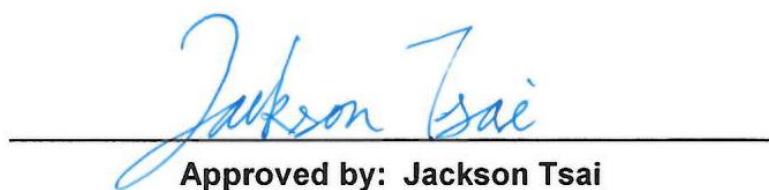


Antenna Composite Gain Test Report

Equipment	Secured Wireless Access Point
Brand Name	FORTINET
Model Name	FortiAP 441Kxxxxxx, FAP-441Kxxxxxx, FORTIAP-441Kxxxxxx (Where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only)
Applicant	Fortinet, Inc. 899 Kifer Road, Sunnyvale, CA 94086, USA
Manufacturer	Fortinet, Inc. 899 Kifer Road, Sunnyvale, CA 94086, USA
Sample Received	Jul. 11, 2023
Start Test Date	Jul. 14, 2023
Final Test Date	Jul. 14, 2023


Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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



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History of this test report

[illegible]

1. Operation Mode and Antenna Information

Antenna Position	RF Port	Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
2G 5G 5.9G Ant1	1	Senao	5718A0730300	PIFA	I-Pex	2.4GHz, 5GHz , 5.9GHz
2G 5G 5.9G Ant2	2	Senao	5718A0731300	PIFA	I-Pex	2.4GHz, 5GHz , 5.9GHz
2G 5G 5.9G Ant3	3	Senao	5718A0732300	PIFA	I-Pex	2.4GHz, 5GHz , 5.9GHz
2G 5G 5.9G Ant4	4	Senao	5718A0733300	PIFA	I-Pex	2.4GHz, 5GHz , 5.9GHz
6G Ant1	1	AWAN	7102A0657000	Alford Loop	I-Pex	6GHz
6G Ant2	2	AWAN	7102A0659000	Alford Loop	I-Pex	6GHz
6G Ant3	3	AWAN	7102A0660000	Alford Loop	I-Pex	6GHz
6G Ant4	4	AWAN	7102A0658000	Alford Loop	I-Pex	6GHz
Scan Ant1	1	Senao	5718A0734300	PIFA	I-Pex	2.4GHz, 5GHz , 5.9GHz, 6GHz
Scan Ant2	2	Senao	5718A0735300	PIFA	I-Pex	2.4GHz, 5GHz , 5.9GHz, 6GHz

Note:

2.4GHz,5GHz and 5.9GHz Operation Mode (4TX/4RX)

2G 5G 5.9G Ant1~2G 5G 5.9G Ant4 could transmit/receive simultaneously.

6GHz Operation Mode (4TX/4RX)

6G Ant1~6G Ant4 could transmit/receive simultaneously.

2.4GHz, 5GHz , 5.9GHz, 6GHz Operation Mode (2RX)

Scan Ant1~ Scan Ant2 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
5850-5895	5885
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%	14/Jul/2023

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

4. Test Facility and Configuration

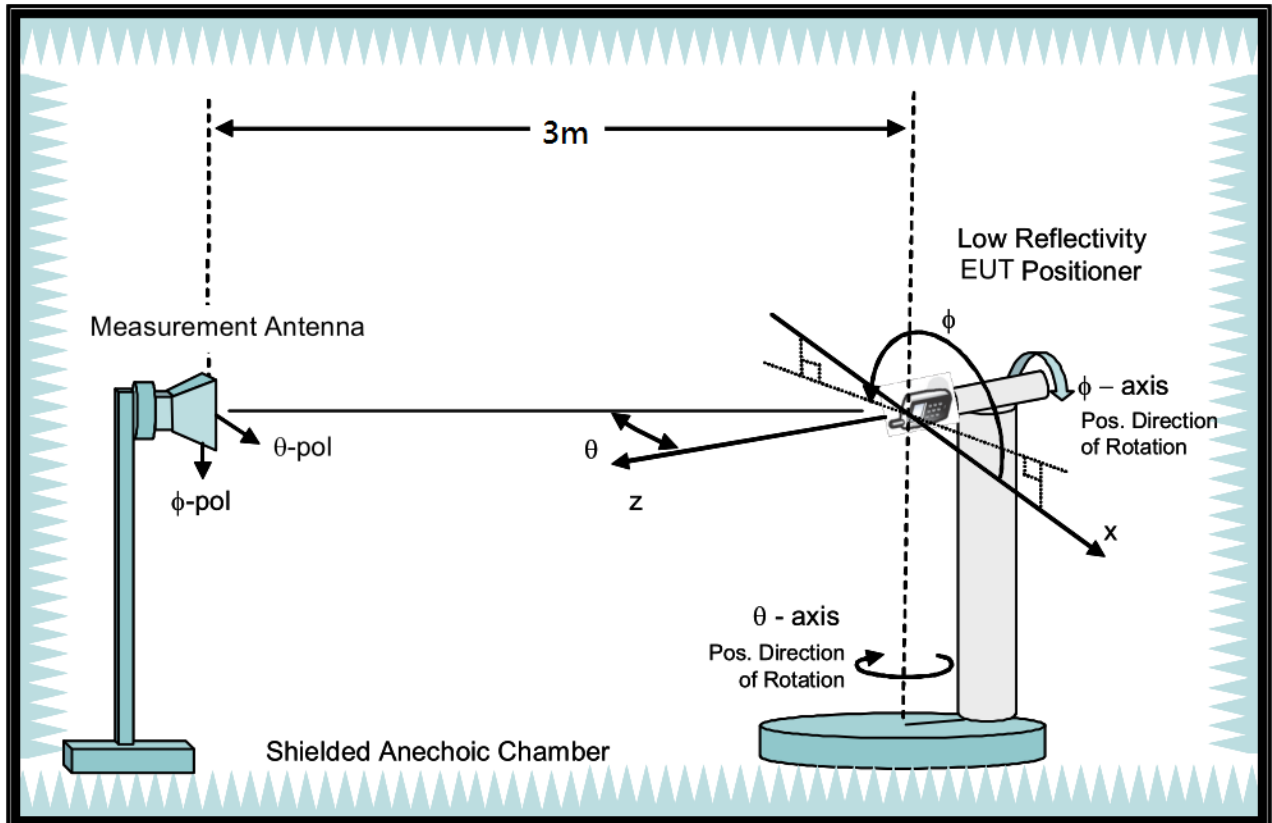
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

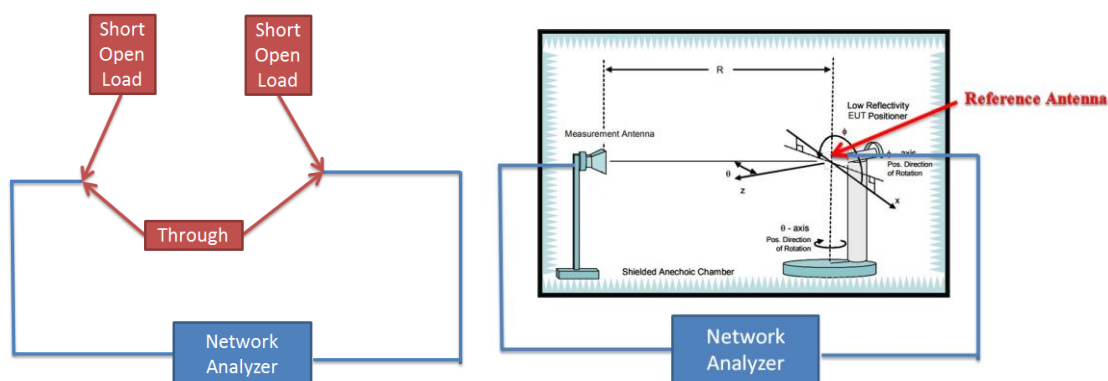
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



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	5.885G
Ant. 1 (dBi)	2.95	-0.24	-0.37	-3.36	-1.66	-1.13
Ant. 2 (dBi)	0.16	-1.27	-0.15	-0.9	-1.55	-2.18
Ant. 3 (dBi)	1.81	-0.14	-1.05	4.49	5.71	5.92
Ant. 4 (dBi))	-2.19	-1.11	-0.7	-2.47	0.03	-0.36
DG [1SS] (dBi)	6.91	5.35	5.46	6.04	7.23	7.22
Polarization	Theta	Theta	Theta	Theta	Theta	Theta
$\Theta(^{\circ})$	37.5	67.5	67.5	67.5	67.5	75
$\Phi(^{\circ})$	217.5	172.5	180	52.5	52.5	52.5

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

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	3.23	3.04	4.1	-0.11
Ant. 2 (dBi)	0.97	0.2	2.02	4.01
Ant. 3 (dBi)	3.94	3.25	2.98	2.77
Ant. 4 (dBi))	4.65	3	1.04	2.99
DG [1SS] (dBi)	9.32	8.48	8.63	8.56
Polarization	Phi	Phi	Phi	Phi
$\Theta(^{\circ})$	67.5	67.5	67.5	67.5
$\Phi(^{\circ})$	30	127.5	127.5	210

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	5.885G
Ant. 1 [$10^{(G/20)}$]	$10^{(2.95/20)}$	$10^{(-0.24/20)}$	$10^{(-0.37/20)}$	$10^{(-3.36/20)}$	$10^{(-1.66/20)}$	$10^{(-1.13/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(0.16/20)}$	$10^{(-1.27/20)}$	$10^{(-0.15/20)}$	$10^{(-0.9/20)}$	$10^{(-1.55/20)}$	$10^{(-2.18/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(1.81/20)}$	$10^{(-0.14/20)}$	$10^{(-1.05/20)}$	$10^{(4.49/20)}$	$10^{(5.71/20)}$	$10^{(5.92/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(-2.19/20)}$	$10^{(-1.11/20)}$	$10^{(-0.7/20)}$	$10^{(-2.47/20)}$	$10^{(0.03/20)}$	$10^{(-0.36/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.404	0.973	0.958	0.679	0.826	0.878
Ant. 2 [$10^{(G/20)}$] value	1.019	0.864	0.983	0.902	0.837	0.778
Ant. 3 [$10^{(G/20)}$] value	1.232	0.984	0.886	1.677	1.93	1.977
Ant. 4 [$10^{(G/20)}$] value	0.777	0.88	0.923	0.752	1.003	0.959
Sum All Antenna [Amax]	4.432	3.701	3.75	4.01	4.596	4.592
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	6.91	5.35	5.46	6.04	7.23	7.22

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 calculation

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [$10^{(G/20)}$]	$10^{(3.23/20)}$	$10^{(3.04/20)}$	$10^{(4.1/20)}$	$10^{(-0.11/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(0.97/20)}$	$10^{(0.2/20)}$	$10^{(2.02/20)}$	$10^{(4.01/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(3.94/20)}$	$10^{(3.25/20)}$	$10^{(2.98/20)}$	$10^{(2.77/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(4.65/20)}$	$10^{(3/20)}$	$10^{(1.04/20)}$	$10^{(2.99/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.45	1.419	1.603	0.987
Ant. 2 [$10^{(G/20)}$] value	1.118	1.023	1.262	1.587
Ant. 3 [$10^{(G/20)}$] value	1.574	1.454	1.409	1.376
Ant. 4 [$10^{(G/20)}$] value	1.708	1.413	1.127	1.411
Sum All Antenna [Amax]	5.851	5.309	5.402	5.361
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	9.32	8.48	8.63	8.56

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	5.885G
Ant. 1 Max Gain (dBi)	2.95	4.2	3.07	3.26	4.63	5.28
Ant. 2 Max Gain (dBi)	3.38	2.19	1.9	2.24	2.6	2.9
Ant. 3 Max Gain (dBi)	2.05	4.19	4.7	4.49	6.22	5.92
Ant. 4 Max Gain (dBi)	2.18	2.78	2.13	3.35	3.8	4.55
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/37.5/ 217.5	Theta/67.5/ 337.5	Theta/67.5/ 345	Theta/67.5/ 337.5	Theta/67.5/ 330	Theta/67.5/ 330
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/52.5/ 60	Theta/37.5/ 180	Theta/37.5/ 187.5	Theta/45/21 7.5	Theta/45/18 7.5	Theta/45/18 7.5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/45/22 5	Theta/67.5/ 52.5	Theta/75/52 .5	Theta/67.5/ 52.5	Theta/75/52 .5	Theta/75/52 .5
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/52.5/ 180	Theta/67.5/ 135	Theta/67.5/ 142.5	Theta/67.5/ 135	Theta/67.5/ 135	Theta/75/14 2.5
Max Gain (dBi)	3.38	4.2	4.7	4.49	6.22	5.92
DG [1SS] (dBi)	6.91	5.35	5.46	6.04	7.23	7.22
DG [2SS] (dBi)	3.91	4.2	4.7	4.49	6.22	5.92
DG [4SS] (dBi)	3.38	4.2	4.7	4.49	6.22	5.92

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)

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	3.83	3.43	4.26	3.5
Ant. 2 Max Gain (dBi)	3.75	3.43	4.38	5.89
Ant. 3 Max Gain (dBi)	5.24	3.87	4.64	5.27
Ant. 4 Max Gain (dBi)	4.65	4.19	4.59	4.86
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/60/120	Phi/67.5/37.5	Phi/60/127.5	Phi/67.5/142.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/52.5/210	Phi/75/67.5	Phi/60/217.5	Phi/30/240
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/60/30	Phi/60/37.5	Phi/60/45	Phi/67.5/37.5
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/67.5/30	Phi/60/315	Phi/30/315	Phi/60/322.5
Max Gain (dBi)	5.24	4.19	4.64	5.89
DG [1SS] (dBi)	9.32	8.48	8.63	8.56
DG [2SS] (dBi)	6.32	5.48	5.63	5.89
DG [4SS] (dBi)	5.24	4.19	4.64	5.89

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)

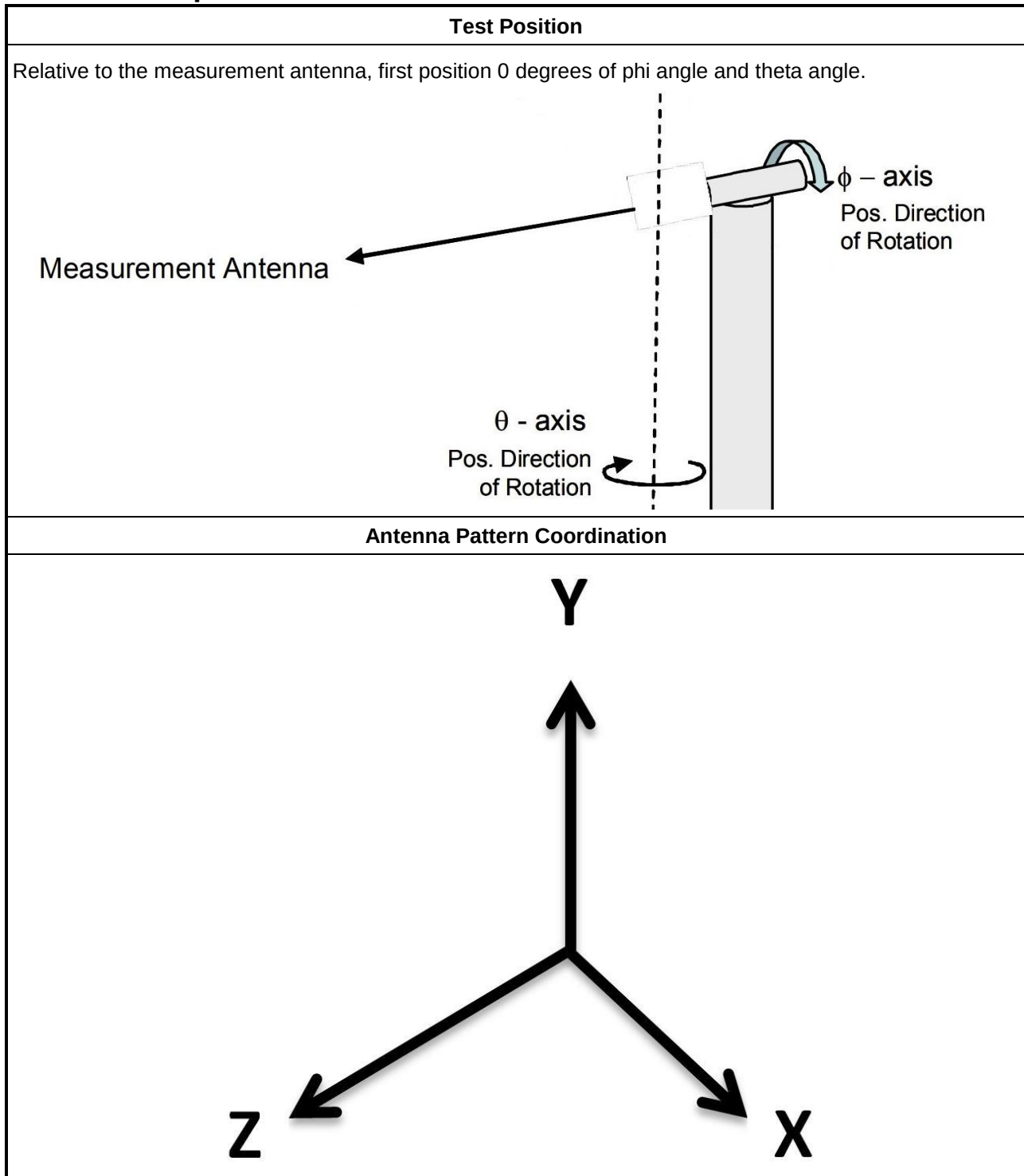
Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G	5.885G
Ant. 1 Max Gain (dBi)	1.76	3.44	3.27	3.16	3.75	5.11
Ant. 2 Max Gain (dBi)	1.17	2.09	2.62	2.22	2.49	2.91
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/52.5/ 202.5	Theta/75/28 5	Theta/75/28 5	Theta/75/31 5	Theta/82.5/ 277.5	Theta/75/28 5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/45/60	Theta/52.5/ 172.5	Theta/67.5/ 120	Theta/52.5/ 165	Theta/52.5/ 172.5	Theta/52.5/ 157.5
Max Gain (dBi)	1.76	3.44	3.27	3.16	3.75	5.11

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	4.19	3.34	4.02	4.41
Ant. 2 Max Gain (dBi)	3.32	2.13	3.01	4.43
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/82.5/277.5	Theta/75/270	Theta/52.5/255	Theta/60/262.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/75/180	Theta/75/127.5	Theta/75/127.5	Theta/75/112.5
Max Gain (dBi)	4.19	3.34	4.02	4.43

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 2G5G5.9G.....	Page 17
Appendix B – Radiated Composite Gain of 6G.....	Page 33
Appendix C – Radiated Composite Gain of scan.....	Page 44
Appendix D – Antenna Pattern of 2G5G5.9G.....	Page 55
Appendix E – Antenna Pattern of 6G.....	Page 63
Appendix F – Antenna Pattern of scan.....	Page 69
Appendix G – Test Photos.....	Page 75

————THE END————



Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G	5.885G
Ant. 1 Max Gain (dBi)	2.95	4.2	3.07	3.26	4.63	5.28
Ant. 2 Max Gain (dBi)	3.38	2.19	1.9	2.24	2.6	2.9
Ant. 3 Max Gain (dBi)	2.05	4.19	4.7	4.49	6.22	5.92
Ant. 4 Max Gain (dBi)	2.18	2.78	2.13	3.35	3.8	4.55
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/37.5/217.5	Theta/67.5/337.5	Theta/67.5/345	Theta/67.5/337.5	Theta/67.5/330	Theta/67.5/330
Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/52.5/60	Theta/37.5/180	Theta/37.5/187.5	Theta/45/217.5	Theta/45/187.5	Theta/45/187.5
Ant. 3 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/45/225	Theta/67.5/52.5	Theta/75/52.5	Theta/67.5/52.5	Theta/75/52.5	Theta/75/52.5
Ant. 4 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/52.5/180	Theta/67.5/135	Theta/67.5/142.5	Theta/67.5/135	Theta/67.5/135	Theta/75/142.5
Max Gain (dBi)	3.38	4.2	4.7	4.49	6.22	5.92
DG [1SS] (dBi)	6.91	5.35	5.46	6.04	7.23	7.22
DG [2SS] (dBi)	3.91	4.2	4.7	4.49	6.22	5.92
DG [4SS] (dBi)	3.38	4.2	4.7	4.49	6.22	5.92



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

DG 1SS Result

Freq(Hz)	2.45GPol.	PhiL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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°)	4.013/73	3.38/298	2.57/228	2.19/216	2.15/219	2.23/218	2.06/187	1.86/183	3.25/83.4	3.23/83.4	4.19/4.33	4.36/4.22	3.88/3.35	2.69/2.11	2.01/2.19	2.39/2.52	2.54/2.51	2.39/2.21	2.02/1.8	1.83/1.9	2.2/2.69	3.18/3.57	3.87/4.07	4.18/4.15
Θ(7.5°)	3.33/306	2.79/254	2.37/228	2.21/21	2.08/218	2.29/229	2.14/1.96	1.95/2.14	2.47/2.86	3.34/3.86	4.23/4.42	4.47/4.34	4.03/3.51	2.85/2.09	1.89/1.73	1.58/1.48	1.64/1.82	1.95/1.99	1.89/1.73	1.43/1.26	1.53/1.99	2.54/2.89	3.13/3.33	3.44/3.45
Θ(15°)	1.69/1.51	1.37/1.27	1.19/1.09	0.96/0.95	1.12/1.41	1.67/1.73	1.66/1.54	1.48/1.56	1.79/2.03	2.27/2.63	3.53/3.59	3.45/3.02	2.42/1.64	0.80/1.5	-0.25/-0.08	0.27/0.7	1.03/1.25	1.36/1.39	1.31/1.09	0.84/0.81	1.06/1.34	1.57/1.75	1.86/1.86	
Θ(22.5°)	0.21/-0.05	-0.24/-0.28	-0.28/-0.33	-0.32/-0.17	0.15/0.48	0.64/0.6	0.44/0.21	0.11/0.38	0.49/0.7	0.71/0.79	1.06/1.44	1.74/1.98	1.57/0.99	0.25/-0.54	-1.09/-1.29	-0.56/0.35	1.14/1.61	1.73/1.58	1.25/0.79	0.33/0.02	0.12/0.36	0.50/0.53	0.54/0.47	
Θ(30°)	-0.29/-0.69	-1.09/-1.3	-1.31/-1.29	-1.11/-0.61	-0.15/0.06	-0.07/-0.42	-0.91/-1.38	-0.49/-0.91	-0.09/-0.09	-0.04/0.02	0.14/0.31	0.52/0.81	0.87/0.75	0.50/0.4	0.11/0.1	1.78/2.22	2.27/1.92	1.22/0.39	-0.13/-0.17	0.22/0.58	0.67/0.47	0.21/0		
Θ(37.5°)	0.06/-0.24	-0.7/-1	-1.14/-1.07	-0.67/0.04	0.5/0.43	0.04/-0.39	-0.93/-1.53	-1.4/-1.12	-0.71/-0.54	-0.37/-0.19	-0.15/-0.37	-0.55/-0.51	-0.20/29	0.74/1.04	0.79/0.3	-0.13/-0.06	0.59/1.46	2.05/2.25	2.16/1.74	1.01/0.23	-0.08/0.22	0.81/24	1.32/0.96	0.56/0.12
Θ(45°)	-0.3/-0.33	-0.64/-0.91	-1/-1.23	-0.74/0.09	0.71/0.54	-0.04/-0.42	-0.8/-1.12	-1.03/-0.96	-1.23/-1.56	-1.61/-1.19	-0.83/-0.84	-0.83/-0.56	-0.23/0.17	0.53/0.86	0.56/-0.52	-1.47/-1.45	-0.37/0.94	1.68/1.75	1.31/0.61	-0.17/-0.82	0.74/1.01	1.03/0.67	-0.02/-0.52	
Θ(52.5°)	-1.34/-1	-0.68/-0.9	-1.3/-1.78	-1.43/-0.37	0.42/0.26	-0.41/-0.85	-1.15/-0.89	-0.54/-0.86	-1.97/-2.74	-2.97/-2.25	-1.71/-1.44	-1.3/-0.75	-0.22/0.08	0.32/0.36	-0.44/-2.03	-3.35/-3.33	-1.75/0.18	1.37/1.55	0.97/-0.28	-1.31/-2.15	-1.85/-0.37	0.22/0.21	0.12/-0.31	-1.24/-1.88
Θ(60°)	-2.42/-1.69	-0.73/-0.89	-1.66/-2.6	-2.66/-1.48	-0.41/-0.22	-1.03/-1.54	-1.48/-1	-0.57/-1.37	-3.3/-3.43	-2.51/-2.48	-3.81/-1.63	-0.92/-0.65	-0.6/-0.56	-1.59/-3.97	-5.93/-5.22	-3.74/-1.33	0.41/0.75	0.06/-1.35	-1.83/-3.28	-2.83/-0.75	-0.2/-0.46	-0.65/-1.06	-2.34/-2.96	
Θ(67.5°)	-3.28/-2.14	-1.16/-1.3	-2.26/-3.87	-4.39/-3.03	-1.5/-1.36	-2.34/-2.39	-1.71/-1.36	-1.3/-2.75	-4.8/-1.5	-4.33/-3.38	-2.92/-3.75	-4.23/-3.34	-2.34/-1.68	-1.5/-1.53	-2.71/-5.17	-7.05/-5.99	-4.97/-3.63	-1.28/-0.81	-1.6/-2.17	-1.83/-3.72	-3.91/-1.36	-0.8/-1.2	-1.51/-1.89	-3.56/-4.04
Θ(75°)	-4.81/-3.39	-2.19/-2.41	-3.36/-5.23	-6.49/-5.09	-2.7/-2.71	-3.88/-2.96	-2.21/-2.32	-2.38/-3.75	-5.78/-5.46	-4.39/-3.54	-3.71/-5.31	-6.66/-5.6	-3.58/-2.36	-2.23/-2.91	-3.95/-5.48	-6.5/-6.09	-5.51/-6.08	-3.16/-1.87	-2.17/-1.99	-1.76/-3.94	-5.09/-2.04	-1.43/-2.29	-2.85/-3.45	-5.71/-5.84
Θ(82.5°)	-5.9/-4.4	-2.91/-3.09	-4.24/-5.84	-8.09/-6.34	-3.49/-4.13	-5.2/-3.26	-2.85/-3.75	-3.44/-4.66	-6.47/-6.29	-4.99/-4.04	-4.5/-6.9	-8.32/-5.49	-3.56/-3.03	-3.56/-4.89	-5.34/-6.85	-7.07/-5.68	-5.81/-7.63	-4.27/-2.89	-3.42/-2.33	-1.48/-4.33	-5.68/-2.48	-2.08/-3.17	-1.84/-7.7	-7.75/-7.04
Θ(90°)	-6.53/-5.43	-4.06/-3.97	-4.5/-5.51	-8.68/-7.52	-4.74/-5.74	-7.23/-3.6	-3.19/-3.62	-3.33/-4.4	-7.08/-7.76	-5.36/-3.64	-3.82/-6.71	-9.74/-6.6	-4.37/-3.91	-4.57/-6.53	-7.03/-7.55	-6.32/-4.78	-5.64/-7.79	-5.59/-4.45	-4.8/-2.42	-1.34/-0.08	-4.92/-2.31	-2.42/-3.86	-4.48/-6.04	-8.97/-8
Θ(97.5°)	-6.05/-5.01	-4.55/-5.34	-4.91/-5.52	-9.68/-9.31	-5.94/-6.7	-6.83/-3.45	-3.45/-4.09	-3.54/-4.56	-6.81/-7.77	-5.6/-3.7	-4.33/-7.92	-9.81/-6.09	-4.32/-4.84	-5.82/-7.67	-7.35/-9.67	-6.15/-4.84	-5.55/-8.23	-6.42/-5.33	-6.01/-3.46	-1.97/-0.42	-4.32/-2.45	-3/-4.81	-4.98/-6.88	-9.6/-8.23
Θ(105°)	-6.74/-5.03	-4.46/-5.86	-4.99/-5.5	-9.44/-8.88	-6.59/-7.96	-7.74/-3.76	-3.34/-3.38	-3.92/-4.49	-6.63/-8.01	-6.46/-4.3	-4.63/-7.61	-10.21/-6.41	-4.83/-5.8	-6.75/-8.33	-6.87/-6.57	-6.32/-4.93	-5.89/-9.21	-6.82/-5.31	-5.61/-3.71	-2.82/-5.17	-5.58/-3.58	-7.65/-6.31	-6.12/-7.98	-9.58/-9.69
Θ(112.5°)	-6.68/-5.41	-4.91/-6.86	-6.15/-7.65	-10.62/-10.2	-7.15/-7.99	-6.64/-3.44	-3.46/-5.08	-5.04/-5.84	-9.2/-9.28	-6.54/-4.93	-4.95/-7.56	-8.99/-5.17	-4.95/-6.42	-6.82/-7.56	-7.28/-8.52	-6.88/-7.01	-6.51/-7.3	-5.84/-5.63	-7.31/-5.34	-4.64/-5.28	-5/-3.55	-4.31/-5.18	-5.85/-8.7	-8.28/-9.63
Θ(120°)	-6.09/-5.51	-5.5/-7.7	-7.57/-9.19	-10.99/-8.77	-6.27/-6.76	-5.91/-4.71	-3.85/-5.5	-6.35/-7.32	-10.37/-11.4	-8.04/-6.02	-5.42/-8.3	-6.43/-6.64	-5.79/-5.77	-7.39/-10.25	-10.02/-8.84	-8.58/-6.95	-5.38/-5.17	-3.86/-4.45	-6.74/-6.34	-5.83/-6.74	-7.04/-5.64	-5.97/-6.3	-6.39/-8.33	-9.51/-7.42
Θ(127.5°)	-6.93/-6.52	-7.47/-7.52	-8.15/-9.08	-11.53/-9.08	-6.05/-7.37	-7.5/-5.17	-4.08/-4.78	-6.55/-8.52	-10.84/-11.4	-6.65/-8.08	-7.31/-5.29	-4.58/-4.74	-9.92/-10.94	-9.4/-8.45	-10.17/-9.75	-7.45/-5.52	-4.24/-4.71	-6.07/-5.68	-5.35/-8.53	-10.76/-9.39	-6.15/-6.31	-6.12/-7.98	-9.58/-9.69	
Θ(135°)	-7.95/-8.52	-9.03/-9.64	-9.09/-9.91	-11.19/-9.13	-6.94/-8.01	-8.39/-7.38	-6.66/-8.07	-11.42/-12.56	-11.85/-10.41	-9.24/-7.2	-6.96/-7.41	-7.54/-7.07	-7.62/-9.12	-10.58/-9.2	-8.97/-10.35	-12.78/-12.24	-8.65/-6.93	-6.6/-6.91	-6.82/-5.57	-4.91/-6.45	-8.86/-10.12	-9.84/-8.19	-7.21/-7.62	-9.17/-9.08
Θ(142.5°)	-9.91/-9.47	-10.28/-10.08	-9.11/-10.04	-12.08/-12.33	-9.94/-8.68	-8.46/-7.76	-7.07/-8.62	-11.99/-12.65	-11.5/-10.31	-9.64/-9	-8.5/-8.84	-9.67/-9.81	-10.48/-9.84	-9.88/-10.18	-10.93/-11.72	-11.28/-10.16	-7.95/-7.48	-8.11/-9.11	-8.39/-7.29	-6.33/-6.7	-7.91/-9.89	-10.55/-9.88	-8.24/-7.54	-8.56/-8.66
Θ(150°)	-9.91/-10.01	-9.40/-7.97	-7.36/-7.94	-9.98/-11.15	-11.43/-10.64	-9.36/-8.42	-8.22/-7.77	-9.97/-10.28	-10.26/-10.01	-10.21/-10	-9.72/-9.32	-8.7/-9.46	-10.51/-10.75	-10.69/-10.93	-10.96/-11.72	-8.35/-8	-7.09/-6.85	-7.69/-9.21	-9.37/-8.76	-6.83/-9.02	-9.55/-11.11	-10.73/-10.65	-9.44/-8.67	-8.62/-9.42
Θ(157.5°)	-10.74/-10.22	-8.99/-8.72	-8.31/-8.35	-9.46/-9.62	-9.85/-9.24	-9.4/-9.66	-10.06/-10.36	-9.69/-9.16	-8.67/-8.35	-9/-8.7	-8.06/-7.69	-8.46/-9.74	-10.52/-11.07	-11.73/-10.9	-9.46/-8.33	-7.32/-6.66	-7.29/-7.88	-8.91/-9.81	-9.91/-10.42	-10.42/-10.64	-11.39/-12.11	-12.13/-10.55	-10.67/-10.65	-10.2/-10.43
Θ(165°)	-11.89/-11.56	-10.98/-10.8	-10.11/-10.3	-10.02/-9.62	-9.73/-9.7	-9.25/-9.91	-10.19/-10.36	-9.52/-8.77	-8.27/-8.66	-8.45/-8.05	-7.93/-8.59	-9.82/-9.85	-10.93/-11.45	-12.16/-11.34	-9.47/-8.25	-7.98/-7.85	-8.72/-9.48	-10.26/-10.69	-10.59/-10.53	-10.74/-11.3	-11.79/-11.95	-11.56/-11.66	-11.76/-12.52	-12.23/-12.14
Θ(172.5°)	-11.66/-10.67	-11.12/-10.94	-10.59/-11.02	-10.57/-10.33	-10.09/-10.62	-10.88/-11.7	-12.21/-16.7	-10.37/-9.57	-9.54/-9.74	-10.17/-10.3	-10.05/-10.88	-11.13/-11.46	-12.62/-11.62	-11.27/-10.58	-10.16/-9.89	-10.23/-10.62	-10.76/-11.41	-10.94/-10.26	-10.62/-10.21	-10.37/-10.48	-10.94/-11.03	-11.38/-11.12	-10.86/-10.96	
Θ(180°)	-10.66/-10.45	-10.21/-11	-11.52/-11.21	-11.32/-11.11	-11.69/-11.64	-11.46/-11.1	-10.86/-10.56	-10.56/-10.47	-11/-11.65	-12.06/-12.27	-12.25/-12.62	-11.88/-12.61	-12.61/-13.09	-12.85/-12.35	-12.87/-12.01	-12.44/-12.48	-11.64/-12.56	-12.07/-12.15	-11.66/-11.54	-11.38/-11.37	-11.27/-11.18	-11.07/-11.37	-10.86/-10.57	-10.35/-10.53
Freq(Hz)	2.45GPol.	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°)	1.05/1.07	1.11/0.91	1.04/1.64	2.35/2.88	3.18/3.34	3.38/3.37	3.25/2.93	2.53/2.2	2.1/82	1.65/1.46	1.38/1.47	1.63/1.67	1.57/1.31	0.98/0.91	0.96/1.3	1.67/2.04	2.46/2.82	3.02/3.03	2.83/2.56	2.16/1.64	1.15/0.92	0.99/1.21	1.44/1.54	1.46/1.29
Θ(7.5°)	2.87/2.75	2.6/2.33	2.07/2.06	2.25/2.44	2.53/2.52	2.43/2.26	1.94/1.4	0.65/-0.16	-0.46/-0.87	-1.37/-1.13	-0.98/-0.59	-0.27/0.16	0.39/0.75	1.05/1.37	1.78/2.28	2.85/3.34	3.78/4.1	4.26/4.28	4.16/4	3.81/3.64	3.5/3.4	3.43/3.52	3.6/3.56	3.37/3.1
Θ(15°)	4.16/4.03	3.84/3.57	3.31/3.13	3.05/2.95	2.72/2.34	1.91/1.42	0.87/0.22	-0.43/-0.75	-0.73/-0.68	0.21/0.62	1.07/1.65	2.16/2.68	3.96/4.36	4.68/4.98	5.21/5.35	5.35/5.26	5.15/5.08	5.08/5.1	5.12/5.15	5.19/5.23	5.22/5.06	4.75/4.4		
Θ(22.5°)	4.85/4.57	4.23/3.88	3.63/3.52	3.42/3.25	2.85/2.25	1.55/0.93	0.46/0.21	0.28/0.58	0.91/0.9	1.29/1.54	1.97/2.42	2.81/3.12	3.64/2.1	4.78/5.2	5.55/6.6	5.81/5.9	5.87/5.73	5.55/5.41	5.36/5.42	5.6/5.8	5.93/6.02	6.07/6.11	6.05/5.83	5.49/5.15
Θ(30°)	5.16/4.73	4.32/4.07	4.02/4.03	3.97/3.73	3.28/2.7	2.23/1.98	1.98/2.06	2.15/2.24	2.34/2.48	2.81/3.15	3.47/3.72	3.87/4.09	4.52/5.1	5.66/6.1	6.37/6.52	6.53/6.4	6.09/5.71	5.34/5.1	5.07/5.25	5.63/5.97	6.17/6.27	6.34/6.41	6.37/6.17	5.88/5.53
Θ(37.5°)	5.33/4.86	4.52/4.41	4.49/4.56	4.51/4.29	3.99/3.78	3.31/3.92	4.01/4.04	3.95/2.72	3.56/3.73	4.13/4.49	4.66/4.76	4.84/5.07	5.46/5.92	6.33/6.62	6.86/8.1	6.85/6.82	6.12/6.62	5.16/4.81	4.73/4.93	5.39/5.88	6.17/6.29	6.34/6.37	6.33/6.2	5.98/5.69
Θ(45°)	5.23/5	4.84/4.67	4.71/4.85	4.94/4.8	4.76/4.85	5.04/5.16	5.16/5.14	5.07/4.92	4.84/4.97	5.31/5.53	5.51/5.43													



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

Θ(22.5°)	3.01/3.18	3.35/3.29	2.66/2.03	1.64/1.64	1.47/0.96	0.85/0.93	0.87/1.14	1.68/1.76	1.3/0.84	0.67/0.34	0.18/1.23	2.13/2.75	3.09/3.21	3.02/2.56	2.12/2.19	2.4/2.28	1.85/2.02	2.32/2.1	1.87/2.03	2.16/2.03	1.58/1.13	0.76/0.48	0.61/1.47	2.24/2.88
Θ(30°)	2.19/2.22	2.44/2.36	1.97/1.63	1.53/1.66	1.69/2	2.63/2.78	2.2/1.67	1.67/1.84	1.8/1.28	1.34/1.24	0.64/1.28	2.56/2.88	3.06/3.53	3.94/3.73	2.91/2.35	2.2/1.97	1.78/1.57	1.65/1.6	0.86/1.06	2.61/3.35	2.64/1.42	0.75/0.25	0.06/0.98	1.78/2.13
Θ(37.5°)	1.76/2.4	2.56/2.69	2.92/2.97	2.79/2.4	1.69/1.5	2.01/1.89	1.96/2.16	2.77/2.66	3.83/3.1	2.39/1.65	0.84/1.09	2.07/2.73	3.04/3.4	3.61/2.99	2/1.9	2.36/2.4	2.02/1.48	1.22/1.84	2.29/2.13	2.31/3.15	3.06/2.12	1.38/0.57	-0.24/0.24	0.94/1.44
Θ(45°)	1.42/2.39	1.78/1.12	1.27/1.59	2.19/1.9	1.04/1.24	1.73/1.52	1.65/2.21	2.73/3.21	3.07/2.25	1.68/1.51	1.42/1.18	1.52/2.49	3.19/2.49	1.44/1.37	1.33/1.75	2.22/1.94	1.49/1.07	0.58/1.54	2.48/1.84	1.37/1.31	0.79/0.82	0.58/0.44	-1.19/-0.84	0.82/1.2
Θ(52.5°)	1.28/1.68	1.15/0.73	0.7/0.05	-0.01/0.74	-2.42/-1.23	0.66/1.82	1.21/0.91	1.08/1.23	1.82/1.79	1.45/1.23	0.1/0.87	0.01/1.42	2.47/2.42	1.88/2.07	1.84/1.51	1.1/0.27	-1.01/-0.81	-0.46/0.69	1.38/0.68	-0.27/0.2	-0.35/-1.05	-0.21/-0.94	-2.5/-2.01	-0.61/0.59
Θ(60°)	0.38/-0.12	0.41/0.93	1.31/-0.06	-1.27/-1.68	-1.77/-2.69	-2.15/0.89	0.5/-0.62	0.06/0.33	1.57/1.82	1.48/1.29	-1.19/-3.92	-2.66/-0.49	1.17/2.01	1.18/0.87	0.51/0.06	0.59/0.13	-1.99/-3.61	-3.02/-1.65	-1.35/-1.19	-0.89/-0.57	-0.51/-1.78	-0.71/-1.05	-1.1/-1.55	-2.04/-1.07
Θ(67.5°)	-2.03/-2.69	0.03/0.48	0.63/-0.73	-1.69/-1.28	-0.93/-1.8	-3.6/-1.72	-1.31/-1.4	-0.8/-1.02	0.43/0.94	0.82/0.7	-1.08/-3.04	-4.05/-2.4	-1/0.16	0.18/-1.04	-1.57/-1.63	-0.78/-0.77	-1.7/-3.97	-5.01/-2.72	-2.9/-2.58	-1.85/-1.92	-1.23/-2.41	-0.92/-1.08	-0.8/-2.25	-3.53/-2.71
Θ(75°)	-4.47/-3.8	-1.67/-2.17	-1.78/-1.87	-2.66/-2.22	-1.59/-2.29	-3.57/-4.48	-4.3/-4.12	-3.17/-2.75	-1.73/-1.25	-1.47/-0.85	-2.03/-2.9	-5.08/-4.74	-3.27/-1.48	-0.58/-2.42	-3.1/-3.54	-3.07/-2.46	-2.58/-3.85	-6.1/-4.72	-4.63/-3.72	-2.95/-2.88	-2.03/-2.52	-1.67/-2.87	-1.56/-2.75	-4.69/-5.05
Θ(82.5°)	-6.35/-5.67	-3.97/-4.62	-4.4/-3.63	-3.73/-3.48	-3.15/-4.16	-4.91/-7.2	-8.05/-6.31	-5.53/-4.86	-4.18/-4.29	-2.82/-3.06	-4.3/-4.01	-7.04/-7.85	-6.78/-3.07	-2.04/-4.23	-6.16/-6.45	-5.1/-4.62	-3.65/-4.67	-6.92/-6.91	-6.9/-4.63	-4.59/-4.14	-3.68/-3.51	-3.43/-5.17	-2.63/-5.03	-6.3/-6.8
Θ(90°)	-8.89/-7.02	-6.86/-6.39	-7.1/-7.4	-6.28/-5.7	-5.97/-6.15	-7.21/-9.58	-10.52/-9.07	-8.29/-6.51	-7.79/-7.37	-5.22/-5.48	-6.79/-5.13	-9.34/-10.78	-8.97/-5.5	-3.87/-5.58	-7.62/-7.84	-7.07/-7.15	-5.58/-6.26	-8.82/-7.6	-7.5/-7.98	-6.25/-6.06	-6.43/-5.02	-5.37/-7.84	-4.5/-7.25	-8.47/-9.06
Θ(97.5°)	-8.84/-7.91	-8.82/-8.5	-8.83/-8.7	-7.59/-9.3	-8.28/-7.03	-8.85/-10.88	-10.66/-11.05	-10.21/-8.47	-9.71/-9.18	-7.12/-9.59	-8.84/-6.67	-10.94/-10.99	-9.08/-7.67	-6.42/-7.25	-7.91/-7.76	-8.34/-9	-11.75/-10.2	-10.79/-7.75	-10.81/-9.7	-8.37/-7.17	-9.27/-11.39	-6.21/-8.92	-9.76/-9.16	
Θ(105°)	-8.42/-8.94	-10.06/-11.43	-8.28/-9.19	-12.19/-9.49	-9.75/-8.5	-9.51/-12.18	-11.72/-12.1	-11.83/-8.27	-10.73/-10.55	-11.84/-8	-12.34/-10.5	-10.61/-10.97	-7.95/-9.64	-8.74/-10.09	-11.07/-10.24	-10.54/-10.6	-12.11/-12.72	-10.57/-9.82	-11.95/-9.59	-9.9/-9.39	-9.22/-10.44	-7.33/-10.45	-11.11/-11.09	
Θ(112.5°)	-8.58/-10.88	-11.2/-9.12	-9.64/-7.43	-9.58/-9.85	-10.14/-9.13	-11.83/-10.93	-11.05/-12.62	-11.93/-9.37	-10.52/-9.3	-10.09/-11.48	-9.2/-8.61	-11.63/-10.41	-11.81/-10.82	-9.17/-10.37	-9.37/-10.2	-12.4/-10.84	-10.87/-11.32	-11.64/-9.54	-9.97/-12.11	-10.85/-10.31	-10.67/-10.3	-10.81/-10.27	-7.27/-9.41	-10.67/-12.67
Θ(120°)	-9.34/-11.24	-11.71/-10.66	-10.07/-10.28	-11.31/-11.42	-11.02/-9.45	-10.08/-10.89	-12.55/-9.63	-11.65/-10.33	-10.35/-8.72	-12.14/-11.58	-8.81/-8.46	-10.37/-9.54	-10.72/-10.32	-11.03/-11.15	-12.6/-10.51	-11.61/-12.35	-12.62/-12.26	-11.94/-10.15	-10.04/-9.97	-10.13/-11.43	-12.3/-8.87	-11.98/-10.27	-9.28/-9.21	-8.1/-9.61
Θ(127.5°)	-10.16/-9.86	-11.93/-9.54	-9.49/-10.68	-12.73/-11.99	-10.97/-9.52	-10.13/-10.71	-12.39/-11.44	-10.92/-10.96	-11.12/-10.27	-11.98/-11.41	-7.49/-9	-11.73/-10.77	-10.68/-9.81	-12.55/-12.2	-11.14/-10.72	-11.25/-12.39	-12.33/-12.04	-11.32/-11.53	-8.26/-11.51	-10.96/-10.44	-12.43/-7.85	-9.37/-9.88	-12.43/-12.31	-8.96/-10.04
Θ(135°)	-11.22/-8.13	-9.87/-11.73	-10.8/-11.03	-10.65/-10.15	-10.98/-12.34	-11.36/-8.78	-10.59/-11.56	-12.51/-9.22	-10.66/-11.07	-12.12/-11.27	-8.95/-8.93	-11.59/-11.83	-9.56/-10.58	-11.97/-11.46	-9.68/-8.08	-10.58/-12.04	-12.53/-11.93	-10.3/-11.68	-10.49/-11.23	-11.87/-10.29	-10.6/-12.29	-12.77/-9.56	-10.64/-12.69	-10.88/-12.22
Θ(142.5°)	-9.33/-9.13	-10.84/-10.2	-9.63/-11.43	-12.53/-11.74	-12.6/-11.47	-10.1/-10.81	-11.66/-12.17	-12.4/-10.07	-11.42/-11.18	-9.57/-10.1	-9.21/-10.45	-9.31/-10.73	-10.72/-10.16	-10.23/-10.58	-12.1/-12.38	-12.53/-12.69	-11.68/-11.54	-10.78/-11.15	-12.43/-12.12	-10.09/-10.91	-11.22/-12.92	-12.26/-11.27	-11.84/-11.36	
Θ(150°)	-11.55/-10.45	-11.88/-12.79	-11.85/-12.29	-11.73/-11.4	-12.39/-12.17	-11.49/-10.95	-11.77/-12.29	-12.41/-10.49	-10.71/-10.29	-11.43/-12.17	-12.35/-11.44	-10.99/-12.18	-10.92/-12.27	-11.19/-10.77	-11.87/-12.39	-12.28/-12.72	-11.96/-12.3	-11.83/-9.89	-11.97/-11.01	-9.81/-9.34	-9.16/-9.24	-10.44/-10.69	-10.22/-9.57	-11.16/-11.94
Θ(157.5°)	-12.16/-12.53	-11.92/-12.61	-12.7/-12.38	-11.7/-11.15	-11.35/-11.28	-9.8/-9.68	-11.02/-11.78	-11.68/-12.91	-11.85/-11.02	-10.22/-11.52	-12.24/-11.96	-11.53/-10.94	-10.33/-11.58	-11.02/-10.59	-11.88/-12.68	-11.83/-10.54	-10.04/-11.19	-10.04/-9.47	-10.71/-11.85	-11.36/-10.31	-10.8/-11.77	-11.63/-12.02	-10.87/-9.19	-9/-10.68
Θ(165°)	-10.96/-11.36	-11.46/-10.64	-11.08/-12.21	-12.77/-12.61	-12.77/-11.11	-9.76/-10.77	-10.58/-10.01	-9.91/-10.35	-10.29/-9.74	-8.91/-9.83	-11.29/-12.02	-11.52/-10.41	-11.38/-12.71	-12.2/-11.4	-9.7/-9.41	-10.41/-10.3	-10.85/-11.89	-11.42/-11.99	-12.81/-11.22	-9.54/-7.85	-7.36/-8.71	-10.61/-12.17	-12.35/-10.6	-9.45/-9.73
Θ(172.5°)	-12.7/-12.27	-12/-12.02	-12.05/-10.92	-9.7/-9.2	-8.8/-1.82	-8.46/-7.89	-7.51/-8.06	-8.75/-9.26	-9.93/-10.84	-11.66/-11.59	-11.38/-11.84	-11.41/-11.72	-12.74/-13.09	-12.16/-12.15	-11.51/-11.82	-11.47/-11.36	-10.83/-10.25	-10.11/-10.26	-10.01/-9.83	-10.06/-10.65	-11.31/-11.98	-12.36/-12.57	-11.94/-11.99	-11.46/-11.71
Θ(180°)	-8.66/-8.39	-8.32/-9.1	-8.71/-10.14	-10.16/-10.29	-10.22/-10.9	-11.38/-11.57	-11.41/-10.95	-10.95/-10.26	-9.7/-9.6	-9.04/-9.1	-9.26/-9.37	-9.36/-9.33	-9.46/-9.36	-9.56/-10.55	-11.56/-11.5	-11.35/-10.88	-12.38/-11.8	-10.85/-10.84	-10.07/-10.07	-9.64/-9.76	-9.87/-10.17	-10.29/-9.97	-9.82/-9.24	
Freq(Hz)	5.3GPol.	ThetaA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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°)	-0.61/-0.31	-0.13/-0.33	-0.42/-0.55	-0.64/-0.61	-0.43/-0.37	-0.08/0.38	0.64/0.74	0.76/0.81	0.88/0.85	0.43/0.07	-0.31/-0.83	-0.85/-0.81	-0.44/-0.09	0.25/0.24	-0.05/-0.15	-0.17/-0.15	-0.24/-0.09	0.16/0.16	0.13/0.23	0.45/0.63	0.61/0.36	-0.02/-0.27	-0.79/-1.4	-1.27/-0.95
Θ(7.5°)	1.3/1.4	1.32/1.21	0.86/0.4	-0.05/-0.43	-0.67/-0.62	-0.42/0.05	0.59/1.1	1.52/1.51	1.33/1.35	1.21/1.01	0.62/0.19	-0.04/-0.04	0.10/0.44	0.73/0.92	0.93/0.85	0.53/0.52	0.77/1.06	1.33/1.6	1.71/1.8	1.71/1.45	1.18/0.76	0.14/-0.24	-0.32/-0.44	0.31/-0.12
Θ(15°)	1.28/1.59	1.75/1.88	2.03/2.1	1.67/0.64	-0.66/-1.18	-0.88/0.08	0.88/1.37	1.92/2.26	2.31/2.2	1.82/1.37	0.91/0.87	1.19/1.48	1.86/2.4	2.82/3.28	3.22/2.98	2.59/2.27	2.13/2.1	2.14/2.27	2.84/2.25	1.86/1.25	0.51/-0.27	-0.84/-0.75	-0.08/0.66	
Θ(22.5°)	0.76/1.01	1/1.27	1.51/1.71	1.39/0.76	-0.19/-0.8	-0.79/-0.09	0.38/0.45	0.76/1.44	1.76/1.68	1.23/0.81	0.73/0.67	0.72/0.89	1.26/1.63	2.16/2.91	3.34/3.15	2.52/1.88	1.38/1.26	1.27/1.17	1.4/1.71	2.13/2.57	2.67/2.07	1.09/0.16	-1.06/-1.33	-0.94/-0.08
Θ(30°)	2.22/1.71	1.08/1.19	0.92/0.33	0.15/0.7	1.09/0.82	0.26/0.14	0.71/1.63	1.96/1.73	1.47/1.02	0.92/1.11	1.33/1.09	0.52/0.94	2.27/2.72	2.37/1.74	0.97/0.15	-0.61/-0.03	0.79/1.22	1.03/0.81	1.49/2.18	2.51/2.28	1.69/0.61	-0.17/-0.36	0.12/0.49	1.41/2.27
Θ(37.5°)	2.89/2.48	1.97/1.06	0.73/0.54	-0.51/0.19	1.31/1.38	1.21/1.66	2.05/2.16	2.08/1.51	0.92/0.1	-1.01/0.47	1.63/1.53	0.85/1.88	3.32/3.66	2.92/1.5	0.88/0.01	-1.12/-1.48	-0.75/0.47	0.84/0.81	1.55/2.59	2.88/3.11	2.94/1.85	1.02/1.67	1.86/1.56	1.47/2.38
Θ(45°)	1.92/1.93	1.81/1.47	1.53/2.41	2.14/1.46	2.47/2.83	1.99/1.44	1.92/34	2.03/1.91	2/1.91	1.82/3.15	4.34/0.41	3.17/2.66	3.23/3.29	2.08/1.63	2.69/3.01	2.71/2.1	0.95/0.5	0.36/1.11	1.62/2.26	2.58/3.28	3.93/3.74	3.09/3.15	3.42/8.1	2.23/1.63
Θ(52.5°)	3.49/3.41	2.76/1.82	1.69/3.07	3.21/1.81	3.1/3.68	2.54/1.52	1.64/1.89	1.64/1.51	2.19/2.49	2.65/3.67	4.64/6.61	4.19/3.62	3.59/3.64	3.26/2.56	2.54/2.95	2.54/2.56	1.41/1.75	1.31/0.41	1.01/2.02	2.49/3.02	3.75/3.73	2.63/2.52	2.77/2.53	3.14/2.99
Θ(60°)	4.94/4.48	3.77/3.02	2.31/3.23	4.28/3.76	3.96/4.15	3.13/2.94	3.15/2.71	2.24/2.27	2.47/2.99	2.89/3.52	3.71/4.22	4.69/4.79	4.99/4.47	4.45/3.83	2.71/2.76	2.48/2.66	1.62/2.83	2.72/1.59	1.61/2.41	2.85/2.7	3.68/4.05	3.07/2.92	2.88/2.61	4.05/4.58
Θ(67.5°)	4.91/4.73	4.09/3.03	2.59/3.91	5.11/4.98	4.44/4.43	3.44/0.64	4.38/3.28	2.59/2.6	3.49/3.86	3.93/3.97	3.64/2.22	4.77/5.25	5.46/4.1	4.35/4.07	3.13/2.73	2.91/3	1.93/3.4	3.88/2.39	2.44/3.3	3.43/0.9	4.14/4.52	3.49/3.19	3.09/2.97	4.05/4.7
Θ(75°)	3.84/0.49	3.62/2.62	2.17/3.42	4.79/4.91	3.86/3.76	2.61/3.54	4.74/3.99	2.58/2.74	3.76/3.65	4.38/3.75	3.29/4.12	4.16/4.81	4.78/3.1											



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

Θ(67.5°)	-6.05/-4.55	-4.01/-2.88	-2.19/0.17	-1.68/-0.79	-2.52/-2.46	-3.78/-4.21	-2.66/-2.13	-1.01/-1.58	-2.11/-2.01	-1.07/-2.8	-5.4/-5.79	-8.56/-6.11	-3.4/-1.17	-0.17/-1.05	-0.31/0.36	-0.4/-1.77	-3.16/-3.6	-4.03/-6.55	-6.78/-4.64	-3.66/-2.5	-3.36/-4.99	-2.13/-1.07	-3.62/-2.97	-3.77/-2.84
Θ(75°)	-6.77/-8.22	-3.3/-5.22	-4.22/-1.19	-2.48/-1.14	-1.67/-1.4	-4.28/-5.43	-5.39/-5.74	-3.4/-4.45	-4.65/-4.33	-2.87/-3.98	-4.43/-5.6	-7.49/-9.69	-6/-3.96	-1.62/-3.6	-3.77/-1.53	-1.18/-2.27	-2.14/-2.24	-5.56/-7.97	-6.62/-5.81	-3.97/-4.48	-3.16/-5.21	-2.68/-0.95	-4.67/-1.97	-4.15/-5.47
Θ(82.5°)	-7.64/-9.59	-4.19/-7.67	-5.31/-2.95	-5.13/-2.66	-3.03/-3.7	-5.07/-6.8	-7.93/-8.49	-7.53/-8.87	-6.61/-4.19	-5.27/-4.85	-4.3/-5.66	-8.11/-10.33	-8.66/-6.8	-3.45/-5.77	-5.78/-5.44	-3.97/-3.18	-2.49/-2.83	-5.93/-8.42	-7/-6.91	-6.13/-7.19	-3.16/-4.52	-4.37/-2.46	-6.14/-1.65	-4.46/-6.44
Θ(90°)	-8.15/-12.2	-5.35/-8.64	-8.05/-4.97	-5.9/-5.45	-6.43/-6.74	-5.54/-7.42	-9.95/-9.56	-9.23/-9.68	-7.81/-5.73	-4.99/-6.15	-5.94/-7.04	-8.84/-8.81	-10.58/-9.49	-5.05/-7.33	-10.43/-7.32	-6.34/-6.32	-5.91/-5.19	-6.16/-8.69	-8.56/-9.46	-7.88/-9.59	-4.02/-4.15	-6.6/-5.52	-9.19/-4.29	-7.13/-7.37
Θ(97.5°)	-6.94/-12.37	-5.68/-7.51	-8.44/-7.04	-7.68/-6.43	-8.26/-9.55	-7.41/-9.45	-10.13/-10.74	-11.34/-9.94	-8.44/-6.46	-6.29/-7.29	-6.94/-8.19	-10.3/-9.85	-11.26/-8.53	-6.49/-7.79	-12.53/-9.63	-7.64/-8.18	-7.77/-8.81	-7.77/-8.02	-11.35/-9.28	-7.64/-10.97	-8.49/-6.04	-9.33/-6.56	-9.8/-5.63	-8.7/-6.99
Θ(105°)	-7.25/-11.34	-8.95/-6.86	-7.96/-8.09	-8.62/-7.48	-9.86/-9.86	-9.41/-10.74	-10.19/-12.1	-11.24/-9.87	-8.66/-8.71	-7.28/-7.31	-8.22/-9.09	-11.93/-8.92	-12.65/-9.91	-7.54/-7.85	-12.48/-11.75	-9.05/-8.56	-9.98/-11.14	-11.11/-9.35	-11.52/-12.45	-10.66/-10.69	-9.27/-7.28	-10.52/-8.76	-7.99/-8.82	-9.43/-8.32
Θ(112.5°)	-9.74/-10.02	-10.79/-7.55	-7.05/-7.16	-8.75/-8.92	-10.48/-11.3	-10.84/-11.32	-11.51/-12.39	-12.69/-11.83	-9.13/-9.42	-10.48/-7.45	-9.22/-9.09	-11.84/-8.86	-10.55/-10.13	-9.8/-9.29	-10.69/-11	-8.89/-9.63	-9.12/-9.86	-12.56/-11.86	-10.12/-10.78	-12.2/-11.58	-9.2/-8.09	-9.19/-8.3	-6.49/-7.65	-7.91/-8.16
Θ(120°)	-8.85/-8.67	-10.34/-9.78	-9.5/-10.88	-11.93/-12.55	-8.87/-7.19	-10.99/-12.43	-10.77/-11.61	-10.25/-12.72	-11.44/-8.88	-9.9/-8.74	-11.1/-7.36	-11.25/-9.21	-9.69/-7.74	-10.51/-12.05	-11.29/-8.25	-9.88/-7.66	-11.74/-12.21	-9.32/-10.88	-9.97/-10.74	-7.11/-8.79	-8.06/-10.33	-7.58/-8.94	-9.58/-8.01	
Θ(127.5°)	-9.17/-11.08	-10.21/-9.29	-10.49/-10.81	-9.31/-10.07	-8.14/-10.22	-9.25/-7.67	-8.97/-10.65	-9.39/-9.78	-12.4/-9.49	-9.53/-8.67	-9.54/-7.78	-12.4/-9.14	-11.23/-7.1	-8.99/-11.99	-9.92/-11.02	-11.11/-9.08	-9.16/-12.47	-9.8/-10.77	-8.78/-12.19	-8.87/-11.24	-6.83/-11.6	-7.92/-11.56	-9.06/-11.06	-8.44/-9.52
Θ(135°)	-10.98/-11.35	-8.29/-8.12	-11.75/-8.74	-7.5/-11.64	-10.42/-9.4	-7.46/-10.49	-11.92/-8.79	-12.23/-9.51	-11.69/-11.66	-11.04/-8.8	-10.01/-8.87	-11.33/-10.84	-9.4/-8.96	-11.12/-9.94	-9.35/-10.18	-9.25/-10.82	-9.72/-10.85	-9.38/-9.41	-7.77/-12.42	-7.69/-9.72	-11.23/-8.61	-8.81/-9.07	-11.3/-11.8	-7.59/-9.74
Θ(142.5°)	-9.43/-9.42	-11.04/-9.66	-8.12/-8.33	-7/-8.86	-10.87/-11.85	-11.38/-11.84	-11.42/-11.03	-12.29/-11.72	-8.74/-9.52	-10.55/-9.45	-11.45/-10.03	-12.46/-9.06	-8.02/-9.36	-8.8/-9.18	-11.63/-10.53	-11.63/-12.21	-12.47/-11.02	-9.52/-10.94	-9.32/-9.69	-8.84/-12.04	-12.41/-8.66	-8.94/-8.97	-7.52/-7.92	-9.08/-11.91
Θ(150°)	-10.38/-9.79	-9.14/-10.69	-11.82/-12.49	-11.49/-8.37	-9.82/-11.65	-7.83/-6.83	-9.74/-10.77	-9.28/-12.94	-11.12/-8.74	-9.97/-11.49	-12.62/-12.46	-11.43/-9.4	-7.16/-8.82	-9.72/-8.18	-8.61/-10.44	-12.39/-10.89	-12.4/-12.06	-10.33/-8.74	-9.34/-11.16	-9.67/-8.77	-8.72/-9.41	-10.22/-10.01	-9.23/-9.5	-10.28/-9.15
Θ(157.5°)	-11.16/-12.44	-11.69/-11.47	-12.3/-12.47	-10.64/-9.27	-10.33/-10.35	-7.62/-7.2	-8.33/-8.69	-8.68/-10.44	-10.45/-10.27	-11.66/-11.48	-11.88/-11.6	-9.11/-7.63	-7.35/-11.3	-12.81/-9.3	-9.08/-10.35	-11.38/-10.72	-11.51/-12.29	-12.63/-11.48	-11.59/-8.87	-7.27/-6.8	-7.17/-8.21	-9.07/-8.28	-8.74/-9.12	-9.07/-9.59
Θ(165°)	-9.8/-9.64	-10.41/-10.38	-10.57/-9.43	-7.89/-7	-7.15/-8.65	-9.22/-10.21	-10.78/-11.47	-11.06/-10.34	-9.37/-9.76	-9.41/-8.33	-8.72/-10.87	-10.99/-10.8	-10.1/-11.26	-10.82/-9.05	-7.29/-6	-5.7/-7.05	-9.96/-11.18	-10.78/-9.52	-9.62/-9.72	-10.29/-10.55	-11.87/-12.17	-11.48/-11.21	-11.22/-11.17	-12.1/-10.96
Θ(172.5°)	-8.87/-9.78	-9.67/-10.69	-9.84/-9.33	-9.38/-8.93	-8.62/-9.21	-9.44/-9.76	-9.64/-8.46	-8.15/-8.86	-10.28/-10.52	-10.88/-10.8	-11.01/-10.34	-9.25/-8.89	-9.21/-9.74	-10.84/-10.81	-10.6/-10.85	-11.24/-11.01	-10.64/-10.39	-10.8/-10.34	-10.67/-11.11	-9.16/-7.47	-6.51/-6.39	-6.09/-6.13	-6.71/-7.24	-7.47/-7.72
Θ(180°)	-9.35/-10.48	-10.91/-10.38	-9.68/-9.75	-10.07/-10.04	-10.03/-9.75	-10.19/-9.61	-8.33/-8.18	-7.95/-7.92	-7.33/-6.64	-6.52/-6.37	-6.39/-7.33	-7.89/-8.61	-8.96/-9.07	-9.58/-10.09	-9.14/-10.8	-12.22/-11.96	-12.4/-12.38	-12.35/-11.82	-11.4/-10.3	-9.83/-10.4	-9.87/-9.14	-9.34/-9.35	-9.3/-9.18	-9/-8.31
Freq(Hz)	5.855GPol.	Theta-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	0.42/0.9	1.161/1.27	1.121/1.14	1.120/82	0.50/32	-0/-0.45	-0.66/-0.44	-0.14/0.08	-0.06/-0.18	-0.35/-0.52	-0.7/-0.69	-0.19/0.17	0.53/0.73	1.021/0.6	1.171/1.11	0.71/0.39	0.12/0.01	0.06/-0.14	0.12/0.04	0.12/0.09	-0.05/-0.18	-0.67/-1.39	-1.99/-1.82	-1.33/-0.31
Θ(7.5°)	0.63/0.89	1.01/0.97	0.69/0.48	0.21/-0.09	-0.4/-0.44	-0.22/-0.05	0.17/0.38	0.57/0.82	0.84/0.52	0.15/-0.36	-0.10/-0.82	-0.5/0.04	0.661/1.14	1.36/-1.45	1.61/-1.82	1.82/-1.59	0.61/1.07	0.55/0	-0.16/-0.2	-0.22/-0.11	0.26/0.05	-0.05/-0.02	0.11/0.41	
Θ(15°)	1.221/1.37	1.581/1.59	1.07/0.61	0.0/-0.07	0.4/0.04	0.36/1.06	1.82/1.59	2.54/2.25	1.78/1.24	1.01/0.03	1.35/-1.53	1.67/1.72	1.54/1.24	1.16/1.42	1.56/1.56	1.21/0.84	0.75/-1.29	1.84/2.28	2.21/1.61	0.74/-0.15	-0.94/-1.2	-0.65/-0.05	0.50/0.99	
Θ(22.5°)	2.77/3.24	3.43/2.2	2.82/2.37	1.83/0.9	-0.29/-0.82	-0.11/1.11	2.19/2.75	2.84/2.41	1.18/0.26	0.37/0.75	1.11/1.78	2.58/2.81	2.96/3.03	3.04/2.67	1.81/1.68	2.27/2.42	2.12/2.59	3.17/3.57	3.98/4.16	4.06/3.32	2.07/0.88	0.88/1.25	1.11/1.2	1.81/2.29
Θ(30°)	1.37/2.14	2.73/2.83	1.93/1.08	0.98/0.19	-0.83/-0.89	-0.15/1.02	1.33/0.93	1.63/2.43	1.71/0.14	-0.02/5	0.65/-1.59	3.12/3.28	1.84/0.91	1.69/2.6	1.98/1.02	1.23/0.59	0.06/0.37	0.61/1.1	1.41/1.75	2.33/2.43	1.96/1.68	1.89/1.43	0.57/0.25	1.06/0.04
Θ(37.5°)	3.33/25	2.55/2.07	0.57/-0.9	-0.13/-1	-1.31/0.4	0.36/1.06	1.82/1.59	2.54/2.25	1.78/1.24	1.01/0.03	1.35/-1.53	1.67/1.72	1.54/1.24	1.16/1.42	1.56/1.56	1.21/0.84	0.75/-1.29	1.84/2.28	2.21/1.61	0.74/-0.15	-0.94/-1.2	-0.65/-0.05	0.50/0.99	
Θ(45°)	4.08/5.21	4.78/2.71	1.89/2.34	2.91/1.93	1.34/2.34	2.73/2.79	2.65/2.83	2.49/2.61	3.13/1.59	1.35/2.73	2.73/2.99	3.27/3.91	4.78/5.06	4.37/3.6	4.14/0.2	2/-0.03	0.44/0.5	1.12/3.14	3.69/2.89	2.52/3.05	3.92/3.33	2.94/3.28	4.02/3.66	3.14/3.57
Θ(52.5°)	3.67/4.3	5.2/96	3.19/4.49	5.05/4.72	4.11/4.44	3.66/2.8	3.21/4.31	3.76/3.77	4.89/4.01	4.58/4.76	4.36/4.52	4.41/5.13	5.21/4.66	4.05/4.56	5.47/5.44	3.93/2.58	2.71/2.19	1.52/2.53	3.01/1.7	2.25/4.02	5.01/4.35	4.1/8.34	3.48/3.2	3.53/4.08
Θ(60°)	3.91/3.76	5.55/5.24	3.71/4.86	5.49/6.06	4.64/3.77	3.73/2.36	3.24/43	4.98/4.81	4.31/3.97	5.49/5.16	4.43/3.97	5.11/5.6	4.14/32	4.46/4.1	4.14/59	3.62/3.56	2.28/2.08	2.17/3	1.79/1.74	2.55/4.11	5/4.42	5/5.43	4.23/3.67	4.71/4.61
Θ(67.5°)	4.18/3.99	5.86/6.24	4.47/5.46	6.31/7.23	5.32/3.7	4.99/4.88	4.95/5.25	6.28/6.68	4.51/4.08	5.71/5.09	4.55/3.15	4.99/4.87	3.07/4.12	4.82/5.05	4.97/4.99	4.14/4.06	3.37/3.14	3.54/4.7	3.3/0.2	3.73/3.9	4.35/5.23	6.19/6.59	5.93/5.47	6.37/5.34
Θ(75°)	3.48/3.94	5.74/5.8	3.92/5.12	6.79/7.18	5.24/3.22	5.18/5.68	5.58/5.23	6.17/0.2	5.07/4.12	5.22/4.79	4.76/2.71	4.37/4.2	3.24/7.72	4.39/5.2	4.87/4.71	4.36/4.92	3.85/3.66	3.81/5.34	4.03/3.88	4.61/4.16	3.89/5.35	6.24/5.95	5.55/3.3	5.64/4.73
Θ(82.5°)	2.4/3.04	4.27/3.64	2.38/4.2	5.72/5.71	4.19/2.29	4/4.83	5.04/4.22	4.56/5.92	4.34/3.62	3.73/3.33	3.61/1.65	2.95/3.22	2.57/4.22	3.51/4.36	3.71/3.07	3.78/4.52	4.14/4	4.05/3.92	4.53/4.09	3.01/4.71	4.96/4.47	4.24/4.3	3.86/3.16	
Θ(90°)	0.4/0.98	1.51/0.46	-0.71/1.71	3.47/3.38	2.52/0.98	1.89/2.98	3.36/2.44	3.06/3.76	3.14/1.84	0.33/1.54	2.29/-0.7	1.03/1.54	1.01/0.34	1.58/2.89	2.04/0.49	0.99/3.04	3.61/2.91	3.52/7	1.49/2.98	2.66/1.98	2.58/2.56	2.21/0.81		
Θ(97.5°)	-2.53/-1.58	-1.49/-2.66	-2.5/-0.07	1.2/1.01	0.63/-1.62	-0.7/0.86	1.46/0.88	1.11/1.26	1.72/-0.54	-3.03/-0.25	0.43/-1.15	-0.75/0.67	-0.74/-1.12	-0.05/0.9	-0.07/-2.5	-1.71/-0.06	1.45/-0.76	0.31/1.35	0.76/0.58	0.48/-0.68	-0.79/0.82	0.35/0.04	-0.4/0.11	0.91/0.03
Θ(105°)	-3.01/-1.09	-2.23/-9.22	-5.34/-2.38	-1.24/0.19	-0.18/-2.84	-2/-1.21	-1.56/-1.11	-1.61/-0.38	0.51/-2.86	-4.42/-2.73	-1.76/-3.77	-2.84/-0.77	-1.77/-3.74	-1.54/-0.57	-2.99/-3.87	-6.03/-3.59	-1.38/-4.1	-3.75/-2.06	-2.01/-3.86	-2.42/-5.07	-4.78/-2.51	-1.77/-1.78	-3.18/-2.15	0.45/-0.66
Θ(112.5°)	-3.38/-0.18	-0.48/-1.69	-7.4/-1.79	0.09/0.41	-2.76/-7.87	-4.19/-4.92	-2.82/-1.04	-2.59/-0.48	-1.55/-5.8	-3.52/-3.36	-4.53/-5.28	-5.14/-1.99	-2.56/-4.84	-2.09/-2.59	-4.65/-5.61	-5.35/-4.97	-5.02/-5.89	-5.22/-3.48	-5/-5.26	-6.46/-7.49	-4.83/-3.06	-2.06/-2.51	-3.68/-3.83	-2.47/-1.41
Θ(120°)	-5.17/-2.84	-1.29/-2.97	-7.3/-6.04	-5.29/-5.91	-6.07/-9.2	-6/-4.12	-1.36/-2.42	-4.1/-1.96	-7.74/-6.88	-5.28/-5.43	-9.05/-8.27	-7.42/-3.21	-3.4/-6.5	-3.32/-5	-4.56/-6.38	-7.78/-5.12	-10.06/-4.82	-5.01/-3.89	-3.32/-3.73	-3.98/-6.3	-6.98/-4.34	-5.72/-4.5	-3.36/-6.26	-7.06/-3.55
Θ(127.5°)	-5.4/5.13	-4.49/-7.71	-7.03/-8.17	-7.67/-7.																				



Sporton International Inc.



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

Θ(22.5°)	-4.46/-4.21	-3.14/-2.48	-3.16/-5.03	-8.08/-11.11	-13.98/-17.64	-15.76/-10.95	-8.95/-8	-6.63/-5.47	-4.37/-3.21	-2.44/-2.28	-2.55/-2.91	-2.93/-2.51	-2.24/-2.35	-2.81/-3.83	-5.58/-7.19	-8.02/-7.82	-6.16/-3.98	-2.22/-1.45	-1.66/-4.31	-3.28/-3.82	-4.33/-6.63	-4.14/-3.59	-3.62/-3.18	-2.95/-3.22
Θ(30°)	-3.25/-4.36	-4.68/-4.5	-4.88/-6.84	-9.15/-9.69	-11.45/-14.39	-16.22/-14.24	-11.47/-8	-5.39/-3.62	-1.75/-1.29	-0.84/-0.58	-1.33/-2.04	-1.77/-2.42	-3.19/-3.46	-3.6/-6.68	-6.5/-8.77	-8.48/-9.1	-8.38/-5.79	-3.9/-3.75	-4.84/-5.43	-3.88/-1.98	-1.39/-1.53	-2.02/-2.82	-3.59/-3.25	-2.93/-2.98
Θ(142.5°)	-2.37/-2.92	-3.77/-3.75	-4.19/-6.56	-8.78/-10.22	-14.29/-17.29	-18.02/-18.74	-8.94/-5.86	-3.54/-1.13	0.51/0.63	0.29/0.04	-0.65/-1.29	-0.79/-1.46	-2.42/-2.61	-3.38/-5.87	-9.22/-10.59	-10.02/-9.34	-6.88/-4.1	-3.75/-4.5	-2.81/-2.98	-2.25/-1.11	-0.28/-0.07	-0.22/-0.75	-2.15/-3.57	-3.98/-3.64
Θ(45°)	-4.04/-3.16	-3.35/-5.47	-5.93/-8.81	-9.98/-10.94	-16.27/-17.83	-18.98/-13.47	-6.62/-4.46	-3.11/-1.11	0.40/7.2	0.28/-0.21	-1.13/-3.04	-2.64/-2.05	-1.91/-2.78	-3.2/-3.84	-5.56/-6.38	-6.5/-6.79	-5.33/-3.87	-4.41/-4.26	-3.23/-5.07	-8.69/-7.82	-4.34/-2.92	-3.03/-3.09	-4/-5.65	-3.47/-2.92
Θ(52.5°)	-5.18/-5.78	-5.3/-7.22	-10.05/-18.2	-14.14/-17.07	-17.2/-18.61	-18.99/-7.78	-5.4/-4.85	-3.48/-1.16	0.43/-0.78	0.5/-0.27	-2.03/-4.46	-4.77/-3.48	-3.38/-3.13	-2.39/-3.56	-5.31/-7.71	-8.51/-9.38	-8.06/-6	-6.49/-5.47	-4.5/-7.55	-8.07/-5.97	-4.12/-4.63	-4.78/-5.09	-6.96/-6.1	-3.72/-2.64
Θ(60°)	-5.48/-7.22	-7.65/-8.07	-9.16/-11.89	-18.15/-12.39	-14.42/-16.41	-19.13/-10.27	-6.41/-6.66	-4.45/-2.27	-0.27/0.28	-0.42/-1.33	-3.18/-6.82	-7.1/-4.8	-6.62/-2.96	-3.97/-4.67	-5.05/-8.15	-5.36/-12.36	-15.44/-11.36	-12.62/-9.5	-7.4/-9.09	-7.71/-5.87	-4.52/-4.03	-3.48/-2.7	-1.93/-2.53	-3.17/-3.38
Θ(67.5°)	-7.57/-8.07	-7.4/-5.82	-6.76/-9.27	-18.65/-14.14	-16.56/-17.82	-18.21/-12.4	-7.59/-7.24	-4.27/-3.34	-1.63/-0.88	-1.63/-3.11	-6.07/-8.41	-8.36/-6.61	-4.93/-3.94	-3.84/-6.22	-8/-10.35	-10.82/-16.74	-18.88/-16.71	-17.73/-11.67	-9.67/-9.86	-9.56/-8.6	-6.63/-4.69	-3.63/-2.44	-1.28/-2.03	-2.61/-4.29
Θ(75°)	-11.74/-6.78	-7.87/-6.53	-8.09/-8.25	-14.89/-14.03	-16.71/-18.61	-15.92/-17.98	-11.51/-8.75	-5.24/-6.21	-4.76/-3.43	-4.58/-6.91	-10.88/-12.16	-9.14/-8.87	-5.52/-5.22	-5.96/-8.19	-9.86/-10.38	-11.78/-14.44	-17.24/-18.56	-18.23/-12.97	-12.25/-9.4	-10.5/-10.72	-9.19/-5.14	-5.14/-5.6	-2.62/-2.69	-3.67/-6.92
Θ(82.5°)	-14.99/-7.16	-8.72/-7.26	-9.99/-10.24	-12.73/-13.77	-16.4/-18.85	-17.39/-17.99	-11.59/-11.17	-7.54/-9.85	-7.43/-5.74	-7.22/-8.96	-17.37/-12.66	-11.32/-10.94	-7.27/-7.16	-7.79/-11.38	-13.91/-12.23	-12.04/-14.32	-17.33/-18.22	-17.82/-15.86	-17.08/-11.02	-10.64/-10.7	-13.01/-6.83	-7.66/-8.99	-4.38/-5.31	-6.1/-10.32
Θ(90°)	-18.21/-7.75	-11.5/-9.74	-12.01/-11.06	-13.91/-13.71	-17.22/-18.14	-18.51/-19.02	-16.18/-13.36	-10.06/-15.15	-11.52/-8.69	-11.08/-13.24	-18.62/-13.74	-11.97/-14.16	-9.97/-10.49	-11.02/-13.67	-16.16/-12.72	-14.29/-15.25	-13.95/-18.86	-17.98/-17.57	-18.67/-17.51	-11.84/-11.05	-18.68/-8.11	-10.66/-15.64	-7.14/-9.75	-9.43/-12.09
Θ(97.5°)	-15.96/-8.82	-12.46/-13.32	-15.17/-12.22	-13.35/-17.81	-17.73/-18.78	-18.57/-18.19	-14.06/-15.74	-13.68/-18.71	-14.9/-11.3	-14.73/-18.48	-18.68/-14.2	-15.41/-14.3	-11.34/-12.96	-17.02/-17.71	-17.35/-13.68	-13.33/-17.64	-14.13/-18	-18.22/-14.23	-16.63/-15.77	-18.71/-14.08	-17.41/-12.66	-16.57/-18.86	-9.78/-12.89	-13.87/-12.68
Θ(105°)	-14.76/-10.62	-11.49/-19.09	-12.22/-11.42	-18.13/-16.74	-17.51/-18.58	-19.06/-19.04	-18.64/-17.54	-17.14/-17.52	-14.49/-12.8	-17.07/-18.69	-18.41/-14.12	-15.61/-16.83	-15.17/-18.81	-17.91/-18.96	-18.07/-18.91	-16.25/-15.13	-15.56/-17.01	-18.63/-19.02	-18.18/-15.66	-18.25/-14.02	-14.61/-19.22	-18.48/-17.07	-12.48/-13.46	-17.46/-16.1
Θ(112.5°)	-11.65/-15.21	-16.02/-13.25	-18.99/-10.7	-16.98/-19.15	-17.94/-18.42	-18.14/-18.69	-18.48/-19.25	-18.9/-16.78	-17.52/-17.35	-18.66/-19.1	-14.16/-13.3	-19.19/-17.62	-19.07/-18.65	-18.23/-19.38	-17.65/-18.58	-17.51/-16.44	-12.54/-18.45	-17.51/-13.83	-12.87/-16.82	-17.63/-15.15	-13.45/-18.59	-19.11/-18.34	-12.88/-15.76	-18.79/-18.69
Θ(120°)	-12.81/-14.73	-15.99/-13.33	-18.94/-16.5	-19.26/-17.15	-17.76/-17.27	-18.63/-17.65	-18.01/-19.16	-19.01/-15.17	-17.86/-17.94	-18.61/-16.56	-15.54/-13.83	-18.03/-18.44	-18.16/-17.82	-19.02/-17.65	-17.97/-16.18	-18.97/-18.38	-18.72/-18.72	-19.35/-18.86	-12.92/-15.78	-15.92/-18.28	-17.53/-18.92	-19.21/-17.54	-15.83/-15	-15.23/-14.12
Θ(127.5°)	-15.27/-11.75	-18.52/-13.21	-18.34/-16.78	-18.89/-18.96	-18.86/-17.53	-18.11/-17.76	-17.82/-17.57	-18.65/-17.99	-18.72/-19.15	-18.96/-15.67	-12.13/-17.06	-18.98/-19.38	-19.25/-18.87	-18.26/-17.49	-17.74/-18.61	-19.41/-18.32	-18.68/-17.51	-15.56/-16.84	-16.29/-19.24	-13.78/-17.62	-18.44/-18.2	-13.73/-14.6	-17.68/-17.82	-10.94/-11.79
Θ(135°)	-17.81/-9.3	-14.24/-19.18	-14.58/-16.69	-18.46/-18.95	-18.18/-17.98	-19.09/-18.74	-19.2/-17.41	-18.52/-15.59	-18.56/-18.86	-19.27/-15.13	-12.31/-17.01	-18.55/-16.99	-17.92/-18.22	-19.05/-19.47	-18.85/-18.03	-18.56/-18.18	-18.73/-19	-17.7/-18.22	-16.88/-19.12	-17.27/-18.07	-18.25/-18.56	-19.16/-13.29	-14.71/-18.38	-16.04/-17.5
Θ(142.5°)	-18.46/-12.22	-15.36/-18.49	-18.41/-17.34	-18.9/-18.59	-18.99/-19.06	-18.03/-17.13	-18.9/-18.37	-19.17/-15.15	-19.39/-17.73	-14.19/-15.15	-15.14/-17.66	-17.7/-19.05	-17.69/-17.33	-18.1/-17.39	-18.63/-18.99	-18.57/-17.97	-18.24/-18.27	-17.86/-17.73	-18.16/-18.14	-18.17/-18.72	-18.52/-17.56	-15.13/-14.43	-18.17/-18.47	-15.06/-17.72
Θ(150°)	-18.88/-18.46	-17.52/-19.36	-18.14/-18.96	-18.37/-18.58	-18.39/-18.61	-17.49/-15.48	-19.2/-18.07	-19.14/-16.22	-14.26/-14.77	-16.23/-18.37	-17.95/-17.67	-16.93/-18.8	-17.53/-19.26	-14.25/-17.74	-17.79/-15.55	-17.57/-18.09	-17.54/-16.55	-17.22/-18.02	-14.13/-12.19	-13/-15.3	-17.59/-18.02	-17.67/-16.31	-17.34/-16.75	
Θ(157.5°)	-18.94/-18.32	-17.77/-18.81	-18.53/-18.61	-17.36/-18.01	-18.55/-18.76	-18.3/-18.93	-16.87/-15.74	-16.36/-19.19	-18.39/-18.12	-18.73/-19.31	-18.83/-18.34	-16.78/-18.35	-18.41/-17.68	-13.5/-13.36	-16.55/-18.54	-17.21/-14.81	-16.31/-18.76	-13.57/-12.36	-15.01/-18.14	-19.09/-16.51	-15.55/-19.29	-18.92/-18.94	-13.93/-11.5	-11.81/-13.47
Θ(165°)	-18.26/-17.74	-16.46/-16.17	-18.09/-19.81	-18.73/-19.01	-18.53/-18.51	-17.6/-18.81	-18.57/-18.11	-16.61/-16.87	-16.65/-18.14	-18.37/-19.05	-16.43/-15.47	-15.29/-16	-18.31/-18.81	-18.87/-18.68	-17.52/-17.71	-18.87/-17.12	-18.66/-15.81	-15.41/-16.8	-18.98/-17.98	-17.98/-12.08	-10.07/-10.82	-13.1/-17.09	-18.02/-16.66	-18.83/-17.74
Θ(172.5°)	-19.65/-18.87	-18.12/-17.8	-16.58/-15.12	-14.02/-14.32	-15.12/-15.98	-17.42/-14.57	-15.5/-17.18	-19.07/-18.52	-17.38/-16.95	-18.3/-18.88	-18.21/-18.88	-17.82/-17.23	-18.29/-19.42	-17.65/-18.24	-17.27/-17.36	-18.47/-17.35	-17.64/-19.07	-17.95/-17.9	-18.51/-17.14	-16.62/-17.58	-17.23/-18.05	-18.15/-19.32	-18.38/-17.98	
Θ(180°)	-13.4/-12.89	-13.57/-13.62	-13.19/-12.47	-11.84/-11.91	-12.42/-13.77	-16.3/-17.84	-19.04/-18.38	-17.68/-18.12	-18.97/-19.11	-18.53/-18.67	-19.07/-17.62	-16.64/-16.66	-15.97/-15.47	-15.55/-16.58	-18.29/-17.33	-15.93/-15.45	-15.95/-17.31	-18.17/-18.43	-18.45/-18.8	-18.21/-19.25	-18.27/-18.74	-18.04/-18.64	-18.93/-16.21	-14.81/-14.03
Freq[Hz]	5.3GPol.	ThetaAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-7.7/-7.19	-6.68/-6.09	-5.41/-4.84	-4.48/-4.45	-4.15/-4.22	-4.04/-3.54	-3.61/-4.61	-6.09/-6.76	-6.83/-7.86	-10.14/-11.42	-11.38/-11.08	-10.15/-9.07	-8.47/-7.22	-6.32/-5.7	-5.21/-4.84	-4.71/-4.61	-4.6/-4.52	-4.63/-4.73	-5.07/-6.09	-6.71/-6.83	-7.19/-8.11	-8.73/-8.36	-9.39/-10.52	-9.2/-8.74
Θ(7.5°)	-8.29/-6.9	-8.88/-8.14	-7.36/-6.48	-5.72/-5.32	-4.91/-4.67	-4.24/-3.38	-2.66/-2.53	-2.64/-3.27	-4.1/-4.47	-5.16/-6.53	-8.61/-9.3	-9.44/-8.66	-8.1/-6.64	-5.15/-3.99	-3.18/-4.28	-1.96/-1.53	-1.15/-0.87	-0.9/-0.95	-1.29/-1.97	-3.34/-4.98	-6.17/-7.38	-9.5/-10.99	-12.13/-13.72	-11.96/-9.25
Θ(15°)	-9.32/-10.83	-11.71/-11	-9.14/-6.93	-5.74/-4.89	-4.43/-4.28	-3.99/-3.58	-2.94/-2.68	-2.85/-3.58	-4.49/-5.34	-6.81/-9.36	-12.95/-13.05	-10.33/-7.69	-5.71/-3.9	-2.51/-1.28	-0.45/-0.08	0.08/0.2	0.33/0.54	0.61/0.53	0.37/0.11	-0.76/-1.78	-2.81/-4.07	-6.29/-9.09	-12.78/-15.92	-13.6/-10.29
Θ(22.5°)	-6.37/-6.9	-7.68/-7.27	-6.56/-6.51	-5.45/-5.93	-6.49/-6.29	-6.28/-6.06	-5.72/-5.14	-5.04/-6.23	-8.63/-10.77	-13.89/-16.65	-19/-15.87	-10.81/-7.59	-6.39/-6.02	-5.1/-3.3	-1.76/-0.92	-0.58/-0.67	-0.81/-0.6	-0.42/-0.59	-0.97/-1.31	-1.58/-1.16	-0.42/0.05	-0.37/-1.52	-3.57/-5.91	-4.74/-7.29
Θ(30°)	-7.78/-10.42	-13.29/-10.16	-8.12/-6.34	-5.79/-6.15	-5.62/-5.7	-7.52/-8.42	-7.42/-6.1	-6.53/-8.52	-11.71/-18.39	-18.21/-15.42	-13.12/-11.56	-9.98/-7.05	-4.61/-4.09	-4.16/-4.63	-5.11/-4.71	-3.07/-1.89	-1.17/-0.23	0.48/0.85	1.14/1.07	0.34/-0.71	-1.49/-1.88	-2.63/-3.23	-3.81/-5.37	-5.95/-6.25
Θ(37.5°)	-1.98/-3.61	-6.97/-13.84	-14.41/-8.89	-9.62/-9.27	-7.13/-7.91	-11.61/-13.59	-12.23/-10.31	-10.04/-11.96	-12.36/-15	-18.29/-10.91	-6.64/-5.76	-5.65/-4.75	-4.07/-4.44	-3.55/-3.24	-3.57/-4.71	-4.16/-2.83	-2.85/-2.39	-1.63/-0.63	0.34/0.79	1.06/0.0	-0.79/-0.82	-0.92/-1.36	-1.8/-2.36	-2.93/-2.14
Θ(45°)	-0.66/-2.33	-4.8/-7.49	-10.52/-8.9	-8.73/-13.72	-11.62/-10.54	-12.16/-14.24	-14.25/-11.48	-10.1/-9.46	-8.45/-7.12	-6.3/-4.9	-2.46/-1.35	-1.74/-3.47	-3.37/-3.62	-5.04/-5.24	-4.17/-3.67	-3.83/-4.09	-4.6/-4.6	-4.54/-3.93	-2.84/-2.25	1.58/0.69	0.65/0.66	1.61/1.65	1.18/0.88	0.06/-0.55
Θ(52.5°)	-0.95/-2.53	-4.02/-6.09	-10.1/-6.24	-4.86/-10.06	-9.83/-4.99	-9.09/-8.96	-6.99/-6.51	-8.59/-10.66	-8.18/-5.29	-4.41/-4.38	-2.08/0.75	-0.09/-0.34	-1.19/-2.23	-2.75/-3.89	-4.74/-3.43	-4.3/-4.48	-8.11/-5.37	-4.69/-6	-7.52/-5.73	-2.57/0.62	-0.1/-0.71	0.17/0.61	-0.27/0.01	0.73/-0.64
Θ(60°)	0.06/-1.63	-1.48/-2.14	-4.84/-6.17	-3.58/-6.64	-6.64/-4.99	-7.21/-7.17	-3.46/-3.46	-5.55/-7.77	-7.6/-6.44	-3.64/-4.77	-4.54/-1.97	-0.97/-0.21	-0.24/-3.2	-2.27/-1.26	-4.55/-4.78	-5.34/-4.27	-5.39/-3.06	-2.17/-4.01	6.15/-6.14	-4.77/-3.58	-2.71/-2.1	0.12/1.28	0.79/0.91	2.29/0.93
Θ(67.5°)	0.71/-0.45	-0.32/-0.97	-2.78/-2.95	-2.87/-6.03	-6.65/-3.6	-6.72/-6.1	-3.28/-4.36	-5.67/-5.89																



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

Θ(75°)	-13.72/-18.88	-10.05/9.65	-9.27/9.62	-10.83/-14.53	-16.61/-17.09	-19.95/-15.38	-11.29/9.45	-10.2/-9.6	-8.9/-7.46	-5.51/6.64	-12.29/-14.05	-15.04/-17.73	-18.62/-8.73	-5.8/-8.86	-12.13/-11.26	-11.41/-17.65	-18.94/-18.64	-17.95/-15.28	-9.06/-6.51	-9.56/-14.48	-12.16/-12.12	-5.94/-3.78	-5.25/-1.92	-4.27/-7.81
Θ(82.5°)	-14.25/-16.94	-10.31/-10.33	-9.22/-10.61	-11.47/-13.21	-14.52/-18.36	-17.45/-17.86	-13.6/-12.29	-15.34/-14.72	-11.24/-9.53	-8.42/-9.94	-13.7/-14.05	-19.03/-10.3	-18.13/-11.83	-10.65/-15.19	-12.34/-11.65	-10.82/-17.82	-18.68/-18.51	-19.01/-16.74	-11.98/-10.16	-14.85/-18.28	-9.54/-6.63	-8.91/-6.69	-7.93/-3.17	-4.39/-13.65
Θ(90°)	-12.89/-18.89	-8.97/-13.26	-10.08/-10.13	-12.25/-13.4	-15.87/-18.91	-17.82/-17.89	-18.3/-17	-16.67/-16.78	-16.12/-12.98	-10.09/-11.77	-17.29/-14.72	-17.74/-18.05	-17.62/-12.72	-10.58/-18.28	-18.38/-11.99	-9.1/-14.3	-19.07/-17.86	-18.43/-18.5	-13.88/-13.05	-17.23/-17.55	-9.86/-8.24	-11.2/-12.63	-12.87/-16.27	-7.69/-18.96
Θ(97.5°)	-10.93/-18.36	-9.83/-12.63	-12.29/-10.89	-12.56/-14.22	-16.24/-18.11	-19.02/-18.13	-18.13/-18.71	-17.35/-18.04	-16.66/-13.03	-12.47/-17.76	-13.92/-17.71	-17.59/-18.49	-18.54/-12.53	-15.26/-18.6	-19.24/-13.13	-10.89/-14.97	-19.18/-18.55	-19.38/-18.37	-18.29/-11.4	-15.15/-13.27	-16.18/-9	-15.92/-13.95	-14.3/-8.55	-12.22/-18.17
Θ(105°)	-12.14/-14.94	-13.2/-12.54	-12.06/-12.13	-13.21/-15.29	-19.03/-10.72	-18.12/-19.07	-18.6/-16.65	-18.38/-17.4	-17.84/-13.1	-12.29/-18.32	-13.85/-16.83	-19.4/-17.81	-18.78/-12.51	-14.39/-15.93	-17.66/-17.82	-10.27/-13.95	-18.25/-18.63	-18.05/-18.44	-15.4/-15.62	-18.92/-12.21	-16.43/-19.13	-15.3/-16.61	-15.6/-17.2	-15.6/-17.2
Θ(112.5°)	-16.29/-13.76	-16.03/-11.98	-13.17/-12.93	-12.09/-16.51	-19.15/-18.72	-16.16/-18.75	-17.47/-17.81	-18.87/-18.55	-18.08/-14.81	-17.27/-18.28	-11.5/-18.4	-18.62/-18.41	-18.66/-12.61	-15.9/-18.41	-18.12/-17.5	-11.78/-15.14	-15.93/-18.95	-18.7/-17.51	-13.25/-17.61	-18.74/-15.69	-15.75/-18.51	-18.35/-18.28	-15.34/-14.84	-18.51/-12.1
Θ(120°)	-16.29/-11.5	-17.3/-15.31	-14.05/-18.26	-18.98/-18.15	-18.83/-18.51	-18.13/-18.68	-18.16/-18.9	-18.23/-19.16	-16.7/-17.39	-17.69/-15.77	-15.49/-18.5	-17.83/-19.36	-18.7/-13.8	-12.19/-16.3	-16.15/-18.85	-14.58/-16.4	-18.86/-15.77	-18.59/-16.75	-14.97/-14.48	-14.98/-18.34	-11.56/-18.04	-18.84/-16.75	-15.12/-14.93	-18.91/-16.97
Θ(127.5°)	-18.41/-14.67	-14.82/-19	-14.68/-16.39	-17.99/-18.47	-17.63/-17.84	-16.08/-18.5	-17.87/-18.09	-12.88/-18.35	-19.35/-18.52	-17.9/-15.63	-16.73/-18.43	-19.25/-18.01	-16.48/-16.8	-15.51/-17.06	-16.13/-13.47	-18.4/-18.91	-18.24/-18.94	-18.09/-18.96	-15.63/-18.57	-18.7/-15.92	-17.8/-13.95	-16.56/-17.82	-18.58/-18.24	-12.78/-17.68
Θ(135°)	-17.96/-19.13	-12.35/-11.93	-17.9/-10.3	-12.83/-16.37	-18.28/-18.79	-18.03/-18.79	-17.91/-18.41	-18.36/-18.33	-18.74/-18.81	-18.78/-17.53	-17.11/-17.79	-16.5/-19.45	-17.4/-18.51	-17.47/-17.99	-18.42/-16.92	-15.85/-18.34	-18.31/-18.95	-17.89/-14.86	-15.76/-18.83	-18.16/-17.94	-17.99/-18.53	-18.09/-13.17	-17.9/-17.93	-15.26/-18.72
Θ(142.5°)	-12.12/-13.7	-15.17/-13.29	-17.42/-15.57	-10.95/-11.45	-17.6/-18.07	-18.07/-18.23	-18.52/-17.79	-17.83/-18.08	-18.65/-17.87	-18.51/-17.93	-18.35/-18.86	-18.18/-13.3	-13.74/-14.19	-10.67/-12.11	-18.48/-17.92	-16.95/-16.07	-17.46/-19.24	-15.72/-16.7	-16.96/-11.66	-14.39/-17.57	-18.74/-13.38	-14.05/-19.1	-13.38/-10.64	-15.44/-18.49
Θ(150°)	-17.05/-15.77	-17.39/-17.19	-16.89/-18.75	-15.08/-11.14	-14.6/-16.67	-13.21/-14.79	-13.84/-13.99	-17.56/-18.91	-18.26/-17.82	-18.28/-18.84	-18.75/-18.91	-17.69/-12.67	-13.56/-14.8	-13.06/-10.26	-10.45/-14.42	-18.08/-17.93	-15.53/-10.82	-12.5/-10.81	-16.67/-18.72	-15.28/-14.79	-19.42/-17.27	-13.86/-16.92	-18.23/-16.48	-19.09/-16.95
Θ(157.5°)	-17.75/-18.03	-16.05/-15.76	-18.37/-18.13	-12.77/-10.86	-12.48/-14.53	-12.75/-13.81	-13.04/-12.36	-13.04/-12.73	-13.36/-14.33	-18.47/-18.05	-18.47/-15.44	-15.11/-17.6	-16.17/-18.35	-18.99/-15.33	-14.42/-17.76	-18.01/-17.1	-18.86/-15.87	-18.91/-15.94	-10.5/-9.19	-9.47/-12.78	-16.87/-15.24	-12.29/-10.16	-11.09/-14.52	
Θ(165°)	-17.47/-13.56	-12.41/-13.83	-15.25/-13.26	-10.46/-9.3	-10.68/-14.78	-16.1/-14.99	-13.79/-16.16	-18.96/-17.8	-15.49/-17.53	-18.86/-18.75	-17.87/-17.41	-14.27/-13.5	-13.92/-16.11	-19.06/-18.87	-18.1/-18.06	-14.8/-13.61	-14.97/-19.13	-18.55/-16.36	-19.36/-17.73	-17.5/-17.66	-17.25/-18.87	-18.01/-16.9	-15.46/-13.71	-16.71/-18.91
Θ(172.5°)	-19.14/-17.49	-15.74/-14.43	-13.58/-11.89	-11.07/-10.12	-10.21/-10.92	-10.28/-10.16	-10.2/-9.52	-9.39/-11.39	-15.67/-16.35	-18.27/-18.19	-17.95/-17.21	-15.19/-16.99	-19/-17.57	-16.44/-17.07	-18.03/-19.45	-18.86/-17.77	-15.83/-15.68	-16.59/-15.22	-14.03/-14.4	-14.91/-13.28	-13.3/-15.42	-16.78/-17.22	-18.01/-17.87	-18.86/-18.34
Θ(180°)	-18.76/-18.57	-18.02/-19.13	-19.43/-18.79	-16.09/-13.98	-13.21/-12.63	-13.45/-13.88	-11.85/-12.78	-14.18/-14.35	-13.24/-12.51	-12.93/-13.04	-13.4/-14.83	-15.41/-17.3	-18.45/-17.31	-15.96/-15.82	-16.68/-18.42	-19.13/-18.11	-17.93/-18.61	-17.74/-18.96	-19.16/-15.65	-14.31/-15.23	-14.13/-14.76	-17.21/-16.45	-15.34/-15.86	-17.06/-17.83
Freq(Hz)	5.855GPol.	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°)	-11.74/-10.24	-8.72/-7.51	-6.77/-6.59	-6.37/-5.89	-5.52/-5.16	-5.39/-6.61	-7.47/-1.45	-7.61/-7.67	-8.76/-9.61	-9.87/-11.2	-12.38/-12.02	-11.19/-14.09	-9.76/-9.24	-8.33/-7.46	-6.97/-6.69	-6.29/-5.88	-5.63/-4.91	-4.67/-4.72	-4.97/-5.68	-6.39/-7.15	-7.74/-8.45	-10.67/-13.64	-17.76/-18.18	-17.63/-14.15
Θ(7.5°)	-6.73/-5.12	-4.69/-4.55	-4.7/-4.88	-5/-4.59	-3.9/-3.45	-3.26/-3.47	-3.86/-4.03	-4.82/-5.06	-6.25/-8.97	-11.51/-16.4	-17.79/-17.92	-15.08/-10.72	-8.12/-6.76	-6.06/-5.49	-5.07/-4.56	-4.11/-4.28	-4.96/-5.4	-6.06/-7.58	-9.34/-10.85	-11.97/-10.67	-9.5/-9.18	-8.21/-7.19	-6.47/-5.97	
Θ(15°)	-6.39/-6	-5.01/-4.38	-4.29/-4.19	-3.89/-3.59	-3.52/-3.82	-4.14/-3.99	-3.96/-4.45	-5.36/-6.72	-8.08/-9.48	-13.42/-18.91	-17.71/-15.04	-11.48/-9.5	-6.86/-6.27	-4.97/-3.96	-2.78/-1.55	-0.68/-0.11	0.090.36	0.610.92	1.2/0.82	-0.09/-1.73	-0.84/-1.23	-12.62/-12.11	-8.26/-7.51	-6.5/-6.41
Θ(22.5°)	-3.48/-3.31	-3.42/-3.79	-4.16/-4.63	-4.78/-4.56	-4.27/-4.49	-4.78/-3.7	-2.61/-2.66	-3.45/-5.19	-8.86/-13.17	-15.88/-19.1	-17.96/-14.79	-10.67/-8.36	-6.13/-5.47	-4.58/-3.22	-2.03/-1.05	0.110.67	0.520.52	0.71/1.22	1.82/1.98	1.51/0.84	-0.16/-1.64	-3.25/-5.27	-8.64/-9.61	-6.01/-4.43
Θ(30°)	-3.71/-3.41	-3.74/-4.07	-4.47/-5.19	-5.57/-5.94	-8.94/-12.28	-7.37/-5.64	-5.89/-6.96	-6.48/-6.4	-8.6/-15.2	-18.51/-19.06	-12.98/-10.24	-8.3/-0.65	-6.02/-5.5	-3.88/-2.02	-1.35/-1.61	-1.62/-1.23	-0.25/-0.1	-0.220.4	0.770.4	0.370.43	0.43/-0.04	-0.01/-0.33	-1.75/-2.93	-4.56/-6.04
Θ(37.5°)	-1.77/-2.08	-4.21/-6.32	-7.85/-11.76	-11.06/-10.22	-12.99/-10.25	-7.71/-6.98	-7.98/-9.75	-12.01/-12.49	-10.98/-18.71	-9.98/-15.91	-6.92/-5.01	-5.64/-6.28	-6.87/-5.97	-4.42/-3.18	-3.46/-3.88	-3.89/-2.17	-0.51/-0.72	-1.02/-0.7	0.19/1.2	0.230.33	-1.05/-1.74	-1.94/-2.24	-2.6/-2.9	-2.74/-2.81
Θ(45°)	-0.710.76	-0.98/-4.06	-5.52/-9.07	-11.77/-10.26	-10.77/-13.07	-12.22/-13.35	-15.88/-17.4	-18.12/-14.7	-11.55/-12.25	-10.69/-5.37	-4.58/-3.18	-0.63/-0.92	-2.76/-1.8	-1.19/-1.68	-3.01/-3.27	-3.06/-5.06	-2.86/-4.43	-4.59/-2.53	-1.41/-0.51	0.02/-0.06	0.41/1.3	1.58/-2.49	3.02/1.84	0.14/-1.1
Θ(52.5°)	-2.89/-1.11	-1.52/-5.04	-4.25/-4.31	-5.28/-5.09	-7.63/-8.67	-6.97/-6.29	-7.02/-8.06	-7.26/-4.96	-4.55/-5.02	-3.59/-1.71	-1.9/-1.33	-0.75/-0.35	-0.21/-0.58	-1.67/-2.03	-1.81/-2.18	-3.99/-7.63	-6.06/-7.44	-5.32/-3.59	-3.02/-2.71	-1.880.29	1.79/1.91	1.81/1.89	2.61/-2.34	0.71/-1.48
Θ(60°)	-1.55/-1.35	-0.4/-2.05	-4.8/-3.56	-2.34/-1.41	-3.62/-3.35	-3.42/-3.03	-3.43/-3.65	-3.7/-2.91	-2.76/-3.63	-0.99/-3.27	-1.64/-0.6	-0.310.68	-2.74/-2.87	-2.07/-2.63	-3.67/-5.24	-4.95/-5.11	-3.98/-3.37	-6.17/-6.72	-4.37/-4.62	-0.020.07	1.29/2.82	2.75/-2.59	2.15/-0.07	
Θ(67.5°)	-0.42/-0.69	0.84/0.03	-3.06/-2.47	-2.31/-1.66	-2.37/-3.99	0.06/2.32	0.82/0.69	-1.22/-2.65	-3.3/-3.5	-5.73/-1.58	-2.3/-6.31	-3.91/-2.22	-10.24	-1.82/-3	-2.05/-3.93	-3.86/-3.5	-3.45/-3.26	-0.74/-0.67	-3.29/-4.28	-2.99/-3.56	-1.760.24	2.96/-4.6	1.63/-4.35	3.32/1.34
Θ(75°)	-1.4/-1.27	0.140.49	-3.23/-3.13	-1.86/-2.33	-2.48/-4.3	0.48/2.44	0.88/-0.51	-0.99/-2.23	-3.87/-4.69	-7.59/-3.34	-2.96/-8.4	-6.05/-4.23	-1.91/-1.2	-3.05/-2.79	-3.22/-4.76	-3.47/-2.03	-3.15/-2.42	0.36/1.15	-0.5/-1.72	-0.96/-4.7	-3.18/-0.2	2.74/2.73	4.42/-3.1	2.87/-0.17
Θ(82.5°)	-2.76/-2.92	-2.1/-5.3	-4.65/-4.03	-3.42/-3.55	-2.66/-3.37	0.04/-2.5	-0.68/-1.65	-1.99/-2.33	-4.03/-5.34	-9.31/-4.12	-4.9/-6.87	-10.08/-5.06	-2.34/-2.82	-4.14/-3.4	-4.54/-6.49	-3.63/-3.36	-4.02/-3	0.39/-1.39	-0.44/-1.09	-0.75/-3.81	-4.95/-1.84	2.11/-2.24	2.56/3.08	1.09/-2.56
Θ(90°)	-5.51/-4.22	-5.57/-4.62	-6.73/-5.34	-4.07/-5.42	-3.76/-3.65	-2.14/-0.5	-1.87/-2.66	-3.95/-4.87	-5.69/-6.64	-12.25/-5.4	-4.64/-10.72	-8.85/-8.41	-3.54/-2.69	-5.17/-4.34	-5.55/-8.2	-5.73/-4.51	-5.08/-4.8	-1.05/1.08	0.11/-1.29	-1.83/-4.32	-6.24/-3.8	-1.7/-2.24	-0.480.24	-0.34/-6.85
Θ(97.5°)	-7.74/-6.4	-7.01/-7.21	-8.91/-6.74	-6.14/-6.53	-5.21/-5.48	-4.84/-3.33	-3.88/-4.35	-6.2/-6.5	-6.52/-8.91	-16.61/-6.55	-7.65/-8.6	-11.66/-9.79	-3.16/-3.91	-7.19/-5.03	-6.73/-10.34	-7.28/-5.62	-6.55/-7.58	-4.36/-1.92	-1.92/-4.39	-5.18/-6.94	-6.08/-5.28	-4.36/-4.53	-3.89/-3.06	-2.64/-6.05
Θ(105°)	-6.62/-7.14	-6.28/-8.85	-9.71/-10.01	-8.43/-7.72	-7.15/-6.24	-5.71/-6.65	-7.77/-6.77	-6.71/-7.06	-8.12/-11.2	-17.91/-8.79	-8.69/-13.06	-17.11/-11.36	-4.72/-4.96	-8.07/-6.27	-8.16/-12.4	-11.07/-7.07	-6.99/-10	-6.62/-4.55	-3.08/-6.88	-7.01/-14.3	-8.78/-7.64	-6.77/-4.69	-4.43/-7.99	-3.7/-7
Θ(112.5°)	-14.82/-10.85	-5.38/-6.48	-18.58/-9.71	-10.61/-11.47	-11.12/-12.23	-8.97/-10.19	-10.87/-10.41	-7.37/-7.14	-9.56/-18.02	-11.65/-9.64	-9.13/-10.31	-18.74/-12.26	-6.11/-7.65	-9.38/-7.21	-9.49/-15.42	-18.05/-9.16	-9.48/-11.83	-8.56/-8.05	-6.51/-14.53	-14.41/-18.31	-13.79/-10.95	-5.61/-4.78	-5.02/-9.33	-10.55/-7.1
Θ(120°)	-14.74/-16.38	-10.13/-9.39	-17.41/-13.93	-11.1/-17.4	-13.24/-18.9	-12.24/-9.08	-8.57/-7.79	-7.43/-9.15	-14.56/-18.52	-10.6/-11.36														



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

Θ(112.5°)	-9.49/-8.14	-9.26/-14.13	-10.68/-12.69	-18.09/-15.38	-17.67/-18.04	-14.05/-11.76	-14.43/-18.64	-16.95/-17.98	-18.27/-12.62	-11.17/-17.20	-9.8/-11.48	-17.76/-10.72	-8.69/-10.19	-12.91/-18.89	-14.02/-17.71	-19.36/-9.65	-8.33/-12.53	-7.99/-6.62	-15.56/-9.5	-4.65/-7.87	-17.21/-7.71	-6.93/-11.28	-11.3/-11.39	-18.32/-12.52
Θ(120°)	-9.76/-7.85	-7.81/-12.27	-18.23/-18.78	-18.33/-14.22	-14.92/-18.03	-14.18/-13.72	-15.21/-14.08	-12.27/-14.99	-19.31/-18.7	-14.23/-11.19	-8.61/-8.8	-15.24/-18.2	-12.51/-10.11	-11.18/-18.57	-17.82/-18.3	-17.51/-10.29	-9.49/-12.37	-7.76/-6.32	-13.76/-11.5	-5.44/-7.56	-16.68/-11.02	-9.41/-11.23	-9.78/-9.21	-17.13/-15.96
Θ(127.5°)	-10.72/-9.18	-9.01/-12.11	-19.11/-18.12	-18.95/-13.75	-13.3/-15.32	-13.14/-10.92	-10.15/-9.85	-10.47/-13.37	-16.77/-14.39	-12.16/-10.47	-8.84/-10.28	-19.13/-14.63	-9.36/-8.47	-11.47/-18.06	-18.87/-17.51	-18.41/-17.3	-16.19/-12.73	-6.71/-6.09	-12.85/-15.49	-7.64/-9.3	-17.47/-13.81	-11.45/-12.3	-10.55/-9.95	-14.14/-15.7
Θ(135°)	-10.86/-9.22	-9.52/-11.26	-14.8/-16.52	-15.17/-13.65	-14.28/-18.36	-15.89/-11.56	-10.16/-11.02	-13.99/-18.85	-17.43/-17.34	-18.89/-18.26	-14.07/-14.17	-18.39/-15.92	-11.52/-11.95	-16.09/-18.6	-18.75/-19.08	-18.96/-19.07	-17.95/-13.85	-9.57/-9.63	-16.58/-14.94	-8.89/-9.23	-15.33/-18.49	-18.89/-17.52	-13.41/-12.34	-16.1/-16.65
Θ(142.5°)	-16.71/-12.72	-12.04/-12.98	-14.29/-15.07	-15.98/-18.61	-18.96/-18.05	-15.27/-11.55	-10.51/-11.84	-15.87/-17.99	-18.96/-18.19	-17.68/-19.09	-14.6/-15.03	-18.75/-18.63	-18.11/-18.82	-19.17/-18.71	-17.5/-17.88	-17.57/-19.03	-17.83/-16.03	-14.35/-17.28	-18.3/-15.51	-11.55/-11.67	-14.79/-18.86	-19.02/-17.4	-13.93/-12.37	-14.03/-18.53
Θ(150°)	-18.11/-16.73	-15.88/-14.64	-14.71/-16.02	-18.57/-18.74	-18.25/-19.02	-14.23/-12.05	-11.89/-14.06	-16.27/-18.68	-17.53/-17.18	-18.86/-18.87	-19.58/-17.75	-16.18/-17.4	-18.82/-18.71	-18.36/-18.78	-18.18/-18.78	-17.83/-18.97	-17.42/-15.28	-14.98/-17.84	-17.85/-17.29	-18.36/-17.69	-19.3/-18.66	-17.67/-18.58	-16.38/-17.02	-15.18/-16.45
Θ(157.5°)	-19.03/-18.47	-17.9/-18.18	-18.28/-17.16	-18.94/-18.32	-18.9/-16.96	-14.3/-13.45	-14.59/-17.72	-17.52/-16.15	-14.61/-15.56	-18.69/-18.63	-19.07/-17.76	-18.79/-19.01	-18.1/-17.66	-19.3/-18.39	-17.6/-19.08	-17.82/-16.47	-15.88/-15.94	-17.21/-18.27	-17.92/-19.02	-17.13/-16.2	-16.6/-18.09	-19.13/-17.39	-18.84/-18.67	-17.79/-18.12
Θ(165°)	-18.51/-18.16	-17.79/-18.92	-19.06/-19.09	-18.16/-17.93	-18.3/-19.1	-16.95/-16.57	-16.97/-16.19	-14.46/-13.09	-12.97/-14.21	-16.72/-17.89	-17.95/-18.27	-19.3/-17.46	-18.89/-17.59	-18.84/-19.5	-19.38/-18.48	-19.09/-19.09	-18.53/-19.11	-19.19/-18.42	-18.29/-18.13	-17.98/-17.76	-17.67/-18.32	-18.48/-18.82	-18.48/-19.05	-18.66/-19.05
Θ(172.5°)	-16.85/-17.38	-18.65/-18.45	-19.25/-17.84	-18.09/-17.99	-18.29/-18.61	-17.72/-18.15	-17.64/-15.71	-14.2/-13.49	-13.88/-15.22	-17.34/-18.17	-17.59/-19.04	-18.39/-18.35	-18.51/-18.87	-18.9/-18.09	-18.81/-19.18	-18.41/-17.99	-18.44/-17.92	-17.32/-18.73	-19.19/-17.49	-17.88/-17.86	-19.1/-19.29	-19.32/-18.97	-18.37/-17.73	-17.25/-17.2
Θ(180°)	-17.55/-18.41	-17.95/-18.37	-19.03/-17.6	-18.88/-17.99	-18.96/-18.6	-18.56/-17.99	-19.08/-18.86	-17.73/-17.13	-17.12/-17.31	-18.08/-19.23	-17.72/-19.33	-18.47/-18.58	-18.25/-18.97	-18.97/-18.07	-19.23/-19.06	-18.62/-17.69	-18.7/-18.57	-18.62/-18.63	-18.3/-17.15	-16.1/-15.58	-15.4/-15.32	-15.36/-15.72	-16.29/-16.65	-16.85/-17.31
Freq(Hz)	2.45GPol.	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°)	5.02/-6.81	-9.2/-13.07	-19.13/-16.45	-11.67/-8.79	6.92/-5.33	-3.92/-2.72	-1.88/-1.37	-1.02/-0.73	0.5/-0.43	-0.56/-0.96	-1.5/-1.27	-2.89/-3.84	5.11/-6.88	-9.3/-11.76	-13.02/-12.53	-11.39/-9.68	-7.11/-4.67	-2.96/-1.99	-1.44/-0.89	-0.4/-0.11	0.030/0.1	-0.05/-0.24	-0.63/-1.3	-2.3/-3.6
Θ(7.5°)	-4.2/-4.81	-5.52/-6.42	-7/-6.89	-6.39/-6.84	-5.29/-5.43	-3.59/-2.66	-1.94/-1.44	-1.08/-0.73	-0.43/-0.25	-0.32/-0.68	-1.28/-2.02	-2.86/-4.1	-5.81/-8.19	-11.19/-14.45	-16.2/-15.49	-11.44/-8.48	-5.83/-3.78	-2.41/-1.63	-1.2/-0.8	-0.39/-0.09	0.01/-0.08	-0.2/-0.36	-0.66/-1.24	-2.18/-2.38
Θ(15°)	-3.03/-3.05	-3.3/-3.63	-3.79/-3.79	-3.73/-3.77	-3.9/-3.93	-3.63/-3.12	-2.53/-2.06	-1.64/-1.15	-0.61/-0.18	-0.07/-0.38	-0.9/-1.47	-2.16/-3.23	-4.52/-6.56	-6.23/-6.29	-6.09/-5.55	-4.83/-3.88	-2.75/-1.75	-1.05/-0.67	-0.45/-0.21	0.080/0.27	0.250/1	-0.08/-0.28	-0.6/-1.23	-2.11/-2.84
Θ(22.5°)	-1.86/-1.98	-2.49/-2.95	-3.11/-3.01	-2.95/-2.96	-3.17/-3.48	-3.67/-3.55	-3.21/-2.9	-2.54/-1.95	-1.22/-0.55	-0.29/-0.57	-0.97/-1.34	-1.88/-2.69	-3.31/-3.37	-3.04/-2.67	-2.3/-1.98	-1.68/-1.39	-0.98/-0.59	-0.28/-0.11	0.030/0.21	0.480/0.5	0.580/0.36	0.07/-0.24	-0.75/-1.4	-1.95/-2.03
Θ(30°)	-1.17/-1.56	-2.12/-2.13	-1.68/-1.31	-1.04/-0.83	-0.76/-0.91	-1.22/-1.71	-2.2/-2.69	-2.94/-2.77	-2.12/-1.3	-0.48/-0.87	-1.22/-1.57	-1.98/-2.38	-2.36/-1.87	-1.24/-0.75	-0.46/-0.32	-0.27/-0.3	-0.34/-0.26	-0.27/-0.35	-0.35/-0.12	0.330/0.6	0.640/0.31	-0.16/-0.66	-1.28/-1.74	-1.67/-1.3
Θ(37.5°)	-1.54/-2.01	-1.83/-0.88	-0.60/-1.41	0.79/-1.22	1.54/-1.53	1.17/-0.38	-0.66/-1.63	-0.24/-2.82	-2.7/-2.03	-1.43/-1.37	-1.69/-1.98	-2.07/-1.91	-1.41/-0.79	-0.32/-0.07	0.050/16	0.160/0.02	-0.18/-0.36	-0.63/-0.97	-1.16/-0.99	-0.370/0.28	0.41/-0.07	-0.87/-1.67	-2.27/-1.18	-1.69/-1.38
Θ(45°)	-2.88/-2.98	-1.68/-0.3	0.54/-1.1	1.822/-5.6	2.972/-8.8	2.22/-1.05	-0.31/-1.39	-2.06/-2.53	-2.95/-2.9	-2.42/-2.16	-2.28/-2.19	-1.67/-0.95	-0.45/-0.3	-0.46/-0.55	-0.36/-0.05	0.06/-0.05	-0.23/-0.34	-0.53/-0.77	-1.03/-1.29	-1.16/-0.54	-0.09/-0.48	-1.71/-2.98	-3.14/-2.28	-1.83/-2.16
Θ(52.5°)	-4.92/-4.29	-2.19/-0.65	0.23/-1.1	2.24/-3.1	3.36/-0.31	2.03/-5	-1.37/-2.22	-2.09/-1.96	-2.51/-2.37	-3.39/-2.95	-2.61/-63	1.010/-47	-0.34/-0.8	-0.67/-0.47	-0.57/-0.89	-1.08/-0.99	-0.78/-0.51	-0.38/-0.78	-1.44/-1.42	-1.02/-1.43	-3/-4.52	-3.86/-2.57	-2.5/-3.62	
Θ(60°)	-6.81/-5.42	-3.15/-1.56	-0.30/-0.93	2.28/-3	3.032/-4.3	1.13/-0.97	-3.06/-3.38	-2.25/-2.01	-2.47/-3.68	-4.38/-3.94	-1.51/-1.27	0.872/-0.1	1.989/-11	-3.21/-4.3	-1.52/-1.28	-2.18/-1	-0.04/-0.13	-1.15/-2.01	-2.16/-2.92	-4.78/-5.91	-4.5/-3.39	-3.93/-5.73		
Θ(67.5°)	-9.72/-6.85	-4.4/-2.75	-1.150/-56	1.932/-49	2.351/-57	0.03/-2.43	-4.48/-4.13	-3.02/-2.49	-2.78/-3.77	-4.94/-5.03	-3.69/-0.93	1.452/-32	1.905/-51	-1.38/-2.7	-2.63/-2.21	-2.31/-3.2	-4.44/-4.84	-3.69/-1.7	-0.39/-0.33	-1.4/-2.63	-3.29/-4.5	-6.33/-6.53	-5/-4.56	-6.04/-8.96
Θ(75°)	-11.93/-8.94	-5.85/-4.02	-2.14/-0.2	1.141/-57	1.380/-55	-1.25/-4.11	-6.19/-5.41	-4.18/-3.66	-3.82/-4.43	-5.89/-6.68	-5.21/-95	0.891/-81	1.15/-3.22	-2.29/-3.85	-4.22/-3.79	-3.67/-4.27	-5.43/-6.05	-5.18/-3.42	-1.87/-1.33	-2.06/-3.72	-5.31/-7.08	-8.36/-6.98	-5.41/-5.47	-7.3/-10.49
Θ(82.5°)	-10.51/-9.4	-6.34/-4.19	-2.43/-0.84	0.10/-19	-0.11/-0.2	-3.11/-6.29	-7.58/-5.97	-4.58/-5.62	-5.38/-5.48	-6.53/-81	-6.87/-2.66	0.240/-66	-2.07/-1.57	-3.33/-5.29	-5.94/-5.86	-5.78/-5.69	-5.73/-5.77	-5.56/-4.65	-3.3/-2.39	-2.59/-4.23	-7.08/-10.62	-11.02/-8.42	-7.01/-7.7	-9.77/-10.95
Θ(90°)	-9.91/-9.12	-7.63/-5.04	-2.98/-1.71	-1.25/-1.42	-1.9/-2.74	-4.79/-7.48	-7.9/-6.74	-6.52/-7.04	-6.55/-5.54	-6.82/-11.14	-10.75/-4.16	-1.19/-0.84	-1.51/-2.55	-4.56/-6.41	-6.97/-7.88	-8.39/-7.58	-6.47/-6.16	-6.57/-6.7	-5.98/-4.48	-3.51/-4.29	-7.33/-13.36	-12.04/-8.17	-8.08/-10.37	-14.31/-13.98
Θ(97.5°)	-11.19/-8.97	-9.38/-7.55	-6.68/-3.12	-2.91/-3.39	-4.19/-5.27	-7.4/-6.96	-9.77/-8.84	-8.39/-7.73	-6.47/-6.34	-9.48/-19.25	-10.37/-4.7	-2.94/-2.54	-3.08/-4.78	-6.34/-6.95	-8.23/-20.1	-11.2/-9.79	-7.77/-11.1	-7.82/-9.2	-10.76/-7.85	-4.73/-4.47	-7.06/-14.22	-12.95/-6.86	-7.05/-11.84	-16.62/-17.92
Θ(105°)	-14.3/-8.88	-8.63/-6.92	-5.64/-3.27	-2.96/-4.24	-6.18/-4.45	-10.73/-11.71	-9.15/-9.35	-9.99/-7.35	-9.96/-10.76	-15.42/-18.12	-9.01/-5.91	-4.57/-3.34	-5.37/-7.2	-7.78/-9.36	-11.4/-13.27	-14.86/-15.18	-11.34/-9.89	-8.67/-9.07	-13.13/-18.53	-8.02/-5.6	-7.77/-14.42	-14.61/-6.36	-5.24/-10.16	-18.5/-18.83
Θ(112.5°)	-18.44/-12.64	-9.58/-10.83	-9.28/-5.23	-4.05/-5.28	-7.99/-11.63	-14.39/-13.39	-11.73/-11.64	-14.08/-17.04	-13.35/-11.5	-16.58/-15.3	-9.79/-8.9	-7.14/-6.89	-10.31/-13.91	-11.15/-12.77	-16.22/-12.63	-11.37/-10.62	-8.6/-7.12	-6.77/-5.82	-6.74/-14.84	-13.34/-6.76	-8.06/-15.38	-16.43/-7.53	-5.49/-10.03	-18.38/-14.45
Θ(120°)	-14.68/-16.78	-10.61/-8.3	-8.31/-6.46	-5.47/-7.01	-10.5/-13.74	-13.39/-12.74	-12.86/-14.99	-18.19/-13.08	-9.33/-9.79	-16.72/-17.96	-13.51/-10.86	-8.3/-10.13	-16.1/-15.6	-13.94/-17.66	-17.93/-14.66	-12.6/-11.82	-9.69/-8.38	-8.26/-5.73	-4.72/-8.48	-18.91/-16.69	-9.18/-15.1	-15.93/-9.2	-6.4/-9.31	-18.18/-14.29
Θ(127.5°)	-13.88/-12.89	-10.81/-8.24	-7.11/-5.95	-4.71/-5.03	-6.75/-8.77	-10.59/-12.65	-15.26/-18.31	-15.58/-11.5	-10.4/-13.13	-18.34/-16.25	-15.1/-11.06	-8.38/-10.57	-13.87/-15.66	-18.11/-18.74	-17.94/-16.26	-13.71/-14.28	-14.23/-12.92	-10.22/-5.62	-4.27/-7.36	-18.09/-12.73	-11.27/-16.63	-15.81/-11.51	-8.59/-9.3	-16.75/-18.96
Θ(135°)	-15.71/-11.68	-9.01/-7.26	-6.8/-7.25	-7.21/-7.16	-7.87/-9.15	-11.04/-13.63	-15.49/-13.15	-13.33/-12.61	-13.74/-14.91	-14.61/-17.41	-17.62/-12.64	-9.49/-10.3	-13.31/-18.01	-18.05/-18.44	-18.83/-18.11	-14.38/-14.25	-15.55/-15.04	-11.09/-7.06	-5.84/-8.31	-16.52/-16.13	-13.83/-17.34	-15.59/-13.58	-12.73/-12.05	-14.1/-18.9
Θ(142.5°)	-16.42/-15.56	-12.56/-10.08	-9.25/-9.95	-11.47/-12.5	-12.92/-13.24	-14.04/-15.18	-15.79/-15.85	-16.1/-17.26	-16.21/-13.43	-12.53/-15.76	-18.31/-16.46	-12.75/-13.03	-15.42/-18.01	-18.75/-18.54	-18.57/-18.3	-15.82/-15.09	-15.15/-15.26	-13.47/-11.11	-10.62/-13.05	-18.03/-17.71	-16.92/-17.81	-17.02/-14.76	-15.06/-14.9	-14.18/-14.52
Θ(150°)	-14.94/-16.31	-18.24/-18.67	-17.79/-17.44	-17.79/-17.44	-16.76/-16.96	-17.58/-18.22	-18.22/-18.39	-18.88/-18	-14.86/-11.96	-10.74/-11.54	-14.74/-18.63	-17.44/-17.65	-18.58/-18.02	-18.34/-18.98	-18.11/-18.62	-18.04/-18.53	-17.56/-16.28	-18.89/-17.75	-17.32/-15.67	-14.8/-14.72	-15.93/-18.36	-18.17/-19.28	-19.27/-18.24	-15.67/-13.98
Θ(157.5°)	-15.94/-17.81	-17.66/-17.51	-19.36/-17.28	-16.07/-16.68	-19.04/-18.79	-18.98/-19.06	-18.98/-17.34	-19.37/-18.87	-14.02/-11.5	-10.26/-10.4	-11.78/-14.47	-18.28/-19.25	-17											



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

Θ (157.5°)	-17.45/-18.07	-18.05/-18.31	-19.22/-18.59	-19.21/-17.38	-15.63/-14.55	-14.19/-15.33	-17.83/-17.84	-18.19/-18.95	-17.6/-15.8	-13.56/-16.19	-18.68/-17.61	-16.59/-14.53	-15.74/-17.67	-19.11/-18.03	-17.87/-18.65	-18.74/-18.27	-18.71/-18.51	-16.34/-15.39	-17.32/-19.11	-17.41/-15.29	-15.52/-18.05	-18.35/-19.08	-17.87/-18.6	-18.89/-19.14
Θ (165°)	-13.93/-15.91	-18.16/-18.15	-18.22/-17.84	-19.26/-18.65	-19.19/-17.62	-17.98/-18.78	-16.26/-13.84	-13.69/-14.74	-17.79/-17.88	-16/-16.04	-18.47/-19.13	-18.44/-14.1	-14.4/-18.47	-18/-17.95	-13.72/-12.98	-13.83/-16.08	-17.56/-17.44	-18.23/-19.35	-19.06/-14.39	-12.36/-12.26	-12.55/-15.33	-19.79/-17.8	-18.35/-18.69	-15.61/-13.59
Θ (172.5°)	-19.08/-18.08	-18.17/-18.9	-18.24/-18.28	-16.95/-15.61	-13.63/-11.84	-10.52/-10.23	-10.03/-10.36	-11.09/-12.56	-14.99/-17.35	-19.19/-18.38	-17.92/-18.9	-18.4/-18.64	-16.84/-19.24	-17.98/-18.59	-16.53/-17.04	-16.78/-15.02	-13.12/-10.07	-12.29/-10.52	-12.39/-12.58	-13.68/-16.64	-18.3/-18.85	-18.68/-18.35	-17.65/-16.86	-16.64/-17.07
Θ (180°)	-19.1/-17.91	-18.41/-17.76	-17.38/-18	-18.61/-19.13	-17.82/-18.26	-18.02/-18.27	-17.41/-18.93	-18.56/-17.56	-18.15/-18.57	-18.1/-18.86	-18.2/-16.62	-18.27/-18.2	-19.29/-18.64	-18.16/-18.86	-18.4/-17.3	-16.89/-16.09	-16.45/-17.91	-18.65/-18.56	-17.36/-15.8	-16.69/-18.53	-18.29/-18.31	-18.46/-18.96	-18.16/-18.26	-17.98/-19.06
Freq(Hz)	5.63GPol.	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°)	-3.79/-3.95	-4.2/-4.49	-5.05/-5.44	-8.14/-9.09	-9.74/-10.33	-10.22/-10.08	-9.73/-8.02	-6.3/-5.28	-4.69/-3.9	-3.16/-2.67	-2.39/-2.32	-2.27/-2.49	-2.6/-2.73	-2.97/-3.51	-4.56/-5.68	-6.44/-7.34	-9.06/-9.86	-9.95/-9.51	-10/-8.32	-6.7/-5.57	-5.13/-5.01	-4.9/-4.7	-4.14/-3.93	-3.74/-3.74
Θ (7.5°)	-1.87/-1.9	-2.12/-2.27	-2.73/-3.53	-4.59/-6.14	-8.05/-9.84	-12.29/-15.6	-17.65/-14.86	-11.2/-9.24	-7.66/-6.21	-5/-3.89	-3.16/-2.91	-2.96/-3.1	-3.28/-3.71	-4.41/-5.34	-6.63/-9.13	-12.72/-14.27	-14.57/-14.18	-11.84/-10.26	-9.14/-7.33	-5.48/-4.39	-3.66/-3.4	-3.11/-2.69	-2.26/-1.85	-1.58/-1.76
Θ (15°)	-4.58/-4.1	-3.86/-3.67	-3.69/-4	-5.25/-8.75	-14.45/-18.87	-18.1/-12.33	-9.96/-9.25	-7.18/-5.29	-4.22/-3.9	-3.51/-2.91	-2.42/-2.4	-2.47/-2.49	-2.48/-2.46	-2.72/-3.23	-4.04/-5.48	-7.48/-9.43	-11.23/-12.7	-12.68/-11.08	-9.97/-8.35	-5.53/-4.1	-3.55/-3.64	-3.57/-3.94	-4.21/-4.14	-4.39/-4.81
Θ (22.5°)	-4.13/-3.25	-3.42/-4.12	-4.45/-4.95	-6.64/-9.75	-14.07/-14.17	-10.11/-6.97	-5.75/-5.68	-4.87/-3.25	-2.27/-2.22	-2.64/-2.2	-1.52/-1.69	-3.04/-4.76	-4.71/-3.78	-3.25/-2.53	-1.65/-1.37	-2.02/-3.34	-5.12/-6.42	-7.42/-7.82	-7.58/-6.98	-4.74/-2.53	-1.62/-2.54	-4.37/-6.95	-9.05/-8.86	-8.02/-6
Θ (30°)	-7.72/-8.3	-8.73/-8.69	-9/-9.99	-11.22/-12.93	-17.42/-17.78	-10.72/-6.29	-4.71/-3.85	-2.62/-2.41	-2.73/-2.86	-2.56/-1.65	-0.44/-0.39	-2.18/-3.18	-1.43/-0.42	-0.15/-0.63	-1.96/-0.47	-5.66/-4.85	-3.93/-4.76	-6.63/-9.04	-12.11/-13.77	-11.62/-9.03	-7.25/-7.49	-8.21/-8.4	-7.93/-8.05	-7.97/-7.16
Θ (37.5°)	-12.95/-17.92	-13.42/-11.1	-10.14/-9.38	-8.38/-7.68	-8.4/-10.67	-8.74/-5.13	-3.73/-3.22	-2.27/-2.1	-2.95/-4.03	-2.64/-0.5	0.42/-0.85	-2.46/-0.2	1.72/-1.9	0.54/-1.67	-2.42/-2.68	-3.91/-6.01	-4.78/-2.42	-1.98/-3.26	-5.33/-6.8	-8.31/-6.72	-6.07/-10.92	-19.71/-11.94	-7.78/-6.23	-7.18/-9.15
Θ (45°)	-12.71/-10.54	-8.11/-9.47	-10.15/-8.65	-7.36/-6.44	-5.82/-5.88	-5.91/-5.75	-5.14/-3.96	-2.88/-2.41	-4.18/-5.12	-4.28/-1.22	0.22/-2.19	-2.87/-0.7	0.510/-43	-0.52/-0.43	0.510/-86	1/0.63	-3.19/-2.89	-2.17/-2.24	-3.12/-5.89	-7.8/-5.85	-3.17/-3.72	-10.77/-18.35	-11.68/-8.08	-7.44/-13.08
Θ (52.5°)	-5.62/-6.49	-4.77/-6.84	-6/-5.02	-5.38/-5.22	-4.28/-4.17	-3.41/-3.3	-3.86/-2.97	-2.06/-2.31	-3.37/-4.25	-4.17/-2.98	-0.91/-2.43	-2.2/-1.95	-1.69/-0.88	-1.74/-1.63	-2.18/-1.25	0.31/-0.04	-1.06/-1.49	-1.62/-2.71	-3.17/-4.09	-7.95/-6.99	-2.18/-2.28	-8.11/-13.14	-8.45/-7.84	-7.88/-8.41
Θ (60°)	-2.25/-2.16	-3.16/-3.6	-2.71/-1.91	-3.6/-3.57	-3.38/-2.83	-1.87/-1.69	-2.61/-2.17	-2.01/-2.42	-3.7/-2.84	-3.95/-5.65	-1.76/-0.91	-0.27/-1.53	-1.84/-2.89	-3.6/-2.46	-0.92/-1.06	-1.81/-1.99	-1.88/-2.97	-4.1/-3.14	-4.58/-5.68	-1.35/-1.69	-7.15/-9.11	-6.03/-7.37	-8.98/-3.77	
Θ (67.5°)	-2/-2.53	-2.57/-3.65	-2.87/-2.95	-4.21/-4.11	-3.47/-3.7	-2.95/-2.1	-3.21/-3.12	-3.59/-5.62	-3.72/-2.1	-2.84/-6.93	-1.980/-16	-0.67/-1.89	-0.19/-0.47	-0.88/-1.35	-1.51/-0.78	0.150/-05	-0.57/-0.26	-0.89/-2.76	-3.37/-2.28	-2.04/-3.39	-0.51/-1.85	-7.39/-7.81	-4.84/-6.57	-8.62/-3.06
Θ (75°)	-2.71/-3.7	-2.99/-5.24	-3.98/-6.45	-4.97/-6.08	-4.4/-5.64	-4.93/-4	-4.03/-2.71	-2.95/-6.88	-4.72/-3.42	-1.77/-1.71	-4.01/-0.88	-0.93/-2.13	-1.14/-1.23	-0.46/-1.05	-0.98/-1.34	-0.98/-0.5	0.57/-3.52	-2.93/-1.81	-1.59/-2.14	-0.67/-3.37	-7.26/-6.41	-4.66/-3.72	-8.12/-3.96	
Θ (82.5°)	-4.23/-3.72	-5.16/-6.46	-5.03/-6.52	-7.91/-6.61	-6.76/-6.46	-7.63/-6.19	-5.1/-3.32	-3.43/-6.68	-6.73/-5.2	-2.21/-1.09	-5.7/-3.2	-2.92/-2.1	-2.56/-3.66	-1.42/-2.2	-1.82/-3.46	-2.92/-1.86	-0.87/-1.02	0.67/-4.48	-3.44/-0.99	-1.61/-2.92	-1.42/-6.76	-6.97/-6.16	-5.71/-15.4	-6.75/-4.7
Θ (90°)	-6.86/-4.64	-6.18/-8.7	-7.71/-7.97	-9.43/-6.77	-7.92/-9.77	-9.09/-8.92	-8.53/-4.92	-4.26/-7.54	-8.57/-5.52	-3.71/-8.84	-7.39/-5.38	-4.08/-3.72	-5.04/-6.28	-3.36/-5.66	-4.04/-6.51	-6.77/-4.09	-2.42/-0.72	-0.59/-4.56	-5/-2.31	-2.26/-4.98	-4.15/-8.44	-8.07/-8.25	-6.65/-9.58	-8.23/-8.03
Θ (97.5°)	-9.4/-5.98	-8.03/-10.45	-8.22/-9.12	-9.82/-8.72	-9.76/-10.78	-10.08/-10.74	-9.99/-8.63	-5.81/-9.09	-10.68/-6.9	-4.39/-10.5	-8.69/-8.27	-5.51/-4.9	-7.49/-7.98	-5.48/-7.78	-7.25/-9.99	-9.37/-8.78	-4.79/-3.44	-3.19/-6.17	-6.53/-5.18	-5.32/-8.45	-8.33/-10.49	-9.41/-12.31	-6.54/-11.89	-10.21/-8.57
Θ (105°)	-11/-7.88	-10.31/-11.63	-10.58/-11.26	-10.72/-10.03	-11.19/-8.66	-9.48/-12.24	-9.28/-7.18	-7.76/-9.52	-12.89/-9.08	-5.71/-12.31	-11.5/-10.2	-6.69/-7.88	-9.58/-7.74	-8.67/-9.82	-11.38/-13.31	-14.64/-10.56	-9.66/-9.95	-8.88/-10.61	-8.95/-12.02	-7.96/-12.06	-10.90/-10.19	-11.79/-14.73	-8.93/-8	-14.05/-9.11
Θ (112.5°)	-12.66/-11.59	-18/-14.45	-11.04/-14.38	-13.02/-13.81	-13.96/-9.89	-11.25/-14.37	-10.88/-8.58	-8.59/-11.05	-12.3/-12.24	-8.61/-14.14	-12.58/-14.17	-9.46/-10.38	-12.48/-8.21	-7.83/-12.24	-11.04/-14.32	-11.24/-14.61	-15.94/-13.31	-9.35/-19.23	-13.21/-15.46	-11.48/-12.54	-18.54/-8.95	-13.51/-16.75	-14.03/-12.11	-16.22/-9.98
Θ (120°)	-10.79/-11.37	-12.56/-14.89	-14.73/-11.28	-14.16/-14.46	-16.4/-10.47	-17.37/-13.29	-12.13/-11.76	-11.56/-14.62	-12.7/-15.91	-10.18/-14.53	-16.26/-16.69	-19.03/-14.74	-10.18/-14.53	-18.4/-12.91	-12.95/-12.99	-11.56/-11.49	-17.94/-10.98	-10.42/-17.18	-13.55/-11.04	-12.71/-18.38	-17.91/-14.23	-16.46/-12.97	-17.71/-17.47	-15.76/-13.41
Θ (127.5°)	-12.08/-9.09	-11.77/-13.36	-12.46/-16.06	-13.66/-12.33	-11.38/-15.83	-17.42/-11.31	-14.2/-18.35	-12.34/-11.36	-13.65/-18.65	-11.45/-16.97	-18.94/-15.84	-12.07/-14.43	-14.64/-14.9	-10.19/-15.56	-11.42/-11.95	-8.52/-9	-9.37/-10.93	-11.85/-12.62	-15.63/-13.48	-17.77/-18.92	-19.64/-17.88	-16.66/-12.38	-13.71/-14.59	-13.37/-18.64
Θ (135°)	-17.71/-14.62	-10.95/-11.37	-15.3/-16.07	-17.92/-18.94	-18.31/-18.6	-19.08/-18.58	-18.69/-17.12	-13.35/-10.01	-13.5/-17.78	-12.2/-17.38	-16.58/-18.62	-14.21/-12.76	-15.27/-16.54	-11.57/-15.27	-18.77/-11.55	-11.04/-11.5	-11.93/-14.17	-13.24/-13.07	-13.74/-15.51	-19.14/-15.91	-15.66/-19	-18.89/-9.78	-11.76/-19.23	-12.89/-13.16
Θ (142.5°)	-8.42/-17.9	-19.15/-19.74	-13.7/-15.1	-17.09/-18.71	-18.12/-14.42	-13.36/-15.5	-18.17/-14.84	-16.66/-14.59	-19.07/-13.63	-12.87/-18.2	-13.16/-16.74	-18.88/-18.88	-14.44/-10.97	-10.2/-13.65	-18.21/-17.72	-12.02/-11.8	-13.12/-18.6	-18.8/-18.09	-18.33/-17.5	-17.69/-18.43	-18.01/-17.88	-16.32/-18.4	-14.69/-17.7	-16.79/-7.82
Θ (150°)	-14.79/-14.99	-15.93/-13.79	-16.53/-16.37	-18.76/-18.68	-17.24/-17.28	-18.92/-18.76	-18.64/-14.74	-13.83/-18.67	-19.08/-15.86	-18.65/-17.71	-18.5/-12.74	-16.86/-18.04	-17.82/-12.29	-16.16/-10.92	-13.25/-18.38	-13.08/-16.89	-16.51/-15.37	-18.12/-18.66	-18.38/-18.14	-16.82/-19.17	-17.24/-16.72	-17.29/-13.03	-14.19/-17.78	
Θ (157.5°)	-18.33/-18.1	-14.71/-13.16	-12.21/-13.64	-15.04/-15.04	-15.17/-15.73	-16.63/-16.3	-16.23/-18.33	-14.88/-14.66	-13.08/-15.5	-18.74/-18.53	-18.94/-18.26	-19.2/-17.92	-18.72/-13.81	-14.12/-17.52	-17.77/-18.81	-17.89/-19.07	-17.72/-19.02	-17.84/-19.13	-17.87/-18.74	-18.66/-19.29	-18.08/-18.6	-17.89/-17.39	-18.41/-17.39	-19.63/-19.03
Θ (165°)	-19.15/-16.98	-17.9/-18.26	-17.46/-15.82	-12.32/-12.1	-14.55/-18.19	-18.71/-17.69	-18.43/-16.91	-14.1/-12.96	-13.67/-18.23	-18.87/-18.76	-17.58/-15.99	-18.71/-18.98	-16.27/-12.8	-14.6/-18.99	-19.32/-18.94	-16.73/-14.49	-14.88/-16.58	-18.96/-15.59	-17.5/-18.52	-19.11/-17.43	-18.31/-18.42	-18.58/-19.14	-18.16/-17.37	-18.63/-18.07
Θ (172.5°)	-15.57/-16.06	-16.77/-17.15	-17.57/-18.44	-18.49/-18.24	-18.08/-18.61	-18.38/-18.11	-14.48/-13.9	-14.8/-15.92	-17.03/-17.58	-17.71/-18.94	-17.89/-18.66	-18.48/-17.6	-19.53/-17.48	-14.71/-17	-10.64/-10.1	-9.72/-10.54	-12.79/-14.97	-17.52/-18.16	-17.94/-18.14	-17.53/-18.32	-17.26/-17.49	-18.81/-17.25	-17.68/-17.22	-16.54/-15.53
Θ (180°)	-18.42/-18.64	-17.11/-17.4	-17.18/-15.98	-15.88/-16.68	-18.57/-18.06	-17.83/-18.82	-18.25/-17.23	-16.67/-16.67	-18.78/-18.64	-19.41/-19.23	-19.77/-17.89	-17.83/-18.14	-17.67/-17.18	-18.44/-18.45	-17.65/-18.21	-18.4/-19.41	-17.68/-16.17	-15.12/-14.86	-16.05/-18.75	-18.18/-19.08	-18.19/-17.76	-18.46/-19	-18.97/-18.45	-18.21/-18.95
Freq(Hz)	5.63GPol.	Phi/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°)	-9.69/-8.35	-7.54/-6.76	-5.91/-5.03	-4.55/-4.05	-3.74/-3.23	-3.13/-3.03	-2.99/-3.27	-3.46/-3.46	-3.93/-4.86	-6.26/-7.64	-8.94/-10.74	-11.72/-11.63	-9.87/-8.16	-7.54/-6.73	-5.25/-4.17	-3.51/-2.94	-2.39/-2.45	-2.15/-2.1	-2.57/-2.89					



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

Θ(75°)	-3.85/4.58	-5.01/5.61	-7.29/9.25	-10.93/13.9	-17.88/-17.81	-13.88/-10.64	-8.12/-6.84	-5.37/-4.57	-4.17/-3.65	-3.12/-2.97	-3.2/-3.3	-3.3/-3.2	-3.02/-2.81	-2.97/-3.45	-3.86/-4.17	-4.79/-5.75	-6.5/-6.92	-8.12/-9.26	-8.83/-6.98	-5.66/-4.42	-3.62/-3.24	-3.01/-2.67	-2.72/-3.03	-3.04/-3.41
Θ(15°)	-2.03/-2.42	-3.14/-4.24	-5.92/-8.23	-10.71/-11.76	-11.55/-9.94	-7.88/-6.64	-5.57/-4.35	-3.61/-3.32	-3.03/-1.98	-1.07/-0.72	-1.08/-1.56	-1.93/-2.46	-3.2/-4.14	-5.12/-6.1	-6.81/-7.24	-8.02/-8.34	-7.65/-7.27	-7.74/-7.84	-7.83/-7.18	-6.97/-6.72	-5.67/-4.54	-4.08/-3.61	-3.25/-2.82	-2.07/-1.83
Θ(127.5°)	-4.36/-5.14	-4.73/-3.91	-3.72/-3.32	-5.02/-6.88	-10.36/-12.53	-10.05/-6.37	-4.15/-3.6	-3.09/-4.71	-5.32/-4.21	-2.16/-1.33	-2.18/-2.79	-1.81/-1.09	-1.38/-1.61	-1.81/-1.25	-5.16/-6.67	-6.08/-4.78	-6.05/-3.1	-2.98/-3.15	-2.66/-2.03	-2.01/-3.8	-6.81/-7.3	-5.77/-4.28	-3.05/-2.39	-2.56/-1.3
Θ(30°)	-12.11/-8.64	-8.01/-7.81	-8.93/-11.78	-14.89/-17.53	-11.11/-10.14	-12.04/-7.21	-4.18/-3.17	-2.65/-2.34	-3.54/-5.36	-4.84/-3.88	-3.69/-2.77	-0.65/-1.26	-3.36/-3.61	-2.41/-1.47	-1.46/-1.45	-1.28/-2.03	-3.95/-5.22	-5.92/-7.88	-9.72/-7.73	-4.59/-4.3	-7.98/-9.06	-6.34/-7.93	-10.29/-12.74	-15.94/-19.08
Θ(37.5°)	-10.84/-13.13	-16.96/-15.44	-17.74/-14.26	-14.66/-18.81	-9.82/-6.23	-6.61/-0.74	-5.18/-4.62	-3.76/-1.36	-1.04/-3.7	-3.07/-3.07	-2.49/-0.26	0.22/-1.8	0.17/73	1.71/10.33	-2.91/-6.71	-11.11/-7.01	-31/-42	-0.94/-2.03	-3.21/-3.99	-4.72/-3.67	-5.03/-15.56	-10.87/-9.55	-13.31/-13.19	-10.95/-11.02
Θ(45°)	-1.74/-7.68	-9.21/-10	-9.38/-5.23	-4.13/-5.23	-6.19/-5.72	-4.31/-3.01	-2.38/-2.09	-1.65/-1.34	0.23/-0.75	-2.02/-2	-3/-0.79	-2.25/-2.01	1.58/2.6	2.04/0.1	1.25/1.38	-0.08/-2.28	-4.69/-4.22	-0.72/0.74	-0.87/-3.66	-3.42/-3.46	-3.98/-7.78	-9.87/-10.7	-14.76/-18.17	-14.35/-17.7
Θ(52.5°)	-3.44/-6.58	-6.49/-7.73	-5.05/-2.3	-0.88/-1.75	-3.01/-3.17	-4.28/-2.83	-0.52/-0.35	-0.48/-0.93	0.49/-0.71	-0.16/-1.11	-4.04/-3.95	-7.33/-1.62	0.35/0.22	0.54/1.46	1.78/1.82	1.64/1.48	0.68/-0.38	-0.62/0.61	0.25/-3.29	-4.2/-2.4	-3.77/-6.6	-5.43/-5.76	-8.48/-8.18	-3.5/-2
Θ(60°)	-3.86/-8.65	-9.54/-6.47	-3.11/-0.99	-0.06/-0.83	-3.54/-6.3	-8.52/-5.61	-0.99/0.56	1.36/0.58	-1.36/-0.74	0.41/-0.27	-3.24/-0.3	-3.88/-0.4	-1.47/-0.47	0.58/0.11	-0.77/-0.92	-0.78/-0.67	-0.35/-0.37	-0.89/-0.7	-1.03/-2.77	-4.91/-1.14	-2.64/-8.2	-1.56/-2.19	-6.15/-4.11	-0.49/-1.56
Θ(67.5°)	-5.82/-9.19	-8.84/-4.91	-2.61/-1.54	-0.77/-1.55	-5.48/-6.54	-6.79/-6.68	-2.52/-0.28	2.14/2.08	-2.24/-1.26	-0.4/-0.52	-1.47/-3.06	0.49/0.76	-2.19/0.23	0.33/0.99	1.12/1.15	1.1/-0.48	-0.56/-0.09	0.18/0.06	-0.27/-0.95	-3.35/-0.29	-2.83/-2.9	-2.02/-1.29	-5.07/-2.98	0.44/-2.01
Θ(75°)	-8.65/-7.73	-4.05/-5	-3.52/-3.32	-2.13/-3.81	-8.21/-5.95	-5.27/-6.97	-4.09/-3.01	0.57/1.81	-1.55/-2.02	-0.79/-1.03	-0.68/-1.63	0.59/-0.29	-1.58/0.36	-0.09/-1.47	2.48/1.92	1.16/0.54	0.7/0.98	0.59/0.9	0.95/-0.82	-2.87/0.17	-4.16/-2.48	-0.07/-2.3	-5.02/-1.85	-0.77/-3.28
Θ(82.5°)	-8.9/-6.56	-3.62/-5.53	-6.01/-4.46	-4.1/-5.72	-9.87/-7.47	-6.11/-5.43	-2.76/-3.21	-1.27/-0.08	-2.55/-2.83	-1.38/-2.89	-0.97/-2.03	-0.2/-2.69	-2.12/-1.72	-1.16/0.6	1.56/-0.19	-0.58/-0.1	1/1.84	0.82/-0.51	1.55/-1.08	-2.4/-0.4	-6.11/-2.69	-1.37/-3.43	-5.97/-2.15	-3.16/-3.96
Θ(90°)	-9.17/-4.76	-4.49/-6.88	-0.93/-0.83	-6.88/-8.86	-8.96/-9.47	-8.28/-8.64	-3.72/-4.25	-1.84/-2.9	-2.87/-4.74	-3.45/-4.38	-2.59/-4.42	-2.81/-5.43	-3.7/-3.95	-2.88/-0.95	-0.78/-4.15	-0.55/-2.42	0.54/1.65	0.44/-2.6	0.66/-2.6	-3.91/-1.52	-9.19/-3.29	-4.1/-5.99	-5.56/-5.73	-5.83/-5.87
Θ(97.5°)	-11.4/-11.51	-6.9/-8.89	-10.38/-8.78	-8.13/-7.58	-9.78/-12.35	-11.18/-6.24	-5.31/-4.54	-3.26/-5.43	-4.65/-6.93	-5.42/-6.79	-4.53/-6.61	-5.23/-6.56	-6.01/-8.01	-5.02/-3.43	-3.73/-7.87	-10.42/-7.69	-2/-0.59	-1.79/-6.31	-2.06/-4.53	-8.1/-4.53	-13.29/-4.45	-6.58/-7.07	-7.75/-4.59	-6.63/-7.78
Θ(105°)	-8.3/-10.7	-9.36/-9.58	-12.67/-11.32	-12.56/-9.04	-8.21/-10.75	-12.34/-7.47	-6.82/-6.49	-6.97/-6.1	-5.69/-9.53	-8.31/-8.99	-6.85/-8.97	-7.11/-6.75	-8.35/-10.35	-5.91/-5.33	-7.8/-8.27	-15.18/-13.17	-6.8/-5.55	-8.84/-13.03	-7.7/-10.39	-14.26/-10.54	-14.49/-7.45	-7.8/-9.33	-11.1/-7.39	-6.76/-12.43
Θ(112.5°)	-10.57/-8.37	-12.51/-15.81	-12.81/-10.75	-9.83/-10.33	-12.51/-14.34	-9.8/-11.22	-12.57/-7.29	-19.79/-5.66	-8.26/-11.7	-13.68/-9.48	-11.65/-10.89	-8.77/-6.1	-8.24/-10.42	-6.08/-7.39	-11.69/-10.35	-9.05/-12.25	-12.28/-9.76	-10.36/-10.83	-10.36/-10.83	-17.81/-12.59	-10.43/-10.42	-9.24/-12.63	-9.54/-8.95	-9.33/-17.77
Θ(120°)	-13.33/-11.74	-9.6/-11.84	-14.6/-11.4	-9.16/-11.31	-16.06/-9.51	-8.54/-13.3	-8.93/-8.5	-10.89/-6.12	-12.94/-10.91	-19.15/-10.52	-19.19/-16.83	-12.27/-7.09	-11.68/-13.2	-9.99/-10.85	-11.95/-13.28	-16.25/-8.72	-17.28/-7.63	-7.31/-14.85	-6.2/-11.97	-12.94/-16.36	-12.71/-9.81	-9.35/-12.68	-8.42/-12.14	-12.13/-15.02
Θ(127.5°)	-10.79/-13.62	-9.67/-10.96	-12.47/-15.99	-14.51/-15.53	-15.66/-11.97	-12.96/-12.78	-8.66/-10.8	-15.78/-11.69	-11.42/-11.86	-19.04/-13.56	-18.19/-18.28	-10.56/-11.38	-18.82/-13.28	-11.27/-11.15	-12.67/-17.22	-11.96/-6.76	-10.91/-10.83	-10.25/-17.39	-10.07/-12.52	-17.96/-10.88	-13.09/-11.48	-13.76/-11.98	-11.1/-12.92	-17.74/-11.49
Θ(135°)	-10.38/-15.68	-16.01/-17.03	-12.58/-12.55	-13.61/-14.08	-12.94/-15.46	-15.75/-14.19	-16.84/-13.59	-9.71/-11.69	-8.44/-11.09	-19.19/-12.5	-19.17/-9.28	-12.67/-8.74	-16.39/-16.81	-10.39/-11.71	-18.88/-9.97	-10.46/-7.39	-14.14/-15.19	-18.29/-16.58	-18.53/-17.92	-16.39/-10.23	-18.9/-18.22	-13.06/-16.01	-15.29/-9.49	-14.1/-11.72
Θ(142.5°)	-15.88/-9.85	-8.93/-10.98	-18.64/-16.69	-18.14/-16.7	-15.39/-15.08	-18.14/-16.29	-12.18/-11.02	-16.2/-13.13	-9.16/-14.26	-14.69/-14	-17.67/-13.15	-15.44/-17.38	-18.89/-15.02	-14.73/-18.49	-16.03/-14.35	-10.51/-11.91	-12.63/-18.45	-11.4/-10.34	-10.7/-17.14	-17.91/-18	-17.87/-17.63	-15.72/-9.64	-15.64/-16.84	-14.09/-17.57
Θ(150°)	-18.44/-17.42	-16.98/-13.84	-13.59/-16.33	-17.25/-17.71	-15.93/-15.14	-15.29/-14.59	-14.51/-17.94	-17.92/-13.69	-11.89/-15.23	-18.94/-17.38	-18/-10.88	-11.15/-17.06	-18.02/-14.93	-10.51/-14.8	-15.09/-16.57	-17.66/-11.27	-8.91/-15.15	-18.21/-12.41	-9.73/-9.92	-13.51/-16.62	-19.3/-13.12	-17.26/-18.37	-15.76/-16.57	-17.96/-11.18
Θ(157.5°)	-17.69/-15.51	-19.03/-16.64	-13.51/-13.3	-17.43/-19.01	-18.23/-19.08	-16.05/-14.19	-13.03/-10.76	-10.09/-11.31	-16.06/-16.63	-19/-17.64	-15.94/-12.29	-12.87/-17.08	-18.28/-19.04	-13.92/-13.62	-16.92/-17.78	-17.64/-18.98	-18.67/-17.84	-18.29/-14.33	-12.56/-14.6	-14.71/-16.5	-19.42/-19.08	-14.11/-12.59	-12.98/-11.57	-13.09/-18.89
Θ(165°)	-18.89/-18.06	-19/-18.81	-18.71/-18	-15.97/-14.2	-14.12/-14.62	-15.69/-16.77	-17.35/-16.67	-18.78/-18.82	-14.48/-11.35	-11.21/-14.06	-18.42/-17.2	-16.16/-14.04	-14.63/-19.01	-18.61/-18.89	-18.18/-18.35	-14.81/-18.98	-15.11/-16.27	-18.75/-18.43	-14.3/-12.01	-13.4/-14.71	-16.46/-18.19	-18.23/-18.09	-17.06/-18.27	-17.24/-19.08
Θ(172.5°)	-17.75/-19.26	-17.42/-15.67	-13.12/-12.36	-12.77/-13.44	-14.96/-17.52	-19.76/-18.24	-17.71/-17.63	-14.09/-12.23	-10.3/-9.75	-10.76/-12.67	-15.66/-18.93	-17.98/-19.08	-19.08/-18.47	-19.11/-19.08	-15.74/-13.45	-13.25/-14.91	-17.68/-15.54	-18.71/-18.38	-18.89/-18.82	-19.12/-18.29	-18.86/-18.39	-18.51/-18.74	-15.68/-16.17	-17.41/-17.33
Θ(180°)	-18.24/-18.65	-17.14/-15.5	-14.12/-12.62	-11.33/-10.47	-10.33/-10.29	-10.48/-10.55	-10.57/-10.77	-10.76/-11.18	-11.95/-13	-14.32/-16.9	-17.89/-18.11	-18.25/-17.88	-17.72/-17.42	-17.5/-15.53	-13.06/-11.94	-11.02/-10.84	-11.49/-12.26	-11.97/-11.42	-10.77/-10.35	-9.72/-9.13	-10.12/-12.29	-14.82/-16.61	-16.98/-16.83	-19.58/-18.54
Freq(Hz)	5.885GPol.	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°)	-11.61/-8.55	-6.59/-5.28	-4.09/-2.81	-2.15/-1.86	-1.72/-1.2	-0.91/-1.5	-1.55/-1.99	-2.71/-3.54	-4.4/-5.21	-6.44/-8.55	-11.34/-11.44	-9.56/-7.85	-6.11/-4.17	-3.09/-2.79	-2.53/-1.75	-1.54/-1.4	-1.38/-1.47	-1.97/-3.07	-3.44/-3.68	-4.87/-5.67	-9.26/-12.81	-15.63/-16.94	-14.82/-13.63	-
Θ(7.5°)	-9.11/-8.12	-7.87/-6.48	-5.47/-5.01	-4.43/-3.88	-3.59/-3.53	-3.43/-3.79	-4.75/-5.48	-6.4/-7.93	-9.43/-10.92	-12.53/-13.7	-14.71/-14.23	-13.39/-11.63	-10.24/-9.05	-7.74/-6.05	-4.65/-4.01	-3.74/-4.27	-1.52/-1.26	-1.01/-1.01	-1.32/-2.2	-3.03/-3.99	-6.18/-6.83	-12.33/-13.53	-12.89/-11.14	-10.12/-9.92
Θ(15°)	-11.16/-11.48	-10.47/-8.06	-5.62/-3.42	-3.54/-3.23	-2.88/-2.61	-3.15/-4.13	-5.74/-8.38	-13.36/-18.52	-17.63/-19.07	-15.6/-14.13	-13.39/-12.8	-10.88/-8.18	-6.23/-4.88	-3.93/-2.82	-1.65/-1.48	-2.4/-3.05	-2.74/-5.23	-1.98/-1.36	-1.74/-2.89	-4.08/-5.87	-9.75/-15.32	-13.74/-10.12	-9.05/-8.57	-8.84/-9.85
Θ(22.5°)	-6.69/-8.79	-8.14/-7.1	-5.7/-3.5	-2.05/-2	-1.99/-1.37	-1.52/-3.14	-5.11/-7.73	-12.95/-18.75	-18.67/-12.04	-7.15/-4.64	-4.08/-4.99	-5.52/-5.02	-4.87/-4.35	-3.25/-1.95	-0.98/-0.94	-1.29/-2.35	-3.71/-4.29	-3.58/-2.52	-1.68/-2	-3.82/-6.77	-8.72/-9.95	-10.62/-10.8	-13.31/-17.58	-16.13/-11.87
Θ(30°)	-6.57/-6.05	-4.21/-3.2	-2.9/-2.16	-0.75/-0.27	-0.53/-0.96	-1.31/-2.65	-5.23/-9.93	-16.57/-14.87	-10.89/-7.72	-4.46/-3.01	-3.07/-4.54	-4.39/-3.51	-6.35/-6.39	-9.11/-8.32	-5.58/-2.94	-3.38/-1.04	-1.66/-2.57	-4.32/-6.75	-5.45/-2.23	-2.38/-7.86	-10.49/-8.7	-9.52/-11.49	-18.73/-15.52	-9.05/-6.36
Θ(37.5°)	-4.59/-4.47	-2.73/-1.71	-2.13/-1.09	0.29/1.4	1.12/-0.32	-1.43/-2.2	-4.21/-8.51	-14.28/-10.45	-8.51/-9.03	-7.99/-6.63	-8.16/-7.29	-4.03/-3.73	-4.73/-6.01	-4.93/-3.4	-3.56/-4.67	-4.69/-6.11	-7.86/-6.37	-6.01/-7.89	-8.93/-3.5	-1.67/-4.4	-7.91/-9.6	-14.4/-10.34	-14.85/-15.28	-8.26/-5.81
Θ(45°)	-8.13/-7.08	-2.52/-1.46	-1.37/-0.67	-0.39/-0.03	0.37/-0.17	1.68/-3.19	-4.5/-6.82	-10.57/-8.78	-10.5/-15.74	-15.82/-9.94	-7.67/-6.68	-2.56/-3.02	-5.78/-9.15	-7.01/-5.22	-3.48/-0.53	1.09/0.14	-4.27/-8.34	-6.73/-0.62	-6.52/-5.21	-3.71/-6.44	-7.24/-5.49	-14.68/-12.05	-16.92/-15.57	-11.05/-9.63
Θ(52.5°)	-12.59/-6.71	-2.79/-3.23	-2.13/-1.21	-2.02/-2.81	-2.28/-3.23	-4.42/-5.14	-6.68/-4.76	-8.41/-8.31	-9.63/-17.87	-12.67/-13.08	-8.06/-5.06	-3.32/-3.17	-6.62/-5.99	-10.74/-10.2	-6.44/-4.48	-3.72/-4.47	-6.59/-6.27	-4.43/-4.45	-6.09/-6.97	-6.22/-13.15	-9.78/-8.03	-12.61/-16.1	-13.55	



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

Θ(60°)	1.170/-0.19	-1.59/-3.74	-4.3/-3.72	-4.09/-5.69	-7.1/-6.47	-4.4/-2.33	-0.780/-11	0.30/43	1.01/-148	1.30/62	-0.18/-0.73	-1.02/-1.16	-1.03/-0.77	-0.54/-0.63	0.75/-1.5	1.83/-16	0.79/-0.32	-1.57/-2.6	-3.15/-3.11	-2.41/-1.54	-1.01/-0.56	0.080/-9	0.29/-0.18	-0.040/-76
Θ(67.5°)	0.53/-0.19	-2.35/-4.68	-5.36/-4.89	-5.77/-8.25	-9.07/-6.84	-4.26/-2.3	-0.70/-28	0.580/-91	1.5/-182	1.530/-61	-0.6/-1.62	-2.1/-2	-1.5/-1.2	-1.02/-0.62	0.180/-96	1.38/-29	0.59/-0.65	-2.22/-3.76	-4.64/-4.42	-3.3/-2.21	-1.55/-1.03	-0.46/-0.22	-0.58/-1.8	-0.930/-05
Θ(75°)	-0.97/-1.92	-4.25/-6.69	-7.23/-7.04	-8.75/-12.89	-13.13/-8.49	-5.18/-3.21	-1.56/-0.32	0.260/-81	1.38/-152	1.110/-2	-1.27/-2.71	-3.29/-2.97	-2.28/-1.98	-2.03/-1.78	-0.91/-0.01	0.690/-88	0.26/-1.28	-3.39/-5.28	-6.19/-5.79	-2.04/-2	-2.66/-2.29	-2.04/-2	-2.25/-2.54	-2.21/-25
Θ(82.5°)	-2/-2.99	-5.27/-8.01	-8.42/-8.44	-10.94/-15.74	-16.46/-10.02	-6.3/-4.48	-2.72/-1.27	-0.510/-08	0.440/-32	-0.13/-0.99	-2.55/-4.32	-4.91/-4.44	-3.65/-3.27	-3.06/-2.42	-1.57/-0.77	0.080/-43	-0.21/-1.8	-3.57/-5.38	-6.77/-7.32	-6.49/-5.1	-4.2/-3.74	-3.55/-3.47	-3.36/-3.27	-3.01/-2.36
Θ(90°)	-4.25/-4.2	-5.64/-8.22	-9.7/-9.77	-12.05/-14.43	-16.31/-11.22	-7.21/-5.89	-4.48/-2.8	-1.63/-0.86	-0.71/-1.22	-1.98/-2.91	-4.55/-6.32	-6.78/-5.94	-4.59/-3.65	-3.21/-2.97	-2.79/-2.31	-1.27/-0.57	-0.91/-1.94	-3.38/-5.26	-6.68/-7.69	-7.88/-7.07	-6.19/-5.81	-5.98/-5.98	-5.35/-4.73	-4.68/-4.8
Θ(97.5°)	-8.86/-7.5	-7.31/-9.15	-11.59/-12.5	-12.98/-13.16	-16.17/-13.92	-1.77/-8.4	-6.76/-4.87	-3.13/-1.89	-1.64/-2.32	-3.46/-4.87	-7.06/-8.88	-8.57/-7.24	-6.97/-4.95	-4.73/-4.88	-4.91/-3.99	-2.71/-1.84	-1.69/-2.14	-3.19/-4.33	-9.4/-10.71	-9.4/-10.81	-11.63/-11.3	-0.06/-6.85	-6.79/-8.28	
Θ(105°)	-12.63/-11.73	-10.58/-10.98	-12.88/-13.6	-11.51/-10.8	-13.23/-15.67	-11.26/-9.35	-9.31/-8.19	-5.99/-4.07	-3.27/-3.65	-4.54/-5.68	-7.74/-9.91	-10.09/-9.98	-8.95/-6.89	-5.97/-5.77	-5.65/-5.14	-4.27/-3.07	-2.3/-2.52	-3.37/-4.18	-5.23/-6.94	-9.23/-11.97	-12.5/-10.42	-8.55/-8.6	-10.47/-9.53	-9.36/-11.75
Θ(112.5°)	-10.1/-10.48	-16.14/-19.13	-17.55/-14.54	-10.62/-10.09	-12.62/-16.35	-12.66/-9.63	-9.49/-10.05	-8.92/-6.8	-5.72/-5.82	-6.16/-7.07	-9.51/-13.29	-14.97/-15.77	-10.98/-7.41	-6.14/-6.98	-6.06/-6.63	-4.47/-3.45	-3.32/-3.95	-4.2/-4.07	-4.38/-4.68	-5.37/-7.09	-8.33/-7.7	-6.32/-6.44	-10.09/-16.1	-16.9/-14.65
Θ(120°)	-8.25/-7.08	-10.85/-18.68	-19/-15.54	-11.44/-11.35	-13.87/-18.55	-19.05/-13.19	-11.1/-11.72	-12.91/-11.22	-8.82/-7.58	-7.57/-8.6	-10.53/-13.91	-18.43/-16.29	-10.11/-6.56	-5.04/-4.89	-5.21/-4.97	-4.45/-4.66	-5.43/-5.61	-4.5/-3.68	-3.72/-4.12	-4.93/-6.48	-7.98/-7.91	-6.32/-5.74	-8.27/-15.83	-18.68/-14.56
Θ(127.5°)	-11.12/-9.25	-11.99/-18.87	-18/-16.24	-12.83/-13.3	-15.14/-16.04	-17.03/-14.91	-11.6/-10.32	-10.62/-10.81	-9.28/-8.18	-9.23/-12.5	-15.28/-17.18	-18.42/-13.31	-8.88/-6.56	-5.89/-6.13	-5.93/-5.14	-5.21/-6.44	-7.55/-6.78	-5.28/-4.67	-5.15/-5.64	-5.79/-6.51	-7.85/-8.36	-7.34/-6.84	-8.91/-15.02	-18.89/-16.27
Θ(135°)	-14.17/-14.47	-16.47/-19.01	-18.46/-19.17	-15.24/-16.03	-17.28/-16.96	-14.76/-12.24	-10.32/-9.27	-8.9/-8.92	-6.89/-8.55	-10.26/-14.99	-19.01/-18.64	-17.98/-12.41	-7.94/-7.02	-6.34/-5.84	-5.06/-4.64	-5.33/-6.92	-7.89/-7.4	-6.67/-6.78	-7.42/-7.05	-6.37/-6.85	-8.6/-10.46	-10.78/-12.72	-12.73/-17.61	-16.4/-13.95
Θ(142.5°)	-13.18/-13.46	-14.28/-16.47	-18.53/-17.65	-17.1/-17.61	-17.99/-18.28	-18.32/-14.46	-12.18/-11.42	-11.4/-11.75	-12.13/-13	-15.54/-17.23	-18.67/-18.85	-14.1/-10.1	-7.93/-6.94	-6.49/-6.14	-5.88/-6.05	-9.18/-9.17	-9.49/-10.22	-10.34/-9.15	-8.46/-9.16	-11.12/-13.79	-15.04/-15.23	-16.78/-19.72	-17.25/-14.16	
Θ(150°)	-17.16/-17.37	-17.27/-18.79	-18.73/-18.03	-14.98/-14.64	-16.69/-17.91	-18.74/-18.06	-18.67/-19.12	-18.47/-19.2	-18.45/-19.03	-18.5/-17.44	-18.81/-17.63	-16.74/-12.73	-10.62/-9.7	-9.43/-9.39	-9.41/-9.84	-10.71/-10.76	-9.74/-9.37	-10/-11.05	-11.46/-11.28	-11.33/-12.65	-14.81/-16.86	-16.8/-15.76	-15.41/-16.84	-17.93/-18.36
Θ(157.5°)	-16.72/-19.16	-15.41/-18.8	-17.28/-14.05	-12.52/-12.45	-13.81/-16.96	-18.07/-18.75	-18.92/-18.4	-18.03/-17.82	-17.74/-18.16	-18.61/-17.83	-19.22/-19.08	-16.58/-13.66	-12.06/-11.36	-11.29/-11.41	-11.2/-10.57	-9.39/-8.02	-7.04/-7	-7.85/-9.23	-10.6/-11.88	-13.13/-14.9	-16.79/-17.19	-15.66/-13.61	-12.1/-11.4	-12.02/-13.92
Θ(165°)	-11.92/-12.77	-12.94/-12.81	-12.63/-14.29	-12.62/-12.96	-13.81/-15.36	-16.8/-16.6	-14.94/-13.36	-13.08/-14.32	-16.83/-17.72	-18.67/-19	-16.39/-13.9	-11.83/-10.44	-8.87/-9.92	-10.17/-10.02	-9.29/-8.57	-8.12/-7.93	-8.13/-8.89	-10.3/-12.11	-14.09/-15.89	-17.03/-17.66	-18.18/-17.55	-15.04/-13.21	-11.42/-10.39	-10.21/-10.85
Θ(172.5°)	-14.25/-14.77	-14.96/-14.99	-15.2/-15.78	-16.59/-17.45	-18.11/-18.37	-18.28/-17.46	-16.08/-14.94	-14.63/-15.21	-16.31/-17.16	-16.65/-14.98	-13.45/-12.14	-11.13/-10.38	-10.07/-10.24	-10.65/-11.1	-11.5/-11.87	-12.53/-13.34	-14.78/-16.68	-18.9/-17.67	-18.69/-17.25	-18/-18.02	-18.64/-19.03	-18.02/-16.16	-14.69/-13.8	-13.48/-13.73
Θ(180°)	-18.08/-18.01	-19.32/-19	-18.77/-18.26	-17.9/-18.33	-17.95/-18.43	-19.13/-17.96	-18.08/-18.54	-19.05/-18.51	-18.75/-17.76	-18.85/-19.3	-18.31/-17.45	-16.73/-16.48	-17.24/-18.42	-19/-18.67	-18.64/-18.78	-17.87/-19.03	-17.88/-18.34	-18.16/-17.54	-17.13/-18.71	-18.56/-18.9	-18.89/-18.01	-17.97/-18.24	-19.18/-18.23	-18.21/-19.12
Freq(Hz)	5.20GHz	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°)	-3.93/-2.9	-2.22/-1.78	-1.51/-1.14	-0.95/-0.87	-0.91/-1.02	-1.19/-1.6	-2.29/-3.21	-4.37/-5.77	-7.45/-8.67	-9.72/-9.85	-9.34/-8.07	-6.73/-5.18	-3.66/-2.71	-2.16/-1.63	-1.12/-1.79	-0.56/-0.49	-0.65/-0.95	-1.47/-2.21	-3.12/-4.06	-4.91/-6.04	-9.49/-9.52	-6.69/-7.4	-6.01/-7.47	
Θ(7.5°)	-4.49/-3.11	-2.13/-1.51	-0.77/-0.25	-0.010/-17	-0.52/-1.4	-0.52/-1.4	-1.97/-3.73	-3.64/-4.85	-5.97/-6.86	-7.61/-8.46	-8.42/-7.55	-6.39/-5.08	-4.01/-3.18	-2.46/-1.61	-0.79/-0.26	-0.13/-0.29	-0.50/-0.84	-1.04/-1.45	-1.93/-2.63	-3.52/-4.74	-5.97/-3.5	-9.19/-10.5	-11.02/-9.65	-7.64/-5.82
Θ(15°)	-2.34/-1.75	-1.66/-2.02	-1.46/-0.16	0.70/-96	0.720/-17	-0.55/-1.32	-1.89/-2.09	-2.71/-3.7	-5.06/-7.01	-9.74/-12.22	-14.19/-10.68	-6.39/-3.67	-2.15/-1.07	-0.53/-0.28	-0.050/-14	0.17/-0.18	-0.61/-1.06	-1.57/-2.12	-2.46/-2.84	-3.11/-3.77	-4.73/-5.97	-7.51/-8.74	-9.44/-8.83	-6.53/-3.82
Θ(22.5°)	-1.13/-0.48	-0.93/-2.15	-3.04/-2.8	-1.78/-0.75	-0.050/-26	-0.29/-1.27	-2.44/-2.73	-2.35/-2.47	-3.93/-6.58	-16.71/-15.37	-18.10/-16.02	-5.57/-3.24	-2.12/-1.39	-0.91/-0.74	-0.54/-0.21	0.190/-38	0.22/-0.43	-1.66/-2.71	-3.52/-3.85	-4.49/-5.45	-7.24/-8.05	-10.1/-14.6	-12.06/-9.87	-6.27/-3.11
Θ(30°)	-3.84/-3.05	-2.96/-3.25	-3.08/-3.11	-3.66/-4.13	-3.02/-1.35	-0.140/-28	-0.77/-2.37	-2.29/-1.64	-2.51/-5.48	-9.06/-12.42	-18.86/-17.84	-11.09/-7.22	-4.06/-1.61	-0.160/-45	0.550/-71	1.331/-75	1.550/-74	-0.44/-1.49	-2.05/-2.6	-3.47/-5.69	-7.15/-12.59	-10.93/-13.18	-14.29/-10.34	-6.41/-4.65
Θ(37.5°)	-8.77/-4.57	-1.81/-1.64	-1.14/-0.36	-0.34/-1.08	-2.07/-2.74	-2.27/-1.24	-0.84/-2.15	-3.42/-2.33	-2.44/-4.65	-6.91/-9.02	-13.65/-17.57	-17.24/-6.59	-1.930/-5	1.421/-41	1.171/-49	2.022/-03	1.370/-2	-1.04/-1.2	-1.02/-1.5	-2.77/-4.04	-5.68/-8.7	-16.36/-17.51	-17.81/-12.25	-8.6/-9.81
Θ(45°)	-5.68/-3.56	-3.5/-5.66	-4.12/-2.98	-2.42/-1.31	-1.49/-1.73	-1.6/-1.7	-2.09/-2.3	-3.34/-3.65	-3.89/-5.52	-6.46/-7.18	-10.77/-12.05	-10.89/-6.49	-0.990/-62	1.261/-06	1.011/-93	2.52/-2.7	1.380/-01	-1.58/-2.48	-1.91/-1.19	-1.83/-2.98	-4.42/-6.57	-9.59/-13.9	-16.51/-10.61	-7.84/-10.21
Θ(52.5°)	-6.03/-5.33	-4.85/-4.35	-2.27/-3.21	-9.05/-9.89	-8.34/-4.19	-0.580/-1	-3.36/-4.29	-5.61/-5.2	-5.42/-7.91	-7.56/-7.43	-9.17/-10.02	-8.23/-4.86	-1.910/-08	1.180/-88	0.431/-06	1.671/-49	0.38/-0.78	-1.92/-2.55	-2.74/-2.63	-3.31/-4.21	-5.63/-7.36	-9.89/-11.23	-13.65/-13.32	-11.63/-11.1
Θ(60°)	-7.65/-8.03	-3.96/-2.45	-0.93/-1.9	-6.16/-8.01	-6.58/-5.27	-1.850/-21	-2.33/-6.6	-11.81/-10.39	-8.65/-13.01	-11.12/-8.89	-8.66/-6.99	-8.51/-5.73	-3.11/-0.75	0.37/-0.74	0.260/-61	-0.76/-3	-4.7/-4.28	-2.71/-2.09	-2.53/-4.04	-5.84/-8.75	-9.93/-15	-18.03/-14.59	-11.67/-10.1	
Θ(67.5°)	-10.85/-10.63	-4.19/-3.17	-2.35/-3.25	-3.9/-4.58	-2.65/-2.2	-2.04/-1.12	-4.26/-1.79	-18.64/-15.88	-11.62/-16.19	-13.71/-10.58	-10.54/-10.93	-10.78/-7.06	-5.63/-2.82	-1.3/-2.19	-3.54/-3.99	-2.88/-1.32	-3.08/-6.52	-6.1/-4.28	-3.58/-3.58	-3.82/-4.76	-6.34/-8.09	-9.39/-14.32	-18.81/-18.04	-12.72/-11
Θ(75°)	-10.03/-13.89	-5.46/-5.48	-5.32/-4.48	-4.44/-5.48	-3.31/-1.87	-2.8/-3.54	-6.82/-11.55	-18.42/-18.36	-13.22/-13.4	-18.94/-14.35	-12.27/-13.92	-12.48/-8.68	-7.39/-5.07	-3.45/-4.56	-5.88/-4.78	-5.89/-3.35	-6.61/-8.06	-9.83/-6.18	-3.31/-3.93	-4.66/-5.85	-6.48/-8.42	-7.64/-10.76	-12.32/-17.76	-12.82/-10.78
Θ(82.5°)	-9.3/-17.91	-9.11/-7.13	-7.73/-6.77	-5.35/-9.62	-6.42/-3.73	-4.44/-5.68	-12.23/-15	-17.29/-17.01	-13.23/-16.08	-18.29/-15.67	-17.11/-17.72	-17.35/-11.21	-8.93/-7.15	-5.67/-6.05	-7.22/-10.66	-9.46/-5.15	-6.04/-10.76	-13.66/-7.87	-5.61/-5.96	-7.25/-7.2	-6.53/-9.21	-7.99/-10.74	-11.27/-15.93	-11.97/-10.5
Θ(90°)	-9.81/-18.47	-13.33/-7.76	-8.53/-10.76	-7.94/-13.39	-10.29/-5.9	-6.82/-9.06	-18.44/-18.43	-15.37/-14.32	-14.22/-15.65	-18.16/-19.03	-18.28/-17.67	-18.84/-13.77	-11.14/-9.29	-8.95/-9.54	-9.31/-12.08	-13.12/-9.07	-8.36/-10.85	-15.5/-9.57	-6.9/-7.84	-8.8/-9.7	-8.1/-9.85	-9.86/-12.11	-10.39/-15.92	-14.91/-14.34
Θ(97.5°)	-9.94/-18.37	-18.46/-7.19	-9.17/-14	-11.08/-19.38	-18.42/-8.12	-12.26/-15.09	-18.02/-16.44	-14.59/-18.15	-16.23/-18.41	-19.14/-17.95	-19.01/-17.92	-18.03/-14.38	-10.6/-10.37	-11.65/-9.97	-9.44/-9.93	-14.16/-10.11	-11.27/-14.47	-13.93/-13.22	-11.25/-8.57	-11.07/-11.77	-11.24/-15.29	-13.37/-16.18	-10.68/-12.6	-10.62/-12.31
Θ(105°)	-8.27/-18.03	-17.54/-11.32	-9.99/-18.64	-18.37/-18.02	-18.62/-10.31	-13.06/-17.64	-14.94/-14.83	-18.64/-14.8	-15.45/-16.49	-17.62/-16.68	-18.16/-18.97	-17.87/-17.68	-15.43/-15.19	-17.02/-12.47	-11.05/-10.02	-11.57/-15.08	-13/-15.04	-18.92/-16.94	-19.02/-12.31	-14.42/-15.05	-14.51/-15.12	-14.64/-16.78	-11.48/-18.29	-12.72/-11.07
Θ(112.5°)	-10.78/-15.66	-18.69/-12.77	-9.68/-18.99	-18.1																				



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

Θ(97.5°)	-5.21/-5.66	-8.57/-8.69	-8.56/-3.26	-4.81/-2.42	-7.15/-8.68	-9.04/-6.87	-4.91/-4.51	-5.78/-5.68	-4.81/-6.33	-7.33/-6.98	-6.43/-10.02	-7.57/-8.82	-5.96/-8.14	-10.2/-6.41	-8.5/-9.28	-9.91/-10.49	-11.47/-9.36	-9.01/-6.74	-8.04/-5.6	-4.69/-4.03	-3.79/-3.94	-5.21/-9.41	-10.5/-7.66	-4.45/-4.28	
Θ(105°)	-7.57/-5.37	-8.99/-9.77	-7.55/-4.84	-5.51/-3.56	-6.28/-8.74	-8.92/-9.09	-8.14/-7.3	-6.52/-9.17	-7.67/-9.56	-10.41/-9.42	-8.46/-14.29	-10.41/-10.96	-8.33/-9.05	-13.87/-9.2	-8.68/-11.56	-10.52/-15.2	-16.49/-14.1	-11.85/-10.04	-13.39/-7.85	-6.49/-8.04	-7.21/-7.23	-8.06/-11.48	-14.38/-14.77	-7.37/-7.13	
Θ(112.5°)	-15.14/-11.82	-15.68/-17.48	-13.87/-9.88	-4.13/-3.39	-6.57/-10.49	-10.89/-10.44	-8.83/-10.82	-9.11/-3.81	-9.78/-10.96	-10.59/-9.33	-12.69/-11.11	-13.91/-13.13	-8.33/-13.01	-12.69/-11.11	-11.22/-10.23	-12.34/-15.55	-18.14/-13.2	-11.11/-12.69	-17.83/-10.14	-9.73/-12.6	-10.77/-7.72	-7.73/-12.29	-15.83/-18.45	-9.72/-9.67	
Θ(120°)	-17.04/-13.76	-13.84/-18.24	-11.98/-11.22	-11.6/-9.77	-15.76/-17.01	-11.45/-10.17	-9/-10.77	-12.08/-10.09	-9.69/-11.77	-17.89/-13.03	-17.83/-14.73	-13.4/-10.81	-8.74/-11.42	-11.88/-13.04	-11.95/-9.9	-11.52/-18.28	-12.56/-13.75	-9.84/-12.08	-9.58/-10.44	-11.26/-9.88	-12.81/-6.54	-8.32/-16.17	-17.85/-13.16	-16.53/-10.54	
Θ(127.5°)	-8.6/-8.68	-14.32/-14.6	-12.61/-8.84	-10.94/-13.64	-14.16/-15.13	-18.77/-10.35	-10.86/-10.83	-10.96/-12.49	-15.81/-16.43	-17.41/-13.08	-14.77/-16.61	-14.11/-9.33	-9.17/-9.64	-11.03/-16.72	-9.55/-10.51	-9.36/-18.9	-10.47/-13.76	-9.04/-13.14	-8.34/-11.01	-12.52/-11.06	-11.87/-11.01	-13.37/-13.85	-18.48/-14.63	-15.13/-10.42	
Θ(135°)	-10.08/-12.5	-11.1/-13.48	-14.93/-9.88	-9.4/-13.47	-13.36/-13.83	-12.83/-12.84	-11.26/-18.37	-18.28/-16.37	-17.4/-17.66	-17.25/-15.65	-14.88/-17.4	-14.54/-15.39	-15.66/-9.99	-10.77/-17.5	-15.15/-11.85	-13.78/-15.26	-11.48/-18.68	-14.8/-12.27	-10.78/-19.66	-12.73/-18.18	-15.15/-9.02	-15.48/-18.9	-15.87/-10.71		
Θ(142.5°)	-19.39/-17.32	-18.15/-14.18	-13.69/-18.59	-17.56/-18.77	-17.15/-14.2	-15.52/-16.26	-13.88/-14.48	-19.26/-19.35	-18.42/-15.4	-13.31/-16.06	-18.29/-17.4	-15.68/-11.56	-9.35/-11.85	-11.24/-10.82	-12.72/-14.34	-19.55/-14.35	-19.19/-9.73	-10.55/-14.2	-13.05/-13.13	-10.64/-11.65	-11.86/-19	-18.11/-9.96	-11.48/-14.01	-13.88/-16.24	
Θ(150°)	-19.38/-18.06	-18.02/-17.95	-13.55/-12.93	-12.46/-12.11	-15/-17.97	-18.02/-18.03	-17.65/-18.62	-18.6/-17.94	-18.87/-17.85	-19.28/-18.97	-18.8/-17.82	-18.4/-14.55	-12.97/-12.52	-11.45/-11.28	-14.73/-19.01	-18.69/-19.17	-19.25/-14.03	-13.93/-14.7	-13.74/-15.91	-17.62/-16.22	-18.28/-18.26	-17.87/-18.93	-18.18/-16.51	-15.82/-16.85	
Θ(157.5°)	-17.53/-15.4	-12.89/-14.34	-18.56/-12.92	-18.05/-17.61	-17.83/-19.39	-18.64/-16.22	-14.16/-14.11	-13.67/-12.7	-13/-15.65	-19.01/-18.06	-18.56/-18.38	-18.24/-15.16	-13.98/-11.95	-11.68/-12.24	-14/-14.78	-15.85/-16.3	-15.34/-15.01	-15.4/-14.07	-13.2/-15.16	-18.05/-18.76	-18.08/-17.72	-18.73/-17.83	-18.96/-17.3	-17.99/-18.75	
Θ(165°)	-12.32/-15.65	-16.36/-17.18	-17.65/-18.86	-18.36/-17.97	-18.84/-17.76	-18.24/-18.32	-17.85/-17.94	-17.34/-19.03	-17.16/-18.18	-18.9/-19.06	-16.2/-14.27	-14.35/-15.79	-16.51/-16.45	-16.4/-15.45	-14.22/-15.14	-16.85/-17.97	-17.18/-16.48	-15.83/-14.67	-13.45/-12.57	-12.51/-14.38	-17.88/-19.24	-18.73/-18.2	-14.37/-13.07	-12.39/-11.57	
Θ(172.5°)	-17/-16.07	-18.05/-17.98	-16.67/-15.16	-14.8/-14.84	-14.63/-15.35	-16.2/-15.66	-15.85/-15.47	-14.81/-14.22	-14.39/-15	-15.71/-13.15	-14.71/-13.15	-12.36/-11.49	-10.55/-10.58	-10.75/-10.83	-10.94/-11.51	-11.74/-12.4	-13.44/-14.12	-14.63/-14.1	-13.5/-12.44	-12.59/-13.59	-14.05/-14.45	-14.67/-15.03	-15.98/-17.25	-14.47/-17.98	
Θ(180°)	-12.42/-11.26	-11.92/-12.53	-13.4/-15.85	-17.37/-18.83	-18.89/-18.81	-19.51/-19.03	-19.34/-18.06	-17.53/-18.8	-18.71/-18.82	-17.89/-17.84	-18.76/-18.61	-18.88/-18.72	-18.98/-18.68	-18.74/-17.74	-18.78/-18.52	-18.25/-19.07	-17.67/-18.83	-17.71/-17.18	-18.66/-19.27	-17.35/-19.22	-18.03/-19.14	-17.33/-18.81	-17.33/-18.81	-15.55/-14.28	
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°)	-13.2/-10.91	-9.21/-7.72	-6.74/-5.94	-5.22/-4.81	-6.61/-4.49	-4.62/-5.22	-5.49/-6.22	-6.77/-7.87	-9.01/-9.82	-10.73/-10.87	-10.85/-11.35	-12/-11.93	-11.42/-10.63	-10.13/-9.61	-8.82/-8.25	-7.55/-6.94	-6.41/-6.21	-5.83/-5.67	-5.68/-5.6	-5.98/-5.85	-5.97/-6.8	-7.97/-9.15	-9.99/-10.83	-11.67/-12.88	
Θ(7.5°)	-8.79/-8.33	-7.96/-7.29	-6.7/-6.11	-5.61/-5.2	-4.76/-4.62	-4.4/-4.64	-4.2/-4.29	-3.82/-4.09	-4.6/-5.06	-6.02/-7.58	-10.14/-12.99	-13.4/-11.77	-8.71/-6.6	-4.78/-3.29	-2.47/-2.32	-2.74/-3.24	-3.71/-4.37	-5.08/-6.09	-7.22/-8.78	-10.53/-11.33	-11.51/-12.32	-12.34/-11.19	-9.77/-9.17	-9.02/-9.2	
Θ(15°)	-6.42/-6.49	-5.85/-5.29	-4.49/-2.99	-1.34/-0.68	-1.12/-1.65	-2.38/-2.71	-2.53/-2.62	-2.88/-3.94	-5.69/-7.27	-6.89/-9.46	-8.91/-7.74	-6.73/-5.69	-4.78/-4.34	-3.6/-3.01	-2.2/-1.65	-1.43/-1.72	-2.41/-3.45	-4.48/-5.32	-6.21/-7.18	-8.35/-8.9	-8.71/-8.01	-7.19/-6.55	-6.09/-6.5	-7.14/-6.71	
Θ(22.5°)	-5.64/-5.81	-7/-7.43	-5.23/-3.32	-1.81/-1.15	-1.33/-1.77	-2.4/-2.37	-1.53/-0.78	-1.32/-3.13	-6.67/-11.06	-13.98/-12.84	-9.77/-8.1	-7.25/-7.55	-4.68/-6.22	-4.16/-2.77	-2.31/-1.78	-1.44/-1.67	-2.31/-3.24	-4.28/-4.57	-4.78/-5.52	-8.76/-8.52	-9.76/-10.81	-10.52/-8.83	-6.59/-5.41	-5.29/-5.95	-7.15/-6.56
Θ(30°)	-3.57/-4.25	-5.25/-5.48	-5.67/-5.18	-4.02/-2.75	-1.32/-0.54	-0.93/-2.25	-3.41/-2.49	-1.5/-2.75	-6.46/-9.48	-10.35/-12.09	-14.05/-15.43	-12.8/-8.31	-5.44/-3.39	-1.88/-0.41	0.02	0.210/28	-0.22/-1.28	-2.91/-5.46	-8.21/-9.1	-9.31/-10.64	-13.58/-15.03	-10.76/-7.39	-7.39/-9.2	-8.31/-4.73	
Θ(37.5°)	-7.29/-7.58	-4.52/-1.94	-1.16/-2.12	-2.78/-2.49	-2.63/-1.64	-0.25/-0.07	-1.83/-0.45	-3.33/-3.72	-7.62/-9.13	-9.83/-14.54	-17.24/-18.93	-9.4/-4.41	-2.54/-1.68	-1/-0.5	-0.060/42	0.86/7.1	-0.26/-1.8	-3.4/-5.19	-6.15/-5.68	-6.08/-5.84	-13.71/-14.82	-17.78/-9.99	-7.74/-9.72	-6.66/-6.11	
Θ(45°)	-15.29/-8.29	-6.15/-6.05	-4.09/-2.54	-0.970	-1.14/-3.56	-4.61/-3.57	-1.73/-1.97	-2.31/-2.69	-4.28/-7.3	-7.13/-10.9	-10.68/-15.66	-8.29/-7.3	-3.03/-1.5	-0.98/-1.23	-0.59/-0.45	0.590/27	-1.18/-3.17	-4.94/-5.17	-4.59/-4.26	-4.39/-5.87	-8.73/-13.89	-15.86/-9.85	-7.36/-7.44	-6.41/-9.79	
Θ(52.5°)	-7.75/-6.63	-6.99/-5.35	-3.13/-3.27	-3.5/-2.98	-3.52/-4.02	-2.92/-4.01	-4.78/-4.49	-3.68/-3.44	-7.72/-6.62	-6.94/-11.42	-18.41/-16.93	-11.49/-6.51	-3.19/-1.18	-1.52/-3.11	-1.440/32	0.690/23	-0.95/-2.98	-6.01/-6.01	-5.29/-5.6	-6.88/-8.23	-9.68/-11.31	-11.68/-10.42	-9.6/-7.99	-6.32/-7.82	
Θ(60°)	-4.96/-6.81	-6.4/-3.06	-1.28/-2.4	-6.08/-6.71	-10.05/-6.95	-2.43/-2.4	-7.19/-8.62	-9.29/-9.5	-19.1/-9.92	-7.5/-10.3	-14.07/-19.03	-14.85/-10.52	-5.5/-2.16	-2.03/-4.35	-3.33/-10.7	-0.4/-0.8	-1.723/-8.4	-7.27/-8.76	-5.13/-4.6	-8.86/-7.75	-8.52/-10.04	-13.67/-11.86	-18.74/-17.79	-11.02/-7.16	
Θ(67.5°)	-6.14/-11	-7.12/-14.2	-2.12/-2.22	-4.52/-5.88	-3.94/-0.8	-1.74/-1.6	-5.96/-10.02	-18.64/-16.37	-18.58/-16.52	-11.38/-11.68	-12.37/-13.96	-11.39/-10.08	-5.87/-3.67	-3.95/-6.27	-2.88/-3.21	-3.93/-5.26	-7.94/-12.96	-6.94/-5.14	-5.62/-7.23	-7.44/-7.58	-10.66/-15.51	-10.66/-16.77	-16.91/-9.16		
Θ(75°)	-8.22/-17.86	-9.24/-6.65	-4.59/-3.17	-4.07/-4.65	-3.38/-3.56	-1.93/-3.08	-6.64/-15.89	-17.5/-17.86	-17.84/-19.12	-13.43/-13.49	-14.98/-15.28	-15.51/-16.4	-10.08/-6.1	-4.98/-7.68	-10.3/-7.84	-6.5/-4.69	-5.21/-6.27	-11.56/-13.66	-7.32/-7.23	-8.36/-8.75	-7.88/-6.02	-8.16/-8.88	-12.69/-13.52	-18.41/-12.13	
Θ(82.5°)	-7.49/-15.92	-11.99/-8.25	-6.96/-6.66	-6.47/-6.72	-4.79/-5.23	-4.01/-5.46	-9.39/-13.7	-17.11/-10.82	-17.72/-18.17	-15.09/-14.61	-18.36/-17.03	-16.72/-18.58	-10.98/-7.7	-6.66/-10.3	-15.92/-13.98	-11.51/-7.63	-7.88/-8.98	-12.54/-15.44	-8.13/-9.85	-10.08/-10.5	-8.07/-6.55	-9.47/-8.74	-10.25/-10.36	-14.58/-14.21	
Θ(90°)	-9.28/-19.02	-15.82/-9.8	-11.16/-8.06	-7.06/-12.17	-9.79/-9.21	-6.39	-13.74/-12.22	-17.72/-15.28	-14.87/-16.13	-14.88/-17.56	-15.28/-19.27	-16.33/-11.16	-8.34/-13.06	-18.66/-18.11	-16.26/-11.21	9.59/-11.63	-14.94/-17.17	-8.62/-12.41	-13.54/-12.91	-10.42/-8.99	-11.38/-9.52	-9.72/-10.66	-14.69/-17.21		
Θ(97.5°)	-10.58/-16.13	-18.23/-9.79	-10.97/-11.8	-10.84/-18.53	-14.12/-11.21	-9.91/-12.29	-14.27/-13.04	-17.44/-14.69	-16.14/-13.12	-13.87/-17.56	-19.24/-15.67	-14.15/-17.69	-14.98/-13	-10.19/-15.84	-18.66/-18.7	-19.18/-14.46	-14.97/-18.23	-18.57/-18.27	-13.23/-19.21	-18.36/-16.88	-11.39/-11.05	-16.43/-12.54	-11.73/-11.02	-12.47/-18.73	
Θ(105°)	-13.12/-13.7	-15.68/-10.41	-9.53/-14.01	-15.68/-18.26	-18.61/-12.67	-15.79/-18.78	-18.09/-16.77	-14.76/-15.96	-18.02/-14.97	-13.2/-16.58	-15.29/-16.03	-15.99/-19.49	-17.02/-13.18	-12.32/-14.71	-18.68/-18.73	-18.3/-15.51	-16.25/-16.86	-18.23/-14.87	-19.26/-18.24	-17.69/-18.4	-18.61/-18.46	-19.17/-14.75	-12.54/-9.97	-10.91/-16.6	
Θ(112.5°)	-16.92/-18.13	-17.22/-12.52	-9.64/-14.07	-17.15/-16.97	-17.85/-14.52	-19.17/-18.82	-17.89/-16.61	-15.47/-15.96	-17.67/-13.94	-12.6/-16.7	-17.15/-16.73	-17.91/-19.27	-17.98/-15.87	-14.97/-17.6	-15.81/-16.36	-18.65/-15.83	-18.14/-18.36	-18.57/-17.77	-16.79/-19.2	-18.68/-18.19	-16.53/-17.72	-18.99/-14.52	-11.63/-11.87	-10.42/-13.56	
Θ(120°)	-10.74/-15.01	-17.99/-17.33	-16.6/-19	-17.45/-17.49	-17.53/-15.94	-19.16/-18.87	-16.07/-13.02	-18.77/-15.67	-16.11/-12.45	-12.62/-17.61	-17.43/-16.19	-18.9/-18.54	-16.38/-15.94	-12.79/-19.11	-13.68/-19.23	-17.92/-19.03	-15.17/-17.49	-18.23/-17.79	-18.71/-18.76	-19.01/-19.07	-12.03/-15.48	-17.72/-19.23	-18.04/-13.47	-10.74/-11.18	
Θ(127.5°)	-13.28/-18.39	-15.91/-15.21	-14.17/-14.77	-18.39/-18.56	-17.89/-17.39	-13.09/-9.7	-12.09/-12.51	-12.25/-10.02	-11.84/-14.16	-14.29/-13.8	-14.25/-15.89	-19.42/-17.74	-18.49/-17.56	-15.45/-18.58	-18.44/-14.68	-18.15/-18.39	-18.01/-18.55	-17.86/-18.09	-19/-16	-14.32/-19.25	-18.8/-13.35	-12.7/-14.55	-14.08/-18.93	-15.87/-18.99	
Θ(135°)	-13.89/-18.04	-17.46/-16.4	-17.5/-19.24	-18.19/-14.09	-17.59/-18.27	-15.10/-10.85	-17.27/-12.47	-11.67/-11.48	-14.29/-15.63	-16.5/-10.75	-13.18/-33	-17.92/-18.1	-12.18/-13.62	-17.2/-13.13	-15.38/-14.43	-12.89/-18.11	-18.79/-18.08	-14.84/-16.17	-18.82/-17.7	-10.72/-11.99	-15.4/-18.03	-17.2/-11.35	-15.66/-17.11	-13.58/-18.5	
Θ(142.5°)	-13.11/-13.66	-18.67/-17.5																							



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

Θ (150°)	-13.21-10.35	-11.35/-18.08	-18.71/-16.32	-12.15/-12.76	-18.22/-18.96	-18.4/-18.09	-18.19/-17.81	-19.06/-18.02	-18.39/-17.89	-18.27/-18.03	-16.12/-13.89	-13.33/-12.05	-12.5/-14.14	-11.92/-9.85	-12.25/-15.05	-14.94/-19.39	-14.94/-13.27	-17.55/-17.28	-16.17/-18.34	-18.61/-14.52	-14.41/-17.7	-18.78/-17.97	-19.2/-18.45	-18.04/-14.34
Θ (157.5°)	-16.5/-15.6	-16.51/-18.55	-17.94/-18.06	-18.49/-15.53	-13.93/-14.45	-17.83/-17.55	-13.45/-12.55	-11.86/-12.42	-14.72/-18.19	-18.16/-18.76	-18.58/-14.22	-12.07/-10.74	-11.04/-14.26	-17.29/-14.4	-11.09/-11.17	-16.13/-18.09	-16.63/-18.29	-18.41/-17.9	-15.6/-14.63	-14.02/-15.87	-18.72/-18.33	-19.03/-19.69	-18.61/-18.93	-18.77/-16.09
Θ (165°)	-12.62/-12.18	-13.03/-18.8	-18.89/-18.73	-13.37/-18.85	-17.44/-17.98	-16.87/-17.1	-18.93/-17.72	-17.64/-18.56	-17.18/-14.95	-13.74/-14.14	-16.05/-15.97	-14.43/-12.43	-19.21/-11.36	-14.23/-11.36	-15.29/-10.88	-10.64/-12.41	-17.53/-15.91	-13.12/-12.25	-12.43/-11.94	-11.62/-11.71	-13.1/-15.68	-17.85/-17	-14.66/-12.96	
Θ (172.5°)	-13.51/-11.61	-11.42/-10.42	-10.36/-10.4	-10.9/-25	-9.34/-9.34	-9.58/-10.48	-11.17/-11.83	-12.41/-12.83	-13.52/-14.47	-15.39/-14.75	-13.82/-13.84	-13.19/-12.16	-10.67/-8.96	-8.31/-8.42	-9.01/-10.47	-12.25/-14	-14.87/-14.49	-13.34/-12.78	-13.38/-14.48	-15.82/-16.31	-16.38/-16.64	-16.93/-17.27	-17.91/-17.34	-15.58/-15.71
Θ (180°)	-14.21/-14.17	-14.88/-14.58	-17.13/-18.42	-18.24/-18.62	-17.94/-18.55	-17.49/-17.6	-18.91/-17.28	-18.36/-19.02	-17.19/-17.7	-18.17/-18.66	-17.39/-18.06	-18.5/-18.07	-17.52/-17.64	-17.11/-15.65	-14.86/-15.12	-15.83/-16.08	-15.63/-14.48	-14.01/-15.01	-16.75/-17.67	-17.96/-17.82	-17.07/-16.72	-16.79/-17.24	-18.41/-18.1	-17.24/-16.08
Freq(Hz)	5.885GPol.	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°)	-11.28/-10.02	9.14/-7.9	-6.43/-5.23	-4.59/-4.43	-4.5/-4.84	-4.87/-4.83	-4.9/-5.05	-5.4/-5.59	-6.1/-6.9	-7.46/-8.19	-9.41/-10.12	-11.29/-10.42	-9.23/-8.45	-8.09/-7.46	-6.38/-5.22	-4.48/-4.24	-4.19/-4.4	-4.53/-4.55	-4.72/-5.49	-6.16/-1.57	-7.83/-9.03	-10.07/-11.39	-11.79/-11.6	
Θ (7.5°)	-9.07/-10.24	-10.91/-10.57	-9.32/-7.63	-6.84/-6.87	-6.66/-6.12	-5.49/-4.64	-4.12/-4.45	-4.86/-5.6	-6.56/-7.82	-8.99/-10.25	-11.25/-11.14	-10.97/-9.87	-8.48/-7.11	-6.22/-5.57	-4.87/-4.37	-3.94/-3.99	-4.21/-4.51	-4.85/-5.25	-5.66/-5.71	-5.88/-6.2	-6.88/-7.07	-7.15/-7.56	-7.74/-8.45	-8.66/-8.59
Θ (15°)	-10.01/-11.36	-11.28/-9.69	-7.23/-5.29	-4.41/-4.87	-5.27/-4.78	-3.96/-2.94	-2.59/-3.21	-4.71/-6.76	-8.66/-9.45	-8.93/-8.46	-8.15/-7.86	-7.99/-8.45	-8.4/-7.04	-5.02/-3.47	-2.36/-1.96	-1.86/-1.92	-2.12/-2.45	-2.93/-8.37	-5.05/-6.07	-7.05/-8.38	-9.29/-9.14	-8.23/-7.65	-7.14/-7.01	-7.18/-8.01
Θ (22.5°)	-11.65/-10.94	-9.52/-6.14	-3.58/-2.18	-1.54/-1.9	-3.04/-4.24	-4.14/-2.74	-1.79/-2.09	-3.98/-7.65	-12.59/-11.69	-9.49/-9.44	-9.41/-9.58	-9.02/-8.1	-6.99/-5.32	-3.3/-1.21	0.09/0.31	-0.36/-0.84	-1.1/-1.51	-2.61/-4.41	-6.5/-7.96	-8.95/-10.26	-10.94/-9.75	-7.87/-6.67	-6.06/-6.51	-8.36/-11.02
Θ (30°)	-4.57/-4.57	-6.2/-5.8	-4.2/-4.9	-3.82/-1.97	-0.78/-2.08	-0.89/-2.66	-2.42/-0.82	-0.58/-2.84	-7.53/-11.7	-13.66/-16.98	-18.9/-13.09	-7.94/-5.06	-3.86/-3.11	-2.02/-0.42	0.93/-1.46	1.090/4.3	-0.41/-1.61	-3.15/-5.47	-9.79/-12.06	-10.81/-12.82	-19.17/-18.43	-17.97/-7.41	-4.67/-4.95	-7.17/-7.28
Θ (37.5°)	-4.27/-6.74	-6.6/-2.62	-0.94/-1.34	-1.83/-2.18	-2.25/-0.9	0.54/0.14	-1.27/-0.65	0.74/0.67	-4.07/-6.21	-8.85/-16.69	-17.79/-10.2	-6.34/-4.24	-2.19/-1.19	-1.42/-0.4	1.13/-1.34	0.97/0.64	-0.27/-2.35	-4.93/-7.61	-10.72/-10.83	-17.89/-14.81	-18.31/-17.53	-18.53/-11.5	-5.59/-5.32	-6.68/-5.12
Θ (45°)	-6.53/-9.66	-5.68/-2.78	-2.3/-2.62	0.44/1.84	0.59/-1.97	-4.38/-2.66	-0.98/-0.93	0.54/-0.36	-3.84/-4.42	-9.03/-18.06	-18.23/-12.16	-7.27/-5.08	-2.56/-1.39	-2.88/-2.78	-0.52/0.07	-0.22/-0.55	-1.24/-2.53	-4.82/-7.03	-8.41/-10.8	-17.42/-19.39	-16.86/-18.17	-17.44/-16.23	-11.51/-6.86	-5.46/-3.46
Θ (52.5°)	-6.66/-6.48	-7.26/-7.96	-5.8/-4	-0.98/-0.21	-0.81/-2.35	-3.83/-5.39	-2.18/-1.17	-0.89/-2.96	-7.28/-4.79	-8.09/-13.51	-18.85/-14.43	-9.3/-6.58	-3.14/-1.79	-3.43/-3.11	-1.26/-0.86	-1.24/-1.18	-2.04/-3.72	-6.49/-10.09	-9.99/-8.89	-11.8/-14.64	-13.52/-15.14	-16.8/-13.41	-7.67/-6.66	-
Θ (60°)	-7.07/-7.93	-9.61/-6.05	-3.01/-1.4	-2.67/-5.04	-9.81/-9.77	-4.83/-4.5	-3.78/-3.05	-3.34/-5.67	-18/-11.08	-13.77/-13.03	-13.32/-13.03	-11.73/-10.79	-7.05/-5.2	-5.89/-6.07	-3.29/-2.75	-3.67/-2.48	-2.5/-4.03	-6.96/-11.55	-13.08/-9.84	-9.9/-13.7	-10.52/-10.8	-14.81/-14.11	-15.26/-18.14	-14.76/-8.14
Θ (67.5°)	-5.3/-8.1	-7.6/-6.3	-4.3/-2.19	-2.56/-1.8	-3.36/-6.83	-6.27/-6.14	-5.63/-5.59	-8.08/-11.29	-18.52/-17.96	-14.94/-9.45	-12.31/-15.38	-18.6/-16	-9.44/-4.56	-6.25/-8.4	-6.87/-6.73	-5.74/-3.84	-3.54/-4.98	-8.74/-12.75	-13.98/-10.53	-9.17/-15.37	-11.22/-9.51	-10.53/-9.93	-8.43/-8.67	-17.35/-10.11
Θ (75°)	-7.32/-10.83	-7.6/-7.51	-6.87/-2.58	-3.52/-1.7	-1.84/-4.07	-5.55/-9.96	-8.95/-11.09	-14.74/-14.74	-18.73/-18.61	-14.94/-12.55	-10.26/-14.04	-15.16/-14.82	-10.67/-6.77	-6.82/-11.27	-10.85/-12.58	-9.44/-6.34	-5.3/-5.87	-9.69/-14.82	-15.2/-11.57	-8.66/-14.37	-9.71/-8.73	-10.56/-9.6	-7.84/-6.68	-11.94/-10.84
Θ (82.5°)	-8.97/-17.24	-9.46/-11.05	-9.19/-3.44	-4.85/-3.68	-5.1/-5.9	-4.87/-15.43	-14.69/-19.01	-15.83/-13.02	-14.04/-16.51	-18.81/-14.35	-14.29/-18.19	-16.42/-17.45	-15.72/-6.77	-9.03/-14.72	-16.69/-18.8	-14.89/-8.08	-6.26/-6.12	-10.56/-12.44	-19.02/-14.57	-10.98/-14.87	-10.2/-9.6	-10.47/-11.57	-10.26/-6.87	-10.67/-18.52
Θ (90°)	-12.01/-14.93	-12.54/-13.3	-8.79/-6.1	-7.06/-7.72	-8.58/-7.68	-7.51/-13.98	-18.22/-8.12	-11.34/-12.69	-15.88/-18.51	-18.36/-16.16	-17.21/-14.87	-13.47/-13.24	-18.28/-9.97	-9.01/-7.06	-16.75/-17.36	-19.16/-8.64	-8.67/-8.12	-9.25/-10.79	-19.21/-18.93	-13.9/-18.36	-10.47/-9.44	-12.15/-14.64	-11.51/-9.93	-11.56/-16.67
Θ (97.5°)	-13.07/-16.65	-13.07/-10.73	-9.49/-9.38	-8.21/-13.07	-12.65/-11.81	-10.94/-18.35	-18.36/-18.23	-11.46/-14.77	-13.25/-17.58	-18.85/-17.61	-17.97/-18.17	-14.01/-17.58	-10.94/-13.04	-13.66/-17.93	-18.53/-18.01	-11.54/-12.19	-10.35/-10.71	-19.95/-18.22	-17.89/-18.98	-18.97/-13.68	-15.83/-17.79	-18.27/-10.31	-11.29/-13.77	-
Θ (105°)	-16.55/-15.62	-14.13/-9.98	-8.24/-13.26	-9.84/-18.33	-15.35/-14.76	-16.16/-18.96	-19.33/-14.73	-14.11/-13.35	-14.57/-18.11	-17.45/-19.09	-18.75/-16.78	-15.68/-19.3	-17.37/-17.97	-16.35/-18.19	-18.92/-17.51	-17.5/-12.13	-13.9/-18.42	-15.63/-10.71	-15.94/-18.02	-18.98/-19.08	-18.71/-14.42	-14.74/-15.33	-18.33/-9.66	-12.51/-16.25
Θ (112.5°)	-13.67/-18.39	-17/-13.18	-7.24/-11.85	-19.64/-18.13	-17.8/-18.75	-17.73/-18.6	-17.93/-18.46	-12.37/-16.11	-17.81/-18.89	-18.57/-18.59	-16.16/-17.65	-17.58/-17.82	-16.31/-19.15	-19.04/-18.91	-18.31/-15.44	-12.65/-14.64	-16.31/-18.86	-15.18/-16.57	-18.48/-18.3	-18.66/-11.26	-11.84/-11.57	-17.86/-12.06	-11.9/-12.91	-
Θ (120°)	-10.52/-10.72	-10.05/-19.19	-10.05/-19.19	-16.01/-18.4	-15.85/-10.68	-17.92/-18.84	-13.66/-17.18	-10.57/-18.03	-15.81/-18.15	-18.3/-18.47	-16.34/-14.01	-13.58/-13.39	-16.16/-17.87	-18.38/-17.55	-18.98/-14.1	-11.77/-11.53	-16.79/-16.86	-16.73/-15.14	-18.63/-17.56	-18.18/-13.66	-11.21/-12.06	-16.3/-11.29	-10.42/-12.28	-
Θ (127.5°)	-11.35/-17.5	-14.9/-15.26	-17.54/-16.27	-19.23/-18.46	-14.29/-18.06	-14.86/-12.86	-14.11/-14.36	-13.73/-14.25	-13.83/-14.54	-13.5/-13.31	-14.12/-13.81	-19.25/-18.2	-18.88/-15.36	-10.85/-18.19	-18.6/-17.47	-18.93/-17.32	-17.56/-17.08	-16.27/-17.46	-18.17/-13.96	-18.84/-18.56	-17.53/-17.3	-14.26/-16.9	-13.03/-14.22	-13.84/-12.51
Θ (135°)	-16.08/-16.87	-18.51/-16.44	-15.88/-17.01	-17.88/-17.99	-17.7/-18.93	-9.69/-17.74	-11.23/-10.16	-13.71/-14.36	-12.93/-13.01	-13.44/-13.07	-12.68/-9.42	-14.67/-16.62	-15.66/-15.53	-15.44/-18.46	-9.39/-13.6	-17.14/-12.8	-17.71/-18.03	-17.78/-18.39	-18.43/-16.46	-19.03/-14.64	-14.79/-16.45	-13.41/-15.58	-16.82/-16.41	-9.55/-11.9
Θ (142.5°)	-16.22/-11.95	-18.59/-18.44	-11.14/-17.08	-18.2/-16.54	-18.5/-16.04	-18.71/-18	-13.24/-16.61	-16.03/-17.17	-15.28/-19.17	-16.49/-13.51	-17.17/-13.36	-17.57/-11.07	-9.88/-11.78	-13.58/-14.34	-11.77/-10.96	-16.49/-18.24	-16.52/-16.53	-18.42/-19.02	-17.34/-19	-18.37/-17.46	-15.39/-17.2	-19.04/-17.23	-15.9/-17.59	-18.68/-14.39
Θ (150°)	-18.51/-10.72	-11.46/-15.73	-18.09/-18.33	-19.34/-17.06	-18.7/-17.83	-15.18/-11.26	-12.79/-16.6	-14.21/-18.18	-16.03/-13.82	-18.62/-17.59	-17.72/-18.66	-18.17/-12.7	-13.11/-12.41	-14.28/-16.71	-19.06/-18.75	-17.77/-18.23	-19.11/-17.89	-16.62/-18.51	-18.85/-16.73	-14.95/-17.18	-13.96/-16.08	-18.78/-15.04	-15.13/-17.67	-13.1/-12.64
Θ (157.5°)	-18.46/-18.02	-18.06/-18.13	-18.43/-18.62	-17.4/-18.34	-17.66/-16.6	-14.93/-17.37	-17.66/-16.44	-14.87/-18.39	-18.09/-17.52	-18.35/-18.53	-18.15/-17.31	-18.1/-18.58	-17.25/-18.14	-16.65/-17.98	-17.46/-15.15	-16.35/-19.12	-17.72/-17.66	-17.33/-14.74	-18.13/-18.36	-17.33/-16.46	-16.72/-17.84	-18.79/-13.87	-15.19/-19.05	-16.76/-14.83
Θ (165°)	-15.7/-18.09	-17.92/-13.88	-11.61/-13.33	-17.94/-17.87	-18.91/-17.85	-19.23/-19.01	-18.54/-18.88	-18.6/-16.75	-14.08/-13.32	-14.86/-18.87	-17.58/-19.21	-18.84/-17.96	-17.98/-17.41	-16.75/-14.72	-13.45/-14.72	-11.75/-10.91	-11.46/-12.71	-13.31/-14.19	-17.25/-18.46	-18.83/-19.55	-18.31/-17.69	-18.51/-15.34	-15.7/-18.44	-18.23/-16.21
Θ (172.5°)	-17.3/-17.04	-13.36/-11.2	-12.15/-15.64	-16.81/-16.87	-18.37/-18.89	-18.76/-18.19	-17.46/-17.49	-17.81/-18.26	-18.44/-16.66	-14.34/-13.09	-12.85/-12.98	-12.64/-12.36	-12.34/-13.12	-13.18/-12.56	-12.69/-12.47	-12.93/-13.93	-15.94/-18.07	-18.25/-17.77	-18.29/-19.06	-18.79/-18.59	-17.38/-19.11	-17.38/-17.4	-18.17/-18.01	-18.45/-18.38
Θ (180°)	-18.3/-18.73	-14.45/-12.99	-13.02/-14.58	-16.51/-16.46	-16.66/-16.44	-17.35/-16.27	-16.73/-18.41	-17.25/-18.82	-18.44/-18.3	-18.03/-18.26	-17.28/-19.56	-17.83/-18.52	-17.1/-17.39	-19.16/-18.43	-19.16/-18.9	-18.41/-18.81	-18.93/-19.3	-17.61/-19	-19.48/-17.87	-18.14/-18.7	-17.94/-18.22	-18.68/-18.47	-16.92/-18.59	-
Freq(Hz)	5.885GPol.	ThetaAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(1														



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

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°)	-2.72/-2.89	-3.29/-3.74	-4.56/-5.93	-7.82/-10.11	-12.77/-15.31	-17.21/-15.31	-12.31/-9.88	-7.86/-6.29	-5.23/-4.49	-3.85/-3.14	-2.48/-2.22	-2.24/-2.67	-3.16/-3.69	-4.33/-5.08	-6.03/-7.31	-8.87/-11.18	-15.34/-18.93	-18.66/-15.39	-11.94/-9.32	-7.33/-5.92	-4.78/-3.81	-2.9/-2.47	-2.32/-2.4	-2.36/-2.62
Θ(7.5°)	-3.08/-3.64	-4.47/-5.36	-6.96/-11.88	-9.33/-10.84	-13.46/-18.67	-15.02/-18.07	-13.02/-9.24	-6.78/-4.99	-3.65/-2.68	-2.28/-2.04	-1.85/-1.83	-1.89/-2.28	-2.71/-3.37	-4.22/-5.18	-7.73/-9.45	-12.22/-16.92	-13.88/-12.64	-10.28/-7.52	-5.34/-3.74	-2.57/-1.83	-1.36/-1.41	-1.75/-2.14	-2.36/-2.62	-2.36/-2.62
Θ(15°)	-1.97/-2.78	-3.75/-4.77	-6.97/-9.4	-11.31/-13.32	-15.86/-15.9	-13.19/-10.62	-8.38/-6.7	-5.25/-4	-2.89/-1.97	-1.74/-2.01	-2.35/-2.87	-3.29/-3.37	-3.23/-3.36	-4.28/-5.93	-7.84/-9.44	-10.46/-11.73	-12.96/-14.71	-13.92/-11.72	-9.8/-7.72	-5.87/-4.36	-2.76/-1.66	-0.83/-0.5	-0.49/-0.55	-0.92/-1.4
Θ(22.5°)	-0.61/-1.36	-2.1/-3.13	-5.05/-9.57	-10.22/-12.44	-12.37/-10.08	-7.55/-5.45	-4.26/-4.4	-4.97/-5.76	-5.55/-4.08	-2.34/-0.91	0.04/0.06	-0.93/-2.51	-3.27/-2.84	-2.63/-3.56	-5.97/-8.45	-10.44/-11.6	-15.74/-18.57	-12.25/-9.69	-9.15/-9.07	-7.82/-5.34	-3.34/-1.91	-0.94/-0.18	0.31/0.61	0.45/0.01
Θ(30°)	-0.52/-1.01	-1.58/-2.47	-4.45/-7.38	-10.32/-11.17	-10.52/-9.82	-7.77/-6.15	-5.38/-5.18	-5.41/-5.75	-5.57/-4.43	-2.83/-1.54	-0.53/0.32	0.48/-0.47	-2.43/-3.44	-2.51/-2.7	-5.21/-8.53	-8.69/-8.86	-12.93/-19.17	-13.66/-8.76	-6.38/-5.22	-3.77/-2	-0.72/-0.11	-0.03/-0.14	0.23/0.51	0.36/-0.13
Θ(37.5°)	-2.58/-2.48	-2.32/-3.08	-4.92/-7.15	-9.49/-11.09	-11.22/-11.28	-10.43/-11.45	-12.1/-8.14	-4.7/-2.76	-1.88/-1.24	-0.74/-0.8	-1.55/-2.49	-2.75/-2.88	-4.41/-6.96	-5.78/-4.95	-7.47/-12.56	-13.5/-13.05	-14.56/-16.94	-15.93/-8.32	-5.04/-3.2	0.29/0.45	0.07/-0.47	-0.79/-0.77	-0.96/-1.88	
Θ(45°)	-3.82/-4.57	-4.1/-5.2	-7.24/-8.57	-10.42/-11.76	-12.67/-10.72	-8.31/-9.95	-10.45/-8.53	-8.07/-6.98	-5.11/-3.37	-2.5/-1.48	-1.48/-2.52	-3.83/-5.35	-5.93/-6.95	-9.07/-8.86	-9.8/-13.52	-16.16/-17.95	-15.73/-13.21	-18.03/-11.49	-6.14/-3.71	-1.54/0.06	0.70/0.53	0.05/-0.31	-0.3/-0.17	-0.12/-1.59
Θ(52.5°)	-3.64/-4.46	-5.6/-6.69	-9.38/-12.02	-13.13/-16.43	-16.65/-12.01	-8.22/-8.82	-8.96/-7.29	-9.43/-10.86	-7.38/-4.83	-5.16/-4.48	-4.42/-3.33	-3.95/-6.2	-9.33/-10.17	-12.08/-10.74	-10.65/-12.43	-13.14/-14.89	-18.65/-16.61	-18.08/-9.71	-5.77/-3.43	-2.19/-1.27	-0.42/-0.63	-1.56/-1.89	-1.77/-2.02	-1.97/-2.6
Θ(60°)	-3.88/-3.82	-4.78/-6.49	-9.99/-18.12	-13.96/-18.81	-18.09/-18.06	-14.97/-9.64	-10.57/-6.64	-5.46/-6.01	-4.73/-2.95	-3.9/-4.66	-5.44/-6.82	-5.27/-5.01	-8.86/-13.78	-18.51/-18.69	-18.4/-18.78	-13.61/-11.85	-13.78/-18.56	-18.53/-11.01	-6.99/-3.8	-2.73/-1.96	-0.87/-0.75	-0.86/-1.56	-1.99/-3.16	-4.21/-4.4
Θ(67.5°)	-6.22/-5.07	-4.77/-6.46	-9.57/-16.98	-10.58/-11.88	-13.5/-15.69	-17.99/-15.07	-15.76/-9.92	-5/-5.44	-5.01/-3.9	-3.56/-3.46	-3.61/-6.13	-7.38/-7.28	-12.02/-12.71	-12.53/-17.8	-18.52/-17.66	-18.63/-11.86	-9.98/-11.75	-11.42/-9.65	-8.48/-4.88	-4.53/-3.53	-2.34/-2.54	-2.95/-3.16	-4.21/-6.48	-9.37/-9.97
Θ(75°)	-8.77/-7.25	-6.04/-8.43	-9.81/-16.2	-9.67/-9.1	-9.22/-11.46	-17.03/-18.78	-17.33/-10.47	-18.71/-7.28	-8.02/-7.13	-4.53/-3.47	-3.4/-5.66	-7.86/-9.23	-16.33/-11.39	-8.62/-11.61	-14.38/-16.74	-16.64/-16.3	-11.05/-12.73	-12.06/-8.62	-10.54/-7.84	-6.89/-5.31	-3.77/-4.79	-5.26/-4.63	-5.1/-7.88	-11.61/-10.38
Θ(82.5°)	-10.3/-8.26	-7.52/-10.92	-10.71/-13.66	-9.13/-8.3	-9.07/-12.83	-15.43/-18.04	-18.11/-14.43	-11.77/-8.24	-11.28/-9.71	-4.9/-6.8	-5.77/-6.67	-11.72/-15.98	-17.69/-11.75	-8.84/-11.94	-14.94/-15.14	-14.87/-18.05	-12.27/-13.03	-12.76/-10.17	-13.62/-8.09	-8.08/-7.83	-5.58/-5.59	-7.22/-7.77	-7.68/-10.43	-15.73/-11.89
Θ(90°)	-14.57/-10.83	-10.54/-15.52	-13.37/-15.02	-10.58/-9.31	-9.63/-14.41	-18.45/-16.77	-16.44/-18.63	-15.83/-9.49	-15.53/-12.56	-6.17/-10.97	-10.91/-9.33	-16.15/-17.6	-18.3/-13.97	-9.68/-12.28	-14.03/-19.96	-11.92/-16.03	-17.22/-17.57	-14.15/-10.71	-13.01/-16.27	-13.02/-11.61	-8.06/-8.23	-9.79/-9.44	-10.38/-12.19	-17.2/-15.46
Θ(97.5°)	-17.48/-14.74	-14.13/-18.33	-14.35/-15.88	-11.88/-9.81	-9.94/-12.88	-16.46/-16.33	-19.09/-17.28	-14.71/-11.01	-16.77/-12.87	-8.83/-18.13	-17.26/-12.21	-12.76/-18.42	-12.65/-15.81	-11.51/-19.19	-16.94/-19.26	-17.55/-18.58	-18.06/-17.4	-16.89/-14.01	-16.38/-19.22	-14.14/-15.63	-11.21/-8.31	-10.51/-10.77	-10.23/-15.83	-17.27/-15.63
Θ(105°)	-17.64/-13.19	-16.34/-18.05	-16.5/-18.37	-15.2/-11.73	-12.56/-13.7	-13.95/-15.24	-16.79/-17.78	-18.1/-14.6	-14.21/-14.27	-12.5/-17.18	-18.54/-13.57	-17.94/-18.6	-12.06/-18.75	-13.23/-16.36	-16.61/-17.4	-18.02/-18.92	-19.3/-17.58	-18.81/-17.5	-18.18/-19.07	-18.84/-17.81	-17.26/-13.48	-13.97/-12.75	-13.37/-17.42	-18.63/-17.5
Θ(112.5°)	-17.45/-17.33	-17.82/-15.89	-18.68/-16.26	-15.23/-15.08	-10.59/-9.31	-9.63/-14.41	-18.45/-13.98	-15.74/-13.42	-15.84/-18.08	-17.47/-16.97	-14.60/-16.5	-15.36/-19.14	-18.52/-17.19	-16.66/-18.18	-17.71/-14.76	-17.51/-13.97	-18.66/-18.71	-18.11/-18.92	-18.14/-15.51	-15.97/-13.41	-10.43/-15.91	-10.39/-13.41	-10.43/-15.91	-18.06/-19.22
Θ(120°)	-18.92/-18.58	-18.15/-17.94	-18.63/-18.74	-18.23/-18.52	-13.69/-10.79	-15.81/-16.12	-14/-16.62	-16.67/-19.06	-10.83/-11.85	-18.84/-19.17	-19.11/-13.79	-17.04/-15.5	-15.04/-15.5	-15.35/-13.19	-15.13/-16.37	-14.76/-17.81	-18.85/-19.06	-16.47/-16.75	-17.79/-18.06	-18.57/-18.48	-19.63/-11.82	-16.46/-19.41	-18.17/-16.22	-15.98/-18.64
Θ(127.5°)	-18.31/-18.25	-18.49/-19.06	-16.46/-17.62	-17.85/-17.23	-13.62/-13.19	-19.34/-15.41	-13.87/-18.63	-11.71/-18.4	-14.1/-16.34	-18.61/-18.49	-18.41/-17.65	-19.04/-12.82	-16.45/-18.43	-17.37/-16.39	-19.04/-18.67	-18.81/-18.93	-18.81/-18.86	-19.14/-18.32	-17.49/-18.29	-17.79/-12.78	-17/-14.88	-11.23/-16.33	-17.93/-17.99	-18.84/-18.35
Θ(135°)	-17.23/-17.26	-18.2/-19.31	-18.73/-17.43	-15.85/-11.95	-13.94/-17.79	-14.89/-14.5	-14.81/-17.13	-14.43/-14.24	-18.78/-18.25	-18.5/-15.63	-17.16/-18.4	-18.4/-17.06	-17.74/-17.69	-18.15/-18.78	-16.23/-16.99	-17.92/-18.9	-19.22/-16.65	-16.51/-18.68	-17.28/-15.13	-18.19/-16.47	-14.1/-18.31	-17.02/-16.01	-19.1/-18.48	-15.63/-17.37
Θ(142.5°)	-18.19/-18.2	-18.26/-19.31	-18.16/-18.09	-18.7/-17.51	-19.08/-15.85	-13.44/-18.65	-16.39/-18.71	-19.08/-17.58	-18.06/-16.74	-16.05/-14.21	-17.94/-18.27	-12.14/-14.36	-18.05/-17.82	-19.23/-17.13	-17.76/-18.71	-18.27/-19.1	-17.58/-18.25	-19.37/-19.38	-18.12/-17.82	-18.38/-17.82	-16.56/-15.83	-18.59/-18.13	-18.78/-18.36	-17.38/-18.9
Θ(150°)	-17.14/-19.17	-19.36/-18.75	-18.17/-19.16	-16.08/-15.48	-17.82/-18.77	-18.36/-18.34	-18.71/-18.11	-18.09/-18.89	-17.58/-19	-17.85/-17.28	-18.43/-18.14	-16.82/-14.09	-12.05/-15.2	-17.55/-18.55	-16.67/-15.93	-18.27/-18.83	-17.54/-19.16	-18.69/-18.13	-18.27/-16.61	-14.92/-15.96	-17.1/-18.79	-18.08/-16.2	-13.93/-13.96	-15.12/-15.5
Θ(157.5°)	-19.24/-19.24	-17.54/-18.66	-18.33/-16.48	-14.42/-15.19	-18.83/-17.46	-18.33/-17.39	-18.99/-18.57	-17.69/-18.45	-17.79/-15.2	-14.84/-16.73	-19.18/-17.38	-18.72/-15.07	-13.14/-15.78	-17.54/-18.66	-18/-17.65	-18.88/-18.38	-18.89/-18.32	-17.78/-18.5	-18.04/-18.21	-18.5/-18.64	-18.12/-18.82	-17.64/-18.7	-15.67/-13.53	-14.34/-17.63
Θ(165°)	-18.98/-18.02	-17.94/-18.26	-18.46/-17.94	-19.05/-17.91	-17.58/-17.86	-15.18/-15.2	-15.77/-18.42	-17.47/-18.57	-15.88/-12.95	-12.41/-13.02	-15.95/-18.43	-18.3/-17.61	-16.53/-13	-12.53/-14.85	-18.53/-17.56	-18.29/-17.59	-16.31/-15.78	-16.67/-17.76	-16.37/-14.7	-13.97/-13.99	-14.27/-14.89	-17.26/-19	-17.83/-18.17	
Θ(172.5°)	-18.58/-17.77	-18.72/-19.27	-18.87/-17.37	-18.28/-16	-14.92/-14.5	-15.42/-16.2	-15.77/-17.83	-17.82/-18.99	-18.43/-16.24	-15.47/-15.53	-16.6/-18.44	-18.85/-17.3	-17.48/-16.08	-15.84/-15.72	-15.86/-17.18	-17.2/-19.47	-17.97/-18.07	-18.7/-18.3	-15.96/-14.8	-14.5/-14.95	-16.81/-18.93	-17.91/-18.85	-17.84/-18.09	-17.48/-17.94
Θ(180°)	-11.04/-10.91	-10.96/-11.82	-12.23/-13.02	-14.5/-16.75	-18.86/-18.84	-19.08/-17.77	-17.9/-17.49	-16.84/-14.53	-12.51/-11.17	-10.02/-9.63	-9.67/-9.85	-10.02/-10.36	-10.78/-11.44	-11.65/-12.1	-13.61/-15.21	-17.28/-18.09	-18.08/-18.08	-19.31/-19.48	-19.34/-17.89	-15.56/-14.01	-12.98/-12.09	-11.86/-11.68	-11.4/-11.2	-11.54/-11.61
FreqHz	5.2GPol.	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°)	-11.57/-9.34	-7.41/-6.1	-5.09/-4.33	-3.73/-3.41	-3.11/-2.89	-2.61/-2.65	-2.82/-3.16	-3.55/-4.15	-4.86/-6.12	-7.49/-9.42	-11.75/-13.21	-14.06/-13.46	-11.91/-9.96	-8.05/-6.58	-5.07/-4.2	-3.56/-2.74	-2.41/-2.27	-2.21/-2.4	-2.62/-3.07	-3.53/-4.05	-4.82/-6.01	-7.44/-9.14	-11.19/-12.27	-14.22/-13.46
Θ(7.5°)	-10.46/-8.33	-6.53/-5.3	-4.7/-4.2	-3.87/-3.6	-3.16/-2.48	-1.93/-1.78	-1.79/-2.06	-2.45/-3.2	-4.17/-5.51	-7.3/-10.26	-14.51/-16.82	-13.68/-10.56	-8.68/-7.02	-5.52/-4.18	-3.2/-2.66	-2.05/-1.45	-1.16/-0.96	-0.78/-0.86	-1.15/-1.83	-2.69/-3.61	-4.93/-6.75	-9.25/-12.28	-15.41/-16.08	-14.37/-12.47
Θ(15°)	-4.23/-3.14	-2.17/-1.49	-1.04/-0.89	-0.97/-1.26	-1.32/-1.28	-1.1/-1	-1.03/-1.29	-1.72/-2.48	-3.5/-5.13	-7.15/-9.75	-13.56/-17.96	-19.27/-13.6	-9.79/-6.75	-4.27/-2.68	-1.75/-1.39	-1.42/-1.39	-1.34/-1.36	-1.67/-2.42	-3.18/-4.18	-5/-7.1	-6.92/-8.5	-10.54/-11.6	-9.91/-8.05	-6.43/-5.14
Θ(22.5°)	-7.94/-5.95	-4.29/-2.96	-1.9/-1.23	-0.92/-1.06	-1.4/-1.88	-2.36/-2.93	-3.4/-3.84	-3.73/-3.06	-2.21/-1.81	-2.37/-3.95	-6.78/-10.82	-11.67/-9.28	-7.99/-6.74	-5.12/-3.44	-2.35/-2.09	-2.63/-3.14	-3.33/-3.87	-5.13/-6.59	-7.3/-6.84	-6.49/-6.89	-7.84/-9.23	-11.05/-13.91	-17.85/-18.17	-14.35/-10.28
Θ(30°)	-4.05/-3.38	-2.59/-2.19	-3.24/-4.58	-3.73/-1.92	-0.87/-0.7	-0.99/-1.19	-1.05/-0.88	-1.06/-1	-0.71/-0.67	-1.36/-2.88	-4.89/-7.68	-11.32/-10.7	-7.68/-5.82	-5.3/-4.97	-4.4/-5.19	-6.92/-7.82	-7.66/-8.31	-11.33/-12.02	-8.69/-6.52	-6.67/-8.76	-12.08/-15.56	-16.28/-14.94		



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

Θ(37.5°)	-3.6/-5.77	-8.7/-9.25	-10.22/-14.8	-15.12/-8.35	-6.07/-8.93	-7.87/-4.35	-3.77/-3.55	-2.94/-2.3	-1.98/-1.55	-1.23/-2.57	-5.52/-5.73	-3.22/-2.76	-2.97/-1.71	-1.24/-3.95	-6.78/-5.5	-5.05/-7.52	-12.97/-13.43	-8.58/-7.21	-6.6/-2.93	-0.66/0.16	0.01/-0.7	-1.34/-0.76	-0.53/-0.57	-0.98/-1.99
Θ(45°)	-3.87/-4.88	-7.86/-10.18	-10.47/-16.55	-17.81/-8.6	-5.03/-5.6	-4.1/-4.54	-5.94/-5.79	-5.22/-3.6	-2.44/-1.43	-0.97/-1.47	-6.26/-6.99	-6.85/-6.18	-5.15/-5.75	-9.75/-8.12	-9.58/-10.84	-7.92/-2.43	-0.16/0.5	0.52/-0.54	-1.9/-1.53	-1.2/-1.41	-1.2/-1.41	-1.06/-1.88		
Θ(57.5°)	-4.63/-5.86	-6.73/-8.2	-8.02/-13.06	-16.28/-11.81	-6.48/-5.21	-4.2/-8.03	-6.06/-7.16	-11.83/-9.77	-6.02/-5.15	-5.74/-5.61	-5.91/-3.97	-4.22/-6.7	-12.22/-13.06	-13.29/-16.58	-19.07/-16.38	-17.25/-17.81	-15.26/-14.77	-10.19/-9.69	-6.23/-2.35	-1.53/-0.86	-0.17/-1.16	-3.24/-3.41	-2.62/-3.41	-1.06/-1.71
Θ(60°)	-6.87/-9.04	-8.15/-7.69	-8.65/-11.84	-15.71/-15.69	-17.43/-9.7	-5.4/-9.47	-7.53/-5.74	-6.33/-7.37	-4.6/-2.29	-2.58/-4.23	-6.21/-6.92	-4.4/-6.27	-8.91/-10.82	-15.16/-9.1	-12.39/-18.76	-17.73/-18.23	-17.38/-13.62	-12.07/-12.32	-7.26/-2.92	-3.44/-2.45	-1.28/-2.47	-4.64/-4.86	-5.15/-7.32	-10.36/-9.92
Θ(67.5°)	-9.4/-12.15	-8.87/-7.22	-8.73/-9.88	-17.92/-15.25	-11.28/-14.83	-10.96/-11.91	-10.04/-6.28	-4.94/-8.19	-5.69/-2.1	-2.5/-3.41	-3.85/-7.28	-4.82/-5.88	-9.63/-10.83	-13.29/-17.82	-11.84/-11.88	-14.43/-18.57	-18.07/-15.81	-15.45/-13.5	-9.43/-6.85	-5.91/-4.8	-4.46/-6.12	-9.38/-7.63	-7.22/-8.55	-10.16/-15.63
Θ(75°)	-10.75/-12.64	-11.53/-7.66	-9.45/-7.34	-17.1/-13.5	-9.13/-8.9	-14.74/-14.27	-18.17/-8.38	-6.75/-8.01	-7.43/-3.61	-3.69/-3.97	-2.66/-5.1	-5.6/-7.1	-13.91/-11.08	-2.63/-12.81	-11.92/-17.1	-14.32/-14.82	-18.78/-17.88	-16.27/-12.87	-14.28/-8.99	-7.87/-8.1	-7.04/-8.75	-13.87/-9.72	-7.02/-9.84	-10.06/-14.71
Θ(82.5°)	-11.52/-16.09	-13.53/-10.5	-11.04/-7.42	-13.7/-12.61	-7.7/-17.25	-17.28/-16.82	-18.27/-13.44	-11.12/-8.31	-9.24/-5.69	-5.37/-4.97	-2.98/-4.89	-7.71/-9.46	-14.18/-13.44	-12.39/-11.12	-11.06/-11.29	-18.56/-13.92	-16.79/-16.23	-19.15/-12.85	-13.53/-9.82	-8.24/-10.84	-10.02/-10.35	-13.36/-9.57	-8.95/-12.6	-11.2/-15.97
Θ(90°)	-10.53/-15.12	-14.76/-13.54	-13.89/-9.35	-12.54/-14.91	-9.57/-17.59	-13.64/-17.71	-15.55/-17.16	-15.11/-6.89	-10.94/-8.94	-5.91/-7.8	-6.13/-7.3	-10.13/-12	-14.55/-13.43	-12.76/-16.06	-12.28/-12.56	-17.45/-16.47	-16.45/-18.54	-18.99/-14.74	-18.91/-12.63	-13.07/-18.19	-14.57/-12.48	-18.25/-10.47	-9.99/-12.75	-11.36/-17.01
Θ(97.5°)	-11.18/-18.62	-12.98/-17.86	-16.33/-10.26	-11.7/-17.57	-10.55/-18.75	-11.19/-18.69	-16.69/-18.5	-16.12/-8.97	-14.79/-13.68	-7.37/-10.53	-8.43/-11.43	-18.18/-18.79	-17.21/-15.76	-12.98/-16.5	-12.94/-15.27	-18.46/-17.5	-18.13/-18.69	-18.95/-15.43	-14.01/-17.06	-18.18/-18.89	-14.12/-15.04	-18.04/-11.75	-11.14/-12.23	-13.86/-18.44
Θ(105°)	-11.99/-17.82	-15.73/-18.98	-14.26/-12.81	-11/-18.24	-10.67/-18.05	-13.07/-18.45	-15.34/-16.7	-18.43/-9.84	-18.53/-18.38	-10.09/-13.31	-12.93/-11.45	-18.09/-18.31	-18.23/-18.95	-12.4/-18.87	-12.98/-19.36	-19.3/-18.37	-16.65/-18.95	-17.47/-18.05	-17.9/-18.03	-17.42/-18.26	-15.07/-13.81	-17.9/-10.54	-11.28/-18.62	-17.01/-17.86
Θ(112.5°)	-14.35/-19.07	-18.63/-18.79	-18.39/-13.9	-13.66/-18.27	-10.46/-14.31	-18.33/-17.51	-10.59/-12.97	-17.61/-15.29	-18.98/-17.62	-13.57/-14.54	-15.04/-16.77	-15.36/-13.87	-11.03/-17.75	-14.79/-17.93	-10.12/-18.83	-18.48/-19.09	-18.61/-18.68	-18.43/-15.79	-18.1/-18.56	-18.75/-18.97	-16.94/-13.59	-11.73/-16.87	-17.17/-16.98	-18.19/-18.18
Θ(120°)	-18.1/-16.81	-18.42/-17.72	-16.05/-18.36	-16.18/-17.8	-15.05/-15.2	-12.13/-14.98	-13.76/-12.01	-18.18/-15.65	-13.64/-16.99	-14.59/-13.23	-17.66/-18.14	-16.45/-19.09	-17.81/-15.67	-14.03/-14.55	-18.78/-18.11	-14.22/-17.94	-16.77/-17.85	-17.85/-16.68	-17.05/-18.09	-17.44/-14.66	-18.76/-18.04	-17.74/-16.5	-13.98/-17.9	-17.1/-17.65
Θ(127.5°)	-18.03/-16.21	-17.87/-17.8	-17.92/-18.44	-12.57/-18.44	-15.69/-13.78	-13.15/-18.69	-13.53/-17.95	-13.66/-14.73	-16.44/-11.79	-18.26/-18.74	-16.36/-13.21	-9.27/-15.01	-14.17/-19.34	-14.61/-17.82	-11.59/-17.09	-15.21/-13.13	-19.28/-17.68	-19.07/-14.06	-18.8/-18.5	-18.72/-18.27	-12.37/-10.17	-18.13/-18.49	-15.14/-18.67	-18.9/-18.79
Θ(135°)	-17.85/-17.43	-17.51/-16.02	-18.39/-13.9	-13.66/-18.27	-10.46/-14.31	-18.33/-17.51	-10.59/-12.97	-17.61/-15.29	-18.98/-17.62	-13.57/-14.54	-15.04/-16.77	-15.36/-13.87	-11.03/-17.75	-14.79/-17.93	-10.12/-18.83	-18.48/-19.09	-18.61/-18.68	-18.43/-15.79	-18.1/-18.56	-18.75/-18.97	-16.94/-13.59	-11.73/-16.87	-17.17/-16.98	-18.86/-18.26
Θ(142.5°)	-13.35/-17.28	-17.57/-15.76	-16.85/-17	-14.16/-13.71	-12.22/-19.15	-13.93/-18.83	-13.76/-12.01	-18.18/-15.65	-13.64/-16.99	-14.59/-13.23	-17.66/-18.14	-16.45/-19.09	-17.81/-15.67	-14.03/-14.55	-18.78/-18.11	-14.22/-17.94	-16.77/-17.85	-17.85/-16.68	-17.05/-18.09	-17.44/-14.66	-18.76/-18.04	-17.74/-16.5	-13.98/-17.9	-17.1/-17.65
Θ(150°)	-17.97/-19.09	-17.46/-18.7	-18.9/-18.02	-19.17/-11.65	-11.51/-17.08	-13.89/-13.21	-18.57/-17.49	-13.48/-14.75	-16.97/-16.7	-12.91/-11.14	-13.4/-17.45	-18.75/-15.19	-11.63/-15.84	-18.61/-17.52	-15.8/-13.51	-18.43/-18.72	-17.36/-18.19	-17.38/-18.69	-15/-13.12	-16.8/-17.99	-18.54/-18.98	-18.22/-18.46	-19.15/-15.37	-12.59/-14.78
Θ(157.5°)	-17.28/-17.98	-17.91/-18.52	-18.54/-18.42	-18.54/-18.86	-18.3/-18.97	-18.14/-14.85	-14.25/-13.71	-14.12/-15.17	-16.08/-16.8	-15.67/-15.57	-16.5/-18.62	-17.66/-16.42	-15.45/-14.01	-13.88/-14.75	-16.42/-17.86	-18.45/-18.41	-19.57/-17.42	-17.52/-17.98	-18.03/-18.24	-18.22/-18.03	-17.94/-17.98	-16.44/-15.77	-15.94/-15.75	-15.76/-16.17
Θ(180°)	-13.28/-14.39	-16.1/-16.37	-16.8/-14.44	-18.65/-18.44	-18.95/-19.27	-18.82/-19.02	-19.14/-18.46	-16.8/-14.64	-13.91/-13.82	-13.78/-12.84	-12.61/-13.01	-13.82/-15.64	-15.74/-15.66	-15.75/-15.17	-13.81/-15.25	-19.01/-17.79	-18.61/-19.04	-17.34/-19.18	-18.99/-17.62	-16.48/-14.47	-12.75/-11.64	-11/-10.85	-10.96/-12.33	-13.27/-13.8
Freq[GHz]	5.65GPol.	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°)	-12.1/-10.4	-8.9/-7.45	-5.92/-5.14	-4.47/-3.87	-4.02/-4	-4.04/-2.5	-4.64/-5.13	-5.53/-6.54	-7.92/-10.15	-12.61/-15.08	-16.92/-12.83	-10.9/-9.33	-7.2/-6.1	-5.28/-4.59	-4.5/-4.29	-4.06/-4.23	-4.3/-4.57	-4.95/-5.63	-6.81/-7.53	-8.85/-9.76	-11.41/-13.97	-16.95/-16.97	-17.61/-14.71	
Θ(7.5°)	-7.45/-6.18	-6.56/-5.07	-4.32/-4.18	-4.06/-4.16	-4.65/-4.97	-5.35/-5.5	-6.2/-6.6	-7.08/-7.66	-8.19/-9.48	-10.52/-11.62	-12.05/-11.79	-11.94/-10.51	-8.23/-6.4	-4.43/-3.22	-2.59/-2.25	-2.32/-2.21	-2.28/-2.58	-2.96/-3.43	-6.62/-5.5	-8.47/-9.2	-10.51/-11.58	-11.56/-10.76	-9.68/-6.63	
Θ(15°)	-7.39/-6.22	-5.25/-4.22	-3.33/-2.77	-2.26/-2.06	-1.87/-1.69	-1.48/-1.69	-2.11/-2.85	-3.95/-5.56	-8.34/-10.66	-12.17/-11.79	-11.09/-11.69	-13.29/-13.3	-10.03/-6.89	-4.19/-2.61	-1.9/-1.54	-1.62/-1.87	-2.34/-2.99	-3.56/-3.99	-3.84/-3.83	-4.04/-4.37	-5.12/-6.25	-8.04/-9.27	-9.79/-9.63	-9.13/-8.57
Θ(22.5°)	-6.47/-4.53	-3.43/-3.04	-3.06/-3.79	-4.39/-4.2	-3.01/-2.06	-1.59/-1.61	-1.84/-2.14	-2.72/-4.07	-5.65/-7.76	-6.88/-12.32	-14.71/-10.76	-7.07/-5.81	-6.44/-7.26	-6.5/-5.74	-3.91/-3.11	-2.55/-2.41	-3.45/-4.88	-4.79/-3.09	-1.5/-1.31	-2.16/-3.94	-6.28/-9.22	-13.23/-15.53	-16.58/-15.61	-12.05/-14.1
Θ(30°)	-5.05/-2.6	-0.97/-0.4	-0.35/-0.85	-2.54/-4.87	-4.72/-3.4	-2.83/-2.83	-2.77/-2.03	-1.26/-0.99	-1.57/-1.91	-1.99/-2.3	-3.35/-5.59	-7.62/-5.14	-4.14/-5.21	-5.96/-5.63	-5.62/-5.61	-4.91/-4.92	-7.98/-17.74	-12.04/-7.28	-6.3/-6.68	-9.24/-10.89	-14.11/-18.62	-19.63/-14.43	-11.65/-10.01	-9.38/-7.74
Θ(37.5°)	-4.84/-4.81	-2.7/-1.97	-1.65/-0.67	-1.56/-3.91	-2.65/-1.14	-0.8/-1.41	-1.08/-0.29	0.87/-0.27	-2.49/-3.96	-4.06/-3.49	-3.18/-4.29	-6.3/-7.84	-5.74/-2.3	-5.43/-6.89	-9.65/-12	-10.51/-8.98	-9.42/-13.11	-19.35/-10.13	-6.96/-7.62	-9.38/-8.98	-7.83/-8.15	-10.67/-12.79	-10.75/-7.29	-4.7/-4
Θ(45°)	0.73/-0.21	-1.67/-1.41	-1.75/-1.05	-1.32/-3.14	-1.24/-0.67	-1.89/-3.81	-1.97/-0.98	1.38/0.45	-0.19/0.47	0.1/-1.51	-3.11/-2.08	-0.56/-0.4	-0.67/-1.62	-3.53/-3.87	-3.55/-4.19	-5.38/-7.48	-12.43/-16.66	-12.54/-9.72	-6.36/-5.67	-8.35/-6.68	-5.19/-3.49	-3.32/-3.45	-3.76/-3.04	-1.25/-0.33
Θ(52.5°)	0.81/1.05	-1.12/-1.71	-2.26/-2.02	-0.75/-2.53	-1.65/-2.54	-4.9/-6.78	-2.76/-0.52	-0.43/0.34	1.06/1.95	2.07/1.36	0.11/-0.44	-0.64/-0.63	-1.43/-3.84	-6.84/-6.81	-4.31/-3.13	-4.32/-8.72	-14.61/-13.63	-7.9/-7.43	-6.59/-7.48	-9.39/-6.25	-2.86/-1.46	-1.72/-1.56	-2.93/-3.25	-2.46/-0.86
Θ(60°)	-2.66/-0.82	-1.31/-2.35	-2.4/-3.86	-0.63/-2.2	-2.12/-2.28	-1.99/-2.44	-1.47/-1.22	-0.56/1	0.62/-1.12	2.36/1.49	-0.15/-1.04	-2.81/-3.81	-3.43/-3.33	-2.19/-3.84	-5.57/-3.69	-4.38/-9.72	-10.97/-9.46	-6.46/-6.58	-6.86/-8.84	-7.03/-3.05	-0.95/-0.58	-1.92/-3.14	-5.54/-5.32	-4.85/-2.98
Θ(67.5°)	-5.42/-3.56	-2.1/-2.48	-1.8/-4.41	-0.85/-2.47	-2.25/-0.97	0.54/0.1	0.11/-0.63	-0.05/-1.67	0.72/1.61	3.35/-1.3	-1.56/-2.87	-3.07/-2.59	-1.7/-1.45	0.53/-0.44	-4.37/-3.29	-2.59/-1.97	-8.32/-5.56	-6.09/-6.69	-7.98/-5.87	-4.89/-1.55	-0.94/-0.91	-2.98/-5.4	-11.09/-9.78	-7.78/-4.46
Θ(75°)	-6.2/-7.98	-4.44/-2.81	-1.61/-4.99	-2.18/-2.46	-1.89/-0.95	1.18/0.33	-0.12/-1.33	-0.8/-1.4	0.88/1.43	3.15/-1.41	-0.89/-2.75	-1.9/-1.67	-0.78/-3.15	-0.50/-0.17	-2.25/-3.56	-1.7/-7.2	-6.39/-4.2	-4.52/-4.99	-5.74/-7.61	-3.36/-1.46	-1.93/-1.99	-4.28/-4.71	-9.6/-12.04	-9.17/-6.66
Θ(82.5°)	-7.39/-9.32	-7.57/-3.38	-2.59/-5.29	-3.81/-2.56	-3.15/-2.17	0.37/-0.62	-0.89/-3.55	-2.27/0.17	-0.35/0.28	0.91/-0.29	-0.83/-2.98	-2.73/-3.15	-2.14/-84	-2.16/-1.28	-3.06/-3.71	-1.9/-5.17	-5.2/-2.45	-5.57/-5.2	-5.1/-7.14	-2.92/-1.7	-2.15/-3.09	-4.89/-4.64	-18.97/-13.27	-9.48/-7.29
Θ(90°)	-8.76/-10.75	-11.87/-4.57	-4.42/-6.38	-6.28/-2.93	-4.48/-3.42	-1.24/-2.62	-2.58/-6.63	-4.79/-2.86	-2.4/-1.47	-2.73/-2.59	-1.11/-1.02	-2.92/-3.69	-2.95/-5.85	-5.41/-4.03	-4.62/-6.26	-3.68/-6.29	-5.13/-5.97	-5.5/-5.63	-5.52/-7.95	-4.84/-3.33	-3.66/-6.29	-7.62/-7.08	-8.88/-14.06	-8.86/-6.46
Θ(97.5°)	-10.62/-9.38	-10.56/-4.48	-6.92/-7.37	-7.88/-3.26	-8.37/-4.21	-3.63/-4.76	-4.94/-9.19	-6.54/-5.72	-4.22/-3.89	-5.46/-5.05	-3.16/-5.61	-7.58/-5.7	-7.12/-6.43	-7.86/-6.75	-8.76/-7.56									



Radiated Composite Gain Data of 2.4GHz&5GHz&5.9GHz

Appendix A

Θ(90°)	-8.94/-9	-11.07/-11.19	-17.58/-11.51	-14.96/-7.99	-15.28/-9.25	-10.91/-15.25	-12.95/-10.99	-12.52/-8.93	-11.19/-8.77	-8.51/-11.57	-7.38/-12.36	-10.11/-13.37	-17.42/-15.1	-11.64/-13.49	-18.44/-11.27	-11.41/-12.71	-17.99/-17.39	-18.88/-18.55	-18.4/-11.48	-18.23/-12.93	-8.31/-17.65	-10.16/-13.31	-14.52/-7.11	-17.8/-10.43
Θ(97.5°)	-10.47/-9.98	-10.3/-9.8	-16.12/-16.94	-18.96/-11	-14.43/-11.02	-9.97/-18.67	-10.85/-13.15	-18.22/-8	-12.12/-11.26	-7.93/-12.74	-9.77/-12.54	-12.1/-14.67	-17.88/-18.73	-11.22/-14.49	-19.7/-12.34	-15.18/-12.89	-18.5/-16.96	-18.05/-16.27	-17.89/-14.59	-17.56/-13.18	-11.25/-17.62	-11.46/-10.77	-17.93/-9.23	-13.33/-10.28
Θ(105°)	-12.51/-12.09	-17.95/-16.6	-14.64/-18.49	-18.67/-11.86	-13.48/-11.83	-12.84/-15.92	-12.59/-15.89	-15.77/-9.56	-10.17/-19.38	-8.48/-13.35	-12.73/-15.81	-19.27/-17.97	-18/-17.99	-11.95/-17.97	-17.62/-13.8	-19.13/-13.2	-18.38/-18.88	-18.48/-14.68	-18.45/-18.48	-19.25/-11.5	-11.2/-18.34	-12.98/-10.09	-18.45/-12.25	-12.94/-10.08
Θ(112.5°)	-18.21/-11.64	-18.49/-18.04	-15.32/-17.62	-14.96/-11.85	-11.36/-15.82	-10.85/-19.13	-10.6/-18.32	-13.82/-10.64	-14.56/-17.98	-11.63/-12.87	-16.84/-17.01	-18.18/-18.62	-16.39/-19.06	-11.91/-19.66	-13.22/-13.61	-18.55/-14.85	-18.31/-16.65	-18.3/-16.83	-18.44/-18.96	-18.33/-15.65	-14.08/-13.12	-17.84/-11.94	-10.85/-17.21	-16.67/-18.46
Θ(120°)	-16.88/-16.98	-17.9/-18.82	-17.62/-14.65	-14.3/-15.3	-12.68/-16.2	-13.22/-17.91	-10.39/-16.15	-14.94/-13.32	-16.11/-12.33	-11.3/-12.9	-18.43/-17.96	-14.17/-19.24	-14.6/-17.76	-8.34/-14.91	-17.99/-17.5	-19.1/-15.67	-15.26/-17.6	-17.58/-14.58	-18.27/-18.67	-17.54/-15.53	-18.99/-8.98	-15.83/-18.99	-10.28/-17.85	-18.31/-17.23
Θ(127.5°)	-17.07/-17.53	-15.6/-16.21	-18.81/-13.57	-18.64/-16.45	-8.61/-16.53	-17.69/-18.8	-10.87/-18.21	-17.88/-18.35	-18.47/-9.71	-13.01/-14.39	-19.04/-15.91	-17.95/-18.74	-19.24/-14.57	-18.98/-17.31	-17.88/-18.08	-16.57/-16.36	-13.02/-17.47	-17.25/-12.37	-17.56/-16.91	-18.74/-14.69	-17.29/-15.47	-15.02/-17.43	-12.13/-15.05	-14.23/-15.11
Θ(135°)	-16.51/-18.71	-18.79/-17.19	-19.01/-10.77	-15.9/-18.62	-18.56/-18.52	-10.39/-12.58	-15.74/-13.04	-18.1/-10.32	-12.52/-15.4	-17.92/-18.31	-19.09/-18.13	-17.82/-16.53	-16.34/-16.7	-18.82/-14.94	-18.28/-17.33	-14.18/-17.69	-13.38/-17.99	-17.61/-16.8	-18.04/-14.63	-17.4/-19.23	-17.75/-14.73	-11.09/-18.58	-18.72/-18.42	-13.18/-16.84
Θ(142.5°)	-18.94/-18.85	-17.63/-17.37	-18.28/-11.42	-10.07/-12.56	-17.01/-18.47	-12.52/-13.05	-18.99/-12.42	-18.16/-15.34	-11.23/-10.29	-12.29/-16.19	-18.6/-17.65	-18.78/-18.58	-18.34/-17.81	-18.06/-14.49	-15.58/-18.26	-19.34/-17.46	-17.95/-18.82	-16.07/-18.68	-18.33/-17.62	-17.35/-18.15	-18.37/-14.62	-12.6/-14.31	-13.96/-17.8	-18.92/-18.67
Θ(150°)	-18.33/-16.39	-11.09/-13.28	-17.32/-17.69	-17.74/-18.14	-14.95/-12.94	-18.43/-19.15	-18.58/-18.4	-18.12/-18.09	-19.17/-17.27	-17.63/-16.82	-13.39/-16.8	-17.93/-18.01	-13.65/-18.63	-12.42/-11.97	-16.46/-18.08	-18.98/-17.75	-17.99/-19.1	-19.19/-19.13	-13.9/-18.72	-18.55/-11.52	-11.08/-15.01	-18.43/-16.99	-14.13/-16.5	-19.07/-17.82
Θ(157.5°)	-17.99/-18.17	-13.12/-17.01	-17.89/-19.04	-18.63/-17.62	-17.69/-17.74	-13.71/-11.55	-9.77/-12.67	-19.24/-16.76	-12.69/-12.25	-14/-15.8	-18.15/-17.97	-17.5/-12.39	-12.53/-18.36	-18.57/-11.47	-11.69/-17.58	-18.84/-18.3	-17.98/-17.67	-18.83/-14.2	-11.81/-11.87	-15.52/-17.98	-17.56/-18.47	-18.28/-18.84	-17.99/-17.23	-15.08/-14.94
Θ(165°)	-18.38/-18.58	-18.73/-18.6	-17.4/-16.02	-13.88/-14.12	-14.49/-18.3	-18.76/-17.98	-18.44/-18.92	-19.18/-19.07	-17.25/-18.36	-17.9/-18.17	-18.28/-19.24	-18.88/-17.6	-19.24/-19.13	-16.43/-18.19	-18.57/-19.34	-17.69/-19.31	-19.01/-18.04	-19.05/-18.52	-14.32/-13.94	-14.56/-17.53	-18.66/-17.56	-17.34/-16.01	-16.91/-17.21	-17.44/-19.1
Θ(172.5°)	-17.6/-18.47	-18.17/-17.81	-18.98/-18.58	-18.42/-17	-18.45/-18.61	-18.26/-18.85	-17.41/-15.88	-14.74/-15	-16.05/-18.2	-18.22/-18.36	-17.48/-19.07	-16.86/-15.66	-14.26/-13.76	-16.82/-18.7	-18.27/-18.45	-15.14/-15.13	-14.12/-14.52	-14.36/-13.69	-13.4/-13.3	-11.6/-10.13	-9.93/-10.14	-10.38/-11.48	-13.11/-16.04	-17.24/-16.56
Θ(180°)	-14.81/-13.94	-11.85/-15.18	-18.59/-18.15	-17.71/-18.81	-18.25/-18.08	-18.81/-17.87	-18.54/-19.07	-13.67/-12.63	-11.66/-11.03	-10.37/-10.27	-9.22/-9.05	-8.98/-9.83	-12.14/-13.53	-13.41/-14.74	-18.38/-17.7	-17.2/-17.2	-17.26/-16.05	-14.72/-12.61	-11.26/-10.93	-10.27/-10.32	-10.19/-10.23	-9.48/-9.51	-10.34/-11.72	-12.66/-13.58
Freq(Hz)	5.885GPol.	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°)	-8.39/-7.02	-5.98/-5.59	-4.51/-4.07	-3.53/-2.97	-3.16/-3.29	-3.51/-3.4	-4.05/-5.22	-6.09/-7.52	-9.46/-11.96	-13.02/-15.55	-15.94/-14.06	-11.75/-9.52	-7.79/-6.26	-5.21/-4.33	-4.11/-3.83	-3.12/-2.75	-2.8/-3.08	-3.55/-4.12	-4.77/-5.31	-6.37/-7.97	-9.5/-11.39	-13.36/-15.8	-19.73/-19.04	-14.16/-10.5
Θ(7.5°)	-6.96/-6.02	-4.99/-4.31	-3.71/-3.9	-3.98/-4.08	-4.92/-5.75	-6.4/-6.74	-7.9/-9.04	-8.94/-9.97	-10.24/-10.28	-9.38/-9.39	-8.96/-10.63	-11.39/-9.92	-8.53/-6.15	-4.81/-3.58	-2.81/-2.64	-2.28/-2.49	-3.15/-4.11	-5.19/-6.15	-6.85/-7.23	-7.27/-7.88	-8.35/-9.13	-9.68/-10.65	-11.11/-11.39	-10.06/-6.31
Θ(15°)	-14.33/-12.29	-9.06/-6.34	-4.03/-3.34	-2.76/-3.1	-4.04/-5.11	-5.89/-7.47	-7.97/-8.29	-8/-7.76	-7.92/-7.53	-7.14/-6.65	-6.6/-6.27	-5.49/-4.66	-4.01/-4.04	-4.25/-4.1	-3.69/-3.02	-2.51/-3.02	-4.21/-4.8	-3.95/-2.51	-1.57/-1.37	-2.28/-4.62	-8.46/-14.44	-19.04/-18.85	-19.01/-18.83	-17.73/-16.2
Θ(22.5°)	-2.6/-1.66	-1.47/-2.22	-2.68/-2.17	-1.58/-2.41	-4.32/-4.37	-3.04/-1.37	-1.03/-1.43	-2.33/-3.02	-4.12/-5.41	-6.54/-7.44	-7/-7.46	-7.49/-7.13	-5.93/-4.24	-3.67/-5.27	-6.55/-4.33	-2.29/-2.57	-3.82/-3.68	-2.58/-2.12	-2.6/-3.31	-5.08/-6.69	-16.44/-15.46	-12.78/-12.48	-13.55/-10.03	-6.71/-4.16
Θ(30°)	-3.37/-2.1	-0.86/-0.98	-1.98/-1.2	-0.09/-1.43	-6.14/-6.24	-3.94/-3.43	-3.67/-4.22	-5.74/-5.06	-3.05/-1.8	-1.77/-2.25	-3.64/-5.33	-5.22/-2.84	-2.81/-4.65	-4.79/-4.92	-7.66/-8.66	-5.55/-8.27	-16.29/-8.65	-5.86/-5.33	-5.12/-5.89	-8.45/-14	-17.27/-18.41	-17.96/-12.66	-8.7/-6.33	-4.17/-3.57
Θ(37.5°)	-1.56/-1.93	-3.36/-2.54	-2.74/-2.76	-0.64/-2.93	-5.2/-1.44	-1.24/-1.73	-2.07/-1.53	-1.06/-1.3	-1.82/-2.51	-3.05/-2.92	-2.79/-3.57	-4.4/-5.59	-5.29/-5.73	-6.15/-5.34	-6.61/-12.79	-19.06/-15.26	-17.66/-11.51	-8.04/-6.61	-6.46/-7.79	-10.27/-10.23	-12.29/-15.12	-11.72/-6.03	-3.72/-2.9	-1.79/-1.91
Θ(45°)	-0.03/-1.84	0.63/-2.2	-1.95/-3.87	-1.47/-3.37	-3.97/-1.37	-1.02/-0.44	-1.54/-0.12	0.85/-2.19	-3.67/-2.24	-2.65/-1.66	-0.55/-1.7	-3.39/-3.69	-3.01/-2.69	4.1/-5.67	-3.55/-3.91	-10.43/-8.26	-9.29/-12.98	-18.68/-8.78	-7.28/-10.97	-11.97/-9.99	-6.28/-6.11	-5.37/-3.83	-5.74/-6.78	-3.35/-1.6
Θ(52.5°)	-2.95/-0.69	0.82/-1.74	-1.65/-3.78	-4.37/-5.24	-5.09/-4.89	-1.98/-1.04	-3.7/-0.19	0.27/-3.34	0.44/-2.4	1.98/-2.61	3.39/-1.09	-1.09/-2.82	-2.51/-1.7	-2.65/-2.96	-1.9/-1.89	-7.21/-7.8	-8.35/-7.33	-16.6/-9.34	-8.4/-15.17	-11.59/-6.01	-2.65/-1.78	-2.27/-4.35	-12.04/-18.43	-7.06/-2.34
Θ(60°)	-4.01/-2.57	0.09/-0.65	-0.33/-1.41	-4/-3.29	-3.26/-7.09	-1.27/-1.15	-2.46/-0.16	0.43/-0.73	1.29/-1.81	1.23/-2.01	2.65/-0.59	-0.79/-2.72	-2.79/-2.95	-1.78/-2.32	-4.24/-2.86	-6.35/-6.84	-6.48/-6.34	-10.12/-5.43	-7.18/-10.26	-8.75/-5.82	-2.31/-1.15	-1.2/-3.14	-6.26/-9.26	-8.33/-4.58
Θ(67.5°)	-0.95/-0.26	-0.25/-1.5	-0.35/-0.87	-2.91/-1.3	-0.23/-3.75	0.61/-0.3	0.49/-1.13	1.31/-0.54	1.76/-1.09	3.26/-3.77	1.6/-0.81	-0.97/-3.51	-3.63/-3.19	-1.17/-1.6	-4.28/-2.51	-5.55/-4.76	-4.91/-6.02	-5.78/-2.94	-7.18/-7.3	-4.74/-3.07	-1.51/-1.23	-1.92/-2.79	-5.18/-8.71	-6.46/-1.98
Θ(75°)	-0.04/-0.46	-1.14/-0.61	-1.1/-0.36	-1.89/-0.36	0.41/-2.71	0.42/-0.7	0.69/-0.4	-0.43/-0.01	1.21/-0.91	3.74/-5.5	1.29/-2.32	-1.49/-3.96	-6.43/-2.89	-0.62/-0.04	-2.66/-3.25	-5.01/-3.91	-3.97/-4.36	-3.24/-1.65	-6.68/-5.04	-4.58/-2.74	-2.27/-2.82	-3.94/-3.83	-5.64/-10.33	-6.3/-0.28
Θ(82.5°)	-0.92/-0.42	-2.27/-0.98	-2.9/-1.43	-2.72/-1.37	-0.65/-2.87	-0.35/-0.52	0.08/-0.66	-3.02/-1.79	0.09/-0.19	2.66/-3.37	-0.07/-4.04	-2.57/-4.75	-8.6/-4.64	-1.76/-1.41	-4.5/-3.56	-4.14/-2.82	-3.61/-4.98	-1.76/-1.34	-6.78/-4.39	-5.05/-2.61	-3.09/-4.42	-5.77/-4.46	-5.86/-13.23	-7.99/-0.72
Θ(90°)	-1.36/-1.06	-1.9/-2.35	-2.73/-1.32	-3.24/-3.81	-2.63/-4.97	-1.93/-2.95	-0.63/-2.14	-7.23/-4.65	-2.15/-1.57	-0.05/-1.83	-0.95/-5.77	-5.12/-5.91	-11.08/-7.76	-3.46/-4.05	-5.74/-6.74	-3.74/-2.99	-2.92/-5.28	-3.22/-2.64	-9.97/-4.27	-6.73/-5.4	-5.57/-5.83	-7.36/-6.05	-7.1/-17.31	-11.1/-3.48
Θ(97.5°)	-5.49/-5.54	-4.62/-5.65	-3.91/-2.93	-7.84/-8.73	-4.65/-7.62	-3.8/-4.95	-2/-5.67	-9.94/-7.34	-4.68/-3.77	-5.34/-1.46	-2.4/-7.37	-5.93/-7.49	-13.02/-12.58	-4.28/-6.94	-9.68/-11.88	-7.66/-3.66	-4.56/-8.24	-4.59/-5.38	-16.71/-7.19	-9.12/-8.2	-7.89/-8.82	-8.65/-6.64	-6.97/-13.95	-13.69/-7.85
Θ(105°)	-11.42/-14.2	-7.15/-10.86	-6.38/-5.67	-16.81/-7.67	-4.1/-9.27	-5.69/-8.82	-4.93/-11.84	-9.37/-12.25	-7.3/-6.95	-9.48/-3.21	-2.86/-8.27	-9.28/-11.12	-14.53/-18.04	-7.05/-10.04	-14.3/-17.97	-11.7/-6.28	-6.15/-17.21	-7.83/-7.62	-18.32/-12.14	-10.61/-12.03	-10.91/-12.73	-9.28/-9.16	-9.01/-10.94	-10.54/-6.72
Θ(112.5°)	-7.93/-11.28	-12.49/-14.46	-15.25/-12	-8/-4.75	-4.95/-16.48	-6.56/-9.72	-9.13/-10.66	-10.24/-13.9	-9.72/-13.14	-8.87/-4.87	-5.59/-9.68	-15.29/-14.81	-17.84/-18.28	-8.71/-10.13	-11.56/-17.21	-15.37/-6.39	-7.75/-17.47	-6.24/-8.46	-18.86/-13.19	-17.83/-11.77	-6.82/-17.96	-11.91/-11.22	-12.78/-9.49	-6.42/-4.51
Θ(120°)	-5.48/-5.6	-4.94/-10.05	-12.59/-8.6	-7.42/-10.14	-15.09/-17.8	-7.32/-14.07	-7.05/-6.49	-17.25/-11.49	-17.86/-15.97	-7.24/-5.75	-8.7/-10.4	-17.1/-15.54	-12.36/-17.99	-7.61/-11.54	-8.94/-17.27	-17.49/-5.26	-7.52/-13.58	-9.07/-7.04	-10.55/-8.32	-9.67/-12.11	-8.19/-12.27	-12.28/-12.96	-18.46/-9.64	-6.86/-3.76
Θ(127.5°)	-5.35/-4.69	-4.93/-10.22	-7.68/-10.75	-13.27/-17.98	-9.27/-17.7	-14.96/-9.83	-9.86/-14.92	-13.08/-12.73	-18.02/-11.72	-12.75/-13.85	-11.86/-14.61	-18.85/-14.1	-18.55/-13.57	-7.87/-14.31	-18.81/-15.9	-14.01/-10.66	-18.56/-16.34	-7.67/-8.37	-7.04/-12.23	-8.07/-7.12	-17.4/-8.59	-13.93/-9.38	-11.52/-18.6	-12.95/-9.14
Θ(135°)	-16.4/-15.89	-15.35/-18.45	-19.33/-17.68	-15.03/-17.63	-11.19/-12.08	-10.2/-17.8																		



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Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	3.83	3.43	4.26	3.5
Ant. 2 Max Gain (dBi)	3.75	3.43	4.38	5.89
Ant. 3 Max Gain (dBi)	5.24	3.87	4.64	5.27
Ant. 4 Max Gain (dBi)	4.65	4.19	4.59	4.86
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/60/120	Phi/67.5/37.5	Phi/60/127.5	Phi/67.5/142.5
Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/52.5/210	Phi/75/67.5	Phi/60/217.5	Phi/30/240
Ant. 3 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/60/30	Phi/60/37.5	Phi/60/45	Phi/67.5/37.5
Ant. 4 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/67.5/30	Phi/60/315	Phi/30/315	Phi/60/322.5
Max Gain (dBi)	5.24	4.19	4.64	5.89
DG [1SS] (dBi)	9.32	8.48	8.63	8.56
DG [2SS] (dBi)	6.32	5.48	5.63	5.89
DG [4SS] (dBi)	5.24	4.19	4.64	5.89



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(15°)	-0.05/-0.22	-0.57/-0.82	-0.76/-0.46	-0.10/-0.03	-0.11/-0.53	-0.97/-1.44	-1.93/-2.52	-2.98/-3.11	-2.71/-1.55	-0.58/-0.15	-0.22/-0.98	-1.65/-1.75	-1.51/-1.17	-1.03/-1.35	-2.01/-2.69	-2.59/-1.7	-0.31/-0.89	1.43/-1.46	1.31/31	1.45/-1.77	1.88/-1.56	0.91/-0.03	-0.58/-0.64	-0.4/-0.14
Θ(22.5°)	2.95/2.58	2.36/2.62	2.93/2.22	3.56/3.92	4.03/3.79	3.22/2.5	1.96/-1.62	1.51/-1.47	1.71/2.26	2.97/3.6	3.85/3.55	3.16/2.86	2.87/3.26	3.68/3.63	3.18/2.64	2.43/2.42	2.65/3.01	3.62/4.04	4.43/4.94	5.46/5.9	5.96/5.77	5.48/5.01	4.58/4.11	3.53/2.91
Θ(30°)	4.09/4.61	5.27/5.88	6.65/6.3	5.13/5.28	5.62/5.41	4.72/4.24	5.47/5.5	5.26/4.29	5.85/5.27	5.02/5.31	5.83/5.82	5.24/4.57	4.75/5.55	6.04/5.81	5.45/5.01	4.91/4.99	4.66/4.55	4.74/7.6	5.41/6.36	7.08/7.6	5.69/5.95	5.28/4.87	4.63/4.3	4.53/3.99
Θ(37.5°)	5.29/5.92	6.87/7.27	6.96/5.92	4.31/3.92	4.73/5.44	5.85/6.16	6.39/6.88	7.45/7.35	6.34/4.84	3.82/4.53	5.65/6.66	5.22/4.8	5.45/6.31	6.42/6.17	5.86/5.42	4.96/4.61	4.78/5.47	5.81/6.28	6.41/6.63	7.01/7.14	7.76/5.3	5.78/5.74	5.45/4.96	5/5.41
Θ(45°)	5.45/5.7	6.48/6.88	6.91/6.44	5.69/4.96	4.39/4.32	5.33/6.61	6.92/6.66	6.78/6.95	6.61/5.87	5.36/4.87	4.23/4.31	5.29/6.21	6.64/6.91	7.03/6.68	6.14/5.77	4.98/6.3	2.92/3.7	5.4/6.21	6.32/6.3	6.22/6.38	6.4/6.38	5.98/5.78	4.55/3.96	4.27/5.16
Θ(52.5°)	3.85/4.02	4.86/5.56	6.12/6.48	6.15/5.18	3.65/2.72	2.99/4.38	5.35/5.28	5.64/6.35	6.56/6.81	6.15/4.06	2.21/3.03	4.81/6.13	6.48/6.19	6.15/6.14	6.07/5.49	4.65/3.19	3.17/3.18	4.01/4.52	5.37/5.6	5.64/6.33	6.46/6.31	5.31/5.09	4.23/3.15	3.03/3.57
Θ(60°)	4.19/4.97	5.68/6.57	7.38/7.32	6.79/5.89	5.57/4.71	4.15/4.41	5.25/5.89	5.96/5.09	6.88/7.29	6.28/3.96	4.24/4.57	3.87/4.09	5.15/5.3	5.22/6.13	6.83/6.7	6.36/5.24	5.07/3.94	2.32/4.48	3.78/4.25	4.35/5.07	6.15/6.87	7.18/6.79	5.92/5.42	4.41/3.84
Θ(67.5°)	5.21/5.94	6.55/7.41	8.46/8.51	8.54/8.32	8.04/7.1	6.28/4.89	5.41/5.69	6.58/7.55	8.13/8.63	7.62/6.8	7.07/6.32	5.01/4.7	5.32/5.64	6.03/7.15	7.87/7.62	7.7/6.86	6.8/5.73	3.76/2.85	3.71/4.33	4.44/5.8	6.95/7.92	8.12/8.27	7.16/6.53	5.42/4.83
Θ(75°)	4.83/5.44	6.18/6.77	7.67/7.77	8.04/8.34	7.85/7.7	5.27/5.13	5.85/6.01	5.76/7.35	8/8.57	7.69/7.12	6.95/6.26	5.33/4.8	4.92/5.16	5.57/6.67	7.23/6.61	6.79/6.74	6.97/5.55	5.16/3.95	5.33/6.41	6.87/7.21	7.42/7.48	6.67/5.96	4.96/4.63	
Θ(82.5°)	3.53/3.64	4.17/5.22	5.64/5.69	6.03/6.48	6.08/5.75	4.17/4.46	4.68/5	4.89/4.72	6.67/6.43	6.05/5.32	5.01/4.67	3.97/3.62	3.54/3.6	4.22/5.23	5.53/4.65	4.54/5.47	5.95/5.86	4.85/4.1	3.34/2.4	5.08/6.23	5.67/5.24	5.36/5.19	4.5/4.13	2.98/3.37
Θ(90°)	1.49/1.19	1.26/2.35	2.92/89	3.22/3.56	3.41/2.57	2.25/1.93	2.09/2.52	3.04/1.69	4.71/3.15	3.56/3.02	2.42/3.6	1.93/1.19	0.74/1.09	1.25/1.91	2.62/0.5	1.78/2.63	4.04/4.05	3.54/2.84	1.85/1.67	2.65/4.09	3.63/2.16	2.21/2.3	1.71/1.46	0.06/1.07
Θ(97.5°)	-1.13/-1.5	-1.62/-0.69	-0.59/-0.27	0.16/0.66	0.79/0.24	-0.34/-0.73	-0.58/-0.27	0.13/-1.15	2.15/0.4	0.59/0.48	-0.41/-0.28	-0.41/-1.26	-1.91/-1.77	-1.5/-0.34	-0.22/-1.17	-1.74/-1.82	0.53/0.17	-0.37/-0.91	-2.12/-2.26	-0.51/0.08	-0.78/-1.98	-2.76/-0.65	-1.18/-2.02	-2.94/-1.9
Θ(105°)	-3.77/-4.12	-3.92/-3.43	-3.62/-2.99	-3.1/-1.99	-3.27/-2.41	-4.31/-3.64	-4.43/-4.6	-3.59/-3.61	-2.23/-3.39	-2.5/-2.83	-3.8/-2.64	-3.32/-3.99	-4.08/-4.46	-4.85/-3.5	-2.9/-3.67	-3.28/-6.58	-5.17/-5.99	-7.58/-8.94	-10.02/-10.92	-6.66/-6.54	-7.99/-6.36	-7.32/-4.67	-3.51/-4.35	-5.63/-5
Θ(112.5°)	-7.43/-10.5	-6.63/-4.59	-4.98/-5.21	-5.75/-5.52	-7.35/-5.35	-6.87/-7.67	-7.39/-8.04	-6.05/-6.15	-9.27/-4.78	-5.7/-7.77	-6.3/-3.99	-4.86/-6.19	-6.71/-7.58	-7.03/-6.49	-6.08/-6.77	-4.28/-5.21	-8.03/-7.93	-9.23/-10.08	-8.98/-5.68	-7.23/-6.18	-5.55/-7.76	-6.64/-7.12	-7.93/-7.42	
Θ(120°)	-11.08/-10.92	-9.45/-9.76	-8.9/-7.9	-7.91/-8.55	-7.76/-8.97	-10.36/-7.75	-7.78/-8.34	-7.33/-10.08	-6.64/-6.88	-6.73/-7.4	-5.95/-5.16	-5.86/-7.49	-7.75/-9.11	-9.83/-10.63	-10.81/-8.82	-8.95/-7.48	-7.19/-6.03	-6.78/-7.22	-8.81/-8.26	-5.08/-9.71	-6.67/-5.55	-9.71/-10.22	-10.87/-10.37	
Θ(127.5°)	-11.31/-12.75	-11.56/-10.96	-11.29/-11.45	-11.13/-8.91	-8.96/-10.62	-10.11/-10.59	-11.32/-9.97	-10.32/-11.59	-10.8/-8.6	-8.95/-8.73	-6.22/-7.33	-8.2/-9.42	-9.52/-10.26	-10.65/-10.29	-10.95/-12.39	-11.94/-10	-12.68/-11.38	-12.16/-12.52	-11.69/-10.99	-11.14/-12.57	-10.84/-9.18	-12.4/-11.31	-10.09/-10	-10.62/-11.99
Θ(135°)	-12.35/-12.33	-11.1/-10.31	-10.64/-10.7	-9.51/-9.6	-12.62/-10.5	-12.57/-11.99	-11.99/-11.29	-12.16/-10.56	-9.35/-9.2	-9.95/-10.35	-8.81/-8.29	-10.22/-10.11	-10.43/-10.52	-11.3/-11.49	-9.55/-8.7	-10.84/-10.34	-8.72/-9.15	-9.42/-8.88	-11.01/-11.06	-8.05/-9.37	-10.67/-10.26	-11.89/-11.3	-12.63/-12.56	
Θ(142.5°)	-12.48/-12.42	-12.15/-12.09	-12.21/-11.96	-11.74/-11.14	-10.46/-10.42	-12.18/-12.56	-12.34/-10.73	-11.78/-11.4	-10.13/-12.2	-11.22/-3.31	-9.25/-9.48	-10.41/-9.99	-11.28/-11.55	-11.9/-10.97	-10.32/-11.51	-11.46/-10.45	-9.81/-9.1	-11.04/-11.22	-7.9/-10.08	-11.39/-11.05	-12.62/-12.13	-11.93/-11.94	-12.3/-12.63	
Θ(150°)	-10.96/-11.36	-11.81/-12.03	-10.82/-9.25	-10.23/-11.59	-11.72/-11.6	-10.79/-11.07	-12.23/-12.06	-11.64/-11.19	-10.79/-10.24	-10.55/-9.37	-8.38/-9.18	-10.59/-11.1	-10.97/-10.57	-12.16/-12.68	-11.31/-11.58	-12.81/-11.5	-11.56/-11.56	-12.73/-11.41	-12.42/-12.17	-10.77/-11.12	-12.2/-12.2	-12.83/-11.62	-12/-13.03	-12.48/-12.13
Θ(157.5°)	-12.22/-12.59	-12.51/-12.17	-12.3/-12.08	-11.46/-10.82	-10.77/-11.85	-11.62/-10.57	-11.62/-12.3	-12.06/-12.3	-12.52/-11.65	-11.35/-11.13	-10.57/-10.61	-11.3/-11.62	-10.76/-10.28	-10.73/-12.32	-12.15/-12.21	-11.78/-12.6	-11.41/-11.96	-10.73/-10.2	-9.78/-11.06	-11.67/-12.24	-12.42/-12.1	-12.16/-12.35	-12.64/-12.98	-11.7/-12.23
Θ(165°)	-12.73/-13.06	-12.73/-12.5	-12.73/-12.58	-12.58/-12.05	-11.93/-12.62	-11.86/-11.76	-12.52/-12.82	-12.49/-12.77	-12.74/-11.94	-11.86/-11.91	-12.62/-11.76	-11.96/-12.05	-12.23/-12.77	-12.57/-12.06	-11.79/-12.05	-11.57/-11.82	-11.7/-12.04	-12.75/-12.22	-12.46/-12.6	-12.08/-12.76	-12.48/-12.34	-11.78/-12.69	-12.33/-12.04	-12.07/-12.72
Θ(172.5°)	-12.49/-11.95	-11.91/-12.59	-11.97/-12.36	-12.06/-12.01	-12.43/-12	-12.21/-12.08	-12.11/-12.28	-12.29/-12.36	-12.23/-12.34	-12.1/-12.79	-12.63/-12.09	-12.34/-12.33	-12.21/-12.19	-11.98/-12.58	-12.46/-12.12	-12.12/-12.07	-12.8/-12.64	-12.15/-12.03	-12.12/-12.27	-10.13/-10.39	-10.84/-11.23	-12.78/-12.31		
Θ(180°)	-12.26/-12.38	-12.44/-12.27	-12.12/-12	-12.29/-12.73	-12.34/-12.37	-11.95/-12.19	-12.41/-12.16	-12.71/-12.42	-12.05/-12.79	-12.04/-12.18	-12.42/-12.73	-12.97/-12.23	-11.92/-12.36	-12.74/-12.17	-12.49/-12	-12.34/-12.26	-12.8/-12.25	-12.51/-12.12	-13.03/-12.42	-12.12/-12.96	-12.25/-12	-11.52/-11.24	-11.72/-12.01	-12.1/-12.21
Freq(GHz)	6.995GPol.	Theta°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-3.17/-3.18	-3.32/-3.61	-3.6/-3.6	-3.76/-3.72	-3.87/-4.17	-4.54/-5.1	-5.47/-5.23	-4.6/-4.12	-4.01/-3.93	-3.91/-3.95	-3.84/-3.43	-3.26/-3.28	-3.33/-3.49	-3.59/-3.83	-3.85/-3.66	-3.51/-3.49	-3.82/-3.47	-4.96/-1.59	-5.03/-4.87	-4.62/-4.62	-4.42/-4.42	-4.3/-4.62	-4.78/-4.54	-3.93/-3.31
Θ(7.5°)	-4.06/-4.73	-5.32/-6.01	-6.39/-6.62	-6.51/-5.93	-5.5/-5.13	-4.91/-4.45	-4.2/-3.93	-3.67/-3.46	-3.69/-3.46	-4.34/-4.39	-4.1/-3.56	-2.8/-1.88	-1.36/-1.08	-1.14/-1.42	-1.75/-2.03	-2.47/-2.94	-3.23/-3.73	-4.34/-4.75	-4.56/-3.99	-3.46/-2.74	-2.42/-2.27	-2.14/-2.22	-2.78/-3.1	-3.4/-3.63
Θ(15°)	-3.74/-4.38	-3.99/-3.55	-2.88/-2.93	-3.64/-4.27	-5.11/-5.69	-4.21/-5.79	-4.89/-4.24	-4.09/-4.46	-5.34/-5.65	-4.83/-3.99	-4.06/-1.87	-1.44/-1.66	-1.33/-1.36	0.40/0.85	0.99/0.69	-0.35/-2.04	-3.68/-4.67	-4.72/-4.25	-3.79/-3.81	-4.14/-4.02	-3.33/-2.75	-2.34/-2.03	-2.76/-3.41	
Θ(22.5°)	-6.94/-5.79	-4.59/-3.28	-2.52/-2.65	-3.86/-4.4	-5.05/-5.6	-5.11/-4.4	-4.67/-4.49	-4.63/-4.66	-4.51/-4.61	-5.37/-5.53	-4.42/-3.62	-3.16/-2.59	-3.52/-4.54	-3.82/-1.93	-1.15/-0.72	-0.13/-0.02	-1.17/-2.83	-3.69/-4.85	-5.37/-6.63	-6.72/-6.73	-5.52/-4.44	-2.77/-1.67	-2.22/-3.46	-4.87/-6.58
Θ(30°)	-4.65/-3.72	-4.08/-4.13	-2.52/-3.23	-3.61/-3.74	-5.37/-5.4	-4.25/-2.52	-1.9/-2.42	-4.34/-6.09	-4.93/-4.33	-4.56/-5.8	-6.92/-5.57	-3.26/-0.98	-0.89/-2.34	-4.56/-6.29	-5.39/-3.76	-2.64/-3.08	-4.21/-3.97	-3.68/-2.71	-2.03/-3.13	-5.74/-7.29	-6.99/-5.15	-3.72/-3.25	-3.59/-3.88	-4.79/-4.6
Θ(37.5°)	-5.63/-4.94	-5.64/-6.01	-5.01/-4.97	-3.57/-3.37	-4.01/-5.21	-3.41/-1.4	-6.88/-1.88	-5.46/-7.77	-6.4/-4.58	-3.51/-4.87	-7.47/-5.11	-2.09/0.72	-8.83/-1.82	-5.11/-6.65	-7.43/-7.19	-6.73/-7.26	-7.26/-6.31	-5.54/-4.53	-2.95/-3.24	-5.89/-8.69	-8.26/-6.56	-4.23/-4.32	-5.95/-6.13	-7.98/-7.27
Θ(45°)	-6.49/-7.05	-6.83/-6.37	-4.83/-5.03	-4.9/-3.85	-4.34/-4.97	-4.02/-1.96	-2.35/-4.69	-7.43/-8.68	-8.02/-6.55	-4.91/-6.08	-8.48/-4.54	-2.58/-0.56	-1.05/-3.43	-6.07/-7.53	-8.89/-9.22	-9.78/-8.56	-6.84/-6.09	-6.35/-6.45	-4.9/-4.58	-6.43/-8.91	-8.15/-8.57	-8.27/-7.88	-7.73/-6.9	-7.76/-7.61
Θ(52.5°)	-8.42/-7.74	-7.43/-7.13	-6.17/-5.21	-6.35/-6.1	-6.02/-5.7	-4.88/-3.62	-5.71/-7.64	-7.36/-6.98	-7.39/-7.58	-6.13/-5.91	-6.18/-4.28	-3.27/-3.24	-4.38/-7.85	-8.93/-9.8	-9.18/-9.82	-7.89/-8.1	-8.01/-7.84	-8.03/-8.03	-5.91/-5.43	-6.63/-6.96	-6.85/-7.27	-8.28/-11.22	-8.65/-7.94	-7.39/-7.94
Θ(60°)	-10.03/-10.27	-9.6/-9.28	-8.4/-8.14	-8.93/-10.61	-8.96/-6.79	-7.41/-7.07	-7.55/-8.85	-8.63/-7.72	-7.8/-8.49	-9.21/-7.47	-5.76/-5.5	-5.62/-6.47	-7.51/-8.74	-7.27/-7.99	-7.02/-8.89	-8.15/-8.79	-9.95/-10.47	-10.11/-10.05	-8.39/-7.69	-8.56/-9.67	-7.55/-7.48	-9.65/-11.84	-9.56/-8.63	-8.12/-10.63
Θ(67.5°)	-10.65/-10.94	-11.33/-9.96	-10.31/-10.16	-11.07/9.67	-9.68/-9	-9.59/-87	-7.98/-10.24	-8.38/-8.34	-8.79/-10.58	-11.94/-9.67	-6.37/-7.33	-8.93/-8.81	-8.55/-7.26	-5.94/-6.88	-5.91/-8.43	-8.86/-7.64	-8.53/-11.41	-9.47						





Radiated Composite Gain Data of 6GHz

Appendix B

Θ(22.5°)	-7.89/-6.48	-5.43/-4.74	-4.33/-3.37	-2.21/-1.58	-0.91/-0.44	-0.96/-2.26	-3.64/-5	-5.63/-5.79	-5.5/-4.49	-3.11/-2.53	-3.12/-4.62	-5.01/-4.48	-4.57/-5.08	-4.27/-3	-2.65/-3.23	-4.41/-4.78	-3.83/-3.06	-3.04/-3.48	-3.49/-3.18	-2.71/-2.38	-2.66/-3.25	-3.31/-3.76	-5.18/-8.36	-12.8/-10.04
Θ(30°)	-7.26/-3.29	-1.34/-1.03	-1.44/-2.4	-3.9/-3.53	-2.22/-0.98	-0.91/-1.25	-1.32/-1.33	-1.35/-1.47	-1.17/-0.32	0.63/-1.57	2.21/-2.19	1.19/-0.59	-3.04/-3.74	-1.62/-0.53	0.18/-0.64	-0.18/-2.11	-4.53/-5.64	-5.66/-5.29	-3.22/-1.89	-1.76/-2.04	-2.09/-2.5	-2.07/-2.3	-3.76/-5.65	-7.72/-9.81
Θ(37.5°)	-1.08/-0.68	1.62/-1.54	0.52/-1.6	-4.87/-5.12	-2.38/-0.64	0.24/-0.78	0.97/-0.93	0.75/-0.42	-0.17/-0.62	-0.46/-0.96	0.24/-0.04	2.27/-0.02	-1.52/-0.29	0.34/-2.13	1.31/-0.88	-0.48/-0.29	-0.35/-0.2	-0.35/-1.43	-2.33/-1.4	-1.16/-1.99	-1.28/-1.46	-1.61/-1.99	-2.18/-1.46	
Θ(45°)	-0.55/-0.95	-0.97/-1.06	-1.65/-3.43	-5.3/-4.66	-2.19/-0.6	0.72/-1.78	2.01/-1.65	1.43/-1.11	0.18/-1.39	-2.83/-3.72	-3.52/-2.24	-1.34/-0.68	0.78/-1.69	1.10/-5.7	-1.27/-0.34	1.06/-0.19	-1.03/-0.78	0.23/-0.01	0.28/-0.42	0.34/-1.34	2.33/-2.78	2.13/-1.6	-0.27/-1.81	-1.77/-0.61
Θ(52.5°)	-3.87/-5.73	-6.51/-3.76	-2.24/-1.75	-1.77/-0.75	-0.52/-0.03	0.58/-0.65	1.15/-1.53	2.21/-2.3	2.17/-2.04	1.03/-1.71	-3.7/-2.22	-0.8/-0.61	1.93/-1.72	0.69/-0.4	-1.46/-1.96	-5.23/-8.89	-6.59/-3.77	-2.09/-2.02	-2.07/-1.42	-1.65/-1.19	-0.87/-1.57	-2.79/-2.26	-1.59/-3.99	-6.41/-4.98
Θ(60°)	-1.86/-0.31	0.71/-8.1	1.76/-1.7	1.462/-37	1.78/-0.68	-0.56/-0.99	-0.90/-2.93	2.24/-3	3.95/-4.26	3.87/-1.79	-0.17/-1.08	1.32/-1.32	1.33/-0.06	-0.82/-0.45	0.89/-1.3	-1.44/-2.58	-5.5/-4.3	-6.49/-5.42	-4.17/-6.24	-4.37/-2.87	-2.60/-1.87	-1.56/-0.76	-2.43/-4.35	
Θ(67.5°)	0.22/-4.8	3.19/-3.38	2.83/-1.63	2.31/-3.12	2.70/-7.1	-1.74/-4.82	-3.57/-1.21	1.85/-3.59	4.04/-4.1	3.95/-1.98	1.33/-1.9	1.48/-0.78	0.05/-2.37	-2.13/-1.63	2.16/-0.34	0.25/-0.97	1.38/-0.5	-2.05/-5.72	-7.15/-6.36	-3.69/-1.83	-0.16/-1.1	1.48/-2.15	0.53/-0.97	0.66/-1.07
Θ(75°)	-0.45/-9.1	2.97/-2.65	1.26/-0.12	1.43/-2.4	1.53/-0.65	-5.14/-4.32	-3.14/-0.28	0.51/-2.47	2.88/-2.97	2.64/-0.92	0.61/-1	0.31/-0.22	-0.85/-4.65	-3.21/-0.97	1.64/-0.01	-0.05/-0.73	1.28/-1.33	-0.21/-3.63	-4.09/-1.88	-0.44/-1	1.38/-1.52	1.41/-1.83	0.54/-0.74	0.62/-0.02
Θ(82.5°)	-1.39/-0.04	0.26/-0.77	-1.15/-2.58	-0.85/-0.82	-0.41/-1.95	-3.85/-5.67	-5.48/-1.53	0.13/-0.09	1.38/-0.83	0.15/-1.31	-1.11/-0.92	-1.98/-1.72	-2.14/-5.93	-3.91/-0.29	-0.87/-2.63	-3.31/-1.27	-0.15/-0.76	-0.5/-3.02	-5.01/-1.56	0.04/-1.25	-0.13/-0.3	-0.42/-0.82	-1.53/-0.27	-2.03/-1.45
Θ(90°)	-3.41/-2.6	-2.98/-2.51	-4.14/-5.63	-3.33/-1.32	-2.48/-4.71	-4.01/-9.23	-7.47/-5.88	-1.91/-2.66	-0.32/-2.2	-2.53/-3.09	-3.55/-4.48	-3.88/-3.59	-3.63/-6.31	-5.39/-4.15	-4.24/-4.05	-5.18/-3.7	-2.14/-0.27	-0.83/-2.72	-4.85/-3.28	-1.87/-0.36	-1.26/-4.51	-3.55/-3.28	-4.68/-2.33	-4.75/-4.01
Θ(97.5°)	-6.71/-6.05	-6.04/-5.13	-7.77/-9.54	-6.11/-4.3	-5.48/-7.61	-6.4/-11.28	-8.5/-9.05	-4.81/-5.45	-3.05/-4.96	-6.69/-8.1	-6/-5.23	-6.15/-10.19	-6.99/-5.81	-6.32/-5.63	-6.91/-8.43	-6.66/-4.99	-4.61/-6.34	-7.83/-6.04	-4.36/-3.22	-4.65/-8.95	-8.94/-5.27	-7.46/-6.3	-6.64/-6.98	
Θ(105°)	-10.82/-10.59	-8.52/-7.41	-10.76/-12.76	-9.59/-8.17	-10.72/-9.22	-10.99/-12.09	-9.53/-10.94	-8.71/-7.89	-7.03/-7.94	-7.6/-8.02	-9.69/-10.6	-8.63/-7.64	-10.03/-10.99	-4.58/-6.88	-7.63/-8.99	-8.73/-13.7	-13.74/-13.84	-13.21/-18.04	-15.21/-15.6	-10.13/-10.22	-13.06/-12.08	-10.74/-10.32	-10.4/-9.53	-9/-9.28
Θ(112.5°)	-13.43/-13.75	-11.8/-11.06	-11.02/-12.9	-13.17/-11.97	-12.8/-11.4	-17.27/-18.22	-12.89/-13.27	-11.15/-9.79	-14.85/-8.3	-10.59/-11.52	-13.59/-10.81	-10.11/-9.42	-11.94/-13.82	-13.06/-11.38	-11.2/-13.83	-12.89/-13.74	-11.81/-13.45	-13.3/-17.75	-17.8/-19.35	-14.54/-11.68	-15.04/-13.18	-11.33/-13.61	-13.65/-13.26	-14.26/-11.42
Θ(120°)	-16.09/-16.36	-13.87/-14.68	-13.68/-12.73	-12.91/-11.12	-11.89/-17.76	-12.93/-13.94	-18.3/-16	-11.07/-16.67	-12.93/-11.77	-11.91/-13.52	-16.14/-12.08	-11.08/-11.51	-14.54/-15.85	-16.92/-15.57	-16.11/-19.23	-17.14/-18.16	-11.96/-9.52	-10.39/-14.22	-14.97/-14.74	-13.79/-10.75	-8.87/-17.59	-18/-11.88	-15.14/-15.37	-16.34/-16.7
Θ(127.5°)	-17.44/-19.32	-17.49/-18.22	-18.93/-18.23	-18.37/-18.33	-19.45/-18.03	-18.76/-17.05	-16.68/-16.65	-14.71/-17.24	-16.99/-14.15	-16.02/-18.01	-11.98/-13.52	-14.88/-16.05	-15.28/-16.59	-18.9/-18.8	-17.48/-11.58	-18.97/-18.62	-18.86/-19.44	-16.8/-14.9	-15.68/-17.38	-18.79/-17.38	-18.79/-12.82	-15.58/-16.87		
Θ(135°)	-18.88/-17.42	-14.44/-13.92	-16.62/-17.32	-19.5/-18.07	-18.5/-18.82	-19.15/-18.06	-18.05/-18.07	-18.42/-17.7	-16.61/-14.88	-15.22/-17.77	-12.91/-12.24	-17.11/-18.32	-18.76/-17.79	-18.69/-18.95	-18.29/-18.12	-18.2/-19.27	-18.79/-15.97	-14.21/-14.6	-18.52/-13.18	-16.62/-16.51	-9.67/-19.13	-18.81/-18.82	-18.57/-15.47	-15.61/-18.04
Θ(142.5°)	-17.65/-18.37	-18.02/-18.82	-17.77/-18.12	-17.24/-17.63	-18.96/-18.17	-18/-18.81	-18.5/-17.98	-17.88/-19.19	-16.16/-18.19	-14.97/-13.56	-12.02/-16.05	-18.93/-18.94	-17.77/-18.67	-17.62/-17.54	-18.37/-18.13	-17.33/-16.69	-18.74/-18.95	-18.36/-11.26	-18.62/-19.38	-18.03/-17.6	-18.08/-18.25	-14.74/-18.68	-18.74/-17.73	-18.58/-18.33
Θ(150°)	-14.53/-14.93	-17.55/-18.42	-18.24/-19.28	-18.61/-17.88	-18.01/-16.93	-18.75/-18.21	-17.77/-18.57	-18.77/-17.4	-18.32/-17.85	-15.71/-13	-12.82/-14.57	-18.76/-18.84	-19.03/-18.15	-18.5/-18.16	-18.29/-18.72	-19.14/-18.4	-17.72/-19.1	-17.95/-18.02	-18.04/-18.41	-19.12/-17.17	-17.15/-18.16	-18.39/-18.54	-16.99/-19.36	-18.59/-18.03
Θ(157.5°)	-17.39/-18.82	-19.03/-18.98	-18.61/-18.09	-15.66/-16.79	-17.32/-17.97	-18.74/-17.29	-18.34/-18.08	-17.35/-18.36	-18.67/-17.66	-16.08/-15.79	-15.91/-17.76	-17.56/-18.17	-18.38/-19.38	-18.13/-18.76	-18.71/-18.33	-18.22/-19.34	-18.51/-18.99	-16.52/-18.31	-17.81/-18.26	-18.65/-19.4	-18.3/-17.18	-18.84/-17.28	-18.78/-18.57	-17.01/-17.98
Θ(165°)	-18.22/-19.18	-18.41/-18.39	-18.55/-18.08	-18.19/-17.4	-17.9/-17.84	-18.4/-18.43	-18.95/-18.6	-18.56/-18.7	-18.44/-18.64	-17.97/-17.18	-18.7/-17.82	-17.93/-18.06	-17.77/-18.13	-18.54/-17.12	-18.56/-18.3	-18.36/-18.59	-16.78/-18.59	-19.04/-18.24	-18.22/-19.34	-18.79/-19.07	-18.14/-17.82	-18.17/-18.74	-16.62/-17.51	-18.4/-19.1
Θ(172.5°)	-18.95/-17.45	-19.1/-18.18	-17.71/-18.53	-17.91/-18.07	-17.73/-18.55	-17.6/-17.69	-19.35/-18.59	-17.96/-17.61	-18.15/-17.86	-17.47/-19.15	-18.58/-17.9	-18.44/-17.99	-17.96/-18.2	-18.59/-18.25	-17.92/-17.78	-19.15/-17.98	-17.8/-18.03	-18.74/-18.1	-18.35/-19	-19.1/-18.46	-17.37/-18.5	-18.32/-18.23	-18.19/-18.74	
Θ(180°)	-18.86/-18.85	-18.96/-17.76	-17.93/-18.58	-18.31/-18.96	-17.84/-18.95	-18.12/-17.71	-19.04/-18.95	-18.85/-17.53	-18.5/-18.84	-18.09/-17.7	-18.46/-18.67	-18.85/-18.24	-18.14/-17.89	-19.16/-18.8	-18.03/-17.4	-18.39/-18.36	-18.65/-18.57	-18.37/-17.55	-18.32/-18.88	-18.13/-19.72	-18.8/-17.55	-15.68/-15.62	-16.38/-17.86	-17.92/-18.37
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°)	-11.79/-11.29	-11.39/-11	-10.79/-10.8	-10.79/-10.87	-10.51/-10.39	-10.14/-10.9	-12.19/-13.08	-12.51/-12.53	-12.81/-13.13	-13.46/-13.89	-13.41/-12.12	-11.25/-11.14	-10.82/-8.98	-9.52/-9.81	-9.83/-9.3	-8.53/-8.78	-9.21/-10.02	-10.46/-10.72	-10.31/-10.41	-10.84/-11.06	-10.98/-11.43	-11.72/-13.69	-14.35/-14.31	-13.49/-12.33
Θ(7.5°)	-6.63/-8.79	-8.5/-8.85	-9.07/-8.72	-8.6/-8.66	-8.47/-8.63	-8.41/-7.53	-7.88/-8.3	-8.44/-8.11	-7.95/-8.35	-8.72/-11.64	-13.14/-14.63	-14.66/-13.58	-12.81/-12.18	-11.98/-11.62	-11.84/-11.87	-11.14/-11.11	-11.59/-12.33	-13.17/-14.59	-16.12/-17.32	-18.05/-17.31	-17.76/-18.01	-16.79/-15.52	-14.82/-13.77	-12.43/-10.77
Θ(15°)	-10.33/-9.84	-8.05/-6.76	-5.25/-4.7	-4.99/-5.91	-7.1/-8.2	-9.11/-9.29	-8.94/-9.29	-10.53/-10.41	-9.69/-9.75	-12.9/-17.44	-16.11/-15.28	-14.55/-12.71	-12.69/-14.68	-12.28/-9.82	-7.12/-6.47	-7.28/-8.61	-11/-11.72	-11.19/-10.64	-11.44/-14.31	-19.03/-15.79	-11.03/-8.64	-8.09/-9.2	-12.65/-10.13	
Θ(22.5°)	-16.68/-18.74	-15.89/-10.66	-6.55/-5.06	-5.55/-6.01	-6.9/-8.08	-10.02/-11.6	-12.91/-15.93	-18.69/-18.5	-14.47/-13.7	-17.71/-5.21	-11.29/-12.09	-16.45/-18.82	-13.98/-11.33	-11.31/-12.8	-12.14/-10.34	-15.99/-11.73	-8.27/-5.76	-4.52/-4.9	-7.72/-15.04	-17.46/-16.19	-12.07/-9.94	-6.22/-6.25	-8.26/-14.86	
Θ(30°)	-13.64/-13.32	-16.95/-17.61	-7.86/-6.37	-5.75/-5.92	-8.04/-10.02	-13.33/-11.7	-17.82/-15.61	-14.55/-14.54	-13.25/-10.77	-10.16/-12.01	-9.82/-10.7	-11.23/-11.79	-16.78/-18.84	-16.89/-17.96	-17.55/-18.07	-18.21/-18.19	-15.52/-10.26	-6.55/-3.39	-3.6/-4.6	-11.18/-16.86	-18.19/-17.86	-18.79/-15.35	-11.65/-9.81	-10.22/-16.92
Θ(37.5°)	-14.29/-12.49	-13.93/-17.78	-12.06/-11.83	-9.13/-9.9	-10.25/-16.72	-12.38/-11.7	-11.49/-11.99	-11.79/-12.72	-12.41/-11.94	-9.33/-9.24	-13.44/-9.95	-5.71/-5.64	-7.18/-10.94	-14.55/-12.38	-15.17/-18.48	-14.55/-14.39	-8.87/-8.24	-8.17/-8.62	-11.85/-19.21	-17.94/-18.28	-18.34/-18.06	-13.99/-10.87	-18.02/-17.88	
Θ(45°)	-12.16/-12.04	-12.79/-15.26	-14.16/-17.35	-13.95/-12.77	-10.59/-16.52	-13.67/-11.01	-11.21/-14.25	-15.58/-11.85	-10.13/-12.67	-14.84/-13.43	-15.43/-9.97	-5.72/-4.06	-5.92/-9.31	-12.22/-12.02	-13.76/-12.95	-11.34/-8.46	-7.22/-8.06	-12.03/-16.52	-14.71/-11.21	-11.1/-15.7	-17.89/-18.48	-17.93/-15	-18.71/-13.67	
Θ(52.5°)	-13.54/-12.31	-11.91/-12.17	-12.54/-14.24	-16.21/-12.05	-13.31/-16.08	-16.75/-15.06	-16.99/-18.86	-15.17/-9.6	-8.71/-13.6	-18.2/-18.52	-15.72/-10.04	-8.35/-8.58	-8.67/-16.13	-17.19/-13.88	-11.91/-12.8	-11.4/-9.09	-8.03/-8.36	-14.24/-17.02	-14.24/-11.21	-11.37/-12.33	-15.6/-15.71	-14.17/-19.26	-18.32/-18.86	-18.29/-11.41
Θ(60°)	-18.54/-17.37	-12.33/-11.08	-13.83/-17.27	-16.81/-14.83	-13.36/-15.73	-17.61/-17.67	-16.75/-17.78	-17.25/-10.14	-9.38/-14.46	-18.27/-18.33	-18.62/-14.45	-15.67/-15.18	-14.84/-19.39	-17.86/-16.05	-13.54/-12.96	-12.08/-12.78	-13.23/-12.59	-17.37/-18.52	-15.38/-12.41	-14.04/-15.62	-16.26/-16.83	-13.93/-17.48	-14.83/-17.49	-17.66/-17.27
Θ(67.5°)	-18.79/-17.81	-18.09/-14.82	-19.41/-18.82	-18.65/-16.73	-14.81/-18.29	-18.93/-13.67	-14.98/-18.7	-17.37/-11.5	-14.05/-17.61	-18.71/-19.01	-17.75/-17.66	-17.96/-19.44	-18.17/-19.02	-18.79/-16.73	-									



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(75°)	-0.56/-1.93	-3.65/-1.71	0.74/2.32	2.65/2.55	3.12/2.9	1.08/0.36	-0.09/1.05	0.85/-0.4	-1.41/-0.9	-0.11/-1.87	-3.32/-3.91	-4.31/-3.8	-1.2/-0.21	0.48/0.19	0.06/-0.57	-1.85/-3.36	-2.98/-2.4	-2.28/-0.8	-0.22/-0.13	1.09/2.28	2.04/0.38	-1.56/-2.65	-1.77/-1.02	-0.57/0.58
Θ(82.5°)	-2.78/-3.56	-5/-4.38	-2.08/0.07	0.70/67	2.2/2.75	0.07/-0.83	-1.91/-1.22	-1.1/-3.29	-4.3/-3.59	-2.95/-4.17	-4.85/-4.1	-4.78/-4.41	-3.09/-2.33	-0.96/-1.02	-2.05/-3.57	-5.89/-6.47	-4.95/-3.04	-3.55/-2.47	-1.92/-1.56	-0.17/0.92	0.5/-1.17	-3.31/-4.67	-3.85/-2.75	-3.59/-1.67
Θ(90°)	-6.27/-6.19	-6.47/0.03	-6.23/-3.67	-2.65/-2.53	-0.44/-2.15	-1.16/-2.94	-5.35/-6.04	-3.95/-6.33	-7.08/-6.31	-6.32/-5.79	-5.14/-5.24	-6.43/-7.62	-6.59/-5.32	-2.87/-2.88	-4.94/-6.85	-5.71/-6.57	-6.68/-5.47	-5.82/-5.97	-6.81/-5.22	-0.26/-0.88	-1.31/-3.69	-6.47/-8.13	-7.71/-5.49	-6.63/-5.44
Θ(97.5°)	-8.94/-9.39	-9.26/-12.07	-8.76/-6.95	-6.39/-6.01	-3.48/-5.52	-3.63/-5.84	-8.45/-10.22	-6.82/-9.13	-8.96/-8.78	-8.76/-8.13	-7.77/-8.79	-10.19/-9.49	-9.57/-7.92	-5.28/-5.21	-7.29/-9.57	-12.41/-15.9	-9.9/-9.19	-8.49/-9.6	-11.18/-7.53	-6.15/-4.09	-4.14/-7.49	-12.71/-11.4	-10.48/-8.63	-9.97/-7.57
Θ(105°)	-10.78/-12.46	-11.31/-13.39	-12.92/-10.63	-9.38/-9.4	-8.3/-9.89	-6.69/-8.47	-10.98/-12.33	-8.9/-10.62	-10.42/-11.28	-14.43/-10.8	-10.51/-14.5	-14.43/-10.8	-12.75/-10.9	-9.18/-9.05	-8.72/-10.83	-13.34/-18.71	-15.51/-16.71	-14.35/-12.71	-17.42/-12.38	-12.06/-12.14	-9.96/-14.6	-19.05/-16.7	-13/-10.76	-12.45/-9.23
Θ(112.5°)	-15.79/-18.94	-19.01/-18.25	-17.24/-12.63	-11.05/-11.46	-15.19/-11.18	-9.14/-9.49	-16.57/-15.5	-13.69/-13.8	-15.43/-19.38	-15.41/-14.67	-15.03/-18.16	-12.62/-10.71	-16.05/-16.41	-13.87/-11.08	-11.03/-11.74	-12.14/-18.71	-17.39/-16.08	-14.53/-15.02	-18.91/-15.22	-16.61/-16.93	-11.23/-14.39	-13.52/-13.39	-13.52/-13.39	-18.44/-16.53
Θ(120°)	-18.73/-17.91	-19.08/-14.94	-14.17/-16.48	-15.9/-16.93	-13.71/-15.7	-13/-14.61	-15.97/-13.8	-13.49/-18.76	-18.11/-18.2	-19.3/-16.96	-19.26/-17.93	-14.55/-12.6	-17.24/-17.81	-17.03/-13.58	-15.55/-12.84	-13.64/-19.02	-15.87/-16.59	-12.49/-12.63	-14.53/-15.41	-14.38/-11.98	-9.85/-10.52	-10.42/-15.89	-16.09/-17.64	-18.51/-18.82
Θ(127.5°)	-16.5/-12.82	-17.04/-16.85	-17.85/-17.86	-16.23/-17.63	-16.57/-14.41	-16.69/-19.89	-18.38/-17.78	-17.57/-15.11	-16.68/-19.17	-18.09/-18.55	-17.8/-17.7	-16.78/-16.86	-17.59/-14.94	-17.27/-16.49	-18.27/-14.74	-11.69/-15.04	-19.17/-19.26	-18.8/-18.63	-17.61/-18.25	-19.12/-16.47	-19.1/-18.89	-18.23/-17.83	-19.32/-15.17	-17.38/-14.08
Θ(135°)	-19.44/-17.71	-18.84/-18.87	-15.85/-15.21	-15.65/-16.74	-18.87/-18.17	-18.31/-18.64	-19.54/-17.84	-19.25/-19.38	-17.32/-17.97	-18.77/-17.91	-18.1/-18.72	-17.81/-18.2	-18.45/-16.97	-17.6/-19.14	-18.7/-18	-13.85/-14.35	-17.29/-16.2	-19.14/-19.27	-18.02/-18.51	-19.21/-18.06	-17.7/-18.89	-17.01/-17.2	-19.1/-17.83	-17.79/-18.7
Θ(142.5°)	-18.46/-19.12	-19.01/-18.77	-19.12/-17.85	-19.07/-18.71	-18.91/-19.1	-18.59/-18.49	-17.6/-18.33	-18.08/-18.74	-19.13/-18.57	-18.76/-17.89	-17.06/-19	-17.21/-17.24	-15.06/-15.18	-17.36/-17.71	-14.98/-18.95	-19.36/-18.93	-19.04/-19.66	-15.29/-14.52	-13.86/-18.88	-18.86/-17.69	-16.24/-18.53	-18.48/-18.42	-18.98/-19.28	-13/-13.19
Θ(150°)	-17.45/-18.34	-17.56/-18.38	-15.64/-13.6	-14.62/-15.71	-17.58/-17.95	-18.4/-16.37	-17.98/-18.94	-18.55/-17.7	-18.9/-19.09	-17.65/-19.22	-16.45/-16.72	-15.43/-17.27	-16.12/-16.74	-18.92/-17.76	-17.53/-19.06	-18.73/-17.2	-16.94/-18.73	-18.88/-17.63	-17.95/-18.91	-18.73/-18.41	-18.6/-18.47	-18.69/-18.46	-19.16/-18.17	-18.29/-19.23
Θ(157.5°)	-17.22/-18.98	-17.44/-17.88	-18.74/-18.12	-17.53/-19.12	-17.87/-18.67	-17.82/-18.85	-18.51/-19.19	-17.71/-17.76	-17.27/-18.25	-18.39/-18.37	-16.76/-18.58	-15.19/-14.74	-16.35/-17.26	-14.52/-16.87	-17.03/-15.88	-17.75/-18.6	-15.79/-15.66	-18.45/-18.91	-17.93/-17.85	-17.82/-19.36	-17.17/-18.63	-15.94/-13.59	-15.96/-19.06	
Θ(165°)	-19.12/-18.51	-18.88/-17.48	-18.65/-18.55	-17.57/-18.22	-18.58/-17.61	-18.79/-18.25	-18.51/-17.09	-18.97/-18.53	-18.39/-18.46	-17.71/-18.38	-18.01/-18.44	-16.2/-16.05	-18.58/-18.78	-19.06/-18.61	-18.04/-19.01	-17.94/-18.19	-18.99/-17.43	-16.5/-17.87	-18.69/-18.86	-18.53/-17.99	-18.32/-18.42	-18.24/-18.07	-19.19/-18.97	-18.88/-17.47
Θ(172.5°)	-18.47/-19.33	-17.45/-17.72	-18.68/-18.62	-18.48/-18.61	-18.76/-18.3	-18.96/-19	-17.78/-17.94	-19.11/-17.89	-18.26/-17.86	-16.72/-16.67	-17.09/-17.72	-18.34/-18.71	-18.14/-18.66	-17.68/-18.2	-18.06/-18.43	-19.23/-18.67	-18.13/-17.44	-18.25/-19	-18.71/-18.36	-18.42/-18.28	-18.23/-19.04	-18.11/-18.3	-17.95/-18.28	-18.47/-18.48
Θ(180°)	-14.44/-15.99	-17.29/-18.73	-18.95/-18.22	-18.66/-19.03	-18.81/-18.48	-18.64/-19.01	-19.13/-18.93	-18.02/-19.31	-18.87/-18.35	-18.13/-19	-19.19/-17.8	-17.84/-16.64	-15.49/-15.39	-16.26/-16.62	-17.74/-19.12	-18.81/-18.53	-18.98/-18.76	-17.93/-19.48	-18.25/-18.82	-16.69/-16.16	-15.95/-14.4	-13.54/-13.92	-13.86/-14.14	
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°)	-6/-6.29	-6.35/-6.23	-6.25/-6.63	-7.06/-7.93	-9.11/-10.46	-11.56/-12.51	-11.96/-11.15	-10.06/-8.73	-7.76/-7.18	-7.09/-7.26	-7.12/-6.81	-6.63/-6.18	-5.94/-6.26	-6.01/-6.25	-5.29/-10.15	-11.29/-12.07	-12.59/-12.61	-12.36/-11.92	-10.82/-9.34	-8.33/-7.4	-6.52/-5.84	-5.56/-5.83		
Θ(7.5°)	-8.07/-8.19	-7.99/-7.59	-7.24/-7.1	-7.1/-7.39	-8.06/-9.02	-10.24/-11.44	-13.04/-14.7	-15.48/-14.59	-13.31/-12.44	-11.3/-9.97	-8.77/-7.73	-6.99/-6.15	-5.57/-5.18	-5.15/-5.18	-5.69/-6.47	-7.72/-9.28	-10.67/-11.95	-12.87/-12.03	-10.54/-9.01	-8/-6.88	-6.53/-5.72	-5.55/-5.86	-6.15/-6.37	-6.86/-7.88
Θ(15°)	-9.28/-8.38	-8.69/-8.9	-9.16/-9.19	-8.99/-8.82	-8.78/-9.56	-10.91/-13.03	-16.71/-17.31	-16.25/-11.86	-9.51/-8.72	-9.01/-10.13	-11.1/-10.3	-8.75/-7.63	-7.25/-7.58	-8.07/-9.56	-11.71/-12.33	-12.54/-12.58	-12.72/-13.16	-14.57/-14.14	-12.53/-11.01	-9.21/-8	-7.32/-7.24	-7.57/-8.62	-10.06/-12.36	-13.25/-14.19
Θ(22.5°)	-5.58/-5.81	-7.74/-10.76	-12.72/-12.11	-11.17/-11.06	-10.85/-11.54	-15.66/-16.74	-16.76/-16.86	-17.91/-19.16	-16.46/-10.76	-8.61/-7.98	-8.22/-9.87	-12.48/-14.01	-13.42/-11.34	-11.33/-13.02	-13.63/-12.32	-16.84/-18.31	-18.06/-18.16	-18.06/-18.16	-12.81/-14.15	-13.77/-11.94	-10.77/-9.07	-10.88/-13.59	-17.07/-18.78	-15.96/-11.99
Θ(30°)	-11.39/-8.26	-11.08/-13.09	-11.28/-10.72	-12.31/-12.99	-12.47/-12.96	-14.61/-18.99	-19.04/-17.13	-12.94/-10.15	-7.86/-7.32	-8.82/-10.61	-13.32/-18.19	-18.14/-18.92	-18.81/-17.78	-18.72/-17.45	-18.41/-18.19	-13.65/-11.43	-10.69/-12.45	-16.67/-17.84	-18.35/-18.17	-18.41/-17.02	-17.58/-12.66	-11.53/-12.95	-15.29/-13.07	-11.89/-17.59
Θ(37.5°)	-16.5/-19.33	-13.77/-10.39	-7.95/-9.82	-11.35/-9.37	-11.13/-16.38	-18.24/-18.37	-17.38/-12.65	-10.84/-10.33	-8.81/-8.02	-8.15/-11.37	-13.55/-13.77	-16.15/-11.81	-12.5/-11.86	-17.32/-15.67	-18.14/-14.79	-13.38/-10.78	-12.12/-12.56	-18.76/-18.99	-13.08/-12.63	-7.85/-8.96	-13.19/-16.5	-15.42/-15.57		
Θ(45°)	-10.76/-14.04	-11.89/-10.94	-8.64/-10.27	-8.74/-8.5	-11.01/-15.12	-15.25/-15.55	-18.71/-18.92	-16.71/-15.19	-11.23/-11.51	-12.25/-15.31	-17.95/-18.13	-17.61/-10.54	-7.84/-8.04	-14.5/-18.43	-18.37/-14.01	-16.84/-10.08	-14.6/-12.8	-13.09/-14.12	-14.56/-18.33	-19.01/-16.07	-15.32/-16.34	-14.9/-11.46	-10.86/-13.31	-19.17/-17.14
Θ(52.5°)	-10.35/-14.34	-17.76/-15.88	-11.91/-11.41	-10.85/-12.54	-12.04/-16.34	-19.54/-17.73	-18.47/-16.63	-15.81/-18.83	-15.5/-15.16	-18.83/-17.62	-18.42/-18.35	-19/-11.85	-8.14/-11	-17.55/-17.92	-18.8/-12.19	-16.43/-17.69	-17.22/-13.97	-13.76/-13.51	-18.16/-18.71	-17.12/-11.32	-12.46/-18.73	-18/-17.62	-12.64/-11.23	-19.43/-18.02
Θ(60°)	-14.4/-19.39	-17.95/-18.07	-15.39/-15.65	-17.36/-15.19	-18.02/-17.37	-19.14/-18.81	-17.06/-15.38	-14.16/-16.05	-16.8/-16.96	-18.89/-18.66	-17.81/-19.93	-14.6/-13.43	-11.29/-12.99	-16.64/-18.39	-17.4/-17.23	-16.43/-18.06	-18.37/-16.63	-13.93/-13.64	-18.61/-17.61	-16.61/-13.17	-13.5/-18.76	-17.73/-17.54	-16.72/-17.01	-14.04/-17.7
Θ(67.5°)	-18.33/-18.34	-18.18/-18.24	-17.99/-17.71	-17.02/-17.78	-17.75/-19.2	-18.23/-19.1	-17.86/-17.48	-15.76/-18.32	-18.14/-17.74	-17.67/-18.17	-15.26/-19.11	-17.32/-13.31	-13.1/-13.85	-12.61/-14.39	-16.77/-13.78	-16.81/-19.15	-16.45/-16.64	-12.81/-14.15	-15.65/-12.98	-16.22/-18.38	-14.21/-17.93	-18.67/-12.43	-12.36/-14.35	
Θ(75°)	-17.95/-14.75	-17.89/-18.45	-18.07/-19.16	-14.59/-14.11	-16.15/-18.28	-17.67/-18.82	-18.32/-17.69	-17.31/-18.31	-18.46/-17.02	-15.69/-18.47	-17.85/-17.79	-18.38/-15.98	-14.27/-15.58	-10.63/-11.7	-12.32/-14.46	-17.49/-17.64	-17.93/-18.09	-12.76/-13.75	-14.35/-14.03	-15.95/-11.5	-15.61/-16.43	-14.31/-17.57	-18.66/-14.25	-13.42/-12.72
Θ(82.5°)	-19.4/-14.74	-18.54/-18.35	-19.02/-16.83	-13.79/-15.58	-17.42/-19.48	-18.45/-19.14	-18.39/-19.39	-18.33/-19.51	-19.38/-15.88	-15.3/-18.84	-18.05/-17.48	-16.5/-16.83	-16.6/-16.57	-9.85/-10.45	-11.87/-15.5	-17.54/-18.59	-18.1/-17.7	-12.08/-14.8	-13.53/-15.45	-15.77/-11.46	-14.31/-14.45	-13.93/-17.56	-17.26/-17.55	-13.2/-12.85
Θ(90°)	-18.25/-16.26	-19.5/-18.88	-18.16/-17.74	-14.26/-16.08	-19.45/-19	-18.71/-18.38	-18.93/-17.9	-18/-18.06	-17.89/-14.34	-15.41/-17.94	-18.05/-18.35	-18.26/-17.05	-18.2/-18.73	-12.47/-11.02	-11.08/-15.65	-17.28/-17.59	-18.04/-19.41	-13.96/-16.72	-14.35/-17.86	-18.97/-12.09	-12.97/-14.49	-14.39/-18.42	-17.88/-18.91	-15.25/-13.72
Θ(97.5°)	-16.19/-17.94	-17.89/-17.72	-17.18/-18.65	-15.81/-17.71	-19.42/-18.39	-17.84/-18.95	-18.88/-18.12	-18.58/-17.9	-17.69/-14.9	-18.19/-18.84	-18.53/-17.77	-18.81/-19.08	-18.14/-17.56	-13.42/-13.44	-11.61/-15.77	-18.18/-18.53	-18.49/-18.82	-15.39/-16.37	-15.28/-17.6	-18.44/-17.82	-15.65/-18.5	-15.95/-18.46	-19.07/-17.76	-19.77/-17.72
Θ(105°)	-19.31/-18.33	-18.08/-17.52	-18.93/-19.33	-18.54/-18.91	-17.91/-18	-18.26/-18.3	-17.18/-17.78	-18.29/-18.47	-17.18/-16.58	-18.73/-18.15	-17.49/-13.85	-18.15/-17.96	-17.89/-18.42	-16.8/-15.82	-12.38/-13.59	-16.64/-18.6	-18.62/-18.6	-17.4/-17.43	-16.02/-18.64	-16.69/-18.31	-17.43/-19.14	-18.87/-18.45	-18.17/-17.35	-18.66/-17.56
Θ(112.5°)	-18.76/-18.5	-18.79/-17.65	-18.35/-17.73	-17.47/-18.55	-15.41/-16.31	-15.8/-18.69	-17.87/-18.89	-16.69/-19.03	-19/-17.24	-18.62/-18.46	-17.85/-17.97	-19.02/-19	-13.9/-19.09											



Radiated Composite Gain Data of 6GHz

Appendix B

Θ (120°)	-17.08/-16.88	-13.72/-13.97	-11.97/-12.59	-13.51/-15.16	-18.15/-15.71	-17.82/-13.59	-10.98/-13.93	-13.63/-13.48	-12.21/-15.73	-11.56/-11.97	-9.61/-10.16	-9.54/-9.96	-9.81/-11.46	-12.81/-16.37	-19.58/-12.25	-12.41/-13.44	-13/-9.77	-11.16/-11.67	-15.1/-10.88	-13/-13.76	-11.35/-12.37	-13.89/-16.16	-14.45/-14.97	-18.98/-17.13
Θ (127.5°)	-15.94/-18.03	-16.76/-19	-17.94/-15.53	-15.92/-15.92	-15.17/-15.29	-14.67/-19.1	-16.98/-14.12	-14.05/-18.48	-18.29/-16.11	-13.55/-12.58	-11.46/-12.57	-11.48/-11	-13.23/-13.63	-14.16/-15.37	-16.1/-19.33	-18.46/-18.49	-18.72/-15.54	-19.03/-18.11	-17.44/-17.98	-17.92/-18.91	-16.59/-18.37	-19.4/-17.4	-16.51/-16.14	-18.08/-18.34
Θ (135°)	-11.94/-19.19	-18.19/-15.58	-13.84/-16.98	-16.26/-17.37	-18.43/-18.36	-18.71/-17.95	-18.05/-18.77	-18.56/-17.76	-12.74/-13.91	-13.49/-12.96	-13.88/-13.17	-13.28/-13.71	-13.24/-14.57	-15.53/-15.57	-17.87/-15.02	-16.85/-15.22	-16.74/-14.83	-11.46/-13.76	-16.28/-14.53	-17.81/-17.32	-18.36/-15.02	-15.25/-15.58	-17.13/-18.75	-18.72/-18.53
Θ (142.5°)	-19.07/-18.32	-18.26/-17.75	-18.03/-18.48	-18.62/-18.27	-18.3/-18.47	-18.64/-18.82	-17.65/-15.14	-16.46/-14.79	-14.38/-16.84	-16.98/-14.34	-15.71/-12.84	-12.29/-13.07	-15.37/-15.51	-16.11/-16.87	-18.05/-12.44	-12.71/-17.89	-18.75/-11.77	-11.97/-18.08	-19.21/-17.21	-12.61/-15.61	-18.7/-18.83	-18.4/-18.22	-16.65/-18.91	-18.41/-19.04
Θ (150°)	-17.62/-18.27	-17.93/-18.22	-14.75/-12.15	-15.09/-18.16	-18.85/-17.91	-18.54/-18.9	-18.86/-17.75	-14.87/-15.96	-17.07/-15.74	-16.1/-15.18	-13.08/-13.78	-14.56/-16.65	-16.6/-13.97	-17.6/-18.42	-17.18/-18.39	-18.2/-16.17	-15.43/-14.7	-18.95/-17.57	-17.86/-17.69	-18.33/-18.72	-19.16/-17.47	-19.29/-17.72	-18.32/-19.18	-17.94/-17.69
Θ (157.5°)	-16.91/-18.62	-16.38/-18.98	-17.9/-12.61	-17.81/-18.76	-18.43/-18.71	-16.49/-13.78	-14.94/-18.12	-18.31/-19.01	-18.29/-17.65	-18.44/-17.02	-14.43/-13.96	-15.81/-16.86	-16.08/-12.48	-13.32/-17.8	-16.86/-18.77	-16.23/-19.1	-17.17/-15.63	-14.92/-14.23	-16.32/-18.57	-18.21/-18.94	-17.57/-18.26	-18.89/-18.98	-17.45/-17.13	
Θ (165°)	-19.18/-19.15	-18.66/-18.37	-18.23/-17.88	-18.4/-17.61	-17.84/-18.07	-18.76/-18.82	-18.54/-18.8	-19.28/-18.32	-19.44/-17.03	-16.23/-16.61	-18.24/-17.94	-18.69/-17.43	-18.69/-18.97	-19.18/-18.26	-17.65/-17.64	-15.38/-16.31	-19.11/-18.14	-18.83/-17.8	-17.73/-17.65	-17.66/-18.25	-18.74/-17.37	-17.9/-19.1	-17.94/-17.91	-19.23/-18.5
Θ (172.5°)	-19.04/-18.12	-17.35/-17.68	-17.92/-17.68	-18.23/-17.43	-18.32/-17.36	-17.17/-18.64	-18.13/-18.92	-18.91/-17.74	-18.19/-18.59	-19.24/-18.13	-18.73/-18.82	-18.28/-18.69	-17.67/-16.79	-14.18/-13.33	-13.35/-14.47	-17.21/-19.24	-18.67/-17.43	-17.91/-18.36	-17.66/-18.42	-18.49/-17.68	-17.79/-19.41	-17.64/-17.9	-18.28/-17.3	-19.43/-17.58
Θ (180°)	-18.11/-17.89	-18.19/-19.19	-17.77/-18.78	-18.51/-19.22	-18.56/-18.27	-17.83/-18.62	-17.89/-17.83	-18.27/-18.74	-17.78/-19.05	-18.57/-18.4	-18.19/-18.38	-19.06/-18.25	-17.32/-18.71	-18.48/-17.58	-18.36/-18.77	-17.44/-17.48	-18.36/-17.43	-18.98/-17.77	-18.38/-18.71	-18.41/-19.07	-18.06/-17.81	-18.24/-17.58	-17.92/-18.27	-17.99/-18.86
Freq(Hz)	6.995GPol.	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°)	-3.19/-3.6	-4.12/-4.59	-5.07/-5.88	-7.09/-8.46	-10.2/-12.21	-15.02/-18.16	-18.59/-14.77	-11.54/-9.47	-8.04/-7.18	-6.67/-6.2	-5.29/-4.56	-4.16/-3.92	-3.91/-4.18	-4.47/-5.15	-5.85/-6.58	-7.68/-9.03	-10.98/-13.08	-15.94/-18.35	-19.13/-17.67	-14.4/-12.04	-9.81/-7.95	-6.39/-5.67	-5.08/-4.35	-3.63/-3.14
Θ (7.5°)	-5.29/-6.23	-7.33/-7.95	-8.75/-9.57	-10.63/-11.84	-13.09/-14.54	-16.11/-16.2	-14.64/-12.49	-10.65/-9.14	-8.23/-7.53	-6.97/-6.13	-5.32/-4.44	-3.56/-2.7	-2.34/-2.12	-2.23/-2.56	-3.19/-3.93	-5.03/-6.38	-8.18/-10.42	-13.34/-14.8	-14.14/-12.07	-9.85/-7.93	-6.64/-5.52	-4.85/-4.49	-3.55/-4.2	-1.18/-1.61
Θ (15°)	-6.89/-7.15	-6.93/-7.4	-7.54/-8.58	-11.06/-14.73	-18.57/-18.31	-17.25/-14.53	-12.94/-11.12	-9.43/-8.33	-7.8/-7.62	-7.37/-7.19	-7.49/-7.48	-6.48/-5.07	-4.38/-4.85	-6.17/-7.32	-8.33/-8.94	-8.8/-8.59	-8.84/-10.2	-10.82/-11.57	-11.66/-10.47	-9.35/-8.54	-8.16/-8.1	-7.56/-7.16	-6.32/-5.73	-6.02/-6.43
Θ (22.5°)	-5.23/-4.51	-4.34/-4.96	-7.36/-12.16	-18.55/-17.84	-17.27/-17.47	-18.89/-18.21	-19.15/-12.64	-8.24/-8.19	-6.18/-7.19	-8.16/-8.3	-8.72/-10.23	-11.18/-11.03	-14/-18.72	-18.05/-18.53	-17.67/-14.28	-12.9/-13.56	-15.9/-18.24	-18/-19.07	-17.44/-18.24	-14.48/-12.79	-12.47/-13.07	-11.3/-11.13	-14.63/-14.66	-11.09/-8.04
Θ (30°)	-5.1/-3.75	-4.53/-5.86	-9.56/-15.34	-19.02/-18.01	-18.63/-17.4	-18.14/-13.04	-10.43/-10.19	-10.55/-8.02	-5.97/-5.2	-5.69/-7.96	-9.7/-13.65	-13.72/-9.59	-9.19/-8.04	-9.16/-15.77	-18.15/-18.83	-17.83/-17.92	-15.5/-12.49	-12/-10.19	-9.54/-10.93	-13.35/-16.51	-18.17/-13.84	-10.88/-10.47	-12.89/-16.08	-16.58/-11.89
Θ (37.5°)	-11.73/-10.78	-11.7/-8.91	-8.47/-12	-13.59/-18.27	-18.67/-13.78	-9.71/-8.08	-8.38/-8.62	-8.99/-10.42	-6.65/-6.96	-5.72/-8.27	-12.56/-14.73	-13.24/-3.77	-5.73/-9.44	-8.04/-12.78	-16.93/-18.31	-17.66/-15.73	-10.54/-8.58	-8.8/-8.68	-7.46/-8.34	-13.32/-16.02	-14.67/-9.6	-8.03/-8.7	-13.71/-15.12	-19.11/-18.45
Θ (45°)	-15.41/-19.14	-16.81/-8.97	-7.74/-7.87	-9.45/-12.38	-10.41/-11.42	-8.01/-8.3	-9.13/-9	-10.2/-15.62	-13.48/-10.53	-9.54/-11.59	-15.23/-8.48	-7.31/-8.9	-12.6/-11.25	-13.53/-18.31	-16.63/-17.96	-12.69/-9.13	-8.6/-7.72	-6.96/-8.79	-13.74/-18.73	-11.5/-8.9	-9.98/-10.27	-10.92/-9.68	-11.24/-19.2	
Θ (52.5°)	-17.5/-17.75	-14.22/-10.49	-10.29/-8.13	-10.22/-12.29	-14.79/-10.91	-8.21/-7.44	-9.25/-10.77	-10.6/-12.41	-13.33/-14.46	-11.94/-12.86	-15.83/-17.88	-12.09/-7.3	-7.22/-10.55	-13.92/-14.25	-16.81/-18.74	-17.77/-17.9	-16.99/-14.73	-11.27/-10.27	-8.86/-9.93	-15.66/-13.27	-9.78/-9.23	-13.77/-18.23	-11.07/-8.17	-8.24/-15.45
Θ (60°)	-19.27/-18.14	-18.32/-16.55	-14.31/-17.97	-15.18/-15.77	-16.14/-11.04	-10.6/-9.97	-11.67/-12.93	-10.96/-11.67	-13.28/-19.42	-16.1/-17.3	-12.39/-13.92	-11.82/-8.01	-7.53/-9.29	-8.76/-10.26	-13.25/-10.63	-18.77/-19.13	-19.12/-14.75	-13.91/-12.43	-13.01/-14.08	-18.91/-15.63	-11.1/-12.31	-18.48/-18.85	-17.12/-12.14	-18.69/-18.19
Θ (67.5°)	-18.48/-19.06	-19.02/-15.66	-13.96/-17.8	-17.42/-14.63	-15.34/-15.54	-13.14/-12.25	-14.48/-12.63	-9.62/-12.04	-16.98/-19.18	-14.86/-12.81	-13.86/-9.24	-13.96/-9.21	-6.52/-8.24	-10.36/-15.43	-16.33/-18.54	-17.73/-17.61	-13.16/-10.84	-12.24/-13.12	-16.68/-15.33	-14.04/-16.01	-16.48/-16.24	-17.42/-18.74	-16.11/-16.55	
Θ (75°)	-17.96/-18.22	-18.21/-12.57	-17.11/-19.21	-16.42/-11.81	-13.42/-17.5	-18.95/-17.97	-18.96/-17	-11.27/-12.92	-18.26/-19.26	-18.95/-16.43	-10.17/-13.21	-15.99/-11.56	-10.79/-8.17	-5.66/-7.41	-10.92/-15.43	-18.57/-18.39	-18.87/-18.61	-13.18/-9.84	-12.36/-11.99	-13.24/-14.39	-14.43/-17.28	-18.74/-15.51	-16.24/-19.12	-18.01/-15.92
Θ (82.5°)	-18.55/-18.17	-17.23/-12.95	-18.82/-18	-15.7/-12.79	-13.04/-18.3	-19.15/-18.71	-18.22/-15.97	-12.48/-14.14	-17.91/-18.27	-19.24/-16.55	-12.02/-17.29	-16.72/-14.03	-14.02/-8.87	-6.67/-8.62	-13.01/-17.42	-19.01/-18.07	-18.31/-19.11	-12.83/-9.93	-13.14/-12.11	-13.2/-14.02	-16.7/-18.76	-19.09/-16.36	-16.8/-18.27	-18.39/-16.75
Θ (90°)	-19.08/-18.77	-19.03/-16.85	-17.93/-18.13	-17.21/-16.94	-14.75/-17.25	-16.17/-18.85	-17.76/-17.06	-17.41/-18.18	-14.14/-18.8	-19.13/-17.35	-18.46/-11.57	-8.32/-10	-16.67/-14.32	-18.32/-19.14	-18.81/-18.94	-14.5/-10.12	-14.4/-14	-14.44/-16.84	-19.02/-19.01	-16.22/-16.54	-16.73/-17.1	-18.72/-17.18		
Θ (97.5°)	-18.41/-18.91	-18.65/-18.01	-18.02/-17.93	-18.33/-18.14	-18.76/-16.41	-14.71/-17.62	-18.95/-17.57	-14.45/-17.47	-17.75/-18.82	-18.84/-19.48	-17.78/-18.79	-18.48/-18.86	-17.77/-13.62	-10/-12.25	-17.35/-19.21	-18.99/-18.8	-19.15/-17.88	-17.45/-13.71	-15.53/-14.39	-16.34/-19.13	-18.7/-19.14	-19.07/-15.13	-16.5/-18.36	-17.7/-17.4
Θ (105°)	-18.75/-19.41	-17.29/-17.47	-17.84/-19.2	-18.76/-17.26	-18.56/-17.34	-16.16/-15.85	-18.34/-17.79	-16.14/-10.97	-18.18/-18.3	-17.89/-18.67	-17.62/-18.71	-18.14/-18.55	-11.93/-15.91	-19.14/-17.94	-18.64/-17.66	-18.01/-18.98	-18.71/-18.46	-17.88/-17.04	-17.41/-19.03	-18.09/-18.33	-18.19/-15.06	-16.45/-16.42	-18.85/-18.79	
Θ (112.5°)	-17.57/-18.61	-16.43/-17.62	-19.27/-17.38	-16.63/-14.85	-18.12/-18.03	-19.13/-17.39	-18.11/-18.12	-17.84/-18.84	-19.06/-18.96	-17.88/-16.12	-18.07/-19.06	-17.72/-18.59	-17.38/-18.86	-18.02/-18.72	-18.53/-19.37	-18.66/-18.65	-18.16/-18.61	-16.59/-16.84	-14.69/-19.15	-18.19/-17.81	-16.36/-19.19	-18.12/-18.55	-17.73/-18.96	
Θ (120°)	-18.35/-18.53	-17.85/-17.7	-19.12/-17.51	-16.17/-18.31	-18.09/-17.21	-18.98/-17.89	-18.84/-18.33	-18.65/-19.27	-19.12/-19.29	-17.88/-17.86	-18.05/-18.62	-18.38/-17.1	-18.37/-19.09	-17.82/-18.3	-19.05/-17.43	-18.44/-17.29	-18.47/-18.98	-18.43/-18.49	-18.45/-19.32	-15.66/-18.7	-18.25/-19.05	-17.73/-18.28	-18.93/-18.16	-18.32/-17.99
Θ (127.5°)	-18.75/-18.89	-18.96/-18.64	-18.47/-18.61	-17.8/-18.17	-18.71/-18.12	-17.47/-18.13	-19.08/-18.32	-17.73/-18.92	-18.06/-17.93	-18.52/-17.83	-17.93/-18.4	-18.16/-18.98	-18.89/-18.87	-18.16/-17.67	-19.25/-18.88	-19.17/-18.52	-18.74/-18.09	-19.04/-18.53	-18.75/-18.21	-17.75/-18.7	-18.74/-18.1	-17.02/-18.54	-18.92/-18.98	-13.54/-19.07
Θ (135°)	-17.95/-18.18	-18/-17.81	-17.69/-18.84	-19.18/-18.85	-17.57/-16.67	-17.94/-19.35	-17.45/-18.7	-15.8/-16.21	-19.06/-17.66	-18.78/-17.66	-17.38/-18.44	-18.58/-17.3	-17.99/-18.62	-19.03/-19.41	-18.18/-18.14	-17.66/-18.48	-18.87/-18.63	-18.55/-19.21	-18.24/-15.46	-17.31/-18.57	-18.11/-18.9	-18.63/-19.01		
Θ (142.5°)	-17.68/-18.19	-18.72/-17.73	-18.03/-15.92	-18.21/-18.55	-18.05/-18.54	-17.91/-19.09	-15.27/-18.81	-14.87/-14.91	-18.59/-19.15	-18.89/-18.81	-17.74/-18.75	-17.82/-18.38	-16.71/-18.14	-17.39/-18.54	-18.62/-17.23	-16.83/-17.34	-19.12/-18.96	-18.09/-18.62	-17.69/-18.22	-18.39/-18.33	-18.16/-19.7	-17.96/-18.23	-17.71/-19.12	-17.72/-17.76
Θ (150°)	-17.99/-18.6	-18.43/-19.05	-17.94/-18.26	-18.75/-17.69	-18.48/-18.02	-18.59/-18.91	-18.39/-18.96	-18.82/-18.44	-18.49/-17.79	-18.84/-19.02	-18.44/-18.94	-19.13/-17.48	-18.12/-18.15	-18.52/-18.28	-18.43/-19.28	-17.78/-18.95	-17.67/-17.54	-18.3/-18.99	-18.04/-16.07	-16.8/-18.09	-17.59/-18.72	-17.39/-17.05	-18.86/-18.59	-19.05/-17.93
Θ (157.5°)	-18.25/-18.03	-17.25/-19.24	-18.15/-17.98	-18.72/-19.12	-18.93/-18.62	-18.86/-18.33	-19.71/-17.5	-18.69/-18.76</																



Radiated Composite Gain Data of 6GHz

Appendix B

Θ (172.5°)	-18.34/-18.37	-18.44/-17.8	-17.86/-18.87	-17.85/-19.18	-18.2/-17.79	-18.31/-18.65	-17.81/-18.64	-18.57/-18.4	-17.75/-18.78	-18.09/-17.96	-17.84/-19.66	-18.64/-17.38	-18.43/-18.38	-19.05/-18.11	-18.96/-18.9	-17.63/-17.3	-18.63/-18.2	-18.58/-18.34	-18.58/-18.12	-19/-19.06	-18.67/-18.5	-18.68/-19.22	-18.51/-18.29	-17.59/-18.2
Θ (180°)	-18.46/-17.75	-17.24/-18.78	-19/-18.22	-17.53/-17.89	-18.08/-18.22	-19.27/-18.25	-19.3/-18.01	-17.79/-19.06	-18.75/-19.05	-18.17/-17.72	-18.24/-16.61	-15.25/-13.88	-13.96/-15.43	-18.12/-17.45	-17.99/-19.03	-19.23/-17.69	-18.34/-18.14	-19.08/-17.89	-18.64/-18.46	-17.96/-17.75	-17.44/-17.66	-17.86/-17.92	-18.96/-18.47	-19.13/-17.65
Freq(Hz)	6.175GPdL	Theta/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°)	-10.93/-12	-12.87/-14.24	-15.12/-17.54	-18.09/-19.35	-17/-13.51	-11.5/-10.64	-9.73/-8.84	-8.15/-7.49	-6.83/-6.08	-5.99/-6.3	-6.6/-7.19	-7.99/-8.97	-10.21/-11.54	-13.02/-15.25	-18.13/-18.16	-19.82/-18.74	-17.28/-14.84	-12.11/-9.94	-9.01/-8.85	-8.61/-8.44	-8.44/-8.74	-8.64/-8.63	-8.72/-8.96	-9.5/-9.88
Θ (7.5°)	-11.31/-14.36	-18.72/-18.93	-18.68/-18.26	-16.9/-14.7	-13.91/-12.48	-12.01/-11.94	-12.85/-14.19	-15.81/-15.15	-13.01/-11.34	-10.4/-9.87	-9.59/-9.32	-9.41/-9.74	-10.57/-11.22	-11.89/-12.04	-12.92/-13.92	-15.49/-16.18	-17.27/-15.9	-12.32/-9.02	-7.09/-5.88	-4.83/-4.15	-3.95/-3.85	-3.88/-4.02	-4.69/-5.58	-6.94/-8.76
Θ (15°)	-18.27/-19.17	-15.6/-14.62	-14.11/-14.75	-13.32/-11.92	-11.46/-12.56	-13.93/-11.92	-18.73/-17.39	-19.16/-15.36	-11.92/-9.27	-7.53/-6.43	-6.31/-6.93	-7.67/-8.54	-9.86/-11.97	-11.36/-9.04	-7.58/-6.89	-6.81/-6.78	-7.45/-8.94	-10.59/-8.86	-8.38/-6.9	-5.93/-5.48	-5.37/-5.61	-6.25/-7.09	-8.06/-9.14	-10.05/-12.9
Θ (22.5°)	-13.28/-11.95	-10.75/-11.39	-15.03/-16.46	-14.83/-15.41	-18.81/-18.98	-17.32/-18.55	-16.93/-15	-15.05/-14.41	-13.36/-13.89	-15.22/-13	-9.93/-8.53	-7.29/-6.48	-8.28/-15.88	-18.39/-11.99	-10.69/-10.19	-9.05/-7.54	-6.91/-7.86	-10.22/-12.42	-14.01/-13.52	-11.6/-9.98	-9.09/-8.69	-8.54/-8.79	-9.79/-11.85	-15.31/-16.55
Θ (30°)	-19.07/-18.29	-15.37/-18.25	-19.43/-17.47	-17.05/-14.62	-14.75/-15.48	-16.14/-14.54	-11.13/-10.3	-11.82/-15.81	-18.98/-18.95	-18.43/-18.32	-12.09/-8.78	-6.71/-4.95	-6.82/-15.34	-18.82/-18.76	-18.85/-18.11	-17.86/-14.82	-13.44/-15.1	-18.18/-18.86	-15.39/-11.83	-10.59/-11.83	-11.94/-13.04	-13.41/-12.05	-10.59/-9.69	-11.5/-17.51
Θ (37.5°)	-18.01/-17.27	-18.21/-17.48	-17.65/-14.81	-11.46/-10.45	-12.29/-11.73	-10.11/-9.64	-9.29/-9.82	-12.25/-13.64	-14.15/-16.75	-18.32/-18.5	-12.21/-10	-9.52/-9.43	-15.31/-18.12	-17.21/-18.57	-19.31/-18.5	-18.23/-18.87	-18.64/-17.19	-16.26/-18.89	-19.16/-18.03	-15.71/-17.29	-19.17/-18.02	-17.17/-13.7	-13.29/-13.48	-13.79/-13.66
Θ (45°)	-17.61/-18.17	-19.28/-18.95	-18.21/-18.69	-13/-12.49	-13.67/-15.37	-11.81/-9.02	-9.22/-14.73	-18.03/-13.59	-10.75/-10.01	-16.59/-17.92	-16.04/-12.02	-17.19/-18.33	-15.9/-16.04	-14.55/-12.98	-19.02/-18.3	-18.33/-14.15	-15.85/-18.94	-16.75/-19.27	-18.08/-17.35	-17.55/-15.18	-18.97/-18.65	-19.04/-18.6	-15.32/-18.44	-18.51/-18.08
Θ (52.5°)	-18.64/-18.04	-18.37/-17.57	-18.71/-18.95	-17.72/-17.83	-17.48/-17.41	-18.12/-13.06	-12.76/-17.8	-17.34/-14.25	-14.43/-13.38	-16.29/-19.17	-15.26/-10.96	-13.98/-16.35	-11.98/-15.21	-18.69/-13.3	-13.24/-10.06	-12.29/-19.69	-17.9/-19.67	-17.11/-19.07	-18.26/-12.84	-15.09/-18.98	-18.41/-18.01	-13.41/-18.1	-18.66/-18.73	-
Θ (60°)	-18.93/-18.74	-18.76/-17.92	-18.67/-18.61	-14.06/-15.37	-16.24/-18.7	-17.81/-14.9	-13.39/-18.76	-16.9/-13.32	-17.48/-18.06	-15.31/-18.99	-18.5/-17.77	-17.21/-18.57	-12.79/-14.51	-19.14/-18.78	-16.87/-17.02	-15.76/-10.95	-12.28/-18.77	-19.01/-17.64	-15.63/-18.75	-17.88/-13.38	-17.78/-19.14	-19.16/-19.14	-13.79/-14.3	-18.34/-18.59
Θ (67.5°)	-18.57/-17.42	-17.84/-18.06	-18.49/-16.74	-12.85/-11.69	-13.66/-15.7	-16.15/-14.1	-10.77/-15.1	-15.01/-12.43	-16.16/-16.24	-12.34/-17.64	-19.31/-18.82	-19.85/-19.63	-13.68/-13	-12.55/-12.77	-12.09/-15.22	-18.24/-18.12	-16.61/-18.87	-18.17/-16.08	-14.26/-18.75	-18.61/-15.84	-18.68/-16.74	-15.16/-18.05	-14.63/-14.99	-17.44/-17.86
Θ (75°)	-19.2/-19.02	-18.72/-18.02	-17.8/-18.45	-16.98/-15.28	-16.85/-16.26	-16.36/-14.82	-10.43/-15.35	-13.99/-11.54	-14.1/-13.78	-12.21/-15.06	-14.28/-15.01	-13.16/-13.98	-13.91/-13.4	-11.79/-12.75	-11.15/-15.04	-16.03/-19.1	-18.77/-18.22	-17.77/-19.79	-11.08/-18.37	-17.41/-15.38	-18.62/-16.27	-14.24/-19.24	-17.1/-18.2	-18.12/-15.35
Θ (82.5°)	-18.57/-18.66	-17.46/-18.84	-17.86/-18.31	-19.11/-17.14	-18.98/-15.14	-16.68/-14.82	-10.75/-17.97	-13.09/-13.78	-15.36/-14.86	-12.68/-13.41	-13.75/-14.69	-13.07/-13.39	-13.64/-15.09	-14.14/-16.58	-13.12/-12.43	-12.69/-18.07	-17.49/-18.49	-18.04/-18.78	-12.11/-17.28	-15.74/-15.78	-18.42/-18.13	-16.15/-18.14	-18.39/-18.88	-19.2/-16.37
Θ (90°)	-16.1/-19.09	-18.89/-18.6	-17.86/-18.97	-18.37/-18.07	-17.63/-16.25	-18.39/-14.62	-12.98/-17.47	-14.11/-14.93	-17.02/-17.78	-14.22/-13	-14.75/-16.71	-13.07/-13.58	-15.92/-16.76	-18.92/-18.1	-16.72/-13.71	-13.05/-14.54	-17.17/-17.75	-18.38/-14.21	-17.89/-13.47	-18.88/-18.04	-18.66/-18.11	-17.87/-17.7	-18.68/-18.19	-
Θ (97.5°)	-17.86/-18.59	-18.39/-18.41	-17.9/-19.26	-18.73/-19.54	-19.02/-18.9	-18.45/-13.81	-17.06/-17.62	-17.34/-17.78	-18.52/-19.13	-16.17/-14.39	-18.21/-15.73	-14.56/-17.21	-19.32/-18.57	-18.85/-18.94	-17.43/-17.87	-15.38/-16.28	-18.71/-18.02	-19.07/-18.8	-15.64/-18	-18.19/-15.94	-18.04/-18.76	-18.6/-17.86	-18.57/-17.98	-17.66/-18.02
Θ (105°)	-17.31/-18.19	-17.99/-19.23	-18.52/-18.45	-17.62/-18.4	-17.99/-18.56	-18.22/-15.45	-18.9/-19.01	-18.74/-19.25	-18.16/-19	-17.14/-14.91	-17.93/-16.73	-17.78/-19.07	-18.61/-18.95	-18.05/-18.1	-18.57/-19.21	-17.98/-18.66	-19.01/-18.32	-17.89/-18.03	-17.49/-18.14	-17.71/-18.94	-18.57/-17.39	-18.94/-18.43	-19.21/-18.92	-19.34/-18.23
Θ (112.5°)	-17.94/-18.7	-19.26/-18.93	-18.31/-18.35	-19.05/-18.78	-17.81/-18.32	-16.59/-18.47	-18.58/-17.35	-18.18/-17.12	-18.98/-18.06	-18.15/-17.07	-19.32/-18.76	-18.23/-18.17	-16.52/-18.76	-18.78/-18.12	-18.31/-17.32	-18.68/-17.54	-19.03/-19	-18.69/-19.06	-19.05/-17.72	-18.12/-18.57	-19.13/-15.54	-15.5/-19.41	-17.58/-17.87	-17.47/-19.61
Θ (120°)	-19.48/-18.51	-17.75/-19.07	-17.92/-18.67	-18.75/-17.8	-18.37/-15.73	-17/-18.51	-17.99/-14.86	-18.43/-18.1	-19.21/-18.55	-17.71/-18.68	-17.96/-17.94	-18.76/-17.94	-18.9/-18.86	-18.83/-18.4	-19.46/-17.57	-18.95/-18.26	-16.21/-18.26	-18.76/-18.16	-15.76/-18.65	-18.64/-17.55	-18.44/-14.34	-15.65/-18.99	-18.9/-18.41	-18.79/-18.53
Θ (127.5°)	-18.07/-18.23	-18.66/-18.48	-19.2/-18.53	-17.73/-19.32	-17.83/-18.64	-19.14/-16.74	-19.05/-17.64	-19.12/-17.57	-18.07/-19.2	-18.4/-17.94	-18.89/-18.08	-18.26/-18.21	-18.66/-18.2	-17.42/-18.81	-17.52/-18.09	-18.62/-18.37	-16.25/-17.47	-17.98/-18.13	-13.76/-18.55	-18.58/-17.34	-16.34/-18.77	-18.24/-17.7	-18.61/-19.36	-18.81/-17.38
Θ (135°)	-18.94/-17.54	-18.1/-19.39	-17.65/-18.88	-18.54/-18.49	-17.92/-18.7	-18/-17.98	-18.35/-18.23	-18.03/-17.96	-17.71/-18.67	-18.08/-17.47	-18.39/-18.87	-19.12/-17.66	-18.28/-19	-17.96/-18.72	-19.01/-19.08	-17.53/-18.09	-18.28/-18.86	-18.96/-18.1	-17.03/-17.79	-19.25/-18.96	-18.65/-18.48	-18.48/-17.71	-19.24/-18.94	-17.8/-18.37
Θ (142.5°)	-18.82/-19.17	-17.32/-18.29	-18.19/-19.34	-18.34/-18.21	-17.96/-17.88	-18.22/-19.11	-18.67/-18.84	-17.84/-18.4	-17.37/-18.28	-18.69/-18.72	-18.1/-17.45	-18.36/-18.1	-18.3/-17.42	-17.94/-18.59	-17.94/-16.36	-18.13/-18.91	-18.28/-18.72	-17.65/-16.35	-18.01/-17.85	-17.79/-18.47	-18.32/-18.68	-17.89/-18.55	-18.39/-18.6	-17.55/-18.4
Θ (150°)	-18.46/-17.99	-18.84/-18.19	-17.84/-17.17	-18.85/-19.09	-18.38/-17.79	-19.69/-18.37	-18.47/-17.7	-18.78/-18.88	-18.94/-19.1	-18.51/-17.39	-18.68/-19.17	-17.54/-17.79	-18.75/-18.76	-18.39/-18.16	-18.55/-17.37	-17.33/-18.49	-18.19/-18.33	-18.29/-18.81	-17.5/-17.51	-18.8/-18.36	-18.14/-18.6	-17.7/-18.36	-17.4/-18.1	-19.07/-17.75
Θ (157.5°)	-18.36/-17.77	-18.2/-18.19	-18.71/-17.75	-18.18/-18.12	-18.1/-18.88	-18.55/-18.76	-18.56/-17.74	-19.1/-18.82	-17.95/-18.05	-18.87/-18.69	-18.65/-18.1	-18.16/-18.99	-18.69/-18.98	-18.91/-17.18	-18.54/-18.45	-18.39/-18.05	-18.5/-18.33	-18.12/-18.06	-19.24/-18.45	-18.1/-18.1	-18.48/-18.87	-19.21/-17.18	-19.14/-19.16	-
Θ (165°)	-17.69/-18.77	-17.23/-18.27	-19.29/-18.86	-19.08/-17.89	-18.3/-17.56	-18.6/-18.56	-18.58/-18.72	-18/-18.72	-17.67/-17.88	-18.56/-19	-18.04/-18.35	-17.97/-18.43	-17.84/-19.2	-18.23/-19.02	-18.43/-17.3	-18.78/-17.64	-18.74/-18.31	-19.06/-17.92	-19.34/-18.49	-17.32/-17.79	-18.58/-18.07	-18.93/-17.71	-18.24/-18.5	-18.06/-18.5
Θ (172.5°)	-19.3/-18.48	-18.4/-18.49	-16.66/-18.93	-17.15/-17.03	-18.7/-19.1	-18.95/-18.47	-18.84/-18.29	-18.2/-17.71	-18.43/-18.51	-18.32/-17.7	-18.11/-17.7	-17.7/-18.4	-18.88/-19.08	-17.42/-18.82	-19.19/-18.04	-18.28/-17.72	-17.73/-18.63	-17.72/-17.72	-18.47/-18.41	-19.12/-17.79	-18.97/-18.27	-18.19/-17.98	-19.31/-19.02	-17.94/-18.92
Θ (180°)	-18.19/-18.22	-19.38/-18.38	-17.53/-18.99	-18.88/-17.48	-19.07/-17.68	-18.34/-18.64	-18.61/-18.03	-17.9/-18.06	-18.58/-18.98	-18.11/-17.5	-17.39/-19.02	-18.15/-18.78	-17.17/-17.78	-18.01/-18.24	-17.46/-18.2	-18.51/-18.66	-17.96/-17.92	-17.98/-18.12	-18.26/-18.5	-18.45/-19.22	-18.74/-19.03	-19.1/-19.04	-18.93/-18.17	-
Freq(Hz)	6.475GPdL	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°)	-5.95/-5.89	-5.64/-5.41	-5.34/-5.11	-4.96/-5.17	-5.64/-6.41	-7.24/-8.21	-8.96/-10.59	-13.45/-18.2	-18.46/-18.58	-15.84/-12.18	-10.02/-8.32	-7.46/-6.73	-6.11/-5.49	-5.01/-4.88	-5.01/-5.44	-5.05/-6.81	-7.74/-8.46	-9.33/-10.63	-12.43/-14.45	-16.89/-16.83	-15.36/-13.58	-12.51/-10.78	-9.91/-8.67	-7.46/-6.66
Θ (7.5°)	-7.53/-7.57	-7.67/-7.54	-7.58/-7.51	-7.88/-8.81	-9.99/-11.64	-13.55/-14.31	-14.18/-13.57	-12.99/-12.46	-11.67/-10.86	-10.37/-10.34	-10													



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(15°)	-11.82/-17.93	-16.57/-17.73	-17.29/-18.68	-19.57/-14.12	-10.9/-8.88	-8.4/-8.34	-8.34/-7.99	-7.92/-8.46	-9.42/-10.79	-11.63/-10.63	-8.67/-8.01	-8.76/-10.04	-12.48/-14.1	-13.32/-9.85	-7.12/-5.39	-4.92/-5.76	-7.6/-10.04	-10.15/-8.88	-7.08/-5.79	-4.97/-4.5	-4.28/-5.48	-5.15/-5.53	-5.73/-5.7	-6.35/-8.13
Θ(22.5°)	-18.8/-17.62	-18.62/-18.06	-18.52/-16.68	-15.52/-13.23	-10.08/-8.19	-7.54/-8.76	-11.37/-13.23	-11.7/-8.91	-7.89/-8.4	-9.33/-11.33	-9.61/-5.05	-4.7/-3.9	-4.72/-8.72	-14.59/-9.5	-6.83/-5.84	-5.14/-4.69	-4.99/-6.42	-9.47/-15.4	-18.78/-18.43	-13.61/-9.86	-7.58/-6.19	-5.17/-4.53	-4.87/-5.8	-8.92/-12.74
Θ(30°)	-13.18/-14.71	-15.32/-13.11	-9.93/-8.36	-6.73/-6.51	-8.9/-8.69	-6.66/-7.09	-10.01/-12.15	-11.77/-10.47	-10.55/-12.3	-12.61/-12.96	-17.14/-7.3	-3.06/-1.47	-2.16/-7.68	-18.54/-17.99	-13.03/-9.51	-7.96/-7.6	-8.67/-10.14	-12.33/-16.86	-13.7/-11.4	-11.27/-11.18	-11.19/-9.16	-6.61/-5.45	-5.19/-5.24	-7.12/-9.99
Θ(37.5°)	-11.76/-12.07	-15.63/-14.15	-14.66/-11.23	-7.25/-5.61	-6.45/-9.18	-6.95/-4.55	-5.43/-9.48	-14.77/-16.1	-14.95/-9.35	-9.04/-11.3	-16.92/-9.04	-4.52/-3.18	-5.84/-13.12	-16.58/-17.64	-18.43/-18.09	-18.24/-14	-16.34/-16.59	-18.54/-16.81	-12.05/-11.69	-12.53/-13.75	-16.91/-15.96	-8.96/-7.98	-8.66/-10.23	-9.04/-9.09
Θ(45°)	-13.89/-14.72	-13.95/-12.65	-11.46/-15.02	-17.11/-9.88	-7.75/-9.45	-12.62/-8.64	-5.74/-10	-16.15/-17.8	-17.71/-10.47	-7.56/-9.85	-10.98/-6.91	-5.56/-8.7	-10.93/-12.83	-12.75/-14.76	-15.16/-16.12	-16.31/-19.02	-18.61/-18.48	-17.96/-18.07	-15.63/-13.72	-14.08/-13.28	-15.17/-19.72	-14.54/-12.52	-11.62/-13.48	-12.19/-12.5
Θ(52.5°)	-17.59/-14.2	-13.75/-13.61	-12.11/-13.82	-17.87/-16.82	-13.52/-11.76	-16.43/-10.64	-8.85/-13.17	-16.85/-16.36	-18.33/-11.69	-9.58/-9.52	-7.13/-4.75	-5.2/-8.74	-17.3/-18.86	-15.97/-18.02	-17.46/-12.41	-10.78/-14.81	-17.48/-18.17	-15.33/-17.85	-19.05/-15.94	-11.25/-11.85	-13.45/-12.82	-11.71/-14.12	-13.38/-16.42	-15.42/-18.2
Θ(60°)	-14.43/-16.89	-17.76/-17.58	-16.54/-19.09	-17.51/-18.69	-16.78/-11.7	-18.4/-14.01	-10.77/-13.57	-14.69/-18.46	-17.99/-10.61	-12.76/-10.52	-8.78/-8.79	-8.2/-12.69	-18.21/-16.87	-15.69/-19.06	-18.42/-12.37	-10.49/-11.18	-14.24/-18.53	-15.26/-16.29	-18.49/-16.95	-10.33/-13.46	-12.02/-9.49	-13.11/-17.19	-12.65/-15.09	-15.38/-15.62
Θ(67.5°)	-14.69/-17.65	-18.23/-17.41	-18.77/-18.9	-18.22/-19.1	-18.89/-10.7	-14.02/-13.86	-12.16/-16.59	-15.55/-17.75	-12.16/-12.54	-18.07/-13.65	-14.12/-18.29	-18.08/-18.55	-16.37/-12.84	-12.31/-17.84	-15.27/-12.85	-14.9/-10.81	-9.62/-15.5	-15.31/-14.19	-17.04/-17.47	-10.46/-15.38	-11.68/-9.03	-17.48/-17.43	-17.88/-17.68	-17.76/-16.77
Θ(75°)	-14.82/-16.14	-19.17/-19.05	-19.16/-17.9	-18.74/-19.13	-18.59/-10.84	-12.64/-14.25	-13.24/-17.47	-14.61/-18.78	-11.79/-15.14	-14.62/-11.05	-16.26/-19.33	-16.87/-19.07	-17.66/-13.39	-12.96/-17.81	-16.06/-15.53	-18.88/-12.83	-8.27/-12.71	-16.24/-13.4	-14.96/-17.6	-12.86/-17.65	-11.49/-10	-18.86/-17.51	-19.31/-18.37	-19.03/-16.88
Θ(82.5°)	-17.66/-18.22	-18.69/-18.67	-17.95/-18.28	-17.63/-15.29	-18.13/-11.66	-12.78/-13.71	-15.93/-18.03	-14.89/-17.02	-12.68/-19.19	-14.27/-12.12	-16.25/-18.13	-15.73/-18.04	-19.3/-18.51	-15.95/-16.28	-16.74/-16.1	-17.65/-15.71	-9.71/-11.38	-17.87/-15.48	-12.08/-15.51	-12.27/-18.59	-14/-13.68	-18.68/-17.9	-18.96/-17.61	-17.95/-18.74
Θ(90°)	-17.42/-18.79	-17.94/-18.51	-18.45/-17.75	-19/-15.19	-18.84/-14.71	-14.97/-14.22	-17.39/-17.69	-17.42/-17.65	-14.7/-18.21	-14.65/-14.97	-16.17/-19.16	-15.32/-17.61	-18.77/-19.08	-18.05/-17.53	-19.08/-17.33	-14.98/-18.95	-12.53/-12.62	-18.37/-19.72	-12.31/-16.82	-12.86/-19.19	-18.23/-18.91	-18.41/-17.74	-19.03/-17.93	-18.33/-18.72
Θ(97.5°)	-17.95/-18.09	-18.93/-18.85	-17.95/-18.38	-18.57/-17.25	-18.39/-16.46	-15.71/-17.23	-17.87/-18.79	-18.57/-18.15	-15.46/-18.58	-15.65/-18.22	-18.39/-18.76	-16.81/-17.93	-18.43/-18.29	-19.1/-16.88	-18.9/-19.57	-18.46/-18.6	-17.92/-17.9	-18.53/-17.49	-14.81/-18.82	-13.44/-17.86	-18.63/-19.01	-18.86/-18.49	-18.85/-18.85	-17.74/-18.89
Θ(105°)	-18.06/-17.42	-17.95/-19.11	-17.38/-17.93	-18.27/-18.6	-18.63/-19.49	-18.92/-17.55	-17.68/-18.27	-19.11/-18.89	-15.96/-18.47	-18.83/-17.71	-18.7/-18.18	-18.34/-17.3	-18.87/-17.6	-18.68/-19.01	-18.91/-17.9	-18.16/-17.73	-18.44/-18.07	-18.77/-17.69	-18.78/-18.11	-15.09/-19.19	-16.45/-19.19	-14.32/-17.88	-18.51/-19.41	-17.94/-17.32
Θ(112.5°)	-14/-19.53	-18.12/-17.64	-15.9/-18.45	-18.55/-18.27	-19.66/-18.83	-18.84/-16.86	-18.03/-18.52	-16.62/-18.7	-19.16/-18.28	-18.56/-18.71	-18.5/-17.69	-17.48/-18.12	-18.73/-19.28	-18.41/-19.62	-18/-17.64	-17.46/-18.92	-17.17/-17.73	-19.26/-18.18	-15.67/-18.65	-18.37/-19.72	-18.23/-18.91	-18.41/-17.74	-19.03/-17.93	-18.33/-18.72
Θ(120°)	-18.05/-18.34	-18.06/-18.99	-17.85/-18.58	-18.6/-19.03	-17.39/-18.17	-17.49/-18.04	-18.49/-17.86	-17.46/-18.24	-17.92/-18.55	-19.75/-17.97	-17.83/-18.42	-17.97/-19.19	-17.44/-19.24	-18.76/-18.92	-17.56/-16.32	-18.52/-17.33	-18.92/-18.35	-18.48/-17.87	-18.52/-18.13	-19.01/-16.4	-19.21/-17.53	-19.14/-16.59	-13.5/-15.78	-17.94/-18.62
Θ(127.5°)	-17.83/-18.14	-17.87/-17.89	-19.13/-17.86	-18.87/-18.84	-18.19/-17.65	-18.56/-19.34	-18.35/-18.29	-18.3/-17.95	-18.3/-18.97	-17.79/-18.59	-18.74/-17.72	-18.02/-18.74	-19.05/-18.34	-17.75/-15.67	-19.64/-17.71	-19.32/-18.33	-17.97/-18.55	-18.88/-18.73	-18.53/-17.55	-19.06/-19.26	-17.86/-18.61	-18.65/-18.21	-14.26/-17.46	-16.35/-15.11
Θ(135°)	-15.21/-18.03	-18.09/-18.8	-18.53/-18.24	-17.62/-18.72	-17.53/-18.78	-17.83/-18.67	-17.44/-18.47	-18.91/-19.01	-18.3/-19.92	-19.21/-18.28	-19.8/-19.1	-17.11/-18.95	-18.22/-17.98	-18.1/-14.88	-18.57/-18.25	-18.54/-18.56	-15.92/-18.91	-19.04/-18.9	-17.51/-17.96	-18.28/-18.3	-17.38/-18.85	-18.05/-19.03	-19.13/-18.5	-14.28/-13.54
Θ(142.5°)	-18.62/-18.52	-18.61/-18.66	-18.13/-17.81	-18.53/-17.47	-18.53/-17.77	-18.5/-17.9	-17.31/-18.16	-16.35/-18.54	-17.64/-18.21	-18.47/-17.89	-18.67/-19.01	-18.41/-18.98	-18.33/-19.42	-16.36/-14.64	-15.06/-16.32	-18.23/-18.74	-18.05/-19.09	-19.29/-17.97	-18.62/-18.97	-18.84/-18.38	-17.92/-17.42	-19.04/-18.58	-17.94/-18.96	-18.12/-18.1
Θ(150°)	-17.41/-18.96	-18.88/-18.78	-17.48/-19.13	-18.35/-18.2	-17.67/-18.27	-17.05/-17.98	-16.08/-17.82	-18.79/-14.92	-18.87/-18.07	-15.41/-17.32	-17.31/-18.07	-18.52/-18.74	-18.61/-18.73	-18.14/-17.42	-18.12/-19.03	-16.74/-18.15	-17.62/-18.15	-19.16/-18.18	-18.99/-18.55	-17.04/-19.23	-18.28/-19.15	-19.21/-16.37	-16.6/-17.99	-19.37/-17.99
Θ(157.5°)	-18.86/-17.84	-18.8/-18.29	-18.94/-18.38	-17.96/-18.67	-18.62/-17.57	-18.46/-15.06	-14.64/-19.07	-19.02/-15.8	-14.95/-16.84	-14.82/-16.18	-17.86/-17.24	-17.1/-17.37	-18.84/-16.45	-17.68/-18.78	-17.58/-19.05	-18.92/-18.23	-17.29/-18.42	-17.44/-19.03	-17.64/-19.3	-18.45/-18.02	-18.84/-17.86	-18.74/-19.08	-18.55/-17.73	-17.76/-17.46
Θ(165°)	-18.31/-19.22	-18.22/-17.87	-18.52/-19.2	-19.23/-17.64	-17.99/-18.08	-17.34/-19.03	-17.76/-17.71	-18.42/-19.29	-17.62/-18.06	-18.39/-18.28	-19.19/-18.07	-18.9/-18.78	-18.86/-16.7	-18.97/-17.86	-18.02/-17.77	-17.44/-19.16	-19.01/-17.56	-18.61/-17.67	-18.42/-18.35	-17.6/-17.92	-18.76/-18.02	-18.6/-18.52	-18.77/-18.14	-19.22/-18.55
Θ(172.5°)	-19.11/-18.45	-16.2/-16.79	-18.5/-18.11	-18.11/-17.62	-17.44/-17.93	-17.98/-18.14	-19.06/-18.06	-17.28/-18.59	-18.82/-18.78	-18.49/-18.27	-19.17/-17.87	-19.28/-17.06	-16.16/-16.55	-18.22/-18.87	-18.51/-17.75	-18.97/-18.19	-18.33/-17.54	-18.47/-19.02	-17.54/-17.24	-18.33/-17.93	-19.1/-17.9	-19.41/-19.41	-18.05/-18.85	-18.4/-19.16
Θ(180°)	-18.47/-19.23	-18.87/-19.09	-18.06/-18.57	-18.08/-17.46	-17.43/-17.67	-17.37/-18.56	-18.47/-17.69	-18.51/-18.3	-18.31/-18.43	-19.24/-18.29	-17.8/-18.01	-16.65/-16.18	-16.8/-17.67	-19.21/-18.55	-18.8/-18.97	-18.68/-17.88	-18/-19.17	-18.87/-18.66	-19.34/-18.1	-18.12/-18.56	-19.04/-18.88	-18.75/-17.46	-17.92/-18.75	-18.21/-18.3
Freq(Hz)	6.995GPol.	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°)	-5.11/-4.69	-4.69/-4.9	-5.45/-8.4	-5.97/-6.48	-7.36/-8.97	-10.96/-13.43	-16.81/-18.29	-19.08/-18.52	-17.18/-13.35	-11.47/-9.66	-8.24/-7	-6.22/-4.58	-4.79/-4.59	-4.78/-5.13	-5.46/-6.84	-5.66/-6.2	-6.99/-9.3	-11.05/-13.35	-16.03/-19.45	-18.98/-18.22	-16.75/-12.89	-10.42/-8.83	-7.5/-6.86	-6.39/-6.51
Θ(7.5°)	-6.12/-5.37	-4.83/-4.72	-4.89/-4.74	-5.3/-6.15	-7.56/-9.6	-12.11/-14.33	-15.09/-19.13	-14.87/-13.3	-11.22/-10.28	-9.07/-8.72	-8.15/-7.88	-7.46/-7.41	-7.38/-7.09	-6.53/-5.59	-4.78/-4.29	-4.47/-5	-5.57/-6.33	-7.14/-8.65	-10.89/-14.45	-16.94/-18.55	-10.09/-8.93	-7.88/-7.89	-6.89/-6.89	-5.89/-5.89
Θ(15°)	-2.68/-2.81	-3.43/-3.93	-3.92/-4.27	-4.82/-5.37	-5.57/-4.75	-4.15/-4.21	-5.48/-7.56	-9.01/-9.09	-9.01/-9.11	-9.33/-9.53	-10.28/-12.57	-15.55/-18.7	-18.38/-18.22	-15.69/-16.03	-17.88/-17.46	-10.49/-6.97	-5.34/-4.83	-4.81/-5.24	-6.17/-7.36	-8.1/-8.73	-8.65/-8.3	-7.65/-7.09	-6.03/-5.02	-3.94/-2.94
Θ(22.5°)	0.23/-0.37	-0.8/-1.11	-1.18/-1.24	-0.99/-0.73	-0.35/-0.21	-0.77/-2.23	-4.38/-6.79	-9.03/-8.96	-8.05/-7.06	-5.77/-4.51	-3.49/-3.28	-3.99/-6.55	-11.26/-12.12	-9.01/-8.8	-10.85/-13.73	-16.58/-14.14	-8.05/-4.68	-3.21/-2.38	-4.13/-4.48	-6.25/-6.57	-7.47/-8.18	-5.71/-2.63	-0.46/-0.3	0.51/-0.38
Θ(30°)	1.90/99	0.06/-0.23	0.19/-1.5	2.26/-3.1	3.84/-16	3.65/-31	0.28/-2.38	-4.36/-3.25	-1.4/-0.33	0.11/-0.21	0.53/-0.09	0.99/-0.16	-1.02/-0.61	-1/-1.91	-2.07/-2.29	-3.67/-4.5	-5.03/-4.21	-3.67/-2.74	-2.28/-3.03	-3.41/-3.19	-1.12/-0.29	1.15/-2.03	2.63/-4.26	
Θ(37.5°)	1.080/56	0.04/-0.12	-0.01/-0.79	1.822/-71	3.31/-42	3.04/-25	1.28/-1.08	-1.680/-7	2.49/-38	1.62/-0.27	-0.86/-1.69	-2.95/-2.47	-0.260/-24	-1.92/-4.11	-5.64/-5.53	-4.3/-3.03	-0.720/-69	0.96/-156	2.352/-64	3.092/-31	0.74/-0.81	-0.98/-0.26	0.91/-55	1.78/-61
Θ(45°)	-1.48/-0.83	0.280/63	0.34/-0.13	-0.45/-0.43	-0.74/-0.51	-0.81/-0.63	-1.32/-2.88	-1.830/-79	2/-91	1.94/-61	1.240/-77	0.660/-72	0.7/0.5	1.492/-15	2.55/-27	1.75/-68	-1.24/-0.37	1.06/-182	-0.25/-2.29	-3.15/-4.4	-5.99/-6.33	-2.24/-1.44	-1.45/-0.48	-0.69/-1.62
Θ(52.5°)	-2.58/-0.1	1.29/-1.86	2.12/-14	1.970/-38	-1.81/-3.11	-3.86/-1.33	-1.41/-0.71	-0.61/-1.17	-0.22/-0.14	0.960/-03	-1.71/-2.07	-0.64/-0.04	-0.030/-32	1.322/-74	1.57/-0.16	-1.22/-2.92	-3.5/-2.66	-0.73/-0.02	-1.3/-					



Radiated Composite Gain Data of 6GHz

Appendix B

Θ (67.5°)	-14.64/-11.08	-14.08/-16.37	-15.35/-17.51	-18.55/-16.07	-16.71/-18.04	-17.98/-17.09	-17.52/-17.28	-18.85/-13.99	-15.28/-18.99	-17.88/-11.92	-15.27/-16.8	-18.04/-17.84	-17.13/-18.04	-19.13/-17.69	-14.65/-16.17	-18.95/-13.78	-18.38/-18.36	-16.75/-18.66	-17.94/-17.8	-17.53/-19.01	-18.68/-18.25	-17.13/-15.07	-11.74/-11.53	-14.85/-15.14
Θ (75°)	-15.16/-10.31	-13.78/-15.61	-15.83/-17.17	-15.57/-13.23	-14.41/-16.12	-14.11/-12.76	-18/-18.02	-16.22/-14.02	-18.02/-17.96	-17.85/-13.27	-16.61/-17.82	-18.66/-18.87	-18/-17.92	-18.53/-18.12	-15.86/-15.06	-18.65/-13.01	-14.91/-18.26	-13.69/-17.47	-18.26/-17.08	-18.13/-18.92	-18.38/-17.59	-17.28/-15.15	-14.8/-12.99	-14.34/-15.03
Θ (82.5°)	-15.17/-12.48	-15.5/-18.22	-17.9/-17.62	-13.81/-13.66	-14.51/-18.92	-14.2/-14	-17.93/-17.27	-16.66/-16.29	-18.19/-19	-17.89/-19.11	-17.46/-17.49	-17.89/-18.12	-18.31/-18.62	-18.59/-18.87	-16.59/-14.9	-18.57/-16.39	-15.66/-17.66	-12.61/-18.99	-13.96/-18.75	-18.56/-18.95	-17.44/-19.01	-19.23/-16.2	-14.98/-14.76	-13.72/-16.14
Θ (90°)	-19.06/-17.31	-18.48/-18.59	-17.98/-16.77	-14.52/-14.85	-17.49/-17.55	-14.24/-15.1	-17.62/-18.82	-16.82/-18.28	-18.78/-18.72	-18/-18.18	-18.83/-19	-17.89/-18.52	-18.38/-18.1	-17.71/-17.34	-18.96/-18.71	-18.97/-17.36	-16.71/-18.98	-14.05/-17.24	-15.53/-17.9	-17.52/-19.04	-19/-18.19	-18.42/-17.94	-18.31/-18.79	-17.46/-18.09
Θ (97.5°)	-18.84/-18.37	-18.69/-17.87	-17.85/-18.53	-18.88/-18.69	-17.77/-18.57	-16.66/-18.6	-19.21/-18.35	-17.83/-18.08	-18.19/-19.22	-18.05/-19.14	-18.64/-18.72	-17.39/-16.77	-18.94/-17.66	-17.78/-18.4	-18.83/-18.29	-18.03/-18.56	-18.55/-18.13	-18.15/-18.14	-17.68/-18.7	-18.95/-17.78	-18/-18.89	-18.62/-18.33	-18.75/-15.22	-19.02/-18.03
Θ (105°)	-19.04/-16.07	-14.4/-17.77	-18.12/-19.27	-18.02/-18.11	-19/-18.83	-19.76/-18.3	-18.37/-18.97	-19.12/-18.79	-18.59/-18.91	-18.38/-18.93	-18.71/-17.52	-19.18/-16.77	-18.32/-17.73	-18.76/-18.95	-19.18/-18.44	-17.96/-18.03	-17.81/-17.93	-18.38/-18.95	-18.64/-17.99	-19.1/-18.91	-19.18/-18.28	-17.01/-17.83	-18.89/-16.53	
Θ (112.5°)	-14.8/-10.34	-11.52/-15.82	-18.71/-17.71	-18.25/-18.98	-19.01/-19.13	-18.4/-17.66	-19.15/-17.7	-18.66/-18.33	-18.31/-17.97	-19.34/-17.92	-18.78/-18.57	-17.71/-15.88	-18.43/-18.82	-18.31/-18.26	-18.79/-18.63	-18.22/-17.81	-17.78/-19.22	-18.66/-18.07	-19.19/-17.77	-19/-18.3	-18.91/-18.11	-18.26/-18.36	-14.45/-16.48	-17.18/-14.86
Θ (120°)	-18.71/-15.93	-17.82/-18.89	-18.89/-17.71	-15.12/-10.17	-17.81/-17.6	-18.91/-18.4	-19.36/-18.43	-18.15/-16.66	-18.92/-18.45	-19.46/-18.23	-18.58/-19.05	-18.59/-18.43	-17.93/-17.44	-17.71/-17.32	-18.13/-13.94	-18.52/-19.17	-19.45/-18.51	-19.02/-19.13	-19.17/-19.09	-17.53/-19.58	-18.64/-18.7	-19.1/-15.28	-17.93/-16.54	-19.33/-19.29
Θ (127.5°)	-18.71/-18.03	-17.15/-15.71	-16.21/-16.76	-17.43/-18.57	-17.47/-14.38	-16.75/-17.52	-17.71/-18.86	-19.46/-18.75	-17.47/-17.29	-16.51/-19.08	-18.08/-18.48	-17.94/-18.18	-18.04/-18.32	-17.45/-17.12	-18.59/-18.75	-18.59/-18.33	-17.53/-18.45	-18.03/-18.73	-17.34/-19.15	-17.32/-19.16	-17.77/-17.85	-18.39/-17.77	-17.67/-18.45	-17.71/-17.77
Θ (135°)	-12.59/-12.73	-14.2/-17.64	-19.02/-17.49	-17.83/-19.13	-18.67/-18.38	-18.23/-17.56	-17.89/-18.72	-18.65/-18.71	-17.7/-18.97	-19.08/-19.22	-18.92/-19.36	-17.71/-18.85	-18.23/-16.47	-18.31/-18.25	-18.74/-18.26	-18.8/-18.14	-18.57/-19.01	-17.49/-17.48	-18.08/-18.84	-19.15/-18.92	-18.61/-18.93	-19.5/-17.66	-18.11/-18.35	-17.86/-17.9
Θ (142.5°)	-14.8/-13.68	-18.19/-17.85	-18.92/-18.27	-18.37/-18.34	-17.59/-18.3	-15.69/-17.12	-17.44/-18.91	-17.91/-12.33	-18.77/-18.37	-18.71/-18.96	-19.74/-17.66	-17.01/-18.03	-18.28/-19.05	-17.68/-18.29	-18.74/-18.6	-18.06/-19.38	-19.12/-18.57	-18.21/-18.72	-18.22/-18.92	-17.94/-18.16	-18.89/-18.67	-19.24/-18.5	-16.33/-12.22	-11.71/-13.76
Θ (150°)	-17.12/-17.76	-18.21/-17.75	-17.93/-18.76	-18.54/-17.8	-17.33/-17.77	-17.17/-18.88	-17.16/-18.68	-19.22/-17.69	-19.01/-18.08	-17.84/-18.22	-18.42/-19.11	-18.39/-18.35	-18.19/-18.03	-18.51/-19.7	-16.09/-18.97	-17.99/-18.27	-19.43/-17.33	-18.44/-18.27	-17.99/-18.12	-17.39/-17.08	-19.32/-18.57	-17.72/-17.06	-18.24/-13.6	
Θ (157.5°)	-18.13/-18.54	-18.87/-18.4	-18.24/-18.25	-19.09/-18.96	-14.63/-14.26	-15.67/-14.33	-13.86/-16.1	-17.83/-17.96	-18.38/-18.6	-18.94/-19.04	-18.53/-18.87	-18.05/-18.03	-17.58/-18.29	-18.12/-19.11	-18.51/-18.56	-18.71/-18.57	-19.17/-19.28	-18.41/-18.67	-18.2/-18.1	-18.32/-18.54	-18.93/-19.05	-18.89/-19.07	-17.89/-18.26	-19.31/-18.94
Θ (165°)	-11.49/-12.24	-14.55/-17.43	-18.02/-18.18	-18.27/-18.46	-18.44/-19.11	-18.63/-17.73	-18.19/-19.24	-19.06/-17.84	-18.63/-17.31	-18.66/-18.84	-16.29/-15.13	-18.09/-19.03	-18.08/-16.72	-18.51/-18.25	-17.76/-17.93	-18.33/-18.01	-19.02/-17.15	-18.81/-19.16	-19.34/-18.02	-17.43/-18.18	-16.75/-16.7	-18.71/-18.36	-16.33/-12.22	-14.99/-13.12
Θ (172.5°)	-17.98/-16.76	-14.82/-13.93	-15.18/-16.85	-18.94/-18.98	-18.74/-19.03	-18.06/-18.69	-18.77/-18.27	-18.15/-15.53	-17.18/-17.39	-18.28/-18.26	-18.18/-18.83	-19.03/-17.47	-17.54/-15	-13.61/-13.95	-15.45/-18.71	-18.39/-18.42	-18.82/-18.81	-18.05/-19.01	-19.61/-17.26	-15.34/-15.13	-15.81/-17.1	-18.24/-18.51	-17.46/-18.62	-19.03/-17.58
Θ (180°)	-18.91/-19.16	-18.13/-17.88	-18.76/-18.78	-18.6/-18.54	-18.08/-18.61	-17.44/-17.51	-17.83/-17.75	-17.87/-17.21	-17.94/-17.85	-18.24/-18.31	-18.57/-17.52	-17.47/-16.96	-17.28/-18.65	-18.47/-18.1	-17.74/-17.87	-18.18/-18.33	-17.79/-18.55	-18.13/-18.97	-18.62/-19.34	-18.19/-17.51	-18.39/-17.91	-17.7/-18.66	-18.33/-19.32	-18.72/-17.67
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°)	-13.08/-14.36	-15.93/-16.74	-17.54/-17.7	-17.09/-16.28	-14.99/-13.48	-12.58/-11.47	-10.66/-10.21	-9.69/-9.49	-9.69/-9.45	-9.78/-10.32	-10.71/-11.46	-12.71/-13.69	-14.95/-16.86	-18/-18.58	-18.59/-18.48	-18.61/-18.32	-18.03/-19.91	-17.38/-15.13	-13.94/-13.1	-12.26/-11.64	-11.07/-10.39	-10.06/-10.17	-10.23/-10.54	-11.71/-11.99
Θ (7.5°)	-15.21/-16.05	-15.65/-15.25	-14.46/-13.18	-12.32/-11.57	-11.44/-11.87	-12.71/-14.11	-12.36/-17.18	-17.67/-16.84	-14.78/-18.22	-11.31/-10.34	-9.75/-9.51	-9.6/-10.09	-10.36/-10.53	-10.18/-9.34	-8.3/-7.01	-6.27/-5.5	-4.95/-4.66	-4.48/-4.28	-4.25/-4.24	-4.64/-5.38	-6.14/-7.04	-8/-9.3	-10.71/-12.33	-13.38/-14.25
Θ (15°)	-8.78/-9.51	-8.59/-10.1	-10.04/-8.52	-7.04/-5.86	-5.36/-5.32	-5.9/-6.6	-7.82/-9.04	-10.01/-8.76	-9.39/-8.75	-7.89/-7.29	-6.24/-6.45	-6.84/-6.91	-6.48/-5.45	-4.28/-3.07	-2.44/-2.05	-1.84/-1.82	-1.84/-1.87	-2.22/-2.81	-3.71/-4.65	-5.31/-5.38	-5.22/-5.39	-5.85/-6.5	-7.27/-7.84	
Θ (22.5°)	-1.62/-2.67	-3.46/-3.35	-2.64/-1.46	-0.77/-0.56	-0.73/-0.92	-1.33/-2.11	-2.57/-2.4	-1.94/-1.92	-2.49/-3.22	-4.44/-6.9	-10.72/-13.28	-13.03/-10.38	-6.68/-4.07	-3.53/-4.45	-5.58/-5.55	-4.51/-2.94	-1.58/-0.48	0.1802/26	0.15/-0.12	-0.42/-0.75	-0.66/-0.34	0.110/5	0.690/7.1	0.39/-0.35
Θ (30°)	-0.74/-1.01	-0.220/45	0.690/63	0.13/-0.44	-0.71/-1.09	-1.95/-2.41	-1.11/-1.06	1.44/-1.01	-0.48/-2.26	-3.6/-5.03	-6.97/-8.89	-10.53/-12.23	-4.92/-0.65	0.610/21	-1.35/-3.86	-5.32/-4.21	-2.32/-1.21	-1.19/-1.46	-0.80/-73	1.862/46	3.16/65	3.67/305	1.930/94	5.60/-11
Θ (37.5°)	-3.01/-1.04	0.82/1.31	0.2/-0.86	-1.37/-0.9	-0.08/-0.23	-0.78/-0.82	-0.95/-1.15	-1.09/-1.35	-1.77/-2.46	-3.54/-4.8	-5.64/-4.75	-3.2/-2.48	-2.05/-0.47	1.031/-37	-0.43/-3.51	-2.32/-11.22	-8.66/-5.27	-3.28/-1.72	-0.96/-0.19	0.861/34	1.391/71	1.270/24	-1.4/-3.5	-4.74/-3.98
Θ (45°)	-3.25/-0.61	1.10/8.7	-1.08/-1.72	-1.39/-1.08	-0.57/-0.37	0.410/8.6	-0.54/-1.92	-0.71/-1.24	2.36/2.89	2.440/-77	-1.98/-3.27	-1.6/-0.1	-0.86/-3.41	-3.88/-3.37	-4.12/-3.6	-2.39/-3.48	-4.33/-3.91	-1.180/53	0.84/1.26	1.722/-15	2.32/24	1.11/-0.98	-4.75/-7.5	-7.33/-6.25
Θ (52.5°)	-0.350/-68	1.32/1.21	0.01/-0.84	-2.8/-5.96	-7.86/-17.4	-4.36/-3.84	-4.71/-14.34	-2.36/-9.03	-0.45/-0.11	-1.03/-0.61	-1.99/-3.61	-3.41/-1.71	-1/-0.64	-1.93/-2.15	-1.27/-1.34	-1.3/-1.46	-1.5/-2	-0.260/-47	0.160/75	1.26/15	2.19/34	3.12/-09	0.51/-1.77	-1.45/-1.21
Θ (60°)	0.92/1.18	0.86/1.26	1.09/0.65	-1.21/-3	-3.46/-2.64	-4.89/-7.08	-7.2/-5.59	-6.24/-5.07	-2.51/-174	-2.25/-3.83	-3.26/-3.1	-2.99/-1.36	0.331/-48	1.561/-36	1.830/4	-1.38/-2.02	-0.51/-3.5	-1.92/-1.35	-1.09/-1.52	-0.490/34	2.364/-15	4.194/-11	3.16/81	1.770/93
Θ (67.5°)	0.840/8.1	-0.020/8.2	1.26/1.35	0.830/7.1	1.010/6.7	-0.89/-1.66	-3.29/-3	-0.720/63	2.72/3	2.020/06	-1.21/-1.23	-0.510/98	2.02/1.89	1.962/-14	2.260/96	-1.07/-1.78	0.60/29	-1.85/-2.81	-1.96/-3.02	-1.080/49	2.534/-07	4.13/78	3.39/2.13	1.231/-32
Θ (75°)	-0.8/-49	-1.82/-0.72	-0.240/64	0.81/21	0.651/-28	-0.42/-1.72	-2.91/-8.2	0.632/-51	3.0/78	2.481/08	-0.74/-1.32	-0.430/-3	1.260/43	-0.090/-12	0.47/-1.11	-1.87/-2.46	0.010/-45	-1.88/-4.56	-2.42/-0.53	-2.4/-0.7	1.712/-67	2.432/-27	1.880/63	-0.4/-0.01
Θ (82.5°)	-2.55/-1.95	-3.48/-2.33	-2.5/-1.26	-1.16/-0.7	-2.28/-0.41	-2.86/-3.81	-4.78/-2.81	-1.331/-36	1.052/01	0.59/-0.78	-2.3/-3.04	-1.96/-1.84	-1.09/-1.82	-3.08/-2.51	-2.84/-8.8	-3.43/-2.79	-0.44/-0.46	-2.79/-6.12	-3.79/-6.96	-3.93/-1.61	0.660/72	0.05/-0.01	0.16/-1.24	-2.05/-1.67
Θ (90°)	-5.28/-4.38	-6.2/-4.93	-6.14/-4.67	-4.75/-4.13	-6.06/-3.43	-6.15/-5.55	-5.51/-3.51	-3.75/-1.27	-1.17/-0.42	-1.23/-2.09	-4.1/-4.69	-3.66/-4.03	-4.57/-3.85	-6.96/-5.23	-8.19/-14.61	-8.77/-5.85	-3.33/-3.2	-5.69/-8.88	-7.72/-10.23	-7.59/-5.06	-2.69/-2.24	-3.74/-3.42	-2.84/-4.04	-4.84/-4.09
Θ (97.5°)	-8.2/-8.19	-9.21/-8.62	-9/-7.32	-7.79/-7.24	-8.39/-5.92	-8.84/-6.87	-7.47/-5.63	-7.53/-4.08	-4.56/-2.72	-3.58/-4.44	-6.51/-6.83	-5.99/-6.1	-8.36/-6.1	-8.76/-7.36	-10.61/-18.2	-10.82/-9.02	-6.56/-6.05	-9.84/-10.35	-11.65/-13.9	-10.54/-9.67	-8.43/-6.47	-9.5/-7.65	-6.7/-8.61	-7.93/-7.35
Θ (105°)	-10.72/-12.85	-11.6/-10.9	-9.3/-9.74	-9.9/-10.45	-10.05/-10.59	-10.58/-14.42	-10.9/-9.76	-12.06/-7.37	-8.58/-5.45	-6.12/-7.24	-8.39/-8.66	-8.46/-9.55	-12.63/-8.63	-9.46/-8.24	-9.72/-15.83	-13.31/-11.8	-11.73/-10.86	-15.96/-14.45	-15.65/-18.93	-15.26/-14.59	-13.75/-10.04	-15.28/-11.2	-9.78/-11.4	-11.32/-13.02
Θ (112.5°)	-12.55/-14.24	-11.22/-12.27	-11.11/-13.45	-14.08/-13.89	-11.71/-18.12	-13.91/-18.52	-12.36/-11.84	-13																