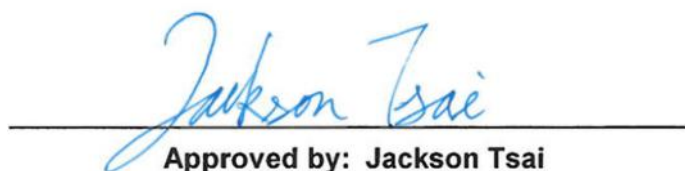


Antenna Composite Gain Test Report

Equipment	Wireless Access Point
Brand Name	ARISTA
Model Name	C-430
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	Dec. 04, 2024
Start Test Date	Dec. 22, 2024
Final Test Date	Dec. 22, 2024


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

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



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History of this test report

[illegible]

1. Operation Mode and Antenna Information

Antenna Position	RF Port	Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
2G 5G 6G Ant1	1	WHAYU	C393-510334-A	PIFA	I-Pex	2.4GHz, 5GHz, 6GHz
2G 5G 6G Ant2	2	WHAYU	C393-510334-A	PIFA	I-Pex	2.4GHz, 5GHz, 6GHz
2G 5G Ant1	1	WHAYU	C393-510334-A	PIFA	I-Pex	2.4GHz, 5GHz
2G 5G Ant2	2	WHAYU	C393-510334-A	PIFA	I-Pex	2.4GHz, 5GHz
6G Ant1	1	WHAYU	C393-510334-A	PIFA	I-Pex	6GHz
6G Ant2	2	WHAYU	C393-510334-A	PIFA	I-Pex	6GHz
BT	1	WHAYU	C393-510334-A	Dipole	I-Pex	BLE

Note:

2.4GHz, 5GHz and 6GHz Operation Mode (2TX/2RX)

2G5G6G Ant1~ 2G5G6G Ant2 could transmit/receive simultaneously.

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.

BT Operation Mode (1TX/1RX)

BT could transmit/receive.

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	Rofy Chen	23.5-24.5°C / 45-55%	22/Dec/2024

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

4. Test Facility and Configuration

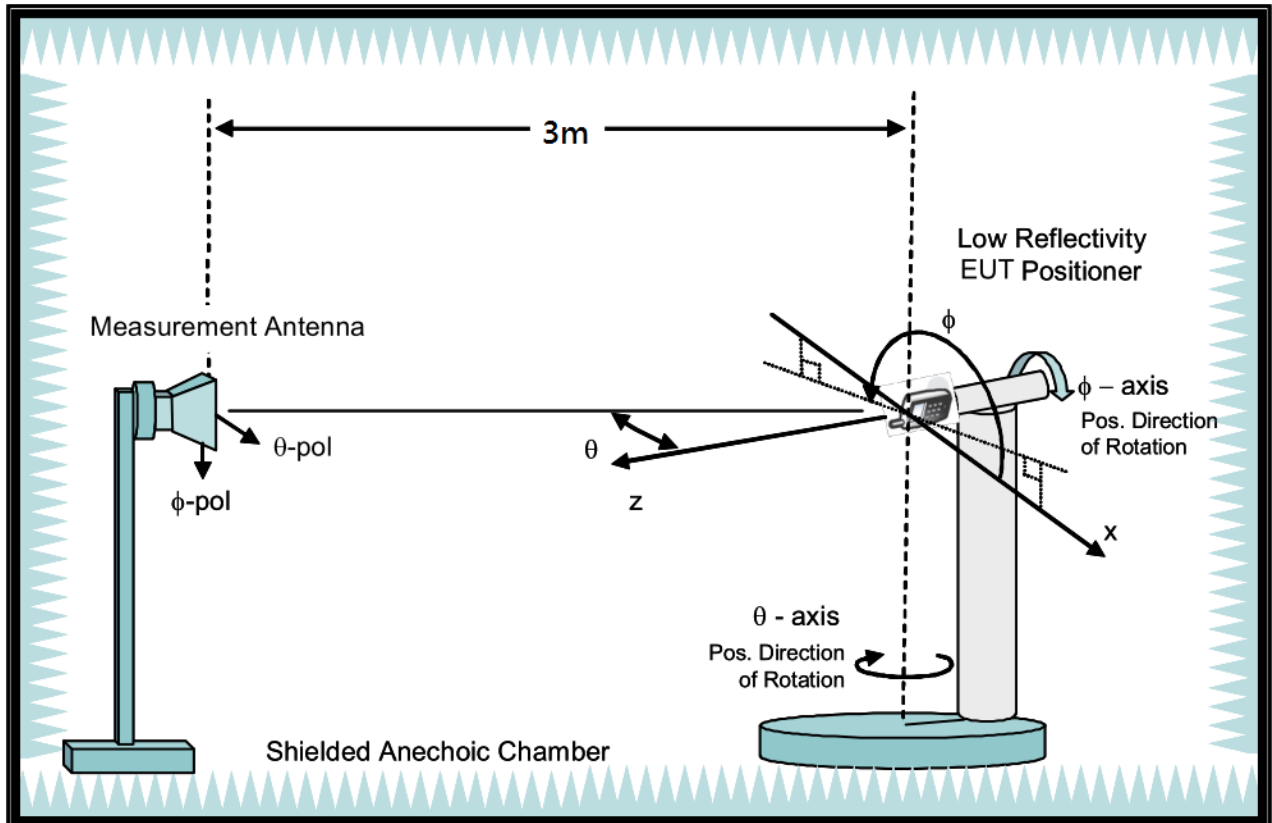
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

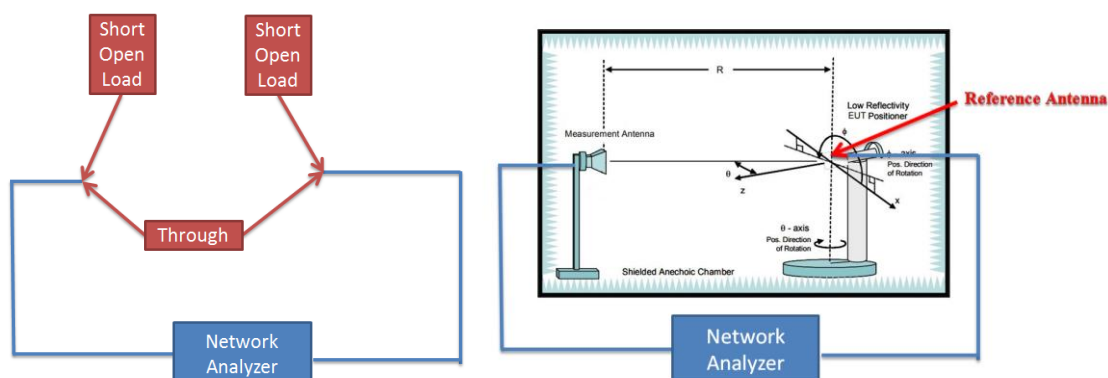
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



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	2400	2450	2500	5150	5200	5300	5600	5750	5800	5900	6000	6500	7000	7200
G(theta) reading (dB)	-33.48	-33.18	-32.45	-32.78	-32.43	-32.85	-32.74	-32.13	-32.46	-33.46	-32.73	-33.41	-34.78	-35.31
G(phi) reading (dB)	-33.45	-32.13	-32.74	-32.43	-32.87	-31.78	-32.46	-32.37	-32.73	-32.87	-32.46	-33.68	-34.74	-35.08
Reference gain (dBi)	10.4	10.5	10.2	11.4	11.5	11.9	12.5	11.8	11.7	11.6	11.8	11.5	11.4	10.8
Factor(theta) (dB)	43.88	43.68	42.65	44.18	43.93	44.75	45.24	43.93	44.16	45.06	44.53	44.91	46.18	46.11
Factor(phi) (dB)	43.85	42.63	42.94	43.83	44.37	43.68	44.96	44.17	44.43	44.47	44.26	45.18	46.14	45.88

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

<2G5G6G Ant1, 2G5G6G Ant2>

DG_1SS max value position

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	0.99	3.62	4.17	-0.68	-1.25	-1.09	-0.38	2.22	3.47
Ant. 2 (dBi)	4.44	-1.38	1.4	4.45	3.96	4.44	3.9	0.67	-0.88
DG [1SS] (dBi)	5.9	4.49	5.91	5.27	4.75	5.12	5.03	4.49	4.57
Polarization	Theta	Theta	Theta	Phi	Phi	Phi	Phi	Theta	Theta
$\Theta(^{\circ})$	60	82.5	82.5	37.5	37.5	30	22.5	75	60
$\Phi(^{\circ})$	0	300	300	307.5	300	292.5	270	135	112.5

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 [$10^{(G/20)}$]	$10^{(0.99/20)}$	$10^{(3.62/20)}$	$10^{(4.17/20)}$	$10^{(-0.68/20)}$	$10^{(-1.25/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(4.44/20)}$	$10^{(-1.38/20)}$	$10^{(1.4/20)}$	$10^{(4.45/20)}$	$10^{(3.96/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.121	1.517	1.616	0.925	0.866
Ant. 2 [$10^{(G/20)}$] value	1.667	0.853	1.175	1.669	1.578
Sum All Antenna [Amax]	2.788	2.37	2.791	2.594	2.444
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	5.9	4.49	5.91	5.27	4.75

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [$10^{(G/20)}$]	$10^{(-1.09/20)}$	$10^{(-0.38/20)}$	$10^{(2.22/20)}$	$10^{(3.47/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(4.44/20)}$	$10^{(3.9/20)}$	$10^{(0.67/20)}$	$10^{(-0.88/20)}$
Ant. 1 [$10^{(G/20)}$] value	0.882	0.957	1.291	1.491
Ant. 2 [$10^{(G/20)}$] value	1.667	1.567	1.08	0.904
Sum All Antenna [Amax]	2.549	2.524	2.371	2.395
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	5.12	5.03	4.49	4.57

Note:

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

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

<2G5G Ant1, 2G5G Ant2>

DG_1SS max value position

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	1.8	0.25	0.59	1.61	1.19
Ant. 2 (dBi)	2.64	3.06	2.55	4.34	1.34
DG [1SS] (dBi)	5.24	4.78	4.64	6.09	4.28
Polarization	Theta	Theta	Theta	Theta	Phi
$\Theta(^{\circ})$	60	67.5	67.5	75	0
$\Phi(^{\circ})$	187.5	210	210	210	30

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 [$10^{(G/20)}$]	$10^{(1.8/20)}$	$10^{(0.25/20)}$	$10^{(0.59/20)}$	$10^{(1.61/20)}$	$10^{(1.19/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(2.64/20)}$	$10^{(3.06/20)}$	$10^{(2.55/20)}$	$10^{(4.34/20)}$	$10^{(1.34/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.23	1.029	1.07	1.204	1.147
Ant. 2 [$10^{(G/20)}$] value	1.355	1.422	1.341	1.648	1.167
Sum All Antenna [Amax]	2.585	2.452	2.412	2.852	2.314
DG [$10 \cdot \log(A_{\max}^2/N_{\text{ant}})$]	5.24	4.78	4.64	6.09	4.28

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

<6G Ant1, 6G Ant2>

DG_1SS max value position

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	3.65	5.01	1.88	4.69
Ant. 2 (dBi)	4.12	3.19	4.67	5.06
DG [1SS] (dBi)	6.9	7.16	6.4	7.89
Polarization	Phi	Phi	Phi	Phi
$\Theta(^{\circ})$	45	67.5	37.5	15
$\Phi(^{\circ})$	30	172.5	15	202.5

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

DG_1SS max value position calculation

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [$10^{(G/20)}$]	$10^{(3.65/20)}$	$10^{(5.01/20)}$	$10^{(1.88/20)}$	$10^{(4.69/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(4.12/20)}$	$10^{(3.19/20)}$	$10^{(4.67/20)}$	$10^{(5.06/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.522	1.78	1.242	1.716
Ant. 2 [$10^{(G/20)}$] value	1.607	1.444	1.712	1.791
Sum All Antenna [Amax]	3.129	3.224	2.954	3.507
DG [$10 \cdot \log(A_{\max}^2/N_{\text{ant}})$]	6.9	7.16	6.4	7.89

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

<2G5G6G Ant1, 2G5G6G Ant2>

Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.17	3.62	4.17	3.45	3.23
Ant. 2 Max Gain (dBi)	4.51	3.8	4.19	4.45	3.96
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/45/97.5	Theta/82.5/300	Theta/82.5/300	Phi/30/120	Theta/82.5/300
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/60/352.5	Theta/75/112.5	Theta/75/112.5	Phi/37.5/307.5	Phi/37.5/300
Max Gain (dBi)	4.51	3.8	4.19	4.45	3.96
DG [1SS] (dBi)	5.9	4.49	5.91	5.27	4.75
DG [2SS] (dBi)	4.51	3.8	4.19	4.45	3.96

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	3.66	2.36	2.59	3.98
Ant. 2 Max Gain (dBi)	4.44	4.62	2.8	2.9
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/22.5/120	Phi/52.5/120	Theta/60/127.5	Theta/60/135
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/30/292.5	Phi/30/300	Phi/45/322.5	Theta/15/217.5
Max Gain (dBi)	4.44	4.62	2.8	3.98
DG [1SS] (dBi)	5.12	5.03	4.49	4.57
DG [2SS] (dBi)	4.44	4.62	2.8	3.98

<2G5G Ant1, 2G5G Ant2>

Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	3.09	2.82	3.72	5.11	4.06
Ant. 2 Max Gain (dBi)	2.66	3.25	3.16	4.34	3.02
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/60/352.5	Theta/30/307.5	Theta/30/307.5	Theta/30/315	Theta/30/322.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/52.5/187.5	Theta/45/172.5	Theta/45/180	Theta/75/210	Theta/75/217.5
Max Gain (dBi)	3.09	3.25	3.72	5.11	4.06
DG [1SS] (dBi)	5.24	4.78	4.64	6.09	4.28
DG [2SS] (dBi)	3.09	3.25	3.72	5.11	4.06

<6G Ant1, 6G Ant2>

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5.22	5.01	4.4	5.77
Ant. 2 Max Gain (dBi)	5.01	5.22	4.67	5.86
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/22.5/90	Phi/67.5/172.5	Phi/67.5/0	Phi/15/180
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/22.5/135	Phi/37.5/15	Phi/37.5/15	Phi/0/217.5
Max Gain (dBi)	5.22	5.22	4.67	5.86
DG [1SS] (dBi)	6.9	7.16	6.4	7.89
DG [2SS] (dBi)	5.22	5.22	4.67	5.86

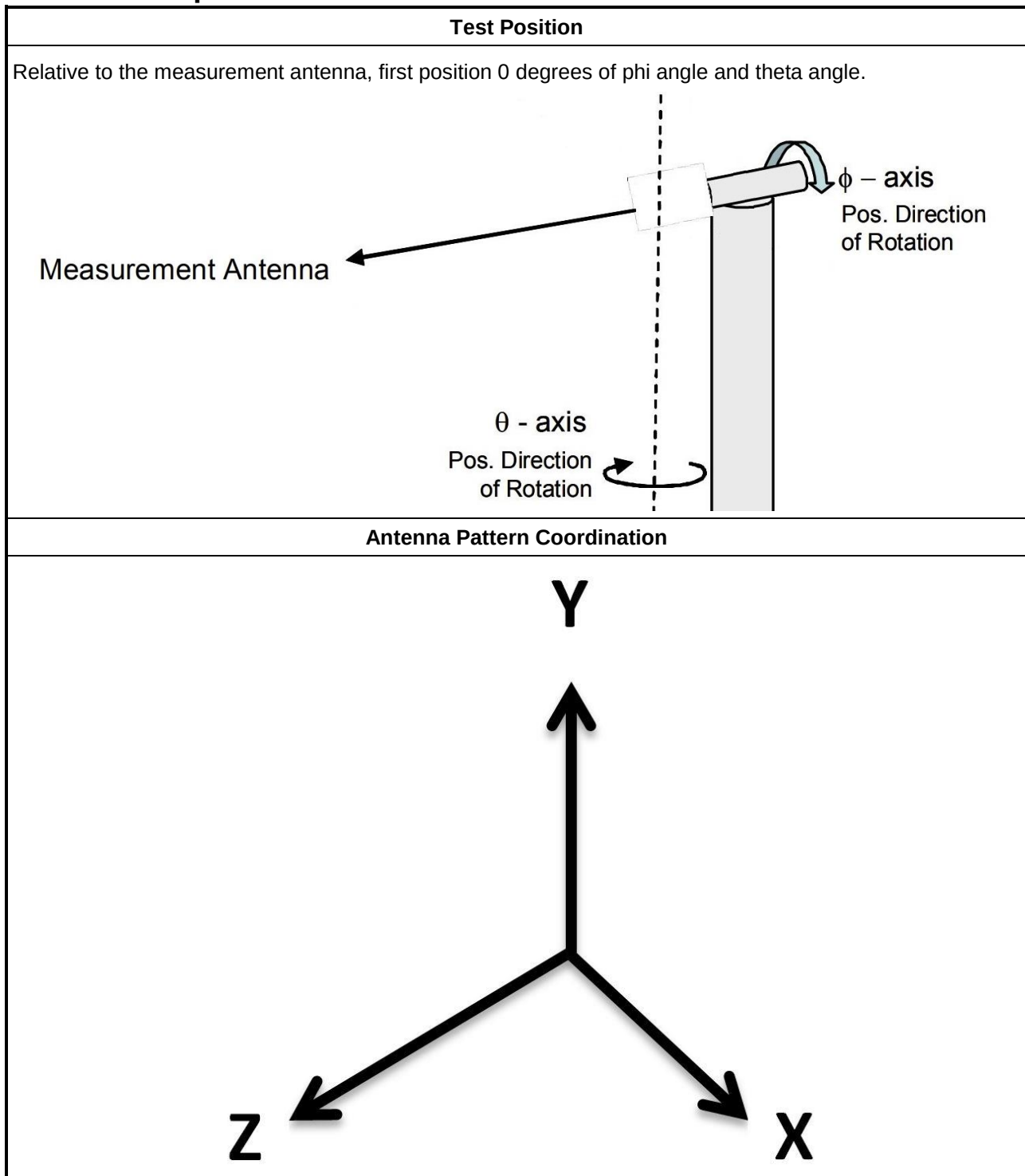
< BT >

Freq(Hz)	2.4G	2.45G	2.4835G
Ant. 1 Max Gain (dBi)	5.62	5.92	5.85
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/45/187.5	Phi/45/172.5	Phi/45/172.5

Note:

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

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. 20, 2024	Dec. 19, 2025
Dual Polarization Horn Antenna	Sporton	S0209DP	S0209DP-001	2GHz~9GHz	N.C.R.	N.C.R.
ENA Series Network Analyzer	AGILENT	E5071C	MY46419477	100kHz~8.5GHz	Jul. 30, 2024	Jul. 29, 2025
VNA Calibration Kit	TS RF	TS85033E-F	-	DC~9GHz	N.C.R.	N.C.R.
Multi-axis positioner	Sporton	MAPS01	MAPS01-001	Theta / Phi axis	N.C.R.	N.C.R.
Test Software	SPORTON	SENSE-RDG	V1.0.8	-	N.C.R.	N.C.R.

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

NCR means Non-Calibration required.



11. Test Results

Please refer to the appendix.

Appendix A – Radiated Composite Gain of 2.4GHz/5GHz/6GHz.....	Page 17
Appendix B – Radiated Composite Gain of 2.4GHz and 5GHz.....	Page 32
Appendix C – Radiated Composite Gain of 6GHz.....	Page 41
Appendix D – Radiated Composite of BLE.....	Page 48
Appendix E – Antenna Pattern of 2.4GHz/5GHz/6GHz.....	Page 51
Appendix F – Antenna Pattern of 2.4GHz and 5GHz.....	Page 57
Appendix G – Antenna Pattern of 6GHz.....	Page 61
Appendix H – Antenna Pattern of BLE.....	Page 64
Appendix I – Test Photos.....	Page 66



Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	2.17	3.62	4.17	3.45	3.23	3.66	2.36	2.59	3.98
Ant. 2 Max Gain (dBi)	4.51	3.8	4.19	4.45	3.96	4.44	4.62	2.8	2.9
Ant. 1 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/45/97.5	Theta/82.5/300	Theta/82.5/300	Phi/30/120	Theta/82.5/300	Phi/22.5/120	Phi/52.5/120	Theta/60/127.5	Theta/60/135
Ant. 2 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/60/352.5	Theta/75/112.5	Theta/75/112.5	Phi/37.5/307.5	Phi/37.5/300	Phi/30/292.5	Phi/30/300	Phi/45/322.5	Theta/15/217.5
Max Gain (dBi)	4.51	3.8	4.19	4.45	3.96	4.44	4.62	2.8	3.98
DG [1SS] (dBi)	5.9	4.49	5.91	5.27	4.75	5.12	5.03	4.49	4.57
DG [2SS] (dBi)	4.51	3.8	4.19	4.45	3.96	4.44	4.62	2.8	3.98



Radiated Composite Gain Data of 2.4GHz/5GHz/6GHz

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°)	2.36/3.29	2.31/2.11	1.73/1.17	0.52/-0.17	-0.94/-2	-3.38/-4.89	-5.81/-5.66	-4.92/-3.77	-2.15/-0.65	0.45/1.05	1.24/1.26	1.41/1.73	1.98/2.08	1.96/1.73	1.41/1	0.58/0.12	-0.52/-1.36	-2.25/-3.34	-3.57/-3.66	-3.79/-3.33	-2.35/-1.19	-0.07/0.84	1.48/1.89	2.15/2.34
Θ(7.5°)	2.11/2.22	2.27/2.18	1.94/1.57	1.22/0.88	0.41/0.34	-1.51/-2.87	-4.18/-5.23	-5.65/-5.24	-3.82/-2.07	-0.55/0.54	1.27/1.6	1.92/2.22	2.36/2.24	1.92/1.43	0.81/0.11	-0.69/-1.46	-2.42/-3.45	-4.21/-4.36	-3.87/-3.05	-2.39/-1.84	-2.01/-0.52	-0.28/0.55	1.66/1.94	2.22/0.4
Θ(15°)	1.81/1.88	1.98/1.9	1.62/1.3	1.06/0.89	0.58/-0.05	-0.99/-2.05	-3.09/-3.91	-4.56/-5.17	-5.43/-4.21	-2.37/-0.7	0.59/1.43	1.95/2.37	2.53/2.38	1.93/1.23	0.21/-0.92	-2.18/-3.37	-4.61/-5.56	-5.54/-4.61	-3.5/-2.48	-1.53/-0.73	-0.19/0.02	0.22/0.66	1.25/1.68	1.84/1.86
Θ(22.5°)	1.72/1.75	1.91/84	1.41/0.8	0.28/-0.07	-0.42/-1.05	-1.87/-2.85	-3.85/-4.39	-4.42/-4.19	-3.76/-3.13	-2.22/-1.12	0.02/1.06	1.73/2.27	2.51/2.35	1.79/0.83	-0.5/-2	-3.45/-4.53	-5.13/-5.41	-5.35/-4.67	-3.76/-2.55	-1.17/0.05	-0.81/1.07	0.93/0.84	0.99/1.36	1.71/1.8
Θ(30°)	1.74/0.27	2.43/2.44	1.87/0.73	-0.64/-1.7	-2.27/-2.73	-3.12/-3.74	-4.86/-5.71	-6.03/-4.59	-2.76/-1.19	-0.23/0.03	-0.07/-0.06	0.53/1.58	2.32/2.48	2.06/1.08	-0.58/-2.47	-3.96/-4.45	-4.24/-4.18	-4.6/-5.1	-4.83/-3.61	-1.94/-0.48	0.63/1.33	1.61/1.57	1.33/1.16	1.29/1.58
Θ(37.5°)	1.24/2.3	3.01/2.98	2.24/0.76	-1.14/-2.8	-3.63/-3.78	-3.57/-3.86	-4.76/-6.53	-6.86/-5.83	-3.14/-0.86	0.56/0.91	0.39/-0.58	-0.46/0.94	2.02/2.34	1.97/1.11	-0.28/-2.05	-3.57/-4.05	-3.9/-3.94	-4.41/-4.86	-4.78/-4.23	-3.37/-2.42	-1.3/-0.12	0.84/1.4	1.45/0.97	0.53/0.58
Θ(45°)	0.61/2.14	2.96/2.82	2.01/0.62	-1.1/-2.75	-3.79/-4.19	-4.14/-4.29	-4.76/-6.03	-7.19/-7.22	-5.25/-2.26	-0.29/0.54	0.44/-0.32	-1.03/-0.29	0.96/1.71	1.79/1.43	0.66/-0.56	-2.09/-3.1	-3.5/-3.96	-4.35/-4.22	-4.24/-5.05	-6.19/-6.24	-4.99/-3.14	-1.26/0.33	1.2/1.11	0.3/-0.27
Θ(52.5°)	0.58/1.85	2.27/1.81	1.05/0.11	-1.17/-2.58	-3.75/-4.52	-4.87/-4.77	-4.83/-5.93	-8.33/-10.18	-8.35/-4	-1.48/-0.28	0.26/-0.01	-0.78/-0.61	0.38/1.04	1.02/0.65	0.2/-0.54	-1.58/-2.33	-2.88/-3.72	-4.34/-4.18	-4.44/-6.06	-8.21/-8.32	-7.16/-5.2	-2.87/-0.9	0.42/0.73	0.24/-0.07
Θ(60°)	0.72/1.74	1.91/09	0.11/0.64	-1.66/-2.67	-3.59/-4.43	-4.73/-4.25	-4.33/-5.71	-8.96/-12.4	-9.31/-5.23	-2.52/-1.05	-0.03/0.16	-0.55/-0.4	0.73/1.36	0.79/0.41	-1.5/-2.13	-2.55/-3.65	-5.18/-4.91	-4.35/-5.79	-8.85/-10.36	-10.33/-7.97	-4.5/-1.92	-0.36/0.17	-0.03/0.01	
Θ(67.5°)	-0.14/1.07	1.13/-0.22	-1.59/-1.71	-1.68/-2.11	-2.92/-3.69	-4.16/-3.93	-4.5/-6.35	-10.25/-12.61	-11.13/-7.11	-4.55/-3.02	-1.19/-0.71	-1.19/-0.72	0.56/0.87	-0.31/-1.41	-0.49/-0.21	-1.03/-1.76	-2.15/-3.88	-7.11/-6.5	-5.1/-7.13	-11.34/-11.15	-12.2/-12.65	-7.2/-3.08	-0.49/0.21	-0.58/-1.09
Θ(75°)	-1.6/-0.25	-0.43/-1.91	-2.47/-1.38	-0.91/-4.3	-2.44/-3.72	-5.35/-5.34	-6.14/-8.37	-11.43/-10.72	-12.24/-11.19	-8.22/-6.13	-2.66/-0.77	-0.98/-1.99	-1.87/-1.52	-2.18/-2.2	-0.25/0.29	-0.72/-1.66	-1.94/-3.58	-6.89/-6.09	-5.02/-7.97	-10.92/-8.41	-9.51/-15.14	-10.72/-5.97	-1.66/-0.25	-1.26/-2.68
Θ(82.5°)	-2.52/-1.29	-1.81/-2.79	-2.42/-1.62	-1.86/-2.33	-2.9/-4.6	-6.87/-6.18	-7.07/-9.76	-10.21/-9.42	-13.42/-13.66	-9.26/-7.66	-3.39/-1.4	-2.66/-4.2	-2.61/-1.84	-3.15/-3.65	-1.53/-0.91	-2.04/-2.81	-3.17/-4.87	-7.49/-5.57	-5.09/-8.58	-8.13/-6.12	-11.36/-8.63	-4.3/-1.67	-2.26/-3.81	
Θ(90°)	-3.7/-2.11	-2.65/-4.06	-3.81/-2.59	-2.43/-2.5	-2.78/-4.74	-7.73/-6.75	-7.94/-10.1	-6.75/-6.26	-11.5/-13.54	-8.84/-9.06	-5.19/-2.45	-3.43/-5.57	-3.63/-2.55	-4.42/-6.04	-2.46/-0.9	-1.55/-2.94	-3.82/-5.37	-7.84/-5.71	-4.56/-7.23	-7.02/-5.12	-7.29/-12.79	-11.03/-8.43	-6.28/-2.62	-2.93/-5.26
Θ(97.5°)	-5.4/-3.21	-3/-3.9	-3.75/-2.55	-2.96/-3.99	-4.35/-5.69	-4.72/-4.19	-6.08/-8.02	-5.79/-5.31	-9.76/-13.89	-9.74/-9.84	-5.42/-5.2	-3.71/-6.39	-4.82/-3.39	-4.26/-5.18	-3.39/-2.22	-2.81/-3.96	-3.3/-3.69	-5.39/-3.69	-2.98/-5.52	-6.28/-4.97	-7.78/-12.59	-10.05/-8.24	-6.58/-3.1	-3.43/-5.91
Θ(105°)	-4.62/-3.08	-3.12/-4.05	-4.78/-3.93	-3.37/-3.12	-2.53/-2.33	-2.68/-3.02	-4.99/-9.19	-7.39/-6.17	-10.35/-12.99	-8.47/-9.38	-7.52/-3.21	-3.73/-7.43	-6.03/-3.47	-4.31/-7.68	-4.03/-1.43	-1.64/-2.57	-1.77/-1.96	-4.48/-4.89	-4.33/-6.59	-6.73/-4.98	-7.2/-9.46	-8.78/-8.18	-7.03/-3.5	-3.61/-5.63
Θ(112.5°)	-6.52/-4.22	-3.61/-3.5	-3.54/-2.41	-1.28/-1.33	-2.13/-3.51	-6.15/-7.14	-7.26/-6.53	-3.97/-4.39	-9.13/-13.16	-9.12/9.91	-6.61/-3.48	-5.35/-10.97	-8.52/-6.42	-7.77/-6.11	-2.28/-1.33	-3.27/-5.02	-3.62/-3.4	-3.87/-2.22	-1.55/-3.15	-4.62/-4.96	-7.94/-12.63	-10.93/-10.93	-7.4/-3.51	-3.82/-6.62
Θ(120°)	-6.25/-3.67	-1.88/-1.36	-1.89/-2.95	-4.17/-5.81	-7.28/-7.29	-4.99/-3.36	-3.34/-4.37	-5.19/-6.15	-10.12/-12.67	-9.81/-11.33	-9.37/-6.21	-7.46/-10.08	-8.78/-7.06	-6.14/-5.29	-2.79/-2.36	-4/-3.53	-1.93/-2.25	-3.17/-1.71	-0.81/-1.64	-6.04/-10.14	-13.67/-15.55	-10.95/-5.92	-5.08/-6.06	
Θ(127.5°)	-4.47/-3.19	-2.47/-2.53	-3.62/-5.64	-5/-3.27	-2.97/-3.15	-2.69/-4.27	-2.69/-4.27	-7.07/-9.79	-11.5/-12.76	-11.99/-11.79	-8.11/-5.87	-6.02/-5.8	-5.48/-7.1	-11.45/-8.2	-3.37/-2.35	-1.61/-1.47	-0.25/-0.45	-1.72/-2.6	-2.98/-4.7	-3.86/-10.21	-13.92/-15.57	-14.8/-10.2	-6.89/-5.62	
Θ(135°)	-5.61/-3.72	-3.2/-3.55	-3.85/-3.49	-2.44/-1.67	-1.74/-2.61	-3.9/-4.99	-5.73/-6.63	-8.3/-9.6	-11.76/-14.47	-14.52/-14.82	-10.79/-7.62	-6.26/-5.26	-4.62/-4.91	-5.47/-4.71	-4.02/-4.42	-5.01/-4.04	-2.79/-2.63	-3.21/-3.43	-3.66/-4.88	-7.13/-9.87	-11.59/-14.11	-15.88/-15.33	-13.25/-12.48	-10.65/-8.16
Θ(142.5°)	-8.57/-5.31	-3.75/-3.56	-3.4/-3.18	-3.35/-3.77	-4.23/-4.94	-5.3/-7.4	-9.37/-10.7	-11.79/-12.63	-14.26/-15.44	-12.86/-11.11	-9.34/-7.57	-6.8/-6.67	-6.45/-5.13	-3.43/-2.57	-2.73/-3.49	-4.06/-3.73	-3.28/-3.98	-5.42/-5.38	-5.29/-5.81	-7.05/-9.47	-12.73/-14.92	-15.14/-14.09	-13.41/-13.09	-13.21/-11.76
Θ(150°)	-11.27/-7.39	-4.71/-3.37	-2.57/-2.33	-4.95/-4.14	-5.47/-6.98	-4.88/-9.74	-8.85/-10.39	-10.66/-12.48	-13.86/-13.7	-10.58/-8.87	-8.51/-9.07	-10.46/-12.35	-1.78/-9.02	-6.55/-5.35	-4.98/-5.19	-5.47/-5.36	-4.57/-4.3	-6.09/-7.33	-9.01/-11.26	-13.91/-15.85	-14.9/-15.96	-15.36/-15.4	-14.99/-14.68	
Θ(157.5°)	-7.17/-5.69	-4.09/-2.8	-1.9/-1.66	-2.01/-2.75	-3.56/-4.78	-6.62/-9.09	-11.93/-12.07	-12.32/-11.3	-10.83/-9.67	-9.03/-9.76	-12.02/-13.86	-15.4/-12.6	-10.72/-9.44	-8.78/-8.62	-8.99/-9.22	-10.18/-9.49	-7.71/-6.14	-5.2/-5.07	-5.65/-6.82	-8.34/-10.02	-11.62/-12.56	-14.45/-15.18	-15.59/-15.2	-11.4/-8.87
Θ(165°)	-7.03/-6.24	-4.96/-3.74	-2.87/-2.41	-2.33/-2.51	-2.96/-3.68	-4.92/-6.85	-9.72/-13.84	-15.34/-14.28	-12.16/-11.66	-11.26/-11.98	-13.45/-13.23	-12.1/-11.1	-10.42/-9.62	-8.58/-7.88	-8.06/-8.71	-9.72/-10.38	-10.02/-8.71	-7.16/-6.99	-6.92/-7.26	-7.81/-8.1	-8.97/-10.56	-13.34/-14.71	-14.29/-12.22	-9.99/-9.3
Θ(172.5°)	-9.87/-8.23	-6.72/-5.5	-4.49/-3.68	-3.28/-3.46	-4.04/-4.9	-6.06/-7.6	-9.41/-11.65	-13.63/-15.86	-16.12/-14.79	-13.98/-13.43	-12.98/-12.01	-10.57/-9.62	-7.94/-7.54	-8.71/-8.26	-8.83/-9.53	-9.66/-9.82	-9.8/-9.9	-9.3/-9.26	-9.34/-9.37	-10.11/-11.82	-13.76/-14.27	-12.72/-12.3	-12.81/-11.11	
Θ(180°)	-9.76/-7.98	-6.78/-6.17	-5.58/-4.96	-4.6/-4.86	-5.7/-6.89	-8.28/-9.97	-11.25/-12.43	-14.26/-13.64	-12.4/-12.46	-12.81/-14.35	-15.18/-14.76	-13.5/-12.04	-10.68/-9.05	-7.62/-6.6	-6/-5.71	-5.7/-5.84	-6.21/-6.79	-7.57/-8.29	-8.41/-7.95	-7.65/-8.06	-9.8/-11.69	-12.95/-13.51	-12.88/-12.23	-12.77/-11.88
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°)	-5.65/-6.39	-6/-6.69	-3.38/-2.17	-1.12/-0.25	0.37/0.86	1.27/1.54	1.57/1.33	0.80/0.25	-0.09/-0.16	-0.09/-0.21	-0.79/-1.85	-3.19/-4.63	-4.91/-4.96	-4.87/-4.02	-3.04/-2.16	-1.33/-0.58	0.05/0.56	1.03/1.38	1.38/1.07	0.62/0.21	-0.13/-0.35	-0.57/-0.89	-1.49/-2.34	-3.36/-4.51
Θ(7.5°)	-2.87/-3.59	-3.72/-3.62	-2.47/-1.54	-0.8/-0.22	0.2/0.59	1.03/1.38	1.54/1.4	1.03/0.56	0.15/-0.14	-0.35/-0.73	-1.68/-1.39	-5.31/-7.76	-8.65/-7.52	-5.99/-4.49	-3.05/-1.87	-0.89/-0.11	0.47/0.84	1.09/1.19	1.03/0.61	0.1/-0.38	-0.67/-0.79	-0.91/-1.1	-1.39/-1.78	-2.18/-2.53
Θ(15°)	-1.74/-2.07	-2.62/-2.63	-1.95/-1.22	-0.63/-0.16	0.15/0.49	0.87/1.15	1.59/1.04	0.94/0.03	-0.44/-0.85	-1.35/-2.1	-3.34/-2.54	-8.14/-10.94	-1.09/-0.45	0.36/0.87	1.14/1.19	1.16/1	0.66/0.17	-0.37/-0.87	-1.27/-1.5	-1.63/-1.79	-1.9/-1.9	-1.87/-1.79		
Θ(22.5°)	-1.81/-2.29	-2.96/-3.17	-2.56/-1.62	-0.74/-0.11	0.27/0.64	1.01/1.22	1.1/0.64	-0.09/-0.11	-2.11/-3.01	-3.62/-4.16	-4.97/-6.22	-7.2/-7.69	-7.16/-5.17	-2.85/-1.04	0.28/1.15	1.64/1.78	1.72/1.58	1.37/1.11	0.79/0.4	-0.05/-0.59	-1.21/-1.78	-2.29/-2.64	-2.83/-2.55	-2.08/-1.76
Θ(30°)	-0.59/-1.34	-2.54/-3.23	-2.88/-1.92	-0.83/-0.01	0.52/0.99	1.44/1.72	1.71/1.41	0.87/-0.06	-1.7/-3.76	-5.47/-5.47	-4.68/-3.73	-3.57/-3.94	-4.17/-3.69	-2.21/-0.92	0.94/1.95	2.41/2.42	2.19/1.97	1.88/1.89	1.96/1.95	1.75/1.24	0.46/-0.5	-1.39/-1.91	-1.94/-1.48	-0.78/-0.35
Θ(37.5°)	2.24/1.31	-0.11/-1.25	-1.6/-1.4	-0.92/-0.3	0.21/0.88	1.66/2.25	2.39/2.52	2.31/1.71	0.43/-1.54	-3.91/-5.34	-4.42/-2.26	-1.01/-0.81	-1.16/-1.42	-0.95/0.1	1.22/0.08	2.52/2.46	2.11/1.94	2.22/1.81	3.03/0.27	2.85/2.43	1.91/1.27	0.54/0.08	0.17/0.94	1.96/2.47
Θ(45°)	4.13/1.3	1.88/1.09	0.49/-0.17	-0.86/-1.19	-0.95/0.29	1.92/96	3.33/3.27	2.99/2.53	1.68/0.27	-1.74/-3.75	-3.83/-1.44	0.71/1.51	1.19/0.56</											



Radiated Composite Gain Data of 2.4GHz/5GHz/6GHz

Appendix A

Θ(22.5°)	0.37/-0.7	-0.93/-4.09	-0.39/-1.12	-1.89/-1.4	-0.74/-0.39	-0.1/-0.35	-0.35/-0.23	-0.84/-1.52	-1.84/-1.15	0.61/7.4	2.4/2.4	1.58/0.52	-0.3/-0.93	-1.02/-0.88	-1.07/-1.75	-2.64/-1.94	-0.78/0.19	0.62/1.06	1.72/37	3.14/3.36	2.98/2.1	1.38/1.32	1.72/1.77	1.46/1.14
Θ(30°)	-0.24/-1.32	-3.84/-3.73	-2.96/-3.24	-2.97/-2.63	-0.41/-36	1.65/1.08	0.73/0.62	0.64/0.63	1/1.46	0.59/-0.59	-0.42/-0.98	-0.99/-0.71	-1.97/-4.57	-6.15/-4.48	-3.03/-2.19	-1.61/-0.15	0.71/0.73	0.81/7.9	2.63/3.2	3.79/3.63	3.42/7.1	1.05/-0.5	0.01/0.17	
Θ(37.5°)	-1.94/-3.02	-5.57/-7.09	-7.3/-5.2	-1.61/-1.31	0.14/0.94	10.85	0.42/-1.27	1.84/2	1.51/0.42	0.47/0.6	0.23/0.1	0.62/-1.98	-6.52/-5.83	-3.54/-1.39	-1.03/-1.83	-0.51/0.48	1.06/2.61	3.96/4.25	3.32/3.57	2.53/2.41	2.04/1.11	-0.65/-1.97		
Θ(45°)	-4.21/-8.21	-9.65/-9.48	-8.29/-4.51	-1.56/-0.47	-0.41/-1.83	-1.65/-0.49	0.44/0.59	1.76/3.2	3.41/2.72	1.55/0.95	0.83/1.41	1.05/-0.86	-1.88/-0.05	-8.07/-5.63	-6.66/-8.66	-8.92/-4.64	-4.05/-3.18	-1.32/-1.39	-1.31/1.43	3.33/3.57	3.07/2.7	2.94/3.28	2.68/1.82	0.53/-1.77
Θ(52.5°)	-3.52/-6.77	-9.86/-11.95	-9.73/-4.47	-2.35/-2.31	-2.23/-3.95	-1.13/-0.29	0.56/0.69	0.99/2.47	3.01/2.01	2.04/2.16	0.65/-2.78	-7.48/-7.58	-14.64/-8.76	-6.99/-7.48	-14.66/-8.64	-5.66/-2.62	-1.18/-0.54	0.35/1.81	3.26/2.96	2.15/2.88	3.54/3.59	3.2/0.93	-1.48/-2.23	
Θ(60°)	-5.05/-8.24	-5.72/-6.15	-8.02/-6.27	-5.99/-3.25	-1.99/-4.21	-1.84/-2.1	1.79/0.97	-0.68/0.03	0.11/0.19	1.33/1.39	0.93/0.02	-2.49/-3.39	-7.39/-10.67	-10.61/-9.67	-9.82/-10.94	-2.71/-1.36	-0.84/-0.04	0.93/0.42	1.17/2.34	2.47/1.84	2.12/1.87	-0.41/-1.79		
Θ(67.5°)	-7.35/-11.25	-5.81/-5	-7.16/-8.25	-7.7/-3.66	-3.26/-6.57	-2.79/-2.29	1.67/-1.04	-0.69/0.54	0.61/6.9	1.93/0.64	0.19/0.04	-1.59/-3.73	-7.02/-9.79	-9.44/-9.49	-12.59/-11.91	-7.81/-8.12	-6.14/-3.36	-4.71/0.11	-0.01/0.68	1.22/0.82	2.24/2.55	1.42/0.91	0.46/0.87	-2.9/-5.68
Θ(75°)	-7.69/-11.22	-5.32/-3.89	-5.51/-10.58	-7.98/-5.7	-5.75/-9.81	-6.33/-2.95	1.04/-2.66	-0.1/0.56	0.2/1.91	1.77/-0.29	-0.74/-0.61	-0.51/-3.37	-5.22/-8.89	-7.49/-2.77	-6.86/-7.91	-4.65/-6.42	-9.03/-4.56	-7.68/-0.91	0.12/0.59	1.54/1.31	2.26/1.56	-0.74/-0.61	-0.82/0.86	-3.96/-8.48
Θ(82.5°)	-4.14/-7.74	-4.37/-3.66	-5.08/-12.35	-8.51/-7.2	-10.09/-11.28	-9.38/-5.71	-1.45/-3.91	0.42/-0.36	-0.88/0.68	-0.16/0.64	-0.58/-0.98	-3.38/-6.61	-2.71/-7.22	-3.65/-2.88	-5.96/-9.4	-5.75/-9.17	-12.53/-9.23	-10.05/-2.73	-0.31/0.28	1.97/0.7	1.50/2.9	-2.47/-0.5	-1.9/-0.58	-7.01/-7.37
Θ(90°)	-4.84/-4.81	-4.83/-4.33	-4.78/-11.95	-11.47/-12.45	-15.38/-9.34	-11.13/-9.1	-3.85/-5.66	-0.47/-2.53	-2.28/0.02	-1.25/-0.49	-1.75/-3.24	-4.13/-7.72	-2.2/-2.85	-3.32/-4.47	-4.25/-6	-8.44/-10.37	-15.42/-12.27	-11.67/-6.32	-2.1/-2.07	1.22/-0.81	-0.95/-1.68	-1.9/-1.44	-2.95/-2.03	-7.63/-6.29
Θ(97.5°)	-5.01/-4.53	-4.76/-4.24	-5.64/-14.1	-9.61/-11.95	-16.11/-9.69	-11.44/-7.27	-7.41/-7.62	-1.76/-4.97	-2.61/-1.51	-2.72/-0.77	-3.43/-3.43	-5.15/-4.77	-2.06/-4.39	-2.87/-0.46	-5.19/-7.96	-8.59/-10.11	-10.3/-12.58	-11.95/-8.98	-4.26/-3.03	-0.55/-2.39	-4.13/-6.73	-3.52/-1.92	-3.32/-1.98	-5.93/-3.88
Θ(105°)	-3.68/-5.46	-6.44/-6.4	-7.45/-15.7	-9.31/-9.19	-12.81/-11.73	-10.77/9.89	-11.75/-8.45	-3.37/-8.19	-5.47/-2.34	-3.47/-2.56	-3.87/-5.25	-6.77/-3.91	-0.69/-2.16	-2.91/-3.78	-6.81/-8.65	-9.81/-12.73	-11.84/-12.28	-9.28/-10.77	-8.15/-7.24	-3.28/-3.61	-6.72/-8.62	-2.66/-1.82	-4.11/-1.97	-6.69/-3.37
Θ(112.5°)	-5.28/-5.08	-5.83/-7.45	-9.5/-11.81	-9.85/-10.52	-11.37/-12.95	-12.87/-13.12	-14.59/-11.88	-8.05/-7.03	-7.23/-4.49	-3.24/-2.95	-6.38/-8.52	-9.02/-2.89	-3.54/-4.94	-7.64/-5.41	-7.44/-10.94	-9.49/-11.02	-15.52/-16.15	-13.24/-11.1	-6.11/-6.86	-4/-5.96	-7.4/-7.56	-3.92/-6.2	-5.83/-3.41	-4.11/-3.5
Θ(120°)	-13.24/-8.17	-7.51/-8.21	-14.63/-12.07	-9.37/-9.58	-10.31/-15.56	-13.31/-15.97	-15.43/-11.22	-8.61/-5.32	-8.4/-5.64	-3.29/-5.07	-7.24/-10.24	-9.9/-3.74	-5.83/-6.78	-4.57/-5.04	-10.06/-9.12	-13.7/-15.09	-15.32/-11.12	-8.78/-7.62	-6.02/-7.06	-9.02/-7.42	-5.08/-8.23	-6.76/-6.55	-5.6/-5.42	
Θ(127.5°)	-11.81/-12.31	-7.91/-7.58	-9.67/-6.01	-8.09/-10.72	-8.95/-12.33	-10.99/-11.6	-14.72/-12.02	-8.37/-5.59	-9.63/-3.99	-5.04/-4.93	-7.02/-0.81	-10.2/-8.15	-8.71/-12.81	-13.72/-7.53	-11.52/-5.55	-9.62/-10.81	-15.26/-13.2	-14.65/-12.05	-9.66/-11.43	-8.86/-7.49	-7.93/-9.47	-7.36/-6.73	-4.2/-6.09	-6.43/-8.8
Θ(135°)	-5.69/-5.76	-4.67/-9.51	-9.57/-5.34	-5.79/-13.58	-14.65/-14.9	-12.91/-11.76	-14.43/-8.9	-12.48/-10.53	-10.22/-10.88	-6.73/-8.23	-3.62/-5.21	-9.72/-7.17	-4.02/-9.9	-9.87/-7.33	-6.4/-5.37	-14.89/-12.66	-14.86/-12.83	-13.76/-15.31	-12.55/-12.69	-7.91/-7.44	-8.5/-11.6	-10.98/-8.91	-4.1/-3.9	-5.31/-4.47
Θ(142.5°)	-7.94/-6.3	-4.36/-6.26	-10.83/-11.9	-13.77/-11.34	-12.79/-14.68	-9.35/-10.64	-15.38/-13.87	-15.44/-13.67	-11.02/-11.97	-13.82/-9.44	-4.02/-3.4	-3.75/-0.76	-6.9/-7.88	-5.52/-7.32	-9.33/-13.07	-12.48/-11.3	-10.12/-6.74	-8.82/-12.39	-11.57/-10.98	-10.66/-10.59	-12.93/-13.08	-13.66/-12.04	-5.04/-5.05	-9.09/-7.73
Θ(150°)	-11.51/-12.81	-8.22/-8.69	-10.44/-15.48	-11.09/-9.03	-11.09/-13.27	-15.03/-14.74	-15.49/-14.13	-12.53/-11.67	-10.5/-13.16	-11.5/-10.47	-13.54/-8.61	-7.47/-10.44	-10.25/-12.39	-11.26/-8.97	-11.65/-14.52	-13.64/-12.75	-14.78/-14.6	-12.74/-13.26	-12.52/-14.45	-12.74/-13.26	-11.01/-11.41	-6.95/-5.71	-5.78/-7.78	
Θ(157.5°)	-8.51/-7.9	-9.86/-9.28	-6.76/-5.61	-6.88/-8.19	-8.86/-10.89	-12.31/-13.31	-14.54/-15.47	-14.76/-10.8	-10.25/-12.71	-13.15/-9.93	-9.36/-11.56	-12.66/-10.52	-10.89/-7.09	-5.77/-6.73	-11.9/-9.52	-8.09/-8.33	-13.62/-15.56	-13.44/-15.61	-14.27/-12.95	-12.66/-13.59	-13.72/-12.5	-10.2/-7.29	-6.24/-6.14	-6.87/-8.44
Θ(165°)	-5.26/-5.65	-9.36/-7.3	-7.4/-6.09	-5.97/-6.13	-6.65/-8.89	-12.13/-14.64	-16.16/-14.77	-13/-12.19	-10.28/-9.79	-9.2/-8.02	-9.19/-10.28	-7.41/-6.28	-5.06/-3.44	-3.51/-5.31	-9.51/-15.52	-14.96/-15.28	-16.27/-12.98	-11.56/-11.65	-13.49/-13.99	-14.31/-14.88	-13.92/-12.63	-13.19/-0.9	-6.37/-6.87	-9.05/-6.2
Θ(172.5°)	-7.58/-10.59	-8.43/-6.58	-6.07/-5.76	-6.57/-8.09	-8.89/-10.46	-11.42/-11.46	-10.71/-10.6	-11.34/-13.63	-13.78/-14.6	-15.99/-15.38	-14.95/-12.32	-10.13/-8.52	-6.94/-6.28	-7.33/-10.01	-13.9/-15.37	-15.1/-15.79	-15.27/-15.63	-15.33/-15.63	-15.9/-14.62	-14.82/-13.89	-12.2/-9.73	-9.32/-9.57	-7.48/-6.46	
Θ(180°)	-11.74/-11.98	-11.01/-11.84	-12.23/-12.17	-11.73/-10.72	-10.06/-8.94	-8.27/-8.72	-9.19/-8.92	-10.6/-12.6	-12.36/-11.01	-9.52/-8.58	-7.65/-8.01	-9.3/-9.66	-9.71/-10.9	-12.67/-13.03	-13.73/-15.17	-15.45/-14.37	-14.09/-11.11	-10.32/-10.51	-10.91/-9.56	-9.61/-9.28	-9.38/-8.68	-7.77/-7.74	-7.93/-7.68	-8.06/-10.93
Freq(Hz)	5.3GPaL	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°)	-1.16/-0.63	-0.13/0.3	0.59/0.89	1.19/1.18	1.38/1.5	1.34/1.49	1.15/0.15	0.12/-0.01	-1.08/-1.59	-1.22/-1.58	-2.32/-2.08	-1.25/-0.63	-0.41/-0.18	-0.01/0.13	0.69/0.82	0.67/0.84	1.13/0.94	0.89/0.97	0.80/0.1	-0.56/-0.97	-1.43/-1.43	-1.79/-2.14	-1.74/-1.7	-1.91/-1.7
Θ(7.5°)	-0.85/0.14	0.66/0.69	0.74/0.96	10.73	0.61/0.55	0.11/-0.39	-0.72/-1.84	-3.1/-3.44	-3.58/-3.76	-3.99/-3.56	-3.54/-3.21	-2.5/-1.75	-0.99/-0.43	-0.26/-0.06	0.46/0.72	0.81/1.14	1.48/1.41	1.39/1.31	1.14/0.47	-0.45/-0.84	-1.05/-1.23	-1.4/-1.94	-1.78/-1.21	-1.03/-1.26
Θ(15°)	-1.52/-1.22	-0.77/-0.74	-0.08/0.58	1.17/1.13	0.83/0.57	0.48/-0.17	-0.68/-1.08	-1.74/-1.83	-0.1/-0.53	-0.19/-0.58	-0.8/-1.17	-0.05/-0.38	0.38/0.1	1.21/1.36	1.55/1.39	0.89/0.04	-0.83/-1.25	-0.64/-0.1	-0.08/-0.6	-0.87/-1.26	-1.77/-1.16	-0.85/-0.56	-0.79/-0.74	-0.61/-0.91
Θ(22.5°)	-0.38/-0.08	0.18/-0.81	-1.51/-1.34	-0.73/-1.21	-1.99/-2.03	-1.74/-1.79	-2.19/-4.06	-6.05/-4.52	-3.21/-2.01	-1.67/-2.2	-3.57/-4.12	-3.02/-0.65	0.64/1.34	2.07/2.25	1.9/1.2	0.85/0.58	0.1/-0.37	-0.37/-0.2	-1.12/-3.24	-6.6/-9.42	-6.92/-4.27	-2.61/-1.7	-1.49/-2.22	-1.68/-0.61
Θ(30°)	-1.44/-0.32	1.09/0.79	-0.46/-1.7	-1.29/-1.49	-2.21/-2.58	-2.75/-1.7	-1.9/-3.51	-3.32/-3.77	-4.78/-6.16	-5.83/-3.56	-2.25/-3.4	-3.7/-3.88	-3.29/-1.4	0.4/0.6	0.18/1.25	0.96/0.38	-0.41/-1.29	-2.84/-4.44	-6.05/-5.04	-3.86/-3.86	-4.74/-5.55	-4.75/-3.6	-3.67/-2.02	
Θ(37.5°)	-0.18/-0.58	-0.82/-0.3	-0.52/-1.07	-1.21/-0.63	-0.5/-1.68	-3.47/-2.09	-2.35/-5.5	-7.53/-5.52	-2.28/-0.79	-1.1/-1.59	-1.16/-1.56	-1.51/-1.98	-3.06/-1.47	-0.97/-0.66	-0.13/-0.24	0.58/0.16	-1.44/-0.39	0.4/-0.54	-2.17/-1.39	-0.9/-1.89	-4.43/-8.18	-7.71/-5.63	-3.58/-2.77	-2.34/-0.85
Θ(45°)	0.69/-1.43	-2.21/-1.07	-1.73/-2.57	-2.74/-0.31	0.76/-0.64	-0.27/-1.1	-0.14/0.28	0.57/0.01	0.05/0.46	-0.45/-1.34	-2.23/-1.01	-0.22/-0.87	-0.53/-0.44	-0.62/-2.38	-0.59/-0.01	-0.2/-0.51	-4.12/-1.76	0.64/-1.11	-1.65/0.25	-0.17/-3.31	-6.34/-2.75	0.67/0.58	-1.37/-1.81	-1.03/-0.32
Θ(52.5°)	-0.49/-2.04	-3.41/-1.84	-3.93/-2.88	-4.19/-2.82	-1.37/-1.51	-0.14/-0.87	1.1/2.25	1.44/0.18	-1.08/-1.47	-1.77/-2.25	-2.76/0.82	1.11/-0.45	-0.05/0.49	-1.22/-3.66	-2.92/-2.4	-2.24/-1.55	-4.47/-1.29	-0.31/-0.85	-0.25/-1.51	0.75/-2.67	-3.94/-1.29	1.03/0.92	-1.4/-0.91	-0.87/-1.43
Θ(60°)	-1.02/-3.61	-4.36/-2.83	-4.9/-1.06	-3.82/-4.2	-2.21/-1.84	0.18/-2.03	1.03/1.72	-0.47/-0.15	0.95/0.26	-2.27/-1.35	0.12/2.28	1.59/-0.04	0.24/0.68	-1.46/-5.2	-3.37/-2.82	-2.52/-0.64	-0.66/-1.68	-1.63/0.45	-0.3/-2.88	0.05/0.2	0.09/0.53	-1.65/-1.97	0.71/-0.06	
Θ(67.5°)	1.27/-1.72	-4.42/-3.78	-5.16/-1.53	-3.88/-3.43	-1.89/-2.35	2.78/1.33	1.51/2.68	3.44/1.9	-0.64/0.55	1.19/1.48	-0.41/-1.57	1.46/1.99	-2.16/-3.6	-3.4/-3.59	-4.79/-2.04	-2.36/0.67	-0.91/-3.04	-1.80/2.07	0.31/0.57	3.7/3.3	1.26/1.33	1.09/-1.84	1.25/2.32	
Θ(75°)	2.25/-5.02	-2.26/-4.65	-4.82/-3.95	-4.16/-1.92	-2.05/-3.18	0.73/1.97	2.98/0.83	2.84/3.96	4.96/3.6	0.78/2.15	0.89/0.19	-0.05/-3.15	1.72/3	-0.63/-4.29	-0.95/-2.97	-3.19/-0.73	-2.8/0.55	0.67/-2.36	0.32/-1.36	1.93/2.76	5.46/4.48	0.87/1.1	2.42/-1.08	1.13/3.18
Θ(82.5°)	2.5/-0.48	-2.8/-4.89	-4.36/-6.64	-4.61/-1.37	-3.																			



Radiated Composite Gain Data of 2.4GHz/5GHz/6GHz

Appendix A

Θ(75°)	-6.5/-7.27	-1.95/-3.46	-9.39/-10.45	-10.64/-8.46	-6.34/-4.6	-7.05/-2.35	0.24/2.67	-0.33/-2.16	2.74/2.06	1.27/-0.24	-1.03/-1.01	0.13/-4.66	-9.52/-5.85	-3.83/-5.52	-6.69/-10.59	-7.38/-11.92	-4.64/-5.55	-1.87/-2.74	2.32/2.13	2.69/2.54	2.23/2.67	-0.53/-1.4	-0.5/-0.32	-2.75/-7.48
Θ(82.5°)	-3.62/-5.56	-0.29/-2.55	-7.33/-9.49	-13.22/-11.82	-8.39/-6.04	-8.06/-4.68	-1.17/-1.85	-2.06/-2.82	1.09/-1.74	-0.13/-0.85	-0.32/-1.54	-2.56/-7.04	-8.27/-5.89	-2.43/-3.74	-7.12/-8.77	-9.54/-11.92	-6.44/-8.79	-5.38/-3.84	1.92/2.35	3.35/2.05	1.77/2	-2.62/-2.18	-1.06/-0.99	-5.11/-5.83
Θ(90°)	-3.25/-5.29	-0.78/-3.89	-8.35/-11.68	-15.33/-11.57	-12.32/-11.82	-12.93/-7.9	-7.42/-8.51	-4.05/-3.04	-1.22/-1.56	-0.99/-1.22	-0.72/-1.62	-6.17/-6.82	-5.96/-6.78	-2.33/-3.63	-6.98/-7.68	-11.57/-14.44	-10.51/-10.17	-9.64/-8.03	-0.95/0.21	1.53/0.83	-0.55/0.34	-3.35/-3.29	-1.6/-2.25	-7.08/-4.37
Θ(97.5°)	-3.33/-3.68	-2.29/-5.49	-8.78/-12.26	-13.75/-10.2	-12.53/-7.42	-6.9/-6.91	-6.69/-2.95	-2.5/-2.53	-3.49/-1.99	-2.88/-1.86	-2.09/-5.68	-8.98/-4.87	-6.39/-3.38	-4.83/-4.82	-5/-9.77	-13.15/-15.1	-10.97/-10.57	-9.82/-9.92	-4.74/-2.49	-1.14/-2.22	-2.32/-3.31	-3.25/-3.56	-2.6/-2.48	-5.38/-3.83
Θ(105°)	-4.22/-6.27	-4.42/-7.91	-11.35/-12.42	-15.16/-16.72	-14.13/-7.22	-7.55/-7.7	-6.35/-7.85	-4.74/-5.88	-4.37/-4.36	-3.18/-2.49	-3.17/-3.93	-3.87/-3.45	-4.83/-5.74	-6.43/-7.92	-12.48/-16.16	-10.42/-11.88	-11.61/-9.58	-9.51/-5.48	-4.46/-5.04	-4.06/-5.24	-3.64/-3.58	-3.88/-4.13	-5.87/-4.52	-5.71/-3.52
Θ(112.5°)	-7.01/-7.16	-6.72/-6.99	-15.33/-11.57	-12.34/-11.51	-15.23/-8.6	-10.42/-10.09	-7.03/-10.07	-6.11/-7.83	-6.9/-5.36	-1.78/-3.17	-6.15/-6.85	-8.67/-3.47	-4.11/-4.02	-6.44/-9.28	-10.24/-14.08	-12.10/-7.4	-10.78/-10.82	-2.97/-5.14	-7.92/-5.66	-4.33/-4.28	-3.69/-4.32	-5.26/-4.55		
Θ(120°)	-8.77/-10.01	-8.24/-12.4	-12.26/-10.25	-12.36/-10.29	-13.95/-14.53	-11.93/-13.8	-10.71/-10.88	-9.41/-7.24	-8.14/-5.45	-4.11/-4.33	-6.48/-8.72	-10/-4.25	-6.25/-9.08	-9.7/-7.45	-10.19/-11.55	-7.01/-11.68	-10.62/-11.28	-11.48/-9.65	-8.44/-8.28	-5.33/-5.43	-6.85/-7.71	-5.9/-4.87	-5.57/-7.23	-7.25/-7.67
Θ(127.5°)	-6.6/-12.78	-10.59/-10.87	-10.91/-12.22	-15.06/-15.8	-10.93/-11.4	-15.37/-11.96	-11.86/-13.09	-11.96/-3.67	-9.34/-6.27	-6.36/-6.52	-7.39/-9.51	-10.04/-11.52	-7.73/-9.27	-13.8/-12.21	-8.55/-10.29	-7.39/-13.07	-8.72/-13.1	-12.47/-13.82	-9.88/-8.38	-8.69/-9.98	-7.49/-8.9	-7.7/-7.48	-3.93/-5.62	-10.13/-8.44
Θ(135°)	-5.29/-4.96	-8.28/-9.17	-5.4/-13.56	-14.94/-15.35	-15.54/-14.72	-15.39/-14.64	-15.53/-12.78	-15.67/-9.51	-10.74/-7.91	-7.71/-8.39	-4.84/-4.57	-8.2/-8.44	-10.53/-5.36	-7.42/-13.35	-7.28/-8.57	-8.2/-14.58	-8.15/-11.26	-14.56/-14.44	-9.82/-9.59	-7.45/-7.53	-10.01/-9.64	-11.01/-8.6	-5.22/-4.72	-5.02/-6
Θ(142.5°)	-9.71/-9.14	-7.15/-8.2	-5.83/-9.42	-15.76/-14.92	-13.81/-15.24	-14.16/-15.85	-16.07/-13	-14.34/-9.8	-9.45/-10.67	-10.48/-9.24	-8.56/-11.89	-6.4/-4.08	-7.45/-5.33	-5.85/-7.04	-7.36/-15.53	-13.67/-14.8	-10.07/-11.01	-10.71/-13.38	-10.21/-9.63	-9.35/-10.91	-11.18/-14.95	-13.24/-11.37	-9.19/-8.01	-6.73/-5.81
Θ(150°)	-10.61/-9.4	-15.06/-11.5	-11.14/-13.16	-10.95/-9.89	-13.87/-12.94	-11.22/-12.99	-14.19/-13.68	-13.21/-13.48	-10.98/-8.91	-9.06/-8.86	-8.61/-10.71	-11.32/-10.21	-7.9/-5.93	-9.4/-13.59	-10.96/-10.51	-12.13/-14.44	-11.35/-13.51	-13.74/-13.99	-15.78/-15.62	-14.99/-15.6	-14.06/-10.8	-10.49/-9.22	-8.59/-10.38	-10.93/-12.18
Θ(157.5°)	-12.24/-13.86	-12.54/-12.13	-8.08/-5.85	-5.22/-6.78	-10.87/-14.96	-13.27/-12.52	-11.85/-12.59	-14.06/-14.47	-14.48/-14.38	-13.15/-12.69	-12.16/-12.12	-12.32/-12.44	-12.56/-9.96	-8.16/-6.66	-10.16/-11.61	-11/-11.11	-13.38/-13.32	-14.97/-15.65	-14.77/-13.33	-13.46/-11.93	-11.8/-11.53	-10.33/-11.17	-11.32/-10.14	
Θ(165°)	-7.3/-6.16	-7.88/-9.16	-9.1/-8.73	-9.38/-10.6	-9.87/-9.29	-9.93/-11.04	-12.72/-15.58	-13.62/-13.86	-13.23/-12.71	-11.2/-9.68	-10.73/-13.01	-11.48/-8.83	-7.18/-5.91	-6.57/-6.35	-5.83/-7.07	-10.98/-13.25	-13.74/-12.99	-11.63/-11.32	-12.53/-13.43	-13.31/-12.66	-11.66/-10.87	-11.41/-12.31	-11.35/-10.2	-9.65/-9.84
Θ(172.5°)	-7.63/-9.82	-11.76/-12.13	-12.75/-10.89	-9.79/-10.27	-12.51/-12.71	-13.36/-13.91	-14.74/-15.26	-15.71/-15.72	-15.54/-15.1	-14.97/-13.55	-14.06/-13.12	-10.66/-9.69	-8.8/-8.56	-9.51/-11.55	-13.98/-15.87	-15.64/-15.05	-13.58/-14.57	-15.42/-15.69	-14.84/-15.58	-14.76/-15.58	-15.07/-15.16	-15.36/-12.2	-9.47/-9.6	-9.77/-7.38
Θ(180°)	-13.19/-10.66	-8.59/-8.75	-9.24/-9.29	-10.23/-11.17	-10.85/-11.45	-13.09/-12.78	-14.25/-14.46	-13.5/-13.28	-15.29/-16.02	-15.8/-15.95	-15.16/-14.97	-13.51/-12.76	-14.94/-14.94	-14.48/-13.8	-14.48/-15.29	-15.41/-15.64	-15.04/-14.95	-16.14/-15.64	-15.44/-14.11	-15.03/-16.02	-16.04/-15.89	-14.71/-14.27	-12.56/-12.04	-12.65/-11.97
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°)	1.04/-1.96	2.24/-2.56	2.45/-2.45	2.46/-2.1	1.6/-7.5	0.68/0.24	-0.03/-0.26	-1.27/-1.75	-1.27/-0.9	-0.22/-0.15	0.69/-1.45	2.02/-2.38	2.61/-2.97	3.25/-3.1	3.21/-2.86	2.56/-2.15	1.65/-1.21	0.7/0.5	0.22/-0.22	-1.22/-1.71	-0.82/-0.62	0.05/0.46	0.37/0.52	0.37/0.52
Θ(7.5°)	2.873.17	3.43/3.38	3.07/2.4	2.14/-1.71	1.03/0.13	0.12/-0.46	-1.17/-0.93	-1.02/-1.79	-1.83/-1.43	-0.97/-0.71	-0.36/-0.32	0.73/-1.2	1.38/-1.61	2.04/-2.19	2.16/2.03	2.05/-1.85	1.36/1.04	0.86/0.31	-0.39/-0.28	-0.12/-0.42	-0.55/0.06	0.45/0.77	1.34/-1.74	2.12/-73
Θ(15°)	0.6/-1.51	2.63/-56	3.71/3.1	2.92/-1.76	-0.18/-1.12	-1.18/-1.4	-0.98/-0.62	-0.89/-1.33	-2.01/-2.63	-2.36/-1.66	-1.34/-0.52	0.16/0.83	1.75/-2.58	3.26/-3.39	2.78/-1.8	1.1/-1.16	1.81/-2.46	2.46/2.08	1.56/0.7	0.34/0.48	0.31/0.11	0.14/-0.11	-0.33/-0.28	-0.23/-0.11
Θ(22.5°)	1.38/0.89	-0.31/-1.64	2.85/-2.7	1.98/0.75	0.14/0.42	-0.15/-0.87	-1.71/-2.06	-2.32/-2.86	-2.92/-2.76	-2.33/-1.83	-1.36/-0.33	-0.28/-0.56	0.11/0.54	2.55/-12	4.61/-1.4	3.01/2.08	1.75/-1.82	1.27/0.85	-0.47/-3.58	-5.33/-3.54	-0.24/-3.11	-3.22/-2.56	-1.8/-1.03	-0.08/-0.18
Θ(30°)	0.72/47	1.81/-1.42	1.04/-1.44	1.34/0.35	-0.49/0.67	-0.51/-3.64	-4.48/-4.37	-3.75/-3.82	-2.96/-2.93	-2.32/-2.27	-2.89/-1.47	-1.84/-1.55	0.23/-0.12	0.12/-1.08	2.79/3.56	3.41/-2.93	2.66/2.08	0.87/0.45	-0.65/-3	-6.54/-7.34	-7.67/-6.17	-3.81/-2.5	-1.77/-3.42	-3.04/-1.54
Θ(37.5°)	-2.81/0.12	2.29/-2.58	1.33/-1.85	2.69/-1	-1.42/-0.58	-0.79/-3.84	-3.04/-0.83	-0.75/-2.46	-4.77/-4.87	-4.48/-4.82	-0.36/-1.48	0.94/-1.51	-0.37/-0.77	2.52/0.86	-0.95/-1.23	2.62/-55	3.32/-2.23	-0.03/0.46	-0.98/-4.56	-5.23/-3.43	-4.71/-7.4	-0.31/-1.79	-1.72/-2.32	-0.17/-1
Θ(45°)	-1.82/-3.49	-3.75/-1.66	-0.83/-0.19	2.55/-15	-2.17/0.69	-0.13/-0.34	-0.23/0.15	-0.27/0.86	-1.35/-1.58	-1.01/-0.38	-0.51/-2.75	-2.90/-2.8	0.36/0.52	0.94/-1.79	0.14/-1.12	2.09/-0.29	1.51/0.51	-1.24/-1.32	-2.35/-2.84	-1.97/0.03	-1.29/-4.33	-4.98/-4.54	-4.01/-3.84	-2.43/-0.82
Θ(52.5°)	-1.04/-2.37	-5.03/-6	-2.24/-3.67	1.15/-1.14	-1.18/-1.14	0.61/-1.15	0.53/-1.92	3.13/-2.49	2.21/-1.63	-1.16/-3.52	-5.27/-4.5	-4.63/-0.8	-0.44/-2.45	-1.3/-1.35	-1.05/-1.32	1.24/-1.41	-0.09/-0.94	-0.71/-0.8	-0.34/-2.34	-1.3/-0.69	-1.24/-0.21	-0.56/-1.47	-1.35/-3.23	-4.12/-1.37
Θ(60°)	-1.21/-1.61	-3.04/-6.66	-2.28/-3.54	-1.19/-0.4	-0.76/0.9	-1.92/0.01	0.22/2.15	2.54/0.48	0.93/-1.44	-0.15/-1.87	-0.41/0.53	-4.66/-1.48	-1.5/-6.16	-1.03/-2.75	-4.79/-1.15	-0.11/-1.4	0.13/-2.54	-0.63/-0.06	0.36/-1.64	-1.42/-1.77	-2.35/-0.88	-0.04/-2.97	-0.90/0.15	-1.59/-1.62
Θ(67.5°)	-0.68/-0.81	-2.71/-7.33	-4.43/-2.51	-2.32/-1.11	-1.23/-0.68	-3.3/-0.31	0.91/-1.68	1.12/-0.99	0.87/-0.67	1.56/-1.98	-1.58/-3.28	-2.34/-4.13	-2.48/-3.07	-2.32/-2.95	-2.78/-0.42	1.26/-1.94	1.85/0.42	-0.81/-0.66	-0.95/-0.52	-0.98/-0.94	1.03/-0.08	-1.24/0.15	-1.19/-0.55	
Θ(75°)	-1.77/-0.54	-2.92/-2.41	-6.19/-2.15	-2.05/-2.7	-3.02/-3.58	-2.55/-0.63	1.29/-1.41	1.3/68	3.13/-2.09	1.19/0.3	-0.16/-0.27	-1.25/-4.42	-1.74/-2.99	-3.18/-2.07	-7.75/-3.31	-1.28/-0.16	1.59/-0.02	2.59/-1.14	0.96/-1.86	0.79/-1.56	2.55/0.51	1.54/-1.08	-0.99/-1.49	-0.89/-0.22
Θ(82.5°)	-3.27/-1.82	-4.97/-1.62	-6.12/-3.09	-3.04/-3.4	-4.45/-5.24	-2.14/-1.48	10.83	0.86/2.93	3/2.3	1.25/0.18	-1.08/-2.44	-3.39/-4.32	-1.46/-2.08	-2.89/-1.59	-4.99/-2.75	-0.87/0.11	0.91/0.7	2.64/-2.24	2.54/-2.57	1.43/-2.91	3.91/-1.24	0.72/0.76	-0.67/-1.9	-1.85/-0.18
Θ(90°)	-4.42/-3.81	-6.89/-1.75	-7.09/-3.99	-3.96/-4.2	-6.26/-6.38	-3.47/-2.04	-0.17/0.02	-0.33/-1.48	1.94/-1.18	0.32/-1.14	-1.08/-3.14	-4.12/-4.54	-2.69/-2.08	-1.96/-1.5	-4.44/-4.27	-0.57/-0	1.13/-1.76	1.91/-1.72	-0.51/0.27	3.31/0.96	0.39/-0.7	2.06/-2.39	-2.87/-3.03	
Θ(97.5°)	-6.32/-6.38	-9.46/-4.37	-8.27/-6.33	-6.15/-5.31	-7.76/-5.75	-4.75/-2.66	-1.4/-0.98	-1.18/-0.2	0.31/0.05	-0.64/-0.84	-2.8/-3.8	-5.47/-6.66	-1.79/-2.29	-3.83/-4.26	-2.37/-2.57	-2.83/-2.41	-2.45/-0.87	-0.46/-0.38	-3.67/-0.04	-1.92/-1.28	-1.88/-2.56	-4.31/-4.78	-1.44/-4.49	
Θ(105°)	-8.24/-6.71	-11.53/-6.89	-9.33/-6.07	-8.08/-5.89	-8.92/-6.94	-3.57/-2.08	-1.94/-1.65	-3.23/-2.17	-1.06/-4.09	-1.51/-0.91	-3.25/-4.57	-6.15/-0.88	-2.58/-3.66	-4.23/-2.68	-8.93/-5.87	-4.86/-4.66	-4.81/-2.53	-5.33/-3.67	-4.59/-1.41	-8.11/-4.43	-2.11/-4.58	-4.13/-4.28	-7.09/-5.68	-3.47/-5.42
Θ(112.5°)	-7.48/-7.49	-9.76/-8.27	-10.98/-7.34	-9.07/-6.63	-8.36/-7.41	-3.63/-2.06	-1.97/-1.62	-2.42/-3.26	-2.04/-1.4	-2.28/-3.34	-7.05/-5.97	-7.04/-7.99	-3.44/-6.16	-6.94/-8.89	-11.14/-47	-4.4/-9.59	-6.33/-2.34	-7.15/-5.98	-9.35/-2.84	-6.66/-4.76	-3.05/-3.43	-6.46/-6.79	-7.5/-5.66	-5.46/-3.31
Θ(120°)	-7.35/-8.31	-11.22/-9.15	-8.31/-7.1	-8.95/-9.89	-7.27/-6.8	-4.17/-1.46	-1.12/-2.45	-3.08/-4.15	-3.69/-2.66	-1.15/-6.03	-8.78/-9	-6.83/-5.37	-8.31/-8.5	-5.91/-6.68	-12.79/-4.13	-6.69/-2.79	-5.11/-11.65	-7.41/-6.61	-4.06/-10.52	-2.18/-2.99	-8.35/-8.9	-7/-6.28	-9.66/-5.84	
Θ(127.5°)	-15.95/-10.94	-8.86/-9.71	-6.54/-5.99	-9.31/-8.96	-6.93/-5.58	-5.33/-4.64	-3.97/-5.5	-5.81/-7.1	-6.07/-1.78	-1.3/-4.92	-8.44/-10.42	-8.02/-6.19	-7.97/-8.88	-5.24/-10.98	-9.01/-5.5	-10.17/-12.81	-6.14/-3.04	-6.75/-14.88	-5.59/-7.68					



Radiated Composite Gain Data of 2.4GHz/5GHz/6GHz

Appendix A

Θ (112.5°)	-4.58/-7.37	-10.77/-10.81	-12.71/-8.35	-9.77/-8.33	-8.51/-9.29	-6.34/-6.67	-3.62/-7.29	-7.44/-7.51	-6.02/-6.03	-2.83/-3.99	-2.5/-9.83	-4.77/-6.06	-2.4/-5.34	-5.86/-4.29	-7.75/-7.53	-7.17/-10.46	-7.11/-10.22	-6.28/-8.68	-4.72/-5.89	-3.42/-6.16	-5.28/-13.03	-6.32/-3.45	-5.97/-5.27	-5.45/-5.94
Θ (120°)	-8.67/-10.2	-9.36/-10.94	-12.61/-8.74	-8.41/-10.15	-8.89/-10.49	-10.2/-9.52	-6.09/-7.12	-7.05/-9.08	-7.64/-6.98	-4.79/-6.68	-3.89/-5.6	-9.16/-8.26	-8.83/-6.75	-10.77/-7.65	-5.69/-6.85	-7.87/-9.13	-7.63/-7.98	-14.29/-12.69	-7.95/-5.88	-6.2/-6.2	-8.24/-10.43	-8.6/-5.4	-7.49/-7	-6.5/-8.89
Θ (127.5°)	-11.08/-7.45	-12.6/-8.04	-10.35/-9.53	-12.14/-4.49	-9.67/-12.4	-11.74/-11.06	-11.48/-12.83	-10.63/-7.54	-7.85/-3.97	-9.03/-8.4	-7.38/-9	-10.71/-8.96	-7.34/-6.05	-8.34/-8.31	-7.29/-6	-8.23/-13.62	-6.41/-6.76	-11.72/-11.7	-9.8/-8.83	-12.17/-11.55	-11.39/-8.73	-10.2/-5.38	-7.38/-4.21	-9.93/-5.66
Θ (135°)	-5.98/-10.87	-11.33/-7.13	-10.65/-8.63	-10.88/-13.63	-13.51/-11.46	-12.18/-7.79	-8.35/-11.35	-12.01/-8.61	-10.8/-7.46	-9.18/-8.32	-7.16/-6.16	-10.3/-6.93	-5.77/-6.81	-7.61/-6.31	-9.78/-4.43	-11.03/-7.71	-10.21/-9.41	-11.09/-10.62	-9.23/-11.77	-10.63/-11.05	-8.29/-9.87	-10.84/-11.55	-5.22/-5.35	-9.16/-6.41
Θ (142.5°)	-6.68/-12.15	-14.32/-10.73	-9.42/-7.99	-10.63/-8.95	-11.14/-11.07	-12.17/-10.25	-9.45/-7.74	-11.38/-11.09	-9.34/-11.98	-10.8/-8.31	-6.79/-9.64	-9.01/-8.99	-3.78/-6.16	-7.79/-6.23	-7.77/-10.79	-15.33/-9.86	-8.91/-9.87	-13.23/-9.41	-11.23/-9.8	-9.69/-11.26	-13.09/-15.17	-16.17/-13.77	-10.2/-10.69	-10.95/-7.18
Θ (150°)	-7.43/-9.37	-10.81/-12.86	-15.42/-10.5	-8.12/-10.88	-13.38/-9.5	-7.04/-7.33	-11.6/-12.91	-12.11/-12.69	-12.02/-12.77	-15.18/-13.92	-12.48/-11.71	-9.84/-14.62	-6.99/-8.06	-11.69/-13.92	-14.32/-10.09	-10.89/-8.08	-8.11/-10.84	-14.3/-15.05	-15.06/-13.12	-14.45/-15.16	-13.57/-15.97	-16.18/-10.38	-8.74/-10.25	-12.08/-8.42
Θ (157.5°)	-11.17/-12.52	-10.14/-10.77	-10.17/-9.77	-8.98/-9.43	-6.38/-5.41	-7.02/-10.1	-10.93/-9.51	-11.07/-11.68	-12.58/-14.13	-14.51/-13.56	-13.1/-12.4	-15.1/-12.2	-9.5/-12.38	-10.11/-7.09	-6.24/-7.88	-8.89/-11.54	-15.64/-11.89	-12.85/-15.17	-14.57/-12.3	-14.19/-15.98	-15.41/-14.72	-15.6/-12.66	-11.76/-13.52	-12.73/-11.82
Θ (165°)	-10.29/-9.27	-8.45/-8.9	-8.25/-10.26	-11.37/-11.06	-8.89/-7.52	-8.22/-10.12	-13.01/-13.54	-13.19/-14.29	-15.38/-14.85	-15.02/-14.06	-15.74/-15.69	-13.94/-10.07	-7.71/-6.17	-4.74/-4.69	-6.17/-9.73	-12.26/-15.65	-15.46/-13.89	-12.04/-11.67	-11.13/-13.03	-12.56/-11.54	-11.99/-15.31	-14.48/-16.18	-13.1/-11.06	-9.17/-12.92
Θ (172.5°)	-13.96/-14.78	-12.51/-10.96	-10.58/-10.59	-9.97/-9.59	-8.84/-9.06	-10.39/-11.84	-13.5/-12.4	-13.28/-12.43	-13.66/-14.77	-14.07/-13.01	-12.62/-12.59	-13.2/-13.03	-11.77/-10.33	-10/-11	-13.34/-14.61	-14.78/-13.34	-13.45/-14.53	-13.65/-13.68	-16.03/-15.68	-14.93/-14.47	-14.95/-15.37	-14.28/-14.19	-13.53/-15.04	
Θ (180°)	-11.23/-10.15	-9.47/-8.27	-7.96/-8.77	-8.76/-8.9	-9.09/-9.63	-10.17/-10.05	-11.53/-12.55	-13.17/-13.79	-13.62/-14.41	-15.5/-15.24	-14.1/-10.29	-10.66/-11.74	-12.71/-13.49	-14.38/-13.72	-12.15/-12.19	-12.39/-13.2	-13.3/-13.07	-12.63/-11.77	-12.69/-13.77	-14.47/-15.34	-15.33/-15.02	-15.59/-14.79	-13.05/-11.58	-11.89/-10.36
Freq(Hz)	6.475GPol.	Theta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	0.850/7.4	0.570/7.3	0.830/7	0.780/6.4	0.5/3.4	0.220/0.7	0.2/0.5	-0.38/-0.53	-0.65/-0.6	-0.77/-1.02	-0.44/-0.39	-0.380/4	0.570/66	0.790/87	0.950/85	0.570/27	0.150/0.3	-0.17/-0.32	-0.55/-0.76	-0.99/-1.24	-0.49/-0.69	-0.5/-0.31	-0.040/41	0.490/84
Θ (7.5°)	0.91/0.2	1.051/0.9	0.730/1.9	-0.43/-0.71	-0.9/-1.34	-1.59/-1.73	-1.54/-1.69	-2.01/-1.99	-1.55/-1	-0.85/-0.59	0.210/2.5	0.260/61	0.991/71	2.292/51	2.562/56	2.41/2	1.641/34	1.030/65	-0.1/-0.22	-0.62/-1.43	-1.81/-2.77	-2.39/-1.53	-1.07/-0.73	-0.080/67
Θ (15°)	0.320/98	0.930/16	-1.1/-2.07	-2.15/-2.03	-1.9/-1.8	-2.05/-1.95	-1.87/-2.06	-2.19/-2.77	-2.52/-1.83	-1.29/-0.47	-0.180/25	0.420	0.610/69	0.911/6	2.663/48	3.553/02	2.271/77	1.060/24	0.13/-0	-0.94/-1.92	-3.53/-3.95	-4.02/-2.83	-1.97/-1.9	-1.07/-0.64
Θ (22.5°)	-1.350/0.1	0.270/4	0.43/-0.32	-1.73/-1.92	-2.36/-3.22	-3.43/-2.59	-1.63/-1.99	-4.92/-7.18	-5.21/-4.06	-4.46/-3.52	-1.64/-0.4	1.141/47	2.83/36	2.732/26	1.831/96	2.442/44	2.221/92	1.03/-0.1	-0.82/-0.74	-1.3/-2.47	-3.14/-3.81	-2.9/-1.23	-1.49/-0.95	-0.18/-0.94
Θ (30°)	-2.16/-3.11	-1.84/-0.33	1.35/-1.9	-0.72/-2.75	-0.86/-3.52	-2.53/-1.69	-1.11/-1.76	-4.09/-4.98	-4.46/-5.74	-8.74/-9.94	-7.84/-3.99	-1.480/0.3	0.841/92	2.262/93	3.032/22	2.031/68	1.65/-17	1.490/9	0.250/33	0.24/-0.84	-1.81/-2.67	-5.04/-5.6	-5.18/-6.34	-3.56/-1.72
Θ (37.5°)	-3.87/-3.47	-1.73/-0.62	0.63/-0.32	-1.44/-0.84	-0.37/-0.6	-0.34/-0.5	-0.17/-1.17	-1.97/-1.68	-1.64/-1.56	-2.65/-3.9	-5.71/-4.07	-1.9/-0.46	0.64/-1.5	-0.21/-1.17	2.373/85	2.21/2	2.442/36	2.562/53	2.31/-49	-0.75/-2.39	-1.47/-3.4	-4.11/-5.26	-4.67/-5	
Θ (45°)	-3.67/-4.09	-0.250/56	0.081/0.2	-1.460/4.3	0.8/-0.12	-1.59/-1.95	-0.17/-0.13	-0.280/29	-1.02/-0.78	-0.87/-1.96	-3.19/-4.25	-1.11/-0.26	0.360/1.7	0.91/11	2.921/19	2.081/45	1.331/09	1.491/84	2.170/47	0.091/14	1.68/-0.17	-1.02/-1.92	-3.46/-4.37	-4.32/-3.73
Θ (52.5°)	-6.51/-3.7	-0.510/33	-1.73/-1.12	-0.310/6.4	0.240/55	-0.630/96	1.471/67	2.522/53	2.43/-19	0.56/-1.99	-2.76/-7.34	-3.55/-1.02	-2.29/-2.5	-1.18/-1.26	1.960/92	1.52/-1.55	-0.05/-0.16	1.260/12	0.780/45	2.392/89	2.380	-0.88/-0.34	-2.96/-6.37	-8.87/-12.32
Θ (60°)	-11.34/-5.02	-1.52/-0.55	-2.95/-0.58	0.231/41	0.61/39	-0.770/75	2.872/82	2.52/7	0.34/-21	-3.94/-3.98	-5.74/-2.85	-3.24/-2.86	-1.15/-0.07	-0.171/-0.59	0.69/-2.39	-0.88/-0.21	-2.05/-0.85	0.57/-0.5	1.511/85	1.521/11	0.34/-1.99	-4.11/-5.29	-4.79/-8.32	
Θ (67.5°)	-10.66/-7	-3.77/-2.55	-3.15/-1.55	1/1.72	0.430/86	-0.46/-0.8	-0.60/64	1.490/58	3.494/51	1.4/-0.64	-1/-2.43	-2.82/-3.88	-3.46/-3.77	0.17/-0.42	-1.93/-0.28	0.42/-1.19	-0.33/-0.27	-1.41/-0.49	0.571/1.14	-0.520/28	0.571/87	1.56/-0.91	-1.88/-7.89	-5.99/-6.34
Θ (75°)	-6.13/-4.54	-3.92/-4.6	-3.41/-0.61	0.830	-1.27/-0.21	-0.180/93	0.391/04	1.282/21	4.37/5	3.48/-0.3	-0.67/-0.39	-1.55/-0.98	-1.96/-0.61	0.321/0.95	-0.03/-0.1	0.41/-0.37	-0.68/-0.44	1.14/-2.28	0.581/51	2.322/42	0.86/-0.56	-0.16/-1.48	-9.59/-8.62	
Θ (82.5°)	-3.93/-4.4	-3.21/-3.4	-2.80/-2.1	-0.71/-4.9	-1.56/-0.62	-0.220/5	1.240/73	1.272/83	3.893/49	-2.49/-0.09	-2.31/-1.41	-2.2/-2.24	-5.03/-1.93	-3.53/-1.07	-1.991/57	0.520/6	0.610/02	0.95/-0.39	1.91/-1.38	3.121/21	3.052/59	-2.39/-1.49	-0.38/-3.8	-9.87/-6.18
Θ (90°)	-4.13/-5.14	-2.79/-3.15	-2.59/-0.94	-1.82/-2.46	-3.66/-1.94	-1.2/-0.33	0.410/08	-0.022/26	2.652/24	0.78/-0.44	-2.78/-2.1	-7.39/-0.94	-4.84/-0.55	-5.57/-3.09	-0.460/88	0.11/-0.8	0.630/06	0.64/-2.13	1.45/-2.83	-0.16/-1.49	2.341/51	-4.24/-2.86	-0.85/-3.62	-9.61/-5.94
Θ (97.5°)	-6.52/-7.63	-3.93/-4.82	-2.89/-2.43	-3.25/-3.54	-5.88/-3.36	-2.07/-2.19	-1.25/-1.75	-2.390/88	0.831/92	-0.62/-2.32	-3.27/-6.68	-8.9/-3.7	-5.92/-0.02	-4.05/-4.93	-3.1/-0.44	-0.77/-3.67	-1/-0.43	-1.64/-5.09	-1.4/-4.73	-2.72/-0.9	-0.83/-1.43	-6.34/-4.24	-1.95/-9.46	-9.09/-7.25
Θ (105°)	-9.76/-8.42	-8.82/-7.85	-4.84/-5.5	-4.67/-3.37	-7.82/-5.96	-5.53/-4.34	-2.43/-2.99	-4.12/-2.23	-0.780/54	-0.94/-6.05	-9.14/-2.58	-5.66/-5.11	-4.48/-2.31	-2.74/-4.92	-1.271/-5.4	-5.07/-7.66	-6.37/-5.17	-4.74/-3.8	-7.42/-7.65	-6.19/-8.85	-12.47/-8.77			
Θ (112.5°)	-9.63/-11.95	-15.98/-9.95	-5.69/-4.5	-6.56/-6.26	-6.22/-7.75	-5.84/-6.63	-3.55/-3.23	-4.03/-2.51	-0.730/1.14	-1.48/-4.29	-4.03/-5.91	-8.1/-8.32	-5.32/-5.03	-7.92/-6.37	-4.45/-3.64	-2.81/-6.21	-1.32/-0.61	-4.78/-7.67	-7.61/-5.1	-6.45/-6.35	-4.46/-2.59	-6.89/-7.35	-9.85/-12.32	-11.53/-10.27
Θ (120°)	-10.49/-13.89	-9.81/-8.49	-5.42/-4.48	-8.48/-6.89	-6.74/-6.34	-4.37/-6.11	-3.29/-2.28	-3.32/-3.43	-4.17/-3.38	-5.42/-4.99	-9.26/-9.4	-7.52/-9.65	-6.07/-6.28	-5.23/-6.7	-4.74/-5.39	-8.96/-8.77	-3.4/-1.53	-4.81/-11.27	-8.91/-7.91	-11.68/-7.55	-4.95/-6.74	-8.55/-6.86	-10.62/-8.95	-8.27/-8.42
Θ (127.5°)	-13.84/-14.17	-10.7/-8.08	-3.72/-5.88	-8.52/-5.67	-7.31/-6.4	-6.43/-8.3	-5.5/-6.13	-6.95/-6.84	-4.63/-2.75	-4.17/-8.61	-6.78/-8.36	-10.94/-8.49	-10.63/-6.21	-9.9/-5.22	-6.3/-5.09	-9.84/-9.77	-4.6/-3.86	-6.9/-9.91	-6.35/-7.63	-12.53/-6.82	-10.34/-9.52	-7.44/-5.84	-8.51/-12.36	-12.16/-10.18
Θ (135°)	-8.67/-10.49	-11.79/-8.05	-9.65/-6.52	-5.55/-7.06	-8.41/-7.08	-7.4/-8.02	-6.37/-4.25	-6.61/-6.3	-5.51/-3.23	-3.28/-8.57	-5.9/-6.31	-7.03/-8.5	-9.66/-5.17	-5.9/-8.76	-7.78/-5.22	-11.19/-9.92	-3.7/-2.48	-7.35/-6.43	-7.44/-6.6	-12.57/-13.48	-12.69/-6.65	-15.31/-7	-8.5/-11.76	-8.83/-8.99
Θ (142.5°)	-11.57/-15.02	-15.38/-14.09	-8.65/-5.77	-6.38/-7.2	-7.76/-7.95	-9.39/-7	-6.92/-6.67	-8.91/-6.4	-5.91/-8.29	-9.51/-10.41	-10.65/-8.56	-8.83/-10.8	-8.31/-5.87	-8.55/-8.69	-8.14/-8.81	-11.03/-13.6	-5.48/-5.59	-8.54/-13.7	-9.29/-9.66	-8.85/-9.61	-12.94/-15.46	-14.64/-9.85	-11.02/-14.18	-13.07/-11.86
Θ (150°)	-9.27/-10.06	-12.91/-11.89	-10.25/-10.08	-12.33/-10.45	-8.15/-6.61	-7.39/-8.17	-6.92/-5.61	-6.83/-9.65	-7.65/-6.3	-7.52/-9.03	-8.23/-10.33	-9.16/-9.82	-9.88/-9.6	-7.78/-8.93	-9.65/-10.54	-12.84/-12.47	-8.03/-8	-11.33/-12.64	-14.67/-13.45	-14.13/-10.4	-11.95/-15.9	-11.39/-11.48	-12.33/-12.98	-14.82/-12.86
Θ (157.5°)	-13.98/-14.66	-10.55/-15.14	-15.14/-13.15	-10.81/-11.77	-11.24/-10.51	-9.32/-7.69	-7.49/-8.14	-9.71/-7.17	-6.81/-8.44	-9.71/-8.58	-9.47/-11.33	-10.75/-10.11	-11.02/-10.85	-11.94/-11.68	-10.94/-11.91	-14.82/-14.38	-12.51/-12.41	-11.33/-11	-11.08/-9.24	-8.55/-11.93	-14.97/-14.42	-14.64/-15.31	-14.06/-11.19	
Θ (165°)	-10.01/-12.29	-15.73/-14.14	-13.74/-15.12	-15.61/-15.45	-13.37/-11.85	-13.44/-14.05	-12.95/-9.9	-7.66/-9.74	-9.74/-10.62	-10.65/-10.32	-10.07/-9.65	-9.18/-9.64	-9.93/-10.25	-12.55/-12.17	-8.89/-8.99	-11.26/-12.76	-12.66/-12.25	-13.87/-15.31	-15.11/-15.57	-14.88/-15.59	-15.38/-13.97	-12.41/-12.3	-11.37/-10.16	-9.65/-9.



Radiated Composite Gain Data of 2.4GHz/5GHz/6GHz

Appendix A

Θ(157.5°)	-13.28/-12.22	-12.62/-14.23	-12.39/-9.98	-10.33/-10.39	-8.86/-8.91	-11.48/-8.07	-8.21/-10.34	-13.1/-12.41	-12.82/-12.88	-11.02/-12.06	-14.63/-12.71	-13.28/-13.15	-12.82/-9.77	-8.38/-8.26	-7.57/-7.9	-9.22/-10.22	-10.35/-11.12	-12.01/-13.6	-15.66/-13.11	-14.48/-15.18	-15.06/-14.77	-15.05/-14.89	-15.32/-14.89	-15.33/-15.36
Θ(165°)	-15.6/-13.37	-10.8/-11.44	-12.85/-12.32	-9.48/-8.64	-10.46/-13.96	-13.39/-11.06	-9.52/-10.86	-11.56/-11.76	-13.6/-15.81	-15.01/-14.39	-12.94/-11.63	-11.97/-12.78	-11.7/-9.01	-7.46/-6.28	-5.82/-7.44	-12.24/-14.72	-15.12/-14.11	-12.46/-10.88	-12.48/-12.17	-12.83/-13.35	-12.52/-14.34	-13.39/-13.97	-15.46/-15.89	-15.13/-15.62
Θ(172.5°)	-8.49/-8.67	-9.36/-10.31	-9.04/-9.44	-9.25/-9.72	-11.14/-11.31	-9.81/-7.73	-8.48/-8.94	-9.4/-11.43	-12.79/-14.28	-16.27/-14.98	-15.95/-15.56	-15.81/-12.62	-12.14/-11.89	-10.1/-9.66	-11.95/-15.14	-15.48/-16.24	-15.22/-15.81	-15.73/-14.9	-14.35/-14.49	-13.14/-13.97	-14.77/-13.95	-15.97/-15.37	-14.42/-13.93	-9.9/-9.05
Θ(180°)	-12.28/-11.71	-11.75/-11.21	-10.88/-10.58	-9.98/-8.58	-7.91/-7.48	-8.75/-10.01	-9.12/-9.82	-10.76/-11.86	-13.45/-14.67	-15.42/-15.65	-16.16/-14.71	-13.55/-14.18	-14.31/-13.71	-16.12/-15.25	-15.03/-13.57	-14.27/-15.4	-15.64/-14.22	-10.21/-9.45	-10.2/-10.88	-12.08/-13.16	-13.72/-12.9	-14.73/-15.11	-15.46/-13.25	-13.4/-12.32
Freq(Hz)	6.995GPol.	Theta/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	0.06/0.16	0.33/0.02	-0.12/-0.04	-0.42/-0.68	-1.28/-1.7	-1.89/-2.21	-2.35/-2.92	-2.91/-2.83	-2.4/-2	-1.18/-0.6	-0.52/0.1	0.08/0.28	0.77/0.64	0.72/0.55	0.21/-0.22	-0.5/-0.8	-0.96/-0.84	-1.26/-1.56	-1.42/-1.35	-1.06/-0.85	-1.03/-0.63	-0.84/-0.84	-0.97/-0.58	-0.35/-0.35
Θ(7.5°)	-0.23/-0.63	-1.36/-1.69	-1.75/-1.08	-0.64/-0.08	0.23/0.49	0.67/0.81	0.83/0.64	0.89/0.9	0.61/0.31	0.4/0.33	0.24/0.2	0.27/0.47	0.8/0.55	0.46/0.5	0.14/-0.3	-0.88/-1.32	-1.64/-1.8	-1.81/-2.07	-2.02/-1.64	-1.47/-1.35	-1.58/-0.95	-0.56/-0.12	0.13/0.42	0.52/-0.11
Θ(15°)	-0.09/-0.84	-2.04/-2.29	-2.54/-2.1	-1.97/-1.19	-0.74/0.09	0.36/0.53	0.3/-0.34	-1.35/-2.08	-3.15/-3.86	-3.28/-2.81	-1.96/-1.31	-1.19/0.06	0.42/1.19	2.25/2.81	2.21/1.51	0.71/0.7	1.16/1.55	0.76/0.33	-0.57/-1.57	-1.8/-1.81	-2.62/-2.71	-2.54/-2.49	-1.88/-1.49	-1.09/0.05
Θ(22.5°)	-1.6/-1.72	-1.99/-2.08	-3.13/-3	-2.36/-2.39	-1.96/-1.16	-0.62/-1.05	-2.01/-2.5	-2.92/-3.53	-4.82/-7.14	-9.47/-8.84	-6.73/-3.5	-0.47/1.3	1.39/1.55	1.79/1.39	1.35/1.98	1.63/1.5	2.23/1.99	0.29/-0.91	-1.12/-0.52	0.03/-0.61	-2.03/-3.84	-3.93/-4.09	-3.91/-4.23	-4.3/-2.8
Θ(30°)	-3.71/-1.91	-1.56/-0.22	-1.51/-2.46	-2.97/-1.3	-0.29/-0	-0.1/-1.16	-0.09/0.89	0.41/-1.23	-4.02/-5.96	-6.28/-5.01	-4.73/-5.3	-4.72/-3.33	-0.81/0.8	2.4/1.92	1.4/2.66	2.11/1.11	2.3/2.13	2.32/2.23	0.69/-0.45	-0.63/-1.31	-2.66/-4.06	-4.9/-4.52	-5.48/-5.73	-4.57/-1.68
Θ(37.5°)	-7.33/-2.98	-4.37/-1.74	-1.2/-2.72	-1.98/-1.87	-1.42/-0.28	0.08/-0.31	0.39/0.65	0.38/-1.59	-3.82/-4.22	-4.96/-6.15	-7.12/-6.87	-5.58/-2.65	-1.13/-0.06	0.9/1.1	0.56/2.96	2/1.28	1.17/1.47	3.02/0.89	-0.4/1.68	2.39/1.53	0.51/0.92	1.41/0.37	-2.74/-4.28	-7.78/-11.9
Θ(45°)	-8.03/-5.02	-4.91/-5.29	-0.56/-1.17	-1.43/-1.86	-0.18/0.4	0.48/0.62	-0.63/0.34	0.73/-0.49	-0.12/-0.91	-2.47/-1.9	-1.63/-2.08	-2.8/-2.31	-1.77/-0.46	0.51/6.1	1.57/1.48	0.65/1.21	1.1/1.55	2.42/0.82	1.05/-0.04	-1.04/0.93	2.93/2.82	0.7/-1.48	-0.1/-1.2	-3.31/-5.03
Θ(52.5°)	-7.21/-8.35	-6.76/-6.74	-3.73/-2.37	0.69/0.45	0.92/0.34	1.81/1.37	0.91/1.58	1.32/1.64	1.81/0.35	0.06/1.47	2.72/0.23	-1.57/-1.61	-2.04/-1.83	-0.7/0.65	1.09/-0.02	-1.15/1.62	-1.44/0.45	1.79/1.96	0.57/0.88	1.79/1.77	3.29/2.98	1.84/1.53	1.34/-0.63	-6.94/-9.59
Θ(60°)	-9.24/-5.55	-8.36/-3.35	-3.14/-1.43	-0.23/-0.41	1.9/0.61	2.43/1.67	2.21/2.5	4.23/4.57	3.16/2.68	3.29/2.07	0.7/-0.85	-2.11/-0.63	-0.71/-1.68	-0.26/-0.56	0.54/-2.97	-1.05/0.19	-1.56/0.23	0.8/0.91	0.15/2.42	2.78/1.81	2.23/1.6	1.74/1.3	0.83/-0.61	-4.4/-6.74
Θ(67.5°)	-7.95/-8.43	-5.15/-2.61	-1.96/-0.07	-1.68/-2.17	1.55/1.01	1.33/1.51	0.74/1.82	3.67/3.7	1.97/3.02	2.79/0.74	0/1.44	-0.22/0.55	-1.41/-1.4	-3.61/-1.31	0.18/-2.37	-0.58/-0.59	-2.27/-1.08	-0.37/-0.86	-0.59/1.59	1.24/1.56	1.44/1.64	3.03/2.08	1.04/1.5	-2.98/-5.6
Θ(75°)	-6.54/-13.71	-1.55/-3.96	-1.7/-0.15	-3.07/-1.54	1.38/0.73	-0.65/0.34	-0.65/1.75	1.88/1.15	1.88/3.63	3.74/1.86	1.55/3.44	3/0.02	-0.63/-0.81	-4.24/-7.25	-1.01/-1.9	0.67/-0.3	-2.27/-0.6	-0.75/-1.31	-1.98/0.99	1.65/3.56	2.87/2.35	3.46/3.64	1.61/1.17	-3.7/-7.96
Θ(82.5°)	-6.83/-8.89	-0.6/-4.41	-2.47/-0.95	-3.32/-1.74	0.66/0.87	-3.06/-0.04	-1.69/1.39	0.29/0.31	3.39/3.23	4.2/2.86	2.17/2.98	2.67/-1.19	-0.65/-0.52	-7.69/-5.66	-2.87/-0.21	1.34/0.2	-2.93/-0.73	-0.13/0.31	-0.66/0.55	2/4.05	3.28/1.78	1.64/2.96	0.55/-0.32	-5.83/-7.94
Θ(90°)	-8.15/-7.97	-0.98/-4.75	-3.51/-1.88	-4.41/-3.6	-0.24/-1.07	-4.62/-1.47	-2.16/0.22	-1.15/-0.45	3.22/2.14	3.1/2.45	1.45/0.88	0.69/-1.7	-1.91/-1.66	-4.18/-5.75	-2.66/-0.58	1.62/-0.52	-4.83/-1.38	-1.02/-1.33	-1.46/-1.17	-0.15/2.27	2.23/0.9	-1.13/1.2	-0.32/-2.08	-5.81/-7.39
Θ(97.5°)	-10.76/-8.55	-3.71/-4.73	-5.64/-2.87	-5.08/-6.16	-2.48/-4.15	-5.28/-2.75	-3.85/-1.37	-2.44/-0.95	1.63/-0.4	1.99/0.66	-1.05/-2.31	-1.18/-4.15	-2.37/-4.18	-6.35/-6.27	-3.22/-1.01	-1.2/-3.8	-5.15/-4.83	-3.7/-6.23	-4.39/-4.88	-2.39/-2.3	-0.73/-1.15	-2.36/-0.59	-1.18/-4.28	-6.18/-8.59
Θ(105°)	-12.36/-12.26	-5.57/-7.28	-7.15/-4.19	-5.63/-7.84	-5.14/-6.31	-6.92/-3.7	-5.34/-2.97	-4.55/-3.91	-0.76/-0.11	1.26/-0.87	-2.04/-3.9	-2.55/-3.9	-2.83/-6.6	-5.55/-9.22	-6.07/-4.64	-2.1/-4.88	-6.76/-8.33	-5.95/-7.42	-5.52/-6.12	-6.15/-6.05	-4.28/-4.52	-3.98/-2.42	-3.5/-3.89	-6.26/-11.82
Θ(112.5°)	-13.53/-9.59	-8.09/-7.37	-8.79/-7.57	-5.67/-8.55	-8.42/-8.01	-8.92/-4.97	-4.72/-3.72	-4.96/-4.23	-2.38/0.56	-0.48/-2.46	-2.77/-4.78	-3.68/-5.48	-5.12/-5.38	-5.02/-7.25	-6.21/-3.4	-2.87/-4.69	-6.05/-3.23	-9.06/-9.37	-9.07/-5.49	-4.56/-4.45	-6.48/-5.49	-3.16/-3	-5.59/-5.36	-9.47/-11.9
Θ(120°)	-9.8/-10.05	-13.12/-8.16	-8.62/-11.11	-6.7/-8.88	-10.84/-8.52	-8.77/-8.81	-7.81/-4.7	-2.77/-3.27	-3.52/-3.23	-3.29/-3.94	-5.27/-5.69	-6.98/-6.32	-6.45/-9.37	-4.57/-8.02	-7.92/-5.41	-3.49/-6.63	-4.75/-2.09	-15.73/-9.37	-14.47/-6.04	-8.76/-10.48	-4.66/-7.46	-8.81/-5.01	-5.23/-5.73	-6.76/-11.87
Θ(127.5°)	-15.17/-11.72	-10.82/-8.19	-8.28/-10.37	-8.84/-9.64	-6.76/-7.64	-6.84/-7.16	-8.16/-7.27	-6.84/-6.14	-4.79/-2.21	-3.45/-5.4	-6.21/-6.97	-5.82/-7.55	-11.13/-6.65	-5.18/-6.37	-7.1/-5.49	-7.28/-6.87	-5.18/-3.73	-14.54/-6.78	-10.28/-8.6	-9.54/-6.54	-10.11/-8.65	-3.61/-6.06	-7.7/-9.51	-11.87/-13.76
Θ(135°)	-14.85/-12.7	-8.26/-8.42	-9.28/-9.23	-11.39/-8.24	-8.54/-8.87	-9.54/-5.43	-5.86/-6.53	-4.6/-6.94	-6.34/-2.66	-2.89/-6.69	-7.02/-7.09	-6.92/-5.53	-8.37/-8.05	-5.46/-6.69	-10.19/-8.32	-5.06/-14.64	-6.55/-5.5	-12.84/-9.83	-8.89/-10.85	-9.88/-7.41	-10.01/-6.76	-6.4/-4.96	-7.45/-10.41	-8.87/-13.17
Θ(142.5°)	-11.2/-13.21	-12.3/-10.48	-9.23/-11.48	-11.81/-9.14	-8.98/-10.42	-10.72/-9.74	-7.06/-8.15	-6.14/-6.66	-6.12/-4.15	-5.09/-7.17	-7.73/-5.51	-6.1/-9.21	-9.76/-7.69	-7.04/-5.79	-8.64/-6.95	-12.87/-9.62	-6.89/-7.29	-9.51/-10.74	-12.65/-12.81	-11.06/-15.47	-12.46/-13.08	-7.36/-7.58	-8.7/-11.58	-10.36/-9.79
Θ(150°)	-15.74/-14.52	-15.24/-13.1	-9.71/-11.97	-11.23/-9.94	-10.85/-13.39	-11.37/-7.71	-6.8/-8.69	-7.44/-5.93	-7.46/-7.13	-5.94/-6.35	-7.12/-8.26	-7.01/-10.2	-12.96/-9.06	-6.82/-6.88	-9.68/-9.61	-12.4/-12.94	-9.42/-11.61	-14.07/-11.22	-10.8/-13.41	-13.77/-13.86	-14.95/-9.58	-12.94/-11.18	-12.18/-15.03	-12.14/-12.42
Θ(157.5°)	-14.23/-15.86	-15.41/-14.85	-12.12/-11.2	-13.49/-15.39	-14.49/-11.97	-11.65/-10.3	-8.51/-7.68	-9.51/-9.06	-7.42/-7.18	-7.67/-8.08	-8.1/-8.59	-9.47/-10.01	-8.13/-10.25	-8.69/-9.79	-9.27/-8.23	-11.11/-10.44	-11.13/-13.77	-15.49/-16.45	-13.31/-13.77	-13.39/-14.15	-15.31/-13.22	-11.53/-11.34	-13.08/-11.18	-10.63/-13.75
Θ(165°)	-14.47/-15.27	-15.29/-15.5	-15.91/-14.85	-15.47/-14.07	-12.03/-11.25	-10.21/-8.71	-8.32/-9.72	-10.58/-9.01	-8/-7.88	-9.15/-8.38	-8.54/-8.9	-9.61/-9.67	-9.96/-9.62	-9.19/-8.44	-9.1/-9.67	-11.48/-14.64	-15.67/-15.05	-12.61/-11.16	-13.15/-13.77	-13.33/-13.03	-11.31/-9.61	-9.87/-10.26	-11.9/-13.81	-14.72/-15.38
Θ(172.5°)	-12.85/-13.02	-13.55/-13.65	-13.93/-14.82	-14.67/-13.6	-13.63/-14.24	-13/-12.8	-11.79/-11.9	-11.18/-11.34	-11.24/-11.17	-12.11/-13.08	-12.8/-11.46	-11.81/-11.39	-11.57/-12.3	-12.32/-12.84	-12.96/-13.99	-14.69/-13.77	-11.79/-11.22	-11.25/-12.43	-13.83/-14.57	-15.7/-14.37	-14.57/-13.73	-13.11/-11.68	-10.95/-10.31	-9.69/-11.55
Θ(180°)	-11.19/-11.35	-12.94/-13.51	-14.2/-13.84	-15.57/-15.81	-14.93/-15.11	-14.9/-13.52	-13.05/-12.07	-11.31/-11.69	-10.22/-10.02	-9.44/-8.77	-9.24/-9.34	-9.69/-10.9	-10.87/-11.58	-13.66/-14.11	-15.51/-15.19	-14.93/-14.75	-15.15/-15	-13.74/-12.29	-12.99/-12.55	-12.73/-13.6	-12.93/-11.65	-10.28/-8.79	-8.5/-8.69	-10.58/-10.33



Sporton International Inc



Radiated Composite Gain Data of 2.4GHz/5GHz/6GHz

Appendix A

Θ(22.5°)	-3.66/-5.25	-5.14/-3.61	-3.12/-4.84	-6.77/-6.35	-5.23/-2.3	-1.83/-1.27	-0.77/-0.58	-1.02/-1.61	-1.76/-1.21	-0.55/-0.87	-1.15/-1.68	-2.9/-3.41	-3.68/-4.67	-5.65/-4.9	-4.08/-4.11	-4.73/-5.06	-4.44/-3.63	-2.68/-2.21	-2.36/-2.2	-1.55/-1.21	-1.59/-2.7	-3.56/-3.41	-1.92/-1.33	-1.2/-1.75
Θ(30°)	-1.76/-2.78	-6.76/-6.56	-4.83/-5.68	-7.58/-10.72	-6.04/-1.72	-0.23/-0.49	-1.08/-0.7	-0.03/-0.03	0.22/-0.79	0.58/-0.23	-0.97/-2.76	-4.12/-4.29	-5.73/-7.13	-7.96/-7.29	-5.53/-3.78	-2.11/-1.28	-1.37/-2.64	-3.72/-2.63	-1.79/-1.75	-1.71/-1.28	-1.09/-1.43	-2.45/-3.31	-5.91/-8.91	-4.73/-2.04
Θ(35°)	-3.85/-3.06	-6.62/-10.11	-9.31/-8.12	-5.31/-7.75	-6.77/-2.89	-2.19/-2.54	-1.08/-0.85	1.33/-1.46	1.23/-0.62	-0.09/-0.98	-1.17/-1.07	-0.91/-1.59	-4.67/-6.09	-7.61/-8.49	-3.75/-5.95	-4.83/-2.45	-2.85/-7.53	-7.42/-4.85	-4.55/-4.05	-1.95/-0.73	-1.83/-8	-4.79/-3.71	-1.35/-1.33	-4/-5.28
Θ(45°)	-11.02/-11.16	-14.46/-19.03	-17.25/-9.94	-4.29/-3.92	-6.69/-7.62	-6.22/-4.16	-0.95/-0.66	1.05/-1.29	1.62/-1.66	1.35/-0.74	-0.83/-2.19	-3.33/-3.9	-6.17/-11.19	-11.38/-10.17	-7.67/-8.08	-10.55/-5.3	-5.15/-8.03	-9.01/-7.88	-7.98/-5.5	-2.57/-1.8	-3.16/-5.68	-5.4/-3.31	-3.16/-2.42	-2.87/-7.2
Θ(52.5°)	-8.4/-9.04	-10.51/-13.99	-18.97/-14.86	-7.33/-5.22	-7.12/-10.66	-6.09/-2.95	-0.39/-0.2	0.55/-1.35	2.14/-2.05	1.44/-0.1	0.57/-1.01	-8.9/-11.85	-12.07/-14.4	-19.3/-12.34	-6.36/-6.42	-18.55/-8.67	-6.08/-6.38	-6.69/-7.01	-6.28/-4.69	-2.91/-3.53	-6.9/-5.79	-2.76/-1.88	-2.47/-6.07	-7.02/-7.12
Θ(60°)	-9.63/-7.87	-6.33/-7.22	-11.44/-17.2	-13.54/-7.09	-6.11/-10.04	-6.97/-4.12	-0.99/-1.12	-1.28/-0.4	0.52/-0.54	0.19/-1	-1.45/-2.03	-0.59/-1.61	-8.98/-14.57	-10.86/-9.97	-12.54/-6.97	-4.99/-3.96	-6.08/-6.99	-6.46/-8.05	-9.45/-11.83	-8.34/-4.51	-4.71/-5.04	-4.71/-5.14	-6.4/-6.4	
Θ(67.5°)	-17.84/-11.76	-4.87/-3.73	-6.9/-17.84	-14.58/-8.61	-7.83/-10.99	-7.88/-4.77	-1.92/-3.39	-3/-2.15	-0.45/-0.56	0.93/-0.17	-1.52/-3.17	-6.35/-6.26	-5.74/-9.75	-9.81/-9.09	-13.14/-12.3	-8.4/-8.13	-6.78/-4.79	-8.41/-4.42	-3.12/-5.91	-8.19/-8.65	-4.24/-2.79	-6.15/-9.35	-8.1/-3.1	-6.38/-13.45
Θ(75°)	-11.51/-11.47	-4.9/-2.68	-3.84/-16.29	-13.4/-10.86	-10.11/-9.85	-8.7/-5.4	-4.38/-6.87	-3.27/-2.51	-1.31/-0.32	1.14/-0.59	-1.72/-3.78	-5.24/-4.95	-5.87/-10.72	-9.16/-9.61	-18.97/-8.71	-5.03/-6.6	-12.91/-9.37	-13.71/-6.67	-2.72/-5.68	-6.8/-6.58	-3.11/-3.27	-11.21/-11.75	-11.66/-5.26	-9.83/-18.81
Θ(82.5°)	-6.54/-8.2	-3.39/-2.19	-3.7/-14.18	-15.6/-17.12	-18.56/-11.58	-10.07/-6.08	-6/-5.84	-2.45/-2.61	-1.58/-1.16	0.42/-0.29	-2.6/-3.87	-7.92/-5.31	-5.24/-15.39	-7.85/-10.61	-18.8/-14.61	-6.64/-8.51	-14.82/-12.46	-15.81/-9.5	-3.26/-6.05	-3.84/-6.75	-4.65/-4.44	-17.04/-10.69	-12.72/-6.62	-14.57/-11.08
Θ(90°)	-4.47/-4.17	-3.29/-2.79	-3.12/-12.6	-14.79/-19.02	-18.78/-9.69	-11.56/-8.49	-9.11/-6.68	-3.09/-3.53	-2.04/-1.74	-0.68/-1.32	-4.07/-5.18	-7.49/-8.34	-6.59/-11.31	-10.2/-19.01	-14.92/-11.4	-9.53/-10.43	-18.23/-18.87	-19.15/-14.73	-5.19/-8.01	-4.21/-10.56	-8.97/-7.04	-9.89/-9.52	-13.01/-7.97	-19.43/-6.9
Θ(97.5°)	-4.26/-3.37	-4.26/-2.71	-4.27/-16.19	-10.47/-17.95	-19.23/-11.26	-12.5/-10.17	-10.41/-7.05	-4.9/-4.93	-2.17/-2	-1.68/-2.25	-4.85/-7	-6.33/-8.98	-8.08/-13.94	-8.18/-16.52	-18.34/-17.94	-9.73/-10.88	-12.61/-14.65	-16.27/-13.19	-8.28/-9.34	-6.54/-10.21	-14.47/-16.86	-10.08/-10.03	-12.76/-8.33	-12.09/-4.73
Θ(105°)	-4.34/-0.7	-5.57/-3	-6.36/-18.34	-13.81/-18.74	-16.23/-12.49	-14.21/-16.21	-12.41/-7.52	-4.55/-7.21	-4.67/-9.28	-2.39/-3.02	-5.07/-6.76	-6.71/-9.82	-7.32/-12.96	-10.25/-14.81	-19.13/-17.76	-15.22/-16.51	-13.1/-13.82	-9.16/-11.18	-15.97/-19.27	-12.09/-10.37	-15.14/-19.01	-13.27/-12.58	-18.28/-5.56	-11.81/-4.64
Θ(112.5°)	-6.16/-7.25	-7.06/-6.7	-10.42/-17.88	-9.27/-16.04	-18.73/-14.27	-15.53/-18.77	-16.63/-12.62	-7.15/-8.48	-5.96/-4.39	-3.76/-4.43	-6.38/-8.67	-9.87/-11.96	-11.11/-12.3	-11.74/-18.61	-19.1/-17.95	-14.16/-17.79	-18.96/-18.92	-14.3/-18.12	-9.55/-18	-13.97/-14.22	-17.75/-18.3	-7.89/-16.37	-18.32/-9.72	-10.55/-3.91
Θ(120°)	-15.17/-12.22	-11.98/-7.75	-18.04/-13.09	-8.61/-13.24	-19.12/-18.91	-14.56/-18.74	-18.14/-15.32	-7.88/-8.33	-7.52/-5.98	-9.76/-11.4	-10.86/-12.87	-7.79/-12.15	-10.86/-12.87	-18.71/-11.55	-15.09/-18.21	-14.86/-17.94	-18.46/-18.79	-19.13/-19.23	-14.32/-13.49	-18.99/-18.32	-9.32/-19.72	-17.67/-16.32	-10.23/-8.21	
Θ(127.5°)	-19.3/-18.91	-10.4/-10.61	-16.26/-8.27	-8.16/-13.5	-18.13/-18.92	-17.82/-18.34	-16.65/-12.99	-8.28/-7.72	-10.54/-7.62	-6.34/-5.53	-8.22/-10.16	-10.09/-9.57	-8.65/-15.21	-16.49/-12.63	-16.66/-12.35	-17.87/-17.56	-18.74/-18.48	-16.65/-15.78	-15.95/-16.85	-14.84/-13.11	-13.37/-14.1	-11.92/-18.45	-10.71/-15.19	-18.03/-16.12
Θ(135°)	-12.48/-12.66	-7.79/-13.12	-12.2/-7.2	-9.89/-16.57	-18.28/-18.92	-15.95/-15.07	-18.51/-12.48	-13.36/-11.81	-10.43/-10.84	-8.09/-7.15	-6.74/-6.55	-9.41/-9.52	-5.63/-11.43	-12.95/-12.19	-14.3/-10.58	-16.43/-19.02	-17.37/-18.75	-18.97/-17.87	-16.41/-17.92	-13.55/-18.02	-18.49/-19.15	-15.86/-16.44	-9.24/-11.85	-15.72/-7.96
Θ(142.5°)	-9.88/-12.39	-6.33/-9.68	-16.58/-12.19	-17.76/-17.95	-18.26/-18.3	-14.89/-16.92	-18.81/-18.74	-18.97/-14.95	-11.05/-12.35	-15.95/-15.67	-7.49/-9.47	-5.11/-6.1	-12.07/-9.13	-8.73/-8.71	-14.53/-14.12	-15.21/-18.43	-14.56/-11.81	-14.12/-12.94	-15.31/-18.2	-17.69/-18.29	-18.45/-18.42	-14.85/-17.02	-9.59/-11.41	-17.95/-8.55
Θ(150°)	-17.8/-15.59	-11.08/-12.95	-18.35/-18.53	-17.94/-12.1	-12.74/-18.35	-18.12/-16.76	-16.94/-16.5	-18.71/-17.32	-17.44/-17.17	-13.98/-10.02	-16.16/-14.07	-14.73/-10.33	-9/-10.25	-11.47/-10.49	-9.98/-13.56	-12.81/-10.93	-12.88/-16.89	-15.15/-19.26	-17.31/-17.92	-17.31/-17.92	-13.77/-17.22	-18.11/-11.27	-12.8/-15.79	-14.65/-14.03
Θ(157.5°)	-11.77/-11.94	-17.27/-18.68	-15.51/-11.58	-9.53/-8.76	-11.01/-18.24	-17.39/-14.49	-16.92/-18.76	-19/-15.63	-14.44/-17.25	-14.37/-9.79	-8.63/-11.53	-13.83/-12.77	-11.28/-7.91	-7.06/-7.61	-9.17/-11.7	-10.06/-10.23	-17.26/-18.94	-17.63/-18.27	-16.62/-18.49	-18.51/-16.61	-15.86/-17.97	-11.46/-9.11	-8.13/-7.81	-10.46/-12.14
Θ(165°)	-12.09/-11.59	-12.21/-8.76	-10.39/-9.13	-8.75/-9.28	-9.96/-12.82	-15.3/-16.55	-18.74/-16.73	-14.15/-12.54	-10.08/-11.36	-13.33/-12.36	-14.72/-13.6	-13.08/-11.56	-9.03/-6.45	-6.08/-7.9	-12.32/-18.53	-17.71/-18.66	-19.29/-13.78	-11.99/-12.41	-15.4/-17.56	-18.27/-18.14	-18.93/-17.97	-17.82/-14.83	-12.36/-12.26	-16.21/-13.2
Θ(172.5°)	-10.06/-10.33	-9.32/-9.78	-10.2/-10.04	-10.93/-12.75	-12.45/-12.23	-12.83/-12.4	-11.33/-10.47	-11.65/-15.24	-16.84/-18.03	-19.27/-18.66	-17.56/-13.83	-11.14/-9.3	-7.06/-6.62	-8/-11.29	-16.67/-18.35	-17.41/-18.77	-18.75/-18.72	-19.17/-17.25	-17.88/-19.24	-18.18/-18.05	-19.25/-19.33	-18.18/-18.17	-13.92/-10.36	
Θ(180°)	-12.48/-12.69	-11.77/-12.11	-12.98/-12.57	-12.25/-12.59	-12.27/-11.3	-10.72/-11.56	-12.18/-11.71	-14.09/-17.73	-18.89/-17.17	-15.13/-12.26	-9.54/-9.86	-10.64/-9.54	-9.24/-11.02	-13.87/-15.56	-16.25/-17.74	-17.19/-18.73	-18.56/-15.81	-13.88/-14.19	-15.61/-15.83	-18.49/-18.2	-14.66/-12.43	-11.73/-11.7	-11.05/-11.67	
Freq(Hz)	5.6GPol.	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°)	-2.73/-2.44	-2.07/-1.64	-1.46/-1.43	-1.2/-1.3	-1.21/-1.23	-1.43/-0.89	-1.09/-2.23	-1.66/-1.39	-2.49/-2.89	-2.38/-2.73	-3.02/-2.96	-2.66/-2.45	-2.43/-2.4	-2.46/-2.34	-1.89/-1.81	-1.85/-1.67	-1.43/-1.33	-1.56/-1.52	-1.59/-2.32	-3.07/-3.46	-3.96/-3.68	-4.04/-4.4	-3.51/-2.94	-3.52/-3.5
Θ(7.5°)	-3.24/-2.69	-2.17/-1.85	-1.48/-1.23	-1.28/-1.68	-2.19/-2.47	-3.31/-4.06	-4.14/-5.65	-7.83/-8.71	-7.55/-8.05	-8.83/-7.89	-6.62/-5.6	-4.46/-3.59	-2.87/-2.11	-1.92/-1.99	-1.63/-1.49	-1.32/-0.93	-0.59/-2.06	-0.34/-0.64	-0.88/-1.13	-1.49/-1.52	-1.72/-2.08	-2.39/-3.41	-3.63/-3.1	-3.2/-3.56
Θ(15°)	-7.04/-7	-5.93/-4.98	-3.21/-2.1	-1.68/-2.18	-3.38/-4.15	-4.67/-5.73	-6.42/-7.23	-8.37/-5.4	-4.93/-2.64	-1.61/-1.45	-0.95/-0.99	-1.23/-0.91	-1.01/-1.31	-1.35/-1.78	-1.65/-1.77	-1.95/-1.2	-2.25/-1.71	-1.33/-1.61	-2.72/-3.47	-3.21/-3.09	-3.47/-3.87	-3.63/-3.72	-4.72/-5.24	-5.03/-5.5
Θ(22.5°)	-4.49/-5	-6.07/-9.01	-8.88/-5.58	-3.49/-4.02	-5.53/-6.12	-6.2/-6.53	-7.31/-12.37	-1.75/-9.59	-6.85/-5.08	-4.43/-4.02	-3.34/-2.27	-1.09/-0.83	1.32/-0.3	0.92/-0.64	-0.14/-1.51	-1.28/-0.201	-1.76/-1.42	-1.72/-5.25	-1.74/-6.83	-8.63/-8.98	-8.15/-7.61	-7.07/-6.72	-6.73/-8.98	-4.33/-4.72
Θ(30°)	-5.42/-4.54	-3.73/-5.08	-7.44/-8.91	-6.72/-5.56	-5.98/-6.43	-7.16/-6.46	-8.47/-13.2	-10.34/-10.17	-13.44/-17.26	-12.45/-5.23	-1.61/-1.56	-1.8/-2.12	-1.4/-0.6	1.39/-0.69	-0.44/-1.14	-1.3/-1.17	-2.11/-2.2	-2.46/-2.88	-4.08/-5.2	-5.05/-4.81	-4.6/-5.67	-8.19/-12.7	-18.34/-18.73	-18.72/-8.41
Θ(37.5°)	-9.11/-9.43	-7.29/-5.62	-5.46/-6.91	-8.11/-5.46	-3.97/-4.71	-7.27/-6.16	-7.86/-12.87	-16.51/-12.59	-6.6/-3.4	-2.59/-2.68	-1.53/-1.51	-1.75/-1.28	-2.09/-0.72	-1.28/-2.02	-0.78/-0.62	0.43/-1.41	-3.23/-1.93	-1.24/-1.86	-3.48/-2.04	-6.62/-1.69	-5.26/-10.86	-13/-11.98	-9.79/-13.06	-16.97/-11.77
Θ(45°)	-8.08/-16.57	-13.72/-9.43	-8.4/-10.34	-12.61/-5.82	-2.78/-2.61	-5.11/-7.7	-7.02/-4.64	-4.42/-4.95	-3.24/-1.59	-2.67/-4.85	-4.87/-2.6	-1.06/-0.9	-1.01/-3.27	-1.28/-0.58	-0.43/-0.7	-6.03/-2.54	-1.23/-3.33	-3.62/-0.63	0.03/-2.87	-7.96/-5.21	-2.24/-3.67	-8.33/-11.78	-9.43/-7.18	-18.97/-18.81
Θ(52.5°)	-5.25/-11.64	-18.88/-11.64	-16.41/-13.93	-17.73/-10.12	-6.58/-5.09	-3.06/-6.82	-4.64/-1.92	-3.09/-5.41	-7.29/-7.34	-6.57/-6.2	-4.95/-1	0.29/-0.66	0.16/-0.13	-0.76/-2.88	-1.74/-0.51	-3.19/-5.57	-6.32/-1.8	-1.3/-3.03	-2.50/-0.1	-0.21/-4.34	-5.03/-1.85	-1.19/-2.7	-5.99/-7.44	-7.4/-5.29
Θ(60°)	-2.66/-8.67	-11.47/-11.57	-17.29/-5.55	-9.11/-10.9	-8.27/-7.2	-1.54/-4.9	-2.99/-5.02	-1.78/-4.14	-3.85/-5.08	-5.75/-2.47	-2.28/-0.93	-0.52/-1.83	-0.93/-0.46	-1.95/-3.85	-1.5/-2.64	-7.02/-5.38	-4.46/-3.49	-2.57/-3.2	-4.21/-1.65	-2.49/-5.66	-1.74/-0.23	-2.72/-4.06	-3.2/-2.74	
Θ(67.5°)	-0.61/-4.39	-5.63/-8.53	-17.74/-4.99	-5.79/-7.35	-6.34/-7.56	-7.60/-2.9	-2.14/-0.79	-1.97/-4.52	-2.08/-3.44	-6.39/-4.24	-2.73/-3.11	-1.39/-5.78	-2.22/-0.35	-4.74/-3.38	-1.58/-5.85	-6.43/-5.1	-3.22/-3.73	-2.41/-4.57	-4.83/-0.88	-0.17/-0.06	1.93/-9.1	-7.04/-0.05	-0.49/-1.36	-0.66/-0.41
Θ(75°)	0.57/-3.13	-3.18/-6.15	-7.9/-6.58	-4.93/-4.																				



Radiated Composite Gain Data of 2.4GHz/5GHz/6GHz

Appendix A

Θ(75°)	-9.76/6.64	-2.59/-4.31	-9.94/-16.14	-11.92/-11.6	-10.18/-6.8	-6.27/-3.96	-2.32/0.35	-1.59/-0.36	0.64/0.39	0.04/-1.03	-1.73/-2.87	-4.28/-6.53	-8.98/-9.78	-7.87/-8.2	-9.77/-12.43	-11.11/-11.07	-7.5/-11.53	-5.14/-7.51	-1.38/-4.26	-4.53/-4.91	-4.21/-3	-10.01/-13.37	-10.5/-5.71	-10.33/-18.83
Θ(82.5°)	-5.07/-3.96	-1.62/-3.82	-7.68/-14.1	-15.35/-13.73	-12.39/-8.57	-7.07/-4.67	-3.56/-1.16	-2.77/-1.42	-0.34/-0.13	-0.73/-1.68	-1.82/-3.53	-6.2/-8.14	-9.56/-9.78	-7.23/-8.22	-14.1/-10.93	-13.17/-11.98	-13.99/-18.03	-11.48/-9.41	-2.5/-4.04	-2.38/-5.06	-4.03/-3.29	-19.09/-10.79	-9.92/-4.75	-19.08/-12.89
Θ(90°)	-3.7/-3.88	-1.92/-3.34	-7.76/-14.88	-18.34/-13.97	-17.14/-9.76	-8.28/-7.65	-5.4/-11	-3.4/-2.1	-1.5/-0.79	-0.77/-1.99	-1.48/-4.91	-6.87/-9.09	-8.48/-13.42	-8.42/-9.91	-12.6/-9.14	-12.3/-17.84	-17.94/-17.46	-19.23/-17.76	-5.72/-5.97	-3.51/-5.1	-7.04/-5.49	-15.29/-10.55	-11.19/-9.08	-17.46/-8.37
Θ(97.5°)	-4.16/-3.66	-3.09/-4.5	-7.94/-18.62	-18.54/-12.97	-17.05/-9.82	-8.25/-7.93	-5.4/-5.63	-4.76/-3.26	-2.17/-2.3	-2.42/-2.89	-2.68/-5.75	-8.59/-7.79	-12.03/-9.71	-12.37/-9.92	-13.4/-12.36	-14.74/-18.46	-17.26/-15.49	-14.45/-18.01	-10.4/-9.81	-5.65/-8.89	-10.63/-13.66	-12.02/-11.25	-14.54/-8.17	-12.16/-5.88
Θ(105°)	-5.2/-3.62	-5.04/-7.3	-12.79/-15.77	-17.4/-14.44	-18.58/-13.19	-9.82/-9.4	-5.03/-7.1	-6.79/-5.6	-3.43/-3.34	-2.88/-3.39	-4.74/-5.86	-7.05/-8.18	-11.14/-9.06	-15.22/-14.16	-13.14/-10.35	-13.92/-18.99	-15.5/-16.79	-18.84/-12.95	-19.32/-18.05	-11.6/-18.2	-12.89/-18.99	-9.22/-12.36	-14.9/-10.41	-10.03/-4.25
Θ(112.5°)	-9.59/-9.21	-11.42/-9.19	-18.8/-15.77	-13.72/-13.89	-18.35/-14.59	-9.86/-13.37	-6.96/-9.95	-6.78/-6.95	-5.63/-4.82	-3.65/-3.55	-5.65/-6.79	-8.8/-7.77	-12.72/-10.51	-12.49/-11.13	-18.77/-11.52	-10.47/-16.66	-18.75/-15.92	-18.13/-17.43	-13.86/-14.74	-10.29/-15.38	-15.02/-18.79	-7.71/-11.95	-17.26/-12.76	-10.21/-6.44
Θ(120°)	-17.59/-17.7	-13.57/-17.71	-12.79/-10.3	-14.14/-17.14	-18.05/-16.29	-13.29/-15.57	-10.52/-11.21	-8.9/-9.21	-7.17/-5.84	-4.75/-4.68	-7.2/-8.04	-9.42/-8.03	-11.19/-12.46	-11.23/-10.85	-15.88/-18.1	-12.61/-17.41	-15.3/-17.59	-16.55/-13.13	-19.18/-18.74	-14.77/-12.39	-15.4/-13.25	-8.04/-18.85	-18.12/-17.13	-16.49/-14.03
Θ(127.5°)	-13.34/-16.34	-12.24/-14.58	-11.09/-12.95	-18.55/-19.07	-18.81/-15.81	-17.52/-17.43	-12.02/-14.75	-14.14/-11.34	-9.86/-6.98	-5.63/-6.21	-6.6/-9.41	-10.12/-12.78	-10.72/-11.13	-15.54/-13.13	-10.93/-18.31	-17.46/-17.49	-13.37/-18.06	-13.8/-16.01	-17.67/-16.92	-17.9/-18.73	-11.14/-12.41	-12.73/-18.56	-13.33/-18.7	-17.39/-16.13
Θ(135°)	-9.77/-9.22	-12.85/-15.27	-9.91/-14.91	-19.09/-18.89	-17.86/-17.85	-18.68/-18.85	-18.21/-18.76	-18.77/-11.04	-11.15/-9.51	-6.87/-7.7	-8.32/-9.11	-9.85/-8.68	-14.74/-9.14	-14.97/-10.95	-11.67/-16.75	-18.2/-19.15	-18.94/-18.39	-12.7/-17.63	-12.94/-15.94	-19.01/-17.89	-16.73/-17.67	-13.05/-11.86	-11.12/-9.84	
Θ(142.5°)	-13.41/-15.53	-13.44/-13.9	-9.61/-13.52	-18.87/-17.04	-16.07/-19.13	-16.31/-19.45	-19.15/-17.51	-16.16/-10.78	-9.02/-10.4	-10.18/-9.63	-11.06/-12.03	-8.94/-12.23	-13.6/-16.18	-9.42/-8.85	-9.52/-17.79	-18.21/-18.48	-18.82/-14	-10.4/-19.41	-11.36/-11.96	-17.5/-18.11	-18.77/-18.72	-15.85/-18.97	-16.46/-17.91	-13.21/-8.67
Θ(150°)	-18.73/-16.16	-17.92/-17.99	-19.21/-17.88	-12.24/-12.6	-18.09/-13.51	-11.36/-15.17	-18.64/-15.31	-14.49/-14.66	-10.82/-8.91	-10.15/-10.39	-9.74/-11.02	-13.11/-12.87	-7.17/-5.66	-9.96/-15.07	-11.6/-10.64	-12.76/-17.47	-15.23/-15.65	-16.91/-17.8	-18.61/-18.11	-18.32/-18.33	-19.6/-18.3	-17.37/-18.58	-18.42/-17.74	-18.6/-18.67
Θ(157.5°)	-14.13/-18.01	-18.42/-16.56	-13.36/-11.59	-11.25/-13.15	-18.01/-18.03	-15.8/-19.29	-18.99/-16.09	-15.86/-16.24	-18.15/-16.9	-15.93/-17.48	-15.43/-14.33	-14.12/-13.28	-15.53/-12.76	-9.41/-10.16	-10.4/-10.73	-14.73/-18.52	-17.75/-18.97	-17.56/-14.24	-17.95/-18.42	-18.97/-18.59	-19.04/-17.99	-19.18/-18.96	-15.73/-18.62	-18.41/-14.01
Θ(165°)	-16.91/-12.97	-11.37/-10.21	-10.1/-11.64	-14.65/-17.17	-14.1/-12.74	-14.63/-17.22	-18.29/-18.34	-15.57/-15.52	-15.08/-13.88	-13.38/-11.57	-11.85/-13.85	-12.37/-12.03	-11.82/-9.3	-8.9/-9.08	-9.49/-11.79	-18.33/-18.25	-18.12/-18.51	-18.14/-17.31	-18.78/-19.56	-17.93/-18.93	-18.93/-18.76	-18.09/-18.43	-18.67/-17.82	-16.17/-18.55
Θ(172.5°)	-12.56/-11.27	-12.04/-12.48	-14.42/-12.41	-10.36/-10.56	-13.03/-13.88	-14.28/-15.42	-17.5/-17.75	-18.09/-18.53	-18.83/-18.4	-17.51/-15.2	-15.58/-13.94	-11.98/-12.07	-10.32/-8.49	-9.36/-11.9	-15.7/-19.02	-17.95/-17.4	-15.98/-16.74	-18.91/-18.56	-18.13/-18.66	-17.39/-18.42	-18.61/-18.78	-19.06/-18.49	-18.36/-16.01	-17.39/-14.14
Θ(180°)	-14.25/-12.02	-12.44/-11.79	-11.2/-10.63	-10.74/-11.22	-11.19/-11.58	-13.78/-13.78	-16.6/-17.85	-15.56/-15.05	-18.88/-18.71	-18.47/-19.13	-18.82/-17.11	-14.44/-13.34	-17.65/-17.5	-18.48/-18.33	-17.87/-18.86	-18.6/-18.68	-18.08/-18.54	-18.91/-18.87	-18.03/-16.68	-17.35/-18.85	-19.36/-19	-17.93/-19.12	-18.08/-15.68	-16.94/-14.66
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°)	-2.12/-2.12	-1.86/-1.49	-1.55/-1.44	-1.52/-1.68	-2.11/-1.08	-3.15/-3.55	-3.24/-3.1	-4.15/-4.08	-3.47/-3.62	-3.32/-3.17	-2.98/-2.2	-1.63/-1.47	-1.56/-1.24	-0.77/-0.66	-0.69/-1.19	-1.49/-1.62	-1.96/-2.36	-2.47/-2.62	-2.73/-3.19	-3.99/-4.43	-3.92/-3.93	-4.34/-3.96	-3.1/-2.73	-2.3/-1.97
Θ(7.5°)	-1.17/-1.08	-0.96/-0.78	-0.73/-0.84	-0.78/-0.72	-0.84/-1.55	-1.73/-2.39	-3.5/-3.3	-3.35/-4.2	-4.15/-3.34	-2.93/-2.57	-1.96/-1.42	-1.08/-1	-1.38/-1.53	-1.35/-1.27	-1.33/-1.77	-1.79/-1.94	-2.61/-3.04	-2.81/-3.21	-4.02/-3.79	-3.52/-4.17	-4.56/-3.5	-3.49/-3.58	-2.9/-2.49	-1.83/-1.14
Θ(15°)	-3.65/-3.14	-2.41/-0.8	-0.15/-0.21	-0.49/-1.21	-1.94/-2.79	-2.77/-3.22	-3.46/-3.87	-5.14/-6.44	-7.73/-8.32	-7.47/-6.05	-5.17/-3.02	-1.45/-0.5	0.26/0.55	0.861/-1.4	1.14/0.7	0.09/-0.59	-1.05/-0.82	-0.51/-0.23	0.13/0.05	-0.36/-0.8	-1.56/-2.1	-1.87/-1.99	-2.29/-2.42	-3.25/-3.71
Θ(22.5°)	-4.09/-4.38	-5.63/-4.24	-0.86/-0.69	-0.97/-1.54	-2.21/-3.12	-4.61/-7.07	-8.73/-9.69	-11.05/-14.84	-14.66/-10.08	-6.21/-4.24	-2.96/-1.39	-1.92/-2.72	-2.31/-2.63	-0.21/-1.8	2.52/0.5	1.06/0.15	-0.72/-1.22	-2.07/-2.18	-2.27/-3.72	-5.12/-4.46	-3.55/-3.69	-4.04/-5.32	-5.83/-4.36	-3.48/-3.17
Θ(30°)	-4.84/-3.1	-4.38/-3.28	-2.48/-1.96	-1.91/-9.3	-3.44/-4.69	-8.49/-14.95	-9.49/-7.5	-9.63/-14.63	-9.92/-6.9	-4.54/-4.83	-5.48/-2.14	-0.84/-0.51	0.571/-2.5	-1.52/-0.22	0.2/-0.04	0.410/0.67	0.09/-0.9	-2.9/-3.27	-3.26/-3.96	-5.37/-6.2	-6.5/-6.31	-5.66/-7.02	-7.79/-10.63	-8.97/-6.72
Θ(37.5°)	-7.93/-7.92	-5.12/-1.8	-1.66/-1.77	-1.44/-2.58	-5.66/-6.19	-10.23/-10.53	-6.65/-4.57	-5.92/-9.21	-12.69/-9.98	-6.65/-3.9	-2.64/-1.66	0.64/-1.81	-0.03/0.59	1.42/-0.5	-2.69/-1.94	1.32/0.3	1.25/-0.43	-2.42/-2.42	-3.92/-6.27	-4.21/-2.1	-2.89/-6.32	-4.92/-7.73	-10.21/-17.55	-8.72/-5.67
Θ(45°)	-11.65/-18.39	-13.5/-8.37	-9.41/-6.62	-1.67/-2.35	-5.3/-3.96	-5.44/-3.72	-3.77/-3.74	-3.73/-4.02	-4.33/-5.44	-6.07/-3.86	-1.95/-2.9	-1.01/-0.9	-0.57/0.17	0.490/-59	-0.86/-2.62	-0.23/0.52	-0.87/-2.26	-3.43/-4.76	-6.26/-3.61	-1.01/-0.62	-3.52/-7.6	-7.5/-10.3	-11.22/-13.72	-14.39/-9.51
Θ(52.5°)	-13.52/-18.73	-18.59/-14.37	-11.91/-19.22	-3.16/-2.73	-3.79/-2.72	-3.31/-1.63	-2.49/-2.12	-1.82/-1.23	-0.28/-0.84	-4.52/-1.52	-3.6/-4	-3.54/-0.52	-1.06/-1.06	0.74/-1.89	-1.04/-0.44	-0.51/-1.16	-3.06/-3.08	-2.75/-4.22	-1.96/-1.22	-1.29/-2.97	-6.22/-2.89	-1.31/-3.91	-9.07/-12.63	-13.25/-11.02
Θ(60°)	-9.59/-12.82	-15.6/-16.63	-7.37/-13.73	-5.59/-4.12	-3.33/-1.78	-3.88/-2.35	-1.49/-2.19	-1.05/-0.09	-0.09/-0.52	-1.84/-2.86	-2.03/-1.24	-4.61/-0.94	-0.81/-4.82	-0.48/-1.35	-3.29/-0.04	-1.55/-2.41	-4.66/-4.14	-3.3/-4.4	-3.79/-5.54	-3.51/-5.68	-3.25/-2.06	-0.52/-3.41	-4.79/-5.78	-10.53/-10.95
Θ(67.5°)	-5.72/-5.99	-7.07/-14.36	-9.52/-9.24	-4.75/-6.23	-3.99/-3.12	-4.85/-2.98	-0.73/-2.12	0.03/-0.14	-2.74/-2.74	-1.71/-4.31	-1.79/-0.66	-3.89/-2.86	-1.91/-5.18	-1.39/-2.12	-5.34/-1.09	-4.03/-2.24	-5.13/-3.67	-3.45/-4.18	-10.36/-7.13	-2.89/-3.14	-1.11/-0.92	-0.34/-1.22	-3.56/-4.53	-5.64/-3.92
Θ(75°)	-4.69/-2.1	-4.51/-4.53	-8.93/-4.74	-3.97/-4.23	-4.25/-6.14	-4.75/-5.03	-0.96/-1.65	0.02/-1.22	-4.35/-3.13	-3.44/-4.95	-7.19/-2.41	-2.84/-4.89	-2.99/-6.46	-3.35/-2.87	-8.32/-4.36	-4.84/-2.36	-6.01/-3.05	-2.16/-1.67	-4.26/-2.65	-0.39/0.2	2.34/-0.05	-0.44/-1.44	-2.9/-5.45	-3.21/-0.63
Θ(82.5°)	-5.65/-1.96	-4.58/-3.08	-6.63/-6.29	-3.63/-4.14	-4.24/-9.34	-4.86/-6.3	-1.52/-1.57	-0.67/-2.54	-4.27/-2.42	-3.39/-5.65	-9.43/-5.04	-3.97/-5.2	-4.46/-6.78	-4.8/-5.1	-8.09/-6.21	-7.51/-4.65	-6.47/-3.49	-1.95/-0.44	-0.26/-0.38	-0.09/-1.2	3.23/0.59	-1.29/-0.94	-2.69/-5.74	-2.97/-1.6
Θ(90°)	-7.17/-3.6	-6.14/-3.94	-8.16/-5.66	-3.65/-4.1	-5.27/-9.46	-4.97/-5.57	-2.39/-2	-1.37/-2.49	-3.62/-3.37	-3.59/-4.72	-8.58/-7.14	-6.32/-0.95	-8.94/-4.81	-6.28/-5.64	-7.88/-9.95	-9.25/-7.4	-8.97/-7.17	-3.85/-0.4	0.02/-1.32	-2.23/-0.04	2.38/-0.2	-1.95/-2.74	-4.38/-9.37	-4.26/-3.05
Θ(97.5°)	-9.52/-7.45	-11.31/-8.37	-9.95/-7.27	-5.04/-4.1	-6.75/-8.39	-5.37/-4.4	-2.74/-2.18	-1.79/-2.71	-3.33/-3.55	-4.46/-4.94	-7.52/-7.37	-8.33/-8.1	-8.37/-5.5	-8.81/-9.27	-9.11/-10.14	-12.42/-9.73	-8.92/-16.5	-9.14/-3.01	-1.86/-2.4	-5.99/-2.94	0.45/-2.77	-4.87/-5.42	-8.18/-15.7	-7.3/-5.68
Θ(105°)	-13.87/-11.27	-16.14/-15.76	-12.64/-6.49	-7.05/-4.32	-8.42/-6.61	-4.01/-2.33	-2.62/-1.2	-3.21/-3.58	-3.34/-4.44	-5.94/-4.99	-8.29/-5.67	-9.38/-8.39	-8.68/-5.61	-6.15/-8.89	-10.03/-13.76	-15.69/-15.94	-8.51/-17.3	-15.59/-8.04	-4.6/-8.77	-9.47/-7.27	-13.83/-18.9	-7.25/-8.61		
Θ(112.5°)	-12.62/-10.69	-19.26/-18.7	-12.27/-6.12	-8.28/-5.53	-7.64/-6.21	-4.22/-2.38	-3.73/-2.61	-3.09/-4.92	-5.03/-3.6	-4.51/-6.72	-6.88/-6.21	-7.65/-8.14	-5.87/-6.68	-5.71/-9.12	-10.99/-18.55	-15.23/-18.52	-12.21/-17.64	-17.97/-9.38	-12.62/-7.66	-16.23/-10.25	-6.42/-8.23	-11.19/-10.17	-16.32/-16.5	-8.47/-5.42
Θ(120°)	-13.41/-11.47	-15.87/-18.77	-9.97/-0.66	-8.2/-8.47	-6.25/-6.64	-3.84/-1.25	-2.17/-4.09	-3.4/-3.31	-5.7/-4.06	-3.59/-7.78	-8.31/-8.28	-8.11/-5.2	-7.68/-8.1	-5.48/-6.96	-15.08/-18.48	-16.9/-18.06	-12.43/-17.97	-13.98/-14.52	-12.24/-10.76	-11.1/-19.12	-9.64/-6.45	-11.49/-13.94	-11.99/-18	



Radiated Composite Gain Data of 2.4GHz/5GHz/6GHz

Appendix A

Θ(112.5°)	-8.98/-14.67	-10.7/-12.55	-18.47/-12.06	-12.29/-15.39	-14.79/-14.92	-11.93/-9.65	-6/-8.69	-6.18/-7.06	-6.29/-4.77	-4.64/-5.37	-3.61/-9.76	-7.52/-8.5	-7.26/-7.45	-10.16/-5.79	-9.44/-12.56	-9.55/-12.56	-12.31/-18.33	-12.79/-14.14	-12.32/-18.76	-10.69/-18.36	-9.49/-18.56	-13.84/-10.69	-16.27/-10.07	-9.28/-9.63
Θ(120°)	-15.92/-15.33	-10.99/-18.01	-15.75/-14.06	-13.82/-15.71	-18.66/-12.66	-18.16/-11.65	-9.58/-11.1	-7.59/-8.31	-8.02/-5.79	-6.8/-5.87	-4.81/-9.05	-8.59/-9.46	-11.03/-8	-11.17/-8.71	-8/-14.18	-10.72/-9.51	-16.55/-15.55	-18.32/-13.39	-13.88/-10.68	-10.99/-7.78	-8.71/-11.71	-14.76/-15.04	-18.97/-12.61	-14.13/-15.16
Θ(127.5°)	-15.28/-9.29	-15.05/-12.85	-13.74/-13.04	-17.76/-19.04	-15.57/-18.07	-17.19/-15.13	-12.13/-16.24	-12.41/-9.08	-8.87/-7.27	-8.44/-7.8	-8.53/-8.47	-11.07/-8.19	-8.3/-12.52	-11.42/-12.41	-10.61/-10.13	-10.97/-17.95	-11.38/-10.62	-16.37/-18.63	-14.8/-11.67	-17.88/-17.8	-18.37/-12.11	-16.84/-17.8	-18.84/-7.28	-17.72/-10.81
Θ(135°)	-10.79/-12.81	-18.49/-12.21	-11.85/-12.2	-18.13/-15.49	-17.48/-19.04	-19.26/-13.51	-13.28/-15.94	-12.94/-9.47	-10.98/-12.03	-8.76/-9.55	-11.37/-11.74	-13.13/-9.16	-8.48/-11.84	-12.58/-8.87	-17.24/-11.86	-10.85/-10.03	-18.7/-18.53	-18.9/-18.62	-14.35/-18.8	-18.37/-18.6	-14.66/-14.06	-17.69/-15.3	-9.37/-8.54	-13.8/-8.4
Θ(142.5°)	-18.97/-17.46	-17.21/-12.48	-18.61/-12.37	-18.02/-14.43	-14.41/-12.71	-10.93/-16.83	-9.85/-10.61	-14.73/-12.77	-11.19/-12.16	-10.87/-15.67	-13.29/-13.75	-12.56/-12.33	-9.49/-11.83	-17.05/-12.11	-9.06/-10.64	-18.42/-17.68	-15.25/-17.83	-14.25/-9.71	-18.66/-12.04	-12.89/-18.16	-17.81/-17.99	-19.35/-15.19	-17.35/-17.96	-11.87/-13.4
Θ(150°)	-12.4/-15.16	-12.11/-13.93	-18.1/-11.96	-11.5/-16.75	-15.32/-13.75	-10.5/-9.48	-11.81/-16.31	-13.3/-13.86	-12.91/-13.86	-18.76/-16.47	-16.5/-10.57	-17.75/-16.28	-16.03/-13.6	-11.93/-15.66	-16.2/-10.38	-12.65/-13	-13.48/-17.42	-15.76/-17.65	-17.91/-18.53	-18.01/-17.57	-18.1/-18.97	-19.26/-13.41	-9/-12.34	-17.91/-13.81
Θ(157.5°)	-14.17/-18.48	-14.17/-12.17	-10.06/-11.31	-14.32/-15.17	-10.55/-11.52	-13.53/-12.62	-11.86/-13.93	-18.62/-16.28	-16.7/-18.88	-19.33/-17.42	-18.1/-17.36	-18.83/-16.39	-15/-17.08	-13.48/-11.94	-9.24/-11.44	-14.32/-17.05	-18.85/-14.67	-15.04/-17.69	-16.16/-12.71	-16.95/-19.2	-18.96/-17.39	-18.24/-18.31	-18.27/-18.95	-18.54/-15.25
Θ(165°)	-11.94/-10.22	-8.93/-9.91	-9.78/-11.35	-11.77/-10.94	-10.16/-10.02	-11.69/-12.82	-13.95/-15.73	-15.07/-17.08	-19.29/-17.58	-17.53/-18.03	-18.14/-18.48	-19.02/-18.19	-14.53/-11.54	-10.17/-9.75	-10.63/-15.2	-18.19/-18.68	-16.54/-16.47	-16.55/-19.32	-18.56/-18.81	-18.29/-16.24	-13.45/-17.82	-17.88/-19.39	-14.36/-11.51	-10.4/-11.57
Θ(172.5°)	-18.2/-18.57	-13.29/-11.33	-10.24/-10.22	-9.5/-9.04	-9.71/-11.07	-11.83/-13.86	-15.18/-13.33	-15.51/-17.41	-18/-18.15	-18.64/-18.95	-18.91/-17.79	-16.52/-13.78	-11.33/-10.28	-11.91/-14.96	-19.09/-18.98	-18.88/-15.88	-16.61/-17.04	-15.19/-15.23	-18.95/-18.39	-17.16/-19.56	-18.34/-18.79	-17.93/-17.88	-16.43/-16.07	-17.8/-18.18
Θ(180°)	-11.32/-9.94	-8.81/-7.98	-7.51/-8.15	-8.37/-8.31	-8.82/-9.39	-9.82/-9.75	-12.18/-13.73	-14.13/-15.65	-15.33/-15.96	-18.48/-18.62	-18.73/-12.68	-12.16/-13.39	-13.67/-15.09	-19.23/-17.67	-14.46/-13.37	-14.49/-17.6	-19.25/-16.47	-13.46/-12.18	-13.51/-15.57	-16.17/-18.12	-18.9/-18.24	-19.07/-18.21	-16.39/-14.66	-15.59/-12.51
Freq(Hz)	6.675GPol.	Theta/Ant. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-1.48/-1.45	-1.52/-1.56	-1.57/-1.79	-1.93/-2.37	-2.76/-2.93	-3.02/-3.25	-2.91/-2.78	-2.91/-2.47	-2.2/-1.87	-1.82/-1.82	-1.42/-1.57	-1.67/-1.55	-1.76/-2.06	-1.99/-2.08	-2.12/-2.29	-2.75/-3.04	-3.09/-3.45	-3.96/-3.88	-4.35/-4.11	-4.08/-4.47	-3.4/-3.64	-3.05/-2.95	-2.79/-2.04	-2.06/-1.59
Θ(7.5°)	-1.82/-1.42	-1.08/-1.07	-1.54/-2.25	-3.36/-4.5	-5.12/-6	-6.25/-6.91	-7.27/-7.23	-7.22/-6.58	-5.63/-4.83	-4.09/-3.83	-2.82/-2.66	-2.29/-1.7	-1.5/-0.88	-0.35/-0.44	-0.58/-0.94	-1.4/-2.13	-2.62/-2.86	-2.93/-3.16	-3.48/-2.64	-2.19/-2.47	-1.72/-2.05	-1.74/-2	-2.37/-2.32	-2.22/-1.9
Θ(15°)	-2.31/-1.21	-0.57/-0.77	-1.23/-1.57	-1.99/-2.29	-2.75/-3.7	-4.67/-5.19	-5.74/-6.08	-5.79/-6.53	-5.68/-4.2	-3.31/-2.35	-1.87/-1.57	-1.49/-2.15	-2.64/-3	-3.24/-2.86	-2.22/-1.1	-0.66/-0.9	-1.4/-1.83	-2.44/-3.37	-2.74/-2.19	-2.28/-2.09	-2.44/-2.17	-2.21/-2.97	-1.44/-1.72	-1.82/-2.86
Θ(22.5°)	-5.18/-2.98	-1.79/-0.47	0.14/-0.66	-2.6/-2.11	-1.6/-2.05	-3.43/-4.82	-5.92/-7.65	-13.53/-19.06	-11.35/-8.28	-8.37/-6.59	-4.22/-3.09	-1.45/-1.85	-0.83/-0.5	-1.89/-2.23	-2.24/-1.66	-1.33/-1.5	-2.02/-2.09	-2.31/-3.04	-3.42/-2.43	-2.08/-2.9	-2.4/-2	-1.81/-1.58	-2.38/-2.43	-2.91/-4.02
Θ(30°)	-5.77/-5.46	-3.76/-2.17	0.32/0.05	-2.5/-3.48	-3.37/-1.68	-1.54/-2.52	-3.59/-5.05	-9.1/-13.42	-12.37/-12.83	-11.34/-14.94	-8.01/-4.9	-3.54/-2.53	-3.12/-2.23	-2.19/-1.96	-1.21/-0.86	-1.55/-3.93	-4.03/-3.63	-3.63/-2.96	-2.85/-3.61	-3.89/-4.7	-5.05/-4.94	-5.7/-5.81	-5.56/-6.58	-6.16/-6.09
Θ(37.5°)	-7.39/-6.79	-2.78/-2.69	-1.1/-0.08	-1.65/-2.92	-2.12/-0.89	-0.66/-1.76	-2.45/-3.46	-6.22/-4.99	-5.77/-6.59	-7.68/-6.77	-8.81/-5.71	-4.74/-5.3	-2.41/-2.62	-2.43/-0.82	-1.24/-4.45	-1.8/-1.91	-3.28/-1.77	-0.73/-2.41	-6.11/-6.07	-3.72/-4.02	-5.25/-6.95	-7.76/-4.92	-8.58/-8.08	
Θ(45°)	-6.71/-9.37	-4.57/-2.5	-1.41/0.68	-2.21/-0.51	-0.1/-0.68	-0.93/-1.37	-1.07/-0.44	-0.58/-2.11	-4.13/-2.91	-2.43/-4.58	-5.48/-5.1	-3.19/-5.09	-3.77/-3.66	-3.18/-0.56	-0.81/-2.68	-0.37/-4.01	-2.29/-4.25	-5.85/-3.03	-1.53/-5.56	-5.83/-2.03	-0.84/-2.79	-3.72/-5.96	-6.52/-6.66	-9.18/-7.2
Θ(52.5°)	-8.45/-8.78	-5.94/-4.53	-5.17/0.94	-0.92/-0.83	-0.11/-0.54	-1.54/0.24	0.92/0.87	0.17/-0.73	-0.21/0.27	-0.89/-5.1	-9.92/-10.9	-4.05/-3.34	-6.27/-3.39	-3.17/-1.65	-1.55/-2.99	-0.95/-5.38	-3.18/-0.64	-5.96/-5.05	-3.26/-2.7	-1.39/-0.42	-1.83/-5.1	-4.77/-4.59	-8.77/-6.73	-11.13/-14.75
Θ(60°)	-16.96/-11.6	-8.81/-4.07	-7.11/-0.97	-18.71/-1.78	-10.65/-0.07	-2.12/0.65	-10.2/-0.11	0.63/0.99	0.96/0.8	-1.83/-3.6	-2.71/-4.44	-7.94/-6.83	-5.55/-6.05	-2.24/-1.99	-3.02/-2.77	-1.92/-1.77	-3.5/-4.67	-5.25/-6.91	-3.58/-2.38	-3.5/-2.55	-2.58/-3.35	-3.44/-4.66	-12.54/-12.97	-7.93/-14.37
Θ(67.5°)	-14.58/-17.72	-7.6/-4.99	-5.24/-3.15	-2.4/-1.66	-3.05/-0.06	-1.34/-1.28	-0.76/-0.08	0.1/0.01	1.73/1.87	-1.33/-1.73	-3.52/-5.61	-6.95/-6.32	-6.11/-6.73	-1.64/-2.33	-4.93/-1.23	-2.98/-5.84	-4.62/-3.66	-8.22/-11.15	-3.41/-6.24	-7.28/-4.25	-4.42/-2.17	-1.91/-2.15	-4.66/-16.19	-10.24/-10.76
Θ(75°)	-7.62/-9.39	-7.51/-6.46	-4.51/-5.33	-4.45/-3.23	-3.68/-4.04	-1.64/0.52	-1.01/0.17	-1.01/0.76	1.432 25	0.52/-1.25	4.31/-10.81	-6.52/-5.22	-7.03/-5.41	-3.77/-1.9	-7.28/-1.09	-4.35/-5.07	-5.56/-8.45	-8.48/-8.4	-4.09/-12.51	-2.44/-1.7	-0.92/0.71	-2.31/-2.14	-3.17/-8.51	-15.06/-9.09
Θ(82.5°)	-5.62/-6.13	-5.54/-4.82	-3.95/-3.88	-6.01/-4.53	-6.74/-0.81	-2.5/-0.93	-0.29/-0.56	-0.93/-0.89	1.16/1.23	-0.82/-2.05	4.9/-12.9	-7.75/-5.02	-6.81/-4.63	-3.65/-3.37	-7.18/-1.85	-4.65/-4.2	-7.14/-5.97	-4.99/-5.44	-3.88/-10.79	-0.91/-0.92	0.98/-0.08	-5.11/-3.76	-4.54/-7.07	-11.27/-7.24
Θ(90°)	-6.07/-6.85	-5.37/-4.5	-4.41/-4.61	-6.85/-5.75	-6.51/-2.47	-4.28/-3.32	-1.6/-1.68	-2.16/-1.18	-0.25/-0.33	-2.41/-2.69	-4.07/-10.1	-12.5/-4.29	-9.56/-3.07	-6.21/-3.22	-4.8/-2.91	-6.47/-5.9	-7.62/-5.52	-4.88/-5.2	-3/-8.4	-3.26/-1.15	0.9/-1.13	-5.09/-5.24	-5.03/-6.66	-9.77/-6.9
Θ(97.5°)	-8.69/-9.53	-7.43/-7.34	-5.18/-5.99	-7.19/-6.78	-7.79/-3.2	-4.34/-3.87	-3/-2.5	-2.98/-1.46	-0.84/-1.35	-3.98/-3.46	-5.5/-12.47	-11.27/-5.96	-8.23/-5.01	-5.29/-4.68	-5.93/-4.3	-7.37/-7.34	-6.79/-6.3	-7.5/-6.81	-5.71/-9.26	-8.78/-4.24	-2.37/-4.99	-6.58/-7.07	-6.52/-5.73	-11.24/-12.52
Θ(105°)	-13.28/-12.03	-14.22/-11.54	-8.94/-5.3	-8.78/-7.3	-6.84/-4.49	-5.4/-5.89	-3.37/-3.47	-3.83/-2.47	-1.84/-3.56	-4.09/-4.33	-6.78/-13.02	-11.29/-9.12	-9.61/-5.55	-7.83/-4.49	-5.9/-5.39	-7.43/-9.41	-6.5/-9.22	-15.21/-15.43	-10.61/-15.5	-18.19/-15.04	-8.39/-10.01	-9.93/-11.93	-17.29/-14.11	-17.74/-18
Θ(112.5°)	-12.57/-18.54	-18.88/-18.52	-9.64/-9.1	-9.66/-8.3	-5.21/-5.55	-4.99/-7.18	-3.69/-4.47	-5.43/-3.36	-2.41/-4.88	-4.14/-8.9	-8.47/-14.37	-13.86/-10.37	-7.59/-6.45	-6.88/-5.25	-7.03/-7.62	-7.48/-12.02	-7.73/-8.57	-18.44/-17.98	-11.69/-16	-12.58/-18.04	-7.94/-5.41	-9.85/-11.86	-19/-17.32	-10.66/-12.66
Θ(120°)	-10.56/-18.11	-18.6/-17.56	-12.15/-10.13	-10.23/-9.06	-6.94/-5.62	-4.15/-7.21	-4.28/-3.99	-5.22/-3.54	-4.04/-4.69	-5.68/-5.82	-9.91/-11.43	-8.94/-9.07	-8.47/-6.73	-8.06/-6.51	-6.67/-8.83	-12.72/-10.45	-8.99/-8.62	-16.42/-17.78	-18.17/-17.92	-18.15/-17.84	-7.2/-2.29	-14.74/-13.71	-18.36/-11.43	-10.59/-10.77
Θ(127.5°)	-18.13/-17.74	-16.65/-14.44	-11.87/-11.74	-11.68/-7.69	-8.16/-6.38	-5.3/-7.26	-4.23/-4.96	-6.04/-5.57	-5.03/-4.75	-6.35/-8.1	-9.01/-9.08	-10.94/-9.43	-10.48/-6.12	-9.5/-6.27	-8.15/-9.61	-14.5/-9.16	-9.64/-15.34	-16.28/-16.79	-14.21/-16.1	-17.52/-14.04	-14.09/-10.1	-15.43/-17.77	-18.59/-16.13	-14.76/-19.08
Θ(135°)	-13.08/-14.55	-12.28/-16.12	-18.55/-11.29	-11.84/-8.67	-7.97/-6.18	-6.95/-10.03	-4.88/-4.72	-7.04/-9.41	-4.87/-6.1	-7.53/-7.84	-8.52/-7.34	-8.41/-8.51	-11.27/-6.08	-8.4/-7.94	-8.79/-10.86	-13.26/-12.35	-17.04/-16.14	-14.45/-18.55	-18.84/-19.15	-18.43/-18.74	-18.09/-19.16	-16.47/-18.28	-16.4/-17.38	-18.47/-16.48
Θ(142.5°)	-17.73/-18.08	-18.98/-18.87	-16.03/-11.95	-13.49/-11.37	-8.38/-7.09	-8.69/-9.42	-5.72/-6.25	-8.64/-7.03	-5.67/-7.54	-8.97/-10.35	-10.46/-9.85	-9.19/-11.01	-9.05/-8.6	-10.31/-10.17	-7.85/-6.69	-12.94/-14.68	-15.94/-17.7	-12.35/-18.16	-14.81/-18.82	-18.1/-19.09	-14.8/-18.82	-18.23/-17.25	-18.22/-18.39	-14.11/-18.65
Θ(150°)	-13.27/-12.43	-14.58/-15.46	-16.66/-16.98	-17.94/-13.35	-9.83/-7.72	-10.23/-11.83	-8.97/-7.11	-8.04/-9.8	-7.88/-7.09	-7.66/-8.53	-9.91/-11.49	-9.75/-9.66	-8.22/-9.11	-7.51/-11.46	-10.68/-10.61	-13.79/-13.49	-15.37/-16.51	-18.08/-17.97	-18.08/-16.97	-17.82/-18.51	-18.51/-19.25	-18.42/-17.31	-18.27/-14.18	-18.47/-18.05
Θ(157.5°)	-18.1/-7.6	-18.25/-18.25	-18.46/-18.27	-15.33/-14.33	-11.86/-10.68	-10.85/-12.03	-8.76/-6.9	-7.83/-9.49	-9.41/-8.57	-7.72/-8.44	-9.15/-9.81	-10.95/-11.87	-10.46/-9.89	-9.87/-10.55	-13.04/-14.92	-14.62/-14.69	-17.04/-16.14	-14.45/-18.55	-18.84/-19					



Radiated Composite Gain Data of 2.4GHz/5GHz/6GHz

Appendix A

Θ(165°)	-17.57/-14.29	-10.99/-11.7	-13.98/-13.67	-11.8/-10.33	-11.76/-15.15	-14.34/-11.17	-9.51/-10.73	-13.08/-14.61	-16.57/-18.63	-19.06/-17.96	-18.77/-18.46	-16.89/-16.26	-14.83/-15.52	-14.89/-11.27	-9.93/-11.27	-16.78/-18.62	-18.2/-15.87	-13.68/-14.16	-18.53/-17.2	-15.67/-14.9	-13.62/-16.43	-17.56/-18.45	-19.11/-18.96	-17.4/-18.26
Θ(172.5°)	-10.61/-10.68	-10.69/-10.25	-8.86/-8.85	-8.83/-9.58	-11.52/-12.15	-11.99/-11.21	-12.12/-12.31	-11.89/-13.27	-13.43/-15.83	-19.45/-17.58	-19.24/-19.01	-18.95/-13.14	-13.02/-12.52	-9.7/-9.33	-12.19/-17.52	-18.51/-19.43	-18.47/-19.61	-18.76/-18.02	-16.87/-17.01	-14.51/-16.21	-18.62/-18.63	-19.31/-18.59	-17.42/-16.1	-14.19/-13.56
Θ(180°)	-12.95/-12.61	-12.04/-11.45	-10.73/-10.75	-10.02/-9.99	-9.68/-8.94	-9.39/-9.99	-8.95/-9.55	-10.45/-12.48	-14.85/-16.7	-18.97/-17.58	-19.1/-17.44	-15.32/-15.57	-15.98/-15.96	-19.21/-17.61	-17.34/-15.23	-16.25/-18.94	-18.19/-16.27	-10.80/-9.91	-10.56/-11.8	-13.84/-17.79	-18.35/-18.45	-18.21/-17.14	-18.58/-16.1	-14.87/-13.22
Freq(Hz)	6.955GPol	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°)	-2.14/-2.8	-2.62/-2.96	-3.8/-4.02	-4.88/-5.34	-5.92/-6	-5.59/-5.69	-6.56/-4.68	-4.08/-3.63	-3.26/-2.88	-3.2/-2.71	-3.05/-3.17	-2.45/-2.38	-4.44/-4.86	-5.26/-5.15	-5.15/-5.78	-4.77/-4.43	-4.14/-3.24	-3.12/-2.37	-2.67/-2.23	-2.29/-2.14	-2.17/-2.53			
Θ(7.5°)	-2.94/-3.58	-3.62/-3.48	-3.69/-3.5	-3.5/-3.5	-3.53/-3.36	-3.43/-4.4	-3.53/-3.62	-3.06/-3.34	-3.06/-3.09	-2.94/-2.72	-2.45/-2.65	-2.91/-3.38	-3.65/-4.49	-5.64/-6.59	-7.34/-7.88	-8.62/-8.44	-8/-7.1	-6.47/-6.19	-5.12/-4.36	-4.54/-4.28	-4.74/-4.14	-4.02/-3.71	-3.33/-2.73	-2.62/-3.17
Θ(15°)	-0.34/-0.57	-1.37/-1.91	-2.79/-3.45	-3.94/-3.85	-3.54/-2.41	-1.8/-1.67	-2.12/-3.91	-6.77/-8.73	-11.38/-11.81	-9.41/-8.24	-6.08/-4.4	-4.19/-2.82	-2.93/-2.87	-2.76/-3.99	-7.24/-10.84	-13.06/-9.7	-6.91/-5.15	-5.7/-4.95	-4.39/-4.54	-3.78/-2.94	-2.67/-1.68	-1.66/-2.22	-2.94/-3.01	-1.99/-0.82
Θ(22.5°)	-3.15/-1.3	-0.71/-0.76	-1.71/-1.48	-1.26/-2.59	-2.98/-2.59	-2.32/-2.83	-4.11/-6.7	-9.92/-12.78	-16.13/-17.86	-16.32/-12.94	-10.54/-7.67	-5.4/-3.47	-3.21/-3.2	-3.38/-4.69	-5.83/-6.62	-6.63/-4.35	-2.28/-1.53	-2.68/-2.31	-3.44/-2.7	-1.63/-1.71	-1.76/-2.02	-2.12/-2.46	-3.01/-4.27	-5.33/-5.02
Θ(30°)	-3.25/-1.76	-0.720/-19	-1.25/-0.9	-1.02/-1.39	-1.3/-1.59	-2.72/-3.33	-2.71/-3	-4.01/-5.45	-7.97/-11.46	-13.47/-12.06	-12.21/-10.29	-9.68/-9.82	-6.5/-5.12	-4.49/-5.18	-4.12/-3.22	-4.14/-4.28	-3.95/-3.19	-1.94/-2.12	-4.93/-6.68	-5.49/-4.31	-4.64/-5.94	-7.13/-5.89	-6.07/-5.64	-4.45/-4.26
Θ(37.5°)	-8.03/-2.6	-3.39/-0.55	0.23/-0.73	-0.73/-1.01	-0.76/-1.23	-2.05/-1.34	-1.02/-2.34	-2.01/-2.08	-3.22/-4.06	-4.31/-4.76	-6.32/-8.74	-7.73/-6.15	-5.08/-5.34	-4.97/-3.75	-3.16/-3.27	-5.67/-4.21	-5.61/-2.93	-1.15/-3.81	-6.13/-3.99	-3.64/-4.8	-6.31/-4.65	-3.02/-3.59	-7.33/-6.16	-6.79/-12.48
Θ(45°)	-8.15/-6.35	-4.06/-4.61	-0.73/-0.84	-0.17/-1.25	-1.59/-1.9	-0.79/-0.46	-1.01/-0.13	1.27/0.04	-0.47/0.13	-0.58/-1.41	-1.63/-3.01	-6.39/-7.69	-5.27/-5.26	-5.89/-3.73	-2.83/-2.97	-6.01/-2.13	-3.37/-3.94	-2.48/-3.49	-3.61/-5.9	-6.15/-2.97	-1.32/-2.03	-4.9/-6.51	-4.89/-9.4	-5.88/-9.44
Θ(52.5°)	-7.55/-8.74	-6/-7.83	-2.63/-2.54	-0.8/-1.52	-1.69/-1.6	-0.01/0.3	-0.05/0.88	0.36/0.68	2.34/-1.66	1.63/-1.93	1.12/-0.99	-2.41/-3.78	-2.67/-3.33	-5.52/-4.54	-4.15/-4.24	-5.45/-2.09	-7.36/-8.77	-3.39/-3.82	-7.65/-5.89	-2/-1.73	-2.28/-4.47	-5.76/-6.25	-3.48/-6.3	-11.92/-11.63
Θ(60°)	-13.91/-6.65	-8.53/-6.59	-2.86/-3.23	-2.73/-2.78	-0.66/-1.17	-0.49/-0.19	0.67/0.32	2.06/3.47	3.47/3.21	3.98/3.09	0.65/-2.12	-4.57/-3.33	-2.84/-2.52	-4.34/-3.41	-2.25/-9.49	-4.17/-2.84	-7.64/-8.77	-4.64/-5.98	-8.4/-4.09	-3.61/-3.28	-3.16/-3.54	-4.52/-6.24	-7.18/-5.97	-8.03/-10.25
Θ(67.5°)	-13.47/-11.64	-7.1/-8.22	-4.08/-2.51	-3/-4.95	-1.58/-2.31	-0.36/-1.84	-0.67/-0.45	2.24/0.31	2.22/2.76	2.86/0.74	0.72/0.5	-5.21/-2.87	-3.24/-3.62	-7.44/-3.76	-1.5/-12.64	-5.41/-3.66	-6.68/-9.16	-6.91/-6.37	-10.66/-6.38	-6.91/-6.37	-5.34/-5.27	-2.82/-1.6	-4.6/-3.71	-6.73/-10.46
Θ(75°)	-9.72/-18.86	-3.87/-8.44	-4.7/-3.8	-3.3/-3.57	-2.38/-5.52	-1.93/-3.67	-2.35/-0.17	0.48/-0.29	0.31/2.04	1.85/-1.32	-0.33/-1.26	-2.06/-4.99	-2.91/-4.83	-4.55/-9.22	-1.14/-11.81	-4.08/-3.34	-7.52/-8.44	-6/-8.58	-14.73/-7.04	-3.73/-2.48	-2.88/-1.86	-1.73/0.31	-2.47/-4.06	-8.85/-17.48
Θ(82.5°)	-7.99/-10.68	-2.44/-6.08	-6.81/-4.9	-3.96/-4.08	-4.23/-3.75	-4.61/-2.9	-3.91/-0.4	-1.24/-2.26	1.08/-1.5	1.86/-2.09	-0.92/-0.79	-2.87/-6.34	-3.94/-6.72	-7.02/-8.82	-3.98/-8.44	-4.23/-4.41	-9.41/-9.22	-4.44/-3.34	-8/-8.55	-2.96/-1.27	-0.35/-1.51	-4.26/-1	-4.08/-4.72	-14.67/-15.54
Θ(90°)	-8.97/-8.7	-2.61/-5.42	-8.31/-6.1	-6.54/-5.41	-5.1/-4.61	-6.18/-6.58	-4.98/-2.84	-2.22/-2.07	1.07/-1.27	1.41/-66	-1.15/-3.17	-3.44/-6.83	-5.34/-6.85	-4.95/-11.72	-4.87/-6.76	-3.43/-5.9	-9.04/-10.9	-5.47/-3.17	-6.15/-9.34	-4.75/-2.9	0.29/-2.66	-6.96/-3.59	-5.17/-5.53	-13.22/-11.45
Θ(97.5°)	-10.41/-11.32	-5.31/-6.63	-9.38/-8.04	-10.04/-7.47	-7.56/-7.37	-6.35/-7.58	-7.15/-4.72	-3.22/-2.19	-0.17/-0.1	0.81/0.08	-2.7/-5.83	-5.42/-5.72	-7.42/-10.36	-6.01/-9.66	-5.53/-5.84	-6.47/-6.16	-8.2/-14.39	-11.6/-6.64	-7.61/-9.29	-7.65/-7.69	-2.63/-5.56	-9.7/-6.06	-6.09/-6.27	-11.67/-11.51
Θ(105°)	-12.67/-16.68	-9.98/-12.43	-12.33/-9.49	-9.71/-9.63	-11.06/-7.05	-7.7/-6.47	-7.39/-4.57	-4.11/-3.99	-1.21/-1.11	-0.54/-0.35	-4.66/-8.42	-6.32/-5.51	-7.13/-12.95	-3.99/-11.62	-7.47/-9.15	-5.14/-7.03	-12.29/-18.86	-14.67/-10.14	-10.49/-9.93	-16.24/-18.02	-10.68/-10.16	-8.95/-7.54	-11.37/-7.62	-9.82/-17.35
Θ(112.5°)	-18.85/-14.52	-16.7/-18.09	-11.95/-12.93	-9.12/-9.37	-12.42/-9.01	-10.71/-8.32	-7.35/-5.81	-4.45/-3.69	-2.21/-1.7	-1.99/-1.97	-4.8/-4.82	-11.34/-7.97	-7.42/-8.32	-8.84/-8.95	-10.58/-10.14	-10.76/-11.29	-17.51/-12.98	-10.61/-19.09	-17.75/-12.98	-9.59/-6.91	-6.24/-5.88	-18.05/-18.3	-14.02/-16.55	
Θ(120°)	-14.4/-18.08	-15.72/-17.93	-10.73/-13.92	-11.21/-14.06	-15.19/-7.8	-10.16/-8.22	-8.79/-5.77	-4.05/-4.49	-3.98/-3.09	-4.14/-4.01	-4.71/-6.85	-6.64/-6.33	-9.99/-9.86	-8.86/-7.05	-10.52/-7.85	-8.37/-9.17	-9.86/-10.67	-19.61/-11.52	-17.28/-18.43	-18.17/-18.36	-7.56/-9.62	-13.99/-11.92	-13.96/-11.04	-11.43/-14.5
Θ(127.5°)	-19.04/-17.44	-18.99/-12.31	-12.28/-16.54	-14.51/-15.38	-9.55/-8.57	-9.71/-12.7	-7.19/-6.02	-5.66/-5.12	-3.59/-3.6	-4.41/-5.26	-6.24/-8.41	-8.25/-7.8	-12.58/-10.4	-6.33/-6.1	-10.27/-11.46	-12.32/-17.34	-18.96/-11.37	-14.45/-16.92	-17.68/-15.22	-18.63/-10.17	-9.84/-18.55	-9.52/-17.49	-17.79/-18.38	
Θ(135°)	-17.24/-15.29	-13.9/-15.36	-17.65/-17.81	-12.83/-14.32	-10.19/-9.36	-10.47/-8.55	-7.13/-6.4	-4.65/-6.43	-5.27/-3.91	-4.52/-5.61	-5.84/-7.74	-6.69/-7.66	-8.83/-10.84	-9.53/-5.46	-10.48/-11.42	-5.99/-16.67	-16.53/-18.41	-18.36/-12.18	-15.98/-14.86	-15.3/-17.38	-18.73/-7.47	-17.82/-14.52	-15.82/-18.9	-13.97/-19.04
Θ(142.5°)	-15.63/-18.46	-17.8/-18.27	-13.52/-13.88	-14.09/-12.66	-9.39/-10.23	-10.8/-8.9	-6.4/-7.54	-6.6/-5.77	-5.7/-4.75	-5.17/-6.26	-8.32/-7.7	-7.09/-10.65	-12.37/-8.39	-6.03/-4.8	-9.05/-10.21	-13.61/-12.76	-17.4/-18.31	-9.04/-11.89	-17.51/-14.13	-14.34/-18.33	-18.52/-17.02	-14.24/-17.81	-15.54/-17.63	-17.44/-16.16
Θ(150°)	-18.53/-16.89	-17.85/-18.06	-16.48/-17.84	-12.63/-9.46	-10.62/-14.64	-11.33/-6.94	-5.79/-7.91	-7.69/-5.91	-6.49/-7.25	-7.34/-6.33	-5.93/-7.28	-7.02/-10.91	-14.21/-8.14	-6.98/-7.77	-9.46/-9.09	-12.76/-6.71	-17.07/-15.62	-18.39/-16.94	-18.02/-15.18	-18.92/-12.63	-18.67/-17.37	-19.28/-16.1	-16.49/-18.04	-17.4/-18.58
Θ(157.5°)	-15.56/-17.84	-18.44/-18.15	-16.82/-17.3	-10.48/-16.33	-12.86/-10.23	-8.65/-6.32	-9.02/-8.01	-9.08/-6.16	-6.85/-6.73	-7.84/-8.56	-9.16/-8.59	-9.63/-10.59	-13.22/-9.96	-7.9/-9.26	-9.65/-11.09	-16.56/-12.96	-14.59/-15.89	-19.13/-19.84	-16.99/-18.17	-18.03/-19.15	-17.47/-15.97	-18.51/-15.68	-13.84/-16.54	
Θ(165°)	-17.81/-17.54	-17.88/-18.33	-19.22/-17.81	-19.08/-17.97	-16.01/-14.52	-12.84/-11.52	-11.19/-11.13	-10.45/-10.69	-11.31/-9.06	-8.68/-7.54	-8.06/-8.17	-9.29/-9.44	-9.49/-9.22	-9.3/-9.64	-10.41/-13.03	-17.45/-18.22	-18.12/-18.49	-15.36/-14.23	-18.52/-17.76	-15.1/-14.08	-12.73/-10.98	-11.37/-12.58	-14.77/-15.88	-18.13/-18.26
Θ(172.5°)	-13.7/-13.98	-15.21/-15.28	-16.21/-16.9	-19.03/-15.46	-15.51/-16	-14.18/-13.77	-12.38/-12.13	-12.21/-13.08	-12.96/-13.03	-14.06/-14.72	-14.27/-12.11	-12.64/-11.54	-13.63/-15.23	-16.02/-18.24	-19.06/-18.79	-18.36/-19.15	-19.24/-18.29	-17.48/-18.92	-18.94/-17.01	-18.94/-16.46	-17.26/-17.54	-18.55/-17.4	-15.5/-13.72	-11.48/-12.75
Θ(180°)	-13.47/-13.83	-15.01/-16.71	-19.1/-18.26	-19.2/-18.85	-18.44/-18.42	-17.41/-15.9	-14.09/-13.02	-11.97/-11.56	-9.83/-9.42	-8.97/-9.39	-8.74/-8.62	-9.3/-11.03	-11.19/-11.93	-15.25/-16.17	-18.12/-18.54	-17.57/-17.96	-19.07/-19.01	-18.18/-15.59	-15.93/-15.21	-13.9/-14.66	-13.77/-13.75	-12.5/-11.66	-11.66/-10.78	-12.31/-12.37
Freq(Hz)	2.45GPol	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°)	-1.88/-2.17	-2.35/-2.4	-2.55/-2.87	-3.14/-3.35	-3.62/-3.98	-4.24/-4.38	-4.38/-4.34	-4.19/-3.8	-3.92/-4.26	-2.37/-2.07	-1.95/-2.01	-1.81/-1.87	-2.08/-2.34	-2.92/-2.87	-2.04/-2.35	-2.76/-3.1	-2.96/-2.4	-1.81/-1.43	-1.34/-1.47					
Θ(7.5°)	-1.56/-2.04	-2.37/-2.55	-2.71/-2.77	-2.61/-2.44	-2.5/-2.72	-2.99/-3.19	-3.47/-3.83	-4.22/-4.46	-4.49/-4.27	-3.77/-3.09	-2.38/-1.78	-1.33/-1.14	-1.2/-1.5	-1.95/-2.51	-3.05/-3.49	-3.84/-4.02	-4.26/-4.34	-3.83/-2.85	-2.06/-1.63	-1.44/-1.36	-1.45/-1.68	-1.79/-1.59	-1.23/-1	-1.1/-1.9
Θ(15°)	-1.02/-1.55	-2.05/-2.56	-3.11/-3.33	-3.04/-2.62	-2.4/-2.37	-2.37/-2.46	-2.83/-3.44	-4.28/-4.94	-5.17/-4.96	-4.37/-3.45	-2.35/-1.22	-0.48/-0.13	-0.26/-0.79	-1.64/-2.64	-3.71/-4.58									



Radiated Composite Gain Data of 2.4GHz/5GHz/6GHz

Appendix A

Θ(7.5°)	-3.99/4.46	-3.91/-2.08	-2.38/-2.23	-1.97/-2.47	-2.63/-2.86	-3.74/-4.59	-5.28/-5.3	-5.97/-6.96	-8.13/-9.04	-10/-11.01	-10/-8.72	-8.03/-7.84	-6.95/-5.41	-4.26/-3.91	-3.69/-3.8	-4.33/-4.49	-3.7/-2.7	-2.83/-3.3	-3.53/-2.82	-3.17/-4.32	-5.78/-6.25	-6.09/-6.36	-7.58/-7.2	-5.89/-4.16
Θ(15°)	-1.57/-2.27	-2.11/-2.08	-1.71/-1.23	-0.61/-9.8	-0.85/-0.84	-1.06/-1.32	-2.16/-2.6	-2.68/-2.2	-2.03/-2.33	-3.09/-4.4	-6.27/-8.05	-9.32/-8.94	-7.95/-5.53	-3.2/-1.53	-0.2/-0.08	-1.05/-2.59	-3.65/-5.26	-6.94/-6.36	-5.95/-4.57	-3.73/-4.38	-3.01/-2.86	-2.81/-1.76	-1.41/-5.2	-1.88/-1.44
Θ(22.5°)	-0.51/-0.59	-0.83/-1.72	-3.07/-4.25	-1.49/-4.43	-4.22/-4.4	-3.05/-3.27	-3.91/-5.02	-5.9/-5.74	-4.74/-4.25	-4.66/-5.53	-10.14/-18.54	-19.59/-11.67	-6.58/-3.38	-1.46/-1.77	-2.66/-3.19	-3.4/-4.85	-5.49/-5.28	-5.99/-6.11	-6.54/-6.97	-5.97/-5.68	-3.82/-3.22	-2.66/-2.7	-2.56/-4.2	
Θ(30°)	-1.25/-0.64	-0.45/-0.46	-1.55/-4.59	7.03/-6.95	-4.68/-2.63	-1.87/-2.34	-2.64/-3.44	-4.41/-4.39	-4.14/-5.42	-9.82/-14.63	-14.83/-13.52	-17.78/-18.73	-18.19/-14.68	-17.54/-12.43	-7.33/-7.41	-6.5/-3.76	-2.81/-2.92	-3.16/-5.05	-8.5/-11.99	-15.8/-18.06	-10.42/-6.73	-3.69/-3	-2.6/-2.41	-1.96/-1.75
Θ(37.5°)	-0.13/-0.22	-0.73/-2.32	-2.43/-3.05	-3.99/-3.05	-2.23/-3.11	-4.7/-5.63	-5.16/-5.76	-6.23/-6.54	-4.92/-5.22	-7.09/-6.4	-8.18/-10.2	-12.84/-14.06	-12.96/-10.94	-9.49/-8.07	-7.29/-8.56	-6.45/-4.59	-6.28/-6.36	-3.03/-3.85	-6.69/-9.19	-12.98/-13.91	-12.19/-13.53	-13.12/-7.19	-2.75/-1.7	-0.78/-0.27
Θ(45°)	0.19/0.05	-0.49/-3.61	-4.05/-1.59	-2.08/-2.53	-3.18/-5.63	-4.22/-1.6	-0.82/-0.94	-0.61/-1.31	-3.48/-5.92	-5.55/-4.63	-7.41/-6.56	-5.24/-6.53	-7.23/-6.69	-7.36/-8.64	-9.83/-11.43	-7.22/-3.33	-5.97/-10.26	-5.16/-6.37	-8.35/-9.19	-12.36/-14.05	-10.96/-10.34	-7.44/-4.65	-1.35/-0.3	-1.07/-0.14
Θ(52.5°)	-0.21/-1.64	-2.13/-2.27	-2.8/-1.52	-3.47/-3.08	-2.26/-3.49	-3.38/-2.77	-1.13/-0.36	-0.21/-1.3	-1.63/-1.39	-3.61/-7.3	-8.22/-4.75	-6.22/-5.64	-5.68/-5.84	-6.9/-15.4	-19.18/-18.96	-8.36/-3.62	-5.03/-10.42	-7.8/-6.78	-4.07/-4.09	-6.23/-10.95	-13.74/-6.86	-2.83/-2.33	-0.60/49	-1.67/-1.48
Θ(60°)	-1.97/-3.45	-5.8/-2.04	-2.59/-4.1	-6.8/-2.8	-1.35/-2.82	-6.14/-4.16	-0.48/-2.79	-5.24/-2.61	0.23/0.14	-3.18/-15.2	-3.6/-4.8	-2.24/-4.31	-3.03/-3.59	-5.12/-13.56	-18.91/-14.25	-15.16/-8.48	-6.87/-5.74	-5.43/-7.51	-3.85/-3.08	-3.79/-7.25	-9.05/-7.79	-3.81/-3.69	-3.62/-0.69	-2.58/-5.42
Θ(67.5°)	-4.65/-5.54	-7.88/-2.76	-2.17/-5.24	-10.31/-4.95	-2.94/-3.95	-6.82/-1.07	0.89/-3.61	-0.71/-2.35	2.62/0.74	-1.06/0.42	-1.06/0.14	-3.31/-3.75	-0.43/-0.68	-3.38/-7.72	-10.96/-9.18	-6.66/-7.14	-10.18/-1.72	-2.32/-9.49	-3.71/-1.77	-2.52/-6.99	-5.65/-9.89	-6.28/-4.97	-8.16/-4.03	-2.89/-6.2
Θ(75°)	-3.18/-4.48	-16.27/-4.41	-3.16/-9.49	-12.7/-6.24	-4.27/-4.2	-4.02/-0.4	0.36/-3.81	1.18/3.8	3.58/1.47	-0.61/2.72	-0.51/-1.12	-3.77/-4.52	1.35/1.08	-1.57/-3.72	-2.92/-7.95	-1.91/-2.85	-11.91/-0.65	-0.56/-11.83	-4.22/-3.06	-3.64/-7.02	-3.56/-5.32	-6.86/-6.32	-8.42/-6.77	-3.76/-5.03
Θ(82.5°)	-4.06/-3.03	-14.49/-6.33	-5.03/-18.01	-10.13/-6.26	-5.49/-4.7	-3.25/-1.19	0.06/-4.22	0.47/2.63	2.98/1.92	-0.39/-2.35	-3.14/-1.86	-4.32/-1.79	1.53/0.19	-1.84/-1.39	-1.61/-3.81	0.28/-0.2	-12.92/-0.06	-0.6/-10.5	-5.87/-4.4	-6.55/-4.69	-1.38/-2.01	-7.01/-7.69	-6.77/-5.85	-3.59/-7.36
Θ(90°)	-4.83/-3.07	-16.87/-10.79	-7.2/-13.27	-8.5/-8.14	-6.51/-5.01	-4.57/-2.98	-1.52/-5.92	-2.25/-3.99	1.19/2.21	0.26/2.31	-6.14/-9.43	-2.31/-2.91	0.72/0.4	-3.88/-4.12	-1.13/-2.93	-0.46/-0.61	-9.59/-0.83	-1.54/-8.92	-6.57/-5.36	-7.43/-4.02	-1.68/-1.92	-4.15/-6.2	-6.67/-5.88	-4.96/-4.82
Θ(97.5°)	-5.82/-3.6	-12.39/-12.34	-10.52/-10.35	-6.88/-11.68	-9.19/-6.14	-6.35/-4.29	-2.48/-6.38	-6.46/-6.01	-2.05/0.49	-0.71/-1.19	-10.16/-4.94	-4.17/-2.73	-1.35/-3.61	-6.13/-4.8	-2.65/-4.4	-2.19/-1.96	-8.8/-0.71	-3.85/-10.05	-6.16/-6.41	-6.23/-4.92	-2.7/-2.36	-3.94/-3.86	-7.75/-7.04	-5.34/-9.5
Θ(105°)	-9.8/-6.42	-11.72/-14.5	-14.26/-7.41	-4.75/-12.27	-11.6/-8.07	-9.26/-4.25	-3.12/-6.16	-6.56/-10.48	-5.7/-1.9	-1.13/-1.01	-9.32/-8.57	-6.36/-4.97	-3.89/-6.08	-9.88/-8.57	-6.5/-8.63	-2.05/-3.92	-8.5/-2.41	-4.23/-10.47	-4.6/-6.72	-3.25/-5.71	-1.77/-3.81	-3.56/-3.44	-6.72/-8.05	-8.01/-10.66
Θ(112.5°)	-10.67/-3.99	-7.81/-13.53	-12.51/-10.45	-6.95/-15.69	-12.22/-9.47	-11.63/-3.42	-2.83/-4.05	-4.72/-7.45	-6.08/-5.07	-3.82/-7.82	-15.51/-16.51	-13.98/-5.94	-12.12/-18.87	-18.2/-11.9	-6.28/-7.71	-3.8/-5.16	-7.23/-1.6	-4.75/-12.49	-3.51/-6.39	-2.32/-4.38	-8.86/-4.35	-2.35/-3.39	-4.72/-6.57	-4.39/-6.59
Θ(120°)	-5.94/-7.51	-7.3/-8.48	-12.19/-19.28	-11.1/-8.82	-10.28/-16.71	-14.06/-4.93	-5.68/-6.8	-5.38/-7.76	-8.53/-4.64	-4.71/-12.32	-17.79/-18.11	-9.19/-9.49	-14.09/-10.45	-18.71/-17.63	-9.43/-9.6	-4.92/-5.09	-6.41/-1.02	-4.76/-18.42	-4.4/-3.56	-3.83/-3.48	-5.91/-8.22	-5.66/-2.87	-5.35/-7.8	-5.76/-5.14
Θ(127.5°)	-6.11/-3.77	-9.06/-18.3	-9.51/-16.5	-18.05/-9.1	-10.13/-6.26	-17.08/-17.72	-18.71/-17.98	-18.75/-18.3	-14.98/-5.46	-3.89/-9.28	-14.36/-12.32	-3.75/-6.03	-11.54/-6.84	-11.3/-18.56	-7.33/-5.94	-9.04/-5.91	-8.65/-2.14	-7.13/-18.79	-6.8/-3.71	-7.92/-6.91	-12.99/-6.73	-13.06/-4.01	-4.04/-5.69	-2.75/-8.06
Θ(135°)	-11.47/-6.23	-10.67/-10.79	-17.7/-17.53	-18.15/-18.66	-12.52/-10.69	-9.83/-7.43	-7.57/-9.64	-11.41/-13.68	-9.74/-6.26	-7.42/-10.2	-15.37/-13.06	-8.57/-6.46	-4.22/-7.46	-13.54/-10.48	-5.93/-5.94	-12.29/-7.8	-2.51/-2.27	-10.26/-18.66	-9.37/-3.91	-4.88/-6.23	-8.25/-11.3	-13.06/-10.51	-7.61/-8.82	-10.54/-16.5
Θ(142.5°)	-9.41/-9.26	-13.33/-18.04	-16.41/-15.17	-16.46/-18.37	-17.75/-13.01	-9.75/-9.71	-12.01/-9.52	-10.12/-16.28	-18.92/-19.05	-16.31/-13.56	-17.14/-10.21	-5.97/-8.51	-11.98/-11.58	-8.2/-9.26	-18.36/-19.42	-11.58/-5.14	-1.51/-4.44	-16.42/-18.91	-10.92/-6.51	-5.94/-6.97	-7.92/-6.62	-12.05/-18.78	-11.32/-10.16	-12.05/-11.15
Θ(150°)	-11.71/-11.92	-11.23/-13.33	-14.77/-14.13	-11.38/-10.25	-12.85/-17.94	-18.14/-19.05	-17.46/-15.59	-15.09/-17.01	-19.14/-13.9	-10/-9.69	-13.77/-18.88	-13.48/-11.14	-11.52/-13.87	-17.69/-15.84	-18.01/-15.66	-12.96/-7.73	-6.09/-8.33	-13.07/-17.15	-17.71/-13.23	-9.91/-8.76	-11.12/-12.25	-9.15/-8.94	-8.57/-5.7	-8.78/-10.17
Θ(157.5°)	-8.12/-8.12	-9.7/-12.67	-17.25/-17.27	-19.19/-18.33	-18.84/-18.5	-15.27/-17.15	-19.04/-18.52	-17.78/-18.65	-18.3/-17.74	-18.6/-18.4	-17.52/-18.09	-18.33/-14.92	-14.17/-12.41	-9.21/-9.18	-10.55/-10.23	-8.86/-8.54	-10.6/-16.76	-19.09/-16.84	-18.9/-19.31	-12.11/-7.39	-7.16/-9.8	-12.63/-13.32	-16.26/-18.06	-14.47/-9.9
Θ(165°)	-18.77/-18.75	-17.56/-14.45	-12.53/-12.94	-13.43/-14.57	-13.78/-13.4	-16.1/-17.9	-18.37/-18.46	-17.18/-19.08	-17.96/-18.09	-16.22/-13.44	-11.15/-10.06	-10.37/-13.2	-15.52/-15.36	-14.08/-11.7	-10.13/-9.36	-9.59/-10.37	-12.74/-17.21	-18.6/-18.92	-14.86/-10.72	-8.08/-6.92	-6.43/-5.85	-6.91/-9.01	-10.26/-11.12	-13.68/-16.97
Θ(172.5°)	-8.19/-9.65	-13.77/-16.63	-17.69/-15.19	-12.52/-10.85	-9.55/-9.25	-10.27/-11.55	-11.83/-12.01	-11.98/-12.11	-11.81/-12.79	-13.4/-14.63	-18.85/-18.25	-19.31/-19.11	-13.98/-11.4	-11.08/-10.37	-10.42/-11.28	-11.4/-11.9	-14.95/-18.57	-19.25/-18.63	-18.42/-18.78	-17.5/-15.29	-12.05/-10.54	-10.96/-11.49	-10.85/-11.57	-10.84/-18.16
Θ(180°)	-18.71/-17.38	-14.3/-14.29	-13.87/-13.39	-13.47/-13.89	-15.9/-18.53	-17.55/-16.76	-13.33/-12.7	-13.91/-16.76	-16.53/-18.65	-16.62/-13.31	-11.26/-10.04	-9/-7.97	-7.45/-7.57	-8.48/-9.29	-10.07/-10.84	-12.47/-13.53	-14.47/-15.88	-18.06/-16.97	-15.14/-14.23	-16.38/-18.89	-18.53/-17.61	-19.53/-18.1	-17.45/-16.57	-16.2/-19.56
Freq(Hz)	5.3GPol	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°)	-2.61/-3.1	-3.19/-3.35	-3.54/-3.73	-4.15/-5.12	-5.28/-5.4	-5.93/-5.75	-4.89/-3.59	-2.99/-2.65	-2.33/-3.12	-1.61/-1.49	-1.48/-1.68	-2.22/-2.77	-2.93/-3.34	-3.73/-4.29	-5.03/-5.46	-6.12/-6.22	-6.5/-5.24	-5.14/-4.17	-3.89/-3.01	-2.94/-3.08	-3.05/-3	-2.61/-2.19	-2.4/-2.28	-2.74/-2.27
Θ(7.5°)	-3.03/-4.16	-4.76/-4.39	-4.51/-3.71	-3.3/-3.47	-2.87/-2.86	-3.23/-3.74	-4.89/-5.35	-4.71/-4.16	-4.08/-4.11	-4.24/-3.99	-3.79/-3.78	-3.36/-3.46	-3.33/-3.09	-3.26/-3.82	-4.53/-5.87	-6.9/-7.4	-6.95/-5.95	-5.19/-3.51	-2.47/-1.51	-0.85/-0.15	0.07/-0.35	-0.48/-0.48	-0.99/-2.28	-2.98/-3.51
Θ(15°)	-2.94/-4.04	-5.39/-5.87	-5.09/-3.75	-3.07/-2.81	-2.57/-3.75	-5.58/-6.85	-12.34/-15.18	-15.5/-13.97	-10.58/-8.06	-6.06/-4.21	-2.82/-2.28	-2.84/-3.35	-3.5/-2.97	-2.46/-3.2	-5.09/-6.31	-6.17/-5.47	-4.03/-3.25	-2.88/-2.36	-1.73/-0.54	0.28/0.83	0.75/0.27	-0.07/-0.55	-1.43/-2.06	-2.57/-2.95
Θ(22.5°)	-1.72/-2.4	-2.88/-3.39	-3.7/-3.47	-3.36/-2.83	-2.5/-3.58	-4.62/-6.12	-7.06/-7.1	-8.06/-8.96	-9.69/-8.67	-10.13/-5	-0.18/-1.65	-2.96/-3.26	-2.67/-2.98	-4.09/-5.47	-6.68/-4.84	-3.19/-2.08	-2.11/-1.7	-0.38/0.69	1.54/1.68	1.30/-57	-0.06/-0.26	-0.7/-1.16	-1.92/-2	
Θ(30°)	-5.06/-6.23	-6.94/-6.92	-7.28/-6.85	-6.83/-2.45	-1.39/-1.59	-2.67/-3.66	-3.67/-4.48	-5.59/-5.74	-5.02/-4.77	-7.04/-9.17	-6.87/-5.43	-3.89/-3.19	-4.29/-8.06	-6.56/-6.89	-8.17/-5.57	-3.34/-1.93	-0.92/0	0.84/1.77	2.53/-562	2.32/-227	2.52/93	0.75/-0.2	-1.56/-3.73	
Θ(37.5°)	-6.21/-6.58	-11.11/-10.1	-11.45/-8.3	-5.04/-1.87	-0.19/-1.33	-3.02/-2.54	-3.05/-6.79	-9.94/-6.87	-4.49/-3.02	-3.19/-4.57	-4.18/-4	-5.16/-2.43	-0.58/-4.02	-11.47/-9.2	-12.3/-11.66	-9.45/-6.92	-5.41/-2.79	-0.84/-0.7	0.052/16	3.12/2.84	21/-97	2.39/-169	-0.6/-2.52	-3.34/-6.49
Θ(45°)	-4.58/-11.29	-11.17/-8.8	-7.8/-5.63	-4.87/-3.06	-1.05/-2.73	-3.34/-2.88	-4.57/-7.23	-4.39/-10.6	-1.02/-2.8	-5.63/-6.23	-3.77/-10.4	-0.77/-3.34	-3.77/-4.27	-10.8/-7.34	-12.27/-17.91	-13.57/-10.89	-9.52/-4.68	-1.31/-1.93	-1.76/-1.1	2.49/-242	2.42/-99	3.212/-79	1.8/-0.11	-2.11/-2.89
Θ(52.5°)	-4.99/-10.59	-16.11/-16.06	-9.15/-3.55	-3.75/-5.43	-3.74/-37	-2.55/-3.67	-5.17/-5.89	-5.69/-2.96	-6.55/-5.73	-4.31/-3.22	-6.82/-8.02	-4.09/-6.6	-9.15/-7.93	-16.27/-10.32	-16.77/-18.42	-16.87/-16.64	-12.38/-4.94	-2.25/-1.08	-0.12/-1.28	2.56/2.42	2.67/3.27	2.912/-49	2.22/605	-2.54/-3.69
Θ(60°)	-6.73/-16.86	-12.07/-11.67	-10.63/-5.21	-6.04/-5.51	-4.01/-5.09	-3.14/-6.22	-1.46/-3.07	-7.03/-6.67	-8.62/-8.36	-4.07/-2.29	-2.75/-4.07	-4.87/-5.91	-12.71/-12.88	-17										



Radiated Composite Gain Data of 2.4GHz/5GHz/6GHz

Appendix A

Θ(60°)	1.04/-0.02	-4.21/-6.19	-2.38/-3.17	-3.7/-6.34	-3.09/-2.42	-3.06/-3.22	-1.99/0.86	-2.61/-4.89	-0.74/-0.18	-2.13/-4.62	-1.9/-1	-6.18/-11.37	-8.64/-7.05	-17.85/-12.65	-18.26/-17.78	-7.93/-7.34	-4.23/-3.5	-8.83/-3.94	-4/-6.8	-10.27/-4.11	0.16/0.3	-2.17/-2	0.42/-0.76	-3.05/-0.25
Θ(67.5°)	-0.07/-0.68	-2.41/-10.12	-3.5/-5.06	-6.02/-5.73	-2.19/-3.54	-2.89/-2.44	-0.87/-0.37	-4.74/-1.45	2.57/0.92	-0.75/-0.67	0.78/0.15	-4.96/-10.92	-3.28/-4.72	-18.02/-9.02	-18.88/-8.71	-10.07/-8.02	-0.3/-1.35	-7.92/-1.17	-2.17/-2.07	-4.16/-3.02	-0.4/-0.73	-3.99/-6.91	-1.37/-0.43	-2.05/-0.96
Θ(75°)	-1.23/-2.99	-0.30/-9.91	-6.14/-7.43	-7.89/-7.62	-5.83/-6.16	-2.82/-2.34	0.38/-0.35	-0.89/0.37	4.112/-4.8	1.14/-1.16	0.8/-1.43	-3.93/-9.7	-1.03/-1.56	-9.35/-6.57	-10.52/-3.97	-5.68/-6.16	-0.38/-1.02	-1.81/0.53	-0.99/-4.18	-2.56/-3.65	-6.41/-7.52	-2.58/-0.63	-2.83/-2.63	
Θ(82.5°)	-3.42/-4.73	-4.2/-11	-8.08/-9.82	-9.62/-9.04	-8.37/-7.5	-2.86/-2.28	-0.02/-1.12	-0.82/2.79	3.42/1.61	0.91/1	-0.57/-3.64	-6.59/-6.63	0.25/-1.95	-4.28/-2.65	-7.14/-1.36	-1.79/-3.71	-0.43/0.32	-3.08/0.1	-2.15/-1.33	-0.21/-4.86	-3.75/-5.12	-7.08/-7.12	-3.48/-2.16	-3.56/-4.14
Θ(90°)	-4.27/-5.13	-7.15/-9.71	-9.51/-16.1	-16.23/-12.46	-12.75/-9.72	-4.45/-4.13	-1.79/-2.91	-2.94/0.2	1.6/-0.07	-0.32/-0.35	-1.5/-6.32	-4.58/-7.66	-1.18/-1.6	-2.29/-4.41	-4.06/-2.13	-0.74/-2.25	-2.25/-2.03	-2.65/0.53	-2.08/-1.43	-1.19/-5.12	-6.23/-6.17	-6.37/-6.66	-5.77/-3.03	-4.15/-5.58
Θ(97.5°)	-4.33/-5.27	-8.58/-9.18	-12.85/-17.3	-16.32/-15.68	-15.69/-14.22	-6.17/-6.07	-4.61/-4.94	-5.27/-2.97	-2/-0.93	-1.46/-0.69	-4.05/-6.41	-6.93/-8.82	-4.55/-4.32	-5.9/-7.2	-5.8/-2.98	-1.67/-5.49	-3.01/-1.61	-5.73/-0.78	-4.46/-7.1	-6.46/-6.88	-6.2/-7.79	-5.8/-4.2	-4.46/-2.02	
Θ(105°)	-5.4/-4.54	-8.44/-12.05	-11.61/-18.78	-18.34/-13.39	-17.89/-12.85	-5.93/-7.18	-4.87/-4.62	-7.16/-7.74	-4.58/-1.81	-1.06/-0.46	-5.49/-10.76	-7.96/-12.07	-4.79/-5.64	-6.92/-11.94	-10.7/-3.4	-2.94/-9.24	-6.22/-1.37	-4.42/-4.94	-7.79/-3.11	-5.15/-6.9	-6.16/-5.55	-7.15/-7.91	-7.49/-7.25	-4.8/-7.44
Θ(112.5°)	-4.97/-9.34	-13.83/-10.58	-10.18/-17.92	-13.99/-9.39	-14.87/-16.55	-8.25/-10.7	-3.82/-4.13	-5.84/-9.23	-4.99/-3.38	-2.9/-4.78	-17.78/-12.35	-15.8/-11.41	-6.76/-12.32	-17.98/-18.1	-14.33/-1.58	-2.65/-10.52	-5.65/-1.17	-5.96/-6.3	-7.89/-4.64	-2.39/-7.51	-4.2/-4.83	-12.12/-10.25	-8.76/-6.63	-13.36/-8.49
Θ(120°)	-10.98/-7.74	-10.04/-10.78	-10.97/-13.9	-17.71/-12.3	-17.92/-13.48	-15.14/-11.79	-6.96/-5.9	-6.83/-8.43	-8.68/-5.96	-4.24/-9.04	-17.76/-13.28	-10.8/-10.12	-18.93/-18.08	-13.37/-18.23	-8.75/-2.09	-3.43/-7.6	-3.93/-1.3	-6.36/-9.58	-4.25/-5.62	0.28/-6.88	-3.76/-6.56	-6.27/-14.57	-8.42/-8.82	-9.67/-13.24
Θ(127.5°)	-11.32/-10.66	-8.52/-9.19	-16.95/-10.96	-16.19/-17.69	-19.27/-9.43	-16.19/-17.31	-16.73/-11.43	-16.34/-18.14	-11.29/-4.79	-4.39/-10.6	-18.03/-18.79	-5.5/-8.89	-18.23/-12.15	-8.55/-9.39	-4.84/-4.06	-7.44/-10.61	-3.68/-2.4	-6.81/-11.45	-4.13/-5.1	-2.8/-4.59	-9.61/-11.85	-6.89/-5.77	-6.31/-7.57	-10.08/-9.57
Θ(135°)	-9.86/-8.56	-9.24/-12.09	-12.83/-9.47	-14.58/-18.2	-17.35/-11.2	-13.26/-9.66	-5.66/-7.58	-14.96/-16.75	-10.82/-5.95	-6.68/-15.78	-12.43/-18.25	-8.29/-11.8	-9.25/-6.24	-8.61/-7.61	-3.01/-9.88	-13.4/-9.18	-3.81/-3.1	-7.71/-16.61	-9.05/-5.64	-6.93/-3.07	-9.8/-17.2	-17.79/-5.4	-3.42/-6.36	-7.29/-9.06
Θ(142.5°)	-14.43/-13.11	-11.86/-18.26	-17.97/-14.14	-18.56/-16.16	-19.55/-19.09	-18.69/-11.97	-8.33/-9.69	-12.83/-18.86	-17.37/-15.94	-18.82/-11.77	-16.41/-17.96	-8.6/-6.4	-9.04/-13.23	-11.99/-8.54	-13.34/-19.33	-13.02/-3.59	-3.77/-5.75	-7.51/-18.29	-15.05/-7.71	-7.92/-7.2	-4.76/-11.36	-14.33/-10.45	-11.73/-11.66	-9/-11.01
Θ(150°)	-18.39/-19.55	-19.01/-18.31	-17.06/-17.7	-13.59/-10.43	-10.12/-13.91	-15.57/-11.57	-9.58/-9.55	-11.31/-13.48	-17/-16.73	-13.06/-10.68	-13.59/-17.37	-16.85/-17.32	-18.53/-18.87	-15.01/-13.17	-18.71/-18.86	-18.84/-9.5	-7.49/-8.43	-11.01/-17.4	-19.07/-13.11	-8.17/-12.45	-10.52/-9.49	-15.7/-19	-11.93/-9.24	-14.21/-18.4
Θ(157.5°)	-18.85/-14.55	-13.6/-18.93	-16.41/-17.47	-18.59/-17.38	-18.44/-17.79	-17.43/-14.82	-12.09/-12.03	-14.45/-17.72	-18.2/-13.19	-11.35/-16.15	-18.16/-12.73	-14.58/-15.62	-13.17/-9.55	-6.38/-5.67	-6.74/-9.33	-10.76/-10.7	-11.13/-15.57	-14.41/-17.1	-15.13/-12.57	-14.84/-18.35	-19.39/-16.17	-11.17/-8.65	-6.6/-6.28	-10.17/-17.99
Θ(165°)	-12.98/-15.35	-17.47/-18.53	-18.95/-18.05	-18.47/-17.75	-18.24/-18.13	-17.55/-17.57	-18.11/-19	-18.33/-18.09	-18.32/-18.63	-16.44/-13.54	-11.22/-9.64	-9.75/-10.52	-12.95/-17.45	-14.6/-10.87	-8.93/-12.23	-14.35/-14.13	-13.46/-14.05	-16.05/-17.05	-17.1/-19.02	-13.08/-10.22	-10.83/-15.75	-18.46/-18.08	-17.91/-18.15	-16.43/-13.76
Θ(172.5°)	-13.26/-16.32	-18.23/-18.11	-18.06/-18.5	-18.07/-15.65	-12.47/-10.46	-9.81/-10.59	-12.71/-15.16	-16.19/-16.55	-17.28/-19.05	-18.65/-17.85	-18.74/-17.96	-18.47/-16.34	-16.21/-16.27	-14.96/-14.22	-14.82/-15.08	-17.62/-17.92	-18.05/-17.98	-18.94/-18.4	-18.81/-17.55	-13.43/-11.72	-11.4/-12.28	-13.16/-16.84	-18.14/-18.65	-17.01/-13.7
Θ(180°)	-17.94/-17.06	-17.83/-18.28	-19.25/-18.26	-18.18/-17.81	-19.12/-17.72	-17.71/-17.55	-13.56/-11.48	-10.18/-10.36	-12.2/-13.67	-14.72/-15.57	-16.31/-17.1	-15.71/-15.69	-18.09/-18.27	-17.37/-16.25	-14.93/-14.71	-14.28/-16.13	-18.69/-17.29	-15.27/-13.51	-13.12/-13.82	-12.72/-12.66	-12.58/-13.12	-13.83/-15.09	-19.26/-18.59	-18.04/-18.76
Freq(Hz)	5.785GPol.	Phi/Ant. 2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-3.62/-4.28	-4.89/-4.59	-4.8/-4.28	-3.39/-2.37	-1.92/-1.87	-1.36/-0.78	-0.07/0.26	0.54/0.68	0.73/0.84	0.67/0.11	-0.22/-0.59	-1.42/-2.11	-2.95/-3.19	-3.11/-3.72	-3.79/-3.26	-2.5/-1.84	-1.33/-0.9	-0.37/-0.28	-0.14/-0.17	0.4/0.3	0.1/0.10	-0.28/-0.99	-1.92/-2.72	-2.68/-2.68
Θ(7.5°)	-1.47/-1.42	-1.86/-2.56	-2.75/-2.46	-2.21/-1.54	-1.68/-2.06	-2.48/-2.86	-2.88/-2.83	-2.48/-2.05	-2.2/-2.43	-2.13/-2.03	-1.85/-1.4	-1.88/-2.56	-3.13/-3.64	-3.77/-4.4	-4.93/-4.45	-4.01/-3.47	-2.89/-2.09	-1.45/-0.84	-0.44/-0.12	-0.28/-0.21	0.42/0.4	0.25/0.14	-0.13/-0.53	-1.18/-1.32
Θ(15°)	-2.76/-4.13	-3.68/-3.05	-3.13/-3.11	-3.2/-2.87	-2.75/-2.61	-2.72/-2.89	-3.45/-3.69	-3.49/-3.39	-3.63/-3.89	-4.19/-4.55	-4.19/-3.61	-3.3/-3.15	-2.89/-3.73	-5.18/-5.51	-4.49/-3.58	-3.73/-4.47	-5.83/-5.23	-3.2/-1.32	-0.54/-0.26	-0.23/-0.43	-0.47/-0.28	0.11/0.65	0.01/-0.84	-1.21/-1.7
Θ(22.5°)	-4.73/-7.88	-9.61/-7.96	-6.09/-7.56	-7.6/-7.66	-4.77/-2.25	-1.81/-1.35	-5.88/-8.74	-8.9/-8.17	-7.46/-5.57	-3.29/-1.21	-0.36/-0.9	-2.66/-3.06	-1.92/-1.76	-2.6/-4.5	-4.98/-4.11	-3.22/-3.27	-2.37/-2.02	-0.43/-3.1	2.39/2.89	2.79/2.45	2.65/2.62	3.54/2.32	0.88/-0.96	-2.44/-2.35
Θ(30°)	-4.74/-6.81	-6.99/-6.49	-5.4/-5.25	-7.19/-7.86	-3.62/-0.08	0.41/-0.68	-1.09/-0.86	-1.52/-2.73	-4.72/-7.09	-8.83/-6.27	-1.97/-0.43	-6.14/-5.69	-2.87/-3.57	-6.19/-1.76	-5.15/-3.83	-2.49/-1.53	-1.19/-1.3	2.82/3.4	3.3/3.41	3.87/3.8	3.21/2.49	1.18/-0.64	-2.18/-3.47	
Θ(37.5°)	-2.64/-5.08	-6.22/-6.04	-6.54/-5.69	-4.69/-4.49	-4.29/-2.07	-1.84/-1.92	-1.44/-2.19	-4.95/-6.49	-3.64/-1.28	-1.05/-2.8	-5.29/-5.42	-3.33/-3.04	-6.28/-8.81	-6.18/-6.97	-7.8/-10.06	-11.06/-7.96	-3.02/-1.71	-2.44/-0.31	1.83/2.02	1.993/2.27	3.963/-7.6	3.41/2.22	3.04/2	-0.36/-1.59
Θ(45°)	-2.58/-3.59	-8.43/-12.5	-14.79/-9.14	-4.4/-7.71	-6.55/-6.44	-4.16/-2.34	-1.97/-3.3	-3.75/-1.35	-0.12/-0.12	-2.97/-2.27	-0.43/-0.32	-2.56/-6.48	-4.67/-4.76	-6.41/-13.91	-14.42/-17.03	-15.74/-11.78	-4.74/-2.81	-3.82/-1.89	0.54/0.32	0.85/2.59	2.97/2.89	3.34/3.81	3.19/1.17	-2.03/-2.36
Θ(52.5°)	-3.36/-3.68	-8.67/-10.78	-18.42/-11.83	-8.24/-6.35	-4.82/-4.48	-5.84/-4.06	-5.51/-6.91	-3.36/-0.83	-0.24/-1.84	-4.43/-4.61	-2.64/-2.41	-10.4/-10.8	-18.84/-15.68	-7.79/-10.16	-6.5/-6.82	-2.94/-2.04	0.11/-0.01	1.26/2.23	1.55/1.54	2.06/2.27	2.57/1.42	-1.44/-5.14		
Θ(60°)	-6.17/-7.19	-10.79/-9.73	-10.11/-14.75	-13.16/-8.44	-4.21/-3.41	-5.3/-3.08	-3.29/-2.49	-3.34/-5.78	-7.22/-7.09	-3.62/-3.55	-3.98/-4.69	-7.76/-8.06	-10.16/-11.18	-19.13/-15.11	-17.46/-12.01	-6.16/-8.06	-8.45/-3.3	-1.94/-2.32	0.37/0.24	1.45/1.91	1.64/2.24	1.59/0.78	0.96/0.18	-2.18/-7.21
Θ(67.5°)	-8/-12.13	-8.26/-8.26	-12.85/-12.52	-12.66/-8.15	-5.06/-1.52	-8.13/-3.94	-1.61/-0.51	-3.91/-3.82	-3.36/-4.06	-2.88/-6.33	-5.38/-1.06	-2.95/-9.54	-16.47/-9.57	-11.18/-16.68	-16.56/-16.31	-7.5/-12.9	-7.54/-3.83	-2.26/-3.4	-0.01/0.79	1.7/1.65	1.78/2.23	1.35/0.22	-0.57/-1.48	-2.27/-6.97
Θ(75°)	-9.27/-16.68	-8.23/-9.35	-15.84/-11.42	-15.81/-11.34	-8.6/-8.51	-16.96/-7.03	-3.25/-1.09	-5.54/-1.37	-1.28/-2.54	-3.97/-6.24	-7.2/-1.21	-1.68/-8.98	-18.64/-9.84	-5.92/-8.87	-9.63/-14.96	-9.72/-18.21	-7.8/-6.35	-4.62/-4.29	-0.05/-1.54	2.51/2.46	1.87/1.7	0.12/-0.1	0.31/-1.46	-2.78/-6.32
Θ(82.5°)	-8.54/-19.01	-5.38/-7.73	-14.19/-11.15	-17.21/-16.09	-10.51/-9.56	-18.72/-12.35	-4.85/-1.17	-8.22/-3.03	-3.85/-2.58	-6.48/-6.77	-5.17/-3.83	-4.98/-12.49	-13.43/-9.12	-3.95/-5.5	-7.42/-12.73	-11.97/-19.05	-8.61/-8.21	-6.12/-8.48	0.13/-7.77	2.41/8.2	0.87/0.79	-0.86/-1.82	-0.6/-1.54	-3.42/-6.09
Θ(90°)	-9.9/-17.74	-6.19/-13.02	-17.63/-14.51	-17.95/-19.03	-14.88/-12.24	-13.29/-16.68	-10.9/-2.65	-7.56/-5.3	-11.46/-4.51	-9.21/-2.6	-4.87/-6.64	-12.35/-10.63	-6.7/-6.17	-3.02/-4.27	-6.42/-12.58	-17.68/-17.08	-10.6/-10.32	-8.95/-7.3	-2.49/-0.48	0.16/0	-1.08/-0.54	-2.05/-3.46	-0.91/-2.62	-6.16/-6.49
Θ(97.5°)	-9.27/-11.4	-8.28/-16.13	-18.86/-12.86	-15.29/-13.45	-14.25/-11.09	-11.96/-12.5	-18.58/-6.3	-6.33/-8.65	-15.5/-8.94	-8.46/-13.66	-17.65/-7.97	-7.38/-4	-4.88/-6.15	-4.71/-13.23	-17.85/-17.77	-11.61/-12.02	-11.47/-9.75	-5.72/-2.84	-2.88/-2.67	-2.06/-2.4	-2.83/-3.54	-1.3/-3.44	-5.77/-7.92	
Θ(105°)	-9.89/-13.81	-10.74/-17.25	-16.28/-15.07	-19.02/-17.44	-15.9/-8.02	-11.36/-12.26	-18.37/-17.65	-8.83/-13.49	-4.65/-15.12	-1.16/-8.3	-8.74/-12.31	-15.12/-5.86	-4.04/-4.46	-3.91/-5.44	-6.85/-11.55	-17.4/-19.36	-11.76/-13.33	-11.79/-12.24	-8.75/-4.05	-4.69/-4.62	-3.62/-3.59	-4.67/-3.15	-1.97/-4.93	-1.77/-6.92
Θ(112.5°)	-10.47/-11.26	-8.31/-18.67	-17.9/-18.31	-17.35/-15.21	-18.13/-9.39	-11.04/-12.84	-14.87/-18.01	-12.32/-18.06	-18															



Radiated Composite Gain Data of 2.4GHz/5GHz/6GHz

Appendix A

Θ (112.5°)	-14.49/-10.11	-6.92/-9.54	-7.04/-16.23	-15.04/-14.24	-13.02/-18.03	-13.33/-9.42	-7.92/-4.82	-5.49/-8.11	-6.73/-3.36	-7.76/-17.65	-12.17/-9.67	-13.49/-14.44	-12.17/-13.89	-17.57/-12.97	-6.14/-4.39	-4.77/-10.48	-2.60/-26	-3.31/-3.73	-4.81/-3.07	-5.52/-12.34	-17.48/-10.92	-4.4/-6.22	-14.23/-11.56	-8.25/-13.4
Θ (120°)	-9.42/-8.34	-4.93/-7.73	-8.59/-13.89	-18.58/-14.97	-11.29/-14.03	-10.88/-11.6	-7.15/-5.3	-6.62/-13.24	-9.33/-9.61	-10.76/-12.99	-16.82/-13.01	-11.66/-11	-12.94/-10.28	-10.63/-18.06	-9.81/-3.12	-5.68/-11.4	-8.35/-1.45	-8.09/-5.8	-7.8/-3.77	-5.87/-8.65	-11.34/-17.16	-8.15/-8.71	-10.13/-10.2	-7.91/-8.04
Θ (127.5°)	-10.71/-11.48	-6.54/-6.68	-12.62/-31.1	-16.83/-18.91	-11.94/-11.76	-13.49/-17.36	-14.16/-18.69	-16.09/-14.08	-10.26/-5.94	-5.22/-18.37	-19.67/-18.36	-11.63/-13.79	-8.81/-12.13	-11.27/-15.61	-9.08/-3.81	-8.74/-13.09	-6.44/-1.62	-10.65/-7.89	-6.62/-7.85	-5.85/-15.45	-11.68/-11.82	-13.75/-5.06	-12.62/-10.73	-9.09/-9.61
Θ (135°)	-17.7/-17.11	-9.48/-8.88	-10.2/-10.89	-14.98/-18.33	-15.15/-16.59	-11.1/-13.72	-14.53/-8.48	-11.04/-15.87	-15.31/-7.34	-6.38/-17.82	-11.48/-18.22	-13.71/-13.8	-9.07/-6.8	-7.98/-13.53	-7.22/-8.91	-11.97/-12.65	-3.6/-0.84	-5.93/-7.47	-4.33/-7.23	-4.6/-8.98	-11.65/-16.54	-11.63/-14.03	-16.7/-15.63	-17.29/-16.73
Θ (142.5°)	-15.3/-9.08	-8.98/-8.1	-7.04/-9.52	-12.4/-14.96	-15.66/-12.7	-10.31/-14.62	-13.91/-11.59	-19.08/-18.46	-18.5/-18.1	-18.73/-17.61	-14.94/-12.7	-15.58/-12.86	-10.37/-10	-14.22/-16.71	-11.98/-15.52	-17.22/-9.09	-6.67/-3.45	-8.21/-15.8	-10.86/-7.47	-11.2/-5.88	-12.54/-16.46	-18.66/-18.61	-10.31/-10.53	-17.17/-18.36
Θ (150°)	-19.22/-16.5	-10.57/-9.94	-11.24/-14.46	-14.92/-17.66	-18.26/-18.72	-15.35/-13.17	-19.16/-17.73	-12.84/-15.35	-12.83/-10.41	-13.41/-17.59	-14.17/-14.2	-10.71/-18.81	-18.33/-16.93	-17.34/-15.87	-12.89/-19.11	-16.54/-11.76	-10.69/-7.53	-15.32/-16.75	-12.44/-9.19	-13.12/-9.73	-10.31/-17.03	-18.26/-13.03	-17.67/-15.6	-15.48/-15.17
Θ (157.5°)	-18.16/-15.27	-16.23/-13.49	-11.84/-12.21	-12.91/-14.27	-18.24/-19.37	-17.84/-17.57	-18.94/-18.9	-18.59/-18.95	-17.99/-18.09	-17.79/-15.65	-15.03/-16.75	-19.5/-17.53	-18.47/-17	-13.82/-10.97	-12.98/-17.57	-16.18/-14.84	-16.83/-17.23	-18.47/-16.66	-12.56/-8.8	-10.47/-11.26	-11.32/-11.44	-14.1/-15.77	-12.43/-12.55	-17.88/-17.92
Θ (165°)	-18.32/-18.52	-15.62/-13.67	-14.35/-15.61	-16.01/-13.79	-18.07/-11.52	-12.12/-13.95	-12.98/-11.3	-11.15/-13.17	-17.39/-18.35	-18.07/-16.61	-12.58/-13.55	-17.09/-19.34	-18.08/-17.33	-17.48/-18.57	-11.07/-9.07	-9.64/-14.45	-18.4/-16.45	-14.56/-17.97	-15.18/-13.65	-17.9/-17.73	-19.76/-14.99	-11.75/-12.03	-9.14/-9.75	-11.64/-16.61
Θ (172.5°)	-17.92/-18.32	-18.54/-18.32	-18.54/-18.35	-18.06/-18.77	-18.9/-18.46	-18.58/-18.73	-16.72/-13.78	-11.45/-11.42	-13.18/-14.77	-19.09/-19.62	-18.07/-18.03	-18.92/-18.93	-16.26/-15.87	-19.14/-17.62	-17.93/-17.9	-18.57/-17.8	-18.77/-17.21	-14.29/-11.32	-10.22/-10.67	-11.2/-11.25	-11.11/-13.11	-14.37/-13.68	-14.12/-14.5	-12.62/-15.76
Θ (180°)	-18.21/-18.96	-18.22/-18.38	-16.92/-12.84	-13.94/-14.67	-14.93/-14.56	-14.34/-14.9	-14.66/-13.32	-11.8/-12.07	-13.59/-16.35	-18.58/-19.08	-18.99/-18.33	-17.42/-16.65	-18.49/-18.53	-17.91/-18.31	-18.25/-19.17	-18.25/-17.69	-18.14/-18.93	-18.62/-19.66	-18.07/-19.18	-18.55/-17.45	-18.27/-17.95	-17.28/-17.67	-18.98/-18.17	-18.23/-18.84
Freq(Hz)	6.475GPol.	Phi/Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-2.42/-2.4	-2.77/-3.41	-3.64/-3.82	-3.8/-3.48	-3.93/-3.99	-3.71/-2.85	-2.41/-2.2	-1.49/-0.78	-0.12/-0.01	-0.03/-0.14	-0.14/-0.19	-0.81/-1.32	-1.72/-2.55	-3.15/-4.04	-4.8/-5.07	-4.81/-4.68	-4.34/-4.01	-2.98/-2.54	-2.38/-2.26	-2.08/-1.85	-1.43/-1.55	-1.65/-1.95	-1.71/-1.45	-1.79/-2.09
Θ (7.5°)	-3.11/-3.83	-3.56/-6.39	-5.35/-4.64	-3.55/-3	-2.86/-2.23	-2.15/-2.06	-2.53/-2.52	-2.57/-2.37	-2.06/-2.04	-2.59/-2.75	-2.79/-2.36	-2.38/-2.69	-2.03/-2.19	-2.17/-3.45	-6.2/-7.08	-7.61/-7.14	-5.91/-3.89	-2.44/-1.22	0.150/-7.2	1.571/-9.4	2.052/-16	1.910/-89	0.16/-18.0	-1.11/-2.4
Θ (15°)	-2.93/-2.72	-4.04/-4.44	-5.27/-5.98	-5.41/-4.78	-4.5/-3.95	-4.1/-3.95	-3.48/-4.18	-4.18/-3.83	-3.21/-2.25	-1.13/-0.39	-0.36/-1.38	-2.38/-2.75	-2.96/-3.72	-5.75/-7.32	-6.14/-4.42	-2.57/-1.76	-1.380/-7.2	2.742/-86	2.822/-39	1.16/-0.12	-0.47/-1.02	-1.09/-1.59		
Θ (22.5°)	-4/-6.03	-6.87/-6.02	-6.52/-5.44	-3.88/-3.25	-4.32/-6.63	-6.74/-4.9	-4.48/-5.39	-6.49/-4.4	-2.33/-1.33	-1.19/-1.46	-1.170/-0.7	0.821/-0.4	0.12/-1.42	-3.16/-3.71	-4.38/-5.59	-4.76/-2.47	-1.21/-0.62	1.142/-96	3.94/-19	3.743/-1	2.792/-75	2.431/-93	0.770/-54	-0.81/-2.44
Θ (30°)	-3.92/-11.27	-11.23/-9.21	-10.91/-10.75	-5.74/-3.77	-4.25/-4.46	-3.72/-6.0	-3.95/-8.71	-10.22/-14.26	-6.26/-2.55	-1.71/-1.25	-0.150/-0.7	0.67/-0.08	0.90/-13	-2.48/-3.3	-3.83/-6.27	-5.64/-2.57	-1.4/-0.91	1.162/-26	2.592/-93	4.024/-37	4.624/-48	3.83/-35	1.930/-53	0.71/-0.17
Θ (37.5°)	-2.41/-10.26	-14.85/-9.48	-8/-55	-6.55/-6.66	-5.44/-4.39	-1.38/-0.09	-1.07/-1.89	-2.55/-7.01	-17.32/-12.34	-4.84/-3.29	-3.130/-38	-0.74/-2.87	-3.55/-3.37	-7.12/-5.01	-5.71/-2.56	-6.85/-2.39	-9/-0.53	1.561/-4	1.773/-59	3.452/-02	2.073/-65	4.019/-29	1.78/-0.04	-1.07/-0.27
Θ (45°)	-4.51/-9.47	-12.64/-9.89	-9.64/-18.31	-10.38/-8.56	-4.58/-2.66	0.580/-87	0.38/-1.4	-2.62/-4.13	-4.48/-3.56	-0.971/-39	0.05/-2.84	-0.91/-0.09	-3.68/-6.26	-14.23/-8.89	-13.86/-5.63	-6.95/-4.32	-1.76/-3.15	-1.04/-0.92	-0.31/-1.63	1.792/-07	3.183/-75	3.973/-24	1.450/-77	0.2/-1.94
Θ (52.5°)	-3.4/-8.19	-12.24/-13.62	-12.64/-14.64	-10.13/-6.44	-3.51/-2.29	-0.43/-2.18	-1.45/-1.78	0.56/-6.07	-1.83/-1.77	-4.02/-3.2	-1.7/-1.2	-3.22/-1.98	-4.67/-9.27	-11.13/-12.41	-11.13/-16.75	-13.34/-16.9	-4.11/-6.3	-3.13/-4.12	-2.66/-0.6	1.332/-65	3.152/-67	3.43/-66	2.342/-38	-0.1/-1.56
Θ (60°)	-4.34/-3.72	-10.4/-18.65	-16.84/-18.64	-16.86/-8.75	-5.68/-4.73	-3.11/-3.17	-6.47/-5.18	-3.14/-4.47	-5.57/-1.03	-0.04/-5.93	-12.76/-11.26	-18.76/-9.59	-12.55/-8.86	-5.33/-5.36	-1.563/-3.27	-0.55/-0.09	-0.010/-9	2.221/-72	1.663/-3	3.643/-3	1.61/-1.92			
Θ (67.5°)	-6.24/-7.19	-9.76/-17.6	-12.47/-14.2	-16.86/-6.42	-6.99/-8.2	-4.36/-1.63	-3.52/-3.18	-5.59/-9.05	-7.62/-12.89	-7.84/-6.25	-1.79/-4.16	-9.51/-10.93	-13.58/-10.47	-13.52/-12	-15.8/-10.62	-10.83/-9.62	-4.63/-3.72	-0.95/-1.92	1.841/-44	-0.550/-64	1.01/-0.77	-0.180/-57	2.443/-29	0.65/-2.53
Θ (75°)	-6.34/-6.86	-14.19/-9.14	-10.12/-13.98	-11.89/-6.76	-10.31/-11.7	-6.38/-6.16	-1.51/-5.04	-0.87/-9.13	-7.61/-9.42	-3.28/-3.28	-5.69/-1.93	-6.64/-18.37	-12.49/-7.5	-7.4/-8.28	-10.4/-8.4	-16.12/-11.36	-4.36/-4.67	-1.222/-2.44	3.461/-31	0.260/-33	-2.44/-0.84	0.171/-71	0.01/-3.44	
Θ (82.5°)	-4.93/-10.21	-16.26/-12.98	-10.76/-10.89	-10.66/-9.68	-11.53/-18.17	-10.04/-18.06	-4.84/-2.15	-1.2/-6.53	-7.32/-5.45	-4.86/-1.83	-3.33/-1.3	-1.37/-1.46	-4.12/-7.81	-6.4/-7.61	-9.31/-15.36	-17.75/-16.68	-3.54/-5.27	-1.31/-2.35	-3.51/-3.2	0.79/-0.5	-3.24/-3.83	-3.16/-1.52	-0.020/-2	-1.83/-8.4
Θ (90°)	-4.45/-8.09	-15.29/-12.59	-11.5/-11.04	-12.08/-11.27	-17.08/-12.89	-6.5/-11.04	-13.82/-8.39	-3.85/-2.92	-13.09/-6.74	-9.13/-3.64	-1.86/-4.56	-12.55/-4.55	-7.59/-4.96	-2.34/-9.06	-8.37/-11.34	-13.13/-12	-7.2/-6.47	-2.69/-3.86	1.44/-2.14	-0.54/-1.84	-3.27/-3.75	-4.26/-3.36	-0.8/-1.97	-2.33/-3.45
Θ (97.5°)	-3.99/-8.26	-13.43/-9.02	-10.28/-9.96	-11.34/-10.47	-14.27/-9.38	-7.09/-7.88	-8.84/-18.93	-8.48/-4.05	-18.36/-9.96	-11.5/-5.49	-5.18/-6.97	-13.16/-4.03	-5.17/-6.06	-5.84/-10.22	-9.21/-18.96	-14.7/-10.11	-7.13/-9.75	-5.4/-7.19	-3.98/-4.54	-1.4/-2.7	-4.41/-4.89	-6.26/-3.95	-1.55/-3.1	-3.27/-6.42
Θ (105°)	-4.05/-6.73	-13.83/-10.2	-11.73/-11.72	-17.17/-9.5	-11.36/-14.27	-9.21/-1.63	-7.98/-16.82	-16.12/-7.82	-12.71/-15.75	-13.14/-9.1	-6.44/-17.75	-5.83/-6.52	-4.29/-13.71	8.66/-10.81	-5.54/-12.84	-11.05/-12.29	-4.57/-8.52	-6.25/-6.3	-3.54/-3.39	-4.53/-7.35	-5.68/-3.71	-3.77/-5.36	-4.8/-5.38	
Θ (112.5°)	-6.39/-7.52	-18.61/-15.3	-13.63/-10.71	-13.31/-8.59	-9.15/-10.29	-7.36/-9.71	-7.32/-12.28	-19.21/-16.37	-13.07/-17.77	-7.24/-9.01	-7.95/-17.65	-8.04/-9.67	-3.88/-9.36	-7.75/-9.14	-12.32/-8.9	-10.86/-14.48	-8.37/-10.04	-6.81/-9.78	-4.74/-4.4	-3.58/-4.81	-7.24/-14.09	-6.37/-3.63	-5.07/-6.8	-7.71/-8.32
Θ (120°)	-8.85/-11.51	-14.01/-11.2	-15.49/-9.93	-9.54/-11.19	-8.15/-14.3	-10.07/-12.43	-8.64/-9.26	-13.53/-18.94	-14.45/-18.42	-8.94/-16.69	-9.65/-8.19	-18.37/-13.57	-12.73/-11.87	-17.52/-13.18	-9.46/-6.99	-11.05/-15.92	-7.16/-8.01	-16.38/-18.85	-8.78/-5.88	-7.73/-9.103	-14.87/-15.61	-9.31/-4.7	-6.29/-8.02	-6.51/-9.53
Θ (127.5°)	-13.05/-11.82	-16.2/-12.86	-13/-12.07	-13.09/-13	-10.53/-13.38	-12.85/-14.05	-17.73/-15.45	-15.08/-12.33	-13.45/-6.7	-18.32/-17.7	-12.76/-18.07	-17.55/-18.81	-13.14/-7.81	-11.2/-10.36	-9.95/-9.7	-11.51/-15.48	-7.83/-8.99	-13.09/-12.02	-11.19/-12.02	-13.12/-12.18	-11.68/-11.39	-10.77/-3.98	-6.19/-7.17	-9.88/-8.48
Θ (135°)	-7.5/-15.11	-11.55/-8.47	-15.95/-11.11	-11.05/-17.96	-15.66/-11.49	-12.43/-8.74	-9.79/-13.03	-17.76/-14.49	-18.03/-5.19	-17.93/-13.57	-9.12/-7.19	-13.49/-10.79	-9.03/-8.19	-8.83/-4.53	-19.12/-11.46	-9.89/-8.87	-11.03/-10.48	-10.54/-12.05	-10.59/-11.09	-8.88/-11.84	-11.21/-3.88	-7.23/-8.19	-10.8/-8.61	
Θ (142.5°)	-5.31/-13.34	-17.46/-15.22	-8.86/-9.82	-10.74/-11.53	-13.9/-15.72	-15.02/-15.28	-16.2/-10.9	-14.32/-15.67	-13.7/-19.21	-18.29/-8.43	-7.32/-11.68	-11.51/-11.68	-4.73/-1.3	-7.21/-7.08	-12.94/-18.81	-18.26/-9.68	-9.52/-11.32	-18.83/-16.38	-11.32/-13.65	-12.52/-11.59	-14.68/-18.38	-19.01/-18.74	-10.42/-10.86	-16.71/-7.85
Θ (150°)	-8.84/-10.27	-15.94/-18.37	-18.77/-15.41	-10.77/-11.74	-17.6/-11.42	-9.27/-11.3	-18.78/-15.55	-17.43/-18.7	-17.85/-18.25	-17.65/-17.42	-14.59/-14.38	-9.73/-19.22	-6.47/-9.12	-18.79/-18.41	-18.62/-17.09	-15.35/-9.54	-9.27/-11.33	-19.2/-18.49	-18.24/-14.25	-16.95/-18.81	-15.28/-18.99	-19.13/-13.84	-14.11/-14.29	-12.96/-9.56
Θ (157.5°)	-14.2/-13.34	-12.24/-15.75	-18.1/-14.54	-10.15/-10.36	-8.36/-6.14	-7.54/-13.63	-16.67/-11.3	-11.11/-13.35	-14.6/-15.69	-16.03/-15.79	-14.5/-13.82	-17.45/-14.18	-10.57/-13.98	-12.77/-8.58	-9.27/-10.38	-10.01/-12.61	-18.45/-15.13	-16.77/-18.69	-19.29/-19.04	-17.46/-18.78	-17.			



Radiated Composite Gain Data of 2.4GHz/5GHz/6GHz

Appendix A

Θ(157.5°)	-16.91/-18.82	-18.19/-18.83	-17.75/-17.75	-16.25/-13.14	-17.02/-19.06	-18.57/-17.46	-17.69/-16.39	-17.49/-18.75	-18.42/-12.39	-12.21/-18.9	-18.74/-18.04	-15.94/-18.72	-17.48/-17.26	-18.33/-18.07	-18.81/-15.11	-13.99/-17.63	-14.97/-14.29	-14.11/-13.63	-13.51/-14.07	-13.93/-13.18	-16.22/-18.17	-18.55/-15.08	-18.34/-18.56	-18.64/-16.95
Θ(165°)	-18.59/-19.02	-17.65/-17.99	-18.86/-15.96	-14.68/-15.63	-17.71/-19.31	-19.16/-17.91	-19.19/-17.53	-19.16/-18.02	-16.83/-18.25	-18.87/-18.23	-17.85/-17.87	-18.32/-18.37	-18.84/-18.75	-16.56/-13.33	-12.13/-11.92	-12.69/-18.23	-18.4/-13.67	-14.06/-15.46	-18.03/-18	-15.71/-16.42	-15.58/-14.49	-13.04/-13.63	-16.83/-16.04	-14.51/-17.37
Θ(172.5°)	-18.07/-18.62	-19.19/-16.59	-18.15/-18.29	-19.18/-19.17	-18.91/-17.75	-18.37/-18.93	-17.45/-18.83	-19.3/-19.14	-18.53/-17.82	-18.99/-19.1	-17.48/-17.92	-171/-15.38	-15.57/-15.7	-18.24/-17.47	-18.36/-19.21	-18.45/-18.98	-19.42/-15.12	-11.79/-9.89	-9.83/-12.03	-13.2/-14.35	-14.08/-12.99	-11.23/-10.55	-9.37/-10.21	-11.72/-14.82
Θ(180°)	-17.64/-17.9	-18.19/-18.06	-16.59/-15.4	-16.8/-17.83	-17.98/-19.1	-19.32/-18.09	-19.03/-17.67	-18.8/-17.62	-17.46/-18.38	-18.72/-18.83	-18.48/-17.83	-18.22/-17.65	-18.28/-18.46	-18.41/-18.41	-18.08/-18.94	-18.97/-19.24	-19.36/-18.57	-18.36/-18.38	-18.33/-17.74	-18.75/-18.22	-19.16/-16.68	-18.21/-14.93	-13.63/-14.59	-13.74/-16.58
Freq(Hz)	6.995GPol.	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°)	-1.6/-3.03	-3.94/-4.81	-5.02/-5.34	-5.22/-4.83	-4.64/-4.27	-3.23/-2.06	-1.27/-1.06	-0.87/-0.66	-0.79/-1.11	-1.36/-2.18	-2.96/-3.42	-4.22/-5.3	-6.17/-6.08	-6.83/-7.27	-6.79/-6.21	-5.93/-5.45	-5.36/-4.99	-4.56/-3.61	-2.82/-2.53	-2.59/-2.47	-1.91/-1.12	-0.99/-1.34	-1.07/-0.91	-0.82/-0.86
Θ(7.5°)	-4.43/-4.29	-3.92/-3.76	-3.36/-3.43	-3.75/-3.97	-4.37/-4.93	-4.74/-4.41	-4.25/-4.02	-3.45/-2.53	-1.67/-1.39	-0.76/-0.45	-0.22/-0.05	-0.57/-1.01	-1.42/-2.28	-3.31/-3.92	-4.13/-3.94	-2.92/-1.82	-0.70/-2.1	0.79/-1.15	1.44/-1.27	1.01/-0.58	0.27/-0.38	-1.61/-2.77	-3.71/-4.78	-4.55/-4.33
Θ(15°)	-4.13/-3.32	-2.4/-2.48	-2.07/-2.19	-2.8/-3.19	-3.28/-3.84	-5.33/-7.1	-8.83/-9.84	-9.31/-7.05	-4.23/-2.5	-2.27/-2.31	-2.97/-3.66	-3.14/-3.7	-3.72/-3.26	-3.18/-2.7	-2.79/-3.14	-3.26/-3.39	-3.14/-2.49	-1.5/-0.32	0.60/-2	0.760/-4.1	0.29/-0.03	-0.77/-2.04	-3.1/-3.97	-4.76/-4.43
Θ(22.5°)	-5.15/-3.4	-1.56/-1.26	-2.58/-4.14	-4.51/-3.07	-1.76/-2.15	-3.63/-6.47	-8.58/-7.96	-7.84/-8	-5.94/-4.28	-4.15/-2.53	-0.64/-0.94	-1.78/-2.03	-2.77/-2.89	-3.51/-2.6	-3.52/-7.69	-9.68/-5.84	-4.68/-3.33	-1.52/-0.25	0.62/-1.3	1.52/-1.48	1.40/-73	-0.9/-2.29	-3.27/-4.7	-4.99/-5.12
Θ(30°)	-10.85/-7.11	-3.78/-3.05	-4.41/-4.03	-2.97/-4.35	-6.31/-7.01	-11.93/-18.46	-13.18/-10.05	-7.3/-7.25	-7.21/-5.48	-3.31/-2.01	-1.81/-1.46	-1.16/-1.92	-2.87/-1.8	-1.91/-4.85	-5.23/-10.09	-7.58/-2.98	-1.51/-1.29	-0.83/-1.78	2.38/-1.7	1.62/-1.68	1.130/-63	0.62/-0.82	-3.32/-5.67	-6.69/-9.3
Θ(37.5°)	-8.45/-12.47	-8.05/-6.63	-6.04/-3.57	-4.87/-6.12	-3.32/-2.39	-1.71/-1.08	-3.24/-8.63	-18.92/-15.27	-7.91/-7.5	-12.47/-11.25	-5.67/-2.79	-2.71/-1.47	-0.93/-3.2	-1.34/-4.68	-6.94/-5.69	-6.03/-6.57	-3.24/-4.17	-3.77/-0.57	-1.4/-0.95	0.56/-1.69	2.89/-2.7	2.37/-0.86	-1.53/-4.78	-8.01/-6.9
Θ(45°)	-8.76/-17.69	-13.57/-10.26	-13.15/-8.72	-7.94/-3.99	-2.17/-3.7	-2.76/-2.75	-3.35/-1.74	-5.58/-15.18	-14.52/-6.38	-3.73/-3.99	-3.32/-2.47	-1.65/-5.12	-4.22/-3.68	-7.05/-7.7	-5.35/-5.06	-10.53/-10.4	-4.92/-3.59	-1.68/-2.4	-0.740/-18	-0.02/-0.18	1.52/-32	1.080/-47	2.07/-1.21	-1.19/-6.25
Θ(52.5°)	-7.12/-16.72	-13.51/-13.69	-16.77/-13.72	-12.39/-7.01	-6.88/-8.53	-5.31/-6.02	-4.57/-3.92	-6.27/-2.9	-5.51/-9.16	-5.87/-5.29	-6.05/-5.71	-6.37/-4.79	-10.12/-7.21	-14.91/-17.29	-10.61/-16.78	-4.89/-9.03	-5.76/-3.87	-6.69/-5.77	-2.57/-0.92	0.880/-17	-1.65/-0.38	1.250/-74	1.290/-78	-0.73/-3.4
Θ(60°)	-3.03/-11.43	-17.08/-16.81	-18.13/-15.85	-14.17/-18.32	-11.17/-9.85	-7.38/-6.541	-4.22/-4.84	-6.62/-5.48	-9.58/-7.03	-3.57/-1.96	-6.08/-7.54	-9.5/-6.39	-4.87/-11.31	-15.81/-18.33	-18.75/-19.13	-4.37/-10	-7.23/-6.4	-11.55/-4.64	-1.93/-1.92	0.32/-1.29	0.61/-1.72	1.17/-1.46	1.190/-01	-2.72/-3.98
Θ(67.5°)	-3.44/-9.07	-15.03/-18.57	-11.64/-16.35	-16.52/-17.56	-14.15/-10.11	-9.06/-6.14	-7.64/-4.74	-3.88/-8.12	-18.43/-17.87	-11.25/-7.42	-14.63/-10.72	-8.23/-11.05	-7.69/-17.62	-18.72/-16.33	-10.71/-17.64	-6.41/-10.66	-7.59/-4.97	-7.12/-2.8	-1.32/-3.13	-0.60/-37	0.76/-0.88	0.540/-89	-0.160/-25	-1.88/-3.11
Θ(75°)	-5.67/-8.47	-13.51/-15.6	-8.85/-13.69	-13.09/-18.25	-15.71/-9.3	-10.31/-15.36	-15.24/-5.98	-3.61/-2.51	-6.96/-19.14	-10.73/-14.73	-9.55/-6.22	-8.99/-12.65	-14.41/-8.44	-17.2/-17.17	-9.34/-15.49	-10.81/-8.85	-5.85/-6.28	-6.67/-5.66	-1.9/-2.29	0.150/-29	0.07/-3.18	-2.43/-0.51	-0.14/-0.12	-1.55/-2.7
Θ(82.5°)	-5.92/-6.8	-12.8/-13.97	-9.13/-10.71	-13.88/-19.07	-13.07/-7.29	-10.83/-13.99	-13.87/-5.73	-3.59/-3.73	-5.72/-11.43	-7.62/-8.89	-4.06/-4.14	-14.55/-8.51	-11.77/-6.86	-8.57/-14	-13.34/-12.54	-16.96/-7.86	-7.89/-7.89	-7.95/-7.98	-2.18/-1.16	0.5/-0.27	-1.3/-4.77	-4.95/-0.57	0.2/-1.67	-1.27/-3.03
Θ(90°)	-7.11/-6.58	-12.54/-14.78	-8.86/-10.38	-14.17/-18.97	-12.23/-5.12	-6.59/-18.19	-14.68/-8.31	-2.7/-7.26	-8.29/-8.44	-7.47/-5.4	-4.25/-6.54	-11.3/-8.77	-8.47/-5.12	-8.87/-15.49	-16.15/-16.31	-14.91/-9.47	-12.28/-12.55	-12.58/-12.97	-5.15/-2.83	-0.72/-2.07	-3.55/-7.76	-7.43/-2.01	-0.78/-1.9	-1.08/-4.39
Θ(97.5°)	-7.88/-8.04	-12.64/-18.6	-9.24/-12.14	-15.23/-18.2	-11.73/-4.91	-5.96/-12.34	-17.64/-16.38	-3.24/-6.63	-8.91/-6.77	-12.84/-5.5	-5.92/-14.61	-7.94/-7.1	-12.23/-5.4	-7.87/-18.56	-18.54/-19.75	-11.57/-13.94	-18.94/-12.88	-15.64/-15.58	-8.75/-5.18	-3.31/-5.49	-6.43/-10.8	-6.2/-3.93	-2.5/-2.35	-2.46/-4.7
Θ(105°)	-7.88/-10.19	-9.6/-18.85	-10.99/-11.78	-13.65/-17.32	-15.41/-6.99	-3.7/-7.52	-9.27/-17.78	-6.92/-7.17	-10.54/-10.59	-13.03/-13.09	-5.2/-12.6	-7.47/-7.98	-11.5/-6.2	-10.55/-14.46	-17.87/-13.67	-11.51/-14.23	-18.9/-13.58	-14.76/-18.67	-7.61/-6.96	-4.69/-6.52	-7.62/-9.77	-6.79/-7.44	-5.16/-3.17	-3.98/-5.95
Θ(112.5°)	-8.19/-9.88	-11.07/-15.89	-13.86/-14.71	-15.42/-16.07	-18.06/-15.6	-7.26/-7.91	-8.96/-10.55	-14.56/-11.78	-7.23/-16.57	-11.48/-11.94	-11.15/-13.78	-8.23/-11.29	-10.24/-7.85	-12.5/-17.74	-17.34/-10.07	-11.4/-14.39	-12.17/-9.86	-14.68/-13.59	-8.33/-7.87	-6.72/-7.91	-9.55/-13.26	-12.21/-10.02	-7.04/-5.32	-6.79/-7.99
Θ(120°)	-10.71/-10.43	-14.24/-13.86	-12.99/-13.24	-18.91/-13.76	-16.25/-18.77	-17.26/-13.25	-14.86/-18	-8.92/-18.93	-18.54/-15.6	-16.49/-10.71	-11.7/-10.02	-19.12/-17.54	-9.55/-9.49	-15.48/-10	-17.52/-16.32	-15.48/-10	-17.52/-16.35	-16.25/-19.78	-13.77/-11.43	-10.42/-13.97	-10.91/-9.11	-7.35/-7.81	-9.45/-8.44	
Θ(127.5°)	-13.61/-15.97	-11.32/-11.49	-16.71/-12.64	-14.77/-16.54	-18.29/-17.42	-18.42/-19.16	-18.15/-8.92	-12.54/-18.75	-13.87/-7.45	-16.82/-17.78	-17.32/-9.97	-17.89/-18.95	-10.09/-12.61	-18.61/-13.74	-9.16/-7.57	-12.02/-7.46	-17.72/-18.57	-18.06/-18.92	-10.47/-9.63	-13.18/-18.42	-16.36/-12.48	-5.24/-10.59	-11.86/-12.3	
Θ(135°)	-8.1/-12.43	-11.86/-11.5	-11.69/-9.36	-12.1/-12.3	-14.36/-12.73	-17.97/-16.8	-13.71/-14.44	-17.9/-19.35	-19.34/-12.87	-14.4/-17.32	-11.4/-12.73	-13.12/-12.16	-15.16/-9.13	-12.79/-11.16	-14.35/-8.15	-10.13/-18.07	-7.88/-7.79	-17.77/-14.87	-12.76/-11.96	-11.42/-12.43	-13.29/-18.5	-19/-12.02	-7.53/-9.27	-11.5/-8.27
Θ(142.5°)	-9.31/-12.79	-17.11/-10.02	-12.55/-15.52	-9.48/-9.24	-15.88/-12.52	-17.57/-13.72	-19.29/-13.86	-12.16/-18.33	-14.84/-14.9	-11.28/-11.87	-12.78/-14.37	-10.44/-17.24	-12.26/-6.45	-9.94/-18.96	-12.65/-13.59	-15.75/-18.75	-9.11/-15.18	-9.61/-19.47	-15.99/-18.14	-18.78/-16.2	-19.4/-18.29	-14.05/-9.23	-12.04/-17.63	-17.12/-9.42
Θ(150°)	-18.74/-18.29	-17.95/-17.77	-17.06/-15.13	-17.21/-17.39	-13.12/-19.15	-16.16/-11.29	-17.94/-15.98	-13.77/-13.44	-14.34/-15.81	-16.72/-17.88	-12.88/-9.15	-15.86/-17.55	-11.41/-19.02	-9.92/-18.7	-14.03/-12.42	-18.79/-16.47	-12.28/-13.38	-17.8/-19.26	-18.98/-17.96	-19.03/-16.4	-15.47/-19.07	-12.48/-16.7	-19.11/-18.38	-18.78/-16.64
Θ(157.5°)	-18/-19.25	-18.63/-18.75	-16.81/-12.88	-13.13/-16.47	-14.13/-13.7	-14.13/-10.82	-14.05/-17.55	-18.34/-19	-18.54/-18.17	-14.54/-16.81	-18.52/-14.03	-14.73/-14.27	-17.24/-9.6	-7.89/-10.52	-10.95/-12.34	-13.33/-12.9	-12.02/-11.14	-13.09/-17.77	-18.38/-14.41	-16.14/-18.43	-17.65/-17.89	-18.01/-18.44	-18.45/-18.31	-19.45/-17.83
Θ(165°)	-19.79/-19.14	-18/-18.51	-18.27/-17.39	-13.23/-13.2	-15.61/-18.61	-19.11/-18.46	-17.21/-18.85	-16.38/-14.94	-16.66/-19.02	-17.1/-16.88	-13.82/-12	-13.42/-15.34	-14.6/-9.54	-7.55/-7.68	-7.85/-9.71	-13.95/-16.92	-18.07/-18.59	-17.72/-13.62	-13.25/-13.55	-16.02/-18.11	-17.99/-18.38	-15.37/-15.73	-17.87/-18.85	-18.96/-19.01
Θ(172.5°)	-12.49/-12.81	-14.46/-18.12	-17.13/-18.71	-18.01/-17.72	-17.95/-17.22	-13.73/-10.31	-10.91/-11.61	-12.97/-15.8	-19.07/-19.05	-19.12/-18.42	-18.69/-18.16	-18.7/-19.13	-17.99/-18.16	-18.81/-18.18	-19.04/-18.82	-18.48/-19.08	-17.99/-18.1	-18.73/-17.8	-17.87/-18.01	-18.17/-17.83	-17.02/-15.56	-18.67/-18.18	-17.45/-17.86	-11.8/-10.79
Θ(180°)	-18.49/-17.52	-18.73/-18.31	-18.92/-17.84	-17.53/-13.55	-12.39/-12.37	-15.03/-17.72	-17.21/-18.17	-19.2/-18.17	-18.44/-18.78	-17.92/-19.17	-19.25/-18	-18.01/-19.19	-18.9/-17.55	-19.06/-18.96	-18.8/-18.19	-18.45/-17.92	-19.14/-18.3	-16.26/-16.09	-17.03/-16.65	-16.55/-14.81	-15.37/-13.95	-17.29/-19.22	-18.37/-16.42	-18.29/-18.13
Freq(Hz)	6.995GPol.	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°)	-3.84/-2.91	-2.74/-3.02	-2.51/-2.18	-2.19/-2.31	-2.92/-3.58	-4.26/-4.77	-5.22/-6.78	-7.53/-7.19	-6.98/-6.65	-5.25/-4.41	-4.09/-3.11	-2.81/-2.31	-2.03/-2.37	-1.94/-1.8										



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Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	3.09	2.82	3.72	5.11	4.06
Ant. 2 Max Gain (dBi)	2.66	3.25	3.16	4.34	3.02
Ant. 1 Polarization/Θ(°)/Φ(°)	Theta/60/352.5	Theta/30/307.5	Theta/30/307.5	Theta/30/315	Theta/30/322.5
Ant. 2 Polarization/Θ(°)/Φ(°)	Theta/52.5/187.5	Theta/45/172.5	Theta/45/180	Theta/75/210	Theta/75/217.5
Max Gain (dBi)	3.09	3.25	3.72	5.11	4.06
DG [1SS] (dBi)	5.24	4.78	4.64	6.09	4.28
DG [2SS] (dBi)	3.09	3.25	3.72	5.11	4.06



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix B

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°)	-9.76/-10.58	-10.01/-8.45	-6.41/-4.38	-2.41/-0.68	0.56/1.25	1.54/1.63	1.73/1.82	1.89/1.86	1.59/1.1	0.46/-0.46	-1.67/-3.23	-4.92/-6.5	-8.09/-10.09	-10.85/-9.45	-6.18/-3.59	-1.65/-0.3	0.65/1.18	1.4/1.5	1.62/1.77	1.91/1.88	1.57/1	0.9/-0.64	-1.89/-3.54	-5.7/-8.15
Θ(7.5°)	-7.09/-8.01	-8.08/-6.94	-5.29/-3.68	-2.0/-0.33	0.95/1.74	2.13/2.25	2.21/2.04	1.85/1.67	1.36/0.89	0.17/-0.92	-2.29/-4.04	-6.07/-8.19	-10.17/-12.04	-11.41/-8.7	-6.12/-4.11	-2.35/-0.87	0.22/0.88	1.16/1.25	1.23/1.24	1.32/1.34	1.18/0.79	0.19/-0.68	-1.85/-3.14	-4.56/-5.93
Θ(15°)	-5.86/-6.26	-6.08/-5.37	-4.46/-3.67	-2.64/-1.23	0.13/1.28	2.08/2.51	2.52/0.9	1.54/1.09	0.72/0.34	-0.23/-1.01	-2.08/-3.62	-5.66/-8.15	-10.01/-11.46	-11.05/-8.56	-5.9/-3.84	-2.19/-0.88	0.19/0.94	1.36/1.47	1.27/0.97	0.8/0.71	0.55/0.3	-0.26/-1.24	-2.44/-3.61	-4.53/-5.25
Θ(22.5°)	-6.09/-5.64	-4.88/-4.21	-3.67/-3.22	-2.69/-1.75	-0.55/0.71	1.76/2.36	2.42/1.9	1.05/0.4	0.08/-0.09	-0.32/-0.69	-1.32/-2.72	-4.89/-7.43	-10.11/-12.07	-10.53/-7.43	-4.84/-2.92	-1.43/-0.25	0.75/1.5	1.95/2.07	1.85/1.36	0.86/0.43	0.05/-0.3	-1/-2.15	-3.53/-4.62	-5.42/-5.98
Θ(30°)	-7.1/-5.5	-4.38/-4.01	-3.78/-3.33	-2.48/-1.36	-0.35/0.58	1.36/1.85	1.95/1.64	0.91/0.14	-0.45/-0.71	-0.61/-0.45	-0.69/-1.66	-3.58/-6.81	-10.13/-13.17	-10.91/-7.38	-4.7/-2.83	-1.33/-0.08	0.95/1.71	2.16/2.39	2.36/2.02	1.41/0.68	0.01/-0.67	-1.62/-2.99	-4.43/-5.67	-6.86/-7.78
Θ(37.5°)	-7.56/-5.7	-5.14/-5.37	-5.54/-4.77	-3.13/-1.35	-0.06/0.91	1.46/1.67	1.61/1.37	0.91/0.12	-0.99/-1.66	-1.33/-0.86	-1.06/-2.03	-3.79/-6.32	-8.67/-9.37	-7.41/-5.4	-4.02/-2.79	-1.53/-0.52	0.41/1.13	1.57/1.87	2.07/1.97	1.53/0.87	0.21/-0.68	-1.85/-3.16	-4.73/-6.39	-8.16/-9.28
Θ(45°)	-5.29/-4.74	-5.88/-7.57	-8.31/-6.93	-4.73/-2.29	-0.43/0.82	1.52/1.75	1.56/1.15	0.83/0.28	-0.98/-2.17	-2.25/-1.82	-1.88/-2.66	-3.85/-5.28	-6.71/-7.46	-7.15/-6	-5.18/-4.08	-2.58/-1.4	-0.48/0.18	1.59/1.76	1.24/0.39	-0.28/-0.94	-1.75/-2.39	-3.22/-4.72	-6.43/-6.67	
Θ(52.5°)	-3.1/-3.05	-5.35/-8.51	-10.07/-7.16	-5.79/-3.55	-1.49/-0.17	0.74/1.21	1.19/0.76	0.52/0.39	-0.42/-1.56	-2.15/-2.44	-3.07/-4.23	-5.64/-7.5	-8.51/-8.85	-7.95/-6.34	-6.07/-5.05	-3.01/-1.34	-0.22/0.41	0.93/1.41	1.97/1.99	0.71/-1.47	-2.08/-1.52	-1.42/-1.28	-1.17/-1.86	-3.39/-4.01
Θ(60°)	-2.37/-2.02	-4.28/-9.48	-7.7/-5.63	-6.44/-9.2	-3.05/-2.06	-0.94/0.21	0.79/0.88	1.01/1.17	0.8/-0.29	-1.61/-2.99	-4.14/-5.12	-6.44/-6.9	-8.03/-8.36	-7.79/-6.23	-6.91/-6.89	-4.64/-2.5	-0.95/0.15	0.97/1.27	1.66/1.86	0.22/-2.63	-2.32/-0.65	-0.67/-1.25	-0.84/-0.72	-2.02/-3.42
Θ(67.5°)	-3.58/-2.67	-4.48/-8.39	-5.83/-7.47	-6.31/-7.2	-5.8/-5.5	-3.08/-0.45	0.57/0.75	1.09/1.22	0.87/-0.22	-1.85/-3.35	-4.4/-4.68	-4.82/-5.07	-6.15/-7.36	-7.78/-7.8	-10.19/-9.58	-6.43/-4.07	-2.02/-0.39	0.42/0.06	-0.26/0.11	-1.26/-2.78	-1.18/0.74	-0.39/-1.19	-1.87/-1.57	-3.02/-0.53
Θ(75°)	-4.57/-3.75	-5.64/-7.31	-3.99/-3.76	-6.19/-1.1	-8.66/-10.54	-4.57/-0.61	0.19/-0.5	0.19/-0.35	-0.59/-1.15	-2.51/-4.36	-6.24/-6.88	-6.98/-7.45	-8.43/-8.17	-10.33/-10.65	-7.24/-5.14	-3.61/-1.77	-1.05/-1.7	-2.56/-1.36	-1.93/-3.86	-2.20/-4.4	0.55/-0.61	-1.43/-1.83	-3.79/-6.18	
Θ(82.5°)	-3.59/-2.8	-4.3/-5.57	-3.09/-3.28	-7.11/-12.87	-10.71/-12.46	-6.23/-2.06	-1.64/-2.36	-1.49/-0.63	-0.27/-0.42	-0.63/-1.88	-3.78/-6.11	-8.57/-7.65	-7.9/-8.63	-9.8/-7.89	-9.61/-12.45	-7.04/-4.8	-6.37/-4.38	-3.12/-3.55	-4.44/-1.94	-2.68/-6.36	-0.32/-0.85	-0.28/-1.01	-1.52/-1.83	-3.63/-5.15
Θ(90°)	-3.69/-2.4	-3.21/-5.26	-3.38/-4.43	-8.53/-14.8	-8.99/-10.66	-6.78/-2.8	-2.75/-3.89	-1.83/-0.93	-0.9/-1.37	-1.38/-2.15	-3.59/-5.43	-7.63/-8.4	-8.98/-8.83	-8.47/-6.35	-8.26/-13.58	-6.2/-3.7	-5.72/-5.57	-3.35/-3.69	-6.96/-4.91	-5.39/-7.94	-3.7/-0.47	-0.52/-2.02	-2.42/-2.16	-3.51/-5.05
Θ(97.5°)	-4.3/-3.16	-4.33/-3.7	-4.66/-5.69	-11.06/-11.7	-8.73/-10.93	-5.13/-1.56	-2.14/-5.56	-3.69/-1.45	-0.76/-0.91	-1.07/-2.21	-4.08/-6.19	-7.7/-6.44	-8.35/-8.16	-12.51/-14.2	-5.05/-2.8	-4.58/-6.87	-4.09/-3.37	-5.94/-5.43	-6.58/-8.75	-3.94/-0.88	-1.24/-2.91	-3.28/-2.51	-3.94/-5.63	
Θ(105°)	-5.82/-3.97	-5.01/-7.54	-4.14/-5.37	-10.39/-10.11	-7.45/-12.37	-7.68/-2.41	-1.61/-3	-3.01/-2.12	-1.82/-1.82	-1.62/-1.76	-2.59/-4.06	-4.57/-5.11	-5.88/-6.56	-8.19/-7.63	-9.24/-13.85	-7.33/-4.07	-4.64/-8.04	-4.92/-3.91	-6.57/-6.33	-7.83/-8.01	-4.59/-0.99	-0.23/-1	-2.39/-3.41	-5.75/-8.19
Θ(112.5°)	-4.39/-3.92	-5.28/-6.62	-3.54/-4.62	-9.58/-10.91	-8.05/-11.85	-9.7/-3.71	-2.71/-4.13	-4.26/-2.35	-0.9/-0.56	-0.0/-0.28	-1.43/-3.42	-5.32/-6.99	-6.26/-5.81	-6.44/-6.17	-7.79/-14.51	-11.98/-7.11	-6.91/-9.41	-6.8/-6.22	-9.26/-8.12	-7.53/-6.39	-4.73/-2.57	-1.74/-1.83	-2.45/-3.45	-4.95/-8.18
Θ(120°)	-1.82/-2.46	-4.91/-7.92	-5.48/-4.57	-10.57/-14.28	-10.14/-12.86	-8.25/-4.01	-3.52/-5.28	-4.34/-1.21	0.19/-0.26	-1.55/-3.47	-4.5/-4.24	-3.53/-3.25	-3.85/-9.1	-8.1/-7.1	-7.04/-12.27	-15.18/-11.8	-9.42/-9.05	-5.59/-4.11	-5.56/-6.03	-7.05/-8.69	-5.97/-3.39	-1.91/-1.05	-0.95/-1.7	-2.37/-2.17
Θ(127.5°)	-1.56/-2.49	-5.02/-10.99	-8.93/-8.14	-12.77/-12.85	-10.71/-14.16	-8.12/-3.38	-2.71/-3.1	-5.77/-5.85	-3.43/-2.52	-2.37/-1.82	-1.26/-1.31	-1.64/-2.68	-4.37/-6.84	-8.42/-7.59	-9.18/-13.14	-15.53/-12.99	-9.51/-6.82	-4.93/-4.49	-4.71/-4.82	-7.35/-6.86	-2.63/-2.69	-1.43/-0.72	-0.43/-0.88	-1.64/-1.76
Θ(135°)	-2.88/-3.77	-6.44/-10.04	-10.66/-10.22	-12.53/-12.83	-11.55/-13.74	-10.21/-6.26	-3.4/-3.6	-4.44/-4.38	-4.14/-4.04	-3.34/-2.46	-1.45/-0.92	-1.2/-2.56	-5.21/-2.97	-12.21/-13.5	-14.64/-13.08	-14.36/-14.95	-11.14/-7.43	-6.3/-6.42	-5.77/-4.65	-4.93/-4.53	-3.65/-3.01	-2.58/-2.52	-2.61/-2.63	-2.77/-2.75
Θ(142.5°)	-6.19/-6.61	-8.32/-10.54	-11.73/-13.41	-14.22/-11.85	-10.39/-9.16	-7.6/-5.7	-4.51/-4.07	-3.61/-3.13	-3.3/-4.47	-5.4/-4.49	-3.17/-2.58	-3.06/-4.75	-8.32/-12.86	-15.25/-12.48	-10.47/-10.6	-13.64/-15.74	-12.87/-11.09	-10.29/-8.74	-6.74/-5.24	-4.51/-3.99	-3.76/-3.86	-4.1/-4.8	-6.16/-7.59	-7.56/-10.64
Θ(150°)	-9.49/-9.98	-8.48/-8.05	-7.76/-7.94	-8.64/-8.81	-8.13/-8.51	-8.06/-6.71	-7.29/-1.27	-6.88/-5.58	-4.12/-3.25	-2.69/-1.98	-1.27/-2.29	-4.09/-7.22	-11.21/-13.82	-12.3/-10.75	-9.76/-10.21	-11.43/-12.68	-14.07/-16.02	-14.79/-9.65	-6.22/-4.55	-3.79/-3.73	-4.34/-5.6	-7.34/-7.18	-8.17/-8.58	-9.64/-6.13
Θ(157.5°)	-8.38/-8.26	-8.03/-7.76	-7.5/-7.37	-7.44/-7.4	-7.52/-7.36	-7.79/-6.91	-6.5/-6.34	-5.74/-4.42	-2.8/-1.67	-0.95/-0.65	-0.84/-1.78	-3.45/-6.09	-9.34/-12.68	-13.75/-12.26	-11.58/-11.51	-11.85/-12.73	-13.98/-14.28	-10.55/-7.08	-4.99/-3.98	-3.86/-4.47	-5.46/-6.35	-7.02/-7.2	-6.89/-6.96	-7.62/-8.29
Θ(165°)	-7.19/-7.69	-8.68/-9.5	-9.61/-8.95	-8.03/-7.47	-6.62/-5.25	-4.16/-3.61	-3.46/-3.5	-3.55/-3.28	-2.55/-1.85	-1.36/-1.23	-1.4/-2.08	-3.18/-4.76	-6.86/-9.51	-12.46/-13.06	-13.53/-14.61	-14.32/-13.97	-13.28/-11.72	-9.75/-7.97	-7.02/-6.79	-7.3/-8.53	-9.64/-9.87	-9.11/-8.13	-8.8/-8.2	-7.55/-8.17
Θ(172.5°)	-9.03/-9.46	-9.98/-10.42	-10.48/-10.53	-8.44/-8.07	-6.59/-5.23	-4.57/-4.22	-3.94/-3.64	-3.5/-3.2	-2.17/-2.97	-2.79/-2.91	-3.17/-3.8	-4.64/-5.84	-7.4/-9.4	-12.15/-12.66	-12.96/-15.26	-14.72/-14.11	-13.67/-13.9	-12.81/-12.95	-9.87/-9.77	-8.61/-6.72	-7.3/-7.98	-8.46/-8.95		
Θ(180°)	-8.99/-9.54	-10.11/-11.23	-13.36/-13.77	-12.08/-10.4	-9.15/-9	-9.07/-8.61	-7.78/-6.98	-6.19/-5.33	-4.66/-4.54	-4.79/-5.15	-5.55/-6.15	-6.91/-8.24	-10.4/-12.96	-14.8/-15.47	-13.38/-12.93	-14.47/-14.62	-15.13/-13.02	-11.77/-10.84	-9.96/-8.94	-7.59/-6.13	-4.9/-4.2	-4.2/-4.91	-6.04/-7.15	-7.93/-8.57
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°)	1.78/1.77	1.57/1.24	0.75/0.16	-0.4/-1.06	-1.88/-3.14	-4.88/-6.93	-8.56/-9.64	-9.92/-8.92	-6.96/-4.87	-2.99/-1.52	-0.42/0.45	1.09/1.49	1.71/1.63	1.3/0.88	0.53/0.26	-0.03/-0.59	-1.71/-3.4	-5.78/-8.17	-9.13/-9.49	-9.1/-7.69	-5.77/-3.82	-2.22/-1.05	-0.16/0.59	1.19/1.61
Θ(7.5°)	1.82/1.77	1.61/1.39	1.01/0.55	-0.05/-0.92	-1.95/-3.26	-4.87/-6.38	-7.65/-7.8	-6.97/-5.75	-4.36/-3.03	-1.78/-0.75	0.01/0.6	0.96/1.14	1.16/0.97	0.57/0.02	-0.55/-1.02	-1.41/-1.92	-2.86/-4.33	-6.51/-9.2	-11.47/-11.34	-9.95/-8.33	-5.67/-3.51	-1.88/-0.75	0.09/0.74	1.31/1.68
Θ(15°)	1.56/1.3	1.07/1	0.41/0.09	-0.35/-1.09	-2.09/-3.39	-6.92/-6.26	-4.68/-3.19	-4.55/-8.87	-6.92/-6.26	-1.90/-1.38	0.81/1.04	1.31/1.07	0.9/0.59	0.06/-0.57	-1.35/-2.08	-4.29/-5.43	-6.93/-8.64	-9.52/-9.04	-7.62/-5.85	-3.95/-2.28	-0.99/-0.04	0.63/0.09	1.45/1.64	
Θ(22.5°)	0.83/0.44	0.11/-0.1	-0.23/-0.34	0.5/-0.83	-1.38/-2.36	-3.24/-4.63	-4.97/-4.85	-3.59/-2.09	-0.87/0.05	0.79/1.33	1.63/1.7	1.66/1.61	1.45/1.01	0.25/-0.73	-1.72/-2.45	-2.94/-3.41	-4.06/-4.83	-5.73/-6.6	-6.66/-6.05	-5.09/-3.72	-2.14/-0.75	0.28/0.87	1.19/1.31	1.31/1.4
Θ(30°)	0.31/0.09	0.04/0.1	0.14/0.08	-0.01/-0.16	-0.4/-1	-1.61/-2.24	-2.33/-2.7	-2.5/-1.45	-0.49/0.28	1.02/1.7	2.07/2.1	2.08/2.32	2.51/2.35	1.7/0.8	-0.28/-1.23	-1.86/-2.18	-2.5/-2.96	-3.77/-4.83	-5.14/-4.14	-3.12/-2.02	-0.70/-6.1	1.44/1.74	1.71/1.39	0.98/0.61
Θ(37.5°)	1.35/1.54	1.65/1.7	1.47/1.12	0.92/0.19	0.67/0.46	0.19/0.07	0.01/-0.36	-0.55/-0.03	0.44/0.55	0.77/1.35	1.85/1.89	2.03/1.9	3.74/3.69	3.18/2.45	-0.08/-0.45	-0.8/-1.4	-2.34/-3.45	-3.6/-2.64	-1.7/-0.94	-0.04/0.13	1.77/1.94	1.62/1.07	0.84/1.07	
Θ(45°)	3.11/3.25	3.01/2.58	1.93/1.58	1.88/2.08	2.01/1.82	1.83/1.99	2.02/1.69	1.4/1.79	2.17/1.84	1.25/1	1.19/1.4	2.26/3.65	4.57/4.78	4.38/3.6										



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix B

Θ(15°)	1.24/1.36	2.02/2.8	3.15/3.13	3.02/3.1	2.42/1.18	0/-0.71	-1.48/-1.65	-1.87/-2.13	-2.3/-2.02	-1.52/-0.94	-0.01/0.93	1.75/2.03	2.29/2.41	2.28/2.24	2.23/2.06	1.75/1.14	0.74/0.42	-1.22/-2.77	-3.13/-3.31	-4.75/-6.03	-5.23/-3.05	-0.87/0.83	1.82/2.16	1.9/1.38
Θ(22.5°)	2.06/2.64	3.35/4.04	4.04/3.27	2.07/1.66	1.5/1.03	0.12/-0.65	-0.7/-0.93	-1.47/-2.21	-2.86/-2.26	-1.8/-0.62	0.47/0.93	0.82/0.85	1.29/1.69	1.83/2.07	2.13/1.82	0.72/-0.34	-1.06/-1.45	-2.27/-3.79	-3.46/-3.01	-3.54/-4.7	-7.61/-7.05	-2.88/0.06	1.8/2.02	1.57/1.83
Θ(30°)	1.66/2.17	3.32/4.48	4.4/3.46	2.48/2.02	1.81/1.77	0.95/-1.49	-2.1/-1.27	-1.64/-2.86	-3.6/-3.35	-4.24/-1.52	0.62/0.7	0.56/1.79	2.72/2.08	1.29/1.52	2.2/2.04	1.23/0.5	-0.26/-2.14	-5.01/-6.08	-5.51/-6.29	-7.77/-5.67	-6.02/-9.08	-8.6/-4.68	-2.06/-0.48	0.64/-1.39
Θ(37.5°)	0.52/1.26	2.73/3.44	3.31/2.96	2.46/2.08	1.99/2.22	1.48/-1.85	-4.79/-2.98	-4.45/-7.52	-5.13/-3.93	-6.08/-2.69	-0.92/-1.61	0.19/2.44	2.53/1.38	1.5/2.32	2.09/1.21	0.30/0.1	0.36/0.03	-1.92/-4.79	-4.52/-6.69	-12.22/-7.89	-6.51/-8.09	-7.39/-6.16	-4.91/-1.32	0.95/0.91
Θ(45°)	0.26/1.55	2.52/2.92	2.6/2.47	3.37/3.28	1.64/0.69	0.6/-0.92	-5.48/-5.3	-4.61/-9.78	-10.32/-6.82	-8.7/-6.33	-4.6/-4.56	-2.08/-0.54	1.92/2.88	1.99/0.74	-0.32/-1.07	-2.44/-2.19	-2.74/-4.78	-7.5/-5.36	-6.85/-12.49	-12.11/-13.1	-7.87/-7.11	-5.53/-1.88	-0.69/-0.43	
Θ(52.5°)	0.81/29	1.74/1.77	0.89/1.17	2.22/2.88	2.01/0.59	1.07/-2.24	-5.26/-6.38	-5.94/-9.83	-10.34/-12.54	-9.88/-6.37	-6.87/-4.11	-2.13/0.29	1.11/0.97	1.56/1.51	0.35/-1.54	-1.1/-1.01	-1.78/-3.5	-7.65/-6.74	-10.34/-15.2	-10.89/-1.82	-6.12/-7.63	-7.09/-5.26	-2.29/0.56	
Θ(60°)	1.24/1.14	1.59/0.62	-0.35/1.01	0.62/0.96	1.69/0.57	-0.01/-3.26	-7.37/-7.21	-9.84/9.73	-10.49/-13.78	-14.77/-7.13	-6.1/-2.28	-2.03/0.12	2.03/1.73	0.51/-1.53	-1.77/-1.23	-2.06/-1.15	-0.56/-3.75	-4.52/-6.26	-10.43/-10.91	-11.21/-15.46	-13.78/-11.13	-10.25/-8.72	-5.17/-3.87	-2.11/1.29
Θ(67.5°)	1.35/1.79	1.52/-0.5	-1.02/1.5	0.62/-0.09	0.21/-1.46	-0.1/-2.6	-8.92/-5.02	-9.35/-9.5	-11.23/-9.84	-10.63/-8.05	-8.59/-5.14	-4.11/-0.28	2.25/-1.66	0.11/-1.25	-1.98/0.67	-1.4/-2.72	-0.95/-3.3	-5.66/-9.49	-12.6/-12.93	-11.67/-10.73	-10.06/-9.4	-11.06/-10.61	-8.5/-5.9	-2.94/0.38
Θ(75°)	-0.41/-3.6	1.35/-2.07	-2.28/0.41	-0.24/-1.16	0.08/-3.47	-2.64/-7.04	-5.52/-3.92	-8.87/-7.44	-10.98/-8.42	-11.19/-10.33	-10.85/-7.59	-5.69/-3.78	0.44/0.57	-0.38/-1.98	-3.32/-0.18	-1.32/-1.85	0.04/-2.02	-8.74/-10.69	-6.64/-6.53	-8.75/-8.72	-14.65/-12.26	-9.27/-7.81	-3.62/-2.21	
Θ(82.5°)	-1.27/0.02	0.45/-2.71	-3.04/-1.86	-1.85/-2.51	-0.7/-3.79	-4.91/-1.12	-6.89/-2.99	-7.31/-6.93	-8.97/-7.19	-11.32/-13.15	-10.68/-8.92	-6.47/-5.26	-0.25/-1.74	-1.07/-3.29	-3.81/-1.11	-2.46/-0.99	0.47/-3.41	-7.84/-7.7	-7.12/-5.95	-6.04/-4.51	-8.07/-11.19	-13.06/-10.08	-8.7/-9.63	-5.58/-3.67
Θ(90°)	-5.03/-1.99	-0.99/-4.45	-4.72/-4.95	-2.89/-3.31	-3.18/-0.56	-9.8/-2.38	-6.69/-3.79	-8.46/-6.18	-9.44/-8.84	-13.26/-15	-11.63/-8.06	-4.58/-4.51	-3.19/-2.63	-2.31/-3.72	-4.38/-3.58	-4.15/-0.51	-0.74/-5.23	-7.55/-5.02	-4.85/-5.67	-5/-5.49	-8.38/-9.34	-13.58/-13.69	-9.43/-9.56	-5.98/-6.89
Θ(97.5°)	4.54/-4.62	-3.58/-6.94	-5.84/-8.13	-4.38/-3.85	-4.44/-5.72	-9.49/-3.96	-5.48/-4.56	-7.98/-7.51	-8.37/-6.98	-10.83/-12.65	-7.89/-7.64	-6.32/-3.97	-5.87/-6.28	-3.42/-6.26	-3.71/-4.39	-3.99/-2.33	-3.42/-5.67	-6.33/-3.29	-5.14/-5.72	-5.98/-6.32	-9.08/-12.55	-12.3/-15.12	-10.47/-8.87	-4.79/-5.19
Θ(105°)	-5.32/-8.99	-8.11/-9.79	-8.21/-7.97	-6.99/-5.8	-7.42/-6.72	-6.61/-5.03	-5.11/4	-8.31/-7.84	-8.75/-8.11	-9.55/-10.3	-7.65/-6.31	-6.6/-6.85	-6.74/-10.78	-7.49/-8.06	-3.77/-4.81	-3.02/-4.14	-5.56/-5.65	-5.91/3	-6.05/-5.21	-6.83/-7.14	-8.52/-7.64	-15.31/-8.66	-9.9/-10.77	-8.17/-7.22
Θ(112.5°)	-9.17/-12.14	-11.18/-8.83	-8.84/-7.45	-8.71/-7.73	-8.22/-8.19	-5.24/-5.87	-4.46/-7.16	-6.81/-9.04	-12.01/-10.51	-12.35/-14.47	-13.93/-9.67	-6.98/-7.1	-8.28/-10.68	-8.36/-9.7	-4.24/-3.05	-4.3/-6.12	-7.17/-7.68	-6.68/-2.94	-5.16/-6.83	-5.95/-13.77	-8.94/-10.4	-10.5/-15.32	-9.35/-7.88	-8.32/-9.85
Θ(120°)	-12.32/-13.37	-14.12/-10.4	-10.34/-6.48	-8.25/-9.66	-10.36/-11.17	-8.83/-9.05	-4.97/-6.14	-11.27/-10.43	-12.71/-12.92	-16.34/-14.32	-14.91/-14.25	-12.58/-11.75	-9.52/-13.55	-12.47/-8.46	-4.97/3.83	-6.58/-7.04	-6.71/-6.57	-6.45/-4.25	-4.45/-7.12	-12.39/-13.19	-14.89/-9.94	-10.86/-10.57	-15.53/-13.62	-12.83/-11.9
Θ(127.5°)	-15.86/-13.79	-14.35/-8.23	-11.02/-8.25	-11.84/-9.8	-9.8/-9.08	-12.42/-10.9	-6.62/-8.03	-7.87/-10.25	-13.04/-11.15	-13.33/-12.7	-13.97/-13.4	-15.61/-10.09	-12.39/-10.84	-10.47/-7.45	-6.75/-4.61	-6.41/-6.38	-8.21/-5.74	-6.82/-7.48	-8.22/-8.99	-11.6/-14.41	-15.32/-8.67	-7.75/-8.34	-12.82/-15.99	-12.39/-15.18
Θ(135°)	-11.21/-15.79	-12.9/-9.24	-8.33/-10.35	-11.91/-15.63	-10.66/-8.6	-11.93/-9.85	-8.11/-9.84	-7.79/-8.07	-14.81/-12.89	-11.85/-15.72	-12.71/-13.93	-14.87/-9.25	-14.21/-11.85	-9.76/-9.88	-14.51/-8.93	-7.84/-7.53	-7.57/-6.09	-4.05/-5.85	-6.34/-8.68	-5.97/-9.63	-10.64/-10	-11.46/-2.7	-9.24/-14.71	-8.41/-11.37
Θ(142.5°)	-11.86/-11.29	-14.1/-10.58	-10.2/-10.31	-10.32/-9.9	-12.12/-14.42	-9.97/-9.39	-8.58/-14.49	-11.63/-9.24	-12.47/-15.45	-14.19/-13.33	-13.13/-15.33	-13.21/-10.99	-10.21/-11.18	-14.24/-13.96	-14.73/-11.55	-12.54/-9.76	-10.97/-6.88	-4.97/-7.32	-3.68/-5.21	-9.95/-13.96	-13.49/-12.17	-11.22/-6.88	-13.74/-13.94	-15.09/-15.16
Θ(150°)	-14.31/-12.1	-15.27/-12.6	-12.28/-11.38	-12.15/-12.91	-14.74/-13.09	-10.06/-9.38	-10.5/-11.13	-8.99/-10.38	-15.35/-14.48	-11.09/-10.12	-10.46/-11.34	-13.7/-14	-12.79/-14.03	-12.79/-13.62	-11.29/-9.1	-11.81/-13.25	-9.62/-8.22	-9.22/-8.92	-8.85/-11.19	-13.08/-15.79	-15.73/-12.5	-9.17/-8.93	-12.16/-12.49	-13.87/-15.55
Θ(157.5°)	-13.78/-13.24	-13.13/-14.7	-13.63/-12.25	-12.71/-14.67	-14.14/-10.41	-8.79/-8.4	-9.57/-8.35	-7.13/-4.75	-9.08/-10.53	-10.52/-10.06	-10.84/-13.51	-14.37/-14.72	-12.94/-11.41	-12.22/-10.65	-11.06/-11.36	-10.45/-8.65	-8.42/-10.6	-12.41/-9.9	-10.75/-12.07	-10.12/-10.55	-9.59/-8	-8.97/-12.17	-14.14/-13.56	-15.84/-16.2
Θ(165°)	-11.63/-15.26	-14.7/-12.73	-13.7/-12.28	-12.04/-10.99	-8.37/-10.73	-6.27/-5.32	-5.28/-5.3	-4.81/-4.44	-4.68/-6.14	-8.97/-12	-14.89/-15.42	-13.44/-13.44	-15.43/-15.15	-14.75/-10.15	-9.79/-9.79	-8.26/-7.91	-8.31/-6.04	-6.09/-6.75	-8.29/-10.25	-12.78/-15.32	-14.79/-14.66	-12.2/-10.77		
Θ(172.5°)	-13.14/-15.57	-14.86/-15.85	-15.11/-14.6	-14.83/-13.27	-12.23/-11.18	-10.18/-8.73	-8.7/-8.7	-7.88/-8.28	-9.11/-11.21	-13.36/-12.18	-11.32/-11.04	-10.91/-10.92	-11.27/-11.21	-10.53/-10.87	-11.95/-12.5	-12.53/-12.73	-10.32/-9.89	-8.9/-9.61	-9.56/-8.35	-8.32/-7.71	-7.87/-9.61	-11.43/-11.63	-11.39/-11.22	-11.14/-11.37
Θ(180°)	-11.07/-11.54	-11.41/-11.76	-12.52/-12.3	-14.12/-15.09	-14.32/-14.55	-12.63/-13.01	-11.91/-9.85	-9.62/-10.38	-10.06/-9.09	-8.97/-9.81	-11.3/-11.86	-12.17/-10.44	-9.81/-10.16	-11.72/-11.96	-11.95/-13.64	-12.72/-11.51	-12.01/-12.37	-11.51/-10.23	-8.64/-8.42	-8.08/-7.53	-8.07/-9.75	-11.16/-10.58	-10.64/-11.55	-11.72/-10.96
Freq(Hz)	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°)	0.16/0.12	-0.41/-1.04	-1.23/-1.46	-1.82/-1.56	-1.07/-0.7	0.16/0.82	1.22/1.71	2.2/04	1.98/1.87	1.71/-1.46	1.24/-1.06	0.93/0.41	-0.01/0.05	-0.59/-1.38	-1.14/-1.01	-0.95/-0.85	-0.47/0.14	0.93/1.51	1.65/2.02	2.34/2.43	2.54/2.62	2.58/2.29	1.89/1.77	1.55/0.78
Θ(7.5°)	-0.5/-0.61	-0.26/-0.55	-1.06/-1.36	-0.69/-0.18	0.56/1.23	1.85/2.61	2.91/2.97	3.18/3.38	2.52/-3.2	2.1/41	0.57/-0.01	-0.4/-4.9	-2.36/-2.59	-2.24/-1.19	-0.22/0.93	1.43/1.84	1.95/2.1	2.34/2.59	2.26/2.24	2.12/1.58	0.92/0.58	0.72/0.4		
Θ(15°)	0.2/0.16	0.01/0.05	0.45/0.64	0.55/0.9	1.61/2.3	2.89/3.42	3.72/3.55	3.28/3.24	3.01/2.45	1.95/1.83	1.71/1.34	0.83/0.25	-1/-2.53	-3.57/-3.88	-3.23/-3	-2.72/-2.14	-1.64/-0.44	0.87/1.57	2.15/1.98	1.6/1.73	1.21/1.43	1.56/1.46	0.87/-0.27	-0.58/-0.29
Θ(22.5°)	0.53/0.68	0.41/0.31	0.75/1.75	1.73/1.01	0.77/1.13	1.52/0.5	2.49/2.01	1.33/1.13	1.11/0.95	0.60/0.69	0.92/0.97	0.37/-1.48	-1.83/-2.02	-3.08/-1.47	-3.93/-2.83	-1.86/-1.08	-0.94/-1.74	-0.71/-0.17	0.91/1.68	1.55/0.89	0.33/0.85	1.19/1.18	0.53/-1.12	-1.91/-0.57
Θ(30°)	-0.47/-0.21	-0.45/-0.74	-0.77/0.25	2.22/97	2.51/2.32	2.27/1.63	2.04/2.77	2.29/1.77	1.3/-0.19	-0.81/-0.78	-0.94/-1.1	-2.12/-1.56	-0.18/-0.75	-0.45/0.2	-1.18/-1.07	1.18/1.92	2.01/0.1	-0.41/0.6	0.49/0.71	1.35/1.55	1.83/1.4	1.49/1.37	0.76/-0.64	-1.58/-0.84
Θ(37.5°)	0.01/0.98	1.1/-1.12	1.38/0.81	0.78/1.65	1.72/1.13	1.58/1.45	0.88/0.77	1.25/1.05	0.89/1.12	0.44/-0	-1.92/-3.03	-1.62/0.35	1.23/0.99	0.99/1.56	1.94/1.82	1.94/2.01	1.86/1.02	-0.37/0.38	0.26/-0.42	-1.09/-0.64	0.87/1.73	1.42/0.4	0.6/-0.51	-0.61/-0.12
Θ(45°)	-2.17/-0.91	0.24/1.05	1.89/2.84	2.81/2.27	2.26/2.21	0.83/-0.32	0.42/0.66	-0.29/-0.71	-0.24/-1.09	0.92/0.04	-0.41/-0.79	-0.67/2.35	4.03/3.19	2.38/2.67	3.81/4.6	4.05/2.29	2.78/2.36	2.89/2.67	1.91/2.21	1.12/-0.65	-0.28/0.7	0.39/0.65	0.96/0.31	-0.23/-1.6
Θ(52.5°)	-1.46/-1.01	-0.35/-0.85	-0.36/2.42	2.87/1.73	1.36/2.61	2.47/0.65	-1.31/0.39	-0.49/-0.98	0.55/-0.3	1.1/0.71	0.18/3.84	4.58/3.18	2.92/3.65	3.41/3.04	3.03/3.49	3.93/85	3.66/3.73	2.92/45	2.03/0.98	0.82/0.39	-1.45/-2	0.69/0.59	-0.71/-1.84	
Θ(60°)	-2.86/-2.26	-1.38/-1.3	-0.19/1.29	1.81/1.42	1.06/1.43	0.86/0.92	-0.72/-4.8	-2.38/-2.84	1.03/-1.41	-2.94/0.12	1.88/1.51	-0.92/0.88	3.7/2.37	2.75/2.34	2.96/2.66	2.21/97	3.68/3.84	1.97/2.33	2.53/1.9	1.83/0.44	-2.08/2.06	0.19/-0.38	-1.93/-3.51	
Θ(67.5°)	-3.23/-8.64	-4.47/-2.67	0.82/1.26	0.34/2.42	3.09/2.23	1.09/-0.61	0.21/-1.97	-3.5/-4.55	0.97/-4.24	-3.04/-0.35	1.34/0.55	1.48/3.03	3.04/3.08	3.53/4.36	4.64/3.75	2.64/3.13	3.71/3.74	1.24/0.76	1.82/1.94	1.47/1.11	2.01/0.16	-2.02/-0.35	0.72/-0.	



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix B

Θ (60°)	0.03/0.51	-0.44/0.74	0.96/0.88	0.78/1.39	0.44/0.14	-1.6/-5.86	-6.68/-9.13	-9.26/-9.48	-12.93/-13.2	-10.82/-9.57	-9.95/-7.34	-1.29/-1.66	0.97/1.57	0.52/1.63	0.09/-0.91	0.03/0.6	-1.58/-2.53	-1.83/-5.31	-4.22/-5.67	-4.94/-6.92	-11.75/-11.28	-12.05/-10.45	-9.44/-5.71	-1.82/-4.29
Θ (67.5°)	1.06/0.42	0.66/0.72	-0.37/0.99	0.59/0.16	0.27/-0.36	-2.17/-6.38	-8.86/-9.02	-9.03/-11.2	-12.03/-12.33	-9.19/-10.12	-7.8/-6.89	-3.46/-2.84	0.65/0.84	1.59/1.01	-0.24/0.98	-0.07/-1.2	-2.89/-3.29	-1.57/-4.74	-4.16/-6.07	-3.16/-4.06	-9.68/-10.85	-14.19/-11.94	-12.46/-6.38	-3.07/-3.33
Θ (75°)	-0.39/-0.23	0.81/0.33	-1.58/0.63	-0.19/-1.09	0.01/-1.26	-2.89/-5.07	-7/-9.17	-8.71/-9.14	-11.76/-11.97	-5.58/-11.75	-8.86/-4.95	-6.82/-5.19	-1.88/0.52	2.07/0.86	-1.59/0.85	-1.22/-2.07	-0.63/-2.8	-2.29/-2.48	-3.91/-4.28	-2.81/-3.4	-7.65/-10.67	-12.03/-14.31	-12.86/-7.23	-4.57/-2.88
Θ (82.5°)	-3.49/-1.93	0.15/-0.63	-1.72/-0.62	-0.84/-1	-0.82/-2.4	-3.1/-6.18	-6.52/-8.46	-6.78/-9.21	-10.8/-12.17	-6.21/-14.28	-9.24/-5.84	-6.08/-5.34	-3.65/0.19	0.89/-0.67	-2.01/-0.61	-3.18/-1.21	-0.85/-2.84	-2.84/-2.09	-1.82/-3.24	-2.25/-3.04	-6.87/-11.13	-12.11/-15.19	-11.91/-7.75	-7.45/-5.32
Θ (90°)	-8.13/-5.03	-2.35/-2.59	-1.35/-2.1	-2.53/-1.97	-2.37/-4.44	-5.09/-4.38	-5.22/-8.55	-4.79/-9.45	-9.63/-11.78	-6.75/-11.88	-9.53/-5.88	-4.92/-5.79	-6.29/-3.03	-0.43/-0.81	-2.61/-3.5	-4.2/-1.61	-1.82/-5.41	-3.56/-1.21	-2.99/-3.51	-4.14/-4.96	-9.87/-13.32	-10.15/-14.04	-11.2/-7.56	-6.36/-7.12
Θ (97.5°)	-9.21/-8.38	-6.35/-6.4	-2.15/-4.23	-4.49/-3.22	-5.34/-5.63	-5.51/-3.42	-6.14/-6.96	-6.51/-8.15	-11.2/-13	-6.78/-13.55	-7.12/-5.72	-3.69/-6.15	-6.14/-4.83	-2.83/-2.7	-1.87/-5.81	-5.19/-2.17	-5/-7.03	-4.29/-3.03	-4.13/-5.86	-7.44/-8.06	-11.58/-14.92	-15.07/-11.38	-11.4/-9.71	-7.23/-7.02
Θ (105°)	-7.71/-9.82	-10.22/-10.89	-4.64/-6.68	-6.38/-4.41	-7.37/-5.13	-5.4/-3.78	-6.26/-6.4	-7.85/-7.95	-11.39/-15.76	-8.25/-10.41	-13.19/-6.66	-3.37/-5.34	-5.91/-9.19	-6.1/-5.56	-2.34/-7.58	-5.04/-3.73	-5.92/-7.93	-6.38/-3.69	-4.81/-8.02	-8.17/-13.09	-10.64/-14.73	-11.63/-15.8	-11.44/-7.82	-9.17/-6.87
Θ (112.5°)	-6.17/-12.18	-9.04/-11.75	-8.55/-6.77	-6.6/-7.36	-8.39/-5.5	-5.85/-5.47	-7.88/-6	-12.59/-10.8	-11.47/-12.53	-10.08/-13.63	-10.56/-7.67	-4.85/-6.05	-7.41/-11.17	-9.9/-8.93	-3.82/-5.35	-4.23/-5.16	-6.19/-7.12	-4.46/-5.47	-7/-8.51	-10.54/-14.79	-12.96/-15.59	-12.35/-11.86	-10.29/-10.54	-11.93/-7.06
Θ (120°)	-9.87/-7.36	-12.18/-13.69	-12.48/-5.49	-6.24/-10.2	-7.93/-8.74	-8.05/-7.31	-9.72/-7.91	-12.81/-11.76	-14.79/-14.15	-8.02/-12.83	-14.19/-9.66	-10.38/-10.14	-11.21/-7.56	-10.59/-10.14	-5.12/-5.39	-4.69/-9.86	-9.32/-6.5	-5.66/-6.57	-9.02/-9.97	-15.26/-15.79	-10.09/-11.08	-9.52/-16.06	-14.56/-12.17	-11.92/-14.61
Θ (127.5°)	-14.4/-14.81	-14.98/-11.75	-13.75/-7.8	-9.91/-9.37	-8.34/-9.43	-8.53/-8.6	-10.44/-9.12	-12.01/-11.57	-13.65/-15.33	-10.01/-9.7	-14.61/-12.25	-13.77/-13.16	-15.12/-12.23	-9.38/-8.99	-6.67/-3.54	-5.01/-7.55	-9.48/-7.07	-7.68/-5.57	-10.74/-10.94	-14.29/-14.25	-14.58/-12.15	-5.04/-8.87	-15.03/-13.16	-11.81/-14.56
Θ (135°)	-13.56/-9.62	-13.59/-11.26	-9.54/-12.98	-10.1/-9.74	-10.66/-9.3	-10.24/-8.73	-7.83/-9.2	-15.51/-11.59	-7.51/-12.25	-16.16/-10.42	-9.16/-8.23	-10.34/-12.84	-14.38/-13.04	-12.14/-8.18	-7.97/-5.8	-5.84/-8.39	-8.15/-9.22	-7.42/-6.06	-6.85/-8.41	-10.67/-11.01	-15.03/-10.29	-8.55/-9.09	-9.53/-15.25	-10.38/-10.59
Θ (142.5°)	-12.38/-8.79	-12.97/-13.81	-11.84/-11.93	-12.24/-13.06	-14.4/-11.6	-12.76/-9.9	-8.81/-8.25	-10.2/-16.31	-11.11/-11.99	-14.95/-14.84	-14.26/-15.17	-12.76/-14.63	-10.85/-8.12	-11.14/-9.98	-10.96/-11.53	-12/-9.2	-10.88/-7.17	-8.23/-7.5	-5.86/-8.04	-15.37/-13.81	-14.85/-15.4	-10.96/-12.14	-14.08/-10.95	-11.09/-12.33
Θ (150°)	-11.6/-14.38	-12.15/-12.73	-11.34/-13.13	-15.36/-13.77	-11.9/-9.9	-11.52/-12.95	-10.54/-9.65	-10.73/-13.02	-14.16/-15.57	-15.94/-15.04	-15.34/-15.18	-12.3/-12.37	-13.62/-13.48	-15/-14.52	-13.18/-10.47	-9.48/-11.14	-10.77/-10.21	-9.26/-7.99	-10.76/-12.74	-13.5/-13.75	-15.06/-15.26	-14.75/-13.04	-14.31/-15.38	-13.99/-10.06
Θ (157.5°)	-10.49/-11.45	-12.29/-12.66	-12.09/-10.93	-10.32/-11.3	-13.82/-13.9	-12.97/-11.36	-11.23/-12.61	-14.62/-12.08	-9.64/-8.88	-9.78/-11.06	-13.39/-15.18	-12.18/-14.2	-14.96/-15.19	-14.85/-14.18	-12.35/-14.08	-14.2/-10.74	-7.96/-8.47	-9.35/-8.35	-8.19/-8.71	-8.75/-8.55	-10.08/-12.91	-15.6/-15.23	-13.55/-14.44	-13.83/-11.86
Θ (165°)	-14.26/-12.71	-12.66/-12.57	-12.06/-12.17	-12.63/-12.54	-10.16/-10.09	-12.71/-10.38	-8.73/-8.74	-8.19/-8.21	-8.45/-9.06	-9.83/-10.93	-12.71/-15.22	-14.75/-16.04	-14.71/-14.04	-15.59/-14.47	-14.62/-15.42	-15.74/-15.6	-14.08/-11.61	-9.93/-8.03	-8.31/-8.68	-8.72/-9.37	-10.66/-11.13	-11.91/-10.49	-9.89/-11.15	-15.01/-15.87
Θ (172.5°)	-11.36/-11.61	-13.51/-15.17	-15.17/-15.43	-15.29/-14.96	-12.67/-10.79	-10.1/-8.3	-7.57/-7.67	-7.63/-7.82	-8.69/-10.74	-12.37/-13.72	-14.81/-15.03	-13.02/-12.84	-13.72/-13.62	-12.33/-12.37	-12.53/-10.97	-9.58/-9.34	-8.6/-8.13	-7.76/-8.53	-9.96/-10.15	-11.06/-10.81	-10.9/-10.97	-10.24/-9.34	-8.76/-9.39	-10.98/-11.65
Θ (180°)	-13.16/-14.79	-15.69/-15.96	-15.38/-15.65	-15.47/-15.07	-14.29/-12.09	-10.51/-10.96	-10.74/-9.58	-10.8/-13.59	-12.81/-12.52	-11.87/-12	-12.84/-13.68	-14.43/-14.05	-13.91/-14.59	-13.63/-12.55	-13.17/-15.63	-14.26/-14.14	-14/-14.79	-14.8/-12.7	-11.59/-10.38	-10.12/-10.31	-9.68/-10.15	-9.58/-8.27	-8.65/-9.54	-10.38/-11.92
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°)	0.02/-1.32	-2.21/-3.74	-5.3/-5.19	-4.23/-3.15	-1.89/-0.58	0.75/1.91	2.73/2.3	3.51/3.67	3.79/3.8	3.88/3.57	3.25/2.81	2.11/1.42	0.14/-1.21	-2.54/-4.14	-5.17/-4.35	-2.79/-1.62	-0.47/0.62	1.82/68	3.22/3.56	3.71/3.96	4.18/4.16	3.97/3.62	3.15/2.57	1.97/1.23
Θ (7.5°)	-1.73/-3.47	-12.62/-2.11	-0.81/0.24	1.15/1.91	2.38/2.54	2.71/2.85	3.21/3.32	3.43/3.46	3.57/3.59	3.68/3.4	2.87/2.3	1.69/1.03	0.28/-0.95	-2.19/-2.87	-2.78/-2.78	-2.25/-1.31	-0.71/0.41	1.17/1.86	2.73/0.7	3.41/3.49	3.81/3.68	3.42/9.2	2.41/7	0.75/-0.19
Θ (15°)	-1.79/-2.8	-2.71/-1.71	-0.4/0.42	1.33/2.14	3.02/3.48	3.33/3.33	3.37/3.28	3.44/3.16	2.85/2.6	2.32/1.68	0.66/-0.22	-0.63/-0.45	-0.34/-0.79	-1.44/-1.57	-0.96/-0.29	0.45/1.23	1.66/1.73	1.74/1.57	2.09/3.01	3.68/4.08	4.11/3.56	2.25/0.58	-0.84/-1.33	-1.13/-1.09
Θ (22.5°)	-1.3/-0.38	0.68/1.02	1.27/1.59	1.79/1.81	2.42/2.88	2.88/2.91	2.84/2.59	3.11/2.87	2.12/2.22	1.8/0.7	-1.03/-1.19	-0.87/-1.66	-2.04/-2.61	-2.59/-2.27	-2.22/-2.18	-1.23/-0.32	0.96/0.97	0.96/1.64	2.42/7	2.71/2.88	2.41/3.4	-0.07/-1.06	-1.02/-1.32	
Θ (30°)	-3.68/-2.18	-1.08/0.83	0.05/1.98	2.39/1.62	1.96/2.06	1.59/1.5	1.65/2.83	2.77/1.26	0.41/1.35	1.79/1.11	0.13/0.41	-0.01/-1.17	-1.17/0.18	0.29/-0.36	0.07/1.38	1.81/67	1.77/1.21	0.09/-0.3	2.12/6	1.86/0.63	-0.07/0.66	2.38/3.14	1.71/-0.35	-2.71/-3.5
Θ (37.5°)	-4.74/-2.67	-1.6/-0.73	0.64/2.23	3.16/3.39	3.12/3.15	3.82/3.16	1.52/28	2.55/1.49	1.23/-0.05	0.46/-0.07	0.57/1.26	0.25/-0.91	-1.3/-1.62	0.35/2.6	2.71/1.94	1.73/2.66	3.63/3.01	0.37/0.03	2.09/2.5	1.21/1.72	2.04/0.71	1.05/2.4	1.43/0.05	-2.71/-5.31
Θ (45°)	-2.94/-2.43	-1.09/0.4	2.23/2.33	2.61/3.39	2.84/0.87	1.29/1.9	2/1.73	1.16/0.6	0.62/0.91	1.09/0.47	-0.56/1.65	1.87/0.56	-0.66/0.57	1.93/1.3	4.02/3.83	2.57/1.76	2.42/3.64	2.65/-0.38	0.83/2.1	0.99/-0.04	0.68/-0.37	0.16/1.03	0.97/1.98	1.44/-1.05
Θ (52.5°)	-6.3/-2.78	0.17/1.28	3/2.83	3.21/3.78	3.69/2.05	1.31/4.9	1.65/2.39	0.99/-0.45	0.16/0.81	0.3/0.1	-0.23/2.31	1.92/0.26	1.36/3.05	2.67/2.96	3.64/3.52	3.24/2.22	2.38/3.2	3.88/1.8	0.93/2.02	1.49/1.5	-0.31/-2.2	0.16/0.8	-0.29/1.11	0.99/-3
Θ (60°)	-7.96/-2.23	-0.06/-0.23	0.23/0.56	1.67/2.13	1.77/0.48	-0.4/0.12	-0.58/0.72	0.44/-0.21	-2.27/1.31	0.02/0.38	-0.57/1.26	0.69/0.51	1.7/1.2	1.1/3.12	3.32/2.65	1.73/0.88	1.43/1.33	2.37/0.65	0.86/0.6	0.92/3.51	-0.87/-1.98	1.53/0.22	-1.85/-2.09	-0.73/-5.11
Θ (67.5°)	-6.49/-3.54	-0.64/-0.98	0.98/1.41	2.98/2.98	3/1.33	-0.9/-1.26	-1.77/-1.8	-1.52/-1.29	-4.69/0.6	-0.83/-1.41	-0.19/0.6	-0.88/2.58	1.02/-1.05	1.21/3.11	4.26/3.51	1.24/0.94	2.2/0.3	0.87/-1.95	0.27/0.01	0.63/3.29	-1.38/-0.07	1.88/-1.69	-3.43/-4.18	-1.48/-4.25
Θ (75°)	-5.06/-6.74	-4.21/-2.12	2.25/2.45	3.59/3.48	4.09/2.23	-0.55/-1.63	-2.32/-1	-2.77/-3.04	-3.01/-2.1	-2.22/-2.54	-0.38/0.3	-0.61/2.83	1.2/0.67	1.21/44	4.17/3.75	1.89/2.05	3.69/1.56	0.56/-0.38	0.51/5.1	0.19/2.67	-0.33/0.74	1.39/-3.17	-2.47/-2.11	-1.41/-4.24
Θ (82.5°)	-5.23/-7.22	-5.84/-4.05	1.3/1.19	2.43/3.09	4.01/1.72	-1.1/-1.77	-3.42/-1.01	-3.31/-5.55	-2.55/-3.45	-4.19/-4.88	-0.46/-1.2	0.21/2.06	0.17/1.34	0.29/0.96	3.27/2.12	0.91/89	3.62/1.37	-0.75/1.27	1.1/1.29	0.2/1.11	-0.47/0.67	0.28/-2.93	-3.62/-1.95	-1.07/-4.29
Θ (90°)	-6.53/-7.73	-6.28/-6.01	-0.85/-0.83	0.48/1.88	3.1/0.57	-2.09/-1.39	-5.46/-1.09	-4.07/-6.34	-2.57/-4.02	-5.62/-6.88	-0.94/-1.15	-0.84/0.56	-1.51/0.23	-0.39/-0.8	2.08/-0.42	-0.87/0.71	1.94/0.47	-1.05/0.93	0.45/1.43	-1.8/-2.07	-1.71/-0.34	-2.15/-3.08	-1.12/-3.72	-2.17/-4.06
Θ (97.5°)	-6.34/-9.32	-5.59/-6.89	-2.62/-2.24	-1.06/0.46	1.21/-1.22	-2.5/-2.92	-6.97/-2.71	-5.23/-8.04	-2.78/-3.85	-7.17/-8.51	-2.41/-3.36	-2.08/-2.02	-3.47/-0.31	-2.48/-1.88	0.16/-2.86	-3.2/-0.92	-1.55/-2.94	-2.28/-0.72	-2.99/-2.2	-4.01/-4.81	-4.41/-3.86	-5.08/-3.34	-2.98/-7.05	-4.26/-3.7
Θ (105°)	-9.25/-7.95	-7.26/-7.18	-4.81/-2.64	-1.65/-1.39	-0.9/-3.1	-4.17/-3.72	-10.17/-4.82	-6.7/-8.14	-4.73/-4.9	-7.13/-7.99	-5.18/-4.26	-4.86/-2.98	-6.06/-3.32	-4.15/-5.28	-2.18/-2.64	-4.03/-1.94	-4.73/-9.96	-4.45/-3.18	-4.97/-5.18	-6.09/-5.49	-5.06/-6.89	-5.45/-6.33	-4.03/-7.26	-6.01/-5.93
Θ (112.5°)	-11.14/-8.81	-7.41/-6.48	-4.18/-2.93	-2.91/-2.3	-2.46/-4.62	-5.17/-6.09	-7.1/-7.24	-6.84/-9.33	-5.68/-5.51	-7.61/-9.72	-7.47/-7.76	-7.18/-4.37	-4.63/-4.68	-5.05/-6.67	-2.91/-									

Gain Result

[illegible]



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix B

Θ(22.5°)	-1.63/-0.83	0.10/86	0.88/0.56	-0.48/-0.83	-0.62/-1.1	-2.34/-3.25	-2.35/-2.37	-3.91/-6.84	-9.06/-6.35	-4.84/-3.25	-2.1/-1.68	-2.04/-2.23	-1.8/-1.15	-0.92/-0.53	-0.16/-0.21	-1.12/-2.22	-2.93/-3.42	-4.35/-5.38	-5.13/-4.84	-5.33/-6.01	-6.79/-7.55	-6.64/-5.28	-3.9/-3.39	-3.23/-2.39
Θ(30°)	-1.5/-0.62	0.42/-1.25	1.19/0.05	-1.17/-1.42	-0.87/-0.55	-2.01/-4.2	-3.67/-2.77	-3.7/-6.81	-9.81/-8.64	-9.93/-6.85	-3.01/-2.66	-2/-0.84	-0.11/-0.43	-0.45/-0.15	1.05/-1.13	0.47/0.01	-1.01/-2.71	-4.69/-6.04	-6.74/-7.72	-9.16/-9.54	-10.77/-12.73	-11.02/-9.83	-8.12/-5.87	-3.99/-2.38
Θ(142.5°)	-2.09/-1.91	-1.4/-0.42	-0.41/-0.74	-1.27/-1.83	-1.16/-0.59	-1.8/-5.57	-6.89/-4.2	-5.89/-10.08	-6.68/-8.62	-13.56/-7.4	-4.65/-2.32	-0.05/0.89	0.07/-0.97	-0.76/0.2	0.60/4.6	-0.09/-0.09	-0.15/-1.26	-2.56/-3.17	-4.34/-7.86	-13.17/-13.38	-12.93/-12.75	-11.35/-9.61	-7.48/-5.43	-3.72/-2.31
Θ(45°)	-4.68/-2.98	-1.67/0.25	0.51/0.42	1.24/0.72	-1.31/-1.8	-1.94/-4.11	-7.57/-5.89	-5.12/-10.15	-17.04/-11.75	-9.92/-7.21	-8.92/-6.26	-3.12/-2.63	-3.34/-3.18	-0.82/0.76	0.7/-0.55	-1.93/-2.37	-2.61/-2.75	-3.93/-6.02	-6.54/-5.53	-7.87/-15.97	-15.77/-13.58	-16.18/-16.36	-9.03/-5.52	-7.5/-7.36
Θ(52.5°)	-2.86/-1.94	-0.33/-0.25	-2.1/-3.01	-1.81/-0.85	-1.86/-2.27	-2.22/-4.8	-6.58/-9.08	-7.52/-9.34	-19.55/-16.63	-9.36/-8.63	-11.53/-5.01	-3.53/-2.4	-2.29/-1.56	-0.17/0.67	0.67/-0.65	-1.78/-1.27	-2.17/-3.66	-3.18/-5.12	-6.68/-4.85	-13.8/-17.82	-14.08/-18.94	-15.82/-13.3	-11.29/-5.31	
Θ(60°)	-0.88/-0.77	-1.03/-2.61	-4.69/-3.17	-3.56/-2.79	-2.15/-1.87	-1.39/-0.07	-9.24/-10.94	-11.23/-9.92	-13.75/-19.25	-17.65/-10.64	-12.21/-5.54	-3.62/-0.9	-0.8/-1.44	-2.37/-2.13	-0.14/-0.06	-2.15/-1.11	-0.4/-0.01	-10.14/-10.86	-11.68/-18.71	-17.01/-16.12	-18.46/-15.63	-8.63/-7.74	-8.24/-3.5	
Θ(67.5°)	-0.29/0.11	-1.23/-3.71	-4/-0.97	-3/-3.67	-3.03/-5.19	-1.64/-4.76	-11.67/-8.74	-12.5/-8.8	-15.15/-14.72	-18.8/-13.11	-9.26/-6.43	-3.93/-1.11	-0.57/-2.23	-3.33/-3.42	-2.54/-1.5	-1.73/-1.32	-0.64/-4.8	-7.46/-9.91	-13.11/-13.48	-18.63/-15.1	-12.95/-13.35	-17.86/-11.95	-17.85/-10.92	-9.21/-4.11
Θ(75°)	-3.29/-1.1	-1.05/-3.58	-5.46/-2.33	-4.11/-5.65	-2.67/-8.76	-4.95/-3.75	-9.77/-5.59	-8.61/-6.75	-10.94/-8.93	-15.58/-13.12	-10.82/-8.24	-4.7/-4.64	-4.28/-2.77	-1.89/-1.98	-0.27/-3.06	-0.66/-11.96	-12/-11.95	-12.81/-15.02	-14.54/-10.23	-18.29/-13.38	-18.98/-11.88	-8.86/-8.97		
Θ(82.5°)	-4.47/-3.09	-1.68/-5.25	-5.5/-4.88	-5.91/-6.41	-2.75/-9.34	-8.81/-4.13	-9.11/-6.07	-8.2/-5.99	-9.65/-9.11	-16.98/-15.62	-11.74/-9.45	-5.87/-3.72	-1.88/-4.73	-4.63/-4.81	-4.31/-2.65	-1.73/-2.54	-0.52/-3.63	-6.96/-11.99	-15.69/-19.16	-16.21/-11.5	-14.08/-14.59	-10.56/-14.59	-12.79/-11.87	
Θ(90°)	-10.07/-6.05	-3.44/-7.17	-6.09/-10.41	-8.09/-7.17	-6.14/-10.38	-19.28/-6.62	-9.38/-6.01	-8.41/-5.07	-8.78/-8.59	-18.84/-18.02	-14.53/-10.95	-7.13/-6.39	-3.21/-5.01	-7.2/-6.07	-5.35/-3.57	-2.34/-3	-1.25/-3.67	-7.09/-10.37	-15.91/-18.41	-16.91/-15.73	-19.24/-12.62	-14.9/-15.1	-10.31/-12.43	-11.88/-17.48
Θ(97.5°)	-8.95/-12	-6.06/-8.06	-6.51/-18.85	-11.98/-10.24	-9.82/-11.64	-15.58/-7.12	-8.84/-6.57	-9.36/-9.37	-16.89/-17.83	-16.66/-10.38	-7.71/-7.23	-4.53/-6.74	-8.41/-8.06	-4.71/-2.78	-3.2/-3.45	-8.82/-10.89	-12.39/-19.29	-16.76/-15.13	-18.96/-19.1	-12.59/-18.68	-17.73/-10.81	-11.73/-10.81	-7.97/-10.23	
Θ(105°)	-8.5/-17.11	-12.74/-14.94	-10.89/-17.4	-17.01/-10.06	-16.6/-11.79	-9.55/-9.84	-9.22/-7.57	-10.31/-6.81	-11.74/-10.23	-17.75/-15.62	-15.85/-12.61	-9.44/-10.08	-18.14/-10.93	-12.95/-8.85	-5.78/-3.1	-6.38/-5.96	-4.28/-4.56	-8.81/-9.83	-15.79/-14.6	-17.71/-13.39	-12.24/-9.64	-13.82/-8.29	-10.15/-14.34	-12.76/-11.52
Θ(112.5°)	-12.59/-16.36	-15.53/-11.83	-14.19/-7.42	-16.53/-15.63	-17.33/-10.45	-8.3/-9.06	-8.67/-10.97	-9.58/-9.45	-15.01/-12.13	-15.06/-17.63	-19.55/-14.58	-9.74/-9.99	-10.19/-12.36	-12.49/-9.8	-6.34/-3.54	-5.83/-6.07	-6.38/-6.48	-6.67/-7.63	-10.8/-15.66	-11.05/-18.69	-12.81/-13.18	-10.5/-19.15	-9.98/-8.12	-9.29/-13.85
Θ(120°)	-19.01/-16.73	-18.47/-13.78	-18.58/-8.22	-12.87/-16.43	-19.05/-14.62	-13.46/-17.27	-12.81/-13.15	-13.66/-13.43	-13.27/-13.62	-19.29/-17.73	-17.85/-19.22	-13.58/-17.71	-14.92/-15.31	-13.49/-7.85	-6.51/-5.06	-8/-7.15	-6.34/-6.44	-6.18/-6.84	-5.68/-10.26	-13.74/-15.12	-17.78/-12.84	-12.22/-10.58	-19.33/-17.95	-15.58/-15.85
Θ(127.5°)	-18.96/-18.34	-18.87/-13.02	-18.61/-10.14	-15.15/-14.05	-12.34/-13.96	-19.67/-17.38	-13.56/-15.51	-14.18/-11.45	-14.58/-18.26	-16.52/-17.56	-17.84/-14.3	-18.8/-14.09	-13.97/-13.29	-10.33/-7.66	-6.48/-8.01	-8.98/-7.28	-5.56/-8.3	-7.4/-8.48	-11.91/-18.34	-19.03/-8.43	-6.54/-7.35	-15.3/-18.99	-13.36/-18.01	
Θ(135°)	-13.21/-18.93	-18.87/-10.78	-11.06/-15.14	-15.64/-18.46	-15.31/-10.53	-14.21/-16.66	-11.58/-12.67	-14.76/-14.4	-16.84/-16.49	-18.01/-18.8	-13.39/-15.74	-19.06/-13.38	-15.18/-13.25	-10.26/-13.05	-17.02/-10.76	-7.1/-8	-6.6/-5.72	-3.63/-4.64	-6.76/-8.1	-5.42/-12.47	-11.33/-9.84	-11.89/-4.96	-8.59/-15.51	-7.44/-11.38
Θ(142.5°)	-13.29/-12.67	-18.13/-11.18	-10.72/-14.2	-15.9/-18.62	-19.04/-17.83	-17.36/-18.78	-14.48/-16.61	-18.18/-16.63	-17.3/-18.35	-19.26/-15.93	-14.17/-18.09	-14.97/-13.71	-18.42/-17.43	-15.73/-16.17	-13.79/-14.73	-13.01/-11.79	-10.99/-8.67	-6.32/-6.29	-3.92/-5.75	-10.33/-17.61	-15.3/-12.58	-11.66/-8.04	-15.84/-15.69	-19.02/-17.34
Θ(150°)	-16.28/-12.76	-17.75/-17.87	-19.43/-18.26	-19.82/-17.2	-19.04/-19.03	-17.47/-17.19	-14.34/-16.48	-18.3/-18.82	-19.28/-17.99	-16.82/-15.93	-18.32/-13.48	-17.59/-17.81	-19.42/-15.71	-13.75/-15.38	-13.01/-10.97	-13.55/-14.75	-9.08/-7.72	-8.86/-8.2	-8.21/-11.51	-14.93/-18.88	-19.27/-13.06	-8.65/-8.47	-12.72/-13.21	-16.03/-16.6
Θ(157.5°)	-15.86/-14.44	-14.78/-17.85	-15.56/-13.58	-13.9/-16.52	-17.47/-15.31	-13.09/-12.07	-12.34/-13.64	-13.9/-16.05	-19.16/-19	-17.97/-17.44	-17.25/-17.64	-16.17/-16.89	-16.84/-16.04	-16.43/-15.72	-16.72/-16.42	-11.97/-9.1	-9.63/-12.31	-13.18/-10.96	-12.99/-15.51	-13.17/-11.11	-9.12/-8.61	-10.06/-13.27	-15.52/-14.81	-19.55/-19.32
Θ(165°)	-16.54/-17.6	-17.28/-14.13	-15.04/-13.47	-12.9/-11.82	-10.89/-9.06	-8.31/-8.22	-8.97/-8.78	-8.72/-8.48	-10.1/-11.93	-15.55/-17.58	-17.95/-17.98	-16.5/-16.64	-17.41/-18.13	-17.81/-14.12	-12.73/-11.25	-10.44/-11.82	-12.33/-9.53	-8.37/-10.36	-11.64/-9.4	-8.6/-9.05	-9.94/-12.74	-17.22/-18.67	-17.4/-18.82	-18.01/-16.85
Θ(172.5°)	-17.53/-18.76	-17.44/-16.68	-18.85/-18.98	-18.18/-18.68	-18.66/-17.39	-19.11/-18.5	-17.68/-18.25	-16.1/-16.23	-14.85/-14.01	-15.38/-15.4	-14.86/-13.96	-11.8/-10.74	-11.31/-11.42	-10.59/-10.76	-12.63/-13.53	-14.25/-13.65	-10.7/-9.65	-9.67/-9.7	-9.25/-9.6	-10.02/-9.19	-9.92/-11.83	-14.51/-15.05	-14.89/-15.87	-16.34/-16.09
Θ(180°)	-18.81/-18.46	-18.76/-18.64	-17.63/-17.08	-18.33/-17.97	-16.71/-16.35	-15.71/-15.23	-13.43/-11.68	-10.44/-10.21	-9.6/-9.19	-9.81/-10.92	-11.62/-12.86	-12.91/-13.1	-14.51/-16.81	-18.83/-18.82	-17.98/-19.11	-12.44/-14.63	-13.63/-12.03	-11.91/-12.35	-12.35/-12.39	-13.57/-16.22	-19.23/-18.67	-18.19/-18.69	-18.86/-18.37	
Freq(Hz)	5.3GPol	ThetaAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-2.07/-2.6	-3.23/-3.75	-4.88/-4.46	-6.94/-6.92	-6.79/-5.79	-4.24/-3.14	-2.56/-1.85	-1.22/-0.65	-2.07/-0.13	-0.04/0.23	0.23/-0.55	-1.04/-1.25	-2.35/-3.99	-4.67/-4.64	-5.38/-3.68	-5.75/-4.63	-3.65/-2.79	-1.96/-1.19	-0.84/-0.38	-0.01/0.05	-0.03/-0.15	-0.43/-0.34	-0.47/-1.2	
Θ(7.5°)	-0.18/-0.92	-1.45/-2.27	-2.6/-3.73	-4.38/-4.42	-3.75/-3.17	-2.41/-4.1	-0.88/-0.9	-0.16/-0.79	-0.66/-0.9	-0.91/-0.56	-0.23/-0.49	-1.15/-2.05	-2.94/-1.41	-10.72/-12.1	-1.93/-8.96	-6.87/-4.59	-3.61/-2.67	-1.87/-0.74	-0.15/0.47	0.68/0.97	0.07/0.17	0.77/0.77	0.82/-0.59	
Θ(15°)	1.88/-1.56	1.31/0.77	0.23/0.24	-1.53/-3.06	-3.14/-2.77	-2.17/-1.13	-0.69/-1.51	-2.15/-1.76	-1.38/-1.67	-1.61/-1.52	-1.67/-2.64	-4.45/-6.31	-9.52/-13.56	-15.18/-14.21	-11.48/-9.88	-7.52/-5.63	-4.17/-3.03	-1.57/-0.22	0.52/0.92	1.07/1.16	0.91/-15	1.35/-1.56	1.55/-1.36	1.47/-1.92
Θ(22.5°)	1.31/38	0.98/0.05	-0.72/-0.23	-0.79/-2.66	-4.2/-4.74	-5.19/-4.13	-3.27/-5.23	-7.71/-7.65	-6.21/-4.97	-3.99/-3.34	-3.91/-6.01	-8.7/-15.83	-18.13/-16.44	-13.56/-10.98	-7.16/-4.09	-2.23/-1.08	-0.55/-0.62	-0.34/0.61	1.65/-2.29	2.76/-2.77	2.53/-15	1.81/-54	0.98/-14	0.03/0.75
Θ(30°)	1.76/2.02	1.63/0.6	-0.78/-1.2	0.31/-1	0.28/-0.74	-1.48/-2.54	-3.16/-2.74	-3.47/-4.95	-7.84/-12.94	-12.23/-10.18	-9.46/-10.26	-11.76/-9.77	-13.70/-12.1	-1.30/6.1	1.13/0.72	1.60/1.12	0.61/-1.2	1.48/-1.39	2.06/-2.84	3.61/-7.2	3.44/-2.98	1.74/-2.09	0.80/-0.81	
Θ(37.5°)	0.97/-1.87	2.13/-1.73	1.27/0.46	-0.09/-0.32	-1.45/-3.13	-3.09/-3.08	-4.1/-6.06	-5.28/-4.37	-6.68/-10.67	-10.83/-10.18	-12.4/-14.46	-15.18/-12.05	-7.33/-6.16	-6.06/-4.19	-1.66/-0.58	-0.07/0.68	0.87/0.1	-0.20/-32	0.97/-11.3	1.03/-16	2.93/-18	2.72/-48	1.74/0.36	-0.29/-0.02
Θ(45°)	-1.61/-0.37	0.43/-0.57	-0.15/-1	0.84/-0.31	-1.24/-2.64	-5.88/-7.72	-5.24/-5.35	-8.03/-6.97	-7.44/-9.01	-7.87/-6.68	-8.93/-10.93	-14.07/-6.08	-1.83/-2.86	-4.42/-4.26	0.56/-1.78	1.59/-1.78	1.75/-1.01	1.23/-0.13	0.13/0.62	0.62/-1.88	1.38/-1.57	1.5/0.89	-0.2/-1.23	
Θ(52.5°)	-1.55/-1.18	-0.47/-2.36	-3.03	0.51/-1.51	-2.66/-2.7	-3.87/-4.42	-5.02/-6.54	-6.5/-6.62	-6.7/-8.21	-5.94/-5	-6.65/-9.1	0.3/-2.28	-2.75/-0.03	1.21/32	1.71/-19	2.15/-1.94	1.09/-85	1.53/0.61	1.44/0.61	-0.26/-0.26	-0.55/-1.49	-0.63/0.51	-0.41/-2.06	
Θ(60°)	-4.82/-4.32	-2.34/-3.27	-2.78/-1.01	-1.65/-2.84	-3.27/-4.28	-8.04/-7.15	-7.6/-14.08	-9.62/-10.41	-6.13/-7	-6.34/-4.65	-4.13/-3.87	-3.85/-1.26	-0.59/-1.25	-0.89/0.28	0.59/0.63	-0.03/-0.17	1.61/2.56	0.44/-1.1	2.1/0.81	0.07/9	0.42/0.03	-2.78/-4.09	-2.52/-0.99	-3/-6.93
Θ(67.5°)	-5.4/-15.4	-7.59/-6.94	-2.24/-0.89	-3.67/-1.28	0.33/-0.44	-4.58/-8.57	-5.28/-11.02	-8.45/-18.4	-5.11/-7.08	-7.61/-3.87	-2.86/-3.23	-2.32/-2.87	-2.69/-0.71	0.26/0.89	0.59/-0.3	-0.83/-1.66	-0.02/2.43	1.57/0.01	1/1.04	-0.45/-0.1	-0.09/-0.77	-3.61/-3.89	-2.32/-2.16	-6.56/-5.52
Θ(75°)	-3.05/-11.39	-17.11/-15.29	-2.94/-1.28	-4.77/-0.06	1.47/0.17	-2.08/-8.32	-4.66/-8.62	-5.47/-11.71	-5															



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix B

Θ(67.5°)	-0.84/0.58	-1.27/-2.21	-5.04/2.57	-4.36/-5.89	-5.02/-4.3	-5.52/-10.03	-14.15/-11.71	-10.66/-17.74	-12.54/-14.89	-11.19/-14.11	-8.81/-5.7	-4.15/-2.1	-1.4/-2.67	-0.85/-0.35	-0.37/-0.06	-0.39/0.02	-1.83/-3	-0.73/-3.03	-3.4/-6.28	-4.06/-4.94	-9.99/-10.57	-16.41/-18.21	-18.8/-13.37	-7.69/-6.94	
Θ(75°)	-2.71/-1.95	-0.93/-1.99	-7.31/-3.01	-5.02/-7.52	-4.48/-5.8	-6.68/-8.8	-8.6/-12.67	-8.48/-14.61	-13.68/-17.9	-9.13/-17.24	-8.62/-5.85	-5.74/-3.83	-2.77/-3.25	-0.92/-0.89	-1.27/-0.75	-1.67/-1.44	-1.4/-3.15	-0.56/-2.1	-3.28/-8.23	-5.93/-5.71	-7.56/-10.57	-13.33/-18.98	-18.12/-15.45	-9.2/-8.46	
Θ(82.5°)	-8.56/-5.05	-1.52/-2.59	-7.17/-5.53	-6.08/-6.64	-5.04/-8.23	-8.51/-10.49	-7.27/-10.35	-6.9/-11.3	-12.09/-19.09	-9.58/-17.62	-8.72/-8.61	-6.02/-3.81	-4.35/-2.84	-2.98/-2.35	-1.71/-2.18	-3.28/-2.15	-1.2/-3.09	-3.58/-10.09	-4.9/-6.9	-6.92/-11.22	-15.88/-18.27	-18.18/-13.83	-17.46/-15.02		
Θ(90°)	-18.53/-10.28	-4.26/-3.97	-5.35/-7.84	-7.81/-7.42	-6.81/-11.78	-12.74/-8.73	-5.96/-10.67	-4.92/-10.38	-11.1/-18.93	-10.65/-15.43	-11.28/-10.06	-6.4/-5.72	-5.66/-4.38	-3.65/-3.81	-2.27/-4.15	-3.49/-3.29	-3.09/-3.84	-4.03/-3.03	-6.1/-12.06	-10.17/-11.62	-10.91/-14.7	-11.89/-16.09	-14.38/-12.09	-11.84/-16.16	
Θ(97.5°)	-18.21/-18.37	-9.12/-8.96	-5.27/-11.89	-13.05/-9.85	-11.24/-14.84	-12.7/-8.73	-7.21/-9.73	-6.26/-9.22	-12.43/-18.22	-11.83/-17.33	-10.5/-11.46	-6.25/-6.51	-6.54/-4.76	-5.33/-5.13	-3.32/-4.54	-4.1/-4.02	-4.89/-6.13	-6.3/-5.24	-9.91/-17.41	-14.73/-13.65	-15.17/-18.38	-18.16/-11.85	-13.81/-12.4	-11.72/-11.99	
Θ(105°)	-12.16/-15.91	-9.23/-7.99	-7.71/-13.86	-16.8/-10.38	-18.71/-11.83	-9.38/-9	-9.1/-9.59	-9.13/-9.18	-15.39/-19.15	-12.08/-15.88	-16.59/-11.19	-7.62/-8.91	-9.2/-10.26	-6.93/-6.71	-4.32/-6.41	-4.98/-4.26	-4.87/-6.68	-9.75/-7.35	-10.81/-17.74	-17.99/-17.68	-18.02/-18.44	-14.07/-18.77	-13.82/-9.63	-10.73/-8.75	
Θ(112.5°)	-9.65/-14.32	-13.55/-17.07	-11.37/-10.44	-13.98/-14.14	-18.1/-12.14	-8.83/-11.52	-12/-9.86	-13.36/-10.63	-15.1/-17.42	-13.09/-16.98	-14.4/-11.32	-8.27/-11.55	-11.57/-11.56	-10.06/-8.38	-4.77/-4.92	-6.77/-5.88	-4.81/-5.92	-5.99/-8.48	-15.77/-18.9	-13.62/-16.81	-14.12/-18.45	-15.97/-13.91	-11.83/-11.98	-16.14/-7.63	
Θ(120°)	-13.47/-17.75	-17.88/-14.84	-13.77/-8.07	-10.99/-16.24	-16.85/-19.06	-13.78/-15.87	-14.93/-16.51	-18.45/-14.42	-16.9/-18.32	-13.78/-18.11	-15.94/-13.57	-15.32/-13.37	-18.93/-10.44	-12.19/-9.66	-6.54/-5.06	-6.39/-9.91	-8.86/-6.19	-4.84/-7.49	-13.35/-11.67	-17.83/-18.76	-14.4/-18.31	-13.6/-18.85	-17.02/-19.17	-15.11/-17.83	
Θ(127.5°)	-18.53/-17.16	-18.32/-15.94	-18.17/-8.2	-11.46/-18.47	-14.49/-13.39	-18.97/-19.35	-17.87/-16.3	-18.93/-18.68	-16.5/-18.46	-13.3/-17.76	-17.7/-13.28	-17.22/-18.29	-17.84/-12.81	-9.78/-9.49	-7.23/-4.82	-5.5/-11.3	-10.62/-8.68	-7/-6.31	-11.36/-12.51	-18.99/-16.36	-16.56/-17.65	-6.27/-8.17	-18.02/-16.36	-14.21/-17.17	
Θ(135°)	-16.35/-12.17	-18.14/-12.52	-11.36/-17.8	-17.31/-18.12	-16.2/-10.59	-17.56/-14.39	-13.13/-17.97	-18.31/-17.63	-12.37/-18.85	-18.96/-17.03	-17.98/-11.12	-11.68/-15.55	-16.34/-18.05	-13.38/-11.02	-8.83/-5.26	-5.26/-7.81	-7.41/-10.19	-8.36/-4.99	-7.08/-10.78	-19.39/-11.09	-18.59/-10.32	-7.93/-8.96	-10.99/-17.91	-10.49/-10.87	
Θ(142.5°)	-13.74/-8.12	-14.04/-17.92	-14.45/-16.75	-18.73/-17.17	-13.06/-13.13	-16.16/-13.18	-10.72/-10.69	-12.52/-15.61	-14.39/-12.09	-11.53/-13.46	-16.87/-18.46	-17.98/-18.99	-18.94/-19.12	-19.62/-17.78	-17.15/-18.25	-18.39/-18.41	-16.54/-12.41	-9.72/-9.2	-11.28/-12.34	-10.99/-13.28	-16.85/-18.3	-19.4/-18.66	-18.54/-19.03	-18.96/-19.19	
Θ(172.5°)	-18.94/-17.86	-18.8/-18.89	-18.88/-17.7	-18.16/-18.43	-19.24/-16.9	-15.39/-14.49	-13.79/-13.12	-13.54/-13.95	-13.04/-12.97	-13.39/-14.9	-17.37/-17.14	-16.24/-17.13	-18.68/-18.56	-17.54/-13.87	-18.21/-14.45	-9.24/-8.36	-8.76/-10.47	-12.7/-14.79	-18.7/-18.72	-18.21/-18.72	-19.48/-18.92	-17.75/-18.63	-19.24/-18.97		
Θ(180°)	-18.59/-17.77	-19.22/-18.79	-17.62/-19.57	-18.66/-17.49	-16.98/-16.85	-17.07/-17.1	-16.78/-15.94	-15.42/-14.63	-14.42/-14.27	-14.54/-15.28	-16.12/-16.89	-18.92/-18.83	-18.01/-19.07	-17.98/-18.28	-17.56/-18.24	-16.88/-15.43	-15.32/-17.34	-17.24/-18.48	-18.08/-17.81	-17.58/-18.74	-17.59/-18.72	-17.11/-13.39	-13.57/-15.45	-17.22/-18.51	
Freq(Hz)	5.785GPol.	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)	
Θ(0°)	-1.77/-2.81	-3.72/-5.07	-6.46/-7.44	-7.35/-6	-4.88/-3.81	-2.47/-1.33	-0.68/-0.21	0.28/0.53	0.59/0.55	0.78/0.56	0.52/0.39	-0.09/-0.52	-1.62/-2.6	-3.04/-4.03	-5.57/-6.2	-5.89/-5.59	-4.91/-4	-2.95/-1.97	-1.08/-0.7	-0.35/0.23	0.66/0.86	0.8/0.5	0.14/-0.19	-0.57/-0.95	
Θ(7.5°)	-0.89/-1.64	-2/-2.19	-2.46/-2.41	-2.22/-2.06	-2.05/-2.32	-2.77/-2.75	-2.23/-1.86	-1.16/-0.51	-0.08/0.29	0.74/0.57	0.07/0.05	-1.22/-2.1	-3.45/-5.89	-8.48/-9.46	-9.29/-8.47	-7.21/-5.76	-4.44/-3.07	-1.88/-1.19	-0.68/0.03	0.59/0.85	1.29/1.33	1.23/0.96	0.71/0.26	-0.05/-0.36	
Θ(15°)	-0.56/-1.09	-2.26/-2.99	-2.58/-2.24	-1.32/-0.44	0.54/0.14	0.57/-0.27	-0.69/0.88	-0.52/-0.6	-0.96/-1.29	-1.6/-2.34	-3.56/-4.99	-5.67/-6.51	-13.47/-13.07	-10.4/-9.66	-4.61/-3.01	-2.28/-1.92	-1.82/-1.62	-0.79/0.57	1.59/2.19	2.41/2.08	1.26/0.49	-0.53/-1.24	-0.89/-0.51		
Θ(22.5°)	0.91/1.61	1.84/-1.55	1.38/1.41	1.33/0.71	0.76/0.87	0.31/-1.13	-1.67/-2.07	-1.89/-1.94	-3.1/-3.54	-3.98/-5.5	-8.67/-9.25	-7.03/-6.51	-8.35/-11.92	-16.22/-18.22	-14.03/-10.55	-7.32/-4.92	-2.47/-0.43	0.2/0.12	0.92/2.09	2.42/1.95	1.61/88	2.132/2.23	1.31/0.23	0.43/0.42	
Θ(30°)	-1.61/-1.32	-0.89/-0.47	0.632/28	2.24/0.77	-0.12/0.02	-0.44/-1.52	-2.12/-1.73	-2.36/-5.45	-5.7/-4.16	-3.94/-5.53	-9.15/-8.58	-7.79/-9.48	-10.61/-10.27	-8.62/-6.26	-3.94/-1.65	-0.37/-0.48	0.08/0.59	0.35/-0.17	2.83/28	2.751/47	-0.16/-17	3.554/06	2.76/0.72	-0.69/-1.68	
Θ(37.5°)	-3.67/-2.3	-1.24/0.54	0.311/-1	1.941/97	1.12/0.5	0.97/0.04	-2.25/-2.03	-1.9/-5.49	-4.55/-4.22	-5.18/-8.82	-10.46/-6.74	-6.22/-8.13	-12.19/-12.23	-6.44/-2.74	-1.68/-1.5	-2.22/-1.06	1.31/88	0.66/0.81	3.163/66	1.751/67	21/27	2.09/2.4	1.35/0.5	-1.41/-3.74	
Θ(45°)	-3.79/-2.16	-0.49/0.66	1.84/0.3	0.83/-1.7	1.31/-1.39	-2.52/-2.53	-2.62/-3.72	-5.23/-6.46	-2.94/-2.63	-4.69/-6.89	-9.54/-4.51	-5.05/-8.05	-12.17/-8.56	-3.64/-1.1	-0.62/-1.73	-3.69/-3.68	-1.49/-1.45	1.64/-0.5	0.773/0.7	1.57/0.31	1.3/-0.71	-0.84/0.02	1.05/-1.95	0.93/-1.86	
Θ(52.5°)	-8.78/-3.33	-0.21/0.36	2.17/-1.53	1.57/2.28	1.52/-1.35	-2.02/-4.55	-4.74/-3.56	-8.68/-9.57	-3.29/-3.78	-4.71/-6.15	-7.36/-5.2	-8.85/-6.65	-6.1/-3.68	-1.88/-1.37	-1.42/-1.71	-1.53/-2.23	-1.37/0.06	1.36/-0.07	-0.21/63	0.71/0.75	0.022/-2.95	-2.16/-1.63	-1.43/-0.69	-1.14/-5.4	
Θ(60°)	-16.84/-4.66	-1.54/-1.78	-0.94/-2.05	-1.08/-0.79	-1.3/-4.01	-5.12/-6.48	-12.23/-7.02	-13.15/-7.08	-5.94/-6.14	-2.89/-3.51	-7.6/-4.18	-7.61/-2.12	-2.17/-3.1	-1.39/-0.04	0.29/-1.08	-1.96/-1.44	-0.33/-1.73	-0.04/-0.47	0.51/0.46	0.84/2.6	-1.79/-3.05	-0.48/-1.47	-4.63/-8.72	-5.49/-9.81	
Θ(67.5°)	-17.82/-17.6	-3.82/-2.91	-0.94/-1.29	-0.17/-0.52	0.55/-0.79	-4.72/-5.43	-13.76/-13.5	-18.44/-9.98	-10.68/-6.43	-2.94/-5.31	-3.43/-4.05	-4.79/-9.31	-2.29/-3.64	-0.99/0.67	0.54/-1.54	-3.33/-2	-0.15/-2.36	-0.13/-1.39	-0.05/-0.53	-0.22/86	-3.79/-1.17	-0.19/-4.47	-11.39/-17.24	-8.61/-10.6	
Θ(75°)	-14.31/-17.54	-11.92/-6.15	-0.04/-0.29	0.54/0.09	2.07/0.4	-4.23/-3.67	-9.28/-0.64	-17.75/-10.39	-9.36/-11.32	-4.61/-6.28	-3.17/-2.88	-5.94/-2.35	-2.75/-3.68	-1.55/-1.17	-0.29/-2.35	-4.31/-5.72	-1.46/-2.05	-0.27/-1.19	-1.25/-0.41	-2.19/2.3	-2.93/-1.07	-0.65/-6.75	-10.81/-8.5	-4.75/-10.23	
Θ(82.5°)	-10.52/-16.86	-18.66/-11.55	-1.35/-1.94	-0.37/0.18	2.48/-0.07	-5.43/-3.46	-9.19/-3.61	-13.92/-9.68	-9.3/-12.7	-7.02/-9.89	-2.38/-5.67	-5.03/-4.2	-4.93/-2.76	-2.99/-2.13	-1.62/-9.41	-6.25/-7.49	-2.34/-2.8	-1.72/-1.86	-2.37/-1.81	-3.43/0.11	-3.81/-1.17	-1.73/-6.44	-6.34/-5.97	-4.51/-8.45	
Θ(90°)	-12.41/-16.1	-17.05/-13.67	-3.96/-4.91	-2.34/-0.73	1.42/-2.01	-6.71/-3.55	-10.53/-2.86	-11.95/-10.15	-7.06/-11.46	-11.3/-12.94	-2.58/-3.48	-5.81/-5.34	-5.89/-3.08	-2.82/-2.85	-1.16/-5.89	-7.06/-6.88	-4.19/-4.45	-4.64/-2.21	-6.46/-4.24	-5.29/-2.73	-4.26/-7.68	-6.93/-8.83	-6.91/-4.26		
Θ(97.5°)	-10.45/-18.71	-10.37/-13.71	-6.74/-7.49	-5.01/-2.04	-0.77/-4.68	-7.48/-5.08	-12.79/-3.91	-13.81/-9.85	-7.4/-9.17	-12.37/-14.59	-3.72/-4.9	-5.86/-6.94	-6.1/-1.86	-3.77/-3.15	-2.06/-6.82	-7.65/-10.71	-6.58/-6.49	-4.94/-6.32	-11.07/-6.07	-7.01/-8.75	-12.18/-6.97	-9.1/-9.11	-10.26/-13.95	-9.87/-6.3	
Θ(105°)	-18.59/-19.12	-17.19/-17.07	-11.99/-8.03	-6.74/-4.33	-5.15/-9.19	-9.49/-5.92	-18.84/-7.26	-18.13/-12.14	-9.24/-10.1	-13.75/-10.67	-5.93/-4.29	-5.01/-5.19	-5.72/-3.2	-3/-4.8	-2.82/-4	-5.29/-7.81	-7.28/-9.82	-4.67/-5.95	-9.7/-1.45	-6.6/-6.84	-12.75/-10.89	-8.49/-13.4	-15.28/-15.91	-11.88/-9.86	
Θ(112.5°)	-17.82/-18.41	-17.05/-18.29	-13.21/-7.81	-7.12/-7.1	-8.5/-10.13	-10.37/-8.47	-14.64/-11.4	-18.9/-16.1	-11.1/-10.97	-11.45/-12.53	-8.95/-6.64	-6.54/-6.41	-6.25/-5.98	-5.5/-5.25	-4.84/-4.09	-6.17/-15.87	-12.69/-8.22	-4.66/-9.53	-10.21/-7.66	-12.54/-9.98	-18.04/-12.67	-6.32/-13.36	-18.72/-17.84	-18.09/-17.8	
Θ(120°)	-17.14/-16.87	-12.56/-18.89	-15.57/-12.58	-7.9/-8.45	-12.5/-10.96	-10.34/-10.93	-8.04/-10.95	-17.74/-18.94	-15.46/-18.44	-10.97/-9.7	-7.21/-7.64	-9.56/-8.45	-4.51/-9.34	-5.26/-5.67	-8.11/-4.3	-6.84/-14.1	-10.11/-11.07	-6.28/-10.43	-10.64/-15.39	-16.14/-13.11	-18.68/-13.75	-7.24/-17.77	-14.03/-15.49	-14.83/-15.19	
Θ(127.5°)	-18.36/-18.6	-16.48/-16.46	-17.94/-18.84	-7.37/-9.2	-17.97/-18.18	-18.04/-17.5	-11.95/-18.04	-12.03/-18.16	-13.9/-17.69	-12.37/-11.11	-5.7/-10.66	-10.87/-8.66	-12.02/-6.3	-7.25/-16.1	-5.58/-2.75	-5.54/-15.7	-13.99/-10.18	-6.58/-6.69	-8.48/-11.54	-9.76/-7.27	-18.65/-14.03	-15.95/-13.93	-17.96/-18.88	-17.45/-17.38	
Θ(135°)	-10.82/-11.22	-18.21/-17.7	-10.6/-9.76	-9.24/-10.17	-15.64/-18.35	-18.1/-13.04	-10.6/-9.76	-13.75/-13.77	-11.1/-19	-18.89/-19.71	-18.01/-10.77	-8.54/-8.92	-7.35/-8.65	-9.89/-5.84	-6.35/-7.76	-4.32/-4.8	-9.66/-16.87	-9.65/-4.56	-5.25/-7.51	-12.08/-11.64	-7.14/-6.52	-17.11/-12	-13.11/-13.78	-8.5/-10.25	-15.75/-13.5
Θ(142.5°)	-8.7/-																								



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix B

Θ(120°)	-18.19/-17.19	-15.88/-12.12	-9.41/-9.9	-7.69/-7.95	-9.24/-11.72	-7.54/-6.79	-4.83/-7.25	-11.59/-8.01	-12.32/-18.64	-17.43/-18.89	-17.96/-12.76	-17.52/-16.59	-13.12/-16.57	-14.27/-19.19	-13.84/-7.83	-12.4/-13.2	-18.35/-9.8	-18.53/-6.84	-10.48/-7.77	-18.12/-14.82	-18.59/-18.55	-11.96/-18.53	-13.4/-17.55	-14.88/-18.57
Θ(127.5°)	-19.28/-17.23	-13.64/-9.82	-8.8/-8.99	-10.34/-10.92	-11.87/-10.72	-10.06/-9.75	-5.91/-6.45	-9.3/-14.65	-12.94/-8.64	-11.84/-13.31	-13.1/-17.16	-18.38/-13.26	-18.78/-18.06	-18.68/-13.59	-19.14/-7.04	-18.27/-10.36	-11.57/-10.09	-18.37/-11.46	-17.36/-17.71	-14.57/-13.98	-18.38/-12.98	-18.78/-19.13	-12.57/-18.22	-14.85/-18.99
Θ(135°)	-18.55/-16.54	-16.18/-16.92	-10.25/-11.55	-10.02/-10.71	-12.3/-10.42	-11.54/-13.01	-9.19/-10.48	-7.34/-7.99	-18.78/-14.21	-11.34/-15.98	-17.81/-18.94	-12.85/-11.42	-18.14/-16.5	-11.73/-11.54	-19.47/-13.33	-17.66/-15.66	-18.56/-14.21	-11.41/-17.45	-10.18/-18.45	-10.55/-10.44	-16.88/-16.79	-17.14/-17.4	-17.54/-17.37	-14.61/-18.96
Θ(142.5°)	-17.43/-17.75	-14.73/-13.86	-16.27/-10.82	-10.66/-10.84	-13.02/-13.31	-9.06/-7.33	-10.24/-14.42	-9.66/-9.32	-13.93/-15.35	-19.44/-18.69	-17.81/-15.18	-12.97/-10.34	-9.86/-17.58	-15.76/-14.64	-18.11/-15.33	-18.82/-16.18	-19.35/-12.09	-8.71/-17.44	-9.43/-10.05	-15.89/-14.24	-17.84/-17.2	-18.4/-18.61	-18.72/-18.85	-18.37/-19.18
Θ(150°)	-18.23/-13.37	-14.46/-13.43	-13.26/-14.14	-12.05/-13.57	-15.48/-11.95	-9.66/-10.1	-12.01/-9.78	-8.47/-10.57	-18.03/-14.92	-11.13/-10.03	-11.99/-13.34	-11.43/-12.81	-12.8/-18.1	-18.46/-18.13	-15.4/-14.27	-17.48/-17.46	-18.05/-18.63	-16.84/-17.67	-18.45/-18.48	-19.05/-16.42	-18.1/-18.82	-18.37/-18.44	-18.71/-19.09	-17.03/-17.01
Θ(157.5°)	-19.07/-17.89	-15.8/-16.48	-15.99/-16.57	-17.98/-13.86	-10.47/-10.19	-10.86/-10.66	-11.33/-7.77	-8.66/-7.69	-8.83/-9.37	-11.88/-11.03	-16.46/-18.62	-18.08/-18.14	-18.76/-15.47	-12.28/-10.77	-12.29/-15.11	-17.09/-15.49	-13.65/-14.41	-16.84/-15.21	-15.59/-13.34	-13.26/-14.16	-18.61/-16.63	-13.17/-15	-19.39/-18.96	-18.01/-18.45
Θ(165°)	-14.48/-14.73	-17.81/-18.92	-18.32/-17.83	-11.97/-12.37	-11.59/-8.63	-8.4/-9.69	-7.88/-6.58	-6.89/-6.36	-5.74/-6.35	-8.64/-12.82	-18.86/-19.18	-18.7/-17.85	-19.1/-17.01	-12.49/-10.69	-12.42/-13.74	-13.28/-12.57	-12.48/-15.66	-16.88/-12.87	-9.89/-8.39	-7.9/-8.25	-9.77/-11.09	-11.8/-13.93	-18.8/-18.7	-16.82/-14.62
Θ(172.5°)	-16.79/-18.79	-18.14/-18.59	-19.16/-15.7	-13.1/-12.66	-11.74/-11.52	-10.99/-9.58	-9.17/-13.38	-10.62/-11.59	-12.37/-12.91	-12.86/-13.39	-13.97/-14.72	-15.98/-18.54	-18.63/-18.37	-18.61/-18.05	-18.94/-19.03	-17.49/-18.7	-17.73/-15.11	-13.02/-13.66	-12.78/-11.59	-11.69/-11.72	-12.71/-14.64	-14.89/-13.54	-14.1/-17.36	
Θ(180°)	-10.01/-10.81	-11.31/-10.52	-11.67/-12.71	-13.52/-16.17	-15.43/-13.87	-12.86/-11.6	-11.82/-13.69	-14.57/-14.03	-13.91/-13.87	-13.61/-14.58	-16.79/-18.3	-17.34/-14.72	-11.11/-18.45	-11.51/-12.79	-13.33/-13.39	-14.76/-15.08	-14.2/-13.82	-13.31/-12.22	-10.61/-9.27	-9.31/-9.21	-9.45/-10.42	-11.64/-12.55	-13.29/-11.69	
Freq(Hz)	5.2GPol.	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-3.35/-4.31	-3.47/-2.8	-3.24/-3.18	-2.62/-2.55	-2.61/-1.95	-1.69/-1.34	-1.12/-1.67	-1.85/-1.45	-1.46/-1.69	-1.92/-2.44	-3.34/-3.33	-5.56/-5.78	-5.07/-4.19	-4.18/-3.29	-2.39/-1.88	-1.6/-1.19	-1.19/-1.16	-0.49/-0.26	-1.01/-1.34	-1.39/-1.47	-2.02/-1.77	-2.14/-2.95	-3.35/-2.96	
Θ(7.5°)	-5.16/-5.45	-5.39/-3.86	-2.67/-2.75	-2.72/-2.08	-1.86/-1.08	-0.31/-0.48	-0.42/-0.31	-0.70/-67	-0.46/-0.33	-0.17/-0.53	-0.84/-1.13	-1.53/-1.6	-1.3/-1.61	-2.02/-1.84	-1.91/-2.4	-2.16/-2.05	-1.96/-1.64	-1.25/-1.18	-1.07/-0.25	-0.42/-1.09	-1.24/-2.2	-3.05/-3.37	-4.25/-6.2	-7.67/-6.08
Θ(15°)	-10.15/-7.61	-8.56/-6.59	-6.11/-3.63	-1.91/-3.07	0.93/-1.45	1.9/2.2	2.07/-1.56	0.93/-0.76	0.52/-0.42	0.36/-0.33	0.41/-0.36	-0.39/-1.89	-2.54/-2.57	-2.64/-2.64	-2.88/-3.54	-4.45/-5.16	-5.62/-6.1	-5.79/-4.3	-4.27/-4.22	-3.92/-4.45	-4.57/-4.93	-5.27/-5.73	-7.01/-11.77	-19.36/-15.94
Θ(22.5°)	-8.53/-6.72	-5.86/-5.52	-4.12/-2.5	-1.18/-0.29	0.51/-1.02	1.26/-1.5	1.51/-1.44	1.46/-1.55	0.81/-0.57	-1.46/-0.86	0.15/-0.42	-0.52/-1.34	-1.27/-1.9	-3.08/-4.21	-5.53/-6.84	-7.03/-7.54	-8.26/-9.5	-16.99/-12.26	-7.92/-1.94	-9.36/-12.06	-11.54/-15.52	-11.79/-19.4	-18.19/-11.88	
Θ(30°)	-10.47/-9.62	-9.43/-6.27	-3.38/-2.1	-1.67/-1.57	-1.28/-0.93	-0.14/-1	1.11/-0.98	1.42/-1.33	1.35/-0.54	0.13/-0.09	0.14/-0.22	0.20/-52	0.15/-1.19	-1.06/-0.14	0.19/-1.37	-2.91/-3.24	-3.55/-3.84	-5.67/-14.63	-16.02/-8.86	-7.52/-9.93	-16.06/-18.13	-16.8/-17.55	-16.24/-19.08	-19.05/-14.67
Θ(37.5°)	-11.47/-11.68	-8.86/-9.47	-6.44/-6.23	-3.64/-1.99	-1.28/-1.22	-1.31/-0.68	0.91/-15	0.19/-0.99	1.28/-259	1.92/-0.93	-1.24/-0.84	0.56/-1.1	0.09/-1.18	-0.30/-54	0.01/-2.96	-1.21/-3.96	-6.4/-6.67	-6.6/-8.26	-11.29/-11.05	-14.11/-11.85	-16.58/-16.72	-9.66/-13.26	-18.28/-15.99	-12.2/-10
Θ(45°)	-10.91/-8.24	-5.52/-3.51	-2.39/-3.25	-3.37/-1.17	0/-0.29	-0.86/-1.6	0.97/-9.7	-0.58/-2.96	0.21/-89	0.86/-0.41	0.07/-0.57	1.73/-25	2.91/-2.41	2.11/-1.4	1.51/-96	0.8/-0.7	-2.76/-2.57	-0.72/-1.28	-4.63/-3.06	-3.77/-8.45	-10.67/-12.2	-7.93/-10.84	-17.91/-12.44	-10.2/-9.42
Θ(52.5°)	-11.74/-9.22	-5.63/-3.54	-2.6/-2.16	-2.29/-1.73	-0.40/-4.3	0.39/-0.8	-0.52/-0.66	-1.95/-2.8	0.23/-0.87	-1.20/-18	1.49/-1.73	0.56/-2.48	2.15/-1.31	1.16/-0.74	-1.33/-2.9	-1.59/-1.2	-1.61/-0.86	0.65/-0.57	4.49/-1.78	-2.21/-6.3	-5.48/-6.86	-9.11/-13.37	-9.54/-8.19	-10.35/-16.59
Θ(60°)	-7.69/-6.4	-6.52/-15.8	-4/-2.48	-1.76/-1.45	-1.47/-0.32	1.07/-0.77	-1.46/-0.45	-4.84/-1.75	-0.78/-4.2	-2.17/-0.27	1.28/-0.16	-2.64/-3.5	1.27/-1.3	-1.05/-0.15	0.32/-0.29	-3.22/-1.85	-0.69/-9.27	-1.86/-2.63	-5.9/-4.49	-1.77/-5.1	-3.23/-5.48	-9.89/-8.92	-4.57/-6.98	-9.14/-9.54
Θ(67.5°)	-5.46/-6.07	-5.64/-6.44	-3.56/-4.23	-1.57/-1.78	-1.34/-1.39	-0.24/-0.19	-1.5/-0.23	-6.18/-2.96	-0.84/-8.78	-1.43/-1.06	-0.55/-2.44	-0.36/-2.63	1.67/-0.4	0.75/-97	0.36/-2.75	0.53/-4.1	1.35/-1.69	-5.69/-4.14	-3.27/-4.95	-1.05/-3.92	-1.98/-4.54	-2.78/-5.93	-8.67/-5.38	
Θ(75°)	-5.48/-6.97	-5.77/-4.36	-3.14/-2.79	-2.96/-1.49	-0.96/-2.68	-1.69/-1.26	-2.28/-0.94	-6.97/-4.24	-2.71/-11.8	-1.06/-3.2	-2.25/-2.14	-0.31/-2.58	2.97/-1.42	2.31/-2.21	2.91/-2.9	1.65/-2.23	1.72/-0.01	-3.27/-1.86	0.02/-1.48	-1.5/-2.8	-2.09/-3.6	-9.89/-3.19	-2.13/-6.08	-8.41/-5.51
Θ(82.5°)	-4.65/-8	-5.94/-3.3	-2.55/-3.92	-5.07/-6.12	-1.44/-3.67	-2.55/-2.43	-2.82/-1.63	-8.68/-4.88	-5.74/-11.75	-1.46/-5.52	-2.9/-2.79	5.02/-2.18	2.42/-2.09	1.31/-05	0.81/-0.02	0.82/-65	-0.71/-7.3	-1.08/-0.51	1.93/-0.27	-2.22/-2.94	-2.71/-3.77	-5.61/-2.31	-2.45/-9.1	-7.6/-5.24
Θ(90°)	-4.97/-7.61	-6.06/-3.77	-4.26/-2.47	-5.77/-2.8	-1.87/-4.05	-3.43/-3.32	-4.36/-2.47	-7.83/-5.68	-2.02/-7.18	-2.02/-7.17	-4.53/-4.57	-2.66/-0.41	0.34/-1.2	-0.33/-0.99	-0.84/-3	-3.05/-0.57	-2.95/-4.03	-1.11/-1.7	0.96/-0.45	-3.43/-4.34	-4.27/-5.78	-1.36/-2.98	-3.91/-5.98	-7.95/-6.87
Θ(97.5°)	-5.57/-7.69	-8.71/-4.6	-4.48/-4.52	-4.95/-3.73	-3.51/-4.87	-3.93/-4.28	-4.92/-4.15	-8.3/-6.63	-9.64/-9.92	-4.03/-8.18	-4.8/-8.15	-4.88/-3.89	-2.2/-3.35	-5.95/-5.51	-4.41/-6.58	-5.27/-2.75	-4.32/-5.44	-3.34/-1.1	-1/-2.09	-7.1/-8.21	-5.82/-6.69	-4.92/-3.84	-5.14/-5.14	-7.33/-7.69
Θ(105°)	-8.49/-7.84	-7.65/-5.28	-5/-4.96	-5.97/-4.1	-4.37/-6.37	-3.92/-5.91	-5.63/-4.95	-10.53/-5.54	-6.5/-8.64	-10.65/-14.01	-9.67/-6.06	-3.36/-6.34	-6.74/-12.06	-5.17/-8.26	-7.42/-4.52	-8.04/-17.5	-6.72/-2.94	-6.28/-7.5	-10.9/-11.68	-8.27/-9.74	-3.59/-4.48	-5.96/-6.36	-6.75/-7.1	
Θ(112.5°)	-9.33/-6.92	-7.22/-2.24	-4.11/-5.12	-6.81/-6.46	-4.66/-5.83	-5.25/-6.86	-8.28/-5.03	-9.67/-1.3	-9.15/-16.44	-8.01/-6.73	-18.61/-15.85	-8.66/-11.8	-7.81/-19.9	-5.68/-7.04	-18.82/-15.06	-12.39/-10.48	-10.48/-18.31	-11.78/-17.48	-6.77/-11.28	-6.16/-5.15	-6.86/-6	-5.89/-6.33		
Θ(120°)	-6.83/-6.67	-6.56/-4.2	-4.63/-7.11	-7.42/-6.32	-6.39/-6.57	-5.77/-9.6	-6.81/-4.01	-7.3/-10.19	-12.59/-14.71	-11.74/-7.91	-17.28/-17.31	-12.07/-4.75	-3.71/-7.81	-7.22/-15.47	-10.84/-8.54	-6.76/-8.76	-16.49/-14.12	-13.1/-9.1	-11.92/-13.62	-9.1/-11.14	-11.25/-8.89	-8.71/-7.78	-6.93/-5.53	-4.66/-5.52
Θ(127.5°)	-7.82/-7.07	-9.06/-6.05	-7.2/-6.79	-5.9/-4.67	-10.44/-6.95	-4.69/-2.97	-6.32/-4.48	-8.99/-17.55	-14.39/-15.61	-13.47/-12.36	-18.19/-12.38	-17.36/-12.03	-8.44/-11.32	-17.36/-18.06	-16.1/-14.73	-10.22/-18.1	-7.6/-8.08	-8.89/-7.11	-8.69/-9.61	-7.98/-14.82	-14.17/-17.1	-10.42/-10.47	-7.05/-6.63	-7.47/-5.67
Θ(135°)	-5.27/-10.09	-7.85/-7.79	-5.14/-4.96	-7.11/-7.3	-10.47/-7.68	-8/-10.12	-7.16/-6.97	-11.32/-17.95	-10.91/-13.62	-16.47/-18.44	-17.11/-10.83	-7.1/-9.98	-7.1/-9.72	-6.78/-10.95	-10.81/-15	-8.92/-13.79	-7.62/-11.21	-10.68/-5.7	-4.61/-9.73	-11.72/-17.57	-12.83/-13.88	-14.16/-8.44	-6.82/-8.66	-7.35/-7.59
Θ(142.5°)	-5.61/-6.55	-6.06/-5.73	-6.58/-7.93	-9.55/-7.74	-6.68/-7.48	-11.71/-12.85	-8.39/-7.03	-10.18/-18.31	-11.2/-12.65	-16.59/-18.38	-15.03/-10.71	-12.02/-10.95	-12.16/-11.79	-14.11/-18.42	-12.39/-10.18	-17.74/-11.43	-10.84/-17.87	-14.52/-10.29	-9.21/-12.8	-15.74/-18.74	-12.68/-18.02	-14.21/-9.99	-10.04/-8.49	-7.46/-8.22
Θ(150°)	-8.41/-7.91	-8.42/-7.21	-7.61/-7.47	-6.73/-6.93	-7.85/-14.99	-10.71/-9.32	-8.64/-8.34	-10.99/-14.31	-15.95/-12.96	-9.64/-10.95	-14.36/-12.9	-16.29/-17.07	-18.08/-14.65	-18.47/-17.9	-18.29/-19.37	-16.68/-15.63	-18.11/-17.62	-15.92/-14.83	-14.69/-12.05	-10.46/-9.52	-8.79/-18.73	-17.83/-12.39	-12.47/-10.14	-9.67/-10.69
Θ(157.5°)	-6.2/-5.5	-5.98/-5.94	-5.33/-5.21	-5.55/-6.53	-8/-10.08	-9.67/-7.67	-6.87/-6.69	-7.38/-9.47	-10.96/-13.75	-18.45/-19.14	-13.85/-10.91	-8.63/-7.94	-8.74/-10.11	-12.69/-12.62	-12.04/-13.11	-16.16/-17.87	-18.88/-18.61	-16.8/-13.69	-12.45/-11.96	-13.35/-16.31	-13.61/-13.24	-13.58/-12.89	-13.61/-12.09	-8.74/-7.27
Θ(165°)	-9.79/-10.96	-10.45/-10.37	-11.56/-11.75	-10.98/-11.26	-9.95/-8.36	-9.27/-9.8	-9.4/-10.11	-11.8/-13.15	-14.22/-13.55	-13.79/-15.45	-18.67/-18.22	-16.49/-13.12	-13.66/-16.44	-18.79/-18.37	-18.41/-15.76	-15.68/-16.11	-18.94/-18.82	-19.21/-18.75	-17.89/-18.38	-17.61/-16.6	-16.96/-14.72	-11.95/-10.9	-10.38/-9.18	
Θ(172.5°)	-7.71/-7.17	-6.61/-6.14	-6.74/-6.46	-6.81/-7.54	-																			



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix B

Θ(172.5°)	-13.38/-13.06	-15.54/-17.97	-17.08/-17.84	-15.16/-15.59	-13.32/-10.66	-10.73/-11.84	-10.61/-10.58	-12.28/-13.92	-13.89/-14.08	-17.25/-18.31	-19.11/-18.45	-17.73/-19.03	-18.09/-18.9	-19.21/-15.64	-18.64/-18.44	-18.15/-17.66	-17.55/-15.19	-14.58/-12.36	-11.05/-9.99	-9.97/-10.15	-11.16/-11.99	-13.9/-15.85	-14.11/-13.58	-13.42/-13.02
Θ(180°)	-12.12/-15.44	-18.91/-17.43	-17.55/-18.81	-18.94/-19.28	-17.97/-15.07	-11.97/-10.3	-10.19/-10.91	-11.8/-14.84	-18.85/-19.08	-19.08/-18.97	-18.38/-18.11	-16.04/-13.87	-12.57/-13.41	-13.22/-11.31	-12.64/-14	-14.56/-18.3	-16.82/-18.64	-17.48/-19.25	-18.73/-15.8	-14.61/-13.22	-10.91/-10.07	-10.5/-10.48	-9.34/-8.9	-10.36/-11.7
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°)	-2.28/-2.87	-3.35/-4.41	-5.29/-5.27	-4.56/-3.72	-3.12/-2.44	-1.61/-1.31	-0.91/-0.1	0.34/0.42	0.42/0.12	-0.23/-0.52	-0.52/-0.48	-0.92/-1.8	-2.94/-3.89	-4.29/-4.69	-5.41/-5.01	-4.5/-3.52	-2.37/-1.63	-0.72/-0.27	0.45/1.04	0.89/0.97	1.24/0.94	0.66/0.66	0.37/-0.31	-0.95/-1.55
Θ(7.5°)	-4.4/-6.66	-10.28/-10.55	-8.4/-5.8	-3.78/-2.31	-0.98/0.08	0.40/0.77	1.12/1.21	1.13/1.12	1.32/1.21	0.97/0.92	0.96/0.82	0.69/0.59	0.03/-0.87	-1.47/-1.52	-1.83/-2.27	-1.8/-1.54	-1.16/-0.46	-0.92/-0.71	-0.34/0	0.14/-0.36	-0.46/-0.84	-1.44/-1.62	-2.27/-3.07	-3.79/-4.2
Θ(15°)	-9.35/-14.82	-18.52/-10.69	-5.94/-3.3	-2.03/-1.15	-0.29/0.74	1.19/1.46	1.71/1.49	1.32/1.11	0.85/0.62	0.21/-0.17	-0.19/0.05	0.43/0.71	0.65/0.4	0.24/0.44	0.53/0.23	-0.2/-0.45	-0.81/-0.57	-0.35/-1.02	-1.51/-1.47	-1.12/-0.97	-1.23/-1.69	-3.64/-7.49	-12.83/-12.79	-10.28/-8.84
Θ(22.5°)	-18.24/-18.21	-11.8/-6.5	-2.75/-0.5	0.29/0.39	0.62/0.6	0.82/1.53	1.56/1.34	2.05/2.79	2.73/1.85	0.28/-1.3	-1.53/-1.01	-0.29/-0.22	-0.85/-1.37	-1.87/-2.54	-2.31/-2.1	-3.07/-5.37	-9.08/-13.33	-8.99/-6.85	-8.21/-13.51	-14.94/-8.07	-5.14/-4.57	-6.89/-10.21	-16.74/-18.01	-17.75/-16.95
Θ(30°)	-16.8/-11.72	-7.78/-6.64	-7.13/-6.75	-6.93/-5.89	-3.83/-3.09	-1.90/7.3	1.11/0.52	0.99/1.24	2.11/1.94	1.15/1.32	2.04/1.41	0.84/0.29	1.12/2.12	0.93/-0.26	0.12/-0.1	-0.73/0.11	-0.42/-2.96	-4.54/-8.79	-7.96/-6.61	-8.17/-17.51	-10.1/-7.13	-11.6/-12.99	-9.65/-9.32	-10.1/-13.44
Θ(37.5°)	-9.93/-7.53	-3.58/-2.11	-2.98/-4.13	-4.33/-2.99	-0.98/0.2	-0.13/-0.87	-0.12/1.09	1.81/0.12	-1.15/-0.22	1.96/2.73	2.89/0.13	-2.51/-1.69	-0.31/-0.25	1.26/2.06	1.34/0.33	-0.44/-0.25	0.32/-1.11	-4.18/-5.92	-8.85/-11.22	-13.1/-10.31	-8.34/-5.27	-8.37/-8.39	-5.93/-7.74	-12.52/-15.04
Θ(45°)	-5.6/-5.26	-4.74/-6.22	-7.23/-5.49	-3.02/-7.3	-2.56/-0.86	1.1/1.59	0.62/-0.32	0.58/-0.07	-1.82/-0.13	0.80/7.2	1.02/1.06	1.92/0.99	1.76/2.39	2.99/3.17	3.65/3.9	2.79/-0.12	0.18/1.23	-0.37/-4.16	-3.66/-3.8	-12.34/-8.49	-12/-8.43	-7.46/-3.5	-3.49/-5.95	-7.24/-3.89
Θ(52.5°)	-5.89/-5.43	-5.23/-6.99	-6.5/-3.87	-0.8/-0.28	-1.49/-1.05	-0.29/1.2	1.16/-0.07	-0.75/-3.93	-1.57/1.03	-1.74/-1.39	1.19/3.97	2.1/-1.02	2.89/2.88	1.68/1.72	1.46/2.14	1.84/-0.5	-1.6/1.55	-1.29/-2.43	-7.39/-5.59	-7.13/-9.35	-6.8/-2.65	-3.11/-3.54	-2.82/-1.79	
Θ(60°)	-6.47/-5.88	-4.92/-5.41	-4.17/-3.97	-1.97/-0.41	-1.75/-1.77	-0.88/0.45	0.89/1.31	0.46/-5.23	-2.21/0.12	-3.24/-1.44	-0.77/2.3	0.66/-2.19	0.98/-0.26	0.24/1.16	-0.17/-2.36	-1.11/-1.26	-4.08/-2.09	0.49/-1.98	-3.44/-3.26	-5.49/-3.34	-5.12/-7.74	-5.2/-3.05	-3.99/-2.8	-2.7/-3.94
Θ(67.5°)	-3.56/-3.41	-6.14/-4.71	-4.52/-2.98	-2.75/-1.37	-2.33/-3.91	-2.36/-0.42	-0.22/0.62	0.04/-5.73	-2.1/-0.64	-6.1/-2.7	-2.7/1.1	-2.7/0.89	1.06/-1.3	0.48/1.83	3.39/2.49	0.59/2.17	0.62/-4.58	-4.04/-4.48	-4.4/-2.97	-4.7/-1.9	-4.99/-4.93	-2.5/-3.25	-5.9/-2.9	-2.72/-3.36
Θ(75°)	-2.66/-2.33	-3.5/-6.07	-6.06/-2.93	-2.08/-2.75	-3.13/-4.06	-4.66/-2.95	-1.96/-1.71	-1.69/-5.45	-2.46/-1.77	-9.37/-2.66	-4.66/0.24	-0.66/0.77	1.07/0.36	-0.36/0.61	4.34/-3.74	1.72/3.74	3.05/0.19	-3.19/-2.15	-1.46/-1.43	-2.84/-1.95	-3.84/-3.18	-3.06/-4.58	-5.32/-2.72	-2.96/-3.42
Θ(82.5°)	-2.68/-2.55	-4.09/-7.09	-8.51/-2.36	-1.84/-2.53	-3.49/-4.48	-5.94/-4.7	-2.9/-4.27	-4.5/-5.19	-1.68/-4.52	-11.78/-3.33	-5.94/-0.76	-1.12/0.34	0.72/0.53	-0.33/0.12	3.12/2.35	2.09/4.19	3.17/0.5	-0.57/-0.13	0.04/-0.37	-2.66/-2.08	-4.72/-3.21	-2.91/-5.83	-4.18/-2.01	-4.88/-4.19
Θ(90°)	-4.14/-3.04	-4.68/-7.63	-6.52/-1.51	-2.17/-3.19	-2.17/-4.75	-6.89/-6.5	-5.5/-5.17	-5.93/-6.39	-3.31/-6.48	-8.89/-5.6	-7.63/-2.22	-2.9/-0.56	-1.44/-1.41	-1.36/-2.27	-1.02/-1.62	0.52/7.1	1.4/-0.01	-0.70/-1.4	0.54/-1.81	-3.54/-4.88	-5.15/-3.33	-4.43/-6.67	-4.02/-2.19	-5.22/-6.15
Θ(97.5°)	-7.88/-3.95	-4.81/-7.33	-5.87/-2.78	-3.13/-3.04	-2.04/-3.7	-7.38/-7.98	-7.72/-6.84	-7.02/-7.21	-4.21/-8.44	-10.01/-7.17	-13.43/-5.91	-6.29/-3.61	-2.87/-3.94	-3.66/-6.1	-5.79/-5.77	-3.10/9.7	-3.81/-0.6	-2.07/-5.69	-5.47/-9.11	-4.67/-5.67	-6.5/-6.66	-4.36/-2.73	-4.76/-5.82	
Θ(105°)	-7.36/-5.38	-3.84/-6.82	-6.79/-3.57	-4.11/-2.93	-3.44/-3.36	-7.18/-8.22	-8.74/-7.1	-6.49/-10.89	-4.7/-8.85	-10.46/-9.56	-13.89/-9.06	-11.33/-5.46	-9.13/-8.15	-6.69/-10.64	-7.59/-8.51	-8.12/-3.73	-9.36/-14.35	-11.08/-5.38	-7.02/-10.98	-9.59/-12.67	-4.06/-9.72	-7.89/-7.52	-5.91/-3.25	-2.3/-3.12
Θ(112.5°)	-6.65/-5.02	-4.15/-6.63	-7.2/-6.63	-4.86/-3.49	-3.98/-5.72	-6.64/-6.83	-9.07/-7.5	-8.61/-9.57	-6.67/-10.91	-9.51/-17.77	-18.54/-13.44	-14.85/-7.68	-5.61/-8.67	-7.56/-14.83	-8.21/-8.61	-7.36/-4.1	-12.98/-19.24	-11.79/-6.9	-15.62/-14.37	-10.39/-14.46	-11.77/-9.96	-8.47/-8.13	-4.38/-6.19	-3.7/-2.55
Θ(120°)	-6.1/-5.72	-3.69/-5.61	-5.86/-6.07	-4.69/-4.69	-6.03/-5.62	-6.62/-4.64	-8.86/-8.1	-9.29/-10.9	-7.09/-11.52	-11.71/-15.86	-12.6/-17.79	-12.24/-7.48	-8.94/-4.46	-4.03/-10.12	-9.96/-14.76	-10.25/-5.26	-11.68/-16.08	-11.06/-9.58	-12.46/-17.1	-10.68/-15.16	-9.87/-10.83	-8.24/-8.86	-6.05/-5.72	-5.37/-3.6
Θ(127.5°)	-5.81/-6.45	-5.11/-4.87	-6.92/-6.55	-5.85/-6.22	-5.82/-4.4	-6.49/-6.26	-7.22/-8.22	-6.68/-11.51	-9.52/-8.89	-12.55/-11.08	-12.11/-14.82	-12.93/-12.09	-8.63/-7.48	-8.06/-16.03	-19.24/-18.15	-10.59/-13.96	-10.18/-7.27	-11.75/-9.37	-14.86/-10.77	-9.07/-12.16	-18.27/-11.98	-7.11/-6.43	-4.45/-4.92	-6.47/-8.38
Θ(135°)	-6.44/-6.24	-4.28/-6.68	-8.04/-11.25	-9.45/-7.91	-7.53/-9.21	-7.43/-4.7	-7.1/-7.22	-6.69/-9.94	-12.74/-9.22	-10.13/-14.67	-11.54/-18.21	-12.3/-13.51	-13.09/-9.96	-7.43/-7.68	-6.21/-8.24	-5.66/-14.87	-8.74/-12.27	-15.42/-7.2	-10.88/-16.69	-18.35/-13.42	-17.4/-16.61	-16.35/-13.13	-8.71/-8.72	-5.05/-6.75
Θ(142.5°)	-5.96/-7.38	-8.76/-6.58	-6.78/-5.47	-7.06/-9.12	-10.53/-10.76	-8.07/-7.29	-10.12/-18	-5.14/-6.54	-14.16/-11.25	-7.17/-9.66	-13.94/-14.69	-10.44/-17.58	-18.84/-11.58	-9.52/-14.18	-18.9/-11.2	-11.87/-9.06	-7.38/-13.58	-18.75/-12.83	-17.06/-19.08	-17.12/-12.67	-18.93/-10.43	-11.18/-9.28	-8.26/-8.12	-5.36/-4
Θ(150°)	-7.21/-7.79	-8.11/-7.9	-8.48/-8.18	-9.48/-9.85	-9.27/-8.86	-9.37/-9.67	-10.77/-9.22	-7.21/-7	-9.74/-14.06	-19.22/-14.46	-8.27/-8.92	-10.88/-11.52	-16.86/-11.12	-12.66/-18.8	-16.9/-15.29	-18.93/-15.8	-14.85/-15.27	-13.42/-13.76	-11.94/-11.25	-10/-10.05	-18.88/-13.18	-8.75/-11.45	-9.79/-8.69	-7.53/-8.16
Θ(157.5°)	-9.17/-3.54	-8.03/-7.54	-7.24/-7.89	-8.9/-29	-8.8/-7.84	-8.79/-9.42	-7.85/-9.01	-8.58/-8.95	-11.33/-16.21	-18.55/-18.27	-13.7/-14.66	-14.59/-13.8	-11.92/-14.38	-13.09/-12.99	-18.07/-18.22	-17.97/-17.92	-14.91/-14.64	-13.55/-15.82	-17.4/-16.61	-16.35/-13.13	-11.75/-8.89	-11.57/-8.81	-10.57/-8.72	
Θ(165°)	-9.54/-8.17	-6.66/-6.29	-6.64/-5.98	-8.79/-8.85	-9.42/-11.37	-11.76/-11	-12.80/-10.3	-8.81/-5.19	-10.06/-9.4	-9.6/-11.29	-13.04/-14.81	-18.24/-18.38	-19.11/-17.62	-16.83/-13.19	-18.16/-8.64	-9.79/-11	-11.66/-12.57	-14.69/-17.87	-18.61/-19.31	-18.13/-14.86	-10.76/-10.93	-10.96/-10.29	-10.54/-9.24	
Θ(172.5°)	-13.42/-11.02	-12.39/-13.25	-10.48/-9.68	-9.63/-9.39	-9.48/-9.87	-10.08/-10.48	-10.35/-10.66	-11.71/-11.96	-12.49/-12.2	-11.46/-12.4	-14.27/-16.38	-18.47/-16.92	-15.54/-15.89	-16.18/-15.74	-15.23/-16.06	-16.19/-15.02	-16.62/-15.91	-13.66/-13.51	-14.52/-16.46	-18.35/-18.48	-15.98/-13.82	-11.92/-12.3	-11.98/-11.7	-12.36/-15.44
Θ(180°)	-13.58/-13.04	-11.47/-10.25	-10.05/-10.56	-10.13/-9.27	-8.88/-8.23	-8.27/-8.56	-9.3/-10.47	-11.38/-11.81	-13.57/-15.91	-16.97/-16.99	-18.5/-18.26	-18.57/-17.04	-14.84/-12.82	-10.91/-9.28	-7.98/-7.8	-8.62/-8.85	-8.86/-8.95	-8.77/-10.4	-12.96/-13.93	-13.55/-14.6	-18.21/-17.45	-18.44/-18.33	-17.88/-19.32	-18.47/-15.24
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°)	0.17/0.85	0.79/1.07	1.34/0.79	0.68/0.81	-0.32/-0.62	-0.92/-2.23	-3.43/-6.3	-6.16/-7.1	-8.36/-8.19	-7.27/-6.07	-4.58/-2.83	-1.11/0.14	0.75/0.71	0.91/1.31	1.11/0.94	0.66/-0.23	-0.56/-1.48	-3.6/-5.34	-6.92/-8.71	-12.31/-15.74	-10.37/-5.55	-5.26/-3.89	-2.74/-1.38	-0.46/-0.56
Θ(7.5°)	1.18/1.24	1.54/-1.57	0.98/0.38	-0.22/-1.31	-2.35/-4.08	-5.5/-6.26	-8.49/-10.08	-9.84/-9.48	-8.77/-8.11	-7.01/-5.77	-4.77/-3.7	-0.93/-1.08	-1.34/-1.05	-0.51/-0.89	-1.18/-1.32	-1.9/-1.89	-3.25/-4.61	-4.24/-5.11	-6.28/-7.24	-6.34/-9.95	-3.78/-3.08	-1.96/-1.06	0.01/0.56	
Θ(15°)	0.78/1.24	10.59	0.2/-1.07	-2/-1.61	-2.46/-3.24	-2.72/-3.11	-3.7/-3.79	-4.64/-6.17	-6.55/-6.05	-5.39/-4.65	-3.75/-2.84	-2.29/-1.33	-0.56/-0.4	-1.05/-1.54	-1.01/-1.22	-1.77/-2.22	-2.98/-3.23	-5.08/-6.9	-6.55/-7.24	-6.75/-5.68	-3.86/-2.22	-1.35/-1.29	-1.47/-1.26	-0.94/-0.37
Θ(22.5°)	0.13/0.86	0.54/0.28	0.49/0.46	-0.07/-0.44	-0.7/-2.32	-3.18/-3.3	-4.15/-5.3	-6.64/-8.48	-10.04/-7.86	-6.6/-5.88	-4.58/-3.16	-2.35/-1.55	-1.24/-0.91	-1.21/-2.08	-2.24/-2.8	-4.6/-4.55	-4.7							



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Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5.22	5.01	4.4	5.77
Ant. 2 Max Gain (dBi)	5.01	5.22	4.67	5.86
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/22.5/90	Phi/67.5/172.5	Phi/67.5/0	Phi/15/180
Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/22.5/135	Phi/37.5/15	Phi/37.5/15	Phi/0/217.5
Max Gain (dBi)	5.22	5.22	4.67	5.86
DG [1SS] (dBi)	6.9	7.16	6.4	7.89
DG [2SS] (dBi)	5.22	5.22	4.67	5.86

DG 1SS Result

[illegible]



Radiated Composite Gain Data of 6GHz

Appendix C

Θ(22.5°)	4.67/4.78	4.88/4.78	4.35/3.93	3.19/2.37	1.59/1.03	0.35/-1.35	-1.84/-1.85	-1.41/-1.06	-1.76/-2.15	-1.63/-4.42	1.33/3.05	4.16/4.47	4.38/4.57	5.01/5.22	5.17/5.12	4.89/4.52	4.13/3.43	1.81/0.55	-0.27/-0.09	0.46/-0.29	-2.31/-2.29	-0.70/27	1.33/2.64	3.68/4.54
Θ(30°)	3.62/4.13	6.41/5.05	4.63/57	2.72/2.33	1.82/-0.2	-2.6/-3.41	-1.9/-0.8	-0.6/-0.58	-1.04/-2.19	-2.7/-1.67	0.54/2.21	2.59/2.56	3.01/3.22	2.92/2.6	3.13/3.86	4.19/4.14	3.31/1.19	-2.09/-2.79	-1.72/-1.8	-1.92/-2.81	-4.26/-3.09	-3.77/-1.34	0.78/1.86	2.49/3.26
Θ(37.5°)	4.35/4.2	8.15/7.9	4.02/2	4.04/-1.05	-0.46/-1.06	-4.1/-6.78	-1.40/2.4	-2.2/-8.1	-1.62/-3.78	-1.28/-1.08	1.28/2.56	2.65/2.44	2.29/1.97	2.71/2.73	2.20/1.06	0.46/1.03	1.64/1.23	-1.09/-3.32	-2.56/-4.96	-7.95/-6.44	-5.64/-4.04	-0.33/1.59	1.66/2.36	3.22/3.49
Θ(45°)	3.47/4.43	5.28/5.02	4.58/3.91	2.69/0.24	-2.19/-2.55	-2.73/-4.35	-1.13/-0.5	-2.66/-2.71	-1.28/-2.79	-1.19/0.33	1.37/1.66	2.86/3.07	2.13/2.93	4.25/4.69	4.36/3.12	1.31/-1.02	-2.16/-1.43	-0.29/-0.76	-2.95/-3.73	-5.91/-3.83	-4.15/-1.73	1.02/1.31	0.22/0.56	0.88/2.26
Θ(52.5°)	3.73/1.9	3.64/4.19	4.51/3.73	1.78/-0.89	-2.49/-1.98	-3.01/-5.52	-3.01/-3	-3.03/-4.78	-3.3/-0.26	2.02/1.82	1.41/1.87	3.76/3.83	3.98/4.09	3.81/3.4	3.46/3.29	1.17/-0.92	-1.01/-2.38	-1.52/-1.53	-3.85/-2.83	-3.21/-3.1	-4.15/-4.03	0.39/-0.03	-1.42/-0.52	0.57/2.59
Θ(60°)	3.87/2.89	2.98/2.94	2.41/2.1	-0.03/-1.79	-3.08/-0.89	-2.38/-8	-4.65/-2.66	-3.06/-5.91	-3.7/-0.01	1.63/2.29	1.84/2.82	4.92/5.59	4.85/4.21	3.12/7.5	2.62/3.29	1.61/-0.83	-0.97/-0.98	-1.35/-1.55	-2.53/-3.31	-4.23/-3.91	-4.36/-4.04	-1.21/-1.76	-0.46/0.06	1.71/3.08
Θ(67.5°)	3.85/2.73	3.04/1.64	0.65/1.36	1.89/1.56	-0.79/-2.08	-1.03/-4.66	-3.53/-1.04	-3.69/-6.73	-4.96/-1.81	1.31/8.1	1.79/3.34	4.57/4.84	4.93/3.45	1.77/2.23	2.04/2.88	1.03/-0.63	-0.17/-0.8	0.58/-0.92	-0.38/-2.03	-4.4/-3.71	-5.3/-4.62	-0.95/-1.26	0.23/2.09	3.74/4.43
Θ(75°)	3.22/3.45	3.05/1.05	0.45/1.63	2.81/2.74	0.63/-2.82	-1.44/-3.04	-3.04/-1.42	-3.73/-3.87	-4.96/-2.69	0.45/0.73	1.58/1.97	4.06/4.08	4.39/2.83	0.39/0.31	0.11/1.95	0.71/-0.78	-0.37/-1.72	-0.76/-0.85	-0.59/-1.24	-2.3/-3.23	-4.78/-4.01	-0.62/-0.99	-0.33/0.35	4.39/4.75
Θ(82.5°)	1.74/3.3	1.88/0.33	-0.22/0.35	1.63/2.25	-0.02/-2.8	-2.33/-3.68	-3.96/-2.42	-6.38/-3.23	-4.55/-2.67	-1.21/-0.78	0.64/0.78	3.03/3.11	3.11/1.65	0.52/0.03	-0.55/1.71	0.86/-0.75	-0.82/-2.18	-0.79/-0.35	0.24/-2.43	-1.83/-3.07	-4.98/-5.43	-1.84/-3.26	-1.45/2.38	4.06/2.89
Θ(90°)	0.12/1.07	-0.03/-0.96	-2.89/-3.07	-0.68/1.35	-1.85/-4.24	-4.23/-5.61	-5.1/-4.56	-7.23/-4.37	-4.88/-2.41	-2.09/-2.55	-1.03/-1.11	1.43/1.08	1.38/0.55	-0.75/-0.98	-1.88/-0.7	-0.54/-2.92	-1.75/-3.27	-0.41/-2.14	-0.72/-5.33	-2.54/-3.39	-4.49/-7.7	-4.19/-4.21	-2.52/-0.04	2.48/0.77
Θ(97.5°)	-1.61/-1.6	-2.46/-2.35	-5.79/-5.45	-1.18/-0.23	-4.2/-5.26	-5.68/-4.95	-4.99/-7.28	-7.78/-4.95	-5.58/-2.45	-3.37/-4.51	-2.81/-2.07	-0.03/-0.83	0.19/-0.89	-2.68/-3.53	-2.95/-2.37	-2.06/-4.85	-4.44/-5.09	-2.82/-4.3	-3.6/-1.07	-6.34/-5.03	-8.02/-8.45	-6.25/-5.34	-3.14/-2.42	0.45/-0.74
Θ(105°)	-3.15/-3.79	-2.89/-2.74	-5.31/-5.38	-1.91/-3.67	-8.89/-6.01	-7.59/-5.91	-9.58/-11.51	-9.3/-6.27	-6.78/-3.1	-3.55/-5.45	-5.5/-3.83	-2.15/-2.56	-2.11/-1.46	-4.45/-5.35	-5.52/-4.3	-3.51/-4.86	-7.21/-5.51	-4.24/-4	-4.52/-12.01	-10.86/-7.99	-9.8/-13.63	-9.49/-6.11	-2.6/-3.55	-2.05/-3.49
Θ(112.5°)	-8.21/4.03	-1.94/-4.17	-6.26/-7.7	-5.79/-9.82	-7.97/-6.88	-6.9/-5.47	-7.96/-9.01	-9.2/-6.95	-8.54/-4.46	-4.39/-6.56	-6.13/-4.73	-3.1/-3.22	-3.34/-3.55	-7.48/-7.47	-6.35/-4.12	-4.3/-6.11	-9.28/-7.71	-5.85/-3.69	-4.03/-10.09	-9.69/-8.77	-8.54/-12.75	-12.28/-7.62	-5.13/-5.66	-4.27/-6.15
Θ(120°)	-8.1/-6.32	-7.57/-10.33	-10.12/-9.68	-11.07/-7.29	-6.52/-8.41	-7.82/-11.19	-11.19/-10.11	-8.45/-8	-7.43/-4.89	-6.97/-8.3	-8.81/-5.44	-3.78/-3.51	-4.51/-1.77	-7.89/-9.48	-8.55/-5.35	-6.25/-4.4	-6.47/-11.17	-9.18/-6.04	-5.44/-14.42	-9.04/-5.48	-10.72/-11.4	-11.68/-13.51	-11.38/-6.84	-4.92/-7.14
Θ(127.5°)	-6.99/-7.38	-8.43/-6.93	-7.74/-9.41	-11.71/-6.55	-10.18/-15.36	-8.86/-14.56	-11.68/-11.8	-14.07/-10.03	-10.65/-6.72	-7.62/-10.95	-11.93/-6.79	-3.97/-5.04	-5.71/-7.1	-5.06/-9.79	-14.07/-11.7	-6.96/-3.82	-6.33/-13.33	-5.08/-5.3	-7.21/-9.57	-12.27/-8.6	-10.33/-13.35	-8.35/-10.59	-12.52/-10.67	-8.32/-9.46
Θ(135°)	-9.27/-8.55	-7.04/-7.46	-8.88/-13.67	-11.35/-12.34	-15.59/-14.05	-15.34/-15.84	-12.96/-8.19	-10.25/-11.88	-12.54/-9.1	-9.9/-12.91	-14.55/-9.89	-6.67/-6.99	-7.04/-7.51	-5.89/-7.32	-9.96/-15.63	-11.23/-7.95	-7.23/-15.3	-12.82/-10.35	-8.84/-6.31	-11.31/-11.31	-14.92/-8.4	-12.47/-8.57	-8.35/-11.78	-11.79/-12.17
Θ(142.5°)	-15.02/-14.6	-14.41/-13.39	-13.82/-15.14	-15.93/-14.41	-14.16/-15.03	-12.95/-9.05	-11.38/-9.96	-12.32/-14.14	-12.78/-11.87	-11.96/-10.55	-15.98/-13.87	-15.9/-14.02	-10.41/-6.5	-6.22/-5.92	-6.83/-13.69	-13.99/-12.9	-14.36/-11.68	-11.79/-11.78	-9.62/-9.01	-15.34/-14.7	-12.86/-13.9	-10.37/-10.64	-10.48/-8.75	-7.51/-13.26
Θ(150°)	-14.2/-15.05	-13.31/-15.87	-16.05/-11.86	-13.32/-8.82	-11.31/-12.92	-10.41/-13.23	-13.22/-11.74	-12.96/-14.8	-14.62/-12.69	-13.48/-12.98	-13.41/-14.88	-15.47/-13.85	-10.26/-6.17	-5.67/-6.1	-6.97/-10.74	-12.37/-15.98	-13.63/-13.44	-9.71/-9.87	-12.19/-8.82	-9.68/-12.16	-13.94/-14.69	-14.89/-13.5	-14.64/-15.13	-15.55/-14.53
Θ(157.5°)	-14.83/-13.59	-12.77/-13.43	-13.31/-13.29	-16.02/-14.64	-11.63/-10.84	-11.62/-15.03	-15.25/-12.37	-11.06/-10.99	-10.68/-11.68	-12.79/-12.23	-10.86/-9.66	-10.4/-12.76	-12.95/-14.14	-15.27/-13.52	-14.76/-9.54	-9.82/-11.27	-12.21/-14.13	-12.02/-15.1	-13.15/-14.61	-15.84/-15.53	-15.55/-15.17	-15.36/-15.82	-14.85/-15.17	-15.82/-14.76
Θ(165°)	-15.39/-16	-15.35/-15.21	-15.33/-15.27	-15.67/-13.99	-13.59/-14.19	-14.8/-14.18	-13.91/-12.6	-12.31/-12.03	-11.78/-12.21	-12.53/-13.87	-13.29/-14.67	-14.11/-14.34	-15.31/-15.97	-14.43/-14.09	-14.69/-12.12	-10.82/-10.72	-11.82/-15.35	-13.58/-11.38	-13.18/-16.32	-15.9/-15.06	-15.61/-15.29	-15.37/-16.1	-15.36/-14.98	-15.33/-15.4
Θ(172.5°)	-14.2/-14.1	-14.27/-12.99	-11.86/-11.89	-10.94/-9.81	-9.66/-10.25	-11.7/-12.03	-12.98/-12.78	-13.73/-14.18	-14.28/-12.6	-11.96/-13.51	-13.78/-15.65	-14.98/-14.98	-14.92/-12.48	-12.18/-12.47	-14.28/-15.17	-14.95/-15.72	-13.73/-11.55	-10.13/-11.05	-12.29/-13.38	-14.2/-13.13	-13.25/-16.18	-15.16/-15.1	-16.13/-15.87	-14.51/-15.01
Θ(180°)	-14.78/-14.65	-15.07/-15.63	-14.47/-14.01	-14.68/-13.93	-13.54/-13.68	-14.65/-15.23	-13.77/-13.79	-14.07/-14.03	-12.95/-13.25	-13.79/-14.5	-15.16/-15.3	-15.24/-15.34	-14.96/-15.37	-15.25/-15.77	-14.59/-14.82	-13.97/-14.64	-14.59/-15.68	-15.45/-15.38	-14.23/-12.42	-11.06/-11.86	-11.84/-12.03	-12.49/-13.53	-13.1/-14.87	-14.6/-14.65
Freq(Hz)	6.995GPol.	Theta-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-0.95/-0.6	-0.99/-1.29	-1.19/-1.17	-1.3/-0.66	0.93/2.28	3.33/8.1	4.27/4.58	4.84/4.96	5.03/4.82	4.23/3.36	2.41/1.5	0.06/-0.81	-1.32/-2.17	-1.62/-1.91	-2.24/-2.04	-0.91/0.28	1.43/2.44	3.17/3.75	4.07/4.64	5.06/4.91	4.64/3.41	4.21/3.73	2.68/1.53	0.32/-0.79
Θ(7.5°)	-2.46/-1.94	-2.26/-2.89	-2.95/-3.07	-2.02/-1.7	1.41/2.72	3.78/4.56	5.15/5.36	5.56/5.57	5.55/2.8	4.56/3.52	2.34/1.02	-0.43/-1.68	-1.59/-1.83	-1.51/-1.02	-0.98/-0.97	-0.96/0.11	1.33/2.27	3.22/3.89	4.14/6.8	4.99/4.86	4.64/3.01	3.59/2.97	1.74/0.25	-1.32/-2.45
Θ(15°)	-2.66/-1.98	-1.95/-2.38	-3.57/-4.18	-2.38/0.07	1.61/3.01	3.96/4.65	5.34/5.61	5.74/5.83	5.64/9.1	3.92/2.92	1.97/1.35	0.36/-0.66	-0.98/-0.89	-0.98/-0.78	-0.56/-0.82	-1.06/-0.23	1.35/2.51	3.11/3.42	3.52/3.53	3.64/4.24	4.41/3.91	3.23/2.61	1.72/0.82	-0.43/-1.99
Θ(22.5°)	-5.91/4.7	-4.42/-5.55	-5.14/-3.02	-1.4/-0.21	0.56/1.26	2.71/4.34	5.55/4.2	4.84/5.08	5.28/4.78	4.12/3.71	3.32/1.86	0.26/-1.08	-0.65/0.11	-0.06/-0.25	-0.94/-1.78	-0.41/-4.5	2.71/3.95	4.84/5.01	4.53/3.96	4.04/4.44	4.15/3.21	2.24/2.04	1.41/0.4	-1.42/-4.92
Θ(30°)	-3.91/-2.2	-1.2/-4.5	-3.12/-1.15	-0.07/0.79	1.79/2.59	2.77/3.49	5.37/5.81	4.97/3.98	4.24/5.49	4.05/3.58	2.82/0.48	-2.91/-4.64	-4.75/-4.06	-3.09/-2.43	-1.65/-0.76	-1.05/-4	3.03/4.04	4.44/4.78	4.37/3.55	3.36/4.11	3.87/3.16	2.82/2.23	0.26/-1.19	-1.47/-3.27
Θ(37.5°)	-2.67/-1.71	-1.44/-3.56	-3.14/0.79	0.11/4.4	3.24/3.84	3.81/3.21	2.91/4.19	4.46/3.36	3.95/4.05	3.45/2.18	-0.46/-3.02	-3.02/-3.19	-1.04/1.08	1.0/-0.7	-1.47/-2.57	-0.49/0.55	3.95/4.53	4.53/4.15	3.35/2.65	1.74/2.54	2.89/2.32	2.34/1.17	0.47/-0.66	-2.54/-3.1
Θ(45°)	-5.51/-2.76	-5.73/-4.83	-3.61/-0.9	0.63/1.77	2.55/1.94	1.21/1.89	1.29/2.95	4.58/3.73	3.69/2.99	2.12/0.43	-2.34/-2.56	-1.39/-2.57	-1.09/0.92	-1.26/0.88	-0.39/-3.16	-5/-1.36	1.86/3.14	2.68/2.25	2.04/1.4	0.56/0.06	1.43/1.45	0.66/-0.45	-3.04/-4.85	
Θ(52.5°)	-6.88/-10.49	-7.69/-6.66	-4.74/-1.24	0.84/1.01	1.11/-0.29	0.37/1.49	1.17/-0.9	4.03/7.8	3.99/1.66	1.17/-2.36	-1.17/-2.76	-0.28/-1.79	-1.78/-3.24	-1.97/-0.75	-1.47/-2.61	-2.01/-2.47	-1.96/1.5	1.61/0.03	-0.07/0.99	0.53/-1.14	0.61/1.18	2.15/0.54	-1.66/-2.83	-3.2/-4.44
Θ(60°)	-7.56/-10.3	-7.82/-7.72	-5.92/-4.09	-1.92/-1.11	-2.03/-3.1	-0.44/0.07	-1.85/-0.22	2.66/2.52	1.53/-0.09	0.43/-4.23	-4.82/-3.85	-3.87/-2.8	-3.79/-6.63	-4.51/-2.39	-3.88/-3.29	-2.99/-4.92	-6.95/-3.85	-1.45/-2.42	-2/-0.82	-1.5/-3.27	-1.32/-1.97	0.26/-0.38	-1.99/-5.12	-6.74/-6.37
Θ(67.5°)	-8.88/-12.81	-8.46/-8.61	-7.7/-9.5	-5.74/-3.02	-4.95/-5.91	-1.79/0.17	-1.94/-1.96	0.94/0.11	-1.45/-2.72	-2.12/-8.21	-3.88/-5.45	-6.4/-0.62	-7.51/-11.4	-9.86/-8.65	-6.87/-3.98	-4.86/-0.97	-11.9/-8.49	-5.84/-3.84	-4.11/-2.71	-2.48/-3.74	-3.55/-3.65	-1.68/-3	-4.04/-5.13	-12/-7.61
Θ(75°)	-10.09/-11.63	-9.42/-8.1	-6.74/-7.41	-5.35/-5.2	-8.6/-6.35	-5.53/-2.48	-2.62/-4.47	-1.52/-3.6	-4.76/-7.79	-6.39/-7.13	-4.94/-6.72	-7.44/-6.78	-8.06/-11.64	-10.97/-10.86	-1									



Radiated Composite Gain Data of 6GHz

Appendix C

Θ(22.5°)	3.02/3.03	2.39/1.34	0.35/2.04	-1.17/-2.02	-2.77/-4.04	-7.08/-16.4	-15.76/-6.77	-4.35/-1.82	-1.06/-0.6	0.13/0.13	0.45/1.34	2.12/2.68	2.88/2.69	2.04/1.52	0.89/0.49	0.22/-1.06	-3.59/-6.38	-9.21/-7.22	-6.12/-5.65	-4.19/-2.27	-1.39/-0.31	0.43/0.17	0.03/0.81	1.75/2.65
Θ(30°)	2.04/1.55	1.33/0.61	-0.23/-1.74	-3.7/-5.05	-5.61/-8.06	-12.1/-17.55	-13.52/-6.87	-2.55/-0.41	-0.18/-0.86	-0.94/-1.22	-0.94/-0.16	0.09/0.28	0.96/1.44	0.8/-0.64	-1.52/-1.75	-1.67/-1.55	-1.96/-3.95	-8.63/-11.14	-8.51/-6.82	-4.84/-3.39	-2.43/-2.11	-2.17/-1.31	-0.14/0.98	1.5/2.02
Θ(37.5°)	1.19/0.9	1.88/1.19	-0.62/-3.56	-2.72/-9.17	-8.27/-9.48	-16.87/-13.76	-6.79/-3.92	-3.94/-3.09	-2.55/-3.49	-3.12/-1.19	-0.30/0.92	0.69/-0.08	0.54/0.39	-0.57/-2.9	-4.95/-6.82	-6.47/-5.1	-5.29/-6.84	-10.01/-10.41	-10.44/-12.97	-9.4/-5.51	-0.49/0.41	0.62/1	1.78/1.81	
Θ(45°)	-0.18/0.13	1.62/1.42	0.78/-1.24	-4.41/-9.3	-12.92/-9.5	-10.07/-12.67	-6.16/-4.42	-4.9/-5.41	-3.81/-2.38	-0.92/0.87	0.76/0.71	1.16/0.87	0.16/-1	-1.29/-2.04	-2.49/-5.17	-8.31/-11.9	-12.07/-11.98	-10.1/-9.48	-13.77/-18.91	-12.54/-6.56	-3.56/-1.33	0.35/0.33	0.14/-0.72	-0.81/0.06
Θ(52.5°)	0.6/0.13	1.0/0.2	0.72/-0.63	-3.59/-8.26	-14.8/-12.65	-13.95/-17.92	-14.05/-9.77	-5.57/-7.11	-3.58/-0.85	1.61/2.79	2.77/2.28	2.05/1.41	-0.02/-1.39	-2.27/-3.16	-3.57/-4.91	-10.39/-16.9	-15.59/-13.6	-15.02/-15.18	-13.56/-8.33	-6.84/-6.45	-2.61/-2.16	-0.44/0.38	-1.44/-1.8	-1.6/-0.13
Θ(60°)	3.01/1.74	0.95/0.47	-0.42/-2.3	-4.02/-6.3	-11.63/-10.63	-15.06/-19.38	-14.26/-6.45	-5.34/-7.14	-3.97/-0.66	1.33/3.13	3.27/2.24	3.16/3.67	2.55/0.46	-1.07/-3.88	-4.83/-4.04	-7.97/-18.98	-18.71/-18.98	-18.43/-18.42	-11.83/-9.01	-6.95/-5.6	-3.62/-2.39	-1.69/-0.7	-1.07/-0.36	1.23/1.99
Θ(67.5°)	4.4/3	1.27/0.31	-2.57/-3.12	-2.66/-3.54	-8.04/-10.6	-11.31/-19.08	-11.91/-5.63	-7.48/-6.92	-3.63/-0.36	1.93/2.59	2.49/3.47	3.52/3.66	3.39/1.85	-1.39/-5.35	-7.39/-4.03	-8.16/-18.3	-17.53/-18.91	-14.8/-17.63	-12.81/-10.82	-8.33/-5.61	-3.99/-3.26	-0.76/-0.65	-0.37/1.14	2.71/3.37
Θ(75°)	3.95/2.66	1.17/-1.65	-5.02/-3.8	-1.79/-2.9	-7.25/-8.84	-13.79/-18.17	-10.78/-7.1	-9.65/-6.66	-4.21/-0.86	1.49/1.87	1.38/1.9	3.36/3.33	2.65/2.01	-1.29/-5.51	-8.85/-4.59	-5.6/-6.91	-17.51/-16.79	-17.84/-11.07	-15.73/-5.91	-5.16/-5.24	-5.76/-3.12	-1.82/-1.21	-1.14/1.31	2.93/3.6
Θ(82.5°)	2.44/1.79	-0.14/-3.39	-6.96/-4.83	-3.38/-4.22	-8.37/-10.3	-14.96/-18.56	-9.79/-6.92	-11.28/-5.93	-4.98/-1.09	0.84/0.77	-0.08/0	2.54/2.38	1.42/-0.05	-1.92/-5.28	-7.75/-4.02	-3.31/-9.72	-18.37/-15.38	-15.36/-8.98	-10.44/-6.49	-3.55/-4.81	-6.82/-4.24	-3.39/-3.15	-1.96/0.66	2.35/2.22
Θ(90°)	0.8/-0.36	-2.02/-5.64	-9.73/-7.8	-6.25/-4.97	-8.6/-11.78	-13.18/-18.73	-10.31/-10.61	-8.85/-6.39	-6.92/-1.37	-0.06/-0.83	-1.94/-2.17	0.61/0.9	0.04/-1.24	-2.73/-4.63	-8.88/-6.64	-3.68/-8.33	-15.24/-18.54	-8.74/-12.43	-8.01/-10.9	-4.52/-4.98	-4.91/-6.37	-4.69/-4.33	-3.42/-1.08	0.80/0.38
Θ(97.5°)	-1.75/-3.04	-4.22/-6.76	-11.33/-9.81	-6.89/-5.52	-9.49/-13.99	-17.03/-19.56	-10.6/-16.84	-7.71/-7.45	-7.99/-2.15	-1.77/-3.03	-3.96/-3.45	-0.61/-0.88	-1.38/-3.18	-5.55/-7.78	-13.08/-10.13	-6.68/-10.67	-17.66/-18.32	-11.43/-12.79	-11.47/-14.63	-7.91/-5.78	-7.01/-7.57	-4.99/-5.38	-5.38/-3.26	-0.83/-1.44
Θ(105°)	4.12/-4.32	-5.32/-5.47	-8.53/-10.22	-6.91/-7.78	-16.83/-12.93	-18.22/-17.4	-13.32/-18.75	-9.26/-9.78	-10.07/-3.56	-2.72/0.43	-6.43/-4.58	-2.63/-2.54	-2.85/-4.06	-7.23/-8.99	-19.13/-18.79	-11.93/-11.13	-18.34/-14.03	-14.14/-10.73	-14.66/-18.81	-11.81/-7.82	-9.19/-14.7	-10.82/-7.05	-5.04/-5.48	-3.74/-3.56
Θ(112.5°)	-7.38/-5.46	-5.19/-6.15	-8.47/-11.98	-9.77/-16.31	-12.21/-15.51	-17.38/-18.59	-18.12/-17.8	-12.49/-14.59	-9.86/-5.38	-3.81/-5.36	-7.18/-5.17	-2.95/-3.84	-4.46/-6.98	-10.76/-11.78	-18.03/-15.63	-16.1/-9.59	-9.35/-10.18	-17.74/-9.67	-15.71/-15.71	-10.04/-12.11	-7.87/-14.15	-13.21/-9.02	-6.28/-6.67	-6.55/-7.22
Θ(120°)	-7.07/-8.4	-10.95/-10.83	-16.16/-16.86	-19.33/-13.33	-11.4/-19.05	-13.05/-18.81	-17.99/-14.26	-10.96/-16.5	-10.57/-6.26	-5.94/-7.25	-9.31/-6.95	-5.89/-9.22	-14.08/-14.01	-18.47/-15.95	-15.15/-10.96	-7.89/-11.9	-15.97/-10.11	-11.07/-18.35	-8.89/-4.68	-17.37/-15.1	-10.82/-14.76	-11.63/-9.9	-8.71/-8.37	
Θ(127.5°)	-6.91/6.62	-9.19/-13.43	-17.82/-18.27	-11.52/-10.66	-14.59/-18.61	-12.82/-19.09	-19.27/-13.42	-16.43/-18.25	-12.95/-6.5	-4.48/-11.24	-12.32/-7.79	-4.63/-5.69	-7.79/-10.57	-18.86/-18.31	-17.18/-16.32	-12.47/-15.89	-8.26/-12.96	-18.51/-17.44	-14.58/-18.68	-18.62/-15.75	-7.71/-11.8	-16.13/-18.48	-10.92/-9.22	
Θ(135°)	-8.77/-8.81	-11.49/-14.1	-12.2/-16.01	-11.79/-14.38	-18.13/-15.69	-17.63/-18.74	-17.97/-10.66	-12.99/-18.15	-14.23/-9.86	-10.76/-14.37	-16.22/-9.85	-7.64/-8.56	-8.36/-9.11	-9.6/-11.52	-11.67/-18.43	-18.47/-18.67	-14.14/-17.88	-16.41/-18.04	-17.62/-14.21	-12.62/-13.3	-18.1/-12.76	-13.7/-9.52	-7.39/-12.09	-12.01/-13.57
Θ(142.5°)	-17.28/-16.52	-19.16/-18.85	-16.74/-18.99	-19.05/-17.1	-16.33/-18.05	-17.87/-13.8	-18.68/-13.34	-15.78/-17.87	-13.86/-12.59	-13.6/-17.02	-17.97/-15.71	-18.78/-17.53	-12.91/-10.35	-9.71/-19.4	-12.13/-14.68	-16.14/-18.88	-19.03/-17.54	-18.1/-17.74	-10.6/-14.08	-17.73/-28.23	-17.88/-16.99	-14.79/-15.01	-11.77/-10.11	-7.61/-14.37
Θ(150°)	-19.02/-18.07	-18.91/-18.99	-14.99/-14.95	-13.01/-11.55	-15.72/-17.87	-14.27/-17.95	-14.3/-13.18	-18.23/-18.46	-16.18/-13.5	-14.77/-17.48	-17.97/-19.01	-18.92/-18.55	-15.64/-9.21	-9.4/-11.05	-12.93/-18.54	-15.21/-14.18	-16.08/-16.37	-18.86/-16.11	-18.43/-12.53	-14.74/-17.68	-17.96/-16.41	-18.85/-17.76	-17.33/-19.11	-18.88/-18.49
Θ(157.5°)	-16.95/-15.38	-14.68/-16.12	-18.64/-18.29	-19.18/-17.12	-17.13/-15.76	-14.87/-17.74	-18.72/-17.76	-19.32/-18.24	-14.26/-13.05	-13.71/-13.06	-13.31/-13.26	-14.32/-15	-14.3/-15.47	-18.42/-18.75	-16.83/-12.95	-14.24/-16.25	-17.3/-18.01	-13.61/-17.42	-19.29/-18.16	-18.7/-18.41	-18.96/-17.63	-18.86/-18.76	-17.35/-17.34	-18.87/-17.38
Θ(165°)	-18.77/-18.72	-18.18/-18.87	-18.07/-18.75	-19.01/-18.15	-19.15/-18.13	-18.04/-16.05	-18.13/-18.21	-18.32/-18.82	-17.25/-16.63	-16.1/-16.75	-14.67/-16.5	-16.52/-16.1	-19.27/-19.05	-16.82/-16.21	-19.18/-19.09	-18.75/-19.23	-17.58/-17.65	-15.74/-13.94	-16.75/-18.99	-19.1/-17.6	-18.57/-18.74	-18.87/-19.23	-17.91/-17.35	-19.18/-18.9
Θ(172.5°)	-17.64/-18.44	-19.58/-19.01	-18.25/-17.69	-16.96/-15.04	-14.58/-14.39	-14.79/-16.34	-18.67/-17.61	-19.1/-18.95	-18.17/-16.88	-15.91/-18.49	-17.94/-18.93	-18.03/-17.88	-17.31/-17.99	-12.43/-13.25	-15.75/-18.82	-18.56/-18.1	-17.5/-18.61	-19.15/-19.05	-18.52/-19	-17.73/-18.9	-18.25/-19.12	-18.95/-18.5	-17.11/-17.74	
Θ(180°)	-17.49/-17	-17.94/-18.21	-17.03/-15.91	-16.67/-15.9	-15.25/-15.9	-17.87/-18.92	-17.19/-17.26	-18.34/-19.28	-17.87/-18.17	-18.26/-18.9	-17.68/-18.77	-18.01/-18.19	-17.34/-17.89	-17.52/-18.49	-15.95/-19.01	-19.04/-19.26	-18.21/-18.74	-16.62/-19.25	-18.31/-19.32	-17.22/-18.56	-18.95/-18.26	-17.78/-19.1	-17.63/-19.21	-16.79/-17.93
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°)	-14.86/-9.37	-6.94/-4.63	-2.44/-1.03	-0.23/-0.03	0.73/1.39	1.79/1.7	1.51/1.24	0.74/0.36	-0.03/-0.85	-2.24/-4.3	-7.27/-11.01	-17/-19	-14.86/-9.35	-6.16/-4.23	-2.87/-1.39	-0.05/0.63	0.99/1.09	1.11/0.93	0.63/0.96	0.91/-0.16	-1.14/-6.21	-3.56/-4.92	-7.23/-11	-14.67/-18.58
Θ(7.5°)	-14.59/-10.19	-7.39/-5.06	-3.16/-2.02	-1.18/-0.48	1.08/0.86	1.49/1.97	2.19/1.83	1.53/1.08	0.65/0.34	-4.67/-7.91	-12.14/-16.23	-13.09/-8.85	-5.75/-3.32	-1.57/-0.05	1.19/2.15	2.47/2.38	2.43/2.28	1.61/6.4	1.54/0.61	-0.31/-1.7	-2.89/-4.6	-7.39/-11.3	-18.99/-19.21	
Θ(15°)	-18.29/-10.81	-7.71/-5.69	-4.49/-2.73	-0.94/0.11	1.06/1.86	2.36/2.72	3.15/2.92	2.44/2.02	1.64/0.92	-0.24/-1.57	-3.76/-6.45	-16.8/-10.61	-7.05/-4.19	1.62/-0.13	1.05/1.86	2.08/1.9	1.42/0.95	0.97/1	0.96/1.03	0.61/-0.18	-1.28/-2.52	-4.98/-6.32	-12.09/-18.83	
Θ(22.5°)	-14.14/-7.82	-5.32/-4.45	-3.65/-1.59	-0.02/1.14	1.89/1.97	2.32/9.6	3.53/2.97	1.62/1.33	1.22/0.32	-0.26/-1.29	-3.37/-7.08	-11.53/-18.6	-13.62/-7.6	-5.51/-3.43	-1.6/-0.22	1.49/2.76	3.21/3.25	2.84/1.81	1.09/1.11	1.52/1.65	1.32/0.5	-1.2/-3.03	-5.59/-8	-12.99/-18.95
Θ(30°)	-9.73/-4.71	-2.03/-2.12	-1.22/0.94	2.17/2.25	2.17/2.69	3.13/3.62	3.73/3.51	2.53/0.96	-0.19/-0.46	-1.37/-2.91	-4.32/-7.6	-12.28/-15.56	-17.57/-14.81	-9/-6.14	-4.99/-2.2	-0.61/0.05	2.97/3.44	1.55/0.95	1.41/1.54	0.62/-1	-3.43/-6.35	-9.6/-10.05	-11.26/-18.2	
Θ(37.5°)	-9.67/-5.99	-2.07/-1.89	-1.21/-4.1	2.33/2.31	2.68/2.87	2.96/2.43	1.67/1.59	1.88/1.38	0.47/-0.37	-1.31/-4.89	-11.45/-17.74	-15.23/-11.39	-6.56/-4.16	-3.59/-4.77	-4.91/-4.21	-3.47/0.33	3.43/3.83	3.28/1.93	0.28/-0.1	-0.03/-0.29	-0.91/-2.35	-5.06/-7.25	-8.36/-10.49	-13.24/-18.59
Θ(45°)	-15.94/-12.98	-4.86/-3.63	-3.73/0.25	1.33/1.38	1.07/0.89	0.83/0.43	-0.09/0.48	2.14/2.83	1.68/0.31	-1.79/-5.83	-15.09/-17.46	-8.54/-4.18	-2.12/-2.29	-2.45/-3.18	-3.49/-0.95	1.05/2.48	1.77/0.09	-2.24/-3.9	-3.23/-2.73	-2.68/-3.94	-6.05/-7.79	-8.04/-6.78	-10.73/-17.85	
Θ(52.5°)	-19.12/-12.87	-6.51/-7.27	-7.47/-2.3	-0.13/0.46	-0.32/-1.25	-0.02/0.4	-0.47/-0.11	1.72/6.2	1.01/-1.82	-4.45/-11.38	-19.04/-17.36	-16.11/-18.44	-15.72/-16.32	-5.24/-3.18	-1.37/-1.27	-2.36/-2.32	-0.82/1.5	1.3/-1.7	-4.53/-2.75	-1.52/-2.87	-3.25/-3.28	-4.58/-7.93	-13.43/-11.3	-11.74/-14.79
Θ(60°)	-13.08/-12.54	-6.56/-7.99	-10.17/-6.36	-2.61/-1.27	-2.37/-3.56	-1.66/-0.96	-2.63/-2.24	0.34/0.79	-1.02/-4.24	-6.48/-13.75	-13.68/-11.09	-11.98/-13.82	-18.45/-16.62	-10.67/-6.03	-3.77/3	-3.03/-5.05	-5.72/-2.02	-0.87/-3.99	-6.02/-3.88	-2.73/-5.35	-4.83/-4.37	-3.97/-6.95	-11.45/-16.01	-11.5/-11.94
Θ(67.5°)	-12.34/-14.1	-7.93/-7.69	-12.38/-10.84	-5.43/-3.02	-4.42/-5.09	-2.94/-2.33	-4.05/-3.02	-8.02/-1.47	-5.64/-8.23	-9.02/-1.18	-9.8/-11.32	-14.17/-18.64	-18.59/-17.57	-10.79/-8.12	-5.25/-8.33	-18.97/-7.53	-0.57/-5.92	-8.72/-3.88	-4.13/-8.53	-5.22/-6.05	-6.14/-9.74	-12.38/-10.91	-16.63/-13.03	
Θ(75°)	-12.54/-12.01	-8.76/-7.11	-13.72/-10.81	-8.																				



Radiated Composite Gain Data of 6GHz

Appendix C

Θ(75°)	-1.69/-2.35	-2.70/-37	1.20/84	2.24/96	1.14/-1.52	-3.97/-0.9	-4.1/-7.58	-4.48/-5.92	-11.17/-18.45	-17.98/-11.15	-9.09/-10.77	-5.44/-0.62	2.95/3.18	2.18/2.89	2.13/2.15	0.84/-1.38	-1.75/-1.9	0.35/-0.76	-1.11/-5.68	-4.48/-4.37	-18.71/-7.71	-8.35/-8.57	-3.79/0.53	0.72/-3
Θ(82.5°)	-1.86/-5.48	-3.09/0.3	-0.26/-1.92	0.64/1.33	0.61/-5.7	-5.87/-1.65	-3.12/-7.43	-5.93/-8.16	-9.31/-9.64	-14.94/-15.66	-15.02/-9.6	-5.36/-0.54	1.91/46	0.81/29	0.55/1.48	-0.97/-3.98	-3.43/-2.39	-0.21/-1.48	-1.82/-4.68	-3.62/-3.2	-16.46/-8.84	-7.76/-6.37	-4.85/-1.54	-1.01/-2.94
Θ(90°)	-3.43/-7.96	-3.21/-1.26	-4.67/-5.01	-1.57/-0.75	-2.28/-2.55	-5.96/-3.27	-3.29/-6.65	-6.75/-12.38	-10.67/-7.39	-10.16/-18.96	-15.87/-9.89	-5.2/-2.66	0.84/0.82	0.23/0.41	-0.52/0.7	-0.99/-4.73	-5.7/-3.36	-1.9/-1.5	-1.94/-6.56	-9.03/-7.03	-17.23/-15.55	-9.28/-7.87	-6.94/-4.2	-3.02/-4.48
Θ(97.5°)	-5.11/-10.36	-4.5/-5.56	-9.43/-5.35	-3.07/-3.38	-5.15/-4.04	-6.55/-3.68	-4.88/-8.96	-9.76/-12.72	-9.18/-7.02	-10.56/-19.18	-18.42/-10.3	-4.99/-4.02	-1.19/-0.2	-1.57/-1.69	-2.44/-0.49	-1.11/-5.26	-9.51/-6.32	-3.81/-3.19	-4.44/-11.91	-18.14/-10.86	-17.91/-17.39	-16.65/-12.08	-8.65/-6.09	-6.4/-6.55
Θ(105°)	-6.81/-9.45	-6.93/-9.26	-10.62/-7.28	-5.84/-7.32	-8.03/-6.83	-8.28/-6.47	-8.68/-11.92	-14.68/-16.83	-11.11/-8.23	-10.66/-18.72	-18.59/-11.67	-7.1/-6.76	-4.36/-2.56	-2.56/-3.39	-3.93/-2.44	-1.33/-2.46	-8.04/-4.15	-4.47/-14.01	-16.82/-18.16	-17.04/-18.99	-17.89/-11.79	-9.85/-11.89	-14.58/-8.87	-11.51/-12.02
Θ(112.5°)	-13.57/-8.88	-10.88/-16.9	-13.82/-10.94	-9.48/-9.32	-6.91/-7.56	-9.2/-8.15	-13.13/-12.64	-17.77/-12.64	-7.82/-10.73	-11.77/-16.82	-18.55/-15.49	-5.89/-8.82	-3.24/-5.35	-5.4/-0.9	-1.16/-5.25	-9.41/-8.17	-6.86/-5.28	-6.37/-1.11	-13.87/-1.1	-16.54/-19.38	-15.45/-18.33	-18.03/-12.25	-11.71/-14.12	
Θ(120°)	-13.08/-9.82	-18.46/-12.04	-8.86/-11.99	-11.44/-8.13	-8.28/-12.54	-12.32/-11.87	-14.72/-15.29	-18.18/-9.91	-8.44/-10.24	-11.34/-18.79	-18.73/-18.41	-11.28/-9.51	-7.55/-5.84	-3.27/-5.27	-5.74/-9.58	-4.82/-4.31	-7.27/-13.61	-9.1/-5.28	-7.89/-8.49	-12.52/-11.63	-14.2/-19.44	-17.99/-18.52	-11.84/-7.55	-12.09/-18.16
Θ(127.5°)	-11.26/-18.13	-10.78/-6.98	-7.15/-9.94	-12.76/-10.6	-12.44/-14.98	-16.01/-18.78	-18.77/-13.25	-13.51/-10.05	-7.78/-9.47	-11.23/-14.8	-19.44/-17.88	-10.23/-11.41	-10.21/-6.42	-5.68/-6.37	-7.48/-11.56	-8.33/-7.09	-8.97/-9.91	-11.45/-9.97	-11.78/-14.13	-16.55/-18.22	-15.68/-11.95	-18.54/-16.52	-15/-12.75	-16.5/-9.38
Θ(135°)	-19.47/-15.06	-11.58/-8.51	-11.3/-18.68	-17.88/-18.87	-18.86/-18.5	-17.71/-15.53	-12.42/-16.03	-12.98/-10.9	-8.19/-7.74	-12.14/-15.35	-18.45/-16.89	-12.36/-9.54	-14.01/-12.4	-8.76/-5.09	-5.27/-8.42	-10.35/-15.65	-18.4/-16.2	-10.95/-7.17	-5.61/-9.12	-15.89/-18.7	-12.44/-18.98	-18.84/-17.89	-18.15/-15.05	-11.64/-12.4
Θ(142.5°)	-18.28/-17.73	-16.21/-5.41	-14/-13.54	-16.19/-18.88	-15.87/-13	-17.45/-11.78	-11.33/-13.23	-8.31/-7.68	-8.01/-10.23	-16.61/-18.15	-18.21/-17.68	-12.3/-10.15	-10.26/-10.75	-9.32/-7.39	-7.81/-8.77	-8.9/-11.74	-17.67/-19.44	-17.99/-17.91	-16.33/-11.11	-14.7/-15.08	-11.81/-17.25	-16.13/-18.21	-13.47/-15.23	-16.48/-18.48
Θ(150°)	-14.62/-19.04	-19.09/-16.81	-15.85/-17.97	-17.48/-11.42	-9.78/-9.86	-9.66/-8.65	-9.54/-10.28	-9.98/-11.7	-7.9/-8.76	-10.84/-10.39	-13.11/-18.46	-18.22/-18.41	-14.48/-12.33	-11.32/-12.9	-13.4/-11.38	-15.4/-9.95	-11.21/-14.74	-11.36/-13.24	-8.95/-8.01	-11.36/-12.77	-17.97/-17.91	-17.95/-13.86	-11.71/-10.72	
Θ(157.5°)	-18.63/-14.11	-13.49/-16.39	-16.35/-14.17	-13.54/-13.12	-13.71/-11.13	-9.81/-11.36	-13.71/-11.05	-8.74/-9.49	-12.43/-12.91	-11.62/-12.69	-13.6/-15.22	-17.24/-18.01	-18.17/-18.78	-17.69/-15.55	-14.3/-13.09	-11.04/-11.17	-13.22/-12.69	-9.54/-9.96	-13.31/-17.65	-17.89/-17.92	-17.47/-18.13	-18.92/-19.18	-18.38/-18.13	-18.68/-18.47
Θ(165°)	-18.03/-18.03	-19.27/-18.45	-18.84/-16.51	-14.29/-11.64	-9.79/-9.29	-9.54/-11.09	-10.39/-9.89	-10.06/-10.29	-12.04/-15.5	-16.2/-15.21	-15.99/-18.79	-19.06/-18.67	-17.49/-18.52	-17.56/-18.93	-18.34/-19.23	-18.82/-19.07	-16.02/-12.42	-10.98/-11.27	-12.32/-14.18	-15.67/-17.44	-18.11/-18.74	-17.96/-17.82	-15.77/-15.53	-19.21/-17.8
Θ(172.5°)	-18.76/-19.49	-16.64/-13.74	-11.81/-10.9	-9.95/-9.81	-10.15/-10.38	-8.88/-9.45	-8.95/-9.11	-9.98/-11.16	-12.63/-17.8	-16.76/-18.89	-17.56/-18.77	-17.41/-18.71	-15.92/-16.56	-18.27/-17.58	-18.89/-18.47	-16.02/-16.19	-16.66/-18.72	-17.73/-17.66	-18.5/-19.12	-15.86/-14.09	-13.59/-15.22	-18.78/-19.19	-19/-19.15	
Θ(180°)	-18.07/-18.08	-17.65/-17.82	-18.05/-15.99	-13.95/-13.77	-14.63/-15.06	-14.45/-13.07	-13.17/-12.81	-11.94/-11.82	-12.48/-12.71	-11.98/-12.17	-13.48/-15.69	-15.71/-14.73	-16.12/-16.49	-15.7/-15.49	-15.11/-15.93	-18.69/-18.06	-18.27/-17.72	-17.72/-18.82	-15.2/-12.82	-12.01/-11.74	-12.21/-12.74	-13.03/-13.24	-14.45/-16.29	-18.71/-18.35
Freq(Hz)	6.175GPol.	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°)	-3.39/-5.77	-8.45/-13.56	-19.01/-17.64	-12.74/-28.9	-5.48/-3.29	-1.78/-0.62	0.15/0.84	1.22/1.54	1.61/1.43	1.26/0.97	0.58/0	-0.43/-1.07	-2.79/-4.84	-6.41/-8.82	-15.22/-18.09	-13.43/-8.45	-5.71/-3.85	-2.35/-1.48	-0.59/0.09	0.67/1.03	1.34/1.69	1.71/1.29	0.77/0.03	-1.29/-4.48
Θ(7.5°)	-1.59/-3.3	-5.46/-8.65	-14.58/-17.79	-13.64/-8.08	-4.77/-2.28	-0.60/0.63	1.52/28	2.71/3	3.13/0.8	3.122.82	2.592.32	1.690.98	-0.4/-2.33	-4.26/-6.23	-9.26/-16.36	-18.29/-11.84	-8.1/-6.1	-4.69/-3.47	-2.75/-1.74	-0.98/-0.18	0.61/1.33	1.982.35	2.34/1.67	0.81/-0.35
Θ(15°)	-6.65/-9.4	-11.73/-14.81	-18.65/-19.09	-17.74/-13.41	-9.4/-5.71	-2.92/-1.07	0.571/1.79	2.63/1.2	3.55/3.96	4.264.17	3.442.34	1.210.26	-1.41/-3.42	-4.36/-5	-6.98/-10.47	-14.39/-13.74	-9.24/-6.28	-4.02/-2.69	-1.71/-1.58	-1.08/0.41	1.652.03	1.460.18	-1.73/-4.14	
Θ(22.5°)	-4.64/-7.67	-13.49/-18.29	-17.57/-14.44	-9.57/-6.67	-5.51/-3.96	-2.10/-7.8	0.641.48	2.843.54	0.084.67	5.014.8	3.561.89	0.49/-0.38	-1.08/-1.87	-2.94/-3	-6.34/-9.11	-14.44/-12.86	-8.1/-5.61	-0.83/0.21	0.330.07	0.651.59	1.931.67	0.66/-0.34		
Θ(30°)	-5.43/-8.35	-13.44/-17.45	-18.49/-12.89	-6.32/-4.42	-3/-1.86	-1.13/-1.23	-1.33/0.47	2.653.87	4.244.45	4.944.85	4.354.44	4.233.41	2.06/-0.22	-3.28/-6.34	-11.83/-16.53	-15.49/-11.03	-6.12/-2.29	-0.06/-0.52	-2.27/-1.09	0.90.84	1.172.53	3.022.18	1/-0.53	-2.87/-4.39
Θ(37.5°)	-6.92/-12.57	-10.81/-14.11	-9.55/-14.85	-3.28/-4.07	-5.34/-3.88	-2.83/-3.9	-3.29/-0.64	1.392.27	1.532.11	3.863.9	4.414.64	3.261.43	-0.34/-2.2	-3.64/-7.32	-10.86/-12.2	-9.81/-3.93	-0.14/0.66	-1.27/-1.05	0.80/-0.34	1.43/1.6	2.761.77	0.77/-0.31	-1.45/-1.42	
Θ(45°)	-5.93/-11.43	-9.07/-8.45	-8.57/-4.63	-2.44/-3.79	-8.84/-7.47	-4.39/-3.93	-3.873.36	-2.33/0.06	-9.70/-0.73	1.493	3.482.39	1.080.5	-0.37/-4.44	-9.87/-15.41	-18.38/-11.19	-8.77/-12.49	-8.2/-3.91	-1.40/0.42	0.29/-1.85	-0.7/-0.39	1.853.31	1.790.86	1.170.46	-0.45/-1.2
Θ(52.5°)	-8.56/-14.69	-9.28/-8.24	-13.1/-9.79	-4.77/-6.66	-9.82/-8.01	-5.66/-5.03	-3.21/-4.1	-4.82/-1.19	-1.85/-3.33	-1.21/0.57	-0.3/-3.07	-1.77/-2.55	-3.28/-4.6	-9.18/-19.2	-19.05/-14.04	-12.01/-17.72	-10.63/-4.51	-2.3/-1.95	-0.93/-2.58	-2.16/-0.85	0.371.99	0.980.56	0.67/-0.85	-3.19/-5.59
Θ(60°)	-13.44/-18.38	-13.65/-11.31	-16.9/-18.18	-7.79/-2.77	-11.89/-6.66	-6.98/-7.75	-6.38/-6.6	-7.31/-3.62	-2.6/-5.64	-5.66/-3.11	-4.82/-4.59	-3.39/-3.1	-1.91/-1.87	-5.49/-1.01	-18.2/-18.06	-11.28/-16.15	-16.26/-9.1	-5.24/-3.92	-2.58/-3.72	-2.88/-2.28	-2.65/-0.6	-1.45/-1.61	-1.95/-3.02	-4.11/-7.86
Θ(67.5°)	-16.86/-17.59	-19.21/-13.2	-9.22/-13.52	-8.84/-8.69	-17.9/-15.84	-9.91/-9.76	-9.83/-6.97	-9.83/-6.96	-9.32/-6.99	-8.16/-3.99	-5.67/-3.89	-3.94/-6.87	-10.82/-9.8	-18.96/-19.14	-16.04/-17.4	-17.24/-12.01	-10.52/-9.56	-5.24/-5.74	-2.88/-3.74	-3.44/-1.8	-2.88/-3.74	-3.44/-1.8	-2.88/-3.74	-3.44/-1.8
Θ(75°)	-19.08/-19.44	-18/-10.29	-6.69/-10.09	-8.6/-10.43	-19.01/-14.44	-10.92/-9.72	-8.21/-9.14	-11.19/-7.86	-5.22/-7.69	-10.51/-9.84	-8.97/-4.5	-7.62/-7	-6.43/-5.35	-12.94/-12.89	-16.22/-18.6	-18.01/-18.14	-13.27/-18.89	-18.14/-7.53	-7.77/-7.62	-3.95/-5.27	-4.28/-4.65	-5.54/-6.53	-12.86/-9.43	-18.41/-10.3
Θ(82.5°)	-18.44/-18.88	-18.02/-10.95	-7.06/-10.08	-8.95/-13.75	-13.66/-11.37	-11.65/-11.7	-10.15/-8.17	-12.84/-8.4	-8.17/-10.06	-9.94/-13.62	-10.43/-5.75	-11.46/-10.72	-10.36/-6.93	-13.76/-19.2	-12.36/-18.21	-12.62/-19.16	-10.93/-16.4	-17.98/-9.18	-9.97/-9.34	-5.9/-7	-5.45/-6.94	-7.02/-9.2	-18.7/-13.4	-12.14/-19.2
Θ(90°)	-14.61/-17.81	-19.15/-11.9	-10.59/-15.33	-9.96/-15.81	-10.61/-9.48	-13.4/-8.65	-12.29/-9.93	-9.04/-11.77	-11.35/-19.24	-15.66/-9.13	-12.39/-19.18	-13.28/-9.39	-11.92/-17.25	-12.56/-13.98	-12.21/-19.17	-12.6/-10.59	-14.37/-14.34	-12.17/-10.77	-6.93/-10.43	-6.24/-6.74	-9.79/-15.88	-18.6/-11.2	-10.32/-14.9	
Θ(97.5°)	-17.65/-17.13	-18.59/-18.82	-17.66/-18.84	-13.93/-15.41	-13.61/-12.39	-14.12/-13.11	-12.88/-9.15	-12.77/-10.86	-10.31/-14.34	-13.96/-18.73	-16.8/-10.19	-15.06/-18.51	-12.39/-11.35	-13.37/-17.63	-11.28/-12.93	-14.34/-14.97	-14.81/-10.06	-14.41/-18.64	-15.65/-12.84	-8.67/-13.66	-6.64/-10.24	-18.23/-16.68	-18.77/-10.25	-10.44/-13.73
Θ(105°)	-19.24/-16.37	-17.62/-14.08	-11.96/-11.46	-16.24/-13.65	-19.31/-16.56	-12.65/-10.42	-14.71/-11.22	-14.04/-13.82	-10.96/-15.07	-17.99/-19.26	-18.67/-16.78	-17.18/-17.41	-18.12/-15.2	-14.94/-16.99	-12.83/-10.96	-13.58/-18.49	-15.84/-13.5	-16.09/-12.54	-18.48/-17.8	-14.81/-17.22	-8.15/-18.08	-16.24/-13.13	-16.61/-14.72	-9.17/-11.5
Θ(112.5°)	-18.56/-16.1	-12.5/-9.84	-10.29/-8.4	-10.78/-15.13	-17.94/-11.57	-10.58/-10.99	-17.12/-15.36	-14.55/-14.39	-11.14/-19.47	-17.66/-18.7	-17.68/-19.17	-18.25/-19.09	-18.41/-18.75	-15.3/-18.73	-13.95/-9.8	-11.03/-18.42	-10.54/-18.78	-18.03/-18.16	-18.31/-17.91	-19.12/-18.09	-13.34/-17.1	-17.62/-12.12	-13.96/-15.23	-17.54/-19.03
Θ(120°)	-17.24/-11.87	-10.81/-11.11	-9.28/-10.95	-10.43/-11.54	-12.83/-11.22	-12.79/-11.12	-18.69/-13.97	-12.31/-14.74	-13.36/-18.43	-18.37/-17.71	-18.71/-12.86	-15.75/-18.56	-17.45/-19.34	-15.21/-18.31	-16.36/-11.37	-11.52/-13.37	-9.54/-18.27	-18.92/-18.75	-16.67/-18.11					



Radiated Composite Gain Data of 6GHz

Appendix C

Θ (112.5°)	-18.28/-8.98	-4.72/-8.35	-10.16/-9.6	-7.92/-10.36	-9.91/-6.51	-5.95/-3.94	-7.1/-8.58	-11.93/-6.95	-13.47/-10.22	-13.61/-18.06	-11.68/-11.42	-11.12/-9.54	-8.78/-6.16	-10.23/-9.35	-5.11/-2.92	-3.03/-8.67	-16.77/-11.3	-4.56/-4.49	-2.79/-11.09	-16.56/-11.47	-18.07/-17.75	-18.02/-12.61	-10.51/-11.28	-8.08/-11.66
Θ (120°)	-18.91/-10.37	-10.23/-16.19	-10.89/-9.89	-10.83/-8.06	-7.99/-7.42	-9.07/-11.2	-11.57/-12.12	-12/-7.67	-10.31/-9.92	-17.79/-18.06	-15.38/-10.26	-10.19/-9.39	-9.54/-7.26	-8.58/-11.2	-7.76/-4.37	-5.71/-6.21	-11.44/-17.29	-9.56/-8.1	-6.44/-16.6	-17.06/-15.45	-11.18/-13.77	-18.54/-18.74	-18.34/-9.8	-7.22/-12.38
Θ (127.5°)	-14.85/-17.21	-14.87/-4.46	-6.91/-8.96	-10.85/-8.59	-11.98/-18.13	-11.02/-16.28	-19.12/-16.47	-17.78/-9.8	-14.31/-12.43	-18.85/-17.94	-18.72/-12.43	-10.21/-11.31	-9.76/-9.67	-7.84/-12.98	-15.6/-12.17	-6.09/-2.4	-7.05/-16.81	-7.92/-5.3	-6.15/-9.48	-16.04/-7.76	-10.08/-17.01	-17.77/-15.87	-14.97/-10.61	-11.77/-17.73
Θ (135°)	-18.26/-15.61	-8.82/-7.92	-11.61/-17.4	-18.04/-16.44	-19.1/-18.7	-19.14/-18.96	-14.35/-11.78	-13.54/-12.52	-17.11/-15.16	-15.77/-17.8	-19.14/-17.63	-12.35/-11.72	-12.14/-12.21	-8.25/-9.28	-14.51/-18.85	-11.41/-6.94	-7.56/-18.76	-15.29/-10.34	-8.41/-6.21	-16.44/-15.48	-17.77/-10.24	-17.72/-14.3	-18.9/-18.72	-18.94/-17.17
Θ (142.5°)	-18.85/-18.85	-15.98/-14.49	-16.92/-17.47	-18.83/-17.75	-18.09/-18.04	-14.39/-10.61	-11.53/-12.61	-14.9/-16.49	-18.27/-18	-14.94/-18.84	-19.02/-18.23	-19.05/-16.56	-13.96/-8.75	-8.78/-6.7	-8.03/-19.34	-17.95/-18.55	-15.97/-12.55	-12.42/-12.6	-15.28/-13.9	-19.02/-17.73	-13.99/-15.66	-18.33/-17.59	-15.65/-13.8	-14.92/-16.67
Θ (150°)	-15.72/-18.05	-15.31/-18.77	-18.65/-14.79	-11.7/-12.13	-13.12/-14.34	-12.63/-14.81	-18.72/-16.68	-14.18/-17.21	-19.38/-18.65	-18.65/-14.09	-15.1/-16.9	-18.06/-15.48	-11.41/-9.15	-8.02/-7.52	-7.79/-10.68	-17.24/-16.54	-12.52/-10.53	-12.85/-11.19	-11.04/-13.22	-16.05/-19.21	-17.05/-15.42	-17.99/-17.26	-18.26/-16.69	
Θ (157.5°)	-18.84/-18.03	-17.05/-16.77	-14.49/-14.68	-18.89/-18.22	-12.71/-12.29	-14.4/-18.36	-17.82/-13.51	-10.82/-11.16	-13.16/-16.72	-18.55/-18.16	-14.47/-12.12	-12.58/-16.61	-18.01/-19.23	-18.14/-14.76	-16.98/-12.16	-11.61/-12.67	-13.54/-16.35	-16.72/-18.87	-17.13/-17.12	-19/-18.68	-18.17/-18.76	-17.88/-18.9	-18.4/-19.1	-18.79/-18.18
Θ (165°)	-18.05/-19.31	-18.55/-17.61	-18.61/-17.84	-18.37/-15.99	-14.63/-16.36	-17.59/-18.5	-15.86/-13.61	-13.1/-12.41	-12.88/-14.01	-15.1/-18.17	-18.32/-19.05	-17.77/-18.81	-17.47/-18.91	-18.1/-18.1	-16.44/-12.42	-10.71/-10.39	-12.75/-19.2	-17.53/-14.87	-15.67/-19.69	-18.72/-18.57	-16.67/-17.88	-17.91/-19	-18.86/-18.68	-17.58/-17.95
Θ (172.5°)	-16.81/-15.95	-15.47/-13.77	-12.45/-12.79	-11.72/-11.06	-11.1/-12.26	-14.63/-13.91	-13.94/-14.29	-14.88/-15.73	-16.5/-14.5	-14.13/-14.92	-15.78/-18.4	-17.96/-18.11	-18.6/-17.6	-19.27/-18.5	-19.17/-17.58	-17.39/-19.11	-15.23/-12.06	-10.25/-11.09	-12.64/-14.35	-16.08/-13.99	-15.01/-19.5	-18.1/-17.57	-19.34/-19.28	-17.96/-18.32
Θ (180°)	-18.1/-18.37	-18.23/-19.09	-17.95/-18.3	-18.84/-18.12	-18.08/-17.55	-17.46/-17.61	-16.39/-16.37	-15.98/-15.26	-14.4/-14.7	-15.55/-16.32	-18.69/-17.87	-17.55/-18.52	-18.66/-18.91	-19.08/-19.09	-17.66/-16.79	-15.32/-16.31	-17.03/-18.65	-18.3/-17.6	-16.28/-12.76	-11.76/-12.29	-12.08/-12.69	-13.7/-14.57	-14.81/-16.72	-18.51/-17.39
Freq(Hz)	6.995GPol.	Theta/Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ (0°)	0.73/-0.18	-1.81/-3.98	-6.42/-9.16	-12.24/-10.06	-6.27/-3.53	-1.53/-0.21	1/1.88	2.79/-29	3.68/-3.85	3.68/-3.36	3.13/-2.92	2.16/-1.41	0.29/-1.1	-3.33/-5.67	-8.55/-11.5	-11.07/-8.28	-5.25/-2.63	-0.89/-0.54	1.47/-2.25	3.06/-3.56	3.66/-3.99	4.25/-4.11	3.47/-2.95	2.52/-3.39
Θ (7.5°)	-1.12/-1.71	-3.56/-6.82	-10.11/-13.97	-12.11/-7.13	-3.85/-1.62	-0.02/-1.1	2.08/-2.84	3.47/-3.83	4.01/-3.85	3.36/-2.75	2.06/-1.5	0.82/-0.1	-0.88/-2.11	-3.45/-4.8	-7.36/-11.36	-18.43/-17.8	-9.9/-5.66	-2.77/-0.8	0.54/-1.7	2.42/-9.3	3.14/-3.06	3.05/-2.94	2.28/-1.46	0.84/-0.38
Θ (15°)	-0.73/-1.54	-2.87/-4.91	-9.34/-16.83	-15.02/-8.45	-4.84/-2.38	-0.74/-0.4	1.43/-2.27	3.01/-3.55	3.44/-2.78	1.93/-1.18	1.02/-1.41	1.59/-1.47	0.98/-0.16	-1.73/-3.41	-6.08/-10.42	-18.21/-17.18	-8.35/-3.84	-1.46/-0.16	0.02/-0.2	0.29/-1.43	2.13/-1.86	1.51/-3.1	1.29/-1.37	0.81/-0.09
Θ (22.5°)	-5.68/-7.61	-10.22/-16.63	-17.99/-15.56	-13.73/-12.37	-11.54/-8.4	-4.03/-0.67	1.31/-1.81	2.04/-2.75	3.21/-3.02	2.32/-3.2	2.89/-2.34	1.53/-1.07	0.86/-0.13	-1.16/-3.1	-7.19/-15.01	-15.74/-10.54	-6.29/-2.22	0.69/-2.18	1.93/-0.79	0.51/-2.1	0.98/-0.11	-0.36/-0.7	1.13/-0.69	-0.62/-3.22
Θ (30°)	-4.8/-5.75	-6.57/-10.95	-18.53/-18.13	-18.51/-11.94	-6.85/-5.3	-0.59/-2.1	0.74/-2.03	1.35/-0.97	2.45/-2.3	2.93/-3.04	2.59/-0.65	-2.29/-3.58	-3.27/-3.04	-3.93/-4.8	-4.39/-5.69	-9.68/-8.5	-4.48/-2.33	-0.44/-1.15	1.16/-1.11	-0.84/-0.63	1.11/-1.16	2.17/-2.58	1.03/-0.74	-1.12/-2.59
Θ (37.5°)	-2.95/-3.61	-7.73/-17.47	-18.51/-18.73	-18.17/-8.76	-3.21/-1.84	-2.83/-2.81	-2.33/-2.74	1/-0.82	1.38/-2.25	1.89/-1.93	0.62/-1.22	-1.66/-2.97	-2.1/-0.15	-0.67/-2.35	-4.08/-7.2	-13.28/-6.61	-2.58/-1.63	-0.06/-2.27	0.39/-0.63	-2.71/-0.65	0.61/-0.7	2.23/-1.81	0.91/-0.1	-1.48/-2.58
Θ (45°)	-4.58/-8.21	-15.95/-16.34	-10.99/-12.17	-9.01/-5	-2.31/-4.71	-5.58/-3.01	-3.72/-0.63	0.96/-2.06	-0.44/-0.26	-0.07/-0.22	-0.88/-0.73	-0.46/-1.57	-1.18/-0.41	-1.41/-1.97	-4.47/-10.77	-17.97/-10.08	-4.11/-3.11	-3.11/-1.71	0.13/-0.2	-1.74/-3.17	-0.46/-0.3	2.57/-1.97	1.06/-1.06	-3.03/-3.34
Θ (52.5°)	-5.52/-14.03	-19.09/-13	-8.05/-6.78	-4.84/-4.54	-3.84/-5.98	-8.42/-7.5	-6.11/-2.33	0.21/-1.58	-1.27/-0.91	0.17/-1.85	-2.35/-0.98	-0.39/-0.27	-0.13/-4.9	-4.72/-4.38	-9.36/-11.4	-8.88/-10.5	-13.23/-6.17	-5.34/-4.48	-1.83/-1.35	-3.57/-5.65	-1.63/-0.59	1.74/-0.85	-4.0/-2.51	-1.26/-3.53
Θ (60°)	-8.63/-14.16	-18.55/-15.45	-7.85/-7.92	-8.11/-8.4	-8.93/-9.73	-5.71/-5.1	-7.71/-4.35	-10.91/-1.99	-1.96/-2.1	0.1/-3.56	-4.37/-4.03	-3.69/-1.72	-2/-5.82	-5.22/-4.81	-11.79/-11.7	-10.56/-12.28	-18.57/-18.76	-10.69/-1.7	-4.1/-3.78	-6.74/-7.47	-3.85/-5.63	-1.68/-0.88	-1.34/-4.07	-8.3/-7.4
Θ (67.5°)	-11.12/-17.96	-17.55/-17.99	-9.31/-14.58	-14.27/-10.67	-14.02/-15.95	-7.17/-4.12	-5.96/-7.48	-3.53/-5.15	-3.42/-3.79	-2.45/-6.02	-4.72/-6.45	-6.35/-4.58	-8.41/-11.7	-15.61/-12.05	-17.91/-11.57	-11.65/-18.81	-17.56/-19.04	-15.68/-7.89	-5.77/-6.37	-7.1/-5.28	-8.15/-7.32	-3.45/-3.41	-3.77/-6.04	-18.57/-8.73
Θ (75°)	-13.7/-18.44	-18.92/-18.73	-7.04/-10.05	-8.39/-12.62	-17.43/-10.31	-9.98/-6.64	-6.65/-9.1	-6.37/-9.14	-5.47/-8.95	-8.27/-8.93	-6.31/-2.3	-7.79/-5.42	-7.73/-12.67	-17.13/-14.53	-19.34/-18.47	-18.71/-12.87	-19.08/-9.38	-8.86/-7.2	-7.91/-5.42	-9.22/-4.72	-5.95/-7.47	-8.62/-8.9	-14.35/-8.21	
Θ (82.5°)	-17.76/-17.15	-18.88/-10.06	-6.34/-8.73	-7.44/-16.36	-18.12/-10.49	-9.3/-8.99	-5.92/-9.94	-8.78/-13.3	-7.71/-12.89	-17.8/-9.9	-10.08/-10.22	-6.2/-6.98	-8.63/-11.57	-12.95/-15.94	-15.31/-17.74	-18.78/-18.23	-18.69/-12.89	-17.71/-13.1	-10.58/-7.05	-7.71/-8.17	-6.77/-8.62	-17.55/-11.2	-10.99/-10.23	-15.94/-11.34
Θ (90°)	-18.2/-18.5	-17.9/-8.94	-7.39/-13.16	-10.13/-16.47	-16.02/-14.4	-10.03/-11.9	-9.26/-10.3	-10.54/-13.64	-10.57/-12.16	-16.15/-17.56	-18.91/-19.18	-12.9/-8.8	-16.52/-11.61	-12.11/-12.38	-11.92/-13.94	-18.64/-15.35	-18.43/-15.93	-16.83/-13.52	-13.58/-9.68	-11.02/-14.64	-8.62/-18.52	-9.11/-8.48	-9.86/-8.89	-17.55/-18.09
Θ (97.5°)	-18.07/-18.65	-14.18/-8.67	-14.54/-13.71	-10.43/-16.8	-11.33/-17.31	-12.77/-13.11	-9.91/-9.83	-10.13/-13.63	-12.96/-9.84	-1.05/-18.93	-18.15/-18.95	-13.11/-9.88	-18.8/-11.4	-16.94/-11.84	-9.89/-19.06	-18.02/-15.32	-13.07/-17.78	-18.16/-13.2	-15.96/-19.16	-12.94/-13.7	-18.42/-13.3	-9.61/-11.34	-13.71/-11.76	-16.27/-18.28
Θ (105°)	-17.81/-18.95	-11.91/-16.75	-17.55/-11.11	-9.27/-14.14	-14.04/-18.96	-17.48/-14.48	-9.17/-11.89	-12.71/-14.99	-12.11/-10.47	-10.81/-13.24	-12.35/-17.29	-17.97/-10.98	-14.23/-14.33	-18.13/-14.54	-10.03/-12.37	-14.34/-15.88	-15.64/-13.76	-17.88/-13.18	-13.45/-18.74	-11.57/-15.78	-16.68/-14.07	-14.21/-13.36	-19.32/-16.48	-7.99/-7.22
Θ (112.5°)	-15.06/-9.76	-16.59/-14.7	-8.89/-8.48	-8.7/-15.89	-17.49/-16.83	-10.36/-10.83	-11.55/-12.88	-14.21/-11.93	-12.85/-15.94	-11.91/-13.96	-10.28/-15.12	-18.98/-12.59	-13.76/-16.3	-13.01/-19.22	-11.88/-10.95	-11.41/-18.01	-13.25/-14.98	-17.28/-18.47	-12.87/-14.55	-16.02/-10.13	-11.62/-18.01	-11.5/-10.33	-10.11/-18.35	-13.14/-15.69
Θ (120°)	-18.33/-13.21	-8.56/-10.41	-13.63/-13.06	-9.81/-17.47	-16.19/-10.05	-10.51/-11.05	-10.12/-13.78	-14.63/-16.76	-10.71/-14.7	-13.76/-13.12	-14.05/-19.03	-17.2/-15.45	-10.59/-11.73	-11.43/-18.19	-10.3/-9.9	-11.86/-10.12	-15.07/-18.26	-18.39/-17.01	-18.99/-13.37	-18.44/-19.14	-18.34/-10.19	-18.39/-9.71	-18.46/-18.47	-18.84/-19.03
Θ (127.5°)	-15.83/-14.96	-18.27/-18.58	-17.96/-9.06	-12.3/-17.13	-12.42/-11.63	-12.79/-15.25	-15.95/-17.24	-16.19/-11.39	-13.6/-17.46	-14.63/-13.88	-18.4/-18.83	-12.19/-8.87	-9.85/-11.68	-13.18/-18.9	-15.67/-10.09	-7.67/-8.56	-13/-18.87	-18.9/-17.76	-16.87/-12.81	-19.03/-15.66	-11.8/-10.87	-17.79/-16.83	-11.17/-13.35	-7.23/-9.5
Θ (135°)	-12.51/-17.4	-18.1/-13.6	-10.63/-10.03	-16.68/-16.87	-12.12/-15.86	-17.24/-15.48	-16.15/-17.34	-15.12/-14.22	-15.08/-15.14	-16.87/-12.19	-11.9/-14.15	-14.15/-10.49	-10.96/-13.19	-15.68/-19.01	-13.34/-11.39	-7.9/-9.75	-10.12/-17.25	-15.86/-17.49	-18.11/-13.81	-17.44/-18.98	-10.95/-14.67	-14.32/-6.95	-7.99/-12.31	-11.77/-13.38
Θ (142.5°)	-18/-8.54	-8.11/-11.31	-17.52/-18.01	-15.22/-15.79	-17.89/-18.91	-18.37/-15.37	-14.74/-12.18	-12.41/-13.47	-18.14/-18.71	-17.2/-18.01	-18.64/-16.83	-16.64/-15.82	-18.56/-18.1	-13.62/-11.85	-9.43/-13.55	-10.73/-11.07	-17.61/-14.44	-13.86/-4.66	-11.26/-14.62	-17.93/-18.26	-13.34/-14.16	-18.84/-18.71	-11.07/-11.06	-12.03/-17.91
Θ (150°)	-13.66/-15.79	-13.41/-19.37	-10.64/-11.2	-15.57/-18.98	-17.41/-15.61	-12.26/-12.83	-14.8/-15.37	-17.77/-14.92	-11.18/-11.19	-11.13/-10.53	-14.45/-17.96	-16.4/-12.93	-10.83/-11.21	-9.47/-9.33	-11.17/-14.69	-19.37/-18.76	-17.8/-16.38	-17.88/-15.53	-15.05/-18.02	-19.18/-18.74	-18.34/-19.12	-18.4/-19.3	-18.17/-18.74	-18.25/-16.92
Θ (157.5°)	-17.24/-18.74	-																						



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Freq(Hz)	2.4G	2.45G	2.4835G
Ant. 1 Max Gain (dBi)	5.62	5.92	5.85
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/45/187.5	Phi/45/172.5	Phi/45/172.5