-19.01/-17.63	-15.93/-13.75	-13.2/-13.27	-11.43/-11.27	-11.86/-10.12	-8.66/-7.63	-7.03/-6.91	-7.17/-7.4	-7.71/-8.43	-8.92/-8.91	-8.15/-6.87	-6.75/-6.94	-3.41/-3.65	-3/-2.53	-2.27/-2.11	-1.85/-1.49	-1.28/-1.4	-1.81/-2.29	-2.73/-3.09	-3.41/-3.77	-4.18/-4.49	-4.62/-4.67	-4.84/-5.71		
Θ(37.5°)	-7.15/-10.27	-17.13/-19	-13.54/-10.88	-10.2/-10.56	-11.63/-12.74	-12.86/-11.57	-9.74/-9.74	-7.46/-7.07	-6.82/-6.87	-7.39/-8.42	-9.14/-9.75	-9.63/-8.4	-6.95/-5.75	-4.69/-3.65	-2.77/-2.36	-2.33/-2.42	-2.29/-1.96	-1.74/-1.82	-2.18/-2.57	-2.83/-2.85	-3.79/-2.86	-3.16/-3.69	-4.27/-4.73	-5.08/-6.59		
Θ(45°)	-8.24/-10.93	-16.42/-17.89	-12.93/-10.63	-9.93/-10.1	-10.71/-11																					



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A.1

Θ(22.5°)	-1.28/-2.83	-4.49/-5.67	-6.92/-7.76	-8.98/-11.61	-16.32/-10.57	-6.53/-3.92	-3.11/-2.21	-1.24/-0.93	-1.23/-1.49	-1.66/-1.96	-2.29/-2.49	-2.44/-1.94	-1.3/-1.19	-1.43/-1.89	-2.92/-4.48	-6.24/-8.12	-10.35/-14.07	-17.17/-13.73	-8.58/-5.98	-3.94/-2.43	-1.45/-0.8	-0.68/-0.65	-0.43/0.04	-0.1/0.34	
Θ(30°)	-1.21/-1.87	-4.52/-7.1	-7.4/-6.5	-7.52/-9.72	-15.04/-11.21	-7.79/-6.6	-6.78/-5.87	-5.11/-4.84	-4.72/-4.28	-3.82/-3.41	-2.59/-1.51	-0.92/-0.99	-1.47/-1.78	-1.63/-1.95	-3.38/-5.3	-6.83/-8.85	-14.36/-18.09	-14.71/-8.85	-5.75/-3.91	-2.75/-2.37	-2.1/-1.51	-1.17/-0.94	-0.29/0.08	-0.58/-1.15	
Θ(37.5°)	-2.54/-4.19	-6.93/-9.67	-8.73/-6.64	-6.41/-7.75	-12.64/-13.05	-9.37/-9.94	-8.73/-6.45	-6.56/-7.15	-7.23/-6.31	-4.83/-3.21	-2.52/-1.91	-0.8/-0.11	-0.42/-1	-0.71/-1.03	-2.78/-7.22	-6.06/-9.66	-16.69/-12.3	-7.11/-4.23	-3.05/-2.66	-2.23/-1.99	-1.74/-1.02	-0.3/-0.46	-0.84/-0.68	-0.79/-3.58	
Θ(45°)	-2.27/-3.73	-5.56/-7.52	-9.6/-10.67	-9.28/-9.47	-16.24/-13.18	-9.18/-9.65	-7.52/-7.85	-10.48/-8.32	-7.05/-7.28	-5.71/-4.06	-3.37/-2.66	-1.49/-0.95	-0.55/-0.28	-1.22/-0.88	-2.77/-10.68	-11.53/-12.92	-14.86/-11.01	-7.07/-5.36	-5.56/-5.72	-4.87/-3.9	-2.93/-1.75	-0.47/-0.18	-0.62/-0.47	-0.07/-1.05	
Θ(52.5°)	-2.77/-3.11	-5.71/-9.64	-11.75/-14.62	-12.93/-12.97	-18.9/-18.22	-14.35/-16.66	-15.22/-14.17	-9.62/-6.82	-7.06/-8.91	-9.41/-6.57	-4.82/-1.9	-1.35/-2.5	-1.28/-0.84	-3.35/-3.8	-5.99/-18.98	-14.35/-15.97	-16.38/-12.64	-7.58/-5.05	-4.63/-5.2	-4.59/-3.34	-2.77/-1.82	-0.65/-0.57	-1.17/-1.14	-1.67/-2.72	
Θ(60°)	-4.65/-5.04	-7.29/-8.15	-6.87/-11.26	-16.03/-12.72	-17.68/-18.49	-13.67/-12.25	-12.17/-15.21	-14.53/-9.94	-11.33/-11.06	-10.48/-9.29	-6.57/-2.63	-1.07/-1.9	-1.85/-1.16	-3.08/-5.09	-4.94/-14.42	-12.22/-11.65	-9.51/-9	-6.04/-4.21	-4.46/-5.11	-4.9/-4.07	-3.55/-2.79	-1.35/-1.29	-1.35/-0.83	-1.21/-3.38	
Θ(67.5°)	-3.9/-5.18	-5.9/-6.77	-9.17/-13.19	-19.06/-14.82	-18.08/-17.03	-15.65/-18.06	-13.1/-13.31	-18/-16.52	-18.67/-12.79	-12.24/-10.42	-6.98/-3.9	-2.67/-3.64	-2.88/-3	-5.4/-7.01	-6.85/-18.23	-9.47/-7.33	-6.3/-7.13	-5.04/-3.5	-2.89/-3.68	-4.4/-3.74	-2.98/-2.42	-1.29/-1.17	-1.77/-2.91	-3.69/-3.49	
Θ(75°)	-5.66/-7.64	-6.57/-5.5	-8.82/-11.62	-15.16/-18.57	-17.88/-14.07	-11.35/-15.53	-17.56/-18.25	-17.31/-17.92	-19.05/-14.04	-12.88/-13.1	-11.14/-8.55	-5.76/-6.83	-4.89/-5.04	-7.25/-8.59	-6.6/-10.94	-7.36/-6.07	-5.47/-5.48	-4.42/-3.61	-2.36/-3.04	-3.2/-4.3	-3.19/-3.24	-2.39/-2.22	-2.01/-1.83	-2.9/-4.46	
Θ(82.5°)	-4.84/-8.27	-7.59/-7.01	-11.15/-13.67	-13.71/-14.26	-18.82/-18.42	-12.75/-10.04	-10.91/-16.67	-17.17/-18.87	-19.04/-16.28	-16.31/-15.99	-18.12/-12.5	-9.79/-8.66	-6.73/-7.14	-8.59/-9.11	-6.27/-7.66	-4.85/-2.92	-2.85/-3.26	-2.92/-2.19	-1.01/-1.83	-1.92/-3.32	-4.11/-3.89	-4.04/-3	-2.84/-4.08	-4.13/-4.78	
Θ(90°)	-6.16/-7.4	-5.58/-7.2	-12.84/-15.17	-15.35/-13.17	-17.39/-15.48	-19.08/-13.95	-9.24/-10.91	-13.01/-15.42	-17/-16.42	-16.61/-17.88	-18.91/-15.79	-11.59/-9.81	-8.15/-8.63	-9.63/-10.3	-8.06/-6.58	-4.71/-3.54	-2.64/-3.98	-3.84/-3.91	-2.33/-3.22	-3.23/-4.46	-6.3/-5.38	-4.49/-4.28	-3.31/-4.04	-4.52/-5.17	
Θ(97.5°)	-7.8/-8.85	-6.54/-6.56	-9.71/-11.06	-13.53/-13.98	-18.44/-14.25	-11.62/-12.66	-13.42/-15.92	-16.16/-16.14	-15.83/-13.69	-15.92/-17.55	-14.75/-13.45	-12.22/-12.4	-11.21/-11.11	-14.95/-14.89	-8.42/-7.7	-4.76/-3.87	-2.82/-2.43	-3.27/-4.85	-2.5/-3.55	-4.63/-5.63	-7.54/-5.98	-5.26/-5.37	-5.44/-3.74	-3.51/-6.07	
Θ(105°)	-5.63/-4.79	-6.9/-7.52	-10.02/-9.04	-9.29/-10.9	-17.23/-17.4	-10.86/-7.76	-7.54/-10.56	-18.39/-17.95	-14.2/-11.71	-17.99/-18.2	-12.33/-13.5	-18.32/-12.47	-9.28/-10.43	-13.91/-11.89	-7.99/-5.45	-5.76/-6.82	-3.87/-4.4	-4.81/-8.06	-5.1/-6.4	-5.43/-7.72	-1.19/-6.62	-4.41/-3.69	-3.06/-3.47	-5.42/-4.95	
Θ(112.5°)	-4.97/-4.29	-5.18/-7.96	-11.09/-10.25	-8.82/-9.83	-17/-18.22	-17.64/-10.57	-8.87/-9.34	-13/-18.76	-19.02/-17.45	-18.62/-18.77	-14.96/-18.61	-18.27/-12.78	-12.13/-9.1	-14.2/-13.91	-6.6/-5.07	-5.42/-5.12	-3.62/-4.31	-4.81/-7.84	-4.72/-5.98	-4.96/-6.79	-9.44/-7.72	-7.81/-6.21	-5.85/-4.88	-4.27/-5.02	
Θ(120°)	-6.54/-6.8	-5.5/-5.65	-7.4/-9.74	-9.74/-11.06	-18.19/-10.99	-16.96/-11.48	-11.76/-16.09	-16.93/-11.21	-18.73/-16.24	-17.31/-18.78	-15.38/-10.62	-13.29/-13.52	-11.62/-10.18	-18.33/-14.23	-6.26/-8.52	-5.51/-4.84	-3.16/-4.61	-3.79/-4.32	-3.61/-3.46	-5.39/-7.91	-8.73/-10.41	-8.92/-8.82	-7.33/-4.86	-5.91/-5.49	
Θ(127.5°)	-5.21/-7.9	-5.55/-7.23	-6.07/-8.64	-9.78/-10.62	-14.15/-12.04	-15.68/-8.32	-7.74/-9.57	-9.52/-11.29	-15.37/-19.08	-18.62/-17.78	-18.13/-10.65	-12.26/-11.06	-13.24/-8.4	-14.56/-11.39	-10.34/-11.23	-6.44/-5.85	-2.85/-4.41	-5.05/-5.21	-4.42/-3.31	-5.73/-8.08	-13.62/-13.71	-11.19/-6.8	-5.62/-7.58	-6.68/-4.97	
Θ(135°)	-4.44/-7.01	-8.16/-6.6	-5.66/-6.21	-6.6/-7.51	-10.81/-11.21	-10.75/-8.37	-8.45/-13.04	-11.94/-8.17	-9.8/-14.23	-18.31/-18.91	-17.62/-11.97	-11.93/-11.43	-12.6/-10.32	-13.64/-11.78	-10.76/-11.48	-8.49/-8.61	-5.37/-6.96	-8.01/-4.77	-3.66/-3.69	-3.9/-5.95	-7.67/-17.86	-13.09/-13.96	-9.96/-7.68	-6.96/-4.82	
Θ(142.5°)	-9.85/-10.04	-7.8/-6.64	-6.86/-6.14	-5.43/-8.7	-12.32/-11.01	-14.72/-18.07	-11.69/-14.74	-15.55/-16.62	-11.54/-11.08	-13.85/-18.47	-19.36/-15.07	-12.41/-17.25	-9.63/-7.79	-10.92/-16.31	-19.11/-17.33	-11.15/-11.8	-12.92/-13.6	-3.79/-4.32	-11.55/-8.08	-7.3/-8.13	-7.74/-9.04	-9.59/-12.51	-17.41/-16.19	-13.56/-9.81	-7.29/-5.47
Θ(150°)	-14.01/-16.69	-17.31/-14.88	-10.95/-10.19	-9.97/-11.16	-11.33/-9.85	-9.56/-8.43	-8.4/-11.19	-14.54/-19.15	-17.5/-19.38	-18.71/-18.06	-17.14/-18.9	-15.85/-14.62	-16.44/-12.46	-14.54/-18.43	-18.24/-18.49	-17.93/-18.78	-16.31/-12.47	-7.3/-12.05	-12.13/-14.97	-14.44/-14.97	-14.44/-10.28	-7.91/-9.75			
Θ(157.5°)	-17.94/-13.3	-9.08/-6.52	-4.09/-2.98	-3.25/-4.92	-5.36/-5.37	-5.8/-8.25	-11.11/-11.95	-13.25/-11.86	-16.88/-18.06	-17.79/-12.26	-11.51/-13.4	-12.69/-12.74	-12.96/-19.02	-14.66/-14.88	-18.57/-17.57	-16.52/-18.05	-18.21/-16.85	-13.55/-11.37	-10.33/-9.34	-9.47/-10.46	-13.71/-17.89	-14.63/-10.37	-8.71/-8.53	-9.62/-13.29	
Θ(165°)	-13.12/-11.56	-9.19/-7.33	-6.54/-5.51	-6.45/-5.92	-5.28/-8.87	-10.81/-15.2	-19/-16.68	-17.65/-16.3	-14.52/-16.75	-15.29/-12.69	-11.78/-12.13	-16.79/-18.15	-16.73/-11.89	-8.2/-7.59	-9.29/-12.02	-13.63/-17.96	-17.81/-19.13	-18.29/-18.58	-18.52/-15.4	-16.66/-15.2	-14.72/-11.5	-9.09/-8.46	-8.15/-8.51	-10.16/-12.99	
Θ(172.5°)	-11.09/-11.14	-11.22/-8.42	-7.25/-6.87	-7.35/-6.31	-6.35/-7.25	-10.97/-14.38	-15.58/-19.15	-19.05/-19.11	-18.89/-17.25	-16.38/-16.66	-14.5/-14.99	-18.48/-19.01	-18.17/-17.12	-13.91/-11.07	-11.81/-12.34	-14.17/-15.5	-17.72/-16.65	-15.12/-14.01	-14.03/-13.68	-13.9/-12.26	-10.84/-8.5	-8.06/-9.56	-9.38/-8.98	-9.02/-11	
Θ(180°)	-18.1/-18.41	-18.16/-17.16	-13.8/-12.94	-12.59/-13.28	-14.45/-14.7	-16.23/-18.26	-18.1/-18.81	-18.14/-18.83	-17.76/-18.9	-18.25/-19.88	-18.04/-18.27	-17.81/-17.5	-19.43/-17.55	-13.81/-18.65	-18.46/-18.8	-14.17/-17.03	-17.79/-14.82	-15.27/-14.15	-13.98/-12.93	-12.87/-13.76	-11.16/-11.39	-11.44/-11.64	-13.01/-14.95	-16.3/-17.86	
Freq(Pol)	5.3GPol	ThetaAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)	
Θ(0°)	-8.34/-6.21	-5.2/-4.1	-2.95/-1.83	-0.82/-0.05	0.51/0.71	0.84/0.66	0.34/-0.05	-0.34/-0.77	-1.45/-2.47	-3.91/-5.69	-7.81/-10.7	-13.44/-13.9	-11.42/-8.49	-5.79/-4.07	-2.85/-1.94	-1.05/-0.5	-0.35/-0.29	-0.29/-0.22	-0.36/-0.28	-0.64/-1.6	-2.9/-3.4	-4.91/-5.64	-8.16/-12.15	-13.63/-11.52	
Θ(7.5°)	-16.88/-9.51	-6.37/-5.11	-4.33/-3.2	-2.1/-1.18	-0.63/-0.57	-0.36/-0.63	-1.15/-1.7	-2.19/-3.08	-7.03/-8.81	-10.34/-11.2	-10.76/-9.41	-7.34/-5.36	-3.66/-2.44	-1.71/-1.11	-0.59/-0.16	0.11/0.15	0.02/0.04	-0.17/-0.7	-1.82/-3.46	-4.25/-4.82	-7.87/-16.5	-18.3/-18.1			
Θ(15°)	-10.87/-8.02	-5.82/-5.23	-5.07/-4.05	-2.75/-1.53	-0.96/-0.72	-0.72/-1.34	-2.52/-3.87	-5.46/-6.86	-8.36/-11.07	-14.98/-17.74	-18.61/-14.42	-13.76/-10.71	-8.66/-6.02	-3.82/-2.51	-1.74/-1.55	-1.31/-1.24	-1.38/-1.36	-1.37/-1.29	-1.34/-1.41	-1.66/-2.25	-3.54/-5.5	-7.3/-6.67	-12.34/-17.87	-16.26/-12.37	
Θ(22.5°)	-8.71/-6.8	-5.07/-4.82	-5.22/-4.3	-2.62/-1.33	-0.51/-0.39	-0.68/-1.34	-2.05/-3.05	-4.21/-4.87	-5.4/-5.6	-5.93/-6.81	-8.61/-10.87	-12.09/-11.01	-8.77/-6.71	-5.19/-3.84	-2.83/-2.22	-1.86/-1.68	-1.41/-1	-0.66/-0.46	-0.6/-1.33	-2.01/-2.65	-4.07/-6.68	-10.16/-12.36	-12.81/-14.53	-14.99/-10.96	
Θ(30°)	-6.34/-5.67	-4.39/-3.97	-3.52/-3.13	-2.78/-2.29	-1.68/-2.04	-3.25/-4.51	-5.27/-5.41	-4.85/-4.66	-4.45/-4.13	-4.2/-4.75	-5.96/-6.23	-10.93/-10.33	-8.64/-7.48	-6.04/-4.19	-2.78/-2.25	-1.47/0.04	1.390.81	0.21/-0.38	-0.37/-0.86	-1.81/-2.29	-2.9/-4.91	-7.49/-4.95	-11.17/-13.15	-10.89/-7.69	
Θ(37.5°)	-4.49/-3.37	-3.84/-2.27	-2.96/-2.7	-3.89/-4.98	-4.41/-4.6	-5.61/-6.34	-6.54/-5.79	-4.38/-4.51	-5.48/-5.52	-4.24/-2.99	-3.81/-6.67	-10.11/-11.38	-10.68/-10.81	-8.88/-4.6	-1.77/-1.21	-0.91/-0.13	0.59/0.88	0.25/-1.13	-1.66/-1	-1.63/-3.66	-5.07/-7.58	-9.52/-8.76	-10.28/-11.96	-9.44/-6.27	
Θ(45°)	-5.57/-3.57	-4.34/-4.07	-4.3/-4.59	-6.74/-9.25	-6.53/-5.97	-6.78/-7.03	-8.38/-7.48	-6.41/-8.27	-7.68/-4.68	-2.96/-1.97	-1.72/-2	-7.71/-11.36	-11.28/-11.97	-8.6/-5.36	-2.59/-1.21	-0.39/0.07	0.13/0.1	-0.76/-1.77	-1.99/-3.27	-3.48/-3.71	-4.89/-6.3	-12.1/-9.59	-13.65/-17.55	-15.11/-9.69	
Θ(52.5°)	-7.37/-4.64	-2.11/-2.75	-5.73/-6.67	-7.84/-8.18	-7.28/-8.75	-9.67/-11.26	-11.82/-8.73	-9.31/-12.87	-7.85/-6.54	-4.78/-4.11	-2.2/-2.62	-6.49/-9.93	-17.34/-12.17	-6.17/-3.76	-2.52/-2.76	-1.44/-1.02	-1.29/-1.01	-1.42/-2.27	-3.03/-3.11	-4.61/-4.15	-4.17/-4.67	-8.56/-15.41	-17.25/-18.04	-17.74/-10.44	
Θ(60°)	-5.9/-3.36	-2.05/-2.3	-4.35/-0.62	-15.92/-10.27	-8.1/-9.9	-11.52/-16.72	-13.25/-10.9	-13.18/-11.85	-7.81/-7.07	-5.54/-6.71	-3.86/-2.69	-4.74/-7.5	-16.02/-12.19	-5.98/-4.31	-3.65/-3.75	-2.41/-1.84	-1.94/-0.36	-0.46/-0.96	-2.75/-3.55	-2.55/-4.12	-4.39/-8.16	-9.11/-14.57	-16.81/-13.88	-9.42/-7.45	
Θ(67.5°)	-6.53/-8.8	-1.89/-2.05	-4.53/-5.88	-13.22/-10.14	-10.11/-14.66	-11.91/-11.29	-9.38/-18	-8.62/-7.81	-8.96/-9.02	-4.29/-4.71	-3.54/-3.99	-6.44/-8.63	-1.73/-15.62	-7.43/-4.47	-2.75/-3.2	-2.64/-1.7	-0.84/0.48	-0.29/-1.33	-3.47/-2.54	-3.56/-5.52	-4.36/-5.81	-7.19/-10.98	-11.73/-12.69	-13.21/-8.66	
Θ(75°)	-5.77/-3.52	-2.3																							



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A.1

Θ(75°)	-2.23/-4.56	-5.45/-6.56	-7.16/-14.48	-18.47/-11.96	-11.89/-9.54	-6.63/-8.17	-13.54/-10.67	-14.71/-15.77	-13.04/-11.84	-9.61/-14.22	-12.4/-8.63	-5.31/-8.83	-4.23/-4.56	-6.69/-4.81	-7.51/-10.46	-6.71/-7.85	-7.39/-5.37	-5.59/-5.15	-4.63/-3.33	-3.31/-3.09	-3.17/-3.71	-5.89/-5.5	-4.01/-3.99	-6.19/-4.08
Θ(82.5°)	-2.51/-4.62	-4.66/-4.85	-6.77/-15.08	-16.66/-8.52	-9.26/-9.56	-7.75/-8.08	-10.26/-8.24	-11.49/-12.82	-18.92/-17.84	-14.2/-18.03	-15.21/-14.31	-9.17/-9.86	-6.46/-9.49	-6.63/-6.53	-9.67/-6.4	-6.13/-6	-5.47/-5.49	-5.95/-5.19	-4.06/-3.4	-2.91/-3.39	-2.23/-3.56	-7.51/-9.48	-4.33/-5.11	-8.93/-5.25
Θ(90°)	-3.42/-6.3	-5.42/-7.95	-8.96/-17.83	-12.12/-7.63	-9.92/-7.56	-7.21/-8.18	-11.17/-9.77	-10.63/-9.07	-18.75/-18.8	-14.78/-19.14	-14.21/-17.24	-8.23/-11.82	-7.03/-9.05	-8.87/-8.84	-9.18/-9.53	-5.14/-5.67	-4.88/-3.75	-5.17/-3.28	-3.67/-3.08	-4.5/-3.24	-2.96/-3.1	-7.47/-8.66	-4.48/-6.97	-12.79/-4.76
Θ(97.5°)	-3.59/-6.79	-4.23/-7.15	-10.83/-16.67	-11.66/-6.41	-8.96/-7.84	-8.22/-8.6	-9.91/-10.77	-19.48/-11.38	-17.41/-18.91	-14.31/-18.29	-17.36/-18.86	-8.92/-14.35	-7.16/-12.81	-15.06/-11.95	-9.73/-10.33	-7.12/-7.16	-5.46/-4.77	-6.25/-4.19	-4.37/-4.12	-4.75/-3.91	-3.57/-3.82	-7.37/-8.96	-4.31/-7.44	-13.18/-4.43
Θ(105°)	-5.84/-8.47	-5.25/-6.61	-9.27/-13.22	-10.4/-6.34	-7.97/-8.92	-11.01/-8.31	-6.05/-5.91	-10.99/-12.3	-19.63/-17.59	-14.86/-18.74	-16.03/-18.4	-8.27/-11.48	-9.32/-12.21	-13.45/-12.8	-10.63/-8.35	-9.08/-9.64	-6.08/-6.91	-7.59/-5.3	-4.78/-9.39	-4.74/-5.92	-4.49/-6.13	-9.54/-7.72	-5.64/-7.57	-9.82/-6.27
Θ(112.5°)	-7.27/-8.34	-6.42/-7.92	-10.76/-11.07	-10.42/-6.57	-8.56/-6.55	-8/-10.67	-6.35/-4.89	-11.03/-18.51	-17.95/-17.39	-16.55/-17.83	-14.45/-15.89	-8.49/-16.35	-17.05/-14.37	-10.44/-8.62	-7.53/-6.94	-7.26/-3.89	-7.69/-3.91	-3.21/-2.85	-3.23/-5.92	-6.12/-6.67	-10.46/-6.7	-3.84/-7.77	-11.17/-6.89	
Θ(120°)	-5.85/-6.64	-9.02/-8.54	-7.98/-8.16	-9.59/-6.71	-11.45/-10.87	-8.66/-9.41	-8.85/-7.5	-11.46/-17.54	-17.85/-18.38	-18.4/-18.73	-19.13/-19.18	-15.98/-19.06	-12.23/-17.96	-14.21/-18.69	-10.11/-6.23	-10.49/-7.43	-6.86/-4.42	-11.47/-7	-3.09/-2.67	-4.01/-7.01	-10.86/-15.27	-8.51/-5.27	-4.74/-8.5	-6.85/-6.19
Θ(127.5°)	-7.46/-7.45	-6.92/-7.87	-8.74/-10.58	-7.47/-4.27	-9.74/-13.45	-14.32/-11.06	-6.17/-3.37	-7.23/-8.55	-11.57/-14.87	-19.05/-18.8	-18.69/-15.13	-18.11/-18.51	-10.31/-11.84	-19.08/-14.01	-7.65/-6.97	-8.71/-4.81	-7.66/-10.15	-18.71/-8.13	-2.72/-3.41	-6.23/-7.86	-12.64/-18.82	-10.61/-8.26	-7.51/-8.02	-9.41/-7.32
Θ(135°)	-5.27/-3.07	-4.51/-6.79	-5.83/-8.17	-9.15/-5.57	-8.69/-7.57	-6.62/-9.09	-9.99/-9.36	-11.74/-13.46	-11.55/-17.97	-18.32/-17.73	-16.04/-11.61	-16.71/-14.81	-10.82/-18.96	-12.93/-14.04	-14.24/-15.58	-9.01/-5.99	-11.26/-18.54	-15.58/-11.5	-7.03/-5.31	-7.14/-7.02	-11.89/-13.29	-17.98/-11.3	-11.63/-9.77	-6.24/-6.73
Θ(142.5°)	-5.65/-5.06	-7.38/-8.05	-5.84/-7.47	-8.12/-6.52	-9.67/-18.1	-12.91/-15.21	-12.63/-9.35	-14.37/-17.84	-15.38/-17.46	-18.02/-18.49	-16.77/-16.38	-17.51/-14.83	-9.64/-14.84	-18.87/-12.67	-13.76/-15.3	-11.72/-10.94	-14.2/-18.44	-12.64/-13.23	-18.48/-14.72	-11.43/-10.8	-16.99/-18.65	-14.98/-17.09	-16.05/-12.25	-9.72/-6.96
Θ(150°)	-8.03/-8.7	-10.41/-9.88	-11.06/-14.2	-16.91/-13.56	-12.17/-9.98	-8.02/-9.07	-12.66/-12.58	-11.43/-12.7	-14/-17.7	-18.11/-18.69	-18.64/-18.05	-19.18/-18.38	-18.25/-16.86	-13.01/-13.96	-15.39/-14.2	-16.04/-15.54	-13.53/-14.04	-17.08/-18.89	-19.08/-18.79	-16.46/-17.19	-15.83/-13	-15.15/-18.39	-14.79/-10.58	-9.35/-9.13
Θ(157.5°)	-17.72/-15.67	-13.43/-13.92	-15.13/-8.07	-4.28/-2.6	-2.57/-3.55	-4.21/-5.06	-7.42/-10.98	-12.55/-13.71	-13.36/-14.3	-18.69/-18.11	-18.86/-17.79	-16.22/-6.49	-14.24/-15.54	-15.52/-13.03	-18.11/-17.69	-17.55/-17.08	-12.82/-12.25	-11.76/-15.08	-17.32/-15.86	-17.28/-17.87	-18.37/-18.92	-14.67/-15.4		
Θ(165°)	-7.77/-9.2	-7.96/-9.32	-10.75/-8.97	-7.12/-6.34	-5.94/-6.31	-6.17/-11.18	-11.95/-17.99	-18.94/-18.77	-18.56/-18.79	-18.59/-19.42	-19.78/-18.6	-18.25/-13.88	-13.4/-13.16	-11.6/-13.17	-13.3/-13.27	-13.39/-15.21	-18.38/-18.83	-18.79/-18.18	-19.09/-17.14	-18.47/-19.18	-17.27/-17.79	-14.1/-11.4	-10.31/-9.32	-7.54/-6.96
Θ(172.5°)	-12.75/-15.76	-13.01/-11.3	-10.96/-9.99	-9.26/-8.97	-8.2/-10.33	-10.35/-12.5	-16.93/-18.69	-17.83/-18.06	-18.54/-19.07	-18.84/-18.87	-17.75/-17.68	-16.07/-18.36	-18.04/-17.35	-18.38/-17.69	-17.48/-17.8	-17.71/-18.69	-18.12/-18.93	-17.77/-18.69	-19.07/-18.3	-18.24/-17.02	-17.23/-15.81	-13.34/-12.88	-13.18/-12.26	-10.12/-10.27
Θ(180°)	-15.79/-14.55	-11.61/-12.2	-12.99/-13.92	-12.11/-16.76	-17.46/-17.57	-18.21/-17.79	-18.01/-19.71	-19.34/-17.89	-18.98/-17.46	-18.61/-16.77	-17.99/-18.53	-18.21/-17.54	-18.07/-17.74	-17.42/-15.52	-15.16/-17.51	-15.65/-15.75	-14.67/-15.83	-15.62/-17.03	-18.76/-19.59	-16.01/-15.38	-13.93/-12.78	-12.42/-13.54	-12.33/-12.65	-13.25/-14.96
Freq(Hz)	5.785GPol.	Theta/Ant. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-17.72/-10.72	-6.68/-5.46	-4.6/-3.43	-2.12/-1.4	-1.09/-0.8	-0.55/-0.69	-0.95/-1.09	-1.34/-2.26	-3.97/-5.31	-6.76/-9.8	-14.44/-18.08	-19.05/-15.27	-10.83/-8.62	-6.79/-4.99	-3.7/-2.65	-1.91/-1.68	-1.43/-0.96	-0.69/-0.71	-0.96/-1.37	-1.55/-2.18	-3.02/-4.48	-6.14/-7.23	-9.92/-16.61	-19.33/-19.07
Θ(7.5°)	-8.11/-8.49	-5.83/-3.77	-2.86/-2.62	-2.08/-1.62	-1.36/-1.32	-1.33/-1.44	-1.59/-1.63	-1.72/-2.21	-3.3/-4.19	-4.49/-5.47	-7.92/-11.16	-15.07/-18.55	-16.39/-10.73	-7.73/-5.32	-3.57/-2.19	-1.3/-1.04	-0.87/-0.78	-1/-1.32	-1.55/-2.29	-3.53/-4.96	-6.24/-7.2	-10.22/-15.09	-18.83/-18.42	-13.27/-10.54
Θ(15°)	-10.12/-8.9	-6.93/-5.11	-4/-3.43	-2.89/-2.74	-2.82/-3.18	-3.52/-3.91	-4.47/-5.12	-5.6/-6.4	-7.93/-8.96	-9.82/-11.48	-16.37/-17.14	-17.38/-17.13	-10.34/-6.97	-5.52/-4.36	-3.31/-2.61	-2/-1.74	-1.56/-1.37	-1.31/-1.36	-1.43/-1.87	-2.53/-3.99	-4.59/-6.06	-8.09/-10.1	-13.19/-14.09	-12.89/-11.69
Θ(22.5°)	-7.03/-6.15	-5.26/-5.11	-5.19/-4.63	-4.48/-4.67	-4.59/-4.16	-3.54/-3.33	-4.25/-6.68	-1.72/-8.8	-10.31/-11.71	-14.34/-14.34	-16.37/-11.74	-13.59/-15.38	-10.64/-9.35	-3.23/-2.2	-1.42/-1.21	-1.28/-1.12	-1.10/-1.04	-0.71/-1.08	-1.84/-2.39	-3.25/-4.59	-6.72/-9.6	-11.61/-11.33	-8.98/-7.63	
Θ(30°)	-8.27/-5.47	-4.25/-4.41	-4.58/-4.04	-3.96/-4.69	-5.46/-4.45	-3.41/-4.44	-6.49/-8.14	-8.42/-6.43	-4.81/-5.07	-6.09/-6.75	-6.98/-9.05	-14.77/-17.94	-11.22/-8.87	-9.91/-8.63	-4.32/-0.99	0.44/0.38	-0.27/-0.68	-0.6/-0.4	-0.21/-0.48	-1.56/-2.19	-3.74/-5	-7.84/-11.87	-14.57/-14.55	-11.29/-10.76
Θ(37.5°)	-10.45/-8.14	-4.14/-3.23	-4.44/-7.47	-4.85/-6.75	-7.72/-5.61	-4.52/-7.35	-7.45/-6.43	-5.98/-5.44	-5.46/-5.29	-4.9/-7.9	-4.44/-6.87	-8.42/-9.34	-8.97/-10.69	-12.32/-8.65	-3.85/-0.56	0.94/0.7	-0.19/-1.46	-1.43/-0.59	-0.87/-2.4	-2.9/-2.61	-4.23/-5.51	-8.63/-17.02	-17.49/-16.46	-12.39/-10.51
Θ(45°)	-5.24/-5.78	-4.52/-2.95	-4.09/-5.68	-4.85/-5.88	-8.79/-8.86	-6.81/-7.73	-8.48/-6.69	-10.76/-11.86	-11.04/-6.55	-3.49/-1.9	-5.53/-2.68	-6.76/-9.33	-8.56/-10.12	-8.72/-6.64	-3.06/-0.1	-0.25/-1.43	-1.07/-1.35	-1.08/-1.09	-2.66/-3.47	-4.43/-3.46	-7.06/-8.5	-8.16/-11.58	-9.49/-9.07	-6.85/-5.21
Θ(52.5°)	-5.5/-5.22	-6.08/-4.91	-3.17/-4.03	-6.01/-8.55	-10.22/-7.48	-6.53/-7.22	-8.09/-9.05	-9.44/-8.16	-6.65/-5.57	-4.09/-1.96	-1.29/-1.51	-6.57/-9.48	-8.69/-9.88	-6.32/-6.5	-4.6/-1.53	-1.93/-2.33	-0.9/-1.57	-1.86/-2.02	-2.95/-3.11	-3.37/-4.18	-5.57/-5.83	-6.5/-9	-8.63/-6.83	-6.38/-6.87
Θ(60°)	-5.62/-6.21	-6.13/-5.62	-3.92/-4.29	-7.15/-6.25	-7.98/-4.53	-6.94/-13.75	-11.82/-10.01	-8.59/-7.4	-6.21/-6.53	-7.55/-6.43	-4.32/-1.13	-4.73/-2.27	-10.77/-12.05	-4.95/-6.06	-7.81/-3.36	-2.7/-2.74	-0.32/-0.57	-0.33/-1.03	-1.65/-1.84	-3.97/-2.19	-4.47/-6.61	-9.84/-8.73	-6.29/-4.07	-6.27/-5.66
Θ(67.5°)	-5.14/-8.81	-5.37/-6.45	-5.75/-4.32	-9.06/-12.06	-7.68/-5.11	-8.73/-11.61	-7.03/-8.28	-7.48/-8.05	-7.77/-13.36	-4.91/-2.05	-4.23/-6.09	-6.79/-6.66	-4.36/-4.57	-8.56/-4.08	-2.04/-1.4	0.61/0.53	-0.02/-1.51	-0.64/-1.88	-4.02/-3.33	-4.78/-9.88	-11.34/-8.1	-4.13/-2.57	-4.04/-4.19	
Θ(75°)	-4.04/-6.69	-6.74/-6.35	-5.99/-4.86	-7.8/-9.24	-7.13/-5.87	-9.59/-6.27	-4.43/-5.12	-4.24/-5.47	-7.84/-8.34	-5.93/-2.65	-5.77/-3.68	-5.51/-5.18	-11.15/-12.58	-5.25/-4.48	-6.96/-5.95	-0.55/0.32	1.320/-4.9	0.39/-1.39	0.24/-1	-2.4/-1.67	-5.03/-9.94	-12.08/-7.91	-3.64/-1.83	-3.17/-4.26
Θ(82.5°)	-3.71/-6.12	-5.12/-5.43	-7.15/-6.35	-7.29/-7.37	-6.02/-6.79	-8.31/-4.64	-4.07/-4.54	-3.52/-3.94	-5.71/-5.73	-7.35/-3.01	-6.43/-4.98	-10.42/-5.71	-16.78/-11.69	-8.06/-5.22	-6.15/-6.43	-0.34/0.54	0.34/0.19	0.21/-1.12	0.59/-1.05	-2.47/-2.51	-5.71/-6.89	-11.17/-8.71	-3.73/-6.23	-2.31/-4.09
Θ(90°)	-5.35/-5.12	-4.06/-3.81	-5.2/-6.83	-6.97/-6.59	-5.1/-6.73	-8.62/-6.22	-5.54/-5.62	-4.59/-4.06	-6.22/-8.77	-9.18/-3.75	-7.37/-7.17	-14.62/-9.29	-18.38/-12.76	-11.13/-8.3	-5.68/-5.82	-0.99/-0.4	-0.88/-1.44	-1.02/-2.96	-1.37/-2.73	-3.54/-76	-7.11/-9.03	-10.3/-8.46	-4.58/-3.97	-2.23/-4.61
Θ(97.5°)	-4.41/-5.23	-3.33/-2.89	-5.29/-6.82	-5.86/-6.77	-5.28/-6.91	-7.89/-7.41	-7.48/-7.38	-6.06/-5.61	-7.84/-9.4	-13.3/-5.81	-9.78/-9.39	-18.02/-17.94	-18.92/-11.82	-11.35/-9.36	-9.58/-6.07	-3.42/-3.5	-4.81/-4.9	-4.52/-5.39	-5/-5.5	-4.86/-6.65	-8.85/-9.23	-10.51/-10.63	-6.23/-4.81	-3.14/-6.6
Θ(105°)	-3.29/-3.41	-3.22/-2.53	-5.98/-6.54	-5.47/-4.1	-6.4/-7.29	-8.41/-9.81	-10.24/-10.24	-8.96/-9.86	-14.14/-14.89	-16.37/-9.74	-12.22/-12.26	-17.76/-13.91	-18.24/-10.28	-7.82/-12.92	-14.77/-10.4	-9.72/-9.2	-14.48/-9.75	-10.97/-9.56	-11.05/-9.26	-7.8/-9.91	-9.79/-10.43	-8.94/-7.54	-7.24/-5.5	-5.24/-8.7
Θ(112.5°)	-3.18/-3.85	-3.13/-3.36	-6.76/-7.66	-4.47/-5.95	-8.11/-9.86	-13.4/-12.9	-13.39/-14.56	-15.48/-12.52	-12.23/-14.91	-12.43/-10.57	-13.88/-11.73	-12.62/-11.6	-5.91/-10.7	-17.78/-14.46	-9.54/-11.37	-18.26/-11.06	-14.25/-9.38	-10.82/-8.31	-10.45/-13.79	-8.91/-9.98	-9.26/-8.83	-9.63/-8.78	-7.71/-4.73	
Θ(120°)	-3.41/-5.22	-4.36/-4.41	-7.12/-7.13	-6.29/-9.29	-10.43/-10.25	-12.81/-19.05	-17.91/-18.75	-17.13/-11.1	-10.47/-9.26	-7.65/-9.53	-14.28/-14.58	-15.27/-13.22	-17.02/-12.17	-8.68/-13.19	-11.84/-14.9	-17.74/-6.43	-15.02/-15.44	-13.91/-17.27	-11.98/-9.34	-7.77/-12.9	-19.21/-5.79	-8.21/-11.77	-13.66/-10.21	-8.97/-6.96
Θ(127.5°)	-6.46/-7																							



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A.1

Θ(127.5°)	-8.1/-7.13	-5.66/-3.66	-4.18/-6.16	-6.96/-5.29	-4.96/-5.44	-6.56/-8.7	-10.17/-8.07	-7.33/-11.92	-7.97/-6.36	-9.47/-18.59	-11.75/-10.38	-8.69/-11.43	-14.59/-16.39	-18.04/-16.53	-8.95/-15.31	-12.79/-18.72	-12.22/-9.11	-9.27/-7.06	-7.15/-13.04	-12.63/-15.19	-7.63/-5.21	-2.26/-1.94	-3.17/-5.79	-9.95/-8.62
Θ(135°)	-7.47/-7.22	-5.48/-5.27	-6.16/-7.58	-9.07/-11.75	-14.58/-9.4	-5.53/-5.5	-8.7/-8.18	-5.87/-7.84	-8.21/-6.86	-8.38/-9.16	-7.37/-9.11	-14.63/-16.14	-10.89/-10.8	-9.42/-9.03	-8.2/-10.93	-11.19/-13.52	-11.28/-17.78	-18.91/-14.41	-14.55/-16.61	-12.3/-9.77	-6.9/-7.25	-5.07/-3.9	-4.94/-3.95	-6.69/-6.41
Θ(142.5°)	-5.53/-4.47	-4.26/-3.9	-5.16/-7.47	-7.29/-5.5	-16.26/-11.78	-7.29/-5.5	-4.19/-3.64	-5.09/-7.29	-8.21/-5.79	-4.13/-6.3	-8.52/-8.31	-8.75/-11.51	-10.68/-10.04	-7.99/-8	-7.2/-8.76	-15.92/-18.64	-13.11/-11.84	-16.81/-17.86	-6.28/-4.6	-5.96/-4.8	-5.56/-4.9	-5.66/-5.68	-5.38/-5.48	
Θ(150°)	-4.96/-3.52	-2.84/-2.73	-3.44/-5.36	-8.07/-9.04	-5.82/-3.13	-3.24/-5.57	-8.65/-7.64	-4.94/-4.23	-4.1/-4.67	-7.35/-7.9	-4.81/-3.49	-3.68/-6.01	-8.78/-9.55	-12.31/-16.74	-17.82/-16.81	-15.1/-19.42	-18.38/-18.65	-17.98/-10.89	-6.98/-4.54	-2.38/-1.3	-1.5/-2.73	-4.48/-6.47	-8.29/-8.6	-7.34/-5.61
Θ(157.5°)	-5.28/-4.61	-4.07/-4.58	-5.42/-6.3	-7.17/-5.2	-6.58/-6.71	-7.25/-7.2	-7.94/-7.62	-6.56/-6.22	-6.07/-6.26	-6.47/-6.47	-5.76/-5.1	-6.05/-8.62	-11.5/-16.49	-18.55/-17.65	-13.94/-13.15	-13.51/-15.89	-19.17/-17.78	-11.37/-7.94	-6.46/-4.83	-3.47/-2.85	-3.06/-4.12	-4.55/-5.14	-6.78/-7.84	-7.06/-5.74
Θ(165°)	-6.11/-5.16	-4.77/-4.72	-4.91/-5.49	-7.43/-9.08	-5.92/-8.89	-10.79/-12.99	-17.5/-15.56	-11.23/-8.58	-7.22/-7.46	-8.99/-11.56	-14.66/-17.25	-15.22/-12.24	-11.74/-12.48	-12.32/-11.37	-11.03/-12.19	-13.54/-12.96	-11.82/-9.71	-6.6/-6.1	-6.78/-6.28	-6.12/-6.7	-7.16/-8.3	-8.42/-8.55	-10.29/-11.2	-10.02/-9.94
Θ(172.5°)	-9.15/-9.13	-9.51/-8.43	-8.01/-8.28	-7.84/-6.95	-7.14/-8.11	-9.13/-10.25	-12.22/-13.43	-12.1/-10.42	-10.11/-10.7	-10.79/-11.72	-13.98/-15.71	-17.12/-16.84	-16.61/-18.66	-17.83/-19.33	-18.67/-19.35	-18.4/-16.57	-16.39/-14.4	-13.14/-13.79	-13.66/-12.06	-12/-12.62	-12.44/-11.96	-10.72/-9.41	-9.52/-9.71	-9.46/-9.14
Θ(180°)	-7.22/-7.02	-6.37/-5.88	-5.73/-5.78	-6.26/-6.83	-7.25/-7.41	-7.62/-8.05	-8.67/-9.92	-11.43/-13.93	-15.86/-14.7	-13.3/-12.69	-13.19/-13.82	-13.89/-13.31	-12.06/-10.74	-9.87/-9.53	-9.65/-10.1	-11.14/-12.55	-14.17/-15.13	-15.62/-13.86	-12.09/-11.73	-11.98/-11.42	-10.75/-9.94	-8.79/-7.89	-7.21/-6.66	-6.42/-6.75
Freq(Hz)	5.2GHzPol.	Theta/Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	1.60/69	-0.92/-1.54	-1.96/-3.9	-6.65/-8.07	-10.23/-15.79	-16.04/-11.93	-7.55/-4.99	-3.55/-2.57	-1.51/-0.72	-0.150/39	0.830/98	0.970/97	0.730/27	-0.27/-1.11	-2.23/-3.78	-5.84/-9.08	-13.91/-17.9	-14.96/-9.91	-6.43/-4.56	-2.84/-1.31	-0.10/56	0.91/128	1.75/188	1.99/192
Θ(7.5°)	0.630/11	-1.18/-2.29	-2.45/-3.68	-6.74/-9.26	-11.09/-15.6	-14.75/-11.44	-7.79/-4.42	-2.45/-1.01	-0.180/41	0.781/29	1.69/16	1.4/1	0.42/-0.25	-0.89/-1.97	-3.4/-5.11	-6.99/-10.12	-15.13/-15.58	-11.68/-9.04	-6.59/-4.28	-2.75/-1.64	-0.85/-3.09	-0.10/34	0.780/88	0.970/94
Θ(15°)	-0.61/-0.93	-1.64/-2.7	-3.49/-4.54	-6.4/-9.98	-14.4/-18.63	-14.81/-9.48	-6.74/-3.59	-1.71/-0.65	0.220/7	1.05/-49	1.61/27	1.050/79	0.37/-0.15	-0.84/-2.3	-3.83/-5.76	-8.51/-11.27	-15.8/-15.05	-14.77/-9.29	-6.08/-3.66	-1.88/-1	-0.6/-0.48	-0.66/-0.65	-0.67/-0.85	-0.83/-0.73
Θ(22.5°)	-1.83/-1.71	-1.87/-2.59	-3.14/-3.91	-6.43/-14.44	-18.73/-13.04	-7.84/-5.19	-3.69/-1.79	-0.51/-0.15	0.51/-1	1.31/164	1.882/07	2.25/1.89	0.95/-0.26	-1.63/-3.05	-4.2/-5.75	-8.45/-11.88	-16.08/-19.3	-16.34/-10.76	-7.19/-4.21	-2.27/-1.27	-0.89/-0.95	-1.02/-1.02	-1.01/-1.25	-1.68/-1.76
Θ(30°)	-4.55/-3.79	-3.2/-3.74	-4.72/-6.16	-9.52/-18.5	-13.77/-7.41	-4.57/-2.69	-1.46/-0.42	-0.4/-0.9	-0.360/74	1.5/-87	1.79/148	1.1/-10.4	-2.05/-3.74	-4.65/-4.98	-5.14/-6.14	-7.54/-10.1	-14.86/-18.8	-14.49/-8.82	-5.67/-3.82	-2.29/-1.76	-1.5/-0.92	-0.63/-0.95	-1.34/-2.09	-3.35/-4.39
Θ(37.5°)	-4.09/-4.04	-4.92/-7.25	-10.79/-15.78	-18.31/-18.08	-12.75/-7.52	-4.75/-3.25	-1.52/-1.02	-0.21/-0.26	-0.11/21	1.31/29	0.740/05	0.590/55	-0.49/-2.1	-4.4/-55	-6.05/-8.03	-11.1/-15.83	-14.57/-11.36	-9.53/-7.12	-3.95/-2.45	-2.7/-2.84	-2.13/-0.75	-0.33/-0.94	-1.24/-1.84	-3.52/-4.74
Θ(45°)	-3.68/-4.54	-5.44/-9.24	-16.66/-18.68	-17.63/-15.14	-15.87/-9.94	-4.81/-2.92	-1.95/-2.13	-2.34/-2.12	-0.780/06	-0.5/-0.31	0.620/96	1.590/61	-1.29/-3.86	-6.02/-5.91	-8.81/-12.2	-19.13/-18.94	-17.74/-17.16	-12.42/-8.57	-5.73/-2.79	-1.72/-3.09	-2.99/-1.14	-0.51/-0.88	-1.01/-1.1	-1.55/-3.17
Θ(52.5°)	-4.53/-4.83	-6.01/-9.29	-14.61/-18.99	-16.8/-12.05	-10.57/-6.65	-2.57/-1.5	-3.1/-3	-1.99/-2.75	-2.95/-1.41	-1.180/15	-1.84/-2.48	-3.96/-8	-9.06/-9.28	-12.83/-18.59	-17.81/-17.37	-17.8/-19.06	-12.22/-9.58	-5.96/-3.97	-4.61/-4.59	-3.45/-1.45	-0.72/-1.15	-0.93/-1.4	-2.13/-2.86	
Θ(60°)	-7.47/-7.29	-8.17/-11.95	-14.88/-14.47	-8.89/-6.4	-7.37/-6.22	-3.39/-3.62	-5.07/-4.36	-3.8/-4.15	-3.69/-2.75	-2.83/-1.98	-1.77/-2.11	-2.9/-0.47	-7.36/-10.68	-8.81/-9.64	-14.6/-16.8	-18.31/-17.74	-17.78/-17.23	-13.72/-10.64	-7.76/-6.33	-5.85/-6.17	-3.39/-1.77	-1.71/-1.96	-1.77/-1.45	-1.99/-4.45
Θ(67.5°)	-6.16/-6.15	-7.08/-12.2	-18.3/-15.14	-9.4/-7.2	-8.52/-9.14	-5.01/-3.71	-5.9/-6.41	-4.38/-4.32	-5.1/-3.42	-4.09/-3.58	-5.23/-4.82	-3.83/-3.45	-17.4/-12.23	-9.04/-11.3	-15.55/-17.17	-19.03/-15.74	-18.76/-17.47	-14.65/-12.5	-10.1/-7.78	-9.54/-5.84	-3.99/-3.4	-4.24/-2.81	-2.24/-2.14	-3.88/-4.52
Θ(75°)	-6.02/-6.33	-8.7/-12.32	-13.27/-10.45	-7.9/-6.12	-7.09/-8.4	-6.25/-5.77	-8.42/-6.13	-5.37/-5.93	-5.28/-6.46	-6.7/-5.57	-6.1/-5.09	-4.8/-4.17	-5.73/-11.97	-13.84/-18.07	-14.47/-9.74	-10.79/-9.72	-15.58/-18.35	-18.81/-12.71	-7.34/-5.35	-10.02/-6.44	-4.76/-5.07	-4.12/-4.72	-3.97/-3.96	-3.29/-4.97
Θ(82.5°)	-5.78/-6.98	-7.74/-9.18	-10.57/-8.18	-6.54/-7.16	-8.62/-7.13	-5.15/-5.82	-8.89/-7.49	-8.01/-3.62	-4.98/-9.95	-10.23/-6.17	-5.24/-6.81	-6.64/-4.9	-7.73/-11.72	-16.61/-18.88	-17.26/-16.39	-8.94/-7.61	-15.51/-17.98	-18.95/-12.6	-6.65/-4.21	-9.87/-7.84	-6.44/-7.7	-5.06/-5.82	-7.12/-5.16	-2.63/-4.15
Θ(90°)	-5.18/-7.14	-8.82/-10.84	-9.67/-6.5	-5.96/-6.7	-8.45/-7.44	-5.68/-7.52	-8.15/-6.6	-7.97/-6.82	-6.26/-11.06	-10.6/-8.43	-6.44/-7.69	-6.48/-4.36	-7.08/-9.97	-9.39/-13.61	-13.65/-13.61	-17.58/-16.23	-18.02/-13.79	-7.39/-7.17	-16.91/-10.24	-8.27/-6.76	-6.86/-7.93	-8.21/-6.65	-4.53/-3.05	
Θ(97.5°)	-5.05/-8.14	-7.76/-8.06	-6.57/-4.2	-3.54/-6.43	-5.55/-5.77	-7.06/-10.54	-7.75/-7.03	-11.53/-8.56	-8.03/-11.67	-10.53/-10.62	-7.87/-8.27	-8.77/-5.55	-6.4/-12.4	-11.14/-10.79	-11.5/-16.68	-13.45/-13.95	-19.42/-18.68	-13.36/-13.15	-9.51/-12.75	-16.1/-11.77	-14.03/-12.96	-8.47/-7.85	-9.57/-9.32	-5.01/-3.33
Θ(105°)	-4.07/-7.77	-7.57/-7.19	-5.33/-3.25	-2.46/-3.25	-3.68/-4.4	-7.68/-13.05	-8.38/-6.98	-11.39/-7.98	-9.33/-14.44	-10.43/-9.49	-11.19/-12.28	-9.29/-10.83	-9.48/-7.26	-7.61/-15.96	-18.75/-15.69	-19.28/-10.1	-17.83/-18.03	-17.5/-13.12	-16.82/-18.62	-18.74/-17.87	-18.07/-14.2	-12.27/-8.91	-8.11/-13.23	-8.52/-2.88
Θ(112.5°)	-6.27/-7.89	-6.29/-5.04	-4.42/-2.29	-1.63/-1.69	-2.39/-4.24	-8.72/-9.65	-8.01/-10.59	-12.76/-9.36	-11.73/-13.65	-10.74/-12.37	-14.42/-14.97	-17.81/-11.26	-8.35/-13.45	-17.97/-17.95	-15.93/-14.36	-16.78/-12.65	-15.99/-17.06	-19.35/-13.56	-11.75/-14.09	-17.47/-18.9	-11.5/-12.99	-7.78/-9.12	-10.69/-7.65	
Θ(120°)	-5.69/-8.68	-6.27/-3.7	-3.56/-2.98	-2.24/-1.44	-2.4/-6.69	-13.75/-9.66	-8.68/-11.72	-12.39/-11.24	-11.21/-13.82	-13.05/-14.4	-13.23/-17.43	-18.67/-17.83	-13.14/-14.16	-18.45/-18.78	-17.11/-11.8	-15.68/-8.42	-17.86/-9.06	-17.39/-16.29	-13.98/-10.45	-10.47/-19.08	-18.32/-17.92	-19.19/-14.69	-9.07/-9.31	-13.27/-11.87
Θ(127.5°)	-9.68/-11.23	-8.75/-4.58	-3.43/-3.08	-1.74/-1.5	-3.26/-7.13	-7.39/-6.22	-7.54/-3.17	-10.52/-10.51	-17.01/-18.66	-12.15/-11.03	-15.68/-14.49	-18.42/-16.44	-18.65/-18.91	-16.81/-18.41	-10.83/-10.29	-15.9/-16.44	-13.8/-14.09	-9.13/-15.69	-15.64/-17.51	-12.41/-18.26	-14.55/-17.92	-18.99/-13.68	-17.1/-10.58	-14.85/-10.43
Θ(135°)	-8.4/-13.27	-15.9/-6.16	-2.69/-1.6	-0.44/-0.44	-2.09/-3.31	-2.96/-3.13	-4.94/-7.47	-10.67/-13.45	-19.37/-19.02	-12.63/-12.17	-14.33/-18.89	-18.9/-18.54	-13.06/-10.53	-8.68/-8.88	-8.53/-9.71	-10.81/-19.68	-13.84/-10.92	-10.18/-17.53	-11.78/-13.87	-9.86/-11.87	-17.79/-19.29	-7.78/-15.61	-15.61/-16.12	-11.03/-8.56
Θ(142.5°)	-6.1/-9.9	-15.52/-8.89	-3.77/-1.42	-0.6/-1.1	-1.46/-1.08	-1.64/-3.07	-4.88/-9.03	-18.12/-14.89	-9.51/-10.96	-17.99/-12.94	-10.15/-8.93	-9.19/-10.86	-9.3/-9.21	-13.63/-17.31	-19.5/-14.7	-11.38/-12.64	-11.57/-11.22	-15.84/-15.77	-14.47/-16.45	-8.78/-8.48	-13.14/-14.54	-10.8/-11.33	-16.43/-17.75	-11.95/-6.74
Θ(150°)	-7.63/-8.29	-9.79/-10.16	-9.8/-6.9	-5.58/-3.98	-2.55/-2.54	-3.07/-4.44	-7.11/-10.42	-15.42/-15.98	-11.81/-7.96	-8.72/-8.39	-14.29/-17.84	-9.76/-7.25	-7.9/-11.39	-13.75/-15.16	-17.88/-17.02	-16.37/-18.71	-17.88/-16.96	-12/-11.89	-15.26/-17.7	-17.94/-19.3	-13.3/-11.18	-13.2/-12.15	-15.39/-18.58	-16.97/-9.88
Θ(157.5°)	-16.66/-15.71	-16.28/-11.04	-7.9/-6.85	-5.32/-3.97	-4.34/-5.35	-5.23/-4.73	-6.31/-10.31	-13.09/-8.96	-5.4/-6.91	-8.9/-10.75	-14.31/-18.37	-14.41/-14.31	-17.41/-17.2	-18.32/-16.95	-14.25/-13.42	-14.04/-16.57	-18.03/-17.02	-17.57/-17.48	-13.95/-11.88	-12.13/-16.82	-16.87/-12.22	-11.74/-11.44	-11.21/-10	-11.07/-17.37
Θ(165°)	-11.26/-10.16	-9.71/-9.14	-7.99/-5.88	-3.41/-2.7	-3.48/-3.54	-3.78/-6.09	-8.24/-7.33	-7.02/-8.14	-11.02/-15.08	-15.12/-14.47	-16.74/-17.19	-16.95/-18.22	-18.05/-18.35	-18.88/-18.32	-16.61/-14.23	-13.53/-14.19	-15.6/-15.43	-14.14/-10.97	-7.94/-6.41	-6.73/-7.78	-10.12/-14.25	-18.47/-17.48	-17.62/-14.37	-11.82/-11.4
Θ(172.5°)	-19.62/-18.35	-17.99/-16.62	-16.9/-15.12	-11.71/-10.21	-10.48/-9.77	-8.34/-6.36	-4.87/-5.07	-6.94/-10.1	-15.36/-19.24	-18.35/-19.09	-17.27/-19.48	-13.87/-13.43	-16.39/-17.56	-17.67/-18.09	-18.96/-18.79	-18.05/-17.91	-15.74/-13.9	-13.54/-12.66	-10.62/-10.35	-11.76/-12.86	-13.81/-12.42	-13.08/-12.7	-13.49/-15.42	-17.53/-19.02
Θ(180°)	-12.9/-12.05	-10.78/-10.35	-10																					



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A.1

Θ (172.5°)	-10.41/-10.36	-10.52/-10.99	-12.68/-12.45	-9.26/-7.28	-6.78/-6.64	-6.7/-7.8	-9.86/-12.25	-15.35/-19.54	-17.88/-15.62	-15.37/-13.01	-12.01/-12.43	-14.57/-18.2	-17.9/-18.34	-19.47/-17.24	-13.34/-11.57	-11.22/-10.87	-10.9/-12.7	-15.2/-16.34	-17.44/-18.55	-17.17/-17.07	-13.34/-10.02	-8.73/-8.59	-8.47/-8.65	-9.74/-10.51
Θ (180°)	-8.22/-7.69	-7.38/-6.46	-6.1/-6.33	-6.19/-6.98	-8.78/-10.44	-11.98/-17.42	-18.89/-18.89	-18.41/-18.33	-18.08/-18.01	-17.67/-14.94	-14.02/-14.72	-17.08/-17.82	-15.54/-14.34	-11.8/-11.71	-12.1/-12.46	-12.91/-13.73	-14.51/-14.44	-15.33/-16.95	-18.21/-18.18	-18.68/-18.76	-18.98/-18.28	-14.83/-13.11	-11.02/-9.4	-9.01/-9.08
Freq(Hz)	5.66GPol.	ThetaAnt 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-1.08/-1.8	-2.21/-4.4	-3.81/-5.4	-6.83/-9.07	-13.3/-16.54	-15.35/-10.81	-7.97/-6.59	-5.19/-3.41	-2.16/-1.56	-1.14/-0.78	-0.84/-0.62	-0.82/-1.01	-1.32/-1.81	-2.83/-3.61	-4.49/-6.12	-7.95/-10.7	-15.62/-18.49	-13.41/-9.9	-7.76/-5.77	-3.98/-2.73	-2.05/-1.55	-1.21/-0.64	-0.31/-0.25	-0.25/-0.48
Θ (7.5°)	-1.94/-2.14	-3.29/-4.22	-4.82/-6.28	-9.35/-11.56	-14.3/-18.54	-17.58/-13.66	-7.97/-4.83	-3.3/-2.61	-1.58/-0.66	-0.11/-0.26	0.57/-0.62	0.49/-0.17	-0.64/-1.03	-1.6/-2.38	-3.4/-4.73	-6.33/-8.74	-11.7/-14.29	-11.85/-7.78	-6.02/-5.18	-3.47/-2.27	-1.76/-1.54	-1.45/-1.09	-0.92/-1.13	-1.49/-1.93
Θ (15°)	-2.9/-3.39	-4.7/-5.56	-7.26/-9.64	-12.96/-18.27	-19.14/-11.9	-17.82/-6.77	-4.43/-2.48	-1.38/-1.09	-1.01/-0.82	-0.37/-0.29	0.84/-1	0.67/-0.05	-0.62/-0.87	-1.54/-2.25	-4.23/-6.73	-9.08/-12.09	-14.26/-14.46	-12.91/-9.54	-7.4/-6.05	-4.41/-3.26	-2.79/-2.88	-3.16/-2.62	-2.03/-1.95	-2.2/-3.12
Θ (22.5°)	-3.62/-4.77	-6.53/-8.07	-11.05/-18.72	-17.97/-15.85	-11.03/-7.16	-5.96/-5.12	-3.37/-2.33	-1.88/-1.31	-0.69/-0.2	0.190/-5.1	0.660/-7.1	0.41/-0.09	-0.36/-1.08	-2.54/-3.33	-6.64/-9.3	-11.91/-14.83	-19.3/-13.81	-11.14/-9.05	-6.97/-5.93	-4.92/-4.01	-3.1/-2.49	-2.4/-1.82	-1.78/-2.09	-2.52/-3.4
Θ (30°)	-2.98/-3.99	-6.24/-9.44	-15.35/-18.65	-13.88/-11.39	-7.92/-6.46	-6.61/-5.02	-3.09/-2.3	-2.04/-2.3	-1.95/-1.39	-0.91/-0.47	-0.54/-0.46	-0.54/-0.7	-0.52/-1.43	-3.18/-4.55	-6.73/-8.67	-10.56/-14.46	-18.86/-14.51	-11.25/-8.65	-7.35/-6.96	-5.24/-3.37	-1.98/-1.41	-1.31/-1.33	-1.55/-2.31	-2.57/-2.54
Θ (37.5°)	-4.04/-6.33	-9.97/-16.47	-18.36/-13.51	-8.54/-6.78	-4.8/-4.61	-1.6/-5.97	-3.5/-2.71	-3.34/-3.88	-3.57/-2.82	-2.37/-1.27	-1/-1	-0.96/-0.99	-1.15/-2.8	-4.73/-6.2	-7.28/-9.37	-15.68/-17.53	-17.68/-12.25	-9.03/-7.89	-7.26/-7.73	-8.32/-3.77	-1.36/-0.71	-1.63/-1.99	-1.99/-2.11	-2.01/-2.22
Θ (45°)	-6.63/-9.73	-11.12/-14.43	-14.71/-9.17	-6.92/-6.44	-4.66/-5.03	-4.48/-5.37	-5.27/-3.89	-4.41/-6.61	-3.71/-3.34	-5.19/-5.95	-3.18/-1.52	-1.39/-1.38	-0.97/-2.17	-5.04/-8.08	-17.7/-10.83	-11.23/-12.49	-15.07/-11.65	-7.21/-5.35	-5.06/-7.55	-5.07/-2.43	-1.52/-0.69	-1.83/-2.52	-1.51/-1.43	-1.82/-2.26
Θ (52.5°)	-5.71/-6.61	-9.64/-11.63	-11.78/-6.84	-5.06/-4.7	-4.81/-3.46	-4.67/-6.42	-5.3/-5.03	-4.98/-5.61	-6.38/-4.36	-4.36/-5.25	-5.39/-3.98	-4.75/-4.42	-3.64/-9.9	-8.34/-7.81	-9.1/-9.81	-13.74/-15.78	-15.07/-12.91	-10.2/-6.82	-8.14/-6.57	-4.87/-2.1	-0.75/-1.76	-1.45/-0.93	-1.41/-2.2	-3.24/-6.06
Θ (60°)	-5.39/-7.06	-11.83/-12.79	-10.64/-6.87	-4.73/-4.33	-4.33/-3.85	-5.46/-7.38	-4.99/-4.39	-5.38/-4.27	-4.71/-6.72	-5.87/-7.96	-7.83/-6.83	-8.52/-7.67	7.7/-12.37	-14.45/-10.45	-10.34/-12.34	-11.77/-13.32	-17.58/-15.23	-9.25/-8.59	-9.98/-10.4	-6.2/-2.63	-1.96/-0.69	-1.37/-2.16	-1.99/-2.25	-2.72/-4.96
Θ (67.5°)	-3.52/-7.48	-14.92/-17.93	-11.72/-8.88	-4.77/-4.15	-4.85/-3.96	-4.21/-6.65	-5.11/-4.2	-6.17/-4.45	-4.49/-6.06	-5.8/-8.09	-11.88/-16.4	-6.28/-6.21	-6.38/-9.66	-10.94/-12.3	-16.24/-13.44	-12.29/-15.8	-14.81/-15.97	-14.37/-12.51	-13.57/-9.4	-6.27/-5.05	-3.92/-3.13	-1.91/-1.34	-2.03/-2.66	-3.26/-3.11
Θ (75°)	-4.22/-9.55	-15.84/-13.7	-11.07/-8.34	-5.28/-4.47	-4.74/-3.88	-4.44/-7.18	-4.69/-4.03	-6.35/-4.78	-3.92/-7.85	-7.07/-7.44	-11.81/-10.13	-7.38/-5.07	-4.92/-6.71	-8.45/-10.73	-19.11/-18.27	-18.14/-15.46	-10.98/-17.28	-14.19/-9.47	-12.39/-10.6	-6.95/-6.22	-5.97/-3.25	-2.43/-2.07	-2.75/-2.7	-1.83/-2.05
Θ (82.5°)	-4.63/-7.96	-11.44/-12.02	-11.71/-9.45	-6.46/-4.45	-4.33/-3.46	-4.21/-7.74	-5.36/-4.02	-6.08/-5.23	-4.62/-7.93	-6.82/-8.38	-14.26/-9.65	-9.09/-6.75	-4.73/-6.01	-9.02/-11.89	-12.84/-15.94	-17.6/-14.26	-10.14/-14.35	-14.31/-6.95	-9.7/-11.81	-5.97/-7.39	-8.92/-4.53	-4.07/-3.59	-2.71/-1.81	-2.12/-3.05
Θ (90°)	-4.46/-6.11	-11.11/-13.25	-13.93/-11.81	-7.72/-5.32	-5.21/-4.95	-4.22/-6.2	-6.73/-5.58	-1.61/-6.76	-5.23/-8.71	-7.38/-6.27	-14.39/-16.22	-9.16/-7.35	-7.16/-9.01	-11.68/-11.8	-11.4/-12.77	-11.9/-13.2	-10.5/-10.73	-14.74/-8.02	-12.87/-12.77	-6.86/-12.1	-9.29/-5.54	-7.65/-5.15	-2.83/-2.37	-2.36/-3.74
Θ (97.5°)	-5.22/-6.55	-11.28/-10.68	-9.57/-9.37	-8.42/-6.54	-5.66/-5.69	-5.42/-4.72	-5.4/-2.77	-8.19/-6.22	-5.87/-8.24	-8.82/-9.22	-14.67/-16.94	-12.92/-9.45	-9.68/-9.74	-12.97/-16.42	-11.59/-15	-14.71/-13.2	-9.9/-9.65	-15.31/-11.65	-12.07/-11.49	-12.29/-14.87	-10.26/-8.08	-10.64/-6.43	-3.51/-2.93	-3.81/-5.35
Θ (105°)	-7.79/-6.99	-8.39/-8.43	-7.71/-9.47	-9.17/-7.4	-6.5/-7.74	-5.74/-4.82	-5.68/-7.16	-11.55/-8.11	-5.86/-8.08	-9.73/-11.12	-15.26/-15.21	-18.49/-12.77	-13.47/-12.64	-10.94/-10.88	-12.42/-18.63	-18.78/-15.03	-17.73/-12.91	-18.95/-18.94	-17.8/-18.24	-17.63/-14.72	-10.56/-10.79	-17.99/-9.61	-5.82/-5.68	-3.45/-5.29
Θ (112.5°)	-11.18/-9.99	-9.22/-8.33	-7.57/-5.55	-7.72/-7.53	-8.82/-8.13	-6.07/-6.71	-8.89/-9.7	-10.07/-6.67	-8.79/-12.17	-8.76/-9	-18.09/-14.22	-15.88/-18.19	-16.9/-11.49	-17.42/-17.02	-12.64/-17.97	-17.97/-12.59	-18.24/-17.8	-14.13/-16.55	-11.53/-12.19	-19.11/-13.44	-15.47/-15.67	-13.92/-13.74	-10.68/-6.74	-4.16/-9.86
Θ (120°)	-9.26/-12.61	-11.4/-9.31	-5.93/-5.58	-5.03/-7.48	-9.31/-6.64	-4.99/-7.72	-14.63/-12.38	-10.88/-10.22	-10.39/-16.57	-12.17/-10.55	-14.26/-13.14	-13.77/-14.83	-14.39/-15.98	-14.61/-15.94	-14.77/-16	-15.51/-10.31	-12.53/-13.27	-18.85/-14.38	-12.57/-17.47	-19.44/-16.78	-11.75/-16.86	-17.71/-17.47	-18.02/-15	-5.72/-5.14
Θ (127.5°)	-9.51/-10.1	-7.3/-5.78	-4.91/-4.39	-5.36/-6.84	-5.93/-5.8	-6.05/-11.18	-18.88/-11.41	-11.69/-12.27	-12.62/-14.05	-16.38/-15.94	-14.1/-12.62	-9.2/-10.13	-13.67/-13.82	-11.16/-18.53	-14.1/-11.65	-14.9/-18.78	-15.46/-11.22	-11.78/-14.1	-14.28/-17.82	-17.85/-19.06	-17.95/-17.83	-10.66/-10.9	-15.51/-18.88	-8.82/-8.27
Θ (135°)	-12.99/-12.29	-7.62/-4.54	-3.32/-2.84	-3.37/-4.59	-6.03/-7.58	-11.22/-18.76	-15.93/-11.21	-13.53/-14.4	-13.03/-13.13	-15.97/-18.04	-18.31/-14.35	-13.63/-12.01	-10.62/-9.26	-8.8/-10.14	-11.31/-15.99	-16.27/-9.59	-11.39/-18.19	-14.92/-10.87	-10.44/-17.69	-18.33/-16.72	-13.68/-9.01	-12.69/-12.32	-11.15/-8.49	-11.15/-8.49
Θ (142.5°)	-8.65/-15.78	-16.31/-9.67	-5.63/-7.33	-3.34/-3.57	-5.12/-5.15	-13.27/-13.98	-11.02/-8.45	-7.97/-10.76	-18.06/-16.22	-13.65/-16.04	-19.14/-17.04	-17.49/-17.82	-12.86/-13.67	-16.94/-17.58	-18.86/-13.18	-17.78/-6.12	-8.83/-12.45	-19.9/-12.15	-9.32/-12.09	-19.04/-19.34	-13.53/-18.7	-11.94/-10.61	-11.07/-18.11	-11.94/-8
Θ (150°)	-10.21/-14.43	-18.57/-12.16	-8.7/-6.53	-5.09/-4.5	-5.48/-7.5	-9.01/-8.68	-7.7/-6.21	-5.22/-6.5	-10.69/-15.81	-14.56/-12.12	-15.04/-17.83	-17.89/-12.64	-10.55/-15.02	-14.46/-14	-18.31/-19.29	-13.79/-15.56	-17.59/-14.96	-13.64/-9.87	-12.85/-18.69	-17.65/-13.04	-7.03/-8.29	-16.35/-18.27	-14/-8.41	-6.22/-7.38
Θ (157.5°)	-17.61/-17.82	-11.71/-7.68	-5.91/-4.58	-5.05/-5.67	-7.23/-7.41	-7.96/-7.48	-4.37/-4.07	-7.28/-14.71	-19.01/-16.44	-14.48/-15.45	-17.91/-19.01	-18.99/-10.93	-18.51/-18.55	-19.06/-17.87	-16.51/-15.25	-16.38/-18.9	-18.32/-15.44	-12.09/-12.95	-10.46/-16.72	-11.75/-13.95	-9.9/-9.82	-9.18/-11.28	-11.57/-13.29	-11.57/-13.29
Θ (165°)	-5.8/-6.69	-9.02/-10.47	-10.24/-7.68	-6.82/-6.95	-5.5/-4.48	-6.27/-5.88	-6.06/-6.02	-4.23/-3.63	-4.6/-7.13	-11.55/-15.94	-16.3/-14.55	-13.11/-12.43	-15.91/-19.01	-15.87/-18.99	-19.21/-18.58	-17.98/-16.9	-15.14/-12.9	-11.61/-10.4	-10.67/-11.16	-11.23/-13.99	-15.39/-13.55	-17.75/-14.26	-8.61/-8.08	-6.54/-5.6
Θ (172.5°)	-13.15/-10.52	-7.35/-5.99	-4.57/-4.39	-4.42/-4.65	-3.99/-4.37	-4.5/-3.32	-2.15/-1.74	-2.38/-3.74	-5.85/-8.38	-9.24/-9.94	-11.14/-9	-8.81/-8.93	-10.02/-12.08	-14.12/-16.59	-17.83/-17.8	-18.52/-16.53	-13.54/-11.73	-10.21/-9.19	-9.15/-8.91	-9.31/-10.41	-11.12/-11.39	-13.43/-17.47	-18.66/-18.79	-17.61/-16.74
Θ (180°)	-4.11/-16.2	-18.52/-18.41	-18.15/-19.3	-14.03/-12.53	-10.39/-8.34	-6.99/-6.8	-7.34/-9.06	-11.55/-12.23	-11.38/-10.55	-10.36/-11.08	-12.95/-15.51	-18.18/-19.1	-18.66/-18.57	-17.39/-17.95	-15.46/-12.96	-11.43/-10.98	-10.81/-10.28	-9.79/-9.34	-8.5/-7.65	-7.53/-8.2	-7.84/-7.5	-7.83/-8.33	-9.66/-10.08	-10.59/-11.25
Freq(Hz)	5.785GPol.	PhiAnt 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-6.9/-8.4	-2.98/-2.02	-1.36/-5.06	-0.22/-0.38	-0.07/-0.24	-0.18/-0.5	-0.55/-1.1	2.1/-3.12	-4.29/-5.85	-7.91/-10.33	-11.79/-12.27	-12.45/-15.02	-7.29/-4.73	-3.39/-2.48	-1.6/-0.86	-0.37/-0	0.46/-0.46	0.09/-0.07	-0.26/-0.92	-1.72/-2.5	-3.73/-4.14	-6.71/-9.07	-12.11/-12.19	-10.78/-8.82
Θ (7.5°)	-5.18/-4.25	-3.44/-2.29	-0.91/-0.37	-0.23/-0.02	0.01/-0.02	0.06/-0.4	-1.42/-1.75	-1.85/-2.55	-3.59/-4.7	-8.91/-9.17	-9.49/-7.99	-6.29/-4.21	-2.94/-2	-1.33/-0.59	0.11/-0.34	0.47/-0.65	0.43/-0.23	-0.69/-1.27	-2.28/-3.37	-5.07/-7.75	-11.45/-18.68	-18.95/-13.87	-9.54/-6.73	-9.54/-6.73
Θ (15°)	-3.76/-2.6	-1.57/-0.88	0.37/-1.1	1.12/-1	1.00/-0.87	0.26/-0.32	-0.99/-2.3	-2.99/-3.6	-4.89/-6.43	-7.93/-9.56	-10.74/-10.92	-9.82/-8.49	-6.75/-5.23	-3.39/-2.47	-1.57/-1.23	-0.69/-0.23	-1.03/-0.05	0/-0.67	-1.29/-2.11	-3.42/-5.35	-8.01/-12.6	-17.89/-18.25	-12.36/-8.92	-6.74/-6.88
Θ (22.5°)	-2.8/-1.33	-0.38/-0.28	-0.08/-1.6																					



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A.1

Θ(22.5°)	-8.13/-9.06	-8.96/-8.59	-8.32/-8.07	-8.06/-8.54	-9.59/-11.47	-13.51/-13.32	-11.39/-8.93	-8.88/-8.84	-7.94/-7.07	-5.87/-4.79	-4.07/-3.86	-3.99/-3.96	-3.43/-2.71	-2.05/-1.59	-1.48/-1.62	-2.08/-2.14	-3.41/-4.05	-4.71/-5.41	-5.92/-6.11	-5.99/-5.66	-5.3/-4.8	-4.32/-4.03	-3.95/-4.26	-5.11/-6.55
Θ(30°)	-7.3/-4.85	-8.55/-8.68	-8.28/-8.2	-8.5/-9.51	-11.39/-15.57	-18.61/-15.91	-11.51/-9.11	-7.61/-8.84	-6.65/-6.81	-6.8/-6.06	-5.16/-4.68	-4.82/-5.12	-4.92/-4.29	-3.47/-2.83	-2.33/-2	-1.94/-2.19	-2.68/-3.25	-4.42/-5.73	-6.76/-7.02	-6.72/-6.69	-6.04/-5.84	-5.41/-4.75	-4.21/-4.08	-4.59/-5.73
Θ(142.5°)	-6.06/-7.03	-7.39/-7.53	-7.74/-7.76	-8.41/-9.99	-13.33/-18.4	-18.23/-13.57	-10.62/-8.8	-7.05/-5.83	-5.39/-5.84	-6.83/-3.77	-6.83/-6	-5.61/-5.62	-5.71/-5.72	-5.41/-4.56	-3.44/-2.48	-2.06/-2.22	-3.28/-3.72	-5.07/-5.36	-6.99/-6.44	-5.39/-4.73	-4.59/-4.7	-4.64/-4.24	-3.76/-3.59	-3.97/-4.86
Θ(45°)	-4.54/-4.96	-5.71/-6.52	-6.81/-6.83	-7.5/-9.83	-13.65/-15.85	-13.28/-10.79	-9.74/-8.84	-7.01/-5.31	-4.42/-4.47	-5.52/-6.99	-7.85/-7.44	-6.6/-5.92	-5.62/-6.37	-6.9/-6.48	-4.98/-3.55	-2.89/-2.93	-3.37/-3.98	-4.98/-6.03	-6.08/-4.95	-3.8/-3.22	-3.03/-2.92	-2.64/-2.26	-1.93/-2.15	-3.02/-4.01
Θ(52.5°)	-4.03/-3.33	-3.85/-5.14	-5.68/-5.69	-6.89/-9.72	-12.52/-12.29	-10.7/-9.75	-9.86/-9.6	-7.43/-5.23	-4/-3.84	-4.63/-6.17	-7.81/-7.87	-6.7/-5.73	-5.65/-6.24	-7/-7.18	-5.82/-4.2	-3.48/-3.12	-2.68/-2.7	-3.45/-4.23	-4.05/-3.3	-2.75/-2.68	-2.93/-3.16	-2.93/-2.17	-1.48/-1.67	-2.97/-4.32
Θ(60°)	-4.93/-3.12	-2.99/-4.17	-4.65/-4.56	-6.32/-9.8	-11.17/-10.54	-9.6/-9.15	-9.88/-10.62	-8.76/-6.32	-4.76/-4.3	-4.69/-5.85	-7.33/-7.36	-6.33/-5.84	-6/-6.21	-6.89/-7.67	-6.3/-4.8	-4.01/-2.83	-1.77/-1.68	-2.28/-2.78	-2.85/-2.78	-1.43/-1.22	-1.58/-2.22	-2.85/-2.78	-2.11/-2.16	-3.65/-5.71
Θ(67.5°)	-5.84/-3.71	-3.23/-4.21	-4.34/-4.24	-6.32/-10.52	-11.94/-12.15	-10.62/-9.25	-9.81/-10.9	-10.14/-8.12	-6.4/-5.52	-5.38/-5.95	-6.75/-6.62	-6.66/-7.23	-6.65/-6.06	-6.85/-6.69	-5.57/-5.11	-4.29/-2.87	-2.06/-1.91	-1.92/-2.1	-2.07/-1.45	-0.73/-0.37	-0.39/-0.69	-1.37/-1.84	-1.96/-2.3	-3.9/-6.19
Θ(75°)	-5.65/-3.67	-3.33/-4.52	-4.69/-4.68	-6.7/-9.74	-12.25/-17.14	-12.78/-9.8	-9.69/-10.05	-9.46/-8.13	-6.53/-5.3	-4.86/-5.33	-6.35/-7.2	-8.32/-8.24	-6.04/-5.36	-5.72/-5.56	-5.89/-6.12	-5.36/-4.29	-2.96/-2.11	-1.86/-2.31	-2.98/-2.72	-2.27/-2.02	-1.96/-1.95	-2.18/-2.32	-2.43/-3.08	-4.72/-6.49
Θ(82.5°)	-6.32/-3.63	-3/-4.25	-4.85/-5.87	-8.53/-9.19	-10.83/-17.05	-12.6/-9.74	-9.72/-9.61	-8.58/-7.35	-6/-5.02	-4.78/-5.4	-6.41/-7.26	-7.68/-6.42	-5.18/-5.48	-5.54/-6.43	-5.81/-4.66	-3/-2.36	-2.16/-2.98	-4.16/-3.83	-3.48/-3.72	-4.12/-4.27	-4.51/-4.35	-2.01/-5.23	-7.47/-8.36	
Θ(90°)	-8.08/-4.97	-3.58/-3.88	-3.97/-5.55	-10.35/-9.87	-10.34/-14.48	-10.77/-8.83	-9.85/-10.7	-10.77/-10.22	-9.01/-7.13	-5.47/-4.86	-5.53/-7.34	-8.75/-8.37	-6.97/-5.84	-5.58/-7.2	-6.43/-5.23	-7.05/-5.91	-4.34/-3.38	-2.62/-3.6	-5.3/-5.49	-5.41/-5.82	-5.75/-5.68	-6.95/-8.01	-6.93/-7.55	-10.6/-10.76
Θ(97.5°)	-10.1/-7.27	-5.41/-4.56	-3.62/-6.48	-9.6/-10.27	-10.44/-13.4	-9.65/-7.43	-7.57/-8.4	-9.18/-9.45	-8.22/-5.98	-4.47/-4.84	-7.58/-10.1	-8.99/-7.22	-5.24/-4.6	-6.44/-7.98	-5.71/-6.54	-8.36/-6.43	-5.77/-4.53	-4.05/-5.99	-9.07/-10.63	-11.21/-11.54	-9.99/-8.55	-10.12/-14.15	-12.45/-11.06	-14.64/-14.15
Θ(105°)	-10.69/-8.66	-7.71/-6.48	-4.62/-4.55	-7.59/-9.55	-9.29/-11.17	-9.97/-2.8	-6.12/-5.48	-5.03/-6.73	-4.06/-3.31	-3.71/-4.55	-7.03/-6.83	-6.42/-6.62	-5.47/-5.82	-9.3/-7.32	-5.2/-6.65	-7.45/-7.69	-8.64/-6.93	-6.23/-7.61	-10.08/-13.35	-17.79/-18.93	-14.69/-11.92	-12.59/-18.08	-18.9/-17.34	-17.89/-16.29
Θ(112.5°)	-9.21/-7.66	-7.58/-7.18	-5.84/-5.07	-6.36/-8.73	-9.23/-8.9	-7.85/-6.39	-5.47/-4.9	-4.47/-4.2	-3.99/-4.05	-4.84/-6.43	-6.9/-6.68	-7.7/-7.01	-6.16/-8.07	-8.78/-6.18	-6.65/-7.68	-7.17/-8.34	-8.1/-5.74	-4.6/-4.54	-5.07/-5.98	-7.53/-8.64	-8.63/-9.15	-12.09/-18.3	-16.66/-16.58	-18.22/-12.98
Θ(120°)	-8.68/-7.41	-6.59/-6.03	-5.66/-5.01	-4.7/-6.14	-9.13/-10.26	-7.89/-5.4	-3.78/-2.75	-2.15/-2.07	-2.42/-3.06	-3.9/-4.56	-5.02/-6.17	-7.04/-6.18	-6.71/-9.12	-7.55/-6.12	-5.71/-3.89	-2.74/-2.52	-2.86/-3.62	-5.64/-6.31	-6.92/-6.35	-7.73/-11.34	-12.44/-11.33	-12.15/-11		
Θ(127.5°)	-9.84/-8.6	-7.11/-6.29	-6.25/-5.48	-4.27/-4.29	-6.01/-8.5	-8.97/-6.87	-4.77/-3.22	-3.55/-2.54	-3.11/-3.79	-4.39/-5	-6.05/-6.71	-5.87/-5.68	-7.55/-9.14	-8.23/-8.16	-7.45/-5.81	-5.55/-6.18	-5.28/-3.6	-2.79/-2.99	-3.57/-4.29	-5.31/-6.05	-5.74/-4.96	-5.19/-6.97	-8.16/-7.1	-7.31/-6.97
Θ(135°)	-6.1/-6.52	-5.95/-5.66	-6.26/-6.8	-6.08/-5.29	-5.76/-7	-7.55/-6.57	-5.1/-3.98	-3.47/-3.6	-4.09/-4.63	-5.08/-5.39	-5.52/-5.17	-5.1/-6.62	-10.41/-13.73	-11.78/-9.6	-7.62/-6.42	-6.34/-6.33	-5.06/-3.55	-2.98/-3.35	-4.05/-4.72	-5.44/-5.93	-5.95/-5.22	-4.95/-5.53	-5.7/-4.51	-3.88/-4.68
Θ(142.5°)	-5.87/-5.65	-5.03/-4.79	-5.03/-5.68	-5.86/-5.72	-6.02/-6.92	-7.78/-7.42	-6.08/-6.86	-4.05/-3.78	-3.93/-4.3	-4.68/-4.98	-5.26/-5.98	-7.87/-12.59	-17.63/-12.59	-9.16/-7.53	-6.8/-6.69	-6.93/-6.82	-5.95/-5.06	-4.9/-5.5	-6.37/-7.09	-9.64/-10.14	-8.39/-9.92	-7.51/-7.53	-7.2/-6.06	-5.25/-6.42
Θ(150°)	-10.81/-10.48	-8.97/-7.75	-7.05/-6.59	-6.15/-6.62	-5.29/-5.32	-5.71/-6.19	-6.43/-6.31	-5.99/-5.85	-6.08/-6.68	-7.38/-7.07	-9.1/-10.86	-13.67/-16.4	-14.81/-11.97	-10.41/-10.04	-10.35/-10.86	-11.33/-11.56	-11.52/-11.24	-11.28/-11.63	-11.85/-11.53	-10.99/-10.54	-9.96/-9.71	-9.77/-10.26	-10.57/-10.29	-9.94/-10.36
Θ(157.5°)	-15.52/-18.12	-17.23/-17.35	-13.29/-11.06	-9.3/-7.73	-6.42/-5.32	-4.63/-4.4	-4.6/-5.19	-6.14/-7.18	-7.99/-8.47	-8.93/-9.63	-10.76/-12.19	-13.57/-14.58	-15.04/-15.42	-16.45/-18.37	-18.89/-18.15	-18.74/-18.2	-17.7/-18.07	-17.66/-18.3	-17.37/-14.92	-12.99/-11.79	-11.23/-10.99	-11.21/-11.94	-12.88/-13.16	-13.12/-13.53
Θ(165°)	-15.63/-16.89	-19.15/-18.3	-18.41/-16.66	-15.5/-12.44	-9.95/-7.81	-6.21/-5.16	-4.51/-4.24	-4.21/-4.29	-4.39/-4.63	-5.1/-6.06	-7.37/-9	-11.01/-13.71	-16.61/-19.07	-17.73/-16.93	-18.55/-19.15	-18.13/-16.69	-16.37/-16.83	-17.63/-17.89	-16.77/-14.62	-12.99/-12.5	-12.92/-13.82	-14.87/-16.39	-17.57/-17.55	-16.66/-15.46
Θ(172.5°)	-17.61/-18.82	-18.21/-18.22	-19.09/-18.56	-19.35/-15.88	-13.32/-11.17	-9.45/-8.01	-6.76/-5.78	-5.12/-4.83	-4.85/-5.18	-5.96/-7.22	-8.98/-11.36	-14.29/-18.05	-19.08/-19.13	-18.42/-16.98	-16.1/-15.48	-14.74/-14.28	-14.37/-14.99	-16.11/-17.7	-19.27/-17.83	-18.64/-17.78	-18.91/-17.78	-17.94/-18.3	-18.71/-17.93	-17.85/-18.64
Θ(180°)	-18.4/-17.6	-19.12/-18.95	-19.01/-18.33	-15.85/-14.06	-12.84/-11.95	-11.48/-11.01	-10.37/-9.53	-8.91/-8.7	-8.86/-9.45	-10.79/-12.88	-16/-18.29	-18.17/-17.49	-18.72/-18.62	-18.13/-19.6	-18.47/-17.38	-15.93/-14.61	-13.92/-13.67	-13.62/-14.09	-16.46/-15.18	-15.24/-14.64	-13.94/-13.35	-13.3/-13.8	-14.56/-15.54	-16.91/-18.94
Freq(Hz)	5.2GPol.	PhiAnt.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-5.77/-8	-3.36/-8.69	-6.99/-5.16	-3.54/-2.22	-1.24/-0.35	0.27/0.68	1.24/1.87	1.96/1.63	1.66/1.71	1.13/0.66	0.18/-1.07	-2.66/-3.38	-9.57/-4.5	-10.86/-11.07	-8.34/-6.1	-4.4/-2.74	-1.06/-0.05	0.65/1.46	2.06/2.04	1.67/1.63	1.87/1.6	0.91/0.25	-0.53/-1.59	-2.85/-4.31
Θ(7.5°)	-4.59/-7.01	-10.41/-13	-11.92/-8.12	-4.95/-2.62	-0.94/0.21	1.05/1.7	2.23/2.66	2.83/2.63	2.14/1.83	1.50/5.4	-0.58/-1.72	-3.88/-7.29	-10/-10.88	-9.71/-7.1	-5.76/-4.28	-3.13/-2.01	-0.01/0.51	1.06/1.51	1.41/0.79	1.01/1.42	0.93/0.14	0.0/-5.5	-2.16/-3.83	
Θ(15°)	-6.91/-11.57	-17.19/-17.27	-10.48/-6.43	-4.49/-2.93	-1.79/-1.13	-0.47/0.13	0.47/0.41	0.56/0.99	0.92/0.31	0.12/-0.26	-1.54/-2.8	-4.52/-8.06	-12.82/-16.37	-19.79/-10.35	-8.29/-6.38	-7.47/-3.33	-1.82/-1	-0.34/0.04	0.08/0.47	1.56/2.38	2.27/2.19	2.52/1.84	0.45/-4.08	-1.16/-3.54
Θ(22.5°)	-6.41/-11.06	-12.56/-9.22	-6.07/-4.33	-3.16/-2.11	-1.55/-1.6	-1.82/-1.62	-1.31/-1.17	-0.63/0.07	0.16/-0.93	-2.09/-1.88	-2.85/-4.81	-6.6/-8.84	-13.77/-18.99	-18.22/-18.66	-17.56/-13.49	-9.75/-5.62	-2.55/-1.19	-0.36/0.16	0.18/0.43	1.27/2.38	3.263.27	2.88/2.56	1.22/-0.71	-2.31/-3.6
Θ(30°)	-4.51/-8.01	-11.56/-9.7	-6.03/-4.19	-3.11/-2.63	-2.75/-2.74	-2.22/-2.15	-2.2/-2.98	0.55/0.77	-0.18/-1.98	-4.42/-6.23	-5.8/-4.8	-5.06/-5.5	-6.14/-8.87	-14.42/-14.77	-17.56/-17.48	-12.96/-8.29	-5.15/-3.57	-1.38/0.4	0.78/0.7	1.06/1.87	2.45/2.5	1.77/1.42	0.71/-1.12	-1.59/-2.43
Θ(37.5°)	-5.2/-9.86	-18.62/-18.79	-12.22/-7.36	-5.04/-3.57	-2.72/-1.43	-0.69/-1.65	-2.01/-0.55	0.57/0.04	-2.23/-4.42	-4.68/-4.83	-4.35/-2.92	-2.74/-2.99	-3.23/-4.68	-7.06/-8.05	-8.98/-13.18	-18.71/-14.75	-11.21/-7.77	-4.12/-2.47	-1.85/-1.17	0.502/2.2	2.53/0.88	-0.59/-0.93	-0.78/-1.29	-2.93/-3.12
Θ(45°)	-5.79/-13.43	-16.72/-7.69	-11.45/-12.63	-6.36/-3.4	-3.58/-3.25	-1.65/-1.25	-0.78/0.32	0.49/-0.53	-2.21/-3.33	-4.25/-5.4	-6.18/-5.64	-3.83/-2.04	-2.65/-3.65	-4.3/-5.46	-8.4/-11.71	-12.07/-18.41	-17.23/-11.15	-7.31/-2.66	-0.32/0.62	2.55/2.87	1.68/1.12	0.03/-1.06	-0.17/-0.54	-3.11/-4.2
Θ(52.5°)	-5.89/-11.34	-14.78/-8.13	-11.1/-10.84	-7.55/-5.25	-5.12/-2	-0.66/-1.08	-0.56/0.76	0.12/-0.22	-3.5/-4.11	-4.87/-10.3	-8.49/-6.71	-5.4/-2.88	-3.01/-5.11	-3.66/-5.44	-7.01/-6.68	-6.22/-9.13	-18.27/-18.6	-9.11/-5.49	-5.83/-7.09	-2.85/0.97	1.41/0.42	0.47/-0.29	-0.95/-1.57	-3.67/-5.75
Θ(60°)	-5.47/-6.46	-10.54/-8.38	-9.16/-14.31	-7.89/-4.36	-4.83/-2.38	-0.27/-0.65	0.19/-0.6	-0.3/-2.53	4.06/-4.97	-5.6/-6.99	-8.61/-8.05	-6.05/-3.2	-2/-3.84	-4.88/-6.73	-6.21/-4.9	-4.23/-6.18	-9.61/-13.56	-19/-10.26	-7.88/-9.32	-5.05/-2.92	-3.22/-1.41	0.11/-5.55	4.55/-5.22	-5.8/-6.08
Θ(67.5°)	-3.54/-9.5	-4.85/-6.76	-8.61/-10.83	-9.71/-5.37	-4.21/-1.49	0.76/0.44	0.14/0.41	-0.67/-2.44	-4.47/-4.93	-5.47/-5.67	-9.1/-6.57	-3.62/-2.44	-3.64/-4.76	-5.29/-7.22	-4.61/-2.12	-4.35/-5.88	-7.85/-9.57	-18.81/-11.58	-6.8/-10.72	-6.26/-5.81	-7.18/-1.77	1.08/-4.15	-1.05/-7.67	-6.52/-6.2
Θ(75°)	-2.38/-3.03	-2.82/-3.94	-6.98/-10.76	-9.54/-4.9	-3.59/-1.81	0.49/0.12	0.58/0.9	-0.31/-3.39	-6.64/-6.12	-4.46/-5.22	-8.8/-7.2	-5.54/-3.37	-3.34/-4.46	-6.24/-6.82	-3.41/-2.78	-3.89/-3.48	-5.89/-6.89	-6.78/-4.87	-9.21/-8.27	-4.76/-2.73	-9.99/-6			



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A.1

Θ(75°)	-2.99/-3.43	-9.87/-12.54	-8.46/-8.78	-7.3/-6.45	-5.39/-3.78	-4.29/-4.15	-4.72/-6.75	-8.66/-10.83	-8.08/-4.67	-4.8/-5.94	-6.6/-9.01	-13.56/-10.26	-6.5/-7.53	-5.5/-6.97	-3.36/-2.46	-4.33/-3.6	-5.54/-4.76	-3.54/-1.66	-2.23/-5.2	-5.42/-6.47	-11.7/-15.1	-18.04/-17.41	-8.35/-5.42	-3.78/-2.44
Θ(82.5°)	-5.89/-4.9	-7.2/-18.7	-10.67/-8.5	-10.41/-9.94	-5.09/-4.39	-4.79/-4.06	-5.3/-6.95	-6.77/-7.76	-5.53/-6.37	-3.63/-5.77	-8.92/-10.01	-14.39/-14.06	-6.04/-4.56	-5.65/-10.7	-4.02/-4.45	-5.55/-5.25	-5.64/-4.76	-3.79/-9.06	-1.09/-4.35	-5.34/-6.87	-12.08/-17.94	-17.57/-14.51	-9.28/-5.08	-5.95/-4.94
Θ(90°)	-7.43/-6.63	-8.2/-16.2	-12.67/-9.53	-11.58/-14.68	-6.36/-4.14	-5.08/-5.68	-5.62/-4.9	-5.15/-5.41	-3.93/-2.49	-2.65/-5.06	-8.93/-12.17	-14.38/-9.56	-5.07/-5.93	-7.10/-7.3	-5.76/-5.68	-5.1/-6.85	-7.12/-3.65	-5.51/-1.35	-0.46/-1.45	-5.13/-6.67	-12.42/-17.19	-16.77/-10.12	-8.01/-7.65	-6.96/-9.81
Θ(97.5°)	-6.25/-6.76	-12.2/-13.32	-12.49/-11.49	-10.02/-18.9	-6.63/-5.76	-6.53/-4.92	-4.84/-4.57	-4.48/-5.54	-4.4/-2.68	-2.96/-5.42	-10.55/-11.75	-11.13/-11.13	-6.57/-3.92	-7.47/-14.11	-6.04/-8.23	-7.7/-6.65	-8.91/-6	-6.93/-3.71	-1.64/-3.14	-4.45/-5.75	-12.98/-18.18	-13.73/-14.72	-8.55/-8.81	-8.15/-7.73
Θ(105°)	-3.34/-10.0	-16.63/-10.2	-11.58/-9.13	-6.79/-16.19	-12.03/-8.2	-6.83/-5.87	-5.78/-5.4	-4.9/-4.87	-4.31/-3.84	-2.63/-3.77	-9.31/-9.91	-10.87/-8.3	-7.08/-7.25	-7.12/-21.66	-8.32/-8.11	-11.65/-8.89	-8.76/-6.97	-3.37/-5.82	-11.81/-11.72	-18.8/-15.73	-18.21/-18.57	-14.98/-15.29	-5.13/-4.32	
Θ(112.5°)	-6.34/-9.55	-15.92/-11.62	-7.8/-10.79	-7.17/-10.17	-13.06/-9.77	-9.57/-7.56	-6.41/-7.54	-7.25/-6.36	-5.5/-4.2	-4.12/-5.01	-8.67/-7.11	-6.85/-10.66	-6.66/-6.41	-7.81/-9.59	-16.72/-9.54	-9.38/-7.84	-13.98/-13.35	-7.87/-10.12	-17.69/-18	-18.21/-17.03	-18.46/-13.63	-17.42/-15.31	-8.58/-5.21	
Θ(120°)	-11.12/-12.35	-15.82/-15.9	-9.7/-7.19	-7.19/-8.4	-7.33/-10.02	-10.13/-6.93	-7.02/-7.49	-7.76/-6.65	-6.37/-6.07	-4.97/-6.24	-7.86/-5.73	-7.24/-10.37	-8.12/-7.89	-11.66/-10.38	-12.15/-12.11	-9.62/-6.09	-19/-10.21	-10.66/-13.18	-16.01/-7.05	-8.04/-6.65	-3.33/-10.26	-18.65/-18.08	-15.08/-19.43	-17.45/-10.62
Θ(127.5°)	-17.52/-18.1	-13.08/-10.34	-8.73/-10.39	-10.42/-8.88	-6.77/-7.16	-12.28/-9.35	-8.11/-8.1	-9.08/-6	-6.25/-6.01	-5.42/-7.13	-7.43/-5.08	-4.88/-12.99	-18.44/-12.05	-9.24/-10.75	-9.75/-9.03	-11.24/-13.52	-18.65/-10.09	-12.46/-12.9	-7.33/-4.05	-10.22/-19.15	-8.71/-17.57	-9.8/-7.49	-5.57/-11.98	-12.99/-18.03
Θ(135°)	-10.06/-10.96	-10.03/-12.14	-9.16/-14.39	-14.92/-8.18	-5.94/-8.14	-13.17/-6.84	-4.62/-4.93	-5.34/-5.12	-4.91/-7.26	-11.73/-10.6	-6.93/-5.7	-8.62/-15.86	-14.29/-11.31	-7.86/-6.57	-4.95/-6.95	-18.17/-17.65	-17.23/-16.27	-18.89/-12.43	-19.18/-16.71	-18.36/-19.12	-13.06/-13.06	-15.54/-15.15	-12.28/-9.28	-10.14/-17.86
Θ(142.5°)	-7.16/-7.51	-12.21/-19.38	-13.05/-11.52	-18.27/-12.56	-11.43/-13.12	-14.64/-6.31	-3.19/-2.1	-3.24/-9.8	-5.06/-5.78	-9.11/-8.82	-7.44/-10.89	-12.47/-14.52	-10.79/-8.26	-7.32/-7.73	-5.94/-7.34	-13.57/-18.41	-16.09/-14.62	-14.85/-19.23	-14.08/-10.82	-13.67/-9.78	-4.71/-2.92	-3.14/-6.12	-11.92/-10.6	-7.08/-8.82
Θ(150°)	-19.13/-13.12	-15.93/-18.73	-19.21/-18.85	-17.82/-12.93	-10.54/-10.78	-13.66/-15.42	-12.95/-11.96	-9.17/-7.99	-8.83/-9.47	-9.35/-9.38	-10.68/-14.52	-18.8/-7.6	-6.22/-5.54	-5.01/-7.3	-9.14/-10.09	-11.67/-10.81	-12.12/-12.58	-12.96/-13.91	-14.48/-15.28	-18.05/-18.5	-18.42/-17.48	-15.49/-17.12	-13.51/-11.68	-12.77/-13.73
Θ(157.5°)	-16.79/-19.19	-18.21/-17.42	-13.33/-12.65	-11.83/-11.65	-12.36/-14.98	-18.88/-18.72	-13.61/-13.87	-7.11/-8.9	-7.55/-9.86	-10.33/-8.14	-13.53/-13.62	-12.59/-15.66	-11.28/-8.14	-7.23/-6.05	-4.65/-4.34	-9.07/-7.02	-11.49/-16.54	-14.25/-13.38	-14.96/-18.24	-18.93/-17.77	-14.51/-13.84	-16.73/-12.66	-10.5/-11.93	-13.02/-13.07
Θ(165°)	-12.05/-12.51	-11.26/-12.66	-15.29/-18.94	-17.93/-15.43	-13.27/-13.61	-15.23/-16.8	-15.33/-11.4	-9.03/-10.23	-12.01/-10.11	-9.13/-11.52	-12.28/-11.47	-16.92/-11.88	-7.74/-6.58	-5.84/-5.58	-6.7/-9.02	-11.63/-15.79	-18.08/-18.94	-13.53/-12.42	-15.88/-17.59	-18.46/-18.44	-18.32/-18.91	-19.06/-13.44	-8.66/-7.82	-8.18/-9.82
Θ(172.5°)	-15.78/-14.37	-12.86/-11.39	-11.21/-12.21	-13.57/-16.96	-17.31/-15.16	-15.16/-14.64	-11.13/-9.83	-11.89/-13.69	-11.14/-9.7	-11.17/-11.36	-10.52/-11.44	-11.23/-10.17	-11.61/-14.71	-14.58/-14.11	-14.81/-14.32	-13.43/-13.51	-15.68/-17.95	-18.78/-17.82	-18.45/-18.89	-18.76/-17.86	-17.64/-17.92	-15.67/-15.41	-13.22/-10.81	-12.33/-18.23
Θ(180°)	-18.33/-18.29	-19.05/-19.15	-19.56/-18.37	-15.21/-12.04	-10.43/-10.46	-11.49/-11.92	-11.65/-10.97	-11.63/-12.22	-11.52/-9.81	-8.79/-8.68	-9.55/-10.77	-11.47/-13.48	-17.68/-18.33	-18.64/-16.41	-14.06/-12.17	-11/-10.7	-10.81/-11.4	-11.08/-10.61	-10.16/-10.32	-10.66/-11.08	-12.44/-15.47	-19/-19.03	-18.78/-18.27	-18.52/-18.04
Freq(Hz)	5.6GPol.	PhiAnt.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-7.81/-11.55	-17.05/-19.21	-12.8/-8.7	-8.83/-3.69	-2.3/-1.1	-0.080/66	1.19/1.75	2.03/1.9	1.78/1.8	1.280/2.9	-0.53/-1.45	-2.87/-4.12	-5.9/-10.81	-1.68/-6.93	-0.170/62	-1.68/-6.93	-0.170/62	1.80/2.25	1.91/1.79	1.89/1.47	1.020/79	-0.22/-1.57	-2.26/-4.08	
Θ(7.5°)	-6.53/-9.03	-12.67/-18.15	-14.17/-9.57	-5.9/-3.49	-1.81/-0.54	0.30/98	1.44/1.65	1.75/1.99	1.85/1.17	0.590/0.3	-1.39/-2.54	-3.57/-6.26	-10.39/-15.94	-18.34/-13.6	-8.58/-5.6	-4.03/-3	-2.01/-1.2	-0.75/-0.53	-0.070/75	0.970/19	-0.080/21	-0.35/-0.93	-1.28/-2.31	-3.56/-4.28
Θ(15°)	-7.27/-8.79	-12.73/-17.65	-11.13/-6.74	-4.31/-3.32	-3.08/-2.91	-2.81/-2.39	-1.27/-0.49	-0.24/-0.02	0.110/31	0.17/-0.77	-2.35/-3.97	-5.02/-6.34	-9.34/-13.43	-17.29/-15.68	-12.13/-9.02	-6.73/-5.01	-3.22/-4.23	-2.92/-3.69	-4.34/-5.02	-5.74/-7.13	-7.19/-9.33	-5.73/-5.7	-4.51/-5.31	
Θ(22.5°)	-6.69/-9.42	-12.62/-15.33	-13.73/-6.72	-4.63/-3.47	-3.09/-3.15	-3.54/-3.13	-1.89/-0.87	-0.190/0.2	-0.680/-0.39	-0.99/-2.27	-3.93/-6.24	-11.40/-10.38	-18.41/-18.39	-15.44/-11.88	-9.16/-29	-4.55/-3.31	-2.11/-1.63	-1.48/-1.43	-1.34/-0.95	-0.4/-0.41	-1.84/-3.86	-5.61/-7.24	-6.41/-5.38	
Θ(30°)	-4.98/-6.05	-8.35/-13.18	-13.93/-8.78	-6.03/-5.8	-5.94/-5.89	-7.26/-5.88	-4.01/-2.47	-1.46/-1.33	-1.23/-0.6	-0.02/-0.06	-0.24/-0.9	-3.2/-5.94	-7.67/-10.26	-11.33/-13.46	-18.15/-18.68	-16.29/-11.27	-9.29/-8.1	-6.72/-4.74	-3.29/-2.73	-1.97/-1.31	-0.16/-1.31	1.24/-1.16	-3.19/-5.54	-6.05/-4.15
Θ(37.5°)	-2.59/-5.26	-6.93/-15.5	-18.42/-9.73	-12.07/-6.92	-6.2/-4.59	-6.72/-5.92	-3.75/-2.59	-2.79/-2.67	-1.99/-2.03	-1.85/-1.99	-2.76/-2.7	-2.86/-4.9	-6.89/-7.95	-9.26/-11.01	-11.79/-15.89	-18.43/-18.07	-18.46/-9.91	-5.83/-4	-3.21/-2.88	-2.49/-2.02	-0.93/-0.74	-1.04/-1.29	-2.96/-8.45	-5.78/-2.42
Θ(45°)	-2.69/-5.42	-6.97/-12.2	-15.5/-12.3	-12.59/-17.64	-6.31/-3.77	-3.69/-3.8	-2.39/-2.56	-4.29/-2.4	-3.4/-3.73	-4.29/-3.91	-2.77/-2.17	-2.22/-3.84	-8.36/-7.31	-8.17/-7.07	-7.25/-9.09	-17.03/-17.49	-15.31/-10.58	-4.78/-1.93	-2.42/-4.45	-4.91/-3.08	-3.58/-6	-0.15/-2.53	-3.55/-2.69	
Θ(52.5°)	-4.21/-8.16	-7.78/-10.05	-14.15/-10.87	-10.89/-13.48	-8.07/-3.1	-2.48/-3.86	-3.03/-2.73	-2.57/-2.55	-3.64/-4.73	-4.43/-3.88	-3.96/-3.76	-5.64/-7.48	-8.15/-7.1	-8.24/-8.07	-11.75/-10.43	-16.82/-17.24	-18.44/-14	-4.53/-2.81	-2.87/-5.02	-4.55/-1.63	-0.18/-2	-5.1/-3.65		
Θ(60°)	-5.64/-7.32	-6.5/-7.73	-14.92/-13.23	-8.15/-6.96	-11.52/-5.71	-3.36/-3.21	-2.96/-2.16	-1.7/-2.4	-3.79/-6.15	-6.96/-5.08	-5.55/-5.68	-8.4/-11.24	-12.57/-11.6	-11.06/-6.75	-9.03/-11.65	-10.13/-13.77	-19.37/-10.53	-6.43/-5.13	-5.28/-6.91	-6.49/-5.24	-3.94/-3.26	-2.76/-2.46	-2.05/-5.88	-7.1/-4.12
Θ(67.5°)	-4.18/-7.04	-6.32/-6.6	-10.24/-15.04	-7.07/-6.94	-15.77/-6.18	-5.28/-6.3	-6.54/-3.71	-2.79/-1.72	-2.27/-4.8	-4.62/-4.27	-7.06/-10.37	-10/-10.07	-9.99/-7.73	-9.96/-11.53	-9.96/-5.18	-11.97/-9.54	-13.36/-12.05	-6.89/-5.18	-6.71/-8.34	-8.54/-7.15	-8.02/-5.23	-4.2/-5.09	-6.7/-9.33	-8.93/-5.15
Θ(75°)	-4.25/-5.99	-4.98/-6	-9.35/-13.92	-6.48/-5.42	-11.99/-8.87	-5.93/-7.41	-7.35/-3.8	-4.49/-3.03	-2.3/-5.38	-6.26/-5.25	-8.21/-11.92	-8.37/-5.83	-7.08/-8.42	-7.18/-8.22	-9.25/-5.67	-17.18/-6.92	-6.83/-7.97	-6.53/-2.59	-6.03/-5.52	-7.39/-9.37	-17.45/-4.99	-7.1/-9.86	-10.5/-11.19	-6.88/-4.29
Θ(82.5°)	-3.29/-5.48	-4.52/-6.28	-8.23/-13.8	-7.27/-5.01	-9.13	-6.67/-3.3	-5.26/-4.17	-6.03/-4.13	-3.29/-6	-9.69/-8.95	-10.98/-10.8	-5.93/-4.99	-6.71/-7.21	-8.99/-6.04	-6.36/-5.23	-4.07/-5.42	-5.84/-0.99	-5.16/-1.87	-4.01/-3.2	-5.74/-7.29	-11.26/-11.72	-9.99/-11.81	-10.45/-8.13	-5.76/-3.4
Θ(90°)	-3.75/-3.95	-5.02/-6.52	-9.81/-14.64	-6.24/-4.7	-8.13	-7.19/-10.99	-9.45/-5.34	-7.01/-5.23	-3.64/-5.64	-10.77/-10.56	-14.36/-13.83	-5.44/-3.35	-5.5/-5.84	-8.19/-4.61	-6.61/-5.43	-3.62/-5.51	-3.65/-2.82	-2.11/-1.23	-2.78/-2.9	-4.52/-3.05	-7.92/-17.43	-19.29/-18.16	-10.89/-7.53	-6.35/-3.1
Θ(97.5°)	-3.2/-3.39	-5.92/-7.3	-11.26/-18.06	-7.17/-5.5	-8.46/-11.84	-8.11/-10.98	-6.85/-4.85	-9.05/-9.41	-5.94/-8.36	-13.6/-11.05	-13.34/-11.49	-7.44/-4.88	-5.66/-7.5	-7.8/-5.34	-4.43/-4.83	-4/-2.92	-4.43/-6.02	-2.54/-0.01	-5.68/-7.23	-7.62/-7.54	-6.69/-16.32	-16.3/-18.78	-11.1/-11.23	-6.66/-3.84
Θ(105°)	-4.62/-4.71	-6.49/-7.34	-12.05/-19.01	-6.89/-4.97	-9.79/-10.4	-7.21/-11.96	-14.78/-7.91	-12.73/-6.46	-6.84/-11.81	-15.85/-10.75	-13.32/-12.47	-8.98/-4.81	-6.28/-7.07	-8.02/-6.08	-5.08/-2.14	-5.32/-4.53	-3.29/-5.75	-3.07/-0.88	-2.77/-4.9	-13.65/-10.16	-12.04/-19.22	-12.75/-18.66	-14.08/-6.06	-9.44/-3.78
Θ(112.5°)	-4.84/-4.9	-8.73/-9.12	-12.26/-19.69	-9.65/-8.01	-10.68/-7.58	-7.08/-13.48	-15.07/-10.43	-11.51/-11.9	-14.67/-15.68	-14.29/-9.43	-11.24/-13.67	-10.54/-6.11	-6.45/-8.13	-8.76/-6.56	-4.24/-2.24	-8.55/-2.42	-5.85/-7.88	-3.26/-3.72	-9.21/-6.53	-13.41/-10.43	-17.8/-16.54	-16.17/-17.54	-18.83/-10.14	-10.78/-5.99
Θ(120°)	-3.88/-8.01	-8.03/-10.31	-17.21/-11.43	-9.11/-7.88	-10.52/-9.15	-5.43/-7.13	-11.3/-4.9	-17.27/-1.61	-19.88/-19.61	-13.67/-18.16	-15.99/-8.5	-5.83/-7.97	-13.27/-1.17	-5.74/-2.92	-2.2/-2.97	-9.37/-9.94	-2.24/-1.33	-7.08/-18.21	-7.39/-9.74	-10.61/-19.4	-13.66/-17.44	-12.15/-13	-17.75/-13.66	
Θ(127.5°)	-8/-8.47	-10.22/-9.98	-14.39/-10.15	-6.52/-7.78	-13.67/-8.78	-5.86/-7.46	-10.86/-11.17	-14.61/-14.02	-14.63/-14															



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A.1

Θ (127.5°)	-14.75/-15.85	-13.46/-11.68	-9.07/-9.11	-11.99/-10.56	-9.54/-6.89	-7.49/-13.97	-12.64/-7.51	-4.83/-3.31	-3.04/-3.78	-4.59/-5.39	-5.81/-9.8	-19.04/-15.51	-10.51/-6.32	-6.18/-8.25	-13.03/-7.87	-10.35/-14.19	-19.12/-18.12	-14.88/-17.21	-16.54/-15.39	-18.26/-15.75	-13.99/-13.19	-9.95/-13.29	-18.6/-18.92	-18.91/-14.12
Θ (135°)	-12.06/-15.38	-17.8/-13.07	-18.25/-10.38	-7.42/-3.76	-10.93/-10.66	-7.21/-7.87	-13.54/-14.99	-9.63/-6.48	-4.79/-4.43	-4.49/-4.38	-5.65/-10.58	-18.41/-19.31	-10.46/-4.5	-4.03/-5.92	-10.15/-13.18	-11.63/-18.85	-17.38/-18.12	-18.46/-19.07	-19.16/-14.6	-13.85/-10.2	-9.63/-9.08	-12.57/-18.2	-17.2/-17.87	-16.79/-13.02
Θ (142.5°)	-7.45/-14.17	-15.58/-9.89	-12.53/-14.26	-7.6/-5.92	-7.88/-9.85	-9.56/-9.5	-12.08/-12.15	-8.74/-7.34	-5.46/-3.4	-2.14/-2.29	-3.62/-3.51	-13.9/-15.14	-7.93/-4.97	-5.55/-7.92	-13.9/-19.05	-16.77/-13.33	-19.09/-19.07	-15.72/-16.94	-14.06/-9.7	-11.27/-9.39	-6.93/-6.88	-10.14/-18.51	-16.96/-10.14	-6.89/-5.9
Θ (150°)	-6.12/-7.74	-13.21/-16.25	-13.38/-10.72	-8.36/-10.16	-13.75/-11.62	-9.27/-11.04	-9.37/-7.05	-5.23/-3.77	-2.96/-2.86	-2.64/-3.03	-5.15/-7.27	-11.54/-17.93	-14.76/-9.94	-10.36/-13.53	-13.36/-11.78	-10.72/-18.96	-13.61/-15.72	-19.06/-14.61	-13.97/-11.04	-14.06/-17.13	-14.49/-12.82	-13.52/-15.42	-18.44/-19.12	-14.91/-7.32
Θ (157.5°)	-18.27/-16.9	-10.81/-9.19	-9.94/-15.01	-17.43/-14.6	-10.12/-14.49	-6.31/-7.49	-9.64/-8.74	-6.78/-5.94	-6.19/-7.24	-7.65/-9.17	-14.49/-15.12	-16.47/-17.27	-15.06/-14.19	-13.79/-11.93	-12.1/-10.65	-9.3/-9.34	-10.07/-14.09	-13.16/-16.69	-14.32/-18.08	-18.33/-18.01	-17.56/-12.17	-8.89/-9.63	-9.02/-9.96	-17.5/-17.28
Θ (165°)	-10.84/-14.36	-17.41/-19.02	-18.53/-15.51	-13.73/-12.75	-11.85/-13.44	-16.93/-19.13	-18.04/-13.68	-9.61/-8.4	-9.05/-8.75	-9.12/-9.35	-18.87/-19.13	-12.75/-15.83	-12.7/-17.49	-8.86/-10.88	-13.71/-18.65	-17.82/-12.7	-12.35/-15.83	-18.05/-18.38	-17.51/-14.33	-11.74/-8.43	-6.14/-6.32	-7.8/-9.34		
Θ (172.5°)	-12.24/-13.23	-13.89/-15.9	-16.39/-14.96	-13.7/-12.99	-11.8/-11.64	-13.25/-14.36	-14.71/-13.96	-13.66/-12.83	-11.22/-10.94	-11.43/-11.58	-14.34/-16.93	-16.96/-18.3	-18.67/-18.72	-15.52/-12.93	-12.13/-12.46	-13.83/-15.85	-18.28/-19.29	-18.73/-18.52	-18.82/-18.01	-16.36/-13.05	-12.87/-14.04	-14.96/-15.55	-14.88/-14.17	-14.12/-12.98
Θ (180°)	-15.07/-14.75	-15.56/-15.2	-16.27/-16.49	-15.02/-15.36	-17.2/-18.45	-19.56/-16.42	-15.86/-15.18	-13.07/-12.09	-11.38/-9.96	-8.73/-7.98	-8/-8.59	-9.5/-11.52	-14.34/-16.99	-17.62/-18.32	-18.57/-17.4	-17.06/-17.4	-18.22/-18.61	-17.61/-17.54	-17.71/-16.32	-16.64/-17.95	-16.42/-17.34	-18.86/-16.68	-17.58/-17.33	-14.86/-14.87
Freq(Hz)	2.45GPol.	PhiAnt. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ (0°)	-6.17/-6.01	-5.87/-5.81	-5.85/-5.99	-6.53/-6.69	-7.11/-7.58	-8.19/-8.91	-9.19/-9.15	-8.95/-8.85	-8.24/-7.73	-7.59/-7.57	-7.48/-7.25	-6.69/-5.96	-5.11/-4.61	-4.54/-4.72	-5.18/-5.72	-6.66/-7.32	-8.14/-8.94	-9.6/-9.85	-9.44/-8.75	-7.97/-7.42	-7.13/-6.72	-6.3/-6.12	-5.98/-5.66	-6.03/-6.33
Θ (7.5°)	-5.22/-5.03	-5.14/-5.29	-5.4/-5.68	-6.58/-6.52	-7.43/-8.51	-8.7/-10.81	-9.7/-10.81	-8.7/-10.81	-6.71/-6.13	-5.79/-5.69	-5.73/-5.97	-6.07/-6.34	-6.18/-5.88	-5.48/-5.27	-5.25/-5.4	-5.59/-6.01	-6.67/-7.33	-8.04/-8.51	-8.61/-8.69	-8.61/-8.7	-8.37/-8.18	-7.82/-7.6	-7.23/-6.66	-6.02/-5.65
Θ (15°)	-4.1/-3.85	-3.88/-4.15	-4.57/-5.09	-5.81/-6.65	-7.86/-9.3	-11.02/-12.63	-12.38/-10.3	-8.4/-7.29	-6.23/-5.56	-5.15/-4.9	-4.84/-5.05	-5.62/-6.41	-6.93/-6.92	-6.66/-6.94	-5.18/-4.63	-4.39/-4.62	-5.43/-6.29	-7.17/-7.96	-8.42/-8.64	-8.94/-9.14	-9.21/-9.2	-9.26/-8.81	-8.23/-7.24	-5.59/-4.41
Θ (22.5°)	-3.6/-3.27	-3.39/-3.65	-4.37/-5.4	-6.61/-7.94	-9.28/-10.79	-12.13/-13.61	-13.51/-11.5	-9.2/-8.72	-6.78/-5.92	-5.27/-4.57	-4.15/-4.43	-5.53/-6.66	-7.79/-8.51	-7.41/-6.15	-4.83/-3.8	-3.47/-3.67	-4.61/-5.8	-7.54/-9.04	-9.75/-9.92	-9.93/-10.26	-10.82/-11.12	-10.88/-10.09	-8.7/-1.78	-5.95/-4.23
Θ (30°)	-4.34/-3.87	-3.83/-4.26	-5.32/-6.47	-7.88/-9.29	-10.25/-11.38	-12.11/-12.67	-12.65/-11.25	-9.38/-8.37	-7.73/-6.91	-5.53/-4.3	-3.68/-3.92	-4.84/-6.35	-7.88/-8.51	-7.95/-6.67	-5.38/-4.19	-3.45/-3.5	-4.59/-6.3	-8.82/-11.49	-11.49/-10.5	-10.75/-10.86	-11.95/-12.73	-12.51/-11	-9.39/-8.08	-6.48/-5.1
Θ (37.5°)	-6.22/-5.54	-5.86/-6.44	-7.46/-8.33	-8.48/-8.23	-8.12/-8.55	-9.3/-10.12	-9.62/-7.99	-6.69/-6.33	-6.81/-7.24	-6.17/-4.4	-3.36/-3.44	-4.31/-5.61	-6.72/-6.87	-6.5/-6.23	-5.93/-5.33	-4.84/-4.8	-5.2/-6.88	-9.82/-12.03	-11.48/-10.03	-9.64/-10.37	-11.79/-13.03	-13.8/-13.01	-10.77/-9.38	-7.91/-6.79
Θ (45°)	-8.41/-8.7	-10.19/-12.31	-14.35/-14.29	-10.74/-7.86	-6.47/-6.45	-7.54/-8.91	-7.91/-5.25	-3.64/-3.63	-4.89/-6.66	-6.38/-4.55	-4.2/-5.07	-5.59/-5.77	-5.84/-6.06	-6.51/-6.66	-6.54/-5.73	-5.71/-6.75	-8.16/-8.45	-9.10/-11.82	-8.87/-10.54	-13.28/-13.77	-15.93/-15.27	-17.86/-12.9	-9.92/-8.29	
Θ (52.5°)	-7.78/-8.81	-11.75/-15.54	-17.24/-13.64	-9.86/-6.54	-4.82/-4.72	-6.11/-8.52	-7.82/-4.43	-2.29/-2.25	-3.36/-4.8	-4.79/-4.34	-3.3/-3.66	-4.29/-4.62	-4.73/-4.73	-5.06/-5.71	-6.71/-7.67	-7.78/-6.63	-9.71/-9.93	-10.16/-8.45	-9.12/-9.16	-9.97/-11.48	-16.73/-19.45	-15.9/-18.09	-18.11/-15.97	-10.09/-7.69
Θ (60°)	-7.26/-8.52	-12.86/-17.52	-17.54/-12.23	-9.19/-5.82	-3.71/-3	-3.63/-5.32	-5.81/-3.66	-1.56/-1.23	-2.35/-3.8	-3.96/-3.19	-3.01/-3.58	-4.07/-4.07	-4.21/-4.75	-5.32/-6.04	-7.23/-8.84	-9.6/-8.23	-6.29/-5.48	-5.94/-7.37	-9.01/-9.37	-9.73/-11.74	-15.41/-17.06	-15.49/-14.04	-15.82/-13.39	-9.48/-7.82
Θ (67.5°)	-10.17/-13.41	-17.4/-14.98	-9.67/-8.58	-7.96/-6.52	-4.13/-4.47	-3.41/-6.31	-2.98/-1.28	0.140	-0.98/-2.46	-3.16/-3.1	-3.53/-4.27	-4.36/-4.25	-4.62/-5.49	-6.33/-7.05	-9.05/-10.86	-11.39/-8.88	-6.44/-5.67	-6.42/-6.35	-9.5/-9.12	-9.44/-11.37	-16.74/-17.7	-19.18/-18.04	-19.24/-19.91	-12.25/-10.25
Θ (75°)	-9.52/-12.48	-17.71/-11.83	-7.12/-6.26	-6.4/-7.1	-6.73/-9.22	-2.81/-8.7	-1.95/-1.01	0.2313	0.29/-1.16	-1.83/-2.58	-4.71/-6.08	-6.34/-5.71	-7.95/-9.47	-8.59/-9.98	-10.54/-10.86	-9.81/-10.55	-8.62/-9.98	-10.44/-10.08	-9.81/-10.75	-13.33/-13.09	-10.92/-10.99	-15.31/-17.97	-12.85/-9.55	
Θ (82.5°)	-10.3/-14.13	-19.26/-11.82	-7.1/-6.18	-6.06/-5.27	-4.51/-3.13	-2.27/-2.04	-1.210.48	1.581.46	0.43/-0.68	-1.19/-1.42	-2.85/-5.57	-6.98/-6.69	-7.06/-8.06	-9.39/-9.39	-9.35/-9.92	-10.54/-9.6	-8.87/-7.98	-7.82/-8.51	-8.77/-7.37	-6.86/-7.85	-10.51/-12.42	-9.93/-8.41	-11.94/-18.93	-13.8/-10.04
Θ (90°)	-10.83/-15.41	-18.35/-10.57	-6.31/-57	-5.4/-4.16	-4.28/-4.12	-3.51/-3.02	-1.830.13	1.527.69	0.81/-0.27	-1.77/-1.28	-2.57/-4.48	-5.61/-5.54	-5.71/-7.01	-8.34/-9.07	-9.22/-10.28	-11.47/-9.78	-7.13/-5.8	-6.39/-7.71	-6.71/-5.22	-5.57/-8.12	-12.6/-13.14	-9.66/-8.76	-12.51/-18.96	-14.29/-10.16
Θ (97.5°)	-11.32/-13.07	-17.98/-10.8	-6.87/-6.47	-5.74/-6.08	-3.47/-2.92	-2.83/-3.13	-2.24/-0.3	1.111.69	0.08/-0.92	-1.04/-1.27	-2.86/-4.74	-6.29/-6.5	-7.17/-10.68	-13.81/-13.32	-12.44/-12.94	-15.25/-9.83	-7.74/-6.87	-6.9/-6.47	-5.16/-5.22	-7.42/-11.65	-14.64/-11.02	-8.89/-9.21	-12.74/-17.96	-12.84/-10.43
Θ (105°)	-15.61/-14.73	-14.05/-10.55	-7.63/-7.4	-7.4/-4.4	-3.43/-2.44	-2.22/-2.76	-2.29/-0.38	1.081.26	0.4/-0.87	-1.2/-1.98	-3.41/-5.98	-7.64/-7.96	-9.18/-11.7	-15.88/-18.59	-14.03/-13.09	-14.56/-14.13	-9.93/-7.51	-6.63/-7.33	-8.06/-9.26	-9.71/-10.75	-9.23/-7.81	-6.81/-7.12	-10.48/-18.89	-14.13/-12.99
Θ (112.5°)	-13.68/-13.84	-12.03/-11.13	-8.23/-3.72	-6.3/-4.72	-3.66/-2.73	-2.04/-1.99	-1.39/-0.1	0.740.58	-0.38/-1.39	-0.71/-2.02	-3.47/-6.01	-8.16/-9.43	-10.53/-13.3	-18.35/-17.73	-15.22/-17.08	-11.47/-13.35	-8.47/-6.69	-7.39/-8.33	-7.58/-6.92	-7.38/-9.17	-10.83/-10.04	-8.27/-8.66	-11.04/-13.17	-11.02/-10.08
Θ (120°)	-11.61/-11.8	-11.26/-11.43	-9.77/-7.87	-7.44/-6.05	-5.15/-4.59	-4.46/-3.79	-2.45/-0.72	0.191.201	-1.48/-2.57	-2.42/-8.1	-3.89/-6.52	-9.31/-10.06	-10.71/-12.08	-15.92/-18.72	-18.81/-18.95	-13.66/-17.3	-6.22/-4.99	-5.29/-6.28	-7.96/-10.33	-13.14/-13.51	-10.39/-7.81	-6.05/-5.67	-6.97/-6.9	-10.41/-8.85
Θ (127.5°)	-10.09/-10.11	-10.34/-12.8	-12.98/-9.6	-7.31/-5.86	-4.94/-4.94	-5.95/-6.42	-5.05/-3.03	-1.8/-1.88	-2.92/-4.12	-3.85/-3.6	-4.47/-6.81	-9.91/-11.89	-12.51/-14.27	-17.99/-18.27	-18.87/-17.78	-14.14/-10.22	-7/-6.22	-7.67/-11.31	-14.91/-11.76	-8.65/-7.16	-6.31/-6.05	-6.26/-7.08	-9.4/-12.97	-12.85/-10.15
Θ (135°)	-9.42/-9.77	-8.72/-10.35	-13.92/-13.66	-10.86/-8.46	-7.35/-6.92	-6.95/-8.88	-4.33/-2.94	-2.19/-2.4	-3.2/-4.82	-5.84/-6.38	-7.85/-10.79	-14.85/-16.7	-16.25/-15.52	-15.96/-16.65	-18.65/-18.43	-17.69/-14.14	-10.8/-9.68	-11.59/-12.51	-10.33/-8.22	-7.04/-6.88	-7.54/-8.88	-10.76/-13.5	-18.68/-17.5	-12.05/-9.55
Θ (142.5°)	-10.86/-10.46	-9.83/-10.52	-12.1/-11.96	-10.55/-8.82	-9.19/-10.77	-11.97/-9.17	-5.59/-3.16	-2/-2.12	-3.27/-5.3	-7.88/-10.13	-12.43/-15.64	-18.09/-17.58	-18.99/-17.45	-19.09/-19.12	-18.22/-18.91	-18.95/-17.2	-15.38/-14.1	-13.51/-11.6	-9.85/-8.77	-8.55/-9.42	-10.98/-14.08	-18.45/-18.72	-18.45/-15.86	-12.05/-10.44
Θ (150°)	-12.86/-13.06	-13.29/-13.85	-14.27/-13.36	-11.73/-10.58	-10.81/-13.26	-17.47/-18.31	-9.89/-6.06	-4.61/-4.51	-5.08/-6.16	-7.57/-9.04	-10.46/-11.48	-12.77/-13.81	-15.57/-15.93	-15.4/-15.7	-17.33/-18.59	-17.78/-15.44	-13.18/-11.25	-10.04/-9.79	-9.88/-10.56	-11.3/-12.51	-14.8/-16.68	-18.99/-18.1	-18.25/-15.34	-13.56/-12.6
Θ (157.5°)	-15.98/-15.94	-17.14/-17.73	-18.14/-18.69	-15.1/-13.18	-13.18/-14.89	-17.1/-19.25	-18.49/-13.9	-11.32/-10.53	-10.32/-10.53	-10.79/-11.1	-11.51/-12.17	-13.54/-16.16	-18.79/-17.48	-15.27/-13.97	-13.19/-12.44	-11.35/-10.32	-9.51/-9.67	-10.04/-13.93	-14.53/-16.51	-16.67/-16.16	-16.53/-19.06	-18.37/-17.77	-18.87/-18.91	-17.36/-16.34
Θ (165°)	-17.77/-17.92	-19.22/-17.84	-17.52/-19.13	-18.58/-18.31	-18.79/-18.38	-17.31/-17.36	-17.42/-17.85	-18.31/-17.86	-17.08/-17.23	-17.09/-16.84	-17.02/-17.95	-19.28/-18.53	-18.84/-18.03	-18.83/-16.06	-13.27/-11.66	-10.62/-10.6	-11.3/-12.98	-16.06/-18.72	-18.64/-17.88	-15.33/-14.43	-14.23/-14.91	-16.2/-18.96	-18.73/-17.49	-18.72/-18.98
Θ (172.5°)	-17.97/-18.61	-19.18/-18.91	-18.24/-18.86	-18.32/-18.26	-18.98/-17.84	-17.03/-16.42	-16.43/-15.32	-16.6/-16.31	-16.35/-17.17	-17.64/-17.34	-16.62/-16.02	-16.11/-17.46	-17.54/-18.73	-18.68/-17.51	-14.55/-13.73									



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A.1

Θ(180°)	-7.41/-7.92	-7.85/-8.17	-8.64/-10.44	-11.74/-13.45	-15.76/-18.13	-19.15/-18.07	-17.2/-13.23	-10.49/-8.39	-6.86/-5.95	-5.13/-4.27	-3.56/-3.04	-2.66/-2.65	-2.74/-2.68	-2.81/-3.75	-5.35/-7.35	-8.51/-10.3	-14.43/-18.12	-18.24/-14.48	-11/-9.38	-8.85/-8.08	-7.13/-6.41	-5.75/-5.21	-4.98/-5.25	-5.8/-6.62
Freq(Hz)	5.3GPol.	PhiAnt. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	0.64/0.03	-1.12/-2.22	-3.44/-5.73	-9.38/-14.33	-18.73/-16.47	-15.85/-7.81	-4.78/-2.98	-1.56/-0.35	0.67/1.15	1.49/1.82	1.76/1.65	1.74/1.38	0.25/-1.04	-1.85/-3.36	-6.16/-10.31	-15.66/-18.14	-17.39/-10.74	-6.97/-4.21	-2.32/-1.07	-0.19/0.65	1.41/1.81	1.95/2.11	2.21/1.99	1.51/1.02
Θ(7.5°)	0.05/-0.53	-2.27/-4.71	-6.95/-9.89	-11.27/-12.5	-10.91/-8.41	-5.84/-3.88	-2.36/-1.24	-0.26/0.46	1.03/1.35	1.51/1.62	1.59/1.43	1.4/1.54	1.28/0.27	-0.69/-1.16	-1.85/-3.41	-6.04/-9.19	-13.43/-17.79	-17.32/-10.83	-6.84/-3.97	-1.89/-0.43	0.66/1.3	1.59/1.88	2.1/1.89	1.40/5.9
Θ(15°)	-0.22/-1.22	-2.47/-3.52	-4.04/-4.05	-4.43/-5	-5.44/-5.22	-4.36/-4.4	-2.57/-1.76	-0.99/-0.53	-0.21/-0.05	0.19/0.58	0.96/1.31	1.51/1.73	1.68/1.61	0.94/0.16	-0.58/-1.6	-3.25/-4.82	-6.19/-8	-11.65/-18.9	-17.09/-9.43	-5.24/-2.55	-1.03/-0.25	0.02/0.24	0.52/0.47	0.33/0.28
Θ(22.5°)	1.64/0.07	0.41/-0.37	-1.23/-1.66	-2.15/-3.13	-4.3/-4.81	-4.45/-3.62	-2.59/-1.76	-1.45/-1.3	-1.72/-2.06	-2.27/-2.02	-1.15/0.01	0.97/1.51	1.61/1.4	0.73/-0.43	-2.27/-4.88	-7.66/-9.02	-9.02/-10.46	-14.63/-19.06	-17.04/-9.66	-5.77/-3.48	-3.06/-2.87	-2.58/-1.44	0.13/-1.52	2/2.03
Θ(30°)	-0.9/-2.16	-2.23/-1.79	-1.86/-2.76	-4.13/-3.56	-6.4/-6.28	-5.03/-3.5	-2.29/-1.87	-1.69/-1.79	-2.12/-2.84	-3.83/-4	-2.38/-0.26	0.89/0.95	0.13/-1.05	-2.85/-5.61	-10.1/-15.59	-18/-17.96	-18.79/-10.46	-17.07/-12.55	-9.52/-7.79	-6.01/-4.14	-2.83/-2.67	-3.23/-3.17	-1.82/-0.15	0.66/0.34
Θ(37.5°)	-1.68/-2.13	-2.4/-2.84	-4.12/-6.39	-9.25/-11.01	-10.49/-8.4	-5.9/-3.26	-1.72/-1.04	-1.08/-1.56	-2.35/-3.42	-4.45/-3.9	-1.83/-0.16	0.6/0.48	-0.48/-2.37	-5.07/-8.39	-12.88/-17.58	-18.71/-18.51	-18.5/-18.22	-18.43/-15.69	-9.68/-8.4	-7.72/-5.78	-4.04/-3.38	-4.33/-5.67	-3.56/-1.26	-0.72/-1.11
Θ(45°)	-1.86/-1.37	-2.35/-3.96	-5.85/-5.64	-8.72/-9.44	-7.76/-9.09	-8.04/-5.31	-3.13/-1.6	-1.1/-1.44	-2.86/-4.19	-3.6/-2.22	-1.06/-0.4	-0.16/-0.07	-0.15/-0.46	-1.31/-2.54	-4.41/-7.74	-12.01/-14.39	-16.19/-17.68	-11.5/-9.65	-10.07/-12.44	-11.54/-17.33	-3.68/-2.75	-4.07/-6.38	-5.04/-2.55	-1.94/-2.38
Θ(52.5°)	-1.87/-1.82	-3.3/-3.97	-4.52/-5.74	-7.17/-8.49	-9.49/-11.75	-12.76/-9.72	-4.38/-1.32	-0.41/-0.75	-2.97/-5.18	-3.92/-2.08	-0.97/-0.99	-1.49/-1.47	-1.83/-2.74	-3.23/-4.84	-8.36/-12.87	-16.25/-18.97	-17.36/-17.91	-18.23/-17.76	-13.12/-13.41	-19.03/-10.53	-6.54/-4.69	-4.93/-6.72	-4.52/-2.52	-2.91/-3
Θ(60°)	-3.19/-4.28	-6.07/-5.17	-5.13/-7.3	-9.45/-10.42	-10.73/-11.1	-8.97/-8.8	-6.02/-1.01	0.44/0.03	-2.15/-4.44	-3.45/-2.08	-0.99/-0.85	-1.43/-1.52	-2.06/-3.03	-3.19/-4.01	-6.44/-9.22	-9.89/-10.55	-13.93/-14.37	-9.02/-8.91	-15.54/-18.38	-11.16/-9.3	-7.35/-8.98	-11.75/-9.26	-4.88/-3.92	-6.28/-5.17
Θ(67.5°)	-5.78/-12.23	-11.37/-6.9	7.88/-11.69	-13.29/-12.95	-16.41/-14.25	-9.97/8.3	-6.25/-1.6	-0.75/-0.97	-2.25/-3.25	-3.19/-3.49	-2.68/-2.44	-2.89/-3.15	2.72/-2.95	-4.21/-7.53	-10.89/-11.36	-10.84/-15.66	-17.92/-18	-18.06/-10.36	-10.34/-13.52	-12.36/-17.28	-7.16/-10.25	-11.11/-12.98	7.37/-3.43	-7.62/-5.68
Θ(75°)	-7.22/-15.68	-10.73/-8.51	-11.3/-15.42	-18.55/-17.8	-18.54/-10.66	-7.03/-4.32	-5.21/-1.88	-1.37/-1.47	-2.17/-2.46	-2.67/-4.57	-3.81/-2.48	-2.5/-3.4	-3.19/-3.02	-4.05/-7.06	-12.65/-11.41	-9.87/-12.5	-17.78/-18.11	-11.96/-7.57	-9.18/-7.53	-6.9/-6.11	-6.04/-10.97	-13.68/-12.62	-8.69/-8.18	-12.06/-6.76
Θ(82.5°)	-9.36/-15.42	-11.03/-13.41	-17.99/-15.74	-17.74/-15.74	-17.97/-7.72	-6.73/-5.18	-5.97/-2.16	-2.68/-2.73	-2.44/-2.17	-2.84/-5.7	-5.45/-3.92	-3.52/-4.08	-3.45/-3.01	-4.52/-9.4	-17.62/-12.88	-9.64/-12.66	-12.76/-18.2	-12.77/-5.61	-6.89/-10.25	-6.66/-5.46	-6.0/-1.96	-12.31/-16.45	-11.66/-13.08	-15.82/-6.12
Θ(90°)	-14.87/-12.96	-9.73/-15.87	-19.46/-17.26	-19.27/-18.37	-11.29/-5.79	-5.37/-3.14	-4.4/-1.76	-3.02/-3.17	-2.71/-2.54	-2.76/-6.15	-6.91/-5.37	-4.41/-4.33	-3.79/-3.58	-5.16/-8.82	-15.4/-14.75	-11.22/-16.06	-13.45/-13.25	-17.64/-6.01	-6.18/-6.16	-7.48/-7.61	-7.79/-10.5	-9.34/-14.07	-19/-18.7	-15/-9.05
Θ(97.5°)	-17.41/-11.57	-13.3/-18.2	-17.91/-12.88	-17.87/-11.87	-9.74/-5.48	-6.44/-3.83	-4.78/-2.26	-3.75/-3.31	-2.96/-2.6	-3.25/-6.22	-7.44/-6.03	-4.35/-6.44	-4.49/-4.18	-4.35/-7.22	-11.45/-15.53	-11.05/-8.87	-14.98/-10.71	-10.52/-13.13	-10.72/-8.71	-8.11/-7.06	-13/-8.76	-10.29/-15.61	-18.85/-19.02	-15.71/-10.88
Θ(105°)	-12.56/-11.9	-16.65/-16.38	-16.78/-12.91	-16.98/-11.04	-8.81/-4.83	-5.37/-3.93	-5.07/-2.88	-4.69/-4.15	-3.07/-3.42	-3.29/-6.21	-10.59/-10.47	-6.24/-4.58	-4.43/-4.46	-4.07/-4.87	-11.3/-18.07	-10.84/-11.21	-12.99/-17.22	-13.77/-16.61	-8.12/-13.39	-10.47/-13.4	-13.69/-15.9	-13.65/-16.53	-15.82/-18.91	-15.83/-13.29
Θ(112.5°)	-9.64/-10	-18.84/-13.76	-17.14/-16.09	-19.27/-10.61	-9.4/-8.59	-9.78/-4.95	-5.31/-3.59	-5.17/-3.76	-3.25/-2.76	-3.39/-6.77	-10.1/-9.26	-5.69/-4.46	4.11/-5.15	-5.88/-6.18	-8.43/-12.12	-12.37/-15.09	-16.76/-9.38	-12.21/-11.54	-5.85/-8.74	-14.31/-17.45	-12.67/-7.88	-12.42/-14.01	-14.71/-17.89	-16.59/-18.2
Θ(120°)	-10.1/-15	-17.48/-13.2	-19.24/-15.62	-18.73/-14.5	-17.03/-12.54	-12.27/-9.38	-10.49/-3.78	-8.57/-4.71	-3.23/-4.41	-5.29/-7.15	-11.03/-10.63	-6.42/-3.94	-3.46/-4.44	-5.77/-6.44	-10.82/-8.05	-10.85/-14.95	-17.94/-11.06	-7.37/-11.03	-15.56/-8.84	-8.32/-17.18	-16.35/-11.58	-7.92/-10.39	-18.64/-14.44	-19.07/-17.19
Θ(127.5°)	-14.69/-18.52	-16.65/-15.63	-13.54/-9.25	-8.92/-8.83	-12.21/-17.02	-18.42/-17.24	-14.2/-8.84	-8.72/-3.41	-5.06/-6.83	-6.11/-2.85	-10.06/-11.54	-9.64/-5.33	-4.05/-4.79	-7.12/-9.65	-8.05/-6.41	-9.85/-8.39	-16.14/-3.44	-12.76/-9.51	-9.53/-4.77	-8.44/-14.77	-10.44/-10.5	-16.08/-17.97	-18.82/-18.2	
Θ(135°)	-12.06/-16.56	-17.44/-17.83	-15.19/-10.8	-8.87/-6.82	-6.67/-7.96	-9.27/-10.07	-8.82/-5.75	-4.03/-3.41	-5.12/-6.71	-5.69/-6.12	-6.92/-8.57	-7.41/-4.99	-3.78/-3.01	-4.27/-5.86	-6.64/-7.37	-12.96/-14.64	-17.86/-11.43	-11.74/-18.31	-13.77/-9.94	-13.63/-10.01	-5.73/-6.23	-14.68/-13.2	-18.93/-14.66	-11.14/-9.84
Θ(142.5°)	-12.63/-14.92	-15.84/-15.18	-11.99/-8.61	-6.48/-7.1	-10.31/-8.08	-4.32/-3.55	-4.94/-5.52	-4.73/-4.47	-6.29/-8.21	-7.61/-7.37	-9.45/-10	-8.76/-6.82	-5.38/-4.9	-5.28/-6.69	-6.02/-8.54	-12.89/-17.79	-10.24/-7.75	-7.74/-12.17	-18.12/-12	-15.45/-18.71	-14/-12.06	-18.11/-13.45	-13.89/-10.84	-10.63/-10.2
Θ(150°)	-19.09/-19.07	-12.05/-10.79	-10.45/-17.45	-19.34/-16.1	-17.71/-13.51	-8.68/-7.12	-7.36/-6.65	-5.74/-6.13	-9.88/-15.4	-16.86/-13.45	-12.32/-10.9	-10.75/-10.34	-9.03/-8.31	-9.27/-10.13	-9.96/-11.1	-9.07/-6.63	-6.8/-6.69	-11.7/-15.81	-12.41/-14.56	-14.89/-14.21	-15.1/-18.64	-17.89/-15.69	-15.41/-13.29	
Θ(157.5°)	-18/-17.59	-13.95/-12.84	-13.37/-18.41	-17.75/-18.88	-15.2/-11.91	-9.48/-9.08	-10.2/-9.72	-7.9/-6.89	-7.63/-10.46	-14/-14.88	-13.69/-14.26	-15.77/-13.86	-10.02/-7.82	-6.36/-5.87	-6.21/-6.37	-5.64/-5.89	-5.92/-4.84	-4.42/-5.04	-6.21/-7.59	-8.87/-10.71	-12.05/-14.03	-15.44/-16.94	-18.15/-17.95	-19.32/-17.46
Θ(165°)	-14.91/-14.72	-13.59/-14.45	-14.53/-12.89	-12.15/-16.42	-13.43/-12.29	-11.19/-10.27	-10.77/-10.72	-9.84/-9.16	-9.74/-11.72	-14.82/-17.4	-11.71/-16.85	-16.67/-14.52	-12.51/-11.34	-11.53/-11.64	-9.88/-7.6	-5.76/-4.45	-3.28/-8.82	-3.27/-4.56	-6.62/-9.48	-12.42/-13.58	-12.48/-13.68	-16.3/-18.58	-16.84/-18.43	-13.82/-12.27
Θ(172.5°)	-17.97/-15.24	-12.51/-11.51	-10.62/-10.48	-10.85/-10.79	-11.07/-11.62	-11.26/-10.03	-9.77/-8.42	-8.13/-7.77	-7.72/-8.49	-9.72/-11.34	-13.33/-16.34	-19.11/-19.54	-9.96/-7.89	-6.24/-9.99	-3.95/-3.35	-3.26/-3.68	-4.59/-6.33	-9.04/-12.41	-17.25/-18.31	-18.82/-18.2	-16.96/-15.02	-16.1/-17.8	-18.67/-18.47	
Θ(180°)	-14.71/-13.18	-12.54/-11.53	-9.67/-8.59	-7.69/-6.54	-6.02/-5.94	-5.76/-5.53	-5.28/-5.16	-5.21/-5.35	-5.56/-6.14	-7.08/-8.29	-10.01/-12.25	-15.51/-19.1	-17.99/-19	-15.78/-12.82	-10.85/-9.47	-8.26/-7.68	-8.01/-8.7	-9.69/-11.03	-12.13/-11.94	-11.65/-11.93	-12.07/-11.58	-11.84/-13.24	-15.19/-15.28	-15.71/-15.82
Freq(Hz)	5.3GPol.	Theta/Ant. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-5.95/-4.05	-2.55/-1.16	-0.12/0.65	0.97/1.33	1.71/1.95	1.83/1.48	1.03/0.52	-0.29/-1.49	-3.02/-4.92	-8.25/-13.45	-17.31/-16.85	-9.98/-7.4	-5.08/-2.21	-0.40/-1.8	0.41/0.9	1.43/1.67	1.67/1.51	1.27/0.83	0.14/-0.7	-1.39/-2.28	-3.96/-6.16	-9.25/-14.62	-17.54/-18.84	-12.52/-8.87
Θ(7.5°)	-3.78/-1.88	-0.60/-2.2	0.84/1.26	1.46/1.49	1.62/1.49	1.01/0.39	-0.32/-1.06	-2.13/-3.69	-5.5/-7.25	-10.01/-13.79	-16.77/-14.13	-11.87/-10.14	-1.94/-6.03	-0.64/-5.2	-1.76/-1.69	-0.64/0.52	1.25/1.43	1.27/0.96	0.55/0.05	-0.53/-1.31	-2.56/-4.72	-8.71/-13.14	-18.76/-13.19	-9.22/-6.32
Θ(15°)	-2.69/-1.46	-0.44/0.4	0.65/0.59	1.03/1.33	1.44/1.35	1.01/0.38	-0.61/-1.79	-3.45/-6.37	-6.81/-7.01	-7.31/-13.79	-13.16/-8.85	-11.37/-16.84	-19.04/-19.03	-13.16/-12.96	-6.35/-6.01	-5.9/-5.1	-3.93/-3.05	-2.59/-1.96	-1.37/-1.28	-1.54/-2.23	-3.79/-5.78	-7.97/-8.57	-17.73/-6.88	-5.91/-4.23
Θ(22.5°)	-3.1/-1.24	-0.02/0.36	0.45/0.24	0.17/0.24	0.35/0.72	1.03/0.82	0.02/-1.59	-3.64/-5.08	-5.2/-4.84	-4.86/-5.3	-5.91/-7.16	-10.94/-16.79	-14.5/-14.16	-15.07/-10.41	-6.92/-5.79	-5.8/-6.69	-8.26/-9.85	-9.21/-6.42	-5.03/-5.33	-6.21/-7.34	-7.65/-6.43	-5.07/-3.71	-3.58/-5.32	-7.09/-5.46
Θ(30°)	-2.28/-1.23	-0.88/-0.61	-0.53/-0.6	-1.48/-2.13	-2.28/-1.17	-0.08/-0.1	-0.99/-2.79	-4.53/-4.45	-3.4/-3.3	-4.31/-5.														



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A.1

Θ(30°)	2.81/6	-0.18/-2.09	-4.29/-6.28	-6.56/-6.57	-6.49/-5.93	-5.09/-4.64	-3.68/-3.26	-3.6/-5.37	-10.26/-7.51	-2.25/0.25	1.49/2.17	2.28/1.89	1.23/-0.06	-2.72/-6.52	-10.58/-13.51	-15.87/-15.17	-12.88/-10.03	-7.36/-6.82	-9.7/-18.82	-14.65/-10.59	-8.33/-6.08	-4/-2.12	-0.44/-1.18	2.54/3.07
Θ(37.5°)	0.21/-0.42	-1.62/-3.09	-3.7/-4.19	-5.81/-8.46	-9.88/-8.02	-5.09/-3.74	-2.81/-2.67	-3.25/-5.93	-10.04/-5.42	-1.42/0.37	0.89/0.98	0.97/0.92	0.46/-0.65	-1.88/-2.8	-3.88/-5.46	-8.36/-11.9	-13.55/-10.19	-7.63/-8.38	-12.24/-15.62	-10.94/-9.32	-11.81/-8.22	-5.52/-4.61	-2.46/0.05	1.33/0.89
Θ(45°)	-0.36/-0.14	-1.31/-3.7	-4.02/-3.48	-5.74/-9.45	-11/-11.72	-7.69/-3.57	-1.53/-1.37	-2.29/-6.35	-10.64/-4.51	-1.24/0.08	-0.07/-0.84	-0.86/0.22	0.37/-0.93	-3.18/-6.73	-9.02/-10.32	-11.16/-12.48	-11.68/-9.36	-7.96/-7.05	-10.51/-12.83	-8.37/-8.32	-10.53/-8.14	-6.06/-6.39	-3.78/-0.87	0.26/-0.28
Θ(52.5°)	0.18/0.55	-1.72/-4.49	-4.89/-4.62	-6.8/-7.27	-5.53/-5.2	-5.44/-4.38	-1.92/-1.23	-2.52/-6.36	-10.33/-4.73	-1.4/-0.37	-0.5/-1.78	-2.33/-0.54	0.32/-0.95	-5.16/-9.62	-8.63/-8.77	-10.57/-14.25	-13.19/-9.74	-7.48/-9.09	-10.31/-13.11	-18.67/-15.01	-11.29/-7.28	-6.05/-7.62	-4.81/-2.04	-1.84/-1.26
Θ(60°)	-2/-1.39	-5.08/-6.43	-7.17/-9.13	-11.07/-7.54	-6.91/-8.11	-9.48/-8.84	-5.85/-4.06	-4.33/-7.23	-9.34/-5.65	-2.4/-1.58	-2.02/-2.88	-2.65/-0.54	0.54/-1.17	-8.05/-14.99	-18.73/-18.17	-15.38/-16.74	-15.92/-18.11	-17.98/-18.34	-18.41/-14.66	-13.89/-14.72	-12.17/-13.09	-11.98/-12.01	-6.43/-3.05	-3.18/-3.85
Θ(67.5°)	-5.38/-4.62	-7.96/-6.41	-7.93/-15.22	-18.13/-8.79	-9.3/-11.98	-14.92/-12.79	-6.71/-4.38	-4.44/-6.58	-8.37/-5.14	-3.34/-3.55	-3.87/-3.47	-2.91/-0.98	0.04/-2.79	-11.55/-17.48	-17.72/-17.83	-18.17/-17.79	-18.69/-18.68	-10.95/-6.48	-6.49/-12.46	-17.18/-9.58	-8.86/-11.03	-10.17/-9.64	-6.01/-3.25	-5.03/-7.86
Θ(75°)	-8.07/-8.74	-13.84/-8.47	-12.43/-19.3	-18.31/-12.1	-17.67/-16.29	-18.63/-17.06	-9.35/-8.2	-8.08/-8.3	-8/-6.28	-4.87/-5.11	-5.02/-3.44	-2.52/-1.56	0.24/-1.85	-9.19/-13.47	-18.35/-18.01	-18.03/-18.13	-18.38/-14.33	-18.04/-14.71	-8.9/-10.33	-18.38/-9.29	-8.05/-9.28	-8.73/-10.1	-8.11/-6.2	-7.11/-10.54
Θ(82.5°)	-11.08/-14.22	-14.45/-8.74	-19.05/-16.98	-18.49/-16.41	-18.76/-18.98	-11.33/-9.5	-7.4/-6.41	-5.68/-8.55	-7.2/-6.33	-5.72/-6.15	-6/-3.35	-2.86/-2.39	-0.55/-2.55	-8.82/-15.49	-18.17/-19.1	-17.78/-17.73	-18.42/-14.99	-13.01/-14.54	-7.32/-5.93	-11.33/-10.74	-6.56/-6.88	-6.06/-8.8	-9.44/-7.26	-10.55/-9.86
Θ(90°)	-12.26/-18.94	-18.09/-12.26	-17.88/-12.21	-18.82/-18.84	-14.1/-9.47	-9.06/-7.12	-7.37/-8.47	-9.56/-9.86	-8.36/-7.81	-7.04/-7.65	-7.15/-4.95	-4.55/-3.83	-1.21/-1.78	-8.72/-16	-13.6/-13.53	-17.85/-18.27	-10.1/-14.69	-11.67/-9.88	-15.65/-10.49	-12.12/-9.17	-6.94/-8.07	-7.25/-10.13	-12.07/-11.18	-16.24/-10.89
Θ(97.5°)	-16.08/-17.67	-18.61/-14.49	-18.38/-10.61	-18.47/-18.34	-16.58/-13.09	-8.75/-7.51	-5.97/-5.75	-7.31/-8.89	-9.75/-8.17	-7.75/-7.28	-7.04/-5.07	-4.91/-4.34	-1.78/-2.56	-8.79/-13.74	-11.55/-12.64	-15.53/-18.25	-10.22/-12.72	-13.33/-9.21	-8.93/-10.29	-18.87/-14.18	-8.41/-10.12	-9.48/-13.19	-14.33/-14.09	-14.25/-9.58
Θ(105°)	-18.65/-18.7	-14.78/-18.08	-16.33/-11.24	-18.78/-19.04	-11.47/-8.8	-8.96/-7.85	-7.77/-8.61	-10.92/-16.05	-12.32/-8.46	-7.98/-9.01	-8.81/-7.03	-6.69/-5.54	-3.31/-3.76	-9.3/-9.8	-12.22/-17.08	-18.11/-18.85	-8.67/-6.77	-7/-11.29	-10.48/-7.5	-13.73/-11.83	-8.59/-11.33	-9.53/-12.93	-12.43/-12.01	-12.12/-11.83
Θ(112.5°)	-13.37/-16.88	-14.38/-16.63	-19.67/-14.59	-18.41/-17	-17.74/-16.56	-12.47/-13.44	-7.95/-6.72	-10.27/-11.71	-9.42/-9.42	-9.85/-9.86	-9.17/-7.07	-6.35/-5.71	-4.62/-5.42	-9.24/-8.03	-6.79/-8.1	-11.6/-16.48	-18.39/-11.6	-8.39/-10.68	-19.15/-11.33	-10.9/-13.81	-11.28/-17.14	-10.8/-17.42	-13.82/-12.84	-14.29/-11.39
Θ(120°)	-16.53/-15.41	-14.05/-18.28	-15.14/-18.01	-19.01/-19.09	-16.51/-12.78	-18.24/-18.15	-9.63/-10.07	-16.39/-15.37	-13.2/-10.73	-9.29/-10.29	-10.4/-9.81	-8.31/-7.27	-4.57/-5.13	-4.25/-7.83	-8.8/-17.01	-11.98/-13.14	-18.6/-11.77	-14.84/-17.97	-19/-14.35	-6.06/-4.91	-9.34/-18.07	-8.77/-8.5	-13.12/-18.95	-18.62/-15.15
Θ(127.5°)	-11.95/-17.59	-18.35/-18.83	-16.93/-18.1	-11.88/-9.25	-10.4/-11.77	-15.59/-18.42	-14.06/-12.84	-17.8/-18.65	-11.73/-8.8	-8.4/-8.98	-12.06/-17.25	-14/-10.03	-6.53/-4.25	-5.14/-12.44	-12/-6.54	-7.1/-6.56	-10.65/-17.45	-7.93/-4.55	-4/-7.43	-12.87/-17.5	-14.65/-12.19	-11.09/-16.21	-17.55/-18.12	-17.4/-13.46
Θ(135°)	-14.96/-11.55	-17.69/-18.27	-17.5/-16.1	-10.82/-9.11	-10.14/-9.73	-14.9/-12.21	-7.38/-7.29	-8.38/-7.73	-8.76/-11.84	-14.47/-16.36	-18.03/-11.33	-5.25/-2.02	-1.73/-4.02	-7.1/-9.29	-11.52/-13.06	-5.68/-5.07	-7.28/-18.96	-8.68/-6.52	-9.5/-17.35	-18.63/-9.53	-8.15/-12.51	-13.27/-13.26	-11.68/-14.73	
Θ(142.5°)	-16.75/-19.03	-18.13/-19.28	-17.78/-15.5	-16.56/-18.99	-10.06/-4.99	-5.47/-8.94	-9.12/-8.46	-7.92/-8.07	-8.44/-9.49	-12.32/-12.88	-12.52/-15.73	-18.42/-11.23	-5.99/-2.45	-2.53/-5.64	-6.78/-9.56	-10.18/-6.39	-7.95/-7.98	-5.03/-5.77	-9.02/-18.34	-11.29/-15.02	-13.35/-12.64	-17.11/-13.05	-15.08/-13.52	-19.08/-12.8
Θ(150°)	-14.64/-15.98	-16.31/-14.71	-15.4/-18.74	-17.86/-18.68	-17.18/-13.72	-12.85/-12.48	-11.86/-14.09	-18.6/-18	-11.16/-10.61	-13.46/-19.61	-17.4/-15.9	-18.95/-16.1	-10.67/-6.61	-5.06/-6.54	-8/-5.94	-5.44/-5.98	-4.28/-3.5	-6.32/-16.57	-17.88/-18.26	-13.79/-13.24	-12.5/-12.42	-14.5/-16.18	-16.79/-16.32	-18.64/-15.14
Θ(157.5°)	-18.24/-18.78	-18.63/-18.67	-14.92/-12.83	-13.66/-16.15	-16.72/-15.73	-13.35/-11.19	-9.21/-4.77	-9.07/-8.97	-8.6/-8.66	-10.07/-12.85	-18.98/-17.55	-17.1/-12.2	-9.22/-7.51	-6.46/-4.51	-2.74/-2.28	-12.4/-1.71	-1.38/-1.45	-2.2/-3.37	-4.4/-5.82	-8.24/-10.2	-11.01/-11.74	-11.67/-12.27	-15.24/-18.61	-17.8/-16.95
Θ(172.5°)	-18.37/-18.6	-14.48/-13.02	-11.44/-10.11	-8.36/-7.42	-6.92/-6.32	-5.53/-5.25	-5.04/-5.07	-5.29/-5.79	-6.53/-7.48	-9.06/-11.64	-15.57/-19.26	-17.55/-14.72	-9.93/-6.9	-5.33/-3.95	-2.77/-2.09	-1.75/-1.35	-1.53/-2.98	-5.6/-8.65	-11.7/-16.04	-17.65/-18.1	-18.51/-18.23	-18.63/-15.8	-1.75/-18.62	-18.93/-18.88
Θ(180°)	-17.48/-15.04	-12.18/-9.13	-7/-5.93	-4.78/-3.55	-3.08/-2.58	-2.16/-2.03	-1.89/-2.02	-2.29/-2.83	-3.5/-4.16	-5.22/-6.85	-9.37/-13.21	-18.53/-18.49	-16.89/-12.51	-9.31/-7.48	-6.61/-5.54	-4.58/-4.5	-5.43/-6.97	-8.62/-10.4	-11.68/-11.93	-11.11/-9.8	-8.43/-7.36	-7.91/-9.96	-13.16/-15.78	-19.62/-19.24
Freq(Hz)	5.785GPol.	Theta/Ant. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-8.36/-5.29	-3.35/-2.09	-0.9/0.09	0.72/1.2	1.59/1.83	1.98/1.88	1.53/0.94	0.11/-0.77	-1.72/-3.2	-5.01/-7.32	-10.6/-14.44	-14.58/-9.27	-6.57/-7.43	-2.16/-0.38	0.14/0.7	1.62/2.2	2.24/2.13	2.05/1.77	1.22/0.77	0.26/-0.6	-1.8/-3.22	-5.03/-7.56	-11.22/-15.64	-16.07/-12.44
Θ(7.5°)	-4.56/-2.68	-0.87/0.26	0.86/1.68	2.36/2.62	2.59/2.51	2.23/2	1.59/0.9	0.1/-0.61	-1.65/-3.1	-4.63/-6.29	-9.5/-12.96	-15.04/-14.14	-8.75/-6.06	-4.53/-2.59	-1.3/-0.91	-0.64/-0.1	0.51/0.66	0.5/0	-0.7/-1.38	-1.75/-2.4	-3.78/-5.3	-7.06/-10.1	-14.79/-15.35	-9.73/-6.18
Θ(15°)	-0.35/0.41	1.21/1.61	1.64/1.8	1.88/1.69	1.26/0.83	0.41/0.04	-0.76/-1.44	-1.79/-1.96	-2.15/-2.36	-2.82/-3.97	-5.62/-6.87	-6.62/-5.54	-4.25/-3.18	-2.34/-1.89	-1.63/-1.71	-2.44/-3.1	-3.26/-3.18	-3.58/-4.46	-5.7/-6.77	-7.25/-8.19	-9.82/-12.12	-14.99/-16.36	-10.69/-6.03	-3.02/-1.16
Θ(22.5°)	-1.26/-0.43	0.38/1	1.19/0.88	0.74/0.6	0.19/-0.41	-1.48/-2.67	-3.79/-4.41	-4.46/-4.07	-3.66/-3.62	-4.53/-6.34	-7.07/-6.01	-4.27/-2.01	-0.63/0.25	0.75/0.72	0.18/-1.01	-2.5/-3.7	-4.53/-5.41	-7.05/-9.94	-12.25/-13.14	-14.8/-16.43	-17.81/-18.2	-16.83/-9.08	-5.06/-3.02	-2.25/-1.69
Θ(30°)	-0.09/0.38	1.28/1.59	0.77/-0.44	-0.98/-1.03	-0.89/-0.93	-1.71/-3.31	-4.22/-4.78	-5.55/-5.53	-4.63/-4.97	-7.17/-9.44	-9.9/-8.87	-5.77/-2.97	-1.49/-0.66	-0.26/-0.51	-1.49/-2.81	-4.23/-4.83	-4.79/-5.86	-8.12/-12.29	-16.97/-18.21	-17.59/-18.58	-17.38/-14.93	-15.72/-12.25	-7.63/-4.69	-2.04/-0.41
Θ(37.5°)	2.48/2.32	2.65/2.8	2.31/0.9	-0.66/-1.87	-1.83/-1.21	-2.4/-4.41	-5.74/-6.35	-5.42/-3.93	-3.74/-4.99	-8.57/-11.46	-9.29/-7.18	-4.94/-3	-2.16/-2.39	-3.31/-3.81	-4.29/-6.06	-8.49/-8.81	-9.19/-8.4	-7.64/-9.96	-14.72/-17.63	-16.55/-9.09	-8.02/-10.32	-13.08/-8.29	-3.71/-0.98	1.37/2.58
Θ(45°)	3.16/2.57	3.06/2.78	1.67/0.61	-0.78/-2.25	-2.37/-2.08	-3.55/-5.14	-5.97/-6.42	-6.13/-5.48	-5.99/-9.42	-18.34/-12.68	-8.12/-6.8	-6.47/-6.62	-5.37/-3.86	-3.85/-5.75	-8.48/-9.22	-10.46/-11.82	-14.9/-14.35	-18.79/-18.22	-18.97/-18.37	-16.09/-10.93	-7.97/-7.71	-9.96/-7.88	-3.28/0.08	2.39/3.6
Θ(52.5°)	2.05/1.48	0.98/-0.68	-2.67/-2.95	-2.49/-1.83	-1.54/-2.64	-5.82/-7.62	-8.14/-11.04	-7.23/-5.32	-6.53/-13.32	-17.58/-7.85	-6.22/-6.81	-7.3/-7.18	-5.12/-6.46	-6.81/-10.37	-16.18/-18.65	-18.26/-17.21	-18.42/-17.53	-13.13/-16.14	-18.54/-17.44	-14.38/-9.53	-7.26/-6.21	-8.72/-11.34	-4.33/-0.9	1.12/1.99
Θ(60°)	2.62/2.08	0.42/-3.42	-9.12/-7.54	-4.48/-2.95	-2.56/-3.81	-7.04/-8.19	-7.49/-10.89	-14.41/-10.27	-8.42/-11.02	-15.18/-9.18	-7.58/-9.38	-7.62/-4.99	-3.11/-1.8	-4/-7.67	-11.23/-12.1	-12.7/-12.7	-15.65/-15.3	-15.03/-18.28	-15.7/-18.52	-12.14/-10.14	-9.91/-9.28	-14.98/-10.45	-3.11/-0.97	0.41/1.99
Θ(67.5°)	2.44/1.93	0.88/-2.57	-5.46/-5.31	-3.92/-4.17	-4.37/-3.81	-4.86/-4.36	-4.24/-9.61	-12.79/-9.37	-8.24/-12.71	-13.84/-8.67	-7.8/-7.16	-5.76/-4.55	-2.15/-0.29	-3.49/-9.4	-11.57/-9.71	-12.86/-14.57	-16.69/-12.24	-13.41/0.55	-11.02/-17.25	-10.12/-6.05	-7.17/-10.13	-17.81/-7.45	-1.95/-0.71	0.64/1.71
Θ(75°)	0.91/1.15	0.11/-0.93	-3.11/-4.91	-4.94/-7.71	-7.21/-4.22	-4.03/-4.16	-4.17/-6.66	-7.63/-7.76	-9.91/-15.8	-12.86/-8.82	-11.32/-8.07	-4.89/-5.09	-2.2/-0.52	-2.17/-8.46	-10.8/-8.97	-10.1/-12.36	-14.45/-11.09	-11.61/-10.32	-8.16/-12.56	-12.35/-6.36	-6.92/-11.36	-13.15/-5.29	-2.84/-3.28	-1.75/-0.09
Θ(82.5°)	-0.92/0.17	-0.79/-0.62	-3.48/-6.67	-5.43/-9.43	-9.34/-5.29	-5/-4.07	-3.16/-5.93	-6.58/-7.57	-8.92/-14.44	-14.04/-11.34	-14.76/-6.44	-3.87/-4.07	-1.78/-0.02	-2.01/-7.75	-8.79/-6.68	-9.64/-12.21	-13.09/-9.63	-10.02/-8.55	-6.01/-10.4	-15.93/-9.06	-7.55/-9.13	-11.74/-5.05	-3.97/-5.11	-3.33/-1.5
Θ(90°)	-2.19/-2.15																							



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Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	1.06	1.01	1.22	1.09
Ant. 2 Max Gain (dBi)	1.85	2.46	2.59	1.97
Ant. 3 Max Gain (dBi)	2.9	2.01	2.76	2.71
Ant. 4 Max Gain (dBi)	2.39	2.69	3.3	1.46
Ant. 1 Polarization/Θ(°)/Φ(°)	Theta/52.5/225	Phi/52.5/307.5	Theta/52.5/225	Theta/52.5/217.5
Ant. 2 Polarization/Θ(°)/Φ(°)	Theta/45/202.5	Phi/90/270	Phi/90/270	Theta/90/247.5
Ant. 3 Polarization/Θ(°)/Φ(°)	Theta/52.5/52.5	Theta/75/97.5	Theta/60/67.5	Theta/67.5/82.5
Ant. 4 Polarization/Θ(°)/Φ(°)	Theta/75/90	Phi/82.5/105	Theta/75/82.5	Theta/52.5/45
Max Gain (dBi)	2.9	2.69	3.3	2.71
DG [1SS] (dBi)	5.36	5.71	5.61	5.44
DG [2SS] (dBi)	2.9	2.71	3.3	2.71
DG [4SS] (dBi)	2.9	2.69	3.3	2.71





Radiated Composite Gain Data of 6GHz

Appendix A.2

Θ(22.5°)	-3.46/-4.14	-4.4/-6.73	-8.6/-7.32	-7.36/-6.06	-4.25/-2.72	-1.94/-2.53	-4.6/-3.95	-1.68/-0.42	-0.54/-0.86	-0.41/-0.39	-0.7/-1.21	-2.81/-4.29	-4.48/-4.91	-7.34/-8.03	-8.64/-11.31	-10.25/-7.29	-5.64/-5.85	-6.46/-7.11	-4.45/-1.24	0.57/1.5	2.04/2.41	1.96/1.6	0.68/-0.83	-1.48/-1.44
Θ(30°)	-5/-5.46	-5.55/-5.28	-6.84/-7.75	-6.48/-5.44	-4.45/-2.86	-1.56/-1.6	-1.33/-0.55	0.36/0.41	-1.08/-2.37	-0.89/0.13	0.02/-0.37	-1.32/-2.36	-2.6/-3.27	-3.48/-5.88	-11.66/-11.18	-10.6/-8.87	-6.5/-5	-3.22/-1.57	-0.76/-0.04	1.54/2.45	2.59/2.47	1.97/0.56	-0.61/-1.32	-1.31/-2.09
Θ(37.5°)	-6.13/-7.49	-4.6/-6.67	-9.69/-8.17	-5.79/-5.29	-3.72/-1.53	-0.89/-1.01	0.48/1.59	1.67/1.56	-0.08/-1.55	-1.11/0.36	0.42/-0.11	-0.11/-1.73	-2.63/-2.53	-4.94/-7.61	-11.05/-7.56	-6.02/-6.46	-6.76/-6.11	-5.74/-4.25	-2.17/-1.27	0.72/2.6	2.35/2.48	1.94/0.61	0.46/0.18	-0.92/-3.11
Θ(45°)	-5.73/-8.43	-6.35/-8.02	-6.74/-4.13	-4.61/-7.36	-5.55/-0.98	0.32/0.32	-0.01/0.95	1.53/1.54	0.94/0.51	0.96/0.63	1.01/0.4	-1.17/-3.25	-3.54/-2.84	-5.8/-8.11	-11.46/-7.2	-2.71/4.32	-7.27/-4.45	-2.18/-1.09	0.32/2	2.82/7.9	2.83/3.06	2.49/0.67	0.43/-0.61	-2.19/-2.93
Θ(52.5°)	-5.24/-11.23	-8.06/-6.07	-5.5/-4.79	-7.6/-7.25	-3.47/-1.57	-0.81/0.05	0.35/-0.4	1.04/0.79	0.76/1.39	1.67/0.77	0.89/-0.91	-1.87/-4.46	-2.98/-0.11	-2.36/-8.15	-7.18/-6.1	-4.85/-5.46	-3.79/-3.41	-2.06/-0.36	0.34/1.63	2.31/2	3.05/3.53	2.61/-0.65	-0.41/-1.18	-2.31/-1.4
Θ(60°)	-5.22/-7.72	-9.22/-4.55	-3.65/-6.33	-7.08/-7.32	-3.66/-1.37	-1.64/-1.31	0.26/0.66	0.47/-0.97	0.25/2.1	1.65/-0.74	-0.28/-0.49	-0.55/-3.24	-6.87/-2.62	-2.66/-5.55	-9.07/-6.27	-3.69/-5.89	-3.76/-2.48	-3.17/-2.39	-3.1/-1.19	-0.51/0.97	2.74/2.36	-0.68/-0.75	0.44/-0.75	-2.57/-3.52
Θ(67.5°)	-6.38/-7.57	-8.29/-5.95	-5.61/-7.23	-9.85/-6.65	-4.82/-3.02	-2.28/-0.4	0.04/-0.06	0.14/-0.62	0.84/1.43	-0.53/-0.13	-0.29/-0.95	-0.53/-2.36	-6.83/-5.37	-3.65/-4.69	-6.1/-6.82	-4.8/-3.86	-4.68/-3.61	-2.92/-1.44	-1.53/-0.71	-0.87/-0.15	0.77/0.5	0.15/0.48	-0.11/-3.3	-5.27/-4.24
Θ(75°)	-7.46/-8.64	-10.54/-5.7	-7.17/-5.8	-7.33/-7.49	-3.08/-4.52	-2.13/-2.06	0.05/-0.57	0.52/-0.34	0.53/0.69	-1.77/0.24	0.21/-1.23	-1.68/-3.43	-7.49/-6.51	-6.28/-5.84	-6.11/-5.88	-5.61/-3.95	-3.72/-4.44	-3/-0.82	1.32/-0.27	-0.62/-0.15	-0.8/0.51	-0.39/-0.18	-0.59/-3.92	-5.14/-5.35
Θ(82.5°)	-8.67/-7.4	-11.96/-6.11	-8.07/-5.61	-7.54/-6.48	-3.25/-3.81	-2.61/-3.59	-2.09/-1.46	0.29/0.77	0.23/0.86	-1.31/1.09	0.52/-0.8	-2.15/-4.02	-5.24/-4.59	-5.01/-7.89	-7.15/-4.99	-3.78/-4.01	-2.13/-0.9	-0.24/1.88	4.33/2.95	0.85/0.43	-2.46/0.05	-2.63/-0.77	-1.42/-4.57	-6.4/-6.85
Θ(90°)	-7.98/-5.51	-8.33/-8.97	-6.36/-4.86	-7.35/-7.16	-4.2/-2.59	-2.09/-3.16	-1.98/-2.31	-0.93/0.14	0.5/0.76	-1.37/0.6	-0.14/-1.5	-3.28/-4.99	-5.38/-5.4	-4.83/-8.15	-8.15/-5.58	-2.97/4.45	-1.88/-0.7	0.69/2.75	5.23/6.1	0.72/-0.57	-1.33/-1.2	-3.93/-3.25	-3.55/-6.22	-6.15/-8.06
Θ(97.5°)	-7.56/-6.01	-5.67/-9.44	-5.77/-4.25	-5.89/-5.61	-3.36/-2.93	0.13/-2.7	-1.57/-3.52	-1.2/0.45	0.1/0.06	-2.06/0.32	-0.84/-3.19	-3.59/-4.83	-5.3/-6.19	-5.98/-9.34	-7.44/-5.64	-3.12/-3.71	1.19/1.85	3.14/2.3	0.19/-2.28	-1.96/-1.99	-5.28/-4.11	-5.45/-5.93	-7.04/-9.37	
Θ(105°)	-8.23/-7.92	-3.81/-6.49	-4.66/-2.79	-4.72/-5.81	-5.92/-3.08	-0.12/-1.27	-1.01/-1.84	-0.1/0.24	-0.3/-0.51	-2/-0.02	-1.67/-4.71	-4.07/-5.51	-4.97/-7.15	-5.17/-10.35	-4.87/-6.19	-4.88/-3.08	-2.48/-4.53	-1.32/-0.12	1.3/-0.38	-3.3/-6.64	-2.71/-4.06	-4.28/-4.52	-6.47/-7.46	-7.81/-9.39
Θ(112.5°)	-7.85/-6.16	-3.17/-3.81	-5.36/-3.4	-4.59/-7.29	-8.88/-5.8	-0.76/-1.62	-1.69/-2.11	-3.13/-1.99	-1.58/-0.42	-3.75/-1.7	-2.89/-5.86	-5.43/-6.7	-4.64/-5.9	-6.9/-9.33	-5.73/-4.81	-4.12/-2.65	-3.09/-6.5	-1.81/-0.15	1.79/-1.67	-2.85/-8.01	-5.69/-3.91	-6.42/-4.81	-5.92/-7.97	-9.22/-6.9
Θ(120°)	-8.76/-6.32	-3.74/-3.46	-3.94/-4.03	-3.98/-2.83	-6.16/-7.99	-1.54/-3.74	-5.55/-4.99	-6.93/-3.9	-2.45/-2.13	-4.01/-3.53	-5.55/-6.73	-7.67/-5.94	-6.63/-5.6	-5.12/-9.98	-3.74/-7.78	-3.02/-1.78	-2.86/-7.04	-3.41/-3.27	-0.87/-6.1	-2.44/-3.93	-5.26/-4.02	-2.37/-5.87	-6.61/-8.71	-8.79/-6.13
Θ(127.5°)	-7.98/-8.78	-6.76/-6.72	-6.33/-4.15	-4.24/-3.62	-3.33/-8.43	-4.25/-6.29	-6.91/-5.73	-3.71/-5.98	-5.83/-4.14	-3.71/-4.2	-5.08/-5.82	-9.79/-6.48	-7.34/-5.37	-4.29/-6.96	-10.07/-5.03	-3.59/-6.08	-3.95/-3.12	-4/-6.4	-2.27/-4.66	-1.63/0.05	-4.58/-7.37	-2.71/-5.93	-7.16/-5.93	-7.49/-6.15
Θ(135°)	-9.56/-6.6	-5.9/-4.3	-4.5/-6.19	-6.09/-3.7	-3.21/-3.1	-4.64/-7.8	-5.37/-4.28	-5.48/-4.38	-5.25/-5.6	-4.41/-4.31	-4.72/-4.37	-8.91/-6.74	-7.22/-5.55	-4.94/-3.11	-2.74/-3.2	-5.72/-6.73	-7.55/-1.83	-0.77/-3.79	-1.73/-6.95	-3.5/0.92	-4.21/-4.53	-7.3/-10.69	-9.48/-6.79	-7.19/-6.78
Θ(142.5°)	-5.41/-4.26	-4.89/-4.18	-5.09/-5.29	-4.92/-5.36	-7.95/-3.87	-2.86/-4.4	-3.42/-6.33	-6.09/-3.54	-4.06/-4.26	-3.11/-4.58	-4.96/-5.47	-3.71/-6.27	-5.92/-5.17	-3.87/-3.51	-4.92/-5.5	-2.58/-3.87	-2.27/-3.75	-4.84/-4.37	-3.96/-8.4	-4.12/-1.27	-1.89/-1.95	-7.88/-9.84	-7.22/-6.68	-6.57/-7.43
Θ(150°)	-5.82/-3.61	-4.66/-5.94	-5.36/-3.87	-3.94/-4.95	-6.01/-6.25	-5.39/-5.09	-4.01/-3.37	-4.34/-4.33	-2.91/-2.27	-1.97/-3.13	-5.27/-7.9	-8.97/-7.59	-6.75/-5.64	-6.06/-6.99	-7.02/-5.74	-2.52/-1.5	-2.83/-5.07	-4.79/-3.87	-1.93/-3.9	-4/-3.5	-3.03/-2.32	-4.18/-7.28	-6.9/-7.42	-6.49/-5.99
Θ(157.5°)	-8.99/-6.97	-5.68/-5.52	-6.15/-5.83	-5.57/-5.81	-4.49/-3.8	-5.11/-6.24	-4.21/-1.94	-1.15/-2.03	-3.79/-5.31	-5.34/-4.94	-7.09/-7.76	-7.82/-10.32	-9.35/-8.26	-8.05/-5.16	-4.37/-4.47	-4.67/-4.08	-3.46/-3.37	-3.26/-2.98	-2.07/-3.25	-5.21/-6.83	-7.49/-6.84	-4.95/-4.52	-4.7/-7.06	-9.91/-9.82
Θ(165°)	-7.58/-8.22	-8.4/-9.4	-7.95/-6.12	-3.99/-2.3	-2.18/-2.8	-3.52/-3.63	-3.53/-2.66	-1.98/-1.52	-1.42/-2.4	-4.49/-5.55	-5.8/-5.42	-5.07/-4.98	-4.68/-3.41	-1.96/-3.15	-1.91/-8.14	-2.16/-3.01	-3.03/-3.65	-4.39/-3.56	-5.6/-5.66	-4.32/-3.47	-3.62/-4.17	-5.15/-5.65	-4.81/-5.39	-6.13/-7.17
Θ(172.5°)	-12.13/-9.67	-7.83/-7.19	-6.72/-6.24	-5.56/-4.76	-4.23/-4.15	-4.34/-4.86	-4.71/-4.53	-4.28/-4.87	-6.65/-5.6	-5.86/-7.05	-7.44/-6.64	-6.27/-6.35	-6.75/-4.88	-4.84/-4.83	-4.87/-6.24	-7.29/-6.37	-5.55/-5.2	-5.48/-6.78	-6.41/-6.02	-6.47/-7.37	-8.35/-9.83	-8.78/-10.26	-12.41/-12.55	
Θ(180°)	-8.88/-8.84	-7.97/-7.74	-6.69/-5.01	-4.83/-5.11	-5.02/-5.52	-5.64/-6.05	-6.33/-6.14	-6.52/-6.36	-6.39/-6.63	-7.09/-8.03	-9.15/-9.57	-9.65/-8.14	-8/-7.69	-6.99/-6.81	-6.5/-5.93	-5.34/-7.3	-4.55/-4.57	-4.66/-4.92	-5.33/-4.88	-4.9/-4.72	-5.15/-5.83	-7.25/-8.13	-8.6/-8.97	-9.13/-8.96
Freq(Hz)	6.995GPol.	ThetaL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-1.51/-1.34	-1.31/-1.31	-0.95/-0.48	-0.49/-0.95	-1.43/-2.14	-2.88/-3.15	-3.56/-4.92	-6.23/-6.75	-6.93/-7.9	-8.1/-7.18	-6.02/-5.33	-4.41/-3.1	-1.76/-1.08	-0.74/-0.27	-0.18/-0.44	-0.69/-1.17	-1.84/-2.71	-3.47/-4.49	-7.79/-8.18	-8.03/-6.59	-7.77/-5.82	-4.71/-3.77	-3.49/-2.92	
Θ(7.5°)	0.53/1.15	1.54/1.41	1.31/1.16	0.93/0.09	-0.93/-2.08	-3.74/-5.88	-7.56/-8.12	-8.45/-4.82	-7.66/-6.69	-6.19/-5.58	-4.3/-3.3	-2.82/-1.93	-1.34/-0.85	-0.31/-0.14	-0.21/-0.28	-0.47/-0.66	-1.01/-1.41	-2.06/-2.83	-3.44/-4.39	-5.43/-5.83	-6.22/-6.31	-5.89/-4.5	-3.19/-2.23	-1.36/-0.38
Θ(15°)	1.79/2.49	2.84/2.72	2.76/2.1	1.55/0.42	-0.32/-1.24	-2.05/-3.1	-3.86/-4.38	-5.61/-6.55	-7.18/-6.16	-7.29/-5.83	-3.62/-2.24	-1.55/-1.14	-0.74/-0.2	0.47/0.72	0.99/0.78	0.14/-0.73	-1.19/-1.11	-1.67/-2.1	-2.82/-4.66	-6.68/-9.03	-9.35/-9.23	-7.6/-4.83	-2.6/-1.68	-1.30/-0.74
Θ(22.5°)	1.42/2.58	2.71/2.75	2.67/1.76	0.97/0.89	1.37/1.34	0.51/-1.16	-2.04/-2.19	-2.66/-3.39	-4.03/-3.79	-3.2/-3.47	-2.45/-1.03	-0.49/-0.04	0.79/0.86	0.43/0.66	1.21/63	1.33/0.92	0.68/0.31	-0.16/-0.48	-1.72/-4.12	-5.32/-6.42	-6.97/-8.01	-7.78/-6.11	-3.21/-1.99	-1.12/0.14
Θ(30°)	2.56/2.97	3.49/2.68	2.03/2.64	2.97/2.42	2.13/2.03	1.45/1.1	0.45/-0.82	-1.56/-2.22	-3.01/-3.29	-2.65/-1.91	-1.22/-0.64	0.54/0.31	-0.19/0.39	0.71/0.96	1.75/2.55	2.29/1.76	0.4/0.06	1.02/-1.25	-1.97/-3.19	-3.98/-4.5	-4/-2.3	-2.13/-1.97	-1.10/0.92	
Θ(37.5°)	1.99/2.17	1.66/0.73	-0.37/1.88	3.59/3.45	3.19/2.84	2.54/2.38	1.56/0.17	-0.43/-1.08	-1.92/-1.25	-1.08/-1.27	-1.6/-0.76	1.19/1.51	0.19/0.93	1.72/2.32	2.86/3.3	3.8/3.28	1.33/0.71	1.71/1.87	1.5/1.2	1.32/0.87	-0.18/-1.17	-1.91/-1.05	-1.02/-1.55	-1.06/1.1
Θ(45°)	2.22/2.44	2.03/2.26	-0.03/0.28	3.01/3.84	3.7/3.07	2.01/2.05	1.87/0.22	1.27/0.36	-1.10/-1.3	0.1/0.34	-0.83/-0.38	0.77/1.4	0.64/0.98	2.71/4.09	3.79/2.56	2.73/39	2.21/2.26	2.26/3.33	2.65/1.57	2.16/0.99	0.37/0.59	-1.05/0.34	1.16/0.65	-0.69/0.1
Θ(52.5°)	1.48/1.63	-0.27/1.07	0.94/0.87	3.48/4.1	3.46/3.33	1.51/1.73	1.29/0.11	1.26/0.16	1.96/1.83	1.52/1.73	0.18/0.67	1.23/1.18	-0.61/0.44	2.73/4.04	4.5/2.83	4.25/4.22	3.85/3.17	2.47/3.64	2.97/2.39	2.94/1.86	1.91/3.2	0.25/1.2	2.35/-0.35	-1.77/0.42
Θ(60°)	0.16/-0.57	0.99/-1.05	0.21/0.76	3.21/3.25	3.52/4.34	2.5/2.65	1.69/1.11	1.07/0.99	2.63/1.59	1.84/2.55	0.13/-0.29	0.23/-0.47	-2.59/-1.98	-1.41/-17	3.64/2.55	3.39/3.85	2.78/2.38	1.6/1.31	1.16/1.02	2.19/0.71	2.57/0.95	0.55/2.83	1.58/-1.12	-0.85/0.38
Θ(67.5°)	0.76/0.19	0.71/1.5	1.0/0.62	3.07/3.03	3.84/4.71	3.25/4.11	3.51/3.15	1.66/1.98	2.23/0.73	2.66/2.04	0.36/1.25	-0.44/-1.33	-0.94/0.31	0.28/1.32	2.9/2.5	1.88/2.5	0.88/0.95	0.36/1.6	1.64/1.23	1.34/-0.15	1.67/0.23	1.85/3.01	0.96/0.74	1.18/0.83
Θ(75°)	0.88/1	2.62/2.36	1.67/1.6	2.37/2.12	2.97/4.56	3.2/5	3.98/4.49	2.82/2.07	1.36/0.55	2.15/2.1	1.63/1.63	0.03/-1.34	-0.96/-1.23	1.44/1.72	2.93/3.08	1.83/2.27	-0.12/1.93	2.12/3.63	3.96/3.68	1.97/0.54	1.82/-0.73	1.66/2.21	1.07/2.02	2.04/1.24
Θ(82.5°)	0.86/0.65	2.65/2.21	2.25/1.11	1.21/1.46	2.39/3.87	2.18/4.34	4.21/4.48	2.72/7.3	0.13/-0.06	0.42/0.8	1.13/-1.28	-0.53/-0.49	-0.01/-1.13	1.38/2.17	1.76/2.78	1.83/2.12	0.63/1.8	3						



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Θ(22.5°)	-14.32/-11.81	-10.04/-12.75	-17.56/-19.14	-18.34/-12	-9.7/-8.68	-7.26/-8.15	-12.49/-11.15	-6.31/-4.18	-2.95/-2.98	-3.78/-5	-5.53/-5.54	-6.75/-9.79	-13.98/-17.8	-17.61/-17.55	-17.39/-18.82	-17.71/-16.63	-12.27/-10.56	-10.19/-9.77	-6.86/-3.73	-2.53/-2.76	-3.36/-3.78	-4.24/-5.61	-7.32/-9.16	-11.18/-13.89
Θ(30°)	-14.03/-13.68	-11.02/-9.27	-13.29/-15.99	-12.4/-12.26	-9.06/-5.26	-5.29/-8.45	-9.99/-7.62	-6.43/-6.18	-6.57/-5.73	-8.66/-5.13	-4.7/-4.41	-4.8/-7.23	-11.27/-15.59	-17.44/-17.7	-18.92/-19.21	-17.55/-13.36	-11.43/-8.81	-6.22/-5.13	-3.99/-2.51	-1.09/-0.58	-0.63/-0.7	-1.35/-3.31	-5.97/-8.5	-10.54/-12.88
Θ(37.5°)	-17.03/-16.81	-14.73/-16.88	-15.78/-15.99	-10.77/-9.58	-9.42/-6.66	-6.81/-7.4	-5.3/-5.78	-8.92/-8.3	-8.03/-10.78	-10.42/-7.96	-5.68/-4.6	-4.59/-7.57	-12.93/-16.43	-17.32/-14.21	-18.12/-14.4	-10.72/-8.33	-8.26/-8.41	-5.78/-4.9	-3.7/-2.36	-1.49/-1.53	-1.6/-0.45	-0.69/-2.75	-4.96/-8.5	-11.02/-14.78
Θ(45°)	-10.32/-12.67	-14.1/-17.32	-10.16/-11.33	-10.84/-8.42	-9.55/-6.32	-6.77/-8.13	-9.56/-11.74	-8.41/-6.04	-8.63/-12.31	-9.3/-8.46	-5.52/-4.75	-5.32/-9.03	-8.26/-9.13	-14.78/-18.38	-18.55/-13.76	-7.41/-7.17	-9.9/-10.46	-7.88/-8.3	-3.81/-4.07	-2.07/-1.16	-1.090.06	-0.16/-2.86	-4.15/-6.05	-9.15/-9.75
Θ(52.5°)	-12.97/-14.14	-14.05/-18.94	-12.37/-12.98	-12.3/-8.52	-9.12/-9.48	-14.36/-10.19	-9.41/-11.9	-9.39/-9.67	-9.5/-7.3	-4.33/-4.49	-8.23/-11.9	-7.92/-5.54	-8.32/-15.45	-11.24/-8.76	-8.62/-6.81	-11.79/-10.62	-9.71/-11.66	-6.92/-9.62	-4.02/-2.14	-1.67/-0.65	-1.35/-4.28	-4.63/-6.95	-10.88/-12.07	
Θ(60°)	-12.81/-14.08	-17.85/-14.71	-11.68/-14.71	-12.57/-11.64	-15.21/-8.59	-9.81/-15.92	-15.74/-12.4	-8.8/-11.51	-8.5/-7.88	-11.01/-13.79	-8.5/-8.88	-12.5/-8.57	-13.11/-12.47	-7.14/-10.07	-11.84/-12.34	-10.62/-10.63	-8.99/-8.74	-4.67/-3.62	-3.66/-1.64	-2.84/-3.4	-4.59/-6.64	-12.97/-14.5		
Θ(67.5°)	-14.95/-10.37	-18.48/-14.24	-14.85/-12.8	-18.85/-12.63	-14.93/-10.95	-10.53/-10.7	-10.17/-11.35	-12.22/-12.18	-11.81/-13.15	-18.74/-13.77	-16.25/-13.7	-5.54/-5.51	-18.2/-12.3	-9.79/-9.64	-10.83/-18.2	-10.15/-8.21	-17.45/-18.98	-13.23/-13.44	-6.21/-6.95	-3.96/-4.6	-3.33/-1.6	-2.54/-2.38	-4.23/-6.55	-18.8/-17.81
Θ(75°)	-14.46/-11.37	-19.08/-11.05	-14.62/-10.55	-18.22/-14.94	-10.99/-13.08	-8.87/-13.63	-12.14/-12.99	-12.44/-11.7	-16.32/-19.18	-16.43/-11.6	-15.25/-18.43	-10.4/-19.2	-17.27/-18.28	-12.15/-19.68	-11.28/-13.92	-15.28/-12.05	-10.16/-11.39	-4.7/-5.6	-4.61/-5.64	-4.98/-3.17	-3.75/-3.39	-3.71/-5.65	-18.32/-18.34	
Θ(82.5°)	-16/-12.21	-18.92/-8.7	-15.89/-10.9	-18.24/-16.88	-11.21/-9.96	-11.35/-14.1	-12.85/-11.97	-10.07/-9.17	-17.79/-11.22	-12.49/-9.54	-13.5/-18.55	-14.44/-10.75	-16.02/-18.59	-15.08/-15.33	-12.05/-11.56	-12.39/-12.23	-16.92/-9.65	-8.13/-8.21	-4.11/-4.21	-4.99/-5.59	-5.47/-5.49	-4.38/-3.39	-3.55/-5.07	-18.94/-18.99
Θ(90°)	-18.37/-14.11	-16.88/-9.52	-10.79/-10.6	-17.8/-17	-10.26/-11.08	-9.45/-10.78	-9.8/-11.61	-11.17/-8.96	-15.24/-8.93	-10.49/-10.37	-14.38/-18.16	-18/-18.61	-14.68/-18.41	-13.37/-15.73	-13.27/-13.73	-11.72/-17.15	-18.87/-8.4	-7.91/-5.74	-3.23/-2.56	-4.98/-7.61	-6.6/-7.3	-5.57/-5.41	-4.17/-6.4	-18.49/-18.77
Θ(97.5°)	-18.66/-15.81	-16.67/-10.47	-7.58/-9.85	-15.53/-14.37	-9.97/-12.43	-9.33/-10.84	-8.89/-9.97	-9.06/-7.06	-15.19/-10.69	-14.74/-13.33	-18.82/-17.78	-13.65/-18.41	-15.58/-17.13	-12.93/-17.86	-13.96/-16.19	-19.09/-12.22	-14.82/-7.68	-8.82/-3.64	-4.78/-3.5	-7.59/-10.31	-8.63/-8	-6.94/-7.58	-4.66/-7.03	-18.45/-18.57
Θ(105°)	-18.22/-13.95	-16.25/-9.27	-6.56/-7.98	-14.8/-17.16	-11.75/-12	-8.67/-16.11	-14.73/-16.92	-14.32/-10.88	-19.26/-13.63	-19.41/-14.78	-18.12/-18.39	-13.32/-15.61	-18.41/-18.45	-10.84/-16.44	-10.75/-13.2	-18.28/-17.55	-11.22/-8.64	-11.88/-10.49	-8.67/-6.4	-9.66/-14.36	-11.76/-7.06	-5.43/-8.93	-9.32/-10.14	-17.39/-17.16
Θ(112.5°)	-17.11/-9.94	-18.38/-7.82	-7.49/-7.99	-12.58/-12.06	-18.08/-15.48	-8.43/-9.96	-11.88/-10.51	-11.95/-13.09	-18.25/-15.36	-18.15/-14.65	-18.97/-17.55	-15.35/-16.35	-16.53/-17.92	-16.47/-18.71	-18.36/-13.13	-18.22/-14.82	-11.86/-11.56	-16.99/-11.63	-6.4/-6.99	-8.88/-11.13	-18.4/-9.33	-7.75/-10.82	-11.66/-18.62	-18.43/-14.36
Θ(120°)	-17.87/-14.13	-18.52/-9.53	-7.95/-6.99	-9.77/-11.54	-14.88/-15.14	-13.79/-12.13	-12.52/-11.66	-16.13/-16.69	-15.87/-18.24	-18.17/-17.71	-18.7/-16.25	-19.05/-14.35	-18.24/-13.83	-13.07/-17.36	-8.36/-17.84	-10.76/-12.28	-14.21/-15.63	-7.79/-9.1	-8.29/-10.96	-17.92/-9.11	-8.33/-14.33	-18.03/-17.8	-15.31/-14.73	
Θ(127.5°)	-16.18/-18.72	-12.76/-11.8	-8.82/-6.5	-8.55/-10.4	-13.14/-10.23	-11.31/-18.12	-17.78/-19.04	-17.01/-18.49	-18.14/-18.81	-17.96/-13.45	-14.11/-15.63	-16.17/-13.26	-18.66/-17.73	-18.99/-14.56	-16.25/-10.51	-17.99/-19.06	-12.33/-11.03	-18.32/-17.57	-17.6/-6.45	-5.85/-12.8	-12.25/-7.41	-10.74/-16.45	-18.24/-17.97	-18.86/-15.76
Θ(135°)	-18.81/-18.01	-14.14/-11.51	-10.3/-6.36	-7.12/-10.48	-10.31/-7.93	-10.79/-12.48	-14.97/-17.63	-18.84/-14.3	-16.23/-17.91	-17.92/-17.78	-12.99/-14.58	-18.85/-16.14	-18.14/-15.97	-14.26/-13.35	-8.86/-9.54	-13.29/-12.03	-8.38/-4.89	-11.11/-18	-11.14/-15.03	-9.35/-9.45	-12.26/-8.68	-13.66/-17.42	-18.49/-19.27	-18.66/-19.15
Θ(142.5°)	-17.83/-17.1	-19.09/-17.7	-8.77/-9.53	-4.56/-6.67	-10.94/-10.12	-9.96/-8.15	-9.18/-13.16	-15.55/-12.68	-15/-14.72	-15.49/-19.21	-14.69/-15.68	-18.36/-17.92	-17.63/-15.7	-18.11/-15	-16.37/-4.5	-4.26/-8.14	-18.27/-12.66	-6.82/-9.09	-5.92/-5.25	-6.79/-5.6	-17.4/-17.83	-18.36/-16.75	-18.5/-17.57	
Θ(150°)	-14.4/-12.32	-15.43/-12.63	-11.1/-15.53	-5.96/-6	-6.11/-6.36	-9.04/-11.73	-10.18/-9.53	-11.46/-15.07	-10.08/-11.03	-12.56/-14.96	-16.89/-14.54	-18.02/-17.46	-16.98/-14.52	-18.29/-18.52	-13.51/-10.7	-8.09/-6.2	-7.62/-13.28	-14.68/-9.59	-6.63/-8.45	-8.48/-8.58	-10.82/-12.72	-13.43/-16.24	-17.61/-16.78	-14.16/-16.26
Θ(157.5°)	-18.23/-19.44	-16.84/-14.49	-12.32/-12.82	-15.54/-14.81	-9.96/-8.86	-11.49/-12.25	-10.71/-9.99	-9.75/-10.38	-12.11/-15.73	-17.56/-15.71	-18.05/-17.73	-15.04/-18.17	-18.32/-17.82	-17.07/-18.69	-17.56/-18.08	-17.34/-18.47	-19.3/-18.51	-14.27/-9.97	-8.2/-9.15	-10.1/-11.67	-14.31/-19.42	-18.95/-18.17	-17.96/-17.64	-19.15/-17.74
Θ(165°)	-16.2/-18.95	-19.24/-19.51	-18.97/-18.86	-14.03/-9.1	-7.32/-7.65	-8.19/-9.4	-10.71/-10.9	-11.4/-12.04	-13.49/-14.76	-16.59/-16.63	-17.03/-16.42	-18.85/-18.71	-15.51/-13.53	-14.1/-14.59	-14.73/-14.11	-12.02/-18.59	-17.44/-16.42	-12.46/-11.08	-10.15/-9.16	-8.07/-10.13	-11.31/-13.98	-18.28/-19.75	-15.89/-14.93	-13.74/-13.12
Θ(172.5°)	-18.31/-15.23	-13.73/-13.1	-13.39/-11.21	-9.42/-9.05	-8.42/-8.01	-9.16/-10.88	-13.53/-17.77	-19.02/-18.65	-18.53/-19.91	-17.63/-19.3	-17.27/-18.96	-17.94/-17.7	-19.07/-16.82	-18.03/-18.21	-19.11/-19.49	-17.09/-15.42	-12.74/-11.25	-10.21/-9.86	-9.94/-10.97	-11.95/-14.37	-16.49/-18.27	-18.56/-19.03	-18.37/-18.88	
Θ(180°)	-18.9/-17.99	-18.56/-18.33	-14.55/-11.29	-14.39/-14.01	-14.59/-16.65	-17.17/-19	-18.94/-18.16	-18.27/-17.64	-17.87/-17.89	-18.35/-19.3	-19.02/-18.49	-18.99/-17.67	-18.78/-17.05	-14.35/-13.12	-12.43/-11.56	-10.63/-10.19	-10.23/-9.43	-9.53/-9.63	-10.37/-11.17	-12.65/-13.54	-14.74/-16.44	-17.89/-17.71	-18.65/-16.68	
Freq(Hz)	6.995GPol.	ThetaAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-7.05/-7.38	-7.15/-7.24	-6.88/-6.25	-6.09/-7.49	-9.53/-10.8	-11.57/-11.41	-12.25/-14.2	-17.3/-18.58	-17.31/-15.47	-13.29/-11.29	-10.07/-9.33	-8.33/-7.05	-5.68/-5.89	-5.21/-4.92	-5.37/-5.49	-5.88/-6.62	-7.43/-8.29	-9.27/-10.5	-12.6/-14.33	-15.99/-17.19	-15.25/-13.17	-11.36/-9.94	-9.32/-9.06	-7.66/-6.73
Θ(7.5°)	-5.44/-4.74	-4.42/-4.44	-3.86/-3.59	-3.94/-4.87	-5.78/-6.69	-7.65/-9.22	-10.53/-11.23	-12.35/-13.2	-13.03/-13.02	-13.39/-13.24	-12.92/-11.93	-11.29/-16.05	-9.17/-8.86	-8.56/-9.26	-8.95/-9.24	-9.47/-9.65	-10.08/-10.73	-11.44/-12.39	-13.69/-16.4	-18.22/-18.31	-18.63/-17.01	-14.2/-14.19	-9.82/-8.94	-7.99/-6.57
Θ(15°)	-5.14/-4.72	-4.57/-4.41	-3.83/-3.64	-3.84/-4.31	-4.7/-5.11	-5.93/-6.86	-8.71/-9.09	-8.91/-10.66	-13.43/-18.88	-18.54/-16.36	-11.07/-7.59	-6.14/-6.45	-5.64/-6.11	-6.5/-7.3	-5.11/-4.85	-5.16/-5.67	-6.04/-6.22	-7.61/-10.23	-6.04/-6.22	-7.61/-10.23	-18.39/-19.02	-13.48/-10.1	-8.5/-7.96	-7.12/-6.29
Θ(22.5°)	-8.66/-7.05	-5.62/-5.48	-5.5/-5.14	-5.11/-5.25	-4.88/-5.56	-7.57/-9.87	-9.6/-8.85	-10.93/-14.34	-12.15/-8.68	-6.39/-6.07	-7.03/-6.52	-5.42/-5.18	-5.16/-4.67	-4.13/-4.25	-4.08/-3.6	-3.21/-2.72	-2.37/-2.43	-2.88/-3.29	-4.44/-6.48	-10.79/-18.85	-18.15/-19.1	-14.34/-9.38	-7.5/-7.62	-7.88/-8.69
Θ(30°)	-3.9/-4.09	-4.71/-6.48	-6.85/-5.45	-5.25/-5.71	-5.42/-6.99	-11.44/-12.32	-9.88/-8.62	-8.31/-8.16	-6.14/-5.17	-5.32/-5.44	-6.11/-5.86	-4.04/-3.18	-3.45/-3.54	-3.04/-3.2	-3.25/-3.28	-1.81/-1.78	-1.59/-1.01	-1.07/-2.44	-3.49/-4.23	-7.03/-11.25	-12.75/-11.83	-11.77/-7.86	-7.57/-6.61	-4.9/-4.08
Θ(37.5°)	-4.46/-4.52	-4.07/-5.19	-7.91/-6.42	-5.09/-5.63	-6.91/-10.34	-12.97/-10.51	-9.62/-8.28	-8/-8.9	-6.7/-5.94	-7.95/-9.42	-7.41/-7.17	-5.09/-4.36	-5.68/-6.75	-6.72/-4.33	-1.79/-1.17	-1.03/-1.39	-2.67/-3.46	-5.82/-8.23	-7.84/-10.07	-9.06/-8.3	-8.33/-7.07	-6.44/-5.85	-5.77/-4.73	
Θ(45°)	-12.37/-10.43	-6.18/-4.82	-8.39/-8.89	-5.02/-5.43	-7.46/-10.59	-11.11/-10.45	-9.69/-7.81	-10.26/-9.77	-5.7/-5.3	-6.01/-5.44	-5.4/-5.89	-3.32/-3.37	-4.34/-7.43	-5.93/-2.88	-0.85/-0.21	-1.78/-1.38	-0.91/-1.47	-4.99/-6.07	-7.23/-6.74	-5.63/-6.54	-6.71/-6.26	-6.42/-6.33	-6.42/-9.26	
Θ(52.5°)	-9.96/-10.25	-7.51/-4.27	-6.09/-8.14	-4.8/-6.15	-9.79/-10.6	-10.23/-10.04	-9.28/-10.16	-12.58/-9.2	-4.24/-3.41	-2.26/-3.15	-5.76/-3.92	-1.86/-2.18	-6.39/-6.1	-4.75/-3.31	1.22-0.4	0.21/-0.37	-1.17/-1.22	-3.38/-4.09	-5.89/-7.06	-6.77/-7.78	-5.62/-7.76	-6.27/-5.49	-6.22/-7.85	-8.37/-9.35
Θ(60°)	-10.34/-10.07	-6.25/-5.19	-5.91/-7.46	-5.6/-6.2	-7.97/-8.12	-9.12/-9.56	-8.74/-11.02	-8.17/-7.39	-4.95/-3.83	-1.82/-3	-6.15/-7.31	-6.33/-5.05	-7.73/-9.5	-11.19/-5.05	-1.39/-0.12	-2.97/-3.14	-3.67/-2.63	-4.39/-5.15	-5.86/-6.46	-5.64/-5.69	-4.93/-9.1	-5.53/-5.68	-7.92/-9.57	-6.86/-8.06
Θ(67.5°)	-14.11/-11.54	-6.48/-5.16	-6.54/-8.14	-5.78/-6.75	-8.77/-6.9	-11.09/-9.33	-9.05/-8.65	-3.32/-5.89	-5.18/-5.29	-2.03/-4.18	-1.78/-4.61	-11.6/-8.25	-5.35/-7.81	-6.98/-3.45	-									



Radiated Composite Gain Data of 6GHz

Appendix A.2

Θ(75°)	-4.69/-14.91	-18.95/-18.49	-14.85/-10.44	-11.1/-9.06	-8.92/-13.59	-8.01/-6.64	-6.98/-6.85	-7.22/-8.83	-10.79/-12.33	-19.21/-18.51	-8.84/-6.05	-6.44/-8.62	-12.66/-9.98	-19.29/-17.64	-10.49/-6.83	-9.91/-19.02	-7.62/-15.03	-13.08/-6.76	-1.26/-1.13	-2.14/-5.33	-3.38/-3.82	-6.87/-8.14	-6.06/-8.4	-9.38/-6.43
Θ(82.5°)	-6.12/-17.04	-17.55/-17.2	-16.85/-10.77	-12.28/-8.34	-9/-6.21	-6.35/-9.09	-8.27/-6.57	-9.24/-9.3	-10.67/-11.43	-19.21/-17.77	-9.53/-7.71	-5.32/-17.7	-12.95/-11.02	-16.57/-11.54	-13.01/-7.43	-11.34/-16.72	-8.39/-5.54	-4.52/-17.8	-1.38/-10.5	0.27/-4.36	-2.52/-4.18	-7.3/-8.21	-5.29/-9.1	-10.26/-5.74
Θ(90°)	-7.33/-10.18	-17.45/-17.93	-18.68/-10.8	-11.82/-9.57	-8.64/-6.82	-6.67/-7.37	-10.87/-6.77	-7.32/-8.79	-13.05/-9.96	-14.66/-15.44	-16.07/-14.15	-7.16/-12.22	-10.74/-11.37	-10.32/-10.09	-16.77/-7.73	-12.97/-11.49	-6.68/-4.39	-4.51/-1.09	1.61/-7.8	0.6/-3.7	-3.22/-5.28	-17.71/-8.94	-6.27/-11.93	-11.28/-8.92
Θ(97.5°)	-8.2/-10.12	-18.19/-15.02	-16.69/-11.77	-13.47/-11.93	-9.09/-6.44	-8.11/-6.85	-10.12/-11	-9.81/-9.68	-13.33/-11.87	-15.06/-13.83	-16.19/-15.75	-7.9/-12.18	-9.36/-12.93	-18.76/-11.93	-19.29/-9.31	-17.05/-15.69	-7.88/-5.43	-4.25/-3.08	0.27/-0.23	-1.29/-6.36	-4.48/-3.97	-8/-10.51	-6.95/-8.85	-10.77/-10.1
Θ(105°)	-7.21/-10.19	-18.36/-19.11	-19.17/-15.15	-14.03/-12.32	-10.19/-6.71	-6.54/-3.89	-5.66/-6.42	-7.88/-10.15	-11.92/-11.46	-13.18/-10.94	-13.99/-11.21	-7.82/-9.6	-7.34/-11.21	-19.81/-13.46	-13.26/-8.41	-13.24/-12.29	-9.51/-6.82	-9.42/-2.07	-1.89/-2.61	-2.35/-9.14	-5.05/-4	-8.8/-11.13	-9.44/-10.43	-14.38/-8.27
Θ(112.5°)	-6.08/-9.21	-18.08/-18.77	-17.96/-16.18	-17.38/-16.89	-11.93/-7.63	-6.97/-5.24	-5.35/-5.47	-11.99/-19.24	-13.68/-15.21	-10.85/-13.21	-17.66/-11.52	-11.6/-8.27	-8.48/-11.41	-15.21/-13.72	-13.66/-9.98	-9.95/-7.77	-19.05/-17.03	-8.85/-3.71	-3.68/-4.53	-5.86/-11.45	-6.55/-4.53	-7.36/-12.2	-9.92/-14.02	-11.74/-7.69
Θ(120°)	-6.76/-16.32	-19.14/-19.17	-18.44/-17.72	-18.38/-18.61	-14.32/-7.71	-5.28/-6.17	-8.18/-8.25	-14.68/-15.44	-17/-17.88	-12.21/-12.73	-16.23/-15.65	-18.35/-11.92	-9.18/-14.5	-18.03/-11.05	-13.65/-10.65	-6.12/-8.96	-19.23/-11.78	-10.9/-5.91	-9.41/-13.08	-9.29/-11.67	-7.57/-3.94	-6.02/-11.43	-12.49/-10.46	-7.84/-8.59
Θ(127.5°)	-14.83/-13.57	-17.72/-15.68	-16.85/-16.52	-18.15/-17.67	-18.91/-15.79	-9.03/-8.05	-6.66/-8.2	-19.31/-18.51	-16.25/-13.76	-10.41/-13.47	-14.93/-18.85	-17.37/-13.8	-19.19/-14.56	-13.75/-16.15	-19.4/-106	-18.21/-11.7	-3.6/-5.51	-11.77/-13.29	-10.79/-10.72	-12.4/-9.99	-6.34/-10.51	-9.79/-10.95	-11.43/-9	-8.24/-11.31
Θ(135°)	-9.88/-15.8	-17.84/-17.23	-11.8/-16.13	-16.13/-18.69	-19.36/-15.15	-17.48/-11.89	-7.1/-6.71	-11.95/-14.59	-16.98/-16.14	-18.29/-13.85	-10.06/-17.72	-17.71/-17.04	-11.18/-14.8	-13.14/-10.41	-7.75/-11.16	-18.58/-10.58	-7.07/-11.32	-12.26/-11.02	-10.69/-7.98	-8.69/-7.89	-8.51/-13.13	-10.94/-11.77	-17.42/-15.78	-10.59/-9.64
Θ(142.5°)	-9.2/-13.4	-16.77/-18.99	-17.85/-18.01	-18.44/-13.8	-11.98/-10.76	-10.55/-11.66	-9.71/-11.25	-14.23/-12.67	-8.45/-9.94	-13.26/-18.01	-11.38/-16.05	-16.39/-17.98	-12.93/-18.09	-9.35/-8.55	-10.3/-11.53	-16.24/-11.7	-10.82/-14.35	-16.51/-13.91	-11.84/-9	-10.56/-11.56	-15.47/-11.11	-8.26/-10.85	-17.17/-16.72	-12.31/-10.87
Θ(148.5°)	-10.95/-11.02	-11.36/-12.91	-13.39/-14.71	-11.98/-12.81	-14.72/-14.05	-11.33/-9.57	-9.17/-10.62	-11.71/-18.99	-13.3/-15.93	-12.05/-9.77	-9.25/-9.68	-12.34/-16.26	-14.66/-16.97	-10.7/-17.72	-8.33/-11.85	-10.98/-6.28	-8.14/-15.92	-18.34/-16.65	-13.71/-16.15	-19.36/-13.58	-12.17/-15.76	-12.83/-12.84	-12.08/-13.09	-15.77/-17.84
Θ(157.5°)	-16.99/-12.89	-12.76/-13.62	-12.12/-14.14	-14.38/-10.53	-8.29/-9.24	-10.54/-9.79	-8.48/-8.59	-10.77/-12.99	-15.12/-11.24	-8.5/-9.96	-10.99/-14.95	-17.87/-18.86	-19.14/-16	-10.89/-8.13	-8.2/-7.85	-9.54/-15.37	-18.31/-15.76	-12.08/-10.82	-11.34/-14.03	-14.41/-16.81	-19.17/-14.07	-15.71/-18.02		
Θ(165°)	-12/-10.19	-11.49/-9.81	-8.28/-9.15	-9.96/-11.03	-12.55/-11.47	-9.67/-8.19	-6.51/-5.47	-5.58/-6.08	-6.38/-7.21	-9.17/-12.58	-16.47/-18.24	-19.05/-19.02	-19.07/-16.13	-10.32/-7.53	-5.93/-6.55	-7.11/-6.76	-7.41/-10.19	-12.39/-8.77	-6.41/-6.24	-6.25/-6.06	-6.39/-7.06	-8.05/-10.34	-14.02/-17.18	-17.14/-16.39
Θ(172.5°)	-10.95/-10.46	-10.06/-10.67	-10.98/-13.52	-14.9/-13.34	-11.87/-10.98	-9.58/-5.66	-7.91/-7.24	-8.05/-9.87	-12.64/-15.65	-18.96/-17.99	-18.05/-17.75	-17.12/-14.82	-13.68/-13.91	-13.67/-12.31	-13.84/-16.73	-13.9/-12.27	-10.21/-8.09	-6.8/-6.19	-6.32/-6.84	-7.17/-17.8	-6.82/-6.75	-7.7	-7.08/-7.18	-8.29/-10.58
Θ(180°)	-19.07/-18.76	-17.07/-13.94	-12.63/-10.37	-8.8/-7.89	-7.79/-7.63	-8.75/-10.44	-12.23/-13.45	-12.29/-10.78	-10.11/-9.77	-10.7/-13.17	-16.25/-17.25	-16.59/-16.54	-17.08/-15.24	-12.99/-12.27	-11.2/-10.31	-10.51/-10.18	-9.11/-8.61	-8.21/-7.85	-7.8/-7.58	-7.51/-7.13	-7.45/-8.45	-9.22/-10.92	-11.88/-13.09	-15.45/-18.32
Freq(Hz)	6.175GPol.	Theta/Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-3.4/-2.62	-2.38/-2.77	-2.51/-1.86	-1.88/-2.44	-3.01/-3.89	-4.99/-6.05	-7.2/-8.62	-9.98/-11.27	-12.36/-12.34	-11.64/-10.24	-8.16/-6.91	-6.46/-6.25	-5.64/-4.92	-4.55/-4.7	-4.23/-4.39	-5.05/-4.63	-6.77/-7.24	-8.80/-9.76	-11.54/-13.48	-13.49/-12.59	-10.73/-8.11	-6.96/-5.95	-4.63/-3.87	
Θ(7.5°)	-5.33/-5.49	-5.91/-6.69	-7.49/-8.07	-7.94/-8	-8.81/-9.77	-9.83/-9.63	-9.26/-9.24	-9.83/-10.92	-11.34/-10.33	-9.21/-7.42	-5.47/-4.03	-3.08/-2.84	-2.24/-1.33	-0.76/-1.03	-1.28/-1.25	-1.65/-2.49	-3.53/-4.27	-5.49/-7.43	-10.49/-12.64	-14.32/-16.1	-16.39/-13.68	-10.87/-8.61	-6.54/-5.86	-5.78/-5.71
Θ(15°)	-2.91/-3.1	-2.55/-2.85	-3.85/-3.82	-3.79/-4.54	-6.36/-8.74	-11.04/-12.25	-12.54/-12.91	-13.59/-15.14	-15.8/-13.18	-10.17/-7.92	-6.89/-6.45	-5.95/-8.57	-5.82/-5.05	-3.91/-3.44	-3.45/-3.14	-2.4/-2.36	-3.32/-4.3	-4.65/-6.52	-7.94/-11.14	-15.44/-17.72	-17.16/-11.98	-8.76/-6.65	-5.54/-5	-3.84/-2.97
Θ(22.5°)	-3.91/-4.52	-4.84/-5.31	-5.23/-5.74	-5.57/-6.18	-6.85/-7.62	-8.18/-10.99	-12.57/-12.98	-16.14/-17.78	-16.91/-9.07	-6.91/-6.96	-6.83/-5.79	-4.78/-3.99	-3.76/-3.34	-2.72/-2.53	-2.73/-2.96	-3.16/-3.94	-4.85/-4.52	-5.6/-7.79	-11.01/-17.52	-18.14/-14.03	-8.61/-6.09	-5.05/-5.42	-4.15/-3.67	
Θ(30°)	-2.38/-2.93	-2.58/-2.31	-4.43/-7.13	-7.24/-7.71	-9.52/-12.02	-14.39/-18.45	-18.75/-17.54	-13.88/-11.48	-11.1/-10.88	-10.87/-11.11	-5.27/-2.69	-3.72/-3.96	-3.44/-2.44	-0.93/-1.02	-1.44/-1.46	-1.42/-1.64	-1.7/-2.03	-2.67/-2.32	-2.66/-4.13	-6.15/-10.07	-14.5/-18.32	-11.5/-7.38	-5.01/-3.94	-2.73/-2.65
Θ(37.5°)	-6.35/-3.54	-1.57/-1.7	-4.14/-6.22	-8.22/-10.34	-11.8/-12.12	-13.63/-15.8	-17.57/-14.47	-10.65/-5.71	-5.59/-4.6	-6.18/-12.44	-5.91/-2.48	-2.81/-3.03	-1.95/-3.01	-0.41/-1.7	-2.05/-2.19	-0.70/-1.71	0.47/-1.05	-2.32/-2.47	-2.28/-4.1	-4.57/-6.27	-12.91/-18.74	-14.37/-9.01	-6.81/-7.3	-7.38/-7.14
Θ(45°)	-4.31/-3.74	-3.81/-3.78	-5.92/-8.09	-8.73/-8.82	-10.15/-10.27	-9.06/-10.35	-18.75/-14.48	-16.82/-13.96	-6.57/-3.93	-4.73/-3.7	-2.58/-1.96	-1.020/-76	1.83/-85	0.67/-0.01	-0.75/-1.82	-1.43/-2.93	-6.32/-4.33	-4.35/-6.74	-13.84/-9.81	-11.43/-11.81	-11.17/-12.19	-6.54/-71		
Θ(52.5°)	-4.1/-3.05	-3.98/-7.22	-9.24/-9.4	-10.99/-9.86	-8.68/-9.98	-9.52/-10.79	-10.81/-7.44	-10.4/-8.98	-7.86/-5	-2.73/-3.73	-6.19/-8.61	-2.47/-1.66	-0.810/-73	1.770/-92	-0.57/-0.62	-0.16/-0.08	-1.1/-3.12	-4.99/-5.07	-4.1/-3.74	-5.5/-5.92	-14.84/-9.97	-10.06/-12.74	-11.03/-7.91	-5.85/-6.11
Θ(60°)	-6.41/-4.84	-4.32/-8.46	-10.59/-12.18	-12.04/-9.27	-7.36/-7.11	-5.94/-6.06	-5.88/-5.35	-4.45/-3.05	-4.75/-7.54	-3.05/-3.21	-6.11/-11.78	-4.02/-4.3	-3.01/-7.05	0.01/-4.1	-5.63/-2.97	-0.82/-0.51	-2.09/-3.45	-5.06/-5.43	-5.35/-5.22	-4.48/-6.5	-11.47/-7.96	-8.06/-10.56	-11.59/-9.54	-5.72/-9.78
Θ(67.5°)	-5.76/-4.76	-6.49/-10.23	-9.74/-10.53	-10.25/-8.27	-6.46/-5.15	-3.64/-1.7	-3.73/-3.34	-2.23/-1.22	-3.65/-7.16	-3.35/-9.98	-10.24/-12.32	-2.82/-3.1	-3.74/-0.13	0.07/-4.6	-6.85/-3.05	-2.83/-2.69	-4.05/-3.8	-3.9/-3.8	-9.37/-3.95	-5/-6.68	-9.35/-8.37	-10.42/-10.12	-8.75/-7.16	-8.53/-9.91
Θ(75°)	-6.51/-5.51	-10.07/-12.09	-7.81/-7.06	-7.33/-5.8	-5.87/-5.65	-3.54/-3.91	-3.71/-1.71	-1.86/-0.55	-1.87/-5.7	-4.12/-7.25	-8.3/-6.12	-3.4/-2.66	-4.9/-0.61	0.81/-1.73	-5.71/-3.93	-1.92/-3.02	-4.32/-1.86	-1.52/-2.07	-0.98/-2.97	-4.59/-5.8	-17.51/-9.79	-8.69/-7.23	-9.07/-8.73	-11.22/-9.35
Θ(82.5°)	-7.06/-6.63	-11.27/-11.41	-6.34/-6.29	-5.44/-4.04	-3.87/-4.5	-4.31/-4.65	-4.64/-2.53	-2.15/-0.83	-3.47/-4.75	-3.08/-6.21	-7.78/-6.06	-3.05/-2.15	-6.27/-0.98	0.06/-1.3	-6.66/-4.2	-1.51/-2.1	-1.85/-0.1	0.48/-0.6	0.44/-0.99	-2.06/-6.55	-18.67/-10.22	-11.71/-7.38	-8.73/-9.5	-10.43/-10.22
Θ(90°)	-8.98/-6.25	-10.1/-9.36	-5.8/-9.51	-4.91/-4.21	-3.04/-4.43	-6.21/-4.35	-5.33/-3.83	-3.08/-1.51	-5.03/-5.03	-2.9/-4.38	-6.08/-6.72	-3.72/-4.53	-11.14/-2.34	-2.74/-3.34	-9.24/-5.08	-1.88/-2.07	-1.030/-69	0.850/-2	0.46/-1.21	-0.93/-7.35	-17.94/-10.75	-14.66/-8.25	-9.46/-9.75	-14.29/-13.98
Θ(97.5°)	-12.32/-7.52	-12.02/-9.74	-6.44/-7.16	-4.85/-3.91	-3.76/-5.08	-7.71/-4.82	-6.22/-4.6	-5.11/-2.09	-7.29/-7.07	-3.49/-6.93	-8.51/-6.73	-4.58/-6.85	-14.35/-5.3	-6.06/-4.57	-9.7/-7.72	-7.68/-3.97	-3.04/-0.45	-0.32/-1.21	-1.42/-3.61	-3.26/-11.1	-12.32/-11.01	-14.83/-9.47	-7.78/-7.52	-10.71/-16.89
Θ(105°)	-9.08/-7.87	-10.15/-11.31	-10.47/-8.87	-5.46/-5.96	-4.87/-4.83	-8.13/-5.38	-9.27/-9.86	-9.15/-5.44	-10.94/-10.14	-5.7/-6.24	-8.82/-9.25	-7.81/-12.12	-16.03/-8.88	-11.24/-6.68	-8.8/-10.48	-10.85/-8.43	-7.97/-5.87	-5.48/-5.52	-3.55/-9.1	-7.2/-18.46	-8.79/-7.77	-9.12/-13.26	-7.57/-6.79	-8.29/-8.46
Θ(112.5°)	-2.89/-5.27	-8.7/-12.97	-16.54/-9.88	-7.71/-7.16	-6.07/-7.2	-6.85/-8.11	-13.75/-12.21	-15.74/-9.59	-13.25/-15.33	-6.75/-6.86	-6.84/-11.82	-10.29/-11.53	-18.46/-9.51	-11.08/-5.76	-7.84/-11.7	-9.26/-8.39	-12.07/-16.4	-9.43/-9.73	-15.65/-17.03	-7.26/-3.93	-12.83/-8.79	-6.96/-2.22	-4.88/-3.5	
Θ(120°)	-2.37/-4.8	-7.27/-12.05	-9.45/-9.84	-6.24/-10.24	-10.2/-11.47	-10.73/-10.67	-14.58/-13.77	-17.47/-13.87	-13.77/-19.54	-8.52/-5.48	-5.58/-17.04	-10.36/-9.57	-10.03/-7.28	-11.8/-10.28	-8.49/-8.94	-7.68/-6.13	-7.27/-8.93	-6.41/-5.6	-18.37/-16.44	-17.47/-9.39	-6.58/-3.09	-5.53/-8.49	-4.7/-26	-6.46/-12.12



Radiated Composite Gain Data of 6GHz

Appendix A.2

Θ (120°)	-10.42/-10.68	-7.45/-13.04	-18.26/-13.26	-11.41/-16.21	-14.03/-11.92	-6.53/-17.16	-10.89/-16.29	-15.27/-13.57	-17.39/-18.49	-15.44/-10.13	-14.74/-17.78	-13.16/-9.96	-9.96/-18.14	-17.98/-18.49	-7.89/-13.69	-6.25/-7.74	-17.5/-9.23	-7.99/-8.2	-4.89/-12.54	-14.57/-13.25	-3.3/-8.62	-7.38/-7.68	-7.69/-10.88	-10.6/-8.12
Θ (127.5°)	-10.44/-18.1	-17.46/-15.46	-17.11/-16.46	-19.01/-12.85	-9.96/-14.52	-7.79/-10.2	-8.18/-9.91	-16.69/-17.57	-18.87/-14.73	-7.32/-8.49	-17.62/-13.18	-17.76/-10.02	-11.91/-13.76	-15.41/-12	-18.21/-12.98	-15.75/-12.69	-6.32/-3.56	-4.99/-10.39	-6.52/-12.4	-19.08/-6.55	-12.86/-18.83	-17.52/-12.87	-12.97/-9.26	-9.56/-8.42
Θ (135°)	-15.49/-12.7	-11.17/-8.02	-11.59/-17.89	-16.48/-6.63	-8.65/-8.3	-7.63/-13.47	-10.51/-6.48	-8.75/-13.93	-12.01/-17.04	-10.34/-17.42	-13.03/-10.94	-16.85/-12.91	-9.73/-17.46	-13.29/-6.91	-7.85/-9.92	-18.49/-9.26	-13.26/-9.57	-5.73/-15.19	-6.83/-13.96	-19.34/-3.88	-14.38/-10.98	-9.02/-13.87	-17.77/-11.61	-10.22/-10.62
Θ (142.5°)	-10.37/-12.47	-13.72/-9.04	-13.52/-18.1	-14.88/-17.19	-17.89/-7.32	-4.62/-7.11	-7.72/-6.66	-9.89/-13.81	-9.82/-7.49	-10.32/-16.67	-16.18/-12.45	-16.61/-13.45	-19.13/-13.41	-7.46/-7.72	-10.58/-14.2	-16.1/-11.34	-7.85/-18.09	-9.49/-14.04	-17.39/-18.62	-12.88/-5.28	-6.93/-8.71	-12.12/-11.37	-8.53/-9.19	-9.62/-10.19
Θ (150°)	-11.28/-10.17	-11.77/-12.99	-13.47/-16.84	-16.81/-15.66	-14.62/-15.09	-15.46/-14.12	-11.31/-9.99	-8.61/-17.7	-12.25/-8.93	-8.88/-14.8	-18.65/-17.56	-18.89/-18.09	-16.68/-12.91	-10.61/-11.06	-11.12/-10.61	-7.77/-5.81	-8.86/-18.52	-15.01/-17.93	-13.78/-19.36	-14.45/-9.02	-7.71/-6.58	-8.51/-9.06	-9.1/-11.71	-13.93/-9.5
Θ (157.5°)	-17.67/-16.6	-12.36/-11.58	-17.09/-16.53	-10.69/-7.42	-4.89/-5.28	-8.12/-13.55	-9.71/-6.53	-6.98/-10.19	-12.72/-11.84	-12.52/-12.16	-18.62/-16.39	-12.03/-15.3	-18.57/-13.57	-14.77/-13.32	-9.84/-9.63	-11.24/-13.1	-16.05/-18.93	-17.65/-14.08	-6.86/-7.98	-11.51/-11.19	-9.3/-8.04	-6.31/-5.58	-5.41/-7.11	-12.59/-19.06
Θ (165°)	-17.5/-18.16	-17.97/-18.46	-18.29/-18.52	-14.23/-11.1	-12.54/-15.71	-14.78/-9.3	-6.91/-6.87	-8.16/-7.88	-7.73/-9.72	-13.98/-16.44	-19.09/-16.76	-13.29/-15.9	-15.77/-10.67	-7.53/-6.46	-6.08/-6.83	-8.51/-9.42	-10.28/-13.22	-16.71/-12.49	-8.79/-6.62	-5.28/-4	-3.63/-3.92	-4.75/-4.9	-4.46/-5.84	-10.78/-17.77
Θ (172.5°)	-18.19/-18.24	-15.81/-14.3	-14.11/-16.81	-17.72/-14.5	-13.74/-14.28	-12.64/-11.41	-11.18/-13.9	-12.07/-17.61	-18.77/-18.47	-17.85/-18.71	-18.68/-13.02	-12.84/-13.08	-12.33/-10.97	-11.63/-13.3	-14.4/-19.52	-18.97/-15.61	-15.95/-14.94	-12.63/-12.69	-11.28/-9.27	-7.84/-6.81	-6.75/-7.38	-8.52/-9.88	-11.02/-13.74	-18.41/-18.77
Θ (180°)	-17.61/-18.45	-18.09/-18.55	-19.33/-14.3	-12.78/-13.18	-12.02/-13.32	-13.51/-15	-16.66/-15.51	-14.04/-12.61	-12.4/-12.52	-11.36/-11.5	-13.45/-16.46	-17.46/-18.07	-19.17/-18.41	-18.84/-18.33	-17.87/-15.91	-14.69/-14.03	-12.24/-11.96	-10.69/-11.26	-12.29/-11.64	-10.72/-10.22	-10.52/-11.21	-11.71/-11.85	-12.71/-14.51	-17.17/-16.7
Freq(Hz)	6.695GPdL	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ (0°)	-7.85/-7.31	-8.4/-8.97	-5.53/-6.4	-9.4/-9.1	-10.46/-13.3	-15.56/-15.46	-15.26/-17.61	-18.28/-19	-16.1/-19.13	-12.03/-12.29	-11.51/-11.33	-10.52/-10.52	-10.77/-10.78	-10.71/-11.52	-13.05/-14.56	-15.11/-16.82	-17.69/-19.34	-17.75/-19.31	-18.06/-18.47	-16.1/-11.66	-9.96/-9.29	-10.22/-11.36	-	-
Θ (7.5°)	-5.42/-5.28	-5.3/-6.76	-8/-8.3	-7.86/-8.07	-9.46/-10.99	-13.92/-17.84	-18.74/-18.04	-18.35/-18.19	-17.38/-13.63	-10.718.63	-6.82/-5.92	-5.4/-4.79	-4.44/-4.28	-4.55/-4.7	-5.23/-5.27	-5.96/-6.35	-7.01/-7.99	-9.55/-11.02	-12.25/-14.18	-16.74/-17	-14.99/-13.14	-11.65/-9.36	-7.9/-7.11	-6.6/-6.4
Θ (15°)	-3.44/-3.33	-2.39/-2.96	-3.66/-4.71	-4.82/-5.39	-5.78/-6.88	-8.75/-10.62	-11.48/-12.81	-16.67/-19.41	-18.49/-18.29	-15.52/-12.85	-9.71/-8.08	-6.91/-6.26	-5.94/-5.84	-4.69/-4.17	-4.58/-5.23	-5.93/-6.55	-8.21/-9.79	-10.52/-14.14	-17.65/-18.46	-13.4/-10.94	-9.27/-7.26	-5.19/-4.2	-3.94/-3.71	-
Θ (22.5°)	-2.58/-4.64	-6.41/-5.01	-5.53/-6.4	-6.86/-5.39	-5.12/-5.57	-11.81/-6.62	-11.81/-18.06	-12.42/-8.51	-7.29/-8.24	-11.42/-19.26	-15.73/-10.45	-9.01/-7.71	-7.18/-7.72	-7.75/-6.43	-4.65/-2.76	-3.17/-4.6	-6.14/-7.28	-9.65/-18.59	-17.98/-10.01	-18.06/-18.47	-8.31/-8.45	-6.35/-6.05	-6.23	-
Θ (30°)	-3.96/-3.63	-2.92/-3.99	-5.06/-6.62	-11.34/-14.14	-13.75/-13.36	-11.43/-10.33	-11.14/-14.63	-16.46/-13.21	-12.76/-17.07	-13.93/-11.78	-11.24/-14.51	-10.02/-7.87	-9.27/-7.77	-5.48/-3.27	-1.67/-1.41	-1.79/-3.23	-5.65/-5.4	-2.4/-1.98	-4.47/-10.25	-14.42/-11.48	-8.86/-10.93	-11.09/-8.11	-6.93/-7.5	-7.17/-5.64
Θ (37.5°)	-6.43/-7.04	-7.74/-7.69	-7.04/-7.35	-8.63/-11.15	-11.27/-8.1	-5.58/-5.5	-7.34/-12.94	-18.39/-16.16	-19.03/-8.55	-3.83/-4.42	-10.59/-9.46	-5.17/-4.19	-6.69/-4.08	-1.99/-1.07	-1.54/-1.77	-0.04/-0.05	-1.79/-3.15	-1.79/-4.12	-2.45/-4.97	-6.78/-5.35	-8.03/-10.04	-8.66/-7.23	-3.86/-8.73	-6.94/-9.3
Θ (45°)	-4.39/-4.9	-5.93/-5.91	-7.24/-9.98	-11.75/-8.26	-7.6/-8.7	-7.44/-7.75	-8.29/-18.89	-8.87/-10.91	-17.14/-5.41	-4.05/-4.5	-7.28/-4.17	-5.85/-3.25	-4.66/-2.03	-0.99/-0.46	0.03/-2.5	-3.73/-1.7	-1.39/-2.1	-1.560.09	-0.99/-3.93	-3.11/-5.51	-6.15/-7.29	-7.52/-8.59	-6.91/-4.8	-7.31/-5.83
Θ (52.5°)	-4.26/-4.57	-6.47/-6.98	-7.78/-8.36	-7.31/-5.6	-5.5/-7.11	-14.08/-9.49	-12.62/-10.67	-5.5/-9.78	-3.93/-3.46	-6.51/-4.47	-3.45/-3.73	-5.14/-3.42	-4.08/-3.21	-0.440.55	-0.12/-2.94	-1.54/-0.74	0.19/-2.07	-1.731.08	0.22/-1.53	-1.12/-3.18	-6.46/-4.92	-7.51/-9.12	-2.5/-3.44	-8.94/-5.56
Θ (60°)	-7.46/-9.78	-6.58/-8.36	-10.27/-10.26	-8.48/-8.99	-4.48/-4.48	-18.14/-10.78	-18.37/-13.2	-5.25/-5.57	-1.45/-3.41	-5.41/-2.11	-4.05/-6.12	-5.72/-3.61	-5.08/-5.18	-2.42/-9.13	-3.35/-3.5	-2.16/-4.04	0.32/-1.56	-2.54/-0.92	-1.64/-2.63	-1.45/-6.11	-5.09/-6.23	-9.6/-5.04	-2.09/-4.25	-8.71/-5.11
Θ (67.5°)	-6.02/-7.8	-6.89/-6.18	-12.71/-11.47	-6.35/-8.52	-3.96/-3.8	-13.78/-10.61	-13.79/-8.13	-6.55/-3.96	-3.14/-5.96	-3.41/-5.31	-6.54/-3.76	-4.84/-5.95	-6.45/-7.45	-1.54/-1.46	-6.19/-5.24	-3.21/-2.64	-2/-1.95	-4.51/-1.49	-4.18/-7.25	-4.82/-7.64	-5.11/-3.23	-2.99/-4.49	-5.2/-8.85	-
Θ (75°)	-6.48/-6.36	-3.76/-4.46	-8.13/-8.18	-6.41/-7.19	-5.46/-3.52	-10.58/-6.26	-11.73/-5.96	-7.21/-4.93	-5.04/-4.93	-3.23/-4.32	-5.36/-2.75	-4.45/-5.35	-3.46/-5.47	-1.53/-3.32	-4.69/-5.62	-3.91/-2.39	-2.760.79	-0.42/-0.26	0.650.81	-2.41/-6.45	-3.43/-8.27	-4.59/-4.49	-3.08/-3.11	-3.25/-2.99
Θ (82.5°)	-5.56/-7.17	-4.44/-4.6	-6.13/-7.94	-6.2/-6.81	-10.68/-6	-10.73/-8.11	-8.35/-3.56	-6.74/-6.02	-6.48/-4.07	-4.04/-2.91	-6.02/-5.24	-2.69/-2.95	-3.12/-2.72	-6.03/-6.21	-2.56/-0.85	-0.942.18	1.64/-1.2	1.491.49	-3.32/-2.79	-5.63/-2.74	-4.19/-5	-5.16/-3.26	-3.82/-2.16	-
Θ (90°)	-4.89/-4.31	-6.73/-4.96	-6.46/-5.78	-4.75/-6.4	-6.02/-2.83	-11.46/-5.64	-7.56/-10.48	-9.87/-12.21	-8.95/-8.16	-6.93/-4.32	-4.94/-5.13	-5.62/-3.43	-3.01.3	1.741.65	2.59/-1.3	1.051.07	-1.41/-10.48	-7.13/-5.84	-3.58/-5.76	-5.82/-3.17	-4.21/-8.9	-	-	-
Θ (97.5°)	-5.29/-11.79	-9.74/-5.26	-5.94/-3.96	-4.84/-4.72	-4.7/-3.41	-10.68/-5.92	-7/-10.31	-8.8/-3.29	-8.72/-15.92	-6.36/-3.31	-7.13/-6.73	-6.62/-4.59	-4.71/-7.46	-9.44/-8.04	-13.87/-10.13	-5.25/-2.31	1.47/-0.14	0.94/-2.77	-0.8/-1.08	-6.37/-16.26	-10.64/-4.88	-4.5/-4.45	-6.48/-4.96	-6.31/-3.13
Θ (105°)	-6.96/-11.2	-8.86/-5.72	-9.34/-2.29	-5.42/-3.44	-5.39/-4.24	-6.08/-5.51	-6.2/-8.96	-8.29/-6.55	-7.85/-19.3	-8.28/-6.51	-10.32/-9.51	-8.74/-6.21	-8.48/-18.12	-8.29/-10.57	-15.06/-15.3	-8.64/-10	-3.83/-4.24	-4.23/-6.86	-3.78/-7.65	-10.66/-10.62	-10.59/-5	-5.29/-3.92	-10.63/-8.66	-8.15/-6.52
Θ (112.5°)	-8.76/-8.53	-10.49/-7.5	-3.25/-4.13	-5.24/-4.73	-7.3/-4.04	-4.15/-5.6	-3.83/-7.3	-7.16/-13.97	-13.8/-11.9	-8.71/-9.99	-10.44/-5.71	-7.67/-9.85	-18.46/-19.3	-8.04/-12.79	-9.39/-13.09	-10.61/-12.77	9.77/-12.65	-4.63/-15.3	-12.76/-16.62	-10.79/-14.69	-8.31/-5.8	-5.51/-11.23	-6.82/-6.6	-
Θ (120°)	-10.63/-10.1	-12.74/-13.03	-8.77/-9.35	-6.4/-6.72	-11.8/-4.67	-4.22/-8.64	-3.87/-9.39	-9.78/-17.68	-18.21/-12.42	-10.55/-8.66	-7.05/-6.72	-6.15/-7.8	-17.09/-12.97	-17.08/-15.1	-10.52/-10.53	-6.2/-5.83	-4.15/-8.27	-3.69/-9.98	-13.38/-13.08	-9.33/-11.09	-6.01/-4.19	-13.34/-3.36	-6.4/-6.57	-6.16/-8.15
Θ (127.5°)	-10.25/-11.39	-12.95/-12.25	-12.1/-11.57	-7.32/-12.03	-9.66/-3.73	-6.27/-10.78	-7.18/-14.6	-10.68/-9.42	-6.62/-10.66	-6.37/-8.54	-9.37/-10.52	-12.92/-14.54	-16.58/-8.18	-18.33/-11.11	-19.18/-9.73	-6.64/-8.98	-19.32/-5.19	-2.4/-7.25	-12.17/-2.77	-4.31/-12.51	-9.05/-2.84	-3.35/-5	-9.77/-5.64	-
Θ (135°)	-6.64/-5.49	-11.57/-7.69	-10.05/-8.09	-11.06/-11.07	-14.04/-14.19	-17.31/-14.56	-11.28/-15.02	-17.94/-11.29	-8.03/-13.25	-14.77/-6.2	-7.96/-8.78	-18.24/-17.56	-18.29/-13.19	-10.5/-9.83	-10.3/-14.78	-6.4/-19.08	-14.25/-8.27	-5.37/-12.28	-15.69/-9.82	-7.81/-18.1	-10.74/-2.17	-8.81/-8.2	-0.82/-1.63	-2.87/-2.53
Θ (142.5°)	-3.27/-5.7	-5.31/-10.69	-10.07/-14.99	-10.36/-11.32	-10.56/-14.32	-13.02/-15.22	-16.41/-17.35	-17.27/-15.94	-12.83/-13.76	-12.75/-11.54	-9.37/-11.3	-13.81/-12.2	-8.15/-19.04	-13.74/-13.05	-15.82/-12.09	-16.47/-19.13	-12.01/-6.39	-11/-17.3	-18.81/-17.9	-11.32/-13.5	-7.17/-5.32	-6.29/-2.79	-4.92/-5.1	-4.96/-3.9
Θ (150°)	-6.15/-8.4	-7.67/-5.71	-6.1/-7.64	-10.95/-10.81	-8.96/-7.27	-7.11/-9.66	-14.02/-17.68	-19.04/-17.33	-10.82/-9.75	-15.33/-12.59	-10.72/-11.21	-14.16/-18.44	-13.9/-12.43	-18.18/-19.05	-14.82/-14.64	-18.17/-13.97	-11.53/-12.29	-17.47/-18.71	-15.87/-11.92	-6.73/-5.74	-8.45/-6.27	-4.48/-4.64	-6.15/-9.31	-7.69/-6.09
Θ (157.5°)	-9.43/-10.38	-8.56/-9.51	-15.75/-18.21	-12.84/-11.56	-10.64/-9.11	-9.43/-11.85	-13.93/-13.4	-13.94/-17.3	-13.58/-11.75	-10.24/-13.45	-16.48/-14.99	-14.52/-12.75	-15.3/-18.57	-18.58/-16.8	-14.57/-12.15	-12.11/-13.11	-11.2/-9.31	-10.39/-12.49	-12.21/-14	-11.51/-9.01	-7.42/-6.72	-4.6/-4.21	-5.64/-5.7	-6.75/-7.91
Θ (165°)	-10.06/-11.42	-8.99/-10.26	-12.38/-13.75	-13.66/-13.99	-13.26/-14.4	-14.81/-14.05	-13.19/-11.75	-10.66/-9.72	-9.22/-10.13	-13.52/-16.18	-13.07/-15.72	-18.56/-15.32	-12.43/-16.24	-16.19/-17.92	-18.37/-16.24	-12.45/-11.7	-13.13/-16.18	-16.23/-15.09	-12.48/-10.05	-8.1/-8.35	-10.45/-8.73	-7.07/-6.87	-6.11/-7.77	-
Θ																								



Radiated Composite Gain Data of 6GHz

Appendix A.2

Θ (165°)	-12.65/-10.6	-10.08/-9.82	-11.54/-15.48	-17.75/-18.72	-17.06/-13.26	-10.58/-9.36	-10.87/-15.31	-17.87/-13.53	-10.64/-9.3	-8.76/-8.81	-9.31/-11.25	-12.47/-11.63	-9.95/-9.02	-9.09/-9.84	-8.59/-6.63	-5.22/-5.15	-6.09/-8.15	-11.87/-14.57	-14.04/-16.82	-18.61/-19.31	-19.24/-12.87	-8.19/-6.39	-7.4/-9.91	-13.68/-14.78	
Θ (172.5°)	-10.25/-10.27	-10.18/-10.89	-12.31/-13.83	-16.07/-18.29	-19.28/-16.16	-14.95/-13.43	-14.44/-14.97	-12.85/-10.4	-8.31/-7.45	-7.23/-6.96	-6.46/-6.09	-6.23/-6.27	-5.96/-6.23	-6.49/-6.26	-5.91/-5.8	-6.62/-8.57	-11.5/-16.38	-18.15/-18.29	-18.47/-18.14	-18.6/-18.75	-18.19/-17.5	-14.49/-10.72	-9.4/-8.57	-8.85/-9.4	
Θ (180°)	-15.82/-17.04	-16.84/-17.04	-16.84/-17.04	-15.12/-14.29	-13.68/-13.55	-14.31/-15.88	-16.86/-18.29	-18.98/-17.92	-19.12/-17.79	-17.95/-16.54	-16.21/-16.99	-16.72/-15.39	-16.28/-17.97	-17.65/-19.27	-17.92/-18.39	-16.65/-18.52	-17.84/-17.61	-12.14/-14.27	-8.55/-8.99	-9.96/-9.88	-8.85/-9.8	-10.79/-10.54	-11.96/-14.79		
Freq(Hz)	6.175GPol.	Theta/Ant. 3	Θ (30°)	Θ (37.5°)	Φ (45°)Φ (52.5°)	Φ (60°)Φ (67.5°)	Φ (75°)Φ (82.5°)	Φ (90°)Φ (97.5°)	Φ (105°)Φ (112.5°)	Φ (120°)Φ (127.5°)	Φ (135°)Φ (142.5°)	Φ (150°)Φ (157.5°)	Φ (165°)Φ (172.5°)	Φ (180°)Φ (187.5°)	Φ (195°)Φ (202.5°)	Φ (210°)Φ (217.5°)	Φ (225°)Φ (232.5°)	Φ (240°)Φ (247.5°)	Φ (255°)Φ (262.5°)	Φ (270°)Φ (277.5°)	Φ (285°)Φ (292.5°)	Φ (300°)Φ (307.5°)	Φ (315°)Φ (322.5°)	Φ (330°)Φ (337.5°)	Φ (345°)Φ (352.5°)
Gain	Φ (0°)Φ (7.5°)	Φ (15°)Φ (22.5°)	Φ (30°)Φ (37.5°)	Φ (45°)Φ (52.5°)	Φ (60°)Φ (67.5°)	Φ (75°)Φ (82.5°)	Φ (90°)Φ (97.5°)	Φ (105°)Φ (112.5°)	Φ (120°)Φ (127.5°)	Φ (135°)Φ (142.5°)	Φ (150°)Φ (157.5°)	Φ (165°)Φ (172.5°)	Φ (180°)Φ (187.5°)	Φ (195°)Φ (202.5°)	Φ (210°)Φ (217.5°)	Φ (225°)Φ (232.5°)	Φ (240°)Φ (247.5°)	Φ (255°)Φ (262.5°)	Φ (270°)Φ (277.5°)	Φ (285°)Φ (292.5°)	Φ (300°)Φ (307.5°)	Φ (315°)Φ (322.5°)	Φ (330°)Φ (337.5°)	Φ (345°)Φ (352.5°)	
Θ (0°)	-9.41/-7.03	-6.13/-6.29	-6.09/-6.2	-6.95/-6.79	-6.89/-7.48	-6.18/-8.71	-9.4/-10.25	-11.76/-13.04	-14.67/-16.78	-17.33/-16.64	-15.61/-14.8	-11.19/-9.02	-8.19/-7.63	-7.52/-7.5	-7.12/-6.82	-7.12/-6.82	-6.76/-6.71	-6.88/-7.22	-7.78/-8.99	-11.5/-13.71	-14.2/-16.3	-17.86/-14.46	-14.74/-12.82	-9.92/-9.96	
Θ (7.5°)	-9.12/-7.99	-6.87/-6.24	-5.81/-5.6	-5.57/-4.86	-4.59/-4.67	-5.13/-5.62	-7.05/-9.49	-13.1/-16.14	-17.95/-18.78	-15.23/-13.8	-12.22/-11.55	-11.19/-9.06	-7.21/-6.98	-7.97/-9	-9.64/-9.8	-10.04/-10.02	-10.56/-10.49	-10.15/-11.02	-12.46/-12.9	-14.08/-16.71	-14.39/-13.55	-14.16/-11.56	-10.13/-10.92	-9.78/-8.84	
Θ (15°)	-3.88/-4.84	-5.25/-3.55	-2.71/-2.66	-3.28/-3.98	-3.87/-4.04	-4.73/-6.26	-8.47/-11.79	-11.88/-10.98	-11.06/-11.7	-13.29/-14.1	-10.9/-10.03	-10.5/-8.63	-7.41/-8.23	-8.61/-8.78	-11.16/-16.67	-15.69/-12.84	-12.2/-11.54	-11/-11.99	-14.12/-17	-17.96/-18.08	-16.39/-18.49	-17.99/-17.75	-16.12/-11.75	-9.38/-5.67	
Θ (22.5°)	-2.9/-1.25	-1.48/-2.25	-1.23/-1.23	-2.71/-4.58	-5.03/-5.29	-4.53/-4.05	-5.44/-6.72	-6.2/-6.18	-6.57/-8.03	-9.63/-9.02	-8.1/-7.81	-8.14/-7.9	-7.15/-66	-6.81/-7.46	-8.23/-11.26	-13.16/-11.83	-9.44/-8.25	-8.55/-9.84	-10.52/-11.29	-12.66/-12.46	-14.55/-18.67	-18.36/-13.82	-9.34/-6.59	-4.43/-5.25	
Θ (30°)	-6.74/-4.73	-3.67/-2.89	-2.84/-3.54	-4.05/-2.9	-2.81/-3.22	-1.79/-1.34	-2.48/-3.64	-3.45/-3.03	-3.55/-5.59	-8.05/-9.46	-8.13/-6.86	-8.35/-8.32	-5.84/-5.7	-6.16/-5.72	-5.81/-9.22	-11.48/-10.19	-9.19/-8.14	-6.72/-6.46	-7.41/-6.93	-5.7/-6.85	-10.66/-13.39	-12.08/-8.67	-6.96/-6.09	-4.93/-5.9	
Θ (37.5°)	-2.79/-1.76	-3.29/-3.19	-3.64/-6.15	-2.930.38	1.150.93	0.650.16	-0.86/-0.95	-3.98/-3.78	-4.82/-6.85	-7.88/-7.94	-6.53/-7.71	-8.54/-7.52	-7.37/-6.71	-4.5/-5.51	-7.58/-8.61	-6.62/-3.65	-3.14/-3.32	-1.79/-2.26	-4.26/-4.84	-4.58/-6.85	-13.47/-12.41	-6.78/-5.4	-3.78/-3.64		
Θ (45°)	-1.87/-1.72	-2.46/-3.12	-2.17/-2.44	-0.95/-1.61	2.762.77	1.730.61	-0.31/-0.63	-1.89/-1.49	-3.31/-5.55	-5.61/-6.35	-4.69/-5.14	-5.06/-8.42	-8.18/-6.39	-7.94/-6.79	-5.67/-3.8	-3.89/-6.01	-4.55/-1.14	-1.78/-2.19	-3.92/-5.85	-7.32/-8.73	-8.86/-12.32	-8.46/-6.2	-6.61/-6.32		
Θ (52.5°)	-2.73/-2.43	-3.27/-3.48	-2.82/-0.5	1.222.9	2.772.41	1.761.14	2.140.61	-1.03/-0.08	-2.01/-3.26	-4.94/-6.9	-4.9/-4.22	-5.1/-10.88	-10.15/-9.39	-6.27/-8.68	-5.89/-3.17	-1.44/-3.31	-3.18/-3.35	-4.54/-5.13	-4.89/-4.25	-6.52/-5.12	-5.61/-7.8	-6.04/-4.25	-6.7/-8.88	-4.53/-3.1	
Θ (60°)	-3.07/-1.82	-2.19/-4.98	-5.3/-1.08	1.31/8.1	0.911.52	1.981.22	2.090.84	0.860.59	-2.62/-3.19	-7.23/-9.36	-5.31/-9.43	-5.97/-7.07	-9.24/-13.04	-6.76/-5.27	-6.6/-1.82	-1.08/-2.36	-3.5/-4.07	-3.95/-6.85	-8.76/-7.37	-8.25/-6.26	-7.06/-6.57	-3.54/-4.47	-11.77/-11.33	-5.16/-3.21	
Θ (67.5°)	-2.64/-1.08	-0.51/-2.77	-5.29/-2.65	-0.25/-0.22	-1.670.56	1.33/-0.11	1.280.58	1.32/-0.04	-1.69/-2.06	-10.02/-10.48	-8.21/-6.94	-7.21/-5.74	-7.58/-16.71	-9.77/-7.01	-5.59/-2.12	-2.56/-4	-4.37/-4.33	-4.43/-6.08	-3.77/-5.07	-6.78/-8.1	-11.99/-8.76	-5.04/-5.5	-4.53/-2.56		
Θ (75°)	-1.06/-0.21	-0.58/-2.12	-3.79/-4.05	-2.52/-2.68	-4.42/-2.19	-0.33/-1.3	-0.020.51	0.96/-0.21	-1.24/-1.25	-8.97/-10.76	-12.51/-10.17	-5.84/-4.54	-5.98/-18.75	-15.62/-7.25	-7.14/-3.81	-2.19/-4.38	-4.79/-4.75	-3.07/-2.85	-1.26/-3.18	-4.45/-6.18	-12.89/-7.06	-3.32/-7.03	-11.4/-6.55	-3.82/-1.58	
Θ (82.5°)	-2.05/-1.65	-2.14/-2.57	-3.23/-2.46	-4.08/-4.69	-8.11/-4.86	-2.61/-4.68	-2.57/-0.89	0.1/-1.93	-1.87/-2.6	-7.68/-8.1	-9.12/-8.32	-5.35/-3.7	-8.18/-18.16	-14.42/-10.9	-7.23/-3.13	-3.51/-5.72	-7.04/-4.92	-3.74/-7.1	-0.16/-2.48	-3.98/-3.25	-5.73/-13	-2.64/-5.1	-7.83/-4.86	-3.74/-3.28	
Θ (90°)	-3.58/-4.02	-5.18/-5.84	-4.1/-3.39	-4/-4.54	-8.05/-8.06	-6.41/-9.16	-5.75/-3.15	-2.91/-0.93	-3.07/-2.82	-6.45/-8.4	-11.72/-17.64	-7.09/-5.5	-7.01/-15.58	-14.81/-11.13	-12.87/-6.62	-5.65/-3.48	-9.03/-11.56	-6.62/-4.25	-4.83/-5.25	-3.88/-2.84	-5.69/-3.6	-3.09/-5.76	-10.71/-5.76	-5.39/-3.37	
Θ (97.5°)	-6.33/-5.87	-6.82/-9.94	-7.42/-5.6	-4.88/-4.04	-5.83/-10.83	-8.22/-11.3	-10.44/-6.49	-5.48/-7.29	7.27/-5.7	-7.11/-7.41	-12.09/-15.84	-11.51/-5.96	-4.63/-9.53	-14.99/-13.69	-19/-7.79	-8.06/-8.43	-12.65/-17.66	-11.62/-7.86	-12.71/-6.38	-5.62/-5.62	-7.86/-10.81	-8.42/-8.88	-15.78/-8.19	-9.48/-4.53	
Θ (105°)	-5.87/-5.13	-5.71/-7.06	-14.89/-13.92	-6.9/-3.57	-7.12/-7.29	-2.78/-10.77	-18.03/-11.51	-10.69/-10.4	-11.52/-9.74	-8.3/-6.31	-17.93/-8.39	-6.04/-7.1	-10.15/-11.79	-11.4/-18.76	-16.83/-13.93	-14.24/-15.66	-19.09/-17.17	-11.71/-13.73	-9.51/-7.2	-14.58/-13.92	-18.1/-19.05	-15.07/-16.69	-17.63/-10.23		
Θ (112.5°)	-11.57/-4.78	-4.91/-5.46	-8.99/-14.14	-14.19/-6.53	-4.88/-7.6	-5.36/-8.52	-14.09/-7.76	-8.67/-14	-13.44/-7.75	-7.24/-7.45	-9.89/-10.78	-9.76/-5.8	-4.22/-8.69	-9.07/-7.24	-7.85/-13.76	-10.53/-13.53	-10.72/-12.8	-8.27/-14.74	-8.34/-8.99	-11.42/-6.37	-10.55/-17.51	-17.31/-6.51	-15.33/-13.9		
Θ (120°)	-11.05/-11.44	-9.88/-7.44	-5.79/-6.91	-18.96/-12.96	-12.3/-7.59	-7.34/-7.4	-8.77/-6.75	-6.61/-10.77	-11.77/-6.17	-4.59/-4.68	-5.72/-4.64	-3.13/-2.7	-2.39/-4.29	-5.44/-8.02	-7.05/-9.67	-8.82/-7.96	-12.31/-15.95	-17.48/-13.72	-8.18/-13.86	-13.4/-6.49	-9.28/-10.22	-7.19/-10.29	-5.08/-6.89	-12.01/-8.22	
Θ (127.5°)	-12.41/-18.67	-16.4/-14.37	-8.17/-6.08	-8.05/-19.07	-13.91/-12.29	-13.16/-7.47	-71.0.48	-9.06/-8.41	-6.59/-5.02	-5.11/-5.58	-6.78/-4.72	-2.72/-0.97	-2.01/-3.44	-4.73/-6.23	-4.39/-6.14	-6.88/-9.9	-8.35/-12.62	-15.5/-15.93	-16.58/-10.83	-17.34/-13.32	-11.71/-10.8	-10.91/-16.99	-11.32/-14.69	-16.78/-13.74	
Θ (135°)	-15.71/-13.19	-18.15/-14.93	-4.74/-4.18	-5.46/-15.49	-11.48/-8.33	-13.02/-13.51	-7.27/-6.85	-2.66/-14.75	-6.74/-7.88	-3.84/-4.5	-4.3/-7.8	-1.07/-1.15	-1.24/-3.3	-3.74/-3.4	-5.32/-7.82	-1.16/-9.69	-10.43/-8.16	-8.79/-9.99	-19.07/-19.12	-16.35/-16.88	-16.97/-17.13	-10.57/-12.8	-9.86/-7.51	-8.77/-8.13	
Θ (142.5°)	-7.25/-8.6	-8.87/-7.75	-6.67/-6.45	-8.78/-12.93	-18.44/-11.69	-8.59/-12.84	-17.81/-18.97	-15.49/-11.03	-6.28/-5.65	-6.72/-5.87	-4.06/-1.28	0.12/-0.28	-1.69/-3.28	-4.66/-6.89	-6.55/-10.4	-11.98/-11.04	-10.59/-11.56	-18.78/-17.92	-11.04/-9.07	-13.54/-11.81	-8.94/-10.05	-16.27/-10.11	-6.96/-6.25	-6.25/-6.85	
Θ (150°)	-12.21/-14.37	-14.18/-11.39	-12.36/-18.54	-19.38/-15.5	-18.25/-18.14	-10.84/-9.96	-12.08/-13.96	-13.94/-14.98	-12.97/-11.08	-9.37/-6.65	-5.03/-2	-0.6/-0.48	-2.13/-5.15	-8.18/-9.07	-10.1/-10.72	-13.67/-16.33	-7.65/-6.33	-4.68/-6.11	-11.51/-13.48	-8.97/-7.44	-10.34/-10.65	-16.37/-11.83	-16.49/-15.22	-11.74/-10.25	
Θ (157.5°)	-5.06/-6.35	-10.41/-13.6	-12.99/-12.49	-12.61/-13.41	-16.16/-18.06	-17.09/-16.67	-18.12/-18.26	-17.14/-13.78	-8.91/-5.55	-4.52/-8.86	-2.9/-2.56	-2.89/-3.26	-10.4/-5.88	-6.97/-7.55	-8.89/-10.25	-8.13/-4.94	-4.54/-6.13	-5.94/-6.49	-11.66/-18.68	-13.54/-15.52	-19.47/-13.67	-15.07/-18.71	-16.4/-10.66	-9.05/-6.49	
Θ (165°)	-11.82/-11.55	-12.94/-12.16	-10.4/-9.12	-10.38/-12.01	-13.43/-15.5	-17.41/-18.24	-18.17/-17.69	-18.48/-18.98	-15.51/-10.76	-8.66/-6.77	-4.48/-3.96	-4.1/-4.06	-4.73/-4.67	-4.48/-5.89	-9.1/-9.52	-7.89/-8.33	-11.44/-10.5	-6.09/-4.21	-5.26/-9	-16.39/-19.05	-18.97/-19.29	-19.04/-18.92	-15.4/-13.81	-10.54/-11.73	
Θ (172.5°)	-16.03/-15.78	-17.15/-15.28	-12.83/-10.77	-10.26/-10.46	-10.32/-9.93	-6.89/-6.73	-6.89/-7.05	-7.77/-8.01	-8.01/-9.44	-11.19/-12.41	-14.06/-14.08	-13.24/-12.61	-11.57/-10.7	-11.38/-12.57	-12.64/-11.87	-11.63/-11.64	-10.89/-9.52	-8.25/-7.58	-7.56/-8.88	-9.16/-7.67	-7.5/-8.23	-7.97/-7.86	-10.23/-12.9	-15.13/-16.63	
Θ (180°)	-17.89/-18.48	-18.81/-17.4	-17.71/-19.06	-18.69/-18.16	-17.13/-16.84	-15.13/-12.98	-13/-12.8	-12.85/-13.07	-12.8/-12.91	-12.87/-11.98	-10.99/-10.38	-10.12/-10.19	-10.48/-10.96	-12.03/-11.68	-10.76/-10.27	-10.24/-10.75	-11.22/-12.19	-14.71/-19.22	-17.55/-18.47	-19.19/-17.79	-19.01/-18.83	-17.83/-19.07	-17.78/-17.86	-18.52/-17.76	
Freq(Hz)	6.475GPol.	Phi/Ant. 3	Θ (30°)	Θ (37.5°)	Φ (45°)Φ (52.5°)	Φ (60°)Φ (67.5°)	Φ (75°)Φ (82.5°)	Φ (90°)Φ (97.5°)	Φ (105°)Φ (112.5°)	Φ (120°)Φ (127.5°)	Φ (135°)Φ (142.5°)	Φ (150°)Φ (157.5°)	Φ (165°)Φ (172.5°)	Φ (180°)Φ (187.5°)	Φ (195°)Φ (202.5°)	Φ (210°)Φ (217.5°)	Φ (225°)Φ (232.5°)	Φ (240°)Φ (247.5°)	Φ (255°)Φ (262.5°)	Φ (270°)Φ (277.5°)	Φ (285°)Φ (292.5°)	Φ (300°)Φ (307.5°)	Φ (315°)Φ (322.5°)	Φ (330°)Φ (337.5°)	Φ (345°)Φ (352.5°)
Gain	Φ (0°)Φ (7.5°)	Φ (15°)Φ (22.5°)	Φ (30°)Φ (37.5°)	Φ (45°)Φ (52.5°)	Φ (60°)Φ (67.5°)	Φ (75°)Φ (82.5°)	Φ (90°)Φ (97.5°)	Φ (105°)Φ (112.5°)	Φ (120°)Φ (127.5°)	Φ (135°)Φ (142.5°)	Φ (150°)Φ (157.5°)	Φ (165°)Φ (172.5°)	Φ (180°)Φ (187.5°)	Φ (195°)Φ (202.5°)	Φ (210°)Φ (217.5°)	Φ (225°)Φ (232.5°)	Φ (240°)Φ (247.5°)	Φ (255°)Φ (262.5°)	Φ (270°)Φ (277.5°)	Φ (285°)Φ (292.5°)	Φ (300°)Φ (307.5°)	Φ (315°)Φ (322.5°)	Φ (330°)Φ (337.5°)	Φ (345°)Φ (352.5°)	
Θ (0°)	-6.56/-6.57	-8.1/-8.79	-9/-10.14	-10.79/-10.66	-10.54/-9.75	-8.97/-7.65	-6.72/-11.49	-5.1/-4.46	-4.32/-4.27	-3.61/-3.36	-3.76/-3.88	-3.93/-4.41	-5.35/-5.54	-6.31/-7.93	-9.63/-10.75	-11.1/-10.37	-9.31/-8.57	-7							



Radiated Composite Gain Data of 6GHz

Appendix A.2

Θ(7.5°)	-5.32/4.36	-3.66/3.36	-3.2/3.09	-3.34/4.16	-5.1/6.37	-8.11/9.95	-11.96/12.77	-12.69/12.8	-12.8/12.92	-13.63/14.19	-11.97/10.41	-10.32/8.01	-6.41/5.89	-4.96/3.94	-3.57/3.61	-3.8/4.06	-4.28/4.39	-4.79/5.24	-5.48/5.83	-6.41/7.05	-8.38/10.49	-12.1/11.12	-9.74/8.6	-8.28/6.55
Θ(15°)	-4.7/3.04	-3.36/3.3	-4.04/4.68	-4.95/7.05	-9.02/11.31	-11.02/10.83	-9.86/8.98	-8.89/8.62	-8.39/8	-7.34/6.68	-6.12/5.68	-7.11/6.44	-5.17/3.74	-2.71/2.29	-2.12/2.88	-4.02/5.89	-6.73/5.82	-5.44/5.2	-5.59/5.68	-7.71/10.25	-13.45/16.07	-18.67/14.95	-11.51/11.35	-8.2/6.02
Θ(22.5°)	-2.9/1.99	-3.5/3.74	-3.35/3.35	-6.51/5.98	-6.09/4.76	-4.73/5.98	-6.61/7.79	-6.36/6.45	-6.95/7.24	-8.1/8.96	-8.15/6.64	-6.23/5.54	-2.99/1.66	-2.25/2.41	-2.28/2.56	-4.07/6.03	-6.05/4.81	-4.15/3.63	-4.42/5.73	-7.04/9.4	-12.07/17.1	-19.78/18.52	-12.95/8.87	-8.02/6.47
Θ(30°)	-4.73/4.62	-3.79/4.67	-4.91/3.28	-1.24/1.36	-2.19/2.59	-3.63/4.42	-5.86/4.66	-5.53/6.14	-7.58/7.5	-7.65/7.59	-6.18/3.88	-2.89/4.2	-4.34/3.83	-4.84/4.94	-4.33/3.88	-4.61/4.75	-6.22/7.25	-7.12/5.26	-6.43/6.63	-8.64/10.6	-12.33/11.02	-9.59/11.76	-12.14/8.37	-6.8/6.03
Θ(37.5°)	-3.68/4.54	-8.06/-7.49	-6.23/-2.74	-0.36/0.35	-0.89/-1.75	-2.2/-2.9	-3.73/-3.93	-3.06/4.04	-5.52/-6.44	-7.92/-7.87	-5.63/-3.9	-3.28/-4.68	-7.67/-6.05	-5.17/-5.18	-4.65/-3.66	-3.73/-4.52	-8.06/-8.09	-5.63/-4.19	-3.69/-3.91	-3.75/-3.94	-4.62/-6.88	-8.21/-8.78	-6.91/-6.58	-5.31/3.19
Θ(45°)	-0.16/-1.63	-5.42/-5.37	-5.84/-3.78	-0.94/0.1	0.76/0.12	-0.73/0.24	-1.03/-1.79	-0.91/2.54	-4.92/-5.72	-6.43/-6.48	-7.63/-9.22	-11.04/-8.73	-3.76/-5.53	-5.72/-3.64	-3.98/-5.81	-4.44/-3.4	-5.49/-5.16	-4.61/2.99	-3.5/-4.76	-3.96/5.82	-7.85/-1.11	-7.05/6.39	-5.2/-4.97	-5.25/-6.16
Θ(52.5°)	-2.62/2.97	-7.7/6.8	-4.87/-3.46	-1.130/6.2	1.26/1.88	0.78/0.8	0.23/-1.04	-1.01/3.84	-4.33/-5.24	-4.16/4.18	-7.41/9.58	-9.38/9.22	-10.26/-9.79	-7.23/3.67	-3.46/5.91	-4.39/2.66	-2.59/2.16	-3.37/2.34	-2.57/2.74	-2.54/4.49	-4.52/4.83	-7.15/-5.52	-5.03/-8.93	-5.8/3.32
Θ(60°)	-5.42/-5.03	-7.02/-8.81	-5.54/-2.82	0.20/9.1	1.48/2.76	1.96/1.12	0.85/0.3	-1.55/-3.96	-4/6.06	-5.19/-4.2	-6.8/8.54	-8.43/-14.1	-18.92/-11.67	-12.32/4.32	-1.47/6.03	-3.04/-3.43	-3.79/-3.2	-4.21/-7.36	-5.95/-5.43	-3.98/5.82	-3.81/5.46	-5.42/-2.7	-6.38/-10.8	-5.8/6.16
Θ(67.5°)	-4.1/4.49	-4.94/4.2	-3.74/-2.02	0.580/6.4	2/2.64	1.63/1.43	1.91/27	-0.78/-1.86	-2.49/-5.54	-5.52/-7.21	-7.64/-6.4	-7.92/-11.06	-14.63/-10.75	-8.19/-4.04	-1.33/-2.81	-3.43/-4.91	-6.88/5.28	-8.09/-10.8	-12.95/-11.29	-9.56/-9.18	-4.66/8.6	-3.53/-2.36	-7.78/-8.14	-3.42/3.85
Θ(75°)	-4.03/3.54	-2.85/2.9	-3.07/2.21	-0.490/1.1	0.24/5.5	1.22/1.55	2.51/2.6	0.68/0.32	-0.86/3.61	-6.16/8.78	-5.61/8.58	-10.07/12.55	-15.56/9.09	-6.91/5.39	-1.37/2.05	-3.17/4.69	-9.07/6	-6.31/5.51	-6.64/8.21	-7.32/9.52	-6.94/10.53	-3.49/3.88	-9.58/6.29	-2.91/2.75
Θ(82.5°)	-4.34/-4.65	-2.63/-2.61	-2.13/-3.29	-3.9/3.21	-0.46/-0.94	0.71/0.65	2.32/6.9	1.41/1.04	-0.74/-2.74	-6.24/-11.7	-7.23/-8.94	-11.33/-9.02	-11.79/-10.55	-6.67/-5.47	-3.5/-2.47	-4.86/-6.06	-12.72/3.96	-3.5/-1.81	-1.32/-3.52	-3.96/6.38	-8.12/-5.94	-1.17/-5.62	-10.88/4.15	-4.36/2.21
Θ(90°)	-7.88/6.26	-2.32/2.35	-1.73/3.42	-5.98/5.31	-0.74/-3.07	-0.87/1.85	1.08/2.07	1.26/4.2	0.38/-0.79	-4/10.45	-8.79/9.64	-11.54/-11.01	-11.63/13.11	-9.1/6.18	-4.53/-3.22	-5.63/5.22	-12.29/5.81	-3.29/1.13	-0.51/2.73	-4.78/4.4	-7.52/4.66	-10.41/7.2	-10.89/3.3	-6.18/5.59
Θ(97.5°)	-11.29/-8.79	-4.69/3.98	-2.44/-3.66	-4.81/8.05	-5.83/3.82	-4.47/4.35	-0.150/99	-0.110/61	0.46/-0.48	-3.43/8.21	-10.01/9.67	-10.66/10.03	-13.3/8.88	-9.16/12.57	-6.37/3.73	-6.32/4.88	-10.95/15.11	-8.71/4.56	-4.91/10.59	-10.75/6.71	-8.82/8.67	-2.15/6.25	-11.85/6.12	-13.13/9.09
Θ(105°)	-6.6/9.72	-5.93/8.69	-8.3/4.83	-3.29/6.05	-2.41/5.91	-5.95/7.9	-2.8/-1.29	-2.23/-1.7	-1.4/-1.78	-4.05/4.85	-8.29/-9.74	-12.21/11.84	-13.96/15.68	-8.05/-9.74	-4.81/6.87	-10.29/11.91	-12.4/11.68	-12.36/-17.47	-13.64/11	-10.87/18.97	-13.92/12.42	-17.97/18.67	-17.6/6.5	
Θ(112.5°)	-4.78/5.62	-5.4/9.91	-18.4/12.43	-4.12/2.88	-8.56/4.56	-5.74/8.98	-7.47/5.09	-6.58/4.35	-3.06/3.78	-4.69/4.8	-8.98/9.65	-15.91/11.33	-9.23/10.05	-16.93/14.97	-14.07/19.38	-16.86/10.9	-12.66/11.81	-16.48/18.81	-14.8/6.37	-4.07/6.09	-14.9/6.89	-13.27/8.23	-3.31/6.44	-8.26/6.63
Θ(120°)	-12.25/-13.26	-3.95/2.83	-6/19.01	-7.78/4.55	-6.47/5.32	-4.8/6.65	-8.35/10.11	-10.48/8.17	-6.09/6.27	-8.42/4.08	-8.24/11.76	-18.04/9.41	-7.96/9.41	-12.31/12.66	-15.43/19.11	-18.48/18.92	-17.2/18.73	-10.76/10.66	-9.78/5.53	-2.19/4.55	-15.76/8.41	-4.52/3.48	-4.91/3.13	-9.41/8.36
Θ(127.5°)	-14.63/16.53	-11.21/8.35	-10.22/14.26	-12.59/5.94	-8.32/4.78	-6.7/9.34	-9.65/11.34	-17.34/-11.62	-7.69/9.01	-9.15/7.74	-10.69/-14.7	-11.54/-8.45	-10.97/11.91	-8.07/11.93	-18.54/11.68	-6.75/7.4	-13.95/16.14	-14.87/12.57	-11.33/9.22	-16.27/10.91	-17.77/17.09	-16.02/16.2	-3.83/5.62	-15.64/11.96
Θ(135°)	-8.72/9.74	-12.1/13.85	-8.42/14.47	-14.53/5.42	-3.93/9.35	-13.24/10.52	-12.88/18.39	-12.67/16.58	-13.27/10.86	-10.82/10.63	-9.16/12.25	-6.39/4.18	-7.55/8.7	-10.88/12.12	-12.1/6.38	-13.93/16.67	-16.27/17.43	-16.77/19.19	-16.72/9.95	-6.83/6.77	-15.27/14.43	-8.76/8.04	-8.23/9.57	
Θ(142.5°)	-8.8/-11.95	-15.12/-17.71	-18.44/-18.48	-14.63/5.72	-3.59/-5.52	-9.69/11.98	-13.99/15.59	-13.11/10.99	-9.07/9.79	-10.82/12.17	-10.85/6.76	-2.3/2.15	-2.44/4.86	-10.79/18.45	-11.96/15.66	-17.49/10.39	-10.44/18.92	-19.24/10.91	-12.21/12.91	-9.67/8.14	-6.3/7.6	-18.84/12.06	-11.55/12.96	-18.11/13.44
Θ(150°)	-8.24/-11.72	-14.58/-12.36	-13.15/17	-18.87/12.96	-9.38/4.94	-10.21/11.33	-11.45/12.23	-11.95/10.2	-8.19/6.37	-4.99/4.31	-2.98/1.93	-2.16/1.05	-1.92/4.79	-9.57/17.11	-18.41/13.85	-15.45/17.71	-16.84/9.75	-11.41/15.01	-18.82/12.62	-11.49/13.39	-10.08/6.63	-13.78/18.63	-17.41/10.63	-6.24/6.63
Θ(157.5°)	-7.1/13.09	-18.12/14.43	-10.55/10.23	-11.22/11.37	-12.15/12.16	-13.81/12.37	-10.57/8.64	-6.81/6.15	-5.61/4.96	-5.05/5.14	-3.1/2	-2.54/12.21	-3.43/5.69	-7.05/11.53	-16.34/10.24	-8.98/10.22	-11.98/13.33	-18.23/18.64	-19.24/13.62	-12.91/12.9	-13.98/13.4	-15.85/12.41	-6.94/5.56	-4.54/4.09
Θ(165°)	-18.79/13.81	-9.34/6.6	-5.65/5.89	-5.75/5.62	-9.24/11.86	-13.45/11.73	-8.71/7.71	-6.59/5.51	-4.52/-4.07	-4.23/5.28	-5.28/4.73	-4.77/4.39	-4.79/6	-6.43/6.65	-7.21/10.56	-17.68/18.13	-18.01/19.23	-17.63/13.67	-11.49/10.2	-9.08/8.33	-9.52/11.25	-10.7/8.44	-8.69/10.29	-13.43/17.61
Θ(172.5°)	-18.67/18.74	-16.15/12.87	-12.52/10.58	-9.69/10.59	-10.53/9.48	-8.63/9.14	-8.99/8.26	-9.1/9.66	-8.48/7.32	-6.83/6.01	-5.88/5.2	-5.51/6.5	-6.01/7.15	-10.44/15.52	-18.71/19.09	-13.61/12.02	-12.75/13.57	-14.65/18.66	-17.87/17.37	-15.58/14.43	-11.93/10.72	-9.71/9.67	-12.85/17.65	-17.78/18.24
Θ(180°)	-9.97/11.71	-15.44/15.58	-16.54/14.97	-13.11/13.04	-12.02/10.38	-9.68/9.46	-8.44/8.12	-8.06/7.14	-7.05/6.63	-5.99/5.94	-5.37/5.41	-7.02/7.62	-8.95/12.54	-14.23/11.48	-11.05/10.7	-11.67/11.8	-11.19/9.97	-9.87/10.73	-11.45/10.84	-9.38/9.18	-7.61/7.2	-7.39/7.67	-7.45/6.32	-6.96/9.61
Freq/Hz	6.995GHz	Phi/Ant. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-8.27/7.73	-8.91/9.09	-11.68/12.9	-13.85/13.93	-13.16/11.5	-9.54/8.04	-7.18/7.93	-6.82/6.51	-5.67/4.93	-5.01/4.57	-4.27/4.07	-6.2/6.2	-9.12/9.64	-10.42/9.64	-9.84/10.21	-10.33/10.02	-10.33/10.03	-9.27/9.78	-7.26/7.22	-6.71/6.56	-5.72/5.61	-6.61/6.16	-5.67/6.5	
Θ(7.5°)	-7.66/9.99	-8.91/9.3	-8.87/7.46	-7.42/7.09	-6.7/6.64	-6.63/7.23	-7.68/7.73	-7.78/6.89	-6.43/5.53	-4.69/4.73	-4.87/5.4	-5.46/5.77	-7.99/9.49	-10.82/12.82	-12.83/13.62	-15.06/14.15	-13.34/12.25	-12/11.7	-10.18/8.29	-7.16/6.08	-4.82/3.37	-2.71/2.72	-3.1/3.31	-3.69/6.51
Θ(15°)	-3.61/6.6	-10.31/14.56	-14.19/11.03	-9.54/8.12	-7.71/7.94	-8.52/9.13	-9.11/7.63	-5.81/5.24	-5.67/5.41	-5.63/5.57	-5.16/5.53	-5.73/5.65	-6.48/9.25	-10.78/14.18	-16.06/14.47	-17.16/17.74	-17.38/17.88	-18.98/17.65	-13.43/10.89	-8.77/10.4	-5.92/6.41	-3.09/1.29	-1.56/1.87	-2.14/1.28
Θ(22.5°)	-2.25/5.08	-8.1/8.54	-8.82/11.21	-11.99/15.32	-18.95/13.28	-9.12/6.56	-5.69/5.38	-4.94/5.2	-5.79/4.69	-5.89/5.32	-5.15/6.54	-7.37/7.3	-8.71/9.14	-8.76/12.22	-12.3/13.2	-16.92/18.19	-19.17/18.81	-19/17.92	-11.76/9.32	-7.15/4.64	-3.36/2.2	-1.33/3.28	-3.93/2.27	-2.73/1.86
Θ(30°)	-2.81/5.63	-11.78/19.09	-10.29/10.13	-9.79/8.1	-8.81/12.86	-12.86/7.08	-4.54/3.71	-3.61/4	-4.94/4.92	-4.88/4.62	-5.49/8.4	-7.99/6.2	-9.88/8.18	-9.45/9.46	-9.88/15.05	-14.3/12.98	-15.78/14.34	-15.92/15.27	-9.02/8.07	-11.47/8.2	-4.04/2.4	-1.98/2.94	-5.09/4.75	-4.13/2.64
Θ(37.5°)	-9.86/9.1	-13.16/17.01	-13.25/8.62	-6.66/6.72	-6.59/6	-8.36/8.76	-4.83/5.97	-5.93/4.79	-4.54/2.92	-2.21/3.98	-7.12/6.78	-5.47/8.68	-5.34/7.08	-9.71/12.56	-17.72/17.61	-7.97/7.04	-12.84/12.71	-18.11/17.38	-13.76/10.07	-11.24/11.74	-7.43/5.7	-5.17/3.98	-4.34/6.92	-8.82/12.92
Θ(45°)	-8.12/13.22	-16.38/10.8	-8.12/7.8	-8.07/12.63	-10.78/5.26	-4.98/6.62	-3.48/3.42	-4.11/6.31	-7.89/4.4	-3.72/6.42	-6.31/4.91	-5.16/6.74	-4.47/3.42	-6.12/11.56	-17.96/18.63	-19.03/8.94	-9.28/10.44	-18.27/11	-9.1/4.72	-7.65/11.02	-7.39/8.61	-7.53/5.72	-6.54/8.5	-4.99/5.26
Θ(52.5°)	-12.87/18.96	-14.87/4.91	-4.61/9	-12.21/18.42	-19.08/5.09	-0.89/1.02	-1.85/2.77	-3.18/3.7	-4.38/3.47	-6.73/8.33	-1.68/3.81	-3.19/4.44	-5.47/7.24	-9.78/12.54	-14.94/17.57	-12.73/12.76	-15.08/8.74	-12.02/6.99	-5.73/1.21	-3.4/10.04	-3.15/4.63	-6.32/11.42	-10.53/5.52	-12.42/6.75
Θ(60°)	-14.26/15.61	-10.5/5.48	-6.22/10.55	-10.9/18.81	-12.56/4.93	0.2/0.8	-2.06/1.75	-0.6/2.28	-3.16/4.															



Radiated Composite Gain Data of 6GHz

Appendix A.2

Θ(60°)	-3.32/-6.4	-6.27/-3.96	-3.19/-6.03	-6.41/-2.06	-1.58/-0.64	1/1/29	-0.03/-1.18	-2.16/-3.65	-3.92/-4.45	-3.27/-5.97	-7.67/-7.86	-4.62/-2.07	-4.32/-6.81	-6.44/-3.82	-4.6/-3.87	-6.8/-10.57	-13.94/-16.12	-13.91/-7.97	-3.88/-4.85	-5.16/-4.2	-7.39/-4.36	-1.93/-2.85	-3.92/-2.8	-1.76/-1.65
Θ(67.5°)	-3.37/-4.97	-5.06/-4.16	-2.93/-3.54	-4.89/-1.11	-0.29/-0.3	1.2/1.75	1.41/0.25	-0.92/-3.31	-5.05/-6.43	-5.1/-5.84	-7.26/-11.95	-4.95/-1.89	-3.33/-6.12	-5.11/-3.22	-5.67/-7.3	-10.04/-12.33	-13.58/-14.63	-10.81/-6.6	-3.17/-4.08	-5.21/-5.51	-6.17/-4.2	-3.21/-1.99	-2.63/-1.89	-1.81/-3.46
Θ(75°)	-2.24/-2.45	-4.92/-5.05	-2.62/-2.06	-3.46/-0.82	0.11/0.83	1.04/1.24	2.31/0.97	0.03/-1.94	-2.82/-6.6	-6.63/-5.21	-6.27/-18.06	-6.73/-2.08	-1.72/-4.99	-6.41/-2.72	-5.31/-9.42	-11.77/-17.48	-13.8/-16.92	-10.69/-3.85	-2.43/-4.64	-5.36/-3.91	-3.46/-4.1	-3.65/-2.08	-3.45/-2.97	-4.03/-9.43
Θ(82.5°)	-1.49/-2.66	-7.79/-7.41	-3.68/-2.62	-1.89/-0.78	-0.36/0.64	0.80/51	2.26/1.55	0.57/-1.39	-1.74/-5.96	-7.85/-6.67	-8.13/-19.01	-5.94/-1.1	-1.48/-4.04	-4.93/-2.14	-6.97/-11.53	-12.67/-18.76	-13.47/-12.92	-8.82/-4.31	-2.73/-6.04	-5.31/-3.51	-2.96/-6.76	-4.38/-4.06	-7.73/-4.54	-6.33/-6.19
Θ(90°)	-2.42/-5.3	-12.94/-9.54	-4.67/-3.51	-2.2/-2.25	-2.45/-1.26	0.25/-0.15	1.41/-37	0.93/-1.09	-0.17/-3.05	-6.07/-6.55	-7.21/-18.65	-6.04/-2.54	-3.81/-1.92	-3.37/-3.06	-4.9/-11.68	-14.4/-15.08	-12.95/-15.72	-11.08/-7.24	-7.1/-5.42	-4.7/-8.12	-3.71/-6.96	-8.23/-5.79	-7.14/-5.79	-7.14/-5.79
Θ(97.5°)	-5.8/-14.45	-10.56/-10.61	-5.74/-5.14	-5.51/-6.71	-6.21/-3.46	-1.05/-1.31	0.09/-0.12	0.47/-1.14	-0.24/-2.84	-5.21/-7.01	-10.41/-18.95	-9.51/-5.48	-1.86/-4.24	-2.97/-4.09	-4.63/-9.34	-12.06/-13.63	-10.53/-16.92	-14.68/-10.19	-10.35/-6.51	-7.57/-7.02	-8.55/-4.13	-2.75/-6.96	-7.81/-5.7	-8.47/-6.13
Θ(105°)	-11.64/-11.23	-5.93/-9.44	-6.73/-7.59	-11.13/-18.23	-14.27/-7.47	-3.72/-4.13	-2.73/-2.62	-1.69/-2.43	-0.29/-1.52	-3.92/-5.52	-10.18/-16.85	-12.67/-8.77	-6.03/-3.57	-2.85/-4.12	-4.74/-6.57	-9.54/-9.05	-8.02/-12.77	-10.33/-7.57	-6.6/-11.29	-11.81/-11.29	-9.58/-5.22	-3.67/-11.34	-12.55/-7.34	-12.9/-12.21
Θ(112.5°)	-12.28/-6.4	-3.43/-8.51	-9.8/-9.93	-12.09/-12.27	-18.05/-13.22	-7.66/-10.9	-8.19/-14.78	-5.35/-3.11	-1.43/-3.31	-3.94/-4.36	-8.93/-13.23	-10.96/-14.93	-9.23/-3.47	-4.71/-3.37	-5.42/-8.48	-8.01/-7.55	-7.89/-9.22	-9.19/-8.04	-6.47/-16.28	-12.49/-10.83	-10.17/-13.11	-8.23/-18.05	-15.65/-18.47	-13.34/-15.01
Θ(120°)	-7.8/-6.76	-5.49/-12.83	-18.39/-19.25	-8.84/-7.61	-8.6/-12.79	-12.11/-14.35	-15.9/-19.05	-7.58/-4.14	-3.64/-4.74	-4.25/-4.79	-6.21/-11.58	-9.32/-15.48	-16.8/-8.52	-6.98/-5.78	-3.87/-7.88	-6.05/-6.81	-9.94/-11	-14.53/-11.57	-9.22/-13.86	-15.14/-16.28	-11.04/-11.53	-12.38/-8.86	-11.29/-13.29	-5.94/-7.28
Θ(127.5°)	-16.21/-18.4	-18.2/-18.28	-16.92/-17.93	-11.57/-6.69	-6.98/-9.58	-10.05/-9.06	-11.64/-13.17	-10.78/-8.18	-6.4/-5.92	-5.08/-4.59	-5.52/-7.77	-9.97/-9.35	-17.28/-18.25	-8.32/-7.67	-4.97/-5.54	-5.5/-7.92	-10.51/-18.27	-15.08/-12.95	-19.01/-13.77	-13.44/-18.27	-15.04/-9.32	-13.85/-14.11	-11.25/-10.02	-4.38/-8.41
Θ(135°)	-12.43/-8.72	-8.09/-8.58	-8.75/-12.32	-18.1/-9.1	-5.05/-5.52	-11.7/-14.09	-11.11/-9.57	-8.42/-11	-14.43/-13.42	-8.17/-5.07	-4.15/-6.52	-7.33/-6.58	-6.96/-11.49	-19.11/-7.93	-6.75/-6.34	-6.36/-15.76	-10.3/-14.11	-12.65/-18.42	-15.77/-12.69	-16.16/-13.38	-9.14/-10.7	-17.31/-18.67	-18.53/-17.9	-9.49/-17.63
Θ(142.5°)	-13.49/-13.59	-8.8/-6.85	-7.21/-11.77	-15.73/-13.58	-7.14/-5.12	-6.56/-9.51	-13.77/-18.49	-16.84/-17.63	-16.41/-12.63	-11.69/-9.38	-8.18/-7.53	-6.56/-6.11	-4.98/-10.01	-18.84/-17.09	-9.44/-9.86	-10.68/-18.27	-18.38/-14.36	-18.18/-19.2	-19.41/-16.74	-14.84/-16.4	-16.48/-12.7	-16.84/-19.21	-18.13/-18.66	-13.41/-15.55
Θ(150°)	-17.38/-18.2	-15.73/-10.47	-10.1/-12.89	-15.22/-17.44	-17.13/-11.78	-10.4/-12.33	-17.91/-18.95	-16.12/-14.54	-14.93/-12.83	-14.11/-18.24	-17.53/-11.71	-8.1/-5.83	-6.17/-10.16	-13.26/-19.11	-17.17/-15.49	-14.74/-9.28	-11.22/-13.06	-17.09/-17.31	-18.96/-18.05	-18.7/-18.74	-18.5/-12.17	-12.7/-13.7	-15.83/-18.45	-18.18/-15.7
Θ(157.5°)	-6.93/-7.77	-7.53/-6.82	-7.91/-11.08	-12.81/-12.42	-15.97/-13.66	-15.79/-14.73	-13.41/-11.4	-9.09/-7.69	-8.11/-11.35	-16.42/-17.85	-13.86/-12.72	-7.52/-4.02	-4.88/-8.82	-10.73/-19.25	-18.15/-17.34	-14.23/-10.81	-12.55/-13.93	-14.16/-16.13	-17.33/-16.94	-18.17/-14.61	-15.51/-14.11	-12.65/-10.08	-7.24/-6.44	-12.65/-10.08
Θ(165°)	-10.93/-8.27	-7.47/-8.03	-8.2/-8.53	-9.6/-9.32	-10.26/-9.91	-9.91/-11.89	-15.53/-15.63	-13.2/-12.52	-14.42/-18.45	-19.31/-15.15	-12.77/-8.35	-5.97/-5.98	-7.27/-6.74	-6.23/-8.26	-12.78/-19.07	-16.97/-13.04	-15.27/-15.43	-10.71/-8.67	-9.43/-11.88	-15.45/-16.65	-14.82/-14.93	-16.75/-14.8	-11.21/-9.87	-9.98/-11.95
Θ(172.5°)	-19.23/-16.43	-15.86/-15.33	-12.41/-11.55	-12.31/-11.51	-11.27/-12.15	-12.56/-13.3	-14.16/-14.94	-16.41/-18.69	-17.38/-19.07	-18.11/-18.67	-15.86/-12.52	-10.73/-10.43	-10.35/-11.28	-11.96/-11.42	-11.1/-13.1	-15.76/-18.78	-18.82/-17.05	-14.04/-13.91	-17.5/-19.41	-17.77/-14.58	-11.41/-10.85	-10.51/-9.43	-9.53/-10.95	-13.38/-18.14
Θ(180°)	-14.54/-15.97	-18.87/-17.45	-18.33/-19.08	-19.05/-18.52	-18.5/-18.8	-16.57/-14.53	-13.3/-12.93	-12.9/-12.61	-13.38/-13.81	-12.73/-11.79	-12.83/-13.25	-13.85/-13.24	-12.16/-12.26	-12.01/-11.11	-12.15/-14.32	-16.38/-18.36	-18.71/-17.57	-18.25/-17.19	-18.41/-19	-17.85/-18.48	-17.74/-17.2	-15.05/-13.82	-14.18/-15.45	-15.94/-14.41
Freq(Hz)	6.475GPol.	PhiAnt. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-7.92/-8.58	-10.95/-10.12	-10.35/-12.09	-13.37/-15.11	-15.18/-13.85	-12.6/-11.38	-10.63/-10.48	-10.56/-11.78	-9.02/-8.45	-8.14/-7.58	-7.16/-6.82	-6.99/-7.66	-8.64/-7.72	-8.42/-10.54	-12.77/-13.49	-13.57/-14.46	-15.5/-14.72	-13.65/-12.5	-11.09/-10.07	-8.88/-8.29	-7.48/-6.77	-7.03/-7.57	-8.62/-7.97	-9.87/-8.78
Θ(7.5°)	-2.86/-8.85	-11.99/-12.85	-11.96/-12.96	-12.35/-12.94	-11.56/-10.31	-9.5/-8.5	-7.66/-7.99	-7.74/-7.61	-7.75/-7.38	-6.67/-6.89	-7.67/-8.48	-8.65/-8.41	-10.29/-11.88	-10.68/-10.28	-12.85/-14.07	-13.18/-12.19	-11.46/-11.54	-11.82/-11.81	-10.91/-9.48	-9.14/-9.27	-9.05/-8.16	-7.13/-7.14	-7.07/-6.42	-7.07/-6.26
Θ(15°)	-12.58/-16.22	-18.87/-16.09	-12.16/-10.05	-8.9/-9.22	-9.05/-8.72	-8.75/-9.06	-9.54/-10.16	-10.27/-10.11	-10.5/-9.22	-7.63/-6.64	-6.71/-7.34	-7.38/-6.34	-7.84/-13.21	-14.31/-13.05	-17.92/-18.95	-15.49/-12.59	-10.79/-9.01	-7.67/-7.02	-6.91/-7.17	-7.84/-9.48	-10.06/-9.64	-8.86/-10.04	-10.41/-9.99	-10.82/-11.9
Θ(22.5°)	-12.71/-17.88	-17.11/-12.01	-14.08/-12.43	-15.97/-19.08	-16.58/-12.3	-10.29/-10.18	-9.37/-10.15	-11.11/-9.58	-7.72/-6.51	-5.59/-4.4	-4.12/-6.85	-8.98/-10.45	-14.21/-18.42	-8.71/-13.75	-12.78/-15.87	-19.07/-17.09	-15.53/-13.75	-11.37/-8.89	-7.24/-6.17	-6.54/-7.06	-7.56/-6.32	-10.77/-12.74	-14.26/-14.12	-12.86/-13.44
Θ(30°)	-12.29/-12.89	-9.49/-7.51	-7.78/-6.93	-17.29/-17.22	-11.02/-8.6	-8.79/-11.22	-12.98/-10.5	-6.65/-4.6	-3.72/-3.66	-3.75/-4.33	-3.51/-6.63	-6.36/-9.41	-10.55/-11.67	-11.47/-13.84	-18.25/-10.96	-11.58/-15.34	-16.5/-12.49	-9.48/-11.88	-15.45/-16.65	-14.82/-14.93	-16.75/-14.8	-11.21/-9.87	-9.98/-11.95	-8.22/-9.86
Θ(37.5°)	-11.66/-10.99	-5.63/-4.94	-7.99/-7.64	-9.75/-18.63	-17.77/-12.67	-9.71/-10.4	-9.55/-5.81	-4.38/-3.61	-2.48/-2.37	-1.7/-1.61	-2.53/-4.38	-7.85/-9.88	-8.66/-8.49	-9.88/-10.58	-19.01/-15.29	-15.11/-17.99	-18.8/-17.58	-15.27/-13.66	-16.59/-10.28	-8.21/-8.07	-9.01/-8.8	-8.2/-4.78	-3.26/-5.52	-8.67/-8.87
Θ(45°)	-15.93/-13.5	-7.77/-6.71	-11.23/-10.66	-10.54/-16.29	-18.96/-11.96	-9.29/-3.99	-9.12/-6.01	-4.39/-3.27	-2.3/-2.27	-1.07/-1.91	-1.79/-2.64	-5.1/-3.95	-8.85/-6.83	-7.98/-14.38	-17.68/-14.48	-14.15/-17.62	-13.33/-11.96	-16.81/-12.78	-8.42/-5.23	-5.02/-5	-6.07/-6.7	-7.68/-6.12	-4.08/-6.87	-12.88/-15.91
Θ(52.5°)	-9.76/-13.3	-15.1/-8.51	-12.44/-16.52	-15.94/-17.84	-17.46/-13.81	-8.64/-5.34	-5.75/-5.07	-5.25/-4.78	-3.13/-7.5	-1.07/-0.47	-0.88/-1.82	-5.69/-10.49	-9.79/-9.21	-16.14/-18.53	-17.92/-16.67	-17.61/-18.93	-10.79/-10.69	-10.93/-8.38	-5.42/-6.04	-7.18/-7.74	-10.37/-7.35	-5.88/-7.11	-7.26/-6.94	-7.26/-6.94
Θ(60°)	-9.8/-11.64	-10.75/-6.54	-8.44/-19.39	-18.53/-13.21	-13.73/-16.61	-10.38/-3.89	-1.96/-1.96	-1.63/-2.63	-2.59/-2.05	-0.96/-1.95	-1.17/-2.37	-4.53/-8.08	-9.3/-12.44	-10.15/-18.31	-17.78/-17.27	-19.22/-18.36	-10.86/-8.75	-8.72/-7.44	-6.75/-4.8	-6.74/-9.37	-10.21/-8.96	-11.2/-10.18	-9.65/-17.66	-10.27/-7.27
Θ(67.5°)	-11.93/-11.56	-8.05/-7.65	-8.18/-18.51	-17.96/-10.75	-12.35/-19.12	-8.49/-9.33	0.03/0.61	0.95/0.84	-2.19/-2.35	-2.53/-3.65	-1.77/-2.73	-4.71/-9.33	-14.76/-17.54	-13.91/-17.81	-17.44/-18.26	-19.16/-14.16	-9.06/-6.75	-5.42/-8.82	-6.35/-3.65	-6.22/-10.19	-18/-15.09	-14.41/-8.93	-15.11/-19.19	-14.54/-8.42
Θ(75°)	-12.87/-13.15	-12.38/-9.45	-10.65/-18.17	-17.01/-11.93	-9.92/-12.53	-7.43/-2.6	0.61/1.64	2.32/0.87	-0.42/-2.62	-4.27/-4.22	-2.26/-2.7	-4.77/-7.27	-13.75/-17.69	-13.85/-17.68	-13.38/-14.2	-17.61/-9.68	-10.25/-4.31	-2.16/-1.93	-2.06/-3.06	-6.16/-8.4	-11.05/-14.68	-12.54/-11.08	-15.85/-14.66	-12.9/-10.64
Θ(82.5°)	-13.63/-12.29	-18.17/-9.79	-18.33/-19.31	-16.98/-12.35	-5.94/-7.85	-3.66/-2.68	0.11/0.97	2.69/-1.88	0.54/-1.61	-5.56/-5.8	-3.3/-8.1	-7.66/-9.48	-12.21/-18.32	-11.68/-16.99	-11.69/-9.88	-11.89/-9.05	-6.43/-8.85	-1.98/-0.92	-3.31/-1.72	-3.89/-5.09	-10.37/-11.37	-18.68/-13.5	-11.71/-13.33	-8.44/-15.17
Θ(90°)	-13.02/-12.84	-17.31/-12.17	-18.38/-12.45	-16.62/-13.15	-5.83/-4.96	-3.5/-4.72	-1.86/-0.55	2.11/1.74	0.94/-0.69	-4.81/-7.03	-3.84/-8.41	-7.95/-8.73	-1.19/-18.44	-7.84/-12.86	-13.06/-8.97	-9.1/-10.4	-3.95/-3.27	-2.71/-1.24	-1.69/-4.44	-6.03/-3.82	-8.2/-9.89	-18.38/-13.88	-14.03/-15.23	-10.24/-15.43
Θ(97.5°)	-18.38/-15.36	-16.14/-18.51	-15.42/-13.22	-17.65/-16.89	-4.17/-5.81	-3.36/-5.09	-2.06/-1.58	0.89/0.73	1.17/-0.43	-4.57/-7.28	-4.98/-6.09	-8/-12.14	-12.46/-10.82	-8.49/-6.9	-9.82/-10.2	-8.7/-10	-5.19/-4.71	-4.25/-3.27	-2.45/-6.09	-8.12/-5.49	-6.17/-9.09	-14.75/-14.02	-16.83/-15.72	-13.63/-16.79
Θ(105°)	-14.93/-15.59	-13.52/-13.62	-18.34/-14.01	-11.07/-6.43	-6.48/-6.88	-2.68/-3.48	-1.65/-1.86	-0.51/-1.48	-0.89/-1.17	-4.92/-6.66	-5.01/-7.7	-9.14/-10.5												



Radiated Composite Gain Data of 6GHz

Appendix A.2

Θ (105°)	-10.97/-12.54	-6.81/-7.59	-2.82/-5.83	-7.47/-11.65	-11.63/-5.73	-5.29/-4.6	-10.02/-9.16	-10.95/-11.16	-17.88/-15.31	-13.71/-9.66	-12.16/-10.64	-6.91/-6.34	-6.54/-4.67	-2.98/-3.6	-9.61/-17.4	-14.82/-16.43	-17.99/-13.41	-15.61/-13.54	-11.08/-18.06	-8.13/-9.01	-5.06/-5.28	-6.35/-10.71	-10.58/-4.95	-7.73/-18.64
Θ (112.5°)	-6.82/-6.8	-2.67/-4.94	-3.59/-4.74	-10.83/-17.82	-11.72/-6.71	-5.72/-3.92	-8.14/-13.49	-18.53/-15.78	-18.31/-15.79	-13.54/-9.89	-9.63/-12.08	-12.48/-13.89	-7.34/-6.53	-2.67/-4.1	-7.7/-6.36	-11.62/-16.6	-17.92/-17.9	-9.55/-6.75	-6.69/-8.75	-4.03/-10.88	-13.96/-7.43	-10.92/-7.88	-12.44/-8.21	-12.78/-9.24
Θ (120°)	-7.29/-5.79	-5.04/-6.3	-7.43/-6.14	-10.55/-13.19	-9/-8.65	-10.19/-4.08	-7.19/-12.49	-17.66/-18.74	-11.67/-7	-8.81/-10.48	-10.09/-12.91	-11.71/-18.73	-11.99/-7.6	-1.86/-2.94	-5.37/-5.71	-12.4/-8.68	-10.95/-13.89	-15.65/-7.13	-8.44/-15.1	-10.94/-9.28	-6.86/-9.89	-6.56/-17.36	-13.08/-13.46	-3.65/-5.44
Θ (127.5°)	-11.83/-18.5	-16.08/-18.26	-12.35/-13.35	-17.15/-11.01	-9.52/-11.09	-11.95/-8.34	-10.15/-12.04	-18.47/-18.66	-10.98/-6.03	-8.2/-10.37	-11.22/-15.88	-13.17/-13.72	-14.84/-6.56	-3.2/-4.26	-3.58/-4.09	-5.79/-7.76	-14.04/-17.33	-15.39/-11.42	-18.67/-9.58	-4.52/-13.12	-17.54/-8.73	-18.12/-13.28	-17.84/-9.06	-4.16/-8.46
Θ (135°)	-8.04/-6.39	-9.13/-8.21	-5.58/-9.46	-18.31/-17.81	-9.65/-10.54	-13.12/-12.06	-13.71/-12.27	-12.01/-10.9	-8.34/-6.38	-8.44/-11.92	-12.43/-9.69	-6.78/-7.16	-12.01/-12.04	-4.09/-3.86	-2.01/-4.53	-8.96/-6.07	-11.71/-17.85	-7.67/-11.58	-14.86/-18.32	-5.63/-6.19	-14.92/-13.03	-18.23/-18.85	-18.33/-12.94	-10.64/-16
Θ (142.5°)	-5.64/-7.64	-9.81/-10.94	-10.1/-7.95	-9.57/-17.67	-13.6/-10.07	-9.15/-8.45	-10.67/-9.94	-7.66/-8.84	-9.07/-9.42	-9.3/-9.31	-6.79/-3.94	-2.86/-3.05	-7.98/-13.73	-7.91/-6.13	-5.85/-7.44	-13.37/-16.94	-12.29/-17.88	-12.68/-17.36	-16.04/-18.73	-13.27/-9.63	-17.03/-9.97	-13.83/-19.05	-18/-17.48	-12.32/-7.43
Θ (150°)	-18.52/-15.27	-11.68/-11.46	-8.84/-6.65	-6.6/-8.52	-14.41/-18.58	-13.96/-14.42	-14.62/-10.59	-9.93/-15.56	-18.12/-11.11	-6.36/-5.13	-3.97/-3.84	-4.83/-5.47	-9.32/-18.49	-17.62/-12.86	-10.54/-7.8	-7.17/-9.94	-12.91/-11.31	-11.34/-14.85	-11.49/-10.51	-17.01/-18.14	-17.49/-16.6	-14.47/-12.69	-17.28/-17.39	-17.87/-19.23
Θ (157.5°)	-8.83/-6.82	-6.9/-8.67	-9.24/-12.56	-17.11/-15.76	-17.46/-14.88	-12.71/-11.79	-12.95/-14.48	-13.91/-11.78	-10.95/-11.46	-12.02/-9.51	-6.58/-5.68	-4.76/-5.16	-8.49/-10.43	-13.16/-17.02	-13.49/-10.5	-10.44/-10.24	-10.82/-13.64	-16.72/-19.22	-17.64/-18.72	-19.13/-15.75	-12.48/-9.95	-11.81/-18.71	-17.49/-14.76	-10.9/-10.41
Θ (165°)	-9.79/-12.25	-18.06/-17.97	-19.04/-18.71	-18.85/-17.54	-18.69/-18.88	-19.01/-16.72	-14.69/-13.37	-12.83/-12.78	-12.34/-9.67	-8.34/-7.71	-7.06/-6.99	-5.88/-5.33	-7.26/-9.27	-9.74/-10.87	-13.47/-17.1	-17.67/-18.79	-14.1/-14.7	-18.16/-18.74	-19.04/-18.66	-18.44/-18.13	-18.29/-18.02	-14.95/-12.08	-8.58/-7.17	-8.88/-8.6
Θ (172.5°)	-11.89/-11.62	-13.11/-15.79	-19.1/-18.86	-16.84/-17.16	-16.82/-15.38	-14.63/-14.29	-13.58/-12.83	-12.09/-9.91	-8.51/-8.11	-6.91/-5.81	-5.16/-4.78	-5.49/-5.51	-5.09/-5.56	-5.74/-5.63	-7.44/-10.24	-11.27/-12.59	-14.13/-15.95	-18.69/-19.19	-16.45/-13.83	-12.15/-10.52	-10.06/-10.06	-10.24/-9.5	-9.25/-9.52	-9.49/-10.42
Θ (180°)	-9.18/-9.34	-9.93/-10.47	-12.06/-14.6	-15.3/-16.75	-18.85/-18.26	-18.19/-19.01	-17.25/-15.07	-14.37/-12.23	-9.76/-7.97	-6.73/-6.36	-5.46/-5.04	-5.11/-4.53	-5.43/-7.15	-8.22/-9.31	-12.22/-13.36	-12.95/-12.98	-13.74/-15.53	-19.6/-19.12	-18.99/-18.13	-17.92/-18.03	-17.64/-14.41	-12/-11.82	-11.74/-10.65	-10.4/-11.19
Freq(Hz)	6.995GPol.	PhiAnt. 4	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-8.8/-9.27	-11.04/-11.61	-10.37/-10.97	-12.23/-13.27	-14.75/-15.47	-15.12/-14.88	-13.6/-11.89	-10.8/-10.09	-9.53/-9.78	-9.12/-8	-7.93/-7.97	-6.66/-7.09	-8.85/-9.36	-8.89/-9.17	-10.29/-12.48	-13.45/-12.98	-13.42/-13.15	-13.49/-14.13	-13.22/-12.13	-10.85/-10.7	-10.33/-9.6	-8.54/-8.24	-9.25/-8.51	-7.9/-9.36
Θ (7.5°)	-8.79/-8.7	-8.97/-8.42	-8.25/-8.52	-9.8/-10.52	-11.53/-12.91	-14.36/-17.36	-17.7/-16.5	-14.4/-12.26	-11.58/-10.52	-10.01/-9.99	-9.58/-9.13	-8.68/-8.91	-11.61/-11.84	-10.85/-11.85	-13.69/-16.47	-16.27/-15.59	-15.63/-16.34	-16.27/-15.19	-14.09/-13.4	-11.7/-10.04	-9.2/-8.31	-7.63/-7.47	-7.72/-8.74	-8.69/-8.49
Θ (15°)	-12.33/-12.79	-10.06/-8.6	-7.32/-7.99	-9.53/-9.7	-9.81/-11.21	-13.12/-16.63	-18.7/-18.43	-16.73/-12.41	-10.01/-8.19	-7.48/-7.02	-7.42/-8.08	-8.58/-9.17	-11.6/-15.44	-15.71/-16.99	-18.85/-17.75	-18.62/-19.02	-17.78/-13.56	-12.14/-12.93	-14.38/-14.18	-10.8/-8.36	-7.58/-8.17	-9.34/-9.01	-8.22/-9.17	-9.42/-9.32
Θ (22.5°)	-15.98/-19.23	-17.73/-16.16	-12.32/-12.31	-12.07/-11.59	-12.65/-15.83	-17.41/-18.47	-18.77/-19.19	-15.17/-11.04	-8.52/-6.27	-4.47/-4.4	-6.05/-7.41	-8.01/-8.04	-8.88/-10.52	-11.03/-13.76	-17.98/-19.08	-18.18/-19.31	-18.72/-17.34	-17.15/-19.1	-15.36/-10.39	-8.03/-7.36	-7.57/-8.53	-8.58/-8	-7.93/-10.73	-13.77/-13.05
Θ (30°)	-12.45/-18.25	-18.24/-18.16	-17.98/-18.01	-18.71/-18.03	-11.38/-9.6	-13.12/-12.68	-8.73/-8.7	-8.39/-5.86	-5.09/-4.59	-3.9/-4.23	-6.72/-9.17	-9.83/-12.2	-13.07/-11.1	-12.01/-12.18	-12.68/-17.68	-19.03/-18.06	-17.47/-15.64	-17.97/-19.11	-14.34/-11.1	-8.41/-4.71	-4.19/-6.15	-9.45/-12.42	-17.02/-18.15	-12.55/-11.34
Θ (37.5°)	-8.18/-14.86	-14.56/-15.63	-11.9/-9.22	-13.06/-17.92	-14.74/-8.08	-6.9/-7.35	-5.74/-5.83	-4.06/-2.01	-2.07/-2.09	-2.21/-3.27	-4.95/-8.11	-13.71/-16.16	-12.27/-16.02	-18.89/-13.92	-16.35/-19.09	-18.09/-18.2	-17.11/-11.27	-10.63/-16.27	-13.61/-8.64	-5.8/-4.44	-4.65/-6.2	-7.11/-9.26	-9.9/-6.88	-5.02/-5.24
Θ (45°)	-12.19/-11.38	-13.38/-15.62	-11.11/-9.67	-9.98/-17.7	-16.4/-5.64	-3.42/-4.02	-4.48/-4.31	-2.88/-1.82	-1.86/-0.15	0.38/-1.74	-3.54/-7.33	-11.95/-13.5	-13.18/-13.52	-11.85/-9.01	-11.19/-17.2	-16.98/-13.41	-17.33/-13.75	-13.02/-13.73	-10.44/-6.62	-4.51/-2.43	-4.58/-3.4	-4.22/-7.01	-17.31/-6.53	-10.38/-14.42
Θ (52.5°)	-10.59/-11.53	-14.33/-14.38	-15.31/-9.73	-15.52/-18.21	-16.11/-9.87	-4.16/-3.14	-3.86/-3.86	-2.67/-1.83	-0.54/-1.38	-0.45/-1.28	-2.63/-6.32	-9.34/-11.66	-16.63/-12.9	-12.54/-10.02	-17.33/-17.24	-18.18/-11.94	-16.35/-9.93	-8.8/-12.1	-18.5/-8.26	-3.96/-5.62	-7.32/-9.03	-5.05/-6.51	-4.41/-8.05	-16.76/-10.56
Θ (60°)	-11.51/-19.41	-18.49/-10.86	-17.44/-13.28	-16.4/-15.94	-17.34/-12.67	-5.99/-2.55	-2.81/-3.41	-4.07/-2.59	-1.25/-0.26	-0.77/-0.37	-0.26/-3.46	-9.48/-12.68	-16.75/-13.38	-13.75/-10.59	-13.73/-19.19	-15.38/-12.88	-10.73/-12.48	-7.22/-10.46	-15.22/-11.69	-6.56/-9.11	-8.72/-7.58	-6.69/-6.6	-4.6/-10.61	-14.19/-6.16
Θ (67.5°)	-12.32/-17.25	-14.73/-6.9	-13.83/-17.24	-18.44/-17.15	-15.6/-17.07	-9.58/-4.22	-2.24/-2.39	-2.14/-1.38	-0.63/-0.73	-1.24/-0.83	-1.08/-2.29	-1.24/-0.83	-9.38/-14.23	-14.04/-14.55	-18.34/-17.35	-15.03/-18.82	-12.98/-11.45	-6.84/-10.75	-5.82/-8.85	-10.05/-9.64	-5.64/-11.07	-15.74/-11.53	-10.07/-8.45	-4.65/-13.2
Θ (75°)	-12.73/-17.72	-13.22/-8.22	-17.08/-17.81	-17.83/-10.74	-12.35/-12.42	-10.11/-2.64	-0.75/-2.51	-2.96/-3.34	-1.4/-1.22	-2.32/-0.62	0.13/-2.88	-6.19/-10.15	-13.09/-13.67	-18.52/-17.92	-16.93/-18.74	-14.36/-10.66	-5.42/-7.69	-5.28/-7.7	-5.55/-8.13	-13.59/-9.13	-7.26/-17.02	-13.15/-10.15		
Θ (82.5°)	-14.48/-17.2	-17.02/-12.2	-16.88/-14.8	-18.79/-7.88	-7.93/-6.9	-9.89/-3.72	-0.79/-1.23	-1.31/-1.85	-1.51/-1.94	-3.33/-0.67	-0.68/-3.52	-5.33/-8.49	-16.44/-10.39	-14.51/-18.87	-11.72/-19.12	-9.01/-9.05	-7.27/-4.98	-4.07/-5.38	-4.38/-6.39	-3.84/-6.58	-8.24/-10.04	-16.24/-10.15	-13.23/-18.32	-13.97/-9.49
Θ (90°)	-18.5/-16.73	-18.54/-17.83	-17.52/-13.97	-18.27/-7.85	-6.99/-5.61	-6.33/-3.54	-1.07/-1.33	-1.63/-1.81	-1.89/-1.33	-1.07/-1.22	-1.08/-2.29	-5.14/-9.13	-10.62/-12.8	-16.41/-16.66	-14.57/-18.48	-9.61/-8.3	-6.59/-5.66	-4.37/-4.87	-4.35/-8.03	-4.43/-5.09	-8.88/-7.92	-16.88/-17.05	-19.77/-17.82	-13.31/-11.49
Θ (97.5°)	-12.05/-12.6	-17.45/-19	-14.34/-11.62	-18.23/-6.75	-5.9/-3.59	-3.72/-4.2	-2.82/-2.4	-2.08/-2.27	-2.0/-0.99	-3.54/-1.55	-2.16/-2.82	-5.87/-9.99	-9.59/-11.72	-12.26/-14.74	-15.7/-10.91	-9.64/-7.29	-8.12/-6.09	-5.65/-5.51	-5.17/-12.22	-10.13/-6.6	-10.07/-7.61	-19.04/-18.84	-17.58/-18.11	-13.04/-16.84
Θ (105°)	-17.44/-11.32	-14.97/-19.08	-15.45/-11.41	-18.77/-10.55	-8.49/-5.17	-4.35/-6.44	-3.2/-2.22	-2.62/-4.14	-2.24/-0.87	-3.53/-2.35	-3.4/-3.48	-7.08/-12.04	-9.55/-11.6	-10.13/-8.68	-12.35/-7.2	-7.94/-4.48	-9.79/-8.23	-4.75/-6.17	-7.86/-12.13	-16.63/-8.99	-11.45/-16.53	-18.29/-17.41	-18.94/-15.32	-17.36/-17.88
Θ (112.5°)	-18.61/-9.95	-10.42/-13.81	-16.32/-18.78	-18.66/-16.58	-10.33/-5.31	-3.87/-7.35	-7.46/-3.4	-3.87/-1.88	-1.37/-2.05	-1.35/-2.42	-3.2/-6.18	-9.75/-11.52	-12.61/-9.52	-10.01/-7.4	-8.19/-8.56	-7.03/-4.69	-9.95/-9.47	-6.11/-7.32	-8.07/-13.08	-17.88/-14.68	-14.43/-18.35	-17.81/-17.96	-15.81/-17.94	-18.37/-18.43
Θ (120°)	-18.23/-9.93	-10.21/-9.6	-14.46/-17.88	-8.45/-9.61	-18.55/-7.22	-6.39/-9.17	-8.76/-5.23	-3.75/-2.41	-3.15/-1.34	-2.69/-2.91	-4.34/-5.07	-9.19/-11.85	-12.36/-8.68	-8.79/-5.69	-4.95/-8.25	-4.59/-3.6	-8.66/-16.14	-7.08/-3.55	-9.56/-15.48	-7.85/-7.88	-17.84/-8.19	-14.49/-12.01	-16.2/-18.37	-15.53/-16
Θ (127.5°)	-18.29/-12.27	-17.02/-9.72	-11.02/-12.31	-7.53/-6.26	-11.1/-11.7	-13.18/-10.75	-11.19/-7.65	-6.04/-2.49	-2.72/-2.71	-6.29/-5.04	-5.81/-7.71	-11.18/-13.97	-18/-12.38	-7.15/-5.49	-5.93/-6.46	-3.39/-3.66	-8.9/-9.79	-11.09/-6.07	-9.8/-17.69	-10.4/-5.44	-18.5/-10.96	-9.11/-18.48	-15.04/-18.46	-14.14/-18.31
Θ (135°)	-19.21/-19.35	-16.98/-19.33	-18.98/-13.48	-7.16/-17.4	-7.28/-6.35	-6.47/-8.57	-7.39/-5.33	-4.38/-3.64	-3.81/-2.85	-4.76/-7.3	-7.96/-10.46	-13.18/-16.6	-19.06/-18.64	-9.36/-8.17	-4.6/-3.31	-4.87/-7.1	-12.73/-14.7	-5.65/-8.56	-13.49/-15.11	-11.83/-9.98	-9.07/-15.14	-16.56/-15.63	-16.67/-12.52	-10.12/-11.93
Θ (142.5°)	-10.46/-7.08	-7.23/-14.82	-12.9/-14.73	-11.5/-9.82	-5.79/-4.63	-7.72/-6.53	-7.72/-8.64	-5.42/-3.57	-4.59/-4.86	-5.51/-9	-11.04/-10.42	-12.24/-12.83	-17.82/-14.14	-13.21/-11.58	-6.21/-6.11	-4.72/-7.86	-13.19/-9.35	-6.54/-8.38	-13.51/-18.75	-18.98/-14.81	-12.54/-18.67	-18.9/-18.55	-16.84/-14.38	-11.47/-11.63
Θ (150°)	-12.13/-8.06	-10.94/-12.5	-9.46/-9.52	-13.3/-14.69	-11.51/-8.82	-7.92/-																		



Freq(Hz)	245GPdL		TotalAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Ψ(7.5°)	Φ(15°)Ψ(22.5°)	Φ(30°)Ψ(37.5°)	Φ(45°)Ψ(52.5°)	Φ(60°)Ψ(67.5°)	Φ(75°)Ψ(82.5°)	Φ(90°)Ψ(97.5°)	Φ(105°)Ψ(112.5°)	Φ(120°)Ψ(127.5°)	Φ(135°)Ψ(142.5°)	Φ(150°)Ψ(157.5°)	Φ(165°)Ψ(172.5°)	Φ(180°)Ψ(187.5°)	Φ(195°)Ψ(202.5°)	Φ(210°)Ψ(217.5°)	Φ(225°)Ψ(232.5°)	Φ(240°)Ψ(247.5°)	Φ(255°)Ψ(262.5°)	Φ(270°)Ψ(277.5°)	Φ(285°)Ψ(292.5°)	Φ(300°)Ψ(307.5°)	Φ(315°)Ψ(322.5°)	Φ(330°)Ψ(337.5°)	Φ(345°)Ψ(352.5°)		
Θ(0°)	-1.79(-1.3)	2.05(+1.9)	-1.83(-1.66)	-1.45(-1.41)	-1.49(-1.65)	-1.79(-1.87)	-2.02(+2.29)	-2.44(+2.35)	-2.29(+2.37)	-2.51(+2.45)	-2.45(+2.38)	-2.24(+2.13)	-2.09(+2.08)	-2.12(+2.14)	-2.21(+2.37)	-2.58(+2.76)	-2.86(+2.89)	-2.88(+2.92)	-3.02(+3.14)	-3.34(+3.58)	-3.83(+4.07)	-3.73(+3.07)	-2.39(+1.88)	-1.67(+1.67)		
Θ(7.5°)	-1.98(-2.5)	-3.09(-3.5)	-3.62(-3.52)	-3.38(-3.37)	-3.50(-3.69)	-3.88(-4.04)	-4.18(+4.28)	-4.25(+3.99)	-3.75(-3.60)	-3.51(-3.32)	-2.95(-2.51)	-2.13(-1.76)	-1.50(-1.27)	-1.09(-0.93)	-0.89(-0.89)	-0.95(-0.97)	-0.96(-0.92)	-0.92(-0.95)	-1.05(-1.25)	-1.57(-1.94)	-2.36(-2.72)	-2.78(-2.51)	-2.08(-1.75)	-1.63(-1.67)		
Θ(15°)	-1.49(-2.26)	-3.30(-4.12)	-4.80(-5.18)	-5.28(-5.38)	-5.56(-5.71)	-5.89(-5.99)	-5.94(-5.88)	-5.74(-5.52)	-5.24(-4.88)	-4.56(-4.13)	-3.60(-2.96)	-2.30(-1.70)	-1.19(-0.72)	-0.33(-0.1)	0.28(+0.4)	0.47(+0.4)	0.47(+0.4)	0.41(+0.3)	0.07(+0.20)	-0.54(-0.96)	-1.48(-2.00)	-2.22(-2.01)	-1.61(-1.28)	-1.06(-1.08)		
Θ(22.5°)	-0.57(-1.33)	-2.48(-3.61)	-4.73(-5.60)	-6.05(-6.29)	-6.36(-6.35)	-6.32(-6.22)	-6.05(-5.92)	-5.86(-5.68)	-5.36(-5.42)	-5.01(-4.51)	-3.99(-3.36)	-2.64(-1.82)	-1.13(-0.52)	-0.20(-0.46)	0.89(+1.16)	1.21(+1.14)	1.02(+0.92)	0.79(+0.57)	0.20(+0.17)	-1.49(-2.05)	-2.28(-2.06)	-1.52(-0.96)	-0.44(-0.26)	-0.53(-0.37)		
Θ(30°)	0.14(+0.38)	-1.40(-2.55)	-3.88(-4.95)	-5.66(-5.97)	-6.00(-5.86)	-5.83(-5.77)	-5.62(-5.52)	-5.54(-5.71)	-5.75(-5.46)	-5.03(-4.56)	-4.09(-3.57)	-2.93(-2.07)	-1.24(-0.61)	-0.12(-0.38)	0.90(+1.25)	1.30(+1.0)	0.83(+0.6)	0.50(+0.23)	-0.14(-0.50)	-0.79(-1.08)	-1.41(-1.82)	-2.12(-2.12)	-1.64(-0.91)	-0.16(-0.26)		
Θ(37.5°)	0.47(+0.13)	-0.65(-1.68)	-3.02(-4.15)	-4.86(-5.15)	-5.17(-5.15)	-5.38(-5.74)	-5.84(-5.74)	-5.58(-5.51)	-5.23(-4.97)	-4.39(-4.07)	-3.77(-3.47)	-3.08(-2.39)	-1.56(-0.89)	-0.44(-0.03)	0.48(+0.85)	0.89(+0.63)	0.30(+0.09)	-0.02(-0.20)	-0.47(-0.70)	-0.81(-0.82)	-0.87(-1.04)	-1.29(-1.37)	-1.08(-0.48)	0.14(+0.50)		
Θ(45°)	0.21(+0.05)	-0.61(-1.61)	-2.94(-4.12)	-4.72(-4.86)	-4.76(-4.84)	-5.80(-6.69)	-6.82(-6.41)	-6.85(-6.34)	-6.74(-6.16)	-5.82(-5.32)	-3.87(-3.83)	-3.83(-3.83)	-3.47(-2.78)	-2.08(-1.39)	-0.68(-0.11)	0.14(+0.05)	-0.25(-0.52)	-0.61(-0.64)	-0.71(-0.80)	-0.50(-0.48)	-0.60(-0.60)	-0.32(-0.08)	0.35(+0.37)	-0.53(-0.32)		
Θ(52.5°)	-0.25(-0.32)	-0.73(-1.68)	-3.05(-4.29)	-4.89(-4.94)	-4.83(-5.14)	-6.20(-7.19)	-6.97(-5.97)	-5.18(-4.83)	-4.54(-4.15)	-3.94(-4.09)	-4.05(-3.62)	-3.44(-3.86)	-4.34(-4.17)	-3.38(-2.41)	-1.51(-0.89)	-0.53(-0.49)	-0.70(-0.99)	-1.09(-0.97)	-0.77(-0.63)	-0.58(-0.60)	-0.57(-0.56)	-0.64(-0.67)	-0.49(-0.20)	-0.09(-0.19)		
Θ(60°)	-0.22(-0.23)	-0.80(-1.92)	-3.50(-5.03)	-5.78(-5.58)	-5.03(-4.98)	-6.73(-6.69)	-6.77(-6.05)	-5.44(-5.45)	-5.84(-5.86)	-5.72(-5.88)	-5.67(-5.48)	-3.63(-3.33)	-3.25(-2.74)	-2.04(-1.54)	-1.30(-1.18)	-1.01(-1.02)	-0.72(-0.74)	-0.73(-0.50)	-0.13(-0.19)	0.22(+0.11)	-0.60(-1.06)	-1.44(-1.71)	-1.65(-1.25)	-0.80(-0.44)		
Θ(67.5°)	0.10(+0.28)	-1.32(-2.92)	-4.99(-6.70)	-7.14(-6.14)	-5.10(-4.89)	-5.65(-7.01)	-7.87(-7.30)	-6.24(-5.88)	-6.33(-6.92)	-6.47(-6.36)	-6.21(+6.27)	-4.90(+3.37)	-3.88(+2.73)	-1.63(-1.18)	-1.32(-1.59)	-1.51(-1.19)	-0.92(-0.72)	-0.48(-0.16)	0.21(+0.59)	0.71(+0.30)	-0.58(-1					



Antenna Pattern of 2.4GHz&5GHz

Appendix B.1

Θ(22.5°)	-0.26/-0.81	-1.21/-2.07	-3.63/-4.15	-4.27/-4.45	-4.36/-3.97	-3.37/-2.61	-2.56/-2.84	-3.22/-3.43	-3.10/-2.88	-3.04/-3.12	-2.95/-2.04	-0.99/0.04	0.29/0.03	-0.38/-0.50	-0.03/0.26	0.25/-0.24	-0.91/-0.96	-0.90/-0.27	0.20/0.07	-0.17/-0.30	-0.51/-0.37	0.01/-0.14	-0.98/-0.83	0.01/0.23	
Θ(30°)	-1.07/-0.99	-1.04/-1.92	-3.28/-3.80	-3.75/-3.81	-4.53/-4.49	-3.01/-2.78	-3.48/-4.38	-4.04/-2.52	-1.16/-1.27	-2.20/-3.25	-3.56/-3.76	-3.68/-2.11	-0.34/0.39	-0.91/-0.24	-0.36/-1.20	1.55/0.90	-0.01/-0.25	0.19/0.58	0.72/0.55	0.19/-0.33	-0.20/0.06	-0.03/-0.55	-1.60/-2.54	-2.36/-1.45	
Θ(37.5°)	-1.72/-0.55	-0.42/-1.68	-3.31/-4.21	-4.43/-4.98	-6.40/-5.39	-4.28/-4.36	-4.70/-4.12	-2.69/-2.05	-2.10/-2.35	-2.31/-1.87	-1.58/-1.89	-0.87/-0.55	0.13/0.16	-0.51/-1.91	-1.20/0.83	1.58/0.95	0.01/-0.98	-0.81/-0.17	-0.34/-1.50	-1.67/-1.07	-1.34/-0.32	-0.29/-0.19	-0.98/-1.27	-1.90/-1.89	
Θ(45°)	-0.56/-0.03	-0.85/-1.43	-2.98/-4.69	-4.68/-5.51	-8.38/-7.53	-4.87/-4.90	-6.55/-6.12	-5.98/-6.79	-6.53/-4.08	-2.17/-1.04	-0.34/-1.29	-2.79/-1.62	1.00/-1.22	0.42/0.66	-0.74/0.68	0.15/-1.19	-0.96/-1.08	-0.59/-0.71	-1.77/-2.10	-2.61/-1.90	-2.32/-1.19	-0.06/-0.28	-0.78/-0.77	-0.67/-0.75	
Θ(52.5°)	-0.31/-0.45	-1.62/-2.44	-2.30/-3.21	-5.44/-7.10	-9.55/-6.68	-4.30/-3.76	-4.25/-4.32	-3.91/-4.07	-3.27/-3.17	-2.87/-1.37	-0.40/-0.11	-1.90/-1.46	-0.10/-0.59	0.13/-0.36	-2.72/-0.70	-1.50/-2.19	-0.83/-1.38	-1.62/-1.52	-1.82/-2.00	-1.46/-0.98	-1.55/-1.70	-1.32/-0.39	0.00/-1.02	-1.49/-0.96	
Θ(60°)	-0.86/-1.24	-1.67/-3.30	-2.37/-3.12	-6.81/-8.27	-6.95/-4.96	-5.22/-4.75	-8.81/-7.71	-6.38/-5.24	-3.61/-4.25	-5.69/-5.75	-3.06/0.39	-0.95/-2.11	-0.88/-1.67	-0.84/-0.26	-4.47/-2.61	-2.02/-2.29	-0.11/-0.14	0.29/0.04	-0.10/-0.25	-0.80/0.72	-1.17/-2.27	-2.16/-1.04	-0.58/-0.82	-1.83/-1.20	
Θ(67.5°)	-0.87/-2.41	-1.64/-3.40	-2.95/-3.60	-8.67/-10.08	-6.64/-3.97	-3.72/-4.68	-5.18/-6.05	-5.81/-6.01	-4.80/-4.82	-3.52/-3.00	-3.56/-0.23	-0.93/-2.70	-2.10/-2.13	-1.70/-1.71	-6.84/-3.16	-1.25/-0.98	0.81/1.09	0.84/-0.04	0.65/-0.46	-1.01/0.45	-1.12/-3.08	-3.58/-2.17	-0.64/-0.51	-1.77/-1.02	
Θ(75°)	-0.03/-2.49	-3.04/-3.44	-3.53/-4.41	-7.44/-7.38	-5.88/-4.32	-4.85/-4.11	-3.93/-4.05	-3.87/-5.08	-6.69/-6.74	-4.38/-2.36	-4.92/-2.47	-2.40/-3.62	-3.43/-3.92	-2.90/-1.63	-4.22/-4.63	0.39/0.94	1.87/1.49	1.37/0.14	1.46/1.00	0.18/0.69	-0.99/-2.78	-4.95/-3.53	-0.81/0.23	-1.41/-1.16	
Θ(82.5°)	-0.05/-2.30	-1.87/-2.01	-3.95/-5.80	-6.81/-4.90	-4.33/-4.95	-5.01/-3.02	-3.13/-3.00	-2.88/-3.38	-5.51/-7.14	-6.53/-2.88	-5.89/-4.50	-6.74/-4.30	-6.07/-7.44	-4.28/-2.82	-4.55/-3.44	0.68/1.41	1.35/1.23	1.15/0.32	1.87/0.94	0.33/0.12	-0.62/-2.40	-5.95/-6.07	-1.01/-0.69	-1.45/-1.62	
Θ(90°)	-1.27/-2.66	-1.68/-2.39	-3.67/-6.50	-5.81/-4.07	-3.86/-4.11	-4.84/-4.08	-4.49/-4.21	-3.62/-2.87	-5.95/-8.36	-8.12/-3.63	-6.97/-6.84	-7.33/-7.36	-6.72/-7.51	-6.84/-5.55	-4.08/-4.28	0.42/0.54	0.58/0.57	0.39/-0.11	0.64/0.11	-0.96/-0.92	-1.55/-2.11	-5.65/-5.55	-1.51/-2.21	-1.86/-1.67	
Θ(97.5°)	-0.97/-2.93	-0.75/-1.51	-4.22/-6.39	-4.85/-3.58	-3.73/-4.34	-5.04/-4.95	-5.01/-3.02	-3.13/-3.00	-2.88/-3.38	-5.51/-7.14	-6.53/-2.88	-5.89/-4.50	-6.74/-4.30	-6.07/-7.44	-4.28/-2.82	-4.55/-3.44	0.68/1.41	1.35/1.23	1.15/0.32	1.87/0.94	0.33/0.12	-0.62/-2.40	-5.95/-6.07	-1.01/-0.69	-1.45/-1.62
Θ(105°)	-1.27/-2.90	-0.75/-1.51	-4.22/-6.39	-4.85/-3.58	-3.73/-4.34	-5.04/-4.95	-5.01/-3.02	-3.13/-3.00	-2.88/-3.38	-5.51/-7.14	-6.53/-2.88	-5.89/-4.50	-6.74/-4.30	-6.07/-7.44	-4.28/-2.82	-4.55/-3.44	0.68/1.41	1.35/1.23	1.15/0.32	1.87/0.94	0.33/0.12	-0.62/-2.40	-5.95/-6.07	-1.01/-0.69	-1.45/-1.62
Θ(112.5°)	-1.75/-2.53	-1.46/-2.06	-5.30/-6.03	-3.49/-3.24	-5.32/-4.89	-6.90/-8.63	-5.57/-4.45	-9.70/-11.54	-11.20/-12.97	-11.51/-12.19	-11.01/-9.52	-11.15/-10.32	-7.07/-10.35	-5.59/-8.70	-9.70/-7.61	-5.41/-5.60	-6.93/-3.13	-6.82/-2.83	-2.52/-1.76	-2.48/-5.26	-4.28/-6.81	-6.80/-4.69	-2.82/-5.24	-6.09/-2.67	
Θ(120°)	-1.45/-2.86	-3.08/-2.99	-4.52/-4.60	-4.56/-4.80	-7.90/-7.54	-7.24/-8.96	-8.34/-7.19	-10.42/-10.21	-9.74/-8.76	-7.30/-9.04	-13.05/-13.29	-12.60/-12.21	-10.99/-11.15	-7.61/-12.11	-7.86/-5.59	-5.89/-3.98	-6.24/-4.09	-9.24/-6.61	-2.56/-1.82	-2.48/-6.01	-10.27/-12.51	-5.65/-4.39	-4.22/-6.26	-4.77/-3.55	
Θ(127.5°)	-3.92/-4.21	-4.27/-4.06	-7.15/-8.53	-4.98/-3.64	-7.90/-10.09	-11.16/-9.10	-5.75/-4.70	-4.77/-5.10	-6.46/-9.92	-9.98/-8.47	-13.40/-13.69	-14.94/-15.23	-9.65/-10.00	-13.24/-12.79	-6.74/-6.48	-5.68/-3.61	-6.67/-7.31	-6.89/-7.39	-2.31/-3.28	-4.38/-7.14	-9.40/-10.83	-9.61/-5.99	-7.21/-7.69	-8.57/-5.84	
Θ(135°)	-3.59/-2.08	-4.07/-5.90	-5.08/-7.23	-8.11/-5.08	-6.60/-5.93	-5.81/-7.96	-8.38/-8.30	-10.73/-11.80	-10.68/-15.40	-9.77/-7.95	-8.74/-7.09	-14.72/-11.25	-10.17/-13.98	-11.90/-10.48	-8.42/-9.20	-8.02/-5.40	-8.93/-8.14	-7.34/-10.71	-5.85/-5.06	-6.57/-6.65	-10.38/-11.36	-7.47/-7.82	-8.28/-8.79	-5.53/-6.05	
Θ(142.5°)	-4.29/-4.01	-6.96/-7.59	-5.61/-6.54	-7.01/-6.20	-8.40/-8.94	-9.98/-11.92	-11.22/-8.69	-10.48/-14.74	-13.45/-15.16	-13.94/-10.18	-9.98/-11.67	-14.98/-11.05	-9.00/-12.30	-12.02/-8.66	-7.58/-6.96	-10.54/-9.03	-8.20/-8.74	-9.08/-10.95	-13.41/-12.29	-15.01/-14.46	-12.45/-11.68	-11.83/-10.16	-7.90/-9.39		
Θ(150°)	-7.65/-8.31	-9.78/-8.83	-9.58/-10.71	-10.57/-10.27	-10.45/-8.89	-7.40/-8.47	-11.55/-10.97	-8.96/-8.10	-7.85/-9.39	-10.20/-9.88	-10.49/-11.13	-10.04/-11.61	-15.88/-12.67	-10.54/-12.75	-12.43/-12.05	-14.28/-12.57	-9.45/-8.53	-9.03/-10.86	-12.98/-13.28	-10.65/-9.09	-10.10/-9.26	-7.68/-10.42	-11.03/-8.09	-8.24/-8.59	
Θ(157.5°)	-15.39/-14.02	-12.32/-12.27	-10.80/-6.10	-3.48/-2.22	-2.30/-3.42	-4.02/-4.86	-7.04/-10.31	-10.90/-12.47	-11.30/-9.07	-11.56/-14.35	-15.26/-13.40	-13.69/-12.25	-13.55/-14.10	-13.00/-14.55	-14.71/-14.07	-12.02/-10.89	-10.65/-11.50	-10.96/-10.69	-11.70/-11.37	-10.38/-10.40	-9.97/-9.75	-9.61/-10.29	-12.55/-11.72	-11.01/-13.57	
Θ(165°)	-6.37/-7.66	-6.26/-6.71	-6.72/-5.96	-5.44/-5.50	-5.72/-6.03	-5.95/-10.46	-10.78/-14.91	-13.12/-12.18	-11.22/-10.70	-12.98/-14.89	-15.91/-15.68	-15.79/-11.99	-11.74/-11.61	-10.89/-11.96	-10.78/-9.01	-7.73/-7.31	-8.86/-10.79	-13.51/-15.56	-16.14/-13.62	-13.37/-10.34	-8.41/-8.31	-10.17/-9.09	-8.56/-8.31	-7.18/-8.18	
Θ(172.5°)	-10.87/-12.09	-9.92/-9.59	-9.22/-8.74	-8.59/-8.18	-7.60/-9.20	-9.79/-11.56	-12.24/-11.55	-10.82/-11.41	-11.68/-12.74	-13.89/-14.65	-14.93/-14.69	-14.14/-15.79	-15.48/-14.70	-15.37/-14.45	-15.11/-15.17	-15.28/-15.28	-15.51/-15.57	-15.11/-15.88	-16.02/-15.33	-14.72/-15.00	-14.38/-11.75	-10.48/-9.65	-10.25/-9.73	-8.59/-8.89	
Θ(180°)	-13.79/-13.20	-10.78/-11.25	-11.89/-12.36	-9.65/-12.47	-13.75/-15.25	-14.70/-14.93	-15.88/-16.27	-15.54/-14.44	-13.77/-12.89	-11.64/-11.97	-12.44/-14.62	-13.27/-12.78	-14.22/-15.37	-14.34/-14.45	-13.53/-14.81	-13.22/-13.08	-11.83/-13.07	-12.14/-11.64	-11.25/-11.23	-10.77/-11.60	-11.28/-8.70	-9.50/-9.67	-9.84/-10.54	-11.69/-12.87	
Freq(Hz)	2.45GPol.	TotalAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)	
Θ(0°)	-2.73/-2.96	-3.34/-3.80	-4.10/-3.96	-3.43/-2.77	-2.24/-1.90	-1.80/-1.88	-2.03/-2.11	-2.06/-2.05	-2.07/-2.15	-2.23/-2.26	-2.36/-2.41	-2.35/-2.26	-2.17/-2.21	-2.35/-2.53	-2.74/-2.79	-2.57/-2.20	-1.89/-1.85	-2.00/-2.20	-2.31/-2.42	-2.35/-2.40	-2.55/-2.72	-2.83/-2.83	-2.75/-2.67	-2.61/-2.63	
Θ(7.5°)	-2.19/-2.37	-2.70/-3.05	-3.29/-3.32	-3.09/-2.62	-2.06/-1.60	-1.41/-1.45	-1.63/-1.84	-1.97/-2.22	-2.33/-2.45	-2.54/-2.61	-2.66/-2.80	-2.86/-2.86	-2.84/-2.89	-2.91/-3.07	-3.10/-2.97	-2.56/-2.11	-1.73/-1.49	-1.33/-1.34	-1.32/-1.32	-1.39/-1.57	-1.79/-2.06	-2.20/-2.25	-2.21/-2.09	-2.11/-2.13	
Θ(15°)	-1.81/-2.02	-2.22/-2.47	-2.56/-2.59	-2.40/-1.88	-1.16/-0.46	0.00/0.11	0.05/-0.24	-0.62/-1.02	-1.37/-1.77	-2.02/-2.29	-2.62/-2.94	-3.22/-3.35	-3.62/-3.55	-3.60/-3.92	-3.68/-3.22	-2.50/-1.77	-1.22/-0.80	-0.45/-0.17	0.01/0.09	0.07/-0.11	-0.42/-0.76	-1.04/-1.21	-1.30/-1.32	-1.38/-1.50	
Θ(22.5°)	-1.18/-1.47	-1.69/-1.82	-2.08/-2.07	-2.04/-1.60	-0.80/-0.04	0.52/1.73	0.73/0.34	-0.09/-0.67	-1.08/-1.39	-1.59/-1.87	-2.36/-2.77	-3.14/-3.31	-3.38/-3.62	-4.00/-4.29	-4.16/-3.57	-2.76/-2.05	-1.42/-0.93	-0.50/-0.15	0.14/0.38	0.50/0.44	0.21/-0.10	-0.40/-0.51	-0.58/-0.67	-0.82/-0.84	
Θ(30°)	-1.01/-1.30	-1.39/-1.41	-1.26/-1.49	-1.67/-1.55	-1.06/-0.38	0.29/0.78	0.92/0.61	-0.07/-0.89	-1.57/-1.90	-1.97/-2.05	-2.32/-2.71	-3.05/-3.17	-3.41/-3.48	-3.89/-4.25	-4.46/-4.51	-3.92/-3.30	-2.44/-1.64	-1.09/-0.70	-0.37/0.01	0.25/0.35	0.22/-0.15	-0.48/-0.59	-0.47/-0.25	-0.51/-0.85	
Θ(37.5°)	-1.54/-1.74	-1.54/-1.13	-0.84/-0.86	-0.96/-0.97	-0.76/-0.43	0.10/0.63	0.86/0.64	-0.14/-1.19	-2.22/-2.62	-2.56/-2.35	-2.84/-3.10	-3.40/-3.46	-3.62/-3.90	-3.96/-3.78	-3.77/-3.71	-3.93/-3.80	-3.18/-2.50	-1.83/-1.30	-0.89/-0.59	-0.32/-0.13	-0.20/-0.61	-1.09/-1.24	-1.05/-0.81	-0.85/-1.11	
Θ(45°)	-2.07/-2.07	-1.57/-0.96	-0.63/-0.65	-0.62/-0.58	-0.41/-0.24	-0.05/0.08	0.12/-0.24	-0.84/-1.84	-2.61/-2.76	-2.65/-2.43	-2.78/-3.39	-3.50/-3.24	-3.38/-4.00	-4.49/-4.20	-3.65/-3.46	-3.65/-4.06	-4.34/-3.50	-4.09/-3.35	-2.62/-2.06	-1.62/-1.25	-1.06/-1.24	-1.65/-1.94	-1.96/-1.80	-1.59/-1.63	
Θ(52.5°)	-2.92/-2.86	-2.10/-1.23	-0.82/-0.69	-0.79/-0.56	-0.42/-0.52	-0.65/-0.84	-1.06/-1.46	-1.46/-1.63	-1.79/-1.96	-1.98/-2.04	-2.59/-3.21	-2.88/-2.28	-2.53/-3.61	-4.68/-4.80	-4.31/-4.07	-4.22/-4.62	-5.12/-5.36	-5.05/-4.25	-3.38/-2.58	-1.93/-1.67	-1.63/-1.70	-1.95/-2.27	-2.63/-2.85	-2.72/-2.69	
Θ(60°)	-3.18/-3.31	-2.72/-1.96	-1.68/-1.69	-1.41/-1.01	-0.93/-1.12	-1.28/-1.25	-1.21/-1.20	-1.27/-1.41	-1.54/-2.00	-2.47/-2.61	-3.01/-3.59	-3.08/-2.24	-2.43/-3.48	-4.49/-4.66	-4.11/-3.81	-3.73/-4.12	-4.80/-5.02	-4.25/-3.09	-2.15/-1.37	-0.80/-0.72	-1.18/-1.70	-2.07/-2.40	-2.87/-3.20	-3.04/-2.81	
Θ(67.5°)	-2.70/-2.91	-2.57/-2.22	-2.32/-2.36	-2.33/-1.94	-1.80/-1.68	-1.25/-0.63	-0.35/-0.60	-1.32/-1.84	-1.92/-2.04	-2.44/-2.64	-3.12/-3.71	-2.95/-2.06	-2.18/-2.94	-3.57/-3.60	-3.26/-2.99	-2.79/-2.95	-3.17/-3.25	-2.44/-1.77	-1.31/-0.80	-0.36/-0.45	-0.98/-1.49	-1.69/-2.07	-2.91/-3.60	-3.43/-2.72	
Θ(75°)	-3.27/-3.31	-2.58/-1.97	-2.26/-3.06	-3.56/-3.43	-2.87/-1.87	-0.70/0.04	0.09/-0.43	-1.04/-1.43	-1.55																