



Antenna Composite Gain Test Report

FCC ID	Z3WAIR4991-41
Equipment	AT&T ALL-Fi Extender
Brand Name	Airties
Model Name	WFEXT4991-41
HW	HW1.2
SW	4.193.2.0_wltest
SN	J50VA4HW100117
Applicant	AirTies Wireless Networks Sehit Mehmet Mikdat Uluunlu Sokagi No:23 Esentepe, Sisli İstanbul, 34394 Turkey
Manufacturer	AirTies Wireless Networks Sehit Mehmet Mikdat Uluunlu Sokagi No:23 Esentepe, Sisli İstanbul, 34394 Turkey
Standard	KDB662911 D03 v01
Sample Received	Jun. 17, 2024
Start Test Date	Aug. 06, 2024
Final Test Date	Aug. 07, 2024

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory

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History of this test report

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1. Operation Mode and Antenna Information

Antenna Position	RF Port			Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
	2.4GHz	5GHz	6GHz					
2G5G Ant1	1	1	-	Galtronics	60-3693-03-2	PIFA	I-PEX	2.4GHz, 5GHz
2G5G Ant2	2	3	-	Galtronics	60-3755-03-2	PIFA	I-PEX	2.4GHz, 5GHz
5G Ant3	-	2	-	Galtronics	60-2917-03	PIFA	I-PEX	5GHz
5G Ant4	-	4	-	Galtronics	60-2917-03	PIFA	I-PEX	5GHz
6G Ant1	-	-	1	Galtronics	60-3744-03-2	PIFA	I-PEX	6GHz
6G Ant2	-	-	2	Galtronics	60-3695-03-1	PIFA	I-PEX	6GHz
6G Ant3	-	-	3	Galtronics	60-3695-03-2	PIFA	I-PEX	6GHz
6G Ant4	-	-	4	Galtronics	60-3744-03-2	PIFA	I-PEX	6GHz

Antenna Position	RF Port			Remark
	2.4GHz	5GHz	6GHz	
2G5G Ant1	1	1	-	DB1 (Mated to Connector J20)
2G5G Ant2	2	3	-	DB2 (Mated to Connector J22)
5G Ant3	-	2	-	5G2 (Mated to Connector J21)
5G Ant4	-	4	-	5G1 (Mated to Connector J23)
6G Ant1	-	-	1	6G4 (Mated to Connector J1)
6G Ant2	-	-	2	6G3 (Mated to Connector J2)
6G Ant3	-	-	3	6G1 (Mated to Connector J3)
6G Ant4	-	-	4	6G2 (Mated to Connector J4)

Note:

2.4GHz Operation Mode (2TX/2RX)

2G5G Ant1~2 can be used as transmitting/receiving antenna.

2G5G Ant1~2 could transmit/receive simultaneously.

5GHz Operation Mode (4TX/4RX)

2G5G Ant1~2 and 5G Ant3~4 can be used as transmitting/receiving antenna.

2G5G Ant1~2 and 5G Ant3~4 could transmit/receive simultaneously.

6GHz Operation Mode (4TX/4RX)

6G Ant1~4 can be used as transmitting/receiving antenna.

6G Ant1~4 could transmit/receive simultaneously.



2. Test Frequency

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

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

3. Testing Location

Testing Location				
Sporton International Inc. Hsinhua Laboratory				
☒	HWA YA	ADD	:	No.13-1 & 14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333, Taiwan R.O.C.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated	05CH03-HY	Rofy Chen	23.5-24.5 / 45-55	Aug. 06, 2024 ~ Aug. 07, 2024

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

4. Test Facility and Configuration

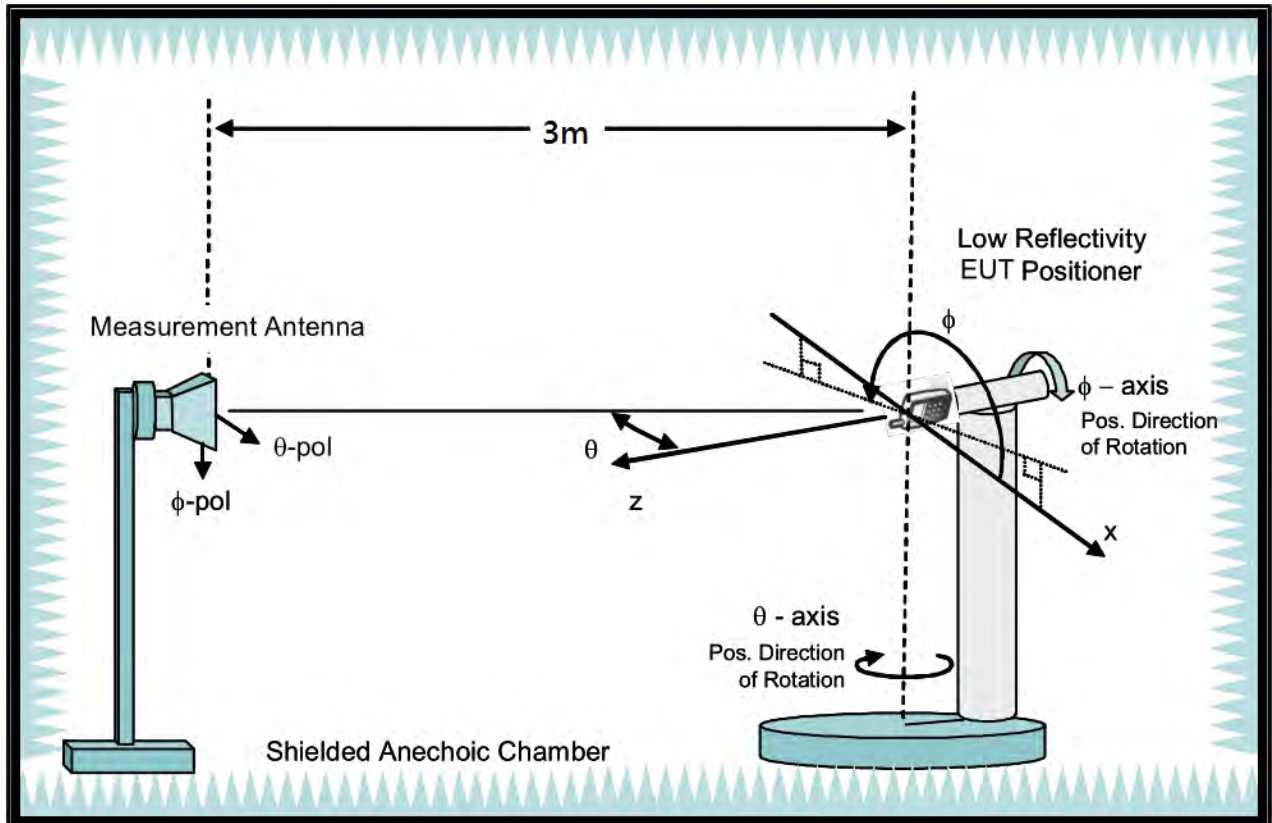
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

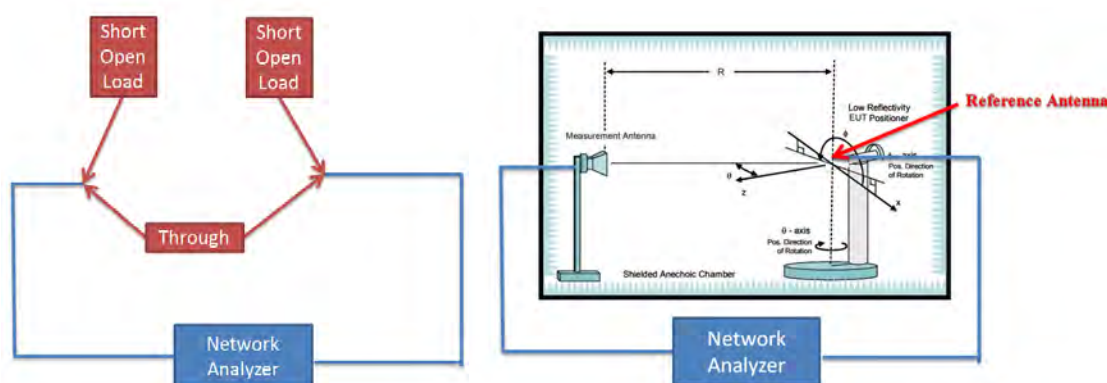
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



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 (MHz)	2400	2450	2500	5150	5200	5300	5600	5750	5800	5900	6000	6500	7000	7200
G(theta) reading (dB)	-33.55	-33.38	-32.91	-32.29	-32.48	-32.25	-32.33	-32.85	-32.67	-33.37	-32.53	-33.75	-34.72	-35.33
G(phi) reading (dB)	-33.11	-32.68	-32.48	-32.45	-32.85	-31.35	-32.76	-32.68	-32.57	-32.81	-32.85	-33.62	-34.33	-35.29
Reference gain (dBi)	10.3	10.3	10.1	11.1	11.3	11.7	12.1	11.5	11.2	11.1	11.3	11	11.1	10.5
Factor(theta) (dB)	43.85	43.68	43.01	43.39	43.78	43.95	44.43	44.35	43.87	44.47	43.83	44.75	45.82	45.83
Factor(phi) (dB)	43.41	42.98	42.58	43.55	44.15	43.05	44.86	44.18	43.77	43.91	44.15	44.62	45.43	45.79

Note:

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

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

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

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



6. Test Method

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

DG steps:

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

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

7. Measured Values and Calculation of Maximum Gain Positions

DG_1SS max value position

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	1.48	-0.07	-6.85	-1.66	-6.49
Ant. 2 (dBi)	0.37	3.5	-14.97	3.13	-13.53
Ant. 3 (dBi)	-	-14.21	0.1	-9.28	0.15
Ant. 4 (dBi))	-	-8.23	2.79	-7.88	1.9
DG [1SS] (dBi)	3.95	3.72	3.59	3.54	3.36
Polarization	Theta	Theta	Phi	Theta	Phi
$\Theta(^{\circ})$	82.5	90	105	90	97.5
$\Phi(^{\circ})$	75	285	112.5	292.5	97.5

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	-2.03	-7.08	-2.35	-9.76
Ant. 2 (dBi)	2.4	-10.59	3.7	-14.09
Ant. 3 (dBi)	-1.91	4.79	-2.87	6.18
Ant. 4 (dBi))	0.7	5.39	-0.35	5
DG [1SS] (dBi)	6.01	6.72	5.96	6.72
Polarization	Theta	Phi	Theta	Phi
$\Theta(^{\circ})$	150	15	157.5	15
$\Phi(^{\circ})$	15	247.5	22.5	255

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 ^{^(1.48/20)}	10 ^{^(-0.07/20)}	10 ^{^(-6.85/20)}	10 ^{^(-1.66/20)}	10 ^{^(-6.49/20)}
Ant. 2 [10 ^{^(G/20)}]	10 ^{^(0.37/20)}	10 ^{^(3.5/20)}	10 ^{^(-14.97/20)}	10 ^{^(3.13/20)}	10 ^{^(-13.53/20)}
Ant. 3 [10 ^{^(G/20)}]	-	10 ^{^(-14.21/20)}	10 ^{^(0.1/20)}	10 ^{^(-9.28/20)}	10 ^{^(0.15/20)}
Ant. 4 [10 ^{^(G/20)}]	-	10 ^{^(-8.23/20)}	10 ^{^(2.79/20)}	10 ^{^(-7.88/20)}	10 ^{^(1.9/20)}
Ant. 1 [10 ^{^(G/20)}] value	1.186	0.992	0.454	0.826	0.474
Ant. 2 [10 ^{^(G/20)}] value	1.044	1.496	0.178	1.434	0.211
Ant. 3 [10 ^{^(G/20)}] value	-	0.195	1.012	0.344	1.017
Ant. 4 [10 ^{^(G/20)}] value	-	0.388	1.379	0.404	1.245
Sum All Antenna [Amax]	2.229	3.071	3.023	3.007	2.946
DG [10*log(Amax ² /Nant)]	3.95	3.72	3.59	3.54	3.36

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [10 ^{^(G/20)}]	10 ^{^(-2.03/20)}	10 ^{^(-7.08/20)}	10 ^{^(-2.35/20)}	10 ^{^(-9.76/20)}
Ant. 2 [10 ^{^(G/20)}]	10 ^{^(2.4/20)}	10 ^{^(-10.59/20)}	10 ^{^(3.7/20)}	10 ^{^(-14.09/20)}
Ant. 3 [10 ^{^(G/20)}]	10 ^{^(-1.91/20)}	10 ^{^(4.79/20)}	10 ^{^(-2.87/20)}	10 ^{^(6.18/20)}
Ant. 4 [10 ^{^(G/20)}]	10 ^{^(0.7/20)}	10 ^{^(5.39/20)}	10 ^{^(-0.35/20)}	10 ^{^(5/20)}
Ant. 1 [10 ^{^(G/20)}] value	0.792	0.443	0.763	0.325
Ant. 2 [10 ^{^(G/20)}] value	1.318	0.295	1.531	0.197
Ant. 3 [10 ^{^(G/20)}] value	0.803	1.736	0.719	2.037
Ant. 4 [10 ^{^(G/20)}] value	1.084	1.86	0.961	1.778
Sum All Antenna [Amax]	3.996	4.334	3.973	4.338
DG [10*log(Amax ² /Nant)]	6.01	6.72	5.96	6.72

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*log(10^{^(G_{ant1}/20)}+10^{^(G_{ant2}/20)}+ +10^{^(G_{ant3}/20)} +10^{^(G_{ant4}/20)}+.....)^2/N_{ant})

8. Summary of Test Result

Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.16	3.61	2.65	2.56	2.47
Ant. 2 Max Gain (dBi)	2.15	3.89	3.85	3.62	2.69
Ant. 3 Max Gain (dBi)	-	2.73	2.49	3.24	3.3
Ant. 4 Max Gain (dBi)	-	2.31	2.88	3.09	2.63
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/75/75	Theta/82.5/112.5	Theta/82.5/112.5	Theta/75/127.5	Theta/82.5/52.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/105/202.5	Theta/97.5/285	Theta/82.5/285	Theta/90/262.5	Theta/97.5/240
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	-	Phi/97.5/97.5	Phi/97.5/97.5	Phi/97.5/232.5	Phi/105/285
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	-	Phi/97.5/277.5	Phi/97.5/277.5	Phi/90/247.5	Phi/105/75
Max Gain (dBi)	2.16	3.89	3.85	3.62	3.3
DG [1SS] (dBi)	3.95	3.72	3.59	3.54	3.36
DG [1SS] (dBi) Revised	3.95	3.89	3.85	3.62	3.36
DG [2SS] (dBi)	2.16	3.89	3.85	3.62	3.3
DG [4SS] (dBi)	-	3.89	3.85	3.62	3.3

Note:

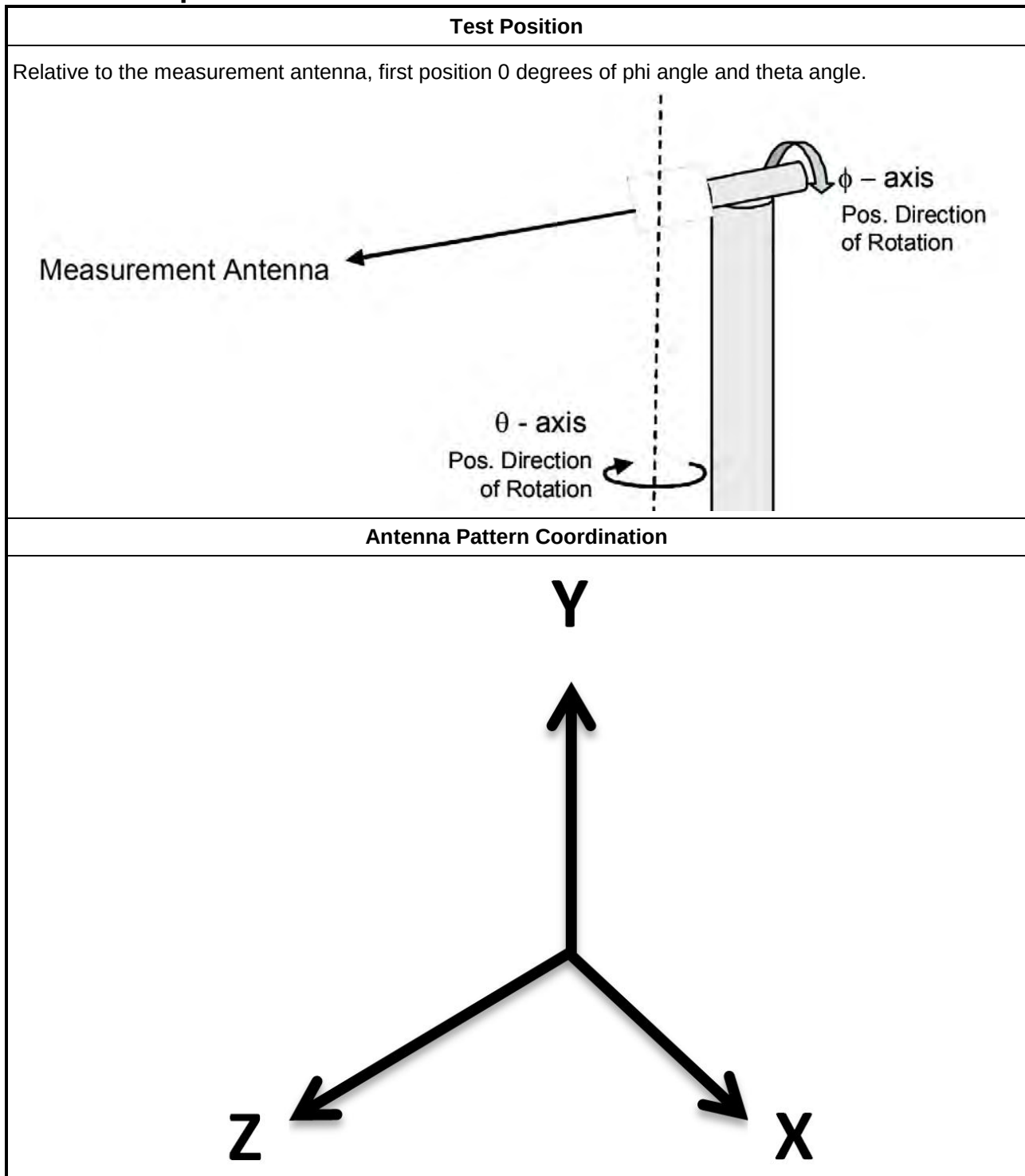
1. Antenna max gain is the max value of each individual antenna through all measurement angles.
2. The max gain is the max value of all antennas.
3. Directional Gain (2SS) = Directional Gain (1SS) – 3dB. If directional gain is less than max gain, use max gain as directional gain. Refer to KDB662911D01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

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5.38	3.86	4.02	2.84
Ant. 2 Max Gain (dBi)	5.09	4.72	4.61	4.69
Ant. 3 Max Gain (dBi)	4.88	6.09	5.24	6.46
Ant. 4 Max Gain (dBi)	6.63	6.7	5.53	6.03
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/82.5/105	Theta/142.5/165	Theta/75/60	Theta/90/150
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/82.5/15	Theta/150/22.5	Theta/150/22.5	Theta/90/135
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/0/75	Phi/0/247.5	Phi/7.5/255	Phi/7.5/247.5
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/135/262.5	Phi/135/262.5	Phi/135/262.5	Phi/7.5/277.5
Max Gain (dBi)	6.63	6.7	5.53	6.46
DG [1SS] (dBi)	6.01	6.72	5.96	6.72
DG [1SS] (dBi) Revised	6.63	6.72	5.96	6.72
DG [2SS] (dBi)	6.63	6.7	5.53	6.46
DG [4SS] (dBi)	6.63	6.7	5.53	6.46

Note:

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

9. Test Setup



Note:

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

**10. Test Equipment and Calibration Data**

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1531	1GHz~18GHz	Dec. 20, 2023	Dec. 19, 2024
Dual Polarization Horn Antenna	Sporton	S0209DP	S0209DP-001	2GHz~9GHz	N.C.R.	N.C.R.
ENA Series Network Analyzer	AGILENT	E5071C	MY46419477	100kHz~8.5GHz	Jul. 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.

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Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.16	3.61	2.65	2.56	2.47
Ant. 2 Max Gain (dBi)	2.15	3.89	3.85	3.62	2.69
Ant. 3 Max Gain (dBi)		2.73	2.49	3.24	3.3
Ant. 4 Max Gain (dBi)		2.31	2.88	3.09	2.63
Ant. 1 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/75/75	Theta/82.5/112.5	Theta/82.5/112.5	Theta/75/127.5	Theta/82.5/52.5
Ant. 2 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/105/202.5	Theta/97.5/285	Theta/82.5/285	Theta/90/262.5	Theta/97.5/240
Ant. 3 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$		Phi/97.5/97.5	Phi/97.5/97.5	Phi/97.5/232.5	Phi/105/285
Ant. 4 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$		Phi/97.5/277.5	Phi/97.5/277.5	Phi/90/247.5	Phi/105/75
Max Gain (dBi)	2.16	3.89	3.85	3.62	3.3
DG [1SS] (dBi)	3.95	3.72	3.59	3.54	3.36
DG [1SS] (dBi) Revised	3.95	3.89	3.85	3.62	3.36
DG [2SS] (dBi)	2.16	3.89	3.85	3.62	3.3
DG [4SS] (dBi)		3.89	3.85	3.62	3.3



Radiated Composite Gain Data 2.4GHz, 5GHz

Appendix A

DG 1SS Result

Freq(Hz)	2.45GPol.	PhiL	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-6.61/6.95	-7.5/-7.98	-8.46/-9.02	-9.92/-11.1	-11.23/-11.52	-11.14/-11.28	-10.63/-9.99	-10.43/-10.51	-10.08/-9.43	-9.14/-8.86	-9.34/-9.33	-9.54/-9.64	-9.82/-10	-10.46/-10.63	-10.83/-10.81	-10.84/-11.35	-12.1/-12.46	-12.76/-13.33	-13.02/-12.72	-12.1/-11.79	-11.04/-10.32	-9.56/-9.08	-6.45/-7.81	-7.24/-6.82
Θ(7.5°)	-7.02/-7.11	-7.36/-7.95	-7.63/-7.77	-8.18/-9.05	-9.99/-10.68	-10.27/-10.21	-10.45/-10.29	-10.49/-11.09	-11.11/-10.38	-10.25/-9.85	-9.29/-9.16	-9.12/-9.21	-9.43/-9.81	-10.14/-10.51	-11.08/-11.7	-12.59/-12.86	-13.05/-13.76	-13.27/-12.14	-11.35/-10.79	-10.41/-10.19	-10.15/-9.89	-9.62/-9.24	-8.73/-8.14	-7.57/-7.17
Θ(15°)	-7.78/-7.77	-7.81/-7.64	-7.33/-6.98	-6.88/-7.09	-7.5/-7.9	-8.26/-8.4	-8.44/-8.57	-9.13/-9.89	-10.87/-11.5	-11.5/-10.61	-9.96/-9.79	-9.84/-10.13	-10.45/-10.75	-11.01/-11.21	-11.27/-11.77	-12.47/-12.75	-13.21/-13	-12.96/-12.25	-11.26/-11.11	-11.22/-10.78	-10.43/-10.15	-9.36/-8.81	-8.12/-7.7	-8.1/-7.95
Θ(22.5°)	-8.55/-8.33	-8.13/-7.68	-7.02/-6.3	-5.71/-5.56	-5.7/-5.97	-6.39/-6.61	-6.69/-6.87	-7.46/-6.54	-10.36/-12.67	-13.19/-12.42	-11.56/-10.6	-10.17/-10.12	-10.27/-10.96	-11.36/-12.12	-11.79/-11.37	-12.54/-12.16	-12.18/-12.84	-12.39/-12.41	-11.01/-10.69	-10.19/-9.88	-8.92/-8.24	-7.93/-7.81	-7.98/-8.35	
Θ(30°)	-8.92/-8.68	-8.32/-7.71	-6.92/-5.96	-5.11/-4.56	-4.35/-4.36	-4.43/-4.48	-4.52/-4.63	-5.19/-6.42	-8.56/-11.77	-13.9/-13.42	-11.77/-10.05	-8.54/-8.01	-8.44/-8.67	-11.54/-12.13	-12.76/-12.11	-10.18/-10.71	-10.91/-11.65	-11.86/-11.61	-11.11/-10.23	-9.25/-8.19	-7.75/-7.76	-7.98/-8.57	-9.19/-9.28	
Θ(37.5°)	-9.53/-8.84	-8.05/-7.65	-7/-6.1	-5.27/-4.69	-4.51/-4.23	-3.91/-3.61	-3.47/-3.49	-3.94/-4.89	-6.54/-8.67	-10.67/-11.58	-11.01/-9.98	-9.02/-8.33	-8.28/-8.88	-10.21/-11.99	-12.16/-11.46	-10.93/-9.88	-9.3/-9.28	-9.84/-10.73	-11.08/-10.66	-10.33/-10	-9.41/-9.06	-8.49/-10.62	-11.83/-12.23	-11.61/-10.66
Θ(45°)	-7.03/-6.11	-5.97/-4.62	-6.92/-6.96	-7.1/-7.65	-7.89/-7.43	-6.62/-5.81	-5.28/-5.16	-5.3/-5.5	-5.76/-6.02	-6.29/-6.4	-6.51/-6.87	-7.49/-8.51	-8.55/-8.6	-8.29/-8.14	-8.33/-9.14	-9.56/-10	-10.32/-10.63	-11.45/-12.86	-14.72/-14.17	-13.99/-12.62	-10.91/-10.37	-10.84/-11.54	-11.56/-10.59	-9.51/-8
Θ(52.5°)	-4.55/-4.42	-4.82/-5.63	-6.47/-7.28	-8.16/-9.47	-11.11/-13.12	-14.25/-12.6	-10.23/-8.95	-7.66/-7.6	-7.27/-7.02	-6.44/-5.92	-5.59/-5.64	-6.05/-6.87	-7.8/-7.37	-6.49/-5.81	-5.79/-6.47	-8.11/-11	-13.75/-14.18	-14.68/-16.09	-14.82/-13.31	-10.73/-8.68	-7.5/-6.36	-5.5/-4.91	-4.61/-4.59	-4.92/-4.91
Θ(60°)	-7.14/-7.5	-7.45/-7.95	-9.56/-11.61	-13.78/-14.83	-13.93/-13.33	-10.75/-9.69	-7.76/-6.47	-5.48/-4.79	-4.37/-4.26	-4.45/-5.07	-5.8/-6.5	-7.36/-8.51	-9.32/-8.97	-7.55/-6.24	-5.52/-5.48	-6.02/-7.07	-8.73/-10.46	-10.39/-11.42	-11.92/-10.09	-7.9/-6.29	-5.14/-4.46	-4.27/-4.06	-3.91/-4.35	-5.49/-6.71
Θ(67.5°)	-9.8/-9.18	-8.36/-8	-8.26/-9.01	-10.05/-10.3	-10.08/-10.38	-11.39/-11.65	-10.74/-8.88	-6.38/-3.92	-2.11/-1.18	-1.12/-1.78	-3.02/-4.82	-6.73/-8.92	-9.52/-8.71	-7.81/-6.24	-5.25/-4.57	-4.03/-4.12	-5.07/-6.67	-8.7/-9.83	-10.25/-8.87	-6.61/-4.96	-3.84/-3.55	-4.23/-5.65	-6.95/-7.59	-8.46/-9.18
Θ(75°)	-9.71/-9.89	-9.93/-9.65	-8.58/-7.41	-6.84/-7.33	-9.27/-11.63	-15.3/-15.24	-15.71/-15.67	-14.15/-9.09	-6.28/-3.92	-3/-3.16	-4.06/-5.51	-7.72/-8.53	-8.73/-8.24	-7.58/-7.91	-7.88/-7.7	-7.08/-6.24	-6.05/-7.22	-9.66/-12.18	-9.99/-5.99	-3.54/-2.1	-1.19/-1.06	-2.02/-4	-6.54/-8.45	-9.31/-9.67
Θ(82.5°)	-15.09/-15.83	-15.54/-13.82	-12.14/-9.56	-8.08/-8.16	-9.54/-12.55	-15.19/-14.68	-11.78/-10.97	-10.56/-10.72	-10.32/-8.43	-7.47/-7.33	-8.03/-8.76	-8.76/-8.02	-7.17/-6.64	-6.98/-8.41	-10.88/-13.6	-11.82/-9.07	-7.04/-7.05	-8.63/-10.77	-10.08/-7.22	-5.05/-3.58	-2.75/-2.76	-3.99/-6.6	-10.67/-12.87	-14.58/-15.14
Θ(90°)	-15.61/-15.2	-15.48/-14.5	-12.94/-11.31	-9.24/-8.74	-9.47/-10.49	-12.06/-14.53	-13.45/-11.41	-10.09/-9.21	-9.51/-9.31	-9.04/-7.88	-6.85/-6.14	-5.33/-4.58	-4.11/-3.96	-4.21/-4.89	-6.23/-6.5	-11.52/-11.82	-11.04/-10.13	-10.97/-12.92	-13.52/-12.24	-8.56/-6.39	-5.26/-4.64	-4.71/-5.67	-7.53/-9.96	-13.62/-15.43
Θ(97.5°)	-11.28/-9.68	-8.2/-8.21	-9.62/-10.94	-10.51/-8.55	-8.74/-9.61	-10.92/-12.36	-13.14/-11.99	-10.65/-8.26	-6.86/-6.33	-6.84/-7.85	-7.59/-7.87	-7.57/-6.23	-5.55/-5.39	-5.41/-5.82	-7.44/-9.66	-11.18/-11.07	-10.95/-9.86	-10.66/-9.26	-9.2/-9.61	-11.51/-10.52	-9.45/-8.97	-9.43/-10.98	-13.84/-15.16	-15.2/-14.32
Θ(105°)	-11.09/-9.17	-8.26/-9.14	-12.67/-15.21	-11.81/-8.12	-6.94/-6.69	-6.24/-6.11	-6.57/-7.67	-8.21/-8.13	-6.68/-5.59	-5.51/-6.1	-6.4/-6.16	-6.42/-7.52	-8.32/-8.2	-8.5/-8.21	-7.81/-7.79	-8.22/-8.76	-6.05/-9.81	-12.89/-14.71	-10.96/-8.38	-6.48/-6.7	-6.08/-8.07	-10.4/-12.99	-15.25/-13.96	
Θ(112.5°)	-12.14/-11.49	-10.21/-9.14	-9/-10.43	-9.75/-6.85	-5.23/-4.6	-4.59/-4.83	-5.43/-6.39	-7.42/-7.47	-5.42/-4.31	-4.51/-5.08	-4.66/-4.13	-4.8/-6.87	-7.93/-9.01	-9.3/-8.37	-8.84/-5.95	-5.9/-6.01	-6.27/-6.79	-6.99/-8.91	-12.12/-8.83	-6.21/-4.89	-4.33/-4.33	-5.18/-6.48	-8.69/-11.01	-11.12/-11.44
Θ(120°)	-10.33/-9.7	-8.75/-8.12	-8.31/-8.89	-6.89/-4.82	-3.68/-3.17	-3.09/-3.39	-4.17/-6.54	-8.29/-10.1	-7.39/-5.48	-5.06/-4.51	-3.07/-2.22	-2.77/-4.83	-7.76/-8.8	-8.27/-7.73	-6.29/-5.17	-5.05/-5.92	-7.57/-8.62	-9.28/-10.42	-8.28/-5.31	-4/-3.3	-3.35/-3.46	-3.87/-4.48	-5.08/-6.34	-8.26/-9.85
Θ(127.5°)	-8.04/-9.12	-10.31/-11.13	-10.75/-9.33	-7.47/-4.8	-2.87/-1.92	-1.79/-2.29	-3.54/-5.63	-10.11/-12.36	-8.5/-5.63	-3.59/-1.85	-0.59/-0.61	-2.11/-4.67	-6.93/-7.7	-7.83/-7.72	-6.5/-5.14	-5.46/-4.53	-6.04/-5.93	-5.45/-5.15	-2.41/-2.24	-0.82/-1	-1.32/-1.56	-1.67/-1.86	-2.75/-2.86	-6.77/-8.51
Θ(135°)	-10.31/-11.6	-12.29/-11.75	-11.28/-6.5	-5.64/-3.06	-1.33/-0.48	-0.51/-1.37	-3.1/-5.86	-8.45/-6.92	-4.54/-2.69	-0.95/-0.67	1.87/-7.19	1.45/-0.1	-2.02/-3.92	-5.26/-4.79	8.67/-7.2	-5.18/-4.63	-4.91/-4.99	-4.61/-3.41	-1.98/-1.18	-1.16/-1.64	-2.21/-2.18	-2.22/-2.52	-3.14/-4.63	-6.73/-9.78
Θ(142.5°)	-7.77/-8.1	-7.76/-7.67	-7.3/-7.86	-5.28/-3.61	-1.98/-1.45	-1.76/-3.01	-5.11/-7.73	-8.4/-6.77	-4.77/-3.92	-1.05/-0.65	1.84/-2.22	1.77/-0.77	-0.49/-0.25	-4.08/-7.19	-10.11/-10.92	-10.79/-11.05	-10.19/-8.38	-5.57/-3.69	-2.57/-2.09	-2.16/-2.51	-2.91/-3.31	-3.17/-2.99	-3.03/-3.39	-4.62/-6.47
Θ(150°)	-5.35/-5.95	-6.16/-6.62	-6.52/-7	-0.97/-0.67	-6.24/-6.24	-6.97/-8.25	-8.76/-7.1	-8.28/-7.45	-6.96/-6.12	-4.36/-2.36	-0.97/-0.31	-0.29/-0.77	-1.64/-2.78	-4.23/-5.63	-6.61/-7.02	-6.43/-6.67	-2.78/-1.37	-0.40/-0.15	0.36/-0.4	1.06/-1.88	-2.47/-2.89	-3.16/-3.43	-4.18/-4.93	
Θ(157.5°)	-6.71/-7.54	-8.21/-8.74	-9.14/-10.06	-11.18/-12.08	-11.19/-10.6	-8.84/-7.45	-6.62/-6.2	-6.09/-6.19	-6.44/-6.39	-5.68/-4.51	-3.75/-3.63	-4.07/-5.14	-6.73/-8.05	-8.68/-7.62	-6.5/-5.28	-3.84/-2.05	-0.77/-0.05	0.60/0.84	0.77/0.52	0.1/-0.51	-1.28/-2.1	-2.75/-3.39	-4.33/-5.06	-5.93/-6.63
Θ(165°)	-9.46/-10.63	-11.71/-11.96	-11.39/-10.43	-9.3/-7.99	-6.86/-5.87	-5.09/-4.63	-4.64/-5.1	-5.84/-6.07	-5.76/-5.45	-5.14/-4.94	-5.03/-5.5	-6.6/-8.46	-10.34/-11.66	-12.61/-11.3	-9.3/-7.33	-5.39/-8.85	-2.84/-2.24	-1.82/-1.61	-1.62/-1.7	-2.04/-2.61	-3.33/-3.94	-4.54/-5.21	-6.05/-7.21	-7.85/-9.15
Θ(172.5°)	-12.41/-13.47	-15.02/-13.36	-11.26/-9.42	-8.04/-6.88	-6.27/-5.82	-5.5/-5.47	-6.35/-6.47	-6.05/-5.55	-5.32/-5.37	-5.73/-6.43	-6.39/-6.54	-9.76/-11.09	-12.36/-12.42	-11.35/-10.52	-9.43/-8.03	-7.29/-6.8	-6.59/-6.05	-5.8/-5.72	-6.02/-6.69	-7.49/-8.26	-8.44/-8.9	-9.24/-9.97	-10.73/-11.26	
Θ(180°)	-15.68/-15.96	-15.93/-15.72	-13.76/-12.28	-11.33/-10.87	-10.75/-10.69	-10.29/-9.62	-9.57/-8.6	-7.58/-6.84	-6.25/-5.77	-5.37/-5.31	-5.54/-5.9	-6.46/-7.16	-7.86/-8.44	-8.97/-9.35	-8.62/-9.94	-10.23/-10.5	-10.63/-10.57	-10.61/-10.73	-11.12/-11.47	-11.91/-12.35	-12.58/-12.48	-12.49/-12.31	-12.05/-11.81	-12.13/-13.39
Freq(Hz)	2.45GPol.	ThetaL	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-13.2/-13.07	-12.23/-11.65	-10.85/-10.76	-10.27/-10.11	-10.03/-10.09	-10.32/-10.68	-10.9/-11.02	-10.56/-10.5	-11.2/-12.63	-13.66/-14.02	-14.61/-15.18	-15.39/-14.49	-13.88/-12.97	-11.91/-11.19	-10.65/-10.05	-10/-9.65	-9.54/-9.36	-9.19/-9.02	-8.85/-8.88	-8.97/-9.29	-9.9/-10.66	-11.41/-11.6	-11.86/-12.63	-13.28/-13.18
Θ(7.5°)	-11.21/-10.45	-10.05/-9.59	-9.39/-9.05	-8.85/-8.52	-8.28/-8.08	-7.9/-7.71	-7.48/-7.17	-6.89/-6.88	-7.28/-7.98	-8.75/-9.57	-11.01/-12.99	-13.74/-14.32	-13.79/-14	-12.58/-11.37	-10.58/-10.11	-9.72/-9.64	-9.78/-10.32	-10.85/-11.34	-11.75/-12.39	-13.44/-14.2	-15.01/-15.5	-15.48/-15.02	-14.16/-13.28	-12.44/-11.21
Θ(15°)	-9.46/-9.19	-8.37/-8.09	-7.56/-7.1	-6.67/-6.32	-6.03/-5.7	-5.37/-5.06	-4.88/-4.78	-4.77/-4.94	-5.3/-5.7	-6.4/-7.12	-8.28/-9.79	-11.16/-12.14	-12.62/-12.39	-11.96/-11.1	-10.37/-9.52	-8.83/-8.54	-8.68/-9.19	-9.97/-10.77	-11.66/-12.96	-14.82/-15.4	-15.83/-15.38	-15.5/-14.3	-13.05/-12.56	-11.72/-10.84
Θ(22.5°)	-10.31/-9.22	-7.77/-8.62	-6.13/-5.58	-5.06/-4.59	-4.29/-3.94	-3.24/-3.34	-3.56/-3.95	-4.55/-5.04	-5.84/-6.69	-7.76/-9.05	-10.05/-10.53	-10.61/-10.16	-10.48/-10.38	-10.02/-9.27	-8.46/-7.99	-7.83/-7.93	-8.12/-8.6	-9.45/-10.8	-12.26/-13.66	-13.97/-14.24	-13.23/-12.26	-11.84/-11.89	-11.23/-10.68	
Θ(30°)	-7.83/-6.24	-5.16/-4.5	-4.06/-3.67	-3.35/-2.98	-2.68/-2.32	-2.01/-1.93	-2.12/-2.6	-3.2/-3.96	-4.68/-5.23	-5.71/-6.21	-6.74/-7.36	-8.03/-8.19	-7.85/-7.7	-7.5/-8.06	-8.49/-8.91	-8.42/-7.98	-7.61/-7.38	-7.23/-7.48	-8.2/-9.1	-10.12/-10.91	-11.28/-10.87	-10.75/-10.59	-10.52/-10.43	-10.23/-9.02
Θ(37.5°)	-4.39/-3.46	-2.93/-2.73	-2.69/-2.83	-2.76/-2.51	-2.03/-1.55	-1.12/-0.97	-1.22/-1.86	-2.84/-3.81	-4.54/-4.82	-4.9/-4.91	-4.87/-5	-5.13/-5.07	-4.82/-4.51	-4.45/-4.68										



Radiated Composite Gain Data 2.4GHz, 5GHz

Appendix A

Θ (15°)	-2.11/-2.72	-3.61/-4.77	-5.84/-7.14	-7.06/-6.34	-6.25/-5.79	-4.92/-4.82	-4.73/-4.55	-4.3/-4.1	-4.65/-5.06	-5.78/-7.16	-9.01/-9.52	-9.92/-9.43	-7.7/-6.54	-5.87/-5	-4.11/-3.74	-3.94/-4.21	-4.24/-3.89	-3.93/-4.06	-4.6/-5.02	-5.28/-5.18	-4.8/-3.88	-3.28/-2.57	-2.33/-2.1	-1.92/-2.01
Θ (22.5°)	-1.79/-2.46	-3.43/-4	-4.52/-5.07	-4.84/-3.66	-3.1/-3.16	-3.53/-3.32	-3.29/-3.4	-3.53/-3.66	-4.38/-5.34	-6.35/-7.73	-8.73/-8.32	-6.81/-5.47	-5.11/-4.84	-4.79/-4.45	-3.84/-3.55	-3.35/-3.1	-3.11/-3.54	-4.48/-6.44	-7.33/-7.17	-6.03/-4.89	-4.05/-3.21	-2.38/-1.69	-1.24/-1.22	-1.16/-1.65
Θ (35°)	-0.07/-0.81	-1.03/-1.67	-2.89/-3.44	-4.12/-4.21	-4.11/-4	-4.12/-4.13	-3.71/-3.27	-2.88/-3.24	-3.88/-4.92	-5.5/-4.82	-3.84/-3.13	-2.9/-2.53	-1.83/-1.31	-2.04/-3.14	-2.12/-2.52	-2.45/-2.62	-2.82/-3.26	-4.36/-5.02	-5.33/-5.59	-5.41/-4.02	-2.75/-1.43	-0.670.24	1.18/-1.54	1.81/-1.54
Θ (37.5°)	-2.64/-3.24	-3.03/-3.1	-4.22/-4.97	-4.49/-3.09	2.81/-3.2	-3.28/-3.25	-3.12/-2.74	-2.83/-3.41	-4.67/-5.14	-4.75/-3.39	-2.4/-1.9	-1.68/-1.21	-0.86/-1.05	-1.73/-2.82	-3.59/-3.7	-3.5/-5.57	-3.87/-4.55	-6.29/-7.8	-9.24/-7.83	-4.49/-2.07	-0.410.04	-0.55/-1.46	-2.18/-2.04	-2.2/-2.55
Θ (45°)	-1.05/-0.81	-0.54/-1.77	-2.71/-3.02	-2.19/-1.47	-1.63/-2.34	-5.93/-3.31	-3.32/-3.43	-4.09/-3.63	-5.73/-4.11	-3.06/-2.66	-2.43/-2.42	-2.41/-1.74	-1.64/-2.11	-1.61/-2.05	-2.73/-2.27	-2.23/-2.97	-3.34/-1.48	-4.97/-5.78	-6.02/-4.59	-2.27/-0.92	-0.46/-0.58	-1.13/-1.9	-2.31/-1.55	-0.71/-1.74
Θ (52.5°)	-0.170.06	-0.78/-2.72	-2.91/-3.06	-2.81/-2.05	-1.89/-2.16	-2.97/-2.85	-3.07/-4.37	-5.58/-5.28	-3.8/-2.68	-1.23/-0.93	-1.11/-1.02	-1.45/-2.14	-2.38/-2.36	-1.21/-0.01	-0.84/-2.66	-4.62/-5.43	-5.04/-4.66	-4.17/-4.62	-4.23/-2.3	-0.89/-0.47	-1.22/-2.07	-3.16/-2.5	-0.83/-0.06	
Θ (60°)	1.87/-1.26	0.1/-0.74	-1.32/-1.94	-2.94/-2.08	-1.08/-1.05	-2.28/-2.58	-2.52/-2.44	-2.73/-3.09	-4.45/-4.9	-4.42/-3.56	-2.34/-1.91	-1.2/-1.04	-1.1/-1.18	-1.65/-2.65	-1.75/-0.05	0.360.12	-1.1/-2.88	-4.68/-4.52	-4.55/-4.02	-3.13/-2.44	-2.61/-2.01	-1.38/-0.3	0.610.97	1.18/-1.46
Θ (67.5°)	0.520.65	0.05/-0.44	-0.6/-1.14	-1.03/-0.03	0.50/-0.7	-0.1/-0.77	-1.34/-1.32	-1.7/-2.56	-2.7/-2.68	-2.82/-3.2	-3.55/-2.71	-1.63/-0.53	-0.12/-0.61	-1.62/-2.57	-1.96/-0.73	0.25/-1.8	0.44/-2.04	-3.49/-2.79	-2.42/-3.5	-3.75/-3.3	-2.39/-1.34	-0.86/-0.56	0.41/-1.7	1.370.98
Θ (75°)	0.320.38	0.080.28	0.690.31	0.04/-0.1	1.27/-1.32	0.49/-0.3	-0.48/-0.32	-0.54/-0.59	0.030.1	-0.54/-1.58	-1.17/-0.72	1.29/-1.33	0.47/-0.91	-1.79/-1.35	0.020.78	-0.1/-0.49	-0.79/-0.35	-0.050.07	-1.32/-0.9	-0.54/-0.39	0.09/-0.22	-0.030.38	0.50/-0.77	
Θ (82.5°)	1.210.79	0.690.97	1.080.43	-0.070.57	1/1.8	1.570.63	0.51/-1.48	1.81/-53	1.050.24	-0.57/-1.38	-1.48/-1.22	0.11/-1.48	2/2.13	1.450.1	-0.53/-1.8	-1.21/-0.27	-0.04/-0.09	-0.020.24	0.850.71	1.250.98	1.150.67	0.31/-0.44	-0.16/-0.1	1.33/-1.37
Θ (90°)	0.01/-1	0.550.36	-0.71/-0.88	0.040.65	0.52/-1.16	1.440.9	1.07/-1.55	2.37/-2.89	2.41/-1.68	0.6/-0.99	-1.23/-0.85	0.35/-1.27	2.11/-2.93	0.17/-1.15	-0.330.12	0.480.93	1.95/-0.33	2.42/-1.58	1.48/-2.37	2.05/-1	0.22/-0.79	-0.650.9	1.230.56	
Θ (97.5°)	-0.590.51	0.250.03	-1.71/-1.65	-0.270.57	1.23/-1.8	1.80/-99	1.72/-57	3.15/-56	1.750.64	0.07/-0.4	-0.660.15	1.91/-58	0.460.6	0.02/-0.6	0.4/-0.6	-0.510.36	1.86/-1.65	2.03/-2.54	2.33/-05	2.62/-1.64	1.13/-0.02	-0.53/-0.04	0.56/-1.48	0.72/-0.36
Θ (105°)	-1.76/-0.8	-0.27/-0.06	-0.61/-0.59	-0.91/-0.27	0.410.94	0.810.65	1/1.68	2.95/-59	2.61/-04	-0.36/-0.99	-0.88/-0.46	-0.55/-1.23	0.410.85	-0.14/-0.91	-0.05/-0.38	0.05/-1.42	1.82/-1.62	2.57/-2.91	1.76/-1.51	0.70/-0.8	-0.09/-0.79	-1.81/-2.57	-3.53/-2.28	-2.17/-2.04
Θ (112.5°)	-2.74/-2.17	-2.74/-3.02	-1.62/-1.33	-1.27/-1.16	-0.73/-1.45	-1.58/-0.85	-0.63/-0.07	1.74/-2.53	2.170.45	-1.74/-3.24	-3.6/-2.52	-2.53/-3.63	-1.55/-0.28	-0.37/-0.67	-0.21/-1.7	-0.940.31	0.690.23	-1.35/-0.48	-0.52/-1.1	-1.87/-2.85	-2.45/-3.25	-4.4/-2.86	-1.58/-1.98	
Θ (120°)	-1.35/-0.36	-0.54/-0.2	-2.23/-3.13	-2.25/-1.6	-1.76/-2.95	-2.65/-1.48	-0.73/-0.04	-0.140.18	-1.43/-3.43	-3.72/-3.79	-3.4/-3.62	-3.09/-4.07	-3.27/-1.01	-2.84/-2.55	-3.09/-3.03	-2.79/-0.36	-0.66/-0.6	-0.19/-2.27	-6.85/-7.59	-3.17/-2.49	-3.21/-5.06	-5.87/-4.54	-3.49/-2.3	-0.32/-1.16
Θ (127.5°)	-2.76/-1.65	-0.89/-0.85	-2.19/-2.92	-3.51/-3.57	-5.2/-6.79	-6.59/-5.41	-4.39/-3.1	-2.41/-3.5	-5.18/-4.42	-3.53/-2.77	-3.45/-3.74	-2.49/-2.77	-2.47/-3.19	-3.21/-3.28	-1.82/-3.76	-2.86/-3.53	-1.53/-2.82	-3.49/-4.87	-5.98/-5.15	-4.67/-5.46	-4.99/-7.08	-4.66/-3.98	-3.88/-3.87	-2.35/-2.15
Θ (135°)	-2.41/-0.91	-1.88/-2.65	-0.52/-1.56	-2.57/-1.34	-3.24/-3.27	-3.84/-5.66	-7.31/-7.65	-6.91/-4.93	-3.91/-4.59	-5.27/-4.22	-3.69/-2.85	-3.21/-3.27	-2.04/-3.58	-3.92/-3.12	-5.21/-4.22	-4.12/-2.02	-5.53/-3.78	-2.54/-6.1	-8.29/-5.8	-4.24/-5.55	-3.27/-5.64	-6.96/-4.1	-5.3/-2.5	-0.84/-1.66
Θ (142.5°)	-1.59/-2.04	-1.15/-0.6	-3.51/-3.18	-2.82/-2.38	2.54/-2.7	-5.67/-5.12	-7.22/-9.73	-6.66/-5.12	-4.09/-4.34	-4.31/-4	-4.3/-6.32	-5.4/-3.96	-2.64/-3.94	-7.51/-4.77	-7.44/-0.1	-5.33/-3.88	-4.78/-2.65	-3.12/-5.05	-5.88/-3.91	-4.87/-4.14	-3.45/-4.08	-6.39/-6.81	-5.42/-2.45	-1.59/-0.98
Θ (150°)	-0.58/-0.75	-1.74/-2.42	-2.9/-0.41	-4.33/-4.48	-3.91/-4.21	-5.37/-6.51	-6.02/-4.86	-3.64/-3.16	-3.72/-4.43	-5.37/-4.96	-4.22/-4.8	-5.74/-7.19	-10.31/-7.82	-5.83/-5.26	-5.09/-6.81	-6.67/-4.72	-4.49/-4.65	-5.01/-5.28	-4.59/-3.45	-4.24/-4.05	-3.35/-3.18	-3.83/-3.53	-2.65/-1.5	-0.84/-1.02
Θ (157.5°)	-3.62/-3.89	-3.83/-3.07	-2.95/-3.24	-3.72/-4.56	-5.54/-6.79	-7.83/-8.46	-8.71/-7.65	-5.99/-4.62	-3.86/-4.39	-5.21/-4.41	-3.67/-3.31	-2.86/-2.74	-2.98/-3.41	-3.37/-3.29	-4.09/-5.28	-5.59/-5.83	-5.95/-5.41	-4.75/-4.59	-3.97/-4.1	-6.3/-6.48	-5.58/-4.57	-4.19/-3.41	-2.62/-2.93	-3.02/-3.39
Θ (165°)	-7.08/-7.51	-7.6/-7.92	-7.72/-7.84	-7.71/-7.94	-7.75/-9.05	9.38/-9.34	8.95/-7.32	5.76/-4.86	4.96/-5.05	5.43/-5.04	5.13/-4.57	6.65/-5.69	5.66/-4.89	4.35/-4.1	-4.17/-5.11	5.26/-5.51	5.26/-4.94	4.82/-5.29	5.43/-5.37	5.28/-4.75	4.31/-4.03	3.48/-3.31	3.57/-4.45	5.44/-6.47
Θ (172.5°)	-5.91/-6.18	-6.39/-6.28	-5.91/-6.72	-8.29/-8.81	9.05/-9.77	-9.27/-8.61	-7.52/-6.97	-6.3/-5.63	5.4/-5.45	-5.59/-6.05	-5.93/-6.01	-5.71/-6.22	-6.8/-6.79	-6.72/-5.57	-4.53/-3.81	-3.64/-3.64	-3.6/-3.84	-4.17/-4.68	-4.74/-4.88	-4.93/-5.54	-5.86/-5.85	-6.32/-6.2	-6.58/-6.35	-6.23/-6.49
Θ (180°)	-10.04/-11.94	-16.22/-11.83	-10.5/-11.04	-10.61/-9.34	-8.59/-8.19	-7.61/-6.85	-6.4/-6.23	-6.16/-5.74	5.38/-4.9	4.99/-5.24	5.69/-4.66	-6.99/-7.85	-8.37/-8.17	-9.16/-9.36	-8.73/-8.09	-7.2/-6.28	-5.69/-5.21	-5.09/-4.92	-5.19/-5.1	-5.58/-6	-6.33/-6.29	-6.01/-6.55	-7.26/-8.06	-9.16/-9.25
Freq(Hz)	5.3GPol	Theta	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°)	-5.24/-4.77	-4.36/-4	-3.89/-4.07	-4.29/-4.22	-4.23/-4.44	-4.98/-5.5	-5.91/-5.97	-5.94/-6.99	-8.74/-8.29	-7.86/-8.06	-7.7/-7.3	-6.68/-5.91	-5.43/-4.8	-4.54/-4.43	-4.24/-4.05	-4.16/-4.36	-5.01/-5.25	-5.59/-5.73	-5.95/-6.39	-7.9/-9.04	-9.52/-9.52	-8.99/-8.25	-7.18/-5.93	-5.39/-5.11
Θ (7.5°)	-4.43/-5.24	-5.35/-5.94	-5.53/-6.27	-6.27/-7.13	-7.11/-7.24	-7.83/-8.19	-8.6/-8.35	-8.6/-8.87	-8.77/-8.54	-8.43/-7.31	-6.07/-5.14	-3.42/-3.6	-3.29/-2.63	-2.06/-1.95	-2.27/-4.47	-2.93/-3.28	-3.49/-3.58	-3.42/-3.38	-3.6/-4.43	-6.04/-6.96	-7.23/-7.06	-7.11/-6.78	-5.6/-6.01	-5.53/-5.28
Θ (15°)	-3.64/-4.67	-5.34/-5.21	-4.71/-4.5	-4.32/-4.63	-5.56/-6.35	-6.99/-7.67	-7.72/-8.04	-7.71/-7.65	-7.16/-6.19	-5.3/-4.62	-4.26/-3.71	-3.2/-3.3	-1.73/-1.83	-1.8/-1.53	-1.5/-1.87	-2.47/-2.95	-3.32/-3.34	-3.42/-3.89	-4.56/-5.94	-6.57/-5.99	-5.46/-4.9	-4.39/-3.42	-2.86/-2.21	-2.08/-2.44
Θ (22.5°)	-2.98/-4.2	-5.04/-5.35	-4.62/-3.8	-3.32/-3.11	-3.47/-3.98	-4.68/-5.52	-6.05/-5.13	-4.9/-4.92	-5.18/-3.55	-2.03/-1.37	-1.75/-2.47	-2.64/-2.76	-2.76/-2.88	-2.66/-2.36	-2.1/-2.2	-2.49/-2.37	-1.99/-2.88	-4.56/-5.84	-6.58/-6.16	-5.64/-6.39	-6.14/-5	-3.69/-3.06	-2.85/-2.11	-1.68/-1.82
Θ (30°)	-1.79/-2.57	-2.95/-2.17	-0.86/-0.51	-1.42/-1.82	-2.49/-2.77	-3.37/-3.69	-4.82/-6.01	-6.09/-5.2	-3.66/-2.52	-1.71/-1.37	-1.87/-2.84	-2.99/-1.81	-1.15/-1.75	-3.06/-3.56	-3.13/-2.76	-2.33/-1.26	-1.19/-2.31	-3.13/-3.63	-4.33/-5.51	-5.77/-5.23	-5.25/-4.77	-3.38/-2.53	-2.71/-2.46	-2.09/-1.82
Θ (37.5°)	-2.29/-1.95	-2.11/-2.03	-1.26/-0.36	-0.5/-0.55	-0.98/-1.28	-2.17/-2.35	-2.49/-2.95	-4.24/-3.26	-1.88/-2.11	-1.97/-0.81	-0.9/-1.85	-1.63/-1.92	-1.78/-1.84	-1.76/-1.21	-1.28/-1.87	-2.4/-2.34	-3.25/-3.55	-2.99/-2.71	-3.34/-4.66	-4.34/-2.34	-2.04/-2.87	-2.71/-2.14	-1.74/-1.52	-1.69/-2.07
Θ (45°)	-0.65/-0.89	-1.59/-1.6	-0.84/-0.36	-0.81/-1.19	-0.97/-0.62	-0.98/-1.14	-0.47/-0.44	-0.85/-1.78	-2.68/-2.57	-2.64/-1.71	-0.87/-1.91	-2.13/-2.13	-3.32/-3.63	-2.37/-1.45	-1.07/-0.79	-1.29/-2.42	-2.55/-2.38	-2.27/-1.84	-1.62/-1.59	-1.86/-1.91	-1.26/-0.81	-0.71/-0.2	-1.24/-1.08	-1.53/-1.45
Θ (52.5°)	-1.15/-0.79	-1.55/-1.89	-1.28/-0.86	-1.36/-1.01	-0.30/-1.2	-0.15/-1.18	-1.35/-1.06	-0.88/-1.6	-2.17/-1.38	-0.86/-0.42	-0.17/-2.06	-2.37/-3.33	-4.52/-4.23	-2.51/-0.1	-0.57/-0.59	-1.54/-1.6	-2.28/-2.68	-2.19/-1.52	-0.99/-0.37	-0.09/-0.12	-0.050.18	0.1/-0.29	-0.41/-0.04	-1.01/-1.46
Θ (60°)	-0.77/-0.85	-1.56/-1.15	-0.540.11	0.250.53	0.420.85	1.180.95	-0.2/-0.76	-0.480.03	-0.05/-0.02	-0.02/-0.41	-0.35/-1.7	-2.67/-2.97	-2.7/-2.65	-2.4/-1.23	-0.32/-0.29	-0.56/-1.02	-0.040.27	-0.76/-1.08	-1.35/-1.74	-1.66/-1.38	-1.44/-1.09	-0.61/-0.38	-0.59/-0.87	
Θ (67.5°)	-2.28/-2.54	-2.4/-1.82	-1.62/-0.69	0.41/-0.7	0.780.55	0.720.26	-0.91/-1.3	-0.620.11	0.89/-1.5	1.420.61	0.11/-0.68	-1.36/-1.24	-1.55/-2.98	-3.34/-2.66	-1.09/-0.28	0.020.49	-1.36/-1.64	-0.86/-0.61	-1.23/-0.8	0.120.05	-0.3/-0.61	-0.45/-0.56	-0.81/-0.96	-0.62/-0.8
Θ (75°)	-0.66/-1.03	-0.74/-1.27	-2.02/-1.16	0.48/-1.49	1.29/-1.21	0.53/-0.4	-1.1/-1.3	-1.4/-0.35	0.810.84	0.7/-0.11	-0.58/-0.47	-0.69/-0.51	-0.74/-2.8	-2.65/-2.02	-1.77/-1.35	-1.01/-0.61	-2.22/-0.62	0.20/-0.8	-0.290.72	0.960.07	0.87/-1.17	0.970.42	-0.64/-0.5	0.5



Radiated Composite Gain Data_2.4GHz, 5GHz

Appendix A

Θ(67.5°)	1.43/1.77	1.66/0.99	0.27/-0.22	0.04/0.73	0.52/-0.11	-1.32/-1.73	-0.49/0.94	1.12/0.77	-0.19/-0.29	0.04/-0.45	-0.55/-0.24	0.11/0.34	1.09/1.85	1.05/0.72	0.26/-0.54	-1.45/-1.79	-1.89/-2.05	-2.38/-3.74	-4.27/-3.95	-2.88/-2.92	-2.26/-1.87	-1.74/-1	-0.5/-0.28	-0.28/0.87
Θ(75°)	0.81/91	2.32/1.53	1.12/0.83	0.61/1.64	2.22/1.94	0.69/0.18	0.42/-0.11	-0.59/-0.97	-1.77/-2.52	-2.06/-1.54	-1.41/-1.34	-0.56/-0.47	0.81/26	0.67/0.53	-0.79/-0.79	-0.99/0.09	0.04/-0.89	-2.7/-3.35	-2.9/-2.03	-2.52/-2.23	-1.65/-0.98	-1.13/-0.7	-0.02/-0.31	-0.72/0.59
Θ(82.5°)	0.55/0.96	1.47/1.29	0.63/0.19	1.82/88	3.21/2.75	1.50/44	0.21/0.59	-0.28/-1.63	-2.05/-1.3	-0.54/-0.88	-0.78/-0.57	-0.01/1.11	2.28/2.54	1.81/1.38	-0.34/-0.55	-0.89/0.11	0.86/1.34	0.13/0.13	-0.15/0.1	-1.07/-1.72	-1.95/-0.22	-0.27/-0.9	-0.75/-0.8	-0.92/-0.02
Θ(90°)	0.91/0.57	1.35/1.31	0.80/51	0.85/1.69	2.88/2.89	1.73/1.14	1.95/2.26	1.58/0.03	-0.69/-1.59	-1.66/-1.4	-0.81/-1.85	-1.27/0.14	1.15/2.4	2/1.88	1.35/0.48	0.15/1.69	2.46/1.94	1.92/0.76	0.91/46	1.24/1.1	0.62/0.22	-0.3/-1.1	-2.17/-0.17	0.54/0.46
Θ(97.5°)	1.75/1.82	2.45/0.9	0.15/0.4	0.68/1.12	2.32/2.24	1.84/1.45	2.38/3.36	3.2/2.35	1/-0.99	-1.53/-1.75	-0.22/-0.85	0.42/1.39	1.69/2.15	2.04/1.87	1.45/1.15	1.19/2.33	3.07/3.11	2.2/2.38	1.85/2.08	1.96/2.09	1.71/0.49	0.29/-0.76	-0.57/0.45	1.49/0.54
Θ(105°)	0.82/2.57	2.57/1.39	0.36/-0.52	-0.51/-0.27	1.34/2.65	2.7/2.13	2.18/2.66	1.4/1.08	0.53/-1.58	-3.05/-3.81	-1.94/-0.27	0.61/-0.46	0.68/1.99	1.36/1.28	1.03/0.49	0.06/2.66	3.14/2.72	2.31/1.69	1.11/2.61	2.46/2.21	1.38/0.15	-0.38/-2.15	-0.15/0.53	1.02/0.65
Θ(112.5°)	-0.34/-0.37	-0.33/0.17	0.45/-0.15	-0.1/-1.13	-1.59/-0.13	1.59/1.98	2.24/2.26	2.54/2.7	1.28/-0.34	-2.78/-2.95	-0.10/79	-0.25/-0.97	0.92/1.14	-0.66/-1.15	-0.42/0.27	0.88/0.96	0.62/-0.19	0.75/-0.5	-2.52/-1.02	-0.39/0.49	-0.03/-0.91	-3.98/-3.73	-2.06/-0.81	-1.08/-1.41
Θ(120°)	-0.88/-0.84	-1.14/-0.97	-0.36/-1.07	-0.31/-0.08	-0.98/-1.87	-0.49/0.75	1.1/1.45	1.44/1.32	0.67/-1.26	-3.44/-4.89	-3.44/-1.74	-1.55/-0.72	-0.27/0.93	-0.27/-2.68	-1.84/-1.4	-1.69/-1.28	-1.26/-2.62	-1.76/-1.93	-4/-2.55	-4.46/-4.8	-4.13/-4.87	-6.15/-5.91	-2.99/-0.96	0.77/-0.37
Θ(127.5°)	-0.32/-1.18	-0.59/-0.92	-0.49/-0.61	-1.03/-2.33	-3.6/-4.9	-5.1/-3.18	-1.68/-1.15	0.12/0.32	-0.94/-2	-2.9/-2.72	-2.38/-3.34	-3.47/-5.12	-4.1/-3.93	-4.61/-4.34	-3/-1.96	-3.29/-2.83	-1.48/-0.71	-1.73/-2.53	-9.32/-8.79	-6.14/-7.16	-5.72/-5.13	-6.6/-4.96	-3.91/-0.91	-0.07/-1.21
Θ(135°)	-0.6/-0.03	-1.19/-1.79	-2.26/-1.49	-0.93/-1.43	-3.44/-5.34	-5.38/-5.54	-5.12/-4.38	-4.13/-4.05	-3.03/-3.04	-3.79/-4.46	-3.98/-2.84	-4.72/-5.65	-3.23/-4.29	-4.95/-2.71	-3.02/-4.73	-6.82/-5.74	-5.67/-7.31	-4.77/-3.56	-8.92/-8.92	-5.36/-6.98	-5.74/-5.63	-3.12/-4.32	-5.21/-0.49	-0.55/-1.4
Θ(142.5°)	0.67/1.11	0.49/0.43	-0.35/-1.34	-2.73/-2.95	-3.27/-4.39	-5.63/-6.84	-8.67/-9.47	-7.17/-5.18	-3.87/-4.36	-6.59/-7.64	-5.81/-5.44	-3.8/-1.56	-0.69/-1.63	-5.2/-6.89	-6.06/-4.28	-3.01/-4.05	-5.25/-4.05	-2.68/-3.17	-4.82/-4.62	-4.09/-3.72	-5.09/-4.28	-4.61/-4.74	-2.51/-2.97	-0.76/0.9
Θ(150°)	-0.21/-0.88	-0.75/-0.76	-1.54/-3.02	-4.24/-5.99	-7.14/-7.44	-6.93/-6.74	-5.95/-5.08	-4.58/-4.79	-6.11/-6.71	-7.46/-9.03	-7.08/-5.54	-6.1/-6.83	-5.95/-5.19	-4.55/-3.78	-3.9/-4.64	-7.62/-10.45	-8.39/-4.42	-2.74/-3.38	-4.49/-4.76	-5.31/-4.12	-3.11/-3.28	-2.71/-2.77	-1.09/0.28	0.69/0.18
Θ(157.5°)	-5.1/-4.03	-3.89/-3.66	-3.92/-3.56	-3.66/-4.8	-6.49/-8.13	-9.4/-8.89	-7.51/-7.21	-6.19/-5.12	-3.99/-2.92	-1.96/-1.21	-0.34/-0.15	-1.03/-2.78	-3.64/-3.68	-3.13/-2.93	-2.9/-3.85	-6.52/-6.17	-6.86/-5.78	-5.2/-5.9	-7.56/-7.79	-6.93/-5.29	-4.71/-3.84	-3.25/-2.02	-1.98/-3.32	-4.66/-4.82
Θ(165°)	-3.43/-2.5	-2.16/-2.76	-3.3/-4.7	-5.79/-6.62	-7.31/-8.33	-9.9/-10.71	-9.65/-7.41	-5.98/-5.17	-4.84/-4.49	-3.75/-3.25	-3.04/-3	-2.73/-2.72	-2.77/-3.11	-3.67/-3.35	-2.76/-3.17	-4.04/-5.25	-6.06/-6.75	-6.93/-7.18	-7.72/-7.66	-7.36/-5.82	-3.92/-2.78	-2.51/-2.97	-3.08/-3.3	-4.16/-3.66
Θ(172.5°)	-3.24/-2.97	-2.76/-3.15	-3.24/-3.48	-4.55/-5.64	-7.16/-7.7	-7.41/-6.38	-5.87/-5.11	-4.53/-4.25	-3.85/-3.2	-2.99/-3.43	-3.98/-3.99	-3.99/-4.23	-5.32/-6.12	-5.66/-4.77	-4.07/-4.15	-4.62/-4.9	-4.88/-4.58	-4.58/-4.74	-5.17/-5.11	-4.12/-3.24	-2.85/-2.63	-2.67/-2.42	-2.25/-2.3	-2.16/-2.82
Θ(180°)	-7.92/-8.05	-9.52/-9.32	-8.81/-8.72	-9.5/-8.91	-8.09/-7.89	-9.16/-8.78	-7.96/-7.13	-6.93/-6.71	-7.28/-6.94	-6.75/-6.69	-6.44/-6.6	-6.78/-6.72	-6.45/-5.67	-5.23/-4.93	-4.6/-4.41	-4.31/-4.01	-4.13/-4.68	-5.33/-5.23	-5.62/-5.57	-5.8/-6.41	-7.31/-7.3	-7.13/-6.45	-7.33/-7.79	-7.97/-7.6
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°)	-3.55/-4.1	-4.45/-5.29	-6.23/-7.02	-7.37/-7.76	-7.22/-7.03	-7.65/-7.82	-7.16/-6.68	-6.48/-6.11	-5.85/-5.33	-4.53/-4.29	-4.26/-4.54	-4.99/-4.89	-4.7/-4.25	-4.25/-4.29	-4.66/-5.24	-5.84/-6.52	-6.73/-6.63	-6.18/-5.67	-5.98/-6.08	-5.85/-4.86	-4.37/-4.08	-4.09/-3.76	-3.59/-3.45	-3.39/-3.4
Θ(7.5°)	-5.19/-4.98	-4.28/-4.68	-4.9/-4.97	-4.68/-4.88	-4.77/-4.93	-5.05/-5.34	-5.5/-6.11	-5.9/-5.59	-5.21/-4.74	-4.6/-4.55	-4.09/-4.43	-5.02/-5.56	-5.71/-5.86	-5.81/-5.64	-5.36/-5.34	-5.91/-6.22	-7.02/-7.7	-7.57/-6.94	-6.21/-5.66	-4.82/-4.2	-3.97/-3.95	-4.34/-4.42	-4.55/-4.08	-4.2/-4.44
Θ(15°)	-4.87/-4.21	-4.47/-5.12	-5.04/-5.19	-3.98/-3.87	-3.81/-3.75	-4.11/-4.49	-3.98/-3.85	-4.09/-4.66	-5.11/-5.1	-4.77/-4.53	-4.4/-4.57	-5.46/-6.08	-6.4/-6.21	-5.7/-5.11	-4.45/-4.06	-3.43/-3.22	-3.82/-4.94	-5.07/-6.94	-4.91/-4.87	-4.34/-3.82	-3.85/-4.46	-4.42/-4.86	-5.01/-4.32	-5.06/-4.83
Θ(22.5°)	-3.37/-3.13	-2.86/-3.06	-4.03/-5.23	-5.14/-5.3	-4.94/-4.06	-3.72/-3.8	-4.06/-5.17	-6.38/-7.2	-6.55/-6.07	-5.89/-5.41	-3.88/-3.54	-3.74/-3.52	-3.14/-3.16	-3.64/-4.28	-4.96/-5.21	-4.23/-3.31	-3.36/-4.06	-4.33/-4.54	-4.96/-5.3	-5.87/-6.17	-6.14/-5.88	-5.06/-4.98	-4.23/-3.21	-3.76/-3.66
Θ(30°)	-2.57/-1.92	-1.27/-1.57	-2.33/-3.84	-4.63/-4.64	-4.26/-3.5	-3.01/-2.91	-2.47/-2.99	-3.57/-4.82	-4.77/-5.6	-6.7/-5.03	-2.85/-1.86	-2.65/-3.61	-3.07/-2.13	-1.93/-2.21	-3.2/-4.44	-5.35/-4.63	-3.75/-3.74	-4.31/-4.5	-5.01/-3.83	-3.82/-4.78	-4.87/-5.35	-5.23/-4.46	-4.37/-3.35	
Θ(37.5°)	-0.97/-2.66	-3.83/-3.88	-3.63/-4.2	-3.88/-3.04	-1.97/-1.26	-1.1/-0.69	-0.84/-1.05	-2.18/-3.5	-4.72/-4.56	-4.94/-4.49	-3/-3.53	-4.8/-3.59	-3/-3.54	-3.89/-3.88	-3.02/-2.41	-2.08/-2.56	-3.32/-3.44	-5.45/-6.46	-5.95/-5.32	-5.14/-4.74	-3.44/-3.88	-4.42/-3.95	-3.84/-3.6	-2.62/-1.33
Θ(45°)	-2.66/-2.5	-1.95/-2.23	-3.05/-4.29	-3.94/-3.19	-2.24/-1.48	-0.96/-1.12	-2.08/-2.99	-2.44/-2.33	-2.68/-1.91	-2.38/-4.45	-4.04/-3.52	-2.45/-1.77	-2.36/-2.78	-2.35/-2.37	-2.21/-2.78	-3.02/-3.79	-3.9/-4.68	-4.28/-4.57	-6.19/-4.57	-2.68/-2.68	-2.71/-1.93	-2.11/-2.07	-1.85/-2.58	-3.39/-2.94
Θ(52.5°)	-1.91/-3.12	-3.09/-2.52	-2.7/-3.26	-3.02/-2.01	-1.86/-1.73	-0.98/-0.51	-0.59/-0.64	-0.73/-0.84	-1.24/-2.16	-2.3/-3.35	-3.31/-3.52	-3.51/-3.76	-4.69/-4.22	-3.36/-1.69	-1.6/-2.71	-4.61/-5.51	-4.18/-3.96	-3.9/-3.69	-3.6/-4.65	-4.67/-2.45	-1.89/-2.05	-2.39/-3	-3.23/-3.09	-3.28/-2.4
Θ(60°)	-1.69/-1	-2.53/-2.63	-2.64/-2.42	-0.95/-0.47	-0.66/-0.76	-1.09/-1.37	-1.51/-1.46	-0.91/-0.8	-0.98/-0.09	-0.04/-0.52	-1.44/-3.46	-5.43/-4.16	-3.69/-4.75	-3.91/-3.51	-4.03/-3.89	-4.38/-4.75	-3.72/-5	-5.21/-3.88	-3.31/-2.6	-2.58/-2.54	-2.44/-1.52	-0.29/-0.68	-2.24/-3.31	-2.08/-2.14
Θ(67.5°)	-1.92/-1.68	-2.37/-1.81	-1.58/-1.49	-0.35/0.32	0.4/0.41	-0.3/-1.84	-3.17/-2.46	-0.94/-0.23	0.25/0.54	0.37/-1.88	-3.59/-3.62	-3.75/-3.59	-3.95/-2.61	-1.59/-0.57	-0.56/-0.93	-2.49/-3.2	-3.2/-3.16	-2.05/-2.38	-1.96/-2.13	-1.57/-0.74	0.11/-0.41	-0.41/-0.72	-1.3/-3.38	-2.31/-1.18
Θ(75°)	-1.99/-1.45	-2.34/-1.36	-1.42/-1.85	-0.06/1.18	1.12/0.54	-0.58/-2.16	-3.15/-2.69	-1.42/-0.94	-0.04/1.13	0.73/-0.46	-1.5/-2.94	-2.66/-3.01	-4.79/-5.03	-5.56/-2.72	-1.85/-1.65	-1.66/-1.01	-1.36/-1.68	-2.19/-3.77	-2.98/-1.88	-0.06/0.48	0.82/0.75	0.42/-0.07	-1.14/-2.24	-1.22/-0.62
Θ(82.5°)	-1.28/-0.83	-2.51/-1.85	-2.78/-1.41	0.92/1.61	0.73/-0.72	-1.01/-2.06	-3.21/-3.27	-2.2/-1.28	-0.13/0.3	0.2/-0.78	-1.28/-1.73	-1.4/-2.65	-4.31/-6.34	-5.65/-3.2	-2.63/-1.68	-1.19/-0.2	-1.15/-0.65	-1.68/-1.91	-0.88/0.46	1.21/0.3	1.44/1.84	1.55/-0.28	-1.25/-2.85	-1.06/0.62
Θ(90°)	-1.13/-2.42	-0.58/-1.05	-2.23/-1.76	1.52/1.11	0.79/-0.02	-0.54/-1.24	-2.77/-2.31	-2.2/-1.54	-1.12/-0.58	-1.07/-2.35	-2.82/-1.34	-0.12/-0.31	-1.46/-6.81	-4.87/-2.39	-2.39/-2.09	0.11/1.91	2.75/2.6	1.86/0.01	-0.06/1.06	1.81/2.1	2.15/2.56	2.06/0.58	-1.19/-2.83	-1.87/0.18
Θ(97.5°)	-0.23/-1.75	-2.02/-0.61	-1.96/-1.03	2.07/1.03	0.17/-2.43	-2.56/-2.02	-2.63/-3.45	-3.05/-2.49	-2.58/-1.56	-0.21/-1.11	-2.32/-0.46	-0.41/-1.75	-3.68/-7.92	-4.8/-2.23	-2.65/-3.14	-1.06/1.65	1.99/1.15	1.23/-1.07	-0.97/0.31	0.73/-0.12	0.82/1.92	1.31/0.35	-0.5/-1.34	-0.38/0.48
Θ(105°)	-2.08/-2.35	-2.14/-1.92	-2.42/-1.53	0.48/-0.2	-2.04/-3.75	-4.29/-3.44	-3.4/-4.42	-2.85/-2.6	-3.8/-3.31	-2.53/-3.31	-3.67/-3.24	-3.98/-1.86	-3.53/-5.24	-6.13/-5.9	-4.16/-4.73	-2.87/-0.14	-0.77/-0.76	-0.12/-1.23	-0.67/0.48	1.26/-1.55	-1.07/0.21	0.74/0.15	-1.41/-2.02	-1.92/-0.44
Θ(112.5°)	-1.94/-2.26	-2.04/-2.16	-2.22/-2.5	-1.7/-1.73	-2.92/-3.37	-3.95/-3.52	-2.64/-2.23	-2.78/-2.25	-3.56/-4.92	-4.42/-3.63	-3.22/-1.56	-1.31/0.35	-1.65/-5.02	-8.17/-5.25	-3.58/-5.81	-3.99/-2.51	-1.4/0.86	0.34/-1.81	-3.25/1.06	1.23/-3.08	-4.38/-0.65	-1.81/-1.67	-1.75/-3.24	-3.88/-1.42
Θ(120°)	-1.44/-4.78	-3.54/-4.04	-3.66/-2.21	-1.92/-2.07	-2.53/-2.89	-2.96/-2.77	-1.88/-1.86	-2.18/-1.75	-1.44/-2.19	-3.02/-5.03	-4.6/-3.04	-2.42/-2.35	-2.54/-3.23	-5.5/-6.72	-6.59/-5.87	-3.48/-0.84	-1.96/-0.38	-0.88/-0.31	-3.59/-2.04	-0.07/-6.04	-5.72/-4.06	-1.43/-2.47	-3.97/-4.14	-2.97/-1.82
Θ(127.5°)	-3.95/-5.08	-3.06/-2.82	-1.99/-2.97	-2.73/-2.9	-3.75/-3.46	-2.6/-1.47	-0.74/-0.62	-0.8/-0.63	-1.22/-2.18	-2.94/-3.76	-3.82/-5.09	-7.04/-6.22	-5.48/-7.71											



Sporton International Inc. Hsinchu Laboratory



Radiated Composite Gain Data 2.4GHz, 5GHz

Appendix A

Θ(22.5°)	-12.77/-13.69	-14.1/-14.86	-16.42/-18.53	-18.97/-18.09	-18.01/-17.75	-17.79/-17.56	-18.27/-18.04	-18.89/-18.49	-19.24/-18.22	-18.96/-18.4	-18.24/-17.14	-15.02/-13.15	-12.72/-12.44	-13.12/-13.34	-13.08/-12.18	-11.16/-10.59	-10.98/-12.42	-14.59/-18.66	-18.33/-19.03	-18.97/-15.48	-13.28/-11.35	-10.96/-10.75	-10.43/-11.49	-12.06/-12.21
Θ(30°)	-14.66/-18.37	-17.74/-18.72	-18.64/-18.56	-18.19/-18.67	-19.03/-18.78	-17.8/-17.75	-18.09/-19.13	-17.77/-15.74	-15.43/-16.9	-19.47/-17.4	-15.17/-14.49	-14.14/-13.09	-11.96/-12.44	-15.36/-18.46	-16.66/-12.64	-11.22/-11.9	-12.95/-14.4	-14.41/-15.71	-19.09/-19.42	-17.85/-14.45	-12.89/-11.06	-11.06/-12	-11.3/-10.72	-10.92/-13.03
Θ(37.5°)	-17.93/-18.73	-16.44/-16.18	-18.9/-18.55	-17.71/-13.67	-17.71/-13.67	-11.41/-11.83	-13.04/-14.83	-15.4/-14.02	-12.72/-12.53	-15.92/-18.71	-19.31/-15.68	-14.12/-12.84	-10.98/-9.31	-8.41/-8.62	-10.37/-12.12	-12.37/-10.24	-10.07/-12.36	-19.9/-19.15	-18.9/-18.84	-17.42/-13.7	-12.86/-13.4	-14.61/-15.54	-16.94/-15.78	-17.9/-18.98
Θ(45°)	-10.99/-11.53	-12.07/-16.86	-18.68/-16.41	-12.15/-9.8	-8.53/-8.87	-10.41/-13.38	-15.02/-15.57	-16.23/-17.56	-18.11/-17.75	-18.74/-15.03	-19.2/-18.86	-18.93/-18.87	-16.89/-17.71	-18.84/-17.4	-13.88/-12.66	-13.81/-14.15	-13.9/-14.54	-16.65/-18.39	-17.7/-18.12	-16.77/-14.36	-11.82/-11.38	-10.95/-9.92	-10.59/-10.41	-9.05/-9.86
Θ(52.5°)	-13.54/-13.87	-15.61/-18.49	-18.24/-18.72	-15.16/-13.07	-11.62/-12.4	-15.57/-19.09	-18.65/-17.84	-18.62/-19.23	-16.83/-15.86	-16.21/-17.1	-18.88/-18.67	-17.25/-18.7	-9.43/-8.43	-14.88/-10.2	-9.51/-10.51	-13.39/-17.81	-16.77/-17.94	-19.13/-19.64	-17.19/-15.64	-16.9/-18.12	-13.69/-11.91	-11.22/-9.03	-8.48/-10.38	-11.78/-12.28
Θ(60°)	-10.26/-10.03	-10.72/-11.09	-11.7/-14.1	-18.58/-19.07	-17.31/-14.27	-16.62/-17.73	-19.04/-18.11	-18.77/-18.35	-17.86/-17.23	-18.69/-15.67	-16.41/-16.84	-14.11/-12.61	-13.34/-12.89	-13.45/-17.81	-17.93/-18.08	-11.24/-15.4	-8.81/-12.13	-18.67/-18.61	-19.04/-18.94	-17.96/-18.61	-13.9/-13.68	-11.04/-11.27	-12.44/-13.28	-13.06/-10.71
Θ(67.5°)	-17.35/-17.49	-18.63/-18.55	-17.5/-15.69	-16.87/-17.37	-18.26/-18.81	-18.18/-19.11	-15.04/-12.96	-12.33/-12.81	-13.09/-13.57	-14.62/-15.09	-18.09/-18.57	-18.79/-15.72	-18.53/-18	-17.69/-18.26	-18.79/-17.04	-15.48/-12.64	-11.08/-14.46	-19.04/-19.2	-18.51/-17.04	-15.3/-14.71	-14.3/-13.77	-11.78/-10.04	-10.11/-10.89	-12.89/-16.75
Θ(75°)	-19.14/-14	-17.92/-15.5	-13.11/-13.75	-16.64/-17.75	-18.2/-16.08	-19.79/-19	-18.9/-18.91	-13.17/-10.87	-9.57/-9.3	-11.74/-15.15	-15.92/-15.44	-12.9/-12.4	-9.47/-9.21	-10.07/-13	-18.87/-17.74	-16.12/-15.56	-19.54/-18.16	-17.69/-18.2	-19.12/-18.95	-18.93/-15.21	-13.59/-12.35	-14.55/-18.21	-17.93/-14.85	-14.16/-16.95
Θ(82.5°)	-18.37/-19.62	-15.45/-13.87	-12.79/-14.72	-18.5/-18.16	-17.9/-17.06	-18.21/-19	-19.56/-13.55	-9.54/-7.66	-7.24/-8.6	-10.72/-12.64	-15.84/-18.09	-18.37/-11.16	-9.21/-9.48	-11.98/-16.99	-19.51/-17.83	-17.26/-18.54	-18.72/-19.07	-18.3/-17.86	-17.37/-18.43	-18.38/-18.73	-17.45/-18.89	-18.27/-17.94	-16.82/-17.98	-18.93/-17.43
Θ(90°)	-15.67/-14.05	-17.67/-18.21	-18/-15.54	-17.56/-18.15	-18.34/-18.14	-17.73/-18	-15.4/-9.18	-6.09/-5.61	-6.33/-7.89	-9.99/-16.73	-18.55/-17.37	-16.32/-10.97	-10.62/-9.04	-12.04/-16.04	-18.17/-19.34	-17.81/-18.21	-16.71/-11.63	-14.05/-11.24	-12.69/-19	-18.08/-18.3	-17.42/-19.01	-18.62/-17.03	-19.61/-17.57	-18.23/-19.07
Θ(97.5°)	-17.93/-18.47	-17.23/-17.29	-18.87/-18.61	-17.8/-18.89	-17.61/-18.49	-17.11/-18.08	-14.74/-11.01	-8.78/-6.96	-5.71/-7.16	-8.93/-14.35	-13.58/-15.07	-17.24/-18.32	-18.02/-15.26	-14.33/-15.28	-16.86/-15.66	-16.58/-16.45	-15.61/-10.8	-8.67/-12.07	-18.04/-17.64	-16.52/-15.57	-18.24/-17.95	-18.27/-16.83	-16.51/-14.92	-17.54/-18.26
Θ(105°)	-18.89/-19	-18.28/-16.81	-15.1/-15.37	-13.73/-14.68	-16.23/-17.31	-18.94/-17.71	-17.92/-13.75	-9.27/-6.85	-6.7/-7.26	-9.33/-17.4	-18.65/-17.96	-18.89/-18.13	-18.61/-18.43	-14.63/-18.63	-14.97/-10.86	-8.68/-7.16	-8.86/-10.75	-17.47/-18.53	-16.22/-18.59	-17.71/-18.72	-16.82/-17.98	-15.67/-17.97	-17.06/-18.01	
Θ(112.5°)	-19.4/-15.72	-14.82/-18.3	-16.51/-17.33	-15.98/-16.45	-15.72/-14.48	-18.44/-18.96	-18.38/-17.96	-11.73/-7.64	-6.59/-7.43	-10.85/-18.35	-18.96/-15.89	-18.36/-18.54	-18.15/-13.62	-12.86/-14.13	-13.73/-14.09	-12.51/-10.16	-8.97/-8.74	-11.18/-15.49	-15.6/-16.04	-12.72/-13.94	-14.6/-16.96	-15.01/-16.11	-18.3/-17.99	-18.66/-17.03
Θ(120°)	-10.59/-11.1	-10.89/-13.94	-13.05/-16.67	-17.1/-15.96	-15.19/-18.4	-18.95/-19.05	-18.15/-15.49	-13.17/-13.46	-16.53/-18.46	-18.57/-19.05	-17.56/-18.4	-18.04/-18.31	-18.79/-13.57	-18.85/-18	-18.7/-14.48	-12.61/-16.66	-14.37/-10.01	-11.12/-12.37	-19.07/-18.1	-17.31/-12.23	-17.59/-17.88	-19.13/-18.9	-18.24/-18.14	-16.8/-15.29
Θ(127.5°)	-12.49/-13.02	-12.18/-11.06	-14.14/-11.87	-11.55/-19.19	-19.29/-18.88	-15.46/-13.43	-12.86/-13.01	-13.43/-13.07	-13.21/-15.2	-14.97/-15.27	-17.67/-15.51	-13.8/-18.13	-13.03/-10.58	-13.22/-17.33	-16.85/-10.78	-11.17/-17.35	-18.13/-10.55	-11.39/-18.01	-18.51/-19.36	-17.92/-13.42	-13.91/-17.49	-12.81/-11.89	-18/-13.23	-12.01/-13.74
Θ(135°)	-9.91/-6.86	-8.05/-6.86	-7.39/-11.01	-12.77/-13.99	-14.69/-13.29	-11.36/-12.1	-17.63/-19.04	-18.45/-12.93	-12.77/-14.78	-14.37/-13.15	-15.43/-18.63	-14.24/-17.51	-11.29/-16.2	-18.91/-19.06	-15.89/-11.61	-12.85/-14.6	-18.74/-13.3	-12.55/-18.21	-18.7/-18.03	-18.13/-17.97	-18.92/-18.17	-17.95/-15.3	-16.35/-19.29	-11.28/-11.41
Θ(142.5°)	-18.47/-13.68	-11.03/-17.77	-10.11/-9.09	-10.37/-11.21	-11.28/-11.56	-13.03/-17.29	-18.01/-17.64	-11.01/-8.52	-8.77/-14.42	-15.31/-14.12	-15.13/-17.15	-17.9/-13.46	-9.63/-12.69	-17.71/-16.89	-14.15/-15.82	-18.71/-18.3	-18.52/-17.09	-19.41/-17.56	-18.28/-17.8	-19.26/-18.25	-18.05/-18.84	-19.1/-18.66	-18.87/-18.18	-14.94/-13.93
Θ(150°)	-13.65/-13.46	-13.53/-11.67	-19.58/-18.24	-16.62/-13.44	-13.25/-13.52	-15.18/-13.32	-18.58/-17.77	-11.13/-8.67	-7.61/-8.54	-13.56/-15.29	-13.77/-13.33	-12.56/-12.86	-15.95/-17.95	-19.14/-16.55	-12.37/-12.73	-14.96/-17.39	-17.59/-18.73	-18.32/-17.39	-18.68/-18.25	-17.12/-15.35	-16.21/-17.48	-18/-18.52	-16.82/-15.39	
Θ(157.5°)	-13.92/-11.39	-10.13/-8.82	-8.7/-8.62	-13.1/-10.56	-12.89/-15.66	-18.52/-19.11	-18.4/-15.64	-12.6/-10.74	-9.91/-11.41	-13.99/-13.58	-12.47/-12.1	-10.41/-8.59	-8.24/-9.33	-10.86/-12.28	-14.09/-18.02	-17.39/-18.86	-18.23/-19.13	-18.09/-16.25	-13.76/-14.06	-15.77/-18.08	-18.75/-18.07	-18.57/-18.68	-18.04/-18.67	-16.76/-16.03
Θ(165°)	-10.97/-11.46	-11.41/-10.87	-10.86/-18.99	-11.9/-13.28	-15.5/-19.07	-18.55/-17.33	-17.57/-16.46	-13.74/-12.15	-11.26/-11.66	-12.63/-12.82	-14.84/-16.33	-16.68/-15.35	-13.75/-13.51	-15.54/-19.05	-19.17/-18.77	-18.98/-18.43	-17.14/-18.55	-18.56/-18.51	-15.97/-16.36	-12.02/-11.33	-11.88/-13.23	-13.33/-14.96	-11.7/-11.61	-10.38/-9.47
Θ(172.5°)	-6.6/-6.78	-7.36/-7.84	-8.41/-9.28	-11.03/-12.77	-18.74/-19.26	-17.95/-18.37	-18.35/-18.39	-19.37/-17.41	-17.69/-18.14	-17.87/-18.2	-17.69/-19.29	-18.04/-18.05	-18.73/-18.11	-18.69/-17.91	-18.66/-18.41	-18.26/-18.65	-18.04/-18.46	-19.07/-18.69	-18.58/-18.97	-18.03/-18.76	-18.59/-17.74	-18.46/-14.54	-11.5/-9.74	-7.73/-7.04
Θ(180°)	-18.99/-18.79	-18.83/-18.53	-17.61/-19.1	-18.56/-17.67	-18.24/-18.43	-18.53/-18.09	-18.81/-18.5	-17.43/-15.6	-14.52/-13.47	-13.49/-13.44	-18.94/-17.66	-18.49/-18.77	-18.42/-18.52	-18.34/-16.77	-16.73/-16.51	-16.36/-16.15	-16.23/-16.14	-16.14/-16.2	-15.7/-15.16	-15.21/-17.04	-18.67/-18	-18.48/-18.62		
Freq(Hz)	5.63GPol	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°)	-18.85/-17.45	-18.03/-18.55	-18.6/-18.99	-17.3/-18.08	-17.85/-17.85	-17.76/-17.79	-19.31/-18.2	-15.65/-14.55	-13.83/-13.61	-13.75/-14.54	-16.05/-16.79	-17.69/-17.49	-18.32/-18.02	-17.9/-19.44	-18.26/-18.88	-18.18/-18.11	-19/-18.58	-17.16/-16.26	-14.98/-14.31	-14.37/-13.84	-14.17/-14.05	-14.64/-14.21	-14.32/-14.83	-15.46/-16.92
Θ(7.5°)	-18.4/-19.21	-18.9/-19.29	-18.72/-19.22	-17.34/-16.59	-16.09/-16.52	-16.65/-16.88	-16.54/-14.69	-15.26/-14.91	-14.18/-13.8	-13.61/-14.78	-15.81/-16.5	-14.84/-13.55	-12.81/-12.02	-12.28/-13.06	-14.31/-16.99	-18.46/-18.79	-18.56/-19.24	-18.61/-16.67	-16.08/-15.64	-15.83/-16.58	-18.13/-18.38	-18.8/-17.26	-19.2/-18.62	-17.55/-18.12
Θ(15°)	-9.39/-9.21	-9.3/-9.5	-9.35/-9.19	-8.92/-9.3	-8.92/-9.74	-9.78/-9.48	-9.45/-10.11	-10.92/-11.39	-10.78/-10.78	-10.41/-10.75	-12.18/-12.48	-13.12/-12.07	-11.27/-10.27	-9.52/-9.63	-10.5/-12.4	-13.69/-17.31	-18.38/-17.7	-17.4/-16.09	-14.26/-13.72	-14.37/-16.35	-18.93/-18.32	-18.08/-17.28	-15.64/-13.12	-11.03/-10
Θ(22.5°)	-6.29/-5.72	-6.06/-6.79	-6.88/-6.54	-6.22/-6.34	-6.3/-6.16	-6.37/-6.68	-7.6/-8.32	-6.6/-8.32	-6.6/-8.32	-6.43/-5.97	-5.93/-5.75	-6.09/-7.06	-8.52/-9.38	-8.82/-8.37	-5.45/-8.85	-10.03/-11.26	-12.59/-13.56	-13.63/-13.04	-12.24/-11.71	-12.05/-14.33	-15.67/-13.38	-11.45/-10.89	-10.78/-10.19	-8.53/-9.79
Θ(30°)	-4.79/-4.29	-3.78/-3.5	-3.2/-2.9	-2.86/-3.07	-3.47/-3.7	-4.35/-5.15	-5.8/-6.24	-5.95/-5.38	-4.94/-4.58	-4.61/-5.42	-7.03/-7.91	-7.55/-6.71	-6.19/-7.44	-8.63/-8.48	-8.19/-8.03	-7.95/-7.61	-7.63/-8.13	-8.79/-6.6	-10.99/-11.49	-11.01/-10.61	-12.02/-12.33	-9.59/-7.85	-7.08/-6.4	-5.82/-5.56
Θ(37.5°)	-2.26/-1.59	-0.79/-0.68	-0.85/-0.93	-1.51/-1.98	-2.86/-3.28	-4.07/-4.83	-5.12/-4.7	-4.11/-3.53	-3.25/-3.35	-3.16/-3.35	-4.04/-4.28	-5.54/-7.62	-7.85/-6.78	-6.28/-6.17	-7.17/-8.1	-8.67/-9.34	-9.59/-9.15	-8.96/-8.07	-7.28/-7.78	-10.07/-10.65	-10.04/-9.76	-7.68/-5.7	-4.32/-3.17	-2.83/-2.35
Θ(45°)	-1.55/-0.82	-0.36/-0.07	0.38/-0.3	-0.3/-0.84	-1.42/-1.76	-1.93/-1.74	-1.75/-2.6	-2.73/-2.47	-3.02/-4.03	-4.63/-3.97	-3.6/-3.69	-4.82/-7.73	-10.89/-11.86	-10.61/-9.52	-8.71/-8.99	-10.47/-11.27	-10.58/-9.78	-8.32/-6.29	-5.48/-4.68	-5.48/-9.28	-9.52/-6.75	-5.52/-5.04	-4.49/-3.49	-3.01/-2.33
Θ(52.5°)	-0.85/-0.39	0.42/-0.86	1.03/-1	0.39/-0.6	-1.31/-1.59	-1.03/-0.85	-1.43/-1.86	-1.96/-2	-1.58/-1.55	-1.76/-1.93	-2.36/-3.49	-4.25/-7.82	-13.53/-13.25	-9.41/-7.8	-7.52/-7.63	-8.04/-10.05	-10.57/-7.56	-5.15/-4.23	-4.02/-4.2	-4.85/-5.1	-7.17/-5.02	-3.46/-2.96	-3.73/-3.27	-2.29/-1.4
Θ(60°)	-1.43/-0.36	0.851/-1.33	1.59/-1.76	1.43/-0.84	0.14/-0.5	0.49/-0.49	-0.39/-0.91	-0.32/-0.92	1.25/-1.26	-0.69/-2.49	-3.74/-4.23	-4.07/-4.8												



Radiated Composite Gain Data 2.4GHz, 5GHz

Appendix A

Θ(75°)	-10.33/-9.63	-11.21/-12.89	-13.68/-11.61	-11.93/-11.17	-9.65/-13.08	-13.45/-17.38	-14.12/-16.17	-18.51/-16.76	-18.52/-18.8	-12.49/-10.46	-11.48/-14.68	-18.97/-16.87	-14.6/-14.24	-19.54/-18.26	-17.11/-12.1	-15.45/-17.52	-18.11/-17.42	-19.11/-18.22	-17.4/-18.38	-18.37/-18.68	-17.75/-18.22	-18.2/-17.72	-17.4/-19.37	-13.93/-12.33
Θ(82.5°)	-12.62/-11.9	-12.7/-14.59	-14.07/-13.48	-13.91/-13.64	-10.44/-9.08	-12.14/-18.09	-17.96/-11.81	-9.77/-9.91	-13.93/-17.89	-18.75/-18.8	-14.05/-12.46	-13.1/-13.35	-11.84/-12.2	-16.26/-18.26	-18.1/-18.05	-17.54/-18.33	-12.79/-13	-17.48/-18.54	-17.09/-15.54	-12.03/-16.48	-18.7/-18.19	-17.45/-18.62	-14.47/-18.69	-17.37/-12.87
Θ(90°)	-15.21/-16.42	-16.76/-16.79	-14.18/-13.23	-18.38/-16.67	-9.89/-8.5	-11.73/-18.33	-15.96/-11.38	-9.83/-10.02	-12.9/-0.1	-17.62/-18.72	-19.11/-18.2	-17.62/-18.72	-14.6/-16.14	-15.75/-18.06	-18.99/-13.93	-13.75/-12.89	-11.81/-14.83	-15.68/-18.87	-15.67/-10.63	-13.82/-16.12	-19.17/-18.18	-18.49/-18.61	-18.49/-12.61	-13.35/-13.19
Θ(97.5°)	-5.42/-6.68	-7.46/-11.85	-17.07/-18.93	-18.76/-13.5	-10.86/-9.41	-13.17/-16	-10.29/-6.49	-5.69/-5.73	-7.18/-9.91	-13.35/-17.78	-18.23/-18.41	-14.23/-10.48	-16.26/-17.13	-17.72/-19	-17.43/-17.44	-14.77/-13.87	-13.95/-16.38	-18.93/-16.62	-13.21/-10.82	-7.83/-10.21	-13.67/-15.87	-18.64/-17.34	-13.23/-10.94	-7.97/-6.31
Θ(105°)	-6.2/-6.16	-6.96/-8.55	-13.05/-17.6	-19.12/-18.8	-15.31/-10.61	-10.75/-12.44	-10.61/-9.5	-10.36/-8.52	-7.14/-10.45	-15.08/-18.35	-18.12/-14.68	-18.39/-17.89	-15.7/-17.51	-18.9/-17.29	-18.5/-18.5	-16.6/-11.28	-12.69/-15.65	-19.65/-15.35	-14.25/-10.84	-11.29/-11.5	-13.95/-14.69	-13.01/-11.89	-9.29/-9.08	-7.37/-6.37
Θ(112.5°)	-5.46/-5.65	-7.26/-7.97	-11.82/-12.9	-12.29/-14.65	-17.19/-18.04	-17.19/-18.04	-10.83/-11.7	-11.95/-7.56	-6.75/-7.41	-11.12/-11	-11.62/-12.67	-16.45/-17.74	-16.81/-13.88	-17.57/-18.85	-18.29/-11.54	-17.69/-11.63	-11.98/-14.71	-17.02/-13.42	-17.6/-15.54	-9.11/-9.24	-10.23/-11.35	-12.7/-11.17	-9.58/-7.37	-6.09/-5.36
Θ(120°)	-6.62/-8.11	-9.42/-8.27	-7.85/-8.66	-9.42/-12.45	-14.47/-13.42	-13.16/-11.89	-12.16/-15.37	-15.89/-13.79	-14.42/-16.73	-17.69/-15.84	-11.31/-10.16	-14.89/-11.81	-13.44/-8.67	-17.84/-16.61	-14.7/-11.56	-10.6/-13.78	-16.57/-12.84	-16.83/-19.16	-18.09/-17.59	-17.99/-14.42	-13.96/-15.86	-18.67/-16.79	-7.93/-6.59	-6.8/-6.11
Θ(127.5°)	-4.85/-5.14	-4.33/-3.88	-4.02/-5.22	-7.81/-10.42	-13.25/-18.51	-15.86/-16.04	-17.76/-18.14	-12.15/-9.51	-9.98/-10.96	-14.8/-19.3	-12.08/-12.02	-13.85/-18.55	-13.78/-14.81	-13.27/-14.78	-18.85/-9.14	-8.8/-15.98	-17.88/-17.81	-17.52/-18.73	-19.02/-17.65	-18.4/-19.37	-18.7/-16.09	-18.93/-14.13	-11.35/-8.24	-6.13/-5.4
Θ(135°)	-1.57/-1.53	-2.04/-2.6	-3.58/-3.51	-3.35/-5.89	-10.93/-18.54	-18.02/-19.12	-18.34/-17.02	-15.14/-14.72	-15.32/-16.78	-17.17/-17.35	-15.12/-18.93	-18.69/-19.04	-15.57/-19.04	-18.22/-16.31	-15.74/-12.6	-13.02/-13.11	-18.21/-15.02	-18.93/-17.7	-19.24/-18.2	-18.07/-19.37	-13.74/-12.8	-10.52/-11.51	-7.28/-4.09	-3.93/-2.62
Θ(142.5°)	-2.07/-1.76	-2.31/-1.99	-3.25/-5.84	-8.43/-9.84	-11.1/-11.86	-12.78/-15.75	-18.56/-18.1	-11.79/-9.13	-8.12/-8.36	9.45/-12.37	-16.38/-14.05	-10.12/-9.44	-6.05/-6.61	-12.83/-17.8	-14.82/-11.76	-15.24/-16.42	-19.22/-18.38	-18.94/-18.66	-18.01/-18.52	-19.11/-18.49	-18.53/-12.54	-11.36/-10.06	-6.97/-4.51	-3.73/-3.14
Θ(150°)	-6.49/-4.84	-5.05/-5.62	-5.65/-5.55	-9.4/-12.74	-15.8/-19.14	-19.11/-18.81	-16.08/-11.8	-9.55/-8.18	-7.77/-8.97	-11.41/-14.84	-14.3/-15.17	-17.25/-12.91	-10.85/-15.31	-18.38/-14.74	-13.06/-15.77	-18.41/-17.29	-17.84/-18.2	-17.89/-18.85	-17.69/-17.94	-19.35/-15.05	-11.85/-11.14	-8.69/-8.35	-8.46/-7.17	-6.7/-6.9
Θ(157.5°)	-8.63/-7.51	-6.43/-5.44	-5.6/-5.09	-5.15/-6.17	-7.19/-10.5	-14.05/-18.14	-17.86/-18.78	-13.81/-11.62	-11.56/-12.27	-13.08/-13.74	-11.15/-9.67	-9.67/-8.9	-8.76/-9.54	-10.03/-10.38	-10.77/-11.92	-15.96/-19.03	-18.7/-18.21	-18.85/-18.36	-18.92/-19.05	-16.88/-12.93	-15.39/-13.59	-13.31/-13.59	-12.67/-12.87	-9.54/-7.14
Θ(165°)	-4.08/-3.13	-3.18/-3.65	-3.74/-4.04	-4.95/-6.36	-8.28/-11.8	-15.86/-18.86	-19.13/-17.69	-18.13/-17.56	-14.38/-12.93	-12.45/-12.62	-12.31/-12.03	-11.11/-10.42	-11.06/-13.88	-18.57/-15.98	-12.51/-12.55	-15.01/-17.94	-18.73/-18.41	-17.45/-18.42	-19.15/-18.2	-18.85/-16.5	-16.9/-16.71	-16.04/-14.97	-10.98/-7.85	-6.2/-4.92
Θ(172.5°)	-0.94/-1.51	-2.65/-3.53	-3.48/-4.1	-5.52/-7.65	-10.82/-15.99	-18.62/-17.95	-18.6/-17.08	-14.91/-13.16	-11.1/-10.2	-10.62/-11.35	-11.46/-13.81	-12.09/-13.25	-14.98/-16.81	-16.13/-15.27	-15.84/-17.89	-17.94/-18.64	-19.1/-18.48	-18.01/-18.07	-17.47/-17.35	-15.6/-13.73	-10.71/-8.22	-6.24/-4.42	-2.9/-1.95	-0.98/-0.47
Θ(180°)	-14.8/-15.91	-17.74/-16.16	-14.9/-15.97	-18.69/-16.6	-15.41/-14.4	-13.84/-14.08	-14.62/-16.35	-19.02/-19.02	-19.26/-17.75	-18.06/-17.26	-14.8/-13.84	-14.54/-15.71	-15.32/-14.71	-14.34/-14.99	-15.26/-15	-14.53/-14.12	-14.59/-14.69	-14.47/-13.36	-12.84/-11.98	-11.42/-11.51	-11.36/-11.77	-11.32/-10.55	-10.49/-11.44	-13.53/-16.97
Freq(Hz)	5.785GPol.	Theta/Ant. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-10.19/-11.64	-13.63/-14.33	-15.94/-17.4	-18.97/-18.52	-17.64/-17.98	-19.77/-19.15	-15.06/-13.36	-11.94/-10.92	-9.94/-9.62	-10.31/-10.48	-10.51/-11.08	-11.75/-11.73	-12.31/-12.45	-12.94/-13.35	-14.81/-17.14	-14.75/-15.92	-14.07/-12.73	-12.45/-19.91	-10.21/-9.73	-9.27/-9.03	-9.34/-9.37	-9.31/-9.34	-8.09/-8.48	-9.45/-10.23
Θ(7.5°)	-14.06/-14.59	-14.8/-14.55	-13.36/-12.4	-12.53/-12.99	-12.42/-12.07	-11.9/-11.34	-10.58/-10.93	-10.06/-8.89	-8.77/-9.18	-9.72/-9.45	-9.15/-9.34	-9.89/-10.93	-12.49/-14.02	-15.37/-17.33	-17.24/-17.25	-18.63/-16.82	-17.18/-18.47	-17.63/-14.27	-11.79/-10.78	-10.66/-10.87	-11.35/-11.58	-12.11/-12.2	-12.49/-12.59	-13.21/-13.5
Θ(15°)	-13.85/-13.23	-12.03/-11.2	-9.76/-8.79	-8.35/-6.74	-6.75/-7.1	-5.13/-4.6	-4.1/8	-4.98/-6.35	-8.4/-9.64	-9.9/-9.24	-9.86/-8.55	-8.97/-9.55	-10.85/-12.61	-14.13/-17.15	-19.17/-18.09	-13.02/-10.57	-9.95/-10.6	-11.05/-10.58	-10.2/-10.53	-10.85/-10.86	-11.44/-12.21	-12.19/-12.21	-13.11/-13.7	-14.17/-13.75
Θ(22.5°)	-8.47/-8.08	-6.43/-6.27	-6.24/-6.17	-5.8/-5.29	-4.22/-3.6	-3.49/-3.31	-3.99/-5.15	-6.12/-7.09	-8.28/-9.49	-10.18/-11.79	-12.6/-13.06	-13.78/-13.14	-16.42/-13.96	-18.98/-14.93	-18.72/-16.56	-16.48/-12.72	-11.26/-11.53	-11.19/-10.45	-10.71/-12.75	-14.61/-14.09	-13.99/-14.65	-14.65/-13.54	-12.64/-10.89	-9.84/-8.83
Θ(30°)	-3.99/-2.78	-2.72/-3.32	-3.87/-4.19	-4.37/-4.06	-3.45/-3.21	-3.24/-3.3	-2.85/-2.42	-2.39/-3.68	-6.14/-9.38	-11.79/-11.67	-10.33/-9.64	-10.26/-11.09	-11.75/-10.28	-9.4/-8.89	-6.9/-8.65	-12.01/-12.91	-10.27/-9.66	-10.1/-10.68	-12.5/-14	-15.79/-17.63	-17.63/-13.47	-10.16/-8.75	-8.07/-6.89	-6.34/-5.2
Θ(37.5°)	-3.92/-3.9	-4.84/-4.24	-3.4/-3.24	-4.01/-4.04	-3.65/-3.29	-2.08/-2.09	0.640/6.4	-0.65/-2.54	-5.12/-6.64	-7.94/-8.52	-8.82/-12.62	-12.59/-13.7	-15.05/-14.76	-12.57/-9.77	-7.82/-6.39	-6.27/-7.75	-11.03/-15.25	-19.44/-18.62	-18.66/-18.77	-18.02/-17.98	-11.77/-10.04	-1.62/-6.85	-6.71/-6.88	-6.05/-4.85
Θ(45°)	-3.5/-1.58	-0.41/-0.99	-2.25/-2.71	-2.57/-2.58	3.06/-3.09	-2.5/-1.2	0.48/-0.54	-0.91/-1.73	-2.46/-2.18	-3.58/-4.57	-6.07/-9.58	-9.98/-10.91	-12.77/-12.93	-9.95/-6.54	-5.07/-6.02	-9.48/-15.51	-18.83/-18.85	-19.01/-18.7	-17.79/-17.84	-13.61/-10.45	-10.82/-8.16	-8.21/-6.95	-5.09/-4.46	-4.92/-4.54
Θ(52.5°)	-2.94/-2.23	-0.230/-1	-0.44/-1.02	-1.61/-2.15	-2.49/-1.83	-0.81/-0.49	-0.55/-0.2	-0.27/-0.45	-0.39/-1.9	-3.74/-5.57	-7.34/-6.68	-11.11/-14.08	-14.28/-12.82	-11.13/-9.16	-9.11/-10.85	-14.97/-18.74	-16.97/-15.01	-10.97/-8.77	-9.81/-13.47	-18.51/-11.44	-8.7/-8.49	-7.6/-8.39	-7.42/-6.75	-5.49/-4.12
Θ(60°)	-2.46/-0.92	-0.33/-0.06	0.140/-27	0.320/-06	-0.83/-1.61	-2.66/-2.19	-0.94/-0.02	0.370/-36	0.250/-76	0.11/-1.63	-4.79/-4.48	-12.73/-12.17	-12.17/-12.72	-14.15/-15.83	-14.72/-12.67	-9.96/-10.73	-8.6/-4.1	-10.06/-7.69	-6.82/-8.14	-11.6/-10.13	-7.12/-5.35	-4.02/-4.52	-4.52/-4.28	-3.23/-3.06
Θ(67.5°)	-1.12/-37	-0.010/-84	1.691/-33	1.430/-83	-0.84/-1.3	-3.37/-3.98	-2.67/-1.27	0.281/-49	2.181/-77	0.17/-2.33	-5.26/-7.18	-7.47/-8.95	-11.12/-13.22	-11.51/-8.68	-8.28/-7.9	-9.05/-7.36	-7.84/-7.81	-7.09/-6.57	-6.35/-6.89	-6.78/-6.24	-3.25/-3.17	-2.82/-3.35	-3.69/-3.43	-2.05/-1.19
Θ(75°)	-0.5/-0.28	0.570/-51	1.321/-35	2.077/-33	1.000/-71	1.63/-3.4	-1.31/-1.77	-0.360/-5	1.561/-7	1.06/-0.63	-2.51/-4.72	-5.54/-6.59	-8.96/-12.87	-17.26/-13.26	-10.96/-9.64	-7.13/-3.48	-3.78/-4.37	-6.14/-6.58	-4.19/-2.75	-0.52/-1.1	-0.85/-1.49	-2.01/-2.29	-1.66/-1.28	
Θ(82.5°)	0.910/-89	0.980/-8	0.581/-2	2.13/-2.47	1.29/-0.35	-1.46/-2.27	-3.13/-2.95	-1.860/-07	1.641/-41	0.42/-1.63	-3.13/-3.79	-3.4/-06	-8.99/-18.23	-15.79/-12.33	-11.27/-8.6	-4.05/-2.01	-2.19/-3.25	-4.14/-5.03	-2.72/-1.98	-1.22/-1.56	0.130/-25	-1.51/-1.53	-0.8/-0.82	0.080/-88
Θ(90°)	-0.730/-57	1.120/-79	0.570/-62	1.91/-73	1.370/-59	-3.0/-2.06	-2.58/-2.03	-1.280/-06	-0.03/-0.56	-1.09/-2.71	-3.38/-4.08	-3.09/-4.39	-6.74/-16.35	-18.5/-11.48	-13.88/-10.69	-3.62/-0.71	-0.45/-1.56	-3.63/-5.3	-2.53/-1.05	-1.16/-0.05	1.39/-11	-0.43/-1.21	0.02/-0.29	-1.23/-0.22
Θ(97.5°)	-0.050/-83	0.69/-0.3	-0.420/-05	1.41/-23	0.42/-0.87	-1.24/-1.4	-1.19/-1.84	-2.7/-2.72	-2.7/-1.98	-1.34/-2.39	-2.61/-3.01	-3.36/-4.52	-10.22/-14.83	-14.58/-10.15	-11.99/-8.36	-4.81/-2.75	-5.45/-5.04	-3.29/-6.07	-3.61/-1.58	-2.78/-1.14	-1.09/-0.41	-2.28/-2.22	0.330/-21	-0.39/-62
Θ(105°)	-1.91/-0.81	0.45/-0.42	0.75/-0.08	1.180/-25	-0.26/-0.77	-1.42/-1.34	-1.97/-2.39	-1.58/-1.17	-1.8/-2.4	-2.38/-3.8	-3.62/-5.25	-5.77/-4.5	-6.81/-6.79	-13.51/-13.46	-14.48/-12.66	-5.19/-2.44	-5.24/-3.02	-1.92/-5.4	-4.81/-3.47	-5.01/-7.31	-1.79/-2.19	-3.45/-2.65	-1.43/-1.85	-3.33/-0.37
Θ(112.5°)	-1.53/-0.3	-0.25/-0.92	0.31/-0.23	0.06/-0.4	-0.47/-1.04	-1.75/-1.63	-1.07/-0.54	-1.28/-2.84	-4.33/-5.31	-4.46/-5.33	-4.35/-4.7	-4.22/-3.02	-18.83/-14.5	-13.24/-19.46	-9.52/-11.54	-17.63/-6.28	-4.04/-12.17	-10.2/-14.5	-7.73/-8.31	-6.41/-5.65	-5.16/-3.15	-1.65/-3.16	-3.81/-0.76	
Θ(120°)	-3.33/-3.29	-2.24/-2.8	-1.2/-0.4	0.930/-95	0.3/-0.19	-1.01/-2.28	-2.19/-1.97	-2.86/-2.59	-2.88/-3.55	-2.88/-3.57	-3.91/-5.62													



Radiated Composite Gain Data 2.4GHz, 5GHz

Appendix A

Θ(127.5°)	-17.7/-18.65	-12.38/-13.56	-10.23/-9.58	-12.12/-13.74	-18.04/-18.05	-18.6/-13.45	-11.48/-14.4	-16.25/-16.19	-17.99/-18.12	-18.72/-18.44	-15.82/-19.07	-17.89/-14.78	-15.61/-13.84	-11.04/-15.18	-10.45/-13.17	-10.35/-13.96	-11.87/-17.45	-18.46/-19.04	-12.7/-14.25	-18.75/-17.99	-14.1/-19.32	-18.32/-11.95	-10.75/-17.79	-18.01/-18.17
Θ(135°)	-11.62/-17.1	-12.21/-11.23	-11.22/-10.05	-12.99/-15.35	-18.71/-18.13	-14.12/-14.24	-15.25/-16.39	-17.8/-15.09	-16.1/-14.02	-18.3/-16.82	-17.52/-19.08	-12.57/-14.16	-18.95/-13.69	-8.66/-11.2	-17.22/-14.16	-13.96/-18.2	-16.25/-11.88	-11.76/-18	-10.82/-9.42	-14.01/-9.28	-7.09/-16.77	-13.35/-14.48	-17.39/-5.78	-8.96/-13.21
Θ(142.5°)	-7.53/-14.58	-18.3/-12.74	-16.06/-18.73	-18.62/-18.73	-17.66/-16.21	-13.61/-12.85	-13.76/-14.04	-14.16/-16.7	-15.63/-13.55	-16.87/-18.86	-17.08/-18.96	-11.96/-14.96	-13.64/-13.64	-15.99/-17.89	-16.02/-12	-13.36/-17.62	-16.26/-14.58	-14.63/-13.34	-14.08/-9.91	-18.49/-12.63	-11.81/-17.58	-13.55/-10.48	-14.64/-7.51	-8.46/-8.28
Θ(150°)	-6.3/-6.59	-8.79/-10.49	-10.94/-13.67	-17.05/-17.76	-18.29/-15.43	-15.4/-15.7	-15.16/-13.95	-11.47/-9.96	-9.8/-10.93	-12.05/-12.24	-11.79/-13.7	-18.94/-18.51	-19.31/-17.04	-15.37/-15.3	-17.93/-19.13	-17.45/-17.85	-17.81/-16.43	-13/-13.08	-14.69/-15.62	-15.14/-12.12	-8.89/-7.94	-11.57/-14.97	-13.07/-10.79	-10.18/-4.38
Θ(157.5°)	-9.99/-10.37	-13.3/-13.28	-11.55/-13.23	-14.9/-16.8	-18.07/-18.1	-18.08/-18.83	-19.11/-15.09	-11.73/-9.54	-8.76/-8.22	-7.72/-8.19	-8.38/-8.79	-9.63/-9.54	-8.64/-7.7	-7.57/-8.43	-10.33/-12.8	-13.53/-16.15	-18.69/-18.89	-16.14/-14	-12.36/-11.8	-10.87/-9.86	-8.07/-8.09	-9.23/-10.24	-12.01/-13.75	-13.17/-10.65
Θ(165°)	-8.99/-7.7	-7.6/-9.85	-12.89/-17.44	-19.25/-18.34	-19.66/-16.65	-13.92/-12.08	-12.83/-12.56	-11.09/-9.25	-9.78/-10.38	-9.97/-9.55	-9.44/-8.63	-7.23/-6.13	-5.61/-4.87	-4.66/-4.77	-6.08/-7.5	-10.81/-12.07	-16.14/-11.54	-11.08/-11.04	-10.5/-10.35	-8.73/-8.69	-8.61/-9.37	-11.21/-12.97	-11.31/-12.19	
Θ(172.5°)	-13/-11.93	-12.61/-15.11	-16.09/-15.92	-16.83/-19.03	-18.61/-18.08	-14.82/-14.15	-15.92/-14.58	-12.28/-10.38	-9.95/-9.74	-9.88/-9.69	-9.94/-10.07	-8.89/-8.48	-8.21/-7.54	-6.87/-6.24	-5.73/-5.44	-6.27/-7.67	-10.07/-11.71	-12.65/-12.3	-12.78/-14.41	-15.55/-16.17	-18.06/-17.67	-18.08/-18.15	-17.96/-16.32	-13.99/-13.64
Θ(180°)	-13.11/-15.81	-18.89/-18.15	-16.01/-13.31	-12.73/-14.05	-15.82/-16.94	-16.84/-18.07	-17.51/-18.65	-15.77/-13.67	-12.24/-11.26	-10.69/-10.1	-10.45/-11.23	-12.29/-13.16	-14.2/-15	-16.29/-18.04	-18.91/-18.65	-18.95/-18.65	-18.66/-18.88	-18.32/-17.18	-18.35/-18.79	-17.44/-15.92	-12.69/-10.87	-9.83/-9.48	-8.99/-8.74	-9.32/-11.86
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°)	-14.62/-13.63	-14.11/-14.74	-14.51/-12.99	-10.81/-12.7	-13.58/-13.73	-13.45/-11.85	-11.59/-12.61	-13.6/-15.21	-16.07/-17.14	-17.42/-18.04	-18.72/-18.13	-18.74/-19.12	-19.19/-19.02	-19.56/-14.77	-14.29/-13.05	-12.59/-12.83	-12.57/-12.45	-12.09/-11.98	-12.41/-12.45	-13.22/-14.3	-14.82/-15.24	-16.72/-18.28	-18.25/-18.5	-18.93/-15.54
Θ(7.5°)	-17.59/-18.57	-18.42/-18.24	-18.14/-19.01	-18.68/-18.36	-18.47/-18.4	-17.98/-17.82	-18.48/-17.61	-18.49/-16.55	-15.94/-14.44	-14.68/-14.16	-14.23/-13.91	-13.79/-13.15	-12.14/-10.68	-9.2/-8.73	-10.81/-12.07	-8.52/-8.82	-8.01/-8.1	-8.54/-8.97	-9.49/-10	-10.5/-10.35	-8.62/-8.2	-10.28/-11.96	-10.69/-11.95	-9.07/-8.2
Θ(15°)	-11.45/-12.28	-14.26/-15.17	-17.27/-18.05	-18.99/-18.75	-17.78/-18.06	-18.34/-17.31	-15.49/-13.57	-12.78/-12.02	-10.98/-10.38	-10.69/-11.37	-12.8/-13.16	-13.32/-13.11	-13.01/-12.72	-11.9/-10.58	-9.09/-7.29	-6.14/-5.77	-6.09/-7.37	-7.72/-8.01	-8.02/-7.74	-7.64/-6.73	-6.88/-7.09	-7.32/-8.14	-8.7/-8.55	-10.19/-11.73
Θ(22.5°)	-9.82/-14.23	-15.81/-17.61	-18.18/-16.21	-16.35/-15.21	-16.57/-15.78	-14.13/-13.49	-13.37/-12.82	-11.47/-9.61	-7.91/-7.2	-7.93/-9.3	-11.44/-12.82	-15.34/-17.23	-15.18/-13.12	-11.62/-10.16	-9.13/-7.99	-6.62/-6.25	-6.49/-7.07	-6.62/-6.59	-6.49/-6.9	-6.56/-6.7	-6.57/-6.64	-6.88/-7.28	-8.12/-8.81	-8.72/-9.22
Θ(30°)	-8.42/-10.49	-13.86/-16.75	-18.46/-18.4	-17.85/-18.21	-17.88/-17.16	-15.44/-15.92	-15.12/-14.15	-12.74/-12.03	-10.01/-8.35	-7.5/-8.45	-10.3/-10.21	-8.16/-6.93	-6.43/-6.15	-6.08/-5.46	-5.69/-5.93	-5.99/-5.74	-4.87/-4.2	-3.32/-3.96	-4.87/-4.2	-3.32/-3.96	-4.96/-6.33	-4.72/-4.24	-10.06/-11.05	-9.07/-8.2
Θ(37.5°)	-7.64/-10.73	-15.56/-18.97	-19.18/-17.14	-14.74/-13.03	-11.09/-9.9	-9/-9.33	-8.4/-7.74	-7.44/-8.67	-10.16/-9.85	-9.11/-9.8	-9.59/-8.33	-7.51/-5.75	-4.39/-4.46	-4.29/-3.47	-2.49/-2.58	-3.19/-3.28	-3.07/-3.54	-5.76/-6.73	-4.3/-2.6	-1.46/-1.31	-2.3/-9	-5.94/-7.21	-8.41/-8.53	-7.79/-7.37
Θ(45°)	-5.25/-8.28	-14.31/-16.7	-15.47/-14.19	-13.42/-12	-10.11/-8.06	-7.58/-8.23	-4.96/-8.72	-7.29/-6.96	-8.38/-10.16	-8.78/-7.76	-7.23/-6.44	-5.86/-6.47	-3.93/-3.22	-3.38/-2.75	-0.89/-1.11	-1.87/-1.89	-2.5/-3.86	-4.1/-3.01	-1.43/-0.08	0.61/-0.14	-1.8/-1.37	-3.44/-3.84	-4.37/-3.44	-5.03/-5.34
Θ(52.5°)	-4.84/-6.48	-11.86/-18.04	-17.97/-17.75	-18.67/-12.1	-10.46/-8.62	-7.87/-7.36	-7.43/-7.4	-5.37/-3.69	-5.32/-8.38	-6.2/-6.46	-3.9/-3.77	-4.07/-4.54	-4.59/-3.62	-2.34/-1.46	-3.36/-1.03	-1.41/-0.56	-1.48/-1.45	-1.31/-2.1	-1.45/-0.69	0.48/-0.54	-0.13/-1.8	-3.64/-3.67	-2.32/-1.48	-2.34/-5.47
Θ(60°)	-6.46/-7.33	-12.11/-16.35	-15.38/-13.73	-13.4/-7.42	-6.91/-7.62	-5.96/-5.6	-4.64/-5.72	-6.75/-5.74	-7.26/-8.42	-5.31/-2.71	-1.68/-2.63	-4.59/-6.33	-5.26/-2.65	-1.19/-0.65	0.2/-0.91	-1.09/-0.02	-0.34/-0.56	-1.03/-1.66	-1.01/-0.34	0.31/-1.6	-3.42/-3.53	-2.81/-3.96	-5.43/-3.69	-3.34/-5.51
Θ(67.5°)	-13.44/-11.16	-16.94/-17.63	-19.17/-17.15	-12.34/-7.8	-4.49/-5.31	-4.91/-5.67	-5.12/-4.85	-5.44/-5.22	-5.45/-4.99	-2.55/-1.7	-2.53/-2.97	-3.14/-2.94	-2.59/-2.35	-1.5/-1.14	-0.33/-1.84	-1.51/-0.47	-2.01/-0.42	0.23/-0.82	-1.35/-0.23	1.73/-0.59	-0.92/-1.96	-3.67/-4.55	-3.75/-2.46	-2.05/-3.3
Θ(75°)	-3.65/-15.04	-9.75/-9.2	-18.71/-13.02	-11.36/-4.23	-3.84/-5.36	-6.16/-6.1	-5.57/-5.75	-4.48/-3.74	-5.49/-4.63	-3.14/-2.03	-0.92/-0.59	-0.93/-1.97	-0.93/-1.97	-0.4/-0.06	-1.7/-2	-20.94	1.31/-0.45	1.22/-0.65	3.66/-1.2	1.64/-0.76				
Θ(82.5°)	-3.78/-13.91	-10.37/-2.96	-11.92/-10.06	-12.11/-2.38	-2.48/-4.28	-6.29/-6.1	-6/-5.33	-4.44/-4.28	-6.46/-5.2	-2.64/-3.12	-1.05/-0.75	-0.03/-0.88	-0.05/-2.06	0.42/-1.53	1.04/-1.49	-0.25/-0.02	1.67/-3.3	3.44/-2.38	1.95/-3.86	3.83/-3.81	3.32/-6.4	0.16/-3.51	-5.46/-4.17	-3.25/-1.45
Θ(90°)	-1.66/-8.03	-11.82/-3.37	-14.54/-5.88	-12.93/-14.9	-13.13/-4.48	-10.7/-8.33	-5.88/-3.88	-4.92/-7.31	-11.23/-5.76	-2.76/-4.73	-2.98/-1.6	-1.62/-0.12	-3.09/-2.21	0.79/-0.54	-1.19/-1.6	0.13/-1.76	2.8/-1.8	3.57/-2.83	1.73/-2.82	3.5/-3.83	3.07/-2.24	-0.67/-0.34	-2.44/-2.35	-3.4/-2.31
Θ(97.5°)	-4.18/-65	-6.06/-2.34	-10.24/-4.99	-19.18/-2.89	-6.12/-6.83	-10.21/-9.47	-10.81/-6.33	-6.16/-12.58	-14.27/-6.25	-2.86/-3.84	-2.3/-1.87	-0.21/-0.76	-3.07/-0.75	0.96/-0.81	-0.96/-0.79	-0.23/-0.85	-0.48/-1.98	2.41/-7.6	0.83/-2.99	3.89/-3.67	3.17/-7.2	-0.43/-0.52	-2/-3.28	-0.94/-1.73
Θ(105°)	-4.2/-13.53	-10.35/-5.98	-17.83/-7.5	-19.17/-3.88	-4.76/-9.22	-9.63/-12.31	-11.22/-7.81	-8.28/-11.11	-18.18/-9.34	-4.01/-4.1	-2.45/-3.41	-1.79/-1.18	-3.11/-0.36	0.26/-0.57	-0.44/-0.93	-3.18/-0.22	-1.39/-2.46	2.73/-2.72	-0.66/-3.21	3.15/-0.53	0.67/-2.75	0.28/-3.09	-5.94/-14.06	-7.95/-3.7
Θ(112.5°)	-10.22/-18.8	-7.79/-5.64	-14.27/-9.55	-8.26/-7.31	-3.15/-7.14	-13.41/-13.91	-14.42/-9.66	-9.52/-12.27	-18.63/-10.28	-7.22/-5.09	-4.03/-1.52	-3.68/-1.45	-4.75/-2.13	-1.95/-1.77	-3.33/-4.82	-3.36/-1.01	0.92/-1.17	0.08/-1.53	-4.95/-0.64	-0.35/-2.28	-1.83/-0.31	-3.18/-11.28	-18.16/-18.92	-16.88/-12.55
Θ(120°)	-12.71/-9.94	-13.38/-12.36	-17.61/-14.39	-9.37/-10.99	-9.31/-10.9	-15.61/-14.9	-12.91/-13.37	-11.89/-14.45	-12.67/-11.51	-7.78/-9.15	-6.04/-6.99	-6.45/-6.46	-4.07/-2.6	-1.62/-5	-3.86/-3.97	-0.47/-2.89	0.12/-3.68	-5.16/-2.05	-2.46/-4.35	-4.75/-4.18	-4.25/-3.67	-12.29/-17.97	-17.19/-19.11	
Θ(127.5°)	-8.67/-5.48	-7.42/-11.88	-11.29/-14	-9.3/-9.34	-12.14/-18.95	-17.72/-19.1	-18.36/-15.25	-13.61/-18.31	-18.66/-13.86	-11.5/-11.05	-10.54/-8.58	-7.66/-7.44	-5.58/-6.18	-3.26/-0.47	-3.54/-5.16	-7.55/-2.94	-1.39/-1.42	0.11/-3.35	-3.66/-1.84	0.1/-0.61	-4.2/-7.24	-5.08/-4.07	-6.86/-11.96	-13.59/-13.85
Θ(135°)	-8.4/-8.26	-9.82/-7.56	-6.13/-14.48	-13.97/-11.2	-10.76/-12.28	-15.57/-17	-14.81/-17.35	-17.69/-18.58	-17.58/-19.02	-16.88/-13.55	-12.09/-14.94	-10.57/-6.29	-9.02/-9.43	-2.46/-1.57	-4.42/-6.55	-13.13/-3.52	-3.01/-0.5	-0.23/-9.43	-6.24/-26	-0.76/-0.98	-3.79/-14.5	-17.26/-7.87	-6.87/-13.35	-7.58/-6.35
Θ(142.5°)	-6.46/-7.88	-8.99/-8.8	-10.35/-14.58	-19.24/-12.74	-9.89/-13.54	-14.93/-124	-13.68/-15.8	-18.71/-18.84	-17.36/-18.61	-13.43/-12.25	-12.58/-10.9	-7.6/-8.36	-14.76/-12.98	-9.04/-7.56	-8.83/-15.51	-17.73/-10.98	-6.76/-2.76	-3.34/-6.64	-10.66/-7.07	-3.67/-3.63	-5.48/-8.77	-14.72/-7.54	-7.14/-10.37	-10.86/-7.14
Θ(150°)	-6.03/-9.1	-11.4/-11.59	-14.35/-16.93	-17.44/-18.74	-19.39/-18.38	-14.60/-13.93	-13.6/-13.85	-14.71/-15.61	-15.66/-14.44	-13.1/-14.41	-17.4/-17.49	-19.9/-19.03	-18.09/-15.92	-11.43/-10.3	-10.87/-10.51	-9.26/-8.8	-7.91/-6.48	-17.42/-9.72	-10.22/-7.3	-4.31/-3.81	-5.47/-9.18	-15.87/-13.15	-9.08/-7.4	-6.71/-6.56
Θ(157.5°)	-14.21/-18.49	-18.13/-18.52	-17.51/-17.43	-17.51/-18.6	-17.47/-18.94	-18.92/-19.41	-17.38/-14.64	-16.33/-17.09	-14.92/-14.81	-15.49/-16.97	-16.42/-15.47	-15.02/-14.63	-14.14/-11.88	-9.12/-7.53	-6.65/-6.33	-6.73/-7.9	-8.74/-10.03	-11.12/-12.42	-12.74/-13.41	-12.28/-9.41	-8.06/-8.85	-10.65/-11.26	-9.78/-9.32	-10.73/-14.78
Θ(165°)	-17.42/-19.55	-18.11/-18.21	-16.89/-16.94	-18.95/-18.17	-19.14/-18.28	-16.72/-14.22	-13.66/-14.33	-17.22/-19.17	-19.03/-18.64	-18.44/-17.44	-17.76/-17.22	-18.03/-15.68	-17.85/-18.47	-15.22/-11.98	-10.64/-10.18	-9.18/-8.47	-8.12/-7.96	-7.11/-6.58	-6.28/-6.21	-6.6/-6.73	-6.93/-7.54	-8.58/-10.67	-14.32/-16.37	-14.04/-14.88
Θ(172.5°)	-17.44/-18.53	-18.53/-19.01	-17.59/-17.03	-18.25/-16.16	-18.56/-18.61	-17.89/-19.32	-18.91/-17.46	-18.61/-17.65	-18.39/-18.3	-18.58/-18.23	-17.1/-16.07	-15.79/-15.64	-15.34/-15.43	-17.37/-18.68	-15.64/-12.9									



Radiated Composite Gain Data 2.4GHz, 5GHz

Appendix A

Θ (180°)	-7.63/-12.88	-18.65/-19.21	-18.03/-14.87	-13.29/-14.54	-18.91/-18.84	-19.3/-18.37	-18.01/-18.12	-17.76/-18.42	-19.18/-18.32	-17.66/-19.06	-18.94/-18.46	-15.82/-13.68	-12.61/-12.74	-13.67/-13.14	-12.66/-13.4	-14.04/-12.74	-11.8/-12.49	-13.31/-16.02	-18.25/-18.75	-17.99/-16.8	-15.43/-14.24	-12.29/-10.44	-9.68/-9.58	-10.24/-10.34
Freq(Hz)	5.6G/Pol.	Theta/Ant. 2	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-18.98/-19.23	-17.06/-15.19	-15.25/-14.12	-12.38/-12.12	-10.7/-10.19	-9.63/-8.93	-9.09/-9.08	-9.01/-8.88	-8.83/-9.34	-9.91/-10.48	-11.43/-12.53	-14.31/-16.96	-17.65/-17.85	-15.47/-13.77	-12.13/-11.52	-11.31/-11.01	-9.55/-8.98	-9.04/-9.47	-9.99/-9.54	-10.06/-10.74	-12.82/-13.87	-14.44/-15.05	-17.4/-17.72	-19.35/-17.99
Θ (7.5°)	-17.46/-17.03	-15.43/-15.69	-17.07/-16.67	-13.64/-13.82	-13.29/-12.92	-12.28/-12.12	-14.16/-15.55	-15.01/-15.41	-15.58/-15.23	-13.4/-12.49	-11.84/-11.8	-12.69/-13.17	-14.74/-15.31	-14.92/-14.01	-11.72/-10.38	-9.44/-9.13	-8.92/-7.4	-6.94/-6.97	-6.28/-6.18	-6.16/-6.44	-7.21/-7.18	-7.53/-8.82	-10.96/-13.48	-15.07/-16.82
Θ (15°)	-8.65/-11.99	-9.93/-10.39	-11.99/-14.75	-19.16/-18.56	-18.79/-17.92	-17.96/-19.22	-18.5/-17.54	-16.15/-15.97	-15.15/-14.04	-12.46/-12.35	-13.42/-14.84	-12.58/-10.48	-8.66/-7.27	-6.45/-6.2	-6.41/-6.7	-6.21/-5.91	-5.75/-5.78	-6.41/-6.92	-7.72/-7.36	-7.92/-9.01	-10.41/-12.78	-12.77/-13.14	-10.41/-12.78	-12.77/-13.14
Θ (22.5°)	-10.06/-10.38	-10.61/-11.37	-11.89/-12.57	-15.64/-17.96	-18.8/-18.92	-17.51/-13.81	-11.73/-10.53	-11.26/-13.65	-15.68/-13.54	-13.97/-15.86	-16.06/-15.48	-14.98/-14.01	-12.48/-10.64	-8.95/-7.63	-6.67/-5.95	-5.68/-6.72	-7.93/-7.99	-6.64/-5.48	-5.58/-6.33	-7.31/-7.76	-8.24/-9.43	-8.95/-7.96	-8.06/-9.85	-10.3/-10.25
Θ (30°)	-8.86/-8.42	-8.25/-10.19	-16.05/-18.07	-18.53/-17.12	-17.29/-16.92	-15.95/-12.2	-8.82/-10.43	-10.92/-11.42	-12.76/-12.03	-9.87/-8.81	-8/-8.11	-8.91/-9.87	-9.23/-7.94	-6.47/-5.65	-4.37/-3.3	-3.89/-5.06	-5.81/-6.16	-8.26/-11.68	-13.2/-10.23	-6.41/-5.09	-5.05/-7.08	-9.21/-10.16	-9.9/-8.89	-8.58/-8.72
Θ (37.5°)	-8.65/-10.39	-10.73/-9.26	-10.2/-13.51	-15/-13.3	-12.34/-12.08	-11.35/-13.97	-13.42/-12.8	-10.27/-9.69	-11.66/-12.58	-12.27/-12.96	-11.45/-9.25	-8.35/-7.87	-6.67/-5.97	-5.84/-5.43	-3.99/-3.02	-3.24/-2.64	-1.66/-2.21	-3.51/-3.54	-2.51/-2.97	-3.77/-4.34	-4.63/-5.24	-5.39/-5.65	-6.55/-7.32	-8.96/-8.67
Θ (45°)	-9.45/-12.37	-17.22/-13.41	-11.82/-14.84	-15.2/-11.99	-9.87/-10.6	-10.83/-10.01	-10.63/-12.37	-13.3/-12	-11.23/-13.25	-12.74/-9.64	-8.02/-9.38	-12.29/-12.29	-11.35/-9.5	-8.13/-7.16	-4.7/-3.48	-3.12/-2.39	-1.91/-1.37	-1.11/-2.03	-2.37/-1.35	0.010/-39	-0.32/-1.84	-3.16/-4.77	-7.04/-8.47	-9.53/-9.25
Θ (52.5°)	-5.74/-7.69	-18.35/-14.7	-15.86/-18.11	-11.05/-9.67	-6.1/-7.08	-8.55/-9.11	-8.64/-7.82	-8.24/-10.31	-9.54/-6.72	-6.22/-5.85	-5.16/-6.69	-7.55/-7.16	-6.21/-6.08	-5.03/-3	-2.48/-2.5	-3.67/-4.11	-3.93/-4.29	-2.82/-1.33	-0.72/-0.9	-0.4/-0.36	-0.15/-0.82	-1.89/-3.58	-5.99/-5.71	-5.07/-6.11
Θ (60°)	-6.19/-5.36	-9.95/-18.09	-17.99/-18.14	-11.3/-6.87	-5.93/-7.35	-8.86/-9.19	-6.84/-6.53	-5.65/-6.77	-6.19/-5.76	-5.39/-5.23	-3.23/-3.19	-4.21/-4.59	-4.68/-4.22	-2.12/-0.5	-0.15/-0.75	-2.32/-3.1	-1.91/-1.53	-1.58/-0.6	0.71/-78	1.38/-0.53	-2.75/-4.3	-5.32/-6.62	-5.42/-4.43	-5.42/-4.43
Θ (67.5°)	-7.02/-9.35	-16.73/-15.21	-18.79/-19.51	-10.69/-6.37	-6.78/-6.01	-5.7/-6.1	-6.98/-8.74	-8.04/-6.08	-5.48/-4.71	-5.13/-4	-3.34/-3.93	-4.35/-5.7	-6.9/-9.12	-1.340/-15	0.690/-52	-1.41/-0.31	-1.75/-1.13	-0.37/-0.87	-0.550/-1	0.360/-53	0.14/-0.44	-1.79/-4.7	-9.2/-6.41	-3.92/-4.96
Θ (75°)	-8.79/-8	-12.74/-10.96	-17.07/-18.1	-8.86/-4.86	-3.82/-3.77	-4.87/-4.92	-6.87/-10.42	-7.83/-7.01	-6.35/-4.75	-4.11/-2.78	-1.91/-1.22	-4.17/-1.69	-5.67/-1.21	0.520/-12	-0.930/-26	-1.55/-0.56	-0.51/-1.09	-0.89/-0.49	1.371/-57	0.61/-0.59	-3.23/-6.28	-8.04/-6.25	-1.67/-1.25	-1.67/-1.25
Θ (82.5°)	-8.99/-8.3	-18.98/-10.36	-17.79/-18.64	-3.54/-3.56	-3.21/-4.58	-5.18/-5.38	-5.8/-7.37	-8.09/-6.73	-7.16/-5.79	-4.45/-1.72	-0.550/-82	0.06/-2.77	-2.57/-3.2	-2.170/-48	0.58/-0.5	-0.620/-71	-0.21/-75	1.942/-23	1.041/-3	1.942/-19	0.28/-1.92	-0.61/-4.86	-7.33/-6.35	-2.33/-1.12
Θ (90°)	-6.44/-19.31	-14.31/-6.39	-19.13/-18.15	-3.64/-3.95	-5.09/-7.37	-8.08/-7.45	-8.11/-9.22	-6.8/-6.36	-6.19/-9.86	-9.08/-3.71	-2.95/-0.44	-1.81/-1.2	-1.69/-3.68	-0.360/-81	0.33/-1.67	-0.57/-1.57	3.573/-29	3.373/-82	3.072/-53	2.323/-13	2.972/-2	0.05/-4.44	-7.34/-5.64	-5.99/-3.39
Θ (97.5°)	-5.39/-17.57	-14.07/-6.68	-18.39/-17.81	-2.66/-2.94	-4.12/-7.98	-9.75/-11.52	-10.54/-12.45	-10.75/-7.92	-9.98/-7.92	-4.99/-4.57	-4.98/-1.3	-3.88/-2.29	-3.17/-1.02	-1.27/-1.1	-4.07/-5.42	-3.250/-69	2.030/-55	1.222/-19	2.44/-0.65	-0.3/-0.32	2.252/-79	0.81/-3.51	-6.95/-4.55	-1.77/-2.26
Θ (105°)	-9.42/-18.12	-10.42/-6.75	-18.84/-13.03	-4.83/-2.61	-7.99/-11.52	-10.59/-9.52	-10.70/-12.43	-8.99/-8.6	-14.4/-10.04	-5.35/-6.58	-4.85/-0.94	-2.56/-0.83	-6.47/-6	-2.9/-3.1	-1.76/-3.96	-3.56/-1.58	-0.3/-0.37	0.240/-83	0.311/-1	1.7/-2.02	0.01/-98	-0.54/-2.98	-10.82/-16.35	-5.59/-3.58
Θ (112.5°)	-9.4/-14.64	-11.6/-5.92	-11.02/-10.73	-11.63/-5.57	-8.04/-12.53	-17.9/-15.81	-12.76/-12.2	-13.43/-13.8	-12.2/-8.81	-8.01/-7.36	-4.44/-3	-4.5/-0.97	-3.61/-5.91	-2.29/-1.21	-1.53/-5.75	-5.26/-0.6	0.872/-24	-0.40/-29	-1.69/-1.09	2.24/-9.74	-9.31/-0.32	-2.87/-9.87	-11.94/-12.8	-5.58/-5.78
Θ (120°)	-8.57/-14.7	-17.33/-13.16	-18.1/-165	-10.14/-10.05	-13.37/-18.75	-14.66/-15.41	-12.99/-12.15	-14.21/-14.64	-16.27/-11.44	-9.34/-8.65	-7/-12.41	-10.05/-9.16	-8.184/-95	-4.16/-0.62	-4.03/-5.03	-7.21/-11.2	0.12/-15	0.20/-61	-8.32/-2.96	0.72/-143	-4.62/-1.45	-1.93/-4.84	-12.02/-10.7	-17.01/-6.86
Θ (127.5°)	-9/-13.23	-14.16/-17.95	-18.65/-12.1	-12.37/-14.8	-14.35/-18.68	-17.46/-19.07	-14.65/-16.74	-18.48/-17.62	-14.52/-10.79	-10.47/-9.15	-8.18/-9.95	-10.52/-8.6	-6.82/-10	-4.08/-2.11	-1.48/-9.99	-6.21/-7.99	0.68/-0.29	1.27/-2.88	-8.88/-1.49	0.68/-4.83	0.323/-79	0.13/-5.13	-18.68/-18.66	-18.63/-9.06
Θ (135°)	-11.7/-14.05	-12.63/-6.95	-7.51/-11.57	-13.8/-16.43	-16.62/-14.84	-12.68/-10.93	-12.38/-16.18	-16.85/-18.15	-17.85/-15.09	-10.7/-10.51	-9.29/-10.17	-12.39/-7.77	-8.58/-12.9	-6.2/-2.11	-4.37/-12.67	-10.15/-5.24	-0.76/-3.35	-0.97/-5.61	-11.28/-3.41	0.82/-1.48	-4.85/-11.93	-4.6/-2.74	-9.18/-9.81	-5.6/-7.14
Θ (142.5°)	-9.1/-17.65	-18.12/-14.02	-11.35/-14.8	-19.01/-15.65	-14.08/-13.67	-14.95/-18.87	-17.28/-18.46	-16.65/-11.75	-9.24/-8.68	-8.12/-8.5	-9.04/-9.51	-8.8/-7.73	-9.6/-12.69	-6.14/-3.35	-5.53/-10.68	-14.72/-8.01	-8.46/-5.65	-4.01/-9.71	-14.61/-4.81	-0.53/-1.92	-6.73/-12.23	-18.89/-5.18	-3.42/-5.69	-4.28/-5.25
Θ (150°)	-6.23/-7.83	-12.3/-12.4	-10.52/-15.34	-17.19/-16.25	-16.44/-14.82	-10.47/-7.21	-7.38/-9.1	-12.95/-18.86	-17.59/-16.19	-11.49/-8.4	-10.23/-9.55	-8.87/-10.69	-12.69/-13.7	-7.6/-6.17	-6.69/-7.27	-7.57/-9.8	-6.55/-5.89	-9.91/-10.81	-9.84/-5.03	-2.26/-1.8	-4.03/-7.78	-12.6/-8.51	-7.42/-8.66	-7.96/-6.39
Θ (157.5°)	-15.03/-17.25	-18.57/-17.71	-18.66/-16.48	-15.81/-17.98	-17.62/-15.06	-13.51/-11.84	-11.44/-11.04	-10.59/-10.39	-10.62/-10.62	-10.91/-12.73	-16.28/-18.3	-19.14/-17.33	-17.86/-16.75	-11.78/-8.21	-5.8/-4.35	-3.74/-3.83	-3.82/-4.63	-6.81/-10.07	-12.23/-9.39	-7.23/-5.76	-6.83/-9.02	-10.57/-10.78	-10.56/-11.13	-12.98/-17.93
Θ (165°)	-17.98/-10.82	-12.79/-12.68	-14.25/-16.41	-14.18/-13.1	-11.74/-11.55	-11.45/-12.94	-14.98/-18.24	-18.73/-14.74	-17.19/-18.81	-18.51/-18.74	-15.29/-13.27	-13.52/-13.16	-12.22/-13.33	-10.47/-8.88	-7.12/-6.35	-5.34/-4.4	-3.79/-7.39	-4.77/-5	-4.86/-3.5	-4.44/-1.29	-1.15/-1.77	-3.52/-6.21	-9.99/-14.71	-17.93/-18.52
Θ (172.5°)	-19.73/-17.57	-18.42/-17.61	-18.8/-16.97	-15.22/-12.39	-10.56/-9.87	-9.75/-10.48	-11.31/-11.75	-12.18/-11.13	-8.99/-9.7	-13.74/-17.63	-16.23/-15.11	-13.51/-15.04	-14.17/-17.63	-8.45/-6.39	-3.49/-3.67	-3.96/-3.75	-4.09/-4.76	-5.55/-6.97	-9.35/-13.31	-2.56/-15.14	-14.8/-15.32	-14.93/-18.46	-14.93/-18.46	-14.93/-18.46
Θ (180°)	-18.23/-19.02	-17.36/-18.11	-18.06/-17.77	-17.58/-18.38	-17.89/-17.73	-18.45/-17.54	-17.8/-18.27	-17.21/-18.78	-16.84/-16.21	-16.31/-17.66	-19/-18.95	-17.83/-17.84	-18.08/-19.05	-19.16/-19.25	-18.76/-18.82	-18.6/-17.28	-17.49/-18.17	-16.71/-15.08	-15.1/-15.2	-16.34/-18.73	-17.49/-18.72	-17.54/-18.75	-18.71/-18.11	-19.66/-19.13
Freq(Hz)	5.785G/Pol.	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°)	-8.49/-7.83	-6.73/-6.32	-6.95/-8.55	-9.2/-8.67	-8.43/-9.78	-11.4/-12.54	-14.06/-15.51	-16.43/-16.39	-14.7/-13.78	-12.24/-10.97	-10.19/-9.69	-9.05/-8.01	-7.27/-6.66	-6.11/-6.55	-6.71/-7.25	-7.73/-8.22	-8.84/-9.43	-10.59/-12.56	-14.33/-16.41	-17.84/-18.59	-15.97/-13.83	-14.39/-13.23	-11.51/-10.17	-8.33/-9.11
Θ (7.5°)	-6.21/-5.59	-5.87/-5.92	-6.49/-6.44	-6.69/-7.81	-8.1/-8.8	-10.51/-11.18	-12.9/-13.56	-16.21/-18.02	-16.89/-14.95	-12.74/-10.75	-9.33/-8.1	-7.38/-6.6	-6.26/-5.75	-5.76/-5.89	-5.98/-5.83	-5.83/-6.47	-7.64/-8.22	-9.3/-10.58	-18.33/-19.57	-18.89/-19.02	-18.77/-16.56	-13.52/-11.51	-9.69/-8.33	-9.69/-8.33
Θ (15°)	-5.29/-4.94	-4.72/-4.87	-5.26/-5.61	-5.88/-7.76	-9.28/-10.35	-11.46/-11.39	-12.43/-12.6	-14.93/-17.69	-18.78/-18.9	-15.46/-11.66	-9.88/-8.38	-7.17/-6.27	-5.65/-5.67	-5.47/-4.85	-4.13/-4.41	-5.34/-6.02	-6.16/-7.44	-9.82/-12.49	-13.76/-14.6	-15.25/-15.48	-15.31/-13.32	-12.41/-10.31	-8.06/-7.39	-7.21/-6.9
Θ (22.5°)	-6.61/-5.7	-7.1/-7.57	-8.27/-9.39	-11.14/-15.22	-13.76/-14.7	-14.76/-14.36	-15.78/-14.78	-14.81/-16.64	-18.5/-19.23	-18.08/-15.32	-12.1/-9.63	-8.44/-7.47	-6.89/-6.37	-5.4/-4.69	-4.36/-4.53	-5.12/-6.02	-6.99/-8.13	-10.76/-16.02	-18.93/-18.01	-17.48/-18.1	-18.68/-17.09	-15.49/-14.25	-12.99/-11.34	-9.48/-9.09



Radiated Composite Gain Data 2.4GHz, 5GHz

Appendix A

Θ(22.5°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(30°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(37.5°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(45°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(52.5°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(60°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(67.5°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(75°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(82.5°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(90°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(97.5°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(105°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(112.5°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(120°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(127.5°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(135°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(142.5°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(150°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(157.5°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(165°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(172.5°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Θ(180°)	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf	-Inf-Inf
Freq(Hz)	5.2GPol	PhiAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-17.94-15.04	-13.28-13.18	-12.89-11.62	-10.62-10.12	-9.23-8.33	-8.57-9.31	-8.98-8.71	-8.7-9.19	-9.69-10.06	-10.31-9.88	-9.65-10.3	-11.21-12.46	-13.38-15.04	-14.32-13.17	-12.12-11.19	-10.58-9.89	-9.64-8.69	-8.17-7.86	-8.19-8.71	-9.87-10.62	-11.35-12.49	-12.94-13.53	-13.21-14.42	-16.09-16.42
Θ(7.5°)	-10.03-8.91	-8.74-8.87	-8.65-7.95	-7.72-7.1	-6.2-5.88	-6.01-6.79	-7.61-8.18	-8.16-9.06	-10.03-11.54	-14.39-18.67	-17.41-17.38	-19.28-17.89	-19.17-15.92	-13.71-11.98	-11.67-11.42	-11.52-11.14	-10.69-10.17	-9.21-7.98	-7.16-6.46	-6.81-7.88	-8.51-9.84	-10.23-10.24	-10.59-11.23	-12.02-10.37
Θ(15°)	-9.02-7.38	-7.46-8.09	-8.51-7.8	-7.03-5.8	-4.93-4.99	-4.38-3.97	-4.07-4.43	-4.72-5.11	-10.13-9.61	-9.52-10.39	-12.04-12.64	-15.28-11.31	-10.28-9.61	-8.92-8.97	-8.41-7.5	-7.56-8.33	-9.57-11.58	-13.23-14.64	-16.29-16.96	-18.45-19.98	-20.53-21.66	-22.69-23.94	-24.95-26.29	
Θ(22.5°)	-11.11-9.56	-8.84-8.84	-8.79-7.66	-6.4-6.65	-3.66-3.49	-3.21-2.89	-2.99-3.83	-5.19-6.83	-7.94-7.9	-8.06-8.49	-8.57-7.84	-6.61-6.58	-6.87-6.75	-6.95-7.72	-9.71-11.67	-11.54-10.26	-9.71-10.11	-10.97-12.11	-12.77-12.73	-13.51-13.84	-13.34-13.68	-13.9-12.76	-10.86-9.9	-9.85-10.25
Θ(30°)	-6.32-7.13	-7.91-7.72	-7.66-7.09	-6.1-4.74	-3.4-2.77	-2.78-3.65	-4.2-5.15	-5.77-5.97	-5.4-5.12	-4.53-3.87	-3.19-2.9	-3.25-3.79	-3.73-3.08	-3.03-3.1	-4.15-5.64	-7.2-8.27	-9.41-11.03	-12.29-12.42	-11.01-9.6	-9.24-9.72	-10.18-9.88	-8.36-7.35	-5.79-5.3	-5.48-5.98
Θ(37.5°)	-8.2-8.01	-7.53-6.47	-7.28-9.39	-10.03-7.72	-6.02-5.81	-5.11-4.99	-5.13-6.06	-6.94-6.48	-5.17-4	-2.59-1.35	-1.89-2.1	-1.09-1.29	-1.89-2.3	-3.37-5.1	-7.91-7.55	-6.24-5.2	-4.05-3.49	-3.59-4.2	-6.17-7.72	-9.26-10.25	-10.76-10.68	-10.22-8.52	-8.1-10.16	-12.84-13.01
Θ(45°)	-3.27-2.92	-3.01-4.98	-9.93-10.6	-6.01-3.79	-3.56-4.44	-5.68-7.28	-8.33-8.85	-8.2-6.52	-4.93-3.81	-3.72-3.27	-2.83-3.15	-5.32-7.78	-6.98-5.18	-5.36-4.92	-4.34-4.62	-5.05-4.03	-3.06-3.45	-4.77-5.45	-5.56-5.69	-5.43-4.3	-3.85-3.88	-3.34-3.21	-4.14-5.07	-4.24-3.51
Θ(52.5°)	-3-3.71	-3.82-4.54	-6.25-6.06	-5.04-4.85	-5.46-6.68	-8.87-10.93	-11.18-8.28	-5.23-4.27	-4.72-6.39	-9.61-9.96	-6.27-4.72	-5.04-4.33	-3.36-3.28	-4.5-4.71	-2.57-2	-3.36-3.97	-3.63-4.59	-5.92-5.86	-4.9-4.86	-4.74-4.2	-3.3-3.53	-4.49-3.71	-2.71-2.96	-3.22-2.9
Θ(60°)	-0.52-0.58	-2.32-3.76	-4.43-4.82	-4.5-2.74	-2.3-3.45	-5.76-7.74	-7.91-6.45	-5.86-5.85	-7.13-7.88	-9.37-12.63	-14.27-12.11	-7.62-5.43	-4.99-4.18	-2.55-3.04	-4.91-4.29	-2.85-3.09	-3.51-4.93	-8.37-9.12	-8.25-7.66	-5.39-4.08	-4.59-4.06	-4.02-3.72	-2.71-2.43	-2.32-1.46
Θ(67.5°)	-1.54-1.3	-1.54-1.58	-1.95-2.38	-0.72-0.69	0.61-0.3	-1.96-3.7	-4.28-3.12	-2.48-3.37	-5.57-6.61	-6.68-6.46	-7.16-7.24	-5.78-3.41	-2.13-2.5	-3.12-6.27	-7.39-3.2	-1.93-2.47	-2.91-4.23	-5.77-6.82	-7.09-7.58	-7.35-5.43	-3.72-2.36	-1.75-1.98	-0.94-0.16	-0.19-1.13
Θ(75°)	-0.36-0.56	-0.91-3.9	-2.79-4.18	-2.13-0.03	0.39-0.11	-1.21-2.43	-1.91-2.41	-4.75-5.13	-3.53-1.69	-1.01-2	-3.48-4.91	-2.96-1.52	-1.81-0.49	0.42-1.53	-5.09-9.88	-5.07-3.24	-3.22-3.55	-5.12-6.24	-3.92-3.58	-3.22-2.15	-1.68-1.75	-1.62-2.78	-2.04-0.05	-0.27-0.4
Θ(82.5°)	-0.78-0.03	-0.95-2.01	-4.45-4.2	-0.181-79	1.91-01	0.66-0.68	1.181-83	0.68-0.9	-1.59-1.1	-0.59-0.88	-2.4-4.51	-2.16-1.43	-1.390-17	1.12-0.25	-2.44-5.79	-6.28-3.94	-3.31-2.9	-2.28-3.26	-3.19-1.94	-1.46-0.5	-1.11-2.07	-1.83-2.09	-2.47-2.12	-2.09-1.21
Θ(90°)	-1.21-0.12	-0.77-2.1	-3.31-2.76	-0.49-0.58	0.57-0.13	1.771-46	1.141-39	0.91-0.19	-0.39-0.14	-0.94-1.43	-2.44-4.45	-3.98-3.74	-2.01-0.84	1.19-0.29	0.19-0.92	-3.27-0.27	0.12-1.34	-0.24-0	-0.53-0.14	0.65-1.12	0.567-1.2	-0.67-2.64	-3.81-2.18	-1.29-1.32
Θ(97.5°)	-1.34-1.91	-2.42-3.49	-4.19-3.55	-2.48-0.98	0.30-12	-0.57-0.34	1.822-73	2.10-47	-0.78-1.81	-1.46-0.38	-0.58-2.3	-7.92-4.32	0.681-84	-0.29-1.42	0.08-0.7	-0.40-1.4	0.85-0.53	0.931-4	1.26-1.51	1.451-29	0.28-0.76	-2.05-3.11	-4.35-1.57	0.45-0.42
Θ(105°)	-3.05-2.34	-2.66-4.22	-4.94-2.77	-1.48-1.53	-1.19-1.18	-1.95-0.35	0.88-0.59	1.051-09	-0.76-3.07	-4.57-3.71	-4.46-3.46	-5.83-7.08	-3.17-0.2	0.87-0.04	2.24-2.1	-0.97-0.43	0.37-0.55	0.2-0.03	-2.51-1.79	-1.11-0.51	-1.02-2.45	-2.81-3.01	-3.05-2.99	-3.8-3.46
Θ(112.5°)	-0.99-1	-1.35-1.27	-1.34-1.64	-2.08-1.63	-1.41-1.96	-2.95-3.05	0.89-0.59	0.95-0.69	-1.18-4.7	-7.3-8.64	-8.09-9.49	-2.37-4.48	-6.72-1.86	-1.43-2.39	-1.81-2.14	-2.07-0.68	-1.28-2.81	-1.86-1.05	-2.94-2.14	-1.31-1.97	-2.46-3.39	-3.34-3.29	-2.46-1.39	-1.07-0.64
Θ(120°)	-1.78-0.26	-1.36-3.73	-4.11-3.24	-2.31-2.84	-4.13-5.07	-5.86-5.5	-4.64-3.19	-1.22-0.75	-3.61-7.35	-8.28-7.99	-7.56-5.12	-5.22-9.61	-7.32-2.42	-1.52-3.18	-3.28-4.61	-4.39-2.91	-1.45-1.14	-0.79-1.42	-5.71-11.46	-9.46-7.49	-5.5-3.96	-3.26-3.72	-5.45-4.63	-2.72-1.62
Θ(127.5°)	-2.34-2.19	-1.24-1.4	-3.43-6.27	-6.18-5.07	-7.08-9.31	-9.29-10.2	-3.91-5.19	-8.12-4.77	-6.6-6.13	-8.21-10.31	-12-9.69	-4.21-7.9	-9.09-6.13	-4.24-6.21	-11.31-10.85	-8.05-7.76	-4.96-3.72	-6.42-6.83	-5.67-7.28	-8.63-8.51	-4.64-3.5	-1.52-0.53	-0.77-1.71	-0.07-1.71
Θ(135°)	-4.93-4.95	-4.45-4.09	-4.04-5.35	-7.48-9.04	-7.8-7.16	-8.23-9.62	-10.56-10.67	-10.88-9.42	-8.37-12.71	-15.01-11.78	-8.22-8.65	-13.79-12.4	-16.83-10.89	-11.71-8.2	-8.07-5.65	-3.69-0.74	-12.85-10.27	-7.79-6.66	-8.64-5.92	-2.75-1.28	-1.68-1.46	-5.6-5.86	-4.14-2.65	-1.66-2.7
Θ(142.5°)	-6.52-6.78	-7.79-8.43	-6.65-4.41	-4.31-5.58	-8.71-11.07	-12.04-15.24	-19.14-19	-17.89-17.32	-17.9-19.74	-16.49-15.07	-13.27-14.15	-10.42-7.38	-5.05-5.34	-6.92-8.17	-9.74-9.39	-5.9-5.1	-2.89-2.56	-3.28-4.05	-3.45-2.16	-1.39-0.06	-0.59-1.74	-2.95-7.9	-9.41-6.48	-5.93-6.05
Θ(150°)	-5.03-6																							



Radiated Composite Gain Data 2.4GHz, 5GHz

Appendix A

Θ (75°)	-13.47/-10.53	-10.77/-12.95	-15.91/-18.16	-17.56/-17.97	-18.73/-17.82	-17.72/-17.59	-18.49/-17.37	-19.15/-17.89	-10.45/-9.57	-9.91/-11.14	-12.44/-16.84	-17.85/-17.46	-16.01/-18.58	-17.77/-12.82	-10.48/-8	-9.7/-14.2	-16.08/-18.09	-15.4/-10.98	-13.63/-18.92	-19.27/-16.75	-13.66/-16.49	-15.99/-18.58	-18.88/-16.92	-13.68/-13.33	
Θ (82.5°)	-10.21/-10.82	-10.1/-8.97	-10/-13.45	-19.05/-17.72	-18.19/-19.48	-17.87/-18.75	-17.49/-18.36	-17.84/-16.31	-8.62/-6.52	-10.18/-15.89	-19.2/-14.33	-14.18/-10.13	-9.04/-12.29	-17.47/-16.68	-12.61/-9.47	-10.17/-12.46	-17.2/-15.25	-17.12/-17.98	-16.42/-14.87	-18.15/-18.68	-17.81/-16.96	-17.75/-18.09	-15.53/-10.97	-9.14/-8.55	
Θ (90°)	-10.14/-11.01	-9.22/-9.22	-9.25/-12.11	-19.01/-17.06	-18.97/-17.47	-18.59/-18.64	-18.71/-17.47	-18.59/-18.64	-18.79/-16.38	-10.69/-9.66	-14.33/-12.48	-18.69/-16.42	-10.66/-10.23	-9.04/-8.37	-10.86/-10.35	-9.04/-8.37	-7.06/-8.93	-10.27/-16.62	-18.24/-18.65	-15.02/-13.76	-17.27/-19.37	-18.01/-17.98	-13.47/-9.55	-12.47/-9.55	
Θ (97.5°)	-8.44/-10.73	-13.34/-16.94	-17.21/-17.7	-16.53/-16.85	-16.99/-18.37	-17.41/-15.6	-18.82/-18.79	-15/-18.04	-18.18/-10.38	-10.13/-14.67	-18.3/-12.31	-7.6/-9.45	-9.41/-12.33	-15.47/-19.11	-19.17/-13.89	-13.03/-10.76	-11.09/-9.84	-12.17/-10.48	-10.03/-13.12	-15.71/-18.14	-18.56/-18.88	-19.38/-17.87	-17.75/-9.96	-8.23/-12	
Θ (105°)	-12.52/-11.17	-15.1/-16.3	-17.97/-12.92	-19.27/-18.75	-18.38/-17.46	-16.64/-17.12	-18.89/-16.39	-13.28/-18.66	-16.47/-17.12	-18.71/-18.57	-15.36/-11.89	-14.82/-19.13	-14.1/-8.69	-9.56/-8.35	-10.69/-11.82	-14.5/-13.07	-11.93/-10.99	-12.56/-14.78	-11.77/-16.41	-11.76/-8.2	-10.51/-8.92	-14.1/-12.48	-16/-13.7	-17.65/-13.97	-10.93/-11.72
Θ (112.5°)	-17.88/-19.1	-16.94/-14.73	-19.37/-17.07	-18.76/-14.11	-18.44/-17.9	-18.31/-17.53	-16.64/-14.96	-14.6/-13.82	-17.97/-18.71	-13.07/-12.42	-13.62/-15.24	-17.06/-11.09	-8.96/-7.76	-11.88/-14.69	-13.97/-12.16	-8.49/-9.72	-11.33/-8.97	-17.14/-6.68	-13.22/-12.82	-11.84/-12.99	-11.31/-18.52	-18.34/-18.19	-18.01/-17.93	-13.73/-17.27	
Θ (120°)	-17.66/-18.82	-14.99/-17.02	-17.2/-15.01	-18.08/-17.11	-18.32/-16.95	-12.88/-11.4	-11.88/-16.17	-17.24/-16.86	-16.38/-13.28	-18.5/-13.62	-7/-5.49	-7.81/-10.2	-8.86/-7.3	-7.06/-8.17	-14.96/-18.37	-18.84/-18.81	-15.96/-18.75	-13.63/-6.38	-6.21/-8.42	-7.16/-8.99	-10.84/-8.65	-14.04/-16.81	-17.96/-13.64	-11.88/-13.82	
Θ (127.5°)	-10.88/-10.04	-9.51/-14.83	-18.19/-13.97	-16.16/-14.94	-15.3/-13.11	-11.99/-14.48	-18.62/-18.23	-18.14/-17.82	-19.18/-17.05	-10.84/-8.55	-5.84/-6.03	-10.47/-17.54	-11.26/-17.92	-9.91/-13.13	-11.47/-13.99	-14.96/-13.12	-11.25/-8.68	-10.52/-11.89	-13.62/-18.52	-17.28/-14.85	-17.34/-17.58	-17.43/-18.17	-17.46/-18.27	-8.2/-7.01	
Θ (135°)	-14.23/-11.1	-9.34/-12.5	-10.93/-12.99	-14.84/-18.52	-18.12/-18.33	-14.96/-10.04	-9.55/-9.65	-7.9/-8.74	-12.72/-11.5	-10.95/-14.32	-18.93/-19.24	-18.6/-18.96	-10.59/-9.24	-6.04/-5.61	-11.74/-17.51	-10.3/-7.73	-7.19/-7.15	-9.23/-14.58	-10.76/-8.61	-10.57/-11	-7.66/-14.76	-16.96/-16.29	-18.05/-17.76		
Θ (142.5°)	-12.38/-14.06	-19.02/-11.02	-10.21/-8.58	-7.47/-7.41	-8.63/-12.29	-14.93/-12.92	-9.82/-7.03	-4.94/-3.32	-2.51/-3.58	-8.43/-17.52	-14.04/-10.65	-5/-2.79	-3.51/-7.18	-13.43/-10.75	-4.43/-3.17	-4.57/-3.77	-4.78/-7.66	-8.62/-6.77	-8.21/-18.83	-16.62/-17.4	-8.05/-8.45	-11/-7.58	-12.28/-8.25	-12/-17.4	
Θ (150°)	-13.02/-16.16	-9.39/-10.25	-13.58/-10.28	-8.96/-10.23	-11.4/-10.84	-8.41/-6.05	-4.33/-2.89	-2.14/-2.08	-2.89/-4	-6.36/-10.38	-18.08/-17.74	-7.9/-4.37	-4.17/-4.53	-5.33/-7.98	-6.16/-4.94	-6.48/-6.78	-6.56/-8.02	-13.44/-18.59	-13.8/-18.34	-17.74/-10.58	-10.32/-16.04	-12.48/-8.43	-3.5/-3.66	-6.98/-11.3	
Θ (157.5°)	-5.06/-4.86	-7.1/-7.88	-5.87/-6.43	-8.66/-11.13	-14.34/-18.16	-11.73/-11.14	-11.24/-10.82	-9.87/-9.53	-11.29/-16.99	-16.63/-12.07	-8.67/-6.41	-5.99/-6.54	-6.05/-4.98	-4.92/-4.41	-3.03/-2.25	-3.15/-5.21	-8.7/-10.94	-10.73/-12.19	-18.22/-18.85	-16.01/-11.07	-9.31/-11.32	-14.46/-15.37	-10.09/-5.89		
Θ (165°)	-3.49/-6.6	-13.92/-18.95	-18.07/-16.58	-13.88/-12.85	-12/-10.37	-9.97/-10.27	-10.26/-9.57	-7.98/-7.31	-7.03/-7.83	-9.27/-10.6	-9.63/-7.24	-5.52/-4.24	-4.33/-3.77	-3.63/-3.85	-4.48/-5.42	-6.02/-6.56	-7.32/-9.3	-13.08/-17.88	-15.06/-11.01	-9.16/-8.92	-9.9/-9.39	-7.04/-4.73	-3.14/-2.36	-2.15/-2.65	
Θ (172.5°)	-12.77/-17.83	-10.56/-7.86	-6.87/-6.99	-7.42/-8.93	-11.14/-12.63	-14.41/-15.13	-12.45/-8.93	-6.91/-6.15	-5.94/-5.73	-5.42/-5.05	-4.46/-4.31	-4/-3.24	-2.61/-2.18	-2.23/-2.54	-3.45/-4.29	-5.3/-6.67	-8.19/-10.25	-13.17/-14.47	-11.42/-9.53	-7.82/-6.34	-5.83/-5.2	-4.78/-3.89	-3.5/-4.36	-6.98/-11.3	
Θ (180°)	-7.09/-4.61	-3.36/-3.25	-4.05/-5.68	-7.45/-9.7	-12.61/-15.7	-17.91/-17.85	-17.43/-18.67	-15.28/-13.81	-13.32/-12.1	-10.67/-9.61	-8.27/-7.44	-6.9/-5.96	-5.54/-4.35	-3.82/-3.8	-4.41/-5.21	-6/-6.99	-8.91/-14.9	-13.08/-14.13	-15.05/-15.72	-18.64/-18.57	-18.36/-17.46	-15.88/-15.13	-15.52/-16.19	-12.16/-8.55	
Freq(Hz)	5.6GPol.	PhiAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)	
Θ (0°)	-18.69/-18.69	-16.94/-12.66	-10.39/-9.74	-9.17/-8.55	-7.87/-8.3	-9.85/-10.65	-10.22/-9.78	9.72/-10	-11.97/-15.25	-18.03/-16.78	-19.39/-12.57	-17.56/-17.87	-13.93/-12.37	-11.16/-10.04	-9.29/-8.46	-7.66/-6.86	-6.86/-6.45	-6.65/-6.7	-7.31/-6.98	-8.05/-8.5	-9.11/-9.96	-10.55/-13.24	-15.59/-18.09	-10.55/-17.52	
Θ (7.5°)	-13.39/-12.75	-12.4/-11.29	-9.86/-9.69	-8.93/-8.06	-7.61/-7.05	-6.99/-7.14	-6.66/-6.29	-6.09/-5.78	-5.97/-6.37	-7.7/-9.89	-12.29/-15.4	-17.86/-18.7	-17.4/-15.01	-13.33/-11.64	-10.52/-9.12	-7.68/-6.57	-5.95/-5.61	-5.67/-6.01	-6.49/-6.05	-6.03/-6.95	-8.1/-10.2	-13.15/-13.97	-15.08/-17.54	-16.43/-12.3	
Θ (15°)	-8.84/-7.04	-7.4/-7.38	-7.1/-5.79	-5.04/-4.23	-4.17/-4.04	-3.09/-2.83	-2.96/-3.25	-3.9/-4.36	-4.61/-4.85	-5.74/-7.28	-9.01/-10.15	-11.06/-13.24	-15.85/-18.86	-17.86/-18.24	-14.59/-11.71	-9.17/-7.08	-5.78/-4.94	-4.5/-4.51	-5.48/-5.88	-6.4/-5.98	-5.41/-5.66	-7.03/-6.96	-10.44/-12.81	-7.23/-6.4	
Θ (22.5°)	-6.88/-5.98	-4.94/-4.49	-3.86/-3.09	-2.69/-3.06	-3.88/-4.09	-4.17/-3.91	-4.4/-4.41	-5.29/-5.75	-5.37/-4.73	-5.94/-6.48	-11.24/-12.75	-13.14/-12.76	-15.35/-9.86	-8.56/-8.06	-8.32/-8.59	-8.32/-8.56	-5.49/-5.4	-5.34/-4.57	-4.34/-4.66	-4.71/-4.85	-5.67/-7.83	-8.97/-8.56			
Θ (30°)	-5.33/-5.04	-4.1/-3.44	-2.96/-2.8	-2.98/-3.27	-3.28/-2.99	-2.89/-3.09	-3.27/-3.67	-4.18/-4.55	-4.56/-4.18	-3.73/-3.85	-4.03/-3.8	-4.15/-5.81	-6.97/-6.39	-5.57/-5.65	-6.65/-6.49	-8.23/-9.55	-10.36/-8.94	-6.64/-4.72	-4/-3.81	-5.15/-6.69	-6.53/-5.96	-5.08/-4.91	-6.36/-7.21	-7.12/-5.58	
Θ (37.5°)	-1.37/-1.46	-1.65/-2.7	-3.4/-3.69	-4.05/-3.69	-3.59/-3.58	-3.97/-4.6	-4.63/-4.94	-5.51/-5.73	-5.22/-3.74	-2.57/-2.25	-1.93/-1.67	-2.58/-2.03	-0.69/-0.66	-1.48/-2.1	-2.61/-3.19	-4.16/-6.61	-8.4/-7.32	-3.96/-3.28	-3.94/-2.7	-4.38/-4.95	-4.44/-3.59	-3.99/-3.95	-2.65/-9.3		
Θ (45°)	-0.71/-1.5	-2.75/-3.14	-4.1/-4.02	-3.71/-3.8	-4.93/-6.25	-6.19/-6.18	-6.98/-6.82	-5.33/-4.16	-3.21/-2.28	-1.67/-1.67	-1.15/-1.35	-2.26/-2.47	-2.64/-2.53	-2.25/-1.4	-1.45/-1.42	-1.53/-2.44	-3.56/-3.21	-2.77/-2.57	-2.07/-1	-1.11/-2.18	-3.38/-3.54	-3.16/-1.77	-1.81/-2.34	-2/-0.88	
Θ (52.5°)	-1.09/-2.66	-2.59/-2.66	-2.78/-3.78	-6.63/-9.79	-8.11/-5.87	-5.79/-5.96	-5.87/-4.86	-4.37/-4.86	-4.04/-3.96	-3.06/-3.12	-5.61/-7.1	-5.51/-4.29	-4.95/-6	-6.31/-4.72	-1.24/-0.87	-0.22/-0.68	-2.84/-4.35	-3.35/-2.21	-2.72/-3.36	-3.23/-3.11	-2.1/-94	-2.32/-4.4	-3.1/-2	-0.38/-0.45	
Θ (60°)	-2.55/-2.11	-0.38/-0.27	-2.07/-3.93	-4.51/-4.67	-3.94/-3.41	-5.03/-7.11	-7.2/-7.6	-6.85/-5.42	-5.56/-7.64	-12.11/-13.87	-10.32/-6	-4.76/-4.25	-4.42/-4.44	-4.07/-2.66	-2.48/-3.32	-3.48/-3.93	-3.44/-3.45	-5.92/-8.09	-5.86/-4.07	-3.68/-4.67	-4.65/-3.96	-3.44/-1.44	-0.77/-1.49	-2.63/-2.54	
Θ (67.5°)	-1.720/0.1	0.41/0.61	-1.96/-3.43	-3.45/-3.03	-2.62/-3.01	-3.99/-4.09	-4.48/-5.23	-5.41/-5.77	-6.07/-6.62	-6.96/-7.79	-7.06/-6.49	-5.76/-5.66	-3.62/-2.73	-3.49/-4.31	-5.03/-4.85	-4.38/-5.39	-4.96/-4.05	-4.44/-5.82	-5.36/-4.12	-3.69/-4.5	-5.2/-4.13	-6.79/-5.1	-2.97/-2.91	-3.69/-2.73	
Θ (75°)	-0.11/0.62	0.62/-0.06	-0.22/-0.19	-0.8/-0.91	-0.020/0.6	0.21/-0.68	-1.38/-1.49	-1.4/-2.15	-5.25/-6.65	-4.99/-5.49	-5.94/-4.16	-3.78/-4.86	-4.28/-4.44	-2.92/-3.58	-6.14/-4.81	-3.19/-2.98	-2.22/-2.07	-1.97/-2.5	-3.05/-3.1	-3.49/-3.64	-6.22/-4.73	-3.74/-3.54	-1.67/-1	-1.43/-0.29	
Θ (82.5°)	-0.77/-0.11	1.050/8.1	-0.59/-1.06	-1.85/-1.15	0.721/4.1	0.850/2.4	-0.2/-1.34	-3.67/-4.4	-3.08/-1.15	-0.65/-1.43	-2.38/-3.05	-3.75/-4.29	-1.050/0.8	0.05/-3.3	-7.89/-3.84	-1.28/-1.66	-1.75/-1.36	-1.36/-0.73	-1.21/-1.53	-1.04/-0.67	-1.79/-2.16	-1.94/-2.24	-0.610/8	-0.34/-0.87	
Θ (90°)	1.070/9.4	0.480/2.3	-0.5/-0.99	-0.38/0	1.241/5.5	1.050/9.1	1.261/4.6	-0.17/-1.97	-1.83/-0.27	1.150/5.1	-0.18/-3.99	-4.01/-2.84	-1.69/-0.13	0.330/38	0.54/-0.14	0.010/69	0.790/5.1	1.621/8.2	1.12/1	1.021/8	0.97/-0.23	0.16/-1.84	-2.4/-0.39	0.380/23	
Θ (97.5°)	0.091/0.1	0.460/6.2	-0.25/-1.79	-2.41/-1.95	-2.03/-1.47	-0.4/2.0	0.991/1.4	0.980/0.3	-1.83/-1.37	-0.38/-0.5	-0.41/-2.66	-2.19/-1.8	-0.430/9	1.1/-0.17	1.381/8	2.193/24	2.772/0.9	2.672/0.1	1.60/8.5	1.952/63	1.58/-0.57	-1.17/-3.79	-3.81/-0.94	1.40/63	
Θ (105°)	-2.57/-1.09	-1.61/-1.57	-2.21/-3.73	-3.16/-1.59	-2.37/-2.45	-1.08/-0.51	0.480/8.2	-0.48/-1.12	-1.58/-1.79	-2.47/-3.06	-1.33/-2.23	-2.56/-6.54	-2.77/-0.42	-1.77/-3.35	-2.050/39	1.762/68	2.571/4.2	1.981/45	0.30/66	1.272/1.7	-0.02/-3	-5.03/-5.83	-5.58/-6.05	-2.63/-0.86	
Θ (112.5°)	-3.23/-1.61	-2.51/-3.87	-3/-1.85	-1.14/-1.06	-1.53/-2.08	-2.17/-1.18	-0.05/-0.13	-0.58/-1.61	-3.34/-5.29	-8/-4.63	-3.76/-2.44	-3.64/-7.58	-3.46/-1.61	-4.63/-6.79	-7.68/-4.13	-1.24/-0.14	-0.58/-3.38	-1.45/-1.65	-4.77/-3.86	-3.61/-1.5	-2.94/-4.18	-5.55/-7.04	-8.36/-4.71	-3.18/-3.36	
Θ (120°)	-3.8/-3.82	-3.24/-2.09	-5.03/-3.83	-2.14/-1.35	-1.36/-2.66	-4.39/-3.07	-2.1/-2.43	-3.03/-2.58	-2.89/-4.65	-8.92/-8.49	-6.24/-7.8	-5.08/-8.25	-5.48/-2.5	-5.32/-10.94	-8.56/-6.11	-3.81/-1.17	-0.98/-4.02	-4.36/-3.53	-9.27/-4.3	-4.8/-4.18	-3.88/-6.06	-6.58/-7.44	-5/-2.37	-0.88/-10.9	
Θ (127.5°)	-2.93/-3.84	-5.01/-5.16	-3.81/-3.09	-2.41/-3.02	-4.3/-6.71	-9.85/-9.6	-8.76																		



Appendix A

Sporton International Inc. Hsinchu Laboratory



Radiated Composite Gain Data 2.4GHz, 5GHz

Appendix A

Θ (165°)	-10.55/-9.42	-9.64/-12.88	-15.6/-17.2	-16.9/-17.31	-17.81/-18.86	-18.74/-19.15	-19.28/-17.57	-18.68/-18.79	-18.6/-17.29	-13.84/-10.98	-9.08/-7.19	-4.93/-3.63	-3/-3.2	-4.98/-8.28	-11.58/-9.37	-6.17/-5.57	-5.97/-8.23	-12.31/-18.67	-18.03/-18.25	-17.5/-18.75	-18.98/-15.71	-13.03/-13.93	-18.34/-18.25	-13.21/-11.27
Θ (172.5°)	-17.23/-18.98	-17.27/-14.69	-13.28/-12.45	-12.52/-14.56	-16.88/-18.26	-18.56/-18.11	-17.76/-18.4	-18.04/-18.22	-18.77/-18.66	-18.98/-17.95	-16.06/-13.24	-10.47/-8.16	-7.34/-7.55	-8.82/-10.55	-11.4/-10.71	-10.37/-10.44	-10.89/-12.89	-15.91/-17.9	-19.05/-18.1	-15.99/-13.3	-11.83/-10.6	-10.12/-10.58	-12.81/-16.58	-18.53/-16.85
Θ (180°)	-11.74/-13.41	-13.84/-14.9	-11.44/-13.12	-16.18/-18.79	-19.13/-19.09	-17.91/-18.4	-18.96/-18.06	-12.13/-11.6	-18.16/-16.28	-14.69/-12.85	-12.13/-10.94	-11.16/-11.79	-13.01/-14.44	-18.82/-17.93	-18.21/-18.49	-17.64/-16.97	-15.43/-13.63	-11.83/-13.63	-12.89/-13.58	-15.74/-15.92	-12.89/-13.58	-15.74/-15.92	-13.57/-11.93	
Freq(Hz)	5.3GPdL	Phi/Ant. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ (105°)/Φ (112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-12.89/-14.95	-16.99/-18.58	-19.08/-16.9	-14.07/-12	-10.06/-8.81	-7.33/-6.36	-5.43/-5.05	-4.99/-5.13	-5.34/-5.57	-6.1/-6.65	-7.34/-8.72	-9.58/-11.41	-13.4/-15.86	-17.56/-16.77	-15.15/-13.67	-12.41/-11.33	-10/-9.24	-8.21/-7.44	-6.75/-6.22	-5.65/-5.48	-5.69/-5.64	-6.01/-6.37	-7.04/-8.06	-9.17/-10.98
Θ (7.5°)	-15.94/-16.44	-19.32/-17.77	-17.89/-17.88	-17.05/-14.53	-11.78/-9.95	-7.99/-6.72	-5.75/-5.18	-4.88/-4.75	-4.63/-4.73	-5.15/-5.86	-6.95/-8.78	-12.93/-16.5	-17.71/-19.05	-17.86/-13.75	-11.02/-8.82	-7.29/-5.9	-4.69/-4	-3.77/-3.81	-4.24/-4.21	-4.45/-5.44	-7.46/-6.58	-9.95/-11.76	-13.8/-15.33	
Θ (15°)	-6.1/-7.23	-8.33/-9.42	-11.47/-14.76	-17.45/-18.02	-17.05/-15.66	-14.56/-12.8	-10.49/-8.54	-7.28/-5.93	-5.59/-5.4	-5.61/-6.89	-9.28/-13.13	-18.15/-18.34	-12.56/-8.58	-6.42/-5.34	-4.79/-4.47	-4.46/-4.18	-3.73/-2.92	-2.67/-3.02	-3.83/-4.74	-5.37/-5.88	-5.8/-4.79	-4.49/-4.49	-4.94/-4.98	-5.28/-6.04
Θ (22.5°)	-3.76/-5.38	-1.89/-2.33	-2.24/-2.86	-3.27/-3.69	-5.26/-7.61	-8.43/-6.46	-4.03/-3.22	-3.75/-5.79	-8.91/-7.04	-5.16/-4.29	-3.44/-3.7	-4.8/-3.94	-2.51/-1.82	-0.62/-0.62	-2.48/-4.45	-6.42/-7.74	-8.66/-10.5	-9.4/-7.16	-6.08/-4.81	-4.01/-4.1	-4.02/-3.6	-3.9/-5.29	-6.84/-7.6	-6.23/-6.98
Θ (30°)	-1.79/-2.92	-3.26/-3.6	-4.03/-4.91	-5.79/-6.63	-7.93/-8.61	-9.22/-8.36	-6.76/-4.88	-3.24/-3.34	-4.52/-7.18	-9.86/-10.23	-6.39/-5.03	-4.52/-4.2	-3.77/-3.51	-3.1/-2.82	-2.76/-2.48	-2.22/-2.15	-2.91/-2.95	-2.97/-3.36	-3.49/-2.29	-1.04/-0.08	0.06/0.1	-0.03/-0.24	-0.63/-1.33	
Θ (37.5°)	-4.88/-5.41	-5.91/-6.36	-6.34/-5.38	-4.39/-3.66	-5.07/-7.27	-8.28/-7.65	-5.87/-4.12	-3.62/-4.4	-7.01/-10.22	-9.84/-7.14	-5.81/-5.31	-4.14/-2.55	-2.17/-2.31	-2.44/-2.83	-4.04/-5.56	-6.85/-7.68	-8.09/-8.55	-8.55/-9.83	-12.38/-10.31	-4.85/-1.93	-0.49/-0.02	-0.49/-1.75	-3.3/-4.4	-5.23/-5.55
Θ (45°)	-4.14/-2.65	-1.89/-2.53	-2.24/-2.86	-3.27/-3.69	-5.26/-7.61	-8.43/-6.46	-4.03/-3.22	-3.75/-5.79	-8.91/-7.04	-5.16/-4.29	-3.44/-3.7	-4.8/-3.94	-2.51/-1.82	-0.62/-0.62	-2.48/-4.45	-6.42/-7.74	-8.66/-10.5	-9.4/-7.16	-6.08/-4.81	-4.01/-4.1	-4.02/-3.6	-3.9/-5.29	-6.84/-7.6	-6.23/-6.98
Θ (52.5°)	-9.07/-7.08	-5.07/-5.35	-4.52/-4.04	-2.95/-1.76	-2.05/-2.87	-3.25/-3.27	-2.97/-5.8	-6.09/-6.33	-3.86/-2.33	-0.67/-0.82	-1.58/-2.35	-2.89/-3.64	-3.5/-3.78	-1.32/-1.56	-2.68/-5.51	-9.4/-11.24	-11.33/-9.97	-7.56/-9.25	-8.97/-6.24	-5.68/-5.97	-17.9/-9.23	-9.48/-8.12	-7.3/-6.45	
Θ (60°)	-3.8/-3.6	-3.41/-3.46	-4.06/-4.39	-4.13/-2.65	-1.83/-1.84	-2.04/-2.22	-2.23/-2.57	-3.44/-3.71	-4.19/-4.03	-2.87/-2.7	-1.51/-0.64	0.06/-0.54	-1.54/-2.4	-2.6/-2.84	-1.42/-0.12	-1.64/-2.68	-5.41/-7.5	-9.96/-8.84	-7.71/-6.51	-6.32/-8.02	-9.86/-11.24	-8.61/-4.46	-2.77/-2.56	-3.16/-3.84
Θ (67.5°)	-2.93/-1.95	-1.38/-1.22	-1.7/-2.42	-3.9/-3.99	-2.42/-1.26	-0.61/-0.42	-0.82/-1.41	-3.33/-5.53	-4.23/-2.71	-1.57/-2.07	-2.46/-1.87	-0.68/-0.14	-0.57/-1.26	-2.32/-3	-1.79/-1.1	-0.78/-0.36	-0.59/-2.81	-3.67/-2.89	-2.58/-4.73	-8.28/-9.93	-8.85/-7.13	-4.89/-3.05	-2.01/-2.1	-2.88/-2.92
Θ (75°)	-3.45/-2.67	-1.83/-1.31	-0.7/-0.87	-1.6/-1.41	-0.620/63	1.11/0.55	0.139/-0.32	-0.99/-0.97	-1.72/-2.32	-2.1/-2.21	-2.09/-1.58	-1.38/-0.89	-0.43/-0.85	-1.84/-3.06	-1.8/-1.14	0.040/84	-0.82/-1.21	-0.95/-0.01	-0.82/-1.09	-4.94/-5.67	-4.14/-2.26	-3.13/-4.45	-0.72/-0.79	-2.42/-2.6
Θ (82.5°)	-0.49/-0.56	0.090/35	0.47/-0.04	-1.57/-1.24	-1.78/0.5	1.66/0.9	-0.540/-18	1.040/85	-0.16/-2.17	-3.91/-4.81	-4.73/-2.78	-1.170/51	0.780/92	-0.87/-2.03	-1.8/-3.69	-2.4/-0.8	-0.37/-0.39	-0.540/-25	0.690/27	-0.05/-0.66	-0.49/-0.78	-1.5/-1.37	-1.140/-19	0.1/-0.31
Θ (90°)	-1.18/-0.61	-0.94/-1.6	-2.87/-2.96	-1.77/-0.81	-0.560/-26	0.53/-0.44	-1.99/-1.58	0.230/96	-0.1/-1.44	-2.67/-3.5	-2.23/-1.08	0.651/51	2.01/-9	0.3/-0.68	-2.79/-3.53	-2.27/-1.93	-1.21/-0.16	1.451/77	1.381/09	0.781/32	0.47/-0.28	-0.92/-1.22	-1.52/-0.72	-0.4/-1.04
Θ (97.5°)	-1.72/-0.28	-0.63/-0.86	-2.84/-3.49	-2.68/-0.91	0.34/1.2	1.44/-0.11	-1.27/-1.1	0.82/1.12	0.07/-1.05	-2.38/-2.78	-1.40/-11	0.770/12	0.72/-0.19	-1.28/-1.34	-2.27/-4.21	-0.840/32	0.670/15	-0.510/19	1.182/88	2.350/43	0.07/-0.62	-0.91/-1.25	-1.24/-0.68	-0.71/-1.92
Θ (105°)	-6.58/-3.84	-3.65/-2.17	-2.92/-3.13	-4.12/-1.27	0.17/1.39	1.560/63	-0.610/-5	2.072/79	1.620/42	-1.09/-0.76	-0.54/-0.49	-1.37/-0.07	-0.16/-0.63	-2.26/-2.7	-0.91/-1.3	-1.250/02	-1.07/-1.73	0.571/54	1.46/1.1	-0.92/-2.49	-1.96/-2.15	-3.32/-2.85	-4.54/-3.68	-4.55/-6.3
Θ (112.5°)	-12.63/-13.01	-16.11/-11.32	-9.29/-4.61	-2.11/-1.82	-2.8/-0.42	-2.28/-1.5	-1.92/-2.5	-0.610/-44	0.26/-0.57	-1.21/-1.91	-4.34/-5.44	-4.61/-3.29	-2/-2.88	-2.09/-0.47	-0.7/-4.1	-3.54/-3.28	-3.09/-3.61	-2.96/-3.71	-3.77/-2.19	-2.63/-4.15	-5.49/-6.28	-6/-6.57	-9.46/-8.17	-6.71/-13.08
Θ (120°)	-5.17/-4.13	-5.63/-6.39	-7.55/-8.58	-5.52/-5.23	-2.23/-4.41	-5.39/-2.39	-0.72/-0.85	-2.25/-2.85	-3.01/-2.81	-2.23/-2.88	-3.34/-4.1	-4.43/-5.24	-5.98/-6.23	-1.71/-6.37	-4.88/-4.45	-5.96/-2.69	-5.46/-4.48	-6.65/-10.37	-15.65/-11.28	-4.81/-7.15	-10.05/-15.54	-18.2/-8.81	-4.86/-4.53	-2.51/-3.31
Θ (127.5°)	-8.01/-5.58	-5.57/-6	-7.84/-7.02	-6.93/-6.31	-6.77/-5.3	-8.67/-8.3	-6.18/-5.65	-7.11/-9.95	-9.51/-5.68	-3.84/-2.71	-1.77/-2.2	-2.76/-3.57	-3.62/-5.07	-4.7/-6	-5.25/-7.91	-6.02/-4.65	-1.73/-4.4	-10.37/-10.71	-15.32/-9.3	-4.78/-7.07	-8.5/-15.6	-14.6/-12.51	-14.83/-19.34	-9.36/-7
Θ (135°)	-4.79/-3.04	-3.73/-4.56	-4.9/-6.14	-4.73/-3.7	-3.28/-4.38	-5.98/-8.86	-11.7/-12.36	-10.37/-8.52	-7.59/-6.45	-5.19/-4.54	-4.24/-2.49	-1.77/-2.6	-1.88/-2.5	-4.37/-3.12	-5.57/-14.03	-12.4/-6.63	-5.07/-9.41	-3.2/-7.01	-14.16/-11.55	-8.45/-17.22	-7/-8.58	-9.21/-9.02	-10.86/-9.33	-6.65/-4.98
Θ (142.5°)	-3.77/-2.5	-2.82/-3.62	-4.77/-2.22	-7.93/-6.13	-4.36/-3.94	-4.61/-5.79	-7.46/-9	-10.39/-66	-6.83/-6.67	-2.31/-2.39	-3.46/-5.64	-7.66/-8.72	-7.99/-12.2	-18.14/-10.5	-9.19/-6.5	-5.84/-12.22	-10.55/-5.96	-5.94/-12.03	-18.88/-12.45	-14.43/-18.62	-10.48/-10.58	-9.13/-6.83	-5.86/-4.05	-2.61/-2.64
Θ (150°)	-3.87/-4.67	-4.8/-4.8	-4.77/-4.38	-4.94/-4.97	-4.84/-4.72	-4.76/-4.54	-3.93/-3.29	-3.15/-3.54	-5.5/-5.93	-6.19/-6.61	-7.49/-8.67	-10.25/-12.39	-12.81/-12.29	-13.12/-14.95	-13.63/-18.82	-13.94/-10.03	-8.99/-7.5	-8.64/-11.94	-13.77/-12.51	-16.73/-15.58	-17.77/-4.98	-4.16/-3.53	-2.97/-3.3	-2.97/-3.3
Θ (157.5°)	-5.89/-7.46	-7.39/-6.51	-6.29/-6.75	-8.3/-10.07	-10.47/-10.29	-10.27/-10.87	-12.47/-13.76	-13.81/-12.34	-10.39/-9.03	-8.23/-7.44	-7.31/-9.17	-7.33/-6.98	-6.62/-8.18	-5.81/-6.85	-6.94/-7.89	-8.44/-8.95	-9.25/-8.15	-7.23/-7.46	-9.24/-13.32	-18.62/-17.42	-16.59/-11.64	-7.52/-4.57	-3.47/-3.27	-3.47/-4.88
Θ (165°)	-16.91/-14.99	-13.79/-13.31	-12.87/-11.8	-10.71/-17.07	-10.56/-10.88	-10.68/-10.31	-10.22/-9.71	-9/-7.59	-7.52/-6.86	-6.93/-7.08	-8.09/-9.47	-10.27/-11.18	-11.95/-11.64	-10.83/-10.88	-12.88/-18.28	-19.15/-12.19	-16.63/-14.97	-14.94/-16.56	-18.2/-17.97	-17.97/-18.67	-15.77/-18.59	-16.45/-13.71	-12.03/-12.29	-14.3/-16.06
Θ (172.5°)	-17.39/-17.89	-18.86/-18.51	-17.48/-18.42	-18.65/-17.7	-17.9/-18.47	-16.84/-16.63	-14.73/-13.09	-12.09/-10.9	-10.04/-8.94	-8.03/-7.45	-7.05/-7.01	-7.63/-9.28	-10.45/-12.02	-13.33/-12.79	-11.85/-11.7	-12.19/-12.34	-13.19/-14.12	-14.49/-15.37	-13.66/-12.68	-12.62/-13.56	-13.5/-13.15	-13.64/-15.61	-18.19/-17.98	-14.71/-17.49
Θ (180°)	-18.52/-16.52	-15.01/-14.92	-15.64/-16.43	-16.2/-15.52	-14.75/-14.5	-14.54/-14.63	-14.73/-16.09	-16.7/-18.28	-19.02/-18.09	-19/-19.13	-18.68/-19.14	-17.43/-18.69	-17.69/-14.85	-13.73/-13.32	-12.69/-12.6	-11.9/-10.96	-10.06/-9.51	-9.44/-9.35	-9.51/-9.43	-10.88/-13.04	-15.5/-16.33	-17.04/-18.46	-18.67/-18.2	-18.88/-16.31
Freq(Hz)	5.3GPdL	Theta/Ant. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-6.49/-5.99	-5.74/-5.69	-5.52/-5.62	-5.79/-5.8	-5.93/-6.43	-6.89/-7.64	-8.36/-9.44	-11.28/-14.45	-19.18/-18.03	-17.24/-17.77	-13.81/-10.82	-8.65/-7.7	-7.44/-6.67	-6.33/-6.17	-5.8/-5.36	-5.39/-5.83	-6.43/-7.06	-7.82/-9.08	-10.33/-12.39	-15.71/-17.97	-18.69/-18.47	-16.49/-14.37	-12.15/-9.25	-7.79/-6.68
Θ (7.5°)	-7.99/-7.34	-7.3/-7.54	-7.28/-7.98	-8/-7.71	-7.96/-8.02	-8.22/-8.52	-9.49/-10.19	-12.89/-16.41	-17.88/-17.53	-19.12/-13.77	-9.49/-6.66	-5.14/-3.64	-2.89/-2.29	-2.02/-2.02	-2.31/-2.61	-3.37/-4.14	-4.63/-5.21	-5.63/-6.59	-7.96/-9.79	-12.21/-12.99	-12.81/-12.33	-12.3/-11.99	-11.54/-10.02	-9.38/-8.01
Θ (15°)	-12.77/-12.46	-10.07/-16.91	-6.52/-5.94	-5.75/-6.16	-7.23/-8.16	-9.91/-11.4	-12.53/-13.22	-14.51/-17.36	-18.93/-15.09	-11.21/-7.7	-5.65/-4.25	-2.97/-1.99	-1.34/-1.12	-0.99/-1.2	-1.57/-2.04	-2.48/-2.68	-3.17/-3.59	-4.44/-6.18	-8.79/-12.2	-12.38/-11.73	-11.55/-10.39	-10.45/-10.2</		



Radiated Composite Gain Data 2.4GHz, 5GHz

Appendix A

Θ(0°)	-17.88/-17.67	-18.61/-15.7	-13.75/-11.97	-11.43/-10.96	-10.23/-9.52	-8.71/-7.63	-7.41/-7.33	-6.98/-6.97	-7.24/-7.74	-8.35/-8.73	-9.38/-10.66	-12.5/-14.23	-16.04/-19.18	-18.81/-15.38	-13.33/-12.14	-11.05/-10.22	-9.32/-8.6	-7.58/-7.04	-6.73/-6.81	-7.07/-7.32	-7.97/-8.53	-9.28/-10.56	-11.65/-13.86	-16.25/-18.39
Θ(7.5°)	-8.31/-9.04	-8.47/-8.78	-9.39/-9.81	-10.54/-10.34	-10.35/-9.88	-8.87/-8.62	-8.93/-8.84	-8.89/-9.66	-10.88/-12.46	-14.43/-15.87	-18.47/-18.58	-19.06/-17.84	-18.94/-16	-14.25/-12.64	-11.44/-10.04	-9.21/-8.61	-8.05/-7.94	-7.47/-6.88	-6.99/-6.95	-7.12/-7.59	-7.59/-7.96	-7.94/-8.14	-8.19/-8.02	-7.68/-7.77
Θ(15°)	-5.53/-5.08	-5.27/-5.45	-5.5/-5.34	-5.17/-5.16	-5.66/-6.02	-7.44/-9.53	-11.19/-13.39	-15.83/-18.68	-19.02/-18.84	-17.24/-13.65	-10.9/-8.56	-7.88/-7.51	-7.01/-6.55	-5.97/-5.97	-5.82/-5.41	-4.88/-4.53	-4.88/-4.98	-4.71/-4.74	-4.77/-4.88	-4.46/-3.81	-3.45/-3.01	-2.74/-2.88	-3.62/-4.21	-4.83/-5.15
Θ(22.5°)	-5.85/-5.72	-5.1/-5.11	-5.08/-5	-4.57/-4.34	-4.5/-5.3	-7.32/-8.62	-10.62/-12.78	-14.02/-15.35	-15.09/-12.57	-9.93/-7.16	-4.99/-3.92	-3.3/-2.78	-2.51/-2.27	-1.93/-2.36	-3.15/-4.02	-4.79/-5.52	-6.16/-6.36	-6.25/-6.35	-6.47/-5.84	-4.74/-3.9	-3.94/-3.84	-4.01/-4.02	-4.64/-5.14	-5.95/-5.92
Θ(30°)	-2.1/-2.35	-2.3/-1.98	-2.22/-2.29	-2.37/-2.7	-3.46/-4.48	-5.06/-5.88	-8.23/-10.41	-11.56/-10.38	-8.99/-6.6	-5.16/-4.28	-3.82/-3.47	-3.6/-3.2	-2.48/-2.01	-2.3/-2.69	-2.86/-2.84	-2.96/-3.22	-3.92/-4.18	-4.63/-4.08	-3.17/-3.13	-3.77/-4.61	-4.99/-4.9	-4.97/-4.34	-3.61/-2.35	-1.52/-1.58
Θ(37.5°)	-1.6/-0.84	-1.34/-1.06	-1.21/-2.28	-2.87/-3.74	-3.94/-3.85	-4.14/-5.21	-8.06/-10.88	-11.81/-10.06	-7.58/-4.75	-2.96/-2.34	-2.3/-2.33	-2.79/-2.36	-1.99/-2.35	-3.22/-2.89	-2.67/-3.74	-2.95/-6.46	-5.27/-5.15	-5.59/-5.27	-4.7/-3.47	-2.25/-1.68	-1.78/-2.4	-2.25/-1.68	-1.78/-2.4	-2.71/-1.85
Θ(45°)	-2.86/-1.96	-1.89/-2.03	-1.55/-1.35	-1.55/-1.6	-2.56/-3.79	-4.54/-5.5	-6.39/-6.15	-5.72/-5.44	-4.93/-4.67	-3.88/-3.05	-2.54/-2.05	-1.78/-1.69	-1.26/-1.67	-2.14/-2.27	-3.7/-5.35	-5.05/-4.93	-4.77/-5.89	-7.02/-7.67	-10.15/-10.57	-9.2/-7.59	-4.91/-4.08	-3.75/-3.06	-2.84/-2.58	-2.75/-2.63
Θ(52.5°)	-4.74/-3.46	-3.29/-2.38	-1.95/-1.19	-0.68/-0.64	-1.33/-2.55	-3.61/-3.54	-4.53/-6.22	-5.36/-3.84	-2.85/-2.61	-3.03/-2.61	-1.94/-1.61	-1.44/-0.75	-0.22/-0.24	-0.17/-0.87	-2.41/-4.44	-4.55/-4.85	-4.2/-4.06	-5.35/-7.42	-9.23/-10.74	-7.98/-5.9	-6.64/-6.74	-9.47/-14.59	-15.13/-10.67	-6.48/-4.42
Θ(60°)	-2.58/-1.6	-0.97/-1.12	-1.33/-1.41	-1.07/0.13	0.4/-0.01	-0.52/-0.7	-0.6/-0.66	-1.19/-0.93	-0.79/-1.62	-2.53/-2.9	-2.86/-2.06	-0.93/-0.14	0.51/0.81	1.0/1	-0.84/-1.83	-1.97/-2.95	-3.27/-5.07	-6.69/-6.64	-5.8/-6.41	-5.46/-4.85	-4.01/-4.3	-6.21/-7.03	-7.28/-7.34	-5.06/-3.23
Θ(67.5°)	-1.02/-0.78	-0.27/-0.85	-1.69/-2.2	-0.69/0.11	0.12/-1.17	-1.6/-0.89	0.11/0.23	-0.23/-0.82	-1.42/-1.51	-1.44/-0.95	-0.54/-0.38	0.22/0.92	1.41/1.65	1.66/1.38	-0.08/-0.77	-2.66/-1.63	-1.31/-3.43	-5.22/-10.39	-11.88/-9.13	-6.15/-5.24	-5.38/-4.76	-4.01/-4.04	-3.84/-4.28	-3.42/-2.55
Θ(75°)	-1.62/-0.77	0.2/0.09	-0.4/-0.82	-0.62/0.23	0.25/-0.44	-0.50/0.78	1.05/0.53	-0.66/-1.74	-1.93/-2.5	-3.25/-3.26	-2.06/-0.95	0.16/0.71	1.37/1.3	1.44/1.04	-0.1/-1.34	-3.14/-0.54	-1.13/-2	-4.55/-5.63	-6.18/-4.4	-7.7/-6.69	-4.16/-4.32	-2.84/-3.23	-2.14/-2.24	-3.3/-2.63
Θ(82.5°)	-2.18/-1.7	-1.21/-1.76	-2.43/-1.63	-0.23/0.91	1.08/1.16	0.91/0.75	1.14/0.88	-0.59/-2.74	-3.91/-3.86	-3.19/-2.44	-2.01/-1.62	-0.50/8	1.21/1.42	1.17/0.8	-0.65/-2.04	-3.62/-0.73	-0.67/0.06	-1.74/-1.96	-2.71/-2.21	-4.19/-3.81	-2.01/-1.75	-1.84/-2.01	-2.02/-2.54	-3.47/-3.33
Θ(90°)	-1.78/-1.12	0.03/-0.74	-0.52/-1.01	-0.09/0.96	1.15/0.08	0.61/1.52	1.89/0.8	-1.27/-3.33	-2.44/-4.01	-6.59/-4.84	-3.28/-1.83	-0.60/4	0.68/1.5	1.49/1.26	0.77/-2.59	-5.81/-2.04	0.61/1.35	1.12/-0.64	-0.90/08	0.25/-0.15	-0.16/-0.5	-0.6/-0.57	-1.99/-1.15	-1.57/-2.5
Θ(97.5°)	-2.71/-2.13	-0.73/-1.26	-1.09/-0.91	0.83/1.6	2.23/1.59	1.98/1.99	1.51/1	0.72/-1.53	-3.77/-6.34	-6.64/-5.54	-3.84/-1.26	-0.31/1.15	0.81/1.22	-0.07/0.86	-0.54/-2.28	-4.34/-2.64	-0.42/2.17	0.90/2	-0.82/0.91	-1.13/-0.74	-0.58/-2.14	-1.78/-2.23	-2.82/-3.23	-2.73/-5.01
Θ(105°)	-2.14/-1.19	-0.6/-0.91	-1.21/-1.96	-0.85/-0.16	1.92/2.53	2.63/1.88	1.67/0.97	-0.54/-1.01	-2/6.04	-8.9/-7.69	-5.32/-2.07	-0.190.93	1.41/0.3	0.08/0.01	-0.62/-3.4	-7.77/-2.48	-0.41/0.74	-0.83/-2.77	-3.53/-1.08	-3.17/-2.94	-1.01/-2.45	-3.15/-5.67	-4.06/-2.31	-2.4/-3.88
Θ(112.5°)	-6.79/-6.01	-3.57/-2.9	-1.62/-1.5	-1.49/-3.5	-3.19/-0.52	1.49/2.16	1.38/0.98	1.21/0.89	-1.12/-3.66	-5.25/-4.98	-1.69/-0.86	0.04/1.03	0.85/0.56	-0.51/-0.77	-0.27/-1.33	-5.46/-3.59	-1.62/-1.17	-1.81/-5.33	-8.86/-5.38	-6.41/-5.47	-3.27/-5.42	-7.48/-6.45	-9.28/-7.76	-7.09/-9.95
Θ(120°)	-9.89/-10.44	-9.33/-7.95	-5.75/-3.37	-1.88/-1.66	-3.56/-3.75	-1.11/0.4	0.76/0.82	0.84/0.04	-0.33/-1.08	-2.34/-3.77	-4.35/-3.01	-1.75/-1.34	-1.14/-0.64	-1.11/-1.3	-1.89/-3.21	-6.24/-7.59	-4.83/-4.57	-3.77/-5.17	-6.26/-7.22	-13.73/-15.55	-12.57/-14.31	-11.55/-9.18	-10.39/-7.16	-6/-10.66
Θ(127.5°)	-10.17/-11.24	-13.44/-9.92	-7.6/-5.93	-4.85/-4.84	-5.28/-6.22	-5.93/-3.08	-1.02/-0.02	0.12/-0.5	-1.67/-2.22	-2.21/-2.69	-3.26/-4.82	-5.68/-7.57	-9.3/-9.03	-11.12/-5.62	-10.99/-9.74	-5.44/-2.09	-4.53/-7.8	-13.22/-10.32	-7.78/-12.21	-11.73/-14.04	-14.45/-13.11	-10.99/-8.4	-6.91/-12.2	
Θ(135°)	-14.81/-12.5	-16.27/-17.98	-14.98/-8.17	-5.05/-5.08	-7.03/-8.93	-7.75/-6.48	-5.09/-4.12	-6.93/-6.25	-5.8/-4.82	-3.89/-3.45	-3.68/-4.01	-4.6/-4.96	-5.39/-6.06	-8.17/-7.88	-6.98/-8.16	-15.51/-9.96	-7.56/-10.73	-14.16/-10.15	-17.37/-18.81	-6.76/-11.12	-11.65/-13.02	-15.96/-18.27	-19.54/-17.57	-15.09/-12
Θ(140°)	-7.73/-6.76	-6.52/-6.05	-7.65/-6.95	-5.32/-3.94	-3.84/-4.72	-5.75/-7.03	-8.77/-10.15	-9.25/-8.84	-9.77/-10.35	-10.55/-10.5	-9.62/-8.39	-6.14/-5.58	-7.15/-6.15	-7.05/-8.77	-7.98/-7.23	-6.32/-6.54	-10.62/-11.75	-8.7/-9.68	-12.5/-9.46	-8.09/-16.65	-15/-18.61	-14.75/-16.25	-19.06/-16.6	-12.62/-8.74
Θ(150°)	-6.57/-6.34	-4.75/-5.06	-6.43/-8.63	-10.88/-11.39	-9.16/-7.7	-6.96/-6.54	-6.39/-7.13	-9.19/-10.53	-10.83/-12.16	-13.3/-13.71	-13.86/-13.82	-14.03/-13.29	-12.77/-16.65	-18.71/-12.64	-12.79/-15.44	-18.87/-19.03	-14.51/-10.2	-8.73/-8.82	-11.12/-13.14	-14.23/-15.49	-11.88/-8.75	-7.75/-7.02	-5.42/-4.33	-3.61/-5.31
Θ(157.5°)	-5.84/-5.38	-5.48/-5.52	-5.73/-7.09	-9.05/-11.74	-14.07/-14.84	-14.36/-11.7	-9.67/-8.13	-7.78/-7.94	-7.88/-6.82	-5.53/-4.51	-4.62/-5.58	-8.25/-13.87	-16.09/-15.53	-15.54/-15.49	-13.9/-11.96	-11.31/-10.83	-8.53/-8.55	-9.74/-10.24	-10.24/-10.59	-12.13/-16.57	-18.86/-12.67	-8.48/-5.47	-4.06/-4.13	-5.08/-6.21
Θ(165°)	-11.3/-11.5	-11.1/-10.23	-10.57/-12.46	-15.01/-18.1	-17.54/-14.85	-13.89/-13.21	-12.84/-11.1	-9.85/-8.82	-7.94/-7.48	-7.45/-8.04	-8.64/-8.16	-8.98/-8.59	-7.99/-7.25	-6.69/-6.52	-7.18/-9.06	-11.91/-17.25	-18.66/-16.57	-15.75/-17.2	-18.36/-19.26	-18.36/-18.89	-16.4/-13.82	-11.13/-10.58	-10.36/-10.91	-11.75/-11.85
Θ(172.5°)	-18.33/-17.47	-18.21/-17.84	-19.81/-18.89	-18.37/-18.65	-18.9/-18.08	-16.05/-14.7	-14.2/-12.95	-11.79/-10.97	-10.19/-9.05	-7.84/-7.41	-7.11/-7.15	-8.09/-10.94	-13.85/-18.64	-17.93/-18.47	-18.61/-17.72	-18.41/-16.97	-14.82/-12.45	-11/-10.74	-11.39/-11.31	-10.79/-10.08	-10.29/-9.73	-9.87/-11.38	-13.5/-16.45	-17.9/-18.01
Θ(180°)	-16.88/-17.01	-17.91/-18.09	-18.39/-17.12	-18.44/-18.25	-17.53/-17.52	-19.08/-18.45	-17.36/-15.04	-13.79/-12.71	-13.04/-13.37	-13.76/-14.43	-14.85/-15.57	-15.47/-15.81	-16.3/-16.18	-16.86/-18.94	-18.14/-19.25	-18.52/-18.39	-17.91/-18.33	-18.22/-17.25	-17.78/-18.52	-19.04/-18.5	-19.43/-18.13	-16.89/-15.54	-15.15/-13.63	-13.6/-14.01
Freq(Hz)	5.785/Pol.	Theta/Ant. 4	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-7.2/-7.08	-6.84/-7.36	-8.05/-8.55	-9.6/-11.08	-11.27/-11.68	-13.88/-15	-17.04/-16.52	-16.32/-15.49	-15.96/-14.28	-12.53/-12.02	-11.41/-10.23	-9.59/-8.9	-7.98/-6.51	-6.18/-6.02	-6.21/-6.68	-7.44/-8.52	-9.88/-10.81	-11.58/-13	-17.14/-18.6	-17.78/-15.35	-13.5/-11.64	-9.68/-8.5	-8.32/-7.88	-7.48/-6.81
Θ(7.5°)	-8.99/-8.55	-7.3/-7.45	-7.01/-6.92	-7.58/-8.45	-8.99/-10.14	-10.83/-11.28	-12.65/-15.69	-16.73/-16.53	-14.56/-12.51	-11.07/-10.6	-9.29/-9.07	-9.69/-9.93	-9.65/-9.38	-8.85/-8.29	-8.1/-8.25	-9.34/-10.53	-12.16/-14.04	-15.75/-16.76	-17.97/-17.17	-15.8/-13.97	-12.64/-11.16	-9.64/-8.8	-8.92/-8.4	-8.58/-7.71
Θ(15°)	-10.39/-8.95	-9.1/-9.57	-9.42/-9.78	-9.25/-9.53	-10.14/-9.9	-9.61/-10.51	-12.17/-14.27	-16.72/-19.22	-16.39/-14.53	-12.62/-11.51	-10.22/-10.26	-11.31/-12.62	-12.88/-13.22	-12.17/-11.86	-10.86/-10.26	-10.3/-10.95	-12.3/-12.97	-13.2/-15.03	-18.06/-19.05	-18.47/-16.73	-15.39/-14.71	-13.5/-13.06	-13.58/-12.4	-12.21/-10.98
Θ(22.5°)	-12.81/-11.05	-10.28/-10.2	-12.33/-13.73	-13.61/-11.82	-10.73/-8.93	-7.8/-8.4	-8.68/-11.06	-15.87/-19.31	-17.02/-13.66	-11.49/-9.66	-7.63/-6.73	-7.41/-8.03	-9.02/-9.73	-11.09/-13.3	-15.26/-16.44	-15.23/-13.83	-12.94/-12.44	-14.14/-18.12	-19.06/-18.54	-18.3/-17.73	-16.48/-14.49	-11.49/-10.48	-10.03/-10.51	-13.99/-14.7
Θ(30°)	-13.16/-13.55	-11.29/-11.61	-12.28/-12.53	-11.3/-10.4	-10.25/-11.23	-11.6/-12.11	-12.86/-16.42	-18.29/-18.78	-12.46/-10.92	-12.08/-11.63	-9.32/-7.36	-7.41/-8.17	-7.16/-6.41	-7.49/-9.43	-13.02/-15.62	-13.32/-10.61	-10.22/-12.2	-16.97/-19.05	-18.83/-17.18	-15.59/-12.76	-12.98/-12.96	-12.29/-11.1	-9.8/-9.34	-10.92/-12.12
Θ(37.5°)	-13.75/-17.07	-17.58/-19.2	-18.26/-18.62	-12.59/-9.9	-8.44/-7.92	-9/-11.67	-16.42/-17.92	-18.49/-16.08	-14.56/-14.57	-14.44/-14.26	-8.83/-8	-8.82/-9.93	-9.13/-10.35	-13.34/-16.68	-13.68/-14.84	-13.59/-12.94	-16.73/-15.58	-17.79/-17.75	-18.33/-15.84	-13.83/-14.27	-16.02/-18.19	-17.66/-17.91	-18.98/-18.62	-16.85/-12.52
Θ(45°)	-15.88/-18.71	-18.74/-17.79	-18.42/-16.93	-12.68/-10.31	-8.78/-7.62	-7.13/-8.16	-11.87/-15.05	-12.36/-12.26	-13.21/-12.09	-11.04/-13.15	-11.95/-8.52	-7.27/-7.3	-6.61/-7.87	-11.68/-16.58	-14.87/-17.56	-14/-12.68	-10.85/-10.55	-11.11/-12.61	-19/-18.12	-16.49/-13.44	-12.73/-12.98	-13.61/-15.6	-16.77/-17.15	-18.15/-14.79
Θ(52.5°)	-18.11/-17.94	-19.46/-18																						



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Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5.38	3.86	4.02	2.84
Ant. 2 Max Gain (dBi)	5.09	4.72	4.61	4.69
Ant. 3 Max Gain (dBi)	4.88	6.09	5.24	6.46
Ant. 4 Max Gain (dBi)	6.63	6.7	5.53	6.03
Ant. 1 Polarization/Θ(°)/Φ(°)	Theta/82.5/105	Theta/142.5/165	Theta/75/60	Theta/90/150
Ant. 2 Polarization/Θ(°)/Φ(°)	Theta/82.5/15	Theta/150/22.5	Theta/150/22.5	Theta/90/135
Ant. 3 Polarization/Θ(°)/Φ(°)	Phi/0/75	Phi/0/247.5	Phi/7.5/255	Phi/7.5/247.5
Ant. 4 Polarization/Θ(°)/Φ(°)	Phi/135/262.5	Phi/135/262.5	Phi/135/262.5	Phi/7.5/277.5
Max Gain (dBi)	6.63	6.7	5.53	6.46
DG [1SS] (dBi)	6.01	6.72	5.96	6.72
DG [1SS] (dBi) Revised	6.63	6.72	5.96	6.72
DG [2SS] (dBi)	6.63	6.7	5.53	6.46
DG [4SS] (dBi)	6.63	6.7	5.53	6.46

DG 1SS Result

Freq(Hz)	6.175GPol.	PhiH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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°)	2.54/-2.34	-1.45/0.02	1.33/2.45	3.22/3.91	4.37/4.9	5.12/5.27	5.11/5.08	4.92/4.54	3.82/3.03	2.62/0.4	0.74/-0.92	-2.15/-2.33	-2.63/-2.7	-2.16/-0.29	1.23/2.27	3.03/3.77	4.22/4.57	4.85	4.72/4.63	4.35/3.79	3.16/2.45	1.44/0.92	-1.26/-3.29	-3.36/-2.85
Θ(7.5°)	0.81/-0.53	-0.78/-1.34	0.23/1.86	2.94/3.73	4.43/4.8	4.96/5.06	5.29/5.58	5.65/5.15	4.55/3.7	2.79/1.75	0.31/-1.63	-3.64/-3.67	-4.13/-2.58	-0.66/0.95	2.03/3	3.77/4.12	4.84/5.09	5.36/5.22	5.02/4.6	4.35/3.82	3.12/3.35	0.78/-0.25	-1.2/-2.09	-1.62/-0.76
Θ(15°)	-0.77/-0.64	-0.79/-0.94	-1.28/-0.14	0.66/1.4	2.65/3.64	4.16/4.5	4.68/4.75	4.85/4.72	4.55/4.19	3.83/3.93	1.57/-0.28	-2.84/-4.99	-5.61/-4.07	-1.66/0.91	2.85/3.79	4.34/4.37	4.18/4.18	4.16/4.42	4.25/4.3	4.27/3.76	3.16/2.18	0.83/-0.81	-2.12/-2.43	-3.07/-2.01
Θ(22.5°)	-2.3/-2.39	-1.02/-0.58	-0.42/-1.06	-2.01/-1.47	0.47/1.44	2.02/2.47	3.39/4.02	4.13/6.9	3.25/2.76	1.72/0.61	-0.85/-3.37	-0.96/-6.75	-5.5/-5.27	-2.57/-0.07	1.83/2.99	3.56/5.3	3.71/3.87	4.07/3.98	3.84/3.68	3.83/3.19	2.56/1.44	1.05/0.89	-0.05/-0.81	-2.46/-2.56
Θ(30°)	2.23/-1.26	-0.84/-0.76	-1.32/-2.16	-2.69/-2.88	-1.68/-1.57	-1.68/-0.76	0.32/0.8	0.74/0.21	-0.04/-0.75	-1.01/-1.21	-1.46/-2.2	-4.07/-4.8	-4.21/-3.85	-2.73/-0.91	0.73/1.9	2.35/2.3	1.44/-0.03	-0.47/0.6	1.95/2.87	3.12/5.1	1.61/0.8	1.68/1.66	1.14/0.44	-0.72/-1.96
Θ(37.5°)	-1.12/-2.7	-2.19/-1.05	-1.33/-1.16	-1.26/-1.02	0.01/0.72	1.88/-2.19	-1.84/-1.52	-1.1/-1.03	-2.5/-2.64	-2.38/-3.07	-2.6/-1.94	-1.14/-1.21	-1.82/-4.1	-1.68/-0.45	-0.08/0.17	0.12/-0.33	-1.57/-2	-1.19/-0.33	0.63/1.53	1.91/1.23	-0.38/-1.4	-2.32/-1.9	-1.99/-1.69	-2.75/-2.31
Θ(45°)	-3.58/-2.14	-0.45/0.39	-0.34/-0.41	-1.85/-3.92	-3.75/-2.52	0.82/-2.17	-4.53/-4.42	-2.99/-4.03	-5.91/-3.92	-1.71/-0.51	-0.41/-1.27	-3.4/-3.7	-4.81/-4.01	-4.14/-2.77	-2.29/-3.1	-2.17/-1.22	-2.77/-2.61	-2.58/-1.17	0.91/1.74	1.67/2	0.44/-3.35	-5.44/-4.34	-3.21/-2.09	-2.58/-4.32
Θ(52.5°)	3.33/-4.14	-1.83/-1.21	-1.24/-0.63	-0.75/-0.37	-1.05/-1.51	-1.37/-2.15	-2.9/-3.71	-3.58/-2.47	-2.56/-1.74	-1.1/-1.21	-1.68/-2.62	-4.91/-6.38	-7.64/-5.25	-3.58/-3.07	-1.93/-0.62	-0.52/-2.75	-4.36/-4.19	-2.37/-2.6	-1.13/1.06	1.03/1.5	1.76/-0.42	-1.31/-1.27	-0.52/-2.33	-3.21/-3.89
Θ(60°)	-2.39/-2.4	-0.44/-1.9	1.77/0.8	0.33/-0.6	-0.06/-0.02	0.13/0.16	-1.69/-4.13	-4.78/-1.76	0.46/-1.05	-3.78/-3.51	-3.13/-2.55	-3.39/-5.99	-6.25/-3.57	-4.51/-4.93	-3.26/-2.7	-4.72/-3.25	-1.47/-1.57	-1.67/-0.4	-2.56/-2.22	0.6/-0.03	-1.51/-2.48	0.66/0.2	-1.61/-2.12	-3.46/-4.22
Θ(67.5°)	-2.31/-3.3	-2.31/-2.69	-1.47/-0.81	-0.59/-1.7	1.08/-2.3	1.13/-1.48	-4.08/-7.48	-2.37/0.02	-0.19/-0.54	-0.93/-3.24	-3.17/-2.65	-3.98/-6.73	-4.24/-2.12	-2.82/-4.18	-4.36/-7.56	-7.79/-5.33	-4.84/-2.15	-0.64/-1.03	-1.15/0.67	1.14/1.39	0.99/-0.64	-1.29/-0.5	-2.29/-2.77	-2.32/-2.04
Θ(75°)	4.49/-4.07	-5.33/-6.27	-5.36/-4.21	-1.96/-1.46	-2.35/-2.28	-2.69/-1.77	-0.82/-3.89	-6.11/-4.98	-7.44/-6.93	-3.95/-4.07	-5.06/-6.93	-5.03/-5.34	-5.73/-6.04	-3.53/-6.36	-4.85/-5.35	-3.54/-6.16	-4.63/-0.82	-1.93/-1.78	-3.13/-1.4	-0.85/0.18	-0.5/-1.99	-4.18/-4.87	-3.37/-3.39	-4.82/-5.09
Θ(82.5°)	-3.07/-3.28	-2.47/-1.02	-0.91/-1.8	-3.19/-1.89	-0.71/-57	-4.05/-5.6	-3.65/-1.54	-0.93/-0.68	-5.01/-8.07	-9.09/-5.13	-2.05/-1.75	-2.65/-1.74	-3.13/-6.68	-6.44/-7.5	-5.58/-3.08	-4.52/-6.72	-5.04/-2.54	-2.79/-2.51	-2.22/-1.54	-2.46/-5.01	-5.92/-6.9	-3.61/-3.01	-3.81/-2.41	-1.96/-2.34
Θ(90°)	-4.57/-4.85	-4.71/-2.41	-1.0/-98	-2.23/-2	-1.31/-0.76	-0.85/-1.05	-2.07/-1.74	-2.29/-6.21	-6.39/-4.1	-0.59/-1.2	-1.4/-1.54	-0.74/-1.23	-3.71/-6.04	-9.03/-7.22	-8.51/-3.15	-1.74/-6.16	-6.63/-2.58	-1.62/-0.18	-0.97/-0.1	0.91/-2.85	-4.38/-4.53	-4.37/-3.03	-3.32/-4.92	-4.77/-5.34
Θ(97.5°)	-3.76/-3.34	-5.07/-5.64	-5.19/-2.87	-0.98/0.47	0.9/-0.24	-2.52/-2.58	-2.18/-3.96	-5.75/-7.82	-5.34/-6.17	-2.86/-0.63	0.39/0.76	-4.04/-4.42	-5.49/-4.82	-5.55/-6.29	-5.4/-5.83	-2.42/-6.69	-4.09/-2.92	-1.21/0.12	-0.2/-0.26	-2.97/-3.22	-2.1/-2.05	-1.48/-0.98	-0.8/-2.78	-3.57/-2.73
Θ(105°)	-6.51/-6.4	-4.31/-2.42	-2.89/-1.46	-0.89/-0.79	-2.13/-0.96	-0.35/-0.61	-1.52/-0.69	-5.7/-4.58	-3.84/-1.4	0.07/0	-0.9/-3	-4.63/-5.42	-3.48/-2.52	-4.36/-3.88	-2.9/-1.77	-6.41/-8.7	-4.88/0.12	-0.66/0.29	-0.78/-3.21	-9.43/-1.61	2.01/1.99	-0.5/-1.77	-4.5/-4.57	-7.31/-5.93
Θ(112.5°)	-4.51/-3.79	-3.32/-2.34	-1.57/-1.04	-0.04/0.67	0.31/-9.9	-0.40/-2.79	-1.59/-1.25	-0.57/-0.33	-0.95/-0.15	-1.57/-3.65	-3.54/-3.8	-2.63/-1.78	-0.71/-1.72	-3.21/-5.08	-4.2/-4.4	-2.58/-2.4	-1.97/-2.49	-4.33/-1.46	-3.42/-3.9	-4.87/-2.76	1.18/0.64	-1.56/-1.53	-4.83/-3.65	-1.58/-2.47
Θ(120°)	-2.47/-2.49	-0.82/-0.61	-0.55/-0.7	-0.75/-0.95	-1.78/-1.93	-2.22/-2.26	-1.63/0.57	0.84/0.42	0.38/0.22	-1.98/-2.87	-2.22/-2.51	-1.47/-2.79	-5.94/-4.53	-6.09/-5.99	-2.62/0.3	-2.96/-3.65	-11.05/-4.2	-3.94/-4.88	-2.53/-3.63	-5.01/-1.69	-2.52/-1.2	-3.18/-1.32	0.49/0.29	-0.52/-2.22
Θ(127.5°)	-2.35/-4.1	-3.11/-0.42	-2.84/-1.91	-1.91/-2.47	-2.43/-2.18	-1.65/0.58	1.25/0.68	-0.05/-1.13	-2.41/-3.06	-3.73/-3.94	-1.37/-1.56	-2.12/-1.13	-2.23/-6.23	-2.89/-2.42	-0.62/-1.42	-0.41/-1.1	-1.06/-5.13	-0.69/-1.2	-2.05/-2.12	-0.23/-3.25	-0.68/-1.37	-0.26/-1.54	-0.47/0.33	-1.93/-5.66
Θ(135°)	-1.95/-1.7	-2.11/-2.42	-2.61/-2	-1.5/-0.71	-0.37/-0.48	0.02/0	-0.78/-1.33	-1.73/-1.28	-0.92/-2.06	-0.281/3.99	-4.67/-3.2	-1.1/-1.19	-1.07/-1.56	1.51/-0.4	0.06/0.32	0.561/5.3	0.36/-0.03	2.34/3.62	1.39/-0.68	-1.04/0.67	0.15/0.17	-0.02/-0.67	-8.91/-5.13	-3.61/-3.61
Θ(142.5°)	3.89/-4.02	-5.02/-4.52	-2.4/-1.05	-0.94/-1.36	0.02/0.75	0.5/0.22	0.01/0.39	1.662/1.3	1.01/-0.97	-2.94/-4	-4.92/-4.45	-2.4/-1.5	-0.92/-1.66	-2.86/-2.51	-0.71/0.12	1.67/0.25	0.852/1	3.61/5.52	0.4/-0.39	1.38/1.96	1.12/0.48	-1.5/-3.91	-6.66/-4.72	-2.38/-1.3
Θ(150°)	-3.71/-2.3	-1.72/-1.21	-1.56/-3.15	-2.29/-2.37	2.32/8.5	3.01/3.15	2.58/1.17	-0.97/-1.22	-1.85/-1.6	-2.18/-4.97	-7.22/-6.85	-8.11/-6.41	-2.18/-4.97	-1.04/-1.66	-3.66/-2.43	-0.35/-1.09	-1.18/1.38	3.13/5.51	-2.6/-5.31	-3.38/-0.49	-0.15/-1.1	-2.16/-2.12	-1.17/-1.12	-1.49/-2.89
Θ(157.5°)	-1.37/-0.5	0.74/1.16	0.44/0.18	-0.22/-0.92	-2.13/-2.03	-0.44/-0.35	-1.56/-2.52	-3.34/-2.87	-2.05/-1.76	-1.79/-2.43	-3.49/-3.22	-3.17/-2.38	-3.06/-4.08	-4.78/-4.7	-3.26/-1.33	-0.2/-0.32	-0.3/-1.3	1.55/0.38	-0.47/-1.53	-2.98/-3.13	-2.61/-0.85	-0.37/-0.93	-1.88/-0.99	-0.95/-0.7
Θ(165°)	-0.74/-0.27	0.33/-0.18	-1.25/-2.65	-3.53/-2.76	-1.19/-0.28	0.34/0.14	-0.52/-1.61	-2.77/-3.73	-3.7/-3.6	-3.6/-3.38	-2.84/-2.3	-2.13/-2.14	-1.54/-0.83	-0.20/0.5	0.571/4.7	2.11/2.14	1.96/1.36	0.71/0.53	0.43/-0.05	-0.93/-1.29	-1.53/-1.4	-1.37/-1.52	-1.82/-2.7	-3.09/-3.81
Θ(172.5°)	-4.51/-2.71	-1.18/-0.65	-0.66/-0.36	-0.72/-0.8	-1.27/-1.52	-1.68/-1.95	-2.11/-2.76	-4.16/-5.24	-4.56/-3.24	-2.4/-2.53	-3.04/-4.03	-3.89/-3.73	-4.11/-2.95	-1.97/-1.07	-0.14/0.64	0.88/0.54	0.39/0.54	0.68/1.22	1.65/1.63	1.06/0.29	0.01/-0.36	-1.12/-2.3	-3.5/-4.9	-5.91/-6.35
Θ(180°)	-3.54/-3.35	-2.74/-3.9	-5.57/-6.86	-4.47/-6.95	-6.37/-5.42	-1.01/-5.52	-5.39/-5.62	-6.35/-5.6	-4.35/-2.9	-1.88/-1.53	-1.63/-2.11	-3.27/-4.41	-5.12/-5.3	-6.34/-6.77	-6.86/-7.07	-6.45/-6.13	-5.95/-5.57	-5.43/-4.8	-0.95/-3.42	-3.11/-2.63	-1.73/-1.63	-1.8/-2.2	-5.52/-2.7	-2.83/-3.22
Freq(Hz)	6.175GPol.	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°)	4.94/4.84	4.62/4.1	3.96/2.94	2.11/1.42	0.47/-1.15	-2.79/-3.54	-3.06/-2.92	-3.28/-2.11	-0.42/0.8	2.03/2.84	3.51/4.05	4.23/4.39	4.45/4.51	4.23/3.75	3.25/2.75	2.13/1.32	-0.1/-1.79	-2.8/-3.09	-3.5/-2.86	-1.33/0.1	1.36/2.54	3.14/3.77	4.18/4.37	4.39/4.84
Θ(7.5°)	3.96/4.08	4.19/4.15	3.77/3.4	2.81/3.45	0.69/1.06	-2.75/-3.33	-3.06/-2.96	-2.87/-1.58	0.12/1.16	2.85/3.81	4.41/4.48	4.51/4.22	4.37/3.59	3.51/2.62	1.43/0.31	-1.19/-1.33	-3.62/-3.48	-3.11/-2.64	-1.52/-0.06	2.96/3.35	3.49/3.43	3.92/4.3	3.69/4.48	
Θ(15°)	3.78/4.13	4.72/4.73	4.84/6.6	4.18/4.81	2.79/1.47	-0.44/-2	-2.91/-3.17	-1.82/-0.52	0.31/1.49	2.04/2.7	3.22/3.77	4.18/4.38	4.48/4.51	4.17/3.34	2.61/1.98	1.44/0.59	-0.68/-1.77	-2.29/-2.33	-3.15/-3.28	-2.24/-0.67	0.85/0.93	2.75/2.82	3.45/2.73	3.43/3.92
Θ(22.5°)	3.08/3.94	4.33/4.18	4.13/3.79	3.86/3.85	3.49/2.33	1.12/0.3	-0.38/-1.02	-0.99/-0.32	-0.09/0.65	1.89/2.89	3.46/3.55	3.58/3.35	2.85/2.99	3.73/3.88	3.05/1.39	-0.42/-1.07	-0.76/-0.84	-1.63/-2.31	-2.45/-2.53	-1.80/0.28	0.85/1.08	1.87/2.31	2.24/2.64	3.33/3.32
Θ(30°)	1.44/2.33	2.27/1.87	0.63/0.59	1.33/1.08	1.51/1.84	2.27/1.86	1.24/0.47	0.68/0.41	1.39/1.24	1.07/0.73	3.44/3.6	3.42/3.39	2.66/2.7	2.93/2.62	1.12/-0.49	-1.1/-1.24	-2.47/-2.89	-3.05/-1.96	-2.12/-2.24	-1.15/0.02	-0.02/-0.65	-0.72/0.49	1.32/0.55	
Θ(37.5°)	0.02/0.09	0.66/-1.09	0.03/-0.98	-0.84/-1.45	2.64/2.51	2.35/2.45	2.05/1.57	2.01/2.82	1.25/1.44	2.10/2.16	2.71/3.21	4.06/4.49	3.54/2.87	2.55/3.44	3.98/4.99	1.17/-0.65	-1.56/-2.22	-2.54/-2.46	-2.49/-2.01	-1.14/0.74	-0.54/-0.64	-0.44/0.21	-0.04/0.83	0.76/-0.08
Θ(45°)	-0.74/-1.39	-1.87/-0.86	-1.43/-0.79	1.48/2.3	2.51/2.32	2.1/44	1.22/1.63	2.58/3.14	3.07/2.35	1.92/28	2.52/2.48	3.84/3.55	3.83/3.47	2.63/2.45	1.61/0.9	-1.22/-1.41	-1.12/0.23	-1.12/-2.83	-1.35/-1.47	-2.8/-2.32	-2.42/-2.56	-2.37/-1.13	-1.01/-1.6	-2.06/-1.28
Θ(52.5°)	0.97/0.88	1.85/1.19	1.68/2.58	2.36/2.28	2.89/2.52	2.57/2.84	2.61/3.24	3.51/2.79	2															



Radiated Composite Gain Data_6GHz

Appendix B

Θ(22.5°)	-1.04/-1.5	-1.57/-2.31	-4.11/-3.56	-2.79/-1.81	-0.07/0.85	1.79/2.52	2.68/2.67	2.59/2.25	1.84/-1.27	0.45/-0.89	-2.55/-3.48	-4.59/-5.76	-2.85/-0.74	0.81/2.11	3.28/4.18	4.41/3.95	3.96/4.19	4.39/4.8	5.15/38	4.67/8.5	2.41/58	0.83/0.18	-0.41/-1.04	-1.31/-1.6
Θ(30°)	-2.44/-2.11	-2.52/-2.99	-4.31/-5.22	-4.95/-2.85	-0.93/-0.18	0.34/-0.05	-0.7/-1.16	-1.75/-1.3	-0.82/-1.27	-1.09/-1.48	-2.8/-0.45	-5.24/-5.94	-3.78/-0.67	0.43/1.01	1.8/-3.4	2.41/2.06	1.6/-3.4	3.02/3.9	4.2/3.85	3.33/2.53	0.85/-0.44	1.27/2.14	1.46/-1.02	-1.54/-1.13
Θ(37.5°)	-9.67/-8.4	-7.18/-5.96	-4.54/-3.48	-4.35/-4.63	-5.04/-4.07	-4.93/-6.1	-5.57/-3.2	-1.66/-1.68	-1.32/-1.02	-1.28/-2.17	-2.61/-4.32	-4.47/-6.02	-4.17/-2.35	-2.39/-3.04	-1.89/-0.64	-0.83/-1.94	-2.57/-0.36	1.36/1.77	0.54/0.91	1.72/1.19	-0.89/-0.87	0.14/-0.17	-1.65/-3.12	-6.98/-9.29
Θ(45°)	-7.3/-6.62	-5.17/-4.02	-3.12/-5	-4.88/-3.66	-3.28/-2.9	-2.73/-4.03	-2.53/-1.15	-0.46/-0.25	-0.8/-2.95	-5.41/-9.54	-7.01/-5.57	-6.03/-4.48	-6.44/-4.04	-2.53/-3.11	-4.7/-6.47	-5.34/-6.83	-4.92/-2.69	-2.22/-1.57	-2.2/-1.86	-1.08/0.37	-2.11/-4.88	-3.76/-2.37	-3.11/-4.96	-7.58/-9.05
Θ(52.5°)	-5.78/-4.54	-2.68/-2.63	-2.71/-1.73	-1.4/-0.25	1.53/2.48	1.73/0.79	0.54/0.45	-1.39/-3.68	-4.72/-4.48	-5.43/-5.51	-5.74/-3.73	-4.4/-8.37	-7.1/-2.53	-2.51/-5.75	-4.4/-3.69	-7.93/-7.12	-5.97/-5.59	-4.1/-3.11	-2.64/-2.64	-1.61/-1.03	-2.46/-3.58	-3.41/-2.25	-4.58/-6.49	-7.14/-6.22
Θ(60°)	-5.21/-3.93	-4.49/-4.73	-6.21/-4.35	-2.51/-1.08	0.06/0.26	1.11/1.73	-0.84/-2.56	-2.69/-1.78	-1.51/-2.81	-3.64/-4.06	-2.31/-2.13	-3.08/-2.82	-3.03/-2.1	-1.62/-2.83	-4.84/-4.79	-5.74/-5.55	-4.71/-4.67	-0.99/-1.22	-0.78/-0.72	-0.94/-1.22	-2.61/-6.51	-6.96/-3.77	-6.66/-6.96	-4.4/-4.16
Θ(67.5°)	-7.08/-4.79	-5.24/-2.8	-1.55/-4	-7/-4.88	-2.5/-1.15	0.94/1.53	0.92/-1.35	-2.37/-1.13	-0.22/-1.98	-4.76/-2.69	-3.16/-2.26	-1.75/-5.04	-7.31/-3.85	-5.5/-8.28	-7.11/-5.71	-6.03/-4.19	-3.01/-2.47	-1.84/1.16	-0.41/-0.16	0.36/-0.43	-2.17/-2.77	-5.38/-4.49	-7.1/-9	-8.84/-5.33
Θ(75°)	-4.4/-4.19	-2.18/-2.54	-1.39/-3.75	-4.29/-3.13	-4.16/-2.17	0.53/1.89	0.19/-0.88	-0.35/-0.73	-0.71/-1.05	-3.57/-4.2	-7.84/-6.59	-4.02/-5.74	-5.06/-7.22	-8.15/-7.05	-5.4/-6.55	-5.44/-3.72	-1.26/-2.62	-1.42/-0.04	-0.85/-0.91	0.97/0.43	-2.13/-6.54	-8.35/-8.8	-8.51/-7.4	-6.03/-4.32
Θ(82.5°)	-7.68/-7.98	-3.53/-4.08	-2.39/-1.55	-2.06/-2.47	-6/-4.27	-2.52/-1.36	-0.41/-0.86	-3.2/-2.53	-2.06/-3.36	-5.55/-5.4	-5.44/-5.81	-2.95/-4.58	-3.69/-4.45	-3.08/-1.49	-7.92/-9.51	-8.5/-3.59	-1.72/-1.59	-0.71/-1.13	1.97/2.76	1.31/-0.57	-2.43/-4.86	-3.03/-4.55	-4.78/-4.66	-6.17/-8.62
Θ(90°)	-6.06/-4.04	-3.86/-3.34	-2.35/-1.91	-1.44/-2.57	-3.34/-1.34	0.86/0.33	-1.66/0.81	0.17/-2.59	-0.51/0.21	-2.14/-5.06	-3.23/-3.78	-4.47/-4.38	-3.09/-1.66	-2.44/-3.13	-2.29/-1.78	-2.56/-3.6	-1.48/-0.25	0.24/0.89	1.2/0.04	0.95/-0.1	-0.62/-1.77	-1.94/-5.53	-6.1/-5.87	-7.81/-6.57
Θ(97.5°)	-4.56/-4.61	-3.73/-3.7	-0.88/0.36	0.72/0.26	-1.72/-1.39	-3.26/-1.13	-0.57/-1.29	-0.1/-1.3	-3.89/-3.34	-3.06/-2.71	-2.38/-4.09	-7.75/-6.05	-3.91/-4.64	-1.54/-5.1	-6.34/-6.04	-4.2/-4.49	-5.05/-2.68	-0.53/0.88	-0.39/0.5	-1.92/-1.19	-1.23/-1.31	-3.16/-7.84	-7.66/-5.43	-6.62/-5.67
Θ(105°)	-6.42/-6.33	-6.33/-3.54	-0.21/-37	1.41/-25	-1.81/-1.71	-1.23/-0	-0.57/-0.9	-4.17/-6.63	-8.76/-9.67	-4.65/-3.15	-3.32/-4.87	-6.63/-6.01	-5.45/-4.15	-8.11/-4.81	-1.31/-5.23	-5/-4.97	-2.32/-0.58	0.81/23	0.32/-0.69	-0.74/-2.86	-4.91/-4.75	-2.48/-7.93	-8.24/-5.91	-6.54/-4.89
Θ(112.5°)	-7.09/-7.24	-6.09/-3.72	-0.73/0.04	0.11/-0.28	-1.16/-1.5	-1.12/-2.44	-2.75/-4.73	-0.39/0.89	-0.37/-1.51	-1.98/-3.6	-3.9/-2.63	-4.76/-5.22	-6.74/-6.99	-5.32/-4.72	-6.75/-5.49	-2.71/-0.87	-0.32/-2.81	-3.84/-1.45	-0.97/-1.8	-3.86/0.03	-1.16/-3.47	-3.42/-1.36	-5.16/-4.64	-4.49/-6.15
Θ(120°)	-2.98/-7.4	-7.66/-5.89	-3.94/-3.16	-4.38/-2.44	-0.79/0.07	-0.47/-1.26	-0.81/-3	-0.22/-2.95	-5.97/-4.85	-2.35/-1.18	-2.64/-4.19	-5.68/-3.38	-2.31/-1.7	-3.49/-3.61	-5.52/-5.36	-4.32/-4.44	-4.35/-2.28	-2.41/-0.61	-4.4/-4.86	-1.51/-1.53	1.98/2.16	0.78/1.61	0.3/-3.77	
Θ(127.5°)	-2.73/-5	-4.6/-6.61	-2.87/-2.65	-3.1/-5.66	-5.08/-3.47	-0.59/0.11	-0.35/-0.91	1.71/1.7	-2.88/-4.43	-6.26/-7.15	-3.74/-2.15	-1.39/-1.49	-3.97/-3.48	-5.56/-1.4	-3.94/-58	-3.64/-2.95	0.47/0.84	-2.77/-7.5	-2.63/-1.54	-0.82/0.13	-1.06/0.86	1.31/-52	-0.46/-5.51	
Θ(135°)	-1.47/-0.64	-0.5/-1.07	-1.31/-1.95	-1.31/-0.65	-0.59/-0.46	-0.5/0.55	1.74/0.81	-0.73/0.07	0.32/-0.34	-1.35/-2.66	-5.16/-6.65	-4.28/-3.71	-2.48/-1.25	-0.88/-3.69	-1.9/0.67	-2.72/0.19	-0.26/-3.78	1.39/2.55	-0.74/-4.6	-1.01/-0.42	-0.73/-2.22	-1.49/-2.87	-4.13/-4.74	-2.74/-2.05
Θ(142.5°)	-1.62/-2.64	-4.44/-4.62	-6.27/-3.48	-2.19/-1.5	-0.13/-0.64	-0.52/-0.58	-0.22/-0.82	-0.44/-0.57	-1.54/-2.15	-2.73/-4.28	-5.2/-4.74	-7.36/-7.1	-5.85/-6.39	-3.24/-5.82	-4.1/-5.05	-5.85/-3.19	-1.73/-0.96	1.61/-0.38	-3.1/-0.11	0.97/-1.13	-2.22/-0.35	-1.56/-1.45	-4.67/-5.04	-4.07/-6.32
Θ(150°)	-0.53/-0.16	0.38/1.25	1.23/0.65	3.54/-3.89	-1.79/-0.71	0.03/0.28	0.33/-0.44	-2.31/-3.44	-4.23/-4.87	-4.51/-5.24	-6.2/-6.36	-5.47/-4.12	-4.71/-3.02	-4.84/-7.16	-5.96/-3.82	-2.23/-1.5	0.19/0.42	-0.78/-0.89	-1.16/-2.01	-1.55/-0.4	-0.12/-1.3	-1.86/-2.24	-2.24/-2.42	-2.31/-1.35
Θ(157.5°)	0.11/0.74	1.67/1.74	1.17/-0.19	-0.58/-1.06	-2.21/-3.5	-3.35/-2.01	-0.77/-0.73	-1.14/-2.45	-3.58/-3.6	-3.27/-5.28	-8.59/-7.74	-5.45/-5.48	-5.69/-5.59	-5.72/-3.82	-0.24/1.59	1.16/-0.32	-0.97/-0.95	-1.45/-2.09	-2.14/-2.21	-2.2/-2.51	-2.67/-2.81	-3.53/-4.23	-4.05/-3.64	-2.22/-1.03
Θ(165°)	-3.35/-2.32	-1.4/-0.67	-0.87/-1.45	-2.68/-4.28	-5.87/-4.64	-3.5/-3.68	-3.99/-6.17	-3.71/-3.05	-3.24/-4.13	-5.55/-6.86	-6.75/-4.7	-5.69/-6.08	-7.61/-8.08	-7.77/-4.47	-2.28/-1.24	-0.87/-0.44	0.06/0.56	0.99/2.13	1.03/0.6	-0.56/-1.48	-2.35/-3.17	-3.66/-3.37	-2.88/-2.81	-3.58/-3.86
Θ(172.5°)	-3.98/-3.19	-3.31/-2.78	-2.76/-2.32	-1.72/-1.95	-2.71/-3.55	-3.89/-3.43	-3.61/-3.67	-3.04/-2.36	-1.82/-1.47	-1.07/-1.24	-1.92/-3.06	-3.96/-6.09	-6.16/-5.21	-4.74/-3.93	-3.74/-3.22	-3.14/-2.88	-2.4/-1.16	0.14/0.61	0.65/0.55	0.1/-0.47	-1.12/-1.76	-1.9/-2.67	-3.22/-4.2	-4.74/-3.94
Θ(180°)	-4.94/-5.44	-5.48/-6.11	-6.24/-5.81	-5.41/-4.86	-4.01/-3.4	-2.98/-3.28	-4.08/-4.76	-4.77/-4.71	-4.19/-3.57	-3.61/-3.23	-3.33/-3.74	-4.51/-5.32	-5.16/-4.75	-4.03/-3.63	-3.62/-4.26	-3.79/-3.45	-2.39/-1.79	-1.59/-1.39	-1.41/-1.2	-1.21/-1.31	-1.22/-1.67	-1.71/-2.33	-3.49/-4.32	-4.75/-5.22
Freq(Hz)	6.995GPol.	ThetaL	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	4.78/4.76	4.59/4.36	3.72/3.1	2.12/1.22	0.13/-1.58	-3.42/-4.34	-4.45/-4.96	-3.89/-2.18	-0.15/1.27	2.4/3.22	3.58/4.03	5.54/4.83	4.94/4.69	4.58/4.2	3.63/2.73	1.26/0.22	-1.99/-3.73	-4.02/-3.86	-4.36/-3.38	-1.55/-0.08	1.05/0.25	2.93/65	4.09/4.3	4.31/4.56
Θ(7.5°)	3.95/67	3.39/3.6	2.89/2.19	1.56/0.43	-0.47/-2.1	-4.02/-3.65	-4.17/-3.61	-3.03/-1.82	-0.24/1.34	2.59/3.65	4.27/4.36	4.44/4.62	4.44/4.14	3.36/2.23	1.03/-0.97	-3/-4.94	-5.59/-4.54	-3.69/-2.21	-0.89/0.19	1.14/1.83	2.71/3.37	3.89/3.87	3.64/3.75	
Θ(15°)	3.41/3.54	3.69/3.94	3.54/3.42	3.01/2.12	1.12/-0.21	-1.01/-1.3	-1.52/-1.91	-2.08/-2.01	-0.43/-0.36	0.97/2.06	2.93/3.57	4.08/4.07	4.13/96	3.53/2.78	1.85/0.7	-1.25/-2.94	-4.2/-4.81	-4.98/-4.88	-4.74/-3.12	-1.35/-0.03	0.89/1.43	2.05/2.96	3.24/3.3	3.42/3.8
Θ(22.5°)	1.61/2.02	2.36/2.73	2.94/2.7	1.78/0.7	0.68/0.25	-0.46/-0.96	-1.36/-1.06	-0.68/-0.6	-0.64/0.24	0.88/1.9	3.07/4.06	4.6/4.61	4.13/3.18	2.24/1.44	0.72/-0.42	-1.28/-1.62	-2.09/-3.45	-4.64/-3.56	-1.92/-1.15	-1.39/-1.47	-1.55/-0.86	-0.26/0.5	1.12/1.27	1.61/95
Θ(30°)	0.54/-0.04	0.31/33	1.01/0.84	1.27/2.34	2.51/75	1.53/1.42	1.18/0.01	-1.27/-1.76	-1.14/-1.12	2.48/2.78	3.31/3.99	4.81/5.05	4.88/3.34	1.23/0.8	0.91/-51	-1.6/-2.28	-3.77/-2.28	-1.04/-1	-1.08/-1.98	-1.98/-1.36	-0.88/-0.94	-0.52/-0.12	0.33/-0.01	
Θ(37.5°)	-1.32/-3.84	-2.9/-1.95	-0.51/0.35	1.26/2.16	2.95/3.19	2.46/1.97	2.19/2.07	0.59/-1.25	-1.23/1.02	3.07/3.88	3.97/2.12	1.86/1.86	0.89/-0.66	-0.36/0.75	0.83/0.07	-0.95/-2.75	-3.06/-3.58	-4.03/-3.09	-2.54/-2.02	-2.31/-3.06	-1.7/-0.05	0.6/-0.35	-0.86/-1.67	-3.46/-2.67
Θ(45°)	1.29/2.02	2.78/2.32	0.96/0.76	1.14/1.28	2.27/3.09	3.13/3.61	3.81/3.16	2.82/2.78	2.09/1.51	1.99/2.63	2.76/1.8	1.23/2.45	3.14/0.87	1.82/2.19	1.47/0.9	-0.82/-3.68	-5.36/-4.81	-2.88/-2.22	-3.42/-4.7	-5.67/-4.84	-4.07/-2.69	-0.76/-1.21	-1.37/-1.21	-0.83/0.21
Θ(52.5°)	1.25/1.4	1.59/1.44	0.55/0.95	1.96/3.95	4.48/3.27	1.94/2.85	3.67/3	1.71/1.92	2.59/1.68	1.78/2.68	1.91/1.55	2.02/2.87	2.52/2.84	2.92/2.27	0.17/-0.08	-3.13/-5.56	-5.78/-2.47	-3.78/-8.49	-7.66/-5.3	-3.87/-4.51	-3.98/-3.22	-3.46/-3.07	-1.56/-1.27	-0.16/0.4
Θ(60°)	1.99/2.35	2.33/1.99	0.57/1.59	1.27/2.91	2.88/1.94	0.64/-0.44	2.23/43	3.23/3.37	2.95/1.79	1.44/1.53	0.95/1.53	3.29/4.15	4.43/0.2	3.09/1.67	-0.41/-1.22	-2.41/-5.48	-5.73/-5.04	-6.69/-6.31	-4.8/-2.9	-5.42/-4.71	-3.36/-1.3	-2.28/-0.96	0.8/2.5	2.55/2.33
Θ(67.5°)	3.56/3.66	3.55/2.43	1.22/-0.05	1.78/2.19	2.82/2.68	0.56/-0.38	1.18/1.88	0.83/1.42	2.73/3.41	2.92/1.29	-1.19/-1.78	0.53/1.36	0.99/2.21	3.15/1.48	-1.1/-2.1	-2.61/-3.83	-3.02/-2.42	-2.84/-2.45	-3.31/-2.37	-4.63/-2.98	-1.37/-1.47	-2.34/-0.2	2.37/2.56	3.62/3.57
Θ(75°)	4.09/3.89	4.08/2.98	2.09/1.44	1.31/2.41	4.47/3.06	1.88/2.08	3.32/2.57	1.41/2.68	4.01/3.1	3.21/2.51	2.44/2.05	1.78/2.25	1.08/-1.14	-5.17/-2.3	-2.99/-2.52	-3.86/-4.47	-0.86/0.18	-0.05/-0.2	-0.58/-1.45	0.53/-1.34	-3.85/-0.31	0.36/0.18	2.08/1.44	2.58/2.75
Θ(82.5°)	2.94/2.78	2.83/1.18	1.29/0.09	-0.83/0.93	3.38/2.52	2.76/2.96	1.35/0.47	0.03/37	2.33/1.42	1.85/1.75	0.94/0.45	3.33/2.83	0.45/0.47	-2.15/-0.26	-5.06/-4.44	-9/-6.5	-0.39/-0.05	2.						



Radiated Composite Gain Data_6GHz

Appendix B

Θ(22.5°)	-11.4/-9.45	-7.19/-6.86	-8.19/-9.41	-10.5/-9.7	-7.36/-6.1	-6.88/-8.75	-12.09/-16.95	-18.42/-15.76	-13.5/-13.86	-12.79/-12.21	-11.44/-10.17	-8.25/-7.95	-8.22/-8.85	-10.13/-12.94	-15.57/-14.53	-14.98/-12.04	-9.44/-9.73	-13.24/-17.24	-10.88/-7.12	-6.81/-8.3	-10.64/-15.24	-15.73/-13.95	-15.38/-16.4	-18.47/-13.96
Θ(30°)	-7.18/-7.38	-6.52/-6.02	-9.1/-13.95	-16.72/-11.36	-8.56/-8.04	-8.13/-9.17	-11.72/-15.54	-18.82/-17.93	-19.15/-18.12	-13.19/-11.24	-11.24/-10.36	-7.73/-7.26	-7.35/-7.07	-7.13/-8.4	-12.12/-12.87	-12.79/-11.24	-9.01/-6.88	-16.8/-15.5	-10.2/-7.22	-5.76/-5.84	-9.56/-18.92	-8.41/-4.33	-3.79/-5.75	-10.92/-8.52
Θ(37.5°)	-19.27/-17.61	-14.31/-15.67	-17.99/-14.48	-12.99/-11.87	-11.32/-12.13	-12.78/-11.95	-9.76/-8.57	-7.55/-7.17	-8.08/-8	-8.07/-6.6	-6.54/-7.9	-6.57/-8.77	-8.97/-9.25	-11.37/-10.12	-10.81/-14.8	-16.22/-12.29	-9.76/-8.91	-11.6/-6.11	-4.36/-6.47	-16.22/-14.8	-6.11/-3.73	-4.05/-5.69	-12.87/-14.9	
Θ(45°)	-10.93/-11.02	-14.97/-19.1	-10.82/-9.75	-10.48/-10.6	-9.37/-7.87	-9.06/-13.51	-15.85/-12.45	-7.85/-6.06	-7.52/-8.88	-8.83/-10.23	-8.11/-10.54	-12.46/-9.36	-10.1/-11.18	-10.02/-10.12	-11.34/-12.8	-12.32/-18.18	-14.34/-17.25	-15.94/-11.71	-10.11/-10.83	-15.48/-8.28	-8.73/-18.52	-13.79/-7.56	-8.18/-11.17	-18.58/-12.46
Θ(52.5°)	-6.89/-9.29	-9.15/-13.7	-18.96/-13.3	-8.31/-7.92	-6.19/-5.96	-6.75/-6.82	-7.98/-3.6	-3.42/-6.25	-8.41/-8.52	-12.68/-17.13	-18.71/-15.68	-17.73/-18.51	-18.2/-16.62	-16.6/-17.95	-16.19/-17.79	-18.82/-15.41	-14.75/-13.21	-16.16/-14.18	-15.31/-14.57	-18.8/-13.48	-9.14/-13.44	-18.28/-9.3	-11.27/-12.9	-11.29/-6.21
Θ(60°)	-8.37/-9.44	-17.18/-15.72	-14.18/-11.83	-10.41/-6.95	-4.49/-4.5	-5.46/-5.54	-11.38/-10.49	-4.46/-4.9	-7.71/-11.93	-10.81/-13.7	-9.96/-9.6	-15.58/-13.76	-10.21/-16.6	-18.61/-12.94	-13.73/-17.12	-17.13/-10.09	-13.93/-17.87	-18.35/-18.23	-12.24/-13.3	-16.28/-9.47	-17.44/-17.14	-8.15/-9.84		
Θ(67.5°)	-15.69/-19.01	-18.67/-17.83	-15.42/-12.01	-14.01/-12.53	-8.07/-6.29	-7/-13.3	-15.91/-17.01	-18.28/-11.3	-9.31/-16.54	-17.6/-17.52	-14.72/-9.85	-10.49/-17.85	-18.21/-13.81	-15.83/-18.62	-18.68/-18.06	-12.12/-9.81	-11.11/-7.54	-6.55/-5.21	-7.73/-8.83	-9.54/-13.63	-19.54/-6.61	-11.43/-10.51	-13.52/-19.25	-13.49/-11.34
Θ(75°)	-9.78/-11.16	-12.73/-15.76	-13.55/-12.51	-15.43/-11.68	-10.89/-8.05	-18.46/-13.35	-11.28/-13.82	-10.53/-13.52	-15.35/-10.98	-8.66/-9.68	-18.39/-14.18	-11.08/-12.93	-17.28/-12.73	-18.89/-18.32	-18.34/-17.87	-19.02/-10.96	-6.88/-9.84	-15.52/-16.65	-14.73/-17.61	-11.93/-13.72	-15.73/-12.99	-18.49/-18.7	-18.82/-11.88	-10.44/-10.22
Θ(82.5°)	-17.98/-18.7	-15.56/-17.1	-16.18/-15.55	-16.01/-12.65	-18.24/-14.87	-14.49/-9.98	-13.28/-15.44	-18.23/-15.12	-17.51/-13.15	-11.54/-11.96	-17.16/-18.74	-12.94/-18.74	-16.01/-14.59	-10.61/-11.3	-14.51/-17.86	-18.68/-18.77	-19.03/-19.21	-17.19/-16.54	-9.72/-10.72	-11.14/-14.26	-12.44/-17.98	-15.23/-13.19	-17.29/-17.2	-17.92/-18.6
Θ(90°)	-17.86/-16.01	-16.49/-15.09	-10.37/-9.83	-12.18/-12.15	-16.67/-12.86	-9.85/-18.76	-17.79/-14.09	-18.83/-17.67	-12.07/-15.06	-16.77/-14.45	-16.06/-18.53	-18.17/-18.24	-12.69/-7.37	-6.64/-12.22	-12.99/-18.06	-18.55/-15.25	-15.79/-18.28	-12.12/-10.65	-13.88/-11.67	-7.57/-13.12	-8.71/-18.17	-14.76/-13.06	-15.11/-10.58	-15.22/-19.8
Θ(97.5°)	-10.44/-11.53	-11.54/-15.45	-11.71/-7.55	-6.63/-7.95	-8.54/-11.61	-19.17/-11.37	-17.2/-15.1	-8.94/-9.37	-12.69/-17.81	-16.94/-12.24	-8.37/-7.4	-18.15/-18.88	-13.46/-15.42	-10.38/-15.7	-18.68/-17.98	-16.33/-15.11	-16.34/-18.62	-13.11/-15.95	-18.8/-13.5	-18.84/-9.41	-14.09/-15.88	-13.39/-14.82	-17.64/-18.51	-17.89/-14.69
Θ(105°)	-8.63/-10.37	-10.94/-13.01	-10.16/-6.87	-6.35/-6.05	-11.55/-18.26	-18.35/-17.83	-17.4/-18.51	-15.96/-17.42	-14.76/-15.65	-14.24/-16.07	-17.97/-17.07	-13.93/-13.83	-18.14/-16.4	-10.73/-10.82	-9.5/-11.58	-14.71/-14.25	-17.63/-17.61	-16.54/-14.11	-18.93/-12.78	-8.11/-13.74	-18.68/-8.23	-12.38/-18.13	-13.21/-11.6	-10.57/-9.24
Θ(112.5°)	-8.67/-9.24	-8.84/-9.49	-7.72/-6.59	-5.14/-5.88	-9.18/-10.43	-12.32/-18.32	-15.77/-18.6	-8.33/-9.93	-12.86/-12.19	-13.01/-18.78	-13.94/-13.98	-18.81/-17.77	-18.59/-18.68	-15.81/-17	-15.56/-18.12	-19.02/-16.61	-10.43/-15.36	-18.97/-14.93	-17.48/-16.46	-13.26/-8.67	-8.24/-16.53	-15.11/-9.36	-18.29/-18.44	-15.22/-8.43
Θ(120°)	-9.22/-11.56	-15.72/-12.98	-11.44/-9.72	-11.41/-11.62	-10.14/-7.98	-8.04/-9.76	-9.97/-14.5	-12.54/-8.81	-10.15/-18.65	-16.26/-11.15	-11.09/-10.73	-17.73/-16.99	-15.15/-11.84	-11.76/-8.94	-9.97/-15.62	-14.41/-14.34	-16.88/-13.9	-17.08/-11.7	-18.98/-17.92	-18.55/-11.1	-10.05/-11.78	-10.84/-7.32	-7.81/-6.91	
Θ(127.5°)	-17.43/-18.62	-13.3/-12.07	-10.83/-12.36	-18.01/-18.71	-18.69/-17.82	-15.2/-14.08	-18.3/-14.81	-18.69/-14.66	-11.86/-13.65	-17.28/-14.76	-17.71/-18.82	-14.43/-9.13	-8.85/-8.25	-10.84/-13.47	-16.64/-18.94	-18.88/-13.48	-12.05/-12.89	-11.72/-17.86	-14.07/-19.01	-9.39/-18.24	-8.62/-9.07	-18.05/-9.1	-7.09/-9.8	-10.05/-12.62
Θ(135°)	-16.46/-18.32	-19.32/-16.58	-17.24/-14.87	-11.84/-10.74	-14.18/-18.59	-13.9/-13.15	-10.77/-9.09	-13.31/-13.52	-10.72/-13.58	-18.58/-14.39	-13.78/-11.8	-10.48/-9.31	-9.08/-12.74	-17.89/-17.19	-11.11/-9.8	-17.2/-10.95	-8.64/-18.72	-11.84/-8.14	-13.78/-18.46	-12.52/-7.14	-11.76/-9.55	-10.1/-13.68	-14.72/-13.2	-11.47/-12.75
Θ(142.5°)	-15.98/-14.6	-14.74/-15.86	-19.38/-18.05	-17.86/-15.82	-10.12/-11.84	-13.64/-17.53	-17.15/-18.2	-14.5/-10.72	-14.3/-16.48	-8.61/-6.55	-6.19/-6.64	-15.97/-13.51	-12.22/-10.07	-6.53/-10.4	-12.52/-12.98	-8.09/-6.67	-9.46/-18.57	-18.47/-17.64	-16.84/-9.71	-13.1/-14.65	-14.49/-14.54	-12.42/-17.56	-15.79/-18.9	-18.83/-14.41
Θ(150°)	-12.59/-11.06	-13.64/-13.6	-13.1/-11.31	-10.07/-9.79	-11.39/-11.34	-8.7/-6.97	-7.96/-11.22	-18.23/-18.1	-14.57/-15.96	-18.66/-15.15	-11.5/-13.4	-13.93/-10.29	-7.76/-6.32	-6.45/-8.03	-9.94/-9.48	-7.36/-6.66	-6.17/-6.32	-11.29/-13.65	-13.43/-14.59	-12.51/-11.15	-13.33/-12.69	-11.16/-11.49	-13.22/-13.28	-13.22/-13.59
Θ(157.5°)	-12.2/-11.44	-13.18/-19.32	-17.79/-18.58	-17.87/-15.93	-16.72/-16.09	-15.83/-13.83	-13.2/-12.7	-11.62/-12.91	-18.98/-18.38	-10.94/-9.86	-12.17/-17.7	-15.94/-16.65	-10.42/-7.72	-6.47/-5.11	-3.86/-4.05	-6.26/-8.91	-10.88/-12.65	-12.36/-12.3	-12.25/-12.87	-13.72/-15.74	-18.92/-16.7	-18.18/-17.97	-17.87/-18.92	-17.92/-15.56
Θ(165°)	-18.25/-14.77	-18.83/-18.4	-17.94/-15.45	-14.44/-12.7	-12.75/-12.45	-13.59/-18.63	-18.49/-15.72	-10.29/-9.01	-10.73/-14.63	-13.7/-9.03	-6.29/-5.1	-5.54/-7.36	-13.77/-18.7	-19.78/-14.29	-12.49/-12.34	-14.95/-16.27	-15.05/-12.5	-10.63/-8.9	-8.36/-6.65	-11.07/-14.96	-19.48/-19.13	-19.18/-18.86	-18.87/-17.74	-18.11/-16.66
Θ(172.5°)	-15.59/-14.7	-14.28/-14.4	-17.27/-15.19	-13.72/-11.96	-10.55/-9.88	-9.96/-12.11	-16.87/-17.66	-13.2/-10.25	-8.83/-8.68	-8.86/-9.24	-9.54/-10.45	-11.48/-13.33	-12.07/-10.32	-10.24/-10.44	-12.06/-12.9	-13.62/-14.45	-13.37/-11.51	-9.24/-9.56	-10.32/-10.9	-13.34/-17.33	-18.4/-18.77	-17.74/-18.83	-17.42/-19.7	-17.67/-15.14
Θ(180°)	-13.09/-10.68	-8.65/-9.25	-9.12/-8.31	-8.7/-8.03	-7.94/-8.02	-8.43/-10.07	-11.73/-14.51	-17.56/-19.18	-12.52/-18.75	-18.73/-14.81	-12.54/-11.3	-10.62/-10.05	-9.41/-7.93	-6.92/-7.38	-8.67/-11.99	-13.89/-16.6	-14.16/-12.94	-12.56/-12.86	-13.39/-15.51	-13.33/-18.41	-14.39/-13.65	-11.03/-10.83	-10.87/-11.75	-11.85/-11.4
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°)	-18.8/-18.95	-18.94/-18.88	-18.6/-17.27	-18.73/-17.57	-14.29/-13.62	-12.57/-12.51	-12.78/-13.5	-13.17/-12.76	-12.48/-12.54	-13.28/-15.04	-16.87/-18.16	-18.12/-18.37	-18.61/-18.5	-16.75/-15.21	-14.12/-14.16	-15/-13.5	-11.58/-11.73	-11.58/-10.75	-10.02/-9.37	-8.76/-9.73	-10.6/-11.49	-12.24/-12.38	-12.16/-14.33	-18.41/-19.32
Θ(7.5°)	-16.83/-19.28	-18.17/-14.5	-18.24/-18.86	-16.71/-15.15	-13.22/-12.83	-11.78/-16.07	-10.15/-9.46	-8.74/-8.32	-7.93/-7.86	-8.16/-9.17	-10.21/-14.39	-16.43/-19.01	-19.32/-18.97	-17.65/-17.05	-17.01/-16.72	-17.61/-15.3	-14.5/-14.53	-16.35/-15.32	-14.96/-14.31	-14.95/-15.27	-16.71/-17.69	-16.45/-14.88	-13.23/-14.52	-18.62/-17.73
Θ(15°)	-12.21/-15.36	-13.84/-13.89	-15.92/-14.47	-10.37/-8.26	-6.85/-8.87	-5.21/-4.96	-5.28/-5.83	-6.19/-5.97	-6.57/-7.19	-8.54/-10.26	-12.48/-14.56	-16.01/-18.14	-17.68/-18.1	-18.19/-15.07	-17.44/-12.43	-12.89/-15.49	-17.46/-15.52	-15.05/-15.56	-15.84/-17.09	-14.67/-15.29	-16.11/-13.99	-11.52/-11.47	-11.79/-11.94	
Θ(22.5°)	-15.52/-13.05	-12.15/-11.19	-9.45/-7.84	-7.61/-7.63	-7.51/-6.26	-4.66/-3.43	-3.06/-2.97	-2.83/-2.77	-3.01/-3.57	-4.65/-5.61	-6.53/-7.89	-10.6/-12.68	-14.68/-17.85	-19.14/-18.48	-13.6/-11.27	-11.47/-9.6	-9.9/-10.28	-11.22/-9.94	-7.81/-8.78	-11.74/-13.19	-13.13/-12.97	-16.65/-16.59	-11.14/-11.16	-16.42/-18.19
Θ(30°)	-11.14/-11.92	-10.49/-8.99	-7.3/-6.05	-5.35/-3.86	-3.08/-5.59	-2.84/-2.24	-2.25/-2.37	-3.64/-3.01	-2.93/-2.48	-2.21/-2.18	-2.43/-2.99	-4.83/-8.13	-10.42/-18.21	-17.72/-10.41	-11.67/-14.16	-13.05/-11.03	-8.74/-10.1	-12.64/-7.59	-6.43/-9.11	-9.43/-9.43	-9.85/-10.43	-14.27/-17.53	-14.72/-12.55	-11.54/-10.35
Θ(37.5°)	-13.41/-18.89	-13.85/-12.05	-8.7/-7.41	-6.03/-4.52	-2.7/-1.12	-0.76/-0.55	-0.63/-1.41	-2.28/-2.14	-2.03/-1.71	-0.160/-4	-0.24/-1.99	-8.16/-13.21	-17.88/-18.32	-18.84/-15.26	-13.59/-10.35	-10.9/-12.52	-12.27/-18.81	-18.18/-17.93	-18.67/-13.23	-10.1/-17.85	-18.66/-12.21	-9.39/-9.09	-11.77/-15.55	-19.33/-17.86
Θ(45°)	-5.8/-6.22	-7.17/-11.29	-15.03/-9.59	-4.83/-3.06	-1.8/-0.92	-1.06/-0.76	-0.160/-28	-0.03/-0.32	-0.7/-0.74	-0.150/-36	0.310/-7	0.502/-25	-0.44/-4.59	-9.48/-9.9	-13.78/-17.73	-17.09/-18.48	-11.01/-6.81	-5.82/-7.97	-16.68/-16.94	-15.49/-13.98	-9.22/-10.74	-10.76/-7.83	-7.56/-7.25	
Θ(52.5°)	-8.61/-10.54	-11.63/-7.96	-9.11/-7.12	-3.130/-47	1.740/-6	-1.27/-1.24	0.53/-1	-0.24/-1.39	-1.84/-117	0.030/-02	-0.87/-0.91	-0.10/-93	-0.55/-1.09	-3.9/-5.33	-8.06/-13.06	-15.66/-19.28	-18.65/-15.35	-12.86/-14.6	-17.58/-9.37	-5.48/-5.03	-13.16/-15.06	-12.2/-145	-18.57/-17.53	-14.93/-13.12
Θ(60°)	-5.03/-3.62	-2.23/-2.96	-5.57/-4.34	-3.84/-1.53	-1.09/-0.71	-1.54/-1.6	0.271/-74	1.650/-59	-0.41/-2	-1.77/-0.6	-0.220/-71	1.742/-61	1.49/-1.09	-3.01/-2.96	-5.51/-10.6	-10.26/-17.7	-13.01/-16.6	-18.6/-14.87	-6.91/-6.12	-6.94/-7.07	-15.35/-10.6	-12.45/-8.1		



Radiated Composite Gain Data_6GHz

Appendix B

Θ(75°)	-5.16/-4.72	-7.56/-10.84	-14.76/-11.5	-7.97/-6.23	-9.73/-10.4	-8.79/-5.49	-5.26/-11.9	-18.67/-11.04	-11.96/-13.57	-10.52/-18.19	-18.8/-15.61	-18.35/-18.54	-17.47/-11.26	-9.24/-18.16	-11.62/-4.54	-3.88/-8.11	-18.56/-12.78	-19.36/-12.81	-13.19/-8.46	-3.43/-2.14	-3.34/-7.37	-18.68/-18.61	-12.26/-7.81	-8.99/-5.13
Θ(82.5°)	-4.15/-3.74	-5.28/-8.46	-7.45/-9.59	-15.38/-8.4	-7.39/-7.01	-9.29/-9.29	-6.37/-8.42	-19.02/-16.35	-18.11/-18.44	-15.34/-9.65	-9.38/-11.93	-12.2/-7.3	-10.74/-11.97	-13.65/-10.54	-11.07/-6.81	-8.25/-14.43	-11.23/-16.02	-14.79/-8.24	-17.28/-12.02	-10.69/-11.18	-13.57/-19.15	-14.54/-17.09	-8.23/-6.41	-3.71/-4.05
Θ(90°)	-6.18/-8.14	-5.74/-6.31	-5.74/-7.07	-13.23/-15.15	-9.33/-6.45	-7.54/-9.2	-12.16/-15.21	-18.75/-18.34	-18.18/-11.87	-6.89/-8.12	-13.97/-16.8	-13.77/-10.13	-14.57/-14.25	-13.1/-5.98	-10.77/-11.69	-18.67/-10.5	-5.02/-6.31	-8.73/-12.73	-6.73/-10.42	-6.73/-10.42	-18.29/-11.47	-8.9/-9.13		
Θ(97.5°)	-5.63/-6.19	-7.05/-9.61	-8.36/-11.77	-13.68/-13.95	-11.75/-11.49	-13.06/-10.45	-7.11/-6.61	-7.12/-10.28	-15.32/-18.18	-10.03/-8.83	-7.23/-8.47	-14.06/-11.37	-10.18/-13.56	-14.73/-7.73	-11.46/-14.55	-9.5/-13.31	-19.12/-13.3	-18.09/-11.44	-18.63/-14.97	-10.37/-7.03	-3.37/-5.4	-14.47/-7.01	-6/-12.32	-7.67/-6.49
Θ(105°)	-7.29/-5.61	-5.74/-6.07	-7.7/-7.78	-7.79/-10.81	-18.54/-10.47	-7.87/-7.77	-6.86/-12.53	-18.18/-16.21	-12.5/-17.79	-10.77/-9.12	-10.48/-16.08	-18.29/-17.57	-18.46/-16.02	-17.9/-11.04	-9.88/-15.05	-9.3/-11.12	-14.94/-5.13	-18.01/-7.07	-10.65/-19.32	-12.11/-7.39	-6.12/-10.57	-13.21/-16.78	-18.44/-13.56	-8.97/-5.02
Θ(112.5°)	-7.92/-7.41	-8.31/-6.58	-5.19/-5.11	-6.94/-9.98	-15.77/-17.87	-10.29/-9.74	-5.89/-4.99	-8.9/-11.55	-12.75/-18.93	-13.34/-9.73	-7.04/-6.37	-10.88/-11.75	-6.92/-7.66	-10.49/-11.18	-8.81/-12.51	-4.96/-6.57	-18.51/-11.59	-8.46/-8.05	-10.69/-13.63	-7.89/-5.53	-7.15/-8.3	-9.27/-10.3	-19.29/-11.47	-8.9/-9.13
Θ(120°)	-11.81/-8.01	-5.49/-5	-4.89/-5.85	-5.42/-9.02	-17.49/-17.96	-12.87/-12.91	-10.88/-6.99	-7.3/-7.99	-7.34/-9.01	-11.05/-15.97	-9.94/-6.7	-5.24/-6.21	-11.28/-18.64	-16.78/-17.71	-10.28/-4.78	-6.58/-10.89	-18.48/-9.82	-11.88/-15.74	-18.38/-14.11	-10.48/-6.61	-8.78/-9.07	-10.07/-9.43	-10.65/-11.45	-14.89/-9.16
Θ(127.5°)	-8.86/-8.94	-10.22/-13.72	-10.89/-9.33	-12.42/-18.05	-11.45/-7.68	-8.42/-7.73	-8.64/-14.76	-13.73/-10.51	-11.62/-10.05	-12.01/-18.24	-9.56/-7.1	-7.68/-8.39	-8.67/-11.73	-9.68/-13.13	-13.21/-4.81	-4.19/-14.1	-8.57/-11.23	-10/-11.81	-18.2/-11.06	-8.98/-18.74	-12.89/-8.64	-14.1/-18.15	-10.72/-10.52	-17.32/-12.94
Θ(135°)	-7.5/-5.52	-6.61/-8.55	-7.93/-7.55	-7.75/-9.48	-14.39/-17.27	-10.64/-11.62	-16.42/-18.62	-15.78/-11.67	-11.45/-15.92	-15.02/-16.22	-17.64/-18.31	-17.03/-18.01	-17.84/-10.15	-8.4/-10.08	-10.99/-9.44	-12.05/-19.39	-9.88/-4.23	-8.44/-6.39	-7.24/-8.59	-19.1/-10.88	-8.61/-5.62	-9.8/-15.81	-18.2/-17.83	-10.72/-6.42
Θ(142.5°)	-5.89/-7.87	-11.03/-10.45	-9.58/-9.44	-12.98/-17.53	-18.24/-18.93	-18.73/-14.77	-12.48/-8.23	-4.78/-4.1	-5.61/-7.21	-8.47/-10.03	-12.64/-16.93	-18.28/-14.76	-13.28/-13.09	-8.75/-7.24	-8.15/-13.69	-11.24/-8.32	-6.84/-5.85	-6.86/-7.5	-18.16/-12.78	-8.63/-7.21	-15.25/-19.38	-14.83/-12.64	-18.44/-13.24	-7.07/-3.3
Θ(150°)	-6.51/-8.74	-13.36/-14.77	-19.01/-19.12	-12.54/-9.32	-7.78/-5.89	-13.97/-2.54	-3.09/-5.63	-9.37/-12.61	-13/-11.56	-9.04/-8.4	-8.36/-9.11	-11.31/-11.73	-13.98/-13.4	-10.27/-9.63	-14.59/-12.73	-5.81/-5.22	-11.18/-15.93	-8.96/-8.71	-12.33/-19.02	-16.98/-14.72	-14.65/-14.57	-16.38/-15.92	-12.75/-10.73	-9.71/-7.63
Θ(157.5°)	-2.31/-3.6	-4.14/-4.9	-7.64/-13.39	-17/-14.88	-13.4/-10.26	-7.65/-6.48	-7.09/-9.71	-12.95/-14.83	-16.02/-19.12	-18.79/-13.11	-8.42/-5.5	-5.13/-7.22	-17.89/-10.07	-9.29/-9.61	-11.45/-6.66	-6.79/-9.62	-18.23/-12.1	-10.66/-10.15	-19.79/-10.96	-13.59/-14.52	-11.76/-11.11	-15.6/-9	-7.79/-6.34	-5.07/-3.63
Θ(165°)	-10.15/-9.88	-8.53/-8.47	-10.49/-14.47	-17.52/-19.21	-18.54/-18.4	-14.44/-12.91	-12.27/-14.01	-18.09/-17.97	-18.41/-17.76	-17.1/-11.21	-6.89/-4.55	-3.69/-3.86	-4.45/-4.88	-6.54/-11.09	-18.97/-16.58	-12.59/-12.91	-16.72/-16.33	-10.09/-6.24	-3.84/-2.68	-2.73/-2.98	-3.27/-4.49	-7.65/-11.59	-13.75/-15.91	-16.4/-18.8
Θ(172.5°)	-12.62/-11.09	-11.56/-13.54	-17.19/-16.64	-17.24/-17.65	-18.62/-18.32	-18.24/-17.95	-18.58/-17.73	-19.05/-18.24	-15.56/-12.13	-10.7/-11.36	-13.9/-13.66	-19.06/-18.81	-17.41/-18.42	-17.87/-14.77	-11.86/-11.08	-11.79/-14.38	-17.3/-18.96	-15.46/-9.89	-6.69/-5.04	-4.31/-4.21	-4.32/-4.89	-6.87/-9.31	-10.71/-11.91	-12.32/-12.1
Θ(180°)	-5.63/-5.54	-5.45/-7.12	-9.46/-11.25	-12.04/-11.01	-11.09/-11.46	-13.57/-17.4	-18.8/-17.88	-17.99/-12.11	-8.63/-5.68	-3.9/-3.1	-3.06/-3.47	-4.8/-5.77	-7.36/-8.43	-9.08/-10	-10.92/-11.87	-13.55/-16.29	-17.75/-18.96	-18.08/-14.33	-12.02/-10.4	-9.1/-7.69	-6.3/-5.42	-5.4/-5.04	-4.84/-5.35	-5.24/-5.14
Freq(Hz)	6.175GPol.	Theta/Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-18.37/-18.7	-19.03/-18.64	-17.84/-15.86	-15.45/-11.88	-10.60/-9.58	-9.43/-9.08	-8.7/-8.49	-13.88/-17.5	-8.74/-9.79	-11.58/-12.39	-13.88/-17.5	-16.12/-18.51	-18.1/-18.39	-14.27/-12.22	-10.23/-8.34	-7.1/-6.77	-8.23/-7.7	-7.84/-8.63	-9.27/-9.89	-10.62/-11.13	-12.13/-13.74	-17.2/-16.79		
Θ(7.5°)	-18.2/-18.34	-18.85/-19.76	-15.15/-15.51	-15.47/-15.02	-17.02/-16.67	-16.25/-15.45	-13.03/-12.14	-11.71/-10.19	-8.47/-7.35	-6.59/-7.19	-8.39/-9.8	-11.49/-13.99	-15.22/-17.14	-19.04/-18.52	-18.76/-16.12	-11.76/-9.67	-8.01/-8.95	-9.38/-9.66	-9.18/-9.93	-9.66/-11.02	-12.91/-15.16	-16.38/-18.21	-18.24/-19.08	-18.67/-17.87
Θ(15°)	-10.26/-8.66	-9.31/-8.88	-8.25/-8.34	-7.64/-9.83	-11.77/-12.88	-15.72/-16.87	-18.67/-17.26	-13.16/-18.04	-10.23/-11.32	-12.45/-14.88	-16.96/-18.77	-18.98/-17.81	-14.46/-10.72	-9.95/-11.39	-12.94/-10.15	-8.03/-6.4	-5.82/-5.94	-7.03/-8.07	-9.42/-10.97	-12.48/-14.98	-19.02/-18.76	-18.41/-18.67	-13.19/-19.13	-15.48/-15.02
Θ(22.5°)	-17.83/-11.5	-9.89/-7.95	-5.83/-4.23	-3.9/-4.53	-5.96/-7.4	-8.7/-63	-7.35/-4.72	-9.11/-10.87	-11.96/-9.91	-8.33/-7.55	-7.45/-8.3	-10.97/-12.4	-16.79/-17.24	-8.49/-5.61	-5.84/-10.73	-15.09/-11.43	-7.52/-5.93	-6.88/-9.35	-10.27/-9.89	-9.53/-9.95	-11.67/-13.87	-15.02/-14.74	-15.41/-17.16	-18.47/-17.54
Θ(30°)	-14.21/-9.4	-8.05/-9.11	-7.31/-5.21	-5.92/-7.93	-7.47/-7.08	-5.96/-4.68	-4.18/-5.68	-5.79/-5.24	-5.32/-6.46	-9.46/-11.76	-8.92/-7.12	-6.81/-6.74	-6.41/-7.97	-18.86/-13.07	-8.31/-8.12	-9.83/-14.78	-12.93/-9.83	-11.8/-11.64	-9.33/-8.52	-8.47/-11.62	-17.53/-18.32	-18.85/-19.92	-16.02/-14.6	-11.12/-12.14
Θ(37.5°)	-8.81/-8.15	-9.11/-10.89	-6.76/-6.01	-5.77/-3.55	-3.15/-2.3	-1.85/-2.05	0.06/-0.58	-1.91/-3.46	-4.02/-4.14	-6.1/-1.95	-17.42/-15.13	-8.85/-5.54	-6.94/-11.19	-14.34/-10.05	-11.54/-9.49	-12.49/-17.38	-9.43/-8.1	-9.62/-7.27	-5.41/-6.26	-6.53/-6.86	-8.97/-9.54	-8.85/-7.88	-8.36/-7.53	-6.71/-11.06
Θ(45°)	-18.13/-17.57	-14.92/-10.35	-6.7/-4.85	-1.110.74	0.65/-0.53	-1.16/-1.25	0.210.56	0.560.03	0.110.13	-0.96/-2.75	-7.67/-19.55	-8.84/-6.21	-7.04/-9.84	-11.4/-6.79	-7.53/-7.73	-18.94/-15.63	-10.93/-5.49	-7.29/-13.71	-9.15/-16.16	-7.93/-8.44	-7.96/-9.45	-10.17/-7.85	-10.63/-12.66	-18.43/-18.61
Θ(52.5°)	-5.46/-5.18	-3.01/-2.02	-2.64/-1.93	-1.04/-0.01	0.530.33	0.350.33	-0.12/-0.1	-0.80/-0.07	1.93/-0.15	2.850.85	-3.88/-8.81	-5.68/-3	-3.77/-5.22	-2.96/-3.58	-3.93/-10.32	-18.89/-14.23	-18.27/-14.16	-8.43/-4.22	-3.41/-6.2	-13.42/-14.98	-8.87/-7.75	-10.24/-5.45	-6.32/-8.4	-10.42/-10.83
Θ(60°)	0.110.3	1.46/-1.52	2.21/-2.38	2.18/-1.76	1.1/-0.42	-0.26/-1.42	2.94/-0.43	2.04/-0.61	-0.96/-1.41	1.92/-0.03	-2.81/-2.34	-2.36/-1.94	-4.01/-3.5	-4.73/-1.92	-2.01/-4.85	-9.28/-9.15	-6.41/-8.28	-10.85/-8.17	-8.33/-7.39	-8.49/-14.11	-5.79/-2.1	-1.85/-1.28	-1.4/-1.39	-1.27/-0.19
Θ(67.5°)	1.53/-1.65	1.29/-1.55	1.21/-1.49	1.050.74	0.44/-3.46	-3.87/-0.82	2.24/-0.34	3.36/-0.82	2.51/-0.28	3.21/-0.26	-2.29/-6.31	-4.75/-4.79	-5.27/-4.14	-14.42/-14.7	-12.41/-6.68	-9.44/-10.52	-7.87/-12.85	-15.47/-7.76	-6.93/-17.8	-6.78/-2.33	-2.54/-3.05	-1.44/-1.06	1.2/-1.31	
Θ(75°)	0.891.43	2.88/-2.25	1.461.77	1.16/-1.65	1.11/-0.24	-0.92/-0.72	-0.47/-0.69	-0.750.01	2.78/-0.32	4.23/-45	0.35/-1.72	-0.83/-0.14	-2.3/-2.61	-2.21/-1.83	-3.75/-3.31	-9.82/-14.46	-7.73/-7.37	-15.24/-9.38	-5.56/-6.39	-6.07/-6.41	-2.54/-0.66	1.4/-1.41	1.72/-1	
Θ(82.5°)	3.62/-0.5	5.09/-5	3.13/-6.4	-1.35/-0.34	-0.56/-1.38	-0.24/-1.27	-0.360.77	0.620.55	2.54/-8.2	4.77/-8.1	0.16/-1.42	-1.43/-4.77	-11.08/-7.18	-5.54/-8.17	-12.13/-6.04	-6/-0.99	0.57/-2.91	1.59/-0.39	-2.5/-0.4	-2.14/-10.16	-14.79/-3.92	-1.95/-1.07	0.81/-5.5	1.53/-3.35
Θ(90°)	3.94/-4	4.77/-4.1	3.53/-1.14	-2.11/-2.5	-2.53/-0.04	-1.29/-3.82	-2.49/-1.75	-2.97/-1.06	1.54/-3.11	2.170.49	-1/-1.51	-0.66/-1.23	-2.32/-7.29	7.54/-3.37	-6.46/-7.89	-9.47/-1.73	-1.1/-8.75	0.96/-2.44	-10.09/-5.94	7.63/-15.5	-6.09/-4.82	-2.48/-0.37	0.23/-0.21	2.79/-4.24
Θ(97.5°)	1.091.56	2.96/-2.99	3.32/-2.87	1.5/-1.1	0.82/-1.38	0.25/-2.14	-2.75/-2.38	-1.460.79	2.34/-0.23	2.99/-1.27	-0.09/-3.17	-3.49/-4	-7.11/-8.48	-5.42/-4.32	-7.9/-5.2	-17.44/-3.35	-2.29/-6.85	-3.48/-1.3	-4.84/-0.05	-1.89/-7.37	-7.68/-10.76	-4.09/-2.71	-2.090.14	-0.3/-1
Θ(105°)	0.281.99	2.35/-2.65	2.120.97	-0.67/-0.54	0.93/-0.03	-0.97/-3.83	-4.91/-4.54	-2.26/-2.21	-2.13/-0.5	0.95/-1.44	0.61/-3.94	-6.33/-9.51	-3.62/-8.59	-8.03/-11.44	-13.26/-12.05	-16.44/-3.3	-12.29/-7.56	0.11/-6.15	-8.27/-8.31	-5.08/-6.69	-1.58/-2.08	0.97/-1.68	1.340.34	-2.24/-0.53
Θ(112.5°)	-0.87/-1.77	1.581.09	-1.22/-2.74	-2.04/-0.03	1.05/-0.4	-5.09/-12.18	-6.83/-3.36	-1.18/-1.95	-2.79/-4.73	-7.4/-7.13	-7.77/-16.69	-7.09/-4.17	-2.59/-5.37	-8.77/-17	-9.87/-11.4	-10.82/-5.79	-9.03/-19.28	-1.41/-2.2	-10.02/-11.23	-5.38/-2.81	-0.91/-3.88	0.78/-0.57	0.88/-0.34	-1.890.39
Θ(120°)	-0.25/-1.52	1.32/-1.26	-0.85/-2.82	-5.37/-4.6	-2.62/-0.97	-1.58/-1.58	-1.78/-12.92	-9.41/-9.54	-8.92/-7.58	-8.84/-62	-6.4/-8.02	-9.23/-11.97	-19.2/-13.12	-12.9/-13.12	-9.77/-11.02	-18.59/-11.57	-6.93/-6.94	-6.93/-13.06	-12.15/-12	-5.1/-3.49	-0.930.02	-6.10/-0.31	-1.470.55	
Θ(127.5°)	1.352.54	2.72/-2.63	0.6																					



Radiated Composite Gain Data_6GHz

Appendix B

Θ(112.5°)	-17.8/-17.67	-16.81/-19.04	-14.39/-14.16	-17.17/-14.91	-8.58/-7.3	-11.64/-18.45	-7.84/-7.99	-4.29/-2.33	-3.12/-6.92	-9.62/-7.19	-8.37/-8.27	-9.07/-14.3	-15.14/-12.92	-9.13/-10.5	-13.51/-11.99	-8.84/-7.76	-10.77/-13.68	-15.72/-8.89	-15.35/-14.03	-17.83/-7.29	-7.23/-10.56	-10.28/-7.57	-6.49/-6.42	-10.52/-17.91
Θ(120°)	-11.61/-11.16	-12.89/-10.44	-8.96/-10.19	-11.13/-9.28	-12.03/-18.52	-18.78/-18.22	-11.11/-8.12	-12.71/-3.98	-3.59/-7.22	-11.61/-10.84	-7.58/-6.45	-7.28/-7.8	-9.9/-8.76	-3.52/-4.97	-12.08/-9.89	-11.78/-14.04	-11.28/-14.75	-12.12/-5.7	-10.61/-9.44	-7.83/-11.88	-6.32/-6.45	-2.98/-2.63	-4.74/-8.28	-11.79/-11.41
Θ(127.5°)	-4.73/-6.76	-10.54/-14.54	-12.28/-8.67	-6.15/-6.9	-13.67/-18.43	-15.63/-16	-11.5/-5.59	-8/-6.3	-5.84/-8.78	-12.4/-18.75	-17.09/-11.93	-8.62/-10.02	-9.86/-16.84	-17.97/-14.56	-18.04/-8.31	-18.42/-17.31	-15.45/-18.32	-8.78/-6.89	-16.04/-18.06	-17.16/-19.11	-6.53/-3.16	-7.05/-11.08	-10.36/-8.52	
Θ(135°)	-4.43/-4.23	-3.65/-5.69	-8.19/-13.21	-13.83/-9.93	-6.99/-7.41	-10.96/-9.96	-8.83/-11.61	-15.38/-10.29	-5.56/-3.17	-2.38/-3.58	-5.45/-7.25	-6.69/-7.01	-7.57/-8.42	-9.32/-17.38	-10.48/-9.24	-18.16/-13.29	-17.87/-15.14	8.93/-10.77	-14.56/-11.22	-10.46/-17.3	-17.9/-8.48	-4.4/-4.91	-7.69/-15.57	-9.56/-5.09
Θ(142.5°)	-2.64/-3.88	-5.5/-9.51	-14.21/-12.47	-13.14/-17.2	-18.58/-18.66	-10.15/-17.7	-7.98/-9.86	-11.51/-11.52	-9.17/-8.17	-10.88/-16.91	-18.89/-19.09	-13.86/-10.3	-12/-12	-12.08/-15.24	-13.67/-17.76	-17.49/-18.58	-15.64/-5.93	-3.74/-10.98	-9.74/-4.29	-3.28/-11.01	-15.87/-6.46	-3.87/-8.65	-12.77/-19.8	-10.66/-7.07
Θ(150°)	-0.84/-0.86	-1.08/-1.69	-3.21/-5.68	-9.56/-15.34	-18.23/-18.66	-19.2/-13.15	-7.62/-7.47	-8.33/-9.83	-13.66/-18.36	-11.75/-9.66	-10.23/-13.42	-10.75/-6.6	-1.86/-8.67	-11.46/-12.11	-11.12/-11.97	-10.02/-6.47	-5/-6.77	-12.01/-10.91	-10.41/-14.86	-10.86/-12.92	-9.91/-17	-17.24/-13.81	-8.79/-6.48	-4.97/-2.91
Θ(157.5°)	-1.7/-2.64	-3.46/-4.47	-7.06/-11.24	-14.81/-15.93	-15.99/-18.62	-14.71/-9.33	-6.3/-5.63	-6.57/-7.93	-9.46/-11.72	-12.18/-12.89	-13.12/-12.56	-14.58/-16.51	-17.66/-18.54	-17.9/-11.78	-7.24/-5.52	-4.62/-4.8	-6.69/-9.6	-11.2/-9.75	-10.32/-13.41	-15.36/-18.78	-15.08/-11.03	-9.82/-11.13	-15.07/-18.73	-10.19/-5.14
Θ(165°)	-5.28/-5.06	-5.7/-6.54	-9.36/-13.9	-16.39/-16.73	-16.84/-16.59	-18/-16.61	-18.51/-18.32	-15.71/-12.25	-9.93/-9.64	-10.7/-12.82	-14.51/-15.23	-19.43/-18.76	-18.25/-17.4	-19.7/-14.84	-11.07/-10.09	-9.75/-11.25	-15.83/-17.17	-13.33/-10.93	-10.49/-10.13	-10.73/-10.13	-9.38/-8.38	-6.31/-6.38	-7.32/-7.21	-6.7/-6.33
Θ(172.5°)	-6.41/-6.62	-8/-8.42	-8.64/-8.49	-8.47/-10.42	-11.83/-13.81	-19.06/-17.36	-12.57/-10.68	-8.81/-6.69	-5.05/-4.27	-3.88/-3.55	-4.44/-6.65	-8.49/-12.42	-18.14/-18.13	-18.51/-16.99	-19.15/-18.21	-16.81/-11.97	-8.7/-6.77	-5.69/-4.85	-3.99/-3.49	-3.36/-3.54	-3.31/-3.67	-4.06/-3.73	-3.63/-3.67	
Θ(180°)	-4.27/-5.73	-7.65/-8.84	-9.39/-9.24	-8.93/-11.73	-12.54/-16.41	-17.37/-17.81	-18.64/-17.22	-12.02/-8.72	-6.43/-4.84	-4.21/-3.59	-3.48/-3.86	-4.38/-5.74	-6.98/-8.62	-10.59/-11.79	-12.97/-14.66	-13.61/-12.8	-11.24/-10.14	-9.2/-8.14	-7.86/-6.71	-5.44/-4.87	-3.98/-4.08	-4.05/-3.98	-4.45/-4.1	-4.28/-5.05
Freq(Hz)	6.695GPol.	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°)	-11.55/-10.67	-10.85/-11.78	-14.4/-13.13	-14.09/-13.57	-15.61/-17.75	-16.74/-17.01	-16.32/-16.73	-17.76/-17.8	-17.33/-15.97	-15.27/-14.47	-14.57/-15.84	-15.47/-13.68	-12.34/-12.37	-12.77/-13.25	-12.84/-13.33	-14.36/-15.57	-18.78/-18.62	-18.23/-17.08	-18.74/-19.03	-19.58/-18.79	-18.38/-17.85	-18.72/-17.93	-15.09/-15.01	-15.76/-14.4
Θ(7.5°)	-19.17/-10.04	-19.16/-17.3	-18.03/-18.52	-17.89/-18.94	-18.09/-18.62	-18.79/-18.08	-18.36/-18.24	-18.05/-19	-18.61/-13.77	-11.27/-9.44	-8.84/-10.33	-12.17/-12.33	-13.56/-13.76	-12.64/-11.4	-10.7/-11.78	-12.68/-15.42	-17.93/-17.07	-15.2/-12.98	-12.97/-14.16	-16.28/-17.32	-19.08/-17.99	-17.49/-19.32	-17.49/-18.14	-19.29/-19.18
Θ(15°)	-12.17/-10.28	-10.05/-8.4	-7.69/-6.42	-6.06/-6.98	-10.83/-10.62	-10.86/-11.14	-12.23/-15.4	-18.03/-18.84	-18.98/-17.53	-18.71/-18.84	-17.94/-17.49	-17.96/-17.85	-16.53/-12.63	-11.33/-12	-17.49/-18.4	-15.37/-12.37	-12.9/-16.06	-18.33/-17.53	-17.43/-13.95	-12.36/-12.1	-16.43/-13.89	-18.23/-19.01	-16.53/-12.45	
Θ(22.5°)	-16.92/-19.04	-19.26/-17.51	-13.1/-8.85	-9.02/-10.14	-8.46/-7.63	-7.71/-7.16	-6.22/-5.88	-6.68/-8.14	-9.2/-10.48	-13.63/-13.92	-10.14/-7.4	-6.05/-6.27	-8.52/-13.35	-18.07/-14.7	-13.75/-19.32	-18.76/-16.05	-12.08/-11.35	-13.22/-15.65	-13.91/-9.95	-9.28/-10.39	-12.81/-11.86	-12.91/-14.51	-14.99/-15.77	-16.93/-16.77
Θ(30°)	-12.94/-17.1	-17.45/-10.72	-8.35/-6.74	-5.35/-2.81	-1.87/-1.71	-1.77/-2.16	-2.92/-4.74	-6.44/-6.55	-5.84/-2.98	-3/-5.21	-7.36/-4.75	-4.34/-2.76	-3.09/-5.85	-14.24/-14.65	-8.65/-10.87	-15.97/-18.2	-16.85/-10.47	-7.78/-4.68	-6.51/-8.31	-10.84/-14.64	-18.55/-17.91	-18.36/-18.76	-17.82/-17.81	-16.11/-17.78
Θ(37.5°)	-12.49/-14.93	-9.2/-5.12	-3.14/-0.89	1.071.97	2.492.33	1.740.62	0.96/-0.18	-1.49/-4.05	-5.39/-4.07	-1.23/-1.77	-2.9/-10.93	-6.15/-4.44	-6.36/-19.05	-12.5/-5.82	-18.48/-14.29	-14.45/-10.72	-6.34/-9.46	-7.75/-10.34	-11.36/-8.29	-6.78/-7.83	-9.06/-18.09	-13.7/-11.46	-18.89/-11.54	
Θ(45°)	-3.96/-3.03	-0.620.68	0.881.34	1.210.51	1.182.06	2.543.12	3.282.69	2.42/2	0.21/-1.5	-2.11/-2.57	-4.29/-12.37	-13.04/-4.3	-2.48/-12.04	-5.51/-2.63	-5.73/-8.27	-13.14/-13.9	-18.37/-7.96	-4.3/-6.02	-11.92/-14.01	-7.67/-6.4	-8.64/-11.62	-7.34/-6.87	-6.34/-7	-7.07/-6.52
Θ(52.5°)	-2.99/-2.38	-0.96/-1.21	-0.90/-55	1.973.4	3.452.21	1.232.45	3.072.16	0.710.09	1.831.74	0.27/-1.32	-4.03/-8.56	-9.06/-5.35	-8.79/-8.04	-6.44/-2.16	-6.65/-7.64	-11.75/-13.88	-10.22/-15.86	-16.49/-11.12	-10.23/-15.1	-11.85/-10.91	-7.98/-6.4	-3.22/-4.72	-5.73/-4.36	
Θ(60°)	-0.63/-0.36	-0.88/-1.11	-2.49/-0.9	8.012.43	2.860.51	-4.74/-1.84	2.072.63	0.560.91	2.511.72	-0.52/-2.45	-7.57/-12.07	-6.23/-6.06	-2.88/-4.43	-3.01/-5.4	-7.77/-8.87	-10.51/-10.85	-9.96/-14.71	-13.15/-9.81	-13.65/-12.3	-7.53/-4.2	-4.42/-5.12	-2.7/-0.93	-1.10/-44	
Θ(67.5°)	1.941.87	1.770.02	-1.27/-2.78	-0.9/-0.39	1.262.36	0.08/-1.5	0.271.3	-1.47/-3.45	0.763.45	1.93/-2.01	-4.76/-6.52	-4.3/-6.85	-12.65/-9.8	-4.4/-6.15	-11.4/-17.87	-9.11/-8.45	-7.8/-9.79	-10.27/-10	-17.57/-14.43	-13.37/-9.38	-8/-5.83	-8.64/-3.62	1.5/-2.08	2.11/-138
Θ(75°)	2.322.16	2.711.5	-0.34/-2.96	-3.65/-2.61	1.502.44	-1.710.32	1.61/-92	-0.22/-1.82	0.942.15	3.712.28	1.02/-9.7	-2.21/-2.2	-1.83/-3.78	-12.28/-6.74	-11.13/-5.87	-3.14/-7.26	-3.71/-3.1	-7.24/-3.04	-2.96/-7.47	-10.94/-3.23	-0.63/-1.88	1.41/-0.2	-0.270.86	
Θ(82.5°)	1.34/-0.47	-0.56/-2.61	-3.2/-4.56	-5.01/-2.81	0.861.44	1.610.46	-1.15/-0.87	-0.32/-1.69	-0.910.77	2.3/2.4	0.24/-0.73	0.27/-0.19	-3.14/-2.96	-5.64/-3.98	-12.24/-6.78	-11.14/-7.8	-1.71/-4.85	0.580.39	-4.58/-3.61	-9.21/-12.24	-13.28/-8	-3.65/-5.81	-0.89/-0.48	0.410.72
Θ(90°)	1.590.81	1.871.22	0.66/-0.53	-2.58/-2.94	0.011.54	2.551.61	-0.2/-4.64	-3.290.18	2.063.01	3.552.97	0.29/-3.78	-4.89/-0.55	0.32/-4.49	-8.66/-4.98	-14.18/-17.53	-14.56/-16.24	-2.99/-8.33	-0.42/-0.63	-3.76/-7.5	-6.45/-16.93	-13.44/-15.57	-4.97/-5.4	-0.840.26	0.930.73
Θ(97.5°)	2.081.05	1.220.71	1.370.74	-1.21/-3.04	-1.171.46	1.871.37	1.29/-2.28	-4.38/-0.12	0.671.84	1.541.13	0.47/-0.24	-3.92/-7.89	-11.85/-16.2	-17.92/-8.72	-17.42/-15.58	-13.43/-5.77	-3.2/-8.96	0.92/-7.96	-14.5/-18.44	-12.79/-6.6	-7.73/-3.58	-5.99/-4.71	-2.64/-1.71	-0.360.89
Θ(105°)	-1.13/-2.36	-2.52/-2.11	-1.38/-0.72	0.35/-0.13	-0.77/-2.11	-2.49/-1.52	-1.43/-3.92	-3.78/-0.26	1.692.77	1.7/-0.79	-1.48/-4.25	-7.41/-10.28	-12.01/-12.97	-12.14/-18.51	-18.32/-21	-9.81/-18.74	-6.85/-9.87	-16.8/-0.62	-4.44/-10.68	-5.61/-4.61	-6/-10.42	-3.81/-6.66	-0.320.44	-0.51/-0.09
Θ(112.5°)	-3.75/-4.3	-5.84/-7.24	-7.48/-7.19	-5.71/-3.17	0.110.61	-0.280.08	-1.01/-4.46	-8.06/-5.74	-3.33/-1.63	-1.35/-2.32	-2.6/-5.16	-7.13/-8.8	-11.87/-13.79	-9.13/-4.61	-6.22/-5.52	-13.37/-17.63	-8.44/-11.82	-6.79/-0.53	-2.3/-13.1	-11.13/-5.4	-8.25/-4.01	-0.9/-0.21	0.530.31	-2.43/-2.71
Θ(120°)	-1.31/-0.51	-1.09/-3.46	-7.65/-13.63	-7.31/-3.23	-0.64/-1.29	-3.62/-4.35	-3.59/-4.23	-3.68/-4.33	-3.25/-2.22	-3.15/-4.47	-6.9/-13.43	-9.39/-6.21	-1.97/-1.87	-14.1/-6.63	-6.15/-8.58	-10.04/-14.18	-6.83/-7.16	-10.07.73	-2.26/-4.88	-11.38/-9.64	-13.33/-3.28	-0.09/-0.92	-0.42/-1.04	-1.76/-0.57
Θ(127.5°)	0.471.41	1.360.84	-0.94/-3.33	-6.74/-2.71	-0.43/-0.61	-2.7/-6.16	-9.69/-16.4	-6.94/-3.32	-2.66/-3.59	-4.21/-5.11	-5.54/-9.63	-17.28/-8.02	-4.8/-7.09	-10.29/-14.74	-12.27/-17.41	-11.87/-18.15	-13.07/-9.18	-3.56/-0.1	-1.34/-6.05	-18.19/-10.09	-14/-7.93	-1.32/-2.97	-1.07/-0.84	-1.840.54
Θ(135°)	0.751.86	2.442.54	1.59/-1.06	-1.97/-14.23	-9.56/-6.63	-4.46/-5	-7.64/-8.55	-9.45/-6.4	-2.9/-2.25	-2.91/-4.89	-5.44/-10.22	-16.73/-15.2	-11.25/-17.79	-15.21/-9.4	-9.03/-4.18	-7.3/-8.23	-18.75/-9.8	-7.3/-13.65	-11.74/-16.28	-16.33/-18.16	-10/-8.64	-4.99/-4.86	-3.67/-4.07	-2.940.65
Θ(142.5°)	1.082.98	3.773.73	2.410.33	-2.84/-9.02	-7.53/-2.86	-2/-4.12	-7.69/-8.17	-9.25/-15.18	-15.64/-9.96	-10.52/-14.15	-14.45/-15.68	-17.11/-12.7	-11.05/-11.87	-11.25/-14.82	-9.03/-8.37	-3.92/-5.94	-13.64/-10.53	-13.65/-18.34	-11.87/-4.75	-7.71/-17.74	-10.14/-6.71	-4.79/-4.69	-6.52/-6.94	-4.28/-0.26
Θ(150°)	2.233.58	4.374.61	3.942.4	0.04/-9.1	-12.63/-16.06	-13.45/-8.29	-6.47/-9.33	-13.32/-13.26	-12.51/-11.52	-13.46/-14.78	-18.81/-17.35	-17.61/-17.94	-18.01/-13.33	-11/-10.69	-11.57/-16.51	-19.02/-16.33	-9.39/-11.8	-11.81/-9.33	-11.16/-6.65	-9.77/-7.94	-5.96/-8.34	-11.64/-13.23	-11.32/-6.39	-2.190.43
Θ(157.5°)	0.612.77	3.543.7	3.011.65	-0.55/-2.63	-4.6/-4.48	-4.05/-3.22	-4.02/-7.3	-10.24/-10.54	-13.22/-18.25	-10.48/-15.05	-12.44/-12.52	-12.48/-13.59	-13.25/-10.82	-10.47/-11.29	-12.2/-13.56	-13.34/-15.8	-13.61/-10.1	-8.29/-10.34	-11.61/-9.46	-13.55/-13.89	-17.42/-10.38	-12.89/-11.94	-7.13/-4.9	
Θ(165°)	-5.48/-4.62	-3.75/-3.71	-3.98/-5.46	-6.82/-6.68	-7.28/-8.42	-8.98/-8.88	-11.29/-10.2	-6.87/-5.63	-6.06/-6.78</															



Radiated Composite Gain Data_6GHz

Appendix B

Θ(165°)	-6.48/-5.24	-3.22/-1.74	-1.27/-1.3	-1.72/-1.9	-1.9/-1.6	-1.22/-1.31	-1.34/-1.68	-2.05/-3	-4.12/-6.14	-9.29/-14.25	-18.67/-18.56	-17.39/-18.69	-18.87/-16.19	-11.59/-8.69	-7.38/-7.22	-8.27/-9.4	-10.44/-13.21	-18.86/-18.13	-17.11/-18.81	-19.27/-13.88	-11.3/-10.67	-11.49/-12.64	-12.94/-11.72	-9.04/-6.92
Θ(172.5°)	-5.66/-3.17	-1.68/-0.83	-0.67/-0.65	-0.82/-1.32	-1.61/-1.78	-1.92/-2.11	-2.62/-3.77	-5.48/-7.7	-9.42/-10.94	-12.7/-14.64	-17.32/-18.65	-17.85/-17.39	-14.94/-13.18	-12.24/-12.25	-12.71/-13.2	-13.56/-14.15	-14.15/-13.23	-11.92/-11.23	-10.96/-11.06	-11.73/-11.35	-10.94/-11.31	-12.43/-13.92	-13.7/-11.74	-8.48/-6.18
Θ(180°)	-9.74/-9.11	-8.82/-10.73	-12.79/-14.01	-6.18/-12.76	-17.72/-14.49	-11.95/-10.4	-10.4/-12.44	-15.96/-17.52	-16.55/-14.58	-13.47/-14.05	-14.44/-15.23	-16.7/-18.17	-19.35/-17.66	-18.24/-18.06	-18.26/-18.7	-16.81/-18.91	-18.9/-18.16	-17.41/-19.03	-16.47/-15.92	-15.49/-16.05	-16.28/-17.12	-17.1/-15.67	-13.45/-13.11	
Freq(Hz)	6.175GPol.	Theta/Ant. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	4.013/48	2.93/22	0.71/-0.26	-1.26/-2.67	-5.42/-10.04	-8.53/-16.14	-8.84/-1.28	-0.090/86	1.87/25	3.17/355	3.49/638	3.46/296	2.34/154	0.32/-1.31	-3.63/-6.57	-11.75/-19.01	-16.68/-8.92	-5.19/-2.4	-0.580/72	2.82/356	3.76/378	4.12/405		
Θ(7.5°)	3.01/2.68	2.14/-1.32	0.29/-1.02	-2.14/-3.85	-6.73/-11.56	-18.59/-15.77	-9.57/-5.54	-2.87/-1.01	0.27/1.36	2.33/305	3.75/935	4.13/407	3.55/315	2.48/1.74	0.34/-1.26	-3.25/-6.46	-11.51/-18.46	-13.59/-7.04	-3.73/-1.45	0.191/08	2.22/66	3.13/359	3.48/345	3.38/311
Θ(15°)	2.32/1.97	1.28/0.18	-1.04/-2.29	-3.49/-5.41	-7.5/-11.33	-18.36/-17.48	-11.15/-6.38	-2.91/-0.58	0.81/1.96	2.82/334	3.82/421	4.07/325	2.17/1.34	-0.07/-1.8	-4.1/-1.75	-11.55/-18.4	-13.58/-7.88	-4.94/-2.17	-0.37/1	1.85/2.86	3.13/33	2.54/2.37	2.24/2.26	
Θ(22.5°)	0.990/7	-0.03/-1.45	-2.89/-3.46	-3.78/-5	-7.27/-11.2	-16.12/-19.32	-13.3/-8.03	-4.18/-1.48	0.62/2.04	2.87/3.36	3.71/365	3.05/259	1.62/0.26	-1.54/-3.94	-7.29/-11.77	-17.99/-18.15	-12.72/-7.82	-4.69/-2.35	-0.44/0.51	1.25/1.71	2.05/1.58	1.05/1.04	1.32/0.99	
Θ(30°)	-0.78/-1.22	-2.22/-3.74	-5.16/-5.55	-5.57/-5.98	-5.87/-5.91	-6.51/-8.19	-9.51/-8.07	-4.83/-2.29	-0.77/0.4	1.24/-165	2.41/271	2.91/302	2.92/12	0.77/-0.64	-2.33/-4.69	-8.39/-13.95	-19.42/-18.63	-17.87/-11.18	-6.64/-3.62	-2.33/-1.28	-0.92/-0.95	-1.54/-1.58	-1.94/-0.9	-0.38/-1.03
Θ(37.5°)	-1.57/-2.09	-2.86/-3.77	-4.18/-4.2	-4.18/-4.63	-4.58/-5.52	-7.61/-6.03	-10.61/-9.5	-7.01/-4.54	-3.53/-2.53	-1.31/-0.28	1.01/1.34	1.82/46	2.06/157	1.02/0.45	-0.4/-1.61	-3.66/-7.1	-13.6/-18.32	-17.69/-18.33	-8.73/-3.13	-0.65/-0.66	-0.86/-1.08	-1.38/-0.88	-0.95/-0.2	0.06/-0.22
Θ(45°)	-1.87/-2.34	-2.43/-2.92	-4.47/-4.58	-4.69/-6.14	-6.89/-6.82	-10.35/-11.07	-8.81/-7.38	-6.89/-7.41	-8.15/-6.57	-4.35/-3.45	-1.67/-0.78	0.66/1.06	1.50/41	-0.94/-1.48	-1.55/-2.56	-4.3/-6.95	-14.01/-18	-9.05/-5.09	-4.25/-2.84	-2.73/-3.73	-2.21/-2.1	-2.54/-3.4	-1.93/-2.02	
Θ(52.5°)	0.62/-0.22	-0.61/-1.31	-2.05/-2.97	-4.82/-7.6	-11.4/-18.25	-14.98/-7.15	-5.13/-5.36	-7.97/-17.92	-12/-6.27	-4.75/-4.44	-2.03/-0.25	1.42/167	0.07/0.84	-1.7/-1.97	-2.29/-2.55	-5.7/-18.16	-12.88/-8.02	-9.38/-17.03	-18.66/-16.07	-13.51/-13.62	-8.43/-9.57	-2.38/-1.76	-3.78/-2.29	-1.22/-0.48
Θ(60°)	1.13/0.72	-0.65/-1.99	-4.41/-7.2	-10.52/-11.06	-13.75/-17.99	-10.09/-5.8	-3.72/-4.82	-10.71/-18.92	-10.22/-7.12	-7.66/-8.49	-4.04/-1.64	-0.03/-0.41	-0.75/-1.97	-2.03/-3.76	-6.04/-5.01	-5.94/-11.26	-12.75/-5.46	-3.86/-10.37	-15.36/-7.09	-5.78/-7.95	-6.29/-3.43	-4.63/-4.05	-3.85/-1.49	0.31/0.83
Θ(67.5°)	4/-5	-5.52/-5.65	-7.67/-11.65	-10.04/-13.41	-7.87/-4.44	-4.14/-3.96	-3.9/-5.3	-6.64/-8.26	-9.41/-11.99	-7.39/-8.81	-4.63/-2.97	-2.76/-2.93	-4.18/-4.75	-7.29/-11.69	-7.76/-3.91	-7.07/-18.98	-6.61/-3.45	-6.26/-18.61	-13.89/-10.21	-7.77/-5.71	-12.18/-5.2	-3.21/-2.28	-1.93/-3.32	
Θ(75°)	-5.71/-5.61	-6.8/-8.44	-13.58/-17.37	-18.71/-17.33	-14.69/-11.91	-10.93/-6.83	-5.26/-6.06	-6.94/-6.28	-6.44/-10.76	-18.73/-17.51	-12.07/-10.61	-8.98/-9.24	-11.04/-11.2	-9.51/-9.36	-18.06/-13.36	-12.37/-17.03	-11.83/-6.5	-9.16/-6.36	-12.54/-18.91	-12.78/-8.37	-8.99/-11.09	-13.82/-10.28	-8.56/-6.07	-6.34/-5.43
Θ(82.5°)	-18.03/-14.19	-11.23/-10.68	-9.36/-11.69	-11.66/-17.85	-18.56/-15.38	-12.19/-13.74	-7.45/-14.73	-11.56/-12.75	-13.55/-15.79	-17.52/-12.84	-13.9/-13.19	-11.33/-14.54	-8.46/-10.14	-11.07/-15.76	-19.31/-18.56	-11.67/-16.09	-9.08/-7.2	-4.79/-11.26	-13.29/-9.61	-11.69/-10.02	-9.26/-11.17	-17.45/-14.57	-9.11/-8.68	-14.79/-13.4
Θ(90°)	-11.99/-14.09	-10.59/-10.69	-7.63/-12.92	-11.03/-16.42	-18.3/-17.94	-14.46/-9.28	-12.71/-6.34	-8.02/-12.43	-12.07/-11.93	-12.66/-12.68	-15.43/-15.78	-15.59/-14.3	-9.4/-15.8	-11.79/-13.48	-11.91/-12.79	-9.05/-3.78	-8.46/-10.96	-19.02/-12.39	-16.46/-12.64	-8.45/-9	-13.71/-12.06	-12.13/-11.28	-12.91/-14.88	
Θ(97.5°)	-8.79/-13.74	-17.15/-14.08	-12.35/-11.31	-12.53/-18.81	-17.81/-14.61	-13.99/-18.11	-17.39/-11.19	-8.35/-8.82	-11.42/-11.05	-11.41/-11.43	-13.66/-19.29	-18.9/-12.92	-15.39/-19.04	-17.39/-14.65	-8.68/-10.82	-17.29/-13.8	-11.9/-16.32	-5.44/-17.79	-19.17/-8.47	-9.56/-8.69	-5.11/-7.86	-13.15/-15.84	-17.56/-10.82	-8.01/-8.59
Θ(105°)	-6.67/-7.4	-9.44/-11.7	-13.55/-11.71	-8.96/-10.94	-9.61/-10.46	-9.77/-10.68	-11.32/-11.82	-13.19/-13.45	-12.22/-13.15	-17.81/-18	-15.5/-17.62	-17.44/-18.17	-12.48/-10.83	-16.34/-14.17	-12.39/-13.55	-14.48/-6.27	-15.38/-16.25	-17.63/-8.22	-11.38/-8.69	-18.04/-10.86	-7.34/-11.86	-15.8/-8.2	-6.14/-66	
Θ(112.5°)	-9.88/-7.82	-9.34/-9.37	-11.89/-17.61	-18.9/-17.84	-19.12/-18.9	-11.74/-11.05	-10.97/-8.37	-8.78/-10.16	-12.05/-17.16	-18.08/-15.74	-13.26/-12.34	-16.74/-19.39	-12.63/-8.39	-8.23/-11	-12.7/-14.47	-17.67/-16.21	-7.62/-8.17	-11.64/-8.07	-14.69/-9.71	-7.85/-5.35	-1.63/-1.92	-5.58/-10.03	-13.87/-8.56	
Θ(120°)	-7.95/-10.73	-10.88/-13.5	-11.69/-11.92	-11.45/-12.88	-9.2/-7.79	-6.69/-7.63	-11.76/-13.82	-13.24/-12.68	-10.81/-11.06	-9.93/-9.05	-7.05/-7.74	-7.25/-6.41	-4.29/-4.55	-5.87/-10.73	-13.07/-8.33	-10.27/-15.23	-17.93/-18.5	-9.48/-6.36	-11.98/-13.71	-16.56/-8.37	-8.79/-13.14	-4.4/-2.52	-4.54/-5.41	-4.87/-6.26
Θ(127.5°)	-1.12/-3.48	-3.39/-5.34	-4.76/-4.61	-4.38/-5.05	-6.15/-4.44	-5.59/-5.84	-5.99/-5.76	-5.06/-3.2	-2.28/-2.21	-2.64/-3.59	-4.28/-4.02	-1.62/-1.284	-7.28/-9.61	-15.26/-12.8	-11.62/-12.84	-7.75/-18.1	-16.68/-9.81	-11.53/-9.23	-13.41/-9.76	-8.01/-10.8	-18.32/-11.61	-10.78/-10.88	-9.17/-4.2	-1.75/-2.94
Θ(135°)	-7.78/-7.53	-8.59/-7.45	-7.09/-5.05	-4.96/-57	-11.21/-13.58	-11.46/-9.95	-8.37/-1.16	-5.51/-3.74	-2.88/-1.37	-0.66/-1.23	-2.79/-3.63	-4.95/-2.22	-8.43/-9.69	-15.18/-17.97	-13.78/-15.9	-13.88/-10.68	-12.68/-12.84	-16.09/-18.42	-18.69/-10.13	-12.56/-12.54	-6.84/-9.63	-10.65/-6.36	-6.07/-7.48	-5.96/-11
Θ(142.5°)	-3.54/-2.44	-3.41/-5.64	-10.15/-15.75	-13.25/-9.73	-8.18/-8.68	-6.88/-4.44	-3.03/-1.99	-0.94/-0.72	-0.55/-0.14	-0.24/-1.55	-5.03/-10.14	-7.18/-4.02	-3.51/-3.39	-6.29/-5.75	-5.89/-7.98	-12.85/-14.6	-6.03/-2.8	-5.02/-17.61	-17.11/-19.13	-9.38/-5	-2.98/-2.61	-3.43/-6.05	-9.8/-6.93	-4.59/-2.89
Θ(150°)	-2.24/-2	-1.91/-3.08	-5.65/-10.87	-17.18/-19.09	-16.08/-16.45	-17.03/-14.47	-11.53/-8.87	-7.34/-5.89	-3.74/-2.09	-1.78/-3.34	-6.19/-9.41	-7.97/-11.51	-4.34/-3.13	-5.39/-7.81	-8.61/-8.19	-9.37/-1.11	-5.14/-4.2	-6.13/-6.65	-6.66/-5.81	-5.86/-8.93	-12.84/-15.25	-14.65/-12.26	-13.84/-8.89	-4.58/-3.09
Θ(157.5°)	2.64/2.39	1.71/0.28	-2.13/-4.97	-8.47/-13.34	-16.75/-18.05	-17.81/-15.61	-11.22/-8.44	-7.61/-7.94	-7.98/-7.74	-8.63/-11.03	-15.08/-15.17	-10.41/-7.68	-6.76/-4.6	-2.28/-1.54	-1.98/-3.94	-8.01/-10.2	-1.82/-8.75	-8.07/-7.51	-8.34/-9.63	-16.81/-10.42	-4.84/-2.93	-0.65/-3.26	2.52/3.12	3.37/3.25
Θ(165°)	-0.03/-0.66	-1.21/-2.63	-4.67/-7.08	-10.26/-14.01	-17.71/-18.26	-19/-15.82	-13.76/-11.41	-9.92/-10.15	-11.55/-14.17	-16.78/-18.71	-18.55/-16.04	-12.02/-9.1	-6.06/-4.46	-3.46/-3.59	-4.54/-6.57	-9.72/-12	-13.14/-14.19	-15.67/-16.57	-17.69/-18.02	-14.7/-8.91	-5.08/-2.51	-0.98/0.21	0.83/0.84	0.30/0.3
Θ(172.5°)	-0.61/-0.83	-1.56/-2.65	-4.66/-7.92	-11.05/-13.84	-18.18/-18.75	-17.81/-16.92	-16.07/-15.68	-16.91/-19.26	-19.32/-17.94	-18.42/-16.7	-15.19/-12.81	-11.19/-9.85	-9.75/-9.79	-9.72/-9.53	-9.22/-9.21	-9.79/-11.17	-13.65/-16.77	-18.37/-18.42	-17.6/-14.94	-18.17/-15.54	-11.86/-9.89	-6.43/-4.7	-2.92/-1.59	-0.98/-0.77
Θ(180°)	-11.99/-14.74	-16.82/-17.41	-16.57/-15.76	-17.9/-18.92	-18.7/-17.86	-19.2/-18.43	-18.52/-18.72	-17.24/-15.49	-13.08/-11.43	-10.29/-9.67	-9.55/-10.2	-10.21/-10.03	-9.87/-10.77	-12.16/-13.17	-13.43/-14.22	-14.71/-15.55	-15.39/-15.69	-15.56/-14.88	-14.8/-14.85	-15.2/-17.38	-17.24/-15.36	-13.73/-12.85	-12.93/-13.47	-15.56/-18.91
Freq(Hz)	6.475GPol.	Phi/Ant. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-4.23/-2.11	0.71/0.6	2.28/3.35	4.13/4.64	4.87/5.19	5.24/5.16	4.81/4.39	3.95/3.36	3.61/-13.47	-0.51/-2.99	-0.61/-13.47	-19.19/-10.1	-5.04/-1.18	1.09/2.67	3.74/5.6	5.02/5.52	5.84/5.71	5.01/4.52	3.58/2.48	1.03/0.63	-2.56/-5.8	-12.19/-18.7	-9.77/-5.9	
Θ(7.5°)	-3.67/-1.46	0.11/3	2.15/3.14	3.98/4.52	4.99/5.24	5.07/4.72	4.47/4.28	3.86/3.32	2.44/1.42	-0.14/-2.02	-4.49/-9.54	-18.77/-9.95	-4.83/-1.63	0.37/1.72	2.53/3.25	4.09/4.29	4.95/11	5.17/4.9	4.33/3.5	2.73/1.62	0.57/-1.13	-3.77/-7.65	-16.91/-14.34	-7.4/-4.45
Θ(15°)	-3.69/-1.55	-0.36/0.61	1.48/2.12	2.44/2.93	3.39/3.32	3.34/0.3	4.19/3.88	3.67/3.33	2.57/1.72	0.71/0.81	-3.1/-6.69	-12.68/-18.17	-11.06/-5.36	-2.19/-3.08	0.75/1.74	2.86/3.57	4.34/4.79	4.83/4.71	4.3					



Radiated Composite Gain Data_6GHz

Appendix B

Θ(15°)	2.061/5.9	1.391/0.1	0.444/-0.38	-2/-4.6	-7.8/-11.61	-19.08/-16.26	-9.91/-6.78	-4.45/-2.86	-1.93/-1.33	-0.380/-3.1	1.121/1.58	2.092/2.2	1.98/1.44	0.61/-0.68	-2.41/-4.7	-8.02/-13.6	-19.34/-17.53	-10.71/-6.58	-3.51/-0.89	0.882/0.2	2.6/3.1	3.34/3.59	3.56/3.21	3.09/2.38
Θ(22.5°)	0.780/3.5	0.08/-0.52	-1.17/-2.07	-3.44/-5.16	-6.73/-10.29	-16.74/-18.15	-15.48/-9.47	-6.07/-4.4	-3.41/-2.38	-1.42/-0.52	0.25/1.1	1.81/1.81	1.070/1.8	-1.15/-2.9	-4.94/-6.1	-6.49/-8.3	-13.01/-19.04	-14.77/-7.46	-3.86/-1.66	-0.290/-4.7	0.79/1.18	1.47/1.52	1.180/9.6	1.09/1
Θ(30°)	-1.38/-1.92	-3.23/-3.83	-5.16/-6.55	-7.71/-8.69	-10.31/-10.94	-9.53/-9.99	-11.29/-11.91	-12.58/-14.39	-11.38/-8.03	-4.11/-1.65	-0.09/1.4	2.250/9.9	-1.06/-3.56	-4.33/-4.81	-6.49/-7.87	-8.76/-12.8	-18.62/-10.64	-4.74/-2.16	-1.12/-0.35	-0.3/-0.56	-0.140/-0.1	-0.14/-0.33	-0.85/-1.83	
Θ(37.5°)	-1.9/-3.79	-4.97/-7.5	-10.11/-11.68	-11.2/-10.74	-9.95/-8.41	-8.09/-8.69	-8.3/-7.7	-10.91/-18.69	-11.88/-6.68	-4.11/-2.03	-0.74/-0.19	0.12/0.09	-1.18/-2.18	-3.65/-4.99	-5.12/-7.06	-10.33/-13.26	-12.17/-11.12	-12.93/-8	-4.13/-2.83	-2.99/-3.22	-2.45/-2.06	-2.19/-2.1	-2.45/-2.84	-3.27/-2.57
Θ(45°)	-2.48/-2.2	-2.23/-4.8	-4.87/-5.62	-7.08/-8.17	-6.21/-4.98	-5.61/-7.26	-9.95/-12.75	-13.31/-14.74	-11.43/-6.68	-4.99/-4.51	-3.24/-2.39	-2.61/-2.58	-2.15/-2.1	-2.65/-4.58	-5.15/-5.89	-5.69/-12.89	-16.68/-14.92	-13.04/-10.19	-8.34/-7.8	-9.65/-10.26	-8.14/-6.8	-7.29/-10.38	-8.92/-6.14	-4.1/-3.33
Θ(52.5°)	-3.05/-2.11	-2.78/-3.1	-4.77/-5.2	-8.03/-7.62	-6.34/-7.32	-8.71/-8.03	-9.76/-12.5	-15.26/-13.91	-13.78/-17.36	-17.78/-9.8	-5.85/-4.34	-2.48/-2.34	-0.94/-1.54	-2.63/-6.66	-7.82/-4.64	-10.79/-10.15	-10.81/-18.18	-6.84/-8.17	-10.79/-10.15	-10.81/-18.18	-13.66/-18.57	-9.61/-6.52	-4.54/-3.37	
Θ(60°)	-2.7/-2.38	-3.1/-2.79	-3.91/-5.58	-9.24/-9.94	-12.36/-12.86	-12.19/-17.15	-17.93/-11.45	-7.41/-7.24	-11.31/-17.99	-13.27/-7.14	-3.86/-1.61	-0.81/-1.12	-3.17/-6.44	-5.33/-8.17	-12.24/-7.98	-7.52/-18.02	-11.64/-6.49	-11.49/-17.99	-17.78/-10.98	-18.33/-12.75	-8.35/-6.36	-11.58/-11.65	-8.77/-4.13	-3.69/-3.03
Θ(67.5°)	-1.2/-2.24	-3.64/-8.3	-6.23/-6.67	-6.98/-7.13	-12.91/-16.86	-13.11/-15.46	-18.52/-11.84	-10.14/-9.82	-9.65/-8.21	-8.35/-10.52	-13.27/-9.04	-8.84/-9.52	-9.08/-5.4	-5.47/-11.62	-16.21/-7.57	-8.11/-18.38	-8.45/-6.61	-9.7/-18.13	-13.74/-10.76	-18.7/-9.59	-7.79/-8.55	-8.53/-4.33	-1.91/-2.04	-1/-1.47
Θ(75°)	-2.95/-3.88	-4.78/-8.55	-9.27/-9.55	-8.72/-9.51	-12.27/-17.94	-17.59/-17.78	-12.67/-11.56	-9.16/-9.48	-9.23/-7.4	-6.5/-8.53	-14.03/-18.52	-18.73/-12.85	-9.85/-12.49	-17.59/-11.69	-18.62/-13.35	-10.89/-18.41	-8.43/-6.56	-11.49/-11.79	-9.87/-12.18	-6.84/-8.12	-11.97/-9.06	-5.14/-2.88	-3.59/-6.21	-5.01/-4.04
Θ(82.5°)	-8.05/-6.7	-6.9/-8.44	-8.64/-14.72	-16.77/-13.72	-18.61/-18.9	-16.79/-7.3	-14.22/-18.2	-16.19/-13.01	-13.25/-17.02	-17.94/-18.31	-16.87/-12.38	-9.31/-8.84	-12.38/-16.21	-18.87/-16.01	-19.4/-15	-16.52/-18.45	-17.97/-13.63	-8.72/-12.71	-18.97/-9.46	-7.96/-10.05	-14.34/-13.37	-8.63/-10.54	-15.6/-13.97	-13.58/-7.52
Θ(90°)	-8.25/-7	-9.29/-12.43	-15.56/-16.22	-18.09/-17.2	-11.19/-12.96	-14.05/-13.44	-11.17/-9.4	-12/-11.37	-11.44/-13.33	-18.35/-18.77	-13.48/-13.07	-13.92/-9.66	-10.96/-18.19	-14.33/-9.98	-12.29/-18.02	-17.81/-18.25	-13.05/-8.99	-18.26/-16.05	-18.46/-14.99	-11.41/-15.24	-14.12/-15.05	-8.24/-13.69	-12.57/-16.09	-9.85/-7.45
Θ(97.5°)	-12.41/-11.58	-15.65/-18.34	-17.59/-18.97	-18.55/-17.78	-17.95/-15.5	-18.71/-17.5	-10.31/-7.44	-6.51/-7.75	-8.61/-10.93	-10.53/-9.64	-12.57/-15.28	-7.3/-7.34	-8.37/-18.86	-19.36/-14.28	-11.71/-19.14	-16.89/-10.81	-7.41/-17.08	-15.16/-6.23	-19.14/-14.33	-14.64/-9.4	-8.01/-12.25	-10.96/-11.16	-12.73/-16.62	
Θ(105°)	-14.7/-14.83	-13.81/-11.18	-12.01/-13.05	-13.88/-18.95	-18.66/-18.65	-17.22/-18.44	-16.34/-15.42	-13.9/-10.77	-11.04/-15.96	-14.98/-11.93	-7.78/-7.11	-11.15/-16.25	-18.1/-15.14	-16.48/-14.11	-10.42/-11.18	-12.37/-13.46	-14.25/-15.27	-12.28/-12.04	-14.02/-19.24	-18.29/-19	-10.72/-13.27	-18.36/-19.05	-15.59/-15.19	-17.99/-14.48
Θ(112.5°)	-7.03/-9.02	-10.19/-9.26	-7.93/-12.19	-18.53/-15.26	-11.91/-11.63	-12.96/-14.4	-19.36/-17.74	-15.16/-12.3	-14.1/-15.02	-12.82/-11.61	-10.19/-7.6	-7.25/-8.3	-11.39/-7.62	-5.54/-9.97	-14.65/-17.48	-10.74/-7.59	-9.93/-14.49	-7.85/-9.94	-11.37/-10.64	-11.37/-10.64	-15.06/-10.77	-11.22/-8.73	-9.16/-9.81	
Θ(120°)	-9.38/-9.12	-12.23/-15.47	-18.18/-17.81	-13.92/-13.98	-13.56/-13.75	-11.97/-8.93	-8.38/-12.14	-18.59/-18.51	-17.42/-17.07	-8.99/-7.66	-7.62/-5.18	-4.37/-4.33	-7.11/-9.5	-6.4/-9.28	-8.6/-8.48	-17.85/-13.49	-17.78/-12.74	-9.17/-6.34	-12.41/-17.08	-8.05/-11.24	-18.17/-9.26	-6.47/-6.6	-7.82/-6.46	-8.6/-8.04
Θ(127.5°)	-5.97/-5.86	-9.37/-9.17	-10.96/-10.1	-10.34/-15.25	-18.03/-17.68	-18.31/-18.57	-16.12/-17.28	-17.09/-15.76	-9.76/-5.3	-2.74/-2.7	-4.55/-5.62	-4.63/-3.29	-3.59/-8.84	-12.87/-17.58	-14.76/-17.26	-11.04/-18.22	-10.65/-7.8	-10.97/-5.21	-15.94/-8.66	-14.12/-13.7	-19.27/-11.28	-10.84/-11.24	-11.17/-7.51	-6.39/-5.36
Θ(135°)	-7.98/-8.02	-10.02/-11.3	-9.87/-9.28	-9.81/-14.3	-16.58/-12.71	-10.32/-8.96	-7.06/-5.62	-6.01/-6.51	-6.73/-6.93	-4.82/-3.15	-4.01/-6.53	-2.62/-6.63	-11.43/-9.47	-13.99/-16.86	-14.27/-9.04	-11.94/-7.64	-6.17/-9.93	-13.03/-9.1	-9.97/-12.34	-15.98/-12.9	-9.74/-9.06	-9.3/-8.42	-10.14/-9.35	
Θ(142.5°)	-6.6/-7.27	-8.31/-9.37	-11.47/-14.15	-18.74/-18.71	-18.63/-18.93	-16.45/-12.09	-7.18/-7.27	-4.61/-3.32	-2.53/-2.25	-2.04/-1.91	-3.87/-7.2	-9.07/-4.39	-2.84/-3.01	-2.8/-4.72	-5.14/-6.92	-14.43/-14.41	-7.9/-3.69	-4.67/-9.45	-14.43/-11.23	-5.1/-5.15	-7.65/-9.84	-9.56/-9.54	-10.05/-10.73	-7.43/-7.37
Θ(150°)	-0.92/-1.6	-3.3/-5.08	-6.79/-8.8	-8.58/-9	-10.62/-11.51	-9.22/-7.22	-7.17/-7.34	-6.86/-6.97	-8.71/-9.76	-9.07/-10.9	-11.06/-10.52	-6.75/-4.12	-2.63/-2.4	-2.39/-2.22	-4.25/-7.33	-15.06/-6.16	-3.67/-5.06	-7.21/-10.16	-12.4/-17.81	-13.31/-8.12	-9.1/-9.24	-11.24/-10.51	-5.06/-2.57	-1.69/-1.04
Θ(157.5°)	1.24/-0.13	-1.74/-2.87	-4.93/-7.81	-10.06/-12.21	-14.44/-12.83	-9.32/-7.79	-8.63/-10.17	-10.42/-9.16	-6.99/-5.34	-5.06/-5.54	-6.65/-10.09	-12.13/-9.25	-10.67/-13.78	-7.91/-4.77	-3.97/-4.23	-4.98/-4.56	-4.31/-3.89	-4.02/-5.85	-9.07/-11.74	-10.84/-7.75	-4.91/-2.86	-1.18/-0.2	0.68/1.31	1.71/-1.79
Θ(165°)	0.12/-0.89	-2.22/-3.6	-6.08/-9.41	-13.55/-14.85	-12.59/-11.28	-10.74/-10.98	-13.32/-15.12	-13.72/-12.44	-11.81/-12.6	-13.25/-12.93	-9.89/-6.63	-4.52/-3.39	-3.8/-3.69	-3.82/-4.13	-4.5/-4.46	-4.56/-5.64	-6.42/-6.07	-5.86/-6.48	-9.68/-12.41	-11.8/-7.86	-4.59/-2.06	-0.96/-0.49	0.240/5.8	0.48/-0.54
Θ(172.5°)	0.390/1.7	-0.99/-1.78	-2.64/-3.93	-5.53/-6.86	-8.12/-10.02	-12.43/-15.82	-17.09/-14.12	-13.88/-14.5	-14.8/-17.98	-17.61/-19.04	-14.89/-12.65	-11.19/-10.69	-11.31/-6.69	-18.51/-18.18	-14.54/-18.97	-19.11/-18.07	-18.28/-15.93	-12.71/-11.96	-12.34/-14.16	-14.07/-12.17	-9.49/-7.26	-5.04/-3.48	-1.95/-0.72	-0.39/-0.29
Θ(180°)	-9.42/-9.04	-9.22/-10.18	-10.33/-12.16	-12.6/-12.4	-12.39/-12.77	-13.46/-15.61	-17.31/-16.41	-15.92/-14.72	-14.29/-17.01	-18.29/-18.03	-19.01/-18.01	-16.39/-13.27	-10.25/-9.96	-9.71/-10.23	-11.24/-11.14	-11.13/-11.67	-12.12/-13.67	-16.48/-19.28	-19.05/-17.23	-16.46/-14.3	-12.73/-12.04	-11.45/-10.87	-9.17/-8.2	-7.86/-8.26
Freq(GHz)	6.995GPol	PhiAnt. 3	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-4.61/-5.14	0.01/0.2	2.25/3.36	4.24/5.15	5.45/5.86	5.95/5.51	5.14/5.04	4.66/4.07	3.141/89	-0.13/-2.83	-6.54/-13.1	-17.91/-11.32	-5.21/-1.2	1.16/2.72	3.67/4.51	5.09/5.4	5.83/6.05	5.85/5.71	5.17/4.82	4.13/3.09	1.69/-0.15	-2.61/-5.51	-12.86/-18.19	-12.94/-7.01
Θ(7.5°)	-4.71/-9.7	0.041/0.5	2.55/3.34	4.26/4.94	4.36/3.82	4.98/4.7	4.754/6.5	4.36/3.26	3.021/8	0.081/1.95	-4.84/-9.3	-17.61/-11.98	-4.42/-1.29	0.87/2.5	3.65/4.48	5.35/6.2	6.25/6.46	6.34/5.94	5.32/4.56	3.812/3.7	0.24/-0.21	-2.81/-6.6	-15.75/-18.89	-10.31/-5.27
Θ(15°)	-6.28/-3.09	-0.740/7.6	1.99/2.53	3.15/3.28	3.38/3.74	3.76/3.76	3.53/4.3	3.06/2.72	2.23/1.3	-0.07/-1.99	-4.15/-7.07	-12.28/-17.59	-14.27/-6.73	-2.37/0.17	2.15/3.77	4.95/5.72	6.19/6.3	6.18/5.68	5.14/4.43	3.35/2.01	0.49/-1.23	-3.47/-6.81	-12.89/-15.67	-13.03/-7.66
Θ(22.5°)	-7.11/-3.85	-1.48/-0.37	-0.30/2.6	1.25/1.82	2.16/2.01	1.89/2.19	1.921/0.9	0.630/1.3	-0.64/-2.13	-4.51/-6.76	-8.26/-9.9	-14.1/-19.36	-10.75/-5.75	-3.22/-1.24	0.721/9.1	2.89/3.68	4.46/5.03	5.13/4.75	3.84/3.13	20/88	-0.44/-2.51	-5.38/-10.36	-17.86/-12.98	-9.5/-7.18
Θ(30°)	-7.35/-4.67	-3.24/-3.06	-2.68/-2.39	-2.23/-2.78	-3.06/-2.28	-1.47/-1.49	-1.25/-0.68	-1.02/-1.57	-2.02/-1.73	-2.14/-2.5	-8.51/-13.4	-13.94/-13.99	-12.02/-6.62	-4.49/-1.05	0.420/6.7	0.660/7.6	1.141/1.95	2.75/2.92	2.63/1.88	0.24/-1.15	-3.09/-4.25	-5.34/-7.68	-10.79/-17.38	-14.74/-8
Θ(37.5°)	-13.9/-8.96	-7.08/-5.01	-4.69/-4.78	-4.71/-5.86	-7.24/-8.83	-10.49/-6.11	-1.24/-0.36	-0.47/-1.03	-2.02/-4.62	-6.89/-9.23	-12.94/-11.26	-5.89/-5.04	-5.33/-4.71	-3.68/-3.46	-4.29/-4.07	-2.32/-1.35	-1.2/-1.4	-0.90/7.1	1.40/2.5	-0.27/-4.89	-1.47/-4.84	-6.87/-6.29	-7.95/-14.44	-17.81/-13.82
Θ(45°)	-16.41/-12.69	-8.78/-7	-5.72/-4.36	-3.65/-4.79	-6.03/-6.92	-7.15/-6.67	-5.01/-3.03	-1.32/-0.78	-3.13/-6.7	-11.06/-18.73	-13.27/-8.29	-6.08/-4.91	-6.04/-6.68	-5.64/-5.88	-11.33/-16	-7.46/-4.11	-4.99/-10.27	-12.38/-8.04	-4.08/-4.21	-7.56/-10.47	-10.1/-10.59	-8.46/-7.18	-6.24/-6.74	-9.98/-17.4
Θ(52.5°)	-9.83/-8.06	-7.04/-7.15	-7.82/-8.48	-7.27/-5.4	-3.13/-2.2	-0.49/-2.28	2.57/3.11	3.11/3.3	-2.2/-8.44	-14.99/-19.33	-18.17/-12.94	-9.98/-8.62	-12.72/-13.08	-8.9/-5.69	-8.29/-15.45	-17.95/-17.93	-12.77/-5.17	-4.41/-5.49	-8.61/-5.55	-6.24/-15.01	-11.91/-8.16	-11.48/-11.16	-14.71/-14.81	-11.65/-8.87
Θ(60°)	-14.61/-13.96	-8.51/-6.03	-4.1/-5.42	-7.3/-8.9	-5.42/-2.23	1.12/0.1	2.26/2.41	1.46/0.11	-2.44/-8.73	-13.92/-14.62	-11.91/-8.81	-8.58/-11.34	-10.04/-9.85	-8.97/-7.74	-9.72/-12.96	-15.65/-12.71	-5.23/-3.41	-4.69/-9.25	-11.13/-8.24	-18.09/-11.68	-8.15/-11.21	-11.98/-19.66	-12.76/-13.28	-17.77/-13.25
Θ(67.5°)	-8.11/-10.15																							



Radiated Composite Gain Data_6GHz

Appendix B

Θ(67.5°)	-4.5/2.63	-4.69/13.47	-17.7/13.58	-11.45/18.99	-13.68/10.31	-16.24/15.59	-14.66/14.24	-10.83/11.23	-12.72/11.42	-12.04/18.15	-12.91/13.53	-7.85/6.06	-8.41/9.38	-12.49/8.39	-4.63/5.66	-6.52/6.64	-7.89/8.22	-7.15/7.06	-11.14/13.21	-11.79/9.54	-11.27/14.32	-14.72/9.68	-6.52/6.46	-3.3/11.3
Θ(75°)	-12.16/-8.5	-4.99/-5.44	-5.01/-7.68	-8.12/-10.88	-10.96/-10.93	-10.04/-18.71	-10.87/-16.33	-11.3/-3.59	-4.42/-17.78	-9.4/-8.61	-19.15/-11.95	-9.5/-14.62	-7.37/-5.69	-10.05/-9.02	-11.37/-13.32	-8.26/-3.97	-6.34/-6.68	-7.17/-10.9	-12.09/-8.39	-8.03/-6.94	-13.57/-19.93	-17.6/-11.92	-11.76/-11.7	-13.29/-14.1
Θ(80°)	-10.85/-10.81	-7.9/-5.59	-10.36/-13.47	-15.86/-18.21	-16.38/-14.92	-12.79/-9.73	-9.02/-18.63	-18.33/-19.29	-9.64/-8.99	-12.39/-14.79	-8.26/-13	-11.39/-17.72	-8.26/-13	-12.91/-9.53	-7.03/-10.29	-11.57/-8.21	-12.75/-15.62	-13.54/-17.13	-18.31/-11.44	-10.31/-12.96	-19.19/-18.01	-17.47/-11.95	-13.67/-10.89	-11.54/-8.51
Θ(90°)	-13.37/6.82	-4.21/6.26	-9.41/-7.15	-7.86/9.92	-12.59/7.69	-9.46/10.34	-8.65/-6.47	-7.67/-8.41	-9.62/12.09	-13.36/18.21	-13.09/11.53	-14.68/10.37	-9.88/8.87	-13.28/11.35	-9.87/17.76	-15.01/17.26	-17.67/9.91	-12.93/16.3	-9.91/8.62	-12.43/-18.88	-17.97/13.47	-9.23/-11.76	-17.35/-15.32	-18.32/8.25
Θ(97.5°)	-5.24/-6.05	-11.99/-7.46	-10.23/-17.36	-14.49/-16.3	-10.73/-9.58	-13.54/-10.42	-12.61/-16.13	-18.92/-19.01	-11.76/-14.14	-18.06/-16.94	-18.59/-18.49	-13.37/-13.37	-18.56/-11.7	-13.6/-19.15	-18.4/-18.58	-11.54/-16.68	-14.35/-16.63	-9.83/-12.64	-17.42/-18.23	-18.52/-16.23	-12.47/-9.49	-15.56/-8.4	-9.43/-5.63	-5.07/-5.83
Θ(105°)	-7.48/-12.74	-17.92/13.03	-12.38/-14.03	-7.29/-6.72	-10.53/-11.36	-8.5/-6.38	-8.15/-7.46	-7.65/-11.23	-15.06/-7.81	-10.17/-15.9	-15.72/-10.13	-11.07/-11.01	-13.08/-14.64	-9.32/-8.44	-7.94/-8.76	-8.62/-8.66	-7.96/-9.02	-7.71/-16.16	-17.56/-12.16	-17.95/-17.68	-6.07/-7.06	-6.47/-11.25	-6.31/-2.93	-3.55/-6.58
Θ(112.5°)	-9.08/-10.44	-14.99/-15.13	-11.82/13.33	-16.67/10.01	-9.82/13.78	-13.73/14.52	-14.25/-7.35	-10.01/-16.06	-11.86/13.61	-18.77/16.91	-11.14/-11.9	-17.19/18.19	-11.99/18.44	-16.19/10.08	-10.12/12.37	-19.05/17.96	-12.75/18.15	-9.8/-14.8	-14.27/15.17	-18.49/18.42	-8.79/7.6	-8.62/9.99	-11.32/12.6	-6.24/9.53
Θ(120°)	-0.55/-2.15	-6.46/-11.36	-18.32/-11.83	-10.78/-16.75	-16.32/18.29	-12.32/10.78	-11.61/-18.92	-19.09/-15.18	-19.02/10.25	-19.14/15.05	-14.95/-13.33	-12.98/12.18	-18.94/-17.1	-14.83/-11.53	-13.14/16.06	-10.75/12.74	-12.77/15.3	-11.69/19.15	-10.83/-11.49	-18.71/-10.95	-8.19/-6.43	-12.7/15.8	-13.51/-1.81	1.17/-1.4
Θ(127.5°)	-0.76/-0.16	-3.29/6.39	-18.56/18.86	-17.92/13.42	-16.42/17.26	-15.63/13.94	-11.03/-11.09	-7.08/-7.62	-7.07/15.54	-13.28/-7.13	-6.9/10.55	-10.68/15.23	-16.62/10.14	-13.13/18.91	-9.94/4.3	-7.78/6.29	-16.49/18.16	-17.12/14.11	-9.69/-14.6	-17.53/7.35	-5.9/-5.79	-2.82/5.92	-9.98/-4.69	-1.79/-2.66
Θ(135°)	-6.52/3	-4.14/5.93	-11.97/-11.17	-10.55/-8.71	-7.23/-11.03	-12.42/10.86	-16.04/17.27	-14.15/-8.71	-14.06/-15.21	-8.62/5.02	-3.58/4.55	-7.53/5.7	-3.72/-1.4	-5.56/10.62	-6.49/6.68	-5.51/1.41	-7.73/9.3	-9.01/-11.23	-14.22/11.03	-12.23/10.53	-3.18/2.36	-5.64/2.56	-5.46/4.05	-0.89/0.97
Θ(142.5°)	-4.27/-3.27	-1.48/-1.3	-2.56/5.59	-6.22/4.21	-4.93/-4.48	-4.75/-8.31	-14.34/-17.72	-13.81/-11.21	-11.41/-8.96	-6.15/-6.49	-5.5/-5.16	-4.8/-2.11	-4.98/-1.83	-2.23/-5.87	-12.1/8.44	-1.34/-2.52	-7.34/-4.57	-5.13/-6.54	-8.91/-11.78	-16.61/-10.54	-12.65/-3.8	-2.8/-4.22	-0.34/-1.71	2.61/-2.9
Θ(150°)	1.27/0.44	0.7/0.07	-0.70/7.8	1.11/0.52	-1.49/-1.63	-2.64/6.05	-10.06/12.91	-14.8/13.27	-10.88/12.32	-11.56/11.32	-13.54/17.43	-13.89/7.74	-2.05/0.03	0.086/4.07	-3.37/4.4	-3.88/6.46	-7.54/4.58	-4.13/-4.93	-6.92/10.35	-12.29/9.49	-9.82/8.01	-2.02/0.29	0.53/2.1	3.01/2.6
Θ(157.5°)	-0.82/-1.62	0.55/2.81	3.51/1.93	-0.28/-0.74	-0.96/-1.85	-5.64/13.62	-16.96/14.16	-11.56/12.58	-18.49/12.84	-10.28/-11.7	-12.52/-10.6	-9.05/-12.04	-5.81/-1.22	-0.49/-1.48	-3.8/-5.78	-6.95/-6.87	-6.36/-6.82	-8.28/-8.92	-9.23/13.61	-17.82/7.35	-4.14/2.52	-1.37/0.7	2.893/3.78	3.862/88
Θ(165°)	0.54/-0.25	-0.49/-10.3	-3.45/-3.96	-2.13/-2.63	-4.77/-8.26	-8.3/-9.02	-14.74/-15.59	-11.02/-10.6	-10.31/-7.08	-6.78/-8.31	-9.83/-10.04	-9.94/-8.92	-7.88/-5.64	-3.06/-1.59	-0.48/-0.26	-0.27/-1.01	-2.33/-4.35	-4.13/-5.2	-7.85/-14.87	-13.72/6.46	-3.71/-2.2	-1.15/-0.5	0.24/1.1	1.080/46
Θ(172.5°)	-17.15/-15.04	-19.19/-10.55	-4.82/-1.85	-2.46/-4.17	-5.78/-6.55	-7.79/10.3	-17.1/17.91	-17.57/-15.45	-13.82/12.59	-12.6/-16.19	-19.12/-15.27	-8.98/-5.64	-0.31/0.13	1.82/2.37	2.52/5.27	2.08/0.97	-0.78/-2.73	-4.96/-7.31	-10.59/17.62	-18/10.59	-6.52/-9.91	-11.30/05	-0.64/-0.91	-2.12/-4.53
Θ(180°)	-12.43/-13.87	-12.34/-9.31	-7.33/-7.12	-10.55/-15.78	-18.7/-15.29	-16.95/-14.91	-11.16/-9.92	-10.76/-13.38	-16.15/-16.52	-16.59/-18.01	-16.89/-16.36	-16.83/-17.36	-13.23/-9.12	-6.79/-5.64	-4.72/-4.39	-4.66/-4.77	-5.12/-5.64	-6.98/-9.01	-12.97/-18.76	-17.79/-14.52	-13.3/-10.75	-7.92/-6.74	-7.18/-9.19	-12.97/-18.42
Freq(Hz)	6.475GPol.	PhiAnt. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-6.19/-9.61	-7.36/-4.66	-3.84/-1.6	0.48/1.55	2.23/2.73	3.44/4	4.42/4.54	4.77/4.85	4.36/3.56	3.12/8.1	1.81/0.82	-0.49/-2.5	-5.49/-7.79	-6.5/4.13	-2.08/-0.18	1.22/2.33	3.02/3.61	4.12/4.43	4.46/4.52	4.19/3.94	3.73/3.15	2.31/0.98	0.55/-1.37	-3.62/-5.99
Θ(7.5°)	-4.94/-7.7	-7.26/-3.57	-4.08/-2.39	-1.27/-0.22	0.17/0.8	1.62/2.13	2.52/3.13	3.53/3.92	3.81/3.42	2.53/1.71	0.73/-0.95	-3.29/-5.89	-12.32/9.54	-5.53/-2.59	-1.02/0.58	2.21/2.02	3.87/4.28	5.1/5.6	5.78/5.77	5.42/4.88	4.62/3.87	2.88/1.79	0.18/-1.41	-3.43/-8.88
Θ(15°)	-6.18/-11.11	-11.68/-9.98	-7.15/-6.68	-4.72/-2.82	-2.87/0.54	0.36/0.89	1.86/2.93	3.57/3.68	3.32/1.26	1.24/0.05	-1.11/-2.75	-4.78/8.74	-18.45/-15.03	-6.17/-2.53	0.13/2.04	3.39/4.16	4.77/5.39	5.59/6.03	5.82/5.41	4.93/5.47	4.51/3.96	2.86/1.89	0.93/-0.05	-2.25/-4.31
Θ(22.5°)	-3.45/-5.98	-6.91/-9.01	-12.37/-16.87	-9.95/-6.25	-4.85/-1.84	-0.48/0.9	1.39/1.12	1.12/1.45	1.37/0.77	0.23/-0.7	-2/5.28	-9.2/-13.38	-13.58/-7.72	-4.54/-2.33	-0.65/0.68	1.76/2.53	3.3/3.39	3.44/4.24	5.09/5.41	5.17/4.65	4.79/4.47	3.75/3.02	2.35/1.67	-0.6/-3.59
Θ(30°)	-2.33/-4.85	-7.95/-11.12	-14.87/-12.16	-8.62/-10.68	-11.49/-8.48	-5.89/-4.22	-3.73/-3.8	-4.67/-3.3	-1.04/0.29	1.29/0.68	-1.61/-4.83	-9.25/-11.99	-19.28/-15.3	-10.4/-5.49	-2.52/-1.72	-2.06/-1.56	0.26/1.72	2.52/7.8	2.45/2.37	2.16/2.29	2.52/3.94	3.09/3.03	1.85/0.58	-0.97/-2.62
Θ(37.5°)	-7.59/-7.61	-11.24/-18.28	-12.03/-11.52	-13.74/-18.86	-18.14/-18.1	-18.73/-13.72	-8.73/-7.29	-7.94/-7.75	-6.76/-5.73	-5.33/-11.23	-18.11/-12.3	-11.3/-8.3	-7.4/-6.95	-6.38/-5.47	-4.42/-3.29	-1.89/-2.24	-3.03/-1.36	0.30/0.74	0.64/1.58	1.79/1.78	1.19/0.25	-2.48/-5.04	-7.41/-8.79	
Θ(45°)	-8.41/-10.32	-12.51/-12.17	-17.99/-13.15	-11.25/-17.97	-18.82/-10.74	-10.22/-13.34	-11.91/-11.02	-10.21/-7.81	-6.53/5.88	-6.22/8.93	-14.93/-19.2	-19.25/-18.03	-11.27/-4.53	-3.33/-2.84	-1.94/-3.39	-5.52/-6.02	-7.44/-7.55	-4.2/-3.47	-4.08/-1.91	0.42/0.8	-0.69/-1.62	-1.32/-4.19	-8.02/-9.14	-9.13/-8.68
Θ(52.5°)	-10.65/-8.3	-10.41/-15.81	-18.27/13.91	-10.11/-10.18	-9.33/-15.1	-6.89/-4.24	-6.29/-11.69	-10.49/-8.47	-6.23/-5.41	-6.48/-6.42	-15.56/-16.82	-17.62/-18.33	-18.22/-7.56	-4.61/-3.92	-0.84/-1.89	-4.84/-4.28	-3.04/-4.98	-7.65/-9.93	-2.19/0.1	1.54/0.77	-1.68/-5.85	-5.62/-5.72	-10.08/-9.34	-9.3/-1.01
Θ(60°)	-11.49/-11.5	-18.21/-18.71	-12.31/10.32	-10.56/-6.42	-7.3/-11.78	-7.66/-12.66	-19.09/-19	-12.87/6.38	-3.92/-4.13	-6.38/-12.6	-13.59/-16.73	-17.81/-18.44	-18.39/-16.02	-8.81/-8.13	-5.26/-2.1	-3.47/-4.47	-4.23/-4.86	-6.65/-6.67	-1.86/-0.57	-1.58/-0.24	-0.67/-1.83	-0.28/0.74	-1.14/-3.18	-5.65/-11.52
Θ(67.5°)	-12.65/-8.75	-4.87/-5.44	-7.1/-9.2	-12.6/-12	-3.9/-7.72	-10.97/-7.99	-8.93/-15.4	-8.89/-4.85	-3.67/-4.02	-11.4/-17.29	-17.97/-18.23	-14.6/-11.75	-12.11/-8.09	-5.23/-9.4	-5.44/-6.01	-1.92/-8.69	-5.02/-5.84	-4.68/-1.54	-0.09/-1.2	-1.33/0.56	2.25/1.77	0.32/-2.92	-4.98/-9.43	-10.51/-5.48
Θ(75°)	-10.33/-14.13	-8.2/-6.56	-8.59/-10.3	-10.95/-7.56	-6.17/-18.12	-7.19/-3.1	-3.16/-5.74	-18.3/-8.94	-2.6/-5.02	-8.87/-11.21	-18.22/-15.34	-7.02/-9.49	-5.78/-4.84	-6.88/-3.88	-6.16/-10.32	-18.97/-8.8	-2.33/-4.04	-2.57/1.75	2.07/1.22	-0.68/0.34	0.01/-1.78	-4.43/-5.95	-6.74/-7.71	-3.3/-5.75
Θ(82.5°)	-12.78/-17.24	-10.99/-12.94	-7.28/-4.32	-5.72/-6.9	-8.93/-17.99	-12.66/10.06	-12.39/18.04	-14.72/-7.98	-6/-12.98	-17.65/-16.99	-7.95/-13.25	-5.26/-6.75	-10.91/-5.37	-3.87/-4.26	-10.02/-11.17	-9.21/7.33	-1.29/0.72	1.88/2.59	3.64/2.64	0.84/-1.2	-1.32/-1.51	-1.81/-2.72	-4.77/-6.91	-8.86/-17.1
Θ(90°)	-9.72/-6.76	-12.99/-8.94	-9.82/-8.45	-11.18/-6.52	-12.93/-11.55	-5.08/-3.07	-3.49/-1.54	-4/-17.8	-6.52/-2.92	-6.05/-16.26	-6.64/-9.44	-19.29/-13.16	-17.87/-5.36	-8.29/-5.28	-5.09/-4.67	-5.98/-7.57	-3.95/0.1	-0.39/0.63	1.47/1.6	1.58/0.1	-0.79/-0.97	-1.34/-3.39	-6.54/-2.53	-4.03/-7.54
Θ(97.5°)	-8.37/-11.8	-13.35/-16.5	-17.59/-9.45	-8.17/-7.94	-17.17/17.33	-9.46/-9.99	-15.48/-9.3	-7.16/-9.26	-16.01/-19.23	-18.33/-19.22	-13.12/-15.68	-18.61/17.21	-4.76/-4.18	-8.97/-7.51	-9.97/-9.42	-5.56/-8.5	-5.03/-1.93	-0.26/1.77	3.56/1.89	-0.2/-1.09	-3.49/-4.06	-4.25/-5.6	-5.83/-4.78	-5.78/-9.5
Θ(105°)	-16.67/-10.72	-13.11/-3.62	-2.09/-4.21	-3.64/-2.15	-8.79/-18.4	-12/-9.02	-8.24/-6.04	-6.11/-5.7	-10.49/-19.27	-13.56/18.89	-11.56/-12.52	-17.7/-11.3	-14.66/-6.14	-8.22/-4.67	-2.46/-7.83	-12.9/-6.68	-2.13/-1.77	-0.56/0.54	-0.61/0.9	-1.29/-5.42	-5.5/-4.62	-5.57/-10.05	-11.17/-4.28	-11.45/-8.82
Θ(112.5°)	-18.4/-7.93	-7.58/-4.42	-0.82/-0.76	-1.68/-1.48	-2.16/-6.64	-10.24/-13.2	-12.62/-18.25	-17.95/-10.35	-7.3/-6.91	-10.64/-15.75	-18.91/-10.47	-5.72/-7.97	-4.36/-4.75	-6.23/-5.4	-4.5/-13.75	-6.85/-4.3	-1.3/-3.65	-2.24/0.11	0.66/1.23	-2.69/-1.19	-4.51/-3.91	-3.94/-2.82	-5.5/-8.39	-10.09/-9.37



Radiated Composite Gain Data_6GHz

Appendix B

Θ(120°)	-9.15/-13.42	-7.56/-15.31	-13.47/-18.7	-12.46/-12.61	-15.79/-16.49	-19.29/-12.68	-10.52/-12.01	-18.61/-14.13	-14.42/-16.76	-18.65/-18.31	-18.54/-15.7	-18.3/-18.27	-15.52/-14.29	-7.23/-17.85	-14.45/-8.8	-18.68/-11.46	-17.64/-12.21	-13.68/-5.72	-4.63/-5.98	-14.44/-7.59	-4.02/-16.28	-11.91/-15.77	-5.26/-1.25	-3.62/-7.86
Θ(127.5°)	-2.71/-8.78	-2.42/-3.97	-8.32/-14.48	-18.86/-13.05	-14.27/-18.33	-18.56/-18.15	-9.13/-13.3	-15.14/-14.55	-15.1/-17.98	-12.74/-9.65	-18.36/-14.29	-5.27/-8.96	-15.05/-12.42	-16.77/-13.48	-14.28/-6.19	-7.68/-9.44	-8.87/-13.68	-17.03/-13.05	-17.85/-11.32	-10.31/-7.84	-6.46/-6.07	-14.1/-17.2	-2.98/-1.16	-2.76/-8.01
Θ(135°)	-4.36/-11.44	-9.71/-3.12	-7.26/-14.67	-9.44/-10.19	-18.87/-18	-14.03/-14.64	-10.12/-10.46	-12.93/-17.97	-16.17/-10.78	-13.32/-18.68	-11.56/-5.67	-6.87/-17.97	-10.73/-5.69	-11.85/-16.06	-8.61/-5.6	-9.73/-5.25	-13.58/-17.29	-16.64/-13.76	-16.47/-19.21	-14.45/-8.66	-10.53/-18.14	-9.29/-13.92	-12.12/-6.48	-6.09/-17.51
Θ(142.5°)	-2.83/-3.45	-9.71/-10.06	-5.21/-5.7	-9.3/-7.57	-7.17/-14.83	-14.78/-10.12	-8.72/-9.75	-13.38/-18.54	-13.56/-15.1	-16.01/-11.54	-9.72/-15.84	-16.2/-18	-8.77/-3.55	-3.68/-4.42	-4.28/-5.51	-4.83/-5.38	-14.45/-13.08	-12.81/-11.69	-14.55/-12.84	-17.74/-18.96	-9.58/-9.39	-10.35/-6.54	-2.51/-0.74	1.49/-1.37
Θ(150°)	-2.66/-1.86	-1.94/-3.7	-5.28/-2.93	-0.67/-0.52	-1.41/-2.83	-4.16/-6.62	-9.86/-10.21	-10.4/-12.48	-10.59/-12.24	-16.81/-18.61	-18.6/-19.4	-18.89/-13.69	-12.68/-8.92	-7.88/-4.05	-1.75/-2.79	-8.41/-15.44	-15.09/-9.81	-5.88/-5.54	-8.72/-18.81	-14.78/-11.05	-9.37/-4.95	-1.91/-0.58	0.87/-2.07	2.05/-0.08
Θ(157.5°)	-3.51/-3.29	-1.73/-0.35	0.18/-0.68	-3.46/-5.82	-5.22/-4.95	-7.94/-14.56	-14.77/-15	-14.91/-15.68	-12.77/-9.94	-10.13/-17.92	-16.93/-8.62	-6.74/-7.36	-7.74/-6.92	-5.37/-3.74	-3.22/-4.76	-9.11/-13.16	-11.5/-8.37	-7.98/-11.04	-19.01/-15.68	-11.94/-11.9	-12.1/-7.85	-2.7/-0.17	0.05/-0.44	-1.36/-2.63
Θ(165°)	-2.52/-4.37	-6.68/-10.45	-9.67/-6.84	-3.59/-3.04	-4.57/-7.37	-11.5/-12.11	-11.26/-13.97	-15.35/-18.52	-19.08/-13.69	-10.04/-8.26	-8.16/-8.46	-8.44/-8.6	-12.22/-12.97	-13.59/-12.42	-11.18/-9.16	-6.82/-5.47	-4.8/-4.74	-6.06/-9.69	-15.17/-16.4	-10.4/-6.68	-5.31/-5.4	-5.27/-4.34	-3.26/-2.44	-2.67/-3.26
Θ(172.5°)	-16.27/-18.04	-18.65/-16.54	-12.33/-8.79	-11.4/-18.73	-16.66/-10.46	-9.38/-10.18	-15.98/-17.9	-16.09/-13.15	-11.89/-11.13	-10.67/-8.89	-6.61/-5.48	-5.25/-5.04	-5.17/-5.1	-4.53/-3.67	-3.23/-2.76	-2.45/-2.2	-2.73/-3.86	-5.72/-8.13	-9.41/-9.32	-8.03/-6.41	-4.85/-3.91	-3.88/-3.83	-3.33/-3.95	-5.4/-7.86
Θ(180°)	-12.14/-17.38	-18.96/-18.66	-17.49/-12.99	-13.32/-11.75	-10.44/-10.36	-11.62/-17.65	-19.42/-14.21	-11.52/-10.61	-9.71/-8.09	-6.97/-6.12	-6.14/-5.33	-4.54/-4.68	-4.44/-4.76	-5.45/-5.78	-5.82/-6.46	-8.21/-9.27	-10.23/-12.49	-14.38/-13.24	-9.21/-6.11	-4.43/-3.88	-3.44/-4.52	-5.37/-6.22	-6.06/-8.53	
Freq(Hz)	6.995GPol.	PhiAnt.4	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-7.71/-13.35	-18.3/-8.91	-6.01/-2.27	-0.37/-1.22	2.79/3.49	4.08/4.76	5.15/4.8	5.85/4.1	5.29/5.19	4.95/4.5	3.43/-1.77	0.93/-0.94	-4.95/-12.54	-17.11/-8.48	-3.85/-0.98	1.07/-2.52	3.69/4.24	4.71/5.36	5.62/5.4	5.15/5.06	4.93/4.43	3.3/2.5	1.58/-0.54	-2.88/-6.34
Θ(7.5°)	-2.06/-5.46	-11.97/-12.14	-11.28/-5.44	-2.40/-39	1.73/2.71	3.74/-17	4.64/4.87	5.29/5.49	5.18/4.7	4.12/3.33	2.34/0.55	-1.34/-4.37	-12.56/-16	-9.52/-5.25	-2.82/-0.89	0.93/-1.82	3.22/3.86	4.66/5.21	5.59/6.03	5.61/5.26	5.04/4.97	4.54/3.99	2.99/1.41	-0.06/-1.96
Θ(15°)	-5.64/-7.74	-11.57/-14.32	-12.49/-9.05	-5.78/-5.43	-3.98/-2.2	-1.16/-0.42	0.87/-1.02	1.09/-1.61	2.13/2.27	2.73/2.27	1.70/5.4	-1.41/-4.66	-18.05/-15.03	-6.57/-3.04	-1.51/-0.28	1.43/2.84	3.96/4.6	5/5.22	5.28/5.31	5.07/4.93	4.63/4.29	3.39/2.49	1.22/-0.68	-2.34/-4.35
Θ(22.5°)	-7.64/-8.17	-11.92/-13.14	-12.3/-12.3	-11.35/-10.89	-7.9/-6.03	-4.04/-3.31	-3.25/-3.04	-2.22/-2.04	-2.11/-2.14	-1.44/-1.25	-1.63/-2.61	-5.51/-15.06	-15.99/-6.72	-2.71/-1.22	-0.72/-0.65	0.04/-1.03	2.57/2.91	2.48/2.83	3.29/3.95	4.02/3.74	3.24/2.82	1.62/0.34	-1.56/-4.98	-7.1/-7.51
Θ(30°)	-6.35/-6.01	-5.6/-8.14	-18.57/-10.35	-5.31/-6.24	-5.43/-6.2	-5.84/-3.79	-2.24/-2.37	-3.15/-3.24	-3.23/-3.54	-4.33/-6.18	-8.19/-9.47	-10.6/-14.24	-11.14/-6.78	-4.17/-2.49	-1.06/-0.72	-0.77/-0.36	0.53/0.89	1.13/1.07	0.53/0.23	0.58/0.48	-0.46/-1.32	-2.93/-4.88	-6.59/-5.75	-4.41/-3.95
Θ(37.5°)	-4.55/-5.23	-5.98/-8.03	-8.75/-14.63	-15.88/-10.39	-7.2/-6.59	-5.62/-5.18	-6.56/-8.32	-11.72/-17.83	-8.95/-3.6	-2.17/-3.49	-7.16/-9.55	-13/-14.67	-8.57/-8.02	-8.21/-6.52	-4.69/-3.95	-4.66/-3.76	-1.18/0.08	-1.65/-4.06	-2.91/-2.6	-2.92/-3.3	-5.57/-5.08	-6.43/-8.15	-8.86/-7.4	-3.73/-2.98
Θ(45°)	-15.02/-11.46	-8.61/-7.86	-9.1/-6.07	-4.22/-4.95	-5.57/-3.86	-4.83/-5.56	-6.14/-5.44	-3.47/-2.42	-4.31/-9.01	-7.7/-6.6	-9.85/-17.35	-18.7/-17.92	-10.55/-8.21	-9.25/-9.06	-7.77/-6.29	-5.89/-5.06	-2.17/-2.41	-4.48/-4.97	-6.48/-3.73	-1.84/-3.92	-10.16/-1.86	-4.2/-5.77	-7.15/-6.4	-9.1/-12.8
Θ(52.5°)	-14.45/-8.72	-4.56/-5.2	-6.92/-12.89	-12.26/-7.27	-6.86/-9.12	-9.58/-4.71	-3.56/-4.95	-7.2/-6.78	-2.63/-1.99	-5.39/-12.13	-18.74/-18.42	-19.48/-11.11	-8.87/-4.71	-3.37/-3.94	-5.2/-5.55	-9.86/-11.04	-6.75/-5.92	-6.64/-5.06	-4.18/-4.6	-5.29/-3.86	-4.23/-3.03	-1.29/-0.95	-2.17/-3.58	-7.42/-11.46
Θ(60°)	-13.23/-12.85	-11.35/-11.68	-7.65/-8.21	-18.42/-11.01	-6.27/-6.81	-6.5/-5.76	-5.37/-3.95	-3.29/-0.61	-0.2/-5.4	-9.98/-10.72	-14.86/-18.51	-11.23/-9.04	-10.73/-5.62	-1.85/-5.18	-4.43/-3.35	-10.99/-18.53	-10.32/-3.82	-5.37/-1.78	-0.79/-2.63	-2.66/0.02	-1.98/-1.07	-0.85/-2.4	-3.04/-4.7	-6.24/-12.32
Θ(67.5°)	-15.37/-8.07	-4.55/-4.05	-7.97/-6.87	-8.43/-10.28	-10.12/-9.31	-8.45/-6.39	-3.95/-7.59	-14.67/-12.72	-4.63/-4.79	-8.09/-17.52	-18.28/-17.55	-10.33/-13.54	-8.09/-7.9	-8.03/-14.44	-10.42/-6.4	-7.52/-18.38	-4.82/-1.12	-1.58/-0.04	-0.86/-3.71	-4.3/-4.05	-5.98/-10.6	-6.74/-7.37	-9.1/-5.84	-7.74/-17.62
Θ(75°)	-17.28/-12.23	-18.41/-17.48	-17.3/-11.77	-8.19/-17.22	-18.66/-5	-4.96/-3.94	-3.31/-4.9	-2.2/-3.75	-2.09/-4.46	-19.04/-12.95	-15.38/-17.95	-13.47/-14.48	-18.01/-15.79	-17.18/-17.31	-13.68/-3.13	-4.14/-6.11	-2.66/0.94	1/1.7	2.83/-0.6	-2.14/0.73	0.15/-1.24	-4.09/-7.52	-6.99/-7.76	-15.41/-11.92
Θ(82.5°)	-2.71/-7.84	-8.11/-8.65	-14.04/-12.92	-8.65/-11.25	-17.97/-7.59	-14.1/-12.08	-4.49/-5.42	-11.09/-12.42	-16.8/-9.11	-9.55/-8.72	-13.58/-8.51	-7.09/-11.11	-12.49/-16.12	-16.18/-10.48	-9.67/-14.69	-12.72/-6.71	-1.73/-1.07	1.22/2.67	3.39/2.96	1.94/2.14	3.27/1.97	-1.52/-7.47	-1.47/-7.51	-1.74/-5.84
Θ(90°)	-6.29/-9.52	-17.74/-11.32	-9.11/-8.15	-15.4/-17.66	-7.31/-3.29	-8.64/-4.81	-4.2/-12.13	-6.15/-14.61	-6.48/-5.41	-9.12/-14.93	-9.66/-8.22	-11.59/-19.2	-17.34/-11.34	-4.43/-2.7	-13.89/-11.07	-4.38/-8.72	-1.49/-0.35	-2.12/-3.14	-0.81/-1.78	-2.24/-1.86	0.33/0.99	-0.37/-2.28	-0.97/-3.95	-3.95/-5.82
Θ(97.5°)	-5.66/-10.03	-10.85/-15.06	-10.3/-9.89	-18.21/-19.11	-8.63/-7.94	-17.96/-18.61	-3.27/-1.17	-4.07/-2.15	-4.43/-9.45	-7.76/-8.66	-13.51/-18.51	-17.86/-10.15	-9.54/-4.97	-6.46/-9.8	-18.08/-18.91	-18.64/-10.66	-12.18/-4.97	-12.01/-4.63	0.69/0.11	-2.14/-2.89	-0.89/-1.82	-5.54/-11.94	-5.43/-2.57	-2.7/-7.58
Θ(105°)	-3.75/-4.05	-3.53/-8.08	-3.4/-3.82	-4.48/-7.04	-6.88/-2.35	-4.73/-3.34	-3.22/-2.34	-3.16/-7.87	-10.43/-12.27	-17.7/-8.2	-11.16/-17.64	-9.36/-6.01	-9.6/-9.09	-7.92/-6.48	-4.17/-18.61	-9.9/-8.43	-5.41/-0.91	2.09/3.53	4.51/2.21	1.74/1.34	-3.82/-12.49	-17.64/-18.54	-7.49/-6.14	-5.57/-4.23
Θ(112.5°)	-11.26/-10.56	-9.63/-7.51	-6.08/-2.05	-0.56/-1.67	-14.85/-4.58	-0.43/-3.76	-10.35/-5.54	-4/-4.53	-1.67/-3.6	-6.78/-15.92	-8.35/-4.51	-10.27/-7.24	-7.88/-14.03	-5.35/-5.45	-8.3/-8.8	-3.99/0.66	-3.99/0.66	5.93/9.94	2.96/2.31	1.03/-4.32	-5.83/-10.22	-13.54/-10.4	-12.15/-8.42	
Θ(120°)	-5.59/-18	-18.72/-15.36	-19.06/-6.74	-7.94/-4.12	-6.21/-17.48	-7.75/-4.13	-5.1/-10.41	-14.98/-18	-12.46/-11.67	-11.78/-18.31	-15.18/-12.38	-16.97/-11.49	-8.28/-8.32	-11.04/-11.4	-5.18/-12.19	-14.63/-6.25	-7.52/-3.07	-2.08/-0.52	3.52/2.85	-1.11/-1.2	-2.02/-0.83	-2.76/-6.5	-7.78/-1.34	-0.52/-9.24
Θ(127.5°)	-5.29/-7.52	-11.53/-8.17	-5.7/-7.32	-9.81/-12.55	-5.81/-5.07	-10.3/-11.14	-10.34/-11	-7.82/-5.2	-9.29/-15.03	-17.86/-14.56	-13.05/-8.8	-11.05/-6.69	-5.67/-3.92	-8.51/-5.59	-3.59/-0.9	-4.61/-13.54	-4.05/-6.29	-3.14/-1.29	-5.56/-17.99	-3.81/0.86	0.73/0.56	-1.35/-6.09	-2.69/-1.98	0.18/-6.66
Θ(135°)	-10.1/-6.91	-5.76/-6.58	-13.51/-12.03	-8.71/-6.33	-7.44/-4.01	-3.79/-7.51	-10.02/-10.61	-12.95/-11.59	-18.13/-12.68	-11.21/-18.64	-14.85/-8.04	-8.39/-12.54	-5.94/-5.25	-4.75/-5.92	-5.71/-2.04	-2.07/-6.29	1.484/0.9	2.31/-6.13	-10.77/-1.4	-0.72/-5.58	-4.75/-10	-9.05/-5.9	-8.85/-14.81	
Θ(142.5°)	-12.67/-13.69	-12.92/-12.14	-17.84/-13.82	-10.5/-6.89	-6.6/-11.6	-16.95/-16.99	-15.14/-14.05	-13.31/-10.95	-7.83/-7.81	-15.09/-13.31	-9.74/-11.83	-18.65/-15.65	-7.61/-5.21	-4.03/-5.33	-6.84/-8.01	-5.32/-0.94	0.52/0.75	2.44/-1.41	0.5/-2.7	-2.8/-3.78	-4.21/-4.13	-1.21/-6.78	-9.14/-11.35	-8.12/-8.36
Θ(150°)	-12.65/-7.64	-7.23/-6.51	-4.42/-8.84	-4.29/-4.74	-6.31/-2.89	-2.99/-4.51	-5.42/-6.7	-9.19/-10.93	-14.91/-13.89	-13.85/-18.87	-15.11/-9.64	-10.81/-17.5	-18/-16.68	-17.58/-15.58	-7.93/-6.53	-4/-1.02	-1.12/0.21	1.09/-1	-2.86/-3.18	-3.1/-3.1	-2.11/-1.53	-2.18/-4.55	-8.26/-9.43	-13.02/-13.18
Θ(157.5°)	-14.57/-10.3	-4.6/-1.98	-1.29/-3.84	-6.83/-4.12	-3.3/-5.08	-9.67/-16.47	-18.76/-17.82	-11.92/-7.35	-6.33/-8.34	-12.11/-9.96	-9.38/-13.19	-12.02/-13.51	-17.29/-12.42	-8.96/-5.22	-2.42/-2.52	-4.54/-6.21	-4.89/-1.52	0.21/0.52	0.57/0.52	0.99/1.78	1.7/0.53	-1.11/-7.2	-4.13/-5.2	-6.22/-10.91
Θ(165°)	-18.74/-17.57	-11.97/-10.47	-10.52/-7.45	-5.99/-6.74	-9.33/-14.43	-12.08/-11.34	-13.18/-13.67	-11.32/-7.61	-5.41/-4.72	-6.1/-9.05	-15.88/-17.89	-13.99/-10.93	-8.51/-6.62	-4.19/-1.93	0.26/2	3.27/4.11	0.21/0.12	3.59/3.28	3.18/2.78	1.80/2.21	-1.35/-2.41	-2.98/-3.29	-5.24/-7.82	
Θ(172.5°)	-8.97/-11.16	-14.06/-13.46	-11.72/-10.42	-8.78/-9.35	-11.61/-15.92	-18.18/-15.24	-12.47																	

Total Gain Data

[illegible]



Antenna Pattern 2.4GHz, 5GHz

Appendix C

Θ(22.5°)	-6.36/-5.97	-5.40/-5.44	-5.80/-5.86	-5.49/-4.89	-3.91/-3.34	-3.21/-3.00	-3.46/-4.41	-5.26/-6.29	-7.30/-8.32	-8.82/-10.30	-11.05/-11.93	-12.01/-11.75	-10.67/-8.66	-7.79/-7.39	-7.82/-8.26	-8.62/-8.20	-8.45/-9.39	-9.78/-9.72	-10.14/-11.71	-13.16/-12.00	-10.49/-9.99	-9.60/-9.34	-8.71/-8.05	-7.61/-6.74
Θ(30°)	-2.88/-1.94	-2.02/-2.66	-3.37/-3.82	-3.95/-3.53	-3.03/-2.94	-3.14/-3.18	-2.71/-2.19	-2.07/-3.05	-4.78/-6.67	-8.31/-9.13	-9.67/-9.16	-9.63/-9.82	-9.27/-8.63	-6.33/-5.70	-5.97/-7.56	-9.58/-9.87	-8.66/-8.80	-9.52/-9.89	-11.45/-12.08	-10.60/-9.09	-8.18/-7.12	-6.21/-5.74	-5.60/-5.24	-4.80/-3.64
Θ(37.5°)	-2.47/-2.55	-3.64/-3.72	-3.18/-3.06	-3.78/-3.84	-3.48/-3.17	-1.93/-0.22	0.79/0.84	-0.30/-1.69	-3.27/-4.54	-6.08/-7.58	-8.43/-11.24	-11.59/-12.00	-11.81/-11.19	-10.35/-8.11	-6.09/-4.77	-4.73/-6.43	-9.84/-13.73	-15.84/-15.61	-14.96/-12.26	-10.53/-9.62	-6.50/-5.35	-4.50/-4.18	-4.21/-3.78	-2.98/-2.50
Θ(45°)	-2.54/-1.07	-0.16/-0.90	-2.13/-2.59	-2.36/-2.36	-2.89/-2.98	-2.38/-1.13	-0.37/-0.29	-0.35/-0.79	-1.36/-1.50	-2.79/-3.22	-4.27/-6.07	-6.99/-9.34	-9.81/-9.67	-8.55/-6.29	-4.73/-5.16	-7.79/-10.77	-12.27/-14.04	-15.80/-16.16	-14.78/-12.94	-8.85/-6.73	-6.88/-5.03	-5.17/-4.01	-3.10/-3.06	-3.42/-2.89
Θ(52.5°)	-2.23/-0.76	0.11/0.38	-0.27/-0.93	-1.47/-1.81	-1.94/-1.38	-0.46/-0.08	0.03/0.50	0.42/0.14	-0.48/-1.57	-2.92/-4.12	-6.04/-8.66	-10.33/-12.60	-12.97/-10.29	-7.71/-8.61	-7.89/-9.74	-12.18/-11.14	-10.19/-11.80	-10.20/-8.37	-9.30/-10.97	-12.29/-8.59	-6.54/-5.75	-5.13/-5.65	-5.30/-5.03	-4.40/-3.28
Θ(60°)	-1.99/-0.67	-0.02/0.25	0.34/0.56	0.84/0.55	-0.47/-1.42	-2.49/-1.87	-0.56/0.43	0.88/0.85	0.60/-0.16	0.50/-0.74	-3.18/-6.86	-10.87/-11.06	-10.57/-9.83	-10.04/-12.76	-12.55/-9.65	-7.62/-8.44	-8.07/-8.92	-9.51/-7.23	-6.28/-7.37	-9.00/-7.38	-5.65/-4.72	-3.61/-3.86	-2.54/-3.24	-2.29/-2.50
Θ(67.5°)	-0.580.18	0.44/1.04	1.82/1.55	1.580.96	0.08/-1.15	-3.18/-3.62	-2.09/-0.75	0.59/1.73	2.38/2.00	0.48/-1.83	-4.58/-6.47	-6.96/-8.61	-8.66/-10.09	-10.77/-7.89	-6.91/-6.33	-7.37/-6.93	-7.48/-7.37	-6.75/-6.04	-5.85/-6.47	-6.45/-5.98	-3.10/-3.04	-2.64/-3.11	-3.32/-3.03	-1.75/-0.73
Θ(75°)	-0.07/0.20	0.85/0.70	1.46/1.56	2.24/2.52	2.18/1.04	-1.35/-3.23	-2.81/-1.62	-0.29/0.58	1.60/1.74	1.25/-0.20	-1.67/-1.30	-3.35/-6.20	-7.91/-10.49	-15.24/-12.07	-10.02/-7.69	-6.53/-3.31	-3.62/-4.16	-5.93/-6.29	-5.78/-5.19	-4.03/-2.64	-0.44/-1.02	-0.77/-1.39	-1.89/-2.21	-1.41/-0.95
Θ(82.5°)	1.10/1.11	1.16/0.92	0.73/1.35	2.24/2.58	1.57/0.20	-1.10/-2.16	-2.99/-2.42	-1.21/0.49	1.76/1.46	0.47/-1.53	-2.79/-3.24	-2.60/-4.46	-7.75/-11.23	-13.01/-9.45	-10.45/-8.13	-3.86/-1.91	-1.83/-2.81	-3.94/-4.84	-2.56/-1.79	-0.87/-1.42	0.19/0.31	-1.40/-1.45	-0.62/-0.75	0.16/1.06
Θ(90°)	-0.580.66	1.19/0.87	0.71/0.80	1.94/1.79	1.68/-1.09	0.00/-1.96	-2.39/-1.55	-0.71/0.47	0.24/-0.50	-0.99/-2.60	-3.27/-3.91	-2.92/-4.11	-6.06/-12.05	-14.76/-10.62	-11.39/-9.00	-3.22/-0.45	-0.14/-1.36	-3.37/-5.11	-2.32/-0.60	-0.93/0.06	1.43/1.16	-0.36/-1.13	0.08/-0.04	-0.97/-0.01
Θ(97.5°)	1.06/1.54	1.31/-0.01	-0.33/0.10	1.48/-1.37	0.73/-0.30	-0.97/-1.25	-0.69/-0.56	-0.93/-0.96	-1.38/-1.33	-1.07/-2.27	-2.49/-2.89	-3.02/-3.54	-9.25/-12.82	-12.86/-9.62	-10.90/-7.85	-4.39/-2.43	-4.88/-4.73	-3.17/-5.70	-3.16/-1.09	-1.60/-0.63	0.36/-0.29	-2.18/-2.00	0.52/0.53	0.31/2.27
Θ(105°)	-0.54/0.30	1.17/0.20	0.93/-0.00	1.22/0.30	-0.13/0.34	-0.94/-1.02	-1.41/-1.62	-1.04/-0.44	-0.69/-1.77	-2.15/-3.65	-4.54/-4.31	-6.45/-6.45	-12.41/-11.96	-13.03/-11.65	-4.89/-1.73	-4.52/-2.79	-1.85/-4.98	-4.34/-2.74	-4.08/-5.91	-1.53/-1.95	-2.99/-2.16	-0.77/-1.10	-1.89/0.60	
Θ(112.5°)	-0.050.81	0.54/-0.14	0.57/-0.00	0.31/-0.24	-0.38/-0.95	-1.51/-1.27	-0.63/-0.22	-0.92/-1.58	-2.36/-3.22	-3.59/-4.50	-3.60/-4.06	-3.97/-2.88	-6.75/-9.95	-15.14/-10.72	-12.06/-10.89	-5.50/-8.05	-10.93/-5.70	-3.83/-9.74	-9.47/-6.82	-5.36/-5.74	-4.90/-4.54	-4.46/-2.51	-1.00/-1.76	-1.79/0.53
Θ(120°)	-1.66/-0.25	-1.48/-1.72	-0.350.91	1.31/1.14	0.44/0.01	-0.75/-1.83	-1.77/-1.78	-1.69/-2.27	-2.59/-3.35	-2.74/-3.32	-3.18/-4.31	-4.71/-4.39	-4.79/-6.48	-10.99/-13.58	-12.21/-8.57	-7.19/-7.43	-9.31/-7.00	-5.39/-9.54	-7.87/-11.58	-10.76/-11.23	-6.93/-8.72	-8.40/-7.86	-4.34/-3.28	-2.82/-1.27
Θ(127.5°)	-2.07/-1.72	-0.06/0.82	1.08/0.76	-0.22/-0.70	-0.90/-1.08	-0.63/-0.63	-0.49/0.20	-0.03/0.75	-1.48/-2.23	-3.28/-4.86	-6.16/-8.55	-10.88/-10.63	-12.65/-12.99	-11.70/-10.50	-10.01/-7.94	-7.69/-12.00	-7.49/-4.24	-5.47/-9.59	-10.24/-6.34	-9.20/-8.32	-12.31/-11.04	-15.49/-12.45	-8.02/-6.16	-4.91/-2.62
Θ(135°)	-0.36/0.19	0.63/1.04	1.13/1.56	1.580.41	-0.22/-0.91	-1.38/-1.67	-2.19/-2.77	-3.27/-4.37	-5.93/-6.39	-7.40/-7.24	-10.49/-14.67	-15.43/-13.34	-10.19/-14.93	-9.74/-11.41	-10.64/-9.36	-11.87/-9.90	-7.61/-5.83	-7.97/-12.32	-15.61/-15.22	-15.28/-15.48	-13.00/-9.64	-6.73/-8.46	-4.85/-3.18	-2.98/-1.67
Θ(142.5°)	-1.59/-0.41	-0.01/0.19	-0.63/-1.31	-1.15/-0.35	0.05/0.40	0.23/-0.31	-0.90/-0.20	-3.86/-4.76	-4.79/-5.16	-5.58/-7.32	-10.49/-13.08	-8.91/-7.51	-5.29/-6.08	-10.56/-10.56	-9.89/-5.44	-7.34/-6.34	-7.80/-12.79	-15.78/-15.27	-14.57/-9.00	-7.90/-13.46	-14.66/-11.71	-10.71/-8.30	-5.84/-3.95	-3.19/-2.28
Θ(150°)	-6.18/-4.68	-4.47/-3.63	-2.92/-2.76	-3.49/-4.20	-4.94/-5.53	-5.11/-6.41	-4.33/-4.87	-5.41/-5.61	-6.93/-9.46	-8.88/-9.71	-9.15/-8.55	-8.61/-8.99	-9.43/-10.17	-10.71/-13.48	-15.64/-13.43	-9.36/-5.26	-6.32/-6.94	-7.76/-9.57	-9.40/-6.74	-6.32/-6.34	-4.63/-6.16	-5.83/-5.67	-5.85/-6.57	
Θ(157.5°)	-8.04/-6.86	-5.77/-4.51	-3.66/-2.17	-1.21/-0.81	-0.70/-0.87	-1.58/-2.52	-3.24/-4.21	-5.25/-6.82	-8.83/-10.21	-10.03/-8.86	-7.44/-7.39	-7.73/-7.74	-8.30/-8.99	-9.42/-9.75	-8.26/-7.40	-9.37/-11.99	-13.88/-13.80	-13.55/-11.27	-9.37/-10.06	-13.25/-11.91	-11.14/-12.50	-13.33/-12.22	-11.50/-11.71	-9.07/-6.83
Θ(165°)	-3.57/-2.32	-1.63/-1.06	-0.48/-0.37	-0.55/-0.72	-1.27/-1.23	-3.60/-5.73	-8.74/-11.33	-12.69/-13.96	-12.50/-11.66	-11.38/-11.60	-11.27/-11.00	-10.29/-9.71	-10.34/-12.50	-15.51/-14.20	-9.31/-6.99	-6.36/-6.86	-7.81/-8.89	-9.58/-10.29	-11.25/-10.60	-10.55/-11.14	-13.24/-14.59	-13.86/-13.12	-10.22/-7.50	-5.68/-4.28
Θ(172.5°)	-0.76/-1.13	-1.28/-2.24	-1.72/-1.48	-1.75/-2.39	-3.82/-5.97	-8.79/-13.53	-14.89/-12.84	-10.13/-9.07	-7.97/-7.67	-8.20/-8.98	-9.31/-9.74	-9.84/-10.64	-11.41/-12.54	-13.40/-13.76	-14.18/-15.27	-15.30/-15.11	-15.98/-15.85	-14.37/-12.98	-11.75/-10.56	-9.41/-8.73	-7.11/-5.55	-4.37/-3.26	-2.32/-1.67	-0.81/-0.33
Θ(180°)	-12.81/-12.95	-13.50/-12.19	-10.47/-9.65	-10.00/-10.68	-11.70/-12.52	-12.59/-12.60	-11.22/-10.62	-11.25/-11.81	-12.88/-13.46	-14.57/-14.55	-12.93/-12.08	-11.81/-11.76	-11.08/-10.05	-9.02/-8.74	-9.08/-9.10	-8.80/-8.56	-8.51/-8.36	-8.38/-8.29	-8.59/-8.21	-8.34/-9.41	-8.82/-10.61	-10.45/-9.94	-9.79/-10.74	-12.25/-14.86
Freq(Hz)	2.45GPol.	TotalAnt. 2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-9.30/-9.56	-9.57/-9.65	-9.82/-10.24	-10.52/-10.90	-10.87/-10.57	-10.61/-10.83	-11.27/-11.76	-12.43/-12.67	-12.88/-13.09	-13.48/-13.45	-14.55/-15.16	-16.03/-15.81	-15.81/-15.20	-14.65/-13.97	-13.15/-11.99	-11.55/-11.53	-11.85/-12.29	-12.95/-13.42	-12.47/-11.55	-10.83/-10.83	-10.95/-11.14	-11.28/-11.37	-11.44/-11.24	-10.46/-9.67
Θ(7.5°)	-11.67/-11.10	-10.75/-9.39	-10.29/-10.04	-8.85/-9.71	-9.51/-9.23	-9.60/-8.90	-8.83/-8.97	-9.33/-8.95	-10.20/-10.40	-10.82/-10.15	-11.45/-12.17	-12.50/-12.45	-12.19/-11.84	-11.32/-10.78	-10.62/-10.63	-10.89/-11.39	-11.96/-12.78	-13.41/-13.55	-13.21/-12.96	-13.03/-13.53	-14.12/-14.63	-14.88/-14.87	-14.81/-14.26	-11.13/-12.06
Θ(15°)	-14.06/-13.23	-12.07/-11.46	-10.50/-9.34	-8.37/-8.67	-9.71/-9.23	-6.94/-6.68	-6.57/-6.60	-6.95/-7.36	-7.89/-8.24	-8.48/-8.55	-8.82/-9.31	-9.71/-8.88	-9.91/-9.79	-9.62/-9.40	-9.37/-9.36	-9.38/-9.62	-10.24/-10.98	-11.58/-11.83	-12.31/-13.43	-14.91/-15.57	-16.07/-15.96	-15.64/-15.22	-14.94/-15.26	-16.19/-15.29
Θ(22.5°)	-15.86/-13.52	-11.45/-10.10	-8.79/-7.48	-6.20/-5.34	-5.03/-4.91	-4.91/-4.85	-4.75/-4.73	-4.98/-5.43	-6.02/-6.49	-6.69/-6.68	-6.85/-7.17	-7.33/-7.35	-7.38/-7.46	-7.70/-8.16	-8.64/-8.76	-8.61/-8.59	-8.87/-9.22	-9.58/-10.17	-11.42/-13.01	-13.59/-15.15	-15.21/-16.07	-14.31/-13.53	-13.99/-15.25	-15.40/-15.80
Θ(30°)	-11.74/-9.55	-8.33/-7.51	-6.78/-5.85	-4.84/-3.93	-3.41/-3.18	-3.07/-2.99	-2.97/-3.00	-3.32/-3.98	-4.82/-4.58	-5.81/-5.78	-5.62/-5.53	-5.44/-5.33	-5.19/-5.13	-5.32/-5.94	-6.69/-7.35	-7.63/-6.99	-7.65/-7.73	-7.95/-8.53	-9.66/-11.04	-12.30/-12.73	-12.09/-10.91	-10.13/-10.18	-11.06/-12.92	-14.85/-13.62
Θ(37.5°)	-8.80/-7.59	-6.17/-6.38	-6.15/-5.90	-5.22/-4.26	-3.49/-2.76	-2.06/-1.50	-1.27/-1.25	-1.67/-2.47	-3.61/-4.71	-5.50/-5.83	-5.72/-5.45	-4.99/-4.34	-3.82/-3.64	-3.88/-4.41	-4.75/-5.33	-5.63/-5.98	-6.33/-6.80	-7.39/-8.09	-8.39/-8.36	-8.47/-8.43	-8.11/-7.84	-7.91/-8.51	-9.50/-10.35	-10.55/-9.77
Θ(45°)	-7.72/-6.69	-6.27/-6.36	-6.69/-6.92	-6.94/-6.50	-5.58/-4.20	-2.79/-1.62	-0.92/-0.58	-0.63/-1.11	-1.99/-2.98	-3.93/-4.65	-5.01/-4.99	-4.47/-3.65	-2.82/-2.39	-2.28/-2.44	-2.97/-3.10	-3.56/-4.29	-5.31/-6.26	-6.67/-6.98	-6.27/-5.41	-5.06/-4.82	-4.77/-5.10	-7.54/-6.62	-7.51/-8.12	-8.52/-8.13
Θ(52.5°)	-6.49/-6.28	-6.62/-7.66	-8.84/-9.42	-8.87/-8.87	-6.94/-5.84	-4.60/-3.22	-2.02/-1.12	-0.57/-0.51	-1.05/-1.92	-2.74/-3.41	-3.96/-4.15	-3.47/-2.25	-1.30/-0.73	-0.63/-0.79	-1.11/-1.56	-2.21/-3.12	-4.12/-4.78	-4.84/-4.23	-3.30/-2.71	-2.25/-1.93	-1.81/-1.89	-2.21/-2.84	-3.78/-4.87	-6.17/-6.81
Θ(60°)	-9.48/-8.27	-7.37/-7.52	-8.25/-8.80	-8.16/-6.76	-5.72/-5.34	-4.88/-4.27	-2.93/-1.54	-0.29/0.50	0.46/-0.29	-1.28/-2.19	-2.79/-2.87	-2.46/-1.79	-1.05/-0.53	-0.21/-0.21	-0.38/-0.60	-0.80/-1.11	-1.38/-1.50	-1.52/-1.57	-1.66/-1.52	-1.19/-0.78	-0.42/-0.28	-0.54/-1.42	-2.97/-5.07	-7.83/-9.48
Θ(67.5°)	-4.86/-2.93	-1.50/-1.78	-2.18/-2.82	-2.94/-2.07	-1.35/-1.12	-1.30/-1.48	-1.51/-0.95	0.12/1.18	1.67/1.28	0.25/-0.96	-1.92/-2.15	-1.32/-0.30	0.37/0.68	0.26/0.73	0.62/0.72	0.78/0.67	0.46/-0.12	-0.44/-1.37	-2.09/-2.00	-1.26/-0.46	0.00/-0.14	-1.01/-2.94	-5.80/-7.63	-8.22/-6.24
Θ(75°)	-1.55/-0.73	-0.63/-1.23	-2.04/-2.37	-2.01/-0.																				



Antenna Pattern 2.4GHz, 5GHz

Appendix C

θ (75°)	-5.94/7.62	-11.70/-10.29	-14.77/-15.91	-6.92/3.65	-2.91/2.96	-4.20/-4.61	-6.54/9.59	-7.50/-6.69	-6.03/-4.44	-3.78/-2.44	-1.69/-0.98	-0.61/-3.34	-3.96/-5.75	-5.40/-1.14	0.58/0.19	-0.86/0.33	-1.45/-0.50	-0.34/-0.69	-0.69/-0.42	1.42/1.64	0.78/-0.48	-3.06/-5.56	-7.07/-6.01	-1.21/-0.46
θ (82.5°)	-7.54/-7.52	-12.33/-9.14	-14.17/-11.89	-4.36/-2.36	-2.15/-4.16	-4.95/-5.18	-5.54/-7.00	-7.70/-6.37	-6.82/-5.52	-4.29/-1.52	-0.36/-0.12	0.44/-2.24	-2.13/-2.52	-1.86/-6.22	0.73/-0.43	-0.55/-0.77	-0.14/-1.79	2.05/2.36	1.12/1.37	2.02/2.29	2.48/1.51	-0.32/-4.35	-6.83/-6.09	-1.97/-0.44
θ (90°)	-6.13/-15.72	-12.91/-6.06	-13.14/-12.38	-1.89/-6.65	-3.31/-21	-7.62/-7.11	-7.21/-7.67	-6.07/-5.76	-6.96/-9.37	-1.56/-3.43	-2.66/-0.33	-1.45/-3.29	-0.71/-1.08	-0.88/-1.23	-0.33/-1.63	3.70/3.36	0.22/-4.26	3.40/3.66	3.10/2.56	2.48/3.48	0.22/4.26	-7.03/-5.37	-4.84/-10.76	-5.77/-3.04
θ (97.5°)	-5.10/-12.51	-10.94/-5.77	-12.62/-8.79	-1.81/-2.60	-3.94/-7.62	-9.16/-10.73	-8.13/-9.25	-9.30/-7.35	-9.42/-9.18	-4.79/-4.41	-4.76/-1.13	-3.78/-1.85	-2.38/-5.88	-0.63/-0.00	2.37/-4.08	-2.69/0.93	2.25/0.81	1.35/2.23	2.48/-0.58	-0.20/0.1	2.38/2.86	0.95/-3.32	-6.42/-4.04	-0.45/-2.07
θ (105°)	-6.77/-5.82	-4.56/-5.68	-15.81/-9.18	-3.53/-2.7	-7.35/-10.60	-13.97/-9.02	-10.00/-11.26	-7.98/-8.30	-12.71/-9.31	-5.16/-6.34	-4.59/-0.71	-1.77/-0.38	-4.64/-4.44	-2.01/-2.43	-1.62/-3.51	-3.15/-1.40	-0.24/-0.31	0.33/0.88	0.40/-1.20	1.74/-1.94	0.12/2.04	-0.40/-2.81	-8.23/-13.41	-5.00/-2.63
θ (112.5°)	-6.38/-6.82	-9.10/-5.61	-10.01/-10.10	-10.34/-5.31	-7.70/-11.62	-12.36/-13.22	-11.59/-9.87	-8.82/-10.52	-10.71/-8.40	-6.60/-6.99	-4.25/-2.88	-4.04/-0.90	-3.41/-5.64	-2.19/-1.11	-1.34/-5.26	-0.08/-0.54	0.97/2.32	-0.34/0.34	2.30/-9.24	-8.33/-2.05	-2.52/-9.03	-8.44/-10.76	-5.36/-4.59	
θ (120°)	-7.25/-11.13	-15.09/-12.00	-12.03/-10.38	-8.59/-9.53	-12.32/-15.38	-13.23/-12.33	-11.61/-10.27	-9.70/-9.49	-10.85/-10.44	-8.74/-7.90	-5.90/-10.72	-8.94/-8.65	-7.84/-4.54	-3.81/-0.55	-3.61/-4.78	-6.95/-0.54	0.55/2.48	0.27/0.66	-7.95/-2.72	0.76/-3.97	-4.42/-1.36	-1.82/-6.58	-7.55/-6.73	-5.46/-5.27
θ (127.5°)	-6.33/-12.08	-10.87/-13.94	-11.58/-10.74	-11.58/-12.67	-12.83/-15.11	-13.28/-12.28	-12.44/-14.08	-13.87/-12.10	-13.07/-10.16	-9.80/-7.41	-7.67/-8.85	-8.20/-6.72	-4.72/-7.78	-2.97/-1.53	-0.68/-7.71	-5.96/-7.09	0.78/-0.11	1.33/-2.72	-8.40/-1.29	0.74/-6.64	-3.08/-2.67	0.31/-4.48	-15.39/-11.02	-13.98/-8.02
θ (135°)	-8.44/-9.05	-11.54/-6.68	-6.86/-8.55	-10.78/-14.37	-14.10/-13.21	-11.70/-10.31	-11.45/-14.04	-14.42/-15.16	-14.08/-13.37	-10.06/-9.90	-7.66/-6.05	-10.02/-6.07	-5.63/-9.01	-4.53/-0.95	-2.80/-9.66	-8.83/-4.75	-0.59/-3.22	-0.88/-5.43	0.97/-1.38	-4.20/-11.21	-3.16/-1.69	-8.75/-5.80	-4.73/-6.81	
θ (142.5°)	-3.79/-7.15	-10.60/-9.97	-7.18/-7.84	-9.27/-11.00	-10.68/-10.08	-11.62/-14.11	-14.78/-15.09	-14.59/-10.90	-8.70/-8.27	-7.88/-7.25	-7.04/-8.97	-8.30/-6.89	-7.46/-11.02	-5.90/-3.20	-5.33/-10.08	-11.13/-7.32	-8.03/-5.41	-3.49/-8.24	-12.77/-4.54	-0.46/-1.41	-5.84/-11.10	-9.08/-4.84	-2.91/-3.43	-3.04/-2.16
θ (150°)	-2.75/-3.90	-7.79/-9.44	-9.11/-12.83	-11.57/-12.65	-14.46/-12.96	-9.79/-6.92	-7.04/-8.70	-11.60/-15.25	-13.20/-10.96	-8.64/-8.35	-9.19/-8.56	-7.87/-9.29	-9.95/-7.44	-5.16/-4.22	-4.14/-3.58	-4.02/-6.24	-5.91/-5.29	-7.04/-8.66	-7.18/-4.00	-2.02/-1.54	-2.99/-4.93	-8.11/-6.87	-5.51/-7.25	-6.56/-4.06
θ (157.5°)	-10.31/-8.93	-11.85/-13.79	-14.13/-12.70	-12.62/-15.44	-15.13/-13.50	-12.52/-10.84	-15.15/-9.69	-9.66/-8.78	-8.61/-8.11	-7.44/-7.82	-6.57/-6.55	-5.96/-4.95	-3.96/-3.48	-2.37/-3.51	-3.53/-3.69	-3.65/-4.45	-6.37/-6.70	-10.02/-7.94	-6.30/-5.01	-5.41/-5.96	-6.43/-6.51	-7.29/-9.37	-11.92/-13.56	
θ (165°)	-9.64/-7.43	-6.71/-8.60	-11.51/-13.11	-11.05/-8.84	-8.12/-9.29	-10.24/-12.07	-13.26/-14.04	-11.56/-9.52	-8.99/-7.48	-6.52/-6.74	-6.85/-6.02	-5.05/-4.36	-4.30/-4.13	-3.81/-3.04	-2.32/-2.47	-2.32/-2.28	-2.40/-3.11	-4.41/-4.58	-4.54/-3.37	-2.32/-1.19	-1.07/-1.56	-3.17/-5.91	-9.39/-13.10	-13.46/-11.18
θ (172.5°)	-11.61/-8.91	-8.62/-8.52	-9.90/-11.05	-10.03/-8.29	-8.44/-9.00	-9.07/-9.44	-9.79/-9.84	-9.83/-8.69	-7.81/-7.57	-7.20/-7.39	-7.64/-7.13	-5.29/-4.20	-3.61/-3.33	-2.89/-2.26	-1.79/-1.71	-1.74/-1.60	-2.15/-2.82	-3.42/-3.21	-3.67/-4.61	-5.32/-6.71	-8.88/-12.18	-14.21/-10.10	-8.25/-7.60	-7.76/-9.93
θ (180°)	-7.27/-11.93	-14.95/-15.61	-15.03/-13.07	-11.92/-13.04	-15.36/-15.24	-15.84/-14.92	-14.89/-15.18	-14.47/-15.59	-14.84/-14.13	-13.92/-15.29	-15.96/-15.69	-13.70/-12.27	-11.53/-11.83	-12.59/-12.19	-11.71/-12.30	-12.74/-11.43	-10.76/-11.45	-11.68/-12.51	-13.39/-13.61	-14.08/-14.65	-13.33/-12.92	-11.16/-9.84	-9.17/-9.01	-9.77/-9.80
Freq(Hz)	5.785GPol.	TotalAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
θ (0°)	-7.63/-7.30	-6.37/-6.27	-6.64/-7.89	-8.18/-7.21	-6.40/-7.64	-6.71/-6.56	-6.42/-6.66	-7.02/-7.19	-6.64/-6.26	-5.96/-6.10	-6.31/-6.57	-6.91/-6.50	-6.42/-6.16	-6.15/-6.38	-6.46/-6.54	-6.02/-6.57	-6.47/-6.24	-6.09/-6.21	-6.29/-6.19	-6.06/-6.26	-7.73/-8.04	-7.77/-7.34	-6.67/-7.83	
θ (7.5°)	-5.34/-4.98	-5.29/-5.46	-6.15/-5.85	-5.89/-6.65	-6.82/-7.22	-7.67/-7.34	-7.07/-6.56	-6.80/-6.91	-6.85/-6.47	-6.52/-7.01	-7.05/-6.88	-6.69/-6.29	-6.01/-5.52	-5.57/-5.61	-5.38/-4.99	-4.72/-4.95	-5.57/-5.31	-5.39/-5.38	-5.58/-5.92	-5.89/-5.87	-5.91/-6.24	-7.08/-7.06	-6.78/-6.32	-6.46/-6.62
θ (15°)	-3.93/-3.88	-4.20/-4.56	-4.92/-5.09	-5.03/-6.49	-7.68/-8.93	-10.49/-10.50	-9.70/-8.36	-8.32/-8.47	-8.80/-8.99	-9.29/-9.51	-9.00/-7.93	-6.94/-6.04	-5.45/-5.13	-4.67/-3.82	-2.95/-8.29	-3.06/-0.33	-2.90/-3.88	-5.02/-5.65	-5.58/-4.57	-4.87/-3.93	-4.05/-4.37	-4.90/-4.51	-3.80/-3.64	-4.48/-4.75
θ (22.5°)	-3.91/-4.03	-5.71/-6.89	-7.85/-8.92	-10.37/-13.37	-12.40/-13.13	-13.91/-12.56	-13.91/-12.56	-11.75/-11.88	-11.71/-12.68	-9.45/-7.62	-6.57/-5.40	-4.67/-4.22	-3.58/-2.96	-2.50/-2.23	-1.98/-2.02	-2.04/-2.64	-6.37/-5.14	-6.08/-5.86	-5.31/-5.09	-5.45/-5.24	-5.09/-5.32	-5.37/-4.64	-4.80/-5.10	
θ (30°)	-5.84/-5.87	-5.34/-5.87	-7.62/-8.16	-7.93/-9.84	-11.97/-12.98	-10.77/-9.75	-8.25/-7.95	-9.19/-10.98	-11.92/-13.79	-15.24/-11.18	-8.15/-6.92	-5.97/-4.97	-4.77/-5.45	-5.75/-5.97	-5.94/-5.57	-5.25/-4.38	-3.76/-3.50	-3.36/-3.51	-4.13/-3.83	-3.38/-4.00	-4.64/-5.51	-6.25/-8.15	-10.23/-9.89	-7.67/-6.88
θ (37.5°)	-3.74/-6.44	-8.37/-9.69	-11.72/-12.76	-9.01/-7.22	-7.09/-8.42	-10.31/-9.29	-7.55/-5.50	-8.74/-10.85	-12.01/-11.18	-11.42/-9.95	-6.99/-6.95	-6.52/-5.24	-3.98/-2.85	-2.25/-2.56	-2.96/-3.12	-3.61/-3.94	-3.29/-3.10	-3.45/-3.47	-3.59/-3.21	-3.45/-3.47	-2.95/-4.20	-5.99/-5.62	-6.34/-6.21	-4.46/-4.35
θ (45°)	-4.93/-8.22	-10.44/-8.28	-8.74/-12.65	-13.12/-13.56	-13.36/-13.38	-12.71/-12.90	-13.52/-12.34	-9.77/-9.30	-8.45/-9.57	-10.13/-12.66	-10.74/-7.96	-6.68/-4.92	-4.35/-4.14	-3.42/-3.42	-3.40/-3.10	-3.01/-4.00	-4.11/-3.61	-2.60/-2.86	-3.94/-3.18	-1.76/-1.63	-2.92/-2.30	-2.75/-3.93	-5.03/-5.72	-4.88/-4.61
θ (52.5°)	-4.79/-5.40	-10.45/-10.72	-9.83/-11.27	-12.07/-9.75	-8.91/-8.30	-8.26/-7.25	-5.62/-4.83	-5.28/-6.66	-8.34/-10.83	-7.47/-5.62	-4.91/-6.31	-8.51/-6.91	-4.35/-2.56	-1.96/-1.06	-0.72/-0.98	-1.97/-2.72	-2.42/-3.13	-3.10/-2.85	-3.83/-3.89	-2.53/-0.80	0.14/-0.89	-2.93/-5.52	-6.74/-5.84	-4.87/-5.47
θ (60°)	-3.52/-3.55	-7.89/-11.21	-12.44/-11.81	-8.40/-6.91	-6.78/-6.94	-7.08/-7.17	-8.34/-7.44	-5.72/-5.62	-6.50/-4.22	-2.68/-2.22	-2.25/-2.21	-3.13/-2.86	-2.69/-3.64	-2.93/-1.03	-0.58/-1.20	-3.38/-3.88	-4.96/-6.74	-5.06/-3.89	-3.11/-2.42	-1.28/-0.84	-1.40/-1.74	-1.20/-1.11	-3.18/-3.75	-4.16/-3.55
θ (67.5°)	-4.53/-4.84	-8.88/-10.66	-12.13/-13.67	-9.26/-6.42	-6.15/-5.70	-5.77/-7.10	-6.68/-6.41	-5.79/-6.45	-6.87/-4.33	-2.20/-3.96	-4.03/-2.92	-3.18/-2.20	-3.11/-1.82	-0.790.16	-0.55/-0.17	-1.68/-2.79	-3.87/-3.58	-1.49/-1.46	-1.06/-1.23	-0.260.47	-1.24/-1.05	-2.93/-2.89	-3.80/-6.19	-5.07/-2.60
θ (75°)	-8.66/-7.69	-11.32/-7.78	-11.00/-15.62	-9.09/-4.67	-3.49/-3.92	-4.74/-6.51	-7.52/-6.15	-5.64/-6.29	-6.31/-3.48	-2.67/-3.02	-3.76/-4.55	-3.14/-3.12	-4.94/-3.68	-3.38/-1.52	-0.08/-0.37	-1.44/-1.10	-3.26/-5.09	-4.48/-4.51	-3.17/-1.39	1.21/0.62	-1.08/-1.47	-2.48/-2.57	-3.96/-5.81	-3.85/-3.88
θ (82.5°)	-8.29/-7.01	-13.41/-9.38	-13.91/-12.66	-3.81/-2.44	-4.21/-6.52	-4.56/-5.55	-7.09/-6.69	-6.47/-10.80	-11.39/-6.42	-3.06/-2.44	-2.10/-2.25	-1.92/-3.20	-4.08/-3.82	-3.24/-1.14	0.24/-0.42	-0.89/-0.58	-3.59/-2.39	-4.28/-2.76	-1.49/0.43	0.35/0.14	0.48/-2.53	-6.03/-10.22	-5.42/-1.95	
θ (90°)	-6.68/-15.55	-8.30/-6.51	-12.31/-12.59	-3.66/-4.57	-4.04/-4.84	-5.05/-4.26	-6.77/-5.57	-6.41/-8.72	-9.66/-5.61	-5.21/-4.84	-5.12/-2.31	-0.94/-0.88	-1.56/-4.53	-1.79/0.08	0.73/-0.12	0.20/-1.64	2.46/-1.53	0.77/-0.05	-0.19/-1.24	2.55/-1.97	0.47/0.21	1.14/-0.70	-6.54/-13.17	-8.76/-3.46
θ (97.5°)	-2.39/-8.29	-7.46/-6.57	-10.68/-7.61	-6.17/-4.58	-4.30/-10.29	-7.86/-6.73	-8.37/-8.77	-8.57/-11.00	-6.98/-3.80	-4.67/-7.81	-7.38/-2.30	-0.87/-3.15	-2.54/-6.89	-1.85/-0.44	-0.88/-1.94	-1.17/1.76	3.13/0.63	-0.88/-3.82	-1.45/-0.33	1.66/-1.74	-1.92/0.82	0.79/-1.11	-6.59/-7.52	-2.34/-3.32
θ (105°)	-6.76/-5.54	-7.65/-8.81	-14.47/-9.64	-5.25/-5.75	-8.51/-14.69	-14.51/-11.42	-10.55/-13.59	-12.45/-14.56	-1.49/-0.38	-6.03/-6.63	-7.38/-3.89	-4.61/-2.09	-4.79/-6.41	-3.84/-3.31	-2.06/-2.54	-3.15/-1.24	-0.07/-1.36	-0.61/-1.24	-1.81/-0.53	2.05/-1.65	-2.86/-0.19	1.18/-0.45	-3.83/-7.63	-5.12/-3.36
θ (112.5°)	-6.69/-9.12	-12.19/-9.77	-12.74/-12.06	-8.97/-8.93	-15.21/-15.68	-14.42/-12.07	-7.20/-8.39	-9.92/-8.01	-7.43/-7.48	-7.07/-8.87	-7.69/-2.99	-2.91/-2.80	-4.31/-9.28	-8.55/-4.14	-1.39/-4.17	-4.54/-2.27	0.61/-1.77	-1.33/-3.32	-2.71/-1.49	2.28/-7.22	-11.46/-0.46	-2.63/-4.39	-5.82/-9.09	-9.27/-6.76
θ (120°)	-4.79/-8.77	-10.24/-10.52	-9.29/-10.61	-10.89/-11.94	-12.04/-12.53	-9.19/-8.89	-11.36/-13.12	-10.92/-7.86	-7.58/-7.99	-7.76/-12.27	-12.76/-10.98	-7.78/-5.09	-7.67/-6.49	-5.76/-5.82	-4.78/-9.07	-6.62/-2.22	-1.57/1.08	-1.86/-0.10	-7.81/-2.44	2.01/-4.80	-10.05/-3.40	-0.52/-4.03	-9.45/-12.22	-5.14/-4.56
θ (127.5°)	-5.40/-11.93	-10.00/-12.08	-9.59/-13.98	-11.64/-12.25	-13.99/-14.68	-14.10/-12.10	-13.00/-11.90	-8.97/-8.72	-9.99/-9.55	-9.51/-8.31	-7.49/-7.32													



Antenna Pattern 2.4GHz, 5GHz

Appendix C

Θ(127.5°)	-2.40/-1.52	-0.35/-0.73	-2.23/-5.64	-6.48/-5.07	-7.12/-9.26	-8.34/-8.92	-9.11/-5.94	-3.50/-3.96	-7.40/-7.79	-6.35/-4.81	-4.79/-5.08	-5.22/-5.22	-4.75/-4.86	-5.28/-5.77	-3.75/-5.66	-7.53/-5.27	-5.30/-4.91	-4.09/-3.63	-5.82/-7.24	-8.74/-10.20	-10.03/-6.74	-3.93/-3.86	-2.61/-1.58	-0.92/-0.79
Θ(135°)	-5.42/-4.74	-3.76/-3.00	-2.85/-2.92	-4.55/-7.21	-7.73/-7.17	-8.10/-7.21	-6.63/-6.30	-5.33/-5.27	-5.24/-6.43	-8.63/-9.15	-7.07/-6.73	-10.75/-11.57	-10.60/-9.99	-8.80/-7.28	-5.00/-2.68	-3.08/-6.59	-8.04/-6.09	-5.77/-6.16	-8.16/-8.41	-4.60/-2.95	-4.83/-6.39	-6.18/-6.61	-5.29/-2.81	-1.65/-2.97
Θ(142.5°)	-4.98/-6.03	-7.72/-7.15	-6.86/-4.33	-3.17/-3.45	-5.17/-8.45	-8.87/-9.52	-8.91/-6.80	-4.56/-2.65	-1.92/-3.18	-7.70/-12.89	-10.68/-9.15	-3.85/-1.07	-0.76/-2.68	-6.05/-6.09	-3.14/-1.85	-1.90/-1.62	-1.43/-2.09	-2.36/-2.35	-2.89/-3.54	-2.58/-1.09	-1.29/-2.40	-4.33/-6.50	-8.45/-5.02	-5.99/-6.03
Θ(150°)	-4.66/-4.72	-4.01/-4.78	-6.69/-7.34	-7.90/-7.71	-6.94/-7.37	-7.29/-5.84	-4.14/-2.78	-2.03/-1.97	-2.77/-3.86	-5.49/-667	-6.96/-7.32	-5.24/-3.49	-4.03/-3.39	-1.71/-1.46	2.52/-4.47	-4.05/-5.27	-2.90/-4.21	-4.10/-4.29	-3.98/-3.27	-2.00/-1.46	-1.27/-2.77	-4.72/-5.49	-4.64/-2.82	-1.80/-3.07
Θ(157.5°)	-4.02/-3.94	-5.16/-5.36	-3.90/-4.00	-4.88/-5.47	-6.81/-9.11	-11.01/-10.54	-8.73/-8.08	-7.58/-7.04	-7.03/-7.73	-9.10/-9.56	-7.48/-5.79	-4.49/-4.20	-4.82/-5.99	-5.27/-3.75	-3.31/-3.12	-2.21/-1.39	-1.81/-2.86	-4.53/-4.94	-4.28/-4.35	-5.95/-6.20	-4.82/-4.18	-4.96/-6.21	-6.45/-6.85	-5.97/-4.12
Θ(165°)	-2.89/-6.31	-12.79/-15.81	-15.28/-14.26	-11.88/-10.82	-10.24/-9.51	-9.34/-9.64	-9.43/-8.07	-6.63/-6.28	-5.59/-6.18	-8.81/-9.01	-7.67/-5.76	-4.53/-3.63	-3.89/-3.32	-3.06/-3.01	-3.21/-3.71	-3.86/-3.93	-3.78/-3.69	-3.67/-3.96	-4.01/-4.21	-4.01/-3.56	-3.82/-2.57	-1.82/-1.30	-0.74/-0.50	-0.93/-1.82
Θ(172.5°)	-9.41/-11.67	-8.57/-6.42	-5.52/-5.68	-6.12/-6.99	-7.73/-8.27	-8.52/-9.08	-6.95/-5.62	-4.59/-4.27	-4.39/-4.54	-4.53/-4.47	-3.99/-3.93	-3.64/-2.99	-2.49/-2.08	-2.13/-2.29	-2.70/-2.70	-2.58/-2.61	-2.39/-2.23	-2.14/-2.32	-2.28/-2.38	-2.24/-2.13	-2.37/-2.22	-2.17/-1.81	-2.09/-3.17	-5.57/-9.25
Θ(180°)	-6.67/-4.42	-3.24/-3.15	-3.85/-5.46	-6.97/-8.16	-8.77/-8.51	-7.46/-6.05	-5.21/-4.70	-4.35/-4.30	-4.38/-4.13	-4.21/-4.34	-4.42/-4.66	-4.81/-4.43	-4.33/-3.53	-3.27/-3.30	-3.65/-3.92	-4.14/-4.30	-4.70/-5.01	-5.05/-5.19	-5.46/-5.62	-6.17/-6.67	-7.13/-7.39	-7.23/-7.85	-9.75/-12.50	-11.13/-7.91
Freq(Hz)	5.6GPol	TotalAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-8.65/-9.28	-9.80/-8.65	-7.58/-7.17	-7.46/-7.44	-7.47/-7.85	-9.26/-9.88	-9.66/-9.29	-8.72/-8.21	-8.34/-9.04	-8.53/-7.77	-7.22/-7.13	-7.73/-8.14	-7.19/-6.42	-6.19/-6.06	-6.42/-6.65	-6.78/-6.51	-6.49/-6.22	-6.40/-6.38	-6.95/-6.45	-6.79/-6.67	-6.63/-6.31	-6.05/-5.94	-6.01/-6.50	-7.08/-8.04
Θ(7.5°)	-7.68/-7.26	-7.27/-7.47	-6.59/-5.79	-6.19/-5.86	-5.99/-6.18	-6.36/-6.86	-6.19/-5.66	-5.22/-4.65	-4.26/-3.36	-2.17/-1.31	-0.66/-0.55	-1.56/-3.00	-3.55/-3.74	-3.80/-3.93	-4.59/-4.83	-6.11/-7.62	-8.30/-7.39	-5.55/-5.67	-5.98/-5.50	-5.24/-5.14	-4.98/-4.94	-5.04/-5.49	-4.28/-4.10	-3.96/-6.89
Θ(15°)	-5.31/-4.44	-5.00/-4.35	-3.51/-2.29	-2.27/-2.12	-2.47/-2.86	-2.49/-2.51	-2.85/-3.13	-3.61/-3.78	-3.74/-3.59	-3.51/-3.65	-4.38/-5.28	-6.38/-7.04	-6.03/-4.65	-4.10/-4.02	-4.64/-5.06	-5.47/-5.29	-5.02/-4.73	-4.31/-4.32	-4.91/-5.09	-5.59/-5.22	-4.39/-3.74	-3.31/-3.19	-3.95/-5.83	-6.05/-5.96
Θ(22.5°)	-3.54/-3.31	-2.47/-1.55	-1.05/-0.55	-0.81/-1.56	-2.62/-3.29	-3.73/-3.62	-3.71/-4.25	-5.07/-5.38	-4.41/-3.29	-2.83/-2.95	-3.24/-3.68	-5.26/-5.87	-5.49/-4.94	-3.57/-3.33	-3.36/-3.94	-5.45/-6.57	-7.15/-6.83	-6.02/-5.21	-5.28/-4.84	-4.11/-3.40	-3.30/-3.42	-3.33/-3.02	-3.53/-4.54	-4.50/-3.93
Θ(30°)	-2.69/-2.61	-1.59/-0.87	-0.55/-0.59	-0.14/-1.66	-1.80/-1.50	-1.33/-1.70	-2.47/-3.21	-4.00/-4.32	-4.26/-3.36	-2.17/-1.91	-0.66/-0.55	-1.56/-3.00	-3.55/-3.74	-3.80/-3.93	-4.59/-4.83	-6.11/-7.62	-8.30/-7.39	-5.55/-5.67	-5.98/-5.50	-5.24/-5.14	-4.98/-4.94	-5.04/-5.49	-4.28/-4.10	-3.96/-6.89
Θ(37.5°)	0.070/3.1	-0.32/-1.05	-1.20/-1.82	-2.92/-2.96	-2.92/-2.95	-3.47/-4.32	-4.47/-4.77	-5.32/-4.94	-3.88/-2.48	-1.64/-1.29	-0.62/-0.23	-0.78/-0.10	0.35/-0.25	-1.33/-2.01	-2.49/-2.89	-3.34/-4.88	-5.67/-5.34	-4.22/-3.64	-3.40/-2.59	-2.96/-3.55	-3.69/-3.50	-3.06/-2.82	-3.22/-3.15	-1.750/3.13
Θ(45°)	-0.14/-1.11	-2.11/-2.37	-2.84/-2.52	-2.02/-1.55	-1.97/-2.89	-3.57/-4.54	-5.12/-6.26	-5.17/-4.02	-2.86/-1.76	-1.38/-1.59	-0.76/-0.68	-1.26/-0.94	-1.05/-1.62	-1.68/-0.97	-1.23/-1.32	-1.41/-2.32	-3.33/-3.06	-2.66/-2.35	-1.71/-0.72	-0.65/-1.23	-2.56/-3.13	-2.90/-1.64	-1.36/-1.57	-1.53/-0.61
Θ(52.5°)	-0.83/-2.10	-2.65/-2.39	-2.19/-2.82	-4.59/-5.57	-4.96/-3.83	-3.81/-4.27	-5.11/-4.69	-4.21/-4.68	-4.78/-3.62	-2.83/-2.92	-4.85/-7.13	-5.22/-3.94	-4.40/-5.50	-5.08/-3.88	-1.93/-0.76	-0.14/-0.59	-2.51/-3.88	-3.12/-1.91	-2.56/-3.22	-3.02/-2.97	-1.92/-1.82	-2.12/-2.34	-2.91/-1.88	-0.25/-0.35
Θ(60°)	-2.44/-1.81	-0.09/-0.00	-1.55/-3.28	-3.73/-3.67	-3.40/-3.01	-4.14/-6.09	-6.86/-7.28	-6.59/-5.23	-5.03/-6.74	-11.23/-12.24	-9.77/-5.71	-4.41/-3.56	-3.74/-3.29	-2.83/-2.28	-2.15/-2.68	-3.24/-3.77	-3.22/-3.12	-5.56/-7.71	-5.63/-3.88	-3.38/-3.71	-3.70/-3.41	-2.77/-1.25	-0.62/-1.27	-2.51/-2.44
Θ(67.5°)	-1.560/-1.4	0.850/-0.45	-1.64/-2.99	-3.13/-2.50	-2.14/-2.37	-3.25/-3.64	-4.29/-5.02	-5.22/-5.56	-5.69/-6.14	-6.13/-7.01	-6.63/-6.16	-5.42/-5.41	-3.32/-2.60	-3.18/-3.28	-3.60/-3.16	-3.12/-4.82	-4.72/-3.90	-4.27/-5.51	-5.13/-3.91	-3.52/-3.43	-4.94/-3.87	-5.97/-4.77	-2.84/-2.78	-3.40/-2.47
Θ(75°)	0.030/7.7	0.080/-0.24	0.200/0.4	-0.62/-0.72	0.050/-0.92	0.32/-0.53	-1.31/-2.06	-4.60/-4.95	-1.83/-4.70	-5.71/-4.01	-3.60/-4.70	-3.77/-4.10	-2.42/-3.49	-1.59/-2.19	-1.93/-2.22	-2.14/-1.99	-1.82/-2.44	-2.88/-3.27	-5.99/-4.58	-3.56/-3.39	-1.57/-0.92	-1.36/-0.07		
Θ(82.5°)	-0.580/2.8	1.44/-1.30	-0.06/-0.64	-1.52/-0.99	0.78/-1.47	0.90/-0.35	-0.04/-1.24	-3.54/-4.24	-2.95/-0.67	-0.12/-0.87	-2.13/-2.92	-3.63/-2.18	-0.610/2.0	0.11/-3.16	-6.94/-2.63	-0.67/-1.26	-1.58/-1.28	-1.28/-0.66	-1.12/-1.40	-0.92/-0.60	-1.67/-2.07	-1.82/-2.11	-0.510/2.4	-0.28/-0.72
Θ(90°)	1.13/-2.3	0.830/7.0	0.070/33	-0.080/23	1.35/-1.59	1.100/96	1.38/-1.52	-0.10/-1.86	-1.75/-0.03	1.470/8.1	-0.05/-3.60	-2.93/-1.85	-0.340/37	0.490/45	0.690/5.1	0.84/-2.25	1.140/68	1.69/-1.92	1.24/-1.32	1.38/-1.3	1.15/-0.07	0.27/-1.66	-2.23/-0.31	0.440/2.8
Θ(97.5°)	0.191/2.4	0.901/0.8	0.27/-1.11	-0.59/-1.71	-1.85/-1.34	-0.340/46	1.27/-1.25	1.120/39	-1.67/-1.13	0.160/-0.15	-1.06/-1.16	-0.010/95	1.160/-0.10	1.45/-1.95	2.263/3.1	3.002/3.9	1.88/-1.12	2.303/0.3	2.150/-1.7	1.061/4.3	-3.61/-0.79	-1.570/9.2		
Θ(105°)	-2.40/-0.94	-1.48/-1.40	-2.05/-3.46	-2.90/-1.36	-2.21/-2.26	-0.88/-0.28	0.700/9.4	-0.20/-0.73	-1.37/-1.71	-2.17/-2.44	-1.18/-2.14	-2.19/-5.40	-1.490/22	-1.18/-2.94	-1.910/45	1.812/7.8	2.69/-1.70	2.22/-1.77	0.75/-1.39	1.53/-2.37	0.09/-2.88	-4.86/-5.09	-4.91/-5.10	-2.32/-0.74
Θ(112.5°)	-3.09/-1.53	-2.33/-3.56	-2.84/-1.54	-0.91/-0.36	-0.83/-1.71	-2.06/-1.08	0.050/-0.6	-0.30/-0.91	-2.71/-5.05	-7.64/-3.98	-3.39/-2.27	-3.18/-4.02	-1.940/-0.75	-4.36/-3.74	-7.08/-3.55	-0.880/6.8	0.20/-2.27	-0.47/-0.27	-4.07/-2.79	-3.02/-1.24	-2.75/-4.02	-5.26/-6.75	-7.98/-4.49	-3.06/-3.19
Θ(120°)	-3.55/-3.67	-3.07/-3.66	-4.44/-3.18	-1.77/-1.13	-1.15/-2.53	-3.34/-2.80	-1.64/-1.91	-2.49/-1.57	-1.68/-3.75	-7.37/-6.01	-5.17/-3.58	-4.47/-6.99	-4.24/-1.58	-4.78/-10.15	-8.54/-3.31	-2.050/0.3	-0.28/-3.10	-6.39/-2.32	-4.52/-5.74	-3.84/-3.39	-5.00/-4.71	-6.00/-6.33	-4.52/-1.80	-1.95/-4.25
Θ(127.5°)	-2.80/-3.19	-3.72/-4.48	-3.47/-2.89	-2.20/-2.71	-3.88/-5.89	-8.37/-8.35	-7.79/-8.29	-6.90/-4.35	-4.58/-5.85	-6.53/-5.25	-3.73/-2.83	-4.19/-7.39	-6.27/-3.86	-6.46/-7.28	-4.87/-3.90	-6.07/-3.73	-3.00/-6.03	-3.41/-1.48	-4.90/-9.08	-6.48/-5.17	-4.26/-3.97	-4.58/-7.26	-3.15/-1.03	-0.75/-1.99
Θ(135°)	-3.29/-4.16	-4.42/-4.81	-4.23/-3.17	-3.07/-3.38	-4.29/-5.17	-5.91/-6.93	-8.15/-8.60	-6.25/-6.53	-4.71/-4.16	-8.07/-11.46	-8.27/-2.29	-1.220/-8.01	-6.74/-3.58	-13.33/-8.94	-4.73/-4.15	-2.00/-4.51	-6.25/-6.35	-4.52/-2.93	-6.76/-8.84	-4.07/-1.59	-0.67/-0.97	-0.42/-4.27	-6.59/-1.65	0.51/-2.16
Θ(142.5°)	-4.05/-4.32	-3.74/-4.52	-6.77/-6.47	-5.21/-5.17	-6.24/-6.44	-6.77/-7.64	-10.55/-13.36	-9.96/-5.39	-2.82/-3.70	-8.87/-13.56	-8.46/-8.53	-5.93/-2.89	-2.10/-4.22	-6.53/-5.99	-3.60/-4.45	-3.12/-2.89	-3.80/-4.00	-3.28/-3.45	-4.23/-5.46	-3.40/-1.75	-2.68/-3.19	-4.40/-4.13	-3.48/-2.21	-1.30/-2.07
Θ(150°)	-7.35/-5.23	-3.11/-2.44	-2.48/-2.83	-3.90/-6.69	-8.89/-11.42	-7.22/-10.25	-7.20/-4.83	-2.87/-1.17	-0.91/-2.01	-4.21/-7.98	-7.91/-6.22	-3.60/-1.87	-2.38/-4.17	-5.37/-5.70	-5.21/-6.60	-9.11/-6.30	-4.30/-3.16	-1.93/-1.13	-2.59/-4.08	-3.72/-2.33	-3.04/-8.92	-11.10/-9.70	-0.88/-4.64	-3.97/-5.50
Θ(157.5°)	-14.58/-10.78	-11.54/-11.31	-9.59/-8.60	-8.04/-7.22	-7.02/-7.12	-7.13/-7.18	-8.31/-10.48	-11.26/-10.33	-8.24/-7.56	-8.78/-9.97	-9.02/-7.25	-5.29/-5.27	-7.62/-10.42	-6.96/-2.98	-1.73/-2.32	-3.88/-5.13	-6.36/-6.54	-5.72/-6.24	-7.75/-9.69	-10.16/-8.76	-7.53/-7.17	-8.08/-8.28	-8.27/-9.84	-12.13/-11.95
Θ(165°)	-4.67/-7.91	-12.37/-10.51	-10.66/-10.49	-8.79/-9.01	-8.93/-10.38	-12.22/-14.22	-14.84/-11.78	-8.16/-6.74	-5.92/-5.90	-6.69/-7.50	-7.27/-6.23	-5.43/-4.91	-5.24/-6.12	-5.63/-4.50	-4.05/-4.76	-6.36/-8.07	-8.86/-8.86	-8.11/-7.80	-8.22/-4.75	-7.43/-6.21	-5.51/-5.96	-6.96/-6.98	-5.61/-3.79	-2.46/-2.87
Θ(172.5°)	-6.90/-7.75	-6.26/-6.42	-5.89/-6.37	-5.81/-5.32	-5.02/-4.30	-4.85/-3.76	-2.91/-2.31	-2.08/-1.91	-2.03/-2.27	-2.70/-3.39	-3.62/-3.58	-3.74/-3.82	-4.41/-5.39	-6.48/-7.38	-8.05/-8.00	-7.18/-6.64	-6.55/-6.64	-6.29/-5.74	-4.45/-3.71	-3.42/-2.97	-3.37/-3.00	-3.30/-3.86	-5.24/-7.75	
Θ(180°)	-6.94/-5.02	-3.44/-3.82	-5.69/-7.62	-7.93/-7.61	-7.63/-7.08	-6.69/-6.40	-5.88/-5.47	-5.66/-5.95	-5.85/-4.88	-4.46/-4.60	-4.81/-5.23	-5.38/-5.09	-4.72/-3.68	-3.19/-2.96	-2.83/-2.76	-2.65/-2.73	-2.83/-3.08	-3.26/-3.29	-3.41/-3.78	-4.37/-5.35	-6.33/-7.43	-7.82/-8.40	-10.31/-12.01	-11.98/-8.40
Freq(Hz)	5.785GPol	TotalAnt.																						



Antenna Pattern 2.4GHz, 5GHz

Appendix C

Θ(180°)	-10.90/-12.24	-12.34/-11.07	-10.67/-11.57	-12.64/-12.30	-11.56/-11.54	-11.48/-11.59	-12.53/-12.71	-13.12/-14.17	-14.75/-15.21	-15.52/-14.62	-13.03/-11.82	-11.38/-10.40	-10.23/-10.16	-10.04/-10.03	-10.33/-10.44	-10.50/-10.28	-10.07/-10.13	-10.37/-9.90	-9.46/-9.94	-10.93/-11.94	-12.22/-11.95	-11.67/-12.50	-13.76/-13.76	-12.20/-11.07
Freq(Hz)	5.3GPol.	TotalAnt.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-5.59/-5.47	-5.43/-5.47	-5.33/-5.31	-5.19/-4.87	-4.51/-4.45	-4.09/-3.94	-3.64/-3.70	-4.07/-4.65	-5.16/-5.33	-5.78/-6.33	-6.46/-6.63	-6.08/-6.16	-6.46/-6.18	-6.01/-5.81	-5.32/-4.76	-4.60/-4.75	-4.85/-5.00	-5.00/-5.17	-5.17/-5.28	-5.24/-5.24	-5.48/-5.42	-5.64/-5.73	-5.87/-5.60	-5.42/-5.31
Θ(7.5°)	-7.34/-6.84	-7.04/-7.15	-6.92/-7.56	-7.49/-6.89	-6.45/-5.87	-5.09/-4.52	-4.18/-3.99	-4.24/-4.46	-4.43/-4.51	-4.98/-5.21	-5.03/-4.58	-4.47/-3.42	-2.75/-2.20	-1.91/-1.74	-1.76/-1.68	-1.89/-1.92	-1.65/-1.55	-1.59/-1.97	-2.70/-3.15	-3.78/-4.74	-5.49/-5.66	-6.23/-6.95	-7.66/-7.79	-8.04/-7.27
Θ(15°)	-5.25/-6.04	-6.10/-5.45	-5.31/-5.40	-5.47/-5.89	-6.80/-7.45	-8.63/-9.03	-8.38/-7.27	-6.53/-5.63	-5.39/-4.96	-4.55/-4.22	-4.09/-3.72	-2.84/-1.89	-1.02/-0.40	0.100/0.22	-0.12/-0.08	-0.35/-0.36	-0.43/-0.23	-0.46/-1.31	-2.63/-4.02	-4.83/-5.17	-4.77/-3.99	-3.71/-3.50	-3.86/-3.84	-4.38/-4.87
Θ(22.5°)	-2.91/-4.54	-5.88/-6.61	-6.57/-7.36	-7.53/-7.24	-7.29/-7.23	-6.94/-5.84	-5.27/-4.58	-4.49/-4.65	-5.79/-6.00	-4.92/-4.06	-3.80/-3.51	-2.62/-1.99	-1.46/-1.35	-1.40/-1.71	-1.63/-1.39	-1.25/-0.88	-0.37/-0.66	-1.83/-3.97	-5.63/-5.15	-3.95/-3.12	-2.63/-2.53	-2.56/-2.36	-2.29/-1.69	-1.94/-2.53
Θ(30°)	-1.30/-2.16	-2.42/-2.37	-2.22/-2.82	-3.87/-4.80	-5.79/-6.15	-6.59/-5.87	-5.20/-4.43	-3.13/-1.39	-3.87/-4.94	-4.72/-3.62	-3.23/-3.29	-3.05/-2.25	-2.00/-2.07	-2.22/-2.45	-2.09/-1.54	-1.18/-0.51	-0.13/-0.51	-1.99/-2.65	-2.76/-3.20	-3.37/-2.19	-0.95/-0.02	0.110/-1.7	0.03/-0.18	-0.54/-1.03
Θ(37.5°)	-4.74/-5.09	-5.69/-6.03	-5.67/-4.45	-3.49/-2.44	-3.26/-4.81	-5.57/-4.87	-3.73/-3.05	-3.23/-3.47	-4.06/-5.07	-5.11/-3.56	-3.33/-3.40	-2.39/-1.31	-1.34/-1.80	-1.87/-2.27	-3.55/-4.64	-4.93/-4.69	-5.20/-5.99	-6.02/-6.56	-9.09/-9.65	-4.67/-1.67	-0.36/-0.05	-0.43/-1.65	-3.15/-4.23	-5.02/-5.29
Θ(45°)	-3.49/-2.34	-1.58/-2.03	-1.94/-2.38	-2.66/-2.83	-3.67/-5.48	-6.49/-4.34	-2.07/-1.54	-2.41/-4.66	-6.40/-5.18	-3.77/-3.07	-2.62/-3.22	-4.27/-3.39	-2.12/-1.46	-0.14/-0.24	-2.32/-3.99	-5.19/-6.14	-6.60/-7.61	-7.70/-6.72	-5.83/-4.63	-3.83/-3.68	-3.36/-2.82	-2.70/-3.87	-5.20/-5.71	-5.05/-4.23
Θ(52.5°)	-8.16/-6.71	-4.87/-5.18	-4.12/-3.25	-1.85/-0.45	-0.50/-1.46	-2.33/-2.65	-1.82/-1.33	-2.19/-5.74	-7.72/-5.30	-2.95/-1.63	-0.29/-0.75	-1.51/-2.25	-2.65/-3.35	-3.25/-3.25	-2.97/-1.40	-2.27/-4.58	-6.94/-8.53	-8.66/-7.38	-7.22/-8.81	-8.19/-5.39	-4.23/-4.35	-5.78/-7.42	-7.07/-6.23	-6.13/-6.02
Θ(60°)	-3.45/-3.41	-3.23/-3.14	-3.47/-3.39	-2.91/-1.47	-0.72/-0.76	-1.00/-1.26	-1.42/-1.89	-3.09/-3.54	-4.03/-3.69	-2.54/-2.48	-1.20/-0.43	0.15/-0.45	-1.44/-2.28	-2.47/-2.75	-1.33/0.03	-1.56/-2.57	-4.76/-5.79	-5.80/-6.59	-7.40/-6.09	-5.48/-5.20	-6.00/-6.48	-5.75/-3.30	-1.87/-1.79	-2.67/-3.41
Θ(67.5°)	-2.82/-1.87	-1.28/-1.11	-1.57/-1.92	-2.74/-2.62	-1.35/-0.46	-0.00/-0.01	-0.51/-1.18	-3.21/-5.32	-3.84/-2.25	-1.19/-1.93	-2.32/-1.76	-0.60/-0.07	-0.45/-1.14	-2.03/-2.83	-1.62/-1.02	-0.69/0.41	-0.53/-2.38	-2.86/-2.43	-2.45/-3.73	-3.71/-3.58	-4.53/-4.94	-3.52/-2.01	-1.34/-1.82	-2.77/-2.79
Θ(75°)	-3.28/-2.48	-1.72/-1.21	-0.63/-0.73	-1.17/-0.82	-0.04/-1.16	1.43/0.67	0.26/-0.62	-0.92/-0.88	-1.49/-2.12	-1.90/-1.21	-1.34/-1.25	-1.13/-0.55	-0.18/-0.58	-1.46/-2.77	-1.69/-1.01	0.110/0.89	-0.69/-1.06	-0.04/0.50	-0.60/-0.80	-4.05/-4.26	-3.18/-3.26	-2.22/-0.88	-0.43/-0.63	-2.28/-2.37
Θ(82.5°)	-0.29/-0.30	0.16/0.43	0.62/0.25	-0.99/-1.94	-0.96/-1.94	1.92/1.05	-0.34/-0.42	1.26/0.96	-0.09/-1.83	-3.06/-3.64	-3.90/-2.49	-1.02/0.61	0.91/1.08	-0.66/-1.78	-1.71/-3.53	-2.30/-0.49	-0.06/-0.23	-0.23/0.54	0.74/0.60	0.85/0.89	0.62/-0.23	-0.97/-1.09	-1.00/0.25	0.21/-0.18
Θ(90°)	-0.94/-0.36	-0.81/-1.48	-2.69/-2.34	-0.78/-0.36	-0.41/-0.40	0.59/-0.37	-1.82/-1.40	0.38/1.23	0.31/-0.53	-1.37/-2.12	-1.59/-0.81	0.78/1.70	2.17/2.22	0.84/-0.11	-2.13/-3.04	-2.15/-1.83	-1.08/-0.02	1.50/1.81	1.46/1.33	1.41/1.84	0.91/0.11	-0.44/-0.78	-1.39/-0.66	-0.26/-0.84
Θ(97.5°)	-1.18/0.19	-0.27/-0.65	-2.72/-2.97	-1.53/-0.61	0.44/1.26	1.50/-0.05	-0.85/-0.74	0.89/1.33	0.57/-0.42	-1.09/0.43	0.99/0.26	0.80/0.01	-0.95/-1.00	-1.98/-3.81	-0.70/0.46	0.75/0.24	0.43/0.27	1.22/2.91	2.40/0.65	0.39/-0.13	-0.41/-1.06	-1.15/-0.60	-0.57/-1.68	-0.31/-0.02
Θ(105°)	-5.96/-3.34	-3.15/-2.06	-2.59/-2.54	-0.50/-0.97	0.33/1.45	1.61/0.89	-0.45/0.48	2.41/3.12	1.90/0.69	-0.83/-0.66	-0.46/-0.43	-1.18/-0.00	-0.09/-0.55	-2.15/-2.58	-0.84/-1.19	-1.12/0.08	-0.99/-1.63	0.71/1.75	1.59/1.21	-0.83/-2.40	-1.77/-1.85	-2.27/-2.57	-4.33/-3.16	-3.96/-4.77
Θ(112.5°)	-8.99/-11.35	-14.36/-8.80	-6.45/-3.27	-1.46/-1.70	-2.67/-3.61	-1.90/-1.32	-1.78/-2.00	0.12/1.27	1.09/0.08	-0.67/-1.37	-3.29/-4.24	-4.12/-2.99	-1.66/-2.67	-1.88/-0.40	-0.63/-3.55	-2.86/-3.09	-2.95/-3.49	-2.13/-2.05	-2.77/-1.61	-2.16/-3.99	-5.07/-5.52	-5.75/-6.06	-8.56/-7.10	-5.71/-10.49
Θ(120°)	-4.93/-3.97	-5.43/-5.97	-6.05/-6.67	-4.64/-2.41	-1.99/-3.69	-4.38/-1.70	-0.01/-1.03	-1.33/-1.74	-2.28/-2.30	-1.84/-2.49	-2.94/-3.71	-4.16/-4.79	-5.31/-5.65	-10.79/-5.92	-4.55/-4.09	-5.72/-2.32	-5.46/-8.00	-9.83/-9.29	-4.56/-6.41	-8.81/-13.87	-15.16/-7.03	-4.36/-4.28	-2.23/-2.01	-2.28/-3.02
Θ(127.5°)	-7.62/-4.94	-5.65/-5.78	-7.47/-6.60	-5.91/-4.93	-4.81/-5.46	-6.53/-6.04	-3.10/-2.33	-3.77/-6.48	-5.55/-5.21	-3.58/-2.61	-1.68/-2.10	-3.92/-4.47	-3.08/-4.94	-5.40/-4.40	-4.92/-4.47	-5.40/-4.40	-1.26/-2.86	-6.58/-9.93	-4.57/-5.95	-5.85/-11.09	-11.42/-10.95	-1.74/-11.67	-7.20/-12.40	-7.60/-6.39
Θ(135°)	-2.78/-1.98	-2.72/-3.93	-4.44/-4.67	-2.47/-1.53	-1.13/-2.37	-3.84/-5.56	-6.92/-5.74	-4.98/-5.76	-7.02/-6.10	-4.68/-4.00	-4.07/-2.35	-1.67/-2.36	-1.80/-2.36	-4.23/-3.00	-5.26/-8.60	-8.77/-5.73	-3.56/-3.82	-3.02/-6.73	-10.15/-10.82	-6.65/-8.77	-4.71/-8.16	-8.73/-8.36	-7.79/-5.67	-5.31/-3.02
Θ(142.5°)	-2.62/-2.28	-2.98/-2.78	-4.08/-6.61	-6.67/-5.32	-3.96/-6.33	-4.47/-5.09	-5.83/-7.41	-8.70/-9.02	-6.45/-3.51	-1.89/-1.67	-2.56/-4.25	-5.92/-6.91	-6.95/-5.06	-14.66/-13.08	-7.03/-5.98	-10.01/-11.25	-9.55/-3.99	-3.71/-7.77	-11.56/-11.48	-12.39/-15.13	-7.59/-6.46	-4.88/-3.47	-2.16/-1.76	-2.28/-2.69
Θ(150°)	-2.96/-3.28	-3.07/-2.98	-3.02/-3.03	-2.94/-2.93	-3.11/-3.33	-3.85/-4.03	-3.41/-2.87	-2.80/-3.38	-5.31/-5.55	-5.20/-5.45	-6.35/-6.58	-8.18/-10.80	-10.37/-10.29	-11.77/-13.07	-13.71/-14.53	-12.56/-9.33	-7.65/-6.01	-6.76/-10.02	-11.28/-9.84	-10.35/-10.92	-8.17/-6.19	-5.05/-4.47	-4.02/-3.04	-2.28/-2.69
Θ(157.5°)	-4.40/-4.85	-4.34/-3.84	-3.76/-4.38	-5.74/-7.70	-8.73/-8.59	-8.58/-9.33	-10.34/-10.40	-11.29/-11.21	-9.72/-8.32	-7.65/-6.88	-6.35/-5.60	-4.85/-4.67	-4.57/-4.70	-4.76/-5.12	-6.61/-7.48	-6.95/-5.50	-4.47/-3.69	-3.63/-4.09	-6.32/-10.51	-15.45/-15.24	-14.60/-9.72	-6.40/-4.28	-3.25/-2.51	-2.26/-3.21
Θ(165°)	-8.77/-8.47	-8.90/-9.82	-10.34/-9.64	-8.94/-9.33	-9.70/-10.05	-9.91/-9.65	-9.73/-9.83	-8.48/-7.26	-7.08/-6.27	-5.95/-5.62	-5.88/-5.01	-4.22/-3.57	-3.40/-3.83	-4.92/-6.85	-9.74/-10.20	-8.21/-7.83	-8.81/-10.67	-13.62/-14.19	-14.87/-12.28	-11.65/-12.12	-13.01/-14.00	-12.06/-11.72	-11.09/-10.37	-9.04/-9.01
Θ(172.5°)	-14.35/-13.32	-13.09/-14.34	-13.73/-12.59	-12.64/-13.79	-15.58/-15.23	-16.05/-14.39	-12.90/-11.96	-11.27/-10.14	-9.50/-8.46	-7.58/-7.06	-6.69/-6.21	-6.08/-6.34	-6.67/-7.04	-7.34/-7.58	-7.88/-8.46	-9.41/-10.29	-11.48/-12.53	-12.73/-12.92	-11.43/-10.34	-9.57/-10.16	-10.21/-9.50	-9.36/-10.98	-13.48/-15.39	-15.94/-15.07
Θ(180°)	-12.69/-14.08	-13.43/-12.93	-12.68/-13.65	-14.16/-13.33	-13.27/-12.91	-11.93/-11.35	-11.43/-12.21	-12.31/-12.77	-13.13/-12.79	-12.35/-11.96	-11.61/-11.32	-10.41/-11.30	-10.84/-10.14	-9.99/-10.13	-9.92/-10.19	-9.93/-9.88	-8.93/-8.88	-8.92/-9.00	-10.06/-10.86	-11.42/-10.95	-10.66/-10.95	-9.34/-11.67	-11.80/-11.69	
Freq(Hz)	5.6GPol.	TotalAnt.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-6.84/-6.10	-5.64/-5.92	-6.01/-5.73	-5.47/-5.17	-4.79/-4.53	-4.54/-4.68	-4.65/-4.99	-4.90/-5.10	-5.20/-5.17	-5.27/-5.35	-5.47/-5.61	-5.86/-5.70	-5.58/-5.52	-5.19/-4.90	-4.81/-4.80	-4.68/-4.88	-5.17/-5.47	-5.72/-6.26	-6.80/-6.80	-6.95/-7.17	-7.42/-7.07	-7.25/-6.92	-6.81/-6.76	-7.06/-6.89
Θ(7.5°)	-5.10/-4.79	-4.67/-4.99	-5.05/-4.99	-4.47/-3.90	-3.63/-3.77	-3.64/-4.18	-4.41/-4.70	-4.90/-5.46	-5.61/-5.90	-6.18/-6.43	-6.24/-6.31	-6.64/-6.82	-7.06/-6.86	-6.51/-5.79	-5.17/-4.73	-4.63/-4.87	-5.19/-5.53	-5.51/-4.55	-4.07/-4.40	-4.35/-4.51	-4.76/-3.13	-5.02/-2.57	-5.92/-5.59	-5.92/-5.59
Θ(15°)	-5.72/-5.48	-4.78/-4.10	-4.32/-4.19	-4.23/-4.24	-4.47/-4.48	-4.71/-4.96	-5.41/-6.01	-7.50/-8.06	-4.26/-4.58	-4.26/-4.58	-3.30/-3.62	-4.12/-4.18	-3.43/-4.58	-4.72/-4.47	-4.04/-3.38	-2.93/-2.82	-3.41/-3.80	-4.07/-3.96	-3.11/-2.11	-1.40/-1.24	-1.57/-1.88	-2.72/-3.69	-4.57/-5.28	-5.89/-5.99
Θ(22.5°)	-3.39/-3.90	-3.25/-2.77	-2.85/-3.47	-4.05/-4.03	-4.05/-4.03	-3.92/-4.44	-5.35/-6.96	-8.34/-8.23	-6.94/-5.14	-3.04/-1.73	-1.36/-1.43	-1.67/-1.87	-1.69/-1.84	-2.09/-3.08	-4.19/-4.63	-4.47/-3.98	-3.48/-3.28	-2.98/-2.70	-2.64/-2.82	-3.49/-4.41	-5.02/-5.10	-4.43/-3.57	-3.27/-2.96	-3.35/-3.66
Θ(30°)	-1.32/-1.95	-2.03/-2.37	-3.53/-4.31	-4.12/-3.34	-2.86/-2.84	-3.58/-5.19	-6.83/-4.14	-9.25/-5.88	-6.94/-5.45	-4.04/-2.74	-1.82/-1.28	-1.34/-0.96	-0.78/-1.16	-2.41/-3.44	-3.60/-2.81	-1.64/-0.87	-1.21/-1.14	-1.07/-1.46	-2.33/-2.66	-2.72/-2.74	-3.59/-3.65	-3.34/-2.78		

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

