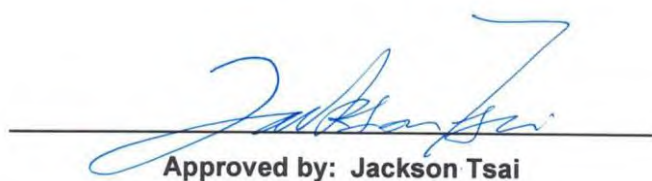


Antenna Composite Gain Test Report

Equipment	Wireless Access Point
Brand Name	ARISTA
Model Name	O-405
Applicant	Arista Networks, Inc. 5453 Great America Parkway, Santa Clara, CA 95054 USA
Manufacturer	Arista Networks, Inc. 5453 Great America Parkway, Santa Clara, CA 95054 USA
Standard	KDB 662911 D03 v02
Sample Received	Jul. 21, 2025
Start Test Date	Jan. 05, 2026
Final Test Date	Jan. 05, 2026

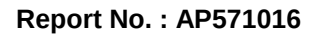

Approved by: Jackson Tsai**SPORTON INTERNATIONAL INC. Hsinhua Laboratory**

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



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[illegible]

1. Operation Mode and Antenna Information

Antenna Position	RF Port	Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
2G 5GAnt1	1	VVDN	401-1-03634	PCBA	I-Pex	2.4GHz, 5GHz
2G 5GAnt2	2	VVDN	401-1-03634	PCBA	I-Pex	2.4GHz, 5GHz
6G Ant1	1	VVDN	401-1-03635	PCBA	I-Pex	6GHz
6G Ant2	2	VVDN	401-1-03635	PCBA	I-Pex	6GHz

Note:

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

2G5G Ant1~2G5G Ant2 could transmit/receive simultaneously.

6GHz Operation Mode (2TX/2RX)

6G Ant1~6G 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
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 / 45~55%	05/Jan/2026

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

4. Test Facility and Configuration

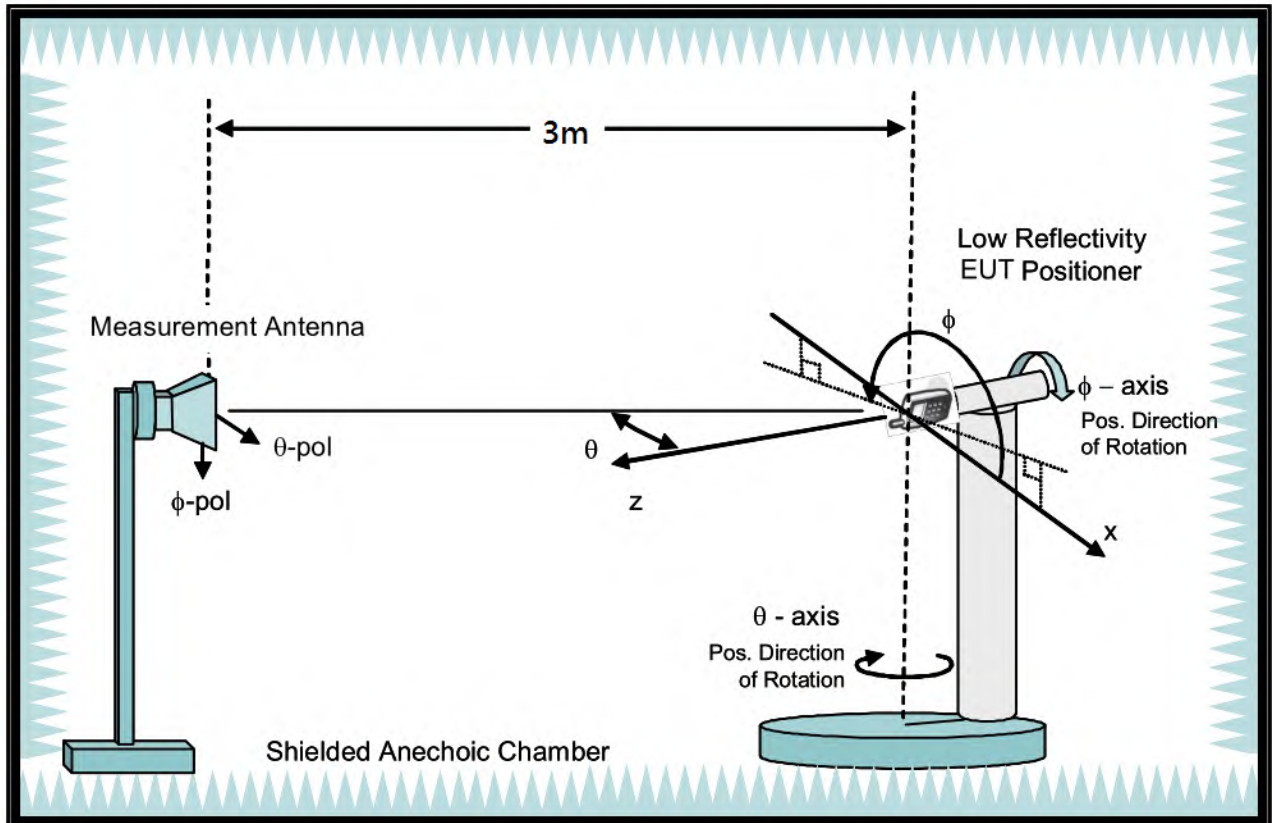
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

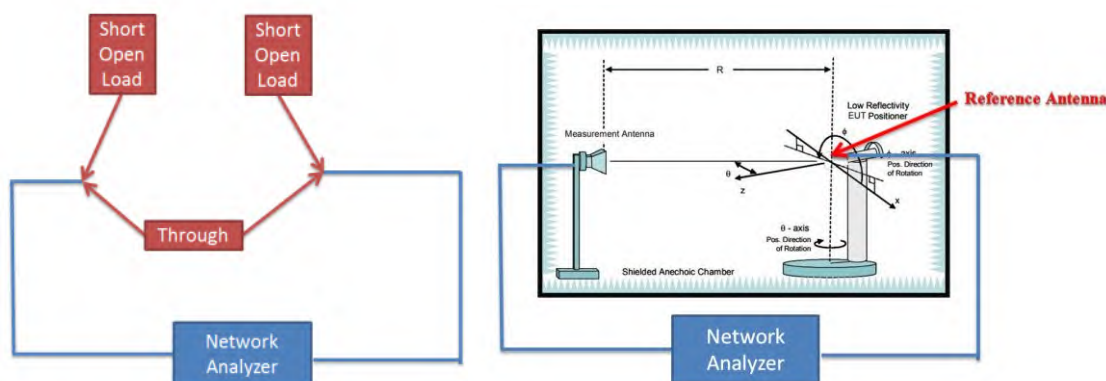
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



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)	-32.12	-32.48	-32.45	-34.55	-34.56	-34.78	-34.94	-34.89	-34.99	-35.16	-35.32	-35.68	-35.88	-35.97
G(phi) reading (dB)	-32.35	-32.11	-32.43	-34.12	-33.95	-34.23	-34.56	-34.68	-34.78	-35.32	-35.45	-35.67	-35.86	-36.11
Reference gain (dBi)	10.2	10.2	10.2	11	11.3	11.6	12	11.6	11.4	11.3	11.4	11.1	11	10.3
Factor(theta) (dB)	42.32	42.68	42.65	45.55	45.86	46.38	46.94	46.49	46.39	46.46	46.72	46.78	46.88	46.27
Factor(phi) (dB)	42.55	42.31	42.63	45.12	45.25	45.83	46.56	46.28	46.18	46.62	46.85	46.77	46.86	46.41

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

<2G5G Ant1, 2G5G Ant2>

DG_1SS max value position

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	6.01	4.61	5.57	3.62	3.22
Ant. 2 (dBi)	5.95	4.52	3.84	4.3	3.58
DG [1SS] (dBi)	8.99	7.58	7.76	6.98	6.41
Polarization	Phi	Phi	Phi	Phi	Phi
$\Theta(^{\circ})$	0	0	0	7.5	7.5
$\Phi(^{\circ})$	180	180	0	172.5	172.5

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

DG_1SS max value position calculation

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 [$10^{(G/20)}$]	$10^{(6.01/20)}$	$10^{(4.61/20)}$	$10^{(5.57/20)}$	$10^{(3.62/20)}$	$10^{(3.22/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(5.95/20)}$	$10^{(4.52/20)}$	$10^{(3.84/20)}$	$10^{(4.3/20)}$	$10^{(3.58/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.998	1.7	1.899	1.517	1.449
Ant. 2 [$10^{(G/20)}$] value	1.984	1.683	1.556	1.641	1.51
Sum All Antenna [Amax]	3.981	3.383	3.455	3.158	2.959
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	8.99	7.58	7.76	6.98	6.41

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

<6G Ant1, 6G Ant2>

DG_1SS max value position

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	4.05	5.12	4.61	6.27
Ant. 2 (dBi)	3.02	3.7	3.93	4.39
DG [1SS] (dBi)	6.56	7.45	7.29	8.39
Polarization	Phi	Phi	Phi	Phi
$\Theta(^{\circ})$	0	0	15	7.5
$\Phi(^{\circ})$	172.5	352.5	352.5	330

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

DG_1SS max value position calculation

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [$10^{(G/20)}$]	$10^{(4.05/20)}$	$10^{(5.12/20)}$	$10^{(4.61/20)}$	$10^{(6.27/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(3.02/20)}$	$10^{(3.7/20)}$	$10^{(3.93/20)}$	$10^{(4.39/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.594	1.803	1.7	2.058
Ant. 2 [$10^{(G/20)}$] value	1.416	1.531	1.572	1.658
Sum All Antenna [Amax]	3.01	3.334	3.272	3.716
DG [$10 \cdot \log(A_{\max}^2/N_{\text{ant}})$]	6.56	7.45	7.29	8.39

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

8. Summary of Test Result

<2G5G Ant1, 2G5G Ant2>

Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	6.16	5.7	5.71	5.55	3.97
Ant. 2 Max Gain (dBi)	6	5.45	4.84	4.47	4.08
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/7.5/187.5	Phi/15/15	Phi/15/15	Phi/60/187.5	Phi/60/180
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/0/352.5	Phi/7.5/172.5	Phi/15/187.5	Phi/7.5/180	Phi/52.5/0
Max Gain (dBi)	6.16	5.7	5.71	5.55	4.08
DG [1SS] (dBi)	8.99	7.58	7.76	6.98	6.41
DG [2SS] (dBi)	6.16	5.7	5.71	5.55	4.08

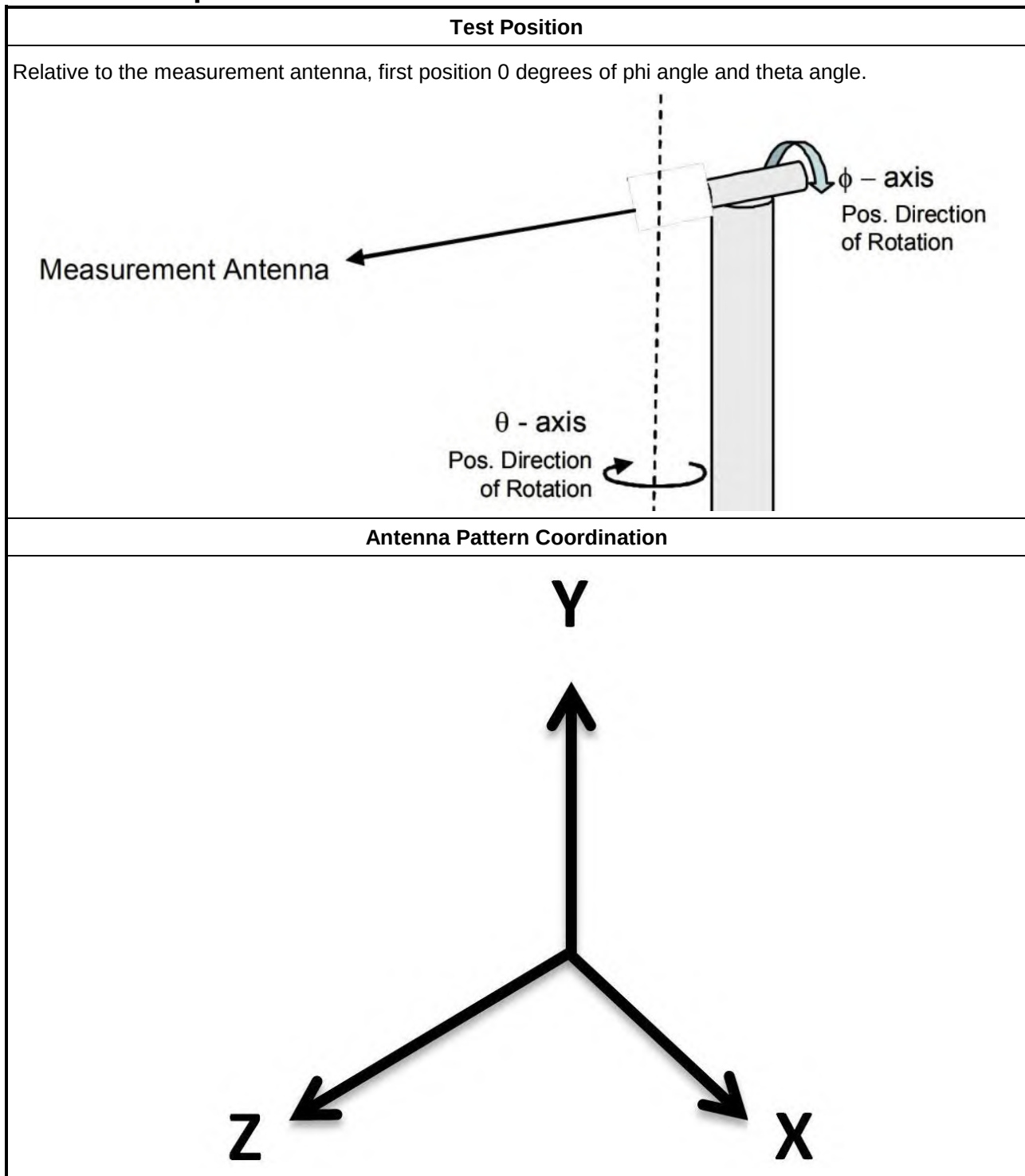
<6G Ant1, 6G Ant2>

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5.02	5.57	5.2	6.28
Ant. 2 Max Gain (dBi)	3.49	3.75	4.73	5.08
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/30/157.5	Phi/0/172.5	Theta/15/285	Phi/7.5/322.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/30/322.5	Phi/0/0	Phi/22.5/352.5	Phi/7.5/0
Max Gain (dBi)	5.02	5.57	5.2	6.28
DG [1SS] (dBi)	6.56	7.45	7.29	8.39
DG [2SS] (dBi)	5.02	5.57	5.2	6.28

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. If directional gain is less than max gain, use max gain as directional gain. Refer to KDB662911D01 (F) (2) (e) (ii).
4. Directional Gain (2SS) = Directional Gain (1SS) – 3dB

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-1531	1GHz~18GHz	Dec. 19, 2025	Dec. 18, 2026
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	Aug. 06, 2025	Aug. 05, 2026
VNA Calibration Kit	TS RF	TS85033E-F	-	DC~9GHz	N.C.R.	N.C.R.
Multi-axis positioner	Sporton	MAPS01	MAPS01-001	Theta / Phi axis	N.C.R.	N.C.R.
Test Software	SPORTON	SENSE-RDG	V1.0.8	-	N.C.R.	N.C.R.

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

NCR means Non-Calibration required.



11. Test Results

Please refer to the appendix.

Appendix A – Radiated Composite Gain of 2.4GHz and 5GHz.....	Page 15
Appendix B – Radiated Composite Gain of 6GHz.....	Page 24
Appendix C – Antenna Pattern of 2.4GHz and 5GHz.....	Page 31
Appendix D – Antenna Pattern of 6GHz.....	Page 35
Appendix E – Test Photos.....	Page 38



Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	6.16	5.7	5.71	5.55	3.97
Ant. 2 Max Gain (dBi)	6	5.45	4.84	4.47	4.08
Ant. 1 Polarization/Θ(°)/Φ(°)	Phi/7.5/187.5	Phi/15/15	Phi/15/15	Phi/60/187.5	Phi/60/180
Ant. 2 Polarization/Θ(°)/Φ(°)	Phi/0/352.5	Phi/7.5/172.5	Phi/15/187.5	Phi/7.5/180	Phi/52.5/0
Max Gain (dBi)	6.16	5.7	5.71	5.55	4.08
DG [1SS] (dBi)	8.99	7.58	7.76	6.98	6.41
DG [2SS] (dBi)	6.16	5.7	5.71	5.55	4.08



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

DG 1SS Result

Freq(Hz)	2.45G/Pol.	Phi-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	8.92/9.8	8.78/8.5	8.07/7.44	6.56/3.3	3.77/1.7	-1.01/-5.2	-10.34/-11.3	-5.33/-0.92	1.95/3.91	5.42/6.53	7.39/8.05	8.51/8.83	8.99/9.98	8.82/8.48	7.96/7.2	6.22/5.01	3.44/1.43	-1.45/-6.06	-13.14/-9.85	-5.33/-0.77	2.44/4.2	5.55/6.63	7.51/8.15	8.59/8.84
Θ(7.5°)	8.57/8.49	8.32/8.03	7.66/6.99	6.11/4.88	3.29/1.23	-1.49/-5.51	-9.94/-10.19	-5.14/-0.88	1.95/3.93	5.45/6.59	7.42/8.05	8.49/8.79	8.56/8.85	8.63/8.22	7.96/7.62	6.22/5.01	3.08/1.14	-1.58/-5.66	-10.93/-8.84	-3.31/0.13	2.42/4.13	5.44/6.48	7.32/7.91	8.32/8.52
Θ(15°)	8.24/8.14	7.93/7.59	7.16/6.42	5.49/4.18	2.61/0.59	-1.82/-4.84	-7.56/-8.85	-5.49/-1.26	1.64/3.66	5.19/6.3	7.15/7.79	8.28/8.6	8.76/8.71	8.45/7.95	7.23/6.3	5.16/3.88	2.34/0.5	-1.86/-5.04	-8.49/-7.61	-3.33/-0.09	2.17/3.87	5.16/6.2	7.03/7.62	8.0/8.2
Θ(22.5°)	8.05/7.98	7.75/7.36	6.78/6.96	4.86/3.38	1.56/-0.56	-2.64/-4.37	-5.8/-6.75	-4.92/-1.21	1.55/3.48	4.93/6.02	6.92/7.68	8.25/8.63	8.77/8.68	8.34/7.74	6.87/5.73	4.29/2.73	1.01/-0.7	-2.59/-4.83	-7.1/-6.49	-3.17/-0.25	1.91/3.51	4.76/5.79	6.67/7.31	7.75/8
Θ(30°)	7.77/6.2	7.37/6.93	6.27/5.37	4.13/2.5	0.47/-1.97	-3.94/-4.6	-5.04/-5.42	-4.54/-1.45	1.14/2.96	4.38/5.55	6.61/7.51	8.17/8.57	8.67/8.53	8.13/7.51	6.62/5.43	3.85/1.94	-0.27/-2.36	-3.83/-4.96	-6.12/-5.71	-3.3/-0.78	1.23/2.81	4.08/5.21	6.18/6.89	7.37/7.64
Θ(37.5°)	7.01/6.91	6.69/6.28	5.64/4.7	3.41/1.64	-0.6/-3.4	-5.56/-5.77	-5.45/-5.1	-4.1/-1.68	0.55/2.28	3.83/5.24	6.46/7.42	8.02/8.28	8.24/7.96	7.46/6.77	5.86/4.72	3.17/1.2	-1.37/-4.11	-5.48/-5.48	-5.82/-5.28	-3.33/-1.29	0.5/2	3.34/4.59	5.66/6.37	6.81/7
Θ(45°)	5.96/5.86	5.68/5.36	4.78/3.87	2.58/0.85	-1.34/-0.5	-6.73/-7.48	-6.67/-5.49	-4.12/-2.21	-0.33/1.32	3.07/4.66	5.96/6.85	7.34/7.51	7.47/7.05	6.48/5.71	4.76/3.62	2.15/0.34	-2.04/-5.05	-7.79/-7.02	-6.13/-4.92	-3.42/-1.99	-0.48/1.08	2.58/3.98	5.06/5.67	5.94/6
Θ(52.5°)	4.52/4.48	4.38/4.11	3.58/2.72	1.46/-0.2	-2.31/-5.11	-8.01/-9.31	-8.27/-5.98	-4.03/-2.54	-1.05/0.59	2.51/4.16	5.31/6	6.31/6.32	6.09/5.66	5.03/4.23	3.24/2.04	0.59/-1.05	-3.1/-5.93	-9.83/-9.58	-7.24/-5.08	-3.45/-2.21	-0.98/0.37	1.94/3.34	4.28/4.64	4.64/4.56
Θ(60°)	2.75/2.76	2.66/2.4	1.89/1.09	-0.06/-1.66	-3.69/-6.6	-10.11/-11.27	-9.45/-6.6	-4.33/-3.11	-0.08/-0.57	1.5/3.16	4.18/4.66	4.76/4.59	4.28/3.86	3.37/2.69	1.79/0.51	-0.98/-2.52	-4.25/-6.35	-10.01/-12.61	-8.44/-5.81	-4.32/-3.36	-2.07/-0.57	0.97/2.33	3.18/3.38	3.12/2.81
Θ(67.5°)	0.97/0.9	0.77/0.54	0.15/-0.48	-1.49/-3.22	-5.78/-9.27	-11.61/-11.49	-9.87/-7.28	-5.16/-4.5	-3.69/-1.44	0.97/2.39	2.95/2.93	2.64/2.23	1.89/1.65	1.34/0.68	-0.48/-1.98	-3.6/-5.13	-6.46/-7.9	-10.43/-10.8	-7.8/-6.4	-5.27/-4.5	-2.99/-1.35	0.04/1.08	1.71/1.85	1.55/1.15
Θ(75°)	-0.94/-1.11	-1.27/-1.37	-1.51/-1.84	-2.63/-4.48	-7.72/-12.52	-14.41/-13.47	-11.1/-8.52	-6.6/-6.02	-4.78/-1.98	0.19/1.15	1.24/0.83	0.42/0.27	0.18/0.05	-0.27/-1.08	-2.45/-3.99	-5.61/-7.18	-8.2/-8.59	-10.28/-12.82	-9.53/-6.68	-5.22/-4.87	-3.54/-1.79	-0.73/-0.29	-0.25/-0.35	-0.51/-0.74
Θ(82.5°)	-2.44/-2.79	-3.27/-3.68	-3.94/-4.07	-4.52/-5.83	-8.42/-12.49	-15.01/-14.1	-13.7/-9.23	-6.84/-6.65	-5.57/-2.76	-0.91/-0.35	-0.73/-1.31	-1.26/-1.05	-1.26/-1.69	-2.28/-3.11	-4/-4.76	-5.98/-7.78	-10.46/-11.72	-12.02/-13.74	-11.28/-8.08	-6.52/-6.65	-5.52/-3.32	-1.96/-1.71	-2.11/-2.37	-2.31/-2.32
Θ(90°)	-4.32/-4.78	-5.37/-5.83	-5.78/-5.25	-5.2/-6.46	-9.29/-13.46	-14.02/-13.63	-13.68/-10.17	-7.82/-8.28	-8.6/-5.13	-2.66/-1.94	-2.38/-2.88	-2.39/-2.02	-2.19/-2.78	-3.84/-4.84	-5.38/-5.72	-6.27/-7.4	-10.16/-13.77	-12.92/-13.29	-13.05/-9.58	-8.56/-10.01	-8.96/-5.29	-3.32/-3.01	-3.51/-3.76	-3.76/-3.99
Θ(97.5°)	-6.32/-6.75	-6.48/-6.37	-6.46/-6.19	-5.85/-7.33	-11.68/-15.79	-13.76/-12.5	-15.08/-12.58	-10.04/-10.47	-9.48/-5.95	-3.84/-3.58	-4.61/-4.55	-3.18/-2.39	-2.41/-3.3	-4.84/-6.32	-6.86/-6.82	-6.81/-7.86	-11.36/-15.8	-12.61/-12.21	-13.99/-11.89	-10.61/-12.17	-10.54/-6.4	-4.4/-4.13	-4.64/-4.9	-4.93/-5.5
Θ(105°)	-7.69/-7.59	-7.47/-7.14	-7.71/-7.7	-7.35/-8.7	-12.93/-15.56	-14.6/-12.54	-13.87/-12.82	-11.45/-11.98	-12.24/-8.74	-6.3/-5.99	-6.61/-5.14	-4.34/-2.59	-2.7/-3.9	-5.85/-7.26	-7.47/-7.42	-7.3/-8.27	-11.74/-14.62	-12.42/-11.19	-13.36/-13.18	-11.15/-12.81	-15.15/-9.02	-6.14/-5.39	-5.66/-6.14	-6.4/-6.81
Θ(112.5°)	-8.82/-9.03	-8.33/-8.42	-9.24/-9.11	-8.36/-9.32	-12.61/-14.75	-15.51/-13.85	-14.62/-12.4	-12.09/-13.63	-14.46/-10.82	-8.48/-8.11	-7.97/-6.13	-4.45/-3.64	-3.97/-5.54	-7.43/-7.82	-7.94/-8.49	-8.94/-10.07	-12.12/-13.23	-11.47/-10.59	-14.14/-15.4	-12.39/-12.36	-14.28/-10.48	-7.37/-6.06	-5.82/-6.36	-7.21/-7.93
Θ(120°)	-10.76/-10.24	-9.44/-8.62	-9.67/-9.66	-9.61/-10.74	-12.99/-14.55	-14.17/-13.51	-14.4/-13.67	-15.28/-15.02	-13.7/-11.27	-10.57/-11.19	-11.49/-9.01	-6.65/-5.43	-5.54/-6.77	-8.18/-8.78	-9.31/-10.03	-10.48/-10.8	-11.13/-11.68	-10.36/-10.11	-12.99/-15.75	-14.64/-13.45	-14.66/-13.85	-10.72/-9.08	-8.57/-9.03	-10.23/-11.12
Θ(127.5°)	-13.72/-13.45	-12.72/-12.98	-11.96/-11.68	-12.02/-13.28	-14.42/-15.33	-13.84/-13.3	-14.14/-14.54	-15.24/-15.85	-15.19/-13.54	-14.11/-15.19	-14.57/-11.63	-8.82/-7.25	-7.08/-8.01	-9.42/-10.65	-11.23/-11.62	-10.79/-10.42	-11.23/-12.6	-11.59/-11.06	-12.33/-14.29	-15.06/-15.26	-15.99/-14.38	-12.72/-13.35	-11.28/-11.11	-11.93/-12.62
Θ(135°)	-11.94/-12.69	-13.7/-15.11	-15.61/-14.56	-14.69/-14.32	-15.14/-14.95	-15.14/-14.72	-15.1/-14.75	-15.78/-16.24	-13.93/-13.38	-13.62/-14.67	-15.19/-15.47	-12.7/-10.09	-9.26/-9.62	-10.42/-10.83	-10.96/-11.45	-10.99/-10.84	-11.33/-12.55	-11.71/-10.88	-11.68/-14.59	-15/-15.83	-15.12/-14.87	-15.01/-14.82	-15.25/-13.14	-11.98/-11.63
Θ(142.5°)	-11.44/-11.31	-11.61/-12.46	-14.24/-14.96	-14.43/-14.79	-15.56/-15.4	-15.67/-15.31	-15.53/-15.46	-15.5/-14.42	-12.88/-11.73	-11.94/-13.26	-15.71/-15.63	-15.39/-12.62	-11.49/-10.9	-10.32/-9.91	-10.1/-11.08	-11.31/-11.65	-12.46/-12.91	-13.27/-12.66	-13.5/-15.1	-15.64/-15.1	-15.24/-15.43	-15.25/-15.21	-13.99/-13.36	-12.72/-11.57
Θ(150°)	-9.75/-10.43	-11.51/-12.4	-13.93/-14.67	-15.38/-15.9	-14.45/-15	-16.03/-15.02	-15.31/-14.22	-12.7/-11.83	-11.68/-12.33	-14.94/-13.95	-15.61/-11.55	-11.03/-11.13	-11.93/-13.44	-14.75/-11.49	-15.91/-14.81	-15.52/-15.38	-15.69/-15.92	-15.69/-15.92	-16.43/-15.97	-13.43/-12.05	-15.72/-15.36	-14.93/-9.64	-9.36/-9.34	
Θ(157.5°)	-9.56/-10.65	-11.53/-13.01	-13.87/-15.76	-14.61/-15.43	-15.31/-15.48	-14.59/-15.08	-15.82/-15.84	-14.51/-13.76	-12.43/-12.48	-12.17/-12.75	-12.7/-12.77	-12.78/-12.56	-12.44/-12.69	-13.48/-14.32	-15.69/-15.39	-15.92/-14.87	-15.3/-15.23	-15.13/-15.24	-15.56/-14.78	-14.59/-15.63	-15.93/-14.84	-15.02/-12.75	-11.06/-10.16	-9.47/-9.68
Θ(165°)	-12.41/-12.71	-13.23/-14.43	-15.49/-15.21	-15.72/-15.8	-15.81/-15.61	-15.59/-15.71	-14.7/-14.86	-15.54/-13.94	-14.11/-13.94	-13.44/-14.13	-13.77/-13.86	-14.45/-15.05	-15.7/-15.34	-14.59/-15.66	-15.39/-15.72	-15.12/-15.85	-15.95/-15.79	-15.06/-15.09	-15.47/-15.5	-15.19/-14.9	-15.03/-15.23	-15.9/-15.13	-15.58/-14.01	-13.39/-13.11
Θ(172.5°)	-14.31/-13.98	-14.24/-14.66	-15.24/-15.35	-15.64/-14.83	-15.36/-15.65	-16.18/-15.34	-15.78/-14.83	-15.53/-15.28	-15.88/-12.47	-13.78/-14.33	-13.49/-13.89	-13.95/-14.67	-15.23/-15.41	-15.57/-15.35	-15.63/-15.29	-15.48/-15.71	-15.43/-15.02	-15.65/-15.45	-15.29/-14.58	-14.37/-15.77	-15.64/-15.13	-15.21/-16.13	-15.52/-15.58	-14.94/-13.73
Θ(180°)	-14.28/-14.62	-15.09/-15.45	-15.23/-15.75	-14.88/-15.08	-15.13/-15.67	-16.02/-15.07	-16.03/-14.92	-15.15/-15.1	-15.56/-14.57	-14.15/-13.08	-13.16/-13.09	-13.3/-13.37	-14.23/-14.48	-15.92/-16.11	-15.37/-15.41	-15.47/-14.81	-15.04/-15.76	-15.44/-15.47	-14.78/-15.09	-16.21/-15.52	-15.16/-15.39	-15.13/-14.8	-14.39/-14.97	-14.06/-14.03
Freq(Hz)	2.45G/Pol.	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°)	-13.54/-13.54	-10.13/-5.96	-3.16/-1.11	0.46/1.71	2.64/3.35	3.86/4.21	4.41/4.46	4.39/4.16	3.72/3.08	2.19/1.05	-0.43/-2.36	-5.01/-9.07	-14.19/-14.31	-9.63/-5.26	-2.43/-0.41	1.1/2.2	3.01/3.6	4/4.3	4.54/5.66	4.43/4.13	3.66/2.97	2.06/0.86	-0.66/-2.65	-5.47/-9.98
Θ(7.5°)	-13.32/-11.12	-7.7/-7.71	-2.44/-0.72	0.68/1.79	2.63/2.36	3.73/4.04	4.22/4.28	4.21/3.97	3.52/2.84	1.90/0.6	-0.92/-0.32	-5.86/-10.4	-13.94/-11.76	-7.2/-3.9	-1.65/0.03	1.33/2.28	3.02/3.55	3.92/4.17	4.34/4.36	4.21/3.89	3.37/2.6	1.58/0.26	-1.48/-3.76	-6.96/-10.88
Θ(15°)	-12.99/-9.3	-5.87/-3.46	-1.58/-0.14	1.02/1.94	2.63/0.9	3.44/3.72	3.99/3.99	3.93/3.69	3.21/2.5	1.54/0.31	-1.29/-3.39	-6.29/-10.32	-13.15/-10.57	-6.49/-3.59	-1.55/-0.07	1.06/1.88	2.54/3.03	3.41/3.66	3.83/3.81	3.66/3.32	2.76/1.91	0.77/-0.73	-2.72/-5.38	-12.14/-11.84
Θ(22.5°)	-15.02/-9.27	-5.7/-3.24	-1.37/0.05	1.19/2.06	2.62/2.98	3.17/3.34	3.46/3.52	3.43/3.07	2.49/1.71	0.78/-0.39	-1.87/-3.91	-6.83/-10.8	-12.59/-9.29	-5.87/-3.3	-1.52/-0.26	0.64/1.27	1.77/2.17	2.53/2.79	2.92/2.92	2.73/2.31	1.69/0.78	-0.39/-1.87	-3.93/-6.67	-10.96/-15.13
Θ(30°)	-15.12/-10.3	-6.46/-3.96	-1.98/-0.5	0.68/1.57	2.1/2.36	2.41/2.47	2.61/2.75	2.71/2.37	1.68/0.9	0.08/-0.85	-2.17/-4.19	-7.15/-10.6	-12.19/-9.01	-5.76/-3.43	-1.8/-0.71	-0.03/0.37	0.68/0.93	1.21/1.46	1.65/1.7	1.49/1.03	0.38/-0.53	-1.57/-2.89	-4.72/-7.45	-12.14/-16.13
Θ(37.5°)	-15.91/-11.75	-8.07/-5.48	-3.43/-1.84	-0.59/0.34	0.																			



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Θ(22.5°)	5.61/5.74	5.91/5.85	5.35/4.44	2.80/81	-0.68/-2.45	-4.69/-5.35	-4.31/-3.5	-2.3/-0.93	0.31/1.27	2.51/3.84	4.82/5.4	5.69/5.51	5.82/5.72	5.63/5.54	5.35/4.75	3.34/1	-2.32/-5.58	-8.2/-10.64	-12.4/-8.04	-2.92/-0.27	0.92/1.62	2.5/3.16	3.99/4.91	5.45/5.61
Θ(30°)	4.59/4.89	5.15/5.46	5.59/5.38	4.41/2.41	-0.81/-2.33	-4.18/-5.22	-4.3/-4.11	-3.91/-3.32	-1.38/0.66	2.4/3.66	4.34/5	4.44/4.57	4.77/4.82	4.84/7.2	4.64/55	3.88/2.03	-1.25/-4.95	-7.1/-10.71	-15.17/-7.54	-3.73/-1.48	-0.02/0.73	2.43/3.5	4.3/4.68	4.74/6.63
Θ(37.5°)	4.21/4.46	4.33/4.21	4.37/4.63	4.69/3.6	0.51/-2.74	-3.13/-5.67	-4.31/4.63	-5.87/-3.74	-0.54/1.38	1.76/1.54	2.35/5.26	3.93/4.71	5.08/5.21	5.25/4.86	4.24/4.13	8.7/2.3	-0.95/-5.33	-1.17/-9.66	-13.55/-7.81	-4.45/-3.54	-0.73/-5.2	2.97/3.36	3.81/4.11	4.21/4.11
Θ(45°)	3.91/4.08	4.11/3.57	2.62/45	3.06/2.64	0.36/-3.65	-3/-5.06	-5.97/-6.85	-7.36/-2.48	0.19/0.93	-0.34/-1.03	1.92/65	3.24/4.17	4.44/68	4.94/67	3.96/3.69	3.68/2.55	0/-3.48	-5.92/-10.56	-13.14/-7.06	-5.49/-3.74	-1.18/0.92	2.11/2.06	2.61/3.75	4.28/4.17
Θ(52.5°)	3.97/4.04	3.93/0.6	1.73/0.84	1.31/0.4	-1.15/-4.31	-3.29/-5.43	-7.68/-8.83	-7.02/-1.1	0.24/-0.8	-2.15/-5.2	2.93/2.49	3.46/4.1	3.69/3.8	4.07/4.06	3.49/3.16	2.97/1.89	-0.24/-4.09	-5.21/-8.44	-14.99/-8.87	-6.04/-3.23	-1.01/0.74	1.19/0.81	2.04/3.5	4.31/4.17
Θ(60°)	4.05/4.07	3.41/1.87	1.10/5.6	0.19/0.41	-1.75/-3.76	-3.9/-6.45	-11.15/-10.66	-7.81/-1.52	-1.41/-1.68	0.6/2.82	2.49/2.02	3.32/3.66	3.11/2.83	3.07/3.28	2.56/1.52	0.72/0.14	-0.51/-3.1	-6.05/-9.44	-11.71/-7.38	-6.71/-2.58	-1.5/-0.11	0.69/1.18	2.06/3.58	4.39/4.34
Θ(67.5°)	4.13/53	2.27/0.84	1.57/0.08	-0.71/1.17	-1.25/-2.69	-4.09/-7.36	-11.86/-10.53	-8.57/-2.44	-3.72/-1.12	1.79/2.75	1.25/2.69	3.36/3.71	3.65/2.59	2.24/2.42	1.82/0.46	-1.29/-1.09	-1.48/-3.11	-6.18/-9.4	-15.03/-9.43	-7.52/-1.81	-1.46/-0.61	1.43/1.44	1.84/3.06	4.37/4.76
Θ(75°)	3.73/2.42	0.41/-0.01	1.45/-0.48	-1.82/-2.43	-1.61/-3.28	-6.02/-6.5	-11.31/-11.1	-10.44/-3.49	-6.37/-1.25	1.11/1.28	0.88/3.4	3.68/4.3	4.42/83	1.86/1.36	1.07/0.68	-1.75/-2.71	-2.69/-4.33	-3.65/-8.29	-16.16/-10.32	-7.03/-2.78	-2.84/-1.8	0.98/0.95	0.94/2.09	3.73/4.66
Θ(82.5°)	2.48/0.6	-1.56/-0.58	0.67/-1.66	-2.34/-3.16	-1.81/-4.24	-7.13/-6.39	-11.84/-13.04	-9.66/-5.15	-6.78/-1.54	-0.92/-1.51	0.88/3.36	3.55/4.22	3.88/1.46	0.38/-1.12	-1.85/-0.96	-2.71/-3.95	-2.43/-5.26	-5.46/-7.24	-15.42/-8.21	-6.41/-2.91	-1.84/-2.74	-0.48/-0.28	0.22/1.09	2.51/3.66
Θ(90°)	0.88/-1.41	-3.86/-1.56	-0.32/-4.1	-4.51/-4.48	-3.63/-6.99	-7.2/-5.41	-13.31/-15.12	-11.21/-6.91	-7.55/-2.42	-3.22/-4.71	-0.22/3.3	2.72/2.95	2.73/1.02	-0.65/-2.2	-4.66/-3.78	-2.88/-6.54	-4.06/-6.25	-7.08/-5.62	-15.41/-8.35	-8.56/-4.37	-4.09/-4.17	-1.71/-1.15	-1.11/0.13	1.32/2.36
Θ(97.5°)	-1.15/-4.75	-5.87/-2.41	-1.73/-6.45	-5.27/-4.16	-5.64/-8.61	-6.9/-7.28	-12.77/-15.75	-10.16/-7.74	-7.18/-3.1	-5.77/-6	-0.52/0.97	0.96/0.52	-0.21/-1.8	-2.26/-3.7	-6.69/-5.39	-3.05/-6.66	-6.03/-7.68	-13.25/-8.05	-10.31/-14.1	-10.67/-7.02	-5.63/-4.62	-5.29/-3.77	-2.71/-1.07	0.16/1.13
Θ(105°)	-2.88/-6.34	-5.93/-3.92	-3.49/-7.06	-7.72/-4.77	-6.52/-8.57	-5.79/-8.87	-15.26/-15.13	-10.19/-8.9	-7.42/-3.88	-6.61/8.12	-1.57/-0.31	-0.97/-2.02	-2.83/-3.25	-4.77/-5.16	-7.59/-9.98	-4.13/-3.39	-7.75/-9.76	-15.28/-9.6	-9.67/-10.1	-7.84/-4.84	-6.34/-4.74	-3.24/-1.74	-1.38/-1	
Θ(112.5°)	-3.9/-6.52	-6.89/-7.22	-6.84/-5.42	-6.55/-5.53	-7.23/-7.09	-9.14/-12.31	-14.97/-14.2	-10.28/-9.71	-9.41/-5.62	-7.69/-8.59	-1.77/-0.95	-2.26/-3	-4.76/-4.37	-4.84/-5.73	-6.57/-11.77	-7.54/-5.51	-6.63/-7.37	-10.08/-11.2	-13.68/-10.91	-11.54/-10.04	-9.52/-9.55	-10.38/-5.57	-4.38/-4.15	-3.66/-2.62
Θ(120°)	-4.35/-6.37	-8.97/-8.86	-8.51/-6.38	-9.07/-8.59	-9.71/-12.5	-11.9/-15.3	-15.03/-13.89	-9.94/-12.47	-12.52/-7.61	-8.62/-9.46	-4.17/-1.94	-3.74/-4.73	-5.21/-7.27	-7.41/-7.8	-9.64/-14.88	-11.47/-8.5	-9.95/-7.88	-8.56/-9.06	-16.09/-10.9	-13.1/-10.58	-8.17/-9.7	-7.81/-9.52	-5.98/-5.19	-5.96/-4.87
Θ(127.5°)	-6.09/-7.88	-10.67/-8.09	-8.61/-6.95	-8.91/-9.89	-11.64/-11.75	-13.04/-13.1	-14.55/-14.16	-12.09/-14.28	-13.24/-9.07	-9.36/-9.53	-6.43/-4.92	-5.73/-6.25	-7.5/-9.34	-9.09/-5.83	-5.43/-6.85	-14.09/-11.1	-10.75/-10.93	-9.75/-9.32	-13.71/-11.82	-12.75/-11.68	-9.65/-11.95	-6.24/-9.91	-11.1/-9.38	-10.53/-8.22
Θ(135°)	-9.16/-8.67	-8.41/-7.64	-7.62/-7.98	-9.93/-13.74	-11.46/-9.96	-13.75/-12.18	-13.29/-14.53	-12.97/-12.81	-11.26/-8.54	-7.94/-7.01	-7.5/-7.8	-8.1/-8.91	-7.77/-7.58	-8.7/-8.64	-6.83/-8.72	-11.26/-9.1	-11.84/-14.92	-14.5/-13.52	-15.27/-15.44	-13.88/-15.03	-12.97/-11.22	-8.51/-7.43	-7.76/-11.61	-13.8/-11.52
Θ(142.5°)	-14.14/-13.35	-10.76/-9.65	-10.31/-10.37	-10.37/-10.37	-10.55/-13.6	-15/-12.96	-15.96/-15.52	-12.9/-10.63	-15.28/-12.55	-9.78/-9.11	-9.38/-9.75	-10.29/-10.99	-12.58/-12.01	-9.62/-7.47	-8.25/-11.04	-11.61/-10.4	-14.25/-16.1	-12.1/-11.67	-10.2/-12.56	-13.1/-13.24	-14.88/-13.68	-12.05/-13.8	-10.14/-8.98	-10.3/-13.09
Θ(150°)	-7.89/-9.67	-8.59/-8.94	-8.74/-8.41	-8.34/-9.5	-12.31/-15.81	-14.75/-12.29	-14.02/-14.29	-14.56/-14.9	-15.32/-15.12	-10.49/-14	-9.4/-9.64	-10.14/-12.06	-12.83/-12.63	-14.81/-13.24	-11.85/-11.02	-9.85/-9.94	-7.03/-6.65	-7.57/-9.18	-10.67/-13.43	-12.31/-12.14	-15.38/-15.25	-14.05/-14.49	-15.29/-15.09	-13.53/-12.01
Θ(157.5°)	-13.42/-11.88	-11.49/-12.25	-14.29/-15.64	-15.11/-15.23	-12.15/-11.49	-11.68/-12.75	-13.33/-11.98	-11.7/-12.15	-14.38/-13.65	-12.82/-12.7	-12.71/-12.94	-12.68/-12.24	-12.43/-14.19	-15.75/-14.12	-13.56/-11.67	-8.89/-7.93	-8.62/-10.52	-10.72/-10.77	-13.74/-14.86	-14.89/-12.2	-10.96/-11.09	-12.07/-13.55	-13.24/-14.29	-13.68/-12.74
Θ(165°)	-12.93/-13.49	-12.43/-10.74	-10.45/-9.99	-10.56/-10.82	-10.81/-11.65	-12.44/-12.23	-11.58/-10.82	-10.37/-10.88	-11.8/-12.99	-13.84/-14.04	-14.55/-13.64	-12.99/-12.66	-12.04/-12.52	-13.07/-13.73	-14.07/-15.22	-14.64/-12.82	-11.12/-9.69	-9.74/-10.15	-12.07/-14.99	-15.33/-15.2	-15.01/-14.73	-13.11/-12.13	-12.26/-12.89	-13.37/-13.61
Θ(172.5°)	-15.31/-15.44	-14.87/-13.63	-13.14/-13.58	-13.96/-14	-13.8/-13.6	-13.3/-13.3	-13.1/-13.05	-13.22/-12.39	-12.16/-10.56	-9.42/-9.11	-8.99/-9.84	-9.63/-10.11	-10.46/-11.23	-12.49/-14.18	-15.46/-15.82	-15.66/-15.95	-12.65/-11.16	-11.19/-12.37	-13.93/-15.2	-12.69/-12.1	-12.51/-13.75	-13.71/-13.67	-14.32/-14.78	-15.63/-15.8
Θ(180°)	-13.16/-14.07	-13.93/-13.27	-12.21/-12.23	-12.88/-12.89	-13.33/-13.04	-14/-14.23	-13.57/-13.37	-12.26/-11.41	-11.16/-10.87	-11.11/-11.74	-12.55/-13.13	-14.44/-14.27	-14.51/-16.18	-16.05/-14.93	-15.04/-15.38	-15.67/-14.67	-14.99/-14.78	-15.93/-15.46	-14.23/-12.8	-12.66/-11.73	-11.14/-11.37	-11.78/-11.93	-11.51/-10.6	-10.89/-12.27
Freq(Pol)	5.3GPol	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°)	-9.48/-10.82	-8.69/-4.98	-1.72/0.61	2.12/3.05	3.72/4.29	4.86/5.05	5.29/5.68	5.62/5.28	4.76/4.08	3.17/1.99	0.49/-1.39	-4.0/8.5	-11.26/-13.61	-8.67/-4.33	-1.9/0.02	1.77/3.14	4.04/4.63	5.12/5.5	5.77/5.92	5.83/5.63	5.24/4.6	3.78/2.71	1.31/-0.5	-2.69/-6.02
Θ(7.5°)	-6.54/-5.37	-4.64/-2.31	-0.01/1.96	3.31/3.98	4.37/4.77	5.45/8.4	5.73/5.51	5.14/63	3.96/2.98	1.63/-0.01	-2.18/-4.77	-7.61/-11.4	-12.01/-8.96	-5.06/-2.16	-0.28/0.94	1.83/2.74	3.51/3.92	4.21/4.47	4.81/5.15	5.22/4.94	5.07/3.85	2.67/1.29	-0.31/-2.58	-4.65/-7.78
Θ(15°)	-7.89/-7.69	-6.85/-4.14	-1.06/1.33	3.11/4.08	4.75/5.09	5.36/5.33	5.02/5.03	5.04/4.78	4.42/3.72	2.91/9.4	0.59/-0.88	-2.92/-5.81	-10.16/-12.63	-9.93/-4.99	1.57/0.46	1.72/2.56	3.17/3.36	3.2/3.05	3.3/3.72	3.71/3.4	5.02/3.88	1.36/0.48	-0.57/-1.86	-3.57/-6.71
Θ(22.5°)	-5.93/-8.75	-11.54/-9.03	-4.12/-0.49	1.95/3.36	4.24/4.89	5.21/5.18	4.75/4.76	5.07/5.25	5.17/4.49	3.39/2.05	0.5/-1.43	-4.29/-8.25	-13.49/-14.33	-11.48/-9.06	-5.88/-2.69	-0.24/1.3	2.25/2.54	2.52/4.7	2.48/2.44	2.22/2.13	2.25/2.27	1.27/1.47	0.21/-1.01	-2.25/-3.81
Θ(30°)	-6.45/-7.99	-9.03/-8.26	-5.23/-2.17	0.59/2.54	3.47/3.69	3.68/3.65	3.18/3.42	4.15/4.87	4.41/3.13	1.55/0.63	-0.27/-1.37	-3.01/-5.41	-9.45/-15.16	-13.77/-7.78	-6.44/-5.81	-3.66/-1.37	0.14/0.99	1.35/1.39	1.35/1.32	1.04/1.21	1.85/1.97	1.55/0.37	-1.56/-3.92	-5.2/-5.52
Θ(37.5°)	-10.09/-14.2	-9.35/-6.54	-4.06/-2.97	-1.34/1.07	2.73/3.08	2.63/2.33	2.46/2.96	3.85/3.66	2.01/0.06	-0.23/0.36	0.55/0.49	-0.15/-1.45	-3.27/-7.26	-14.43/-15.81	-10.52/-7.6	-6.82/-2.14	-0.96/-0.22	0.03/-0.46	-0.97/-0.89	-0.54/-0.02	0.63/0.46	-0.66/-2.66	-3.53/-3.44	-4.2/-6.21
Θ(45°)	-11.66/-12.69	-10.56/-6.79	-3.91/-4.18	-5.16/-1.99	1.12/2.3	1.74/0.83	1.05/1.53	1.71/2.7	-0.81/-1.39	-1.18/-0.8	-0.97/-1.39	-2.14/-2.84	-3.65/-5.3	-7.55/-10.61	-10.85/-9.26	-6.1/-2.8	-1.66/-2.12	-1.78/-1.36	-2.43/-3.94	-2.47/-2.05	-2.3/-3.2	-4.74/-4.02	-2.25/-1.85	-3.71/-6.88
Θ(52.5°)	-13.71/-13.25	-10.92/-8.38	-5.32/-4.43	-3.75/-4.34	-1.03/0.83	-0.06/-0.51	0.51/0.25	-0.65/-0.79	-2.82/-3.26	-2.3/-2.82	-5.6/-6.5	-6.98/-9.81	-10.54/-9.54	-8.07/-6.99	-7.29/-7.24	-6.01/-4.38	-3.57/-3.29	-3.94/-3.16	-4.81/-5.86	-3.04/-4.25	-6.47/-6.82	-5.48/-5.2	-3.43/-3.25	-5.61/-8.93
Θ(60°)	-14.91/-12.98	-10.67/-9.39	-6.77/-4.36	-2.52/-3.69	2.28/-0.3	-1.54/-2.76	-1.2/-2.19	-4.92/-3.08	-3.52/-3.33	-3.11/-3.04	-5.28/-3.97	-4.44/-7.15	-7.32/-7.92	-7.99/-7.7	-7.59/-7.3	-7.94/-5.3	-5.11/-4.47	-4.92/-10.44	-5.51/-7.06	-10.56/-5.74	-4.6/-6.19	-6.31/-7.21	-10.51/-10.69	
Θ(67.5°)	-13.24/-10.42	-8.13/-8.78	-10.02/-6.32	-3.48/-4.41	-3.76/-1.92	-3.69/-4.67	-3.19/-4.94	-7.75/-18	-5.6/-11	-2.65/-2.58	-2.38/-1.43	-2.96/-1.1	-6.41/-7.06	-9.8/-11	-8.75/-9.19	-8.66/-6.21	-6.45/-5.62	-4.89/-4.67	-6.2/-12.14	-7.64/-9.84	-10.88/-5.53	-5.14/-7.77	-9.77/-10.68	-9.71/-10.68
Θ(75°)	-11.1/-11.45	-8.98/-9.44	-12.45/-9.68	-4.99/-7.37	-6.66/-1.48	-8.88/-8.05	-6.16/-7.76	-12.81/-8.7	-8.04/-6.35	-2.76/-2.73	-1.89/-1.35	-2.46/-4.66</												



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Θ (75°)	2.79/3.51	3.07/0.49	-2.85/-5.62	-6.68/-4.59	-2.18/-0.58	-4.56/-7.89	-7.62/-8.61	-7.76/-11.24	-4.47/-3.23	-2.33/-1.14	2.01/2.63	3.47/4	3.23/3.17	1.73/-1.03	-2.38/-2.85	-3.1/-3.43	-0.69/-3.07	-4.58/-7.03	-10.18/-12.96	-5.89/-2.22	-0.23/0.44	1.4/2.48	2.35/-1.17	2.82/4.51
Θ (82.5°)	1.05/2.27	1.89/-1.29	-3.64/-6.45	-7.63/-6.49	-3.32/-1.96	-6.21/-5.74	-6.11/-7.62	-10.16/-11.21	-6.15/-7.15	-3.67/0.19	-0.02/-1.32	3.35/4.22	2.88/2.23	0.71/-2.31	-3.67/-3.8	-4.44/-4.25	-2.66/-3.95	-6.37/-6.86	-8.92/-11.35	-7.53/-1.95	-0.49/-1.14	0.44/-1.89	1.77/0.47	2.68/3.79
Θ (90°)	-0.72/0.68	0.62/-1.06	-3.71/-8.78	-8.6/-8.03	-3.53/-3.58	-7.64/-4.18	-5.52/-6.98	-10.22/-8.74	-5.02/-7.57	-6.55/-1.79	-1.68/-0.26	2.43/4.11	2.36/-0.07	-1.58/-3.65	-6.97/-5.84	-7.1/-5	-4.19/-4.79	-9.28/-11.11	-13.11/-11.82	-7.22/-1.94	-1.79/-2.79	-1.21/0.15	0.48/-0.45	1.8/2.34
Θ (97.5°)	-1.96/-1.61	-0.9/-1.48	-4.12/-9.99	-9.17/-7.04	-5.5/-9.63	-6.94/-4.09	-6.52/-7.56	-15.74/-7.5	-6.1/-6.96	-7.58/-3.32	-3.22/-1.47	0.82/2.25	0.85/-2.83	-4.69/-5.22	-10.01/-8.88	-9.54/-7.17	-6.66/-8.11	-8.85/-12.12	-14.64/-14.32	-7.37/-4.39	-5.29/-5.91	-4.14/-2.39	-0.63/-1.05	0.95/0.67
Θ (105°)	-3.12/-4.23	-4.54/-4.47	-6.17/-7.98	-8.98/-9.76	-8.07/-8.18	-5.36/-5.38	-10.64/-9.88	-14.92/-7.67	-5.85/-6.05	-6.78/-4.49	-3.81/-2.7	-1.12/0.3	0.25/-2.56	-6.57/-8.35	-12.07/-10.51	-8.13/-10.29	-7.47/-8.35	-6.29/-10.65	-13.47/-14.42	-9.58/-8.06	-6.46/-8.18	-7.09/-4.62	-1.34/-2.46	-1.74/-0.47
Θ (112.5°)	-2.34/-5.76	-5.85/-5.67	-6.58/-8.21	-9.56/-13.11	-9.81/-5.49	-6.74/-8.83	-14.08/-14.29	-15.01/-9.1	-7.51/-6.32	-5.99/-4.02	-4.77/-3.42	-2.8/-2.84	-2.09/-3.68	-6.85/-9.82	-11.17/-10.33	-8.36/-12.77	-9.9/-12.08	-9.78/-5.09	-7.94/-13.06	-14.15/-12.6	-12.65/-11.07	-7.61/-3.35	-1.32/-2.86	-2.59/-0.91
Θ (120°)	-3.99/-4.92	-4.92/-7.56	-8.74/-9.26	-12.12/-9.36	-9.97/-7.92	-9.95/-12.02	-13.42/-14.17	-12.63/-7.17	-7.37/-8.01	-5.96/-4.73	-5.03/-6.76	-4.91/-5.47	-5.2/-3.54	-6.98/-8.24	-9.68/-14.71	-12.87/-11.08	-13.43/-11.12	-9.86/-13.06	-9.39/-9.31	-9.12/-8.7	-7.63/-4.2	-6/-7.98	-6.13/-6.3	-5.79/-4.03
Θ (127.5°)	-9.18/-7.87	-11.02/-9.95	-10.94/-12.12	-8.22/-7.68	-8.14/-11.96	-14.79/-11.45	-11.64/-9.98	-11.87/-10.18	-8.82/-9.24	-6.67/-4.46	-4.19/-6.12	-7.74/-8.16	-9.73/-12.26	-11.98/-11.08	-11.01/-14.67	-14.1/-11.83	-10.13/-9.08	-9.5/-8.77	-8.29/-14.91	-12.68/-15.12	-11.57/-3.72	-4.59/-8.34	-8.95/-10.88	-11.02/-10.41
Θ (135°)	-7.07/-6.64	-8.29/-9.46	-9.69/-8.66	-7.87/-7.01	-10.91/-11.02	-8.24/-9.01	-13.05/-11.7	-11.39/-9.87	-8.75/-10.15	-10.09/-6.7	-4.66/-6.75	-7.53/-7.91	-9.89/-9.95	-9.04/-8.23	-10.02/-11.58	-11.04/-12.31	-14.57/-14.58	-15.51/-12.01	-9.89/-9.54	-13.87/-12.24	-15.23/-11.39	-10.14/-6.87	-7.6/-11.09	-12.24/-9.63
Θ (142.5°)	-11/-11.28	-10.14/-10.95	-11.38/-10.76	-12.14/-8.45	-6.59/-8.27	-8.91/-9.84	-12.71/-13.43	-11.96/-10.04	-9.98/-13.69	-13.59/-8.67	-7.23/-8.25	-8.9/-8.08	-8.6/-9.26	-8.72/-9.27	-8.68/-10.66	-14.02/-12.49	-12.89/-12.75	-15.52/-10.13	-8.67/-8.38	-11.43/-13.89	-12.12/-10.81	-9.47/-8.25	-7.9/-9.03	-9.92/-9.9
Θ (150°)	-10.55/-9.46	-8.78/-9.82	-12.67/-11.03	-7.47/-5.34	-6.06/-11.54	-13.2/-10.92	-13.16/-15.35	-15.8/-13.86	-12.65/-12.89	-14.75/-13.12	-11.09/-11.97	-13.2/-13.06	-14.4/-14.37	-14.71/-15	-12.25/-10.27	-10.55/-11.97	-11.42/-13.03	-10.19/-7.58	-9.37/-12.18	-15.27/-15.38	-15.16/-15	-14.7/-14.68	-14.26/-14.97	-15.52/-12.42
Θ (157.5°)	-10.55/-11.07	-11.88/-11.58	-9.68/-8.47	-8.34/-9.62	-14.02/-14.62	-10.82/-10.35	-12.06/-15.44	-16.04/-14.92	-13.41/-11.94	-12.27/-15.28	-15.23/-14.68	-15.48/-15.64	-15.22/-14.92	-15.4/-13.69	-11.1/-9.61	-9.21/-8.25	-8.51/-10.29	-11.86/-11.39	-10.63/-12.43	-13.97/-12.6	-10.69/-10.21	-10.26/-10.56	-11.59/-12.72	-13.1/-12.28
Θ (165°)	-13.01/-13.16	-14.62/-15.5	-15.53/-16.66	-15.44/-15.93	-14.65/-12.94	-12.95/-13.24	-12.85/-12.57	-12.15/-11.34	-11.55/-11.83	-12.53/-12.95	-13.09/-14.22	-14.03/-14.7	-15.92/-15.45	-15.83/-15.33	-13.43/-12.31	-12.69/-12.54	-12.77/-13.78	-14.66/-15.23	-14.91/-15.35	-15.72/-15.09	-14.41/-13.21	-11.81/-11.75	-14.24/-15.86	-15.26/-14.77
Θ (172.5°)	-14.66/-15.82	-14.63/-12.66	-12.74/-12.8	-12.62/-11.74	-11.4/-12.35	-12.99/-12.46	-12.67/-12.73	-12.74/-12.51	-11.82/-11.74	-10.86/-10.33	-10.15/-11.12	-12.63/-13.82	-13.89/-13.89	-15.18/-15.86	-16.07/-15.54	-15.18/-15.54	-15.38/-14.48	-13.39/-13.82	-13.75/-14.16	-13.55/-12.57	-11.59/-10.96	-11.04/-10.87	-10.36/-10.28	-10.99/-12.66
Θ (180°)	-14.04/-14.97	-15.53/-14.48	-14.27/-13.99	-13.22/-12.96	-12.65/-11.48	-10.45/-9.92	-9.7/-9.79	-9.32/-9.03	-9.69/-10.39	-11.46/-12.21	-12.69/-14.16	-15.07/-15.63	-15.28/-15.74	-15.1/-15.56	-15.19/-14.62	-15.32/-15.64	-15.01/-15.34	-15.72/-15.05	-12.43/-10.35	-8.99/-8.51	-8.04/-7.36	-7.67/-8.79	-10.47/-11.42	-13.25/-13.09
Freq(Hz)	5.785GPol.	Theta	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-9.05/-9.11	-6.76/-4.54	-2.38/-0.48	0.88/1.9	2.84/3.71	4.65/0.6	4.93/4.8	4.63/4.39	3.93/3.18	2.51/1.42	-0.02/-1.74	-4.44/-8.08	-10.33/-9.97	-7.12/-3.67	-1.59/-0.03	1.51/2.78	3.59/4.14	4.56/4.99	5.13/5.07	4.86/4.49	3.94/3.32	2.52/1.63	0.42/-1.24	-3.64/-6.9
Θ (7.5°)	-7.34/-8.92	-9.15/-6.67	-3.8/-1.27	0.8/2.28	3.25/3.95	4.88/5.7	5.76/5.59	4.95/4.59	4.24/3.66	2.93/2.1	0.91/-0.86	-3.36/-7.18	-12.08/-13.52	-8.7/-3.98	-1.24/0.47	1.71/2.71	3.71/4.34	4.86/5.19	5.42/5.33	4.97/4.42	3.67/2.94	2.18/-1.19	0.18/-1.12	-2.73/-4.52
Θ (15°)	-6.12/-5.52	-4.82/-3.65	-2.59/-1.38	-0.15/1.31	2.8/3.98	4.55/5.07	5.27/5.28	5.16/4.98	4.4/3.6	2.63/1.17	-1.21/-3.9	-7.19/-9.86	-10.56/-8.69	-5.51/-3.23	-1.02/0.51	1.48/2.43	3.18/3.61	4.07/4.6	4.86/4.92	4.43/3.56	2.42/1.44	0.79/-0.02	-1.06/-2.66	-4.23/-5.59
Θ (22.5°)	-5.09/-4.77	-3.61/-3.56	-1.86/-0.99	-0.16/0.9	2.36/3.83	4.35/4.36	4.52/5.22	5.53/4.99	4.12/2.91	1.81/0.25	-1.71/-3.1	-4.33/-5.59	-6.2/-6.78	-7.09/-5.71	-3.53/-1.34	0.45/1.69	2.42/2.76	3.29/3.69	3.72/3.52	3.01/2.29	1.51/1.28	1.27/0.89	-0.66/-2.83	-4.07/-4.54
Θ (30°)	-6.02/-6.59	-6.16/-3.96	-1.65/-0.45	-0.08/0.65	2.03/3.61	4.01/3.2	3.13/3.86	4.14/3.8	2.87/1.74	1.97/2.67	1.32/-0.62	-2.99/-4.67	-4.12/-3.98	-5.95/-9.06	-7.93/-4.45	-1.66/0.34	1.27/1.17	1.42/2.05	1.76/0.78	0.32/-0.08	-0.6/-1.08	-0.37/-1.01	-3.05/-5.4	-6.53/-6.5
Θ (37.5°)	-13.11/-11.7	-6.93/-4.8	-3.08/-1.58	0.01/1.64	2.8/3.37	3.24/2.08	2.08/2.76	3.06/2.83	1.99/1.19	2.02/1.61	-0.45/-1.99	-3.56/-5.55	-6.28/-6.07	-7.44/-9.5	-9.03/-4.78	-2.31/-0.29	-0.04/-0.14	0/0.4	0.39/-0.32	-1.47/-1.65	-2.56/-4.11	-3.83/-3.93	-4.9/-6.14	-8.13/-10.03
Θ (45°)	-8.17/-5.85	-3.1/-0.64	-0.54/-1.72	-0.48/1.3	2.63/3.01	2.55/1.34	1.39/2.19	2.12/1.78	0.47/-1.15	-0.5/-1.03	-1.44/-1.02	-0.67/-0.86	-3.72/-7.92	-8.42/-10.5	-13.58/-7.19	-4.35/-1.19	-0.14/-1	-2.14/-2.34	-2.65/-2.82	-1.86/-2.86	-4.3/-5.2	-4.11/-4.16	-4.55/-4.95	-6.06/-6.8
Θ (52.5°)	-8.23/-3.28	-0.98/0.18	-0.5/-2.31	-2.35/-0.62	0.23/0.84	0.96/0.31	0.64/1.64	1.27/0.4	-2.16/-4.31	-2.51/-1.27	-0.74/-1.25	-0.70/0.2	-2.82/-10.66	-12.78/-10.41	-12.61/-8.4	-5.29/-2.81	-2.48/-3.94	-3.68/-5.99	-5.58/-3.08	-1.21/-2.53	-4.11/-5.22	-5.73/-5.03	-5/-6.25	-7.74/-11.33
Θ (60°)	-10.15/-4.05	-2.26/-0.77	-1.77/-3.52	-6.18/-5.42	-2.96/-0.73	-0.46/-0.51	-0.38/0.21	-0.46/-2.18	-7.34/-6.86	-5.71/-3.84	-4.28/-4.79	-5.97/-4.92	-4.88/-7.05	-11.03/-9.42	-8.98/-7.25	-5.62/-4.61	-3.33/-5.77	-5.88/-6.72	-6.11/-4.07	-2.02/-4.24	-5.16/-5.75	-6/-7.14	-7.19/-9.1	-11.53/-12.37
Θ (67.5°)	-8.54/-5.6	-3.07/-1.85	-2.33/-2.73	-5.98/-7.01	-5.89/-4.07	-2.5/-1.27	-2.45/-3.23	-4.57/-6.03	-11.58/-5.72	-5.23/-4.04	-4.51/-3.87	-5.29/-6.55	-3.21/-2.2	-5.92/-6.48	-6.53/-4.59	-3.79/-4.25	-5.02/-7.59	-8.93/-7.21	-6.27/-3.67	-1.58/-6.4	-7.06/-6.08	-5.5/-9.63	-10.34/-12.93	-11.62/-7.84
Θ (75°)	-6.7/-5.94	-4.03/-4.82	-5.27/-3.57	-6.53/-9.38	-7.67/-5.26	-3.4/-3.76	-5.08/-6.81	-6.2/-7.61	-9.1/-5.33	-5.67/-3.96	-3.05/-2.26	-2.4/-7.64	-5.92/-3.31	-5.93/-6.84	-7.24/-6.63	-3.52/-3.46	-4.62/-4.9	-10.94/-5.64	-6.43/-5.7	-3.1/-6.95	-6.22/-4.71	-6.56/-9.81	-10.32/-12.53	-10.27/-6.65
Θ (82.5°)	-6.93/-7.28	-4.76/-6.24	-8.89/-5.95	-7.65/-10.75	-9.18/-6.29	-5/-6.22	-7.16/-7.27	-6.22/-9.67	-8.04/-7.81	-5.76/-4.85	-3.51/-2.84	-3.1/-9.62	-9.83/-6.89	-7.21/-7.65	-6.84/-6.85	-4.19/-3.49	-6.41/-5.26	-10.93/-7.84	-9.09/-7.21	-3/-4.98	-7.37/-4.16	-7.13/-12.31	-11.92/-14.5	-8/-6.12
Θ (90°)	-8.21/-10.12	-6.51/-5.35	-8.54/-11.85	-9.27/-10.9	-10.93/-7.07	-7.73/-8.3	-8.74/-9.83	-7.47/-10.29	-8.21/-10.8	-7.71/-7.97	-5.51/-3.09	-3.85/-6.44	-10.19/-10.09	-9.15/-12.22	-9.06/-9.45	-7.82/-4.4	-4.75/-5.17	-14.45/-9.73	-13.74/-7.98	-5.68/-7.28	-10.26/-5.37	-11.15/-14.51	-13.2/-11.67	-8.54/-6.79
Θ (97.5°)	-10.59/-12.29	-8.08/-7.91	-9.83/-13.2	-9.75/-9.95	-12/-11.07	-12.79/-10.6	-11.36/-11.34	-10.57/-9.56	-11.36/-13.73	-10.12/-10.93	-9.12/-5.28	-4.92/-5.65	-7.78/-9.43	-9.08/-9.99	-9.53/-12.61	-9.18/-7.31	-6.59/-5.96	-11.71/-8.18	-12.88/-12.08	-8.77/-11.16	-14.34/-9.78	-15.08/-12.88	-10.56/-14.43	-9.78/-8.48
Θ (105°)	-12.5/-16.14	-12.7/-12.21	-9.86/-11.18	-11.61/-12.66	-12.8/-11.5	-11.54/-9.7	-11.22/-12.06	-11.02/-8.7	-14.69/-15.67	-13.37/-13.76	-11.52/-7.13	-4.94/-4.6	-5.89/-7.8	-12.65/-9.69	-11.57/-13.14	-7.65/-7.72	-8/-6.24	-9.24/-8.89	-9.67/-13.62	-14.14/-13.64	-10.24/-13.72	-9.79/-14.47	-12.82/-13.35	-14.42/-10.48
Θ (112.5°)	-15.16/-11.68	-12.61/-7.98	-9.36/-12.47	-15.66/-15.61	-14.03/-11.56	-9.52/-9.27	-11.67/-14.71	-11.77/-12.75	-15.72/-15.02	-15.05/-14.4	-11.36/-7.04	-5.33/-7.7	-6.13/-9.74	-15.03/-11.5	-15.63/-9.82	-12.9/-14.87	-14.9/-12.25	-8.53/-7.22	-5.66/-10.71	-12.08/-7.08	-9.53/-10.04	-6.81/-10.22	-15.57/-12.05	-13.33/-10.91
Θ (120°)	-12.4/-12.44	-12.78/-12.87	-14.57/-15.14	-15.26/-14.54	-12.96/-11.66	-11.19/-11.92	-12.22/-15.8	-11.78/-12.63	-15.25/-16.02	-15.28/-15.16	-12.81/-8.07	-6.2/-7.2	-6.45/-11.12	-12.26/-14.02	-11.63/-7.55	-10.53/-11.01	-14.26/-15.88	-12.36/-10.67	-7.28/-10.58	-11.63/-6.98	-14.73/-14.66	-10.66/-12.42	-13.7/-14.28	-11.34/-10.23
Θ (127.5°)	-15.87/-15.23																							



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Gain Result

Freq(Hz)	2.45GPol.	PhiAnt. 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°)	5.875/94	5.895/64	5.274/75	4.073/12	1.890/19	-2.03/5.3	-10.6/18.82	-16.73/12.51	-2.56/19.29	3.94/7	5.29/6.08	6.016/08	5.955/61	3.392/25	0.81/0.98	1.720/32	-14.5/18.77	-4.5/24.59	-1.720/32	1.843/04	4.014/73	5.285/66				
Θ(7.5°)	5.815/85	5.765/54	5.184/7	4.043/12	1.930/33	-1.79/4.9	-9.85/19.02	-13.12/6.24	-2.420/06	1.893/25	4.214/97	5.525/92	6.138/16	5.985/58	4.954/11	3.051/78	0.22/-1.65	-4.2/-7.98	-14.44/-16.09	-8.61/4.35	-1.650/33	1.822/97	3.924/65	5.225/6		
Θ(15°)	5.635/61	5.455/15	4.744/22	3.54/62	1.540/08	-1.82/-4.52	-8.59/-16.91	-14.86/-7.09	-2.83/-0.1	1.873/26	4.275/01	5.555/92	6.116/1	5.885/42	4.743/84	2.681/32	-0.3/-3.2	-4.64/8.14	-13.47/-14.21	-8.3/-4.34	-1.720/24	1.722/89	3.834/55	5.115/47		
Θ(22.5°)	5.215/15	4.914/53	4/3.34	2.56/16	0.48/-0.85	-2.51/-4.73	-8.06/-14.11	-15.41/-7.72	-3.14/-0.21	1.860/29	4.295/03	5.535/83	5.935/83	5.514/95	4.153/12	1.810/36	-1.32/-3.13	-5.39/-8.68	-13.24/-13.1	-7.97/-4.33	-1.820/05	1.492/6	3.534/23	4.775/1		
Θ(30°)	4.524/49	4.283/86	3.23/2.4	1.370/16	-1.11/-2.47	-3.92/-5.6	-8.03/-12.37	-15.74/-9.05	-4.06/-0.87	1.382/92	4.014/75	5.24/5.5	5.545/39	5.024/44	3.582/48	1.07/0.53	-2.25/-4	-5.95/-8.77	-12.73/-12.65	-8.07/-4.61	-2.28/-0.55	0.811/94	2.863/54	4.054/39		
Θ(37.5°)	3.553/67	3.613/29	2.66/1.69	0.4/-1.15	-2.76/-4.45	-5.96/-13.2	-8.97/-12.09	-14.85/-9.75	-4.75/-1.4	0.962/6	3.724/5	4.955/12	5.044/75	4.263/57	2.66/1.5	0.03/-1.65	-3.46/-5.14	-6.86/-9.42	-13.16/-12.65	-8.08/-4.96	-2.92/-1.39	-0.05/-1.08	2.012/64	3.093/38		
Θ(45°)	2.32/56	2.68/25	1.910/9	-0.56/-2.35	-4.23/-6.17	-8.04/-9.32	-10.13/-11.79	-13.68/-10.72	-5.87/-2.36	0.161/87	3.113/92	4.4/4.55	4.414/03	3.412/61	1.630/52	-0.9/-2.53	-4.42/-6.2	-7.92/-10.41	-14.12/-13.05	-8.49/-5.46	-3.58/-2.13	-0.840/32	1.16/16	1.842/04		
Θ(52.5°)	0.611/06	1.291/15	0.54/-0.54	-2.12/-4.07	-6/-8.05	-10.34/-11.89	-11.62/-11.57	-12.42/-11.03	-6.71/-3.1	-0.55/-1.19	2.413/27	3.733/83	3.63/1	2.36/1.45	0.44/-0.67	-1.96/-3.48	-5.37/-7.43	-9.71/-12.73	-15.85/-12.92	-8.36/-5.45	-3.71/-2.43	-1.19/-0.24	0.210/21	0.120/24		
Θ(60°)	-1.51/-0.83	-0.54/-0.74	-1.46/-2.66	-4.34/-6.37	-8.13/-9.73	-11.63/-18.1	-13.42/-11.93	-11.69/-11.21	-7.79/-4.2	-1.59/0.12	1.342/21	2.712/84	2.632/15	1.440/52	-0.58/-1.87	-3.36/-5.01	-7.06/-9.35	-11.88/-14.1	-15.44/-13.85	-9.53/-6.44	-4.67/-3.28	-2/-1.19	-1.11/-1.64	-2.17/-2.11		
Θ(67.5°)	-3.7/-2.89	-2.59/-9.9	-3.79/-5.4	-6.99/-9.39	-11.46/-12.22	-12.56/-13.81	-13.67/-11.62	-12.17/-11.72	-8.61/-5.01	-2.46/-0.85	0.26/1.04	1.51/54	1.30/86	0.2/0.8	-0.23/-3.96	-5.81/-7.58	-9.33/-10.91	-12.14/-12.96	-15.22/-17.32	-11.77/-7.85	-5.71/-4.14	-2.87/-2.24	-2.5/-3.41	-4.33/-4.42		
Θ(75°)	-6.31/-5.84	-5.74/-6.1	-6.71/-7.46	-8.36/-10.16	-13.26/-16.72	-16.22/-14.57	-13.74/-12.73	-12.36/-12.67	-10.2/-6.37	-3.72/-2.14	-1.06/-0.26	0.170/24	-0.01/-0.39	-0.99/-2	-3.49/-5.16	-6.79/-8.27	-9.5/-10.75	-12.34/-14.06	-18.1/-18.26	-12.03/-8.05	-6.28/-5.11	-4.13/-3.79	-4.44/-5.74	-6.69/-6.72		
Θ(82.5°)	-8.32/-8.8	-9.74/-10.7	-10.97/-10.38	-9.91/-10.56	-12.71/-16.03	-17.1/-16.51	-15.94/-13.84	-12.79/-13.59	-11.51/-7.1	-4.26/-2.78	-1.97/-1.43	-1.18/-1.29	-1.62/-1.99	-2.47/-3.27	-4.31/-5.62	-7.56/-9.69	-11.77/-13.92	-15.91/-17.39	-18.72/-18.09	-13/-10.1	-9.08/-7.95	-6.68/-6.32	-7.06/-8.16	-8.49/-8.35		
Θ(90°)	-11.54/-13.43	-16.26/-18.43	-16.99/-13.31	-11.46/-12.29	-15.6/-19.07	-15.81/-14.77	-16.25/-14.93	-12.68/-13.17	-13.73/-9.22	-5.66/-3.97	-3.25/-2.93	-2.8/-2.9	-3.19/-3.51	-3.87/-4.28	-5.02/-4.44	-8.56/-10.8	-13.48/-15.56	-16.36/-17.18	-18.59/-18.62	-17.84/-16.58	-13.82/-10.63	-8.57/-9.2	-8.37/-8.91	-9.39/-10.2		
Θ(97.5°)	-14.59/-17.69	-18.16/-17.96	-17.22/-14.5	-11.44/-12.08	-16.91/-18.93	-15.82/-14.15	-17.25/-17.67	-13.75/-13.14	-13.72/-10.46	-7.17/-5.51	-4.9/-4.6	-4.38/-4.46	-4.83/-5.27	-5.45/-5.54	-6.04/-7.1	-8.41/-10.45	-13.9/-17.8	-17.96/-18.58	-18.65/-18.05	-18.13/-18.4	-15.16/-11.8	-9.89/-9.26	-9.04/-8.92	-9.48/-11.37		
Θ(105°)	-17.21/-17.86	-19.14/-18.24	-18.72/-15.74	-12.38/-12.64	-17.73/-18.1	-16.42/-13.8	-15.92/-17.65	-16.73/-15.68	-16.61/-13.39	-9.44/-7.31	-6.31/-5.88	-5.8/-6.9	-6.69/-7.17	-7.07/-6.69	-6.68/-7.1	-9.08/-10.08	-13.35/-17.21	-18.36/-17.56	-18.08/-16.67	-18.81/-15.01	-12.72/-11.43	-10.38/-9.85	-10.51/-13.01			
Θ(112.5°)	-18.06/-18.38	-16.16/-16.79	-18.92/-16.66	-13.19/-13.38	-17.26/-18.3	-18.1/-15.82	-18.13/-16.02	-18.16/-14.95	-16.65/-16.76	-12.78/-9.9	-8.39/-7.84	-7.86/-8.23	-8.51/-8.52	-8.23/-7.87	-7.87/-8.19	-9.08/-10.73	-12.66/-15.02	-18.58/-18.06	-18.88/-18.74	-18.29/-18.47	-17.24/-14.23	-12.46/-11.3	-10.52/-10.5	-18.48/-14.33		
Θ(120°)	-18.78/-17.64	-15.52/-17.14	-18.33/-17.82	-15.93/-16.41	-18.93/-17.79	-15.6/-14.54	-17.78/-18.61	-18.69/-17.58	-17.49/-18.15	-16.28/-13.43	-11.7/-11.11	-11.03/-10.92	-10.71/-10.86	-11.33/-11.6	-11.4/-10.92	-10.53/-10.56	-11.14/-12.9	-16.28/-17.68	-19.23/-18.79	-18.56/-18.74	-18.8/-19.24	-16.48/-14.57	-13.67/-13.87	-15.45/-18.46		
Θ(127.5°)	-18/-16.52	-15.45/-17.78	-17.68/-17.9	-17.96/-19.16	-19.15/-19.17	-15.07/-14.31	-16.45/-17.87	-18.08/-19.06	-18.67/-18.48	-18.43/-1.91	-16.97/-15.62	-14.27/-12.97	-12.46/-13.3	-14.86/-15.51	-14.36/-12.47	-10.9/-10.34	-11.13/-13.45	-16.53/-17.15	-16.19/-16.57	-18.7/-18.11	-18.94/-17.41	-17.56/-19.12	-17.51/-17.48	-18.95/-17.96		
Θ(135°)	-19.12/-19.14	-18.39/-18.47	-18.82/-17.83	-18.89/-17.83	-18.79/-18.08	-18.21/-18.04	-18.47/-17.98	-18.3/-18.88	-18.8/-18.26	-18.3/-18.62	-16.68/-15.13	-14.84/-15.5	-16.23/-15.97	-14.57/-12.74	-11.16/-10.74	-11.61/-13.46	-15.35/-15.8	-15.74/-16.69	-18.72/-18.42	-18.02/-17.68	-17.57/-17.73	-18.05/-17.7	-17.59/-18.44			
Θ(142.5°)	-19.43/-19.25	-18.59/-17.72	-18.5/-18.34	-17.46/-18.65	-19.04/-18.96	-18.53/-18.47	-18.83/-18.8	-18.55/-18.43	-19.06/-17.76	-18.06/-18.32	-18.98/-17.29	-16.32/-15.53	-14.68/-13.89	-13.06/-12.26	-13.2/-14.79	-11.83/-12.12	-13.2/-14.79	-16.41/-17.75	-18.83/-18.32	-18.33/-18.78	-17.79/-17.67	-18.06/-18.99	-18.39/-19.15	-18.01/-18.16		
Θ(150°)	-18.06/-18.36	-18.95/-18.88	-18.99/-17.63	-19.17/-18.79	-17.2/-18.68	-16.76/-17.1	-19.52/-17.31	-18.36/-19.1	-19.24/-18.79	-18.28/-18.14	-18.06/-18.76	-18.07/-17.23	-15.94/-15.19	-15.1/-15.49	-15.95/-16.25	-16.48/-16.98	-17.73/-13.64	-18.44/-18.7	-18.94/-19.04	-18.24/-19	-18.06/-18.52	-18.69/-19.05	-18.67/-18.52	-18.65/-18.11		
Θ(157.5°)	-17.11/-18.42	-18/-18.68	-17.08/-18.77	-17.88/-18.77	-17.99/-18	-16.98/-17.1	-18.59/-18.3	-17.69/-18.92	-17.75/-18.85	-17.67/-18.08	-16.5/-15.96	-16.21/-16.87	-18.04/-18.28	-18.51/-17.85	-17.98/-17.64	-18.5/-18.23	-18.26/-17.32	-17.65/-18.67	-18.82/-18.11	-18.74/-17.81	-17.55/-18.16	-17.55/-19.06				
Θ(165°)	-17.69/-17.92	-18.2/-18.07	-17.59/-18.19	-17.6/-19.01	-18.98/-18.18	-18.04/-18.77	-18.29/-18.07	-18.4/-18.67	-18.61/-18.86	-17.91/-19.67	-18.5/-18.07	-18.55/-18.76	-18.94/-19.04	-17.91/-19.28	-19.07/-18.45	-18.02/-18.86	-18.91/-18.82	-18.41/-18.08	-18.31/-18.32	-17.24/-18.27	-17.88/-18.73	-18.93/-18.67	-19/-17.87	-18.36/-19.28		
Θ(172.5°)	-18.03/-19.28	-18.8/-18.53	-18.75/-18.32	-18.49/-17.08	-17.76/-18.96	-18.97/-18.56	-18.12/-18.39	-18.91/-18.62	-18.99/-17.38	-17.75/-17.77	-18.56/-19.09	-17.86/-17.66	-19.03/-18.08	-18.89/-18.71	-19.06/-18.41	-18.82/-18.87	-18.47/-18.12	-18.77/-18.32	-18.33/-17.91	-17.27/-19.2	-18.6/-18.39	-17.6/-19.37	-18.11/-18.78	-19.14/-18.1		
Θ(180°)	-18.55/-18.82	-18.99/-18.98	-18.08/-18.82	-18.42/-18.35	-18.26/-18.85	-19.12/-18.7	-19.09/-17.71	-18.42/-18.28	-19.31/-18.32	-18.94/-17.73	-18.61/-18.57	-18.51/-17.72	-18.52/-17.9	-19.44/-19.02	-17.94/-17.94	-19.12/-17.5	-18.18/-19.1	-18.59/-19.32	-18.07/-17.49	-18.96/-18.53	-17.26/-18.93	-19.32/-18.56	-17.28/-18.52	-17.27/-18.06		
Freq(Hz)	2.45GPol.	ThetaAnt. 1	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-		
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)		
Θ(0°)	-15.2/-17.9	-17.45/-10.9	-7.26/-4.9	-3.21/-1.94	-0.98/-0.22	0.420/88	1.161/25	1.21/01	0.630/06	-0.73/-1.72	2.98/-4.07	-15.68/-18.38	-15.69/-9.87	-6.46/-4.19	-2.56/-1.4	-0.510/16	0.66/1.04	1.31/39	1.28/1.04	-0.69/-1.71	-2.98/-4.62	-6.83/-10.74				
Θ(7.5°)	-15.47/-18.11	-14.01/-9.48	-6.44/-4.4	-2.88/-1.75	-0.88/-0.17	0.440/88	1.141/25	1.23/05	0.680/08	-0.78/-1.9	-3.31/-5.12	-7.52/-11.04	-16.19/-17.99	-12.28/-8.09	-5.84/-3.45	-2.07/-1.1	-0.390/16	0.570/88	1.09/1.14	1.020/76	0.35/-0.26	-1.09/-2.13	-3.48/-5.14	-7.4/-10.64		
Θ(15°)	-16.22/-14.37	-10.18/-17.1	-4.87/-3.31	-2.15/-1.28	-0.64/-0.11	0.320/69	0.96/1.09	1.12/1	0.650/05	-0.83/-1.96	-3.42/-5.27	-7.69/-11.13	-15.22/-15.27	-10.81/-7.37	-4.97/-3.26	-2.05/-1.22	-0.61/-0.16	0.220/49	0.650/67	0.540/24	-0.22/-0.91	-1.84/-3.06	-4.61/-6.58	-9.2/-12.83		
Θ(22.5°)	-17.24/-12.4	-8.69/-6.04	-4.1/-2.71	-1.71/-1.02	-0.61/-0.28	-0.020/27	0.530/73	0.80/71	0.35/-0.3	-1.23/-2.46	-3.98/-5.96	-8.54/-11.99	-15.07/-13.45	-8.79/-6.85	-4.77/-3.3	-2.27/-1.62	-1.13/-0.77	-0.42/-0.18	-0.07/-0.07	-0.26/-0.66	-1.24/-2.09	-3.23/-4.68	-6.69/-9.29	-13.05/-17.64		
Θ(30°)	-17.73/-12.49	-8.98/-6.53	-4.57/-3.16	-2.15/-1.52	-1.21/-1.03	-0.93/-0.71	-0.43/-0.16	0.060/07	0.25/-0.84	-1.76/-2.95	-4.5/-6.56	-9.21/-12.63	-15.05/-13.3	-4.52/-3.96	-3/-2.4	-1.97/-1.66	-1.35/-1.08	-0.92/-0.9	-1.15/-1.67	-2.42/-3.5	-4.85/-6.66	-8.21/-12.9	-18.36/-19.27			
Θ(37.5°)	-18.9/-14.4	-11/-8.28	-6.01/-3.48	-3.31/-2.7	-2.5/-2.42	-2.38/-2.18	-1.83/-1.4	-1.1/-1.02	-1.27/-1.8	-2.63/-3.83	-5.54/-7.92	-11.26/-1														



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Θ(22.5°)	4.484.76	5.035.12	4.794.21	3.23/2.01	0.58/-1.2	-3.23/-5.98	-9.37/-12.91	-12.92/-9.74	-6.2/-3.48	-1.68/-0.63	0.05/0.45	0.65/0.69	0.71/0.57	0.42/0.27	0.18/-0.17	-1.12/-2.74	-4.83/-7.71	-13.62/-18.41	-13.29/-8.31	-5.79/-4.01	-1.94/0.1	1.77/2.93	3.66/4.07	4.22/4.29
Θ(30°)	3.17/5.31	3.65/3.68	3.4/3.13	2.86/2.26	0.96/-0.97	-3.18/-5.65	-8.96/-14.89	-17.67/-14.17	-7.79/-4.55	-3.21/-2.12	-1.14/-0.56	-0.23/-0.31	-0.23/0.1	0.36/0.06	-0.34/-0.41	-1.13/-2.67	-4.75/-7.48	-10.73/-14.71	-18.96/-14.01	-7.6/-3.97	-1.81/-0.14	1.31/2.53	3.18/3.3	3.18/3.07
Θ(35°)	1.05/1.35	1.64/1.63	1.51/2.3	1.49/1.72	0.87/0.95	-3.15/-5.66	-14.14/-13.63	-17.71/-11.97	-6.65/-4.4	-3.88/-2.61	-0.92/0.04	0.91/1.7	2.15/2.33	2.31/1.79	1.23/1.16	0.49/-1.63	-4.69/-8.14	-11.77/-12.98	-14.39/-13.59	-8.93/-5.65	-1.31/-0.88	1.03/2.21	2.93/1.6	2.71/-1.79
Θ(45°)	-0.72/-0.54	-0.28/-0.55	-1.05/-1.25	-1.15/-0.94	-1.15/-2.03	-3.16/-5.42	-8.89/-15.33	-17.24/-7.61	-4.32/-3.36	-3.88/-3.24	-1.43/-0.44	1.05/2.53	3.05/3.4	3.68/3.34	2.44/1.96	1.37/0.71	-3.6/-6.44	-10.24/-16.18	-18.77/-13.81	-8.26/-6	-5.94/-3.21	-0.49/0.88	1.81/2.72	2.63/1
Θ(52.5°)	-0.53/-0.82	-2.39/-5.11	-6.25/-5.15	-3.81/-4.03	-4.05/-3.32	-3.88/-7.69	-11.93/-10.85	-11.35/-5.52	-3.54/-2.98	-3.75/-3.03	-2.23/-1.06	1.52/8.4	3/3.7	4.28/3.74	2.53/2.1	1.58/-0.46	-2.92/-5.53	-7.57/-12.07	-18.44/-15.28	-8.05/-5.7	-6.85/-3.25	-0.66/-0.29	0.09/1.48	2.09/0.99
Θ(60°)	-0.46/-0.55	-3.58/-11.79	-12.58/-7.66	-5.78/-6.64	-5.42/-3.26	-4.17/-9.39	-15.84/-17.15	-11.53/-6.38	-3.62/-2.49	-2.57/-1.72	-1.43/-0.72	1.75/3.12	3.45/4.09	4.84/2.3	2.48/1.48	0.67/-1.07	-2.54/-5.06	-8.04/-15.18	-17.41/-14.11	-7.29/-5.21	-6.84/-2.82	-0.4/-0.67	-1.17/0.63	1.82/0.87
Θ(67.5°)	-0.73/-0.42	-4/-11.27	-6.87/-7.36	-6.88/-6.62	-4.33/-3.19	-5.31/-11.94	-15.51/-13.22	-13.32/-8.01	-4.33/-3.13	-2.19/-0.58	-0.35/0.78	2.44/3.43	3.53/4.4	3.76/3.16	1.08/-0.32	-0.98/-1.98	-3.07/-5.28	-6.25/-9.41	-18.73/-13.67	-6.93/-4.04	-5.03/-1.86	0/-0.5	-1.25/0.07	1.38/0.81
Θ(75°)	-1.4/-2.04	-5.78/-8.53	-4.49/-7.54	-9.08/-7.93	-3.9/-0.43	-7.47/-11.19	-14.22/-12.98	-17.51/-10.54	-5.86/-4.74	-3.49/-0.96	0.09/1.41	2.46/3.08	3.24/2.5	2.58/2.5	0.35/-1.66	-2.13/-2.82	-4.74/-6.59	-7.15/-7.9	-19.09/-12.43	-6.45/-4.07	-5.81/-3.41	-0.89/-1.23	-2.5/-1.36	0.16/0.4
Θ(82.5°)	-3.28/-4.06	-8.46/-7.65	-4.65/-9.4	-8.84/-8.56	-4.92/-6.81	-9.97/-8.81	-12.14/-14.13	-18.62/-12.69	-6/-5.74	-5.43/-2.51	-1.18/0.98	2.03/2.57	2.50/7.3	0.30/3.1	-1.81/-3.83	-3.29/-3.44	-5.26/-6.2	-7.5/-8.4	-18.81/-11.34	-5.65/-3.8	-4.45/-3.32	-1.54/-2.3	-3.2/-2.48	-1.49/-1.25
Θ(90°)	-6/-6.91	-11.86/-7.9	-5.38/-14.04	-9.9/-9.1	-7.67/-11.33	-11.75/-8.06	-14.88/-17.2	-18.72/-13.33	-7.68/-7.02	-8.76/-5.78	-3.47/-0.35	1.32/1.64	1.79/0.23	-1.52/-1.87	-3.55/-5.95	-5.19/-5.1	-8.06/-8.11	-7.54/-7.88	-17.84/-13.09	-7.82/-7.8	-7.11/-4.78	-2.53/-3.4	-5.44/-4.41	-3.14/-3.12
Θ(97.5°)	-7.94/-13.95	-17.1/-10.1	-8.04/-18.98	-10.82/-9.31	-11.38/-11.93	-11.09/-8.7	-13.6/-18.3	-18.09/-12.16	-7.52/-7.65	-9.75/-7.58	-4.25/-1.59	0.16/-0.13	-0.11/-1	-2.97/-4	-5.38/-8.53	-7.26/-6.61	-9.36/-11.71	-14.82/-10.32	-10.37/-17.99	-13.6/-12.2	-9.3/-7.23	-5.59/-6.04	-8.22/-6.53	-4.24/-3.88
Θ(105°)	-8.91/-17.89	-17.5/-12.35	-9.13/-14.69	-18.36/-12.38	-13.94/-10.94	-10.92/-11.87	-18.01/-19.32	-17.14/-12.76	-9.59/-9.48	-10.03/-8.65	-5.36/-2.97	-1.61/-1.74	-1.72/-1.98	-3.26/-4.64	-6.82/-9.53	-8.46/-5.56	-8.06/-11.81	-17.85/-18.72	-17.49/-17.1	-11.91/-13.26	-13.22/-12.44	-8.87/-7.67	-4.87/-7.48	-5.25/-4.62
Θ(112.5°)	-7.46/-16.57	-17.19/-17.92	-14.98/-10.6	-15.59/-10.61	-11.21/-9.37	-12.27/-17.51	-18.24/-18.56	-18.22/-13.61	-10.08/-11.06	-10.79/-8.41	-4.56/-2.86	-2.3/-2.55	-3.36/-2.72	-3.21/-4.31	-6.97/-11.99	-11.34/-7.08	-7.06/-9.45	-11.72/-13.85	-16.07/-16.18	-13.85/-13.41	-11.36/-13.03	-10.29/-9.09	-11.76/-11.78	-8.23/-5.61
Θ(120°)	-7.3/-11.53	-19.18/-17.61	-16.08/-8.39	-11.8/-12.65	-14.65/-16.29	-18.46/-17.99	-17.4/-17.8	-16.83/-17.23	-13.82/-12.82	-12.27/-8.7	-5.66/-3.3	-3.45/-4.54	-5.19/-6.24	-6.2/-6.87	-10.15/-17.52	-19.06/-14.76	-11.41/-9.44	-10.78/-10.6	-19.38/-12.48	-14.11/-13.95	-10.14/-13.16	-13.45/-13.53	-14.24/-12.65	-13.74/-9.08
Θ(127.5°)	-7.66/-10.75	-18.33/-13.17	-14.75/-11.7	-17.91/-18.31	-17.95/-18.4	-18.32/-13.78	-19.51/-17.75	-18.17/-16.14	-14.6/-12.74	-12.51/-8.96	-5.58/-5.15	-4.38/-5.53	-8.99/-10.3	-8.37/-6.04	-6.51/-8.35	-15.49/-17.93	-13.15/-11.39	-12.43/-10.61	-18.1/-14.71	-14.31/-15.38	-12.46/-15.59	-14.61/-16.18	-17.92/-17.74	-18.51/-12.88
Θ(135°)	-11.79/-14	-16.92/-16.89	-19.03/-18.17	-18.7/-18.51	-13.36/-12.35	-15.79/-12.84	-16.3/-17.43	-18.25/-15.19	-12.46/-12.83	-12.35/-8.48	-7.02/-7.17	-7.31/-8.41	-8.92/-9.25	-8.64/-7.89	-7.4/-8.92	-12.96/-12.05	-16.21/-17.14	-17.42/-15.74	-17.57/-18.87	-19.03/-17.44	-18.17/-18.5	-12.59/-10.93	-13.12/-18.99	-18.69/-14.5
Θ(142.5°)	-17.38/-18.32	-15.2/-12.98	-13.12/-11.21	-11.41/-13.77	-13.27/-18.1	-18.34/-17.99	-18.93/-19.31	-16.13/-19.02	-18.12/-15.01	-13.79/-11.95	-9.67/-9.41	-10.71/-12.25	-13.1/-12.95	-11.27/-9.56	-9.91/-11.67	-12.49/-13.7	-18.36/-18.97	-16.65/-17.48	-15.08/-13.12	-14.46/-17.37	-17.6/-15.42	-15.08/-15.67	-14.17/-11.79	-11/-14.79
Θ(150°)	-16.79/-18.37	-13.37/-18.42	-17.65/-16.71	-14.68/-13.17	-13.72/-18.93	-18.99/-14.99	-17.47/-18.26	-18.91/-19.32	-18.63/-17.71	-13.99/-12.38	-11.6/-12.08	-13.94/-17.94	-18.42/-18.16	-17.67/-14.69	-12.29/-11.18	-10.74/-11.77	-11.66/-8.9	-7.86/-11.03	-14.57/-16.46	-18.04/-18.35	-19.18/-18.25	-17.61/-17.44	-18.61/-17.19	-16.38/-15.52
Θ(157.5°)	-18.54/-17.54	-19.15/-18.88	-19.15/-18.58	-17.6/-19.07	-17.96/-18.12	-17.67/-18.52	-18.95/-17.71	-19.01/-18.5	-18.92/-15.95	-13.55/-13.85	-13.85/-13.7	-13.27/-13.15	-13.55/-15.67	-18.92/-18.57	-17.69/-13.71	-10.73/-9.38	-9.33/-10.21	-11.94/-14.72	-18.87/-18.01	-18.81/-17.2	-15.61/-15.18	-16.3/-18.69	-18.09/-18.58	-17.43/-17.54
Θ(165°)	-18.11/-18.92	-18.07/-17.61	-18.79/-17.38	-18.11/-18.15	-17.84/-17.58	-18.29/-17.33	-17.8/-18.58	-17.79/-18.83	-18.3/-17.88	-17.96/-13.11	-19.07/-17.83	-16.16/-15.34	-15.05/-16.01	-17.07/-10.88	-18.52/-18	-16.93/-14.16	-13.45/-14.11	-15.84/-16.11	-17.43/-19.55	-18.29/-18.15	-18.48/-18.29	-17.51/-18.54	-19.01/-18.38	-17.62/-18.77
Θ(172.5°)	-17.73/-17.92	-17.57/-17.1	-16.79/-16.6	-16.15/-15.98	-16.95/-17.86	-18.39/-17.73	-16.51/-15.18	-14.17/-17.23	-13.47/-12.76	-12.9/-13.67	-13.73/-13.32	-14.18/-15.08	-15.88/-16.62	-17.43/-17.92	-18.77/-18.99	-18.94/-18.99	-17.97/-16.13	-16.43/-16.85	-18.39/-18.73	-18.61/-18.16	-18.57/-19.83	-16.84/-16.14	-16.47/-17.87	-19.39/-18.43
Θ(180°)	-17.62/-19.12	-18.13/-18.22	-18.29/-18.27	-18.43/-18.41	-17.45/-18.72	-18.52/-17.87	-17.4/-17.12	-16.79/-18.66	-17.63/-17.46	-15.99/-18.8	-19.19/-18.36	-19.27/-18.28	-18.12/-19.13	-18.88/-18.19	-18.64/-18.06	-18.97/-18.54	-17.65/-17.66	-18.63/-18.12	-18.59/-17.7	-18.27/-17.7	-17.26/-17.63	-17.9/-19.19	-18.67/-17.92	-18.54/-18.94
Freq(Pol)	5.3GPol	ThetaAnt. 1	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-9.71/-16.11	-16.75/-9.9	-5.51/-2.78	-0.99/0.14	1.14/1.85	2.45/2.92	2.94/3.41	3.33/3.15	2.72/1.1	1.38/0.36	-1/-2.53	-4.61/-7.65	-12.11/-18.16	-14.83/-9.19	-6.03/-3.69	-1.83/-0.44	0.77/1.74	2.44/2.89	3.19/3.43	3.47/3.41	3.17/2.69	2.04/1.12	-0.01/-1.39	-3.33/-6.18
Θ(7.5°)	-10.93/-17.11	-14.76/-8.94	-4.74/-1.92	-0.09/0.95	1.78/2.58	3.26/3.63	3.72/3.46	2.91/2.36	1.65/0.57	-0.71/-2.23	-4.42/-6.79	-9.57/-13.97	-18.97/-17.72	-11.58/-7.8	-5.82/-4.37	-2.9/-1.57	-0.41/0.5	1.12/1.35	1.59/2	2.27/2.33	2.25/2.12	1.59/0.82	-0.02/-1.32	-3.31/-5.35
Θ(15°)	-8.2/-10.92	-12.73/-9.9	-5.58/-2.47	-0.36/0.74	1.78/2.54	3.07/3.2	3.21/2.89	2.64/2.15	1.44/0.48	-0.54/-1.72	-3.48/-5.33	-7.68/-11.54	-18.92/-17.98	-12.51/-8.55	-6.55/-5.18	-3.77/-2.59	-1.61/-0.95	-0.49/-0.36	-0.15/0.26	0.62/0.14	1.46/1.6	1.24/0.5	-0.5/-1.9	-3.34/-5.53
Θ(22.5°)	-6.04/-8.82	-13.37/-13.03	-7.84/-4.01	-1.29/0.3	1.35/2.09	2.61/2.96	2.84/2.54	2.32/1.1	1.97/1.57	0.84/-0.52	-2.16/-4.06	-6.76/-10.96	-18.05/-17.92	-13.05/-9.95	-8.37/-6.72	-4.84/-3.65	-2.69/-1.88	-1.16/-0.48	-0.1/-0.03	0.27/0.71	1.22/1.51	1.32/0.35	-1.21/-2.72	-3.74/-4.54
Θ(30°)	-6.71/-10.98	-18.75/-18.6	-8.72/-5.42	-2.66/-0.83	0.39/0.95	1.22/1.36	1.04/1	1.16/1.74	1.56/0.75	-0.73/-2.18	-3.63/-5.32	-7.68/-11.55	-17.71/-18.83	-11.27/-9.56	-7.16/-5.09	-4.12/-2.82	-1.77/-1.33	-1.19/-0.64	-0.29/-0.11	0.35/0.83	0.76/0.05	-1.49/-3.13	-4.18/-4.94	
Θ(37.5°)	-13.3/-18.35	-16.51/-13.71	-7.62/-4.99	-3.79/-2.18	-0.61/0.34	0.37/0.11	-0.17/0.75	1.33/0.94	-0.22/-2.35	-4.95/-5.78	-5.86/-5.73	-6.03/-7.4	-10.43/-14.26	-18.59/-19.21	-15.04/-13.12	-8.59/-5.51	-4.98/-4.28	-3.36/-3.5	-3.66/-3.06	-2.32/-2.19	-1.39/-0.43	-0.53/-1.21	-2.13/-3.55	-5.33/-7.98
Θ(45°)	-15.45/-13.73	-11.94/-10.85	-8.09/-7.36	-6.55/-4	-2.15/-0.85	-0.59/-1.47	-1.82/-0.64	-0.05/-0.93	-2.33/-5.11	-8.41/-9.13	-6.84/-7.4	-6.51/-6.69	-7.44/-8.96	-11.83/-16.53	-14.63/-11.62	-7.8/-4.7	-4.9/-6.49	-4.98/-4	-5.08/-5.88	-5.06/-6.06	-4.93/-2.83	-3.14/-3.86	-3.74/-4.39	-6.67/-10.24
Θ(52.5°)	-15.31/-14.12	-11.25/-10.4	-10.43/-10.56	-7.99/-5.59	-4.01/-2.48	-1.64/-2.63	-3.16/-2.14	-1.83/-2.78	-4/-5.96	-8.01/-9.4	-12.57/-11.93	-10.82/-12.11	-10.22/-9.1	-10.35/-11.42	-12.68/-11.53	-9.42/-5.32	-4.86/-6.86	-8.29/-6.13	-6.69/-7.4	-6.19/-8.73	-7.39/-5.63	-7.47/-8.45	-6.92/-6.3	-9.05/-12.07
Θ(60°)	-18.75/-15.77	-11.89/-10.51	-10.85/-11.71	-7.76/-5.29	-4.44/-3.5	-2.99/-4.15	-4.67/-5.58	-5.92/-5.2	-4.33/-5.38	-6.03/-6.58	-9.73/-11.96	-11.37/-13.87	-11.16/-9	-12.25/-12.87	-15.28/-14.71	-14.96/-9.46	-6.55/-6.38	-7.79/-6.7	-7.69/-10.48	-8.05/-11.6	-10.56/-8.06	-9.48/-10.64	-8.63/-8.67	-10.78/-12.2
Θ(67.5°)	-17.13/-15.43	-11.11/-10.1	-12.63/-12.53	-8.58/-6.2	-4.65/-4.01	-4.23/-5.63	-6.61/-8.87	-9.36/-6.19	-5.38/-6.32	-5.51/-5.37	-7.5/-7.55	-8.16/-12.53	-12.04/-9.95	-13.22/-13.93	-16.37/-14.88	-13.88/-13.93	-9.98/-7.35	-7.64/-6.29	-7.92/-12.83	-10.47/-12.57	-11.95/-10.5			



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Θ(75°)	-1.22/0.98	0.06/-4.93	-11.86/-13.38	-17.8/-12.74	-4.61/-2.4	-6.77/-12.42	-11.6/-7.9	-6.68/-15.52	-10.02/-4.33	-1.08/-0.1	0.23/-1.24	1.79/2.1	1.14/2.11	1.33/-2.98	-3.81/-3.82	-4.6/-5.2	-2.15/-4.66	-4.58/-5.7	-9.82/-14.39	-6.98/-3.07	-0.79/-0.49	0.1/0.84	-0.22/-3.12	-1.83/0.93
Θ(82.5°)	-3.95/-3.01	-1.56/-8.01	-11.48/-14.14	-18.07/-16.07	-5.24/-3.88	-8.81/-7.21	-7.67/-6.58	-9.96/-18.56	-14.19/-8.97	-3.98/-2.05	-1.69/-0.17	1.92/2.43	0.20/8.9	0.38/-3.42	-6.52/-6.27	-6.26/-6.8	-4.18/-4.63	-6.56/-5.74	-8.16/-11.33	-10.14/-3.31	-0.61/-1.51	-0.56/0.26	-0.48/-3.48	-1.69/-0.19
Θ(90°)	-6.48/-2.04	-2.35/-6.05	-8.81/-18.1	-15.47/-17.68	-5.75/-5.72	-10.56/-6.25	-6.56/-5.64	-9.88/-12.19	-9.3/-9.87	-7.83/-3.96	-2.95/-2	0.66/2.45	-0.21/-2.88	-2.21/-4.55	-11.86/-10.9	-8.14/-5.4	-5.53/-6.44	-8.95/-10.97	-14.49/-11.98	-10.17/-6.34	-2.13/-3.08	-1.81/-1.53	-2.25/-4.97	-2.33/-1.57
Θ(97.5°)	-7.78/-4.81	-5.56/-5.55	-7.26/-18.93	-17.64/-10.36	-8.03/-18.73	-9.5/-5.62	-6.5/-6.32	-19.15/-9.86	-9.35/-8.31	-8.87/-4.86	-3.89/-3.79	-1.69/0.5	-1.38/-5.42	-5.28/-5.89	-16.55/-12.72	-9.01/-8.9	-8.51/-8.23	8.22/-12.64	-17.1/-16.7	-9.25/-5.77	-7.86/-6.52	-4.78/-4.73	-3.87/-5.43	-2.43/-3.77
Θ(105°)	-7.51/-9.94	-13.44/-10.72	-9.07/-14.83	-18.82/-15.53	-13.14/-13.11	-7.27/-6.78	-10.82/-9.54	-18.09/-9.04	-8.57/-6.36	-6.98/-5.41	-3.72/-4.68	-4.57/-1.85	-1.28/-3.95	-6.89/-8.86	-15.88/-18.8	-9.45/-10.1	-8.93/-7.78	-5.11/-10.49	-17.79/-16.66	-13.16/-9.66	-7.63/-10.41	-12.63/-7.99	-5.41/-7.31	-5.12/-3.38
Θ(122.5°)	-5.11/-11.95	-12.16/-10.88	-11.76/-18.57	-17.94/-17.64	-14.82/-6.14	-7.91/-10.76	-16.58/-15.93	-17.41/-9.45	-8.58/-6.47	-6.47/-3.26	-3.19/-4.26	-6.21/-1.74	-4.4/-5.25	-6.54/-9.29	-11.47/-14.51	-10.52/-13.81	-11.3/-12.96	-10.18/-5.28	-6.85/-17.32	-18.64/-18.7	-18.44/-13.47	-8.69/-5.67	-4.69/-6.7	-4.72/-2.57
Θ(120°)	-7.08/-7.76	-7.51/-14.4	-16.06/-13.95	-17.79/-11.53	-11.02/-8.75	-13.03/-14.94	-18.5/-16.22	-13.65/-7.06	-7.62/-9.96	-6.89/-4.4	-3.38/-4.91	-7.12/-8.41	-8.88/-5.58	-7.02/-8.2	-9.18/-16.4	-18.37/-13.93	-15.49/-11.92	-9.82/-14.6	-9.79/-8.66	-9.47/-9.18	-7.84/-5.27	-9.55/-13.19	-12.91/-13.52	-12.36/-6.71
Θ(127.5°)	-16.01/-11.74	-17.53/-18.34	-18.78/-17.89	-9.79/-9.32	-11.1/-15.03	-17.99/-15.22	-13.05/-10.1	-12.4/-10.63	-8.81/-9.57	-7.17/-4.53	-3.12/-4.75	-7.39/-9.37	-13.05/-15.7	-14.81/-12.55	-11.38/-17.58	-17.57/-12.08	-12.34/-10.96	-8.77/-8.38	-8.08/-17.86	-17.12/-19.39	-12.28/-5.25	-7.21/-17.28	-17.33/-14.64	-16.21/-17.26
Θ(135°)	-11.17/-10.44	-13.05/-16.13	-17.39/-11.69	-8.8/-14.37	-14.48/-12.09	-9.81/-9.77	-13.93/-12.2	-11.35/-9.73	-8.55/-10.59	-11.29/-7.57	-5.02/-5.79	-6.37/-6.91	-9.03/-9.7	-8.54/-7.16	-9.84/-12.09	-17.37/-14.52	-17.11/-16.6	-18.5/-14.87	-10.22/-12.94	-17.32/-17.84	-18.95/-16.27	-18.34/-11.08	-11.98/-18.17	-18.6/-14.52
Θ(142.5°)	-13.58/-14.56	-11.73/-11.91	-12.61/-12.01	-13.62/-7.68	-6.03/-10.08	-10.71/-9.66	-14.83/-16.05	-12.24/-9.36	-9.91/-15.87	-14.64/-9.38	-8.84/-9.25	-9.21/-10.09	-9.55/-8.82	-8.11/-8.78	-8.12/-10.72	-16.03/-13.47	-14.47/-13.81	-19.42/-9.85	-7.85/-9.33	-11.81/-15.17	-17.41/-15.64	-10.38/-7.97	-8.18/-9.08	-11.09/-11.92
Θ(150°)	-15.06/-12.59	-12.23/-14.29	-19.53/-13.93	-8.02/-5.18	-6.32/-15.5	-15.16/-10.74	-14.21/-18.15	-18.78/-16.58	-18.65/-17.48	-18.85/-13.95	-11.81/-13.19	-16.89/-18.53	-18.79/-16.76	-17.01/-17.67	-12.94/-10.1	-10.13/-12.28	-12.31/-14.33	-11.52/-7.84	-8.69/-13.05	-18.82/-18.42	-17.65/-18.17	-17.96/-18.47	-19.1/-18.16	
Θ(157.5°)	-13.05/-16.26	-18.27/-16.24	-11.93/-9.8	-9.66/-11.44	-18.32/-17.44	-10.95/-9.89	-12.53/-17.71	-19.23/-17.36	-15.85/-15.74	-18.79/-13.97	-17.73/-17.91	-18.1/-18.55	-18.95/-17.53	-18.78/-15.65	-11.28/-9.11	-8.42/-7.46	-12.04/-11.65	-10.86/-13.72	-10.64/-9.8	-10.2/-11.05	-13.13/-14.88	-13.95/-12.78		
Θ(165°)	-16.74/-17.95	-17.95/-18.2	-18.84/-19.41	-19.14/-18.93	-17.87/-14.25	-13.96/-15.51	-17.47/-16.48	-13.61/-11.83	-11.52/-12.21	-13.43/-14.13	-14.29/-15.32	-16.08/-17.34	-18.94/-18.13	-19/-17.55	-15.26/-13.82	-13.51/-13.43	-13.94/-14.85	-17.01/-18.54	-18.33/-18.51	-18.62/-18.14	-19.27/-17.96	-14.86/-13.44	-15.74/-19.29	-19.23/-18.26
Θ(172.5°)	-17.13/-19.34	-18.64/-17.74	-17.4/-16.48	-15.54/-14.36	-14.39/-15.6	-15.38/-14.33	-13.75/-13.48	-13.69/-13.1	-12.21/-11.8	-10.97/-9.95	-10.2/-11.42	-13.85/-16.61	-18.37/-19.85	-18.96/-18.54	-19.32/-18.81	-18.39/-18.4	-18.22/-16.26	-15.33/-15.52	-15.57/-15.88	-14.63/-13.39	-11.87/-11.24	-10.88/-10.72	-11.07/-11.71	-13.77/-15.87
Θ(180°)	-16/-14.48	-18.09/-18.16	-18.62/-18.35	-16.92/-15.4	-14.09/-12.9	-11.54/-9.98	-9.71/-9.41	-9.11/-8.89	-9.34/-10.14	-11.37/-12.57	-13.59/-16.06	-18.74/-18.45	-17.67/-18.94	-17.23/-18.3	-18.57/-17.85	-18.42/-19.13	-18.06/-18.7	-19.14/-17.59	-14.46/-11.41	-9.25/-8.12	-6.93/-6.56	-6.98/-8.21	-9.96/-12.01	-14.07/-14.35
Freq(Hz)	5.785GPol.	ThetaAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-8.2/-14.4	-12.4/-10.72	-7.97/-6.22	-4.75/-3.38	-1.88/-0.53	0.54/-1.18	1.45/-1.3	1.31/-22	0.91/-0.45	0.01/-0.96	-2.26/-3.45	-5.44/-8.39	-11.87/-16.02	-15.88/-10.56	-7.58/-5.79	-4.06/-2.22	-0.82/-0.02	0.29/0.5	1.13/-26	1.26/-18	0.95/-48	-0.06/-0.48	-1.09/-20.39	-3.71/-5.59
Θ(7.5°)	-6.38/-8.58	-10.33/-10.33	-7.34/-4.45	-2.62/-1.1	0.11/-1.7	2.22/2.69	2.57/2.6	2.08/1.59	1.14/0.28	-0.74/-1.85	-3.38/-5.51	-8.49/-13.24	-17.93/-15.47	-10.46/-6.46	-3.99/-2.59	-1.8/-1.1	0.0/8.9	1.61/9.1	2.19/2.14	1.81/3.4	0.63/-0.16	-0.84/-1.59	-2.05/-2.67	-3.51/-4.48
Θ(15°)	-4.73/-5.36	-6.24/-6.19	-5.46/-5.15	-2.95/-1.54	0.21/-1.2	2.2/-3	1.93/2.07	2.11/2.07	1.37/0.22	-1.61/-3.9	-7.88/-12.62	-16.82/-13.72	-10.69/-8.86	-7.21/-6.01	-4.58/-3.38	-2.51/-1.6	-0.76/0	0.68/-2.8	1.65/-1.97	1.66/0.95	-0.14/-1.08	-1.22/-1.42	-1.71/-2.61	-9.13/-10.76
Θ(22.5°)	-3.62/-3.49	-3.85/-4.06	-4.53/-4.48	-3.88/-2.2	-0.14/-1.39	1.87/-1.76	1.25/-1.61	2.48/2.2	1.16/-0.77	-3.38/-7.79	-14.61/-19.06	-17.51/-13.79	-11.86/-9.47	-7.95/-7.96	-7.65/-6.63	-4.87/-2.99	-1.63/-1.02	-0.44/-0.19	0.0/6	0.84/0.49	-0.29/-0.48	-0.05/-0.25	-1.88/-4.22	-5.28/-4.1
Θ(30°)	-4.63/-5.83	-7.16/-6.22	-5.01/-5.04	-5.07/-3.03	-0.55/-1.2	1.47/0.54	-0.11/0.47	1.05/1.06	-0.31/-3.28	-4.99/-4.95	-6.58/-10.74	-16.33/-18.14	-11.04/-7.5	-7.4/-8.47	-9.7/-10.09	-7.45/-4.49	-3.13/-2.66	-1.89/-1.79	-2.86/-3.38	-2.43/-2.5	-3.52/-3.52	-2.2/-2.77	-5.02/-6.87	-6.75/-5.38
Θ(37.5°)	-16.56/-19.03	-11.87/-8.22	-6.03/-6.21	-5.84/-2.41	0.71/2.01	1.19/-0.84	-0.88/-0.19	0.24/-0.23	-2.46/-5.52	-3.85/-4.42	-7.12/-10.65	-15.45/-18.83	-15.11/-9.39	-7.63/-9.82	-8.49/-7.1	-6.65/-5.4	-5.11/-4.97	-5.2/-5.38	-10.04/-5.11	-1.07/-1.92	-7.98/-7.1	-5.19/-4.94	-5.43/-6.92	-9.13/-10.76
Θ(45°)	-8.21/-6.55	-6.2/-3.48	-2.22/-3.87	-4.94/-3.11	0.25/-1.95	1.14/-1.43	-0.77/0.26	-0.34/-1.28	4.25/-6.8	-6.38/-9.32	1.196/-10	-8.17/-7.11	-11.08/-18.78	-9.76/-10.21	-15.74/-8.3	-7.68/-6.16	-5.47/-6.24	-8.63/-10.95	-11.08/-9.15	-8.89/-12.93	-12.58/-9.03	-5.34/-5.22	-7.12/-8.56	-7.98/-7.64
Θ(52.5°)	-7.55/-2.15	-2.07/-2.27	-3.02/-3.54	-3.4/-3.41	-1.82/-1	-0.88/-1.6	-0.85/-0.11	-1.29/-2.42	-0.68/-13.58	-10.05/-9.72	-9.48/-8.93	-5.96/-2.87	-4.9/-14.38	-13.36/-10.23	-15.97/-12.73	-7.25/-6.94	-8.21/-11.28	-12.43/-17.66	-13.99/-8.16	-5.59/-9.49	-9.51/-8.47	-8.2/-7.49	-9.12/-11.41	-10.56/-11.7
Θ(60°)	-11.56/-2.87	-1.87/-1.95	-4.97/-6.4	-5.21/-5.9	-5.08/-2.29	-1.69/-1.53	-1.25/-1.5	-4/-6.41	-10.89/-18.57	-16.71/-18.37	-18.71/-11	-15.98/-1.7	-3.3/-4.2	-14.21/-9.31	-9.33/-9.29	-7.21/-6.81	-8.31/-11.55	-13.12/-14.39	-11.87/-7.64	-4.94/-10.66	-10.63/-4.88	-8.71/-8.85	-9.13/-13.78	-18.41/-18.25
Θ(67.5°)	-12.87/-5.01	-2.01/-1.47	-3.84/-5.05	-5.13/-5.09	-7.55/-5.09	-2.56/-1.54	-3.5/-6.6	-13.76/-14.25	-11.56/-10.9	-10/-12.62	-10.25/-7.53	-14.75/-10.98	-3.67/-4.1	-10.57/-7.51	-5.88/-3.69	-4.29/-4.71	-8.57/-12.21	-18.18/-14.03	-8.54/-5.4	-3.05/-11.2	-13.5/-7.54	-6.74/-12.17	-11.55/-14.66	-16.97/-10.68
Θ(75°)	-10.19/-6.12	-3.36/-3.09	-5.49/-4.78	-5.68/-9.01	-7.46/-4.29	-2.52/-7.71	-8.67/-11.81	-15.75/-15.24	-8.6/-7.67	-7.28/-8.7	-5.99/-6.34	-7.52/-18.43	-8.89/-4.82	-10.74/-9.76	-7.09/-5.73	-3.35/-2.56	-5.36/-7.53	-17.49/-12.11	-7.67/-5.54	-13.87/-9.06	-8.54/-9.95	-6.73/-11.8	-13.06/-13.09	-11.47/-8.06
Θ(82.5°)	-9.77/-8.39	-4.1/-4.91	-8.06/-7.14	-6.83/-10.96	-8.51/-5.06	-3.36/-4.85	-7.56/-9.09	-11.51/-13.58	-8.52/-8.34	-7.71/-9.5	-6.97/-8.31	-7.08/-17.04	-15.99/-8.74	-10.4/-9.31	-5.7/-5.64	-3.58/-2.98	-5.57/-6.35	-14.21/-16.47	-10.49/-6.12	-2.5/-4.59	-8.08/-4.1	-5.84/-15.37	-18.75/-16.94	-7.84/-5.7
Θ(90°)	-9/-14.28	-6.44/-3.78	-7.6/-10.47	-8.51/-11.04	-10.63/-5.86	-6.69/-7.59	-8.66/-9.84	-13.59/-13.19	-8.78/-10.57	-10.43/-13.67	-9.45/-6.84	-6.17/-6.61	-16.01/-14.3	-9.67/-14.57	-8.19/-8.88	-6.88/-4	-3.24/-5.3	-18.66/-16.11	-14.95/-7	-4.25/-4.77	-9.84/-5.27	-11.2/-17.7	-15.53/-14.96	-9.23/-6.46
Θ(97.5°)	-10.49/-17.73	-8.53/-7.17	-9.67/-15.8	-9.21/-9.48	-12.46/-10.94	-14.1/-12.21	-11.5/-12.25	-18.49/-10.62	-12.7/-15.99	-13.85/-18.66	-14.79/-8.89	-6.82/-15.4	-9.79/-10.2	-8.39/-9.65	-8.94/-13.41	-8.73/-6.28	-5.39/-5.7	-13.55/-8.97	-14.18/-12.69	-7.89/-11.12	-15.98/-10.37	-18.31/-18.36	-15.32/-17.29	-9.36/-7.55
Θ(105°)	-13.16/-19.08	-13.28/-12.71	-9.72/-11.63	-12/-13.27	-14.5/-12.04	-11.48/-10.29	-11.44/-15.57	-19.28/-9.99	-17.3/-18.21	-19.01/-19.04	-16.41/-9.9	-6.29/-3.85	-5.53/-7.08	-14.02/-9.4	-12.05/-14.16	-6.77/-6.73	-9.89/-5.01	-8.84/-8.03	-9.43/-16.71	-15.41/-15.25	-9.88/-15.37	-9.58/-19.16	-17.94/-17.98	-17.01/-11.95
Θ(112.5°)	-18.87/-12.13	-13.42/-7.1	-10.25/-13.66	-18.53/-18.62	-15.75/-11.67	-9.99/-8.63	-11.87/-18.4	-13.83/-18.69	-19.05/-17.98	-18.28/-17.46	-13.69/-11.02	-5.73/-7.11	-5.71/-9.1	-17.42/-12.13	-18.12/-9.36	-17.88/-17.34	-17.82/-12.7	-7.91/-6.43	-5.21/-10.84	-12.63/-6.18	-9.34/-11.84	-8.56/-9.78	-18.15/-17.46	-17.98/-10.85
Θ(120°)	-13.71/-12.96	-13.9/-14.66	-17.85/-19.39	-18.85/-18.67	-13.57/-11.93	-13.26/-12.98	-16.79/-18.67	-17.47/-18.11	-18.24/-18.71	-13.97/-17.26	-15.32/-10.55	-6.91/-6.12	-6.31/-11.04	-12.48/-16.22	-12.16/-6.48	-10.22/-11.08	-16.42/-19.47	-12.98/-10.87	-6.57/-10.2	-12.37/-				



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Θ(127.5°)	-12.08/-9.51	-7.85/-6.76	-6.9/-7.47	-9.13/-11.36	-11.07/-10.9	-15.42/-17.89	-16.56/-16.76	-14.05/-18.42	-14.37/-10.99	-16.11/-18.74	-15.24/-16.45	-17.02/-16.05	-18.01/-17.47	-15.8/-13.8	-13.15/-12.34	-17.99/-15.09	-15.04/-17.86	-17.04/-19.07	-17.92/-12.8	-17.13/-17.65	-13.68/-11.38	-7.66/-8.7	-9.2/-11.49	-14.05/-13.21
Θ(135°)	-11.29/-10.33	-8.72/-8.69	-8.87/-10.16	-11.15/-12.29	-14.77/-18.44	-17.98/-17.87	-17.9/-19.16	-18.25/-18.26	-12.65/-9.24	-12.23/-19.95	-19.19/-17.94	-19.11/-18.08	-18.91/-18.68	-17.75/-18.52	-15.38/-16.83	-18.1/-15.6	-15/-17.24	-17.89/-18.92	-15.95/-17.42	-16.03/-17.43	-18.68/-11.56	-9.41/-10.4	-11.96/-12.61	-15.55/-12.69
Θ(145°)	-12.64/-10.9	-10.23/-10.01	-10.64/-11.3	-13.1/-15.47	-18.43/-17.66	-18.6/-18.48	-17.25/-18.42	-16.86/-19.26	-17.99/-13.75	-13.68/-18.04	-17.8/-18.44	-19.29/-17.96	-18.06/-19.92	-17.81/-16.71	-17.24/-15.69	-18.7/-18.56	-18.18/-18.57	-19.62/-17.31	-14.68/-18.06	-16.27/-17.47	-17.24/-18.59	-18.94/-15.55	-14.89/-14.7	-15.53/-16.77
Θ(150°)	-16.35/-11.59	-9.9/-10.29	-11.55/-13.02	-14/-15.9	-18.57/-19.22	-18.9/-17.57	-17.95/-18.62	-19.12/-18.22	-18.73/-15.1	-12.84/-14.04	-17.14/-17.32	-17.55/-18.64	-18.59/-18.42	-18.66/-17.66	-18.98/-19.15	-19.06/-17.35	-14.82/-13.64	-16.26/-18.17	-16.54/-17.06	-18.19/-16.91	-19.04/-18.91	-18.85/-17.93	-18.35/-16.47	-15.86/-16.96
Θ(157.5°)	-13.51/-12.57	-11.01/-18.77	-12.44/-14.31	-15.41/-15.98	-16.72/-19.07	-17.99/-18.2	-17.77/-17.36	-16.59/-18.1	-18.88/-18.01	-19.09/-18.51	-18.74/-18.59	-17.24/-17.91	-18.11/-18.7	-18.54/-17.82	-17.48/-16.55	-14.44/-16.04	-19.17/-18.67	-17.94/-17.88	-18.45/-18.63	-18.74/-18.64	-17.92/-18.98	-16.51/-15.24	-15.86/-13.47	-13.25/-12.92
Θ(165°)	-15.81/-17.36	-16.67/-17.52	-15.75/-14.69	-14.9/-17.46	-17.74/-17.89	-18.82/-18.53	-17.61/-15.38	-14.83/-16	-16.85/-18.12	-19.2/-18.19	-18.89/-18.65	-17.63/-19.26	-18.38/-18.25	-16.28/-17.64	-18.97/-17.58	-18.22/-17.91	-18.01/-17.54	-18.62/-17.58	-17.86/-17.42	-17.89/-18.61	-16.51/-15.24	-15.86/-13.47	-13.25/-12.92	
Θ(172.5°)	-18.13/-19.24	-17.61/-19.07	-18.57/-17.5	-17.98/-18.57	-18.73/-18.07	-18.67/-17.85	-17.57/-18.53	-18.39/-16.35	-16.39/-16.82	-17.83/-17.39	-16.26/-16.72	-18.4/-17.62	-18.73/-17.8	-18.59/-18.66	-18.55/-18.7	-17.99/-16.01	-15.71/-16.51	-18.32/-19.06	-18.84/-18.21	-18.98/-17.84	-18.16/-19.05	-18.13/-16.78	-17.07/-18.61	-19/-18.72
Θ(180°)	-19.04/-18.55	-18.57/-18.23	-17.9/-18.49	-16.78/-17.04	-17.07/-17.86	-16.49/-16.45	-17.35/-16.8	-17.88/-17.38	-17.09/-18.42	-17.77/-19.06	-18.08/-19.25	-18.76/-18.78	-18.69/-18.55	-18.85/-19.03	-19.1/-17.83	-19.18/-18.42	-17.88/-18.68	-17.94/-17.76	-17.6/-16.41	-15.5/-14.46	-14.26/-14.96	-15.48/-15.91	-17.48/-18.22	-17.48/-17.76
Freq(Hz)	5.2GPol.	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°)	-18.97/-14.69	-9.53/-5.94	-4.09/-2.86	-1.5/-0.29	0.42/0.7	0.97/1.22	1.66/1.28	0.88/0.64	-0.11/-0.85	-1.73/-3.28	-5.27/-7.97	-12.15/-19.86	-17.86/-12.21	-8.15/-5.5	-3.25/-1.44	-0.53/-0.01	0.92/1.86	1.95/1.67	1.45/1.01	0.31/-0.47	-1.46/-2.97	-4.93/-7.19	-10.48/-16.11	
Θ(7.5°)	-12.39/-10.06	-7.42/-4.41	-2.67/-2.09	-1.71/-0.74	0.34/0.85	0.71/1.0	2.41/2.29	1.05/0.61	-0.25/-1.08	-2.01/-3.45	-5.01/-7.02	-8.81/-13.03	-14.04/-10.15	-6.31/-3.61	-1.95/-0.48	0.67/1.11	1.32/1.8	2.23/2.21	1.96/1.61	1.29/1	0.39/-0.57	-1.68/-3.39	-5.9/-8.85	-12.84/-15.59
Θ(15°)	-17.85/-11.77	-7.43/-4.34	-2.52/-1.61	-1.02/-0.46	0.09/0.51	0.52/0.6	0.87/1.25	1.17/0.88	0.32/-0.17	-0.83/-1.89	-2.85/-4.42	-6.45/-9.09	-13.02/-19.08	-13.88/-8.17	-4.91/-2.24	-0.01/1.22	1.47/1.58	1.76/1.64	1.25/0.78	0.29/-0.25	-1.34/-2.87	-4.35/-6.61	-9.14/-11.61	-16.48/-19.25
Θ(22.5°)	-16.53/-17.91	-14.47/-18.84	-5.07/-2.64	-1.17/-0.29	-0.04/0.09	0.32/0.99	1.43/1.25	1.06/0.75	0.12/-0.34	-1.15/-2.08	-3.38/-5.9	-8.82/-12.1	-16.51/-19.17	-13.91/-9.55	-7.72/-5.9	-3.23/-1.05	0.1/0.59	0.52/0.21	-0.03/-0.48	-1.31/-2.6	-4.61/-5.85	-5.73/-5.94	-6.26/-7.22	-8.82/-11.29
Θ(30°)	-17.97/-17.52	-18/-18.43	-8.63/-4.74	-2.31/-1.04	-1.02/-1.37	-1.43/-0.67	-0.01/0.68	0.48/-0.51	-1.61/-1.15	-1.01/-1.99	-3.26/-4.03	-4.73/-6.05	-9.22/-17.96	-14.92/-8.65	-6.76/-6.72	-6.42/-4.21	-2.01/-0.85	-0.64/-1	-1.31/-1.46	-2.4/-3.41	-5.64/-5.37	-5.05/-5.8	-7.56/-9.68	-12.89/-17.51
Θ(37.5°)	-15.05/-15.33	-13.78/-9.91	-8.48/-6.6	-3.69/-1.76	-1.35/-2.58	-3.15/-1.6	-0.73/-0.6	-1.21/-3.3	-3.38/-1.16	-0.61/-1.37	-1.78/-2.11	-2.84/-3.68	-5.26/-8.81	-14.47/-15.01	-10.21/-7.77	-6.77/-5.72	4.04/-2.68	-2.03/-2.21	-2.65/-3.06	4.1/-5.13	-5.01/-4.95	-6.42/-9.47	-15.09/-17.52	-19.28/-16.01
Θ(45°)	-12.48/-14.1	-12.32/-9.37	-6.68/-7.56	-7.34/-4.03	-2.4/-3.35	-5.12/-3.59	-2.32/-3.56	-4.05/-5.12	-5.1/-2.52	-1.73/-1.52	-2.68/-4.61	-6.02/-6.87	-7.76/-8.33	-9.39/-10.23	-10.21/-6.8	-6.86/-7.19	-5.66/-4.1	-3.39/-4.31	-5.14/-5.41	-6.96/-6.29	-5.29/-7.57	-13.01/-19.41	-14.13/-11.01	-9.93/-10.44
Θ(52.5°)	-14.91/-17.72	-16.21/-9.93	-5.85/-6.65	-9.65/-8.28	-4.26/-3.52	-6.56/-5.37	-2.87/-4.41	-5.73/-9.14	-6.67/-5.31	-2.96/-4.38	-7.21/-7.84	-9.57/-13.84	-19.62/-18.88	-13.9/-10.63	-8.29/-8.75	-6.42/-4.21	-7.41/-6.82	-5.65/-6.29	-7.11/-8.9	-10.26/-6.84	-6.79/-14.55	-16.84/-13.11	-11.01/-9.82	-10.32/-12.44
Θ(60°)	-18.32/-19.22	-18.5/-15.64	-8.94/-7.7	-8.73/-10.95	-6.41/-5.31	-9.32/-7.33	-5.08/-7.91	-7.37/-10.19	-10.2/-5.47	-4.21/-6.94	-6.78/-4.97	-6.76/-8.77	-11.24/-15.99	-17.1/-15.37	-10.1/-9.01	-8.84/-7.11	-8.31/-9.76	-7.9/-9.18	-9.88/-10.89	-12.76/-8.48	-11.64/-17.57	-11.13/-10.48	-10.05/-12.73	-15.35/-18.04
Θ(67.5°)	-18.66/-18.1	-19.2/-17.37	-12.05/-8.41	-8.82/-13.02	-7.92/-6.99	-13.58/-9.6	-6/-9.46	-9.68/-12.25	-13.05/-7.23	-5.85/-7.62	-4.73/-4.54	-6.08/-6.93	-9.11/-11.81	-13.61/-16.36	-13.48/-10.42	-11.25/-9.37	-8.74/-11.88	-10.21/-10.43	-12.21/-14.79	-17.69/-11.41	-17.16/-14.35	-9.99/-11.5	-11.93/-9.94	-17.93/-18.08
Θ(75°)	-18.81/-14.97	-19.27/-18.08	-14.89/-10.55	-10.9/-16.12	-10.36/-8.91	-17.51/-12.03	-8.64/-13.3	-11.49/-14.58	-16.38/-7.64	-6.62/-5.66	-4.96/-5.86	-7.43/-8.51	-12.31/-15.73	-12.41/-12.11	-10.77/-12.95	-9.52/-12.63	-13.73/-11.23	-16.25/-16.85	-18.73/-13.69	-18.55/-13.78	-16.64/-13.28	-14.28/-18.85	-16.56/-15.17	
Θ(82.5°)	-16.05/-14.87	-14.77/-17.91	-18.76/-14.64	-14.37/-18.59	-14.12/-14.84	-18.04/-12.06	-11.68/-14.84	-15.18/-17.48	-16.9/-8.81	-7.89/-6.38	-6.22/-8.99	-10.07/-10.56	-18.04/-18.22	-14.54/-13.26	-13.95/-14.55	-11.56/-14.81	-11.99/-12.68	-18.12/-15.54	-17.03/-18.49	-17.49/-14.06	-18.25/-13.56	-15.36/-17.47	-17.23/-18.45	-13.77/-13.04
Θ(90°)	-15.45/-16.67	-17.23/-17.97	-17.99/-16.09	-15.76/-18.52	-18.76/-18.29	-19.09/-14.45	-15.26/-16.88	-18.81/-19.1	-18.96/-11.44	-8.85/-7.29	-8.56/-12.22	-12.55/-13.76	-17.59/-18.53	-17.73/-15.18	-15.56/-16.69	-13.94/-14.37	-15.38/-14.57	-17.95/-19.38	-16.67/-18.92	-18.86/-17.92	-18.18/-14.23	-18.79/-17.41	-18.44/-17.43	-12.95/-11.44
Θ(97.5°)	-14.37/-19.52	-19.26/-18.3	-18.15/-15.01	-16.87/-18.23	-19.23/-19.1	-18.77/-18.57	-19.07/-19.14	-17.73/-18.16	-18.01/-14.15	-9.83/-8.23	-10.38/-15.68	-14.99/-14.36	-17.86/-18.71	-18.74/-18.36	-16.49/-19.3	-18.58/-8.3	-16.82/-17.5	-17.74/-18.1	-18.46/-18.27	-18.72/-17.95	-16.37/-14.03	-16.84/-17.75	-18.84/-18.74	-13.71/-11.73
Θ(105°)	-15.57/-18.42	-18.82/-18.39	-17.41/-16.14	-18.5/-18.37	-17.95/-17.88	-17.74/-18.6	-18.22/-18.7	-19.12/-18.02	-17.98/-16.07	-11.97/-10.86	-14.1/-18.22	-16.04/-15.46	-18.93/-18.72	-19.07/-17.48	-18.19/-17.46	-17.16/-18.83	-17.88/-17.91	-17.6/-18.93	-18.41/-18.67	-18.46/-17.48	-18.77/-16.74	-16.62/-18.79	-18.79/-17.98	-15.13/-14.8
Θ(112.5°)	-16.74/-17.73	-19.13/-19.26	-19.28/-18.58	-18.53/-18.03	-17.81/-17.51	-18.54/-17.1	-18.71/-18.87	-19.16/-18.31	-19.24/-16.32	-12.83/-15.64	-16.39/-18.22	-18.8/-18.63	-17.44/-19.13	-17.89/-18.33	-18.8/-17.8	-17.74/-19.83	-16.52/-18.5	-18.51/-18.22	-18.84/-18.77	-18.01/-17.92	-17.88/-18.94	-19.27/-18.45	-17.86/-18.96	-18.57/-17.44
Θ(120°)	-17.76/-19.59	-18.55/-18.78	-18.84/-18.7	-18.97/-18.21	-19.44/-16.22	-18.41/-18.34	-18.07/-19.54	-19.28/-18.27	-18.7/-19.12	-18.75/-14.95	-15.33/-15.69	-19.07/-17.93	-17.51/-17.37	-19.05/-17.74	-17.62/-17.55	-18.82/-18.93	-17.73/-18.87	-18.61/-17.08	-17.46/-17.97	-18.13/-18.4	-17.82/-16.98	-18.95/-19.02	-17.58/-18.15	-16.89/-17.46
Θ(127.5°)	-18.99/-18.43	-18.51/-18.45	-18.99/-18.42	-18.23/-18.55	-19.25/-17.36	-18.15/-19.31	-18.61/-19.2	-18.79/-18.3	-17.88/-19.12	-18.74/-17.28	-13.33/-14.64	-18.53/-19.18	-18.43/-18.16	-18.5/-18.49	-18.79/-17.32	-18.68/-15.94	-17.51/-19.21	-19.06/-16.8	-16.64/-18.74	-18.93/-19.02	-17.51/-19.25	-18.32/-18.36	-17.06/-18.38	-15.19/-16.35
Θ(135°)	-17.39/-17.63	-18.39/-17.64	-17.87/-17.55	-18.61/-17.81	-17.43/-16.42	-17.21/-18.85	-18.6/-14.76	-17.53/-18.07	-18.59/-17.55	-19.18/-18.99	-16.68/-19.21	-19.1/-18.7	-19.18/-19	-19.19/-19	-17.79/-17.93	-19.36/-18.16	-18.52/-18.56	-19.23/-18.42	-18.05/-19.11	-18.43/-18.03	-17.86/-17.68	-18.9/-18.61	-18.49/-19	-18.59/-17.94
Θ(142.5°)	-18.48/-17.97	-18.4/-18.48	-19.67/-17.35	-16.02/-14.89	-14.08/-15.63	-17.87/-18.49	-19.38/-19.4	-19.33/-18.07	-19.12/-19.19	-18.93/-17.42	-17.93/-18.22	-18.22/-19.04	-18.12/-17.93	-17.47/-18.93	-18.67/-19.24	-19.34/-17.7	-18.97/-18.7	-18.98/-19.19	-18.95/-17.48	-18.04/-18.06	-18.1/-18.21	-19.08/-18.67	-17.62/-16.34	-17.42/-17.48
Θ(150°)	-17.62/-18.11	-18.36/-18.5	-18.06/-19.07	-17.5/-17.92	-18.32/-19.47	-18.66/-17.88	-18.18/-18.79	-18.51/-19.3	-17.76/-17.9	-17.61/-17.74	-19.23/-18.49	-18.63/-18.98	-17.95/-19.11	-18.48/-17.62	-17.8/-17.9	-18.45/-17.86	-18.17/-8.8	-18.37/-18.75	-18.75/-18.46	-18.96/-18.44	-18.63/-19.14	-18.01/-18.55	-18.95/-18.98	-17.54/-18.64
Θ(157.5°)	-17.18/-18.41	-18.84/-18.4	-17.99/-18.3	-17.54/-18.93	-17.91/-18.76	-18.85/-18.26	-18.71/-18.3	-19.17/-18.89	-18.61/-18.78	-18.99/-17.52	-18.85/-18.4	-18.19/-18.16	-19.23/-18.77	-18.56/-19.16	-18.88/-18.99	-17.44/-18.12	-18.97/-17.77	-18.44/-17.67	-18.01/-17.77	-18.69/-18.92	-17.98/-16.78	-17.65/-18.62	-18.55/-18.44	-17.81/-17.94
Θ(165°)	-18.63/-19.42	-17.1/-17.24	-18.82/-19.21	-17.99/-18.77	-18.4/-18.18	-19.17/-17.35	-18.07/-17.5	-17.94/-18.62	-18.95/-18.27	-19.04/-18.62	-17.89/-18.56	-18.96/-19.09	-17.98/-18.27	-18.75/-17.67										



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Θ(165°)	-19.06/-17.61	-17.51/-17.95	-19.07/-18.32	-16.73/-12.71	-10.93/-11.44	-12.1/-11.83	-11.69/-12.07	-12.23/-13.41	-15.32/-16.89	-17.43/-17.53	-17.95/-18.21	-17.57/-17.6	-18.57/-17.91	-18.2/-18.19	-17.64/-18.76	-19.01/-18.67	-18.88/-18.89	-18.06/-18.86	-18.67/-18.47	-17.71/-17.87	-16.59/-12.86	-12.16/-13	-12.38/-13.38	-16.93/-18.75
Θ(172.5°)	-12.8/-11.31	-9.81/-9.76	-10.88/-12.44	-13.06/-12.2	-11.46/-12.53	-13.75/-14.23	-14.72/-15.08	-15.67/-17.47	-18.6/-18.43	-19.12/-17.8	-18.2/-16.46	-14.28/-13.69	-14.12/-14.8	-15.31/-16.37	-18/-18.21	-17.86/-18.27	-16.62/-15.36	-16.12/-19.1	-18.41/-16.69	-14.41/-14.53	-16.89/-18.63	-18.21/-18.68	-15.65/-12.61	-12.26/-12.82
Θ(180°)	-18.18/-18.82	-17.6/-15.37	-15.17/-16.91	-16.53/-14.01	-13.36/-14.93	-14.88/-14.09	-13.27/-12.46	-13.59/-14.69	-14.81/-16.34	-17.31/-19.04	-18.66/-18.55	-18.99/-18.51	-17.28/-18.91	-16.94/-16.18	-16.5/-16.27	-16.02/-16.39	-17.85/-18.57	-16.21/-14.02	-12.94/-12.08	-11.3/-11.41	-11.99/-12.8	-14.74/-18.87	-19.23/-18	-18.38/-18.93
Freq(Hz)	5.6GPol	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-14.47/-9.64	-6.6/-4.63	-3.06/-1.65	-0.54/-0.31	1.03/-1.35	1.59/-1.38	1.27/-1.28	1.18/-1.09	0.88/-0.26	-0.57/-1.74	-3.13/-5.1	-8.07/-12.2	-14.1/-11.12	-7.67/-5	-3.04/-1.26	0.12/-0.9	1.27/-1.56	2.42/2	2.462/0.5	-0.54/-1.62	-3.06/-4.87	-7.42/-11.08	-18.97/-18.51	-
Θ(7.5°)	-12.32/-14	-11.73/-8.49	-5.7/-3.52	-1.55/-0.12	1.12/-1.22	1.42/-1.98	2.21/-2.27	1.84/-1.87	1.94/-1.73	1.23/-0.4	-0.79/-2.34	-4.64/-8.71	-15.81/-18.68	-12.59/-7.16	-4.04/-1.88	-0.12/-1.1	1.832/-0.8	2.252/-4.1	2.33/-1.71	0.89/-0.1	-1.04/-1.7	-2.31/-3.11	-4.31/-6.04	-8.31/-10.19
Θ(15°)	-19.22/-16.46	-12.89/-10.25	-8.06/-5.54	-2.92/-0.77	0.36/-1.05	1.46/-1.71	1.95/-2.2	2.02/-1.59	1.26/-0.91	0.6/-0.39	-1.82/-4.16	-8.48/-16.51	-18.58/-12.03	-7.64/-4.93	-3.43/-2.24	-0.95/-0.04	0.65/-1.2	1.822/-2.9	2.31/-8.2	10.17	-0.44/-1.24	-2.06/-3.4	-5.78/-8.94	-12.94/-18.51
Θ(22.5°)	-12.04/-9.26	-6.51/-4.92	-4.32/-4.68	-4.48/-2.5	-0.87/-0.38	1.21/-1.7	2.13/-2.34	1.94/-1.43	1.29/-1.8	1.91/-3.8	0.59/-1.11	-2.83/-4.3	-6.04/-9.82	-14.48/-8.71	-4.14/-2.28	-1.41/-0.58	-0.03/-0.26	0.33/-0.71	1.08/-0.77	-0.29/-1.6	-2.82/-4.54	-6.35/-7.49	-9.18/-11.22	-13.25/-13.9
Θ(30°)	-18.61/-14.85	-9.14/-5.16	-2.46/-1.69	-2.78/-3.91	-2.31/-0.36	-0.01/-0.29	0.57/-1.35	1.16/-0.84	1.022/-2.4	2.892/8.9	1.71/-0.15	-1.86/-2.49	-3.15/-4.89	-8.68/-18.13	-11.02/-5	-2.78/-1.9	-1.87/-2.07	-1.68/-0.95	-0.18/-0.04	-1/-1.275	-4.57/-7.11	-6.58/-4.64	-4.8/-7.29	-11.26/-16.62
Θ(37.5°)	-10.03/-9.49	-9.26/-8.08	-4.15/-1.02	-0.08/-1.55	-2.78/-1.28	-0.9/-1.8	-0.85/-0.34	-0.14/-0.21	0.22/-1.5	1.88/-0.99	-0.76/-1.96	-2.89/-4.45	-6.96/-9.72	-10.36/-12.01	-18/-11.2	-4.79/-1.85	-1.27/-2.32	-2.61/-2.75	-2.96/-2.31	-1.61/-2.66	-4.8/-7.35	-6.02/-6.84	-10.22/-18.96	-18.17/-13.88
Θ(45°)	-9.46/-6.11	-4.89/-4.87	-7.04/-4.01	-0.49/-0.23	-2.85/-3.89	-2.57/-2.85	-2.86/-1.86	-1.45/-0.72	-1.43/-1.41	-1.19/-0.66	0.61/-1.13	0.75/-0.45	-3.03/-6.8	-14.72/-19.03	-11.64/-10.9	-8.61/-3.15	-1.27/-2.34	-3.14/-3.6	-4.48/-4.24	-2.94/-2.18	-3.77/-5.74	-6.23/-12.81	-13.97/-9.36	-11.05/-13.57
Θ(52.5°)	-18.09/-9.78	-5.04/-3.41	-6.25/-9.26	-2.61/-0.71	-4.22/-7.1	-4.05/-3.67	-5.02/-2.72	-1.71/-3.36	-4.07/-3.11	-3.01/-0.28	0.69/-0.11	-0.56/-2.34	-5.6/-9.34	-13.66/-17.49	-12.51/-9.01	-9.81/-5.61	-2.33/-4.09	-4.97/-4.06	-6.3/-6.45	-3.57/-2.97	-3.9/-5.53	-7.53/-18.11	-7.26/-4.67	-7.4/-15.65
Θ(60°)	-12.5/-15.37	-8.44/-5.25	-6/-13.34	-6.68/-2.86	-6.02/-10.95	-6.38/-4.81	-7.5/-3.33	-2.57/-5.67	-8.12/-5.06	-4.39/-1.77	-2.55/-3.96	-4.54/-9.54	-18.99/-12.8	-12.89/-13.9	-16.75/-11.07	-8.72/-8.65	-4.73/-4.97	-6.5/-5.74	-7.78/-8.08	-5.59/-4.03	-5.12/-8.35	-9.7/-11.99	-7.46/-5.86	-7.48/-9.53
Θ(67.5°)	-7.3/-14.05	-17.16/-9.49	-8.36/-12.22	-14.35/-6.01	-7.7/-13.07	-8.57/-7.79	-10.41/-5.06	-4.57/-8.38	-12.94/-7.34	-4.79/-3.66	-7.33/-4.22	-3.61/-6.04	-5.75/-4.55	-6.4/-8.27	-11.97/-18.14	-10.19/-9.56	-6.49/-5.88	-8.17/-6.44	-9.12/-10.17	-7.7/-6.22	-7.36/-12.23	-11.27/-9.5	-6.47/-8.08	-9.26/-7.21
Θ(75°)	-5.69/-11.9	-17.26/-15.99	-12.75/-11.27	-17.01/-7.9	-10.05/-17.33	-11.8/-14.02	-12.34/-5.93	-6.34/-12.42	-15.14/-9.46	-7.53/-6.08	-7.22/-2.84	-2.78/-4.44	-4.28/-3.67	-5.07/-7.86	-8.19/-14.47	-15.87/-9.9	-10.26/-7.46	-9.86/-6.2	-11.15/-13.46	-10.84/-8.51	-11.03/-13.71	-13.13/-9.63	-7.36/-10.11	-11.49/-7.43
Θ(82.5°)	-6.42/-11.13	-17.43/-18.24	-17.91/-15.24	-18.62/-8.21	-10.84/-18.91	-13.78/-17.86	-13.83/-9.63	-9.12/-13.41	-14.1/-12.06	-10.12/-8.17	-5.39/-2.58	-4.49/-5.86	-5.5/-6.7	-8.57/-8.99	-8.2/-10.8	-12.92/-12.66	-12.58/-9.83	-13.27/-8.5	-11.82/-16.76	-12.78/-11.15	-15.72/-13.92	-11.16/-10.76	-8.86/-13.81	-15.37/-9.48
Θ(90°)	-7.8/-10.73	-16.05/-18	-17.69/-18.67	-19.11/-10.06	-17.83/-18.16	-15.63/-18.75	-13.8/-15.34	-13.4/-14.59	-14.47/-18.17	-11.32/-8.92	-5.82/-4.17	-6.75/-8.43	-7.65/-8.59	-11.57/-13.85	-9.74/-12.83	-12.81/-13.05	-15.08/-11.59	-18.57/-17.23	-18.82/-16.35	-18.63/-14.6	-10.94/-10.96	-11.65/-18.25	-18.43/-10.87	-
Θ(97.5°)	-12.13/-13.55	-15.18/-16.8	-17.94/-15.86	-15.64/-12.56	-19.21/-18.39	-18.8/-17.34	-17.06/-18.23	-13.57/-13.07	-13.76/-18.16	-10.38/-8.82	-6.73/-5.34	-8.62/-11.91	-11.95/-12.81	-15.2/-19.74	-13.37/-12.67	-13.28/-17.63	-18.44/-17.65	-14.94/-11.85	-18.54/-17.81	-19.39/-17.66	-18.35/-17.46	-12.79/-10.88	-9.41/-14.89	-18.96/-13.05
Θ(105°)	-11.46/-16.42	-19.05/-18.36	-18.8/-16.35	-15.94/-17.53	-18.61/-17.88	-17.87/-19.09	-17.78/-17.31	-12.82/-11	-13.87/-17.97	-11.64/-10.74	-8.43/-7.11	-8.55/-12.61	-17.12/-17.04	-14.32/-18.57	-18.86/-18.36	-10.85/-16.21	-17.7/-18.71	-18.64/-17.64	-18.36/-18.56	-18.36/-17.68	-18.15/-18.83	-18.94/-13.51	-17.35/-18.32	-17.85/-9.61
Θ(112.5°)	-15.07/-17.31	-16.94/-18.17	-15.04/-16.59	-18.79/-18.08	-17.63/-18.16	-17.83/-19.37	-14.26/-15.66	-10.86/-10.18	-16.06/-18.61	-14.68/-13.46	-10.48/-8.18	-13.79/-16.19	-11.99/-18.26	-16.74/-17.4	-19.06/-17.22	-13.31/-18.36	-18.94/-17.79	-17.52/-18.92	-17.59/-18.45	-16.35/-16.16	-16.18/-12.38	-9.36/-15.07	-18.27/-17.45	-17.18/-13.86
Θ(120°)	-16.75/-18.48	-15.45/-16.05	-13.79/-18.02	-17.84/-18.43	-18.34/-18.33	-18.37/-18.44	-13.38/-18	-12.2/-9.8	-18.58/-18.66	-14.71/-16.36	-12.78/-11.34	-14/-16.11	-13.48/-16.59	-16.31/-18.35	-18.05/-19.01	-17.77/-17.83	-14.52/-18.48	-14.43/-18.51	-14.73/-18.19	-19.87/-17.6	-17.51/-18.97	-11.02/-10.37	-14.92/-18.17	-18.72/-19.04
Θ(127.5°)	-18.98/-18.6	-16.9/-18.23	-18.89/-19.18	-18.26/-18.4	-16.32/-18.27	-18.26/-17.45	-15.33/-18.83	-14.83/-14.17	-16.73/-14.15	-15.55/-19.04	-16.63/-14.43	-13.43/-15.59	-14.9/-18.95	-17.27/-18.2	-17.72/-17.25	-15.08/-18.1	-18.71/-18.75	-17.63/-18.3	-18.81/-18.58	-18.26/-19.36	-17.32/-18.72	-18.31/-17.69	-14.48/-12.25	-13.16/-14
Θ(135°)	-16.27/-18.15	-14.81/-16.96	-18.53/-18.88	-18.93/-18.07	-19.65/-18.37	-18.45/-18.45	-18.68/-19.17	-15.05/-14.04	-16.47/-13.56	-15.19/-18.81	-14.72/-11.02	-11.85/-12.18	-10.77/-13.52	-17.22/-17.8	-19.06/-18.52	-18.78/-18.88	-18.89/-18.27	-18.82/-18.4	-18.22/-17.84	-18.06/-16.39	-16.06/-19.01	-18.06/-16.64	-15.15/-17.16	-14.69/-12.85
Θ(142.5°)	-17.89/-18.72	-17.26/-17.83	-18/-17.57	-18.35/-14.68	-13.24/-14.9	-15.55/-16.44	-18.06/-18.62	-17.85/-15.62	-15.5/-12.54	-11.76/-12.03	-12.41/-12.04	-12.04/-13.57	-19.01/-18	-15.24/-17.8	-17.54/-19.02	-18.18/-19.11	-18.41/-18.17	-18.02/-18.28	-18.46/-18.32	-18.82/-18.1	-18.24/-18.06	-18.65/-18.82	-18.22/-18.72	-18.4/-18.37
Θ(150°)	-14.3/-13.98	-14.54/-12.43	-10.77/-11.61	-13.61/-15.99	-16.32/-16.86	-18.12/-18.58	-18.06/-18.37	-16.94/-18.83	-18.12/-15.33	-13.8/-10.52	-11.77/-13.56	-13.82/-14.73	-15.66/-14.51	-16.09/-17.61	-19.11/-18.53	-18.1/-14.28	-14.23/-17.87	-17.96/-17.64	-18.39/-18.61	-17.79/-18.35	-19.34/-18.1	-18.73/-18.71	-17.77/-18.93	-15.32/-16.82
Θ(157.5°)	-13.57/-14.14	-18.05/-17.14	-18.45/-17.83	-19.36/-18.19	-17.8/-18.14	-17.7/-13.1	-19.17/-19.1	-18.56/-17.76	-17.41/-13.74	-10.06/-8.46	-9.28/-10.49	-12.44/-13.58	-15.05/-16.25	-16.18/-17.02	-18.06/-17.21	-19.15/-17.78	-18.83/-19.18	-17.74/-17.98	-18.68/-19.01	-18.71/-17.95	-18.29/-17.85	-17.51/-18.86	-16.58/-16.01	-14.44/-13.85
Θ(165°)	-16.54/-18.65	-18.67/-17.45	-16.5/-15.67	-15.7/-15.14	-15.46/-18.85	-18/-18.11	-17.83/-17.48	-18.91/-18.82	-17.36/-19.42	-18.56/-18.56	-15.4/-12.71	-12.3/-13.31	-15.94/-19.51	-18.58/-15.73	-15.19/-17.5	-17.76/-18.54	-17.1/-18.07	-18.37/-19.32	-18.67/-17.8	-16.92/-16.95	-17.24/-18.12	-17.85/-17.02	-16.79/-16.39	-14.73/-14.42
Θ(172.5°)	-17.54/-18.14	-18.63/-17.74	-18.93/-19.73	-18.16/-18.05	-18.83/-17.47	-18.49/-18.16	-18.67/-17.86	-17.47/-16.69	-17.6/-17.75	-17.62/-17.6	-16.84/-17.78	-18.56/-17.47	-16.58/-16.76	-18.1/-19.1	-17.71/-18.5	-18.58/-19.08	-18.59/-17.39	-18.1/-19.08	-18.76/-19	-18.93/-17.98	-17.26/-16.09	-15.56/-16.15	-16.44/-17.22	-17.33/-18.18
Θ(180°)	-14.21/-13.88	-13.85/-14.33	-15.02/-15.78	-16.13/-16.32	-18.05/-19.04	-18.29/-19.36	-18.84/-19.04	-17.96/-18.82	-16.89/-15.51	-14.64/-14.09	-13.96/-13.5	-13.8/-13.94	-15.04/-16.51	-19.65/-17.87	-18.13/-17.79	-17.87/-19.21	-18.85/-18.2	-18.98/-18.25	-17.91/-18.69	-18.43/-18.8	-17.07/-16.19	-16.46/-16.27	-16.18/-16.1	-16.8/-15.41
Freq(Hz)	5.785GPol	PhiAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	3.052/8	2.391/88	0.97/0.06	-1.07/-2.43	-4.27/-7.21	-10.95/-18.73	-9.17/-10.17	-6.34/-3.84	0.74/-1.65	2.48/-2.76	2.85/-2.88	2.752/-6.1	2.38/-1.97	1.350/-21	-1.29/-2.64	-4.35/-7.46	-13.36/-19.02	-15.9/-9.62	-5.97/-3.61	-1.81/-0.48	0.47/-1.42	1.99/-2.42	2.79/-3.1	-
Θ(7.5°)	1.14/-1.12	1.26/-1.24	0.9/0.34	-0.5/-1.78	-3.46/-5.7	-9.49/-15.91	-16.97/-10.71	-7.57/-4.86	-3.11/-1.82	-0.45/-0.68														



Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5.02	5.57	5.2	6.28
Ant. 2 Max Gain (dBi)	3.49	3.75	4.73	5.08
Ant. 1 Polarization/Θ(°)/Φ(°)	Phi/30/157.5	Phi/0/172.5	Theta/15/285	Phi/7.5/322.5
Ant. 2 Polarization/Θ(°)/Φ(°)	Phi/30/322.5	Phi/0/0	Phi/22.5/352.5	Phi/7.5/0
Max Gain (dBi)	5.02	5.57	5.2	6.28
DG [1SS] (dBi)	6.56	7.45	7.29	8.39
DG [2SS] (dBi)	5.02	5.57	5.2	6.28



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(22.5°)	7.09/6.57	6.08/5.34	4.04/2.65	1.87/0.86	-0.12/-1.23	-3.18/-4.36	-3.38/-1.85	-0.78/0.3	1.83/3.28	4.07/4.32	4.97/5.52	5.77/5.86	5.84/5.57	5.31/4.83	4.06/3.12	2.56/2.67	2.44/0.65	-2.75/-4.07	-2.43/-1.74	-1.27/1.16	2.91/4.03	4.91/5.83	6.53/6.8	6.95/7.13
Θ(30°)	6.27/6.03	5.76/5.09	3.93/2.21	0.71/-1.37	-2.52/-3.28	-4.06/-4.14	-3.59/-2.84	-2.13/-1.08	1.34/3.24	3.97/4.19	4.71/5.36	5.66/5.47	4.92/4.41	3.53/2.95	2.99/2.95	2.07/0.61	1.22/1.04	-2.1/-4.22	-2.46/-2.63	-2.36/1.57	2.9/3.34	4.68/5.74	5.84/6.05	6.49/6.54
Θ(37.5°)	4.22/3.67	3.2/3.13	2.03/-0.21	-2.33/-4.49	-6.54/-5.95	-6.11/-6.35	-4.92/-3.4	-3.26/-2.16	0.72/1.69	1.96/2.91	3.93/4.19	4.03/3.56	3.89/3.59	2.6/1.18	-0.03/-0.01	0.96/-0.5	-2.13/-0.8	-2.87/-4.42	-4.29/-4.39	-4.67/0.56	1.62/2.54	4.92/5.41	6.48/6.52	4.84/4.52
Θ(45°)	3.34/2.85	2.57/2.03	0.69/-2.36	-4.21/-4.43	-6.79/-8.94	-6.73/-7	-5.52/-4.36	-4.73/-3.37	-0.96/-1.22	0.14/2.14	3.17/3.31	3.07/2.43	2.74/2.64	1.82/1.04	0.51/-0.43	-0.64/-0.61	-4.91/-4.2	-3.72/-4.91	-5.11/-5.53	-5.61/-1.43	-0.74/2.08	3.54/5.58	2.99/3.05	3.28/3.11
Θ(52.5°)	2.16/1.81	1.45/1.01	-0.25/-2.37	-4.32/-4.17	-7.14/-8.79	-8.09/-8.03	-6.33/-6.38	-8.16/-5.04	-2.81/-3.34	-0.49/0.91	1.39/0.59	0.31/0.05	0.74/0.15	-0.49/0.13	0/-1.73	-2.23/-2.23	-4.48/-7.39	-5.08/-7.54	-5.98/-7.85	-7.5/-3.63	-2.09/0.5	1.83/0.55	0.63/0.94	1.51/1.71
Θ(60°)	-1.02/-0.9	-0.87/-0.75	-1.82/-3.39	-5.3/-5.23	-6.9/-10.48	-9.12/-10.54	-7.76/-6.23	-11.06/-6.36	-3.69/-4.69	-2.65/-1.96	-2.37/-2.3	-0.62/-0.94	-1.01/-1.37	-0.39/-0.24	-1.37/-2.91	-2.6/-3.74	-3.02/-3.74	-4.56/-9.77	-7.49/-7.15	-7.63/-5.02	-3.89/-1.39	-2.2/-2.59	-1.66/-0.86	-0.81/-1.3
Θ(67.5°)	-2.71/-4.9	-2.65/-1.43	-2.33/-3.76	-6.87/-6.62	-6.04/-9.71	-9.71/-14.43	-10.17/-4.37	-10.44/-6.75	-5.06/-5.3	-4.95/-4.94	-5.07/-2.49	-1.45/-4.44	-3.98/-3.8	-0.70/3.8	-0.27/-3.8	-3.63/-4.87	-6.15/-4.89	-5.1/-8.46	-7.33/-5.13	-5.42/-5.55	-4.69/-2.64	-5.12/-4.56	-3.46/-2.27	-2.58/-3.68
Θ(75°)	-1.78/-1.08	-1.91/-1.6	-1.81/-4.59	-7.85/-7.48	-7.12/-12.27	-13.47/-15.22	-8.65/-4.04	-8.11/-8.16	-5.98/-6.63	-6.93/-7.73	-5.14/-3.78	-4.36/-6.11	-4.34/-4.04	-2.58/-1.18	0.03/-0.47	-4.03/-5.99	-8.66/-4.52	-4.75/-5.23	-9.88/-3.03	-3.94/-3.62	-6.27/-3.43	-9.57/-4.77	-3.17/-4.61	-4.29/-5.11
Θ(82.5°)	-2.03/-2.2	-2.24/-2.34	-2.55/-5.53	-7.83/-6.73	-8.22/-14.95	-14.67/-15.24	-7.63/-7.61	-9.42/-9.66	-7.6/-7.78	-8.71/-8.57	-5.51/-5.81	-6.41/-6.04	-5.38/-3.97	-5.45/-5.4	-1.53/-0.34	-5/-6.42	-7.69/-7.41	-6.19/-4.59	-11.3/-4.25	-4.17/-3.21	-6.77/-3.81	-10.12/-4.75	-4.14/-6.62	-6.63/-4.23
Θ(90°)	-3.39/-3.48	-3.26/-3.12	-3.64/-7.58	-7.59/-10.24	-13.21/-14.45	-13.71/-11.8	-7.63/-11.18	-13.71/-7.59	-10.08/-9.62	-9.48/-8.32	-6.11/-6.96	-6.77/-5.45	-6.22/-3.98	-5.96/-7.99	-4.76/-1.79	-3.95/-8.2	-9.06/-11.93	-8.93/-5.7	-15.33/-7.16	-5.56/-3.92	-12.03/-5.66	-12.38/-7.07	-5.52/-8.79	-8.39/-4.37
Θ(97.5°)	-4.72/-4.52	-5.26/-4.43	-5.46/-6.83	-8.51/-11.63	-12.24/-14.08	-15.11/-15.66	-10.97/-12.52	-13.38/-7.5	-12.72/-10.13	-10.11/-8.66	-8.75/-6.95	-6.86/-6.5	-7.01/-6.57	-7.93/-10.21	-7.66/-3.86	-5.42/-12.38	-14.64/-14.02	-10.15/-7.04	-14.25/-9.23	-7.09/-6.49	-10.37/-8.35	-11.88/-7.4	-6.28/-10.81	-11.18/-6.42
Θ(105°)	-5.16/-6.05	-7.03/-6.95	-8.68/-8.27	-10.65/-13.33	-12.33/-13.96	-11.82/-13.25	-10.78/-10.77	-12.37/-9.66	-9.22/-9.89	-10.71/-11.77	-12.21/-7.21	-7.72/-6.82	-7.99/-7.66	-7.46/-11.33	-10.11/-8.53	-5.77/-11.97	-13.93/-12.95	-12.58/-7.53	-9.18/-9.52	-9.5/-9.79	-6.63/-12.99	-9.13/-11	-10.16/-13.3	-12.36/-9.14
Θ(112.5°)	-6.33/-6.62	-10.68/-11.08	-10.44/-8.54	-11.61/-12.15	-15.29/-15.04	-14.84/-13.46	-12.19/-13	-12.49/-11.55	-10.45/-11.33	-12.06/-11.63	-11.77/-7.96	-9.62/-8.11	-9.1/-7.64	-9.11/-14.14	-12.45/-15.52	-9.02/-15.73	-9.01/-11.95	-14.3/-12.36	-9.56/-8.71	-15.03/-9.08	-11.44/-11.08	-15.81/-9.2	-13.61/-12.28	-12.63/-8.43
Θ(120°)	-10.48/-11.14	-13.06/-11.38	-11.23/-11.74	-13.49/-13.47	-11.81/-14.33	-12.88/-14.63	-15.75/-12.25	-9.85/-10.57	-10.96/-13.88	-15/-12.9	-12.18/-10.53	-9.65/-7.85	-8.34/-8.79	-10.19/-13.55	-11.83/-14.48	-11.67/-12.12	-9.16/-12.08	-13.38/-15.03	-11.97/-11.27	-12.52/-13.33	-10.82/-12.29	-15.75/-11.53	-15.52/-9.86	
Θ(127.5°)	-10.02/-14.5	-12.46/-12.67	-15.34/-12.34	-12.11/-15.1	-14.9/-15.46	-14.83/-15.14	-14.65/-13.76	-14.35/-14.06	-12.96/-14.67	-15.56/-13.29	-13.94/-10.58	-10.09/-10	-8.23/-11.65	-12.9/-13.94	-15.09/-9.99	-15.75/-10.77	-10.11/-12.91	-9.21/-10.73	-13.4/-13.75	-10.23/-14.28	-15.57/-11.76	-10.87/-11.8	-14.21/-11.33	-11.14/-10.53
Θ(135°)	-14.31/-12.61	-12.8/-14.59	-15.7/-14.99	-14.45/-13.69	-15.25/-15.73	-15.94/-14.12	-14.53/-14.3	-14.88/-15.49	-10.85/-11.98	-12.29/-13.48	-13.17/-12.93	-9.08/-8.92	-10.88/-11.18	-11.37/-11.51	-12.84/-12.04	-15.74/-14.83	-11.45/-12.8	-14.89/-11.66	-13.03/-10.51	-12.94/-13.23	-15.64/-11.28	-9.61/-14.91	-12.76/-11.96	-15.86/-13.34
Θ(142.5°)	-14.6/-13.74	-11.9/-11.14	-12.15/-10.57	-15.38/-15.38	-14.8/-15.31	-13.58/-15.17	-15.82/-15.31	-14.66/-13.45	-14.3/-12.8	-12.05/-14.74	-10.23/-8.85	-9.53/-10.5	-11.59/-13.13	-11.65/-14.29	-15.52/-13.04	-13.4/-15.77	-14.1/-12.41	-15.54/-14.79	-14.6/-13.01	-13.94/-12.35	-12.21/-10.4	-10.55/-12.42	-14.88/-15.51	
Θ(150°)	-15.83/-15.14	-15.24/-15.14	-15.36/-15.77	-15.36/-15.24	-16.04/-15.44	-15.13/-32	-12.82/-15.03	-15.06/-14.45	-15.28/-13.8	-11.62/-12.62	-11.46/-8.89	-10.41/-12	-11.08/-11.53	-10.76/-11.79	-15.23/-14.1	-15.75/-15.17	-13.03/-12.4	-15.63/-14.11	-12.38/-16.09	-15.61/-12.99	-12.77/-15.21	-14.54/-12.28	-12.42/-15.32	
Θ(157.5°)	-14.4/-15.05	-15.52/-15.53	-15.57/-15.18	-15.15/-15.75	-15.08/-15.09	-15.15/-14.69	-15.37/-16.23	-15.64/-15.03	-15.49/-15.76	-14.35/-14.44	-13.15/-13.46	-14.21/-13.6	-13.93/-14.13	-14.22/-13.98	-14.51/-15.21	-15.63/-15.32	-13.87/-13.47	-13.77/-13.41	-14.81/-16.08	-14.81/-14.02	-15.1/-15.45	-15.74/-13.17	-14.63/-15.12	-16.04/-15.22
Θ(165°)	-15.13/-15.56	-15.31/-14.46	-14.64/-15.51	-15.62/-15.26	-14.63/-14.27	-14.27/-13.11	-12.87/-12.27	-12.62/-13.18	-13.77/-13.83	-12.88/-12.13	-12.27/-13.41	-14.02/-15.41	-15.81/-15.53	-14.8/-14.29	-14.04/-14.08	-14.44/-15.42	-14.92/-14.42	-14.34/-14.91	-15.95/-15.64	-15.57/-14.49	-14.51/-15.26	-14.4/-15.13	-14.69/-15.29	-14.46/-15.44
Θ(172.5°)	-15.1/-15.22	-14.84/-15.03	-15.46/-15.03	-15.13/-15.63	-15.17/-15.26	-14.17/-13.63	-12.61/-13.2	-13.56/-13.61	-12.65/-11.76	-12.12/-12.25	-13.36/-13.92	-15.43/-15.48	-15.61/-15.12	-16.04/-15.25	-15.3/-14.84	-15.29/-14.43	-14.02/-14.5	-14.6/-15.53	-15/-14.64	-15.88/-14.87	-12.35/-11.63	-11.54/-12.45	-14.01/-15.15	-15.96/-15.62
Θ(180°)	-15.09/-15.66	-14.94/-15.38	-15.17/-15.49	-15.58/-15.02	-15.04/-14.32	-14.11/-13.22	-12.26/-12.29	-13.45/-14.17	-11.85/-11.32	-11.85/-11.56	-10.99/-11.26	-11.89/-12.36	-12.63/-13.66	-14.21/-15.43	-15.92/-14.94	-15.54/-15.86	-16.02/-15.2	-15.05/-14.53	-15.3/-15.52	-14.72/-14	-13.44/-13.19	-13.12/-13.62	-13.29/-13.96	-14.25/-14.67
Freq(Hz)	6.995GPdL	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°)	-1.14/-2.9	0.79/2.01	2.91/3.79	4.35/5.12	5.51/5.78	5.91/5.93	5.91/5.89	5.61/5.26	4.83/4.28	3.46/2.54	1.59/0.51	-0.7/-1.94	-2.59/-1.9	-0.47/1.03	2.13/09	3.92/4.58	5.21/5.58	5.85/8.4	5.84/5.94	5.66/5.2	4.74/4.12	3.08/2.1	1.08/0.03	-0.69/-1.43
Θ(7.5°)	-0.87/-0.88	-0.10/-97	2.17/3.53	4.29/4.76	4.76/5.4	5.51/5.79	5.75/5.48	5.01/4.65	4.34/4.1	3.71/3.18	2.66/1.75	0.72/-0.4	-0.8/-0.52	0.55/1.72	2.72/3.58	4.24/6.9	5.13/5.3	5.55/7.2	6.03/6.32	6.49/6.56	6.35/5.88	5.24/4.24	3.19/2.02	0.88/-0.22
Θ(15°)	-1.4/-0.45	0.93/1.9	2.72/3.4	3.75/4.44	4.76/5.47	5.47/5.35	5.03/4.36	3.8/3.55	3.61/3.65	3.11/2.17	0.87/-0.85	-2.59/-4.42	-5.25/-4.51	-2.64/-0.52	1.03/2.47	3.84/5.02	5.76/6.03	5.72/5.23	5.37/6.12	6.86/9.7	6.55/5.96	5.04/4.06	2.81/1.24	-0.45/-1.58
Θ(22.5°)	1.76/1.98	2.17/2.26	2.66/2.83	3.13/3.26	3.01/3.11	3.51/3.93	4.3/68	3.55/3.4	2.63/1.55	0.4/-0.28	-0.11/-0.42	-1.39/-3.06	-4.5/-4.77	-3.45/-1.59	-0.29/0.34	0.39/1.11	3.61/5.53	5.65/4.25	3.76/5.75	6.71/5.98	4.68/4.34	4.02/4.45	2.69/1.78	1.45/1.5
Θ(30°)	-0.74/-0.42	-0.76/-0.38	0.31/05	2.17/2.76	2.59/1.57	2.49/3.57	3.89/3.19	2.42/1.44	0.57/0.7	0.34/-0.22	-0.54/-1.05	-2.31/-4.35	-5.64/-5.13	-3.84/-2.04	-0.18/1.57	2.75/2.78	1.6/3.31	5.18/4.75	3.7/5.43	5.77/3.43	3.12/4.53	3.39/1.07	1.56/1.85	1.39/3.31
Θ(37.5°)	-0.10/53	0.92/0.8	0.96/0.92	1.49/2.95	3.31/1.68	0.61/96	2.52/1.22	-0.1/-1.08	-0.89/-1.74	-2.98/2.53	-5.66/-6.17	-5.28/-2.41	-0.6/0.13	-0.03/0.39	1.01/2.7	2.92/1.43	44/73	3.55/4.69	4.6/2.14	3.56/3.86	1.51/1.18	0.61/-1.4	-3.88/-1.81	
Θ(45°)	-0.98/-0.13	0.69/1.44	2.11/2.14	1.4/1.21	1.62/1.71	-1.08/0.91	0.64/-0.18	-0.98/-3.05	-3.07/-3.72	-3.16/-3.08	-6.4/-7.28	-6.87/-7.54	-7.21/-5.93	-3.55/-1.43	0.38/1.53	1.29/0.57	1.17/0.97	1.95/3.73	2.55/3.2	2.93/1.69	2.74/1.29	1.46/1	-2.01/-4.81	-2.47/-0.37
Θ(52.5°)	-9.46/-4.88	-1.88/0.05	0.48/1.1	0.85/-0.37	-2.1/-1.14	-4.45/-1.06	-0.07/-0.43	-1.78/-4.59	-7.71/9.49	-6.49/-10.95	-8.77/-4.43	-6.9/-10.86	-8.82/-3.87	-2.07/-2.88	-1.78/0.34	-0.11/-1.84	-1.67/0.01	0.37/1.73	0.72/0.94	0.55/0.38	0.8/-0.16	0.65/-1.07	-4.73/-3.45	-2.15/-4.26
Θ(60°)	-6.76/-4.8	-1.32/-0.32	-1.49/-1.54	-2.38/-2.17	-5.96/-3.85	-6.14/-4.52	-1.48/-1.2	-4.86/-4.86	-9.88/-13.37	-10.58/-10.86	-6.35/-6.4	-8.54/-10	-8.16/-5.57	-3.14/-3.91	-2.03/-1.71	-3.82/-2.29	-0.64/-1.84	-0.65/0.11	-1.2/-0.29	-1.15/-1.91	-1.88/-5.19	-5.42/-4.94	-6.73/-8	
Θ(67.5°)	-7.23/-5.85	-3.27/-1.71	-1.87/-4.26	-7.55/-4.54	-8.32/-6.78	-2.52/-1.97	-5.84/-4.87	-5.06/-11.7	-12.72/-9.54	-6.73/-8.92	-7.48/-8.43	-6.55/-4.79	-4.64/-7.11	-6.07/-3.65	-4.17/-2.01	-6.36/-3.04	-1.33/2.21	-3.2/0.02	-2.54/0.49	-2.12/-4.34	-5.8/-8.6	-6.99/-7.99	-10.77/-1.74	
Θ(75°)	-10.11/9.22	-6.31/-4.62	-3.75/-5.82	-10.3/-8.18	-8.29/-10.75	-8.19/-5.28	-6.2																	



Radiated Composite Gain Data of 6GHz

Appendix B

Gain Result

[illegible]



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(22.5°)	3.54/3.57	3.62/3.07	1.60/0.02	-1.22/-2.88	-4.85/-6.9	-10.88/-16.01	-14.16/-8.92	-5.91/-3.89	-1.71/-0.08	0.63/0.95	1.79/2.82	3.81/4.36	4.49/4.28	4.06/3.22	1.74/-0.12	-0.85/-0.06	0.33/-1.74	-6.5/-6.94	-3.91/-4.17	-6.19/-2.73	-0.01/1.04	1.66/2.53	3.12/3.19	3.18/3.46
Θ(30°)	3.86/3.86	3.67/2.9	1.54/0.15	-1.3/-4.57	-7.92/-8.6	-10.76/-15.24	-15.48/-12.08	-10.07/-8.64	-4.27/-1.2	-0.10/-54	1.62/68	3.33/3.33	2.98/2.61	1.67/1.06	0.74/0.65	-0.49/-3.14	-1.75/-1.6	-6.47/-8.81	-4.12/-5.15	-7.94/-1.91	-0.9/-1.05	1.04/2.45	2.24/2.48	3.27/3.83
Θ(35°)	1.64/1.75	1.761/49	-0.13/-2.26	-4.14/-7.82	-14.41/-11.6	-11.52/-16.16	-14.09/-12.06	-13.99/-11.53	-4.09/-2.55	-2.46/-98	0.66/1.07	1.3/0.93	1.71/54	-0.13/-2.08	-3.12/-2.25	-0.34/-2.83	-6.09/-2.66	-5.48/-8.13	-8.06/-7.31	-8.74/-2.06	-2.02/-1.69	1.54/1.64	0.12/1.03	2.19/2.25
Θ(45°)	-0.62/-0.72	0.36/0.68	-1.07/-4.11	6/-6.94	-13.44/-17.45	-12.69/-17.86	-17.94/-14.43	-15.65/-11.96	-5.95/-6.94	-4.44/-2.29	-1.24/-0.34	0.36/-0.18	0.15/0.39	-1.04/-1.58	-2.03/-3.45	-2.89/-2.35	-9.76/-6.86	-5.38/-9.01	-10.1/-8.57	-11/-4.78	-5.25/-1.63	0.27/0.18	-0.85/-0.34	0.02/0.36
Θ(52.5°)	-2.15/-1.62	-0.55/-0.63	-2.49/-4.12	-5.58/-6.35	-12.21/-17.92	-15/-17.16	-18.78/-14.12	-15.46/-11.57	-8.22/-8.71	-4.46/-4.47	-4.19/-4.49	-2.59/-2.39	-1.66/-2.77	-4.78/-6.33	-2.22/-4.52	-7.35/-7.09	-9.1/-12.61	-4.79/-10.27	-10.77/-11.95	-11.61/-17.5	-6.25/-2.25	-1.24/-1.94	-1.28/-2.72	-2.57/-2.42
Θ(60°)	-3.22/-2.31	-1.9/-2.01	-2.95/-3.95	-6.43/-8.87	-11.9/-18.39	-17.87/-19.23	-18.5/-11.12	-19.04/-13.62	-10.4/-9.42	-7.04/-8.41	-11.98/-10.68	-4.16/-3.79	-3.85/-4.31	-3.4/-3.9	-6.49/-5.86	-5.63/-8.91	-7.71/-12.22	-7.79/-9.19	-11.96/-9.41	-8.06/-5.25	-4.21/-2.74	-1.83/-3.59	-4.42/-1.46	
Θ(67.5°)	-4.99/-3.88	-4.09/-3.33	-3.02/-3.98	-8.56/-11.67	-9.68/-18.33	-16.51/-16.86	-18.83/-6.24	-17.86/-11.58	-11.24/-8.21	-10.12/-11.5	-15.96/-10.89	-6.49/-11.66	-10.69/-8.43	-2.81/-2.17	-3.5/-7.61	-5.79/-6.69	-10.74/-7.84	-13.37/-8.18	-13.61/-8.47	-7.53/-5.2	-5.8/-4.37	-5.67/-4.02	-3.71/-4.03	-4.08/-4.94
Θ(75°)	-6.34/-4.91	-4.83/-4.06	-3.45/-4.8	-9.3/-12.03	-8.62/-18.48	-14.92/-18.01	-14.71/-6.68	-12.71/-14.02	-11.34/-9.37	-11.41/-15.72	-12.36/-14.28	-13.17/-15.42	-9.65/-7.42	-5.17/-10.49	-1.97/-2.49	-7.82/-6.2	-12.03/-7.8	-18.27/-9.09	-18.32/-6.7	-9.26/-3.49	-7.69/-6.48	-10.03/-5.1	-4.73/-5.48	-5.07/-7.22
Θ(82.5°)	-7.78/-6.73	-5.75/-5.24	-4.66/-6.16	-9.06/-11.16	-9.38/-18.19	-17/-19.14	-12.29/-9.95	-10.99/-18.52	-11.78/-11.89	-14.17/-18.08	-10.21/-18.05	-17.87/-11.87	-9.18/-4.6	-6.1/-7.93	-3.28/-1.6	-8.47/-6.9	-12.01/-11.45	-18.52/-9.61	-18.27/-8.94	-10.35/-4.21	-10.34/-7.54	-10.43/-5.76	-6.95/-6.09	-6.86/-9.14
Θ(90°)	-11.01/-8.97	-6.9/-6.06	-6.5/-7.91	-9.01/-14.96	-13.99/-18	-18.31/-18.26	-13.63/-14.93	-15.06/-12.03	-15.54/-13.77	-16.22/-16.68	-12.73/-18.63	-18.08/-9.17	-9.15/-4.52	-5.48/-8.9	-7.22/-3.73	-6.81/-11.12	-11.88/-15.05	-15.18/-14.95	-17.94/-13.9	-12.05/-7.01	-15.5/-10.32	-12.86/-7.39	-8.87/-8.13	-7.9/-9.24
Θ(97.5°)	-10.86/-9.62	-8.66/-7.61	-7.31/-8.8	-11.16/-14.02	-12.83/-18.06	-18.89/-18.45	-15.43/-13.52	-18.8/-9.1	-18.71/-11.42	-19.19/-15.22	-16.24/-19.32	-18.11/-14.42	-8.3/-5.21	-7.2/-10.41	-9.12/-6.8	-7.62/-18.79	-17.05/-15.5	-16.61/-19.23	-17.64/-14.67	-11.23/-8.4	-13.53/-11.98	-13.62/-8.57	-8.29/-10.8	-11.16/-11.25
Θ(105°)	-11.18/-11.81	-10.83/-10.25	-8.2/-9.17	-13.51/-15.02	-13.17/-18.53	-17.64/-17.84	-18.87/-12.54	-16.61/-17	-13.79/-11.05	-18.52/-15.34	-18.5/-18.25	-15.38/-10.37	-9.96/-6.55	-6.52/-11.3	-10.68/-11.09	-9.76/-18.52	-15.41/-16.7	-16.07/-18.71	-17.77/-10.36	-11.88/-11.29	-10.33/-14.98	-12.96/-17.01	-11.27/-15.06	-13.14/-13.72
Θ(112.5°)	-14.66/-10.75	-14.07/-11.83	-10.27/-9.82	-13.24/-13.02	-18.48/-18.03	-17.65/-16.4	-16.32/-14.69	-14.53/-17.76	-16.26/-18.17	-18.61/-12.4	-18.8/-19.13	-18.66/-12.23	-9.34/-6.54	-8.27/-15.94	-14.6/-19.19	-11.72/-18.68	-11.71/-18.66	-16.5/-18.45	-16.83/-9.5	-18.28/-11.22	-14.36/-11.34	-18.64/-12.19	-16.82/-12.8	-13.98/-15.1
Θ(120°)	-14.35/-13.47	-14/-11.89	-11.33/-12.02	-15.11/-15.15	-12.43/-17.71	-13.93/-16.82	-19.24/-16.64	-12.77/-17.48	-16.47/-17.8	-18.65/-15.58	-18.31/-17.3	-18.11/-14.42	-8.65/-8.09	-9.67/-16.19	-17.45/-19.04	-14.18/-19.38	-12.31/-17.7	-15.77/-18.68	-17.31/-18.66	-13.21/-15.15	-16.86/-16.92	-11.35/-12.85	-18.39/-12.96	-18.87/-17.67
Θ(127.5°)	-14.53/-17.14	-15.52/-14.81	-18.44/-14.37	-13.5/-17.79	-17.62/-18.73	-17.92/-17.49	-17.22/-18.19	-18.48/-17.95	-16.37/-18.93	-18.73/-18.46	-17.72/-13.06	-15.00/-16.97	-10.06/-11.79	-13.87/-16.12	-17.5/-13.85	-14.53/-16.65	-13.61/-14.75	-12.89/-18.07	-15.51/-17.34	-11.44/-15.72	-18.17/-12.31	-11.6/-12.55	-18.02/-14.94	-11.08/-11.51
Θ(135°)	-16.48/-14.32	-14.27/-17.29	-18.42/-18.28	-16.84/-15.26	-17.77/-19.01	-18.86/-15.68	-18.57/-19.25	-17.92/-19.13	-14.39/-18.92	-18.29/-19	-18.54/-18.17	-13.13/-12.76	-14.04/-10.97	-13.21/-12.06	-14.93/-14.44	-18.57/-18.66	-12.71/-18.8	-17.7/-14.16	-17.79/-14.49	-17.02/-15.28	-18.52/-12.79	-12.22/-17.11	-14.38/-12.13	-18.72/-18.96
Θ(142.5°)	-18.46/-16.57	-16.34/-15.71	-16.13/-17.82	-18.6/-17.86	-18.09/-17.68	-14.47/-17.94	-18.89/-19.26	-18.13/-15.84	-18.67/-15.89	-12.85/-19.1	-13.48/-11.76	-12.6/-14.15	-14.33/-15.06	-17.05/-14.58	-13.04/-17.32	-18.34/-14.59	-15.28/-18.58	-17.69/-17.99	-18.46/-17.48	-18.72/-14.16	-18.2/-17.35	-14.85/-14.03	-10.72/-15.49	-18.63/-18.65
Θ(150°)	-18.98/-18.48	-18.38/-18.4	-18.31/-18.75	-18.46/-17.38	-18.48/-17.38	-18.41/-17.1	-15.54/-19.38	-18.84/-17.06	-19.04/-17.39	-13.38/-16.67	-17.2/-10.35	-18.21/-18.58	-15.55/-18.24	-13.86/-18.43	-18.68/-18.43	-18.58/-16.49	-14.27/-13.87	-18.73/-18.09	-14.34/-19.19	-18.44/-13.8	-15.91/-18.22	-17.18/-14.86	-18.31/-18.89	
Θ(157.5°)	-17.1/-18.38	-18.24/-18.56	-19.17/-17.78	-17.56/-18.69	-17.75/-18.87	-18.42/-17.47	-18.51/-19.52	-18.43/-17.75	-19.17/-18.95	-16.4/-18.5	-17.91/-18.23	-15.73/-17.1	-18.5/-19.3	-18.5/-19.02	-17.88/-18.83	-18.46/-18.4	-15.94/-15.38	-16.02/-15.4	-17.97/-18.97	-17.53/-16.01	-18.56/-18.91	-18.48/-15.08	-16.79/-18.92	-18.97/-18.09
Θ(165°)	-18.1/-18.65	-18.45/-17.55	-17.39/-18.72	-18.37/-18.64	-16.99/-16.66	-16/-14.37	-13.7/-13.67	-13.68/-14.67	-15.93/-15.64	-16.34/-17.29	-18.8/-18.51	-17.83/-18.68	-18.55/-17.99	-17.95/-16.03	-15.38/-15.44	-16.76/-18.82	-18.11/-17.29	-16.71/-17.07	-19.04/-19.05	-19.34/-16.84	-16.33/-18.05	-17.35/-18.59	-17.87/-17.63	-16.74/-18.29
Θ(172.5°)	-18.46/-17.7	-17.82/-18.63	-17.74/-18.21	-18.29/-17.87	-17.91/-19.03	-17.81/-18.36	-17.27/-18.16	-18.97/-18.64	-17.72/-16.87	-16.85/-16.65	-17.93/-18.33	-18.68/-18.35	-18.74/-18.39	-19.08/-17.7	-18.24/-18.65	-17.8/-18.28	-18.64/-17.4	-17.04/-18.25	-17.61/-17.75	-18.83/-17.94	-16.41/-16.64	-16.72/-18.61	-18.61/-17.93	-19.18/-18.34
Θ(180°)	-18.5/-19.4	-17.44/-17.84	-19/-19.04	-19.03/-17.7	-18.37/-17.74	-18.93/-14.84	-17.62/-17.88	-19.76/-19.86	-17.37/-15.67	-16.04/-15.37	-13.9/-14	-13.8/-14.85	-16.06/-17.9	-17.4/-17.67	-18.75/-18.28	-18.92/-19.23	-17.54/-17.34	-18.77/-19.2	-17.82/-17.32	-18.68/-18.62	-18.61/-18.18	-17.39/-18.49	-17.69/-18.14	
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°)	-6.64/-5.05	-2.94/-1.06	0.39/-1.47	2.11/3.14	3.7/4.08	4.39/4.57	4.63/4.59	4.44/4.12	2.22/0.99	-0.47/-2.4	-4.68/-7.48	-9.55/-8.35	-5.58/-2.8	-0.96/0.54	1.63/2.48	3.36/3.87	4.12/4.28	4.31/4.23	3.87/3.38	2.81/2.04	0.91/-0.51	-2.04/-3.78	-5.46/-6.76	
Θ(7.5°)	-6.31/-6.64	-5.15/-2.95	-0.81/0.92	1.85/2.25	2.62/3.39	3.64/0.05	4.18/4.1	3.79/3.57	3.34/3.07	2.45/1.47	0.51/-0.02	-2.82/-4.7	-5.45/-9.33	-3.3/-4.3	0.09/-2.18	2.11/2.74	3.27/3.42	3.71/4	4.24/4.32	4.4/4.4	4.02/3.3	2.53/-1.48	0.32/-1.12	-2.69/-4.54
Θ(15°)	-8.14/-6.99	-4.73/-3.02	-1.39/0	1.21/2.38	2.75/3.24	2.93/2.74	2.72/2.66	2.17/2.07	1.15/-0.47	-2.72/-5.48	-8.69/-12.63	-15.2/-12.8	-8.09/-4.35	-1.91/0.01	1.77/3.32	4.34/5.2	3.93/3.15	3.39/4.46	5.25 /0.7	4.26/3.08	1.74/0.61	-0.66/-2.55	-5.26/-7.17	
Θ(22.5°)	-3.62/-3.96	-4.04/-3.79	-2.33/-1.06	0.14/1	1.21/1.44	1.25/1.34	1.75/2.12	2.65/2.26	0.65/-1.73	-3.27/-3.09	-2.09/-2.46	-4.27/-7.03	-9.06/-8.51	-6.15/-3.33	-1.78/-1.64	-2.68/-2.01	1.96/4.54	4.58/2.01	0.68/3.72	4.93/3.42	1.01/1.29	1.49/0.06	-1.88/-3.02	-3.07/-3.17
Θ(30°)	-8.77/-9.78	-8.94/-5.93	-2.83/-1.53	-0.42/0.56	0.88/0.25	0.48/1.13	1.39/1.06	1.29/0.35	-1.37/-1.01	-0.6/-0.73	-1.71/-3.34	-5.89/-11.13	-19.11/-15.35	-10.17/-6.57	-3.48/-0.91	10.89	4.47/3.11	0.53/5.8	4.16/-0.04	-0.152/-79	1.06/-3.3	-1.8/-0.02	-0.92/-4.67	
Θ(37.5°)	-3.66/-3.19	-2.74/-1.77	-0.79/-0.79	-0.64/0.52	1.1/-0.26	-2.38/-0.85	-0.17/-1	-0.59/-1.32	-3.92/-3.45	-3.56/-5.63	-9.45/-15.72	-18.06/-9.1	-5.05/-4.78	-5.03/-4.73	-3.8/-0.35	-0.01/-2.34	2.18/2.65	-0.022/-12	1.91/-2.34	1.86/2.01	-2.4/-1.5	-0.35/-2.28	-6.5/-5.22	
Θ(45°)	-2.46/-2.56	-2.33/-1.19	-0.46/-0.31	-0.78/-1.76	-1.69/-0.94	-0.52/-1.82	-0.98/-2.6	-1.66/-3.4	-3.83/-4.75	-4.65/-4.08	-7.66/-10.82	-16.88/-15.18	-17.7/-18.77	-10.06/-6.31	-3.33/-1.18	-2.24/-6.1	-2.25/-2.7	-1.68/-1.5	-0.28/-2.36	-3.28/-2.54	-1.43/0.4	-3.26/-8.44	-0.91/-0.89	
Θ(52.5°)	-11.39/-7.1	-5.42/-2.94	-3.9/-2.04	-1.36/-3.93	-9.39/-5.45	-9.21/-2.95	-2.56/-2.78	-4.2/-5.46	-6.56/-11.13	-8.71/-16.42	-11.65/-5.22	-8.18/-18.87	-14.96/-12.83	-4.45/-5.69	-4.59/-2.61	-2.69/-7.09	-6.55/-1.38	-2.92/-0.58	-2.63/-2.01	-1.92/-0.23	-1.33/-4.01	-0.31/-1.92	-8.81/-8.21	-4.23/-6.36
Θ(60°)	-5.53/-3.82	-1.84/-2.23	-4.98/-4.55	-4.79/-5.65	-13.64/-8.95	-10.54/-7.16	-3.77/-3.84	-8.73/-4.88	-9.25/-14.34	-18.49/-13.43	-8.02/-8.23	-10.25/-12.71	-14.91/-12.48	-5.46/-6.14	-6.12/-4.78	-4.33/-4.75	-7.36/-4.76	-3.37/-1.14	-3.59/-1.27	-5.01/-2.52	-2.5/-3.4	-2.71/-6.6	-9.68/-10.39	-12.18/-13.54
Θ(67.5°)	-6.02/-4.58	-3.23/-3.5	-4.23/-6.76	-11.48/-8.67	-18.27/-14.92	-12.54/-5.72	-5.79/-5.1	-11.53/-4.9	-17.64/-11.88	-17.01/0.07	-11.73/-12.07	-8.33/-12.78	-14.91/-12.63	-7.24/-8.13	-5.67/-5.71	-7.77/-4.12	-8.28/-3.09	-6.48/-1.23	-7.36/-0.56	-10.16/-2.12	-3.69/-6.88	-7.44/-12.45		



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(75°)	-3.23/-1.96	-4.11/-5.83	-4.17/-7.39	-18.21/-13.71	-9.16/-10.97	-14.12/-12.61	-16.43/-11.37	-5.75/-8.25	-13.43/-8.33	-5.31/-4.14	-3.68/-3.93	-4.94/-5.89	-6.75/-7.7	-7.35/-4.54	-4.74/-4.99	-6.13/-10.04	-17.36/-10.1	-6.98/-7.22	-13.85/-6.99	-4.81/-5.42	-8.53/-9.24	-12.81/-8.23	-6.46/-10.05	-9.88/-5.04
Θ(82.5°)	-3.77/-2.71	-4.74/-6.05	-4.71/-10.21	-18.39/-15.63	-10.36/-15.24	-14.19/-15.05	-18.44/-14.74	-8.41/-11.18	-17.79/-6.95	-5.32/-5.04	-4.68/-4.79	-6.37/-7.79	-8.2/-10.39	-9.37/-7.69	-7.6/-7.44	-6.4/-10.34	-18.82/-13	-8.59/-6.7	-19.33/-9.82	-6.49/-6.34	-9.82/-8.94	-10.59/-8.14	-10.21/-12.47	-10.35/-6.24
Θ(90°)	-5.46/-4.12	-6.61/-7.97	-8.49/-13.76	-17.48/-18.77	-10.65/-17.05	-14.04/-18.48	-16.12/-17.94	-11.01/-13.47	-7.56/-4.98	-4.47/-5.59	-7.56/-9.48	-8.88/-10.62	-11.02/-9.42	-10.78/-11.91	-7.59/-9.1	-17.53/-18.34	-14.41/-8.7	-19.17/-18.02	-13.68/-8.37	-12.43/-16.38	-10.32/-9.63	-14.79/-13.75	-14.07/-6.59	
Θ(97.5°)	-6.71/-5.64	-8.57/-9.7	-11.99/-14.57	-19.23/-17.38	-10.26/-17.95	-14.79/-18.24	-19.23/-16.27	-12.48/-15.65	-11.01/-6.32	-5.55/-5.27	-4.88/-7.25	-10.1/-10.25	-12.38/-14.78	-11.99/-11.93	-11.52/-16.28	-9.24/-12.44	-18/-19.17	-18.13/-12.29	-18.8/-14.56	-14.27/-10.65	-13.36/-17.78	-13.75/-12.68	-18.37/-14.26	-14.94/-7.07
Θ(105°)	-8.55/-7.54	-10.09/-12.79	-14.4/-17.85	-17.53/-12.12	-12.09/-16.11	-16.98/-18.7	-14.99/-13.48	-11.36/-16.93	-11.05/-8.69	-7.68/-7.09	-5.14/-8.29	-11.8/-9.55	-11.14/-16.2	-13.2/-16.86	-17.08/-17.44	-10.66/-11.53	-18.65/-13.49	-19.35/-10.51	-15.89/-17.95	-19.46/-10.73	-9.84/-19.37	-17.2/-13.43	-18.61/-14.74	-15.7/-8.86
Θ(112.5°)	-10.67/-10.34	-15.56/-19.4	-17.86/-18.12	-15.43/-10.74	-18.79/-18.49	-18.96/-19.02	-16.33/-15.08	-13.6/-14.75	-9.98/-11.41	-10.78/-9.82	-6.3/-9.22	-13.64/-11.36	-11.91/-13.67	-11.99/-15.85	-18.02/-18.62	-14.9/-11.55	-18.42/-16.5	-15.65/-14.77	-12.49/-14.6	-18.2/-12.86	-11.88/-17.54	-17.95/-13.09	-18.1/-17.81	-11.01/-12.88
Θ(120°)	-13.11/-14.46	-12.8/-17.33	-17.58/-18.34	-19.09/-18.79	-18.98/-19.1	-17.67/-16.03	-14.45/-19.28	-17.77/-17.34	-11.55/-10.62	-9.93/-8.87	-8.1/-8.49	-11.99/-12.88	-13.73/-14.47	-10.41/-13.69	-18.34/-18.79	-12.9/-11.06	-12.8/-18.07	-18.64/-18.9	-18.85/-15.33	-19.09/-16.58	-18.03/-19.33	-13.69/-18.37	-15.24/-12.7	-12.84/-13.69
Θ(127.5°)	-13.21/-14.71	-17.76/-17.78	-18.55/-18.39	-16.87/-14.7	-17.63/-12.91	-17.54/-16.38	-16.98/-18.3	-17.92/-16.24	-14.71/-10.24	-9.55/-10.47	-10.06/-11.59	-12.15/-11.96	-14.81/-16.56	-12.3/-16.87	-17.39/-18.78	-14.95/-12.13	-12.07/-14.22	-16.23/-18.53	-19.2/-12.55	-15.83/-15.45	-18.6/-16.08	-18.45/-18.57	-18.08/-13.31	-18.37/-17.28
Θ(135°)	-19.11/-19.01	-18.79/-17.96	-18.82/-17.88	-16.73/-17.72	-19.02/-17.49	-17.82/-18.83	-18.88/-17.99	-12.03/-10.47	-10.98/-9.34	-11.54/-14.79	-16.36/-13.92	-12.3/-13.63	-15.75/-13.67	-17.43/-19.22	-18.83/-18.59	-15.59/-16.9	-13.17/-12.33	-19.11/-14.87	-10.79/-12.54	-17.88/-18.35	-17.66/-18.88	-14.54/-13.34	-12.14/-18.85	-17.63/-18.37
Θ(142.5°)	-15.1/-17.7	-18.28/-14.54	-17.02/-17.85	-17.55/-18.09	-19.67/-17.78	-18.75/-16.76	-16.66/-15.48	-11.73/-11.45	-14/-14.72	-18.36/-18.28	-18.44/-17.05	-16.23/-18.76	-18.51/-14.59	-15.06/-19.38	-18.67/-18.27	-18.4/-18.39	-19.12/-17.59	-15.75/-18	-19.18/-18.01	-17.75/-16.3	-17.39/-19.07	-18.91/-18.24	-15.44/-13.91	-18.5/-19.23
Θ(150°)	-19.42/-18.26	-18.85/-17.6	-15.44/-14.53	-14.27/-13.43	-13.87/-18.92	-16.97/-12.22	-12.16/-12.53	-11.2/-12.09	-17.47/-17.96	-17.54/-18.11	-18.96/-18.1	-17.37/-15.89	-17.91/-18.61	-18.44/-18.15	-17.39/-19.18	-17.86/-18.49	-18.2/-13.78	-18.01/-17.63	-18.85/-19.27	-18.02/-19.18	-18.01/-18.75	-18.1/-18.11	-18.1/-17.94	-18.36/-17.41
Θ(157.5°)	-17.6/-17.59	-18.2/-17.48	-15.07/-13.43	-13.04/-13.18	-14.25/-16.18	-15.88/-16.24	-18.44/-17.56	-16.38/-18.19	-17.37/-19.01	-16.88/-18.73	-18.56/-19.12	-17.78/-19.38	-18.65/-18.86	-18.78/-19.14	-18.57/-17.55	-18.1/-18.5	-18.53/-17.96	-17.95/-18.01	-16.52/-18.88	-18.21/-18.34	-18.98/-18.33	-15.25/-17.88	-18.94/-18.61	-19.26/-19.33
Θ(165°)	-18.93/-18.09	-17.84/-18.83	-17.96/-17.01	-15.41/-14.32	-14.3/-15.23	-15.96/-16.37	-17.37/-18.63	-18.48/-18.31	-18.27/-17.18	-18.9/-18.56	-17.18/-17.98	-17.63/-18.75	-18.36/-17.88	-19.3/-17.43	-16.83/-17.25	-18.06/-17.79	-18.58/-18.74	-18.55/-18.63	-17.86/-17.59	-18.62/-18.11	-18.01/-18.14	-18.21/-18.5	-18.4/-18.38	-18.63/-18.11
Θ(172.5°)	-18.83/-18.29	-18.8/-18.3	-18.42/-19.19	-18.3/-17.9	-17.92/-18.35	-18.85/-17.53	-18.85/-19.19	-18.91/-18.4	-17.21/-18.38	-18.89/-18.98	-17.98/-18.83	-18.12/-19.04	-16.54/-17.85	-19.04/-18.82	-18.79/-18.65	-17.3/-17.8	-18.44/-18.56	-17.83/-19.29	-18.67/-17.46	-18.23/-16.87	-16.88/-17.37	-18.17/-18.82	-18.8/-17.46	-19.17/-19.03
Θ(180°)	-18.15/-18.34	-18.2/-19.03	-19.31/-19.35	-19.19/-18.34	-18.17/-18.4	-19.23/-19.22	-18.16/-18.28	-19.08/-18.57	-18.8/-17.92	-17.22/-19.03	-17.63/-18.44	-18.81/-17.88	-17.86/-19.04	-18.59/-18.4	-19.18/-18.34	-18.1/-18.65	-18.86/-18.56	-18.88/-19.4	-18.32/-18.21	-18.24/-18.4	-17.68/-17.65	-18.39/-18.91	-18.42/-18.25	-18.39/-19.14
Freq(Hz)	6.175GPdL	ThetaAnt.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-5.22/-4.48	-3.3/-2.09	-1.15/-0.4	0.34/-1.38	1.83/2.15	2.37/2.51	2.46/2.41	2.29/1.87	1.15/0.31	-0.92/-1.89	-2.83/-4.08	-5.47/-6.55	-6.76/-6.59	-4.53/-2.94	-1.45/-0.42	0.45/1.17	1.74/2.02	2.12/2.16	2.24/2.27	2.24/1.92	1.09/0.03	-1.04/-2.32	-3.54/-4.68	-5.34/-6.8
Θ(7.5°)	-6.22/-4.64	-3.18/-2.26	-1.8/-1.46	-1.46/-1.15	-0.96/-0.43	0.23/0.01	1.54/1.76	1.59/1.18	0.35/-1.08	-3.08/-5.06	-6.31/-7.4	-8.32/-9.68	-8.99/-8.12	-7.34/-5.83	-4.56/-3.51	-2.33/-1.16	-0.08/0.72	1.31/1.72	1.95/1.99	1.91/1.56	0.76/-0.5	-1.81/-3.24	-4.25/-5.46	-6.73/-7.07
Θ(15°)	-7.37/-5.78	-4.48/-3.68	-3.08/-2.58	-2.37/-2.34	-2.83/-2.43	-0.56/-0.52	0.2/0.63	0.64/0.02	1.15/-3.34	-4.63/-5.3	-5.6/-6.15	-6.96/-7.25	-7.1/-7.06	-7.39/-6.36	-5.39/-4.39	-3.36/-2.36	-1.38/-0.3	0.55/1.29	1.65/1.63	1.04/0.26	-0.65/-1.95	-3.2/-4.38	-4.96/-5.32	-5.91/-6.06
Θ(22.5°)	-8.43/-7.04	-5.73/-5.03	-3.28/-2.08	-1.52/-1.02	-1.01/-0.82	-0.8/-0.59	-0.15/0.23	-0.29/-1.34	-2.57/-3.66	-4.41/-5.56	-7.03/-9.01	-10.63/-10.66	-9.76/-7.6	-6.08/-4.33	-2.93/-2.42	-1.45/-0.59	-0.02/0.34	0.74/1.23	2.06/2.43	1.83/0.51	-0.75/-1.43	-2.09/-3.98	-5.72/-5.29	-5.52/-5.52
Θ(30°)	-5.46/-4.76	-4.05/-3.64	-2.21/-1.32	-1.03/-0.01	0.24/0.06	-0.31/-1.04	-0.71/-0.43	-1.02/-2.28	-2.9/-2.82	-3.75/-5.57	-7.95/-10.95	-12.89/-12.9	-11.26/-7.25	-4.72/-3.82	-3.26/-2.45	-1.81/-1.57	-1.41/-0.8	-0.55/-0.06	0.82/1.53	1.14/-0.15	-0.99/-0.89	-1.91/-5.22	-9.63/-9.87	-8.45/-7.08
Θ(37.5°)	-4.66/-3.67	-3.54/-3.25	-2.59/-1.4	-0.54/-0.09	0.34/0.05	-1.66/-3.36	-3.68/-3.06	-2.39/-2.18	-1.16/-0.78	-2.57/-5.61	-8.46/-9.2	-11.88/-9.2	-7.6/-6.49	-4.98/-4.56	-2.88/-2.06	-2.56/-3.39	-5.15/-3.25	-0.43/-0.05	-0.71/-1.29	-1.11/-1.84	-3.42/-6.04	-9.67/-12.9	-18.17/-19.4	-18.36/-17.41
Θ(45°)	-10.63/-8.4	-6.31/-5.66	-4.27/-3.08	-1.31/-0.28	0.22/-0.24	-2.45/-4.14	-5.21/-5.15	-3.34/-1.82	-0.74/-1.22	-3.48/-6.58	-8.61/-9.33	-9.16/-8.48	-8.36/-7.5	-6.54/-5.8	-5.15/-5.51	-4.97/-4.95	-6.12/-5.47	-2.17/-0.95	-2.21/-1.97	-1.16/-1.7	-1.87/-3.13	-5.83/-7.79	-7.57/-9.59	-11.48/-12.63
Θ(52.5°)	-18.02/-16.35	-11.04/-8.07	-5.93/-3.49	-2.64/-1.07	-1.29/-0.91	-2.8/-4.94	-6.37/-6.52	-4.48/-3.4	-2.18/-3.25	-6.12/-8.52	-10.95/-14.56	-16.82/-9.72	-5.61/-5.39	-7.49/-8.26	-6.68/-6.43	-7.61/-9.25	-10.38/-7.63	-2.75/-1.8	-4.73/-4.12	-2.65/-4.28	-4.78/-6.82	-9.1/-9.47	-7.82/-9.3	-9.58/-11.54
Θ(60°)	-16.71/-7.39	-11.68/-9.92	-8.08/-5.43	-4.88/-3.65	-3.32/-1.85	-3.36/-5.85	-6.2/-7.56	-8.64/-7.7	-7.48/-5.96	-7.8/-9.28	-11.09/-15.52	-16.77/-8.95	-12.57/-12.5	-8.73/-8.95	-10.59/-13.31	-11.9/-8.47	-3.08/-2.4	-6.33/-6.94	-4.8/-5.43	-5.99/-11.37	-13.57/-12.01	-8.26/-8.54	-7.82/-9.52	-11.42/-8.91
Θ(67.5°)	-17.51/-15.55	-11.14/-12.06	-7.86/-5.33	-5.95/-6.44	-5.02/-2.43	-5.12/-6.54	-6.02/-7.27	-9.38/-11.61	-8.42/-9.48	-11.2/-12.77	-12.85/-16.46	-15.04/-13.2	-16.05/-17.4	-18.7/-17.72	-19.2/-15.01	-13.89/-8.32	-4.59/-3.75	-6.22/-9.73	-6.13/-5.87	-7.31/-17.63	-18.25/-16.87	-10.47/-9.3	-8.97/-8.79	-8.97/-8.79
Θ(75°)	-18.21/-15.89	-10.31/-11.51	-8.03/-5.3	-5.94/-9.66	-8.44/-7.81	-7/-8.48	-6.82/-8.32	-9.92/-15	-12.48/-13.3	-15.86/-18.29	-13.85/-12.56	-13.01/-15.63	-18.93/-18.39	-14.21/-16.46	-18.29/-9.39	-9.57/-14.8	-14.62/-9.72	-4.94/-6.75	-5.85/-11.55	-7.52/-5.35	-7.21/-16.47	-19.04/-19.29	-11.54/-10.76	-12.46/-10.02
Θ(82.5°)	-17.89/-16	-12.42/-14.71	-10.35/-5.03	-6.24/-12.22	-11.52/-10.23	-11.25/-10.44	-7.91/-10.04	-13.63/-17.78	-14.21/-17.53	-18.55/-18.33	-16.06/-13.85	-14.52/-15.63	-17.11/-17.66	-14.71/-15.71	-18.10/-10.35	-11.91/-14.9	-13.57/-9.09	-6.88/-6.42	-7.23/-14.23	-12.95/-6.78	-17.71/-18.4	-18.31/-18.48	-14.78/-13.45	-15.82/-11.07
Θ(90°)	-18.02/-13.54	-16.69/-15.1	-9.37/-5.87	-8.11/-14.02	-13.25/-16.83	-16.03/-12.34	-9.08/-10.71	-14.01/-18.31	-13.89/-18.08	-18.46/-19.01	-17.96/-15.96	-15.28/-16.23	-13.33/-15.07	-18.69/-13.06	-18.62/-13.55	-12.18/-18.23	-18.59/-15.9	-9.71/-12.58	-8.43/-14.41	-18.4/-12.17	-9.9/-18.3	-18.87/-18.38	-17.88/-18.32	-17.54/-14.22
Θ(97.5°)	-18.79/-12.46	-15.31/-13.15	-8.7/-0.3	-14/-14.75	-14.62/-18.22	-16.18/-13.6	-11.24/-15.12	-18.42/-18.06	-13.68/-18.1	-17.56/-16.9	-17.53/-19.27	-18.77/-15.1	-11.3/-15.17	-17.46/-13.47	-18.55/-18.94	-16.49/-19.1	-19.28/-19.3	-13.99/-19.82	-10.3/-14.58	-15.84/-18.1	-17.71/-19.07	-18.99/-16.6	-18.66/-18.29	-19.2/-19.23
Θ(105°)	-18.32/-17.23	-13.18/-14.46	-10.69/-12.18	-18.44/-16.95	-17.8/-18.21	-13.73/-13.48	-11.77/-16.18	-17.97/-16.59	-14.34/-18.1	-18.32/-18.29	-16.07/-18.59	-17.25/-16.52	-13.93/-13.54	-17.25/-19.39	-18.45/-19.37	-16.54/-18	-17.76/-19.04	-14.47/-16.32	-18.49/-15.03	-15.45/-19.1	-17.6/-17.65	-18.33/-17.67	-18.68/-19.03	
Θ(112.5°)	-17.75/-18.19	-19.1/-19.16	-15.67/-13.29	-17.02/-17.92	-18.91/-15.06	-10.64/-11.56	-12.78/-15.53	-11.51/-12.79	-13.89/-18.47	-18.34/-19.05	-14.63/-18.93	-18.18/-18.53	-16.38/-14.79	-14.48/-17.82	-18.16/-17.14	-17.73/-18.37	-18.58/-16.05	-18.44/-18.39	-18.37/-17.7	-17.95/-16.21	-11.71/-17.51	-14.97/-18.8	-17.88/-18.5	-18.36/-19.23
Θ(120°)	-12.68/-10																							



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(112.5°)	-6.06/8.64	-13.32/-17.16	-18.52/-13.71	-16.27/-18.01	-18.13/-18.07	-18.05/-16.55	-14.2/-17.56	-16.59/-12.22	-11.35/-11.69	-12.56/-17.66	-12.05/-6.84	-9.11/-10.14	-16.21/-18.72	-19.21/-18.56	-16.41/-17.92	-12.35/-18.81	-12.34/-12.38	-18.21/-13.1	-9.73/-14.71	-17.81/-13.05	-14.54/-18.15	-19.01/-12.23	-16.4/-18.79	-17.7/-8.87
Θ(120°)	-12.7/-14.89	-18.79/-17.93	-18.64/-18.74	-18.15/-18.04	-18.14/-16.98	-18.42/-18.54	-18.3/-18.47	-12.96/-10.9	-12.03/-15.39	-17.42/-16.26	-12.9/-10.92	-9.45/-8.35	-15.28/-18.41	-19.23/-16.95	-18.35/-16.1	-15.21/-12.29	-12.03/-12.07	-17.06/-17.44	-13.15/-17.66	-18.72/-17.71	-13.21/-18.09	-11.11/-18.74	-19.14/-16.47	-18.21/-8.79
Θ(127.5°)	-11.75/-17.89	-15.42/-13.6	-18.47/-16.46	-17.12/-18.44	-18.22/-18.21	-17.76/-18.86	-18.13/-15.06	-16.36/-16.27	-17.92/-12.73	-18.42/-14.58	-16.25/-14.15	-11.5/-10.3	-12.6/-18.97	-18.57/-17.86	-18.75/-12.23	-17.2/-11.63	-12.66/-17.27	-11.6/-10.87	-17.88/-16.21	-15.51/-19.2	-19.01/-18.22	-16.98/-17.88	-16.47/-13.77	-18.95/-16.19
Θ(135°)	-18.26/-17.14	-17.69/-17.92	-19.01/-17.73	-18.12/-18.42	-18.77/-18.48	-19.05/-18.87	-16.62/-15.73	-17.86/-17.92	-13.36/-12.29	-13.08/-14.54	-14.33/-14.16	-11.16/-11.17	-13.74/-19.35	-15.73/-17.98	-16.88/-15.7	-18.93/-17.09	-16.66/-13.59	-18.1/-15.21	-14.59/-12.64	-15/-17.31	-18.78/-16.1	-13.05/-18.81	-17.42/-19.23	-19.02/-14.34
Θ(142.5°)	-16.84/-16.93	-13.84/-12.82	-14.28/-18.35	-18.19/-18.95	-17.53/-19.02	-18.97/-18.42	-18.78/-17.48	-17.23/-15.46	-16.14/-15.74	-18.02/-16.58	-13.01/-11.96	-12.49/-12.91	-12.2/-11.73	-12.69/-16.81	-16.66/-17.28	-18.72/-17.81	-17.7/-18.98	-16.56/-13.44	-18.64/-18.16	-16.62/-18.4	-15.85/-13.74	-15.61/-17.98	-17.82/-15.37	-17.2/-18.39
Θ(150°)	-18.71/-17.83	-18.13/-17.91	-18.44/-18.81	-17.65/-19.22	-19.65/-18.49	-18.02/-18.32	-16.13/-16.88	-17.36/-17.87	-18.55/-16.27	-16.1/-14.71	-12.39/-10.88	-11.62/-12.6	-11.31/-11.8	-12.3/-12.35	-13.69/-17.88	-17.91/-17.77	-18.7/-18.27	-18.27/-17.29	-18.6/-19.26	-18.08/-19.02	-18.8/-18.96	-18.6/-18.23	-17.93/-15.75	-13.26/-17.81
Θ(157.5°)	-17.73/-17.75	-18.84/-18.52	-18.02/-18.63	-18.81/-18.83	-18.45/-17.39	-17.9/-17.93	-18.26/-18.97	-18.87/-18.35	-17.87/-18.6	-18.44/-16.52	-14.71/-15.01	-16.56/-16.15	-15.61/-15.65	-16.12/-15.34	-17.18/-17.65	-18.82/-18.26	-17.94/-17.75	-17.62/-17.57	-17.67/-19.21	-18.13/-18.18	-17.69/-18.03	-19.02/-17.43	-18.58/-17.41	-19.13/-18.38
Θ(165°)	-18.19/-18.5	-18.19/-17.4	-17.92/-18.32	-18.9/-17.92	-18.34/-17.94	-18.79/-18.31	-18.8/-17.27	-18.14/-18.03	-17.72/-18.23	-15.47/-13.42	-12.78/-14.74	-16.3/-18.17	-19.1/-19.13	-17.68/-18.79	-19.13/-19.14	-18.21/-18.06	-17.75/-17.57	-18.18/-18.86	-18.89/-18.26	-17.89/-18.21	-18.9/-18.49	-17.48/-17.72	-17.54/-19.03	-18.26/-18.62
Θ(172.5°)	-17.77/-18.79	-17.88/-17.48	-19.26/-17.87	-17.99/-18.51	-18.46/-17.57	-16.59/-14.88	-14.24/-14.62	-14.69/-14.98	-13.83/-13.22	-13.69/-13.91	-15.04/-15.73	-18.2/-18.64	-18.5/-17.94	-19.03/-18.86	-18.38/-17.12	-18.83/-15.92	-15.68/-17.59	-18.23/-18.84	-18.42/-17.56	-18.96/-17.82	-14.42/-13.02	-12.82/-14.3	-15.67/-17.17	-18.75/-18.93
Θ(180°)	-17.72/-18	-18.59/-18.97	-17.44/-17.99	-18.18/-18.38	-17.75/-16.94	-15.62/-14.54	-13.42/-13.32	-14.4/-15.12	-13.02/-13.02	-13.82/-13.84	-13.83/-14.72	-16.43/-17.01	-17.98/-18.97	-18.55/-19.02	-18.5/-18.25	-18.36/-18.87	-19.14/-17.3	-18.62/-17.74	-17.88/-17.91	-17.64/-16.72	-14.8/-14.31	-14.2/-15.32	-15.26/-15.68	-16.86/-17.25
Freq(Hz)	6.895GPol.	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°)	-2.21/-1.84	-1.56/-0.94	-0.610/0.4	0.490/0.4	1.11/1.22	1.110/87	0.740/75	0.25/-0.15	-0.58/-1.14	-1.77/-2.23	-2.48/-2.6	-2.83/-2.99	-2.89/-2.45	-1.79/-1.24	-0.87/-0.41	0.120/56	0.871/05	1.22/108	1.051/39	1.230/81	0.50/0.7	-0.85/-1.34	-1.82/-2.24	-2.24/-2.61
Θ(7.5°)	-1.98/-1.81	-1.46/-1.22	-0.880/-11	0.68/1.21	0.79/1.27	1.18/1.3	1.0/47	-0.25/-0.85	-1.29/-1.47	-1.5/-1.37	-1.3/-1.51	-1.79/-2.28	-2.44/-2.32	-1.69/-1.15	-0.68/-0.2	0.170/47	0.8/1	1.08/1.2	1.6/2/16	2.44/2/61	2.612/42	1.910/98	0.04/-0.87	-1.6/-2.09
Θ(15°)	-1.69/-0.96	-0.060/45	0.680/77	0.240/37	0.82/1.6	1.97/1.93	1.28/-0.2	-1.74/-2.45	-2.03/-1.23	-1.1/-1.23	-1.59/-2.5	-3.32/-4.2	-4.45/-4.26	-3.74/-2.78	-2.05/-1.13	-0.230/46	0.85/1.2	1.31/1/17	1.18/1/52	2.1/2/68	2.762/81	2.31/1/46	0.24/-1.05	-1.97/-2.3
Θ(22.5°)	0.61/1.15	1.49/1.5	1.260/62	0.09/-0.58	-1.39/-1.49	-0.330/47	0.16/-1.08	-2.25/-2.01	-1.54/-1.19	-1.99/-3.49	-4.3/-4.53	-4.53/-5.2	-6.19/-7.1	-6.78/-6.08	-5.18/-3.85	-2.57/-1.8	-1.01/-0.13	0.130/39	0.82/1/63	2.27/2/5	2.28/1/36	0.50/8	10/26	-0.27/-0.11
Θ(30°)	-0.590/2	-0.55/-1.42	-2.6/-2.42	-1.28/-1.14	-1.95/-3.55	-1.66/-0.04	0.33/-0.81	-3/-4.04	-3.65/-3.83	-5.4/-6.76	-5.88/-4.84	-7.49/-4.74	-4.04/-4.25	-4.46/-3.75	-2.91/-2.01	-1.74/-1.51	-1.5/-1.33	-0.970/12	0.87/1/07	1.090/86	0.370/02	-0.36/-0.76	-1.12/-2.47	-2.38/-1.1
Θ(37.5°)	-2.6/-1.83	-1.49/-2.68	-3.52/-3.61	-2.51/-0.69	-0.59/-2.56	-2.44/-1.26	-0.82/-2/67	-6.69/-8.19	-7/02/-7.4	-8.71/-8.3	-9.34/-9.63	-7.95/-5.49	-8.21/-2.85	-2.37/-1.33	-1.42/-0.92	-0.51/-0.28	-0.17/-0.88	-0.370/68	1.06/1/22	1.260/38	-1.04/-8	-0.68/-2.17	-5.1/-7.25	-7.3/-4.43
Θ(45°)	-5.84/-3.76	-2.32/-1.96	-1.37/-1.46	-2.52/-1.85	-1.11/-1.67	-3.1/-2.38	-1.77/-3.83	-7.18/-9.93	-9.12/-9.3	-8.02/-8.71	-11.6/-9.79	-9.15/-7.55	-6.26/-4.45	-4.07/-2.9	-1.99/-1.79	-1.23/-1.34	-1.45/-1.43	-0.48/-0.13	0.650/94	0.12/-0.39	-0.98/-0.97	-1.67/-5.35	-7.23/-7.25	-7.41/-6.89
Θ(52.5°)	-13.7/-8.75	-4.4/-2.99	-1.34/-1.79	-3.05/-8.27	-2.26/-3.02	-6/-5.35	-3.64/-4.16	-5.43/-10.45	-19/-14.12	-9.3/-12.04	-11.91/-14.03	-12.08/-10.72	-9.54/-6.02	-5.77/-6.09	-5/-4.16	-3.58/-3/07	-3.14/-8.23	-2.37/-2.04	-1.97/-2.14	-3.03/-3.28	-3.2/-2.4	-5.06/-6.96	-6.07/-5	-6.2/-8.29
Θ(60°)	-18.37/-15.42	-7.85/-4.59	-4.05/-4.55	-6.04/-4.74	-5.95/-5.18	-7.95/-9.27	-5.27/-14.97	-19.27/-19.06	-10.84/-14.34	-10.94/-10.78	-13.08/-13.77	-8.57/-6.9	-6.91/-7.77	-6.32/-6.12	-5.82/-4.69	-6.33/-5.87	-3.95/-1.21	-3.74/-4.9	-3.48/-4.15	-6.22/-4.52	-7.84/-8.78	-7.33/-6.04	-17.4/-18.62	
Θ(67.5°)	-18.79/-17.65	-11.01/-6.15	-5.59/-7.81	-9.73/-6.4	-7.52/-6.56	-11.27/-7.79	-5.28/-4.87	-6.81/-12.45	-18.53/-18.92	-14.62/-18.46	-11.76/-11.79	-13.32/-10.28	-6.25/-4.72	-8.08/-12.7	-12.63/-7.72	-6.62/-6.03	-10.62/-10.59	-2.63/-0.39	-5.19/-6.39	-2.55/-2.95	-6.57/-7.84	-10.45/-10.84	-10.32/-8.19	-12.06/-11.48
Θ(75°)	-18.75/-18.04	-13.42/-8.12	-6.44/-10.25	-1.85/-3.39	-7.96/-10.54	-8.85/-9.03	-7.59/-8.27	-9.25/-12.95	-17.96/-18.06	-18.08/-18.17	-15.34/-13.55	-12.69/-7.92	-5.14/-3.85	-8.72/-13.33	-18.51/-10.76	-9.39/-6.59	-12.07/-11	-3.6/-1.14	-5.44/-10.47	-3.68/-1.91	-5.72/-13.61	-15.25/-16.2	-13.99/-11.47	-16.27/-15.89
Θ(82.5°)	-18.35/-17.19	-16.85/-9.16	-8.44/-11.62	-15.25/-11.84	-8.88/-8.08	-10.22/-10.37	-15.88/-18.27	-10.87/-18.92	-17.84/-18.7	-18.17/-17.13	-9.41/-7.32	-5.65/-5.58	-9.42/-16.6	-18.57/-13.59	-15.69/-8.73	-13.58/-11.28	-6.84/-16.78	-7.54/-3.22	-5.33/-18.67	-19.69/-19.36	-16.31/-18.04	-17.4/-18.62		
Θ(90°)	-19.11/-18.78	-19.36/-9.47	-10.61/-11.38	-18.65/-14.81	-11.63/-7.89	-12.87/-11.42	-10.52/-18.28	-15.41/-18.57	-18.22/-17.99	-17.51/-19.22	-18.02/-19.36	-10.04/-9.74	-8.24/-4.17	-8.16/-13.31	-12.87/-18.15	-14.55/-10.98	-18.92/-14.95	-10.47/-8.37	-11.83/-18.61	-15.97/-6.53	-5.71/-18.42	-17.95/-18.9	-19.71/-17.84	-19.25/-17.76
Θ(97.5°)	-18.29/-18.7	-19.14/-10.34	-14.17/-13.97	-18.8/-15.77	-13.83/-8.71	-14.77/-12.79	-12.93/-17.12	-18.4/-17.91	-18.78/-19.09	-19.08/-19.26	-17.76/-17.51	-11.06/-12.26	-11.57/-5.35	-9.69/-13.25	-12.9/-17.62	-19.03/-14.75	-17.76/-17.75	-16.88/-17.87	-17.49/-17.65	-19.03/-15.42	-10.39/-13.47	-17.86/-17.95	-17.65/-18.59	-18.36/-18.61
Θ(105°)	-17.14/-17.06	-18.95/-16.91	-16.53/-16.08	-18.34/-12.12	-14.16/-11.15	-19.58/-17.95	-18.38/-17.09	-18.34/-18.3	-19.41/-18.51	-18.32/-17.64	-17.57/-18.89	-15.07/-16.07	-18.28/-17.33	-9.44/-14.28	-13.61/-13.43	-14.21/-17.75	-16.57/-18.67	-16.03/-18.17	-18.33/-16.98	-16.14/-13.93	-14.27/-17.45	-13.72/-18.66	-19.1/-19.18	-18.87/-18.36
Θ(112.5°)	-18.45/-19.12	-18.78/-16.66	-13.47/-18.16	-18.71/-12.29	-14.49/-16.6	-18.25/-18.69	-19.43/-17.15	-16.48/-18.92	-17.46/-17.92	-18.62/-17.63	-17.59/-18.92	-17.83/-18.21	-17.35/-9.85	-9.08/-13.7	-15.14/-13.49	-13.4/-12.48	-12.88/-10.56	-18.01/-17.69	-18.41/-17.7	-18.15/-18.47	-14.48/-14.86	-17.67/-17.29	-19.05/-19.27	-18.17/-17.36
Θ(120°)	-18.67/-18.64	-16.25/-13.51	-16.49/-14.78	-16.13/-14.68	-17.75/-18.42	-18.84/-18.98	-17.81/-18.89	-16.03/-17.48	-17.87/-17.73	-18.18/-18.98	-18.66/-19.5	-17.57/-18.03	-18.79/-15.61	-10.84/-11.86	-13.33/-13.88	-14.86/-10.68	-10.57/-12.87	-14.54/-18.06	-18.97/-18.79	-18.89/-18.7	-13.49/-17.7	-18.06/-17.9	-16.91/-18.47	-18.58/-17.64
Θ(127.5°)	-15.7/-18.7	-18.95/-18.19	-18.25/-14.76	-15.88/-18.7	-17.38/-17.92	-17.96/-15.72	-17.74/-18.78	-18.4/-18.16	-19.32/-18.82	-17.74/-18.25	-19.31/-18.2	-18.98/-18.14	-18.56/-15.29	-13.41/-10.58	-12.06/-10.56	-17.62/-11.12	-9.58/-17.54	-13.44/-18.11	-17.29/-18.55	-19.19/-14.72	-12.29/-15.97	-18.54/-17.36	-18.55/-18.05	-18.21/-17.73
Θ(135°)	-18.68/-18.96	-19.21/-18.82	-17.09/-16.85	-15.64/-18.29	-17.84/-16.77	-16.33/-18.96	-17.56/-17.16	-18.89/-18.57	-17.41/-18.19	-19.44/-17.03	-18.98/-18.93	-16.38/-17.9	-18.58/-16.72	-16.72/-10.86	-11.41/-11.06	-13.45/-16.67	-11.21/-18.16	-18.05/-19.02	-15.84/-17.98	-18.11/-17.18	-14.81/-17.73	-19.08/-19.19	-19.09/-19.26	-18.51/-16.61
Θ(142.5°)	-17.26/-17.34	-18.7/-18.94	-18.91/-18.07	-18.78/-18.95	-17.31/-18.12	-16.81/-17.15	-17.87/-18.61	-17.69/-18.53	-18.53/-17.39	-16.07/-12.59	-14.69/-18.54	-17.99/-19	-17.58/-17.99	-18.76/-17.8	-18.63/-19.03	-18.14/-17.24	-13.66/-15.82	-18.34/-16.84	-17.99/-18.94	-18.23/-18	-18.61/-18.57	-19.24/-19.19	-17.89/-18.06	-18.42/-19.04
Θ(15°)	-17.42/-18.13	-17.72/-19.02	-19.05/-18.08	-17.22/-18.26	-18.5/-18.26	-17.65/-18.78	-19.54/-18.16	-17.84/-18.5	-18.86/-16.26	-18.22/-17.53	-17.19/-18.96	-18.48/-18.73	-17.59/-19.49	-18.96/-19.01	-18.03/-18.52	-17.7/-18.35	-18.96/-16.31	-17.62/-19.28	-18.4/-19.41	-17.66/-18.96	-17.67/-18.14	-19.27/-18.38	-18.8/-18.67	



Antenna Pattern of 2.4GHz and 5GHz

Appendix C

Total Gain Data

Freq(Hz)	2.45G/Pol.	TotalAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	5.905.96	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	5.915.74	
Θ(7.5°)	5.845.87	5.815.67	5.475.20	4.844.34	3.763.10	2.481.90	1.471.29	1.391.79	2.413.08	3.774.41	4.925.38	5.736.01	6.166.18	6.045.76	5.344.81	4.213.58	2.942.36	1.821.41	1.211.22	1.471.93	2.473.06	3.614.14	4.655.08	5.455.70
Θ(15°)	5.665.65	5.575.40	5.194.93	4.584.10	3.603.00	2.391.83	1.421.16	1.231.63	2.262.99	3.744.40	4.955.40	5.756.00	6.146.13	5.975.64	5.184.61	3.943.24	2.561.95	1.451.05	0.820.81	1.071.54	2.102.71	3.313.87	4.414.87	5.275.53
Θ(22.5°)	5.235.23	5.104.90	4.634.30	3.943.49	2.982.45	1.921.46	1.090.87	0.901.29	1.962.76	3.594.31	4.895.36	5.705.90	5.965.88	5.645.23	4.674.01	3.242.49	1.791.22	0.780.39	0.130.14	0.420.89	1.492.12	2.753.34	3.924.42	4.845.12
Θ(30°)	4.554.58	4.484.24	3.903.47	2.972.41	1.851.32	0.840.51	0.270.09	0.170.57	1.262.16	3.103.92	4.585.06	5.395.57	5.585.45	5.154.72	4.093.37	2.511.65	0.900.34	-0.08-0.40	-0.64-0.62	-0.350.11	0.661.23	1.852.50	3.123.64	4.074.41
Θ(37.5°)	3.573.74	3.763.58	3.212.65	1.941.15	0.38-0.31	-0.80-1.02	-1.06-1.04	-0.92-0.47	0.341.41	2.543.49	4.214.74	5.055.16	5.074.82	4.413.86	3.192.42	1.530.63	-0.18-0.75	-1.14-1.45	-1.69-1.68	-1.34-0.88	-0.430.09	0.781.50	2.192.70	3.123.41
Θ(45°)	2.342.59	2.762.68	2.311.67	0.76-0.30	-1.36-2.30	-2.94-3.07	-2.86-2.62	-2.38-1.91	-0.94-0.35	1.662.72	3.564.13	4.484.57	4.434.08	3.522.85	2.081.33	0.45-0.47	-1.42-2.18	-2.66-3.00	-3.25-3.12	-2.63-2.03	-1.51-0.92	-0.180.64	1.291.65	1.872.08
Θ(52.5°)	0.671.10	1.341.25	0.840.13	-0.92-2.20	-3.46-4.68	-5.67-5.87	-5.24-4.52	-4.14-3.66	-2.44-0.79	0.751.92	2.783.43	3.783.86	3.633.13	2.441.63	0.820.05	-0.76-1.72	-2.83-3.86	-4.56-4.94	-4.93-4.47	-3.58-2.70	-2.06-1.49	-0.71-0.03	0.290.27	0.180.30
Θ(60°)	-1.42-0.77	-0.47-0.67	-1.20-2.03	-3.15-4.48	-5.64-6.78	-8.05-8.99	-8.30-6.92	-6.18-5.65	-4.19-2.40	-0.430.79	1.682.35	2.752.87	2.672.19	1.500.62	-0.33-1.32	-2.35-3.47	-4.79-6.07	-6.93-7.08	-6.74-6.10	-4.98-3.91	-3.22-2.52	-1.68-1.09	-1.02-1.55	-2.06-1.98
Θ(67.5°)	-3.55-2.79	-2.49-2.79	-3.59-4.66	-6.00-7.51	-8.47-8.92	-9.65-10.71	-10.63-9.38	-8.58-7.99	-6.00-3.48	-1.53-0.31	0.521.13	1.541.59	1.360.91	0.27-0.73	-1.99-3.43	-4.76-5.97	-7.19-8.20	-8.56-8.41	-8.46-8.19	-6.85-5.40	-4.44-3.57	-2.69-2.13	-2.40-3.23	-4.11-4.28
Θ(75°)	-6.05-5.62	-5.46-5.85	-6.39-7.14	-8.06-9.32	-10.82-11.77	-12.38-12.74	-12.13-10.76	-10.27-10.29	-8.24-5.11	-2.90-1.64	-0.82-0.19	0.240.31	0.07-0.32	-0.91-1.91	-3.33-4.79	-6.01-7.11	-8.16-9.03	-9.76-10.33	-10.86-9.96	-8.05-6.18	-5.31-4.69	-3.99-3.64	-4.29-5.46	-6.41-6.44
Θ(82.5°)	-7.95-8.29	-9.17-9.96	-10.16-9.86	-9.62-11.03	-10.84-11.81	-13.10-14.02	-13.85-12.62	-11.61-12.19	-10.07-6.14	-3.61-2.37	-1.78-1.33	-1.10-1.21	-1.53-1.87	-2.34-3.13	-4.14-5.36	-6.95-8.70	-10.48-11.66	-12.52-13.13	-12.66-11.57	-9.73-8.52	-6.38-7.68	-4.64-6.08	-6.74-7.80	-8.02-9.71
Θ(90°)	-10.66-12.30	-14.22-15.42	-14.77-12.00	-10.64-11.33	-13.04-13.33	-12.82-13.19	-14.07-13.47	-11.66-12.17	-12.19-8.39	-5.10-3.62	-3.08-2.79	-2.68-2.75	-3.07-3.35	-3.69-4.08	-4.83-6.15	-8.00-10.14	-12.22-13.49	-13.75-14.07	-13.85-13.43	-13.73-14.46	-12.24-9.83	-8.12-7.48	-7.89-8.53	-8.94-9.53
Θ(97.5°)	-13.23-15.14	-15.60-15.14	-14.67-12.92	-10.62-11.12	-14.86-15.34	-14.10-12.62	-14.91-15.08	-12.29-12.04	-12.55-9.71	-6.60-5.16	-4.74-4.42	-4.24-4.30	-4.65-5.06	-5.25-5.33	-5.74-6.73	-8.04-9.72	-12.67-14.62	-15.61-15.71	-14.85-14.28	-15.05-15.30	-13.60-11.11	-9.25-8.69	-8.51-8.53	-8.94-10.46
Θ(105°)	-14.51-14.99	-15.45-15.05	-15.75-13.77	-11.37-11.64	-15.03-15.17	-14.34-12.51	-13.66-14.90	-14.48-13.89	-14.03-12.40	-8.77-6.91	-6.08-6.53	-5.60-6.88	-6.80-6.39	-6.33-6.80	-7.62-9.81	-12.19-14.96	-15.63-15.92	-14.80-15.82	-15.15-15.69	-15.63-16.09	-11.80-10.75	-9.76-9.31	-9.91-12.01	
Θ(112.5°)	-15.40-15.64	-14.25-14.60	-16.10-14.59	-11.76-12.36	-14.97-14.91	-15.44-13.48	-15.33-15.35	-14.09-14.35	-14.57-14.68	-11.70-9.32	-7.96-7.45	-7.50-7.89	-8.12-8.13	-7.91-7.46	-7.42-7.71	-8.58-10.04	-11.51-13.11	-15.91-15.42	-15.01-15.85	-15.15-15.84	-14.69-12.81	-11.21-10.53	-9.96-9.75	-10.84-12.99
Θ(120°)	-15.13-15.00	-13.63-14.64	-15.22-14.86	-13.61-14.17	-15.93-14.97	-13.90-12.87	-15.03-15.76	-14.87-14.91	-14.58-15.52	-14.09-12.12	-10.80-10.41	-10.27-10.04	-10.10-10.11	-10.62-10.80	-10.47-10.01	-9.89-9.70	-10.34-11.73	-14.57-14.95	-16.23-15.43	-15.57-15.85	-15.94-15.81	-14.24-13.31	-12.37-12.62	-13.69-15.78
Θ(127.5°)	-15.56-14.36	-13.45-14.53	-14.86-15.26	-15.44-15.97	-15.55-15.46	-13.33-13.04	-14.37-15.08	-14.96-15.77	-15.25-14.85	-15.71-15.49	-14.01-13.94	-12.87-12.00	-11.53-11.90	-13.44-14.08	-13.07-11.53	-10.14-9.66	-10.24-12.12	-14.61-14.60	-14.15-14.29	-15.55-15.43	-16.03-15.04	-15.19-15.70	-14.84-17.41	-15.05-14.68
Θ(135°)	-16.17-15.51	-15.55-15.66	-15.42-15.25	-15.56-14.55	-15.55-15.20	-14.97-15.19	-15.29-15.34	-15.51-15.34	-15.82-15.70	-14.91-13.62	-15.23-15.23	-14.80-13.59	-13.40-13.60	-13.81-13.94	-12.96-11.67	-10.59-10.14	-10.80-12.27	-13.93-14.18	-14.00-14.61	-15.39-15.45	-14.68-14.71	-14.98-15.05	-15.64-15.03	-14.69-15.03
Θ(142.5°)	-16.44-15.93	-15.61-15.03	-15.31-15.06	-14.83-15.32	-15.40-15.86	-15.02-15.13	-15.62-15.07	-15.68-15.24	-16.14-15.04	-15.46-15.51	-15.49-15.20	-16.03-14.82	-13.96-13.58	-13.37-12.81	-11.76-11.19	-10.97-11.31	-11.92-13.31	-14.46-14.80	-16.12-15.42	-15.25-15.63	-15.37-14.78	-15.31-15.81	-15.07-15.49	-15.20-14.91
Θ(150°)	-15.09-15.20	-15.67-15.49	-15.60-14.77	-15.86-15.87	-15.02-15.97	-14.20-14.37	-16.75-14.52	-15.69-15.83	-15.62-15.54	-15.36-15.07	-15.26-15.58	-15.30-14.87	-13.96-13.15	-13.08-13.76	-14.10-14.07	-14.69-14.78	-15.20-15.33	-15.68-15.34	-15.59-16.05	-15.24-15.96	-15.61-15.52	-15.39-15.93	-15.18-15.58	-15.63-15.71
Θ(157.5°)	-14.54-15.81	-15.25-15.53	-14.63-15.27	-15.39-15.69	-15.12-14.75	-14.54-14.60	-15.62-15.80	-14.90-15.65	-14.68-15.79	-15.27-15.07	-14.53-14.35	-13.88-13.82	-14.38-14.41	-14.77-15.61	-15.63-14.82	-15.06-15.29	-15.21-15.12	-15.71-15.46	-15.14-15.57	-15.20-14.99	-15.68-15.30	-14.62-15.54	-14.99-14.98	-15.47-15.70
Θ(165°)	-15.07-14.87	-14.97-15.08	-14.66-15.65	-15.33-15.63	-15.13-14.80	-15.13-14.80	-15.13-14.80	-15.12-15.15	-15.19-15.24	-15.07-16.40	-15.69-14.86	-15.16-15.89	-15.80-16.05	-14.95-16.23	-16.21-15.35	-15.11-15.46	-15.45-15.97	-15.20-14.99	-15.68-15.30	-14.62-15.54	-14.99-14.98	-15.47-15.70	-15.24-15.44	-15.63-16.01
Θ(172.5°)	-15.00-15.58	-15.85-15.82	-15.81-15.16	-15.53-14.80	-14.99-15.12	-15.80-15.05	-15.23-15.40	-15.28-14.98	-15.97-14.52	-15.04-15.09	-15.61-15.79	-15.14-14.57	-16.00-15.03	-15.43-15.42	-15.93-15.54	-15.71-15.73	-15.13-15.69	-15.21-15.05	-15.39-15.16	-14.97-15.52	-15.89-15.62	-15.24-15.60	-15.49-15.29	-15.96-14.92
Θ(180°)	-15.59-15.07	-16.05-15.85	-15.33-15.86	-15.25-14.69	-15.32-15.42	-15.88-14.81	-15.94-15.06	-15.07-15.46	-15.72-15.61	-16.09-15.01	-15.48-14.99	-15.36-15.20	-15.89-14.58	-15.99-16.15	-15.03-15.41	-15.73-15.14	-15.30-16.00	-15.10-16.00	-14.73-14.96	-15.23-15.44	-14.84-15.77	-15.10-15.89	-14.71-14.89	-14.87-14.97
Freq(Hz)	5.2G/Pol.	TotalAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	5.014.96	4.844.63	4.414.09	3.973.75	3.613.23	2.889.57	2.362.87	3.023.20	3.423.78	4.124.33	4.504.58	4.654.69	4.714.76	4.724.50	4.314.05	3.743.43	3.072.73	2.582.54	2.582.69	2.803.05	3.463.86	4.154.35	4.574.72	4.985.07
Θ(7.5°)	5.235.24	5.144.89	4.584.19	3.913.73	3.613.37	3.243.08	3.083.24	3.203.12	3.213.35	3.333.37	3.404.15	2.912.87	2.752.68	2.582.51	2.241.33	2.171.84	1.421.00	0.851.10	1.591.95	2.272.69	3.063.50	3.844.16	4.434.70	4.955.12
Θ(15°)	5.665.76	5.775.70	5.374.93	4.343.90	3.843.72	3.593.19	3.093.05	3.062.85	2.662.53	2.222.07	1.861.47	1.311.46	1.651.75	1.851.88	1.881.72	1.410.96	0.45-0.06	-0.120.23	0.671.22	1.672.15	2.623.22	3.814.18	4.484.79	5.255.51
Θ(22.5°)	5.305.42	5.415.31	5.014.63	4.293.91	3.493.16	3.033.13	3.213.11	2.782.29	2.152.07	1.991.76	1.491.28	1.040.63	0.330.13	0.200.47	0.630.79	0.800.43	-0.19-0.74	-0.62-0.31	-0.120.19	0.931.81	2.653.43	3.974.36	4.614.67	4.745.05
Θ(30°)	3.743.95	4.174.09	4.004.85	3.873.95	3.753.23	2.672.12	1.481.16	1.141.11	0.930.93	0.710.69	1.091.61	1.520.84	0.09-0.51	-0.79-0.55	-0.26-0.00	0.250.11	-0.57-1.42	-0.27-2.19	-1.95-1.18	-0.170.90	2.052.97	3.654.11	4.223.93	3.963.49
Θ(37.5°)	1.381.76	2.172.18	2.252.36	2.753.33	3.553.14	2.351.16	0.410.47	0.58-0.02	-0.66-1.37	-2.02-1.74	-0.071.46</													



Antenna Pattern of 2.4GHz and 5GHz

Appendix C

Θ(22.5°)	1.20/0.92	0.44/0.40	0.12/0.35	0.94/1.88	2.58/2.99	2.85/2.28	1.49/1.76	2.77/2.82	2.38/1.35	0.67/0.27	0.20/0.09	0.07/0.40	0.67/0.82	0.66/0.35	-1.13/-1.26	-0.58/0.21	0.63/0.75	0.61/0.14	0.08/0.87	1.49/1.85	1.97/2.12	2.42/2.51	1.90/1.22	0.95/1.18
Θ(30°)	1.04/0.74	0.41/0.44	0.47/0.32	0.48/1.29	2.13/2.78	2.58/1.36	0.41/0.72	1.23/1.33	0.37/-1.58	-1.50/0.07	0.12/-0.81	-1.21/-0.80	0.13/0.76	0.84/0.74	0.55/0.43	0.29/-0.17	-0.33/-1.21	-2.56/-2.55	-0.93/0.21	0.15/-0.20	0.43/1.14	0.94/0.34	0.02/0.50	
Θ(142.5°)	0.62/0.73	0.82/1.09	0.59/-0.13	0.43/2.04	3.22/3.38	2.03/-0.17	-0.24/0.12	0.30/-0.17	-1.79/-3.48	-1.36/-0.16	-0.88/-1.93	-2.44/-2.86	-2.87/-1.50	0.21/1.46	1.89/-1.59	1.26/0.80	-0.60/-2.09	-3.11/-4.17	-4.82/-4.10	-3.46/-1.88	-0.77/-1.25	-0.63/0.44	0.69/0.11	-0.91/0.56
Θ(45°)	0.16/0.93	0.82/1.98	1.23/-0.63	-0.75/1.01	2.70/3.20	2.02/-0.70	0.15/0.74	-0.21/-0.92	-1.84/-3.27	-2.61/-1.75	-1.34/-0.70	-0.08/0.37	-0.26/-1.43	-1.40/-0.46	0.75/1.11	0.90/0.42	-0.79/-2.63	-6.14/-10.22	-9.62/-8.22	-5.60/-2.22	-0.38/-1.69	-1.82/-0.38	0.52/1.32	0.68/0.35
Θ(52.5°)	-1.50/0.80	-0.14/0.61	-0.27/-1.24	-0.58/0.13	0.46/0.44	0.77/-0.63	-0.46/0.23	-1.21/-1.40	-1.67/-3.06	-2.20/-0.38	0.42/0.01	1.43/3.19	3.60/-1.51	-0.38/0.32	0.80/0.17	-0.60/-0.81	-1.24/-3.31	-6.94/-9.56	-10.86/-7.81	-3.59/-1.61	-1.36/-3.08	-2.37/-0.34	0.17/0.33	-0.12/-1.98
Θ(60°)	0.25/1.52	0.39/-0.61	-4.01/-5.45	-3.38/-2.33	-1.66/-0.09	-2.56/-1.06	-1.18/-1.32	-3.73/-4.22	-0.99/-2.27	-1.94/-0.74	0.71/1.92	0.99/2.57	4.72/3.81	0.67/-1.25	-0.47/0.47	0.54/-0.72	-1.10/-3.93	-6.03/-8.59	-9.22/-7.36	-3.75/-2.47	-0.88/-0.64	0.19/1.07	1.30/0.44	-0.65/-0.07
Θ(67.5°)	0.45/1.65	1.89/-0.03	-3.69/-4.80	-4.39/-3.89	-3.39/-1.96	-1.20/-1.18	-3.29/-5.26	-5.73/-8.00	-4.86/-2.21	-0.83/0.24	1.56/2.50	1.42/2.31	4.10/4.37	1.88/0.83	-0.13/0.40	-0.29/-0.98	-0.59/-3.41	-5.22/-6.21	-6.46/-4.36	-2.10/-2.85	-0.79/-0.40	1.28/2.46	1.40/-0.23	-0.40/1.50
Θ(75°)	-0.70/1.75	1.69/-0.90	-4.59/-4.22	-5.42/-7.48	-2.79/-0.23	-1.12/-2.32	-4.91/-6.42	-6.17/-12.37	-6.24/-2.68	-0.15/0.46	1.16/1.94	2.27/2.14	1.55/2.91	1.59/-2.15	-2.14/-1.66	-0.92/-0.67	-0.45/-2.85	-4.36/-4.81	-5.60/-5.06	-2.14/-2.09	-0.12/0.84	0.92/1.07	0.00/-2.70	-1.38/1.45
Θ(82.5°)	-2.94/0.32	0.36/-3.18	-6.43/-6.35	-6.52/-9.79	-3.56/-1.42	-2.27/-2.86	-4.60/-4.65	-7.86/-12.38	-7.48/-5.63	-2.45/-1.33	-0.56/0.45	2.43/2.48	0.30/1.34	0.73/-3.12	-3.08/-2.93	-1.71/-1.47	-1.81/-3.38	-5.87/-5.39	-6.16/-4.98	-1.81/-1.06	0.11/0.40	0.57/0.38	-0.42/-3.28	-0.75/0.89
Θ(90°)	-4.55/-1.79	-1.55/-1.76	-5.15/-12.62	-7.71/-10.19	-4.53/-2.78	-5.20/-3.86	-4.47/-4.24	-8.20/-9.65	-6.02/-7.20	-5.93/-3.52	-2.07/-0.77	1.48/3.23	-0.19/-2.58	-1.49/-4.14	-6.64/-6.60	-4.44/-2.08	-1.23/-2.82	-8.51/-9.81	-11.70/-5.80	-2.60/-1.96	-1.45/-1.03	-1.34/-1.43	-2.05/-4.56	-1.44/-0.80
Θ(97.5°)	-5.92/-4.59	-3.79/-3.27	-5.29/-14.08	-8.63/-6.89	-6.69/-10.27	-8.21/-6.74	-5.31/-5.33	-15.80/-7.21	-7.70/-7.63	-7.67/-4.68	-3.55/-2.62	-0.43/-1.55	-0.79/-4.17	-3.55/-4.36	-8.25/-10.04	-5.86/-4.39	-3.67/-3.77	-7.10/-7.42	-12.39/-11.24	-5.51/-4.66	-7.24/-5.02	-4.59/-4.55	-3.57/-5.16	-1.63/-2.25
Θ(105°)	-6.46/-9.44	-10.01/-8.59	-6.37/-9.93	-11.18/-11.24	-10.76/-9.53	-5.87/-5.18	-8.11/-8.57	-15.63/-6.48	-8.02/-6.09	-6.75/-5.23	-3.49/-3.54	-2.34/0.27	0.11/2.23	-6.12/-6.11	-10.55/-12.88	-4.90/-5.09	-5.16/-3.17	-3.58/-6.08	-8.84/-13.67	-11.13/-8.60	-5.22/-6.21	-7.83/-7.67	-5.17/-6.95	-4.85/-2.81
Θ(112.5°)	-4.93/-9.03	-9.73/-5.58	-7.93/-12.37	-15.21/-15.09	-12.25/-5.07	-5.82/-6.56	-10.61/-13.98	-14.60/-8.96	-8.21/-6.17	-6.19/-3.10	-2.82/-3.43	-2.95/-4.11	-1.99/-3.92	-6.20/-7.47	-10.62/-8.20	-9.79/-12.22	-10.43/-9.82	-5.89/-2.81	-2.94/-9.96	-11.81/-5.95	-8.84/-9.57	-5.61/-4.24	-4.50/-6.35	-4.52/-1.97
Θ(120°)	-6.22/-6.61	-6.61/-11.52	-13.85/-12.86	-15.28/-10.76	-9.10/-7.04	-10.13/-10.84	-14.55/-14.26	-12.14/-6.73	-7.26/-8.52	-6.56/-4.18	-3.11/-3.86	-4.40/-4.49	-5.93/-7.56	-7.41/-6.06	-9.60/-9.26	-12.92/-11.22	-8.11/-9.34	-4.88/-6.35	-7.67/-4.25	-7.33/-5.03	-8.33/-12.18	-10.83/-12.21	-8.82/-5.06	
Θ(127.5°)	-14.20/-10.87	-15.15/-9.88	-7.22/-9.84	-8.84/-8.81	-8.87/-10.08	-9.72/-9.52	-10.55/-9.37	-11.32/-9.50	-7.82/-9.02	-6.63/-4.20	-2.86/-3.55	-4.41/-5.10	-7.76/-12.44	-13.30/-10.05	-9.08/-6.27	-5.67/-7.80	-6.48/-8.38	-8.02/-8.01	-7.54/-14.62	-13.31/-13.26	-11.47/-5.04	-6.65/-10.81	-13.21/-9.92	-11.60/-9.48
Θ(135°)	-7.55/-7.03	-11.66/-8.83	-11.20/-10.92	-8.34/-12.69	-12.79/-9.03	-8.18/-7.27	-10.73/-11.09	-10.62/-7.59	-6.29/-9.88	-10.54/-7.31	-4.80/-5.33	-5.36/-5.07	-6.93/-8.98	-8.19/-6.40	-9.12/-11.01	-10.91/-12.10	-6.89/-6.93	-9.94/-12.04	-5.60/-8.43	-14.97/-12.28	-8.77/-10.45	-15.56/-9.70	-10.86/-15.13	-13.37/-12.83
Θ(142.5°)	-12.51/-13.12	-10.69/-9.82	-9.12/-9.60	-10.29/-6.54	-5.59/-9.23	-9.87/-8.92	-11.14/-11.53	-9.67/-8.10	-4.31/-12.95	-13.31/-8.92	-8.37/-8.25	-7.84/-8.47	-8.07/-7.01	-7.48/-7.97	-7.78/-10.07	-13.57/-10.71	-11.87/-8.95	-3.47/-6.06	-5.35/-8.23	-9.87/-11.42	-13.66/-12.33	-7.09/-6.50	-6.94/-8.65	-9.46/-10.86
Θ(150°)	-13.27/-11.41	-10.83/-12.47	-15.52/-9.14	-10.94/-6.50	-6.09/-14.10	-12.63/-9.38	-12.97/-14.33	-11.57/-9.73	-9.74/-10.75	-10.90/-9.30	-7.83/-7.65	-7.93/-8.72	-9.33/-10.54	-13.22/-15.32	-11.41/-9.25	-9.59/-10.86	-8.41/-7.81	-7.92/-7.16	-8.31/-11.79	-15.31/-14.38	-12.27/-14.60	-15.43/-14.88	-15.43/-15.73	-14.54/-16.60
Θ(157.5°)	-12.09/-14.24	-15.59/-14.13	-9.36/-7.73	-8.51/-10.72	-15.08/-14.45	-10.26/-9.26	-10.92/-13.04	-13.24/-12.72	-13.41/-13.87	-14.58/-15.31	-14.92/-12.37	-12.31/-15.70	-15.46/-12.47	-10.86/-10.83	-9.21/-6.88	-8.29/-9.02	-9.99/-12.29	-14.47/-12.12	-9.56/-8.69	-9.03/-10.10	-11.22/-11.38	-11.45/-11.60		
Θ(165°)	-13.72/-14.82	-14.92/-15.64	-15.43/-15.59	-16.33/-15.67	-15.28/-12.82	-12.74/-13.57	-12.99/-12.24	-10.21/-7.84	-8.57/-8.81	-8.94/-8.82	-8.66/-8.92	-8.95/-8.33	-8.54/-9.19	-9.07/-9.76	-6.26/-5.10	-4.49/-4.68	-5.50/-6.26	-7.14/-8.64	-10.30/-11.81	-14.28/-15.11	-15.53/-14.29	-11.67/-9.81	-9.52/-9.67	-10.68/-12.63
Θ(172.5°)	-7.54/-8.05	-8.49/-9.77	-11.55/-12.95	-14.00/-13.15	-12.64/-12.99	-13.01/-12.53	-12.42/-12.22	-12.19/-11.81	-11.28/-10.94	-9.96/-8.52	-7.88/-7.84	-7.99/-8.01	-8.15/-7.17	-6.65/-6.69	-7.21/-7.76	-7.87/-8.19	-9.04/-9.12	-9.34/-10.56	-12.08/-13.79	-13.36/-14.21	-10.71/-9.83	-9.55/-9.80	-8.67/-8.39	-8.39/-7.63
Θ(180°)	-10.84/-11.13	-10.01/-8.64	-7.57/-7.50	-7.93/-8.04	-8.17/-8.49	-8.44/-9.73	-8.43/-8.61	-8.64/-8.49	-8.72/-8.92	-9.35/-9.41	-9.40/-9.57	-10.72/-12.14	-12.93/-14.22	-13.57/-12.80	-12.78/-13.26	-14.01/-15.73	-13.95/-15.13	-8.53/-7.32	-6.37/-6.09	-6.36/-7.34	-8.77/-9.59	-10.12/-9.95		
Freq(Hz)	2.45GPol	TotalAnt.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)°Φ(7.5°)	Φ(15°)°Φ(22.5°)	Φ(30°)°Φ(37.5°)	Φ(45°)°Φ(52.5°)	Φ(60°)°Φ(67.5°)	Φ(75°)°Φ(82.5°)	Φ(90°)°Φ(97.5°)	Φ(105°)°Φ(112.5°)	Φ(120°)°Φ(127.5°)	Φ(135°)°Φ(142.5°)	Φ(150°)°Φ(157.5°)	Φ(165°)°Φ(172.5°)	Φ(180°)°Φ(187.5°)	Φ(195°)°Φ(202.5°)	Φ(210°)°Φ(217.5°)	Φ(225°)°Φ(232.5°)	Φ(240°)°Φ(247.5°)	Φ(255°)°Φ(262.5°)	Φ(270°)°Φ(277.5°)	Φ(285°)°Φ(292.5°)	Φ(300°)°Φ(307.5°)	Φ(315°)°Φ(322.5°)	Φ(330°)°Φ(337.5°)	Φ(345°)°Φ(352.5°)
Θ(0°)	5.96/5.87	5.76/5.57	5.25/4.81	4.20/3.50	2.86/2.32	1.92/1.67	1.68/1.86	2.59/2.91	3.51/4.07	4.59/5.02	5.38/5.65	5.83/5.94	5.96/5.89	5.78/5.57	5.29/4.87	4.39/3.87	3.28/2.69	2.12/1.75	1.71/2.03	2.52/3.05	3.57/4.05	4.53/5.00	5.44/5.77	5.96/6.02
Θ(7.5°)	5.33/5.20	5.03/4.82	4.52/4.10	3.54/2.88	2.28/1.79	1.46/1.29	1.32/1.61	2.10/2.66	3.23/3.78	4.30/4.73	5.09/5.37	5.55/5.66	5.66/5.58	5.42/5.17	4.85/4.47	4.06/3.65	3.17/2.66	2.16/1.77	1.69/1.92	2.37/2.89	3.37/3.81	4.24/4.67	5.07/5.32	5.44/5.43
Θ(15°)	4.84/4.75	4.61/4.40	4.07/3.60	3.04/2.30	1.68/1.19	0.95/0.89	0.99/1.32	1.78/2.29	2.82/3.30	3.75/4.14	4.49/4.80	5.08/5.28	5.39/5.36	5.17/4.82	4.32/3.76	3.20/2.74	2.33/1.95	1.61/1.35	1.28/1.43	1.84/2.36	2.84/3.29	3.70/4.12	4.52/4.79	4.90/4.92
Θ(22.5°)	4.89/4.87	4.77/4.53	4.14/3.57	2.84/2.04	1.35/0.89	0.68/0.67	0.78/1.05	1.31/1.86	2.30/2.69	3.08/3.49	3.99/4.54	5.04/5.43	5.62/5.60	5.34/4.90	4.22/3.37	2.41/1.61	1.02/0.72	0.58/0.55	0.57/0.70	1.04/1.56	2.12/2.60	3.07/3.59	4.11/4.51	4.75/4.89
Θ(30°)	4.88/4.78	4.59/4.28	3.84/3.25	2.50/1.71	0.94/0.32	0.02/0.06	0.31/0.74	1.18/1.56	1.83/2.06	2.41/2.93	3.67/4.50	5.18/5.65	5.81/5.74	5.44/4.96	4.29/3.36	2.15/0.79	-0.49/-1.21	-1.23/-0.90	-0.58/-0.37	0.98/1.67	2.38/3.14	3.89/4.42	4.74/4.89	
Θ(37.5°)	4.45/4.18	3.88/3.52	3.06/2.47	1.75/0.92	0.12/-0.46	-0.66/-0.52	-0.22/0.19	0.58/0.81	0.90/1.12	1.69/2.56	3.58/4.49	5.12/5.44	5.45/5.25	4.89/4.40	3.78/2.95	1.74/0.17	-1.83/-3.41	-3.53/-2.53	-1.69/-1.37	-1.30/-0.94	-0.17/0.77	1.74/2.76	3.67/4.26	4.55/4.58
Θ(45°)	3.58/3.19	2.79/2.42	1.99/1.42	0.70/-0.11	-0.93/-1.63	-2.01/-1.99	-1.63/-1.02	-0.34/0.00	0.28/0.46	0.88/2.01	3.06/3.85	4.28/4.46	4.39/4.12	3.71/3.18	2.53/1.71	0.60/-0.86	-2.84/-5.13	-3.64/-4.92	-3.08/-2.22	-2.24/-2.20	-1.45/-0.27	0.98/2.20	3.21/3.77	3.93/4.87
Θ(52.5°)	2.35/1.94	1.56/1.25	0.89/0.35	-0.40/-1.32	-2.39/-3.27	-3.54/-3.39	-3.10/-2.41	-1.42/-0.83	-0.84/-0.65	0.32/1.49	2.33/2.75	2.88/2.78	2.55/2.20	1.78/1.26	0.59/-0.32	-1.49/-2.82	-4.52/-6.86	-8.21/-7.96	-4.84/-3.40	-3.28/-3.25	-2.53/-1.34	0.03/1.39	2.45/2.93	2.96/2.71
Θ(60°)	0.91/0.40	-0.02/-0.28	-0.54/-0.97	-1.66/-2.84	-3.93/-5.23	-5.78/-5.51	-5.02/-4.03	-2.60/-1.78	-1.90/-1.90	-0.79/0.45	1.10/1.10	0.72/0.17	-0.28/-0.59	-0.80/-1.15	-1.67/-2.48	-3.54/-4.65	-5.78/-7.24	-9.98/-11.18	-7.06/-4.65	-4.50/-4.75	-3.77/-2.44	-1.18/0.22	1.44/2.04	1.96/1.41
Θ(67.5°)	-0.52/-1.24	-1.71/-1.83	-1.81/-1.94	-2.44/-3.64	-5.69/-7.92	-8.16/-7.54	-6.75/-5.58	-4.02/-3.49	-3.79/-2.97	-1.26/-0.26	-0.35/-1.29	-2.65/-3.75	-4.17/-4.11	-3.90/-4.04	-4.80/-5.51	-6.31/-7.12	-7.79/-8.86	-11.63/-11.83	-6.92/-4.68	-5.08/-5.86	-4.63/-3.18	-2.30/-1.35	-0.18/0.68	0.75/0.19
Θ(75°)	-1.90/-2.48	-2.79/-2.67	-2.52/-2.71	-3.44/-5.19	-8.16/-10.84	-11.15/-10.90	-9.73/-9.92	-6.10/-5.23	-4.71/-3.19	-1.78/-1.50	-2.45/-4.40	-6.31/-6.89	-6.44/-5.96											

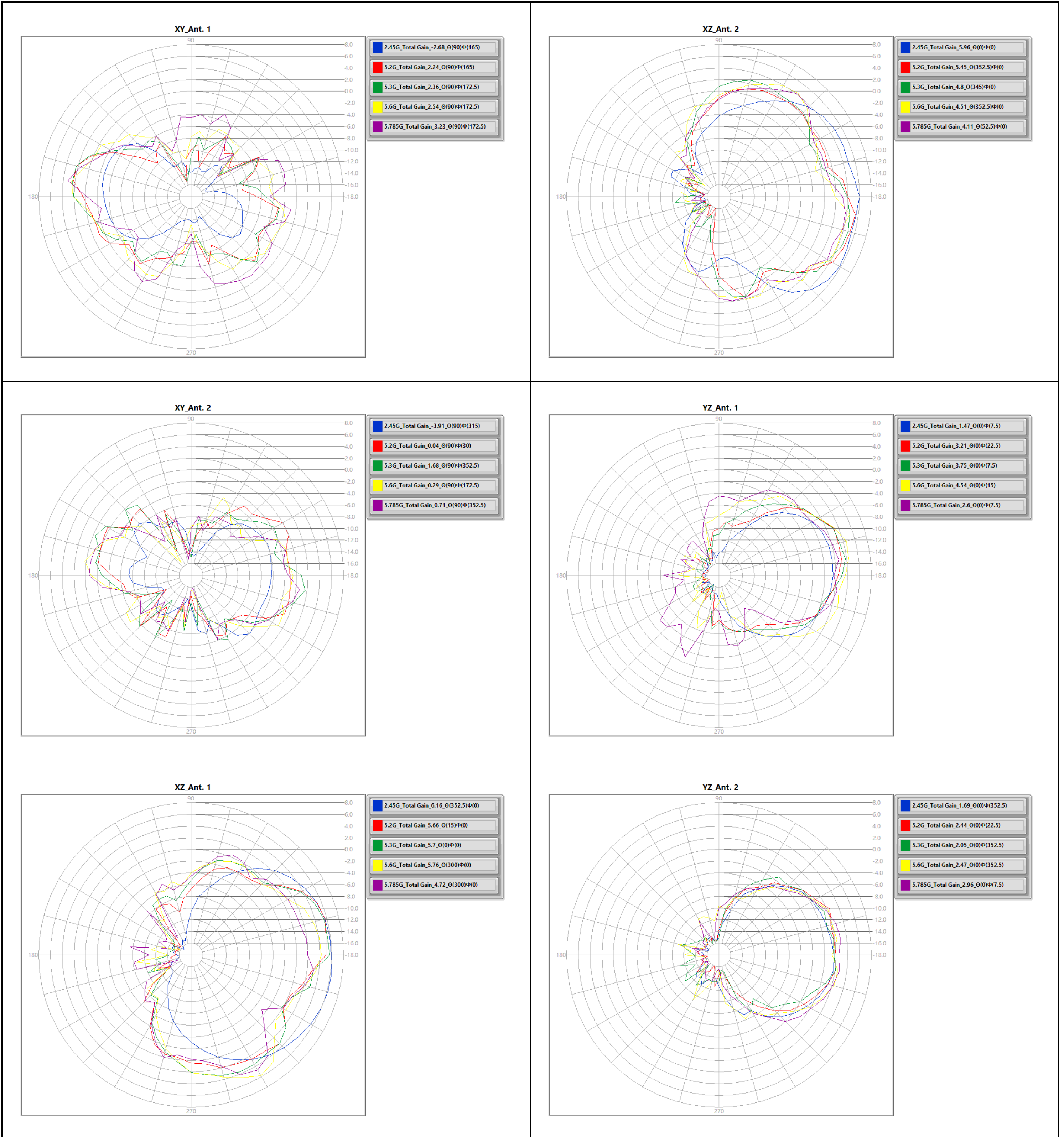


Antenna Pattern of 2.4GHz and 5GHz

Appendix C

Θ(67.5°)	2.85/3.18	2.84/1.05	-1.84/-1.34	-0.39/-1.75	-1.46/-0.91	-5.29/-5.87	-7.73/-4.47	-3.59/-5.15	-7.73/-6.96	-3.84/-0.81	-1.21/-0.23	0.59/0.48	0.28/0.17	-1.16/-2.11	-5.38/-8.50	-5.88/-7.06	-4.16/-4.51	-6.30/-6.19	-6.20/-9.65	-5.67/-3.90	-3.89/-3.05	-1.14/-0.94	1.07/2.22	2.26/2.36
Θ(75°)	1.75/1.82	1.89/0.23	-3.37/-2.61	-1.95/-3.82	-2.73/-1.71	-6.97/-7.89	-7.81/-5.12	-5.44/-8.04	-8.14/-8.90	-4.94/-1.22	-1.53/-0.28	0.02/0.47	0.19/-0.48	-1.52/-1.27	-2.81/-6.70	-7.35/-7.03	-5.61/-4.48	-8.54/-5.81	-8.58/-10.34	-7.03/-5.47	-6.02/-4.56	-3.85/-1.69	0.88/1.33	0.67/1.27
Θ(82.5°)	0.47/0.10	0.37/-1.11	-5.57/-5.02	-3.73/-4.75	-3.27/-2.68	-7.19/-9.26	-10.14/-7.95	-7.44/-8.82	-7.56/-10.77	-4.59/-2.17	-2.91/-0.92	-0.83/0.30	-0.74/-3.31	-4.86/-3.55	-2.74/-5.43	-8.48/-7.60	-8.01/-4.79	-11.65/-8.14	-9.69/-14.19	-7.29/-7.18	-5.61/-6.54	-5.49/-2.72	0.10/0.18	-0.89/0.17
Θ(90°)	-0.63/-1.32	-1.08/-2.07	-6.29/-7.25	-6.13/-6.81	-4.84/-3.57	-8.65/-9.27	-9.51/-11.80	-12.00/-9.11	-7.30/-15.22	-6.20/-4.45	-4.98/-2.35	-1.11/0.29	-0.91/-3.46	-7.16/-8.29	-5.22/-4.93	-10.70/-8.84	-10.00/-8.33	-12.49/-9.14	-15.40/-15.24	-11.44/-9.93	-7.95/-8.01	-5.67/-3.74	-0.81/-0.91	-2.02/-0.86
Θ(97.5°)	-2.13/-2.73	-2.93/-3.19	-8.42/-8.38	-6.73/-7.27	-5.69/-6.41	-9.00/-8.14	-12.15/-14.88	-12.47/-8.42	-8.23/-15.58	-6.68/-6.64	-6.41/-3.06	-1.65/-0.67	-2.55/-4.28	-8.76/-13.21	-9.62/-8.17	-11.69/-11.29	-12.88/-11.33	-10.91/-10.93	-15.14/-11.40	-13.96/-10.92	-10.38/-7.49	-7.20/-4.19	-1.90/-2.31	-4.62/-2.45
Θ(105°)	-2.10/-3.70	-5.46/-6.58	-9.32/-8.20	-8.19/-12.15	-8.64/-8.27	-10.50/-10.43	-11.51/-15.16	-11.81/-7.10	-8.45/-14.80	-7.90/-8.99	-7.85/-4.25	-2.38/-1.37	-4.09/-5.73	-8.15/-13.53	-14.00/-8.49	-9.56/-11.65	-7.59/-15.69	-13.44/-14.71	-13.05/-15.56	-14.52/-10.25	-14.36/-8.48	-7.73/-5.26	-3.98/-3.72	-5.61/-3.46
Θ(112.5°)	-3.96/-5.15	-8.57/-8.65	-8.31/-10.84	-14.18/-11.56	-9.10/-11.35	-12.42/-12.26	-10.98/-13.89	-10.19/-7.07	-11.10/-15.79	-10.13/-12.33	-8.98/-5.22	-4.72/-3.44	-4.25/-7.21	-10.04/-13.50	-15.55/-10.70	-8.54/-15.40	-11.92/-13.36	-15.15/-15.02	-11.58/-15.55	-12.06/-11.21	-7.62/-7.82	-6.17/-7.40	-5.03/-5.76	-7.84/-5.90
Θ(120°)	-6.78/-7.27	-8.15/-8.19	-9.37/-15.42	-12.36/-7.91	-8.04/-11.25	-14.01/-11.98	-10.91/-15.25	-10.87/-7.33	-12.49/-14.99	-9.35/-11.43	-10.71/-7.88	-7.32/-5.84	-5.88/-8.01	-12.48/-13.20	-15.44/-12.99	-9.23/-9.46	-12.01/-15.43	-12.77/-11.85	-9.26/-13.56	-12.13/-11.25	-9.74/-6.30	-6.67/-6.61	-8.04/-8.66	-9.28/-8.47
Θ(127.5°)	-8.09/-8.67	-10.26/-11.71	-11.80/-11.87	-11.91/-10.48	-10.25/-12.05	-11.12/-10.43	-13.61/-15.71	-12.07/-9.85	-14.41/-12.29	-8.45/-9.68	-14.00/-11.95	-9.91/-8.42	-8.27/-11.69	-15.02/-15.15	-15.24/-15.05	-12.24/-15.02	-10.25/-10.63	-14.96/-10.94	-12.42/-10.25	-11.74/-10.88	-12.48/-9.90	-8.13/-8.70	-7.37/-8.91	-10.30/-9.92
Θ(135°)	-7.26/-7.28	-10.19/-13.87	-14.96/-15.94	-15.98/-15.54	-16.18/-13.73	-10.58/-13.34	-15.37/-13.04	-12.80/-10.16	-11.40/-12.27	-9.59/-8.66	-9.59/-10.33	-11.13/-10.30	-11.29/-9.86	-13.00/-15.41	-15.63/-15.27	-11.30/-14.00	-15.24/-14.43	-15.45/-11.25	-14.11/-7.74	-15.38/-10.05	-10.54/-15.19	-14.00/-8.63	-8.30/-8.55	-9.85/-9.25
Θ(142.5°)	-14.82/-13.25	-13.09/-13.76	-12.67/-11.22	-10.48/-10.72	-10.73/-10.62	-9.97/-13.38	-15.22/-12.49	-13.49/-12.50	-12.83/-11.29	-10.33/-8.90	-9.57/-9.92	-10.05/-10.47	-14.74/-15.29	-13.62/-14.23	-12.75/-16.01	-15.12/-15.63	-14.90/-15.58	-12.44/-10.69	-15.16/-10.44	-12.44/-15.06	-13.37/-11.25	-12.53/-15.05	-14.32/-13.79	-12.08/-13.44
Θ(150°)	-11.79/-10.74	-9.23/-8.08	-8.04/-9.53	-11.27/-11.48	-10.98/-12.77	-14.60/-15.66	-15.25/-15.46	-14.24/-13.68	-11.85/-11.42	-10.64/-9.87	-10.95/-10.26	-10.01/-11.47	-12.54/-13.12	-13.75/-15.08	-16.15/-12.93	-13.01/-12.60	-12.20/-14.83	-11.40/-10.30	-14.96/-15.60	-15.44/-15.38	-15.91/-15.31	-15.79/-13.35	-12.71/-13.33	-12.79/-12.70
Θ(157.5°)	-10.82/-10.59	-11.02/-10.65	-11.71/-12.98	-14.72/-13.87	-13.93/-14.62	-14.24/-14.21	-15.18/-15.97	-15.58/-15.50	-13.59/-10.93	-9.02/-8.00	-8.68/-10.24	-11.60/-12.53	-13.17/-13.83	-13.72/-14.79	-15.20/-14.34	-14.91/-13.69	-14.05/-15.78	-14.95/-15.24	-15.77/-15.42	-13.63/-13.44	-15.23/-14.99	-14.91/-15.89	-13.33/-12.60	-12.32/-11.29
Θ(165°)	-14.61/-15.09	-15.04/-14.68	-14.59/-13.79	-13.17/-10.75	-9.62/-10.72	-11.11/-10.91	-10.74/-10.97	-11.39/-12.31	-13.21/-14.96	-14.95/-15.00	-13.48/-11.63	-11.17/-11.94	-14.05/-15.63	-15.38/-13.78	-13.23/-15.07	-15.33/-15.59	-14.89/-15.45	-15.20/-16.07	-15.66/-15.11	-14.28/-14.38	-13.89/-11.73	-11.12/-11.55	-11.04/-11.62	-12.68/-13.06
Θ(172.5°)	-11.54/-10.49	-9.27/-9.12	-10.25/-11.36	-11.89/-11.20	-10.73/-11.32	-12.49/-12.75	-13.25/-13.24	-13.47/-14.05	-14.98/-15.07	-15.30/-14.69	-14.46/-14.06	-12.90/-12.17	-12.17/-12.66	-13.48/-14.51	-14.84/-15.34	-15.19/-15.65	-14.48/-13.25	-13.99/-16.08	-15.57/-14.68	-13.10/-12.91	-13.68/-14.17	-13.02/-11.32	-11.08/-11.71	
Θ(180°)	-12.75/-12.67	-12.32/-11.81	-12.08/-13.30	-13.32/-12.00	-12.09/-13.51	-13.25/-12.96	-12.21/-11.60	-12.24/-13.27	-12.72/-12.89	-12.76/-12.88	-12.24/-12.32	-12.50/-12.64	-13.01/-14.54	-15.08/-13.93	-14.23/-13.95	-13.84/-14.56	-15.31/-15.37	-14.37/-12.63	-11.74/-11.22	-10.53/-10.68	-10.82/-11.16	-12.51/-14.37	-14.43/-13.94	-14.51/-13.81
Freq(Hz)	5.785(Pol)	TotalAnt. 2	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	3.08/2.92	2.79/2.65	2.32/2.40	2.44/2.41	2.33/2.30	2.72/2.87	2.41/2.47	2.52/2.64	2.73/2.70	2.95/3.13	3.38/3.27	3.07/2.95	2.82/2.81	2.89/2.95	2.88/2.68	2.69/2.83	2.74/2.59	2.78/3.05	3.07/3.04	3.00/2.87	2.77/2.85	2.83/2.93	2.89/2.88	2.96/3.04
Θ(7.5°)	1.19/1.18	1.37/1.63	1.66/1.67	1.90/1.99	1.87/1.60	1.84/2.75	2.27/2.46	2.65/2.83	3.08/3.33	3.57/3.66	3.78/3.85	3.63/3.59	3.62/3.66	3.60/3.29	2.97/2.73	2.58/2.40	2.32/2.48	2.67/2.69	2.57/2.28	1.94/1.81	1.64/1.55	1.32/1.06	1.08/1.17	
Θ(15°)	0.87/0.89	0.85/1.06	0.99/0.72	0.82/1.06	1.20/1.33	1.37/2.06	2.64/2.62	2.56/2.47	2.46/2.66	3.34/3.54	3.47/3.64	3.77/3.85	3.83/3.72	3.92/4.19	4.28/4.04	3.46/2.91	2.45/1.91	2.17/1.96	2.10/1.93	1.41/0.73	0.09/-0.24	-0.47/-0.45	-0.41/-0.07	0.47/0.81
Θ(22.5°)	0.94/1.27	1.44/1.15	0.62/0.36	0.40/0.72	1.20/1.68	1.47/1.14	1.84/2.91	2.92/2.54	2.61/2.69	3.00/3.28	3.48/3.71	3.66/3.29	2.98/2.72	2.41/2.33	2.59/3.10	3.29/2.85	1.97/1.29	1.23/1.54	1.41/0.47	-0.76/-1.37	-1.22/-0.90	-0.73/-0.61	-0.36/0.13	0.68/0.92
Θ(30°)	0.66/1.40	1.95/2.09	1.97/1.75	0.98/0.54	1.01/1.68	1.45/0.24	0.49/1.38	1.73/1.69	1.87/2.16	2.92/4.04	4.00/4.16	3.92/3.52	3.39/3.18	2.77/2.79	2.57/2.36	2.33/2.11	1.32/-0.15	-1.02/-0.11	0.20/-1.13	-2.79/-2.76	-2.01/-2.58	-2.10/-1.29	-0.75/-0.44	-0.13/0.11
Θ(37.5°)	1.77/1.83	1.84/1.82	2.21/2.71	2.40/1.32	0.67/0.49	0.29/-0.75	-0.82/0.08	0.85/1.12	1.20/1.77	2.50/2.92	2.35/2.32	2.25/1.85	1.43/0.88	1.18/2.02	2.17/1.74	1.03/0.85	0.51/-0.48	-1.12/-0.44	-0.62/-1.73	-2.21/-1.46	-2.19/-4.28	-3.29/-0.90	0.32/0.95	1.02/1.31
Θ(45°)	3.68/3.64	3.21/2.46	1.93/2.26	2.49/1.41	0.29/-0.25	-0.87/-1.64	-2.25/-1.44	-0.53/-0.37	-0.63/0.10	0.65/1.24	1.46/1.68	2.16/2.00	1.50/0.63	0.19/-0.38	-0.72/-0.39	-0.07/0.45	0.44/-0.80	-2.53/-1.68	-1.98/-3.32	-1.70/-0.85	-2.01/-3.38	-1.82/-0.69	0.76/2.05	2.43/3.02
Θ(52.5°)	4.11/4.06	3.82/2.98	1.54/0.45	0.18/-0.50	-1.59/-1.12	-2.11/-3.15	-3.16/-2.08	-1.55/-2.46	-3.38/-1.55	-1.07/0.24	1.22/1.16	1.36/1.14	0.27/-0.79	-1.27/-2.70	-3.68/-3.18	-2.11/-1.32	-1.85/-2.50	-2.85/-4.59	-4.74/-4.28	-2.56/-1.42	-2.54/-2.61	-0.84/-0.66	1.21/2.32	2.37/3.27
Θ(60°)	2.97/3.03	3.03/2.38	0.92/-0.71	-1.50/-2.88	-3.20/-1.73	-3.34/-5.14	-5.18/-3.79	-2.79/-3.70	-5.45/-3.36	-4.04/-0.55	0.53/-0.37	0.24/-0.27	-1.64/-3.36	-5.00/-6.51	-7.03/-6.51	-5.64/-3.70	-2.38/-5.15	-5.24/-6.34	-6.53/-6.31	-4.37/-3.08	-3.12/-1.91	-0.86/-1.21	0.58/1.41	1.61/2.51
Θ(67.5°)	2.08/1.68	1.67/1.03	-0.40/-1.99	-3.33/-3.72	-4.07/-2.85	-5.69/-6.28	-5.69/-5.37	-3.81/-5.20	-5.48/-4.29	-6.28/-1.03	-0.43/-0.32	0.67/0.15	-0.79/-1.42	-3.09/-4.99	-8.09/-9.23	-6.26/-5.50	-3.75/-6.28	-6.64/-7.18	-9.27/-9.06	-5.14/-4.50	-3.72/-2.62	-2.37/-1.72	0.37/0.88	1.61/2.41
Θ(75°)	1.09/0.20	0.24/-0.58	-1.94/-3.90	-5.24/-4.21	-5.41/-4.63	-7.33/-8.36	-7.29/-7.80	-5.32/-6.55	-5.28/-5.86	-8.80/-1.75	-0.90/-0.23	0.79/0.63	-0.19/-1.33	-3.07/-3.97	-6.67/-7.94	-6.39/-6.89	-4.43/-5.02	-8.81/-5.97	-10.90/-12.13	-7.11/-6.29	-5.02/-4.43	-3.33/-1.88	-0.89/-0.66	1.27/2.22
Θ(82.5°)	0.09/-0.90	-0.51/-1.62	-3.44/-5.20	-6.36/-5.54	-7.25/-5.94	-9.15/-9.97	-9.12/-10.82	-7.08/-8.59	-5.43/-9.70	-7.27/-1.83	-2.28/-0.73	-0.04/0.24	-0.06/-2.26	-4.70/-5.45	-6.53/-7.05	-7.55/-6.49	-6.95/-5.83	-10.61/-7.10	-12.82/-15.62	-8.44/-5.80	-6.81/-6.50	-5.02/-2.53	-1.68/-1.59	0.93/1.76
Θ(90°)	-1.42/-2.17	-1.37/-2.36	-4.86/-7.47	-8.55/-6.98	-7.15/-7.23	-10.08/-7.81	-10.01/-15.20	-7.88/-9.24	-6.24/-10.68	-8.35/-4.03	-4.25/-2.06	-0.96/-0.73	-0.60/-2.74	-7.20/-8.56	-8.09/-7.14	-11.66/-8.12	-8.70/-7.68	-14.03/-9.78	-15.55/-15.84	-12.61/-6.14	-8.29/-8.18	-7.25/-4.22	-2.65/-1.93	-0.14/0.71
Θ(97.5°)	-2.73/-3.91	-2.27/-3.37	-6.66/-8.74	-8.44/-9.26	-8.56/-8.68	-9.71/-7.99	-12.88/-15.06	-9.81/-9.72	-8.17/-10.95	-9.59/-6.27	-6.75/-3.29	-1.94/-1.99	-2.49/-5.78	-10.37/-10.65	-9.92/-10.41	-15.31/-10.80	-10.23/-11.82	-14.02/-12.85	-15.11/-15.19	-10.94/-8.95	-8.37/-10.78	-9.70/-5.47	-2.87/-2.74	-1.62/-1.04
Θ(105°)	-4.76/-5.02	-3.94/-4.95	-8.73/-7.87	-7.81/-10.08	-8.76/-9.03	-9.20/-9.34	-15.09/-13.10	-9.99/-10.24	-8.65/-12.06	-11.16/-8.99	-9.28/-5.28	-2.80/-3.31	-4.12/-7.15	-12.09/-13.18	-12.83/-9.68	-11.95/-15.38	-10.49/-14.69	-14.81/-15.88	-13.44/-14.32	-11.31/-11.69	-11.03/-11.13	-7.72/-6.74	-3.06/-3.63	-4.21/-3.30
Θ(112.5°)	-5.33/-6.18	-6.21/-6.62	-7.11/-6.94	-8.82/-13.31	-10.47/-10.98	-10.65/-12.02	-15.19/-14.91	-11.58/-11.60	-11.92/-12.28	-11.45/-12.24	-13.35/-6.25	-4.58/-4.48	-5.35/-7.91	-13.66/-15.31	-15.62/-11.41	-								

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





Antenna Pattern of 6GHz

Appendix D

Total Gain Data

Freq(Hz)	6.175GPol.	TotalAnt.1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	3.45/6.68	3.30/3.05	2.99/3.08	3.00/3.07	2.88/2.79	2.81/2.79	2.77/2.78	2.89/3.17	3.37/3.53	3.49/3.99	4.01/4.08	4.10/4.13	3.90/3.82	3.77/3.77	3.75/3.73	3.64/3.55	3.51/3.34	3.12/3.02	3.00/3.01	2.99/2.98	3.12/3.23	3.36/3.57	3.58/3.33	3.22/3.37
Θ(7.5°)	4.04/4.03	3.72/3.31	3.31/3.40	3.23/2.87	2.58/2.55	2.53/2.61	2.76/3.16	3.55/4.13	4.59/4.86	5.03/4.95	4.97/4.88	4.74/4.56	4.25/4.09	4.12/4.23	4.52/4.71	4.96/5.10	5.06/4.70	4.27/3.87	3.42/3.04	2.72/2.76	3.20/3.66	3.95/4.27	4.36/4.22	4.16/4.23
Θ(15°)	3.85/3.78	3.57/3.30	2.81/2.33	2.11/1.81	1.65/2.04	1.95/1.58	1.53/2.29	3.17/3.77	4.01/3.92	3.99/3.56	3.29/3.48	3.54/3.67	3.70/3.54	3.12/2.71	2.18/1.66	1.79/2.41	3.28/4.09	4.37/4.07	3.03/1.86	1.44/2.23	3.22/3.76	3.72/3.49	3.51/3.45	3.54/3.62
Θ(22.5°)	3.70/2.99	2.83/2.86	2.76/2.29	1.80/1.17	1.15/1.62	1.48/0.96	1.33/2.34	2.95/2.68	3.07/2.80	2.95/3.68	4.58/5.19	5.17/4.74	4.03/3.76	3.91/3.83	4.09/3.47	2.12/1.82	3.73/3.85	3.07/1.56	1.76/3.15	3.73/3.36	2.81/2.81	3.26/3.65	4.03/4.03	
Θ(30°)	2.54/2.83	2.61/2.24	1.67/0.57	-0.07/-0.26	-0.42/-0.19	0.99/0.41	1.03/2.23	2.28/2.70	2.85/2.18	2.60/4.10	4.83/5.19	4.39/3.30	2.44/1.89	1.40/0.61	-0.05/-0.11	1.36/2.93	3.03/1.84	2.03/3.74	3.57/1.72	2.26/3.31	2.72/1.90	2.59/3.18	2.78/2.65	3.20/3.06
Θ(37.5°)	1.92/1.92	1.40/1.29	0.67/-0.02	-0.52/-0.66	-2.13/-2.26	0.29/-0.85	0.10/2.12	1.88/2.12	1.64/2.23	3.93/3.77	2.70/2.84	3.08/3.12	2.95/1.65	0.92/1.75	2.90/2.91	1.44/-0.91	-0.30/0.73	0.04/1.45	1.84/-1.41	0.47/2.44	1.40/1.72	3.14/3.00	2.22/2.13	2.05/1.92
Θ(45°)	2.61/2.07	1.90/1.89	1.17/-0.80	-2.29/-1.41	-2.84/-6.73	-1.04/-2.25	-0.41/0.95	-1.32/0.31	0.31/2.18	3.03/1.01	-0.38/1.30	1.84/-1.91	1.72/0.38	-0.66/-2.05	0.89/1.17	1.11/0.90	-1.14/-1.29	-0.55/-1.13	-1.52/-3.32	-0.80/-4.02	0.66/2.49	1.81/1.64	1.96/1.90	1.08/1.85
Θ(52.5°)	1.48/1.19	1.58/2.02	1.44/-0.61	-2.10/-1.93	-3.03/-9.03	-1.93/-3.82	-0.76/-1.85	-3.02/-1.49	-3.35/0.69	-1.29/-4.64	-2.06/-0.44	-0.08/0.21	-0.48/-2.20	-2.19/-1.83	-0.99/0.08	-0.25/-0.03	-0.59/-2.58	-1.17/-1.40	-3.26/-4.12	-1.36/-2.92	-0.23/1.28	-0.66/1.22	1.65/0.50	0.54/0.99
Θ(60°)	-2.58/-1.14	-1.65/-0.25	0.83/-0.61	-3.10/-6.11	-1.42/-7.82	-2.62/-4.04	-3.63/-4.19	-2.78/-5.54	-5.00/-2.17	-9.17/-4.44	-3.30/-3.49	-3.03/-3.10	-2.86/-2.16	-0.40/-0.19	-2.41/-2.82	-1.17/-1.54	-2.58/-1.66	-6.12/0.00	-2.14/-3.85	-2.97/-3.83	-0.12/-1.21	-1.02/0.93	0.68/-0.16	-0.97/-2.01
Θ(67.5°)	-4.43/-1.43	-2.89/-2.62	-1.49/-1.57	-4.28/-11.04	-4.33/-10.33	-4.62/-6.53	-6.63/-6.23	-5.17/-12.42	-2.74/-6.05	-8.30/-5.60	-8.83/-7.58	-6.43/-4.92	-2.83/-1.57	-0.35/-0.07	-0.72/-3.60	-3.35/-2.95	-6.85/-4.13	-7.47/-1.11	-2.06/-4.38	-4.43/-4.60	-0.93/-4.50	-0.59/-0.15	-2.14/-1.60	-2.69/-5.27
Θ(75°)	-3.13/-1.27	-0.96/-1.73	-3.27/-2.89	-4.32/-31.31	-5.51/-9.80	-9.67/-7.33	-5.41/-9.17	-7.21/-6.68	-2.50/-10.52	-8.47/-8.75	-8.01/-9.24	-8.35/-3.59	-1.79/-2.42	-2.54/-2.48	-0.83/-0.85	-3.04/-3.55	-7.88/-5.16	-5.66/-4.21	-1.26/-7.30	-5.49/-3.85	-1.74/-7.36	-1.29/-4.32	-4.17/-2.77	-4.27/-6.98
Θ(82.5°)	-2.65/-1.63	-1.30/-2.89	-5.86/-6.09	-6.74/-10.49	-6.42/-8.60	-14.75/-7.06	-7.29/-8.39	-13.83/-2.85	-5.04/-7.41	-11.68/-8.89	-7.22/-11.24	-10.19/-5.57	-5.53/-6.33	-6.87/-6.74	-3.59/-1.21	-1.72/-6.04	-8.32/-8.29	-8.34/-8.82	-3.50/-9.18	-4.60/-6.28	-3.24/-11.02	-2.18/-8.17	-3.98/-4.04	-7.62/-7.85
Θ(90°)	-3.70/-2.98	-2.96/-3.20	-6.72/-8.65	-7.64/-11.19	-10.48/-8.40	-15.40/-7.58	-12.50/-5.37	-16.00/-3.95	-8.93/-7.04	-13.72/-8.46	-7.31/-11.45	-10.21/-6.98	-7.60/-7.73	-7.91/-10.55	-7.80/-2.48	-2.07/-6.48	-8.42/-13.86	-7.95/-13.19	-7.27/-8.07	-5.88/-9.71	-7.87/-11.28	-3.39/-10.20	-5.25/-5.08	-7.35/-9.44
Θ(97.5°)	-5.53/-3.33	-3.96/-2.87	-7.08/-12.94	-11.99/-11.80	-8.06/-10.45	-11.42/-10.49	-10.34/-7.71	-11.54/-7.11	-10.21/-10.59	-13.53/-10.90	-13.27/-13.88	-10.92/-6.83	-6.79/-5.13	-7.82/-14.68	-9.27/-6.16	-5.02/-9.79	-4.24/-15.97	-9.70/-12.91	-12.08/-5.82	-10.14/-14.08	-9.79/-11.43	-6.70/-8.10	-10.03/-6.86	-6.45/-8.89
Θ(105°)	-6.62/-3.63	-4.41/-7.13	-7.56/-9.93	-9.32/-8.63	-9.65/-10.79	-13.90/-16.04	-9.21/-9.54	-10.70/-14.06	-10.19/-12.63	-15.11/-10.78	-14.54/-15.06	-12.04/-8.02	-6.01/-6.00	-7.33/-13.63	-10.83/-8.15	-6.34/-10.26	-5.35/-12.42	-13.81/-9.00	-8.57/-7.72	-11.26/-10.68	-10.06/-10.05	-11.81/-8.22	-15.06/-7.39	-7.71/-4.59
Θ(112.5°)	-5.78/-4.87	-7.02/-7.04	-10.05/-14.88	-9.54/-15.50	-7.81/-9.04	-15.14/-10.05	-12.38/-12.05	-12.14/-13.37	-10.16/-12.09	-15.23/-14.47	-9.92/-12.68	-11.65/-7.12	-5.95/-5.04	-6.40/-8.21	-7.67/-7.61	-5.79/-7.65	-6.33/-14.19	-8.34/-10.74	-6.95/-6.84	-11.27/-4.39	-5.82/-11.70	-12.00/-6.80	-9.55/-10.72	-12.85/-7.92
Θ(120°)	-12.12/-8.77	-7.40/-7.76	-13.07/-9.17	-8.93/-15.57	-14.49/-11.60	-8.09/-9.50	-15.44/-13.63	-12.89/-13.16	-12.27/-13.00	-13.13/-11.44	-7.91/-13.3	-9.23/-7.25	-3.48/-5.03	-6.93/-7.14	-7.59/-10.33	-6.02/-6.73	-6.31/-15.44	-6.88/-13.08	-5.21/-6.23	-6.03/-12.38	-10.76/-7.65	-4.80/-9.15	-8.84/-8.80	-9.26/-12.93
Θ(127.5°)	-6.52/-5.21	-6.68/-8.16	-8.60/-11.70	-15.41/-13.66	-12.31/-12.94	-13.54/-9.87	-14.89/-14.03	-12.05/-11.86	-7.83/-15.31	-9.83/-8.58	-9.31/-8.98	-6.89/-4.70	-4.68/-4.46	-6.49/-7.42	-7.00/-5.20	-8.28/-6.27	-4.55/-9.58	-7.40/-6.09	-4.29/-4.82	-6.50/-11.46	-13.24/-7.60	-6.67/-6.64	-9.73/-13.86	-12.71/-11.80
Θ(135°)	-6.79/-8.21	-9.89/-12.03	-11.92/-12.20	-15.58/-14.47	-15.27/-13.15	-12.30/-11.52	-12.78/-11.36	-10.81/-10.07	-9.08/-8.65	-5.37/-7.38	-6.82/-4.88	-3.69/-4.93	-8.16/-7.92	-5.95/-5.93	-5.53/-5.91	-4.34/-8.28	-9.28/-14.06	-9.79/-10.42	-7.08/-6.32	-11.97/-12.09	-15.51/-13.83	-7.64/-7.19	-13.27/-11.48	-6.39/-7.23
Θ(142.5°)	-15.99/-12.27	-12.18/-13.40	-16.01/-15.61	-13.96/-15.92	-15.58/-15.18	-11.01/-10.44	-12.89/-14.89	-10.32/-7.71	-6.98/-7.21	-5.24/-8.37	-6.88/-3.52	-2.77/-2.38	-3.44/-6.02	-7.79/-8.19	-9.14/-8.48	-9.25/-9.63	-10.94/-13.73	-10.20/-6.62	-10.91/-11.56	-10.22/-9.90	-10.84/-12.59	-9.76/-5.33	-3.31/-6.91	-11.70/-11.14
Θ(150°)	-15.02/-10.32	-10.60/-9.74	-10.12/-12.10	-14.30/-10.50	-7.00/-6.96	-8.91/-7.30	-7.57/-8.63	-10.66/-11.45	-8.25/-8.32	-9.81/-7.96	-7.40/-5.84	-4.93/-3.71	-4.86/-8.25	-11.50/-13.41	-10.52/-15.15	-12.12/-10.26	-10.14/-12.80	-12.40/-7.00	-6.06/-11.21	-15.91/-11.96	-10.46/-11.04	-12.21/-13.58	-13.91/-9.99	
Θ(157.5°)	-16.20/-14.15	-12.14/-12.22	-12.63/-9.53	-7.67/-7.69	-8.00/-8.50	-9.25/-7.78	-4.71/-3.92	-5.61/-7.32	-8.43/-10.12	-11.54/-10.96	-10.08/-9.51	-10.81/-13.80	-15.03/-15.18	-15.16/-14.97	-13.47/-10.79	-8.73/-8.22	-10.00/-11.67	-11.62/-9.97	-10.55/-8.74	-7.36/-8.59	-11.82/-15.28	-13.85/-13.71	-14.66/-15.50	-16.00/-14.97
Θ(165°)	-12.91/-12.70	-11.51/-11.27	-10.33/-9.37	-8.29/-9.62	-6.24/-5.51	-4.91/-4.02	-3.67/-4.01	-4.84/-6.54	-6.79/-7.77	-8.73/-12.29	-13.40/-11.51	-10.33/-9.91	-11.29/-11.84	-11.29/-10.26	-8.84/-7.78	-8.27/-10.45	-13.32/-11.19	-8.41/-6.90	-7.43/-9.36	-11.27/-13.43	-15.38/-14.58	-15.27/-15.12	-15.47/-14.12	-12.55/-14.29
Θ(172.5°)	-8.27/-7.10	-7.53/-7.11	-6.30/-5.63	-5.73/-5.14	-5.20/-5.27	-5.30/-5.07	-4.96/-5.60	-5.83/-5.87	-5.69/-5.73	-4.95/-4.71	-5.24/-5.98	-6.57/-6.38	-7.42/-8.19	-6.66/-7.78	-7.26/-6.47	-5.80/-5.56	-6.09/-6.06	-5.48/-5.76	-15.18/-14.85	-15.34/-14.12	-13.45/-12.16	-10.80/-9.98	-9.39/-8.90	
Θ(180°)	-8.73/-8.61	-8.16/-8.50	-9.17/-9.71	-10.39/-10.27	-10.01/-9.80	-9.82/-9.67	-8.98/-9.53	-9.63/-10.13	-10.54/-10.58	-11.01/-10.33	-9.54/-9.40	-8.99/-8.71	-8.71/-9.06	-9.10/-8.82	-8.16/-8.27	-8.25/-8.90	-10.52/-12.59	-14.77/-15.70	-12.78/-12.48	-12.00/-12.81	-14.59/-14.82	-13.02/-10.60	-9.12/-8.75	-8.16/-7.85
Freq(Hz)	6.475GPol.	TotalAnt.1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	5.13/5.34	5.47/5.45	5.24/5.12	4.99/5.35	5.34/5.27	5.16/4.96	4.92/4.88	4.94/4.97	5.03/5.12	5.05/5.19	5.62/5.75	5.81/5.86	5.73/5.73	5.74/5.95	5.90/5.71	5.59/5.52	5.48/5.35	5.16/5.08	4.95/4.87	4.82/4.83	4.91/4.94	4.98/5.06	5.16/5.22	5.31/5.24
Θ(7.5°)	5.32/5.45	5.45/5.45	5.49/5.48	5.10/4.60	4.38/4.44	4.26/4.30	4.34/4.39	4.39/4.65	4.79/4.87	4.94/5.06	5.40/5.52	5.47/5.42	5.32/5.33	5.48/5.58	5.52/5.39	5.33/5.27	5.33/5.19	5.15/5.00	4.86/4.55	4.35/4.21	4.18/4.22	4.46/4.80	4.98/5.03	5.12/5.37
Θ(15°)	5.08/5.00	4.94/4.96	5.07/5.08	5.01/4.72	3.95/3.93	3.58/3.58	4.29/4.50	4.29/4.50	4.61/4.56	4.37/4.31	4.37/4.70	4.76/4.75	4.66/4.57	4.74/5.04	5.13/5.15	4.96/4.72	4.44/4.25	4.28/4.37	3.93/4.01	4.42/5.01	5.51/5.84	5.83/5.60	5.42/5.31	
Θ(22.5°)	4.41/4.51	4.33/3.72	3.49/3.64	3.86/3.69	3.07/2.84	2.62/2.78	2.93/2.75	2.64/2.68	2.85/3.03	3.38/3.83	4.47/4.85	4.90/4.66	4.53/4.47	4.52/4.34	3.95/3.60	3.46/3.58	3.92/4.19	4.32/4.11	3.95/3.83	3.79/4.08	4.49/4.68	4.51/4.36	4.34/4.37	4.32/4.32
Θ(30°)	4.51/4.73	4.75/4.27	3.68/2.99	2.58/2.43	2.04/0.90	1.30/2.07	1.90/0.79	0.95/1.80	2.04/1.95	2.73/3.42	4.14/4.75	4.75/4.10	3.52/3.38	3.22/3.00	2.43/2.41	2.83/2.54	2.40/3.68	4.54/3.89	3.10/3.36	3.75/3.69	3.88/3.66	3.10/3.23	3.77/4.18	4.51/4.52
Θ(37.5°)	3.30/3.50	3.65/3.22	2.53/2.17	1.61/1.27	1.48/0.11	-0.81/0.63	0.57/-0.65	0.74/-1.24	-0.12/-0.21	2.12/0.21	3.32/3.15	2.93/2.62	2.56/2.22	1.89/1.76	1.46/1.41	2.92/2.28								



Antenna Pattern of 6GHz

Appendix D

Θ(22.5°)	2.27/1.74	1.220/76	1.08/1.17	1.08/0.88	0.55/0.64	0.51/0.50	0.82/1.50	1.62/1.32	0.83/0.73	1.48/1.96	1.99/1.95	1.90/1.44	1.06/1.44	1.79/1.78	1.75/1.61	1.59/1.45	1.28/1.18	1.25/1.55	2.31/2.87	2.84/2.43	2.15/2.49	3.20/3.75	3.88/3.83	3.46/2.83
Θ(30°)	1.73/1.55	1.37/0.76	1.57/2.07	1.89/1.92	1.73/1.28	0.82/-0.08	0.14/0.91	1.33/1.13	1.01/1.70	2.11/1.92	1.23/0.65	0.08/-0.13	-0.13/0.41	0.59/0.29	-0.11/0.10	0.28/-0.11	-0.36/-0.02	0.06/0.39	1.18/1.99	2.08/1.79	2.21/3.50	4.11/4.04	3.16/2.03	1.56/1.93
Θ(37.5°)	2.19/1.64	1.08/0.39	0.71/1.47	1.88/1.64	1.83/1.25	-0.53/-2.53	-0.14/0.53	-0.13/0.35	1.56/2.61	2.26/1.54	0.66/0.75	1.19/1.40	1.43/0.83	0.39/-0.32	-0.45/-0.52	-1.09/-2.23	-0.41/-2.46	-0.33/-0.11	0.13/0.76	0.36/0.21	1.64/0.20	3.46/2.84	2.09/1.31	1.06/1.91
Θ(45°)	1.38/0.29	-0.73/-1.24	-0.81/-0.40	0.52/0.89	1.51/0.98	-1.58/-3.76	-4.51/-3.81	-1.89/0.06	1.51/2.12	1.51/0.86	0.80/0.47	0.42/1.03	1.19/0.81	-0.02/-0.38	-0.84/-2.34	-2.58/-3.09	-4.76/-4.36	-1.55/-0.38	-1.26/-0.79	0.02/-0.26	0.51/1.04	0.65/0.29	0.27/0.72	1.21/2.06
Θ(52.5°)	-1.44/-2.69	-3.77/-3.92	-2.19/-1.83	-1.53/-0.41	0.29/-0.03	-2.40/-4.32	-5.26/-5.29	-2.84/-1.36	0.08/0.70	0.49/0.28	0.33/-0.61	-1.47/-0.74	0.77/0.55	-0.51/-0.49	-0.62/-2.91	-5.18/-1.78	-7.75/-6.19	-2.34/-1.51	-3.74/-3.19	-1.92/-3.11	-1.63/-1.36	-2.60/-3.25	-1.84/-0.57	0.31/-0.24
Θ(60°)	-5.95/-4.38	-5.12/-5.41	-2.93/-2.46	-3.60/-3.00	-1.34/-1.07	-2.51/-5.02	-5.25/-6.24	-4.90/-3.70	-1.77/-0.89	-0.91/-0.38	-0.11/-2.23	-2.72/-1.52	-0.69/-1.02	-1.67/-1.49	-1.28/-1.60	-5.05/-10.69	-9.99/-6.91	-2.46/-2.15	-5.08/-5.16	-3.72/-4.83	-4.26/-4.48	-8.31/-7.34	-5.01/-3.13	-2.58/-3.68
Θ(67.5°)	-4.15/-2.19	-3.45/-4.81	-2.44/-2.55	-5.40/-5.24	-3.00/-2.88	-4.35/-5.59	-5.54/-6.19	-4.79/-6.24	-5.12/-3.76	-3.48/-2.23	-1.75/-3.04	-3.84/-3.77	-4.35/-5.38	-4.25/-2.58	-2.49/-2.18	-5.01/-10.62	-12.27/-5.80	-2.88/-3.17	-4.81/-5.13	-3.17/-4.00	-5.07/-7.57	-12.67/-9.50	-6.41/-5.88	-5.80/-4.42
Θ(75°)	-3.09/-1.79	-3.18/-4.79	-2.67/-3.21	-5.69/-8.22	-5.77/-6.10	-6.23/-7.06	-6.37/-6.57	-4.34/-7.42	-9.92/-7.08	-4.94/-3.98	-3.28/-3.37	-4.31/-5.52	-6.49/-7.34	-6.54/-4.27	-4.55/-3.64	-4.51/-8.79	-12.77/-5.86	-2.83/-3.97	-5.21/-5.69	-2.95/-2.37	-4.81/-8.49	-11.88/-7.90	-5.29/-7.38	-7.97/-3.84
Θ(82.5°)	-3.60/-2.51	-4.06/-5.50	-3.65/-3.88	-5.98/-10.64	-7.89/-9.04	-9.47/-9.15	-7.54/-8.77	-7.27/-10.32	-12.63/-6.59	-5.12/-4.84	-4.37/-4.28	-5.75/-7.13	-7.67/-9.64	-8.17/-6.90	-7.22/-5.65	-5.32/-9.01	-12.44/-7.61	-4.64/-4.47	-6.97/-8.48	-5.61/-3.54	-5.63/-4.87	-9.91/-7.76	-8.91/-9.92	-9.27/-5.01
Θ(90°)	-5.23/-3.65	-6.20/-7.20	-5.90/-5.22	-7.63/-12.77	-8.75/-13.93	-11.91/-11.39	-8.30/-9.96	-9.25/-12.24	-10.85/-5.44	-4.14/-4.44	-4.28/-5.21	-6.88/-8.65	-7.55/-9.29	-10.33/-7.86	-10.12/-9.64	-6.29/-8.60	-15.02/-13.94	-8.44/-7.21	-8.08/-12.84	-12.42/-6.86	-7.97/-14.22	-9.75/-9.09	-13.06/-12.45	-12.46/-5.90
Θ(97.5°)	-6.45/-4.82	-7.74/-8.08	-7.03/-7.16	-12.86/-12.86	-8.90/-15.07	-10.60/-12.66	-11.49/-13.68	-9.13/-6.04	-5.28/-5.04	-4.46/-6.99	-9.56/-9.02	-9.71/-11.96	-10.91/-9.62	-10.73/-14.40	-8.49/-11.58	-15.68/-16.14	-12.57/-11.58	-9.73/-11.05	-11.97/-10.03	-12.00/-15.37	-12.61/-11.29	-14.54/-12.81	-13.56/-6.81	
Θ(105°)	-8.11/-7.10	-8.36/-10.53	-9.15/-11.14	-14.95/-10.94	-11.06/-14.02	-12.05/-12.34	-10.08/-11.61	-10.50/-13.75	-9.38/-8.21	-7.32/-6.77	-4.80/-7.90	-10.71/-8.75	-9.29/-11.66	-11.76/-14.93	-14.70/-15.29	-9.86/-10.49	-14.46/-12.17	-15.47/-9.94	-12.11/-11.05	-15.94/-9.36	-8.39/-16.22	-14.39/-11.97	-15.45/-14.74	-13.93/-4.86
Θ(112.5°)	-9.89/-9.68	-13.97/-16.27	-13.62/-12.06	-13.14/-9.98	-15.84/-13.43	-10.04/-10.84	-11.19/-12.29	-9.42/-10.65	-8.50/-10.63	-10.08/-9.33	-5.70/-8.78	-12.33/-10.60	-10.58/-11.18	-10.05/-13.71	-15.08/-14.81	-13.08/-10.40	-15.49/-13.26	-13.81/-13.20	-11.49/-12.87	-15.06/-11.21	-8.78/-14.51	-13.20/-12.06	-15.31/-13.19	-10.28/-11.97
Θ(120°)	-9.88/-9.03	-8.80/-11.53	-14.81/-15.10	-15.66/-18.77	-13.62/-10.74	-11.90/-12.06	-12.60/-16.25	-11.47/-10.57	-9.05/-9.96	-9.28/-8.29	-7.19/-7.87	-11.13/-11.81	-12.63/-12.95	-9.21/-10.40	-14.82/-15.69	-11.58/-10.26	-11.79/-14.98	-15.63/-15.34	-14.65/-13.65	-15.90/-13.10	-15.46/-15.45	-11.60/-15.71	-13.01/-11.46	-11.65/-12.45
Θ(127.5°)	-11.02/-11.29	-15.02/-15.21	-15.66/-15.24	-12.11/-9.19	-10.07/-11.82	-14.64/-14.10	-14.77/-15.29	-11.46/-12.46	-11.48/-9.58	-8.64/-9.39	-9.35/-10.93	-11.30/-11.00	-13.48/-14.52	-10.77/-12.92	-14.72/-12.74	-13.23/-11.29	-10.98/-13.00	-13.92/-15.78	-14.38/-11.57	-14.02/-13.67	-14.59/-15.67	-14.97/-11.85	-15.55/-13.36	
Θ(135°)	-14.57/-12.39	-11.34/-11.97	-15.34/-14.72	-11.15/-12.04	-15.23/-15.32	-13.77/-13.57	-12.17/-12.43	-9.90/-9.78	-10.29/-8.57	-9.76/-11.39	-12.47/-12.82	-11.28/-11.92	-12.90/-14.87	-15.08/-15.92	-15.29/-12.44	-13.84/-14.40	-11.83/-11.29	-14.59/-13.36	-8.72/-15.47	-14.78/-15.82	-14.00/-12.74	-13.40/-10.62	-10.43/-14.74	-12.91/-13.25
Θ(142.5°)	-12.50/-15.34	-15.71/-12.60	-12.99/-14.82	-14.79/-15.56	-14.55/-15.50	-14.10/-11.63	-12.94/-12.46	-10.20/-10.74	-12.69/-12.91	-14.83/-15.12	-15.70/-14.88	-13.37/-13.08	-13.84/-11.62	-12.64/-13.72	-14.59/-14.57	-15.14/-15.26	-15.19/-15.06	-13.77/-14.86	-16.16/-15.27	-14.65/-13.78	-15.07/-15.91	-15.80/-14.89	-13.99/-12.30	-14.79/-15.39
Θ(150°)	-15.13/-15.43	-15.27/-14.98	-13.79/-12.02	-12.01/-10.94	-11.66/-15.84	-14.65/-10.95	-9.98/-10.62	-9.84/-10.13	-11.92/-12.71	-14.11/-15.16	-15.61/-13.04	-12.68/-12.22	-12.88/-11.82	-14.55/-15.03	-15.03/-15.14	-14.51/-15.82	-15.65/-14.58	-15.55/-14.68	-15.27/-15.73	-14.15/-15.38	-14.81/-15.64	-15.77/-15.11	-14.78/-15.30	-15.73/-14.84
Θ(157.5°)	-14.51/-14.42	-14.38/-14.21	-12.25/-11.24	-11.36/-10.95	-11.66/-13.19	-13.55/-14.07	-15.14/-15.19	-14.20/-15.57	-14.72/-15.69	-15.95/-15.80	-14.99/-15.04	-12.68/-12.57	-13.27/-15.43	-15.03/-14.51	-15.67/-14.92	-15.64/-15.24	-15.52/-14.97	-14.83/-15.51	-13.95/-15.31	-15.01/-15.54	-15.51/-15.31	-15.11/-14.98	-15.68/-15.81	-16.09/-15.75
Θ(165°)	-15.38/-15.46	-14.76/-14.16	-13.79/-13.95	-12.84/-11.92	-11.93/-13.26	-14.09/-14.36	-15.07/-15.51	-15.73/-14.66	-13.75/-14.19	-16.33/-15.52	-15.26/-15.05	-13.02/-11.75	-11.10/-12.62	-15.67/-14.90	-14.59/-14.76	-15.19/-14.87	-15.47/-15.25	-15.69/-15.87	-14.97/-15.27	-14.59/-14.13	-12.98/-11.95	-12.55/-13.64	-14.55/-15.55	-15.82/-15.52
Θ(172.5°)	-15.79/-15.86	-15.71/-14.97	-15.27/-16.03	-15.65/-15.21	-15.40/-14.96	-15.59/-15.09	-15.65/-15.65	-16.06/-15.30	-14.43/-15.04	-15.48/-15.32	-14.70/-15.86	-15.02/-15.14	-14.18/-15.04	-15.62/-15.55	-15.93/-15.93	-14.60/-15.26	-15.10/-15.78	-14.97/-15.76	-15.53/-15.23	-15.07/-14.53	-14.60/-15.05	-14.79/-14.88	-14.62/-14.25	-15.88/-15.43
Θ(180°)	-14.82/-15.28	-15.26/-15.97	-15.80/-15.53	-15.68/-15.27	-15.32/-15.77	-15.66/-16.30	-15.50/-15.21	-15.91/-15.77	-15.48/-14.82	-14.48/-15.19	-14.56/-15.59	-15.94/-15.70	-15.42/-15.84	-15.69/-15.66	-15.37/-15.77	-14.81/-15.16	-15.90/-15.69	-15.73/-15.83	-15.17/-15.32	-15.20/-14.55	-15.80/-15.27	-15.63/-15.78		
Freq(Hz)	6.475GPol.	TotalAnt.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	4.40/4.16	4.06/3.98	3.94/3.80	3.49/3.95	3.82/3.80	3.67/3.52	3.42/3.29	3.16/3.11	3.20/3.21	3.06/2.97	3.31/3.35	3.19/3.08	2.84/2.91	3.27/3.24	3.01/3.04	3.02/2.92	2.88/2.90	2.92/2.98	3.18/3.36	3.41/3.36	3.45/3.74	3.89/3.88	3.81/4.00	4.12/4.34
Θ(7.5°)	3.36/2.97	2.92/2.74	2.33/2.26	2.18/2.67	2.62/2.95	2.93/0.99	2.77/2.34	1.81/1.47	1.10/0.81	0.79/0.92	1.36/1.69	2.00/2.21	2.03/1.95	2.22/2.13	1.79/1.46	1.15/0.91	0.89/1.19	1.35/1.61	1.93/2.51	2.99/3.15	3.40/3.57	3.64/3.55	3.48/3.39	3.24/3.40
Θ(15°)	3.71/3.22	2.63/2.14	1.57/1.03	0.74/0.88	0.61/1.26	1.49/1.76	1.65/1.22	0.67/0.23	0.30/0.95	1.50/2.14	2.75/2.25	3.47/3.53	3.20/2.72	2.64/2.90	3.03/0.55	2.53/1.89	1.11/0.41	0.03/0.33	1.01/1.62	2.17/2.48	2.59/2.76	3.17/3.40	3.46/3.66	3.67/3.56
Θ(22.5°)	4.13/3.82	3.57/3.31	3.13/2.39	1.48/0.89	0.20/-0.15	-0.05/0.53	1.30/1.28	0.46/0.01	0.80/1.65	1.96/2.14	2.76/2.60	2.09/1.65	1.01/0.33	0.60/1.23	1.82/1.98	1.86/1.69	1.34/1.40	1.38/1.38	1.69/2.06	2.31/2.41	2.35/2.33	2.95/3.99	4.49/4.56	4.37/4.02
Θ(30°)	3.49/3.37	3.08/2.94	2.40/1.36	0.03/-0.25	-0.54/-1.67	-1.44/-0.51	0.24/0.31	0.11/0.59	1.74/2.52	2.29/1.91	1.90/2.39	2.19/1.78	1.09/0.19	-0.42/-0.73	-0.07/0.32	0.89/1.41	1.01/0.71	0.80/0.95	0.80/1.37	1.97/1.94	2.13/1.00	3.94/1.14	3.73/3.37	3.63/3.51
Θ(37.5°)	3.38/3.18	2.68/1.54	0.41/-0.49	-1.23/-1.98	-0.67/-2.02	-2.42/-1.80	-1.14/-0.47	-0.66/-0.22	1.39/2.04	1.14/0.77	1.36/2.49	2.17/1.74	1.51/0.63	-0.45/-1.44	-0.32/-0.55	0.36/0.93	-0.03/-1.26	-0.61/0.52	0.73/0.97	1.03/0.76	1.26/2.71	3.74/3.66	2.44/1.54	2.06/2.91
Θ(45°)	3.09/2.80	1.91/0.44	-1.48/-2.30	-2.68/-1.70	-0.38/-1.19	-2.85/-2.17	-1.54/-1.44	-2.06/-1.67	0.18/1.05	0.12/-0.03	1.38/1.96	1.46/1.17	2.03/1.54	-0.06/-1.69	-1.09/-0.45	-0.24/-0.03	-0.78/-2.24	-2.18/-1.04	-0.45/-0.96	-1.07/-0.73	0.43/1.83	2.55/1.42	0.50/0.15	1.92/2.65
Θ(52.5°)	1.00/-0.25	-0.95/-2.45	-4.11/-3.38	-2.82/-1.47	-0.49/-1.30	-2.85/-4.18	-3.51/-3.04	-3.41/-3.76	-1.52/-1.20	-2.44/-1.11	0.34/-0.12	0.11/0.74	1.14/0.52	-0.86/-1.83	-1.50/-0.59	-0.91/-1.93	-2.54/-4.46	-3.21/-1.72	-2.53/-4.27	-2.73/-2.57	-2.01/-0.78	-0.27/-1.34	-1.74/-0.87	0.73/0.99
Θ(60°)	-3.74/-5.27	-5.29/-4.79	-4.74/-4.40	-3.92/-2.60	-1.93/-3.90	-5.21/-6.16	-5.87/-4.08	-3.38/-4.21	-3.37/-4.17	-5.46/-2.87	-1.30/-2.81	-3.16/-2.26	-1.59/-1.69	-2.22/-1.82	-2.25/-2.04	-2.25/-4.39	-5.76/-7.38	-1.69/-0.19	-3.48/-5.50	-5.24/-3.60	-4.21/-5.82	-4.79/-3.32	-2.42/-2.45	
Θ(67.5°)	-3.13/-2.89	-4.42/-3.80	-3.10/-4.62	-5.47/-4.36	-3.79/-5.30	-6.29/-7.23	-8.54/-5.36	-4.93/-4.88	-5.03/-8.62	-7.87/-4.26	-4.27/-4.38	-4.29/-3.49	-3.04/-3.35	-3.86/-2.46	-5.23/-2.33	-2.45/-4.44	-12.82/-5.25	-0.03/0.29	-3					

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

