

Antenna Composite Gain Test Report

Equipment	Wi-Fi 7 Router
Brand Name	Q Fiber
Model Name	W1700K
Applicant	Gemtek Technology Co., Ltd. No. 15-1 Zhonghua Road, Hsinchu Industrial Park, Hukou, Hsinchu, Taiwan, 30352.
Manufacturer	Gemtek Technology Co., Ltd. No. 15-1 Zhonghua Road, Hsinchu Industrial Park, Hukou, Hsinchu, Taiwan, 30352.
Sample Received	Aug. 17, 2023
Start Test Date	Aug. 22, 2023
Final Test Date	Oct. 04 , 2023


Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua 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
2G5G Ant1	1	Gemtek	WAPE-269BE_Dual_Ant1	PIFA	UFL	2.4G+5G
2G5G Ant2	2	Gemtek	WAPE-269BE_Dual_Ant2	PIFA	UFL	2.4G+5G
2G5G Ant3	3	Gemtek	WAPE-269BE_Dual_Ant3	PIFA	UFL	2.4G+5G
2G5G Ant4	4	Gemtek	WAPE-269BE_Dual_Ant4	PIFA	UFL	2.4G+5G
6G Ant1	1	Gemtek	WAPE-269BE_6E_Ant1	PIFA	UFL	6G
6G Ant2	2	Gemtek	WAPE-269BE_6E_Ant2	PIFA	UFL	6G
6G Ant3	3	Gemtek	WAPE-269BE_6E_Ant3	PIFA	UFL	6G
6G Ant4	4	Gemtek	WAPE-269BE_6E_Ant4	PIFA	UFL	6G

Note:

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

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

6GHz Operation Mode (4TX/5RX)

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

2. Test Frequency

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

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



3. Testing Location

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
☒ Wen 33rd.St.	ADD:	No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)		
	TEL: 886-3-318-0787	FAX: 886-3-318-0287		
Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated	05CH03-HY	Rex Liao	23.5~24.5°C / 50~55%	22/Aug/2023~04/Oct/2023

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

4. Test Facility and Configuration

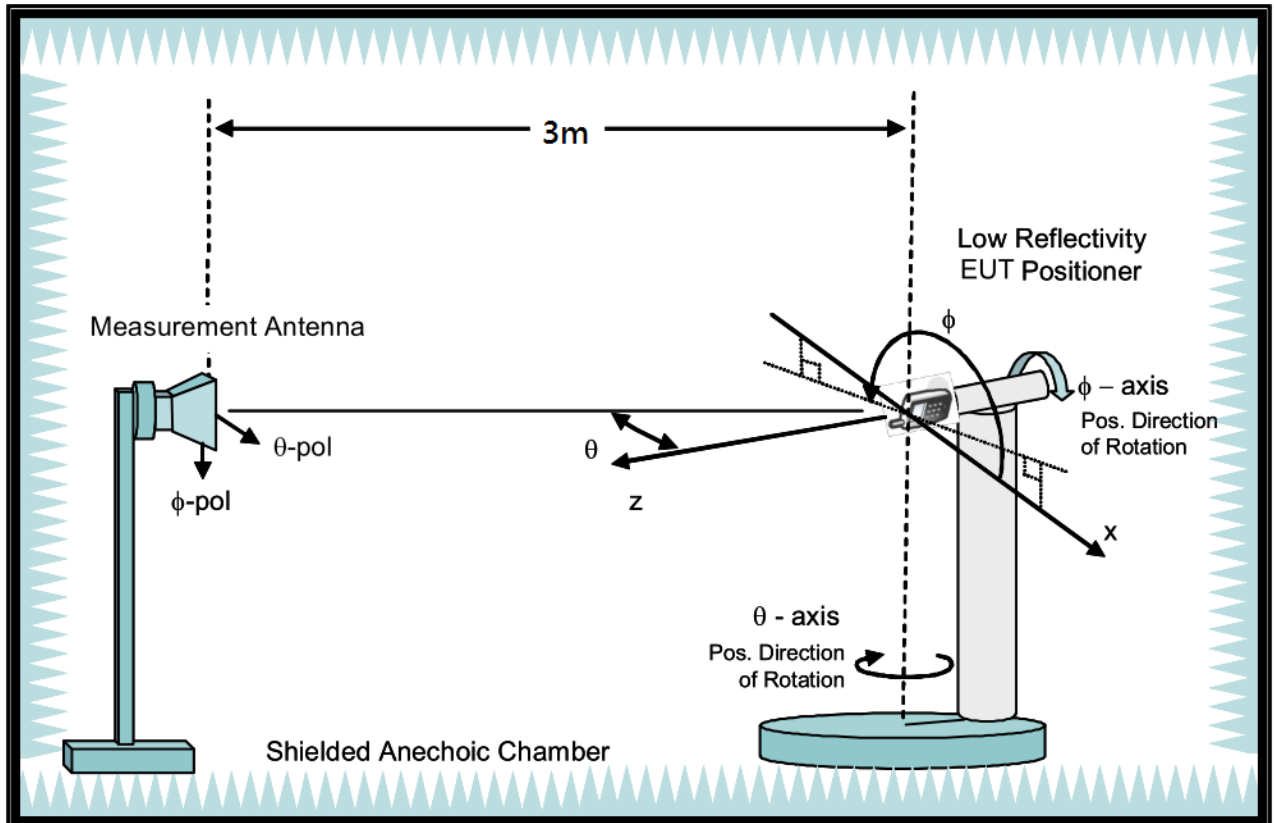
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

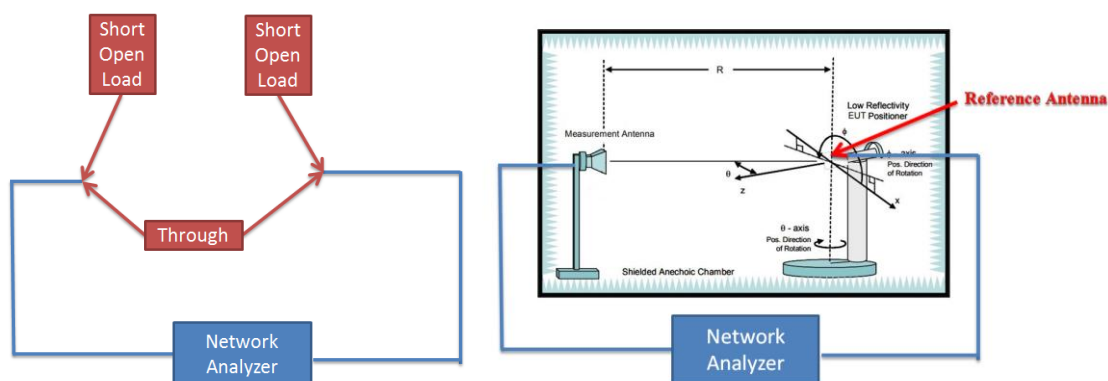
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



5. Reference Calibration

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

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



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

Note:

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

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

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

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

6. Test Method

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

DG steps:

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

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

7. Measured Values and Calculation of Maximum Gain Positions

DG_1SS max value position

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	-0.83	-3.56	-3.52	-4.64	-4.48
Ant. 2 (dBi)	-5.72	-1.15	-1.95	-2.39	-2.23
Ant. 3 (dBi)	-0.34	1.39	1.36	1.58	0.84
Ant. 4 (dBi)	2.85	3.3	2.63	1.87	2.41
DG [1SS] (dBi)	5.52	6.39	6	5.54	5.56
Polarization	Theta	Phi	Theta	Phi	Phi
$\Theta (^{\circ})$	60	0	7.5	0	7.5
$\Phi (^{\circ})$	292.5	277.5	195	285	285

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

DG_1SS max value position calculation

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 [$10^{(G/20)}$]	$10^{(-0.83/20)}$	$10^{(-3.56/20)}$	$10^{(-3.52/20)}$	$10^{(-4.64/20)}$	$10^{(-4.48/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(-5.72/20)}$	$10^{(-1.15/20)}$	$10^{(-1.95/20)}$	$10^{(-2.39/20)}$	$10^{(-2.23/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(-0.34/20)}$	$10^{(1.39/20)}$	$10^{(1.36/20)}$	$10^{(1.58/20)}$	$10^{(0.84/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(2.85/20)}$	$10^{(3.3/20)}$	$10^{(2.63/20)}$	$10^{(1.87/20)}$	$10^{(2.41/20)}$
Ant. 1 [$10^{(G/20)}$] value	0.909	0.664	0.667	0.586	0.597
Ant. 2 [$10^{(G/20)}$] value	0.518	0.876	0.799	0.759	0.774
Ant. 3 [$10^{(G/20)}$] value	0.962	1.174	1.169	1.199	1.102
Ant. 4 [$10^{(G/20)}$] value	1.388	1.462	1.354	1.24	1.32
Sum All Antenna [Amax]	3.776	4.175	3.989	3.785	3.792
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	5.52	6.39	6	5.54	5.56

Note:

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

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

**DG_1SS max value position**

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	0.33	0.83	-0.07	0.57
Ant. 2 (dBi)	-0.09	0.19	1.11	1.68
Ant. 3 (dBi)	-1.26	-2.28	-3.13	-2.34
Ant. 4 (dBi)	-1.43	-2.18	-1.39	-3.77
DG [1SS] (dBi)	5.44	5.27	5.29	5.33
Polarization	Theta	Theta	Theta	Theta
$\Theta (^{\circ})$	82.5	82.5	82.5	82.5
$\Phi (^{\circ})$	270	270	262.5	262.5

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

DG_1SS max value position calculation

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [$10^{(G/20)}$]	$10^{(0.33/20)}$	$10^{(0.83/20)}$	$10^{(-0.07/20)}$	$10^{(0.57/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(-0.09/20)}$	$10^{(0.19/20)}$	$10^{(1.11/20)}$	$10^{(1.68/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(-1.26/20)}$	$10^{(-2.28/20)}$	$10^{(-3.13/20)}$	$10^{(-2.34/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(-1.43/20)}$	$10^{(-2.18/20)}$	$10^{(-1.39/20)}$	$10^{(-3.77/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.039	1.1	0.992	1.068
Ant. 2 [$10^{(G/20)}$] value	0.99	1.022	1.136	1.213
Ant. 3 [$10^{(G/20)}$] value	0.865	0.769	0.697	0.764
Ant. 4 [$10^{(G/20)}$] value	0.848	0.778	0.852	0.648
Sum All Antenna [Amax]	3.742	3.67	3.678	3.693
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	5.44	5.27	5.29	5.33

Note:

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

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

8. Summary of Test Result

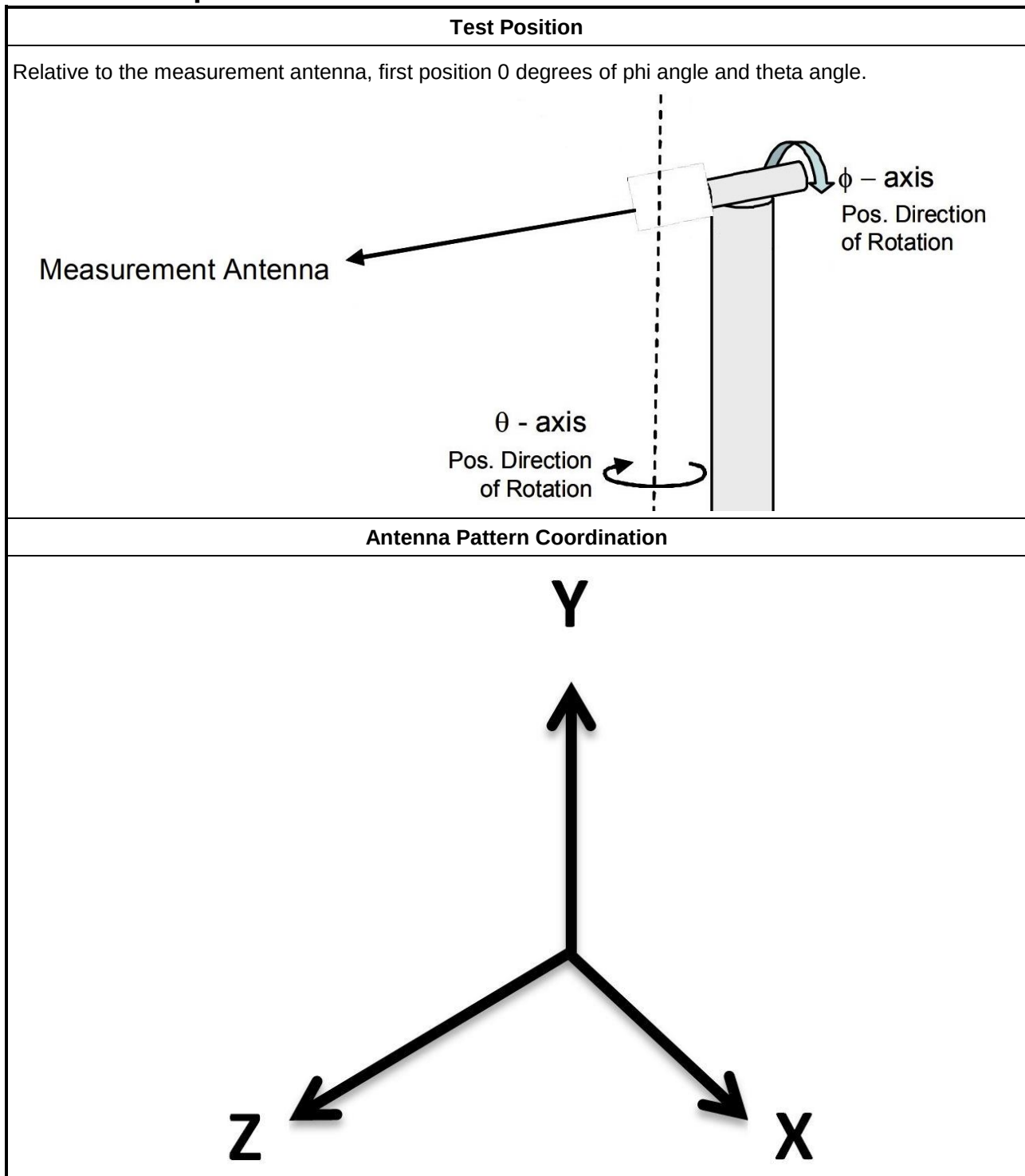
Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.06	2.52	1.65	1.52	2.35
Ant. 2 Max Gain (dBi)	1.82	2.02	2.25	1.38	1.2
Ant. 3 Max Gain (dBi)	1.11	1.88	1.48	1.65	1.22
Ant. 4 Max Gain (dBi)	3.1	3.3	2.63	2.13	2.54
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/82.5/352.5	Phi/7.5/330	Theta/0/75	Phi/15/165	Theta/75/240
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/22.5/82.5	Phi/30/45	Phi/22.5/52.5	Phi/15/52.5	Phi/22.5/37.5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/67.5/270	Phi/112.5/232.5	Theta/7.5/202.5	Theta/0/202.5	Phi/30/307.5
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/67.5/292.5	Phi/0/277.5	Theta/7.5/195	Phi/15/97.5	Theta/37.5/187.5
Max Gain (dBi)	3.1	3.3	2.63	2.13	2.54
DG [1SS] (dBi)	5.52	6.39	6	5.54	5.56
DG [2SS] (dBi)	3.1	3.39	3	2.54	2.56
DG [4SS] (dBi)	3.1	3.3	2.63	2.13	2.54

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	1.93	1.63	2.07	1.37
Ant. 2 Max Gain (dBi)	3.15	2.11	3.23	1.68
Ant. 3 Max Gain (dBi)	3.26	2.19	3.36	2.12
Ant. 4 Max Gain (dBi)	1.93	1.52	1.12	1.21
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/82.5/255	Theta/82.5/277.5	Theta/82.5/270	Theta/82.5/270
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/45/202.5	Theta/45/210	Phi/90/270	Theta/82.5/262.5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/45/67.5	Phi/22.5/315	Theta/75/97.5	Theta/67.5/90
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/75/90	Theta/75/82.5	Theta/37.5/67.5	Theta/60/82.5
Max Gain (dBi)	3.26	2.19	3.36	2.12
DG [1SS] (dBi)	5.44	5.27	5.29	5.33
DG [2SS] (dBi)	3.26	2.27	3.36	2.33
DG [4SS] (dBi)	3.26	2.19	3.36	2.12

Note:

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

9. Test Setup



Note:

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



10. Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1543	1GHz~18GHz	May 11, 2023	May 10, 2024
Dual Polarization Horn Antenna	Sporton	S0209DP	S0209DP-001	2GHz~9GHz	N.C.R.	N.C.R.
ENA Series Network Analyzer	AGILENT	E5071C	MY46419477	100kHz~8.5GHz	Jul. 28, 2023	Jul. 27, 2024
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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————THE END————



Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.06	2.52	1.65	1.52	2.35
Ant. 2 Max Gain (dBi)	1.82	2.02	2.25	1.38	1.2
Ant. 3 Max Gain (dBi)	1.11	1.88	1.48	1.65	1.22
Ant. 4 Max Gain (dBi)	3.1	3.3	2.63	2.13	2.54
Ant. 1 Polarization/θ(°)/φ(°)	Phi/82.5/352.5	Phi/7.5/330	Theta/0/75	Phi/15/165	Theta/75/240
Ant. 2 Polarization/θ(°)/φ(°)	Phi/22.5/82.5	Phi/30/45	Phi/22.5/52.5	Phi/15/52.5	Phi/22.5/37.5
Ant. 3 Polarization/θ(°)/φ(°)	Theta/67.5/270	Phi/112.5/232.5	Theta/7.5/202.5	Theta/0/202.5	Phi/30/307.5
Ant. 4 Polarization/θ(°)/φ(°)	Theta/67.5/292.5	Phi/0/277.5	Theta/7.5/195	Phi/15/97.5	Theta/37.5/187.5
Max Gain (dBi)	3.1	3.3	2.63	2.13	2.54
DG [1SS] (dBi)	5.52	6.39	6	5.54	5.56
DG [2SS] (dBi)	3.1	3.39	3	2.54	2.56
DG [4SS] (dBi)	3.1	3.3	2.63	2.13	2.54



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

DG 1SS Result

Freq(Hz)	2.45G/Pol.	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°)	-1.02/-0.32	0.54/-1.29	2.05/2.72	3.28/3.67	3.94/0.3	4.04/3.95	3.78/3.51	3.08/2.48	1.72/0.93	0.46/0.15	-0.1/-0.37	-0.59/-0.62	-0.24/0.53	1.36/-1.99	2.4/2.69	2.95/3.2	3.35/3.32	3.19/3.02	2.83/2.62	2.36/2	1.50/92	0.22/-0.51	-1.11/-1.37	-1.41/-1.32
Θ(7.5°)	-0.18/0.08	0.47/0.93	1.49/2.04	2.49/2.78	2.95/3.06	3.04/2.85	2.61/2.38	2.16/1.9	1.41/0.66	-0.15/-0.46	-0.32/-0.16	-0.33/-0.59	-0.63/-0.01	1.04/2	2.79/3.4	3.88/4.22	4.38/4.43	4.43/4.34	4.13/3.71	3.12/2.34	1.55/0.85	0.32/-0	-0.11/-0.12	-0.17/-0.23
Θ(15°)	0.92/0.68	0.51/0.49	0.74/1.23	1.78/2.29	2.74/3.12	3.32/3.35	3.23/3.06	2.91/2.78	2.43/1.73	0.68/-0.17	-0.23/0.14	0.32/0.2	0.03/0.15	0.87/1.85	2.94/3.8	4.39/4.75	4.96/5.06	5.11/5.09	4.94/5.2	3.85/2.96	1.99/1.22	0.7/0.6	0.78/1.01	1.16/-1.13
Θ(22.5°)	1.77/1.4	0.87/0.28	0.08/0.63	1.56/2.48	3.23/3.8	4.11/4.55	4.06/3.82	3.63/3.38	3.05/2.4	1.39/0.34	-0.18/0.03	0.39/0.49	0.53/0.75	1.29/2.09	2.98/3.76	4.34/6.3	4.87/4.99	5.06/4.97	4.73/4.29	3.66/2.81	1.83/1.01	0.52/0.54	0.92/1.37	1.72/-1.91
Θ(30°)	2.28/2.17	1.64/0.74	0.06/0.55	1.76/2.88	3.66/4.16	4.44/4.48	4.27/3.88	3.46/3.14	2.78/2.41	1.84/-1.09	0.26/-0.18	-0.03/0.47	1.03/1.49	1.93/2.47	2.96/3.42	4.38/4.18	4.54/4.67	4.68/4.47	4.03/3.46	2.82/2.2	1.49/0.84	0.43/0.5	0.85/1.31	1.76/2.13
Θ(37.5°)	2.01/2.37	2.27/1.62	0.89/1.11	2.15/3.25	3.97/4.33	4.46/4.38	4.11/3.59	2.87/2.15	1.61/1.43	1.33/0.98	0.17/-1.09	-2.09/-1.2	0.36/1.43	1.96/2.3	2.61/2.84	3.05/3.38	3.65/3.71	3.63/1.7	2.47/1.74	1.31/1.7	1.18/1.07	0.91/0.89	1.01/1.13	1.31/59
Θ(45°)	1.06/1.6	1.89/1.74	1.47/1.84	2.71/3.62	4.25/4.46	4.27/3.87	3.47/2.96	2.2/1.2	0.3/0.15	0.56/0.76	0.28/-1.08	-3.33/-3.38	-1.1/0.48	1.38/2	2.42/2.57	2.58/2.49	2.26/2.15	1.91/32	0.48/-0.32	-0.64/-0.54	-0.21/-0.04	0.0/11	0.25/0.28	0.37/0.6
Θ(52.5°)	1.04/1.26	1.38/1.18	1.05/1.8	2.84/3.76	4.34/4.4	3.94/3.35	3.08/2.94	2.4/1.17	-0.56/1.35	-0.77/-0.02	0.1/-0.91	-3.38/-3.23	-0.87/0.56	1.27/1.71	1.86/1.91	1.99/1.94	1.92/1.87	1.52/0.81	-0.07/-0.45	-0.53/-0.82	-1.62/-2.08	-2.29/-2.09	-1.68/-0.85	0.11/0.62
Θ(60°)	1.94/2.5	2.64/2.09	0.86/0.64	1.66/2.82	3.63/3.87	3.64/3.53	3.69/3.78	3.31/1.96	-0.48/-2.7	-2.07/-0.33	0.59/0.11	-1.96/-2.01	0.23/1.67	1.86/1.33	0.71/1.03	1.68/1.81	1.84/1.83	1.51/1.2	1.31/2.01	2.31/62	-0.15/-2.03	-0.76/-2.9	-2.87/-1.77	-0.1/18
Θ(67.5°)	0.83/2.19	3.18/3.15	2.18/-1.41	1.65/2.4	2.85/2.75	2.68/3.07	3.43/3.52	2.96/1.56	-0.83/-3.35	-3.12/-1.07	0.01/-0.45	-2.36/-2	0.36/1.91	1.67/0	-0.04/1.5	2.18/2.14	2.26/2.45	2.29/2.22	2.64/3.2	3.3/2.3	-0.05/-2.45	-2.15/-1.74	-2.52/-2.84	-1.39/-0.12
Θ(75°)	-0.18/0.06	1.46/2.21	2.05/1.83	2.08/2.46	2.47/2.03	1.88/2.32	2.54/2.66	2.32/1.32	-0.32/-0.28	-2.41/-1.3	-0.43/-0.22	-1.28/-1.84	-0.28/1.02	0.46/-0.36	0.99/2.24	2.19/1.79	1.99/2.36	2.35/2.19	2.38/2.88	2.93/1.85	-0.71/-3.49	-2.6/-1.64	-2.12/-1.08	0.62/0.78
Θ(82.5°)	0.27/0.55	1.54/2.02	1.66/1.4	1.39/1.2	1.07/1.16	1.75/2.48	2.93/1.7	2.76/1.45	-0.85/-3.01	-2.98/-2.2	-1.01/-0.02	-0.68/-1.64	-0.27/1.12	1.27/1.1	1.49/1.65	1.26/0.9	0.84/1.28	1.41/1.72	2.53/3.18	2.99/1.57	-1.14/-2.8	-1.75/-1.27	-2.03/-0.5	1.11/11
Θ(90°)	-0.77/0.03	1.48/1.86	1.15/0.98	1.52/1.36	0.8/0.71	1.58/2.47	2.76/2.69	2.11/0.62	-1.76/-3.36	-3.11/-1.93	-0.39/0.8	-0.25/-1.56	0.26/1.84	1.96/0.57	0.01/1.38	1.92/1.32	1.19/1.66	1.85/2.6	3.8/4.48	4.15/2.5	-0.14/-1.34	-0.74/-0.93	-2.21/-0.37	1.18/0.74
Θ(97.5°)	-0.31/-0.16	1.04/1.56	0.73/0.08	0.9/1.02	0.25/0.08	1.34/2.48	2.53/2.25	1.88/0.48	-1.72/-3.31	-3.74/-2.55	-0.43/0.36	-1.11/-1.16	0.61/1.93	2.05/1	0.64/1.91	1.16/0.04	1.42/8.9	3.7/4.09	4.49/4.86	4.52/2.89	-0.16/-2.74	-1.96/-2.05	-3.28/-0.6	1.29/1.28
Θ(105°)	-0.34/0.24	1.35/1.75	1.04/-0.08	0.44/1.01	0.53/-0.46	-0.25/0.84	1.37/1.74	1.64/0.44	-1.51/-3.16	-4.4/-2.94	-0.75/0.39	-0.05/-0.28	0.06/1.11	1.26/-0.74	0.06/1.98	1.82/1.39	1.51/2.25	2.62/2.58	2.75/3.38	3.4/1.91	-1.27/-3.3	-1.79/-1.29	-2.39/-0.39	1.18/0.78
Θ(112.5°)	-1.73/-0.17	1.24/1.52	0.86/-0.48	-0.55/0.69	1.1/0.7	0.49/0.74	0.63/0.56	0.25/0.83	-2.2/-3.49	-3.9/-2.54	-1.0/-0.53	-1.46/-2.66	-1.36/0.55	0.55/0.59	2.58/2.55	2.28/0.55	-1.05/-0.57	0.49/1.21	2.25/3.15	3.03/1.41	-1.57/-2.97	-2.02/-1.6	-1.84/-0.51	0.43/-0.48
Θ(120°)	-2.36/-2.44	-0.33/0.84	1.34/-1.2	0.71/0.42	0.16/-0.59	-1.32/-1.33	-1.07/-0.13	0.56/0.43	-0.57/-2.4	-4.09/-3.55	-2.12/-1.78	-2.23/-1.85	0.09/1.76	1.9/1.6	1.46/0.28	-2.03/-2.47	-0.43/-1.57	2.34/1.96	1.67/1.86	1.69/0.28	-2.47/-3.33	-3.06/-3.01	-2.33/-0.5	0.57/-0.29
Θ(127.5°)	-0.34/-1.15	-1.69/-2.42	-2.16/-0.96	-0.26/0.05	0.26/0.07	-0.75/-1.65	-1.71/-0.75	-0.06/0.25	-1.49/-3.22	-2.75/-2.9	-1.24/-0.45	-1.96/-2.01	0.14/-0.01	-1.17/-1.94	-1.34/-0.09	1.18/1.41	1.66/2.45	2.37/1.1	-0.68/-1.1	-0.96/-1.7	-2.54/-2.83	-0.32/-3.97	-4.5/-2.63	-0.80/-2.25
Θ(135°)	-0.67/0.1	0.29/-0.66	-2.46/-3.44	-2.52/-1.14	-0.05/0.69	0.9/0.55	-0.06/-0.31	-0.43/-1.13	-2.39/-3.54	-4.07/-3.48	-2.8/-2.74	-2.65/-2.18	-1.76/-1.57	-1.32/-0.35	0.82/1.76	1.95/1.15	0.31/0.27	-0.06/-1.77	-4.1/-3.84	-2.46/-1.73	-1.29/0.94	-1.03/-2.11	-3.98/-4.73	-2.96/-1.53
Θ(142.5°)	-3.6/-1.69	-0.04/0.44	0.19/-0.15	-0.23/-0.21	-0.11/-0.12	-0.16/-0.42	-1.09/-1.85	-2.15/-2.27	-2.45/-2.71	-2.93/-2.99	-2.8/-2.43	-2.1/-1.73	-1.58/-1.27	-0.95/-1.08	0.55/1.07	0.93/0.24	-0.43/-0.61	-1.74/-0.6	-6.35/-5.45	-3.46/-2.51	-2.06/-2.05	-1.9/-2.32	-3.18/-4.06	-4.24/-4.1
Θ(150°)	-4.22/-3.51	-1.74/-0.38	0.70/0.77	1.02/1.02	0.84/0.46	-0.14/-0.81	-2.52/-2.62	-2.75/-2.9	-3.27/-3.73	-3.96/-4.07	-3.8/-4.24	-3.87/-2.72	-1.45/-0.48	0.3/0.79	0.91/0.64	0.2/-0.4	-1.53/-3.09	-5.14/-6.34	-6.04/-5.3	-4.99/-4.61	-4.21/-3.24	-2.61/-2.29	-2.48/-3.24	
Θ(157.5°)	-1.93/-2.5	-2.36/-1.88	-0.87/-0.02	0.53/0.82	0.88/0.96	0.85/0.46	-0.16/-0.94	-1.72/-2.29	-2.59/-2.75	-2.65/-2.39	-1.87/-1.29	-0.69/-0.32	-0.24/-0.35	-0.24/0.02	0.24/0.36	0.26/-0.01	-0.39/-0.97	-1.99/-3.36	-4.4/-4.75	-4.59/-3.73	-2.82/-2.15	-1.42/-1.07	-0.89/-0.73	-0.76/-1.04
Θ(165°)	-2.31/-3.37	-4.01/-4.07	-3.5/-2.41	-1.44/-0.58	-0.2/-0.06	-0.31/-0.69	-1.32/-1.74	-2.02/-2.07	-1.93/-1.68	-1.23/-0.67	0.1/0.79	1.16/1.07	0.54/-0.34	-1.17/-1.78	-1.88/-1.98	-2.07/-2.24	-2.44/-2.7	-3.34/-4.08	-4.51/-4.3	-3.65/-2.79	-1.91/-1.26	-0.89/-0.85	-0.97/-1.12	-1.15/-1.44
Θ(172.5°)	-6.69/-6.37	-6.63/-6.4	-5.7/-4.72	-3.72/-3.06	-2.9/-3.08	-3.38/-3.74	-4.03/-4.16	-4.17/-4.23	-4.24/-3.76	-2.92/-1.98	-1.3/-0.94	-1.07/-1.66	-2.59/-3.78	-4.88/-5.28	-4.95/-4.38	-4.65/-4.31	-4.65/-5.16	-5.78/-6.22	-6.13/-5.63	-5.02/-4.35	-3.64/-3.16	-3.06/-3.19	-3.61/-4.04	-4.48/-5.03
Θ(180°)	-6.85/-5.91	-5.16/-4.85	-4.86/-5.05	-5.1/-5.24	-5.91/-7	-7.82/-7.93	-8.16/-8.18	-8.24/8.21	-8.24/-7.85	-7.25/-6.57	-6.34/-6.61	-7.52/-8.88	-9.45/-8.87	-7.59/-6.4	-5.82/-5.85	-6.3/-7.07	-7.91/-8.27	-8.54/-8.5	-8.51/-8.18	-7.75/-7.31	-7.09/-7.15	-7.69/-7.84	-7.83/-8.01	-8.06/-7.59
Freq(Hz)	2.45G/Pol.	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°)	2.48/2.38	2.21/83	1.26/0.64	0.12/-0.32	-0.66/-0.84	-0.73/-0.3	0.14/0.46	0.92/1.46	1.95/2.34	2.65/2.99	3.17/3.25	3.21/3.03	2.66/2.09	1.36/0.63	-0.02/-0.66	-1.19/-1.65	-2.1/-2.19	-1.92/-1.51	-1.08/-0.63	-0.23/0.2	0.78/1.55	2.24/2.79	3.13/3.17	2.95/2.7
Θ(7.5°)	1.73/1.3	0.89/0.31	-0.47/-1.25	-1.95/-2.77	-3.66/-4.2	-4.08/-3.52	-2.86/-2.09	-1.24/-0.49	0.14/0.73	1.32/1.86	2.34/2.71	2.87/2.93	2.83/2.57	2.21.81	1.42/1.05	0.7/0.45	0.4/0.55	0.83/1.16	1.38/1.51	1.71/1.94	2.21/2.64	3.1/3.51	3.69/3.53	3.01/2.36
Θ(15°)	0.98/0	-0.66/-1.29	-1.92/-2.41	-2.78/-3.24	-3.82/-3.41	-4.45/-4.2	-3.67/-3.05	-2.3/-1.57	-0.66/0.19	0.92/1.44	1.84/2.14	2.41/2.7	2.96/3.06	2.99/2.84	2.65/2.44	2.29/2.17	2.26/2.47	2.65/2.77	2.79/2.78	2.86/2.95	3.07/3.33	3.67/4.01	4.11/3.85	3.16/2.11
Θ(22.5°)	0.94/-0.45	-1.42/-1.66	-2.08/-2.56	-2.75/-3.03	-3.34/-3.41	-3.03/-2.42	-1.89/-1.58	-1.51/-1.44	-1.07/-0.33	0.51/1.06	1.31/3.38	1.44/1.8	2.36/2.74	2.89/2.93	2.92/89	3.89/3.33	3.26/3.09	2.98/2.73	2.67/2.68	2.72/2.9	3.29/3.7	3.93/3.81	3.25/2.22	
Θ(30°)	1.24/-0.17	-1.16/-1.13	-1.28/-1.48	-2.1/-3.01	-3.77/-3.88	-3.22/-2.22	-1.51/-1.14	-1.04/-1.17	-1.23/-0.98	-0.38/0.34	0.84/1.02	0.97/1.02	1.37/1.79	2.16/2.41	2.68/2.97	3.16/3.22	3.17/3.09	2.79/2.41	2.1/1.98	2.13/2.34	2.36/2.2	2.21/2.56	2.98/3.19	3.02/2.31
Θ(37.5°)	1.67/0.42	-0.62/-0.78	-0.37/-0.53	-1.37/-2.83	-4.51/-5.28	-4.87/-3.41	-2.39/-1.67	-1.15/-0.84	-0.77/-0.96	-1.05/-0.68	-0.02/0.51	0.64/0.65	0.68/0.84	1.23/1.8	2.48/2.96	3.12/91	2.6/2.3	1.96/1.72	1.77/2.19	2.84/3.31	3.45/3.21	2.87/2.76	2.91/3.04	2.94/2.48
Θ(45°)	1.81/0.6	0.11/-0.26	-0.08/-0.17	-0.97/-2.62	-5.04/-6.92	-7/-5.74	-4.46/-3.19	-1.63/-0.56	0.15/0.24	-0.17/-0.52	-0.26/0.47	1.08/1.24	0.98/0.6	0.62/1.05	1.72/2.25	2.25/2.25	2.17/2.18	2.42/2.86	3.41/3.77	3.89/3.8	3.6			



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(15°)	-0.12/-1.26	-1.11/0.12	1.25/1.73	2.03/2.17	2.55/2.96	3.29/3.75	4.16/4.46	4.33/4.02	3.85/3.61	2.74/1.9	1.61/1.02	0.40/0.8	-0.22/-0.85	-0.6/-0.34	0.54/1.4	1.83/2.26	2.73/3.17	3.53/3.74	3.87/4.08	4.37/4.52	4.65/4.42	3.76/3.12	2.87/2.35	1.94/1.15
Θ(22.5°)	-1.28/-1.55	-0.71/0.97	1.77/1.86	1.95/2.17	2.69/3.15	3.23/3.48	3.68/3.91	4.07/3.82	3.53/3.05	1.96/0.83	0.69/0.75	0.53/0.53	0.47/-0.22	-0.51/-0.5	-0.7/-0.79	-0.87/0.2	1.3/2.27	3.12/3.33	3.2/3.27	3.62/4.15	4.66/4.72	4.38/3.78	2.85/1.97	1.38/0.55
Θ(30°)	0.3/-0.92	-0.69/0.74	1.83/3.21	2.21/2.03	1.97/2.43	2.81/3.11	2.97/2.97	3.02/2.73	2.32/2.02	1.92/2	1.91/82	2.36/2.28	1.73/1.31	0.37/0.54	-1.12/-1.66	-1.55/-0.79	0.02/0.96	2.15/2.97	3.53/4.06	4.36/4.22	3.83/3.72	3.76/3.68	3.4/2.7	2.04/1.59
Θ(37.5°)	0.67/-0.97	-1.82/-0.94	0.89/1.98	2.04/1.87	2.23/3.12	3.45/3	2.72/86	2.49/1.44	0.83/1.62	2.71/2.96	2.72/1.71	1.83/2.42	1.67/1.16	1.21/0.86	-0.31/-2.02	-2.68/-2.83	-2.47/0.75	1.24/2.34	3.06/3.67	4.44/4.95	4.41/2.67	2.26/2.95	3.2/2.9	2.58/2.14
Θ(45°)	-0.74/-2.29	-1.38/-1.2	-1.25/0.34	1.34/1.01	0.95/1.55	1.89/1.14	1.28/1.79	1.65/1.44	1.38/1.62	1.78/0.79	-0.42/-0.61	0.18/1.56	2.83/2.18	0.28/1.18	0.99/-1.12	-3.49/-3.08	-1.95/-1.24	-0.24/1.45	2.75/3.82	5.01/5.08	3.73/3.08	2.04/2.42	3.3/2.26	0.91/-0.08
Θ(52.5°)	-2.93/-3.92	-1.55/-1.96	-1.63/1.13	1.41/0.4	-0.62/1.15	1.39/0.23	0.25/0.8	1.13/1.37	1.36/0.1	-0.92/-0.44	0.39/0.31	0.57/0.92	1.60/2.9	-0.08/0.21	0.96/-2.6	-4.38/-2.65	-1.71/0.99	0.75/1.39	1.45/2.79	3.95/3.36	2.89/2.4	2.86/2.34	0.1/-2.11	
Θ(60°)	-1.9/-3.79	-2.45/-1.99	-1.33/0.87	1.11/0.24	-1.11/-0.29	0.93/0.15	0.57/0.77	0.47/-0.01	0.06/-0.19	-1.33/-1.8	-0.84/-0.41	-0.69/1.12	2.32/3.1	0.18/-1.19	-0.21/-1.01	-1.47/-2.36	-2.22/-3.35	-3.02/-1.79	-1.36/-1.9	-1.43/0.24	1.8/2.81	2.81/2.05	1.08/0.85	0.03/-2.44
Θ(67.5°)	-1.49/-2.51	-1/-1.67	-3.89/-1.91	-1.04/-0.13	-1.53/0.1	1.23/1.17	0.39/0.32	0.26/-0.4	-1.15/-0.83	-1.52/-1.54	-2.9/-1.87	-1.45/-0.21	1.39/-0.38	-0.5/-0.21	-2.1/-1.68	-2.27/-2.12	-3.19/-4.13	-3.98/-0.78	1.15/0.01	-1.57/-2.33	-1.13/2.25	2.58/0.67	-0.67/-0.1	-0.62/-1.07
Θ(75°)	0.37/-0.9	0.53/0.03	-2.69/-2.07	-1.59/-0.83	-1.32/0.08	0.08/-0.33	-0.32/0.38	-1.16/-3.17	-3.2/-1.71	-3.51/-4.15	-5.56/-4.18	-3.79/-2.65	0.47/-0.29	-2.69/-2.37	-1.98/-1.78	-0.76/-1.39	-2.26/-0.41	0.58/-0.03	0.49/0.8	0.8/-0.89	-2.4/-0.21	2.29/-0.6	-1.43/0.19	0.02/-0.61
Θ(82.5°)	0.28/-0.93	0.96/-0.29	-2.31/-2.97	-2.19/0	-1.07/-0.35	0.84/0.95	-1.79/-1.17	-1.41/-3.94	4.8/-3.95	-5.54/-5.92	-9.04/-7.43	-4.77/-3.97	-1.41/-1.88	-1.53/-1.49	-2.76/-1.65	0.43/-0.38	-0.76/0.82	1.41/1.07	2.2/-0.33	0.88/-0.6	-3.11/-0.91	1.27/-0.86	-2.3/0.3	-0.32/0.48
Θ(90°)	1.07/0.28	1.61/-0.01	-1.64/-2.63	-4.59/-1.04	-2.08/-1.18	-0.46/0.34	-0.72/-0.83	-0.85/-3.09	-5.12/-3.8	-5.8/-6.03	-8.75/-8.4	-5.54/-4.26	-1.21/-2.5	-2.91/-2.47	-1.48/-0.68	-1.92/1.05	2.35/2.74	2.49/2.41	1.83/1.59	0.43/0.35	-1.91/-2.92	-0.05/-0.76	-2.31/-0.26	-0.06/0.03
Θ(97.5°)	1.25/0.44	1.18/-0.4	-0.77/-2.04	-3.56/-1.65	-1.96/-0.6	-0.4/-0.49	-1.34/-1.47	-1.74/-3.96	-5.26/-5.23	-8.33/-8.29	-7.25/-8.27	-6.63/-5.33	-2.14/-2.35	-2.41/-3.35	-2.99/0.16	0.8/-1.16	-0.31/2.47	2.29/1.23	1.07/-0.31	0.04/-1.08	-1.19/-3.93	-0.89/-2.32	-3.74/0.01	-0.43/0.1
Θ(105°)	0.58/-0.31	1.19/0.4	-1.13/-1.89	-3.96/-2.04	-3.58/-1.68	-0.31/-0.15	-0.61/-0.37	-0.87/-4.82	-6.47/-5.55	-8.15/-8.68	-5.86/-7.36	-7.93/-6.86	-2.4/-2.43	-1.43/-0.97	-3.57/-0.61	-0.61/7.5	-0.92/-0.41	1.85/3.71	2.65/0.64	-2.71/-5.31	-4.41/-3.56	-2.17/-1.64	-3.35/-1.24	-1.43/-0.44
Θ(112.5°)	-0.86/-0.05	0.33/-0.59	-1.59/-2.7	-2.75/-2.29	-3.17/-3	-2.26/-1.74	-1.87/-1.87	-3.25/-6.89	-7.85/-9.2	-10.54/-9.24	-8.45/-7.02	-6.71/-6.58	-1.92/-2.08	-2.68/-2.95	-1.58/-2.28	0.4/3.22	0.82/-0.79	-1.04/1.21	2.66/0.65	-2.5/-4.89	-4.08/-1.13	-1.4/-3.07	-4.84/-2.79	-2.23/-1.65
Θ(120°)	-3.64/-2.25	-0.08/0.14	-1.25/-2.6	-4.93/-3.72	-3.94/-3.79	-3.82/-3.84	-3.72/-3.62	-4.39/-6.96	-7.57/-7.79	-9.61/-8.73	-6.97/-8.28	-7.68/-5.74	-2.71/-2.32	-2.18/-3.86	-4.67/0.35	2.46/1.59	-1.96/0.18	1.97/2.05	2.31/-1.03	-0.77/-2.84	-2.75/-3.41	-2.63/-2.49	-5.03/-5.43	-4.73/-6.3
Θ(127.5°)	-3.74/-3.21	-1.62/-0.71	-1.22/-1.9	-2.04/-2.5	-2.88/-5.12	-2.45/-1.77	-3.7/-4.3	-3.49/-5.22	-7.47/-8.87	-8.28/-8.91	-9.09/-5.33	-5.8/-4.88	-2.37/-4.47	-3.73/-0.26	-3.62/-3.68	-0.12/1	0.5/0.17	0.02/-1.74	-1.74/-2.53	-2.74/-2.48	-3.12/-5.5	-5.09/-4.11	-2.75/-5.66	-4.83/-2.91
Θ(135°)	-1.58/-2.61	-0.92/-0.45	-0.63/-1.31	-2.77/-3.3	-4.4/-1.7	-2.75/-1.41	-2.87/-3.84	-3.45/-2.97	-5.24/-8.15	-6.29/-5.96	-8.27/-7.15	-7.26/-4.86	-1.88/-2.38	-5.02/-3.27	-3.05/-3.7	-2.64/-8.3	-1.25/-0.54	-0.01/-0.62	-1.4/-1.91	-2.95/-2.9	-4.07/-9.66	-7.69/-6.4	-4.09/-3.84	-4.08/-2.21
Θ(142.5°)	-1.47/-1.25	-0.25/-0.43	-1.47/-1.96	-2.07/-3.89	-3.98/-3.95	-3.8/-3.52	-3.32/-4.18	-5.35/-5.05	-4.67/-5.41	-6.19/-7.68	-8.78/-6.49	-5.65/-6.32	-6.17/-9.07	-2.37/-2.85	-4.77/-5.62	-7.96/-1.59	0.67/0.97	0.39/-1.72	-3.96/-5.03	-4.84/-4.11	-4.15/-6.3	-8.62/-5.85	-2.44/-0.97	-3.26/-3.1
Θ(150°)	-1.99/-1.17	-0.74/-1.17	-2.33/-4.02	-5.36/-6.38	-4.7/-2.93	-2.96/-3.69	-4.54/-4.25	4.5/-4.92	-5.35/-6.07	-7.28/-7.85	-6.6/-5.54	-4.78/-4.68	-5.24/-5.68	-7.47/-6.33	-4.09/-3.88	-2.08/-0.85	-1.03/-0.98	-1.85/-3.97	-5.85/-5.74	-4.26/-4.15	-4.47/-4.68	-6.37/-9.17	-7.2/-3.82	-3.34/-2.59
Θ(157.5°)	-3.11/-2.3	-1.21/-0.29	-0.19/-0.83	-1.57/-2.28	-3.71/-4.97	-5.39/-6.75	-7.86/-6.57	-5.99/-6.76	-7.92/-7.65	-5.85/-4.97	-4.79/-4.92	-4.66/-5.38	-5.92/-6.03	-6.08/-5.56	-3.71/-1.69	-0.71/-1.34	-2.81/-3.21	-3.79/-5.17	-5.14/-4.36	-4.33/-4.16	-5.47/-4.54	-4.16/-4.32	-4.46/-4	-4.98/-4.38
Θ(165°)	-3.84/-2.68	-1.5/-0.83	-0.31/-0.7	-0.27/-1.02	-2.06/-3.25	-4.66/-6.83	-8.28/-7.86	-7.6/-7.19	-6.87/-6.93	-7.25/-8.51	-9.26/-8.02	-6.4/-4.87	-3.58/-2.97	-3.25/-4.1	-5.28/-7.08	-7.48/-5.13	-3.2/-2.9	-3.24/-3.4	-3.54/-3.69	-4.09/-4.15	-6.33/-7.22	-5.19/-4.87	-4.72/-4.5	-6.55/-5.58
Θ(172.5°)	-6.49/-5.38	-3.59/-2.4	-1.85/-1.05	-0.48/-0.43	-0.71/-1.24	-2.19/-3.74	-5.34/-7.06	-7.48/-7.33	-8.13/-8.35	-8.38/-9.27	-7.45/-5.85	-4.75/-3.74	-3.35/-3.84	-5.2/-2.76	-7.79/-7.53	-6.42/-4.87	-4.33/-5.11	-10.35/-8.55	-7.77/-2.51	-5.16/-5.73	-6.96/-7.06	-6.54/-6.13		
Θ(180°)	-5.15/-4.13	-3.63/-3.46	-3.42/-2.99	-3.13/-3.95	-4.63/-5.12	-5.78/-6.5	-7.43/-7.76	-7.77/-8.14	-8.66/-9.17	-9.83/-9.47	-9.05/-8.49	-8.57/-8.2	-8.49/-8.91	-8.94/-8.83	-7.52/-6.97	-7.4/-8.25	-9.15/-10.02	-10.5/-9.39	-7.86/-6.5	-6.38/-6.86	-7.09/-6.52	-5.92/-6.08	-6.16/-5.78	-5.39/-5.36
Freq(Hz)	5.3/0.5Pol.	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°)	4.72/5.29	5.31/5.03	5.04/5	4.61/3.73	3.15/2.63	2.03/1.83	1.45/0.7	0.24/0.83	1.31/2.06	2.81/3.06	3.11/3.26	3.29/3.55	4.21/4.75	5.03/4.98	4.81/4.64	4.18/3.45	2.55/1.83	1.17/0.74	0.42/0.01	-0.55/-0.42	0.28/1.39	2.36/2.65	2.97/3.57	4.15/4.41
Θ(7.5°)	3.19/4.07	4.29/4.09	3.97/3.88	3.69/2.7	1.94/1.35	0.37/-0.05	-0.25/-0.73	-1.25/-0.26	0.92/1.72	2.67/3.05	3.07/3.53	4.25/4.65	6.95/95	5.71/5.52	5.11/4.5	3.81/3.27	2.81/2.48	2.11/1.59	0.78/0.39	0.72/0.19	5.61/1.85	2.2/2.2	2.52/2.68	
Θ(15°)	4.16/4.29	4.36/4.3	3.91/3.19	2.42/1.26	0.19/-0.77	-1.88/-2.49	-2.79/-2.87	-2.65/-1.69	0.03/1.1	1.62/2.19	2.65/2.57	2.89/3.58	3.99/4.36	4.82/5.21	5.42/5.43	5.26/4.79	4.34/3.83	3.07/2.61	2.38/1.63	0.3/-0.8	-1.49/-1.49	-0.29/0.41	1.48/2.51	2.94/3.54
Θ(22.5°)	3.92/4.13	4.16/3.83	2.81/1.78	0.78/0.31	0.41/0.32	-0.02/-0.33	-0.95/-0.96	-0.86/-0.02	1.58/2.03	2.43/3.07	3.04/2.41	2.31/2.92	3.35/3.52	3.73/4.03	4.19/4.04	4.09/3.99	3.42/2.78	1.81/1.7	0.79/0.08	-0.67/-1.75	-3.01/-2.39	-0.65/0.45	1.71/2.23	2.36/3.24
Θ(30°)	0.98/0.24	2.14/1.5	0.28/-0.36	0.13/0.86	1.17/0.98	0.43/-0.33	-0.43/-0.1	-0.41/-1.02	-0.68/0.24	1.08/1.96	2.41/1.96	1.42/1.48	1.12/2.22	1.65/2.15	3.19/3.29	3.09/2.89	2.41/2.4	1.95/1.92	1.92/1.65	0.82/-1.37	-2.59/-2.17	-1.37/-0.11	0.62/1.13	1.42/0.81
Θ(37.5°)	2.61/2.3	1.76/-0	-0.96/-0.53	-0.46/0.21	0.8/0.23	-0.48/-1.02	-1.08/-1.07	-1.08/-1.79	-2.11/-1.51	-0.13/-1.33	2.36/2.43	1.82/1.01	0.39/0.47	0.56/1.2	1.72/2.18	3.06/3.17	3.14/2.94	3.13/37	3.04/2.27	1.36/-0.64	-2.78/-2.29	-1.88/-1.36	-0.39/-1.1	1.43/2.13
Θ(45°)	0.99/1.08	1.03/-0.36	-0.42/-0.35	-0.29/-1.05	-1.08/-1.47	-1.71/-0.91	-0.73/-1.33	-2.74/-3.23	-2.92/-1.84	-0.18/-1.54	2.83/2.9	1.98/0.35	-0.97/0.07	1.18/1.46	0.71/1.41	3.03/3.8	2.96/2.29	2.02/2.28	3.37/2.34	0.73/-0.37	-1.83/-2.28	-1.3/-3.11	-1.85/0.58	1.19/1.08
Θ(52.5°)	-2.82/-3.36	-2.3/-2.09	-0.49/0.06	-0.99/-2.26	-1.62/-0.87	-1.6/-1.28	-0.54/-0.95	-2.94/-2.93	-2.08/-1.73	-1.14/0.88	2.82/2.66	1.86/-1.9	-3.2/-0.91	0.35/1.4	0.08/0.8	2.38/2.95	2.21/1.91	1.45/2.2	2.82/2.63	2.45/1.29	-1/-2.78	-1/-1.63	-3.94/-2.29	-2.51/3.93
Θ(60°)	-1.86/-1.95	-4.24/-3.93	-2.76/-1.69	-1.8/-2.27	-1.56/-1.48	-2.67/-1.65	-1.92/-2.01	-2.29/-1.05	-0.97/-0.91	-0.96/-0.29	1.66/2.04	1.61/-1.23	-4.57/-4.93	-2.32/-0.16	0.16/0.54	1.08/2.23	0.94/0.69	0.71/1.98	2.2/0.83	-0.03/-0.75	-0.18/-1.6	-4/-2.65	-3.33/-3.21	-1.61/-3.87
Θ(67.5°)	0.57/1.17	-0.33/-4.08	-4.26/-2.57	-2.28/-3.86	-2.71/-1.17	-2.57/-2.06	-1/-1.59	-1.29/-0.74	-0.94/-0.63	-0.89/0.03	2.28/2.03	1.93/0.12	-5.1/-3.48	-1.79/-1.67	-0.2/0.27	0.75/1.12	0.22/0.78	0.81/1.36	1.26/-0.02	-1.21/-2.47	-2.14/-2.39	-3.07/-2.99	-2.58/-2.85	-1.4/0.16
Θ(75°)	0.29/2.06	0.38/-1.86	-1.25/-1.76	-3.39/-3.8	-2.2/-1.09	-1.93/-1.58	-1.11/-0.51	-0.54/-1.07	-1.97/-1.18	-0.17/0.42	1.78/1.25	1.3/0.4	-1.04/-2.24	-3.42/-1.93	-0.19/0.42	0.42/1.09	0.25/0.45							



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(60°)	-4.01/-1.13	-0.63/-3.65	-2.34/-2.75	-1.03/-2.3	-1.450/0.09	0.730/0.22	0.92/1.15	-0.44/-0.86	-0.71/-1.55	-1.13/-1.37	-2.34/-1.58	0.04/0.08	1.22/1.47	-0.28/0.27	-1.31/-2.15	-2.62/-1.62	-3.13/-1.76	-1.37/0.08	1.30/2.1	-1.18/0.81	1.6/-0.3	0.61/1.83	2.36/0.8	-1.09/-1.51
Θ(67.5°)	-2.54/-0.95	-0.3/-2.12	-2.86/-3.04	-0.94/-3.09	-1.83/0.49	0.95/0.7	0.92/0.52	-1.2/-2.11	-2.71/-4.06	-2.81/-4.74	-5.35/-2.72	-0.36/-0.41	0.54/2.02	0.04/-0.89	-3.24/-1.19	-1.22/-1.64	-2.24/-1.9	-2.36/-0.44	-0.06/-2.99	-3.44/-0.98	-0.16/0.18	-0.26/0.45	0.31/-0.77	-1.75/-0.97
Θ(75°)	-2.55/-0.38	0.25/-1.6	-2.77/-3.81	-1.63/-3.27	-1.75/-0.03	-0.01/-0.87	-0.38/-1.26	-4.1/-4.41	-4.06/-5.36	-4.31/-6.73	-6/-3.93	-2.46/-1.37	-1.13/-0.19	-0.03/1.08	-0.99/-1.94	-3.37/-2.19	-2.59/-2.45	-1.75/0.68	1.94/-0.71	-1.26/-1.24	-1.78/0.24	-1.58/-3.95	-1.61/-1.58	-1.6/-0.22
Θ(82.5°)	-0.57/1.3	1.33/-0.42	-2.08/-4.02	-3.46/-2.73	-2.53/0.17	-0.49/-1.9	-1.13/-2.98	-4.87/-5.33	-6.32/-4.06	-5.78/-10.14	-6.02/-4.03	-2.8/-2.7	-2.86/-1.27	-1.23/-0.97	-1.69/-0.09	-0.28/-1.27	-1.37/-0.68	-0.71/1	0.96/0.07	-0.13/-1.33	-3.19/-0.46	-1.95/-4.99	-2.8/-0.91	-1.07/-0.46
Θ(90°)	-0.83/1.14	1/-0.64	-2.08/-4.98	-3.14/-2.07	-3.27/-0.92	-1.37/-3.41	-2.21/-5.11	-5.83/-6.31	-7.73/-5.02	-7.02/-11.58	-9.74/-6.66	-4.25/-3.85	-2.55/-3.58	-1.51/-1.97	-2.15/0.03	-0.48/-1.49	0.78/1.62	0.59/0.61	0.81/0.27	-0.06/1.73	-1.04/-2.34	-1.9/-6.78	-3.25/-0.28	-1.81/-0.25
Θ(97.5°)	-0.41/0.6	0.66/-1.1	-2.41/-4.31	-3.81/-1.34	-3.14/-1.42	-1.99/-3.47	-3.36/-7.46	-8.77/-8.15	-8.13/-6.23	-9.61/-11.59	-9.02/-6.52	-5.22/-5.43	-3.25/-3.81	-2.6/-2.58	-1.55/-0.45	0.40/0.48	-0.26/-1.35	0.37/1.94	-1.45/-2.72	-3.06/-2.91	-0.9/-3.31	-3.85/-5.9	-3.82/-2.9	-2.75/0.15
Θ(105°)	-2.07/-0.24	-0.71/-1.07	-2.11/-4.6	-2.29/-1.41	-2.51/-2.87	-2.97/-3.33	-2.23/-6.3	-8.95/-9.93	-8.62/-7.07	-9.93/-9.52	-8.53/-6.85	-4.94/-4.88	-2.97/-4.58	-1.87/-1.78	-0.68/1.01	-0.92/-1.68	0.65/-0.02	-1/0.29	2.37/1.31	-3.06/-3.01	-1.37/-3.71	-5.11/-4.52	-5.66/-2.29	-2.7/-0.64
Θ(112.5°)	-2.91/-2.08	-2.18/-1.33	-2.25/-4.56	-2.56/-1.93	-2.98/-1.87	-3.12/-4.99	-2.51/-6.77	-9.5/-8.85	-10.15/-8.31	-10.48/-10.35	-9.44/-7.29	-7.37/-4.22	-3.16/-2.59	-2.72/-1.25	0.35/0.65	-0.57/1.54	-0.57/-0.55	-0.68/1.12	-1.96/-1.53	-3.08/-3.1	-3.46/-1.63	-6.39/-5.16	-7.3/-5.44	-5.31/-2.37
Θ(120°)	-4.76/-2.41	-2.46/-2.65	-2.22/-3.11	-3.09/-3.11	-3.16/-2.42	-2.09/-4.38	-3.54/-2.82	-6.04/-8.23	-11.45/-7.93	-8.57/-9.77	-10.49/-9.36	-10.54/-5.87	-3.3/-2.77	-2.22/-1.21	-0.41/0.03	1.05/2.91	0.27/-0.88	1.05/2.98	2.65/0.69	-0.16/-0.1	-2.8/-2.6	-3.77/-3.83	-6.74/-5.46	-3.87/-5.58
Θ(127.5°)	-3.92/-1.63	-1.07/-0.17	-0.92/-3.11	-4.51/-4.06	-4.23/-3.37	-2.24/-4.04	-3/-1.83	-2.35/-5.15	-8.56/-10.65	-6.71/-7.05	-8.47/-6.62	-10.16/-6.76	-2.31/-3.47	-4.75/-1.4	2.81/-0.3	-1.39/0.2	0.74/0.27	-0.85/0.84	-2.94/-3.52	-5.68/-5.78	-5.89/-5.87	-3.61/-5.05	-5.82/-4.59	-3.54/-5.29
Θ(135°)	-0.45/2.06	1.61/0.31	-0.55/-2.71	-4.59/-3.46	-5.39/-4.78	-2.62/-3.81	-4.21/-2.92	-3.38/-4.37	-5.51/-11.11	-9.64/-7.35	-6.75/-7.1	-8.59/-7.83	-5.1/-3.26	-1.18/-0.42	0.82/0.2	-2.13/-1.99	-3.34/-3.89	-4.09/-0.96	0.23/-0.32	-4.8/-6.48	-6.44/-9.26	-8.02/-6.75	-4.66/-3.52	-2.41/-1.84
Θ(142.5°)	-1.33/-1.09	-1.09/-0.64	0.51/0.24	-2.75/-4.64	-3.92/-5.29	-6.71/-5.99	-4.17/-2.33	-3.48/-7.19	-9.48/-8.75	-6.97/-7.74	-7.83/-7.18	-4.66/-3.12	-3.68/-4.97	-2.04/-0.71	-1.62/-3.77	-4.72/-7.07	-1.15/-0.39	1.17/-0	-1.35/-2.56	-3.72/-3.36	-3.95/-6.09	-6.87/-7.86	-6.51/-4.36	-1.27/-0.28
Θ(150°)	-1.73/-0.85	-0.62/-1.33	-2.67/-2.49	-3.46/-2.85	-3.48/-4.67	-4.94/-4.95	-4.22/-4.06	-5.17/-6.43	-9.89/-11.94	-7.92/-6.32	-4.85/-4.26	-3.4/-2.53	-2.13/-1.86	-3.17/-5.87	-4.76/-3.21	-2.87/-0.7	0.55/0.28	-0.23/-1.61	-3.9/-4.8	-4.99/-5.57	-4.57/-5.11	-8.19/-11.8	-9.57/-5.75	-3.55/-2.45
Θ(157.5°)	-4.76/-3.13	-1.93/-2.02	-3.26/-2.94	-1.08/0.32	0.87/0.47	-0.48/-1.47	-1.97/-2.67	-5.12/-8.52	-9.12/-7.91	-8.06/-9.8	-9.41/-6.69	-4.83/-4.98	-7.18/-6.48	-4.76/-3.82	-1.89/-0.28	0.1/-0.59	-4.95/-6.12	-6.63/-6.12	-4.63/-4	-4.4/-6.1	-7.3/-8.81	-6.74/-5.82	-8.83/-10.02	-8.83/-10.02
Θ(165°)	-2.99/-1.78	-1.01/-1.06	-1.37/-1.39	-1.56/-2.06	-3.29/-4.61	-5.76/-6.84	-6.22/-5.82	-6.07/-6.12	-6.16/-5.72	-5.3/-5.18	-5.44/-5.67	-5.81/-6.34	-6.3/-5.6	-5.25/-5.36	-6.2/-5.42	-4.7/-3.33	-1.98/-1.88	-2.83/-4.57	-7.62/-8.27	-8.44/-9	-8.99/-7.31	-5.59/-5.52	-5.34/-5.24	-4.09/-3.56
Θ(172.5°)	-3.46/-3.64	-3.53/-2.29	-1.57/-1.51	-1.82/-2.38	-2.89/-3.18	-3.4/-3.73	-3.74/-3.45	-3.53/-4.19	-5.53/-7.23	-8.18/-8.73	-7.89/-6.65	-6.65/-6.32	-6.25/-7.01	-8.27/-9.54	-9.8/-7.55	-6.06/-5.22	-4.99/-6.62	-10.15/-12.62	-11.13/-10.16	-10.42/-9.95	-9.45/-8.1	-6.86/-6.53	-6.37/-6.17	-6.11/-4.91
Θ(180°)	-8.56/-8.49	-7.9/-6.87	-6.88/-6.7	-6.67/-6.79	-7.03/-7.78	-7.96/-8.85	-9.27/-9.84	-10.79/-12.07	-12.83/-12.12	-10.7/-10.16	-9.55/-9.31	-9.63/-9.36	-9.44/-9.57	-9.24/-8.45	-8.07/-7.84	-7.32/-6.88	-6.65/-7.47	-7.34/-7.14	-6.63/-6.86	-8.06/-9.5	-9.97/-10.67	-8.8/-9.35	-10.14/-8.51	-8.83/-10.02
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°)	4.23/4.56	4.77/4.73	4.62/4.69	4.36/3.47	2.62/0.2	1.37/0.78	-0.04/-0.21	-0.15/0.24	0.96/1.46	2.43/1.3	3.42/3.93	4.35/4.54	4.87/5.01	4.93/4.68	4.19/3.83	3.56/3	2.25/2	1.85/1.48	0.76/0.17	0.41/1.13	1.59/1.95	2.79/3.36	3.21/3.3	3.82/4.12
Θ(7.5°)	4.15/4.22	4.23/3.98	3.62/3.26	2.61/1.97	1.72/1.24	0.76/0.84	0.4/-0.1	0.32/0.6	1.31/1.94	2.39/3.11	3.31/3.15	3.54/3.82	4.04/4.48	4.82/4.81	4.64/4.4	4.09/3.46	2.58/2.03	1.81/1.48	1.05/0.57	0.57/0.72	1.37/1.84	2.27/3.09	3.52/3.58	3.83/4.16
Θ(15°)	3.81/3.8	3.89/3.41	2.48/1.43	0.17/-0.7	-0.44/0.19	0.53/0.52	0.41/0.38	-0.11/-0.37	-0.32/-0.13	0.65/1.32	1.57/1.86	2.57/3.03	3.65/4.3	4.72/4.73	4.44/4.06	3.57/2.91	2.25/1.72	1.16/0.93	0.53/0.24	-0.07/-0.48	-0.73/-0.63	-0.36/0.42	1.4/2.15	2.85/3.63
Θ(22.5°)	4.69/4.46	4.35/3.66	2.3/1.21	0.23/-0.55	-0.61/-0.25	-0.21/-0.45	-0.74/-1.1	-1.38/-1.48	-1.56/-2.09	-2.17/-1.46	-0.11/-27	1.72/0.6	2.94/3.36	3.35/3.54	3.48/3.34	2.88/2.83	2.9/2.75	2.34/2.01	1.94/1.92	1.28/-0.25	-1.57/-1.11	0.51/47	2.16/3.05	3.65/4.37
Θ(30°)	3.54/3.14	2.95/2.11	1.61/1.59	0.89/-0.49	-1.84/-2.38	-2.64/-2.97	-3.24/-3.58	-3.31/-3.45	-4.01/-3.28	-1.85/-1.17	-0.51/0.37	0.43/1.33	2.73/3.06	2.44/2.24	2.77/3.51	4.11/4.17	3.56/2.66	1.51/1.19	1.65/0.83	0.34/0.5	-0.5/-0.07	1.79/1.48	2.04/2.07	1.92/3.15
Θ(37.5°)	2.95/3.01	2.13/1.25	0.1/-0.61	-0.66/-0.36	-1.07/-0.19	-0.3/-0.98	-1.69/-2.79	-2.88/-2.35	-2.13/-2.42	-2.19/-1.46	-0.67/0.34	0.92/35	3.06/3.34	3.16/2.79	2.48/3.5	4.08/3.77	2.59/0.44	-0.25/0.11	0.48/0.51	0.66/0.61	0.55/0.12	-0.11/1.1	0.48/0.74	1.05/1.7
Θ(45°)	3.87/3.05	2.71/3.07	1.15/-1.82	-1.75/0.13	-1.73/-1.28	-0.55/-0.93	-1.69/-2.59	-3.28/-2.13	-0.75/0.14	0.34/0.55	1.33/1.36	1.31/1.88	2.21/2.12	2.32/51	3.17/3.27	2.62/25	1.65/1.18	0.72/0.13	1.21/96	1.82/1.07	-0.01/-1.48	-1.58/-1.03	0.86/0.78	1.69/3.51
Θ(52.5°)	2.21/1.6	0.94/1.95	1.03/-1.5	-1.95/-0.65	-0.34/-0.03	-0.59/-1.08	-3.47/-4.71	-3.57/-1.89	-0.45/1.08	2.21/03	0.69/0.76	-0.92/0.5	0.61/-0.02	0.31/1.51	1.822/97	2.72/72	2.56/1.82	0.17/0.01	0.93/1.41	1.33/1.25	-0.48/-1.41	-1.42/-0.18	0.91/1.56	-0.51/49
Θ(60°)	1.32/0.69	-2.13/-1.9	-0.57/-2.03	-1.6/-0.46	-0.38/-0.74	-1.04/-1.15	-2.4/-4.62	-3.08/-1.69	-0.69/0.68	1.52/-0.12	-0.76/0.29	-0.79/-0.42	0.1/0.97	0.78/0.85	0.45/0.44	2.26/3.04	3.05/1.39	-0.07/-2.13	-0.85/0.22	0.57/0.85	-0.9/-2.32	-1.48/-0.92	0.3/0.06	-1.62/-1.02
Θ(67.5°)	2.75/2.21	0.49/-2.88	-4.56/-2.49	-1.34/-0.57	-0.99/-1.3	-1.95/-0.6	-1.57/-3.12	-1.94/-0.59	1.25/2.05	2.61/2.32	0.95/0.01	-0.42/0.82	1.09/2.47	2.01/1.9	0.64/0.47	1.47/3.18	2.1/0.04	-0.94/-1.75	-0.52/-0.95	-0.36/0.03	-1.37/-2.32	-1.38/-0.7	-0.78/0.61	-0.64/0.45
Θ(75°)	3.06/3.03	2.32/-0.6	-5.87/-3.01	-2.36/-1.13	-0.87/-1.13	-1.34/0.83	-0.71/-2.93	-1.31/-0.25	1.64/2.3	2.68/3.38	1.64/0.11	-0.57/1.12	0.63/1.43	2.19/2.22	1.55/-0.36	0.98/2.99	2.25/0.25	1.54/0.93	1.85/0.81	-1.07/-1.54	-1.77/-3.23	-3.07/-2.64	-0.77/0.83	0.99/1.4
Θ(82.5°)	2.15/2.78	2.38/-0.39	-6.07/-2.77	-2.35/-2.44	-0.18/-0.13	0.21/64	0.5/-2.1	-0.54/-0.25	1.53/2.14	1.23/2.82	1.54/-0.18	-1.81/1.06	0.99/-0.12	-0.56/1.85	1.74/0.46	0.93/2.71	1.93/0.84	1.63/2.5	3.66/3.05	0.26/-1.25	-1.51/-3.1	-4.11/-1.17	0.48/1.45	0.78/1.37
Θ(90°)	1.45/2.25	1.97/-0.36	-6.48/-2.72	-2.98/-2.06	0.37/-0.67	0.67/1.97	0.56/-1.8	-0.24/0.26	1.23/1.83	1.02/2.52	0.41/-0.38	-2.21/-0.16	-0.61/0.42	-1.87/0.15	0.88/-0.58	1.08/1.9	1.5/-0.03	0.88/1.42	3.05/2.18	0.19/-0.6	-2.08/-2.41	-3.04/-1.76	0.43/1.34	1.2/0.17
Θ(97.5°)	-0.33/0.18	1.47/-0.76	-6.03/-1.39	-1.3/-1.41	0.19/-1.14	0.722/1.	1.25/-1.47	-0.03/-0.14	1.17/1.17	0.26/0.52	-0.75/-1.85	-3.99/-2.16	-0.73/0.11	-3.59/-0.42	-0.06/-0.92	0.16/-0.53	-2.07/-1.58	-2.68/-0.56	-0.15/-0.33	-3.11/-4.27	-3.37/-4.25	-4.49/-2.71	-0.45/0.34	0.59/0.4
Θ(105°)	-0.72/-0.63	0.05/-1.43	-3.51/-1.31	-1.61/-1.72	0.47/-2.58	0.38/1.55	0.19/-1.67	-0.71/-0.19	1.02/0.39	-0.81/-0.68	-1.63/-1.66	-5.95/-4.55	-3.62/0.52	-1.45/-1.62	-0.52/-3.27	-5.77/-2.18	-2.43/-3.36	-7.9/-7.47	-5.63/-3.97	-6.43/-6.97	-6.02/-4.04	-3.32/-2.03	-1.8/-0.21	1.78/0.13
Θ(112.5°)	-0.09/0.09	-0.8/-0.46	-2.7/0.55	-0.46/-0.55	0.16/-1.77	0.15/0.18	-1.54/-3.83	-3.33/-1.49	0.15/-2.1	-1.11/-1.	-1.11/-3.22	-6.85/-7.8	-2.94/-1.63	-3.26/-1.94	-1.01/-3.32	-4.5/-6.32	-6.51/-4.18	-7.25/-4.87	-4.62/-2.51	-2.39/-1.3	-2.72/-1.21	-2.37/-2.21	-3.1/-0.01	-0.26/-1.1
Θ(120°)	-0.16/-1.12	0.42/0.22	-0.48/1.32	0.11/-0.91	0.08/-0.94	-0.74/-0.75	-3.02/-4.22	-3.79/-0.85	0.66/-1.18	-1.63/-0.75	-1.74/-4.09	-8.41/-8.73												



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(22.5°)	-1.91/-2.92	-4.55/-6.01	-7.7/-9.49	-11.69/-15.57	-17.03/-12.38	-9.28/-8	-7.17/-0.02	-5.23/-4.24	-3.28/-2.56	-2.39/-2.22	-1.89/-1.59	-1.37/-1.09	-0.7/-0.72	-1.19/-1.97	-3.1/-4.59	-6.83/-9.63	-12.53/-13.59	-11.91/-9.93	-8.07/-5.99	-4.74/-3.76	-2.76/-2.02	-1.44/-1.2	-1.37/-1.43	-1.06/-1.15
Θ(30°)	-1.69/-3.37	-6.13/-7.16	-7.79/-7.76	-8.14/-10.46	-14.09/-10.27	-8.89/-8.98	-9.11/-7.53	-6.06/-5.81	-5.63/-5.09	-4.06/-2.95	-1.86/-1.24	-0.98/-0.83	-0.84/-0.55	-0.15/-0.72	-2.65/-5.42	-8.25/-10.75	-12.48/-10.57	-7.32/-5.72	-4.84/-3.4	-2.68/-1.59	-1.08/-0.96	-0.520/-1	0.09/-0.37	-0.62/-0.91
Θ(142.5°)	-1.55/-3.04	-5.77/-8	-8.2/-3.59	-7.6/-9.41	-12.72/-9.26	-7.59/-8.01	-8.99/-5.52	-6.86/-7.61	-7.58/-5.43	-3.26/-1.92	-1.40/-0.8	0.560/43	-0.32/-0.64	-0.76/-0.97	-3.17/-7.46	-11.75/-15.07	-11.42/-8.04	-6.45/-5.66	-5.82/-4.45	-2.38/-0.92	-0.060/35	0.640/91	1.120/88	-0.60/-1.23
Θ(45°)	-2.3/-3.8	-6.03/-8.72	-11.44/-11.78	-9.79/-11.74	-18.09/-12.93	-11.87/-14.25	-14.54/-12.56	-10.04/-7.27	-6.16/-5.88	-5.36/-4.41	-4.07/-2.28	-1.65/-1.59	-0.180/-37	-1.16/-2.22	-5.33/-14.45	-18.7/-18.19	-15.23/-12.59	-9.84/-8.29	-7.55/-5.26	-2.65/-1.19	-0.52/-0.13	0.130/37	0.26/-0.37	-0.86/-1.23
Θ(52.5°)	-4.07/-5.97	-7.42/-8.73	-9.96/-10.93	-12.47/-14.71	-19.03/-18.08	-19.04/-18.79	-14.58/-12.47	-9.54/-6.81	-6.96/-6.103	-11.59/-7.72	4.25/-1.1	-1.47/-2.4	-1.33/-1.51	4.53/-4.6	-5.41/-14.41	-18.74/-17.25	-12.16/-10.57	-7.2/-6.78	-6.83/-4.57	-2.87/-1.95	-1.11/-0.78	-0.050/-37	-0.1/-0.18	-1.64/-2.29
Θ(60°)	-4.22/-4.89	-5.58/-5.43	-6.7/-10.51	-16.19/-17.36	-18.24/-19.08	-14.56/-16.74	-16.82/-18.38	-11.66/-8.15	-10.06/-12.76	-11.29/-8.61	-6.87/-2.04	-1.07/-1.86	-1.34/-0.83	-3.96/-6.55	-6.14/-18.06	-14.3/-12.78	-8.49/-8.25	-6.55/-6.69	-5.01/-4.03	-3.95/-3.41	-2.15/-1.75	-0.660/03	-0.71/-1.56	-2.01/-2.86
Θ(67.5°)	-5.61/-7.65	-7.01/-8.65	-11.53/-13.55	-19.11/-15.38	-19.11/-17.62	-18.73/-16.32	-13.47/-18.87	-16.35/-14.36	-16.93/-12.46	-12.26/-9.03	-7.3/-3.48	-2.89/-2.91	-2.07/-2.97	-5.91/-8.43	-8.01/-18.35	-10.36/-7.38	-5.6/-7.33	-5.33/-4.19	-2.51/-2.9	-4.3/-5.01	-3.96/-3.19	-1.31/-0.24	-0.93/-2.14	-2.88/-4.02
Θ(75°)	-5.26/-6.91	-5.61/-5.66	-10.34/-11.28	-15.13/-18.87	-17.58/-16.95	-17.17/-17.13	-18.47/-17.57	-18.56/-17.91	-16.98/-12.17	-13.55/-10.34	-11.27/-6.24	-5.19/-5.53	4.61/-6	-8.21/-10.24	-8.59/-15.89	-6.55/-5.81	-4.48/-4.75	-3.89/-4.22	-1.86/-3.4	-3.52/-4.9	-3.91/-2.99	-1.68/-0.58	-0.98/-2.32	-3.13/-4.13
Θ(82.5°)	-5.77/-9.85	-7.98/-7.59	-12.82/-14.27	-15.09/-15.4	-18.52/-16.5	-13.59/-11.53	-15.14/-18.86	-18.5/-17.84	-18.69/-17.81	-18.54/-10.65	-13.48/-9.06	-8.42/-8.15	-5.92/-7.23	-9.54/-10.64	-9.07/-9.95	-4.45/-3.25	-2.63/-1.8	-2.84/-1.84	-0.4/-2.61	-2.73/-3.97	-4.99/-3.65	-2.83/-1.79	-1.55/-3.48	-4.13/-4.73
Θ(90°)	-5.1/-8.01	-6.13/-8.21	-13.27/-15.02	-16.67/-13.16	-18.03/-18.35	-18.28/-11.19	-10.31/-11.96	-15.58/-19.15	-17.93/-15.37	-19.14/-15.18	-14.28/-12.88	-9.86/-8.82	-7.38/-9.76	-14.86/-12.34	-9.85/-8.18	-4.62/-3.01	-2.76/-4.02	-4.08/-3.29	-1.75/-5.2	-4.8/-5.2	-7.2/-5.55	-3.35/-2.19	-1.83/-3.95	-4.14/-3.83
Θ(97.5°)	-7.14/-10.44	-6.99/-7.98	-11.47/-11.74	-18.07/-17.93	-18.18/-13.7	-14.45/-16.54	-12.43/-11.76	-13.79/-12.93	-16.25/-15.51	-18.13/-14.49	-12.04/-12.72	-12.28/-12.19	-9.39/-16.2	-19.17/-13.03	-9.09/-5.9	-4.87/-4.41	-3.76/-2.32	-4.25/-4.58	-2.67/-4.32	-5.31/-6.07	-4.62/-6.05	-4.68/-3.77	-3.71/-3.86	-3.69/-4.93
Θ(105°)	-5.83/-9.65	-7.05/-7.97	-11.74/-10.34	-11.13/-14.05	-18.02/-14.45	-11.52/-9.67	-10.48/-12.82	-17.93/-18.54	-15.32/-15.02	-17.75/-16.67	-9.97/-15	-18.11/-7.77	-8.7/-12.85	-17.78/-11.1	-7.91/-4.61	-6.66/-6.25	-4.16/-3.57	-6.78/-7.61	-4.01/-5.93	-6.92/-9.01	-11.13/-9.5	-5.59/-2.94	-1.67/-3.96	-4.66/-4
Θ(112.5°)	-4.73/-5.07	-6.25/-8.61	-12.77/-13.96	-10.66/-11.9	-17.93/-18.15	-18.51/-11.95	-9.53/-9.62	-15.4/-18.53	-18.19/-17.79	-18.42/-17.71	-12.76/-18.5	-18.85/-16.06	-8.62/-13.54	-12.75/-11.32	-6.96/-4.64	-5.4/-4.22	-4.5/-3.81	-5.62/-6.74	-3.83/-4.69	-4.86/-7.95	-10.03/-8.09	-7.3/-4.21	-4.11/-4.97	-3.99/-3.79
Θ(120°)	-5.99/-6.99	-6.11/-6.41	-8.81/-11.85	-11.25/-18.01	-18.3/-16.23	-15.99/-14.72	-16.4/-18.6	-17.23/-17.66	-17.93/-18.53	-17.99/-19.12	-13.25/-18.09	-16.62/-17.48	-9.39/-13.37	-17.96/-10.09	-5.4/-4.91	-5.4/-3.43	-4.64/-5.18	-4.63/-5.75	-3.65/-5.42	-4.7/-8.86	-10.14/-10.88	-7.62/-6.05	-6.42/-5.11	-5.19/-4.15
Θ(127.5°)	-5/-7.62	-7.58/-6.68	-7.87/-9.92	-9.51/-12.3	-12.49/-13.13	-12.24/-14.86	-8.66/-10.64	-10.63/-10.76	-13.79/-18.87	-18.19/-19.06	-17.75/-9.71	-15.75/-17.58	-13.92/-7.95	-8.92/-9.49	-5.93/-4.68	-8.26/-5.18	-5.88/-6.22	-3.99/-5.48	-6.62/-9.01	-11.13/-9.5	-5.59/-2.94	-7.82/-7.78	-4.51/-3.76	
Θ(135°)	-4.47/-6.14	-6.18/-6.47	-7.08/-6.28	-7.91/-11.52	-10.81/-10.18	-8.74/-7.2	-6.88/-9.13	-13.52/-8.61	-8.96/-14.11	-17.81/-17.6	-17.43/-11.7	-12.64/-13.27	-10.1/-16.21	-18.71/-11.74	-11.87/-10.43	-7.96/-5.8	-5.4/-7.35	-6.87/-5.7	-4.1/-4.68	-6.14/-6.01	-8.16/-16.96	-15.84/-18.73	-13.81/-7.04	-4.71/-3.2
Θ(142.5°)	-8.8/-24	-5.79/-6.1	-8.2/-7.2	-6.83/-10.72	-12.14/-14.87	-17.49/-12.87	-8.75/-10.39	-16.06/-12.55	-10.15/-11.5	-16.51/-18.12	-13.46/-12.36	-12.6/-15.86	-11.17/-11.79	-12.98/-15.57	-18.47/-13.54	-10.09/-9.98	-10.98/-12.63	-12.28/-10.27	-8.83/-8.2	-8.91/-10.68	-11.64/-15.88	-17.74/-15.45	-9.62/-6.45	-5.5/-6.64
Θ(150°)	-14.14/-14.38	-12.67/-14.15	-11.73/-10.74	-11.91/-9.12	-11.69/-11.82	-10.87/-9.54	-8.2/-8.85	-18.41/-14.09	-16.74/-17.26	-18.73/-18.95	-18.23/-18.45	-18.54/-19.2	-13.71/-17.05	-12.92/-7.96	-18.28/-18.1	-15.33/-14.41	-16.4/-18.17	-13.49/-9.63	-8.61/-10.44	-12.33/-11.92	-13.74/-15.15	-11.81/-8.83	-7.58/-9.91	
Θ(157.5°)	-14.14/-14.7	-10.84/-7.8	-5.27/-4.03	-3.76/-4.19	-5.04/-6.02	-7.46/-10.51	-14.88/-15.02	-13.04/-13.64	-16.5/-17.65	-18.16/-17.73	-16.29/-16.44	-18.34/-17.86	-18.1/-18.6	-18.3/-17.84	-18.16/-17.57	-18.09/-18.67	-18.02/-14.59	-12.06/-11.19	-10.3/-8.56	-8.31/-9.49	-12.66/-16.38	-14/-9.91	-8.61/-9.21	-19.71/-12.2
Θ(165°)	-10.72/-8.8	-7.4/-5.85	-4.74/-4.69	-5.13/-6.01	-6.9/-8.26	-10.58/-15.26	-18.77/-17.57	-18.23/-18.81	-18.25/-18.17	-18.09/-18.27	-18.3/-18.24	-17.89/-14.52	-11.64/-9.96	-10.19/-10.27	-14.1/-16.09	-19.11/-18.35	-18.23/-17.87	-16.31/-15.07	-14.23/-11.92	-11.36/-11.91	-13.31/-14.49	-11.91/-9.76	-8.88/-10.05	-12.18/-12.7
Θ(172.5°)	-10.67/-11.77	-10.82/-8.89	-7.78/-7.1	-6.63/-6.43	-6.67/-7.16	-8.48/-11.16	-14.52/-17.24	-16.7/-15.92	-15.59/-15.81	-16.24/-16.22	-16.6/-17.3	-16.19/-15.49	-16.6/-17.3	-15.34/-13.14	-11.71/-11.66	-12.35/-13.34	-16.38/-18.86	-18.08/-18.34	-18.81/-17.54	-17.96/-16.09	-14.1/-14.2	-10.38/-11.49	-12.09/-10.62	-10.41/-10.18
Θ(180°)	-18.07/-18.61	-18.77/-15.81	-13.35/-12.55	-13.06/-14.48	-16.55/-16.74	-17.64/-17.45	-18.22/-18.37	-18.7/-17.97	-17.87/-19.05	-18.9/-18.46	-17.52/-17.82	-19.01/-18.72	-17.02/-16.5	-18.73/-18.87	-18.78/-17.76	-18.28/-18.18	-17.36/-16.29	-15.59/-15.21	-17.32/-14.43	-14.86/-16.31	-16.94/-16.61	-17.87/-17.77		
Freq(Hz)	5.3GPol.	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°)	8.75/-6.42	-4.72/-3.05	-1.4/-0.42	0.290/78	1.191/44	1.651/58	1.220/8	0.38/-0.34	-1.14/-2.14	-3.6/-5.44	-8.07/-12.29	-18.7/-16.97	-10.85/-7.41	-4.85/-2.8	-1.56/-0.6	0.020/38	0.520/46	0.370/27	0.24/-0.24	-1.42/-2.79	-4.03/-6.05	-7.28/-11.41	-15.44/-17.21	-16.11/-8.2
Θ(7.5°)	-5.84/-6.31	-4.95/-3.72	-2.35/-1.36	-0.51/-0.08	0.250/27	1.0/-0.21	-0.56/-0.98	-1.73/-6.27	-3.89/-5.35	-6.82/-9.35	-12.95/-17.42	-16.98/-12.75	-8.99/-5.74	-3.52/-2.03	-0.99/-0.18	0.470/9	1.111/04	1.021/06	1.220/89	0.03/-1.1	-2.06/-2.29	-4.01/-6.68	-11.69/-16.61	-18.02/-16.39
Θ(15°)	-10.47/-7.31	-5.22/-8.33	-2.84/-2.02	-1.45/-0.84	-0.55/-0.82	-1.57/-2.38	-3.74/-5.08	-6.46/-6.99	-8.34/-10.44	-14.04/-18.9	-18.67/-17.43	-17.32/-15.09	-11.71/-8.23	-5.13/-2.95	-1.55/-0.57	0.10/47	0.502/18	-0.08/-0.19	-0.49/-1.12	-2.01/-3.02	-4.24/-5.75	-6.84/-8.57	-12.12/-17.43	-16.94/-13.85
Θ(22.5°)	-10.04/-6.92	-5.19/-14.3	-3.56/-3.08	-2.61/-1.68	-1.32/-1.63	-2.34/-3.52	-4.45/-4.69	-4.29/-4.21	-4.8/-5.73	-6.74/-7.87	-9.89/-13.75	-17.57/-14.86	-11.37/-8.59	-6.14/-0.1	-2.46/-1.21	-0.130/3	0.09/-0.27	-0.71/-1.13	-1.25/-1.36	-1.96/-3.49	-5.43/-7.55	-8.86/-10.15	-11.51/-12.65	-13.86/-13.33
Θ(30°)	-9.38/-8.06	-6.2/-4.47	-4.14/-4.8	-5.07/-4.05	-3.38/-4.01	-5.43/-6.41	-5.61/-5.4	-5.42/-6.75	-6.66/-4.53	-5.48/-6.33	-8.91/-13	-17.72/-16.72	-14.71/-12.85	-8.92/-4.98	-2.67/-1.6	-0.610/38	0.841/12	0.590/-0.5	-1.22/-1.26	-1.45/-2.94	-4.74/-6.59	-9.14/-12.43	-15.92/-17.37	-13.75/-10.6
Θ(37.5°)	-7.368/-8.04	-7.854/-9.33	-3.13/-4.1	-6.17/-5.98	-4.39/-4.66	-6.27/-6.41	-5.46/-5.04	-5.39/-6.35	-6.98/-6.86	-5.5/-4.43	-6.97/-7.69	-12.29/-12.64	-11.11/-10.17	-8.09/-5.22	-2.85/-1.16	0.41/22	1.230/87	-0.09/-1.14	-1.98/-2.35	-1.98/-3.08	-5.52/-7.16	-8.81/-10.36	-14.44/-17.41	-14.4/-8.9
Θ(45°)	-7.33/-6.53	-6.71/-6.02	-4.16/-5.4	-6.92/-6.62	-7.07/-7.46	-8.9/-7.73	-7.74/-7.18	-8.12/-10.46	-7.79/-5.52	-3.7/-2.4	-1.19/-3.53	-9.89/-13.17	-14.37/-11.16	-6.39/-3.98	-2.68/-1.44	0.390/71	-0.02/-0.66	-2.05/-3.18	-2.27/-2.26	-3.8/-4.18	-5.77/-8.32	-10.23/-12.67	-18.17/-17.81	-16.08/-11.01
Θ(52.5°)	-7.9/-5.37	-4.97/-6.83	-6.09/-4.83	-6.57/-11.09	-11.41/-11.42	-12.42/-12.08	-11.89/-10.98	-15.02/-11.67	-6.25/-4.9	-4.81/-4.58	-1.87/-3.78	-7.05/-12.7	-15.75/-9.11	-5.61/-4.01	-3.02/-2.94	-1.41/-1.02	-1.43/-1.28	-2.4/-2.73	-2.94/-2.71	-3.25/-4.77	-4.92/-5.65	-1.11/-15.34	-18.14/-13.87	-12.11/-10.87
Θ(60°)	-7.51/-5.9	-5.2/-6.45	-6.77/-7.18	-11.16/-14.26	-10.31/-11.49	-13.92/-14.56	-12.62/-13.12	-13.19/-7.78	-5.6/-4.65	-4.42/-5.97	-3.44/-3.95	-5.18/-7.83	-16.82/-11.6	-5.98/-3.73	-3.47/-3.86	-1.74/-0.61	-1.82/-0.93	-1.29/-1.64	-2.18/-3.62	-3.8/-5.2	-5.25/-8.22	-9.51/-16.74	-13.07/-11.42	-8.73/-7.95
Θ(67.5°)	-6.03/-4.04	-3.18/-5.33	-1.72/-6.99	-11.51/-19.1	-14.03/-11.38	-11.33/-11.16	-10.91/-10.81	-7.88/-6.57	-8.07/-5.63	-2.34/-3.49	-2.74/-5.23	-6.33/-10.18	-16.77/-10.92	-7.35/-4.62	-2.73/-2.84	-2.5/-1.55	-0.810/13	-0.98/-1.97	-3.52/-3.06	-3.51/-6.26	-5.02/-6.21	-6.94/-9.81	-9.57/-10.37	-7.72/-6.24
Θ(75°)	-6.19																							



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(75°)	-6.04/-4.81	-6.55/-8	-7.72/-12.66	-12.63/-18.2	-18.1/-11.22	-8.59/-10.42	-18/-11.97	-15.03/-11.06	-9.6/-12.18	-11.83/-14.57	-9.02/-17.48	-4.01/-4.41	-4.21/2.63	-5.96/-4.86	-9.54/-8.36	-10.23/5.36	-7.58/-3.44	-3.37/2.22	-1.93/-2.68	-2.83/-2.78	-1.76/-2.54	-4.19/-3.84	-2.35/-3.68	-5.74/-6.5
Θ(82.5°)	-4.46/-3.59	-4.76/-6.25	-6.76/-11.69	-17.4/-16.87	-18.77/-14.95	-15.79/-17.41	-17.43/-14.82	-18.9/-13.93	-13.08/-13.53	-9.98/-15.57	-12.66/-11.48	-8.66/-5.15	-8.07/-5.96	-6.43/-8.79	-14.94/-6.71	-5.89/-3.75	-5.46/-4.41	-3.76/-3.85	-2.92/-4.39	-3.16/-3.25	-1.81/-2.5	-5.29/-6.56	-3.09/-3.96	-8.12/-6.58
Θ(90°)	-7.05/-6.24	-5.99/-8.2	-7.68/-12.02	-16.53/-12.8	-19.11/-13.38	-15.69/-18.14	-16.96/-15.2	-11.8/-9.08	-11.39/-10.21	-10.12/-18.8	-17.66/-12.69	-8.2/-8.67	-6.96/-8.23	-8.85/-18.35	-14.49/-6.12	-4.74/-5.32	-4.06/-3.53	-4.71/-4.31	-4.48/-4.47	-4.76/-3.6	-3.88/-3.46	-6.73/-7.03	-3.86/-5.89	-12.24/-8.48
Θ(97.5°)	-5.55/-5.61	-4.98/-8.61	-9.4/-14.24	-18.32/-10.2	-18.81/-14.91	-17.28/-14.32	-13.72/-16.33	-18.01/-11.91	-11.54/-9.04	-10.92/-16.57	-15.16/-12.88	-8.72/-11.23	-8.39/-13.13	-14.84/-17.68	-10.69/-7.81	-4.08/-5.83	-5.57/-4.94	-5.71/-6.9	-5.94/-5.92	-6.09/-4.47	-5.57/-5.28	-7/-7.13	-4.39/-9.5	-17.56/-7.08
Θ(105°)	-7.37/-7.31	-6.63/-7.25	-7.24/-13.71	-15.36/-10.95	-15.7/-16.45	-16.85/-10.1	-8.43/-10.31	-11.58/-11.85	-11.94/-9.81	-12.01/-17.1	-13.84/-13.13	-8.79/-14.29	-9.15/-15.11	-13.38/-19.1	-7.04/-7.45	-5.58/-8.39	-4.94/-4.33	-7.48/-8.55	-7.34/-6.32	-5.46/-6.78	-5.27/-5.45	-7.06/-5.48	-5.57/-9.77	-12.9/-7.23
Θ(112.5°)	-8.05/-7.07	-8.14/-6.81	-6.51/-16.07	-12.05/-11.86	-15.18/-9.52	-12.62/-13.33	-6.99/-8.74	-15.84/-13.87	-16.62/-7.73	-15.42/-17.84	-13.85/-15.92	-14.01/-11.81	-12.16/-11.32	-18.45/-17.66	-4.83/-6.39	-3.24/-4.58	-5.18/-4.76	-6.35/-5.25	-5.22/-4.37	-4.48/-6.62	-6.53/-7.79	-8.66/-8.78	-6.18/-9.64	-10.7/-7.71
Θ(120°)	-6.12/-7.1	-9.54/-7.1	-4.76/-8.48	-11.07/-11.32	-18.38/-13.11	-10/-15.04	-9.43/-8.15	-11.54/-14.62	-18.54/-13.5	-15.89/-18.77	-16.36/-18.37	-18.37/-16.63	-14.41/-9.84	-16.82/-18.21	-4.47/-7.33	-8.22/-6.66	-3.28/-3.29	-7.37/-7.81	-5.45/-5.55	-4.46/-7.88	-10.04/-9.29	-7.04/-6.4	-6.48/-6.42	-5.61/-6.92
Θ(127.5°)	-6.25/-5.36	-8.55/-5.15	-5.3/-9.13	-9.87/-8.59	-14.2/-19.02	-13.73/-11.21	-4.94/-4.26	-6.59/-9.3	-12.63/-16.43	-13.41/-15.53	-15.73/-11.51	-18.85/-18.54	-8.94/-9.8	-18.29/-10.8	-2.11/-18.39	-12.42/-3.28	-2.07/-4.2	-8.29/-4.98	-2.18/-4.69	-5.98/-6.45	-12.88/-12.06	-7.34/-12.03	-10.51/-7.13	-9.47/-9.32
Θ(135°)	-2.07/-1.55	-4.77/-4.75	-3.36/-6.67	-9.55/-5.8	-10.6/-13.46	-7.38/-11.23	-11.66/-8.25	-9.73/-12.5	-11.87/-17.57	-18.27/-15.34	-9.85/-11.79	-17.98/-17.53	-8.74/-18.65	-11.18/-8.4	-8.55/-12.61	-13.14/-5.6	-5.8/-7.3	-9.04/-6.93	-4.14/-5.2	-8.14/-7.84	-16.21/-18.08	-17.06/-18.51	-12.8/-9.86	-7.35/-4.86
Θ(142.5°)	-3.7/-4.45	-8.34/-5.82	-2.97/-6.12	-9.01/-4.65	-4.64/-10.72	-17.99/-17.39	-17.69/-11.91	-13.43/-16.18	-18.69/-17.86	-16.23/-17.46	-18.62/-17.2	-17.44/-7.93	-7.9/-13.5	-18.87/-13.63	-18.3/-19.02	-11.28/-14.21	-9.16/-10.96	-12.83/-11.95	-7.81/-6.3	-9.32/-10.61	-16.48/-16.35	-18.36/-18.23	-15.64/-11.78	-8.69/-5.08
Θ(150°)	-7.03/-9.29	-8.52/-6.78	-6.2/-9.06	-16.26/-10.07	-10.81/-16.21	-12.51/-9.82	-10.21/-14.04	-18.67/-16.99	-18.35/-17.68	-15.99/-16.88	-18.09/-13.91	-15.77/-15.91	-18.03/-9.42	-8.42/-18.79	-12.14/-8.77	-13.65/-18.81	-18.74/-15.31	-12.3/-9.5	-10.54/-16.87	-17.24/-14.47	-17.06/-17.99	-14.56/-10.09	-7.89/-7.23	
Θ(157.5°)	-15.42/-16.92	-11.7/-9.67	-13.55/-11.32	-4.44/-1.71	-1.39/-2.65	-3.85/-4.9	-6.28/-6.59	-17.69/-18.16	-18.11/-17.48	-18.84/-18.33	-17.19/-16.13	-18.29/-18.2	-18.35/-11.94	-9.19/-11.54	-14.44/-13.97	-15.97/-17.29	-15.44/-12.53	-11.99/-10.9	-11.33/-14.63	-12.41/-10.57	-13.71/-18.46	-18.19/-18.99	-13.21/-13.53	
Θ(165°)	-7.33/-6.8	-6.01/-7.13	-7.12/-5.08	-4.07/-3.66	-4.34/-6.08	-8.86/-12.27	-12.74/-15.01	-18.43/-18.04	-18.53/-19.18	-17.8/-19.01	-17.96/-18.61	-16.31/-17.04	-15.65/-15.55	-17.83/-18.45	-18.42/-14.78	-12.91/-12.94	-12.66/-11.91	-10.75/-9.27	-8.65/-8.78	-9.8/-12.89	-16.21/-17.43	-16.18/-14.38	-11.58/-9.5	-7.84/-7.09
Θ(172.5°)	-9.25/-10.82	-11.36/-8.03	-8.82/-5.17	-5.15/-5.36	-6.47/-9.18	-12.95/-17.37	-18.87/-18.59	-18.4/-13.84	-17.82/-19.19	-17.78/-17.62	-19.02/-15.9	-15.56/-16.24	-15.39/-13.21	-11.97/-10.79	-11.14/-12.63	-16.19/-18.08	-17.74/-18.95	-18.51/-18.27	-18.14/-18.49	-18.66/-16.43	-15.33/-15.11	-13.83/-12.13	-11.42/-11.76	-11.31/-9.53
Θ(180°)	-12.49/-11.18	-8.59/-7.74	-7.71/-7.61	-8.35/-9.47	-10.75/-13.12	-14.99/-18.57	-17.74/-18.07	-18.55/-18.23	-18.68/-18.47	-17.48/-19.07	-18.28/-17.84	-18.77/-18.46	-18.74/-18.98	-17.39/-16.54	-15.15/-14.79	-13.46/-12.76	-12.16/-12.08	-11.39/-11.52	-12.34/-13.53	-13.26/-14.57	-15.38/-16.62	-15.39/-14.87	-14.89/-14.23	-13.61/-13.11
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°)	-11.09/-8.56	-4.46/-4.36	-2.55/-1.19	-0.77/-0.33	-0.05/0.05	-0.12/-0.52	-1.16/-1.79	-2.19/-2.98	-4.52/-6.2	-7.36/-8.69	-10.74/-12.4	-12.76/-11.43	-8.41/-6.14	-5.02/-4.26	-3.45/-2.4	-1.4/-0.88	-0.6/-0.29	0.05/0.09	-0.13/-0.37	-0.96/-1.75	-2.76/-3.58	-4.55/-6.44	-11.21/-15.87	-17.99/-14.94
Θ(7.5°)	-8.93/-6.86	-4.93/-3.86	-3.2/-2.65	-2.22/-1.81	-1.39/-1.12	-0.91/-0.79	-1.12/-1.54	-1.71/-2.46	-3.63/-4.79	-5.95/-7.06	-9.4/-13.57	-16.65/-14.24	-10.36/-7.4	-5.43/-3.79	-2.48/-1.22	-0.42/-0.13	0.06/0.48	0.72/0.34	-0.34/-1.13	-1.84/-2.89	-4.19/-6.32	-8.76/-9.5	-10.29/-11.4	-12.95/-12.11
Θ(15°)	-11.21/-9.34	-7.45/-5.95	-4.72/-4.29	-3.89/-3.82	-3.62/-3.06	-2.94/-2.9	-3.15/-3.58	-4.4/-5.72	-6.63/-7.31	-8.89/-9.46	-11.54/-16.28	-17.99/-17.16	-10.2/-6.1	-3.92/-2.61	-1.87/-1.14	-0.74/-0.75	-0.59/-0.26	-0.48/-0.89	-1.17/-1.49	-2.4/-3.49	-4.4/-5.35	-6.51/-8.65	-10.95/-12.24	-14.31/-12.77
Θ(22.5°)	-11.5/-9.93	-8.98/-8.31	-6.2/-4.93	-4.52/-4.77	-4.57/-3.69	-3.73/-4.34	-5.91/-8.24	-9.66/-9.68	-6.65/-11.5	-13.26/-13.58	-12.45/-13.59	-19.14/-16.31	-10.13/-6.34	-4.3/-2.82	-1.76/-0.93	-0.53/-0.24	0.43/0.68	0.27/0.42	-0.35/-0.6	-1.01/-2.01	-3.75/-6.08	-8.45/-10.61	-15.85/-17.49	-14.21/-12.6
Θ(30°)	-6.12/-5.4	-5.99/-6.71	-5.88/-5.26	-4.57/-5.87	-7.6/-6.52	-6.09/-8.42	-12.35/-14.23	-10.92/-8.08	-7.52/-7.26	-7.09/-6.41	-5.81/-8.13	-14.86/-19.2	-14.31/-10.15	-8.18/-6.56	-3.44/-0.58	1.04/-1.46	1.37/0.66	-1.28/-1.06	-0.88/-1.41	-2.09/-2.79	-4.46/-6.2	-7.14/-8.31	-10.93/-11.45	-11.09/-8.65
Θ(37.5°)	-7.13/-4.35	-3.68/-4.28	-5.82/-5.51	-6.63/-6.13	-9.65/-6.14	-5.09/-6.65	-6.17/-7.29	-6.08/-4.62	-5.18/-6.02	-5.78/-7.13	-10.17/-10.6	-8.7/-8.5	-7.48/-6.51	-2.65/0.44	8.01/0.11	-0.39/-1.85	-2.84/-1.83	-1.41/-2.8	-4.13/-2.85	-3.15/-5.18	-5.81/-7.77	-8.71/-7.29	-8.79/-8.91	
Θ(45°)	-6.51/-7.17	-4.16/-2.16	-3.43/-5.89	-4.35/-5.03	-12.19/-8.11	-6.65/-8.47	-9.22/-10.15	-9.49/-9.22	-8.2/-5.1	-3.23/-2.59	-2.14/-2.86	-6.69/-9.07	-7.97/-8.37	-5.38/-3.3	-3.73/-0.05	0.27/-1.63	-2.24/-3.41	-2.49/-2.27	-4.4/-4.81	-5.47/-5.77	-5.66/-7.97	-6.39/-7.79	-9.14/-8.01	-5.74/-5.48
Θ(52.5°)	-2.99/-3.62	-5.22/-2.79	-2.26/-1.7	-7.41/-7.23	-11.13/-5.65	-5.38/-7.34	-8.36/-10.43	-11.8/-9.64	-6.26/-3.55	-2.75/-2.7	-1.47/-1.71	-7.35/-8.18	-8.89/-9.33	-4.38/-3.72	-4.73/-1.55	-2.02/-3.22	-1.85/-1.75	-2.17/-2.77	-3.41/-5.33	-6.58/-6.42	-7.47/-7.28	-7.83/-7.89	-5.15/-5.08	-5.01/-3.99
Θ(60°)	-2.11/-2.63	-4.87/-4.63	-3.55/-4.71	-6.69/-5.91	-10.49/-6.71	-8.41/-17.71	-6.64/-14.13	-10.28/-7.69	-5.78/-6.76	-6.91/-8.37	-5.88/-2.16	-4.71/-7.78	-12.66/-8.63	-2.98/-4.01	-5.44/-3.42	-2.51/-1.54	-0.80/-0.98	-1.23/-2.91	-3.29/-4.45	-7.34/-4.64	-5.75/-9.01	-9.54/-8.38	-5.65/-4.32	-5.09/-4.48
Θ(67.5°)	-3.6/-3.84	-2.28/-5.05	-6.55/-8.26	-6.9/-8.6	-16.66/-9.23	-17.04/-12.23	-11.53/-10.29	-7.95/-7.38	-5.48/-4.53	-2.46/-2.79	-4.09/-2.77	-3.53/-3.72	-15.17/-5.24	-2.08/-4.58	-5.6/-2.79	-2.76/-0.18	1.48/0.67	-0.87/-3.21	-2.3/-3.24	-4.61/-4.32	-6.8/-12.44	-10.48/-6.66	-5.14/-3.46	-5.28/-5.73
Θ(75°)	-4.38/-4.4	-2.3/-3.82	-8.08/-9.41	-7.41/-10.76	-14.96/-6.84	-8.31/-5.01	-5.97/-5.83	-6.23/-6.14	-6.23/-5.41	-2.02/0.26	-2.26/-2.87	-5.43/-4.69	-17.87/-11.28	-2.71/-3.54	-3.56/-2.48	-0.531/0.3	2.350.96	0.23/-3.16	-0.63/-2.64	-2.6/-3.9	-7.8/-17.62	-19.02/-8.22	-2.92/-1.52	-3.17/-8.88
Θ(82.5°)	-5.31/-4.87	-2.73/-7.72	-3.84/-4.11	-11.7/-24	-6.72/-14.01	-7.45/-5.42	-3.84/-3.44	-5.06/-4.28	-4.62/-4.66	-7.94/-6.49	-5.06/-4.03	-2.73/-3.65	-8.09/-5.72	-16.13/-11.19	-6.77/-4.1	-3.38/-1.14	0.34/-3.36	1.55/0.24	-0.54/-1.67	-0.37/-1.62	-2.67/-4.34	-10.17/-17	-19.07/-8.16	-1.49/-1.06
Θ(90°)	-4.74/-3.06	-1.9/-2.76	-11.68/-6.02	-7.5/-12.84	-3.13/-3.3	-2.54/-3.29	-5.69/-6.14	-5.81/-4.42	-9.58/-6.68	-7.11/-22.24	-5.76/-9.3	-11.1/-8.81	-19.19/-9.45	-12.11/-7.42	-4.21/-2.26	0.25/-0.71	-0.09/-1.31	-1.55/-3.5	-1.98/-4.76	-4.29/-6.82	-10.27/-14.12	-10.51/-6.22	-1.86/-1.52	-0.64/-3.59
Θ(97.5°)	-5.8/-4	-1.57/-1.82	-12.49/-4.02	-5.23/-8.9	-1.48/-3.01	-1.4/-3.21	-5.2/-8.12	-5.4/-4.98	-10.88/-7.47	-11.26/-5.19	-9.31/-8.76	-18.44/-15.51	-15.5/-6.79	-12.94/-11.07	-8.94/-4.82	-2.73/-3.99	-4.97/-4.53	-5.5/-4.01	-4.27/-5.93	-6.3/-9.5	-7.95/-9.89	-7.55/-9.49	-1.34/-1.03	-0.82/-4.33
Θ(105°)	-3.06/-4.14	-1.56/-1.93	-12.11/-3.07	-4.34/-10	-1.79/-3.01	-0.98/-3.12	-1.79/-3.16	-4.76/-9.16	-7.04/-7.13	-13.67/-10.18	-14.81/-12.49	-10.77/-11.39	-15.78/-17.1	-16.87/-6.05	-8.5/-10.92	-9.4/-11.6	-8.1/-13.23	-0.95/-5.24	-7.72/-9.65	-7.77/-5.97	-8.88/-12.92	-8.11/-6.63	-4.63/-1.97	-2.09/-1.15
Θ(112.5°)	-4.43/-4.17	-1.15/-2.83	-12.61/-3.89	-4.67/-6.35	-1.95/-3.79	-2.69/-4.63	-5.56/-12.78	-14.13/-17.69	-15.83/-17.32	-11.67/-9.94	-9.4/-12.63	-14.65/-15.9	-16.22/-9.72	-7.42/-9.84	-10.76/-15.62	-10.45/-17.89	-9.03/-6.16	-6.26/-7.2	-5.69/-6.07	-7.06/-9.23	-4.19/-3.78	-2.4/-2.59	-3.07/-3.42	-4.93/-4.79
Θ(120°)	-3.14/-5.6	-1.81/-3.66	-17.69/-3.46	-4.42/-9.19	-5.63/-4.96	-4.21/-4.36	-3.48/-7.21	-11.25/-10.37	-9.89/-10.63	-7.57/-4.88	-9.88/-11.67	-16.13/-18.01	-18.36/-9.01	-8.9/-17.82	-11.9/-8.63	-14.19/-11.85	-16.3/-13.26	-6.41/-4.49	-3.79/-9.51	-13.86/-4.55	-1.36/-4.04	-6.06/-4.95	-7.48/-5.15	
Θ(127.5°)	-6.73/-6.9	-4.34/-5.11	-18																					



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ (112.5°)	-13.42/-10.74	-6.18/-4.17	-3.71/-3.37	-4.99/-6.21	-6.47/-6.89	-6.43/-6.05	-6.84/-6.89	-6.35/-7.03	-9.46/-18.65	-11.77/-18.19	-16.79/-11.59	-9.41/-13.24	-10.18/-12.49	-15.26/-18.08	-15.48/-18.24	-15.95/-14.92	-19.18/-10.96	-14.71/-7.31	-4.15/-4.14	-5.71/-11.58	-4.15/-2.74	-3.55/-8.72	-10.42/-10.23	-12.73/-10.32
Θ (120°)	-13.83/-10.76	-5.26/-3.82	-3.85/-5.53	-6.4/-7.15	-7/-6.44	-6.26/-7.03	-6.76/-4.69	-7.44/-12.06	-8.18/-8.32	-17.43/-17.52	-10.79/-14.76	-17.02/-11.98	-8.91/-11.52	-18.09/-18.38	-18.11/-18.91	-17.69/-18.21	-15.4/-13.53	-18.18/-10.55	-4.36/-4.43	-6.62/-10.68	-7.39/-2.08	-4.06/-5.22	-7.71/-10.02	-16/-9.66
Θ (127.5°)	-15.18/-11.26	-6.68/-4.36	-4.85/-6.66	-8.01/-7.28	-8.27/-6.74	-5.35/-8.19	-8.06/-5.37	-6.18/-10.61	-11.8/-5.84	-8.44/-18.47	-14.75/-11.12	-10.55/-16.71	-17.62/-14.73	-15.9/-13.88	-11.62/-18.35	-17.19/-17.25	-10.51/-5.29	-12.81/-10.21	-7.49/-9.59	-9.81/-11.74	-9.58/-6.43	-4.6/-7.16	-7.36/-10.26	-16.47/-10.37
Θ (135°)	-11.45/-13.48	-8.49/-5.89	-6.13/-8.56	-12.29/-18.8	-17.04/-7.99	-5.14/-5.51	-8.43/-9.4	-6.21/-6.18	-9.81/-9.79	-9.59/-10.71	-8.52/-8.2	-13.56/-17.98	-16.17/-12	-9.73/-9.48	-10.17/-15.6	-15.82/-17.37	-18.66/-18.77	-17.29/-17.93	-18.81/-13.97	-9.26/-10.81	-7.96/-9.95	-7.67/-7.93	-8.71/-8.03	-9.15/-9.3
Θ (142.5°)	-9.09/-9.08	-7.98/-6.28	-5.57/-6.29	-8.96/-14.25	-18.35/-13.44	-9.9/-8.54	-7.31/-5.44	-5.1/-6.85	-11.01/-7.65	-4.9/-7.77	-10.86/-8.56	-7.74/-9.51	-10.89/-13.1	-10/-9.54	-10.43/-12.55	-18.06/-18.29	-16.23/-14.61	-18.75/-17.96	-12.66/-11.91	-6.82/-5.33	-6.63/-8.48	-10.71/-7.17	-8.86/-8.07	-8.3/-8.09
Θ (150°)	-7.13/-6.16	-4.84/-4.03	-4.27/-5.95	-10.47/-16.52	-10.69/-6.72	-5.97/-7.81	-10.26/-6.24	-3.73/-4.98	-8.47/-7.86	-8.78/-9.71	-6.34/-4.81	-5.61/-7.96	-9.21/-10.26	-11.15/-11.94	-13.58/-14.24	-17.04/-19	-18.09/-17.68	-17.72/-9.81	-7.62/-7.05	-5.19/-4.05	-4.21/-4.47	-5.84/-9.18	-10.77/-10.59	-9.14/-17.3
Θ (157.5°)	-9.57/-10.1	-9.05/-7.97	-7.94/-8.7	-10.15/-12.28	-11.49/-11.09	-14.28/-15.05	-10.23/-7.28	-7.14/-9.42	-10.79/-9.48	-8.06/-7.27	-6.45/-5.74	-7.09/-11.96	-17.07/-17.79	-16.56/-12.5	-13.2/-15.36	-18.96/-18.64	-18.12/-17.88	-13.24/-9.66	-8.15/-6.78	-5.23/-4.34	-4.34/-4.44	-4.62/-5.51	-9.25/-9.98	-9.48/-9.47
Θ (165°)	-10.65/-10.09	-10.37/-10.73	-10.69/-10.53	-10.9/-12.81	-16.67/-17.94	-17.55/-18.07	-18.89/-17.05	-14.37/-12.45	-10.7/-9.87	-10.49/-11.59	-11.4/-11.58	-13.34/-16.49	-16.62/-18.38	-18.49/-16.67	-17.44/-18	-16.39/-14.13	-12.06/-8.4	-6.71/-7.01	-7.01/-6.39	-6.15/-6.59	-5.39/-5.35	-5.91/-8.06	-11.64/-12.45	-12.11/-11.92
Θ (172.5°)	-12.81/-14.81	-15.19/-13.06	-11.45/-10.97	-12.18/-11.91	-10.9/-10.48	-11.01/-11.94	-11.78/-10.97	-10.09/-9.58	-9.51/-10.51	-12.5/-14.85	-16.46/-16.78	-15.82/-15.51	-15.75/-16.08	-17.27/-18.58	-17.82/-17.1	-14.75/-13.91	-12.2/-9.85	-9.7/-10.86	-11.37/-11.47	-12.08/-11.12	-9.7/-8.26	-7.06/-6.85	-7.87/-8.83	-9.52/-10.57
Θ (180°)	-8.83/-8.86	-8.65/-8.96	-9.3/-9.47	-9.09/-9.02	-9.75/-10.61	-10.61/-10.44	-9.99/-9.78	-10.54/-12.14	-14.61/-17.55	-18.07/-18	-17.71/-18.56	-18.32/-19.18	-17.71/-18.06	-17.21/-14.75	-13.06/-12.63	-13.98/-15.36	-15.71/-17.54	-17.09/-14.95	-13.31/-12.71	-12.65/-11.99	-11.25/-10.48	-9.47/-9.03	-8.83/-8.71	-8.87/-8.5
Freq[Hz]	5.2GPol.	Theta/Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-1.1/-2.24	-3.06/-3.24	-4.4/-6.45	-8.22/-9.13	-10.42/-12.21	-11.86/-8.87	-6.1/-4.91	-4.48/-4.05	-3.38/-2.62	-1.95/-1.43	-1.13/-1.08	-1.02/-0.96	-1.1/-1.5	-2.11/-2.87	-3.75/-4.94	-6.48/-8.85	-11.64/-11.37	-10.08/-8.79	-6.91/-5.03	-3.43/-2.4	-1.56/-1.03	-0.67/-0.22	0.01/0.06	-0.06/-0.52
Θ (7.5°)	-0.78/-1.69	-3.23/-3.84	-3.8/-5.13	-7.74/-9.78	-11/-13.49	-14.32/-11.39	-8.1/-5.66	-4.26/-3.34	-2.6/-2.07	-1.47/-0.81	-0.43/-0.31	-0.37/-0.53	-1.01/-1.73	-2.59/-3.59	-4.76/-6.42	-8.15/-10.12	-12.91/-12.59	-10.1/-8.62	-7.08/-5.19	-3.66/-2.81	-2.32/-1.9	-1.58/-1.25	-1.14/-1.09	-1.14/-0.91
Θ (15°)	-1.92/-2.15	-3.02/-3.87	-4.53/-5.83	-8.41/-12.1	-17.28/-18.74	-15.1/-10.19	-6.5/-3.6	-2.2/-2.1	-0.86/-0.81	-0.63/-0.29	-0.24/-0.22	-0.07/-0.04	-0.15/-0.38	-1.17/-2.75	-4.65/-6.7	-9.53/-12.84	-16.34/-12.81	-13.79/-9.18	-17.3/-5.51	-3.84/-2.79	-2.19/-1.74	-2.61/-2.36	-2.82/-2.35	-2.82/-2.35
Θ (22.5°)	-2.72/-2.76	-3.16/-3.72	-4/-5.47	-9.41/-17.96	-17.77/-10.51	-7.36/-5.69	-3.76/-1.98	-1.14/-0.52	-0.06/-0.03	0.25/0.98	1.38/1.47	1.24/0.55	-0.44/-1.78	-3.71/-5.94	-7.61/-9.49	-12.09/-14.85	-17.21/-16.75	-13.13/-9.89	-7.86/-5.58	-3.59/-2.49	-2.09/-2	-2.18/-2.91	-3.42/-3.59	-3.63/-3.19
Θ (30°)	-5.19/-5.12	-5/-5.77	-6.95/-9.37	-15.17/-18.12	-12.18/-8.48	-5.91/-3.85	-2.18/-1.13	-1.12/-1.14	-0.15/0.76	1.01/1.42	1.4/0.72	0.02/-0.87	-2/-3.11	-4.75/-9.56	-6.67/-7.88	-9.16/-10.95	-13.51/-14.98	-11.1/-7.5	-8.85/-5.12	-3.88/-2.7	-2.42/-2.23	-2.1/-2.36	-2.61/-2.72	-3.11/-1.45
Θ (37.5°)	-5.4/-5.02	-5.87/-8.1	-12.03/-17.72	-17.2/-18.93	-13.42/-7.94	-5.36/-3.91	-2.02/-0.99	-1.09/-1.31	-0.56/0.63	0.86/1.79	0.17/-0.35	0.33/-0.23	-1.61/-4.31	-7.28/-8.39	-6.97/-10.5	-14.32/-19.32	-10.48/-7.47	-5.52/-4.03	-3.5/-3.9	-3.1/-1.72	-1.29/-1.36	-1.53/-1.57	-2.2/-2.4	-2.2/-2.4
Θ (45°)	-3.72/-4.21	-5.29/-8.1	-13.47/-17.91	-18.27/-18.36	-12.73/-6.45	-3.54/-2.75	-2.28/-1.01	-0.66/-1.5	-0.97/-0.37	-0.93/-0.62	0.08/0.01	0.25/-1.05	-2.87/-6.28	-9.49/-10.01	-12.04/-16.89	-19.22/-18.98	-18.38/-18.18	-13.21/-7.31	-5.97/-5.31	-4.56/-4.28	-3.85/-1.73	-0.51/-0.74	-1.48/-1.51	-1.22/-2.8
Θ (52.5°)	-4.46/-5.7	-7.78/-10.93	-12.03/-12.12	-11.47/-10.4	-7.68/-4.21	-2.22/-2.66	-3/-1	-0.71/-1.83	-2.24/-1.72	-1.77/-0.44	-0.51/-2.09	-1.94/-2.53	-4.41/-9.23	-12.13/-14.02	-18.67/-17.12	-15.55/-18.65	-17.51/-15.78	-12.2/-8.21	-5.69/-5.19	-5.41/-4.83	-3.36/-1.77	-0.57/-0.86	-1.61/-1.62	-2.08/-2.75
Θ (60°)	-0.88/-8.95	-0.02/-11.53	-12.05/-11.92	-12.05/-11.92	-6.98/-5.07	-3.14/-3.48	-2.56/-1.58	-3.14/-3.69	-2.68/-2.76	-4.09/-2.43	-0.75/-2.95	-3.74/-8.2	-17.24/-12.57	-14.86/-16.39	-17.81/-17.77	-16.73/-18.39	-16.89/-14.61	-13.36/-9.66	-6.88/-6.24	-3.04/-1.19	-3.12/-2.95	-3.11/-2.03	-2.17/-4.54	-2.17/-4.54
Θ (67.5°)	-7.98/-8.48	-7.93/-9.66	-12.43/-13.46	-9.45/-6.25	-5.95/-4.58	-3.42/-3.38	-4.2/-4.97	-4.02/-3.68	-4.78/-5.2	-5.1/-4.51	-5.01/-4.68	-4.04/-6.02	-10.27/-15.78	-11.79/-15.76	-14.04/-15.66	-17.21/-14.47	-18.55/-17.27	-16.11/-13.79	-10.92/-10.26	-9.04/-5.82	-2.88/-1.92	-4.32/-4.97	-3.34/-2.19	-3.78/-7.11
Θ (75°)	-7.37/-7.87	-8.67/-10.87	-13.41/-10.27	-6.74/-4.87	-5.15/-5.08	-4.95/-5.45	-5.13/-5	-5.94/-5.95	-6.77/-7.95	-7.67/-4.78	-4.99/-5.37	-8.06/-13.31	-14.7/-15.1	-10.41/-8.72	-11.53/-11.7	-19.18/-17.59	-17.9/-15.39	-9.54/-10.85	-9.53/-6.36	-4.2/-4.22	-4.75/-6.21	-5.02/-3.97	-3.95/-6.34	-3.95/-6.34
Θ (82.5°)	-6.26/-8.31	-8.85/-9.95	-11.48/-9.15	-5.73/-5.88	-6.50/-4.13	-4.71/-6.12	-5.33/-7.3	-7.76/-6.96	-1.37/-1.15	-4.67/-4.47	-5.17/-6.16	-5.81/-5.74	-9.96/-15.95	-18.71/-17.94	-15.88/-13.73	-9.71/-10.49	-18.62/-15.44	-18.21/-11.72	-8.19/-7.19	-10.89/-8.76	-6.03/-4.93	-4.71/-8.21	-6.52/-4.54	-3.84/-7.9
Θ (90°)	-5.03/-7.35	-8.94/-11.19	-11.92/-9.28	-6.06/-5.83	-5.26/-4.5	-4.8/-5.09	-6.37/-8.61	-8.09/-8.49	-9.62/-11.89	-10.25/-5.51	-5.44/-7.04	-6.21/-5.72	-10.98/-13.9	-11.66/-15.9	-14.35/-13.49	-11.67/-9.87	-18.2/-15.08	-18.99/-9.89	-7.61/-9.56	-17.6/-9.92	-7.26/-7.69	-10.79/-10.44	-7.02/-5.03	-5.06/-3.61
Θ (97.5°)	-3.47/-6.97	-8.46/-8.32	-7.39/-6.65	-6.4/-6.88	-3.85/-3.72	-5.9/-6.5	-6.28/-10.05	-8.79/-12.06	-9.33/-8.3	-7.05/-5.75	-8.18/-7.9	-9.61/-18	-14.67/-15.93	-11.68/-15.48	-12.41/-13.05	-18.07/-18.4	-17.77/-9.2	-8.9/-14.44	-17.15/-10.23	-12.6/-10.33	-13.52/-9.78	-7.45/-8.31	-5.13/-9.22	-5.13/-9.22
Θ (105°)	-4.05/-4.7	-6.4/-6.34	-5.43/-3.93	-3.42/-3.27	-2.45/-3.17	-5.56/-7.31	-9.01/-7.13	-9.72/-11.25	-9.79/-14.35	-8.64/-7.12	-9.23/-9.56	-9.48/-13.88	-12.82/-10.47	-11.47/-17.92	-18.05/-15.08	-11.63/-9.71	-17.97/-17.56	-17.99/-14.7	-14.72/-18.91	-18.64/-15.43	-15.44/-16.69	-11.31/-10.29	-6.03/-3.32	-6.03/-3.32
Θ (112.5°)	-4.88/-6.99	-6.05/-4.52	-3.87/-2.59	-2.43/-2.41	-2.25/-3.63	-6.74/-7.47	-7.7/-8.25	-11.70/-10.27	-10.65/-16.05	-8.69/-9.91	-9.87/-10.39	-18.21/-15.13	-11.22/-18.34	-18.56/-19.06	-13.61/-13.68	-14.51/-16.94	-17.66/-11.55	-17.95/-18.76	-18.32/-17.78	-17.94/-14.13	-18.08/-18.14	-12.86/-16.02	-11.36/-8.74	-7.37/-5.29
Θ (120°)	-4.46/-9.14	-6.31/-4.79	-4.69/-3.7	-2.84/-1.88	-2.7/-5.16	-9.43/-9.16	-6.16/-6.17	-17.33/-11.06	-10.72/-16.64	-10.5/-10.86	-10.13/-11.59	-17.44/-18.56	-16.65/-16.94	-18.96/-17.68	-18.59/-17.32	-18.35/-11.61	-12.32/-7.75	-18.24/-15.4	-18.1/-18.58	-18.24/-14.01	-16.57/-15.09	-11.79/-11.76	-8.26/-5.78	-8.26/-5.78
Θ (127.5°)	-6.92/-11.93	-11.3/-6.35	-5.43/-4.52	-2.99/-2.09	-2.71/-5.7	-9.8/-8.34	-7.42/-11.6	-16.93/-11.79	-17.81/-13.99	-10.88/-11.59	-14.29/-14.24	-15.17/-17.51	-17.49/-18.68	-18.71/-14.7	-9.41/-11.53	-14.38/-16.46	-10.57/-11.17	-13.93/-12	-11.57/-18.64	-13.9/-18.36	-19.06/-17.53	-12.66/-9.75	-11.13/-18.3	-12.93/-6.98
Θ (135°)	-7.97/-11.59	-18.54/-8.6	-4.88/-3.01	-1.49/-1.18	-2.94/-6.66	-7.02/-5.03	-6.18/-12.48	-12.78/-10.5	-16.49/-15.03	-7.9/-7.38	-7.88/-13.25	-16.49/-18.44	-12.38/-11.78	-9.47/-10.68	-11.16/-12.77	-13.38/-11.68	-15.08/-14.42	-11.22/-16.13	-12.87/-12.22	-9.71/-15.47	-17.96/-18.55	-18.48/-14.66	-13.54/-11.21	-10.24/-9.51
Θ (142.5°)	-7.94/-9.45	-1.98/-8.96	-5.17/-3.38	-2.37/-2.21	-3.6/-4.86	-3.79/-6.68	-5.89/-10.5	-15.06/-18.35	-13.84/-10.25	-11.61/-10.21	-8.09/-10.14	-15.67/-17.1	-15.6/-13.42	-13.53/-13.6	-11.61/-8.94	-7.28/-9.03	-11.73/-15.1	-15.25/-19.12	-10.59/-13.79	-8.99/-11.61	-17.96/-17.31	-17.7/-18.18	-16.28/-12.07	-9.46/-8.15
Θ (150°)	-5.58/-6.23	-10.45/-18.73	-11.28/-7.61	-7.01/-7.37	-6.39/-4.91	-4.47/-5.12	-5.73/-6.86	-11.21/-17.1	-11.74/-7.15	-5.49/-6.87	-9.63/-15.08	-18.71/-13.36	-14.88/-18.57	-17.85/-18.23	-14.43/-12.47	-12.39/-17.96	-18.17/-18.25	-10.59/-8.12	-9.84/-15.65	-18.86/-17.89	-15.45/-13.87	-13.23/-13.26	-18.05/-17.97	-9.84/-6.16
Θ (157.5°)	-12.84/-12.65	-13.14/-16.74	-16.71/-13.48	-11.68/-8.48	-6.68/-6.72	-6.46/-4.97	-5.05/-7.69	-16.5/-15.98	-8.26/-6.34	-7.46/-9.42	-10.33/-14.06	-18.27/-18.77	-17.49/-19.27	-19.35/-14.28	-11.48/-11.26	-12.85/-16.46	-18.84/-18.83	-15.8						



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ (165°)	-7.78/-8.01	-7.99/-7.99	-7.41/-16.68	-7.07/-10.28	-15.39/-15.37	-12.88/-11.68	-13.43/-12.43	-9.85/-9.23	-7.97/-7.34	-7.52/-9.22	-14.13/-17.44	-18.38/-13.92	-11.57/-11.47	-12.29/-11.88	-12.18/-15.76	-18.16/-15.79	-14.15/-12.61	-10.87/-9.74	-8.73/-8.02	-9.29/-12.21	-14.52/-11.52	-7.72/-5.83	-5.8/-6.07	-6.7/-7.35
Θ (172.5°)	-14.53/-15.84	-17.17/-14.1	-13.64/-16.4	-18.25/-15.9	-16.68/-15.83	-13.78/-14	-15.09/-12.65	-9.55/-8.98	-9.95/-12.35	-15.13/-17.62	-19.14/-18.23	-18.63/-16.27	-14.94/-16.1	-18.83/-19.35	-18.49/-14.1	-12.34/-12.06	-13.59/-16.31	-17.75/-10.67	-14.41/-12.92	-13.15/-12.85	-11.48/-10.23	-8.52/-10.08	-11.26/-12.61	-13.19/-13.74
Θ (180°)	-9.15/-9.84	-10.86/-11.69	-13.61/-15.88	-16.71/-18.21	-16.9/-18.45	-16.13/-14.02	-11.23/-11.64	-14.71/-18.59	-16.84/-13.57	-11.85/-11.12	-11.85/-11.28	-12.71/-16	-18.58/-18.58	-18.87/-16.69	-16.9/-16.1	-14.54/-13.38	-14.64/-18.92	-18.83/-18.19	-17.75/-19.12	-18.83/-18.92	-11.11/-9.44	-10.10/-18	-8.3/-9.01	-9.97/-9.26
Freq(Hz)	5.65GPol.	Theta/Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-1.38/-1.56	-1.42/-1.94	-3.29/-4.63	-6.07/-8.7	-13.58/-15.52	-15.42/-12.29	-9.72/-7.95	-5.64/-3.71	-2.35/-1.5	-1.02/-0.69	-0.41/-0.35	-0.66/-1.03	-1.23/-1.6	-2.54/-3.55	-6.68/-6.68	-9.19/-12.59	-18.53/-18.41	-13.53/-9.91	-7.43/-5.53	-3.76/-2.63	-1.08/-0.81	-0.53/-0.44	-0.41/-0.83	-
Θ (7.5°)	-1.65/-2.39	-3.16/-3.5	-4.3/-6.64	-10.46/-12.79	-16.35/-18.85	-15.1/-9.97	-6.32/-5	-4.43/-3.66	-2.35/-1.3	-0.8/-0.47	-0.03/-0.21	-0.01/-0.36	-0.35/-0.39	-0.83/-1.63	-2.74/-4.02	-5.54/-7.48	-10.41/-14.06	-15.08/-11.85	-9.58/-7.38	-4.93/-3.27	-2.46/-2.08	-1.61/-1.28	-1.03/-1.01	-1.17/-1.26
Θ (15°)	-2.14/-2.74	-3.76/-4.7	-6.51/-9.76	-14.92/-17.67	-16.2/-11.59	-7.99/-5.61	-3.87/-3.03	-2.76/-2.41	-1.84/-1.11	-0.41/-0.04	0.510/0.78	0.510/-11	-0.07/-0.4	-1.03/-1.79	-3.12/-5.04	-6.78/-8.51	-10.25/-10.71	-10.52/-8.98	-7.31/-6.14	-4.9/-3.78	-2.94/-2.63	-2.49/-2.21	-1.86/-1.54	-1.81/-1.82
Θ (22.5°)	-3.04/-3.87	-5.1/-7.5	-12.3/-17.94	-17.5/-18.7	-12.17/-8.66	-6.49/-4.36	-2.93/-2.91	-3.04/-2.1	-1.27/-0.74	-0.14/-0.1	0.32/-0.6	-0.11/-0.68	-0.65/-1.44	-2.77/-3.96	-5.52/-7.72	-10.19/-12.77	-14.08/-10.63	-8.32/-6.99	-6.2/-6.08	-4.99/-3.62	-2.67/-2.08	-1.83/-1.66	-1.23/-1.25	-1.76/-2.57
Θ (30°)	-2.67/-3.71	-5.21/-8.4	-12.48/-13.03	-12.03/-9.93	-9.12/-9.97	-7.98/-4.64	-2.85/-3.05	-3.57/-2.54	-1.24/-1.35	-1.45/-1.8	-1.78/-1.3	-0.68/-1.8	-2.9/-4.4	-7.49/-10.18	-11.93/-17.15	-18.84/-14.29	-12.21/-8.78	-6.56/-6.15	-5.61/-4.66	-2.37/-1.66	-1.18/-0.33	-0.34/-1.11	-1.31/-1.46	-
Θ (37.5°)	-3.38/-5.66	-8.01/-10.89	-11.13/-10.95	-7.93/-6.2	-5.33/-4.73	-4.32/-2.95	-1.89/-2.61	-3.46/-3.24	-2.26/-2.54	-2.81/-1.75	-1.16/-0.75	-0.85/-2.59	-3.77/-6.22	-8.94/-13.57	-17.54/-18.05	-17.91/-15.14	-11.49/-8.9	-6.5/-6.34	-7.23/-4.03	-1.77/-1	-1.39/-0.89	-0.54/-1.07	-1.54/-1.53	-
Θ (45°)	-4.55/-6.37	-7.88/-9.19	-10.34/-11.1	-6.39/-5.1	-3.57/-2.53	-3.31/-5.25	-3.79/-3.11	-3.73/-3.41	-2.45/-2.77	-4.5/-3.15	-2.82/-1.76	-2.61/-1.67	-0.98/-2.01	-4.8/-7.52	-7.88/-9.1	-10.48/-11.57	-9.33/-8.04	-5.87/-2.82	-0.35/-0.5	-1.29/-1.37	-0.62/-0.72	-1.56/-0.42	-	-
Θ (52.5°)	-3.42/-7.35	-5.56/-7.6	-9.31/-7.42	-5.38/-4.31	-3.83/-3.7	-5.29/-5.48	-3.83/-3.85	-3.77/-3.95	-4.85/-3.45	-3.42/-3.6	-5.12/-4.26	-5.82/-4.19	-3.04/-5.74	-11.68/-11.73	-10.91/-12.98	-10.61/-9.25	-10.78/-12.35	-8.83/-6.5	-9.57/-7.54	-6.01/-2.32	-0.1/-1.36	-2.53/-0.12	0.22/-1.09	-2.86/-4.76
Θ (60°)	-2.89/-4.24	-7.28/-9.19	-9.69/-8.6	-3.65/-3.56	-4.1/-4.8	-5.71/-5.15	-4.24/-4.7	-3.99/-3.33	-4.64/-6.42	-5.23/-5.93	-7.32/-6.52	-10.79/-8.44	-7.14/-11.82	-11.51/-9.57	-10.92/-10.77	-7.86/-10.7	-15.6/-16.15	-9.24/-9.44	-11.63/-8.71	-5.96/-1.88	-0.21/-0.66	-1.17/-1.33	-1.03/-1.26	-1.41/-2.14
Θ (67.5°)	-2.32/-3.53	-6.59/-11.49	-8.68/-6.91	-3.98/-2.95	-2.65/-3.91	-4.73/-5.14	-4.99/-4.05	-3.86/-3.41	-3.54/-5.98	-8.07/-9.37	-9.99/-8.47	-11.17/-7.97	-8.65/-14.97	-15.91/-13.51	-13.29/-10.47	-11.11/-11.66	-11.75/-18.25	-16.15/-10.24	-13.03/-7.89	-5.42/-2.95	-1.21/-1.62	-1.83/-0.87	-0.42/-0.91	-1.21/-6.64
Θ (75°)	-2.81/-4.63	-7.08/-11.26	-8.16/-5.1	-3.32/-2.34	-2.31/-3.9	-4.88/-4.61	-4.69/-4.07	-3.79/-3.62	-3.94/-7.21	-7.3/-11.35	-11.77/-8.96	-9.57/-7.25	-7.11/-9.65	-11.02/-15.24	-18.44/-18.97	-17.23/-14.35	-11.86/-18.18	-18.59/-11.67	-11.92/-7.05	-5.5/-2.82	-2.38/-1.95	-1.23/-1.14	-1.56/-1.18	-0.89/-1.35
Θ (82.5°)	-3.95/-4.82	-6.18/-6.35	-6.85/-4.88	-3.77/-1.77	-1.93/-3.4	-6.11/-6.45	-6.25/-4.15	-4.31/-3.43	-4.31/-9.99	-8.39/-12.69	-12.37/-13.1	-8.44/-5.86	-4.92/-7.11	-9.76/-13.68	-12.75/-13.72	-15.51/-12.56	-17.81/-18.08	-11.83/-11.41	-9.1/-7.84	-5.23/-4.04	-3.8/-3.08	-2.28/-2.11	-1.25/-1.03	-0.79/-1.66
Θ (90°)	-3.58/-4.56	-5.05/-6.14	-5.86/-4.86	-3.05/-1.43	-1.61/-4.76	-4.63/-5.33	-10.54/-4.39	-4.67/-6.29	-4.65/-11.53	-9.63/-10.35	-12.73/-11.51	-7.95/-5.57	-4.84/-7.68	-9.93/-9.68	-11.48/-14.79	-9.52/-10.71	-11.62/-10.79	-9.55/-5.51	-7.03/-6.6	-8.1/-8.04	-3.33/-3.08	-1.83/-2	-0.89/-2.35	-
Θ (97.5°)	-4.51/-5.65	-6.13/-6.99	-5.79/-5.52	-4.8/-2.25	-2.17/-4.48	-3.32/-4.31	-10.39/-7.05	-6.8/-5.8	-7.67/-11.83	-11.41/-10.66	-11.03/-13.59	-8.45/-6.31	-6.25/-6.82	-10.53/-13.88	-12.42/-13.71	-9.72/-8.02	-11.66/-11.38	-10.57/-11.26	-11.96/-8.38	-10.71/-10.47	-6.82/-5.77	-4.5/-3.6	-3.47/-3.35	-1.66/-2.35
Θ (105°)	-4.33/-4.81	-4.61/-4.22	-3.86/-4.39	-4.4/-3.07	-2.61/-3.97	-2.67/-6.48	-10.25/-8.79	-9.28/-7.79	-9.41/-12.86	-9.77/-15.99	-9.65/-11.85	-12.41/-9.72	-10.15/-11.12	-11.93/-12.02	-10.66/-18.69	-15.54/-11.17	-17.72/-14.09	-12.35/-18.45	-15.88/-15.11	-18.83/-15.78	-8.89/-7.2	-7.57/-4.29	-4.78/-6.76	-3.24/-3.09
Θ (112.5°)	-6.77/-4.36	-4.51/-5.41	-2.18/-5.71	-3.46/-2.9	-3.4/-13.6	-2.185.79	-9.15/-9.31	-9.43/-7.86	-12.74/-14.54	-9.82/-8.72	-14.63/-16.65	-11.48/-14.4	-12.91/-13.32	-12.18/-16.59	-12.04/-15.3	-18.36/-14.04	-15.16/-18.81	-17.22/-17.93	-15.71/-16.81	-19.08/-17.95	-11.44/-8.99	-8.78/-6.5	-6.41/-5.98	-3.81/-5.18
Θ (120°)	-7.31/-6.84	-4.61/-4.46	-2.92/-2.67	-3.19/-3.92	-3.82/-2.12	-2.02/-6.23	-11.47/-10.05	-7.1/-7.75	-13.27/-18.64	-12.82/-8.77	-10.56/-17.76	-13.77/-13.78	-18.59/-14.04	-17.26/-17.6	-16.18/-18.55	-17.48/-13.24	-16/-12.08	-11.65/-14.81	-17.71/-16.02	-18.87/-18.66	-12.79/-13.84	-6.88/-8.82	-12.04/-9.26	-3.92/-3.89
Θ (127.5°)	-8.08/-7.16	-4.63/-3.79	-2.81/-2.27	-3.32/-4.46	-3.53/-2.16	-2.91/-6.41	-11.06/-7.62	-6.01/-8.86	-18.54/-18.71	-13.92/-18.5	-10.41/-18.96	-10.82/-18.28	-12.5/-16.11	-16.08/-18.12	-18.82/-11.52	-13.15/-13.07	-17.51/-13.81	-18.69/-15.12	-9.55/-10.8	-14.86/-15.48	-6.9/-5.91	-	-	-
Θ (135°)	-12.81/-11.52	-6.36/-4.7	-4.23/-4.1	-2.8/-2.18	-1.88/-2.38	-4.08/-2.34	-19.02/-10.24	-7.82/-11.66	-16.68/-17.47	-17.77/-15.84	-15.02/-14.18	-15.86/-15.27	-11.08/-6.23	-8.96/-11.78	-9.33/-11.81	-18.18/-17.16	-18.66/-13.71	-11.95/-12.67	-16.03/-8.48	-10.39/-13.71	-17.15/-15.33	-12.43/-11.18	-14.77/-18.2	-13.18/-10.8
Θ (142.5°)	-11.47/-18.54	-17.68/-10.4	-7.15/-4.17	-2.41/-1.88	-3.04/-5.53	-10.51/-17.4	-12.45/-8.1	-8.2/-13.03	-18.01/-17.89	-18.4/-17.35	-16.32/-12.12	-10.95/-15.2	-18.41/-18.61	-18.58/-17.93	-17.45/-15.06	-10.23/-9.63	-11.22/-11.3	-18.31/-17.57	-11.73/-8.65	-12.07/-18.95	-18.77/-17.91	-14.21/-18.5	-18.03/-11.14	-8.87/-8.69
Θ (150°)	-7.56/-7.33	-6.05/-9.84	-4.86/-4.34	-2.73/-2.1	-2.71/-5.25	-9.39/-7.68	-8.8/-9.15	-11.05/-10.63	-18.24/-14.14	-10.66/-6.82	-9.1/-11.88	-13.12/-13.1	-14.92/-18.93	-17.5/-18.92	-18.78/-18.76	-19.37/-18.78	-18.33/-14.75	-18.08/-16.78	-16.13/-19.43	-18.74/-17.98	-11.67/-13.38	-14.95/-17.96	-14.35/-9.6	-7.81/-7.33
Θ (157.5°)	-9.23/-8.19	-6.21/-9.6	-4.94/-9.99	-5.63/-7.13	-10.04/-12.97	-10.22/-7.63	-5.31/-3.96	-5.04/-8.95	-16.91/-18.24	-17.26/-16.19	-16.6/-15.71	-16.75/-17.11	-17.91/-13.34	-12.24/-17.66	-17.18/-16.6	-13.41/-11.33	-9.82/-9.14	-11.24/-15.76	-15.71/-17.62	-16.21/-5.6	-6.65/-8.61	-13.62/-18.72	-17.94/-12.1	-
Θ (165°)	-12.56/-14.85	-18.33/-18.2	-14.06/-11.2	-9.42/-9.87	-9.45/-8.66	-9.48/-11.4	-11.14/-9.7	-8.25/-7.2	-7.68/-10.88	-17.71/-19.41	-17.62/-17.92	-18.58/-18.36	-18.42/-15.94	-12.13/-11.5	-12.14/-12.26	-10.97/-8.94	-9.03/-9.18	-10.2/-12.63	-17.19/-18.1	-18.62/-10.65	-7.5/-6.88	-6.18/-8.94	-8.26/-8.76	-9.93/-12.06
Θ (172.5°)	-13.04/-10.21	-8.78/-8.9	-8.09/-6.96	-6.75/-7.38	-6.93/-6.32	-6.51/-7.56	-4.28/-3.7	-4.26/-5.48	-7.02/-9.24	-11.51/-12.95	-12.43/-11.22	-10.75/-11.77	-14.65/-18.9	-18.75/-18.71	-18.43/-17.32	-17.92/-15.36	-12.24/-12.03	-9.13/-8.76	-9.58/-11.4	-14.1/-14.38	-13.53/-13.56	-14.63/-15.95	-14.87/-14.83	-15.01/-15.28
Θ (180°)	-18.02/-16.86	-17.05/-15.69	-13.71/-11	-10.31/-10.82	-10.05/-8.3	-7.25/-7.19	-8.71/-11.47	-14.44/-15.1	-14.93/-14.53	-15.35/-17.93	-18.29/-18.13	-17.55/-17.34	-17.3/-15.36	-13.33/-11.73	-10.37/-9.66	-8.69/-7.81	-7.34/-7.75	-8.48/-8.78	-9.59/-10.2	-10.89/-11.64	-12.41/-14.37	-17.06/-17.73	-17.58/-18.37	-18.68/-18.41
Freq(Hz)	5.785GPol.	Phi/Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-6.02/-4.48	-3.46/-2.42	-1.15/-0.61	-0.61/-0.36	-0.16/-0.34	-0.25/-0.01	-0.58/-0.28	-0.19/-3.74	-4.69/-6.66	-16.21/-13.9	-10.82/-10.67	-5.28/-3.1	-1.85/-2.4	-0.94/-0.5	0.070/-0.33	0.040/-0.35	-0.24/-0.69	-1.19/-1.97	-3.02/-4.39	-6.14/-8.15	-9.96/-12.11	-13.38/-11.6	-8.88/-1.6	-
Θ (7.5°)	-5.5/-3.29	-1.98/-1.32	-0.70/-0.5	0.52/-0.4	0.24/-0.18	-0.24/-0.67	-1.07/-1.65	-3.01/-4.96	-6.99/-9.09	-11.62/-14.1	-13.94/-11.64	-9.3/-7.61	-5.83/-3.97	-2.52/-1.6	-1.29/-0.61	0.320/-0.57	0.590/-0.7	0.39/-0.26	-0.84/-1.42	-2.23/-2.38	-5.17/-7.65	-10.45/-15.19	-18.91/-14.01	-10.41/-7.71
Θ (15°)	-3.06/-1.85	-1.45/-0.96	0.58/-1.1	0.750/-4.1	0.23/-0.56	-1.05/-0.95	-1.45/-2.08	-4.38/-2.43	-9.28/-13.17															



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(75°)	-6.99/-7.27	-7.38/-7.86	-8.79/-9.89	-10.82/-12.17	-13.71/-14.76	-14.72/-13.65	-12.46/-11.43	-10.72/-10.07	-9.31/-8.41	-7.44/-6.51	-5.68/-5.05	-4.77/-4.64	-4.64/-4.71	-4.89/-5.05	-5.21/-5.4	-5.68/-5.96	-6.13/-6.09	-5.79/-5.32	-5/-4.97	-4.96/-4.88	-4.68/-4.34	-3.93/-3.77	-3.75/-4.19	-5.11/-6.19
Θ(15°)	-8.89/-9.94	-10.05/-10.23	-10.62/-10.99	-11.32/-11.9	-12.73/-12.94	-12.26/-11.12	-10.27/-10.03	-10.15/-10.16	-9.57/-8.64	-7.74/-7.12	-6.66/-6.35	-6.01/-5.66	-5.01/-4.51	-4.15/-3.91	-3.82/-3.89	-4.11/-4.26	-4.2/-4.03	-3.72/-3.91	-3.72/-3.91	-4.02/-4.06	-4.04/-3.89	-3.61/-3.43	-3.56/-4.16	-5.33/-7.09
Θ(127.5°)	-9.27/-11.45	-12.01/-11.63	-10.58/-8.98	-11.41/-11.26	-11.52/-12.12	-12.56/-12.06	-10.58/-8.94	-7.89/-7.63	-7.99/-6.61	-6.96/-6.45	-6.77/-7.14	-7.61/-7.33	-6.31/-5.91	-4.41/-3.91	-3.63/-3.47	-3.32/-3.14	-2.95/-2.85	-3.09/-3.5	-4.04/-4.52	-4.91/-5.11	-5.25/-5.04	-4.59/-4.14	-3.96/-4.22	-5.17/-6.86
Θ(30°)	-8.52/-10.81	-11.51/-10.07	-10.63/-10.61	-11.23/-12.57	-13.85/-13.92	-12.06/-9.77	-8.26/-7.5	-7.28/-7.47	-7.99/-8.48	-8.31/-7.61	-7.06/-7.16	-8.04/-8.82	-8.41/-7.22	-6.03/-6.13	-4.31/-3.58	-3.08/-2.89	-2.94/-3.19	-3.9/-4.7	-5.26/-5.57	-5.56/-5.53	-5.85/-6.42	-6.55/-5.95	-5.28/-5.03	-5.42/-6.69
Θ(37.5°)	-7.38/-9.99	-10.23/-10.51	-10.22/-10.2	-11.04/-13.21	-16.71/-18.1	-17.82/-13.65	-10.96/-9.37	-8.08/-7.22	-6.94/-7.29	-7.79/-7.88	-7.57/-4.4	-7.99/-8.86	-8.03/-8.49	-7.45/-6.17	-4.73/-3.71	-3.33/-4.39	-3.87/-4.35	-4.92/-5.26	-5.19/-4.71	-4.05/-3.72	-3.77/-4.21	-4.6/-6.43	-4.41/-4.73	-4.98/-6.01
Θ(45°)	-5.34/-5.94	-7.35/-8.94	-9.25/-9.25	-9.81/-12.41	-16.4/-17.61	-18.34/-17.45	-15.81/-14.04	-10.76/-7.86	-6.13/-5.5	-5.84/-6.63	-7.17/-7.44	-7.71/-8.02	-8.14/-8.12	-7.8/-6.96	-5.6/-4.63	-4.4/-4.37	-4.09/-3.78	-3.84/-4	-3.94/-3.75	-3.55/-3.48	-3.49/-3.43	-3.17/-2.74	-2.34/-2.53	-3.59/-4.85
Θ(52.5°)	-4.37/-3.7	-4.42/-6.21	-7.26/-7.64	-9.34/-12.76	-13.99/-12.43	-11.4/-11.31	-12.94/-16.82	-14.44/-9.19	-6.154/-4.91	-5.04/-6.05	-7.21/-7.55	-7.34/-7.19	-7.03/-6.84	-6.84/-6.72	-5.79/-4.87	-4.25/-3.47	-2.57/-2.26	-2.3/-2.27	-2.29/-2.49	-2.77/-3.04	-3.33/-3.64	-3.67/-2.95	-2.01/-1.88	-3.12/-4.65
Θ(60°)	-4.74/-3.14	-2.89/-3.88	-4.66/-5.21	-7.48/-12.5	-13.78/-11.34	-9.74/-8.94	-9.91/-13.39	-16.83/-11.74	-7.72/-5.82	-5.41/-6.04	-6.82/-6.63	-6.34/-6.68	-6.6/-5.97	-5.88/-5.93	-4.92/-4.1	-3.63/-2.84	-2.11/-1.62	-0.96/-0.39	-0.24/-0.33	-0.36/-0.34	-0.4/-0.87	-1.87/-2.42	-2.1/-1.94	-3.19/-6.16
Θ(67.5°)	-4.41/-2.86	-2.4/-2.86	-3.09/-3.5	-5.63/-9.95	-13.48/-14.67	-12.45/-10.05	-10.28/-12.75	-14.97/-12.55	-8.86/-6.56	-5.59/-5.61	-6/-6.1	-6.92/-7.37	-5.7/-4.47	-4.43/-4.17	-3.87/-4.02	-3.84/-3.32	-2.43/-1.17	-0.10/-0.3	-0.4/-0.27	-0.13/-0.22	-0.82/-1.38	-1.47/-1.75	-3.13/-5	
Θ(75°)	-3.67/-2.11	-1.92/-2.61	-2.96/-3.52	-5.31/-7.4	-9.4/-14.2	-17.32/-13.21	-12.55/-13.31	-12.87/-10.62	-7.67/-5.46	-4.34/-4.25	-4.88/-5.8	-7.01/-6.5	-4.39/-3.62	-3.58/-3.65	-4.53/-4.95	-4.67/-4.24	-2.65/-1.29	-0.47/-0.36	-1.1/-2.06	-2.48/-2.47	-2.35/-2.26	-2.44/-2.52	-2.2/-2.58	-3.9/-4.86
Θ(82.5°)	-4.19/-1.93	-1.26/-1.73	-2.27/-3.8	-6.53/-7.15	-7.95/-11.73	-13.58/-11.77	-12.27/-13.42	-12.58/-10.1	-7.22/-5.01	-3.81/-3.5	-3.97/-4.9	-5.84/-5.95	-5.03/-4.42	-3.92/-4.42	-4.83/-4.03	-4.7/-4.62	-1.17/-0.95	-1.77/-2.55	-2.4/-2.52	-3.49/-4.15	-3.77/-4.71	-18.97/-14.25	-16.59/-10.66	
Θ(90°)	-5.62/-3.3	-1.89/-1.41	-1.26/-2.76	-6.51/-7.75	-8.33/-10.92	-9.76/-8.03	-8.46/-10.51	-13.81/-16.82	-1.41/-79.44	-5.84/-0.1	-4.16/-6.09	-8.4/-9.25	-5.98/-3.42	-3.06/-4.23	-4.15/-4.32	-6.57/-6.46	-5.16/-3.49	-1.81/-1.85	-3.19/-4.91	-6.1/-5.71	-4.47/-3.72	-4.82/-6.56	-5.55/-5.92	-8.95/-4.39
Θ(97.5°)	-6.08/-4.32	-3.06/-1.83	-1.1/-2.12	-5.22/-7.1	-8.47/-11.1	-8.95/-6.33	-5.37/-5.39	-6.03/-6.87	-7.06/-5.61	-3.88/-3.58	-5.44/-7.76	-8.03/-6.41	-3.28/-2.33	-4.34/-5.69	-5.14/-6.57	-7.83/-7.23	-6.83/-5.34	-4.56/-5.44	-7.86/-12.68	-14.74/-11.75	-9.83/-7.32	-7.51/-11.27	-10.63/-9.2	-12.38/-9.84
Θ(105°)	-5.91/-5.46	-4.23/-2.96	-1.88/-2.94	-4.19/-5.62	-6.56/-7.77	-7.52/-6.08	-4.93/-4.2	-3.89/-3.97	-3.91/-3.31	-2.72/-3.26	-5.25/-6.42	-7.11/-6.51	-3.83/-3.84	-6.78/-6.52	-6.26/-7.85	-8.01/-9.13	-9.33/-7.85	-7.35/-7.63	-8.8/-12.75	-18.71/-17.04	-19.08/-16.22	-12.11/-15.61	-18.97/-14.25	-16.59/-10.66
Θ(112.5°)	-5.43/-3.97	-3.72/-2.94	-2.34/-2.8	-3.77/-5.48	-7.19/-6.59	-4.82/-5.5	-2.77/-2.52	-2.64/-3.2	-3.87/-4.41	-5.03/-6.18	-7.27/-7.5	-7.99/-5.76	-4.59/-6.82	-9.01/-7.71	-8.57/-7.78	-7.39/-8.52	-7.53/-6.13	-5.34/-4.6	-3.79/-4.07	-5.46/-7.29	-18.58/-18.96	-18.08/-15.05	-14.92/-9.5	
Θ(120°)	-7.5/-5.84	-4.65/-3.43	-2.89/-2.96	-2.58/-3.11	-5.65/-8.07	-6.34/-3.89	-2.28/-1.36	-1.09/-1.52	-2.53/-3.75	-4.94/-6.03	-6.94/-8.16	-8.09/-6.26	-6.56/-8.57	-7.97/-7.38	-7.66/-6.68	-7.7/-8.06	-7.01/-5.15	-3.9/-3.15	-2.71/-2.94	-4.43/-6.79	-8.93/-10.56	-12.52/-15.06	-14.01/-11.49	-11.6/-10.45
Θ(127.5°)	-7.87/-8.09	-7.11/-5.9	-5.63/-5.35	-3.72/-2.68	-3.44/-7.6	-5.24/-4.42	-3.32/-2.57	-2.48/-3.26	-4.91/-6.85	-8.59/-9.4	-10.01/-9.16	-6.96/-6.06	-7.16/-6.58	-9.04/-8.82	-9.37/-8.54	-9.22/-9.65	-8.05/-5.97	-4.71/-4.25	-4.1/-4.44	-5.77/-7.48	-8.34/-7.98	-7.93/-8.73	-8.44/-6.44	-5.8/-7.6
Θ(135°)	-4.41/-5.12	-5.23/-5.17	-5.79/-6.95	-6.57/-5.06	-4.52/-4.58	-4.26/-3.33	-2.35/-1.83	-2.64/-3.44	-4.25/-5.64	-6.69/-7.15	-7.02/-6.32	-6.03/-7.16	-9.99/-12.44	-11.34/-9.4	-8.22/-8.4	-9.24/-10.99	-8.85/-7.07	-6.08/-5.99	-6.21/-6.69	-8.76/-8.45	-8.76/-8.45	-6.14/-6.4	-3.42/-3.55	
Θ(142.5°)	-5.32/-5.16	-4.69/-4.46	-4.48/-4.9	-5.2/-5.14	-5.27/-5.83	-6.17/-5.61	-4.47/-3.44	-2.91/-3.06	-3.71/-4.43	-5.07/-5.45	-5.73/-6.33	-7.79/-10.49	-12.44/-10.94	-9.15/-8.7	-9.53/-11.64	-14.47/-15.88	-14.38/-12.35	-11.09/-10.99	-11.05/-10.65	-10.24/-10.11	-10.13/-9.95	-9.61/-9.36	-8.54/-6.88	-5.57/-5.2
Θ(150°)	-10.4/-10.87	-0.18/-7.42	-5.98/-9.45	-4.19/-3.57	-3.25/-3.26	-3.66/-3.41	-5.09/-5.73	-6.2/-6.75	-7.55/-8.32	-8.8/-9.33	-10.05/-11.2	-12.3/-12.48	-11.75/-11.21	-11.62/-13.28	-16.81/-16.69	-18.83/-17.89	-17.96/-13.35	-18.66/-18.02	-18.03/-14.65	-12.03/-12.04	-9.22/-8.8	-8.91/-9.25	-9.44/-9.14	-8.9/-9.37
Θ(157.5°)	-11.98/-18.48	-18.1/-14.6	-9.89/-7.52	-5.85/-4.51	-3.43/-2.49	-1.89/-1.67	-1.85/-2.36	-3.12/-3.85	-4.23/-4.25	-4.35/-4.76	-5.36/-6.06	-6.77/-7.65	-8.9/-10.57	-12.56/-14.2	-14.88/-14.4	-13.27/-12.1	-11.62/-12.04	-13.06/-13.52	-12.53/-10.8	-9.16/-8.95	-7.89/-7.82	-8.23/-8.69	-8.99/-8.96	-9.04/-9.88
Θ(165°)	-12.35/-15.47	-18.13/-17.58	-16.58/-12.98	-10.46/-8.29	-6.53/-4.91	-3.6/-2.68	-2.03/-1.61	-1.35/-1.2	-1.08/-1.08	-1.36/-1.92	-2.68/-3.69	-4.95/-6.69	-9.1/-12	-14.87/-15.85	-14.99/-13.61	-12.12/-10.9	-10.28/-10.06	-9.82/-9.28	-8.31/-7.2	-6.47/-6.38	-6.88/-1.87	-8.98/-9.96	-10.47/-10.46	-10.39/-10.78
Θ(172.5°)	-18.32/-18.31	-18.81/-17.94	-17.7/-18.52	-18.89/-15.85	-13.14/-10.93	-9.05/-7.37	-5.88/-4.63	-3.78/-3.31	-3.14/-3.24	-3.7/-4.42	-5.4/-6.83	-8.77/-11.62	-15.44/-18.34	-18.08/-17.46	-15.15/-14.36	-12.16/-11.32	-10.8/-10.5	-10.17/-9.84	-9.7/-9.46	-9.54/-10.18	-11.53/-13.26	-15.19/-16.78	-17.87/-18.15	-17.86/-17.6
Θ(180°)	-18.82/-19.35	-18.8/-17.73	-18.57/-18.27	-17.3/-15.57	-14.48/-13.44	-12.74/-11.94	-11.03/-10.22	-9.71/-9.61	-9.98/-10.72	-11.93/-13.81	-16.24/-19.28	-18.24/-17.93	-17.85/-17.88	-17.45/-18.44	-18.34/-17.18	-15.91/-15.03	-14.72/-14.68	-14.99/-15.74	-17.54/-18.94	-18.31/-17.5	-17.87/-15.85	-15.17/-14.69	-14.8/-15.51	-16.91/-19.07
FreqHz	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°)	-6.47/-7.62	-3.38/-7.74	-6.33/-9.48	-3.63/-2.42	-1.58/-0.93	-0.52/-0.1	0.55/1	0.93/66	0.48/0.38	-0.05/-0.48	-1.01/-2.27	-3.87/-4.6	-9.45/-8.54	0.10/-7.4	6.47/-4.82	-3.4/-2.3	-1.31/-0.53	0.10/-7.4	1.21/-0.39	1.21/0.87	0.66/0.31	0.24/-0.84	-1.71/-3.1	-4.51/-4.62
Θ(7.5°)	-7.12/-9.11	-11.8/-12.36	-10.48/-7.73	-5.24/-3.48	-2.45/-1.67	-0.81/-0.13	0.04/0.26	0.64/0.78	0.37/-0.2	-0.38/-0.94	-1.21/-3.56	-5.58/-8.18	-9.57/-9.27	-8.71/-7.42	-5.68/-4.26	-3.13/-2.15	-1.34/-0.9	0.42/0.98	1.21/0.9	0.74/0.9	0.41/-1.02	-1.69/-1.88	-3.4/-5.6	
Θ(15°)	-11.1/-14.88	-15.45/-11.56	-8.25/-5.91	-4.24/-2.33	-3.08/-2.79	-2.12/-1.66	-1.2/-0.64	-0.21/0.26	0.22/-0.37	-0.69/-1.17	-2.44/-3.63	-5.23/-7.97	-10.11/-10.34	-11.36/-12.46	-10.94/-8.47	-6.87/-5.44	-3.78/-2.59	-1.83/-1.35	-1.33/-1.31	-0.45/0.67	0.86/0.57	0.69/0.38	-1.64/-3.37	-4.61/-6.98
Θ(22.5°)	-10.78/-12.52	-10.11/-7.44	-5.29/-4.31	-3.56/-2.83	-2.5/-1.97	-2.05/-1.96	-1.28/-0.81	-0.16/0.48	0.36/-0.51	-1.25/-1.83	-3.06/-4.24	-4.97/-6.76	-9.31/-10.47	-11.14/-12.14	-14.66/-18.4	-15.52/-7.92	-4.42/-3.04	-2.31/-1.84	-1.58/-1.19	-0.65/0.02	1.06/-1.59	1.15/0.79	-0.39/-2.93	-6.01/-8.06
Θ(30°)	-8.83/-12.18	-12.52/-9.06	-5.98/-4.48	-3.38/-2.97	-2.96/-2.79	-3.58/-3.69	-2.95/-1.79	-0.43/-0.16	-0.83/-1.69	-2.16/-2.96	-3.6/-3.81	-4.51/-5.14	-6.26/-9.17	-11.16/-9.56	-10.94/-17.99	-18.48/-14.37	-9.08/-3.28	-2.21/-2.3	-2.37/-1.57	-0.93/-0.44	-0.38/-0.87	-1.07/-2.44	-5.71/-7.59	
Θ(37.5°)	-12.68/-16.42	-16.51/-12.07	-8.32/-7.32	-4.69/-6.05	-3.91/-2.51	-2.04/-2.09	-1.87/-0.45	-0.05/-1.15	-2.27/-2.63	-2.72/-3.19	-3.81/-4.13	-4.36/-4.56	-4.94/-6.03	-7.74/-9.59	-8.9/-12.37	-18.48/-18.23	-17.34/-9.46	-5.19/-3.48	-2.95/-2.37	-1.28/-0.04	0.52/-0.91	-3.23/-2.75	-2.49/-3.41	-5.7/-9.75
Θ(45°)	-12.85/-17.39	-15.49/-10.56	-10.52/-8.13	-5.44/-4.71	-3.97/-3.28	-3.11/-3.25	-1.84/-0.01	-0.05/-1.11	-1.93/-2.05	-3.01/-4.29	-5.25/-5.96	-5.23/-5.03	-6.05/-7.56	-6.71/-6	-6.77/-8.97	-18.64/-18.36	-16.68/-1.67	-18.54/-10.26	-5.24/-2.84	-0.80/0.38	-0.75/-1.48	-1.62/-3.72	-2.95/-2.9	-7.77/-13.06
Θ(52.5°)	-13.75/-14.03	-14.38/-12.26	-12.87/-7.98	-4.85/-4.83	-5.79/-4.19	-2.31/-2.83	-2.19/-0.74	-0.81/-1.51	-1.7/-2.44	-4.61/-6.34	-6.17/-7.25	-9.77/-7.96	-7.18/-6.8	-3.85/-5.55	-11.68/-12.02	-9.9/-11.8	-18.19/-14.07	-9.69/-6.98	-5.39/-6.34	-5.03/-3.09	-1.58/-2.2	-2.52/-2.43	-3.65/-3.71	-7.99/-10.66
Θ(60°)	-18.58/-17.05	-19.1/-19.23	-17.64/-11.52	-6.63/-4.97	-6.14/-4.89	-2.73/-4.4	-3.71/-1.39	-1.26/-1.36	-1.07/-2.11	-4.23/-6.66	-8.78/-9.44	-8.69/-5.37	-3.99/-6.09	-8.48/-8.26	-7.69/-7.93	-9.19/-10.87	-13.18/-34	-18.93/-13.73	-13					



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(60°)	-7.14/-7.58	-12/-11.59	-8.79/-8.47	-7.36/-9.69	-9.97/-9.53	-9.82/-8.16	-6.83/-8.18	-10.07/-7.94	-8.05/-11.7	-13.49/-10.55	-8.04/-5.72	-4.77/-6.21	-9.87/-12.97	-10.4/-10.67	-6.5/-4.83	-5.14/-3.89	-4.53/-5.09	-4.68/-4.03	-4.26/-5.36	-8.1/-10.51	-11.36/-13.67	-17.92/-13.12	-17.57/-17.8	-9.11/-10.32
Θ(67.5°)	-4.57/-3.33	-5.21/-10.82	-10.45/-8.49	-8.5/-10.93	-10.68/-7.93	-9.99/-10.56	-6.86/-7.38	-8.31/-7.83	-8.09/-8.79	-10.76/-10.88	-5.71/-3.52	-3.02/-4.85	-11.89/-11.28	-8.48/-10.76	-9.22/-5.7	-4.53/-4.24	-6.59/-5.83	-5.13/-4.88	-5.1/-8.71	-10.91/-13.41	-16.76/-13.87	-19.02/-18.19	-18.54/-19.14	-7.73/-5.59
Θ(75°)	-5.19/-3.52	-5.41/-6.99	-6.09/-7.25	-9.71/-9.48	-8.88/-9.86	-10.51/-9.4	-6.53/-6.9	-7.4/-6.89	-7.71/-8.34	-9.32/-9.73	-7.58/-5.54	-4.2/-5.41	-7.02/-11.27	-11.87/-8.82	-9.25/-6.66	-4.83/-3.9	-7.15/-5.39	-4.53/-2.87	-3/-5.05	-7.96/-10.18	-13.85/-14.29	-18.47/-18.12	-17.71/-13.55	-6.97/-1.19
Θ(82.5°)	-5.93/-6.82	-5.03/-4.78	-6.64/-7.48	-7.57/-8.29	-9.37/-6.59	-8.26/-8.7	-4.95/-6.38	-7.4/-7.72	-8.56/-8.86	-9.12/-8.82	-7.55/-3.65	-3.76/-6.34	-9/-9.6	-8.8/-12.99	-11.05/-7.54	-3.6/-3.87	-7.76/-4	-1.84/-0.53	-0.84/-4.02	-6.2/-6.49	-9.06/-12.44	-17.78/-18.36	-17.35/-10.16	-6.13/-4.09
Θ(90°)	-9.43/-7.69	-7.18/-6.51	-8.03/-6.18	-5.69/-8.94	-8.93/-6.18	-6.05/-7.11	-5.99/-5.43	-6.01/-6.27	-7.35/-7.78	-9.47/-9.68	-8.99/-5.52	-4.93/-7.09	-9.16/-13.49	-11.23/-9.44	-10.5/-7.53	-3.29/-2.37	-7.55/-7.31	-4.46/-1.19	-1.21/-3.89	-6.85/-5.18	-8.99/-12.63	-15.36/-16.76	-12.53/-10.45	-4.39/-6.57
Θ(97.5°)	-9/-7.2	-1.199/-9.16	-7.93/-6.6	-6.42/-8.52	-8.37/-4.52	-5.64/-7.57	-5.42/-5.15	-6.16/-6.75	-6.54/-6.89	-7.85/-9.23	-8.98/-6.74	-8.06/-11.78	-12.95/-10.59	-9.77/-10.47	-8.38/-6.35	-5.77/-3.56	-7.43/-8.18	-8.11/-5.02	-11.45/-9.57	-11.45/-14.62	-14.52/-14.94	-12.53/-10.29	-7.25/-8.08	
Θ(105°)	-6.99/-8.37	-18.47/-11.24	-10.85/-8.44	-4.75/-8.97	-7.61/-5.42	-5.28/-5.89	-6.32/-6.17	-6.61/-6.26	-6.32/-6.7	-6.35/-7.85	-11.02/-10.11	-12.36/-18.36	-11.37/-11.56	-9.22/-7.02	-6.79/-5.14	-6.18/-4.64	-8.54/-11.5	-12.96/-14.36	-11.19/-18.05	-16.45/-15.74	-16.43/-10.51	-16.39/-17.8	-15.74/-12.81	-9.11/-7.96
Θ(112.5°)	-12.27/-17.03	-18.35/-12.89	-9.4/-8.53	-7.9/-8.24	-8.15/-5.28	-5.56/-6.97	-7.34/-6.46	-7.58/-7.24	-6.48/-7.24	-8.72/-10.19	-12.81/-15.87	-16.84/-15.44	-6.95/-7.34	-6.47/-6.35	-10.48/-6.71	-5.12/-8.05	-17.75/-14.78	-10.28/-11.22	-9.19/-8.45	-8.34/-7.04	-15.85/-10.82	-16.29/-13.52	-13.96/-16	-12.69/-7.41
Θ(120°)	-18.71/-16.76	-18.98/-18.17	-14.67/-9.51	-8.96/-8.9	-6.58/-6.88	-6.21/-5.51	-6.57/-0.4	-8.8/-8.87	-9.36/-11.01	-12.9/-15.62	-15.48/-12.49	-9.13/-8.83	-5.3/-5.21	-7.88/-6.35	-7.11/-7.49	-10.89/-9.27	-18.83/-16.29	-8.79/-9.21	-4.59/-3.17	-3.76/-2.55	-3.64/-10.44	-11/-18.4	-18.66/-16.44	-12.34/-10.56
Θ(127.5°)	-12.77/-15.85	-14.77/-18.03	-12.89/-17.17	-18.57/-10.89	-9.14/-8.11	-9.1/-7.75	-9.51/-9.41	-9.99/-9.71	-9.82/-12.41	-12.76/-13.44	-8.37/-6.93	-8.14/-7.24	-8.55/-7.95	-4.75/-4.22	-7.09/-10.47	-12.41/-10.72	-15.98/-14.09	-14.57/-11.86	-5.11/-5.92	-12.68/-9.89	-8.29/-13.52	-18.67/-11.4	-12.3/-17.63	-13.54/-17.22
Θ(135°)	-13.83/-13.68	-11.3/-10.63	-13.59/-18.18	-18.75/-15.44	-14.04/-15.81	-12.42/-9.09	-9.9/-12.94	-14.98/-13.27	-13.49/-13.61	-9.07/-6.85	-7.39/-6.82	-5.78/-7.21	-12.65/-11.41	-7.95/-7.23	-7.07/-7.22	-12.57/-8.57	-11.87/-13.62	-6.74/-5.52	-14.43/-7.8	-4.49/-6.08	-9.78/-10.14	-10.39/-9.69	-10.96/-18.63	
Θ(142.5°)	-10.81/-10.48	-16.59/-18.05	-14.51/-12.05	-17.01/-14.5	-16.09/-17.46	-17.83/-10.14	-7.86/-7.85	-7.96/-7.59	-8.95/-6.25	-6.69/-5.93	-5.16/-5.95	-4.53/-5.66	-7.19/-13.31	-8.91/-7.07	-6.04/-5.24	-5.84/-7.97	-9.42/-10.56	-11.26/-8.9	-6.61/-7.89	-9.2/-6.66	-5.73/-6.68	-7.55/-11.26	-18.07/-18.32	-13.71/-14.4
Θ(150°)	-17.55/-18.88	-18.19/-18.6	-18.52/-15.66	-12.62/-13.77	-14.23/-18.6	-15.66/-12.31	-9.71/-9.49	-10.99/-11.32	-11.51/-11.13	-10.42/-9.81	-8.63/-7.61	-7.4/-5.05	-5.31/-7.83	-7.13/-7.98	-9.75/-10.78	-17.87/-12.63	-10.33/-10.74	-10.23/-8.13	-6.89/-7.45	-9.02/-12.47	-15.19/-18.94	-19.03/-17.82	-15.02/-16.55	-11.97/-12.23
Θ(157.5°)	-14.54/-17.97	-15.31/-11.69	-9.26/-8.96	-8.35/-8.36	-18.75/-15.44	-14.1/-18.29	-17.28/-18.55	-14.98/-13.27	-13.49/-13.61	-9.07/-6.85	-7.39/-6.82	-5.78/-7.21	-12.65/-11.41	-7.95/-7.23	-7.07/-7.22	-12.57/-8.57	-11.87/-13.62	-6.74/-5.52	-14.43/-7.8	-4.49/-6.08	-9.78/-10.14	-10.39/-9.69	-10.96/-18.63	
Θ(165°)	-12.6/-13.22	-11.94/-12.13	-12.42/-12.96	-11.53/-9.95	-8.23/-7.14	-7.17/-8.86	-6.15/-4.76	-13.76/-3.95	-4.4/-3.98	-3.99/-4.94	-4.78/-4.64	-6.37/-8.13	-7.57/-6.71	-6.75/-7.6	-9.74/-12.59	-14.94/-18.38	-18.62/-15.97	-11.53/-10.79	-13.43/-14.82	-14.88/-15.77	-13.09/-12.87	-15.1/-14.21	-8.91/-7.35	-7.51/-9.44
Θ(172.5°)	-16.04/-15.21	-14.6/-13.1	-12.67/-13.28	-13.93/-15.14	-14.16/-11.63	-10.77/-10.24	-7.44/-5.41	-5.37/-6.22	-5.43/-3.9	-3.72/-3.92	-3.62/-3.93	-4.79/-5.58	-7.11/-9.98	-14.22/-16.51	-18.36/-17.75	-15.71/-14.61	-14.4/-14.83	-13.87/-13.84	-15.97/-17.88	-16.85/-14.45	-11.6/-9.69	-9.33/-9.62	-8.21/-7.53	-9.19/-14.83
Θ(180°)	-19.27/-17.43	-18.8/-18.06	-18.97/-17.62	-15.24/-13.02	-11.37/-10.55	-9.91/-9.11	-8.56/-7.94	-6.91/-6.18	-6.12/-6.2	-6.14/-6.19	-6.65/-7.51	-8.63/-10.54	-13.28/-17.84	-17.52/-17.84	-15.37/-12.22	-10.51/-9.7	-10.52/-12.74	-14.67/-12.63	-9.91/-7.96	-6.59/-6.19	-6.7/-7.53	-7.88/-8.43	-6.59/-11.66	-15.04/-18.93
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°)	-8.19/-3.07	-11.2/-11	-9.23/-7.5	-5.78/-3.97	-2.92/-1.88	-1.01/-3.05	0.230/68	0.820/78	0.880/9	0.48/-0.19	-0.92/-2.09	-3.42/-5.1	-7.31/-9.5	-10.53/-9.3	-7.29/-5.33	-3.86/-2.51	-1.37/-0.53	-0.19/-0.07	0.68/-3.8	1.880/19	0.92/6	-0.43/-0.74	-1.28/-2.92	-4.34/-5.52
Θ(7.5°)	-6.23/-8.53	-10.02/-11.05	-9.79/-7.74	-5.25/-3.46	-2.15/-1.24	-0.340/22	0.610/63	0.630/82	0.6/-0.02	-0.56/-1.43	-2.73/-3.47	-4.82/-7.32	-9.94/-12.01	-13.49/-12.17	-9.2/-6.98	-5.64/-2.7	-3.02/-2.01	-1.24/-0.73	-0.64/-0.08	0.580/85	0.210/38	0.16/-0.84	-1.32/-2.09	-3.83/-5.45
Θ(15°)	-7.8/-11.92	-14.37/-13.81	-10.22/-7.34	-5.42/-4.77	-4.71/-3.91	-3.34/-2.41	-1.31/-0.65	-0.48/-0.36	-0.5/-0.87	-1.27/-1.91	-3.35/-5.39	-7.13/-8.64	-11.85/-16.73	-18.75/-17.35	-12.27/-9.14	-7.03/-4.99	-3.13/-1.92	-1.23/-0.6	0.060/25	-0.05/-0.25	-0.21/-0.7	-1.5/-1.84	-1.96/-3.11	-4.01/-4.98
Θ(22.5°)	-12.82/-18.28	-19.24/-14.27	-9.82/-8.18	-6.69/-6.23	-5.98/-5.58	-4.77/-3.19	-1.87/-1.12	-0.82/-0.72	-1.12/-1.01	-0.78/-1.42	-2.63/-3	-5.35/-4.77	-9.22/-12.43	-18.11/-9.72	-15.38/-11.8	-8.65/-7.23	-6.5/-09	-3.76/-2.51	-1.39/-0.85	-0.81/-1.23	-1.29/-0.89	-1.33/-4.24	-3.51/-4.73	-7.13/-8.95
Θ(30°)	-8.25/-14.04	-15.75/-15.01	-14.49/-9.41	-6.3/-5.3	-5.6/-7.7	8.91/-7.33	5.74/-4.55	-0.22/-2.59	-2.36/-1.86	-1.23/-1.55	2.34/-3.27	-5.48/-7.19	-7.5/-9.07	-12.24/-17.78	-18.15/-14.92	-18.31/-18.15	-13.37/-11.3	-9.31/-7.07	-5.46/-4.12	-2.84/-2.77	-1.47/-0.93	-0.56/-2.34	-4.91/-6.11	-7.63/-7.46
Θ(37.5°)	-7.6/-16.23	-18.16/-18.18	-14.47/-10.17	-9.35/-8.65	-7.06/-7.04	-8.74/-8.07	-6.88/-5.75	-5.63/-5.24	-3.99/-3.34	-3.47/-3.33	-3.19/-3.29	-4/-6.33	-7.26/-7.33	-10.54/-11.1	-8.81/-8.01	-9.37/-11.81	-11.37/-9.45	-8.25/-6.5	-3.82/-3.1	-3.21/-3.76	-2.6/-1.13	-1.4/-2.4	-4.43/-6.72	-7.38/-7.4
Θ(45°)	-13.51/-18.99	-17.43/-18.53	-13.39/-9.86	-12.6/-16.31	-8.06/-6.97	-8.27/-4.75	-5.07/-4.79	-5.85/-5.78	-4.73/-4.91	-5.32/-4.23	-3.03/-3.41	-4.87/-7.93	-8.86/-6.43	-7.82/-9.03	-7.38/-9.33	-18.05/-19.18	-17.81/-15.23	-10.45/-7.11	-4.79/-4.39	-5.69/-4.4	-2.64/-5.58	-7.39/-3.35	-2.06/-4.55	-7.51/-8.74
Θ(52.5°)	-10.81/-18.26	-18.82/-17.63	-11.7/-9.16	-12.46/-16.44	-8.99/-5.98	-6.53/-6.28	-4.77/-4.1	-4.5/-5.09	-6.17/-5	-4.72/-5.18	-9.07/-13.4	-10.25/-7.57	-9.96/-7.6	-7.77/-11.72	-12.52/-11.23	-9.44/-7.34	-6.46/-6.78	-5.89/-2.45	-5.89/-2.45	-5.89/-2.45	-5.89/-2.45	-5.89/-2.45	-5.89/-2.45	-5.89/-2.45
Θ(60°)	-10.09/-18.29	-15.21/-16.38	-14.72/-9.93	-13.67/-11.96	-9.15/-7.78	-6.78/-6.54	-4.3/-3.38	-3.78/-5.29	-9.59/-12.5	-9.97/-6.58	-7.3/-9.2	-11.86/-13.2	-11.96/-8.37	-8.01/-7.06	-8.57/-14.63	-11.37/-11.17	-13.93/-17.66	-15.34/-17.03	-9.46/-9.2	-10.9/-7.22	-5.25/-5.99	-5.39/-3.61	-2.98/-5.03	-13.27/-8.36
Θ(67.5°)	-8.74/-10.05	-10.98/-18.04	-18.83/-14.98	-11.44/-9	-11.79/-9.03	-7.46/-6.06	-6.63/-5.83	-5.73/-5.83	-8.42/-11.36	-8.63/-6.46	-6.95/-8	-7.14/-9.01	-9.78/-6.05	-7.64/-6.37	-7.9/-7.89	-7.6/-12.75	-16.49/-17.67	-14.18/-9.96	-10.26/-12.04	-13.75/-13.17	-9.4/-7.24	-4.77/-6.61	-6.14/-9.36	-10.34/-5.55
Θ(75°)	-6.67/-7.23	-8.25/-13.31	-14.58/-18.85	-9.63/-6.92	-12.48/-9.43	-5.99/-8.12	-8.17/-7	-7.34/-6.5	-7.57/-12.14	-10.92/-8.9	-11.42/-11	-7.87/-6.98	-7.73/-6.35	-5.16/-6.38	-9.43/-8.82	-9.65/-9.1	-10.86/-11.91	-7.33/-5.46	-4.63/-5.28	-7.37/-10.44	-17.85/-6.88	-4.35/-5.36	-14.55/-9.94	-11.85/-7.74
Θ(82.5°)	-4.4/-6.94	-7.24/-9.73	-10.8/-18.24	-10.15/-8.03	-10.28/-11.84	-7.29/-9.33	-7.51/-7.35	-10.06/-8.37	-8.29/-12.18	-11.91/-11.04	-13.58/-10.18	-9.67/-9.42	-6.95/-5.27	-6.97/-5.53	-7.86/-6.91	-5.96/-8.02	-10.96/-7.16	-8/-5.61	-6.84/-6.3	-6.24/-9.25	-7.11/-18.21	-17.93/-9.09	-8.34/-6.99	
Θ(90°)	-5.07/-5.21	-7.12/-9.5	-11.09/-18.2	-8.98/-6.3	-11.16/-11.85	-8.19/-10.29	-12.07/-9.69	-11.7/-8.73	-7.69/-13.21	-16.38/-15.09	-19.04/-13.7	-8.3/-7.98	-8.24/-5.64	-5.45/-4.49	-3.8/-3.21	-5.99/-6.76	-4.71/-4.23	-3.18/-2.85	-5.13/-2.68	-6.34/-4.31	-8.34/-17.55	-9.41/-16.54	-18.51/-6.38	-8.22/-5.34
Θ(97.5°)	-5.19/-5.34	-6.63/-10.63	-12.04/-17.7	-11.05/-8.4	-11.48/-12.7	-7.02/-14.73	-9.8/-8.19	-9.54/-7.35	-8.76/-16.09	-15.89/-17.14	-18.22/-14.38	-12.38/-8.48	-6.75/-6.15	-5.79/-3.82	-3.15/-3.31	-7.41/-6.15	-2.6/-1.75	-6.89/-6.7	-7.83/-10.08	-9.07/-17.98	-13.93/-18.04	-15.4/-6.75	-7.5/-5.97	
Θ(105°)	-7.05/-5.08	-6.17/-13.59	-13.69/-18.03	-9.93/-6.94	-12.22/-11.62	-7.34/-13.92	-13.37/-10.18	-8.89/-6.95	-9.07/-18.83	-18.98/-15.59	-19.25/-17.8	-11.95/-7.96	-6.8/-5.66	-5.55/-4.6	-4.9/-3.29	-6.38/-2.27	-2.13/-5.64	-5.12/-0.94	-2.36/-4.23	-17.79/-16.59	-14.34/-14.98	-9.69/-18.93	-19.14/-6.06	-6.98/-7.55
Θ(112.5°)	-6.63/-5.64	-9.66/-16.49	-13.75/-18.46	-13.25/-11.59	-14.93/-11.22	-																		



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ (112.5°)	-9.71/-9.77	-14.83/-10.99	-10.16/-9.37	-11.1/-11.05	-11.19/-12.94	-7.96/-5.39	-7.28/-8.17	-7.58/-7.57	-6.87/-8.17	-10.12/-12.96	-5.45/-5.07	-9.98/-15.93	-8.55/-9.37	-9.12/-8.22	-4.43/-6.07	-8.54/-7.12	-9.22/-10.39	-18.69/-14.14	-10.91/-7.12	-6.75/-5.04	-12.53/-7.29	-18.14/-18.42	-18.24/-10.65	-13.55/-14.11
Θ (120°)	-13.44/-15.6	-11.61/-9.87	-6.78/-8.37	-11.51/-13.06	-11.26/-15.16	-12.27/-9.2	-10.44/-11.77	-10.98/-8	-6.76/-8.44	-10.71/-7.98	-6.66/-8.16	-14.61/-14.74	-8.83/-9.02	-9.38/-8.22	-4.43/-6.91	-8.82/-13.03	-18.95/-12.75	-18.71/-9.23	-9.23/-7.12	-8.41/-5.03	-7.84/-12.57	-18.93/-17.96	-18.72/-14.01	-13.17/-17.83
Θ (127.5°)	-17.68/-16.21	-13.96/-13.12	-11.05/-11.05	-11.77/-11.59	-10.94/-13.18	-11.91/-10.59	-12.66/-13.48	-10.68/-6.96	-5.8/-6.78	-7.14/-8.38	-10.76/-12.76	-16.85/-9.3	-5.77/-8.6	-8.88/-6.33	-5.61/-5.72	-7.83/-12.6	-17.78/-18.49	-18.74/-16.18	-17.68/-18.72	-9.07/-8.17	-14.39/-18.17	-10.86/-9.2	-15.18/-15.91	-14.35/-18.66
Θ (135°)	-11.64/-11.65	-14.62/-16.43	-18.41/-12.12	-8.63/-9.59	-12.11/-17.14	-11.64/-9.58	-10.74/-11.19	-11.23/-9.99	-8.42/-8.43	-9.98/-12.22	-12.74/-15.88	-11.86/-11.72	-9.71/-6.93	-6.02/-5.88	-7.25/-9.32	-9.17/-16.32	-12.69/-12.4	-8.34/-8.45	-10.37/-17.82	-11.9/-8.24	-9.48/-10.1	-9.99/-16.74	-17.63/-18.23	-17.26/-11.9
Θ (142.5°)	-11.74/-16.13	-17.97/-15.12	-18.12/-12.6	-8.17/-9.04	-13.12/-14.38	-11.52/-11.33	-13.85/-18.43	-16.73/-15.66	-14.83/-11.27	-9.86/-9.84	-9.43/-12.72	-14.3/-13.69	-9.24/-6.33	-6.73/-9.81	-11.76/-11.1	-16.8/-18.62	-13.48/-13.34	-10.69/-8.72	-7.73/-6.47	-8.56/-7.92	-8.82/-15.18	-18.76/-14.44	-11.67/-10.75	
Θ (150°)	-9.86/-9.41	-10.69/-11	-11.5/-15	-12.8/-11.02	-9.64/-9.05	-8.76/-11.31	-17.28/-15.1	-12.45/-9.39	-7.55/-7.2	-6.15/-4.86	-6.38/-7.97	-9.49/-13.77	-11.53/-10.67	-10.81/-11.37	-11.38/-17.95	-17.95/-17.54	-16.08/-11.58	-14.3/-18.05	-17.75/-18.02	-18.66/-17.05	-14.88/-14.02	-13.23/-11.23		
Θ (157.5°)	-19.12/-18.48	-17.73/-17.46	-18.29/-18.11	-17.92/-14.29	-10.65/-8.55	-6.81/-6.27	-7.86/-8.11	-7.11/-7.14	-8.66/-9.13	-8.55/-9.7	-8.31/-6.53	-8.01/-8.91	-10.44/-13.81	-18.03/-18.33	-13.4/-10.53	-8.36/-7.01	-7.69/-12.19	-18.42/-18.01	-17.56/-16.48	-17.25/-18.5	-18.92/-18.3	-16.88/-18.66	-17.1/-15.06	-17.59/-19.14
Θ (165°)	-10.77/-11.32	-11.51/-13.35	-13.13/-13.5	-9.77/-9.25	-8.75/-8.76	-9.74/-10.52	-10.4/-8.95	-9.22/-9.53	-9.36/-7.73	-7.72/-7.41	-6.92/-8.24	-10.89/-12.77	-18.23/-18.49	-19.44/-14.38	-11.93/-10.64	-9.86/-9.96	-12.12/-16.25	-18.81/-18.19	-17.71/-19.01	-18.15/-18.39	-19.31/-18.41	-19.08/-14.52	-9.53/-9.21	-10.72/-11.09
Θ (172.5°)	-12.58/-13.13	-12.37/-12.09	-11.67/-11.91	-11.51/-11.81	-11.13/-10.75	-10.85/-10.52	-9.38/-7.83	-7.07/-6.88	-6.09/-5.82	-6.06/-6.33	-9.75/-12.14	-17.14/-18.41	-19.07/-17.82	-16.17/-13.96	-13.05/-12.48	-12.89/-13.23	-13.39/-14.39	-16.17/-16.19	-13.88/-11.46	-11.14/-11.93	-12.6/-12.52	-12.4/-12.93	-14.54/-13.46	
Θ (180°)	-17.9/-17.18	-18.75/-18.78	-19/-18.37	-17.32/-18.3	-18.81/-17.85	-18.63/-18.06	-16.32/-15.95	-14.93/-13.62	-12.98/-12.3	-11.2/-10.13	-10.28/-10.75	-10.93/-12.15	-15.28/-17.83	-18.1/-17.75	-18.39/-16.3	-15.83/-15.94	-16.18/-17.83	-18.59/-18.46	-14.5/-11.3	-10.61/-10.88	-10.72/-12.5	-14.23/-15.71	-19.2/-18.95	-17.5/-18.07
Freq(Hz)	2.45GPol.	PhiAnt. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-5.61/-3.93	-2.72/-1.96	-1.22/-0.5	0.10/-49	0.72/09	0.94/0.85	0.59/0.03	-0.94/-2.26	-3.98/-5.67	-6.66/-6.91	-6.97/-7.15	-7.12/-6.41	-5.11/-37	-2.51/-1.64	-1.09/-0.73	-0.45/-0.23	-0.18/-0.26	-0.52/-0.86	-1.18/-1.46	-1.86/-2.52	-3.48/-4.96	-7.16/-9.78	-11.65/-11.43	-9.88/-7.73
Θ (7.5°)	-4.71/-3.86	-3.26/-2.81	-2.28/-1.71	-1.27/-0.99	-0.86/-0.73	-0.66/-0.78	-0.91/-1.27	-1.78/-2.52	-3.87/-5.81	-7.83/-8.27	-7.48/-8.63	-6.87/-8.67	-6/-4.41	-2.77/-1.48	-0.47/0.28	0.78/1.1	1.21/1.8	1.02/0.74	0.25/-0.46	-1.4/-2.56	-4.01/-5.69	-7.54/-8.75	-8.78/-8.09	-6.98/-5.83
Θ (15°)	-3.53/-4.38	-3.58/-3.74	-3.78/-3.52	-3.13/-2.69	-2.19/-1.68	-1.32/-1.01	-0.79/-0.64	-0.57/0.75	-1.52/-3.13	-5.76/-8.08	-6.78/-6.77	-6.2/-6.28	-6.11/-8.49	-3.04/-1.27	-0.01/0.85	1.41/1.72	1.85/1.86	1.74/1.46	0.91/0.09	-1.07/-2.54	-4.23/-5.82	-7.18/-7.51	-6.83/-5.79	-4.72/-9.32
Θ (22.5°)	-2.85/-3.02	-3.64/-4.66	-5.48/-5.21	-4.04/-2.71	-1.65/-0.88	-0.45/-0.2	-0.01/0.2	0.46/0.45	-0.07/-1.37	-3.64/-6.34	-7.92/-7.1	-6.15/-6.01	-5.95/-5.1	-3.3/-1.49	-0.17/0.64	1.04/1.28	1.49/1.59	1.5/1.11	0.38/-0.71	-2.14/-3.8	-5.46/-6.71	-7.33/-7.03	-6.07/-4.98	-3.91/-3.15
Θ (30°)	-2.45/-2.38	-3.14/-4.82	-6.66/-6.03	-3.81/-1.92	-0.78/-0.25	-0.11/-0.2	-0.37/-0.49	-0.41/-0.29	-0.55/-1.26	-2.66/-4.67	-7.07/-8.2	-7.45/-6.26	-5.27/-4.35	-3.16/-1.73	-0.72/-0.1	0.27/0.61	1.12/1.29	1.02/0.27	-0.98/-2.65	-4.46/-5.94	-6.63/-6.64	-6.5/-6.05	-5.45/-7.45	-3.86/-2.97
Θ (37.5°)	-2.84/-1.99	-2.24/-3.77	-5.64/-5.06	-2.81/-0.88	0.10/-3.4	0.17/-0.23	-0.73/-1.36	-1.89/-2.29	-2.5/-2.7	-3.15/-4.11	-6.16/-9.65	-12.82/-8.97	-5.37/-3.52	-2.64/-2.09	-1.62/-1.35	-0.97/0.31	0.27/0.32	-0.27/-1.65	-3.79/-6.34	-8.26/-8.44	-7.21/-5.83	-4.99/-6.06	-4.92/-5.08	-4.76/-3.86
Θ (45°)	-4.84/-3.2	-2.83/-3.89	-4.79/-3.39	-1.18/0.5	1.32/1.34	0.85/0.17	-0.43/-1.25	-2.51/-4.08	-5.19/-4.93	-4.08/-3.79	-4.53/-7.21	-13.89/-11.92	-5.58/-2.94	-2.08/-1.77	-1.8/-2.01	-1.96/-1.58	-1.26/-1.24	-2.01/-3.95	-7.05/-10.55	-12.46/-11.57	-9.31/-7.43	-6.57/-6.68	-7.69/-8.55	-8.25/-6.66
Θ (52.5°)	-5.16/-3.89	-3.79/-5.42	-6.11/-3.12	-0.36/1.43	2.24/2.26	1.67/1.01	0.5/-0.34	-1.88/-4.32	-6.98/-7.64	-6.06/-6.48	-4.47/-6.89	-15.63/-11.32	-4.5/-2.08	-1.46/-1.66	-2.42/-3.1	-3.14/-2.85	-2.27/-1.92	-2.73/-5.1	-8.67/-10.9	-11.01/-11.98	-13.74/-13.37	-12.02/-12.19	-13.43/-11.58	-8.43/-6.5
Θ (60°)	-3.21/-1.62	-1.12/-2.73	-1.25/-9.46	-1.62/0.37	1.34/1.46	1.25/1.27	1.25/0.66	-0.92/-3.59	-7.47/-10.18	-7.81/-4.87	-3.59/-5.31	-12.95/-9.94	-3.03/-5.08	-0.41/-2.02	-4.49/-4.38	-2.99/-2.58	-1.79/-1.29	-2.3/-7.6	-5.15/-4.95	-4.93/-6.43	-15.03/-15.49	-16.29/-15.76	-16.03/-11.32	-7.19/-4.8
Θ (67.5°)	-6.25/-2.5	-0.61/-0.89	-2.42/-2.42	-0.99/-0.05	-0.03/-0.72	-0.68/0.34	0.84/0.27	-1.6/-4.78	-9.28/-13.05	-10.32/-5.96	-3.95/-5.47	-10.8/-6.32	-1.45/0.21	-0.74/-4.38	-5.57/-2.57	-1.71/-1.83	-1.08/-0.51	-0.91/-1.91	-2.63/-2.71	-2.98/-4.74	-9.5/-19.14	-15.45/-14.33	-18.31/-18.61	-12.46/-9.58
Θ (75°)	-9.94/-6.6	-3.54/-2.85	-3.28/-2.24	-0.49/0.43	0.15/-0.16	-1.32/-0.14	0.54/-0.13	-2.24/-5.67	-10.16/-13.29	-10.64/-5.94	-3.37/-3.8	-6.14/-5.13	-2.04/-1.3	-2.72/-5.4	-2.7/-0.78	-1.27/-2.01	-1.66/-1.18	-1.54/-2.61	-3.45/-3.74	-2.94/-4.59	-9.89/-17.38	-12.88/-12.18	-17.54/-12.26	-8.03/-6.7
Θ (82.5°)	-7.78/-4.75	-3.25/-3.44	-4.45/-3.43	-1.82/-1.22	-1.51/-1.91	-1.12/0.42	1.22/0.77	-1.11/-4.27	-8.35/-11.29	-10.58/-6.66	-3.66/-3.31	-5.25/-9.7	-2.98/-1.37	-1.85/-2.36	-1.78/-1.95	-2.62/-2.88	-2.87/-2.64	-3.27/-4.29	-2.84/-2.69	-2.99/-4.55	-14.25/-15.17	-8.38/-8.6	-16.62/-12.14	-7.97/-6.51
Θ (90°)	-11.43/-5.74	-3.36/-3.34	-4.55/-3.21	-1.13/-0.84	-1.94/-2.82	-2.04/-0.71	0.05/-0.33	-2.19/-5.52	-10.04/-14.18	-14.38/-7.89	-3.55/-2.74	-5.24/-6.31	-2.03/-0.38	-1.34/-3.58	-4.14/-2.31	-1.54/-2.88	-4.23/-4	-3.92/-2.83	-1.21/-0.52	-1.24/-3.85	-8.8/-9.29	-6.43/-7.11	-11.88/-7.96	-5.84/-9.13
Θ (97.5°)	-10.44/-5.98	-3.8/-3.6	-5.21/-4.85	-2.04/-1.3	-2.5/-3.02	-1.57/-0.2	0.14/-0.65	-2.92/-7.16	-13.69/-18.04	-14.11/-7.5	-3.56/-3.33	-6.18/-4.58	-1.42/-0.77	-1.83/-3.55	-3.04/-1.42	-2.52/-5.65	-4.41/-3.26	-1.12/-0.22	0.14/0.05	-0.67/-2.85	-7.48/-11.43	-9.2/-10.16	-15.02/-6.76	-4.08/-6.39
Θ (105°)	-10.12/-5.65	-3.72/-3.55	-4.17/-4.55	-2.39/-1.2	-2.47/-4.79	-3.94/-1.67	-0.66/-1.08	-3.17/-7.19	-16.06/-9.15	-4.96/-4.3	-5.16/-3.31	-1.45/-0.92	-1.87/-6.01	-6.21/-2.58	-2.62/-5.56	-1.81/-1.57	-1.81/-2.59	-3.09/-2.21	-1.84/-3.87	-9.95/-14.41	-8.78/-9.3	-17.29/-8.75	-5.09/-7.1	
Θ (112.5°)	-11.13/-5.28	-3.12/-3.13	-3.5/-3.97	-3.04/-1.6	-1.89/-3.43	-3.68/-2.34	-1.66/-2.37	-4.97/-9.75	-16.39/-16.93	-12.75/-7.39	-4.1/-3.36	-3.81/-4.03	-3.46/-3.04	-5.21/-6.01	-1.04/0.4	-0.93/-3.13	-5.73/-6.48	-5.52/-4.62	-2.54/-0.91	-1.16/-4.15	-11.89/-12.39	-7.35/-7.32	-12.01/-9.71	-6.1/-8.24
Θ (120°)	-10.68/-8.03	-4.96/-3.98	-2.83/-1.97	-1.84/-1.84	-2.43/-4.27	-5.64/-5.42	-3.32/-3.45	-5.07/-8	-11.33/-12.28	-10.71/-8.09	-6.07/-0.62	-7.24/-6.17	-2.99/-1.5	-2.27/-2.78	-2.03/-5.99	-8.24/-9.97	-6.33/-3	-1.79/-1.79	-1.64/-1.47	-2.53/-6.17	-15.73/-15.9	-9.41/-8.2	-10.11/-8.51	-5.45/-6.43
Θ (127.5°)	-5.61/-5.53	-5.78/-6.98	-5.27/-2.49	-1.26/-0.94	-1.14/-2.26	-4.16/-5.49	-5.23/-4.92	-5.87/-8.03	-10.31/-10.35	-8.89/-7.37	-6.21/-5.99	-5.54/-3.54	-1.81/-2.11	-4.79/-7.7	-9.28/-8.22	-4.55/-3.07	-2.21/-3.5	-1.62/-3.34	-5.34/-6.46	-8.31/-13.3	-17.79/-15.97	-11.72/-10.83	-13.1/-11.39	-6.52/-5.06
Θ (135°)	-4.81/-2.99	-4.22/-3.87	-6.06/-4.93	-3.2/-2.49	-2.22/-2.25	-2.73/-3.66	-4.83/-6.19	-8.21/-7.06	-11.77/-9.85	-8.65/-8.43	-9.14/-9.78	-8.26/-5.83	-5.05/-6.56	-8.81/-7.99	-6.17/-4.05	-2.83/-3.3	-3.95/-3.73	-4.72/-8.26	-15.15/-17.42	-16.73/-17.4	-15.41/-12.25	-11.55/-13.29	-17.12/-16.97	-9.2/-6.31
Θ (142.5°)	-6.44/-3.5	-1.74/-1.67	-2.53/-2.79	-2.55/-2.77	-3.54/-4.36	-4.59/-4.79	-5.58/-6.76	-8/-9.6	-6.5/-5.36	-4.99/-5.26	-5.66/-5.23	-4.24/-3.78	-4.62/-6.72	-7.94/-6.74	-4.73/-4.34	-2.92/-3.97	-5.02/-5.67	-7.63/-12.96	-18.1/-14.3	-11.07/-10.95	-12.07/-13.36	-15.2/-17.32	-18.5/-13.97	-9.75/-8.05
Θ (150°)	-7.72/-5.38	-3.18/-2.08	-1.58/-1.1	-0.64/-0.61	-1.26/-2.53	-3.98/-5.21	-6.09/-6.92	-7.37/-7.3	-7.11/-6.94	-7.23/-7.85	-8.08/-9.33	-8.14/-9.13	-9.95/-8.15	-5.39/-3.33	-2.11/-1.7	-3.2/-3.77	-5.84/-7.42	-9.66/-13.48	-17.69/-17.93	-16.05/-15.95	-16.75/-17.92	-18.74/-14.58	-11.16/-9.05	-8.08/-8.02
Θ (157.5°)	-7.54/-6.96	-5.63/-4.23	-2.92/-1.77	-0.82/-0.28	-0.34/-0.82	-1.6/-2.68	-4.04/-5.55	-7.19/-8.7	-9.77/-9.93	-8.91/-7.65	-6.29/-4.81	-3.55/-2.43	-1.66/-0.99	-0.78/-1	-1.61/-2.63	-4.16/-6.07	-8.05/-9.74	-11.26/-12.88	-15.33/-18.09	-18.78/-14.95	-12.29/-10.37	-9.03/-8.05	-7.39/-6.97	-6.76/-6.9
Θ (165°)	-7.13/-7.7	-8.01/-7.39	-6.05/-4.57	-3.34/-2.54	-2.36/-2.58	-3.23/-4.15	-5.38/-6.82	-8.16/-8.65	-8.28/-7.14															



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ (150°)	-8.89/-6.28	-8.59/-14.12	-17.94/-13.69	-8.38/-8.55	-6.98/-7.55	-11.72/-18.13	-18.92/-14.97	-9.98/-8.08	-6.81/-5.37	-4.93/-6.12	-7.74/-6.69	-7.33/-8.09	-8.49/-5.66	-3.83/-5.98	-9.44/-13.12	-10.71/-6.5	-6.07/-11.62	-17.15/-18.84	-13.15/-12.02	-13.82/-17.42	-16.37/-18.2	-11.37/-9.21	-13.41/-14.73	-17.74/-15.67
Θ (157.5°)	-12.49/-13.52	-15.25/-14.57	-13.58/-15.39	-16.55/-17.81	-10.77/-6.57	-5.69/-4	-2.99/-3.34	-4.06/-4.52	-4.25/-3.93	-3.81/-3.31	-2.45/-2.2	-2.61/-3.84	-7.42/-10.04	-9.4/-9.01	-8.61/-8.26	-7.26/-7.77	-11.29/-11.62	-19.19/-18.28	-12.24/-9.13	-8.52/-10.49	-15.06/-18.74	-18.88/-17.43	-13.95/-10.94	-11.91/-12.79
Θ (165°)	-13.1/-14.51	-15.97/-14.83	-13.2/-10.5	-8.57/-7.1	-7.9/-7.61	-7.21/-7.83	-7.35/-7.05	-7.95/-7.47	-5.57/-4.9	-5.82/-6.12	-6.14/-9.04	-10.53/-8.73	-6.46/-4.05	-2.52/-9.8	-15.53/-14.65	-17.35/-14.13	-12.61/-10.99	-11.53/-14.65	-17.35/-14.13	-12.61/-14.63	-17.1/-16.76	-15.87/-16.3	-16.38/-13.95	-11.53/-11.74
Θ (172.5°)	-8.75/-8.6	-9.01/-9.42	-9.49/-9.81	-10.43/-9.93	-8.7/-7.09	-5.76/-5.05	-4.6/-4.32	-4.67/-4.06	-3.17/-3.26	-3.9/-3.72	-3.91/-4.81	-4.96/-5.87	-7.2/-8.2	-8.69/-10.93	-14.22/-18.06	-18.19/-16.14	-11.92/-10.08	-9.82/-10.95	-13.36/-16.35	-15.3/-12.66	-11.98/-10.7	-7.83/-7.08	-7.62/-6.42	-5.33/-6.9
Θ (180°)	-11.74/-12.25	-11.75/-13.04	-14.43/-15.68	-15.7/-16.92	-18.45/-17.44	-17.79/-17.68	-17.95/-16.02	-14.41/-14.23	-14.82/-14.81	-14.32/-13.91	-14.2/-14.06	-14.88/-18.58	-18.76/-18.16	-18.03/-17.49	-16.25/-15.06	-14.47/-15.12	-17.49/-18.28	-18.3/-18.09	-18.41/-14.3	-9.6/-8.02	-7.79/-7.32	-6.54/-7.03	-7.86/-7.85	-8.22/-9.51
Freq(Hz)	5.3GPol.	PhiAnt. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-12.33/-16.45	-18.26/-12.05	-8.04/-5.58	-3.46/-1.79	-0.88/-0.3	0.66/-1.36	1.46/-1.32	1.58/-1.68	0.91/-0.07	-0.6/-1.53	-2.87/-3.48	-4.99/-8.59	-11.6/-12.18	-12.78/-9.92	-6.56/-4.53	-2.86/-1.69	-0.82/-0.27	0.34/-1.14	1.46/-1.18	1.180/-99	0.320/-17	-0.21/-1.37	-2.49/-2.98	-4.96/-8.98
Θ (7.5°)	-11.66/-15.81	-15.97/-11.68	-8.63/-6.44	-4.24/-2.65	-1.69/-0.82	-0.340/-28	0.890/-97	0.680/-94	1.130/-49	-0.22/-0.8	-2.12/-4.07	-5.44/-8.32	-15.49/-18.46	-16.13/-10.61	-6.37/-3.75	-2.26/-0.94	-0.070/-44	0.87/-1.41	1.71/-52	1.51/-62	0.92/-0.49	-0.64/-0.58	-2.32/-4.59	-5.46/-7.36
Θ (15°)	-11.33/-17.75	-17.34/-11.84	-7.98/-6.01	-4.66/-3.81	-2.84/-2.11	-1.99/-1.53	-0.97/-0.78	-0.83/-0.8	-0.45/-0.57	-1.33/-1.57	-1.59/-2.91	-4.84/-7.06	-10.44/-18.67	-18.38/-15.73	-9.82/-6.1	-4.4/-2.88	-1.81/-1.18	-0.64/-0.53	-0.65/-0.49	0.070/-37	0.480/-12	-0.6/-0.84	-1.11/-2.72	-4.47/-6.91
Θ (22.5°)	-15.69/-17.51	-10.79/-6.3	-5.09/-5.83	-6.65/-5.97	-3.82/-2.58	-1.86/-1.06	-0.82/-0.68	-0.63/-1.13	-1.64/-2.22	-3.77/-5.33	-5.21/-4.6	-7.06/-5.95	-12.6/-18.1	-16.69/-13.41	-13.11/-12.04	-9.81/-6.44	-3.97/-2.15	-0.96/-1.08	-1.5/-1.47	-0.780/-26	1.26/-151	1.1/-36	-0.93/-3.02	-5.52/-8.64
Θ (30°)	-8.22/-5.9	-4.57/-4.85	-6.67/-7.33	-5.91/-3.64	-1.66/-0.81	-0.880/-0.73	-1.14/-1.38	-1.56/-2.27	-3.07/-3.53	-4.71/-4.6	-3.59/-4.81	-10.42/-10.36	-15.67/-18.71	-17.3/-14.95	-11.62/-8.39	-6.9/-6.21	-4.33/-3.44	-3.03/-1.94	-0.94/-0.56	-0.360/-26	0.360/-007	-0.86/-2.04	-4.45/-6.41	
Θ (37.5°)	-7.72/-15.49	-18.12/-11.69	-7.66/-5.46	-5.44/-4.87	-3.33/-2.4	-1.19/-0.55	-0.28/-0.48	-1.33/-2.73	-3.49/-2.85	-2.53/-3.15	-4.41/-5.99	-3.99/-3.71	-6.9/-8.2	-7.43/-9.01	-11.1/-12.89	-12.93/-13.16	-16.44/-10.87	-5.5/-3.05	-1.36/-0.58	0.33/-129	0.77/-1.82	-2.75/-2	-1.39/-1.97	-3.41/-4.43
Θ (45°)	-11.13/-17.57	-13.32/-12.54	-11.43/-7.59	-5.87/-4.23	-2.55/-2.09	-1.33/-1.73	-1.82/-1.76	-1.94/-2.39	-3.19/-3.03	-2.62/-4.45	-7.85/-11.16	-8.47/-8.36	-7.46/-12.49	-18.7/-9.16	-7.42/-7.14	-10.16/-10.21	-8.96/-9.4	-7.83/-4.32	-1.550/-1	1.64/-1.86	0.12/-1.4	-3.01/-2.76	-1.69/-2.77	-6.64/-8.75
Θ (52.5°)	-18.39/-15.3	-9.06/-13.35	-13.14/-5.45	-4.37/-4.1	-5.15/-2.5	-1.75/-2.27	-2.26/-1.74	-2.25/-3.1	-3.26/-3.94	-4.81/-5.65	-9.28/-16.7	-16.9/-12.37	-10.13/-7.4	-6.82/-9.46	-18.9/-14.97	-15.69/-11.79	-5.44/-3.33	-3.63/-5.08	-3.220/-4	1.01/-0.38	-1.7/-3.54	-2.39/-2.42	-8.15/-14.18	
Θ (60°)	-9.92/-15.51	-13.37/-18.65	-13.54/-4.5	-3.44/-4.16	-6.7/-2.95	-1.64/-1.93	-1.93/-2.11	-3.14/-4.12	-3.73/-3.37	-4.62/-5.65	-6.41/-13.7	-10.05/-4.9	-4.5/-5.69	-7.4/-9.67	-9.08/-8.15	-10.84/-14.51	-17.41/-18.12	-16.85/-9.61	-8.35/-9.14	-4.74/-2.67	-2.93/-1.15	-1.08/-3.75	-4.99/-5.04	-7.67/-12.41
Θ (67.5°)	-6.78/-8.46	-7.67/-10.75	-18.35/-3	-5.66/-4.4	-4.96/-2.52	-2.19/-1.52	-1.96/-1.5	-1.38/-3.2	-3.79/-3.06	-3.97/-1.03	-10.88/-11.94	-7.89/-4.9	-4.62/-8.32	-6.24/-8.2	-9.61/-7.24	-12.5/-10.74	-14.42/-14.7	-18.85/-7.33	-4.35/-4.83	-4.07/-7.39	-6.89/-0.8	-1.67/-6.71	-9.3/-6.15	-5.81/-6.4
Θ (75°)	-3.7/-3.69	-3.96/-7.76	-16.59/-8.18	-7.77/-4.34	-3.13/-2.3	-3.52/-1.96	-2.17/-1.48	-2.61/-7.04	-6.89/-6.66	-7.08/-9.43	-9.92/-11.7	-12.15/-9.16	-5.67/-5.23	-7.72/-7.32	-6.78/-5.08	-10.26/-13.7	-5.53/-8.08	-4.97/-4.64	-9.91/-6.43	-2.97/-5.01	-9.91/-6.43	-2.38/-12.68	-10.98/-3.96	-4.96/-6.85
Θ (82.5°)	-3.6/-3.12	-2.67/-6.48	-8.59/-10.73	-7.33/-3.41	-3.77/-3.06	-2.73/-1.21	-2.58/-2.71	-3.65/-7.84	-7.27/-6.21	-8.97/-13.25	-14.77/-14.64	-11.24/-8.21	-8.13/-9.26	-5.49/-4.49	-5.13/-5.14	-4.99/-5.92	-7.54/-6.54	-5.45/-7.43	-4.1/-6.65	-3.29/-6.63	-10.42/-7.65	-4.37/-10.32	-12.77/-3.74	-4.53/-3.6
Θ (90°)	-2.3/-2.41	-2.26/-6.04	-6.37/-7.26	-11.75/-4.49	-3.97/-3.45	-3.53/-1.81	-3.06/-3.42	-3.54/-5.84	-8.77/-7.31	-8.56/-9.3	-11.02/-14.89	-16.76/-13.96	-7.56/-6.87	-5.66/-5.92	-3.23/-2.69	-1.74/-3.67	-2.47/-2.66	-1.84/-3.91	-3.1/-5.5	-6.67/-5.28	-7.83/-11.95	-7.76/-11.54	-16.4/-7	-3.46/-4.2
Θ (97.5°)	-1.39/-2.93	-4.6/-7.24	-4.04/-6.67	-8.35/-3.78	-4.12/-2.87	-3.78/-1.95	-3.77/-4.67	-5.66/-11.01	-3.98/-8.77	-11.21/-11.97	-10.01/-11.55	-16.23/-13.48	-10.16/-5.69	-3.73/-4.64	-6.14/-2.7	-1.52/-4.83	-8.25/-2.17	-0.39/-3.57	-6.4/-10.85	-4.67/-8.55	-14.84/-19.25	-7.33/-11.9	-19.1/-5.4	-5.36/-3.52
Θ (105°)	-2.15/-4.98	-5.2/-7.44	-6.27/-8.32	-10.05/-4.61	-7.26/-4.41	-3.84/-3.15	-4.45/-4.27	-4.39/-11.66	-12.98/-14.16	-14.83/-12.1	-11.98/-18.03	-18.79/-13.33	-8.31/-5.93	-4.68/-3.25	-4.76/-5.7	-4.05/-0.18	-6.42/-6.48	-0.50	-2.36/-8.51	-10.96/-18.57	-11.33/-16.78	-12.2/-15.65	-16.27/-11.6	-9.11/-3.78
Θ (112.5°)	-5.9/-6.24	-8.18/-9.51	-5.96/-7.76	-7.83/-7.54	-7.95/-5.15	-4.56/-5.11	-7.24/-7.47	-10.59/-18.52	-18.17/-18.33	-16.03/-11.7	-14.59/-14.31	-18.3/-12.6	-6.11/-3.73	-5.23/-7.02	-3.69/-6.07	-3.82/-1.04	-3.36/-6.07	-4.41/-12.13	-8.75/-18.57	-13.74/-10.03	-6.98/-8.85	-17.35/-13.26	-12.51/-14.77	-14.61/-9.34
Θ (120°)	-12.64/-14.18	-12.16/-7.69	-11.57/-5.55	-12.66/-6.44	-10.7/-10.81	-7.36/-7.16	-7.38/-8.66	-13.12/-17.8	-17.99/-16.66	-11.82/-8.17	-10.33/-16.72	-13.37/-9.43	-8.25/-4.55	-3.59/-5.65	-11.39/-2.41	-9.27/-4.49	-10.48/-4.63	-3.53/-5.25	-4.92/-5.65	-11.85/-14.12	-12.26/-12.22	-18.8/-18.47	-19.02/-16.84	
Θ (127.5°)	-16.61/-12.75	-10.91/-8.57	-6.36/-5.33	-6.01/-6.53	-8.66/-18.26	-9.52/-9.14	-11.01/-16.75	-16.2/-15.01	-17.6/-17.76	-12.15/-9.42	-11.67/-11.01	-11.63/-7.73	-6.46/-9.88	-5.99/-2.39	-8.36/-6.74	-3.83/-2.99	-4.84/-5.11	-6.1/-13.13	-12.77/-12.72	-5.13/-6.15	-6.1/-13.98	-18.9/-15.67	-11.06/-15.32	-15.3/-14.6
Θ (135°)	-9.91/-12.5	-8.12/-6.81	-6.07/-6.54	-6.17/-0.3	-8.69/-13.15	-10.89/-9.29	-11.45/-12.5	-13.08/-14.19	-13.95/-11.57	-9.31/-9.43	-11.53/-14.56	-14.58/-2.55	-5.87/-5.23	-8.42/-5.3	-6.55/-7.11	-6.37/-10.05	-5.31/-5.23	-5.04/-6.08	-7.34/-7.95	-9.73/-8.38	-9.45/-18.55	-18.05/-13.68	-10.41/-13.69	-17.92/-12.8
Θ (142.5°)	-7.17/-7.38	-6.9/-7.21	-7.58/-7.22	-7.05/-8.13	-6.13/-6.48	-6.59/-7.18	-8.52/-10.42	-11.72/-12.35	-11.06/-10.7	-14.85/-16.49	-16.06/-12.73	-12.45/-12.51	-17.62/-8.44	-9.41/-5.38	-9.81/-9.78	-3.23/-1.71	-0.91/-2.58	-5.99/-9.41	-13.53/-9.1	-8.46/-9.75	-14.6/-18.25	-9.02/-6.22	-11.29/-10.74	
Θ (150°)	-7.47/-5.72	-5.22/-6.44	-11.74/-15.54	-9.03/-7.06	-6.98/-8.41	-11.01/-10.52	-9.66/-7.92	-7.58/-8.7	-9.78/-11.7	-19.23/-18.63	-15.29/-15.77	-12.91/-12.62	-13.16/-8.57	-9.15/-7	-5.58/-9.65	-6.59/-2.98	-2.81/-2.4	-3.91/-9.22	-15.45/-16.97	-16.53/-18.48	-18.34/-17.52	-17.16/-18.22	-13.75/-8.4	-8.76/-11.9
Θ (157.5°)	-10.26/-7.89	-6.56/-6.21	-7.88/-8.49	-9.09/-9.22	-12.02/-14.08	-12.95/-16.1	-11.46/-12.11	-13.6/-15.71	-18.15/-15.18	-9.97/-9.72	-7.59/-7.96	-8.86/-10.87	-11.3/-10.91	-11.34/-8.33	-5.36/-3.05	-1.57/-2.35	-4.75/-6.48	-10.6/-18.04	-13.05/-12.3	-18.35/-17.82	-17.67/-14.81	-11.68/-10.95	-10.05/-9.97	-13.12/-13.28
Θ (165°)	-12.34/-9.67	-7.22/-6.55	-5.69/-4.54	-3.84/-3.91	-4.71/-6.46	-8.29/-10.59	-12.55/-13.47	-12.42/-11.22	-10.6/-10.36	-10.83/-12.66	-16.3/-17.98	-7.61/-6.69	-6.73/-7.27	-8.87/-11.93	-9.94/-7.17	-6.16/-7.11	-10.4/-13.1	-11.29/-10.91	-11.68/-10.93	-14.77/-17.41	-11.51/-10.3	-9.75/-10.7	-17.97/-17.02	
Θ (172.5°)	-12.78/-9.82	-7.24/-6	-5.44/-6	-4.07/-4.1	-4.79/-5.99	-7.17/-95	-9.3/-11.04	-11.82/-11.94	-13.68/-13.46	-12.16/-14.6	-12.7/-9.53	-8.42/-7.52	-7.12/-8.1	-16.6/-14.55	-16.89/-12.04	-16.16/-5.95	-5.35/-5.94	-8.19/-11.07	-14.37/-18.02	-15.21/-11.56	-10.29/-11.99	-10.03/-10.09	-12.51/-14.77	-14.61/-13.94
Θ (180°)	-11.51/-10.25	-8.71/-8.54	-8.53/-7.89	-7.73/-8.31	-8.45/-8.47	-8.8/-9.94	-10.92/-10.31	-9.88/-10.86	-11.83/-12.97	-17.8/-17.45	-18.32/-18.55	-18.42/-16.33	-17.34/-18.71	-17.59/-17.72	-12.35/-9.41	-8.56/-8.64	-9.46/-11.3	-14.02/-15.47	-14.15/-11.4	-9.61/-8.96	-9.38/-9.04	-9.13/-10.32	-11.21/-11.15	-10.87/-11.7
Freq(Hz)	5.3GPol.	Theta/Ant. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	1.392/-06	2.12/-65	1.06/-116	0.81/-209	-1.33/-2.52	-4.21/-5.55	-7.51/-12.36	-16.61/-13.35	-11.64/-6.79	-4.86/-3.74	-2.65/-152	-0.83/-0.22	0.58/-124	1.240/-75	0.360/-13	-0.38/-1.								



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-13.34/-18.19	-14.89/-10.24	-5.83/-3.4	-1.94/-0.66	0.26/1.04	1.66/2.06	2.33/2.36	2.25/2.24	2.32/1.62	0.75/-0.12	-1.48/-2.62	-4.43/-8.39	-13.22/-13.29	-10.74/-8.66	-6.58/-4.92	-3.26/-2.21	-1.26/-0.14	0.75/0.95	1.1/1.58	1.46/0.62	0.57/0.46	-0.74/-1.41	-1.71/-3.94	-6.4/-8.37
Θ(7.5°)	-9.36/-9.87	-8.55/-7.34	-4.51/-2.98	-2.14/-1.31	-0.36/0.38	1.01/1.12	0.86/0.81	0.85/0.56	0.34/0.02	-1.02/-2.08	-2.53/-3.94	-6.23/-8.15	-11.87/-19.2	-15.63/-9.93	-6.81/-4.26	-2.7/-1.39	-0.51/0.45	1.42/1.9	1.89/1.91	2.41/2.41	1.47/1.1	0.69/-0.62	-1.67/-2.41	-4.5/-7.71
Θ(15°)	-6.59/-7.45	-8.02/-7.2	-6.32/-5.55	-5.82/-5.99	-4.84/-3.06	-1.94/-1.06	-0.12/0.08	-0.5/-0.67	-0.59/-0.97	-1.7/-2.25	-3.11/-4.52	-5.18/-6.32	-9.08/-10.94	-12.23/-12.21	-9.05/-5.51	-3.13/-1.66	-0.55/0.44	1/1.22	1.07/1.11	1.35/1.19	0.6/0.26	0.28/0.13	-0.46/-1.08	-2.85/-5.23
Θ(22.5°)	-9.08/-11.16	-9.83/-7.15	-5.26/-4.54	-6.18/-7.2	-6.48/-4.72	-3.05/-1.52	-0.85/-1.07	-1.72/-2.2	-2/-1.7	-1.48/-1.52	-2.12/-2.87	-4.01/-4.77	-5.18/-6.85	-9.68/-12.86	-11.67/-8.08	-5.78/-4	-2.26/-1.32	-0.45/0.06	-0.02/-0.39	-0.23/0.24	-0.3/-0.85	-0.31/-0.55	-1/-1.14	-2.65/-5.81
Θ(30°)	-7.25/-10.25	-10.7/-9.29	-5.33/-3.25	-3.83/-4.96	-6.85/-5.96	-4.6/-3.72	-3.15/-3.13	-3.15/-3.63	-3.56/-2.67	-2.77/-3.5	-2.86/-3.27	-4.49/-4.32	-4.06/-5.91	-9.63/-14.35	-17.55/-15.01	-14.38/-12.07	-8.41/-6.26	-4.36/-2.99	-1.85/-1.15	-1.37/-1.55	-0.09/1.25	0.04/-1.29	-1.75/-2.3	-3.2/-4.42
Θ(37.5°)	-7.96/-10.66	-12.06/-9.04	-5.96/-5.13	-5.53/-4.73	-5.4/-5.89	-5.14/-3.4	-3.19/-2.92	-2.84/-2.84	-2.84/-3.81	-4.23/-3.38	-2.85/-2.52	-2.47/-3.66	-5.71/-9.74	-18.51/-14.38	-12.02/-12.44	-15.86/-18.02	-14.61/-12.81	-8.72/-5.79	-4.21/-3.1	-2.08/-0.61	-0.09/+0.99	-0.95/-3.51	-6.73/-4.76	-3.84/-4.92
Θ(45°)	-12.09/-13.67	-14.61/-16.82	-9.4/-8.42	-7.15/-5.27	-4.53/-5.25	-4.27/-2.98	-1.94/-2.18	-3.35/-3.6	-3.74/-3.98	-2.73/-2	-1.94/-1.8	-2.88/-5.76	-10.65/-11.89	-18.45/-12.57	-10.01/-9.02	-11.21/-14.79	-18.15/-17.5	-9.5/-5.22	-2.65/-2.3	-3.62/-4.9	-5.3/-2.51	-2.08/-2.24	-1.83/-5.45	-4.87/-6.06
Θ(52.5°)	-15.92/-9.98	-11.28/-15.22	-7.65/-7.59	-9.79/-10.16	-4.08/-2.33	-3.13/-2.62	-1.97/-2.84	-3.47/-5.64	-8.14/-5.48	-2.03/-1.74	-2.78/-4.19	-6.86/-8.21	-8.8/-11.78	-18.92/-12.35	-10.02/-13.58	-12.77/-12.73	-11.36/-9.13	-8.38/-7.25	-3.31/-1.92	-3.2/-1.94	-2.04/-3.9	-4.48/-1.32	-1.21/-5.02	-7.49/-8.42
Θ(60°)	-19.01/-10.7	-10.62/-18.43	-8.65/-9.41	-8.86/-11.51	-4.76/-3.06	-3.76/-3.5	-1.57/-2.21	-4.07/-6.04	-6.98/-5.6	-3.45/-3.49	-6.38/-9.85	-10.2/-9.8	-8.2/-6.72	-9.47/-8.93	-6.77/-9.07	-11.07/-13.42	-18.23/-15.18	-11.01/-8.21	-5.57/-6.6	-8.39/-3.84	-1.46/-4.22	-3.56/-3.03	-1.75/-6.14	-10.03/-10
Θ(67.5°)	-14.52/-10.87	-9.49/-18.36	-13.71/-9.23	-6.84/-12.08	-6.2/-3.53	-3.52/-3.04	-1.1/-3.18	-5.31/-6.73	-8.24/-7.82	-5.24/-6.5	-9/-9.08	-8.95/-7.42	-5.72/-4.04	-4.58/-8.66	-10.48/-6.42	-5.86/-12.46	-10.31/-12.62	-10.47/-6.92	-6.56/-10.47	-8.52/-4.01	-4.31/-3.93	-6.23/-5.32	-5.05/-8.33	-11.63/-8.66
Θ(75°)	-10.8/-5.72	-5.82/-13.08	-15.73/-11.4	-6.81/-10.52	-6.65/-3.62	-2.91/-3.05	-1.93/-5.65	-8.04/-8.66	-8.01/-7.29	-7.57/-11.17	-13.61/-9.28	-12.18/-8.43	-6.74/-6.13	-3.96/-3.04	-3.42/-1.47	-2.55/-2.82	-6.68/-11.88	-10.2/-17.66	-11.16/-4.16	-2.9/-6.51	-5.55/-6.8	-11.42/-5.25	-6.43/-11.81	-8.76/-10.21
Θ(82.5°)	-7.23/-2.72	-3.86/-8.53	-14.57/-11.89	-8.81/-8.34	-9.44/-2.94	-2.66/-4.35	-2.8/-5.67	-7.16/-8.02	-7.57/-5.62	-9.24/-12.87	-9.52/-7.23	-6.11/-7.04	-6.06/-4.47	-5.88/-4.6	-4.49/-3.56	-4/-7.82	-5.84/-7.81	-10.1/-5.45	-4.39/-4.6	-3.89/-7.18	-18.52/-7.29	-7.53/-14.53	-10.1/-7	-6.43/-7.1
Θ(90°)	-5.68/-2.92	-4.47/-7.33	-9.65/-12.23	-5.7/-7.02	-9.53/-4.69	-4.24/-6.01	-4.1/-9.09	-9.39/-10.29	-10.48/-6.77	-12.94/-15.8	-12.59/-8.11	-5.91/-6.49	-6.75/-7.45	-3.72/-2.07	-4.29/-2.3	-3.7/-8.14	-3.18/-3.01	-4.91/-4.27	-4.03/-3.88	-3.29/-2.01	-7.04/-11.84	-6.64/-17.69	-7.87/-5.14	-6.64/-5.23
Θ(97.5°)	-6.54/-3.65	-4.65/-5.88	-11.07/-8.97	-6.88/-6.03	-8.23/-5.01	-6.62/-8.87	-6.08/-13.44	-10.23/-10.64	-11.1/-8.41	-18.15/-15.53	-11.24/-7.59	-7.27/-8.43	-6.74/-6.13	-3.96/-3.04	-3.42/-1.47	-2.55/-2.82	-6.93/-6.68	-2.47/-0.05	-6.93/-11.41	-8.65/-8.86	-4.85/-17.5	-11.93/-17.64	-11.63/-10.48	-6.19/-5.41
Θ(105°)	-9.41/-5.43	-7.77/-8.06	-9.98/-8.89	-5.43/-5.53	-6.38/-8.17	-7.96/-10.75	-7.35/-15.93	-14/-17.96	-13.13/-10.52	-18.53/-14.51	-11.41/-7.49	-6.66/-7.9	-7.11/-6.66	-2.91/-2.1	-3.15/0.54	-2.67/-4.76	-2.68/-2.19	-3.27/-1.97	-0.93/-2.78	-14.69/-13.19	-6.56/-18.95	-18.69/-19.11	-14.59/-7.55	-11.71/-5.83
Θ(112.5°)	-11.6/-12.77	-9.92/-7.97	-9.68/-11.92	-6.8/-5.36	-6.22/-9.68	-11.09/-15.15	-10.26/-18.79	-18.86/-18.74	-13.37/-18.44	-14.4/-13.43	-13.76/-9.26	-10.39/-7.19	-5.93/-5.57	-3.9/-1.61	-2.84/-0.79	-4.02/-2.15	-5.41/-6.46	-2.96/-2.34	-13.46/-12.77	-10.59/-11.74	-13.52/-14.75	-12.21/-19.02	-17.89/-9.63	-18.22/-9.58
Θ(120°)	-18.39/-13.32	-9.1/-9.59	-11.5/-10.14	-7.62/-6.81	-5.69/-7.13	-7.94/-14.56	-15.84/-9.84	-16.02/-18.41	-18.08/-17.3	-17.77/-19.01	-13.98/-10.24	-13.98/-10.24	-4.35/-1.91	-3.95/-2.59	-1.01/0.85	-3.95/-16.89	-1.53/0.87	-1.99/-6.25	-5.29/-5.31	-9.57/-13.18	-18.16/-18.66	-13.4/-11.1	-15.07/-18.23	
Θ(127.5°)	-15.84/-14.06	-7.78/-5.65	-6.04/-11.63	-17.3/-12.8	-6.35/-5.88	-6.36/-12.74	-13.62/-9.48	-11.85/-14.67	-12.09/-18.63	-15.57/-13.86	-13.7/-10.08	-15.56/-10.51	-6.61/-6.98	-7.88/-3.73	0.53/-0.78	-2.12/-5.48	-4.33/-4.38	-4.44/-3.5	-14.83/-18.39	-12.86/-18.6	-11.33/-16.97	-13.48/-16.36	-16/-10.9	-7.98/-13.16
Θ(135°)	-9.71/-3.98	-4.33/-7.01	-8.71/-11.37	-16.08/-13.21	-9.43/-7.99	-9.17/-9.57	-8.45/-6.88	-6.89/-8.15	-10.12/-17.79	-14.95/-10.21	-13.72/-17.59	-13.57/-13.33	-18.55/-6.04	-2.78/-2.15	-2.38/-2.3	-3.45/-4.84	-10.08/-14.57	-10.09/-2.6	-2.45/-3.87	-8.95/-15.51	-15.1/-15.41	-15.06/-10.1	-9.05/-13.68	-14.4/-16.24
Θ(142.5°)	-11.3/-9.36	-6.16/-5.88	-3.72/-3.97	-7.1/-14.7	-9.48/-9.62	-12.24/-10.97	-5.82/-4.71	-6.12/-9.11	-11.42/-12.89	-10.78/-12.38	-12.63/-11.65	-7.45/-7.99	-12.18/-11.74	-2.91/-1.01	-0.66/-4.83	-7.03/-7.92	-5.47/-2.15	0.03/-1.11	-4.26/-10.28	-12.71/-10.21	-9.64/-9.61	-10.91/-9.1	-9.29/-17.35	-10.98/-8.22
Θ(150°)	-8.13/-5.73	-5.59/-8.69	-11.22/-6.27	-4.12/-4.77	-6.55/-9.28	-12.99/-11.15	-7.6/-6.3	-7.43/-10.11	-14.94/-17.12	-12.35/-8.44	-7.72/-10.35	-14.08/-11.65	-5.64/-4.92	-4.97/-6.33	-5.76/-4.1	-3.44/-2.04	-0.29/-0.24	-0.8/-4.85	-15.89/-17.92	-18.18/-18.27	-18.11/-18.28	-16.54/-16.89	-15.89/-17.43	-16.61/-9.59
Θ(157.5°)	-9.9/-2.94	-5.52/-6.55	-8.72/-7.12	-4.86/-3	-1.92/-2.33	-4/-6.51	-7.58/-7.46	-9.5/-13.07	-16.7/-17.45	-16.63/-17.84	-17.16/-10.99	-8.99/-8.75	-10.9/-16	-6.23/-6.25	-6.2/-4.37	-1.5/-3.03	-0.08/-0.85	-3.27/-8.43	-18.12/-17.45	-18.07/-15.39	-11.58/-9.97	-8.83/-12.01	-14.42/-18.19	-19.13/-15.88
Θ(165°)	-10.32/-8.67	-7.89/-7.14	-7.44/-8.22	-7.94/-8.87	-9.72/-10.31	-11.06/-10.76	-10.6/-10.67	-10.32/-10.02	-9.83/-9.93	-9.79/-8.58	-7.86/-7.73	-8.47/-10.57	-16.32/-18.44	-11.36/-6.99	-4.82/-4.01	-3.52/-3.42	-2.92/-3.4	-5.85/-9.96	-18.34/-18.06	-18.63/-18.3	-18.61/-18.1	-13.88/-17.12	-18.35/-16.18	-13/-12.62
Θ(172.5°)	-8.8/-8.78	-8.02/-6.63	-6.4/-6.12	-5.82/-6.15	-6.37/-6.16	-5.9/-5.7	-5.65/-5.89	-6.34/-7.41	-9.39/-12.88	-16.21/-17.69	-15.5/-12.41	-11.69/-10.9	-11.22/-12.31	-14.63/-19.09	-18.62/-11.81	-7.82/-6.01	-5.57/-7.69	-13.9/-18.95	-18.09/-16.84	-18.84/-17.49	-18.85/-14.17	-11.34/-11.35	-10.82/-10.26	-11.47/-11.54
Θ(180°)	-14.87/-16.25	-18.35/-16.23	-15.53/-14.82	-13.36/-12.99	-12.65/-12.1	-11.22/-11.72	-13.86/-15.74	-16.47/-18.8	-18.93/-17.77	-17.98/-15.67	-13.79/-11.56	-10.61/-10.28	-10.04/-10.09	-10.38/-9.91	-9.56/-9	-8.54/-8.31	-8.83/-10.79	-12.03/-12.03	-12.09/-13.34	-18.1/-18.43	-17.23/-18.74	-13.74/-14.13	-16.45/-13.41	-14.77/-19.29
Freq(Hz)	5.785GHz	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°)	1.54/-1.97	2.04/-1.75	1.51/-3.4	0.94/0.03	-1.26/-2.57	-3.85/-6.02	-8.49/-5.1	-11.02/-9.1	-6.36/-4.53	-2.92/-1.17	-0.52/0.6	1.32/-1.64	2.01/-1.91	1.85/-1.61	0.92/0.24	-0.39/-1.46	-3.11/-4.47	-6.04/-8.42	-12.54/-16.56	-13.34/-9.31	-7.3/-5.95	-3.46/-1.45	-0.62/0.15	1.07/-1.43
Θ(7.5°)	1.21/-18	1.16/6.61	-0.05/-0.19	-0.99/-2.43	-3.59/-4.95	-6.39/-8.73	-13.55/-15.19	-12.77/-10.95	-7.15/-5.23	-3.75/-1.95	-1.08/-0.37	0.70/0.99	1.15/-1.69	2.03/-1.93	1.58/-1.02	-0.57/-0.17	-1.29/-2.7	-4.24/-5.97	-17.79/-9.18	-9.08/-8.25	-6.14/-4.43	-2.8/-1	-0.03/0.33	1.09/-1.55
Θ(15°)	0.83/0.77	0.81/0	-1.45/-2.64	-4.23/-5.42	-5.19/-5.32	-5.63/-6.71	-8.59/-10.24	-12.89/-10.82	-8.65/-6.92	-4.24/-3.21	-2.95/-1.91	-0.71/-0.02	0.17/0.44	0.76/0.73	0.49/0.01	-0.61/-1.51	-2.73/-3.81	-4.97/-6.07	-7.61/-9.4	-11.09/-12.19	-12.06/-11.32	-9.97/-6.64	-4.24/-2.53	-0.50/76
Θ(22.5°)	2.02/2.13	2.42/-1.79	-0.07/-1.2	-3.12/-4.85	-5.24/-5.3	-5.58/-6.74	-7.45/-7.9	-8.97/-9.04	-9.21/-10.26	-8.31/-6.11	-4.35/-2.37	-1.42/-0.64	0.07/-0.22	-0.43/-0.08	-0.12/-0.17	-0.93/-1.71	-2.37/-2.83	-3.26/-3.73	-4.47/-5.28	-8.26/-14.63	-18.69/-14.92	-8.6/-5.97	-3.39/-1.17	-0.11/24
Θ(30°)	0.77/0.27	0.81/0.2	-0.26/-0.15	-1.43/-3.14	-5.99/-9.23	-10.55/-10.49	-9.44/-10.66	-13.38/-16.15	-18.66/-18.15	-13.06/-11.21	-7.27/-4.14	-2.4/-0.15	1.09/0.98	-0.03/-0.86	-1.24/-0.93	-0.82/-0.58	-1.11/-1.77	-3.34/-5.12	-5.14/-6.47	-8.66/-9.96	-15.95/-13.14	-6.28/-6.82	-3.82/-2.91	-1.69/0.78
Θ(37.5°)	0.14/-0.21	-1.18/-2.05	-3.53/-4.61	-4.87/-4.07	-5.36/-5.65	-6.17/-6	-6.98/-10.9	-15.53/-13.24	-11.07/-13.7	-13.03/-12.09	-8.72/-3.99	-1.22/0.8	1.71/2.54	2.14/-1.01	-1.06/-1.07	-0.03/0.4	-0.87/-5.33	-8.45/-7.22	-6.82/-7.6	-8.61/-11.59	-11.72/-10.84	-12.36/-7.46	-9.7/-8.13	-4.48/-1.55
Θ(45°)	1.82/0.59	0.04/																						



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Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	1.93	1.63	2.07	1.37
Ant. 2 Max Gain (dBi)	3.15	2.11	3.23	1.68
Ant. 3 Max Gain (dBi)	3.26	2.19	3.36	2.12
Ant. 4 Max Gain (dBi)	1.93	1.52	1.12	1.21
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/82.5/255	Theta/82.5/277.5	Theta/82.5/270	Theta/82.5/270
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/45/202.5	Theta/45/210	Phi/90/270	Theta/82.5/262.5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/45/67.5	Phi/22.5/315	Theta/75/97.5	Theta/67.5/90
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/75/90	Theta/75/82.5	Theta/37.5/67.5	Theta/60/82.5
Max Gain (dBi)	3.26	2.19	3.36	2.12
DG [1SS] (dBi)	5.44	5.27	5.29	5.33
DG [2SS] (dBi)	3.26	2.27	3.36	2.33
DG [4SS] (dBi)	3.26	2.19	3.36	2.12



Radiated Composite Gain Data of 6GHz

Appendix B

DG 1SS Result

Freq(Hz)	6.175GPol.	PhiL	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)	
DG(dB)	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)	
Θ(0°)	-4.2/-1.2	-6.28/-6.65	-9.53/-9.63	-8.65/-1.4	-5.48/-4.06	-2.91/-1.87	-1.01/-0.51	-0.180/-1	0.080/0.3	-0.049/-0.86	-0.57/-3.49	-4.21/-6.7	-5.86/-8.2	-1.11/-1.4	-0.92/-1.63	-8.13/-6.95	-5.87/-5.09	-3.95/-2.82	-1.97/-1.35	-1.07/-1.26	-0.39/-1.84	2.93/-2.29	3.5/3.2	2.28/0.97	-1.27/-5.15
Θ(7.5°)	-4.93/-4.59	-4.62/-6.29	-7.35/-7.34	-6.98/-4.36	-7.76/-7.85	-6.49/-4.54	-3.38/-2.8	-2.47/-2.13	-2/-2.1	-2.36/-2.1	-1.85/-2.23	-3.03/-4.65	-6.36/-7.71	-9.42/-10.05	-9.99/-9.36	-8.17/-6.53	-5.45/-4.5	-3.32/-1.79	-0.79/-0.33	-0.020/4	0.580/44	0.33/-0.17	-0.91/-1.25	-1.89/-3.45	
Θ(15°)	-2.73/-3.88	-5.1/-4.28	-3.91/-4.14	-4.17/-4.48	-5.35/-5.65	-4.38/-3.44	-2.22/-1.04	-0.48/-0.29	-0.16/-0.47	-1.46/-2.71	-3.79/-4.91	-5.7/-6.09	-7.09/-7.89	-8.39/-10.01	-10.02/-8.36	-6.78/-4.95	-3.74/-3.15	-2.64/-1.96	-1.32/-0.77	0.071/37	2.192/48	2.49/2.23	1.220/1.5	-1.15/-2.13	
Θ(22.5°)	-7.02/-6.59	-5.67/-4.41	-3.57/-3.59	-3.68/-3.68	-3.17/-2.06	-2.02/-1.67	-0.90/-0.57	0.3/-0.2	-1.11/-1.66	-1.75/-1.81	-2.37/-3.26	-3.8/-4.47	-5.61/-5.73	-6.9/-10.4	-12.22/-10.57	-8.07/-5.97	-4.65/-3.46	-1.97/-0.91	-1.07/-1.26	-0.39/-1.84	2.93/-2.29	3.5/3.2	2.28/0.97	-1.27/-5.15	
Θ(30°)	-10.9/-9.03	-5.22/-3.91	-4.48/-5.03	-5.64/-4.5	-1.29/-0.03	-0.0/-15	0.78/0.79	0.390/25	0.540/54	0.180/0.2	-0.65/-2.04	-3.16/-3.68	-4.4/-5.81	-7.26/-9.1	-10.4/-9.48	-6.74/-4.78	-3.48/-2.09	-0.590/8.7	1.14/1.11	1.673/0.8	3.54/3.3	3.49/3.49	2.72/1.41	-0.84/-4.41	
Θ(37.5°)	-4.06/-7.37	-5.78/-5.03	-5.65/-6.31	-5.77/-5.32	-2.03/0.17	0.690/7.1	0.13/-0.13	0.61/1.16	1.55/1.57	1.59/1.28	0.2/-1.75	-3.73/-3.93	-4.68/-6.84	-8.8/-8.65	-6.61/-5.1	-4.19/-4.96	-5.13/-3.12	-0.330/3.4	0.59/1.82	2.89/3.66	3.88/2.56	1.69/-2.59	2.81/-4.6	-0.64/-1.31	
Θ(45°)	-4.79/-8.88	-6.71/-5.59	-6.83/-6.31	-5.03/-7.15	-4.52/-2.25	-0.460/7.7	-0.170/0.5	1.73/2.02	1.73/1.63	2.55/3.14	0.99/-1.69	-2.99/-3.95	-4.07/-4.82	-7.23/-10	-7.94/-5.57	-2.71/-3.55	-4.25/-3.91	-1.0/-69	2.31/3.42	3.01/2.89	2.93/2.98	2.52/4.5	1.74/1.22	-0.68/-1.95	
Θ(52.5°)	-5.96/-7.42	-5.6/-4.27	-5.04/-5.93	-6.93/-7.85	-4.85/-4.47	-1.93/-0.2	-1.05/-0.65	1.26/1.62	0.81/1.38	2.823/3.13	-0.14/-1.46	-2.68/-3.96	-5.66/-4.43	-6.39/-4.78	-3.77/-4.9	-2.97/-3.68	-3.92/-3.51	-1.32/-1.47	-1.41/-1.22	-1.66/-1.64	3.732/2.99	1.121/1.5	1.360/3.4	-0.88/-3.41	
Θ(60°)	-5.15/-7.13	-3.74/-4.23	-4.96/-6.55	-10.15/-7.36	-3.77/-3.83	-2.63/-0.66	-0.170/6.2	1.31/1.4	-0.080/55	1.02/1.96	-1.07/-1.88	-4.09/-3.68	-4.36/-4.3	-6.76/-5.28	-2.76/-3.45	-2.83/-2.52	-1.49/-1.3	-2.43/-0.02	2.14/-1.89	1.762/3.26	1.510/7.5	1.67/2.36	-1.73/-4.07		
Θ(67.5°)	-7.19/-7.98	-5.69/-5.34	-5.49/-7.43	-8.51/-5.34	-3.61/-3.33	-0.91/0.07	0.680/9.2	1.57/1.52	-0.530/1	0.72/1.33	0.22/-1.16	-3.7/-3.58	-4.9/-5.13	-7.83/-5.81	-1.09/-3.15	-4.2/-3.64	-3.7/-5.2	-3.85/-1.83	0.45/-0.45	-0.66/-1.06	0.170/81	0.59/-0.32	-0.21/-1.13	-3.1/-3.84	
Θ(75°)	-7.51/-10.33	-8.79/-7.18	-7.26/-7.65	-6.8/-2.98	-3.69/-1.68	-0.96/-0.04	1.06/1.2	1.44/1.94	-0.44/0.37	1.15/1.13	0.89/-0.81	-3.34/-5.67	-7.71/-4.69	-6.29/-6.34	-4.31/-1.37	-3.23/-3.66	-3.02/-1.55	-1.790/86	3.22/2.98	1.750/0.2	-0.450/21	-0.9/-0.94	-2.14/-2.61	-4.65/-4.6	
Θ(82.5°)	-8.11/-9.57	-9.33/-9.46	-9.61/-8.45	-6.02/-2.83	-3.150/3.2	-0.23/-0.53	0.660/8.6	1.15/1.14	-0.02/-0.19	0.840/85	0.69/-0.97	-2.58/-6.66	-7.19/-6.75	-6.06/-4.05	-3.48/-0.91	-2.39/-3.45	-1.07/-0.17	1.964/91	5.37/5.23	3.84/1.54	1.26/-0.64	-0.97/-1.22	-3.2/-3.63	-5.73/-3.99	
Θ(90°)	-6.47/-9.35	-9.89/-9.51	-9.27/-7.78	-5.93/-1.99	-2.220/3.6	0.680/9.8	0.721/39	0.60/53	0.391/54	1.010/31	0.21/-2.11	-3.37/-7.8	-6.44/-5.91	-5.46/-4.45	-3.37/-2.24	-2.23/-1.18	-1.721/99	2.594/56	3.65/183	1.47/0.2	-1.94/-3.38	-5.42/-5.81	-6.02/-5.07		
Θ(97.5°)	-5.29/-6.63	-9.4/-8.56	-9.27/-6.21	-6.38/-3.12	-1.8/-0.3	0.05/1.18	0.380/26	0.26/19	0.260/86	-0.28/-0.8	-1.73/-3.77	-4.77/-8.72	-5.72/-6.17	-5.8/-6.47	-4.47/-2.01	-3.91/-0.3	-0.5/-0.58	0.533/0.33	3.67/2.57	1.18/-0.94	1.80/22	-0.94/-3.98	-5.72/-6.99	-5.87/-4.63	
Θ(105°)	-6.87/-8.27	-9.24/-9.62	-7.37/-4.79	-5.46/-1.96	-0.98/-1.55	0.21/47	0.60/33	0.57/1.09	0.050/29	-1.05/-1.58	-4.92/-6.97	-5.51/-5.84	-4.61/-5.62	-4.26/-4.06	-3.16/-1.46	-1.84/1.43	2.89/1.81	0.05/-4.1	-0.21/-0.72	1.67/2.59	-0.97/-1.22	-3.2/-3.63	-6.98/-6.28	-7.36/-4.84	
Θ(112.5°)	-6.77/-7.55	-10.13/-10.07	-6.41/-4.15	-5.25/-4.77	-2.35/-1.24	-1.520/3.4	0.090/07	-0.260/59	-0.68/-0.93	-1.53/-4.11	-3.04/-4.03	-6.1/-8.36	-5.24/-6.74	-8.96/-9.33	-4.55/-3.39	-2.77/-0.47	-3.16/-4.19	-2.580/8.7	1.610/58	-1.16/-3.78	-0.910/46	-1.91/-7.81	-6.28/-4.94	-7.28/-6.96	
Θ(120°)	-9.9/-7.76	-6.35/-9.03	-6.27/-4.69	-5.93/-3.98	-2.12/-2.37	-0.50/6.2	-0.57/-0.36	-0.340/48	-0.93/-2.28	-3.17/-4.64	-3.72/-3.51	-4.47/-5.34	-6.44/-6.2	-8.39/-9.71	-6.17/-6.73	0/0.68	-3.82/-4.51	-1.42/-0.45	-1.19/-2.95	0.45/-0.98	-1.830/6.7	2.08/-5.77	-6.8/-6.6	-5.34/-6.69	
Θ(127.5°)	-6.95/-8.23	-1.03/-7.61	-5.37/-9.44	-4.36/-3.7	-2.86/-3.41	-1.47/-0.09	0.260/69	-1.39/-1.38	-1.47/-2.25	-3.01/-3.92	-3.76/-4.4	-5.95/-6.39	-7.33/-5.52	-4.97/-4.83	-5.07/-5.38	-3.46/-2.98	-1.54/-1.88	-2.55/-2.08	-2.16/-2.55	-0.76/-1	-0.44/-3.66	-2.41/-3.46	-1.63/-3.21	-5.86/-8.22	
Θ(135°)	-5.65/-8.22	-7.04/-7.76	-6.26/-4.52	-3.84/-5.67	-4.66/-2.78	-2.21/3.65	-1.75/-1.2	0.1/-2.71	-3.66/-3.59	-3.04/-2.5	-3.27/-7.07	-7.54/-6.21	-4.62/-4.93	-2.21/-1.09	-3.04/-4.6	-8.37/-6.36	-2.65/-1.31	-2.08/-1.34	-2.54/-2.25	-1.10/-19	-0.21/-3.99	-5.85/-4.56	-2.57/-3.61	-4.3/-5.7	
Θ(142.5°)	-7.98/-9.1	-8.92/-9.17	-9.06/-5.01	-3.92/-4.08	-4.09/-3	-1.64/-1.97	-1.69/-0.68	-1.13/-3.4	-2.61/-3.12	-3.16/-2.08	-3.73/-8.32	-4.85/-4.52	-2.48/-3.06	-6.05/-6.38	-4.24/-3.6	-1.2/-1.55	-3.98/-2.88	-5.43/-4.74	-2.89/-0.31	0.19/-1.02	-4.41/-6.49	-5.37/-3.39	-4/-7.1		
Θ(150°)	-9.9/-9.25	-8.38/-8.67	-7.48/-7.78	-5.83/-3.96	-3.11/-2.88	-3.74/-3.64	-2.83/-3.02	-3.12/-2.95	-2.25/-3.57	-5.68/-5.64	-5.98/-6.74	-8.97/-7.95	-6.21/-4.75	-3.42/-1.83	-2.09/-2.85	-2.8/-1.81	-3.08/-6.02	-5.65/-3.17	-1.61/-2.21	-3.23/-2.7	-1.72/-2.57	-3.84/-5.13	-4.98/-3.64	-4.2/-6.99	
Θ(157.5°)	-8.89/-8.63	-8.98/-9.94	-9.48/-7.91	-7.14/-6.84	-5.3/-6.14	-5.5/-2.82	-1.82/-2.97	-4.85/-4.31	-2.98/-2.92	-3.76/-6.22	-7.23/-6.22	-7.6/-9.7	-8.08/-7.08	-6.6/-4.83	-3.38/-3.73	-4.76/-5.23	-3.3/-1.9	-0.52/-1.33	-3.49/-5.1	-5.24/-4.95	-4.84/-5.47	-6.36/-6.88	-8.24/-9.23		
Θ(165°)	-4.82/-4.39	-4.78/-4.38	-4.62/-6.3	-7.13/-7.39	-7.13/-5.9	-4.33/-5.36	-5.67/-5.4	-5.06/-5.26	-6.7/-3.2	-7.67/-8.1	-8.34/-7.84	-5.8/-5.4	-2.43/-0.71	0.620/7.3	-0.17/-0.48	-1.462/-3.74	-3.97/-3.14	-2.45/-3.15	-4.54/-5.71	-5.89/-5.96	-6.12/-6.79	-8.67/-9.18	-6.73/-7.08		
Θ(172.5°)	-10.35/-10.25	-0.08/-9.07	-9.27/-8.69	-8.17/-8.22	-7.85/-7.57	-7.18/-6.81	-6.53/-6.28	-6.26/-6.59	-7.33/-7.48	-7.52/-7.68	-8.17/-7.67	-6.96/-6.3	-4.75/-3.69	-3.4/-3.29	-3.27/-3.19	-2.97/-3.18	-3.51/-3.47	-3.99/-4.49	-4.94/-5.39	-5.81/-5.97	-6.07/-6.18	-6.1/-6.09	-6.98/-6.76	-7.11/-8.78	
Θ(180°)	-7.65/-6.3	-5.55/-4.52	-3.58/-2.85	-2.54/-2.53	-2.55/-2.95	-4/-5.4	-6.1/-6.68	-6.9/-6.82	-6.39/-6.47	-7.41/-9.54	-9.56/-9	-8.64/-7.3	-7.63/-7.23	-6.44/-5.42	-4.63/-4.42	-4.56/-4.46	-4.3/-4.85	-5.93/-6.04	-5.97/-5.97	-6.17/-6.55	-7.15/-7.77	-7.75/-8.46	-9.64/-10.73	-10.09/-8.77	
Freq(Hz)	6.175GPol.	ThetaL	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)	
DG(dB)	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)	
Θ(0°)	-2.6/-1.36	-0.8/-0.63	-0.210/17	-0.04/-0.42	-0.84/-1.2	-1.73/-2.74	-3.97/-4.99	-5.74/-6.41	-7.41/-8.19	-7.74/-6.2	-5/-3.87	-3.05/-2.3	-1.81/-1.57	-1.13/-1.08	-1.38/-1.56	1.39/-1.54	-2.12/-2.7	-3.48/-4.39	-5.97/-7.39	-8.65/-9.28	-10.09/-10.08	-9.25/-7.69	-6.63/-5.66	-4.02/-2.79	
Θ(7.5°)	-0.87/-0.98	-1.07/-1.43	-1.52/-1.69	-1.89/-1.22	-2.42/-2.56	-3.19/-4.05	-5.06/-6.04	-6.88/-7.95	-9.24/-10.29	-9.51/-8.3	-7.26/-5.11	-3.2/-1.97	-1.18/-0.33	0.080/38	0.580/53	0.470/34	-0.07/-0.51	-1.08/-1.99	-3.53/-4.6	-5.12/-6.18	-6.79/-6.24	-4.71/-3.75	-2.62/-1.64	-1.02/-0.76	
Θ(15°)	1.48/1.41	1.35/1.35	1.52/1.67	1.53/1.1	0.49/-0.44	-1.55/-2.45	-3.61/-5.28	-6.94/-7.97	-8.4/-6.39	-3.63/-2.38	-2.59/-3.44	-2.4/-0.63	0.050/32	0.93/1.26	1.190/7.2	0.620/91	0.950/45	-0.13/-0.49	-1.33/-2.81	-4.68/-6.35	-7.93/-8.56	-6.52/-4.18	-2.07/-0.81	0.24/-2.22	
Θ(22.5°)	2.693/12	3.18/2.62	2.58/2.61	2.46/1.69	0.48/-0.48	-0.79/-0.94	-1.35/-2.36	-2.26/-2.23	-3.26/-4	-5.02/-4	-2.71/-1.98	-1.16/-0.76	-0.15/-0.6	1.74/1.57	1.58/1.68	1.420/88	0.40/2.5	0.04/-0.07	0.16/-0.7	-2.31/-4.44	-6.76/-7.53	-6.42/-3.77	-1.090/87	2.062/51	
Θ(30°)	2.021/69	1.531/76	1.260/76	1.462/1.4	1.620/51	0.77/1.08	0.730/46	0.80/-0.3	-0.97/-2.09	-3.67/-3.77	-1.39/-0.02	0.160/82	1.31/2.12	3.04/3.58	3.49/3.05	2.57/1.52	1.11/1.38	1.35/1.21	0.55/-0.06	-0.95/-3.24	-4.76/-5.91	-6.68/-5.02	-1.820/1	1.37/1.82	
Θ(37.5°)	1.962/5																								



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(15°)	-6.08/-6.06	-7.05/-9.59	-9.98/-8.84	-6.97/-4.9	-3.75/-3.46	-3.62/-3.92	-4.69/-6.3	-6.12/-5.2	-3.75/-2.72	-2.27/-2.37	-2.4/-2.42	-3.37/-3.91	-5.5/-7.67	-8.83/-8.55	-9.3/-8.71	-7.64/-6.44	-6.16/-5.66	-5.77/-4.48	-2.99/-1.52	-0.25/0.45	0.74/0.39	-0.43/-1.15	-2.15/-3.94	-4.95/-5.46	
Θ(22.5°)	-6.75/-7.16	-8.1/-10.15	-9.4/-9.6	-8.59/-6.9	-5.35/-4.59	-4.79/-4.81	-6.88/-7.49	-6.69/-5.66	-4.68/-4.36	-3.42/-2.66	-2.65/-3.42	-5.38/-7.05	-7.32/-8.89	-11.73/-11.68	-10.29/-8.64	-7.52/-6.84	-5.25/-5.96	-5.93/-3.9	-1.75/0.04	1.42/2.29	2.74/2.57	1.5/-0.01	-1.46/-3.14	-4.44/-5.16	
Θ(30°)	-5.69/-8.8	-8.09/-10.12	-7.85/-9.49	-10.16/-8.51	-5.49/-3.84	-3.76/-3.86	-2.83/-1.91	-1.89/-1.94	-3.26/-5.41	-4.58/-3.06	-2.79/-3.23	-4.48/-4.9	-5.91/-8.14	-10.58/-9.69	-11.24/-11.81	-10.58/-7.52	-6.03/-4.97	-3.63/-1.06	0.86/1.43	2.51/3.31	3.03/2.27	1.28/0.26	-0.67/-2.55	-4.04/-4.4	
Θ(37.5°)	-7.43/-9.43	-7.37/-5.75	-7.39/-7.78	-6.69/-9.94	-7.39/-3.7	-2.25/-2.49	-1.22/-0.44	-0.58/-0.03	-0.55/-1.69	-2.03/-1.93	-2.24/-3.37	-3.68/-7.53	-6.96/-7.09	-10.52/-9.37	-10.3/-9.27	-7.18/-6.2	-5.95/-4.81	-5.5/-3.5	-0.74/-1.26	0.08/0.09	2.33/2.3	2.02/1.43	1.4/-0.25	-3.08/-4.53	
Θ(45°)	-8.27/-10.17	-8.35/-7.39	-7.41/-6.34	-5.98/-8.32	-9.07/-4.29	-1.19/-1.38	-0.08/0.59	0.32/0.71	-0.39/-1.24	-0.6/-0.9	-0.53/-1.83	-5.34/-8.56	-9.52/-8.42	-10.38/-12.34	-9.8/-5.92	-3.98/-6.18	-5.61/-3.61	-3.91/-2.6	1.25/1.77	1.37/2.46	2.29/1.66	1.68/0.72	0.2/-1.86	-5.57/-6.13	
Θ(52.5°)	-6.82/-9.88	-7.68/-5.54	-4.69/-5.08	-7.27/-8.92	-9.35/-3.39	-0.43/-0.1	-0.9/-0.44	1.54/1.62	0.39/1.66	1.42/-0.03	-0.3/-3.07	-4.56/-7.8	-10.2/-7.88	-10.14/-10.04	-8.12/-5.17	-3.89/-3.43	-5.77/-4.47	-3.54/-1.61	0.65/1.38	2.27/1.96	0.94/2.12	1.45/-0.67	-0.9/-2.25	-5.76/-4.93	
Θ(60°)	-6.79/-9.21	-7.72/-5.27	-4.45/-5.61	-9.33/-9.1	-6.75/-3.69	-2.14/-0.68	-0.43/-1.05	0.88/0.96	1.32/2.89	1.52/-0.03	-0.24/-2.84	-3.38/-6.94	-10.35/-6.93	-8.15/-8.35	-8.35/-7.29	-6.33/-5.65	-4.49/-5.3	-5.31/-3.89	-1.35/-0.46	0.68/0.18	0.9/1.62	-1.27/-2.37	-0.13/-2.82	-5.64/-5.71	
Θ(67.5°)	-6.67/-9.64	-8.11/-6.8	-5.36/-7.27	-8.65/-6.13	-6.16/-4.84	-1.31/-0.15	-0.52/-1.27	0.63/0.43	2.17/2.59	0.05/-0.04	-0.93/-3.78	-3.43/-5.19	-8.96/-10.17	-7.14/-6.21	-6.07/-7.74	-5.9/-7.3	-6.85/-5.45	-4.93/-3.04	-0.3/0.2	0.84/-0.48	0.76/0.96	-1.94/-0.11	0.09/-3.13	-9/-7.08	
Θ(75°)	-7.34/-9.45	-10.05/-7.73	-7.9/-6.76	-8/-5.46	-5.13/-5.22	-1.95/0.56	-0.19/-2.03	1.53/0.63	1.04/0.71	-0.59/0.46	-1.28/-4.38	-5.15/-4.77	-8.75/-7.48	-9.05/-7.88	-5.54/-5.48	-5.76/-7.49	-7.69/-4.73	-2.7/-0.99	2.61/2.21	1.59/-0.46	0.32/0.27	-2.27/-0.27	-0.86/-3.9	-8.72/-9.24	
Θ(82.5°)	-7.23/-9.81	-12.16/-6.84	-8.72/-7.1	-6.12/-6.35	-3.77/-4.02	-2.46/-0.64	-1.55/-2.35	0.76/0.76	0.28/0.04	-0.25/0.6	-1.12/-3.33	-5.43/-5.18	8.04/-6.32	-6.95/-8.46	-5.27/-4.25	-5/-6.74	-3.86/-1.35	-1.46/1.85	3.99/4.06	2.8/1.58	-0.58/-0.91	-2.77/-2.38	-1.41/-4.11	-6.8/-9.44	
Θ(90°)	-6.16/-11.16	-9.95/-8.24	-8.07/-6.79	-5.81/-5.59	-2.79/-1.74	-2.22/-0.93	-1.27/-2.19	-0.48/-0.16	-0.32/-1.18	-1.19/0.14	-1.07/-2.6	-4.83/-5.45	-6.53/-7.41	-6.19/-7.61	-6.29/-4.05	-5.83/-4.49	-1.63/-2.2	-1.42/-1.22	3.85/3.46	1.82/1.15	0.19/-2.03	-2.75/-3.58	-2.5/-5.63	-6.24/-9.49	
Θ(97.5°)	-7/-9.51	-8.98/-9.01	-7.52/-5.8	-4.81/-4.37	-2.23/-1.88	-1.14/-0.74	-1.9/0.85	-0.32/0.03	-1.18/-1.74	-1.77/0.41	-1.64/-4.19	-5.26/-6.02	-6.82/-7.27	-8.59/-8.5	-7.15/-4.04	-5.2/-2.87	-1.57/-1.52	-1/-0.23	2.19/1.59	0.64/-1.86	-1.49/-2.94	-4.47/-3.86	-4.66/-6.44	-7.75/-10.03	
Θ(105°)	-7.72/-8	-7.94/-10.57	-5.54/-3.6	-3.48/-5.63	-2.81/-0.65	-1.03/-0.96	-1.64/-0.28	-0.07/-1.57	-1.59/-1.85	-2.4/-1.31	-2.92/-4.64	-5.69/-6.78	-6/-8.61	-7.87/-7.51	-4.58/-4.57	-5.16/-1.93	-1.09/-3.47	-2.81/-1.13	0.25/0.68	-1.06/-2.8	-3.3/-2.65	-5.16/-4.57	-5.98/-6.8	-9.39/-11.24	
Θ(112.5°)	-6.31/-6.79	-7.48/-7.57	-5.27/-7.47	-4.72/-2.73	-4.23/-2.46	-2.14/-1.73	-1.5/-0.3	-0.9/-3.2	-3.78/-2.62	-3.23/-3.22	-3.33/-6.16	-7.95/-8.33	-4.89/-7.65	-9.76/-7.81	-6.64/-3.28	-6.27/-1.45	-2.38/-3.14	-4.07/-1.51	-0.06/0.11	-3.62/-4.67	-5.55/-2.99	-4.82/-8.07	-6.57/-7.2	-9.76/-8.05	
Θ(120°)	-7.45/-5.79	-7.09/-7.76	-5.39/-3.22	-5.6/-6.06	-4.94/-4.57	-2.52/-3.11	-3.58/-2.48	-1.78/-5.16	-5.09/-3.63	-4.37/-5.14	-5.94/-6.69	-8.86/-7.6	-7.01/-8.1	-8.49/-9.59	-3.88/-6.01	-2.45/-1.16	-4.1/-3.5	-3.78/-4.93	-1.99/-2.75	-2.71/-2.45	-4.63/-1.34	-8.49/-6.83	-8.05/-8.83	-9.22/-6.67	
Θ(127.5°)	-6.69/-6.66	-7.85/-11.27	-7.74/-5.37	-6.76/-8.04	-6.86/-8.3	-5.24/-6.76	-6.23/-4.65	-2.88/-5.93	-6.27/-5.76	-6.03/-6.47	-6.12/-6.29	-8.57/-8.5	-11.64/-8.93	-8.65/-8.77	-6.37/-3.23	-2.37/-2.9	-3.88/-2.22	-3.12/-4.4	-4.14/-3.86	-2.76/-1.18	-6.36/-7.18	-6.11/-4.3	-6.94/-5.8	-7.71/-7.36	
Θ(135°)	-6.61/-4.57	-6.02/-6.36	-7.81/-6.37	-7.42/-5.16	-5.04/-4.1	-5.91/-3.92	-3.24/-6.63	-2.77/-3.74	-3.71/-4.45	-6.3/-5.44	-5.83/-7.5	-7.75/-7.89	-10.88/-12.25	-11.72/-8	-3.02/-5.99	-8.57/-9.18	-6.96/-4.86	-3.61/-3.17	-5.84/-6	-6.06/-6.91	-4.67/-4.08	-3.43/-2.32	-0.97/-10.78	-6.67/-8.06	-10.31/-8.45
Θ(150°)	-6.47/-4.72	-4.88/-4.87	-5.14/-5.48	-5.24/-4.02	-3.55/-3.52	-4.17/-3.55	-2.4/-2.46	-3.24/-4.65	-6.93/-5.51	-6.33/-8.77	-10.48/-10.47	-12.42/-11.69	-11.61/-8.81	-8.92/-6.26	-5.54/-6.01	-4.11/-3.53	-4.49/-7.18	-7.39/-5.68	-4.07/-4.29	-4.01/-4.31	-4.89/-3.88	-4.74/-8.22	-7.12/-8.83	-12.29/-8.47	
Θ(157.5°)	-8.78/-8.98	-6.19/-6.11	-6.4/-6.73	-7.8/-7.47	-6.38/-4.01	-4.02/-5.21	-4.95/-4.06	-3.78/-4.91	-7.22/-8.08	-6.97/-7.64	-9.29/-9.99	-8.23/-9.1	-11.46/-11.05	-10.26/-8.04	-5.53/-5.22	-4.86/-5.01	-4.74/-3.98	-3.89/-2.9	-1.85/-2.44	-3.49/-3.66	-5.64/-6.18	-6.31/-5.45	-6.17/-6.67	-9.13/-9.01	
Θ(165°)	-8.32/-8.7	-10.54/-93	-7.4/-5.83	-4.83/-3.95	-3.76/-4.1	-4.42/-4.62	-4.16/-3.1	-2.53/-2.67	-3.32/-4.4	-6.68/-7.75	-8.03/-8.91	-7.43/-6.24	-7.19/-6.05	-3.89/-3.89	-3.82/-1.91	-0.98/-1.13	-2.12/-3.24	-3.74/-3.72	-3.85/-4.05	-3.94/-3.14	-3.33/-3.66	-4.29/-5.48	-6.55/-6.67	-6.43/-7.48	
Θ(172.5°)	-9.57/-8.25	-7.79/-6.76	-6.74/-6.33	-6.45/-6.14	-6.04/-6.38	-6.76/-7.11	-6.77/-6.13	-6.45/-7.58	-8.25/-8.42	-8.82/-10.05	-10.23/-9.84	-9.95/-10.2	-8.31/-7.48	-6.92/-6.62	-4.83/-5.52	-6.07/-5.91	-5.44/-5.55	-5.89/-6.55	-6.56/-5.92	-5.39/-4.93	-5.15/-5.7	-6.34/-7.11	-8.08/-8.68	-9.68/-10.17	
Θ(180°)	-9.74/-10.27	-10.39/-9.57	-8.85/-7.74	-6.97/-6.79	-6.42/-6.5	-7.65/-8.71	-9.24/-9.54	-9.37/-9.26	-9.73/-10.04	-9.4/-9.98	-9.48/-10.19	-10.43/-10.36	-10/-10.46	-10.17/-10	-9.5/-7.89	-6.77/-6.33	-5.85/-5.95	-6.32/-6.42	-6.49/-5.92	-5.3/-5.2	-5.61/-5.77	-5.97/-6.54	-7.51/-8.07	-9/-9.7	
Freq(Hz)	6.995GHz	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°)	-4.85/-4.37	-4.7/-4.75	-4.33/-3.97	-3.9/-4.25	-5/-5.29	-5.64/-6	-6.32/-7.22	-7.33/-7.04	-7.17/-6.95	-6.54/-5.88	-5.28/-5.12	-5.15/-4	-3.25/-3.64	-3.66/-2.74	-2.22/-2.88	-3.43/-3.63	-3.99/-4.64	-5.51/-3.63	-7.34/-7.42	-7.79/-7.8	-7.99/-8.58	-8.39/-7.33	-6.25/-9.43	-5.33/-5.52	
Θ(7.5°)	-0.45/-0.73	-0.44/-0.32	-0.59/-1.09	-1.29/-2.23	-3.37/-4.68	-5.8/-6.48	-7.42/-8.44	-5.97/-8.89	-8.91/-8.84	-5.83/-5.38	-4.59/-3.55	-3.1/-3.1	-2.62/-2.28	-2.62/-3.03	-3.05/-3.49	-4.49/-5.25	-5.76/-6.79	-7.71/-6.83	-7.81/-6.83	-5.72/-4.52	-3.5/-2.4	-1.74/-1.27	-0.94/-0.43	-	
Θ(15°)	0.25/0.5	0.81/0.74	0.74/0.18	-0.52/-1.53	-2.57/-3.8	-4.83/-5.49	-5.65/-6.24	-6.4/-6.9	-7.63/-8.35	-8.49/-7.39	-5.69/-4.54	-4.16/-3.31	-2.24/-1.14	-0.32/-0.2	-0.22/-0.23	-0.57/-1.4	-2.25/-2.36	-2.37/-3.25	-4.6/-6.16	-7.43/-8.72	-7.54/-5.55	-3.21/-1.4	-0.33/0.09	0.18/0.21	
Θ(22.5°)	0.27/1.02	0.99/0.66	0.91/0.62	-0.56/-1.46	-2.04/-2.21	-2.48/-2.89	-3.4/-3.79	-4.74/-5.25	-4.76/-4.68	-5.25/-5.93	-5.17/-3.99	-3.79/-3.24	-1.35/-0.46	-0.51/0.14	1.15/1.66	1.71/1.22	0.83/0.67	0.33/-0.48	-1.38/-2.52	-4.63/-5.74	-8.49/-6.95	-4.33/-2.68	-1.51/-0.82	-0.53/-0.44	
Θ(30°)	0.82/1.41	1.75/1.22	1.01/1.63	1.34/1.11	1.01/0.6	-0.08/-0.15	0.08/-0.71	-1.46/-1.49	-1.37/-1.8	-3.17/-4.82	-5.28/-4.57	-2.56/-2.33	-1.65/-0.39	0.08/0.94	2.47/2.87	3.31/3.26	2.25/1.8	2.52/65	1.75/0.76	-0.58/-2.98	-6.43/-7.18	-3.63/-2.36	-2.4/-2.49	-1.78/-0.66	
Θ(37.5°)	1.11/1.39	1.31/0.17	-1.21/0.09	1.47/1.98	2.59/2.71	1.92/1.69	1.51/0.7	-0.02/-0.43	-0.82/-1.45	-1.36/-1.46	-3.47/-3.63	-2.11/-1.77	-0.62/-0.94	0.87/2.1	2.93/48	4.48/3.85	2.56/2.15	1.65/1.59	2.24/1.54	-0.08/-0.39	-1.28/-2.17	-1.72/-2.05	-2.18/-1.25	-0.43/0.34	
Θ(45°)	0.65/1.88	1.94/1.52	-0.42/0.23	1.86/2.22	2.32/59	1.78/1.96	2.04/1.3	1.78/0.28	-0.11/38	1.07/0.88	-1.35/-1.9	-1.06/-0.49	-1.81/-0.34	1.63/31	3.87/3.46	3.94/3.81	2.32/46	1.65/1.95	1.95/0.3	0.3/-0.8	-1.71/-2.23	-1.56/-0.25	0.2/-1.02	-0.2/-0.21	
Θ(52.5°)	0.19/1.23	0.63/0.24	-0.43/0.51	3.05/3.21	2.15/2.5	2.12/1.69	2.07/2.39	2.45/1.07	2.07/2.49	2.193/47	1.20/69	-0.19/0.42	0.11/-0.48	0.953/74	4.332/86	3.683/46	2.42/1.82	2.32/36	2.03/1.26	1.02/-0.47	0.97/0.13	-0.11/0.87	-0.12/-2.28	-2.9/-1.64	
Θ(60°)	-0.9/0.01	-0.36/-1.51	-1.4/-0.49	2.17/0.06	3.21/3.24	2.63/1.86	2.21/2.32	2.01/1.59	2.362/46	2.932/66	1.83/-0.53	-1.32/-0.39	-0.84/-1.92	-3.18/1.05	3.692/26	1.51/1.86	1.09/0.96	1.31/1.26	0.37/0.59	0.32/-0.3	1.18/-0.67	-0.91/0.77	-0.77/-4.26	-2.59/-1.6	
Θ(67.5°)	0.03/1.3	1.57/1.43	0.63/-0.12	1.72/3.4	2.84/3	3.122/45	3.483/99	2.77/1.9	2.08/1.78	2.62/75	1.53/1.34	-0.41/-0.72	-0.93/-2.13	-0.77/0.32	2.26/1.95	-0.39/-1.41	-0.74/0.41	0.892/69	1.87/2.1	0.40/1.2	-0.26/-2.43	-0.07/1.36	-1.56/-2.03	-0.33/-0.91	
Θ(75°)	0.33/1.88	2.72/2.08	1.89/1.04	1.11/1.37	2.45/3.02	3.73/43	3.76/4.4	3.69/1.84	1.72/1.41	1.482/0.3	1.732/2.4	0.01/-0.15	0.09/-1.75	0.55/1.58	1.73/1.43	0.51/0.53	-1.34/2.49	2.524/89	4.04/4.24	0.65/1.73	-0.27/-0.55	1.15/1.26	-1.98/-0.17	0.55/-0.94	
Θ(82.5°)	0.34/1.81	2.84/2.16	2.05/1.03	0.47/0.44	1.37/3.03	2.992/89	3.63/3.91	2.922/85	1.05/0.57	0.54/1.64	1.96/2.1	-0.37/-0.35	-0.78/-1.3												

Radiated Composite Gain Data of 6GHz

Appendix B

Gain Result

Freq(Hz)	6.175GPol.		Phi/Ant.1		+		-		+		-		+		-		+		-		+		-		+		-	
Gain	Φ(0°)Ψ(7.5°)	Φ(15°)Ψ(22.5°)	Φ(30°)Ψ(37.5°)	Φ(45°)Ψ(52.5°)	Φ(60°)Ψ(67.5°)	Φ(75°)Ψ(82.5°)	Φ(90°)Ψ(97.5°)	Φ(105°)Ψ(112.5°)	Φ(120°)Ψ(127.5°)	Φ(135°)Ψ(142.5°)	Φ(150°)Ψ(157.5°)	Φ(165°)Ψ(172.5°)	Φ(180°)Ψ(187.5°)	Φ(195°)Ψ(202.5°)	Φ(210°)Ψ(217.5°)	Φ(225°)Ψ(232.5°)	Φ(240°)Ψ(247.5°)	Φ(255°)Ψ(262.5°)	Φ(270°)Ψ(277.5°)	Φ(285°)Ψ(292.5°)	Φ(300°)Ψ(307.5°)	Φ(315°)Ψ(322.5°)	Φ(330°)Ψ(337.5°)	Φ(345°)Ψ(352.5°)				
Θ(0°)	-8.34/-7.37	-9.01/-12.44	-13.91/-13.07	-15.42/-18.28	-18.37/-19.45	-18.75/-16.8	-13.90/-12.36	-11.25/-9.52	-8.6/-8.46	-6.33/-7.96	-7.55/-7.73	-7.84/-9.11	9.5/-9.08	-9.07/-97	-10.31/-10.32	-10.83/-10.67	-11.55/-14.12	-15.28/-14.27	-13.71/-13.51	-11.92/-11.04	-10.33/-9.49	-8.54/-8.46	-7.51/-6.62	-8.2/-9.28				
Θ(7.5°)	-9.91/-10.26	-9.63/-9.79	-10.95/-9.95	-9.2/-10.8	-11.52/-11.62	-11.13/-10.74	-10.36/-10.16	-10.29/-9.48	-8.53/-4.89	-8.46/-8.09	-7.09/-6.71	-7.31/-8.96	-9.42/-8.96	-9.96/-12.61	-15.27/-17.29	-19.07/-18.03	-18.22/-18.1	-16.21/-17.72	-11.37/-10.36	-9.48/-8.4	-8.16/-8.14	-7.8/-8.31	-8.86/-8.46	-8/-8.57				
Θ(15°)	-9.3/-10.58	-16.01/-17.72	-12.87/-10.28	-8.88/-7.73	-7.97/-9.18	-11.27/-13.09	-11.75/-8.84	-6.48/-8.43	-4.02/-4.05	-4.68/-6.56	-6.18/-3.77	-9.19/-12.17	-15.4/-18.56	-18.13/-18.63	-18.13/-18.33	-18.37/-18.73	-18.11/-16.86	-15.59/-15.02	-15.58/-15.76	-14.46/-11.8	-9.4/-8.22	-7.2/-6.4	-5.96/-6.24	-7.8/-9.22				
Θ(22.5°)	-14.19/-13.66	-14.39/-16.73	-13.71/-11.4	-10.27/-6.61	-6.77/-7.93	-11.73/-16.74	-9.59/-5.59	-4.85/-5.31	-6.44/-7.99	-6.18/-9.93	-6.37/-1.88	-10.85/-12.93	-14.38/-13.24	-14.14/-17.06	-18.21/-18.56	-17.97/-16.7	-15.92/-16.87	-8.64/-8.97	-10.81/-10.33	-8.99/-7.29	-5.99/-5.92	-6.67/-1.8	-7.15/-6.97	-8.16/-12.01				
Θ(30°)	-15.13/-18.26	-17.93/-17.87	-17.74/-13.6	-11.68/-6.85	-7.13/-7.76	-9.4/-8.76	-6.09/-4.93	-5.17/-5.62	-5.51/-6.31	-6.86/-5.93	-5.87/-7.02	-8.86/-10.08	-11.81/-14.3	-13.8/-14.62	-16.91/-15.79	-13.01/-11.25	-9.43/-7.48	-6.29/-6.8	-7.54/-6.81	-4.79/-3.16	-2.65/-2.96	-4.18/-6.09	-8.15/-8.3	-8.34/-10.37				
Θ(37.5°)	-9.5/-14.44	-17.5/-10.46	-15.86/-16.49	-10.97/-8.17	-6.88/-6.48	-6.4/-8.4	-7.26/-8.38	-8.05/-9.9	-6.58/-5.62	-6.1/-7.08	-6.96/-8.32	-10.63/-8.35	-7.58/-9.8	-13.32/-18.02	-18.92/-13.63	-8.2/-7.06	-7.05/-6.32	-5.49/-5.61	-5.33/-4.66	-3.46/-2.76	-2.87/-4.75	-6.8/-7.11	-6.83/-6.68	-7.48/-7.46				
Θ(45°)	-11.16/-12.85	-15.97/-13.29	-13.08/-15.71	-9.47/-5.72	-7.08/-6.7	-6.94/-7.3	-8.45/-8.16	-6.9/-9.17	-7.35/-7.22	-6.48/-6.65	-5.81/-8.07	-12.29/-10.24	-7.96/-9.97	-8.84/-12.36	-15.56/-15.29	-5.51/-3.62	-4.92/-6.33	-5.24/-5.35	-5.13/-3.39	-2.49/-1.66	-1.96/-2.78	-3.08/-4.01	-6.57/-7.57	-7.26/-8.38				
Θ(52.5°)	-11.74/-13.03	-14.8/-15.55	-10.3/-14.27	-11.63/-7.79	-8.65/-8.67	-7.83/-7.46	-9.6/-12.4	-8.93/-8.89	-8.19/-8	-6.76/-4.23	-5.69/-6.31	-11.09/-10.86	-15.21/-9.62	-11/-18.04	-8.62/-11.06	-6.96/-6.14	-5.62/-6.61	-5.88/-8.8	-9.73/-6.98	-5.54/-3.77	-2.58/-2.02	-2.99/-5.34	-8.43/-6.52	-6.25/-8.23				
Θ(60°)	-12.48/-13.81	-10.32/-12.6	-10.02/-14.6	-13.68/-8.86	-10.79/-10.59	-9.92/-10.23	-12.76/-11.77	-8.93/-7.97	-6.97/-9.93	-13.95/-8.4	-10.11/-13.25	-11.22/-9.16	-14.7/-12.47	-14.73/-13.16	-8.32/-11.75	-7.14/-7.33	-11.69/-10.87	-7.4/-6.38	-8.06/-4.8	-3.46/-2.75	-1.46/-0.59	-1.23/-2.82	-6.46/-7.39	-6.22/-9.32				
Θ(67.5°)	-15.02/-18.55	-12.89/-12.81	-10.01/-14.84	-10.67/-10.61	-14.61/-14.54	-11.78/-10.31	-11.54/-19.26	-10.75/-8.59	-9.67/-14.56	-12.84/-8.33	-11.52/-14.72	-14.7/-12.47	-14.73/-13.16	-8.32/-11.75	-7.14/-7.33	-11.69/-10.87	-7.4/-6.38	-8.06/-4.8	-3.46/-2.75	-1.46/-0.59	-1.23/-2.82	-6.46/-7.39	-6.22/-9.32					
Θ(75°)	-12.96/-17.88	-15.34/-12.93	-10.56/-15.35	-11.23/-12.41	-13.25/-14.64	-15.69/-11.66	-11.94/-14.65	-14.71/-12.16	-17.13/-18.34	-11.21/-9.45	-11.55/-13.16	-15.09/-10.64	-18.66/-17.88	-18.13/-18.39	-8.49/-6.91	-11.32/-14.39	-18.18/-9.4	-6.98/-4.29	-3.82/-1.42	-2.35/-2.89	-3.01/-7.07	-1.69/-5.36	-8.97/-11.7	-9.06/-10.42				
Θ(82.5°)	-14.4/-18.86	-17.54/-11.43	-13.27/-17.26	-12.7/-12.74	-17.14/-13.29	-10.67/-8.91	-11.83/-12.53	-11.51/-11.61	-17.6/-17.37	-14.09/-11.86	-14.33/-15.32	-18.76/-18.56	-17.95/-18.26	-17.03/-17.47	-7.72/-9.41	-12.88/-17.46	-10.98/-8.17	-4.96/-1.77	-0.99/-0.1	-0.5/-2.83	-3.56/-2.87	-1.81/-8.4	-12.48/-13.6	-10.49/-39				
Θ(90°)	-14.24/-18.94	-15.34/-12.9	-11.85/-12.43	-15.78/-13.1	-16.91/-13.74	-10.99/-7.83	-11.58/-12.14	-9.42/-7.17	-14.94/-14.16	-13.22/-12.92	-18.26/-15.82	-18.08/-14.76	-14.19/-17.62	-18.03/-17.77	-9.68/-8.64	-6.18/-18.14	-8.62/-4.03	-3.82/-3.28	-2.18/-0.98	-1.68/-3.34	-3.76/-2.41	-3.54/-6.36	-16.12/-12.81	-10.32/-99				
Θ(97.5°)	-12.37/-14.94	-18.47/-13.85	-12.95/-8.84	-18.33/-17.45	-14.24/-10.23	-15.25/-8.62	-10.63/-10.4	-10.18/-12.32	-11.55/-13.28	-11.77/-12.48	-18.37/-16.43	-18.23/-17.16	-15.21/-18.56	-15.71/-16.77	-15.44/-12.72	-19.32/-17.87	-8.77/-6.44	-5.44/-4.73	-3.04/-2.12	-3.52/-5.06	-4.52/-3.22	-3.79/-7.56	-16.37/-17.39	-10.76/-9.05				
Θ(105°)	-15.54/-18.56	-17.95/-14.05	-9.07/-8.31	-14.62/-12.63	-10.77/-15.84	-14.17/-18.08	-12.97/-10.79	-10.54/-8.71	-12.57/-15.75	-13.03/-13.7	-18.17/-17.87	-13.08/-15.8	-14.25/-18.27	-11.82/-12.55	-10.65/-15.94	-18.44/-18.69	-6.18/-6.78	-10.95/-9.18	-4.14/-3.32	-3.46/-6.81	-5.7/-3.83	-3.93/-8.71	-16.11/-18.76	-11.31/-10.4				
Θ(112.5°)	-16.7/-14.71	-18.33/-14.29	-9.82/-6.87	-14.01/-16.63	-12.74/-16.55	-18.47/-17.62	-12.96/-14.08	-10.49/-10.2	-17.79/-13.62	-13.49/-18.57	-16.92/-16.15	-18.23/-18.08	-14.34/-18.75	-14.63/-16.11	-11.46/-15.98	-18.21/-16.89	-6.44/-7.93	-9.04/-5.16	-3.33/-3.28	-3.84/-7.95	-7.92/-7.37	-5.37/-12.22	-15.64/-17.8	-13.12/-17.1				
Θ(120°)	-18.58/-18.33	-17.41/-12.05	-6.87/-7.89	-7.7/-10.14	-15.69/-18.31	-11.49/-12.68	-12.69/-12.2	-10.91/-9.18	-14.31/-18.99	-17.76/-17.79	-15.53/-17.88	-14.18/-15.9	-18.67/-15.42	-19.09/-17.5	-10.17/-15.93	-8.7/-19.4	-6.16/-12.58	-12.07/-8.92	-6.32/-5.29	-5.49/-10.62	-10.4/-2.26	-3.41/-14.54	-18.55/-18.74	-18.35/-17.97				
Θ(127.5°)	-17.44/-13.57	-14.82/-12.37	-9.15/-7.74	-7.65/-9.92	-10.76/-10.87	-16.27/-16.12	-8.71/-6.73	-9.21/-11.59	-17.53/-14.89	-17.26/-12.14	-11.89/-13.43	-11.11/-16.84	-17.5/-15.35	-13.52/-13.91	-10.39/-9.64	-9.07/-13.21	-15.95/-8.92	-11.71/-9.64	-6.85/-7.3	-5.31/-13.9	-16.54/-6.09	-8.74/-17.83	-12.45/-19.1	-17.66/-17.15				
Θ(135°)	-14.26/-15.84	-12.73/-13.66	-7.42/-6.67	-12.66/-12.11	-12.96/-18.6	-14.64/-15.35	-9.14/-9.49	-11.79/-14.32	-11.02/-9.95	-14.48/-13.74	-13.22/-13.96	-18.14/-15.29	-9.75/-8.1	-10.39/-10.75	-13.63/-13.76	-17.93/-10.88	-9.37/-11.88	-9.96/-16.76	-17.37/-10.88	-10.79/-11.38	-9.37/-11.84	-18.38/-16.48	-17.31/-18.48	-16.73/-14.9				
Θ(142.5°)	-16.05/-16.6	-14.17/-11.59	-9.71/-6.93	-8.3/-9.04	-11.41/-15.08	-8.75/-6.48	-9.6/-9.9	-7.92/-8.43	-10.88/-12.98	-11.5/-8.89	-10.3/-18.09	-18.61/-18.74	-18.58/-17.8	-11.51/-10.87	-12.51/-12.74	-8.34/-6.18	-6.19/-16	-14.01/-9.78	-6.95/-6.97	-6.59/-5.85	-6.59/-10.58	-14.23/-17.19	-18.48/-18.08	-17.51/-17.66				
Θ(150°)	-16.06/-12.39	-12.3/-8.8	-8.31/-9.27	-9.26/-8.03	-7.16/-7.96	-9.82/-10.08	-10.46/-11.87	-8.66/-7.25	-8.32/-11.89	-12.98/-11.25	-13.02/-16.75	-18.47/-17.95	-14.44/-14.58	-15.54/-13.26	-13.13/-10.62	-6.56/-7.45	-5.73/-10.03	-18.85/-15.89	-9.14/-7.56	-6.29/-6.72	-8.61/-13.53	-18.01/-18.33	-18.44/-17.93	-18.11/-18.81				
Θ(157.5°)	-14.28/-13.81	-13.67/-18.6	-18.17/-15.74	-13.09/-11.88	-14.39/-19.09	-14.42/-8.61	-7.52/-9.49	-9.28/-9.17	-9.44/-10.86	-12.88/-14.95	-14.3/-12.91	-14.56/-15.84	-15.35/-18.39	-18.75/-15.88	-13.6/-12.84	-12.72/-13.62	-15.29/-10.43	-13.85/-11.96	-5.33/-11.94	-12.38/-11.73	-12.56/-13.25	-15.54/-17.82	-16.75/-17.11	-17.73/-18.01				
Θ(165°)	-11.14/-10.29	-9.6/-9.1	8.9/-9.01	8.84/-9.17	-9.24/-9.4	-9.62/-8.63	8.18/-9.06	-10.58/-11.96	-14.02/-17.49	-18.35/-18.94	-18.09/-16.12	-18.23/-19.09	-17.96/-18.7	-16.93/-13.06	-9.13/-8.15	-9.69/-12.69	-17.31/-17.41	-17.39/-13.06	-12.2/-12.35	-13.28/-14.36	-14.48/-14.35	-14.38/-15.04	-14.64/-13.56	-13.24/-12.87				
Θ(172.5°)	-15.68/-15.28	-12.81/-11.45	-11.3/-11.16	-10.46/-10.97	-11.95/-13.01	-13.09/-12.83	-13.31/-14.31	-14.03/-13.52	-14.26/-14.76	-15.25/-16.45	-17.82/-18.57	-18.3/-18.4	-18.93/-18.54	-18.47/-17.97	-16.93/-17.27	-18.34/-17.52	-18.94/-15.17	-12.94/-11.63	-10.89/-11.34	-12.49/-13.75	-14.54/-15.45	-17.55/-17.01	-16.71/-16.22					
Θ(180°)	-14.49/-13.72	-14.12/-18.81	-10.54/-9.86	-9.6/-8.86	-10.99/-13.04	-14.99/-17.33	-19.17/-17.59	-16.56/-16.97	-17.08/-18.09	-17.43/-18.15	-18.02/-18.62	-18.69/-18.06	-18.9/-18.06	-17.95/-14.92	-12.05/-11.2	-10.89/-10.89	-10.84/-10.73	-10.73/-11.41	-11.55/-12.55	-14.42/-14.78	-16.51/-15.63	-17.07/-18.74	-17.31/-16.69					
Freq(Hz)	6.175GPol.		Theta/Ant.1		+		-		+		-		+		-		+		-		+		-		+		-	
Gain	Φ(0°)Ψ(7.5°)	Φ(15°)Ψ(22.5°)	Φ(30°)Ψ(37.5°)	Φ(45°)Ψ(52.5°)	Φ(60°)Ψ(67.5°)	Φ(75°)Ψ(82.5°)	Φ(90°)Ψ(97.5°)	Φ(105°)Ψ(112.5°)	Φ(120°)Ψ(127.5°)	Φ(135°)Ψ(142.5°)	Φ(150°)Ψ(157.5°)	Φ(165°)Ψ(172.5°)	Φ(180°)Ψ(187.5°)	Φ(195°)Ψ(202.5°)	Φ(210°)Ψ(217.5°)	Φ(225°)Ψ(232.5°)	Φ(240°)Ψ(247.5°)	Φ(255°)Ψ(262.5°)	Φ(270°)Ψ(277.5°)	Φ(285°)Ψ(292.5°)	Φ(300°)Ψ(307.5°)	Φ(315°)Ψ(322.5°)	Φ(330°)Ψ(337.5°)	Φ(345°)Ψ(352.5°)				
Θ(0°)	-11.64/-8.47	-7.86/-7.66	-6.87/-5.93	-5.58/-6.07	-6.64/-6.74	-6.8/-7.56	-8.51/-8.86	-9.01/-9.42	-10.71/-11.53	-12.87/-13.44	-13.78/-13.69	-13.35/-13.17	-12.31/-10.98	-10.76/-10.59	-10.34/-10.98	-10.34/-10.63	-10.29/-10.08	-10.21/-9.99	-10.63/-11.53	-12.89/-13.27	-14.25/-15.65	-11.82/-13.13	-18.41/-18.58	-16.19/-13.9				
Θ(7.5°)	-10.36/-10.13	-8.36/-8.31	-7.71/-7.5	-7.67/-8.9	-9.92/-9.87	-9.56/-10.27	-11.71/-12.11	-12.51/-13.72	-16.67/-14.58	-18.67/-15.99	-12.76/-13.99	-10.66/-9.39	-9.31/-9.9	-6.53/-5.66	-5.44/-5.86	-5.96/-5.64	-5.39/-5.75	-6.03/-6.52	-7.68/-6.61	-9.31/-9.63	-10.03/-10.65	-11.63/-17.18	-12.93/-10.96	-9.06/-9.74				
Θ(15°)	-8.02/-8.18	-6.57/-4.93	-4.38/-5.18	-6.04/-6.77	-8.28/-10.26	-11.11/-11.57	-11.96/-13.31	-16.25/-18.11	-16.47/-10.4	-7.16/-5.36	-4.66/-4.58	-4/-3.14	-2.88/-3.02	-2.83/-2.41	-2.72/-3.75	-4.81/-5.47	-5.64/-5.87	-6.61/-6.78	-8.17/-8.85	-9.04/-9.21	-9.64/-11.08	-13.13/-14.47	-13.79/-13.96	-10.17/-18.7				
Θ(22.5°)	-8.4/-9.1	-8.11/-6.73	-5.75/-5.2	-4.95/-6.51	-9.22/-11.59	-10.78/-7.97	-9.84/-7.57	-7.11/-10.95	-9.84/-7.57	-6.7/-6.11	-3.03/-3.1	-2.92/-2.47	-2.57/-3.23	-4.18/-4.75	-5.07/-5.56	-6.4/-6.38	-6.07/-6.07	-6.3/-7.04	-8.11/-8.78	-9.66/-11.58	-13.28/-12.27	-12.01/-11.4	-9.81/-8.45					
Θ(30°)	-7.7/-5.2	-9.11/-8.61	-7.44/-6.24	-5.04/-5.57	-6.25/-5.59	-8.02/-7.13	-5.66/-5.95	-6.11/-4.73	-4.91/-5.01	-5.76/-6.22	-5.29/-2.91	-2.52/-2.91	-2.68/-2.57	-4.36/-2.43	-3.07/-2.8	-3.45/-4	-4.54/-4.96	-5.76/-6.82	-7.58/-7.65	-9.74/-16.27	-17.98/-18.1	-18.31/-18.4	-15.79/-17.61	-				



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(15°)	-15.01/-16.76	-18.21/-18.16	-18.45/-18.22	-15.06/-10.66	-8.25/-7.21	-6.43/-7.22	-8.92/-11.52	-13.16/-11.16	-8.51/-7.21	-7.38/-7.61	-7.93/-8.18	-9.46/-11.37	-15.15/-17.76	-18.41/-18.21	-19.11/-17.86	-18.69/-18.37	-18.71/-18.01	-15.48/-11.25	-7.97/-5.74	-5.95/-6.03	-6.32/-7.28	-8.3/-7.62	-8.45/-11.48	-16.61/-16.89
Θ(22.5°)	-16.44/-14.19	-15.96/-18.3	-18.44/-17.71	-13.3/-9.28	-8.52/-7.99	-7.48/-9.65	-16.94/-13.36	-8.52/-6.13	-4.54/-4.49	-5.39/-5.78	-6.19/-7.63	-11.24/-16.22	-18.65/-18.5	-18.66/-18.11	-18.06/-18.09	-15.45/-11.88	-11.76/-12.15	-11.88/-9.62	-5.99/-3.75	-2.95/-3.22	-4.57/-7.02	-8.49/-8.61	-8.71/-10.48	-14.63/-18.11
Θ(30°)	-12.21/-15.21	-13.48/-13.71	-17.28/-18.55	-17.11/-15.44	-10.29/-8.43	-9.57/-11.12	-10.78/-8.63	-7.7/-10.9	-7.81/-8.43	-9.17/-8.43	-7.45/-6.9	-8.41/-11.95	-16.61/-16.85	-14.49/-15.11	-18.45/-18.78	-18.63/-11.93	-9.69/-8.05	-7.23/-6.87	-4.45/-2.44	-2.52/-4.44	-2.22/-2.43	-2.87/-2.59	-9.68/-12.42	-11.18/-10.34
Θ(37.5°)	-14.81/-15.01	-17.82/-14.95	-13.05/-18.12	-14.76/-14.15	-11.79/-7.64	-6.47/-8.15	-10.23/-11.44	-12.29/-9.85	-9.16/-9.92	-10.21/-9.52	-6.92/-5.61	-6.36/-10.92	-16.78/-17.72	-15.53/-11.58	-14.63/-14.65	-9/-6.54	-7.27/-9.47	-9.13/-8	-6.47/-4.14	-2.19/-2.46	-2.95/-2.18	-1.86/-4.87	-7.04/-7.99	-12.46/-14.53
Θ(45°)	-18.26/-17.6	-18.03/-18.67	-14.1/-18.27	-16.24/-10.4	-10.06/-8.21	-8.93/-10.51	-10.14/-9.91	-9.72/-8.29	-9.15/-14.37	-13.6/-8.74	-6.24/-4.89	-6.97/-12.63	-16.41/-14.39	-16.89/-18.09	-18.64/-11.43	-7.7/-6.95	-6.82/-6.83	-6.92/-7.77	-4.91/-3.96	-3.41/-2.69	-3.09/-2.28	-2.29/-3.95	-5.16/-8.34	-15.57/-18.04
Θ(52.5°)	-17.31/-18.18	-18.71/-18.25	-12.31/-15.98	-14.89/-12.28	-14.73/-11.75	-9.71/-9.91	-14.09/-14.81	-7.81/-6.79	-8.11/-8.8	-10.29/-8.45	-6.57/-7.68	-11.18/-17.85	-13.9/-12.01	-13.65/-15.28	-15.84/-10.55	-5.84/-2.25	-8.96/-9.01	-8.54/-9.07	-5.14/-6.36	-3.79/-3.77	-2.29/-1.26	-2.29/-4.04	-6.13/-8.16	-15.51/-14.97
Θ(60°)	-18.55/-16.17	-17.79/-17.9	-14.92/-16.02	-18.54/-14.44	-14.84/-9.31	-8.74/-12.74	-13.35/-13.83	-10.63/-8.69	-8.35/-8.58	-13.46/-11.17	-8.62/-8.92	-8.74/-11.34	-18/-13.59	-12.46/-12.75	-9.33/-8.17	-8.58/-8.06	-10.21/-11.67	-13.34/-14.25	-7.63/-6.15	-3.61/-4.33	-3.79/-2.68	-4.89/-6.18	-6.29/-7.49	-13.29/-13.5
Θ(67.5°)	-15.77/-14.29	-18.4/-17.33	-15.97/-17.99	-18.39/-13.44	-14.76/-13	-8.49/-11.27	-9.99/-13.93	-9.21/-9.79	-9.05/-12.14	-18.55/-11.5	-11.18/-12.01	-7.45/-8.55	-18.35/-18.53	-12.65/-10.9	-10.06/-14.03	-8/-9.27	-16.79/-15.5	-9.06/-9.59	-5.33/-5.74	-3.04/-3.95	-2.73/-2.42	-4.12/-4.22	-4.7/-5.95	-16.27/-13.78
Θ(75°)	-18.39/-14.06	-17.34/-17.79	-16.23/-13.46	-17.4/-13.89	-12.68/-10.68	-9.41/-12.04	-11.25/-18.82	-10.4/-8.53	-15.51/-18.58	-19.28/-11.33	-13.95/-17.46	-13.73/-9	-18.15/-18.09	-14.76/-13.3	-6.11/-12.49	-13.67/-10.16	-17.78/-8.44	-7.12/-6.91	-1.83/-2.26	-2.28/-4.94	-3.78/-3.23	-4.68/-6.35	-5.4/-5.66	-17.85/-16.5
Θ(82.5°)	-14.53/-13.8	-18.67/-14.85	-17.81/-12.63	-14.54/-14.66	-9.72/-10.97	-18.32/-17.67	-11.79/-15.26	-10.62/-8.27	-18.46/-11.79	-12.58/-10.53	-12.26/-16.49	-18.31/-11.12	-18.87/-17.96	-18.69/-16.26	-6.09/-8.32	-12.56/-17.35	-9.01/-4.64	-5.33/-3.92	-1.27/-0.75	-2.7/-3.46	-3.84/-5.51	-5.84/-6.86	-4.53/-5.89	-18.7/-17.57
Θ(90°)	-12.46/-16.09	-17.59/-14.3	-16.9/-15.52	-13.55/-14.67	-10.23/-9.15	-13.88/-11.25	-9.62/-12.96	-13.3/-10.33	-16.44/-8.53	-11.65/-10.4	-12.97/-13.87	-15.83/-15.52	-15.94/-16.47	-18.17/-18.67	-8.31/-9.24	-15.42/-18.38	-8.35/-4.78	-4.84/-3.41	-1.83/-1.52	-3.5/-4.83	-5.16/-6.58	-5.77/-8.27	-4.89/-7.78	-19.52/-17.63
Θ(97.5°)	-16.36/-17.66	-18.31/-15.21	-12.84/-12.65	-10.71/-11.38	-9.41/-11.57	-10.81/-10.48	-10.22/-7.91	-10.69/-7.62	-13.63/-7.75	-13.42/-12.11	-14.04/-17.28	-14.04/-17.94	-17.71/-17.29	-14.99/-17.47	-10.99/-11.23	-18.58/-12.88	-7.97/-6	-6.59/-4.77	-2.55/-2.19	-4.7/-6.89	-7.68/-7.12	-8.38/-12.7	-8.09/-8.63	-17.87/-18.12
Θ(105°)	-15.14/-16.04	-18.43/-15.65	-11.48/-9.44	-8.88/-14.16	-11.23/-8.8	-15.71/-18.74	-18.72/-13.64	-13.6/-12.59	-18.59/-12.89	-18.71/-15.84	-18.56/-17.16	-13.66/-19.29	-15.18/-17.92	-14.97/-12.92	-8.63/-12.25	-18.27/-15.04	-7.54/-6.98	-7.58/-8.7	-5.35/-2.85	-5.96/-10	-11.39/-6.64	-7/-16.03	-10.99/-10.86	-19.04/-18.86
Θ(112.5°)	-12.47/-11.07	-18.5/-12.09	-10.2/-8.41	-8.12/-10.96	-13.67/-11.24	-10.21/-11.94	-13.69/-8.73	-10.21/-11.94	-18.71/-15.84	-18.71/-19.04	-18.74/-18.28	-18.41/-17.45	-11.11/-18.46	-16.93/-12.55	-18.34/-10.74	-18.8/-17.47	-7.32/-12.52	-11.75/-8.74	-3.47/-3.58	-7.65/-10.6	-18.31/-10.27	-11.35/-19.34	-11.12/-12.28	-17.8/-18.15
Θ(120°)	-14.44/-13.4	-17.82/-14.56	-10.16/-6.73	-9.45/-9.33	-9.36/-15.66	-15.82/-9.78	-12.54/-8.68	-10.67/-11.47	-17.79/-18.43	-16.45/-18.46	-17.3/-14.52	-15.8/-15.59	-12.97/-14.85	-17.33/-17.8	-8.08/-14.55	-13.81/-13.26	-9.72/-14.22	-11.74/-18.58	-5.25/-7.23	-8.76/-11.69	-16.57/-9.4	-9.2/-19.19	-17.62/-14.4	-18.83/-13.85
Θ(127.5°)	-12.52/-14.69	-18.06/-17.06	-10.19/-8.65	-8.64/-8.81	-11.11/-10.26	-13.41/-15.37	-17.88/-14.06	-11.95/-19.32	-15.46/-13.35	-18.74/-16.46	-10.5/-14.41	-11.8/-13.84	-18.19/-18.2	-17.96/-17.54	-11.3/-9.79	-6.45/-10.24	-16.82/-8.86	-18.73/-17.23	-7.83/-6.61	-8.31/-13.39	-13.19/-13.22	-14.62/-12.06	-18.67/-18.39	-18.96/-13.02
Θ(135°)	-18.58/-17.56	-17.54/-15.39	-16.98/-8.74	-7.67/-6.46	-9.33/-8.47	-10.62/-10.17	-12.22/-17.98	-9.47/-9.7	-10.24/-10.18	-15.08/-13.57	-12.79/-14.14	-17.64/-13.55	-17.43/-18.16	-14.61/-11.69	-7.14/-15.5	-12.14/-15.04	-7.82/-3.1	-8.03/-10.13	-8.33/-10.67	-12.61/-10.33	-14.54/-11.49	-16.14/-15.01	-13.83/-16.83	-17.56/-16.05
Θ(142.5°)	-18.73/-15.58	-18.52/-15.39	-9.78/-14.1	-5.46/-7.53	-10.01/-11.83	-10.39/-7.54	-16.23/-12.91	-13.74/-11.79	-15.67/-17.06	-18.26/-18.19	-17.71/-18.29	-13.17/-14.28	-17.86/-17.89	-15.61/-6.28	-3.58/-6.12	-16.72/-16.12	-9.03/-9.12	-7.23/-8.49	-8.07/-10.03	-17.99/-18.64	-14.91/-18.64	-14.91/-18.64	-17.56/-16.05	
Θ(150°)	-15.74/-13.33	-17.92/-15.21	-13.32/-9.25	-8.17/-7.25	-3.33/-5.57	-9.71/-9.86	-6.98/-8.98	-10.54/-9.33	-10.57/-10.44	-14.6/-18.08	-12.83/-12.89	-17.87/-17.93	-19.08/-14.79	-18.61/-14.02	-12.75/-12.81	-7.63/-5.81	-6.44/-9.47	-12.33/-8.35	-5.39/-5.53	-4.56/-5.72	-6.76/-6.23	-8.64/-14.93	-17.93/-18.93	-18.1/-17.79
Θ(157.5°)	-18.44/-17.7	-17.86/-19.14	-18.2/-18.35	-18.51/-16.86	-13.85/-12.85	-12.69/-11.14	-8.37/-7.7	-8.08/-8.82	-10.71/-10.52	-10.7/-15.41	-18.11/-18.73	-15.51/-15.8	-17.87/-19.09	-17.6/-18.63	-16.51/-14.06	-14.38/-13.03	-10.68/-10.67	-10.79/-9.83	-9.6/-9.35	-8.25/-8.55	-9.12/-13.07	-14.88/-15.47	-18.17/-17.78	-18.05/-18.09
Θ(165°)	-19.06/-17.54	-18.63/-14.99	-12.09/-11.5	-11.16/-8.55	-7.32/-6.76	-7.62/-10.07	-10.96/-9.89	-9.23/-10.56	-14.54/-17.48	-18.88/-18.46	-17.64/-16.51	-13.8/-13.74	-15.65/-15.1	-12.46/-13.88	-15/-11.18	-11.29/-13.53	-17.91/-15.87	-12.77/-9.98	-8.59/-8.2	-8.07/-7.96	-8.8/-11.43	-14.28/-16.88	-19.13/-18.81	-19.28/-18.15
Θ(172.5°)	-17.71/-16.44	-13.3/-12.11	-12.05/-9.64	-7.66/-7.56	-8.21/-8.94	-10.98/-12.55	-15.16/-17.07	-18.5/-17.99	-18.08/-18.38	-18.49/-17.83	-19.51/-17.49	-17.8/-17.84	-17.14/-18.27	-18.64/-13.66	-17.74/-19.06	-17.74/-18.22	-12.43/-11.09	-9.58/-8.74	-8.28/-8.47	-8.95/-9.81	-11.07/-12.68	-14.58/-16.53	-18.52/-18.81	
Θ(180°)	-17.19/-18.95	-19.15/-17.82	-15.44/-12.92	-12.15/-11.82	-12.3/-13.61	-17.09/-18.98	-17.86/-17.7	-17.3/-17.5	-17.81/-18.6	-18.02/-17.96	-18.01/-18.85	-18.71/-18.83	-17.56/-16.54	-15.33/-14.58	-13.04/-11.05	-10.14/-10.14	-10.14/-9.92	-8.89/-8.35	-7.95/-7.77	-8.07/-8.5	-8.77/-9.33	-10.12/-10.95	-13.08/-14.99	-18.59/-18.23
Freq[Hz]	6.695GPol.	ThetaAnt.1	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-11.71/-10.61	-10.72/-12.5	-11.8/-11.16	-12.23/-13.49	-15.42/-16.08	-16.26/-17.99	-19.04/-17.89	-15.48/-14.31	-13.47/-12.16	-11/-9.43	-8.37/-9.71	-7.92/-7.47	-6.64/-6.29	-6.15/-6.43	-6.79/-7.32	-7.86/-8.28	-9.16/-10.35	-12.62/-15.95	-18.42/-17.5	-18.24/-15.92	-14.29/-13.26	-12.25/-12.51	-11.6/-9.54	-9.14/-10.19
Θ(7.5°)	-7.65/-7.52	-6.96/-6.04	-5.85/-6.12	-6.77/-7.47	-8.46/-10.15	-11.41/-12.37	-13.49/-15.31	-14.85/-15.27	-14.85/-14.31	-13.94/-13.1	-12.76/-12.6	-13.33/-13.49	-13.93/-13.15	-13.57/-13.95	-14.27/-14.41	-14.23/-14.46	-15.18/-15.09	-15.06/-15.31	-15.78/-14.83	-14.94/-13.93	-12.25/-10.62	-9.84/-9.51	-9.28/-8.1	-7.65/-7.38
Θ(15°)	-6.22/-6.39	-6.24/-5.44	-5.21/-5.79	-6.66/-6.97	-7.8/-8.65	-9.9/-10.67	-10.44/-10.15	-10.57/-12.31	-15.17/-19.18	-17.03/-13.33	-10.6/-8.57	-7.8/-7.94	-7.19/-6.66	-5.89/-6.44	-6.71/-6.15	-6.17/-3.2	-8.53/-8.4	-8.56/-9.23	-10.08/-11.21	-12.87/-13.17	-11.8/-10.08	-9.03/-8.59	-7.89/-7.5	-7.19/-6.73
Θ(22.5°)	-6.88/-8.73	-8.46/-8.32	-7.12/-6.6	-7.43/-7.47	-7.18/-8.27	-9.24/-9.2	-9.69/-12.38	-18.37/-18.71	-13.8/-9.6	-7.76/-6.97	-5.54/-4.76	-5.33/-6.07	-5.45/-4.6	-4.99/-5.72	-5.07/-4.16	-3.8/-4.11	-4.14/-3.76	-3.67/-4.31	-4.95/-6.97	-10.66/-16.44	-18.47/-14.06	-11.7/-9.3	-7.52/-6.5	-7.05/-6.12
Θ(30°)	-8.53/-7.82	-8.1/-10.23	-9.56/-8.23	-9.05/-9.18	-7.74/-9.5	-12.6/-11.72	-10.69/-7.72	-6.66/-6.06	-5.94/-7.36	-8.85/-7.35	-5.19/-4.76	-4.16/-3.71	-3.87/-3.78	-3.19/-2.61	-1.77/-1.45	-1.56/-1.71	-2.34/-3.3	-4.33/-6	-6.68/-12.36	-18.11/-17.63	-13.15/-11.65	-10.3/-9.43	-7.99/-7.63	
Θ(37.5°)	-5.01/-5.17	-5.81/-8.29	-12.43/-8.97	-7.93/-9.87	-9.83/-10.17	-13.17/-11.65	-10.94/-10.49	-10.48/-8.51	-6.39/-5.74	-6.37/-4.78	-9.19/-8.31	-6.31/-5.26	-6.53/-7.12	-6.43/-4.26	-1.93/-0.64	-1.17/-2.95	-4.02/-6.41	-6.25/-7.04	-5.42/-7.05	-14.4/-12.33	-13.27/-11.57	-8.86/-9.4	-9.87/-3.7	-15.6/-5.62
Θ(45°)	-13.13/-12.53	-8.79/-9.3	-10.58/-6.74	-5.7/-6.6	-11.02/-12.63	-17.61/-13.14	-10.87/-11.87	-12.72/-9.81	-6.4/-4.64	-4.92/-5.35	-7.49/-5.67	-4.3/-3.35	-5.28/-6.76	-5.41/-3.39	-0.77/-0.58	-1.98/-2.31	-2.69/-2.25	-4.08/-3.25	-4.38/-9.56	-10.02/-13.89	-14.63/-11.93	-8.55/-8.02	-8.61/-8.66	-9.74/-10.18
Θ(52.5°)	-12.12/-12.84	-12.08/-8.95	-11.01/-8.24	-5.14/-7.48	-12.91/-11.64	-11.56/-13.1	-12.09/-11.1	-10.86/-8.76	-5.49/-4.04	-2.65/-2.34	-4.62/-3.57	-2.84/-2.1	-4.78/-4.45	-3.58/-4.59	-0.77/-0.09	-1.73/-2.41	-3.16/-2.68	-3.55/-3.4	-5.43/-7.61	-7.55/-10.37	-7.37/-9.27	-11.18/-7.99	-10.52/-12.51	-14.33/-12.6
Θ(60°)	-9.86/-11.68	-10.38/-9.45	-9.22/-9.09	-6.71/-7.12	-9.56/-10.49	-																		



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(60°)	-8.65/-15.16	-12.51/-12.13	-18.59/-18.33	-14.68/-13.23	-7.36/-11.47	-9.75/-9.88	-7.56/-8.68	-6.41/-7.64	-18.86/-11.07	-13.07/-9.7	-17.76/-5.54	-8.11/-10.52	-6.26/-4.36	-6.48/-7.4	-7.56/-9.12	-10.66/-18.54	-9.73/-6.81	-8.51/-7.52	-5.55/-5.47	-7.25/-5.83	-1.75/-3.08	-3.76/-4.75	-2.19/-2.38	-5.42/-6.69
Θ(67.5°)	-10.11/-13.66	-9.77/-10.99	-18.47/-14.4	-15/-9.37	-7.29/-9.41	-3.91/-5.72	-6.56/-5.9	-5.19/-6.84	-14.65/-9.19	-17.37/-14.62	-12.65/-7.08	-8.69/-9.32	-8.03/-4.06	-9.11/-8.66	-6.9/-9.84	-11.01/-10.07	-7.09/-12.61	-18.11/-14.62	-3.91/-3.17	-4.72/-5.83	-0.86/-2.29	-4.41/-5.27	-3.2/-3.24	-5.59/-6.63
Θ(75°)	-8.67/-17.15	-11.34/-13.47	-16.41/-10.7	-13.61/-7.03	-7.19/-7.08	-3.69/-5.49	-4.57/-4.6	-3.91/-5.58	-11.37/-10.7	-15.64/-14.06	-11.37/-7.85	-7.02/-12.17	-16.99/-6.35	-10.67/-11.66	-10.97/-7.1	-8.67/-9.5	-7.8/-7.4	-18.41/-8.59	-0.68/-9.8	-0.75/-4.85	-1.85/-1.5	-4.37/-6.7	-5.1/-5.13	-6.39/-6.67
Θ(82.5°)	-8.99/-12.76	-10.78/-16.13	-18.03/-10.11	-12.43/-6.33	-6/-2.92	-4.46/-8.43	-5.94/-6.52	-6.62/-6.8	-9.25/-8.8	-12.61/-11.8	-8.11/-6.62	-5.16/-16.55	-13.44/-8.33	-13.19/-6.3	-10.64/-5.18	-7.7/-12.44	-7.89/-5.85	-5.25/-0.69	2.33/-13	1.48/-2.53	-0.88/-1.54	-4.04/-10.12	-4.63/-5.59	-6.88/-5.57
Θ(90°)	-7.16/-12.9	-16.76/-17.23	-18.71/-12.9	-8.43/-5.58	-5.33/-3.58	-4.33/-6.64	-7.51/-5.57	-7.55/-8.7	-9.02/-8	-10.86/-11.26	-9.48/-9.93	-5.35/-16.01	-10.43/-10.3	-14.78/-8.44	-11.35/-5.8	-9.17/-9	-8.21/-3.58	-2.83/-1.6	2.53/-2.75	1.75/-1.53	-2.78/-2.05	-3.88/-10.25	-6.04/-8.58	-7.95/-7.05
Θ(97.5°)	-6.74/-9.54	-15.21/-16.51	-17.94/-17.3	-9.35/-5.94	-4.92/-4.34	-5.23/-5.36	-9.75/-10.19	-9.75/-9.69	-10.97/-9.37	-14.93/-11.6	-12.66/-14.28	-6.25/-14.58	-8.29/-9.2	-18.96/-10.09	-16.18/-6.25	-13.27/-8.57	-6.11/-7.62	-6.11/-5.3	0.91/-29	0.42/-5.39	-3/-1.04	-4.36/-16.95	-9.05/-7	-7.61/-4.74
Θ(105°)	-7.33/-12.9	-15.19/-19.05	-19.2/-18.77	-9.72/-5.03	-4.35/-4.1	-4.27/-2.38	-5.8/-7.52	-8.29/-8.56	-11.16/-8.94	-15.22/-9.1	-9.33/-10.72	-7.66/-12.49	-6.78/-9.13	-12.52/-11.62	-8.25/-8.86	-10.72/-9.8	-8.38/-6.56	-8.55/-2.14	-0.38/-0.8	-1.86/-7.02	-3.93/-1.93	-6.51/-11.84	-9.67/-6.48	-8.68/-6.38
Θ(112.5°)	-8.51/-12.52	-18.74/-18.67	-17.59/-17.82	-17.23/-8.77	-5.29/-3.55	-4.4/-3.02	-5.3/-5.16	-10.58/-14.09	-15.08/-16.1	-15.99/-13.21	-13.54/-14.46	-11.28/-10.1	-9.22/-9.46	-15.66/-14.62	-9.77/-9.96	-5.43/-4.67	-15.1/-16.11	-15.91/-4.7	-2.91/-2.62	-4.48/-8.9	-4.56/-3.18	-6.25/-10.51	-7.86/-7.03	-7.67/-7.88
Θ(120°)	-10.84/-13.74	-15.58/-19.22	-18.04/-17.12	-19.13/-9.03	-7.36/-4.42	-1.97/-2.87	-5.59/-6.99	-9.29/-14.23	-17.46/-16.98	-16.14/-16.05	-14.12/-13.2	-17.61/-10.45	-10.66/-10.74	-17.75/-11.01	-11.96/-12.49	-6.5/-7.95	-13.36/-7.05	-9.97/-11.13	-9.78/-10.21	-6.08/-9.42	-5.81/-2.72	-4.81/-11.37	-7.66/-5.38	-5.57/-9.21
Θ(127.5°)	-14.37/-15.28	-18.07/-16.15	-18.82/-13.77	-18.95/-13.13	-12.13/-9.6	-4.46/-2.84	-3.84/-5.09	-12.37/-15.01	-12.43/-12.17	-14.84/-18.99	-15.32/-15.2	-18.88/-12.05	-15.7/-14.3	-10.72/-8.65	-10.56/-10.48	-18.23/-8.08	-1.29/-2.66	-10/-9.62	-6.93/-6.93	-7.64/-9.83	-4.3/-7.89	-9.28/-10.99	-7.68/-4.59	-5.16/-10.56
Θ(135°)	-10.75/-18	-16.45/-11.89	-18.5/-17.96	-18.17/-18.85	-17.9/-11.04	-9.51/-8.58	-5.47/-4.34	-7.01/-12.12	-17.32/-12.91	-17.73/-13.38	-10.97/-19	-18.61/-13.63	-11.62/-17.98	-12.67/-8.16	-6.01/-10.58	-15.4/-14.25	-6.05/-7.42	-8.39/-4.55	-5/-4.07	-3.83/-5.56	-6.78/-11.51	-10.05/-10.77	-10.13/-7.14	-6.28/-8.08
Θ(142.5°)	-10.83/-18.49	-18.32/-18.45	-17.39/-16.24	-15.04/-13.05	-14.04/-12.52	-9.81/-11.06	-11.62/-9.91	-8.32/-9.07	-7.95/-10.1	-15.49/-15.14	-12.32/-18.37	-18.59/-18.31	-14.3/-16.08	-11.83/-11.22	-11.44/-10.79	-7.5/-8.45	-12.1/-10.02	-11.22/-10.76	-15.55/-11.25	-8.07/-9.4	-10.75/-12.7	-11.37/-9.92	-10.07/-10.86	
Θ(150°)	-19.31/-13.06	-11.67/-16.54	-15.71/-13.06	-9.07/-10.34	-12.11/-10.73	-8.73/-8.79	-10.03/-11.12	-11.48/-11.74	-9.8/-11.98	-13.92/-10.04	-9.92/-12.45	-18.43/-18.39	-18.91/-14.44	-9.49/-7.44	-7.25/-9.16	-10.3/-8.23	-9.69/-16.28	-17.44/-13.02	-9.85/-9.55	-15.7/-18.2	-14.2/-15.09	-10.38/-8.51	-7.46/-7.72	-11.63/-18.38
Θ(157.5°)	-19.16/-18.29	-17.01/-18.1	-14.81/-10.8	-10.66/-9.06	-6.73/-7.21	-7.58/-5.79	-5.11/-10.63	-8.25/-9.28	-9.95/-9.87	-7.64/-8.76	-8.95/-10.04	-13.34/-18.39	-18.6/-18.53	-13.79/-7.72	-8.21/-10.39	-15.28/-17.51	-14.07/-14.44	-18.06/-14.91	-8.05/-6.82	-8.58/-10.41	-9.64/-8.96	-9.68/-10.38	-12.27/-11.76	-12.85/-17.63
Θ(165°)	-11.24/-8.99	-9.2/-8.16	-7.87/-10.05	-11.41/-11.77	-11.28/-9.17	-7.09/-6.54	-6.5/-6.85	-7.37/-8.77	-7.63/-7.74	-9.12/-13.06	-15.31/-16.36	-17.75/-18.8	-16.48/-15.88	-18.38/-7.33	-4.8/-5.02	-6.21/-6.99	-6.94/-9.23	-9.86/-6.82	-4.83/-5.19	-5.98/-6.07	-5.26/-5.03	-10.85/-16.28	-18.54/-16.86	
Θ(172.5°)	-17.76/-17	-14.43/-15.5	-17.11/-17.09	-16.1/-14.43	-12.18/-11.08	-10.18/-9.6	-8.92/-8.54	-10.1/-12.68	-15.27/-17.86	-18.52/-18.48	-19.29/-17.97	-19.18/-17.14	-14.67/-13.93	-13.88/-12.6	-13.3/-14.37	-11.18/-9.51	-7.22/-5.24	-4.42/-4.35	-4.61/-5.5	-6.18/-6.2	-6/-5.84	-6.75/-7.94	-8.79/-9.49	-10.33/-14.01
Θ(180°)	-18.75/-16.71	-12.33/-10.36	-8.67/-7.01	-6.15/-3.6	-4.99/-5.16	-6.55/-8.22	-9.89/-10.52	-9.95/-8.7	-8.39/-8.6	-10.6/-15.25	-18.77/-17.82	-19.15/-18.27	-18.8/-15.38	-12.55/-11.19	-9.8/-8.8	-8.8/-8.67	-7.72/-7.2	-7.34/-7.77	-7.64/-7.37	-7.2/-7.09	-7.33/-8.05	-8.93/-11.25	-13.81/-16.57	-17.78/-18.06
Freq[Hz]	6.175GPol.	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-5.36/-3.77	-4.05/-4.12	-3.35/-2.82	-2.98/-3.45	-3.82/-4.36	-5.38/-7.62	-8.29/-9.1	-12.07/-14.86	-17.69/-18.52	-17.11/-13.83	-11.33/-8.42	-6.54/-5.88	-5.9/-5.53	-4.41/-4.27	-4.93/-4.94	-4.37/-4.41	-5.56/-5.68	-7.53/-8.97	-11.46/-14.14	-16.85/-17.93	-18.11/-18.94	-14.29/-10.81	-9.05/-7.55	-6.66/-8.6
Θ(7.5°)	-4.63/-4.35	-5.66/-7.11	-7.39/-8.45	-9.69/-10.28	-11.41/-13.43	-14.87/-15.88	-17.08/-18.66	-16.89/-10.47	-18.59/-18.23	-17.08/-14.52	-3.59/-2.52	-1.07/-0.71	-0.10/-0.07	-0.19/-0.08	-0.24/-1	-2.08/-2.84	-3.83/-5.13	-17.21/-9.07	-11.22/-12.14	-15.55/-11.25	-8.05/-9.74	-4.55/-5.28	-5.54/-5.43	
Θ(15°)	-2/-2.32	-2.8/-4.48	-6.06/-5.16	-5.07/-5.59	-6.88/-8.24	-9.57/-9.87	-11.27/-13.8	-14.84/-15.98	-17.39/-14.77	-9.52/-7.57	-7.65/-7.57	-6.22/-4.34	-3.1/-2.55	-1.9/-1.07	-0.4/-0.43	-0.58/-0.28	-0.43/-1.56	-2.24/-2.37	-3.19/-5.28	-7.65/-10.56	-16.25/-18.59	-12.37/-7.75	-5.42/-3.98	-2.82/-1.97
Θ(22.5°)	-1.29/-2.25	-2.37/-4.74	-5.64/-6.3	-6.79/-7.3	-7.68/-7.77	-8.62/-10.11	-11.88/-14.7	-14.38/-14.01	-17.31/-18.85	-17.91/-10.72	-7.2/-6.85	-4.78/-4.19	-4.4/-3.42	-0.53/-0.2	-0.1/-0.41	-0.88/-2.15	-4.41/-4.94	-4.87/-5.33	-9.24/-11.5	-15.46/-16.06	-11.87/-7.82	-4.51/-2.82	-1.4/-0.76	
Θ(30°)	-2.48/-3.44	-8.23/-2.89	-5.22/-6.7	-6.01/-7.85	-11.57/-18.18	-18.36/-18.03	-19.35/-15.26	-10.1/-9.77	-10.45/-9.02	-9.98/-10.18	-4.4/-2.4	-3.04/-3.9	0.81/-13	0.960/3	0.150/-27	-0.44/-1.45	-2.86/-3.84	-9.28/-19	-11.13/-12.52	-13.26/-9.11	-1.15/-1.62	-0.79/-1.54		
Θ(37.5°)	-5.58/-3.68	-2.77/-3.01	-5.18/-6.37	-8.67/-11.51	-11.33/-10.93	-11.89/-12.83	-11.63/-10.2	-9.12/-7.95	-6.88/-5.25	-6.03/-11.4	-6.24/-3.26	-3.28/-3.85	-1.840/-22	0.89/1.1	-0.04/-0.68	0.76/1.54	1.150/-57	-0.54/-1.95	-2.03/-3.53	-4.08/-4.07	-10.44/-14.92	-15.67/-7.84	-4.56/-5.15	-4.64/-4.61
Θ(45°)	-2.48/-3.91	-4/-3.91	-5.56/-7.1	-8.94/-8.99	-7.88/-6.19	-5.52/-6.44	-8.53/-8.39	-13.9/-16.89	-8.57/-9.49	-3.31/-6.12	-5.97/-4.6	-3.5/-2.95	-1.15/1.04	2.87/-1.5	1.290/23	-0.59/-8.01	-0.47/-0.89	-1.86/-1.46	-1.03/-3.16	-3.51/-4.25	-9.31/-13.32	-10.23/-8.47	-6.98/-5.24	-2.23/-1.74
Θ(52.5°)	-5.6/-5.23	-0.08/-9.61	-10.09/-10.24	-11.78/-10.19	-6.51/-4.89	-4.5/-4.9	-4.08/-4.25	-7.33/-5.91	-5/-7.05	-4.48/-7.11	-7.13/-5.5	-1.76/-1.2	-0.06/-1.31	2.992/-38	1.206/1	0.60/-82	0.06/-1.6	-1.51/-1.03	-2.04/-2.2	-5.09/-13.4	-8.15/-13.56	-12.72/-9.96	5.66/-2.55	-1.45/-3.88
Θ(60°)	-7.77/-6.58	-6.63/-11.16	-10.92/-12.62	-10.95/-6.04	-3.34/-2.57	-2.98/-3.6	-1.91/-2.3	-2.26/-0.7	-6.04/-5.02	-3.57/-6.11	-7.42/-8.03	-4.95/-4.17	-2.35/-1.33	0.92/-3.41	-4.35/-1.76	0.47/0.66	0.06/-1.7	-2.6/-2.52	-2.65/-3.01	-4.01/-4.47	-7.96/-11.64	-11.89/-3.35	-5.99/-2.85	-3.12/-9.44
Θ(67.5°)	-5.77/-6.14	-8.74/-9.28	-7.13/-8.08	-7.13/-3.29	-2.8/-2.01	-2.63/-3.51	-0.52/-1.82	-1.03/-0.42	0.31/-0.42	-4.12/-8.33	-7.27/-6.43	-4.04/-2.67	-3.99/-0.2	1.44/-2.91	-8.2/-3.45	-0.56/-0.35	-2.69/-3.13	-1.91/-1.4	-0.2/-1.5	-3.44/-2.28	-6.64/-6.31	-15.45/-9.4	-4.98/-4.35	-6.43/-9.16
Θ(75°)	-5.67/-5.99	-11.55/-9.08	-6.21/-5.98	-4.72/-4.1	-2.12/-3.05	-3.67/-4	-0.96/-2.58	-1.79/-0.03	0.77/-2.23	-4.4/-6.14	-4.88/-4.69	-3.78/-0.9	-4.12/-0.35	1.71/-0.35	-5.25/-3.68	-0.05/-0.55	-2.05/-0.63	0.01/-0.36	0.090/0.1	-3.74/-5.23	-7.37/-7.94	-18.75/-6.87	-4.28/-7.05	-9.56/-9.42
Θ(82.5°)	-5.74/-5.66	-10.77/-9	-5.77/-4.97	-2.94/-0.33	-0.67/-3.08	-5.55/-5.96	-1.8/-3.48	-2.88/-1.35	0.01/-2.38	-3.11/-4.82	-5.15/-9.7	-3.17/-1.06	-7.3/-0.85	0.35/-0.68	-4.53/-2.79	0.990/33	-0.16/-0.69	-0.84/-0.02	-0.09/-2.42	-4.93/-6.54	-7.71/-8.4	-8.73/-6.53	-5.8/-8.84	-13.57/-9.16
Θ(90°)	-6.47/-5.22	-10.3/-9.65	-6.67/-6.59	-3.08/-0.92	-0.33/-2.71	-6.62/-5.54	-2.51/-3.58	-4.48/-3.77	-1.44/-2.79	-2.67/-2.88	-6.17/-7.47	-4.88/-3.55	-8.86/-1.51	-2.99/-1.77	-7.46/-4.64	0.220/-47	0.631/64	0.55/-67	1.150/09	-1.38/-3.75	-11.27/-11.99	-17.18/-7.46	-4.83/-12.32	-17.63/-12.68
Θ(97.5°)	-9.44/-6.77	-13.44/-13.13	-10.29/-7.78	-3.71/-5.6	-0.91/-3.39	-8.53/-6.39	-3.44/-4.24	-5.76/-5.55	-3.95/-4.54	-3.3/-6.46	-7.9/-8.98	-5.57/-6.56	-10.94/-3.57	-7.44/-5.07	-9.04/-9.68	-4.34/-1.74	-1.11/0.64	-0.6/-0.34	-0.86/-2.49	-3.9/-9.07	-10.8/-14.3	-12.69/-8.74	-3.66/-9.51	-12.23/-14.31
Θ(105°)	-9.9/-11.44	-15.29/-14.86	-16.33/-12.63	-5.59/-2.87	-2.19/-3.52	-9.49/-7.8	-10.61/-11.85	-8.92/-8.48	-9.49/-7.8	-5.39/-7.05	-9.89/-12.97	-8.94/-10.1	-10.51/-8.19	-10.55/-9.52	-10.95/-13.48	-11.75/-6.88	-5.45/-4.48	-5.34/-5.59	-8.68/-5.78	-8.06/-13.82	-8.52/-12.6	-9.67/-4.24	-2.89/-4.98	-9.87/-10.63
Θ(112.5°)	-5.24/-10.52	-14.51/-17.35	-18.33/-15.62	-8.62/-4.53	-4.02/-5.84	-10.44/-10.59	-11/-13.34	-15.39/-17.27	-10.21/-11.43	-5.51/-10.01	-8.34/-14.47	-13.09/-11.68	-1											



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(97.5°)	-11.77/-17.2	-12.52/-14.47	-10.22/-10.42	-13.1/-18.5	-17.71/-16.13	-12.86/-15.9	-17.57/-15.56	-11.05/-18.83	-9.49/-17.98	-12.22/-8.85	-7.5/-13.92	-10.16/-12.46	-14.81/-14.67	-17.61/-18	-19.18/-8.11	-13.02/-7.97	-6.93/-4.54	-1.99/-9.91	1.04/-0.22	-0.31/-3.5	-1.61/-3.33	-7.39/-5.89	-6.12/-12.5	-11.03/-11.59
Θ(105°)	-12.77/-13.45	-8.89/-15.96	-10.47/-8.6	-13.06/-17.78	-16.62/-11.73	-15.03/-13.05	-10.9/-7.84	-8.05/-17.7	-9.11/-11.32	-10.48/-9.21	-9.18/-17.19	-11.02/-18.13	-14.04/-16.72	-13.76/-17.99	-14.51/-11.27	-12.05/-6.63	-6.15/-48.3	-9.23/-3.57	-0.33/-1.24	-1.13/-6.08	-2.63/-3.28	-9.91/-5.73	-8.79/-11.3	-14.02/-14.5
Θ(112.5°)	-9.54/-11.77	-8.82/-14.76	-10.31/-8.63	-18.06/-18.08	-17.69/-12.96	-18.55/-12.02	-7.92/-8.63	-9.77/-15.87	-15.8/-10.96	-9.98/-13.15	-10.12/-18.9	-18.34/-17.14	-9.21/-18.89	-18.82/-17.55	-11.11/8.4	-18.83/-6.1	-9.29/-5.44	-6.88/-2.77	-2.95/-2.89	-5.3/-8.26	-3.71/-2.5	-16.76/-7.19	-10.95/-9.98	-14.55/-7.66
Θ(120°)	-8.97/-7.51	-7.46/-12.19	-15.26/-9.99	-14.72/-17.04	-17.8/-11.57	-9.56/-16.76	-12.51/-18.19	-10.4/-18.82	-17.75/-11.64	-12.76/-18.2	-17.94/-15.73	-17.56/-13.54	-10.73/-18.41	-15.38/-18.4	-9.05/-16.19	-7.71/7.09	-18.6/-5.99	-8.18/-8.34	-9.95/-7.06	-9.97/-7.1	-3.99/-4.55	-15.62/-8.1	-10.71/-17.14	-14.58/-9.28
Θ(125°)	-9.4/-10.4	-10.68/-16.38	-18.08/-14.61	-16.38/-16.11	-13.43/-16.1	-9.29/-28.3	-11.73/-15.13	-11.94/-19.28	-14.37/-17.98	-14.83/-16.38	-14.92/-9.14	-18.86/-10.5	-17.61/-12.09	-14.07/-16.7	-18.6/-16.21	-18.16/-12.45	-5.22/-3.76	-3.51/-8.99	-11.67/-8.76	-11.69/-6.03	-18.28/-13.37	-7.34/-5.28	-14.23/-11.13	-13.07/-11.26
Θ(135°)	-14.41/-8.73	-10.39/-8.46	-17.33/-14.71	-16.85/-8.26	-6.97/-25.5	-16.07/-11.12	-11.53/-7.09	-6.65/-13.74	-15.93/-14.26	-17.02/-17.83	-13.01/-9.36	-19.02/-15.95	-17.48/-17.7	-16.53/-9.86	-9.26/-11.14	-18.49/-10.65	-3.93/-1.17	-5.52/-7.8	-7.39/-8.9	-8.08/-7.52	-17.02/-10.09	-7.61/-10.06	-11.47/-12.69	-13.47/-14.62
Θ(142.5°)	-8.72/-7.51	-10.41/-12.14	-14.77/-18.28	-19.12/-15.68	-13.51/-7.49	-5.23/-6.08	-9.09/-12.65	-8.14/-11.23	-11.87/-7.84	-8.15/-11.95	-9.37/-7.66	-15.15/-16.63	-18.45/-17.73	-7.89/-10.33	-14.28/-15.07	-13.13/-13.1	-9.64/-13.37	-14.74/-13.2	-18.59/-14.69	-9.68/-7.49	-5.59/-4.87	-10.87/-19	-17.27/-15.53	-14.01/-13.84
Θ(150°)	-12.3/-8.9	-9.97/-10.56	-10.51/-15.66	-18.4/-17.99	-18.66/-18.8	-16.44/-14.64	-13.87/-9.48	-8.47/-14.03	-17.66/-9.19	-7.77/-10.38	-17.85/-18.28	-19.13/-17.73	-16.05/-13.09	-16.49/-15.79	-10.29/-10.9	-10.43/-7.88	-9.18/-16.12	-18.37/-17.61	-17.83/-18.55	-14.51/-10.82	-10.73/-7.93	-9/-12.31	-9.95/-13.02	-18.23/-12.79
Θ(157.5°)	-17.46/-17.92	-11.98/-10.77	-15.34/-17.99	-18.12/-11.02	-7.5/-6.91	-9.45/-16.82	-17.52/-12.44	-11.91/-14.64	-15.94/-14.29	-12.98/-12.04	-14.11/-18.26	-11.99/-11.3	-16.97/-15.33	-12.52/-9.72	-7.81/-7.19	-8.1/-14.75	-19.08/-13.59	-8.38/-0.85	-10.59/-10.48	-10.15/-10.26	-9.13/-9.14	-7.98/-8.72	-12.26/-16.99	
Θ(165°)	-15.34/-14.01	-16.38/-17.17	-17.99/-17.09	-14.04/-12.43	-14.41/-19.57	-18.12/-11.57	-8.71/-7.17	-7.81/-8.48	-8.79/-10.74	-17.54/-18.3	-18.15/-14.34	-9.83/-11.13	-14.81/-14.09	-10.94/-10.88	-9.99/-8.34	-8.22/-8.32	-9.81/-13.76	-15.32/-10.57	-9.06/-7.4	-5.45/-3.89	-3.61/-3.48	-4.31/-5.4	-5.31/-5.78	-9.43/-14.45
Θ(172.5°)	-15.38/-14.93	-15.5/-12.28	-11.32/-12.77	-13.95/-13.04	-12.12/-13.45	-12.68/-11.92	-10.48/-10.03	-10.34/-12.52	-13.59/-15.3	-17.28/-18.89	-17.64/-17	-15.93/-18.28	-17.98/-17.69	-17.08/-18.78	-17.33/-18.21	-18.43/-17.88	-18.36/-18.77	-14.99/-12.98	-10.97/-8.5	-6.81/-5.91	-6.17/-6.64	-7.29/-8.11	-9.21/-10.98	-12.49/-12.6
Θ(180°)	-14.03/-15.91	-17.32/-18.01	-18.12/-15.88	-13.6/-13.37	-11.55/-10.28	-10.52/-11.45	-13.3/-13	-12.03/-10.92	-10.81/-11.12	-10.29/-9.39	-10.05/-11.91	-13.66/-14.4	-14.5/-17.08	-18.55/-18.04	-18.44/-14.95	-14.03/-13.63	-11.77/-10.28	-9.81/-9.86	-10.06/-8.88	-7.56/-6.89	-7/-7.49	-7.47/-7.63	-8.55/-9.35	-11.08/-12.78
Freq(Hz)	6.695GPdL	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°)	-12.16/-13.11	-15.9/-15.15	-14.46/-14.72	-14.98/-16.41	-19.06/-18.9	-18.21/-14.78	-17.38/-18.88	-18.19/-18.76	-18.42/-16.86	-14.82/-13.91	-13.1/-13.3	-13.97/-13.63	-13.32/-14.39	-14.96/-14.78	-13.95/-14.28	-15.1/-15.92	-17.6/-14.6	-18.62/-18.33	-19.2/-18.04	-18.28/-17.98	-17.61/-19.3	-18.47/-14.22	-12.92/-12.4	-15.3/-15.62
Θ(7.5°)	-6.09/-6.94	-7.02/-7.45	-8.15/-9.11	-8.2/-8.76	-10.39/-12.01	-13.48/-14.84	-16.07/-18.5	-17.72/-18.49	-18.62/-18.04	-15.97/-12.64	-10.04/-9	-7.95/-7.29	-7.21/-7.82	-7.58/-7.28	-8.55/-9.29	-8.99/-9.4	-11.08/-12.34	-13.94/-17.11	-17.84/-19.09	-18.36/-14.98	-12.67/-10.8	-9.79/-8.56	-7.45/-7.47	-7.16/-6.7
Θ(15°)	-4.92/-5.28	-4.29/-4.17	-4.76/-5.69	-6.19/-7.48	-9.13/-11.88	-14.47/-15.48	-15.3/-17.23	-17.17/-18.18	-18.85/-18.02	-19.22/-16.79	-12.05/-9.78	-8.66/-7.82	-8.46/-8.15	-7.23/-6.99	-7.44/-6.98	-7.09/-8.57	-9.85/-9.35	-9.24/-11.9	-16.02/-18.73	-17.42/-16.03	-11.44/-9.07	-6.9/-5.49	-4.5/-3.74	-4.11/-4.59
Θ(22.5°)	-5.9/-4.82	-5.22/-6.17	-6.6/-7.13	-8.55/-9.37	-10.37/-12.57	-17.31/-18.62	-18.58/-18	-18.02/-17.52	-13.77/-13.64	-17.12/-18.89	-16.21/-13.94	-12.95/-11.37	-11.26/-12.01	-11.24/-10.04	-8.79/-6.88	-5.08/-3.77	-2.99/-3.65	-5.21/-7.02	-8.11/-9.93	-13.82/-18.02	-14.91/-6.9	-6.37/-5.12	-4.22/-4.5	-5.43/-6.59
Θ(30°)	-5.67/-5.21	-4.42/-4.9	-5.82/-7.48	-12.95/-15.87	-14.46/-11.68	-9.99/-9.1	-10.13/-11.9	-15.17/-18.11	-15.59/-15.57	-15.83/-16.18	-17.82/-17.33	-8.94/-7.83	-8.17/-7.6	-7.11/-5.5	-3.41/-2.86	-2.13/-1.24	-0.96/-0.96	-0.59/-0.56	-1.22/-2.82	-4.29/-6.04	-8.89/-11.58	-8.26/-5.22	-5.14/-6.43	-7.87/-8.1
Θ(37.5°)	-6.26/-7.12	-7.39/-6.85	-7.76/-10.65	-13.78/-11.06	-8.62/-6.58	-5.89/-7.65	-9.05/-10.56	-17.14/-18.56	-18.08/-13.86	-8.03/-8.37	-15.51/-9.38	-5.21/-4.8	-9.32/-6.23	-4.02/-3.19	-2.48/-1.48	1.071/89	1.6/0.83	0.22/-0.51	-0.9/-0.99	-2.24/-3.29	-3.75/-7.31	-6.52/-5.47	-6.14/-6.33	-5.52/-5.67
Θ(45°)	-1.71/-8.63	-8.23/-9.69	-15.76/-18.62	-13.34/-8.69	-7.68/-6.56	-7.21/-11.72	-10.81/-13.79	-9.08/-11.09	-12.71/-5.15	-5.06/-5.19	-9.23/-7.52	-5.41/-5.13	-5.75/-2.18	-1.19/-4.26	-0.41/-0.54	0.26/0.82	-0.14/-0.39	-1.09/-2.58	-2.65/-3.5	-3.19/-4.13	-5.81/-6.55	-5.65/-6.22	-6.14/33	-4.39/-6.62
Θ(52.5°)	6.05/-4.75	-5.69/-7.87	-10.56/-10.93	-6.23/-5.22	-7.55/-7.68	-8.79/-18.36	-12.42/-9.51	-6.72/-6.88	-4.75/-2.18	-5.74/-3.89	-4.43/-5.61	-6.73/-4.53	-3.35/-3.66	-2.01/-0.03	-0.14/-1.97	0.84/1.22	0.34/-1.74	-0.85/-0.53	-1.27/-1.8	-2.61/-4.69	-6.26/-5.53	-3.9/-4.64	-5.07/-3.99	-8.24/-7.91
Θ(60°)	-5.02/-5.35	-5.24/-7.5	-10.08/-9.97	-6.66/-5.64	-4.48/-6.92	-9.74/-19.25	-13.31/-12.67	-9.65/-5.19	-2.41/-1.52	-6.49/-2.05	-4.61/-9.6	-7.87/-4.38	-4.71/-7.19	-1.16/-1.81	-2.08/0.03	0.06/3	-2.33/-1.42	-2.28/-1.59	-2.62/-4.59	-6.67/-8.83	-4.9/-6.61	-3.65/-7.57	-9.09/-4.54	
Θ(67.5°)	-3.26/-4.42	-5.94/-7.33	-10.06/-8.43	-6.77/-5.83	-4.41/-6.65	-5.48/-12.79	-7.77/-5.9	-11.79/-5.88	-3.31/-3.99	-6.49/-2.51	-7.71/-6.98	-8.42/-6.59	-5.52/-6.52	-4.35/-4.88	-3.3/-1.76	-4.14/-5.2	-2.32/-2.28	-2.60/29	-1.08/-0.38	-1.8/-3.44	-9.09/-9.71	-5.84/-3.3	-3.54/-8.38	-4.92/-14
Θ(75°)	-3.85/-6	-6.66/-7.81	-7.99/-5.26	-6.68/-5.98	-4.88/-5.72	-3.42/-8.67	-5.04/-6.13	-5.68/-4.57	-6.14/-3.01	-6.5/-3.71	-6.8/-5.98	-4.07/-6.86	-2.55/-4.78	-5.43/-3.71	-3.8/-0.43	-3.32/-1.1	0.472/28	1.412/33	-1.43/-1.03	-9.64/-8.9	-4.71/-3.19	-5.58/-6.82	-2.97/-1.4	
Θ(82.5°)	-3.89/-7.24	-5.77/-6.04	-4.58/-5.43	-6.06/-6.87	-6.03/-4.21	-6.38/-8.93	-6.11/-4.34	-7.39/-3.6	-9.28/-6.99	-7.04/-2.34	-4.81/-2.85	-6.52/-6.17	-1.43/-4.18	-6.95/-5.85	-2.15/-1.35	-0.061/67	1.247/11	-0.121/05	-1.86/-2.06	-9.95/-4.32	-4.73/-3.95	-8.16/-5.7	-3.74/-1.08	
Θ(90°)	-4.03/-8.92	-6.92/-5.08	-5.39/-3.32	-4.69/-5.98	-4.83/-3.02	-4.13/-6.61	-5.47/-8.64	-10.35/-2.36	-1.64/-7.63	-7.15/-2.88	-6.07/-4.38	-4.91/-4.4	-4.09/-4.2	-7.57/-5.04	-6.64/-7.86	-2.06/-0.96	1.562/38	1.850/34	1.240/05	-3.28/-7.66	-9.9/-3.79	-5/-5.04	-10.97/-4.64	-5.03/-1.99
Θ(97.5°)	-7.68/-12.22	-8.02/-4.66	-6.05/-3.62	-3.97/-4.8	-4.13/-13.3	-5.32/-4.75	-6.59/-6.35	-8.74/-3.91	-16.88/-11.27	-6.84/-3.42	-11.09/-5.7	-6.55/-5.74	-6.91/-11.01	-11.99/-6.59	-12.39/-8.09	-4.56/-3.92	0.46/-0.29	-1.48/-1.76	-2.02/-2.75	-7.52/-18.72	-8.03/-6.78	-5.5/-5.47	-11.4/-11.59	-5.69/-4.99
Θ(105°)	-10.27/-13.12	-9.4/-6.35	-4.95/-2.22	-4.25/-4.42	-5.26/-3.56	-4.92/-4.9	-9.08/-5.97	-8.6/-8.75	-12.48/-12.16	-9.27/-18.7	-18.54/-6.96	-7.92/-8.29	-12.78/-18.33	-10.85/-11.41	-10.01/-9.53	-8.68/-7.01	-7.13/-5.32	-7.9/-8.96	-11.71/-9.1	-15.24/-16.23	-7.73/-5.98	-6.31/-6.28	-16.01/-7.57	-7.68/-8.83
Θ(112.5°)	-9.37/-8.86	-12.1/-8.83	-4.84/-3.75	-4.78/-7.72	-5.07/-4.13	-4.07/-4.1	-8.72/-5.17	-7.39/-11.69	-17.02/-19.45	-11.42/-10.92	-10.68/-4.75	-6.9/-11.13	-17.72/-18.56	-8.42/-16.69	-8.66/-12.22	-8.75/-6.08	-10.79/-97	-6.21/-10.71	-12.46/-10.06	-17.47/-12.54	-7.58/-9.23	-10.53/-6.87	-8.28/-8.95	-5.82/-8.24
Θ(120°)	-9.63/-11.14	-18.05/-16.78	-8.31/-6.81	-9.5/-9.01	-5.9/-7.31	-4.24/-6.63	-9.57/-8.64	-12.34/-17.47	-18.99/-13.28	-17.81/-10.26	-12.15/-6.17	-5.99/-8.89	-16.8/-10.09	-13.4/-9.69	-8.44/-15.78	-3.53/-1.21	-6.27/-6.75	-3.73/-5.92	-11.61/-13	-4.74/-13.89	-5.08/-3.47	-9.22/-5.69	-10.09/-5.74	-4.55/-6.43
Θ(127.5°)	-13.77/-11.78	-18/-15.87	-8.16/-16.09	-8.31/-6.92	-8.92/-8.94	-5.85/-10.65	-9.99/-13.43	-16.01/-14.26	-6.22/-9.3	-12.38/-7.87	-14.91/-13.91	-14.75/-14.11	-5.57/-7.08	-16.27/-7.85	-19.03/-18.66	-6.64/-6.41	-18.18/-5.93	-4.48/-12.41	-14.62/-4.6	-5.27/-10.78	-11.59/-3.72	-4.87/-6.31	-2.87/-4.21	-7.61/-6.1
Θ(135°)	-6.74/-6.42	-10.43/-8.76	-12.39/-7.54	-9.13/-13.79	-18.79/-13.82	-11.59/-18.43	-17.37/-15.92	-18.99/-11.81	-6.06/-11.34	-18.62/-7.18	-9.49/-12.43	-18.45/-17.74	-17.43/-16.47	-8.38/-7.41	-7/-10.89	-6.97/-12.33	-11.99/-4.17	-6.38/-15.17	-10.78/-8.52	-6.65/-15.66	-12.38/-4.5	-8.52/-3.2	-0.44/-0.66	-1.23/-3.06
Θ(142.5°)	-3.67/-5.76	-4.94/-9.14	-17.66/-17.83	-15.86/-12.71	-8.72/-14.92	-19.04/-13.48	-13.84/-14.16	-18.23/-19.37	-10.21/-10.68	-18.63/-13.71	-10.1/-11.96	-14.52/-10.87	-14.01/-18.68	-13.8/-28	-12.13/-9.8	-18.48/-18.03	-14.73/-8.75	-9.45/-12.82	-15.2/-14.25	-17.85/-12				



Radiated Composite Gain Data of 6GHz

Appendix B

Θ (142.5°)	-14.95/-12.69	-12.54/-13.85	-17.91/-12.61	-7.77/-8.13	-7.23/-4.78	-6.81/-10.77	-6.52/-3.75	-4.71/-6.7	-7.02/-7.65	-6.16/-6.4	-6.39/-9.88	-7.77/-5.68	-5.2/-5.44	-6.8/-9.1	-19.17/-13.17	-7.57/-9.16	-5.79/-5.89	-9.77/-8.24	-17.56/-13.21	-10/-3.81	-2.51/-4.07	-9.08/-9.35	-4.68/-2.4	-4.42/-9.39
Θ (150°)	-16.78/-18.57	-16.72/-18.89	-15.94/-12.86	-14.64/-11.05	-10.49/-12.13	-15.49/-11.49	-7.93/-7.41	-8.24/-7.15	-6.17/-7.56	-10.74/-12.02	-10.39/-9.88	-9.53/-7.68	-4.95/-4.49	-4.65/-3.61	-4.47/-8	-12.99/-15.8	-18.18/-17.89	-8.78/-5.56	-6.02/-6.39	-6.06/-4.81	-3.21/-2.49	-3.72/-6.26	-6.46/-5.15	-6.91/-10.7
Θ (157.5°)	-12.71/-11.8	-11.84/-11.14	-11.94/-12.99	-11.89/-10.23	-10.41/-12	-14.64/-12.98	-10.69/-11.83	-12.17/-9.38	-7.03/-6.79	-9.76/-14.17	-14.11/-11.81	-11.66/-10.67	-7.21/-5.53	-6.24/-5.72	-4.83/-4.41	-4.72/-6.78	-9.33/-5.63	-6.36/-4.66	-5.02/-7.13	-6.82/-10.41	-6.22/-6.33	-5.5/-5.77	-6.99/-9.94	-18.84/-17.7
Θ (165°)	-7.22/-7.22	-8.95/-9.02	-10.87/-14.97	-18.64/-17.56	-17.71/-13.68	-11.95/-10.75	-12.39/-16.76	-13.79/-11.16	-10.16/-9.81	-10.19/-10.46	-9.67/-8.85	-8/-6.62	-4.85/-3.6	-2.35/-2.01	-2.07/-2.41	-2.67/-3.49	-4.56/-6.15	-8.37/-10.34	-12.43/-15.6	-17.32/-18.66	-19.13/-18.87	-15.18/-14.06	-16.14/-13.85	-12.75/-9.59
Θ (172.5°)	-14.72/-15.47	-15.36/-16.28	-18.68/-11.9	-17.65/-18.51	-18.41/-18.09	-17.96/-18.22	-17.33/-15.56	-13.33/-12.36	-11.17/-9.84	-8.86/-7.89	-7.39/-6.63	-5.32/-5.03	-4.19/-3.45	-3.32/-3.46	-3.35/-3.01	-3.21/-4.31	-5.99/-8.29	-11.1/-13.75	-17.03/-18.48	-17.46/-18.47	-17.46/-18.47	-14.8/-12.15	-11.24/-10	-10.22/-12.14
Θ (180°)	-11.13/-9.69	-8.6/-10.18	-10.56/-10.14	-10.08/-11.08	-11.09/-11.19	-11.74/-13.62	-14.73/-16.37	-18.03/-19.07	-14.85/-13.21	-12.53/-11.8	-10.48/-9.19	-8.11/-6.97	-6.81/-7.97	-8.35/-8.47	-9.13/-10.22	-10.91/-11.31	-11.75/-13.92	-18.71/-17.71	-18.4/-17.86	-17/-17.91	-18.96/-19.13	-14.65/-13.61	-14.38/-13.8	-13.98/-12.01
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°)	-6.59/-6.04	-4.75/-4.26	-3.97/-3.76	-4.19/-4.31	-4.56/-4.68	-5.44/-6.71	-8.11/-9.67	-11.39/-12.6	-14.66/-16.42	-14.86/-12.15	-10.69/-9.29	-7.44/-5.66	-4.55/-4.2	-4.33/-4.46	-4.26/-3.89	-3.47/-3.62	-4.22/-5.09	-6.03/-7.8	-10.35/-11.6	-11.74/-13.68	-16.19/-14.33	-13.87/-12.5	-10.19/-9.65	-8.04/-6.74
Θ (7.5°)	-4.94/-5.1	-5.03/-4.69	-4.44/-4.57	-4.41/-4.35	-4.21/-4.06	-5.01/-6.18	-7.3/-8.7	-10.23/-12.53	-14.95/-19.21	-19.03/-16.04	-13.87/-11.66	-10.08/-8.47	-6.72/-6.62	-7.22/-7.43	-6.88/-6.12	-5.75/-5.35	-5.33/-5.62	-5.97/-7.46	-10.01/-12.28	-14.04/-18.93	-18.53/-15.19	-11.18/-9.72	-8.64/-8.1	-6.68/-5.32
Θ (15°)	-2.9/-3.2	-3.07/-3.08	-2.65/-3.22	-2.26/-2.94	-3.06/-3.3	-4.65/-6.43	-8.7/-11.88	-15.43/-15.15	-15.59/-15.57	-13.46/-12.42	-13.59/-14.49	-11.07/-7.36	-6.58/-6.69	-5.43/-5.15	-6.26/-7.42	-6.04/-4.4	-3.9/-4.02	-4.15/-4.74	-5.67/-7.66	-11.14/-14.12	-17.96/-19.07	-14.7/-12.46	-9.41/-6.33	-5.32/-3.47
Θ (22.5°)	-2.13/-0.49	0.11/-1.04	-1.28/-0.86	-1.23/-2.43	-3.05/-4.36	-5.32/-4.68	-4.95/-7.07	-7.41/-4.2	-7.98/-7.76	-8.17/-8.75	-9.43/-9.83	-9/-8.11	-7.02/-4.87	-3.89/-4.04	-3.74/-3.93	-4.14/-4.25	-4.58/-4.71	-4.37/-5.29	-6.11/-7.44	-9.98/-11.16	-14.2/-15.89	-12.34/-10.7	-7.36/-2.07	-1.81/-2.51
Θ (30°)	-8.47/-6.34	-5.24/-4.25	-3.67/-3.58	-2.66/-0.9	-0.36/-1.31	-1/-0.72	-2.56/-3.8	-3.49/-4.01	-5.36/-6.57	-14.18/-13.78	-11.19/-11.64	-12.71/-7.29	-4.75/-3.88	-3.19/-1.92	-2.13/-4.3	-5.15/-7.46	-8.71/-7.27	-5.17/-5	-5.64/-5.38	-5.28/-7.52	-10.32/-12.92	-10.01/-5.44	-3.3/-3.08	-2.48/-3.65
Θ (37.5°)	-2/-1.84	-2.26/-1.48	-3.86/-7.79	-4.10/-23	1.951/3.88	1.350/0.1	-1.72/-2.96	-3.94/-4.64	-6.99/-11.06	-13.54/-13.22	-9.45/-4.76	-5.71/-4.14	-4.54/-4.26	-4.38/-5.23	-3.65/-2.95	-4.61/-9.45	-7.43/-2.63	-2.44/-2.07	-1.16/-2.02	-2.76/-3.44	-5.17/-6.67	-6.51/-5.66	-3.63/-2.34	-2.33/-1.66
Θ (45°)	-0.31/-1.09	-1.42/-2.89	-1.97/-4.08	-1.95/0.9	2.673/2.26	1.970/1	-0.29/-0.09	-1.34/-1.91	-4.09/-8.24	-12.91/-12.81	-7.53/-4.97	-4.71/-3.49	-3.63/-5.46	-6.65/-7.56	-8.4/-4.67	-4.49/-2.73	-6.43/-7.68	-7.75/-4.11	-4.37/-2.7	-1.10/-10.08				
Θ (52.5°)	-2.74/-3.31	-3.86/-5.7	-3.85/-2.32	0.612/6.4	3.123/2.6	2.440/98	2.081/69	0.630/68	-1.93/-5.47	-7.87/-10.93	-9.65/-5.62	-3.55/-5.2	-4.17/-5.05	-4.11/-6.06	-7.06/-4.4	-2.71/-5.22	-4.2/-4.06	-3.72/-3.22	-5.54/-6.25	-6.88/-3.97	-3.57/-3.75	-2.87/-3.26	-5.32/-5.84	-2.17/-0.75
Θ (60°)	-3.1/-1.88	-1.92/-3.65	-5.44/-2.96	0.713/1.3	2.953/1.7	2.741/45	2.532/23	2.372/16	-1.32/-3.9	-6.19/-7.3	-9.29/-7.57	-4.6/-3.4	-3.56/-5.6	-3.35/-4.6	-7.08/-4.3	-2.89/-4.6	-3.75/-5.01	-5.31/-6.53	-6.62/-6.92	-6.63/-3.29	-3.56/-4.81	-2.45/-6.39	-11.14/-10.05	-3.43/-2.26
Θ (67.5°)	-1.9/-3.6	-0.33/-1.96	-3.58/-1.69	0.32/27	2.12/62	2.791/51	2.762/36	2.551/47	-0.98/-0.65	-4.15/-9	-10.75/-9.73	-6.24/-2.42	-2.61/-4.75	-5.47/-6.15	-7.42/-5.21	-5.42/-4.79	-3.64/-3.74	-4.46/-5	-4.62/-7.69	-5.57/-4.49	-9/-4.99	-4.83/-4.92	-14.7/-3.3	-2.28/-0.33
Θ (75°)	-1.27/-0.48	0.14/-2.04	-2.65/-1.62	-0.83/-0.25	0.761/5	1.930/0.8	1.693/21	2.861/34	-0.020/49	-2.46/-5.66	-8.34/-8.93	-5.65/-2.14	-2.71/-7.7	-9.94/-7.43	-8.41/-10.71	-6.04/-11.65	-5.12/-3.22	-2.79/-2.58	-3.51/-3.65	-3.08/-3.97	-9.95/-5.27	-2.95/-4.62	-10.53/-4.01	-0.480/43
Θ (82.5°)	-2.23/-1.2	-1.19/-2.93	-2.98/-1.13	-0.4/-2.21	-1.59/-2.06	0.59/-1.51	0.461/47	2.350/7	-0.070/48	-1.43/-3.23	-6.83/-8.99	-4.17/-2.21	-3.71/-7.93	-10.89/-11.73	-10.55/-12.17	-11.99/-13.55	-11.04/-8.39	-2.57/-2.19	-1.26/-2.92	-2.86/-3.71	-5.96/-4.3	-1.21/-5.77	-10.88/-3.07	-1.03/-0.19
Θ (90°)	-4.87/-3.55	-2.32/-3.3	-4.61/-3.98	-1.5/-3.6	-0.46/-2.73	-1.48/-4.96	-0.67/-4.04	-0.76/-4.0	-1.19/-8.76	-4.64/-4.18	-5.29/-7.56	-3.79/-3.22	-6.64/-4.87	-14.66/-16.89	-15.77/-10.55	-14.92/-11.57	-12.98/-11.59	-4.22/-4.07	-4.92/-6.3	-4.76/-4.41	-3.22/-5.22	-14.95/-4.23	-4.06/-3.1	
Θ (97.5°)	-7.91/-5.17	-3.86/-4.71	-7.15/-4.76	-2.93/-3.53	-6.04/-6.03	-3.76/-7.22	-4.49/-2.28	-1.9/-2.84	-2.92/-1.76	-1.96/-2.23	-5.64/-7.1	-4.76/-5.12	-8.02/-10.44	-16.97/-18.26	-9.35/-7.29	-7.48/-14.91	-17.64/-14.59	-8.59/-7.06	-14.78/-9.73	-5.15/-5.6	-9.64/-8.21	-7.68/-10.99	-17.55/-9.54	-9.93/-7.97
Θ (105°)	-8.74/-6.47	-4.81/-5.4	-9.58/-11	-5.67/-2.44	-4.07/-8.6	-5.22/-8.4	-10.55/-15.95	-5.07/-3.78	-7.11/-5.8	-4.71/-2.95	-5.41/-5.87	-12.15/-18.97	-17.71/-7.68	-4.66/-7.77	-3.46/-8.13	-14.93/-14.05	-15.48/-18.75	-14.68/-8.62	-6.83/-7.36	-11.45/-6.95	-13.93/-12.9	-16.1/-11.77	-10.02/-10.82	
Θ (112.5°)	-11.35/-7.03	-4.24/-4.49	-8.04/-11.56	-12.11/-6.43	-4.43/-6.7	-4.59/-5.13	-11.19/-8.76	-9.04/-12.69	-9.88/-5.56	-5.76/-3.48	-3.21/-2.98	-5.86/-6.46	-10.02/-18.45	-14.33/-8.83	-1.47/-2.33	-4.61/-1.37	-3.97/-6.69	-8.84/-10.81	-16.71/-8.81	-3.95/-3.46	-10.62/-7.44	-8.1/-11.96	-10.01/-14.73	-9.41/-6.77
Θ (120°)	-11.2/-15.14	-8.53/-5.61	-3.52/-5.48	-1.7/-4.49	-4.99/-3.62	-4.26/-4.21	-3.98/-5.02	-5.48/-7.51	-7.79/-4.72	-4.57/-4.16	-2.5/-1.67	-3.34/-5.72	-7.8/-8.05	-6.18/-5.04	-2.08/-2.73	1.051/4.7	-4.12/-9.38	-11.1/-9.5	-10.76/-10.39	-18.98/-9.36	-9.02/-9.33	-17.33/-12.18	-7.61/-5.43	-8.32/-8.49
Θ (127.5°)	-6.21/-1.2	-1.648/-10.9	-6.2/-3.99	-5.61/-17.35	-5.55/-3.12	-1.11/-2.79	-7.89/-6.95	-2.9/-2.07	-3.56/-4	-3.21/-2.36	-3.87/-4.06	-6.01/-6.45	-3.66/-3.85	-1.870/44	0.33/-2.48	-2.09/-3.77	-6.31/-7.14	-5.37/-8.09	-6.34/-6.67	-11.23/-13.18	-8.38/-8.61	-16.32/-18.7	-14.87/-12.04	
Θ (135°)	-7.47/-12.53	-18.58/-17.64	-16.78/-3.72	-4.04/-10.31	-16.61/-10.56	-13.15/-7.57	-3.45/-3.96	-6.14/-8.54	-2.84/-1.03	-0.642/-2.13	-3.27/-3.81	-4.5/-3.03	-3.71/-3.01	-3.18/-3.91	-2.73/-2.16	-1.72/-8.1	-4.41/-3.9	-5.15/-9.47	-17.93/-14.35	-13.92/-8.67	-14.15/-9.47	-8.24/-8.67	-7.3/-5.94	-7.63/-10.59
Θ (142.5°)	-9.11/-10.14	-14.6/-10.98	-8.45/-6.16	-7.67/-11.96	-15.25/-14.02	-10.85/-13.46	-18.23/-13.72	-7.39/-5.45	-3.13/-2.92	-3.7/-3.47	-3.59/-3.43	-2.69/-2.52	-1.95/-1.6	-2.25/-5.04	-5.04/-6.99	-11.1/-6.23	-7.6/-5.92	-8.67/-3.8	-17.91/-19.03	-13.99/-8.32	-9.08/-10.25	-18.46/-18.36	-17.73/-18.25	-18.85/-13.64
Θ (150°)	-1.71/-18.42	-12.34/-9.66	-10.15/-17.49	-17.84/-13.77	-14.22/-13.52	-10.9/-10.35	-10.81/-12.01	-12.14/-11.02	-7.61/-4.79	-3.21/-2.59	-2.21/-5.1	-1.51/-2.62	-3.62/-4.69	-6.26/-5.9	-7.11/-13.46	-10.33/-8.63	-3.71/-8.1	-4.23/-5.1	-6.19/-11.2	-13.64/-11.61	-10.85/-13.79	-16.64/-9.2	-9.48/-10.38	-11.25/-11.35
Θ (157.5°)	-11.61/-13.86	-14.69/-15.12	-14.33/-12.77	-11.38/-12.5	-16.08/-18.19	-13.34/-10.4	-9.86/-9.26	-7.31/-4.64	-2.12/-0.78	-1.02/-1.51	-1.29/-1.76	-3.42/-3.68	-3.03/-4.34	-5.04/-4.89	-6.84/-11.91	-18.15/-14.76	-10.75/-12.57	-12.53/-6.79	-5.76/-9.1	-15.6/-18.42	-13.38/-8.66	-9.51/-18.78	-17.88/-12.28	-12.47/-13
Θ (165°)	-12.92/-12.74	-11.96/-11.21	-10.69/-10.02	-11.17/-13.1	-15/-16.96	-18.42/-18.23	-15.72/-14.3	-14.84/-11.93	-9.23/-7.89	-7.59/-7.08	-5.97/-6.6	-7.28/-6.94	-7.16/-7.34	-7.14/-8.96	-13.43/-17.91	-17.31/-18.55	-17.88/-16.7	-12.92/-8.77	-6.31/-6.26	-8.6/-11.1	-12.28/-14.39	-17.96/-17.86	-15.93/-14.63	-12.21/-12.04
Θ (172.5°)	-14.44/-14.31	-13.83/-13.35	-11.3/-9.61	-9.55/-10.91	-12.28/-13.38	-12.25/-10.47	-9.18/-8.97	-10.31/-11.32	-11.53/-10.23	-12.24/-11.71	-12.36/-13.36	-14.3/-15.94	-16.81/-18.01	-17.24/-17.77	-18.34/-17.16	-18.14/-16.18	-14.02/-13.52	-15.74/-17.76	-18.02/-15.16	-14.96/-12.05	-9.53/-4.04	-7.8/-7.53	-8.41/-10.03	-13/-16.54
Θ (180°)	-14.68/-16.97	-15.52/-18.05	-18.67/-18.33	-16.42/-15.87	-16.15/-13.48	-10.54/-9.06	-9.6/-9.92	-10.13/-9.66	-8.96/-9.21	-10.68/-11.51	-11.85/-14.52	-13.35/-13.89	-13.71/-16.7	-18.68/-17.63	-18.62/-18.65	-19.06/-18.68	-14.26/-12.72	-14.17/-14.48	-19.37/-14.85	-12.07/-9.61	-8.68/-9.04	-10.36/-11.67	-12.47/-14.31	-14.24/-12.45
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(27					



Radiated Composite Gain Data of 6GHz

Appendix B

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°)	-6.34/-6.12	-6.29/-6.04	-5.55/-5.45	-5.61/-5.54	-6.04/-6.35	-6.91/-7.42	-7.71/-8.95	-10.43/-10.05	-10.15/-10.73	-11.85/-12.02	-10.15/-8.93	-8.88/-7.26	-6.11/-6.15	-6.96/-5.89	-4.85/-5.33	-6.11/-6.63	-6.76/-6.81	-7.21/-6.46	-8.01/-8.9	-9.86/-10.68	-11.73/-13.34	-13.04/-11.33	-10.27/-8.96	-8.94/-7.78
Θ(12.5°)	-5.28/-3.47	-2.99/-2.8	-3.05/-3.44	-3.67/-4.86	-5.91/-7.07	-8.1/-8.8	-9.63/-9.91	-10.51/-10.5	-10.34/-10.61	-11.25/-10.39	-8.97/-8.55	-6.05/-5.87	-4.44/-4.12	-3.38/-4.52	-2.93/-3.5	-3.95/-4.72	-5.62/-6.72	-7.94/-9.27	-10.76/-12.71	-14.61/-15.08	-14.03/-12.5	-9.77/-7.24	-5.82/-4.1	-4.64/-3.69
Θ(15°)	-4.48/-3.6	-3.41/-3.72	-3.09/-3.51	-4.42/-5.89	-7.1/-8.01	-8.23/-8.83	-9.71/-9.74	-9.52/-9.05	-8.11/-7.87	-8.25/-8.71	-8.49/-8.89	-9.19/-7.63	-4.82/-3	-2.61/-2.03	-1.71/-2.25	-2.89/-3.11	-3.41/-3.69	-3.91/-4.44	-5.23/-6.57	-8.61/-13.37	-18.58/-17.89	-12.19/-7.84	-5.62/-5.5	-5.51/-4.53
Θ(22.5°)	-3.33/-2.26	-2.61/-3.03	-2.42/-2.18	-4.62/-6.14	-7.32/-6.76	-6.06/-7.24	-8.21/-7.18	-6.21/-6.55	-7.61/-9.85	-13.06/-12.39	-10.15/-9.73	-3.76/-1.78	-1.59/-0.7	-0.05/-0.32	-1.39/-2.91	-4.32/-6.06	-4.79/-4.09	-4.41/-5.08	-5.89/-7.02	-9.36/-14.06	-13.99/-11.64	-9.01/-6.84	-5.86/-4.68	-5.66/-4.68
Θ(30°)	-3.79/-3.44	-3.05/-3.03	-2.62/-1.29	-1.13/-1.75	-2.96/-3.51	-4.98/-7.06	-6.17/-5.4	-5.16/-4.81	-4.51/-4.69	-5.98/-8.53	-8.31/-5.1	-6.54/-7.74	-5.74/-4.43	-3.65/-1.73	-0.28/-0.69	-1.31/-2.73	-6.81/-10.73	-6.69/-4.73	-7.47/-11.22	-11.84/-9.51	-7.77/-8.4	-7.21/-4.88	-4.89/-4.88	-4.89/-4.88
Θ(37.5°)	-5.37/-4.67	-5.08/-7.14	-6.05/-2.36	-0.71/-0.57	-0.96/-1.76	-3.01/-2.68	-2.04/-2.28	-2.02/-2.98	-4.11/-5.58	-7.71/-7.55	-6.31/-7.08	-10.02/-13.27	-11.31/-6.3	-3.93/-2.48	-1.76/-3.14	-3.68/-6.04	-10.13/-8.66	-7.55/-4.94	-4.49/-5.09	-5.51/-5.4	-4.32/-2.74	-3.55/-5.66	-6.62/-5.64	-6.16/-5.88
Θ(45°)	-0.74/-0.12	-2.23/-2.91	-3.66/-2.15	-1.59/-1.17	-0.31/-0.02	-0.28/-1.23	0.95/-0.72	0.51/-2.6	-3.27/-3.66	-5.21/-6.51	-7.67/-11.43	-14.83/-13.1	-12/-8.45	-4.35/-2.57	-3.81/-8.97	-4.23/-4.9	-9.83/-8.93	-5.81/-5.16	-4.31/-7.03	-8.21/-8.58	-6.78/-5.32	-4.8/-3.88	-2.8/-4.07	-3.65/-2.26
Θ(52.5°)	-2.31/-1.75	-3.04/-3.88	-3.01/-3.14	-1.72/-0.58	-10.34/-5.08	1.73/-1.08	1.35/-2	1.98/-1.98	1.31/-2.02	-1.62/-2.21	-3.74/-6.15	-9.51/-10.42	-12.13/-12.51	-12.34/-10.2	-7.82/-4.45	-5.41/-10.59	-6.31/-5.2	-7.82/-6.32	-5.03/-5.32	-5.22/-6.64	-8.47/-10.32	-4.96/-3.18	-3.85/-3.47	-3.08/-5.67
Θ(60°)	-7.16/-3.8	-3.22/-5.9	-6.08/-5.38	-3.4/-0.9	0.92/-1.95	2.532/-4.9	2.382/-2	1.11/-1.74	-1.76/-2.04	-1.59/-3.11	-5.74/-7.6	-9.99/-17.06	-16.85/-9	-8.34/-7.1	-5.03/-11.04	-6.45/-6.17	-9.01/-7.62	-6.09/-9.07	-11.35/-11.71	-12.47/-11.85	-5.39/-4.95	-5.51/-3.32	-5.58/-8.99	-5.34/-8.39
Θ(67.5°)	-5.82/-1.84	-1.09/-2.13	-4.02/-6.24	-3.86/-0.93	1.14/-1.81	2.321/-86	2.622/-63	1.71/-0.86	-0.58/-1.14	-1.83/-4.23	-5.58/-5.37	-7.02/-10.47	-12.42/-6.36	-5.18/-6.19	-5.13/-17.7	-4.61/-6.96	-9.53/-9.25	-7.09/-9.03	-11.61/-8.93	-8.21/-10.69	-6.37/-9.1	-4.64/-3.8	-8.26/-7.96	-5.38/-7.3
Θ(75°)	-5.0/-4	0.59/-0.52	-2.07/-5.21	-4.02/-1.34	0.461/-58	1.798/-187	2.93 /-36	2.23/-97.9	-0.24/-0.62	-1.77/-4.72	-5.96/-6.36	-8.92/-12.19	-10.51/-6.11	-6.26/-5.84	-6.33/-5.39	-4.65/-5.33	-10.13/-8.94	-6.18/-3.66	-6.44/-6	-7.72/-6.46	-11.48/-9.19	-5.06/-4.52	-7.72/-6.46	-5.21/-4.4
Θ(82.5°)	-4.81/-0.84	0.36/-0.78	-2.07/-4.84	-4.68/-2.09	-0.22/-0.63	0.90/-0.55	1.832/-36	1.43/-0.01	0.02/-0.91	-2.18/-5.1	-3.81/-4.63	-12.18/-12.41	-8.31/-6.39	-5.94/-8.44	-8.59/-5.73	-4.98/-4.68	-13.05/-6.41	-4.83/-3.13	-2.82/-3.58	-4.89/-5.74	-8.14/-6.23	-3.61/-5.82	-10.18/-5.96	-7.14/-5.64
Θ(90°)	-5.91/-2.8	-0.32/-1.68	-3.33/-5.11	-5.98/-3.58	1.29/-0.8	0.11/-2.15	-0.20/-62	0.38/-0.47	-0.09/-0.81	-1.34/-3.51	-2.64/-3.9	-11.68/-13.26	-9.25/-7.5	-6.32/-10.7	-13.74/-8.51	-7.57/-5.41	-11.08/-10.9	-5.52/-3.27	-3.39/-3.75	-4.38/-5.34	-6.86/-7.35	-5.18/-7.17	-10.89/-5.57	-8.48/-6.06
Θ(97.5°)	-10.32/-6.71	-3.65/-3.85	-5.41/-6.38	-6.82/-5.5	-3.39/-0.74	-1.57/-1.48	-1.76/-0.65	-1.04/-1.08	-0.98/-1.71	-1.95/-3.9	-2.63/-4.32	-12.91/-11.47	-10.38/-6.37	-6.85/-18.04	-12.54/-10.62	-12.66/-5.92	-9.63/-17.06	-8.23/-4.96	-7.66/-7.52	-7.81/-8	-7.96/-9.12	-5.82/-8.97	-12.21/-11.8	-14.46/-9.96
Θ(105°)	-10.45/-10.35	-7.01/-8.15	-9.58/-9.53	-8.55/-6.19	-6.42/-1.03	-2.96/-4.8	-1.96/-1.17	-2.72/-3.23	-3.16/-3.77	-3.04/-2.81	-2.65/-4.18	-8.78/-15.73	-12.74/-7.43	-11.01/-13.77	-15.22/-18.95	-15.93/-10.37	-9.23/-16.59	-14.25/-11.98	-13.59/-13.76	-13.11/-18.64	-9.63/-7.74	-9.19/-9.21	-11.89/-13.74	-17.62/-10.95
Θ(112.5°)	-5.36/-6.7	-8.44/-9.39	-10.51/-12.92	-8.64/-6.36	-8.88/-1.91	-3.63/-5.56	-2.93/-2.98	-4.81/-5.04	-3.75/-5.46	-3.29/-5.73	-8.79/-13.55	-16.82/-12.36	-11.06/-10.18	-18.24/-15.07	-11.21/-17.88	-16.48/-16.61	-17.78/-15.16	-14.54/-18.97	-8.11/-12.74	-14.81/-5.53	-10.58/-18.29	-12.02/-11.11	-11.18/-5.65	-11.18/-5.65
Θ(120°)	-11.99/-11.52	-6.67/-5.55	-5.74/-10.12	-9.66/-7.38	-10.34/-5.36	-5.37/-6.24	-4.91/-7.02	-6.47/-7.09	-5.59/-6.6	-4.21/-1.47	-3.66/-3.91	-7.32/-11.88	-12.08/-12.8	-9.06/-16.82	-15.96/-10.6	-8.64/-10.23	-13.38/-17.41	-12.78/-15.85	-19.28/-14.06	-11.26/-12.13	-13.84/-11.95	-13.32/-15.82	-11.95/-9.5	-14.41/-7.52
Θ(127.5°)	-11.68/-14.86	-11.49/-8.1	-6.91/-8.19	-10.19/-10.06	-10.41/-10.36	-12.7/-8.65	-8.05/-12.44	-9.43/-8.77	-5.67/-5.4	-3.46/-1.95	-2.67/-5.14	-7.13/-11.12	-11.83/-8.67	-7.22/-7.47	-7.89/-7.86	-5.11/-7.84	-17.9/-18.42	-11.45/-17.49	-13.63/-16.92	-17.77/-17.35	-18.23/-15.02	-11.88/-7.44	-11.08/-13.57	-17.26/-9.89
Θ(135°)	-8.04/-15.23	-18.45/-18.3	-9.31/-6.15	-7.44/-11.47	-10.56/-9.98	-18.94/-11.1	-11.87/-17.38	-10.86/-6.4	-4.96/-3.72	-3.19/-2.67	-1.58/-3.7	-6.35/-7.63	-9.08/-6.96	-3.67/-2.96	-3.98/-7.1	-10.98/-5.3	-14.98/-18.11	-7.59/-14.5	-17.59/-17.4	-16.63/-14.4	-18.21/-16.1	-9.72/-12.35	-15.34/-8.49	-6.64/-8.37
Θ(142.5°)	-10.01/-15.14	-18/-14.58	-11.44/-11.26	-13.95/-14.13	-8.11/-8.08	-10.47/-13.79	-15.06/-9.8	-7.22/-4.42	-3.53/-3.19	-3.67/-4.12	-4.12/-4.92	-4.97/-4.7	-4.75/-3.24	-4.5/-6.91	-4.9/-8.52	-12.74/-10.82	-9.58/-18.22	-14.03/-18.68	-17.08/-15.31	-16.93/-17.46	-19.18/-17.35	-13.05/-13.95	-13.31/-11.71	-12.27/-14.57
Θ(150°)	-18.71/-14.68	-11.91/-14.3	-13.59/-18.08	-19.35/-18.54	-13.04/-11.3	-14.14/-12.65	-8.17/-6.01	-3.48/-3.11	-3.43/-4.01	-3.97/-4.86	-6.25/-5.61	-7.11/-7.5	-4.39/-4.24	-4.42/-7.7	-9.9/-8.62	-8.28/-8.86	-13.07/-14.06	-16.71/-14.06	-18.19/-18.75	-16.64/-14.29	-15.28/-17.11	-17.73/-18.25	-17.43/-14.3	-16.62/-15.26
Θ(157.5°)	-15.69/-18.41	-17.69/-17.94	-18.75/-16.31	-13.41/-14.22	-17.96/-18.13	-12.48/-8.82	-6.77/-5.7	-5.11/-5.25	-5.61/-6.04	-6.97/-8.27	-7.69/-5.84	-8.27/-10.74	-9.71/-11.1	-9.57/-7.85	-9.38/-8.57	-6.31/-9.7	-9.39/-8.88	-12.52/-17.62	-18.29/-18.45	-17.41/-18.06	-13.77/-10.38	-10.41/-16.71	-13.72/-10.69	-11.34/-11
Θ(165°)	-19.19/-13.77	-10.27/-8.48	-8.31/-8.16	-7.91/-9.21	-13.58/-18.25	-15.34/-9.99	-7.51/-5.94	-4.69/-3.86	-3.81/-4.26	-5.31/-8.09	-9.65/-10.91	-12.58/-10.95	-13.31/-12.06	-10.53/-8.25	-7.61/-10.74	-15.43/-18.24	-15.56/-14.42	-17.09/-17.31	-19.36/-17.79	-16.33/-14.74	-13.69/-14.58	-15.22/-17.72	-16.66/-16.8	-18.59/-17.87
Θ(172.5°)	-18.24/-18.06	-18.17/-17.43	-15.54/-12.78	-11.99/-12.77	-12.77/-11.6	-9.42/-7.8	-7.22/-6.4	-4.74/-8.09	-8.22/-6.63	-9.84/-11.7	-13.67/-13.7	-14.81/-13.49	-11.07/-11.77	-16.92/-17.59	-18.96/-19.3	-16.55/-13.28	-11.91/-11.48	-12.49/-14.43	-16.16/-17.86	-18.61/-17.79	-17.39/-17.99	-17.73/-15.21	-16.68/-18.9	-18.22/-17.81
Θ(180°)	-17.14/-18.84	-18.39/-18.23	-17.87/-18.18	-18.49/-19.52	-17.58/-17.67	-15.15/-14.23	-12.26/-11.35	-12.42/-12.64	-12.74/-12.4	-11.61/-11.86	-10.92/-10.74	-14.83/-15.55	-18.43/-16	-15.71/-13.36	-14.37/-14.48	-15.53/-17.08	-17.02/-16.74	-18.41/-17.82	-18.32/-17.78	-14.15/-12.6	-12.14/-11.79	-12.21/-13.65	-14.81/-13.12	-13.17/-15.1
Freq(Hz)	6.995GPol.	PhiAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-8.51/-9.52	-9.77/-10.52	-11.73/-14.24	-15.38/-14.74	-13.63/-11.92	-10.27/-8.74	-7.91/-6.73	-6.97/-6.26	-5.71/-5.33	-5.56/-5.06	-6.31/-7.5	-6.73/-7.07	-8.84/-9.62	-10.87/-10.84	-10.63/-11.09	-11.81/-11.94	-10.89/-10.71	-9.96/-9.45	-9/-7.72	-6.62/-5.64	-5.17/-6.06	-5.51/-5.7	-6.65/-6.02	-6.68/-5.75
Θ(7.5°)	-9.17/-12.22	-12.33/-13.32	-12.16/-10.29	-9.68/-8.89	-8.53/-8.51	-8.63/-8.34	-8.38/-7.96	-7.31/-6.93	-6.37/-5.84	-5.33/-4.77	-5.89/-7.12	-6.79/-8.05	-10.43/-10.86	-12.79/-14.96	-15.33/-13.58	-13.07/-11.67	-10.92/-9.84	-9.31/-9.14	-8.82/-8.16	-7.71/-6.57	-5.51/-5.13	-4.72/-4.56	-4.81/-5.72	-5.19/-6.51
Θ(15°)	-4.12/-6.28	-10.15/-17.14	-17.35/-14.41	-13.26/-11.85	-10.42/-9.27	-8.23/-8.39	-9.84/-9.99	-9.25/-8.11	-7.69/-7.4	-7.82/-9.78	-7.18/-7.63	-9.75/-11.3	-11.81/-15.6	-18.19/-16.64	-14.14/-11.38	-10.91/-10.59	-10.44/-10.05	-8.49/-8.64	-7.85/-6.66	-5.95/-4.96	-4.03/-3.95	-4.08/-3.73	-3.89/-4.06	-3.89/-4.06
Θ(22.5°)	-3.96/-6.21	-10.35/-13.04	-15.78/-18.96	-18.53/-19.07	-17.78/-17.21	-14.11/-11.65	-11.28/-11.44	-10.98/-10.54	-10.47/-9.34	-8.07/-7.03	-6.89/-8.98	-10.46/-10.42	-11.65/-9.58	-10.06/-14.96	-18.69/-17.27	-16.12/-13.43	-11.67/-11.94	-14.37/-14.91	-12.48/-9.19	-6.64/-3.95	-1.91/-4.5	-0.96/-1.48	-3.44/-3.97	-3.59/-4.38
Θ(30°)	-6.23/-9.14	-17.68/-18.43	-14.32/-10.65	-18.53/-18.02	-18.93/-18.36	-18.44/-13.7	-7.92/-2.88	-7.61/-7.03	-6.81/-6.5	-5.83/-4.99	-6.61/-8.93	-9.25/-10.19	-10.66/-10.19	-16.17/-17.9	-18.32/-17.83	-12.98/-12.51	-14.84/-18.26	-19.01/-16.39	-7.57/-6.61	-7.91/-6.66	-3.68/-1.94	-2.44/-2.82	-3.39/-5.13	-5.82/-6.96
Θ(37.5°)	-12.77/-17.39	-18.29/-14.3	-13.33/-10.65	-9.14/-11.99	-14.82/-9.02	-9.24/-11.09	-5.39/-4.63	-5.02/-4.87	-4.46/-2.95	-3.73/-6.21	-7.37/-5.33	-7.84/-12.27	-9.84/-12.5	-11.79/-16.33	-15.31/-13.81	-14								



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(45°)	-1.3610-14	-0.25/-0.57	-1.271/-1.75	-1.38/-1.3	-0.77/0.15	0.01/-0.31	-0.01/0.18	-1.73/-2.78	-3.85/-9.03	-11.52/-7	-6.41/-7.85	-9.18/-10.04	-9.41/8.97	-8.66/-10.09	-9.15/-6.67	-4.26/-5.15	-7.06/-8.71	-9.19/-5.97	-4.87/-5.89	-9.01/-7.26	-8.54/-9.4	-2.01/-2.33	-6.11/-6.01	-3.47/-3.21
Θ(52.5°)	-5.34/-3.38	-3.33/-3.01	-2.93/-3.42	-1.65/-1	-0.17/-0.6	-0.43/-0.39	-0.74/-1.11	-2.2/-1.36	-2.04/-5.21	-7.19/-9.54	-7.33/-5.85	-5.66/-5.81	-3.24/-3.98	-7.44/-13.4	-8.26/-3.64	-4.64/-3.61	-5.96/-10.71	-7.26/-6.38	-2.82/-4.01	-5.95/-7.26	-1.06/-0.32	-3.33/-5.44	-4.85/-5	
Θ(60°)	-5.04/-5.75	-4.72/-4.07	-3.15/-3.53	-1.18/0.02	-0.02/-0.76	-0.28/0.71	0.4/-1.09	-2.77/-2.84	-2.45/-3.36	-4.25/-7.96	-10.57/-15.8	-5.13/-3.59	-2.57/-5.87	-3.64/-8.57	-9.16/-5.84	-4.85/-3.52	-5.56/-5.93	-6.29/-3.98	-2.75/-4.49	-5.6/-5.93	-1.47/-1.55	-4.42/-3.01	-3.84/-5.78	
Θ(67.5°)	-2.06/-2.66	-4.22/-3.84	-1.64/-1.1	0.04/0.76	0.03/-0.36	0.36/1.49	1.29/0.7	-1.52/-3.39	-3.69/-5.03	-5.9/-6.84	-10.81/-10.41	-8.29/-4.41	-1.49/0.17	-1.2/-5.5	-8.8/-6.41	-5.26/-6.55	-6.02/-641	-6.32/-4.11	-2.16/-4.08	-4.79/-4.91	-10.06/-9.52	-2.58/-2.04	-5.18/-2.43	-4.72/-5.88
Θ(75°)	-2.13/-2.69	-5.85/-3.14	-0.04/-0.41	-0.08/0.22	-1.14/-1.79	-0.96/-1.27	1.93/1.24	-0.91/-2.68	-2.29/-5.63	-8.48/-11.75	-9.78/-10.86	-12.18/-6.47	-1.31/-0.3	-1.21/-4.77	-10.45/-7.32	-4.88/-7.47	-6.56/-6.09	-3.57/-2.52	-2.54/-5.17	-3.3/-2.52	-8.29/-10.48	-3.63/-4.04	-4.89/-2.88	-8.59/-7.54
Θ(82.5°)	-2.46/-4.09	-8.97/-4.05	-1/-1.55	-1.13/-3.54	-4.43/-3.7	-4/-0.42	0.96/0.86	-1.91/-2.47	-1.07/-3.48	-7.28/-10.43	-15.93/-9.14	-10.36/-8.65	-2.99/-1.3	-1.48/-4.08	-7.58/-6	-4.02/-8.74	-4.86/-5.96	-3.36/-2.34	-1.43/-3.92	-3.02/-2.61	-8.45/-9.51	-5.81/-3.92	-3.21/-2.74	-13.83/-9.32
Θ(90°)	-3.12/-5.24	-13.94/-7.08	-3.41/-4.37	-3.89/-4.5	-5.07/-5.35	-3.56/-1.1	-1.34/-1.25	-2.67/-4.26	-1.89/-2.85	-4.63/-7.16	-18.34/-10.23	-7.2/-10.03	-6.37/-3.28	-3.43/-4.47	-5.2/-5.68	-3.42/-8.16	-6.1/-5.63	-3.7/-2.87	-1.49/-5.26	-5.61/-4.09	-7.94/-6.85	-3.31/-5.96	-7.78/-6.75	-14.03/-6.83
Θ(97.5°)	-7.19/-17.1	-11.15/-8.65	-3.59/-6.4	-7.34/-5.31	-4.43/-4.01	-2.39/-0.37	-0.98/-2.25	-4.21/-5.77	-3.38/-4.44	-4.58/-9.48	-13.67/-13.78	-9.27/-12.48	-9.11/-5.52	-6.58/-8.44	-4.6/-6.11	-3.55/-6.12	-8.23/-10.52	-8.34/-7.97	-7.08/-17.68	-10.41/-6.03	-5.3/-7.16	-5.5/-14.81	-17.78/-14.03	-7.9/-5.52
Θ(105°)	-18.33/-9.28	-3.71/-5.12	-4.47/-7.3	-11.16/-8.56	-8.32/-4.84	-2.52/-0.62	-2.76/-4.11	-3.78/-6.83	-4.07/-5.3	-5.19/-4.76	-9.53/-11.76	-15.06/-17.68	-17.79/-9.45	-6.78/-7.12	-7.88/-7.63	-8.47/-9.93	-9.93/-11.78	-8.94/-14.27	-13.41/-13.14	-11.13/-8.97	-12.55/-13.06	-14.88/-11.33	-8.48/-10.49	-18.91/-17.68
Θ(112.5°)	-6.62/-3.66	-2.18/-6.93	-12.64/-17.14	-12.39/-11.08	-9.72/-8.25	-4.47/-3.48	-5.72/-8.02	-6.11/-4.88	-3.52/-5.39	-6.78/-6.35	-8.98/-6.81	-9.12/-11.17	-16.39/-12.43	-11.57/-10.95	-7.78/-8.63	-7.98/-6.92	-18.64/-18.39	-11.81/-9.89	-15.58/-17.63	-18.01/-13.29	-18.01/-6.94	-8.32/-11.27	-9.91/-15.29	-8.78/-9.57
Θ(120°)	-9.98/-12.82	-16.54/-18.13	-12.13/-6.86	-5.36/-5.91	-8.91/-14.13	-8.57/-6.83	-11.68/-11.11	-5.56/-6.66	-2.94/-4.05	-6.06/-7.63	-11.17/-10	-7.52/-5.5	-7.28/-12.39	-19.11/-15.23	-7.96/-9.41	-9.61/-9.39	-11.19/-16.39	-13.96/-12	-16.01/-6.03	-14.69/-11.65	-10.3/-8.21	-14.44/-13.59	-3.66/-6.82	
Θ(127.5°)	-12.13/-9.6	-6.12/-3.44	-6.67/-6.63	-5.25/-7.1	-7.58/-12.04	-16.45/-18.57	-18.15/-10.58	-7.38/-5.58	-4.26/-5.28	-6.27/-6.77	-8.12/-6.75	-5.24/-3.26	-4.76/-5.12	-12.03/-13.03	-18.51/-18.47	-15.35/-17.36	-16.18/-11.43	-17.56/-10.08	-15.92/-9.03	-5.18/-8.82	-17.63/-14.1	-15.16/-14.55	-9.88/-4.32	-3.84/-14.77
Θ(135°)	-3.35/-5.51	-11.17/-10.08	-8.16/-10.14	-10.75/-8.63	-10.15/-10.62	-13.8/-13.52	-11.81/-9.21	-5.97/-6.09	-6.14/-6.79	-7/-6.57	-6.36/-8.17	-7.62/-6.09	-4.88/-3.77	-5.36/-6.9	-8.58/-15.97	-14.35/-19.18	-14.12/-14.75	-12.99/-12.45	-16.27/-18.16	-13.24/-15.12	-19.23/-17.5	-18.07/-10.78	-10.13/-6.09	-11.13/-5.07
Θ(142.5°)	-7.03/-10.25	-13.03/-13.13	-13.11/-12.36	-12.11/-12.53	-10.94/-9.45	-8.87/-7.55	-6.28/-7.14	-8/-9.68	-9.37/-6.33	-5.61/-6.13	-8.54/-10.86	-7.81/-6	-9.9/-9.36	-9.2/-11.14	-18.68/-10.93	-9.96/-8.64	-14.07/-11.23	-16.22/-12.52	-7.74/-5.78	-7.57/-15.13	-17.87/-12.64	-6.77/-5.73	-7.33/-6.36	
Θ(150°)	-18.26/-18.92	-18.36/-17.54	-18.03/-18.6	-19.17/-18.2	-18.13/-15.03	-12.37/-10.42	-11.09/-11.59	-9.71/-10.74	-12.13/-9.33	-7.95/-6.83	-5.96/-6.36	-7.66/-8.9	-12.01/-14.22	-15.23/-13.14	-11.77/-10.04	-5.97/-7.94	-7.97/-7.82	-12.27/-9.12	-14.41/-19	-17.72/-18.68	-19.28/-14.48	-15.86/-18.53	-16.48/-17.38	-17.46/-16.13
Θ(157.5°)	-18.95/-18.59	-18.54/-15.89	-15.39/-17.81	-17.29/-18.38	-18.7/-16.37	-13.34/-14.23	-16.5/-19.83	-19.09/-19.15	-18.37/-12.18	-8.62/-7.26	-7.95/-9.1	-8.41/-9.1	-14.63/-18.35	-17.76/-16.8	-17.36/-16.32	-12.87/-11.04	-9.33/-12.03	-18.83/-18.21	-18.36/-18.3	-13.27/-12.27	-13.24/-14.69	-17.94/-18.83	-16.08/-15.19	-12.88/-14.45
Θ(165°)	-13.73/-12.52	-12.21/-11.64	-10.55/-11.48	-12.66/-13.37	-15.56/-16.47	-16.75/-16.69	-15.87/-16.25	-18.53/-17.81	-14.16/-11.05	-9.15/-7.42	-6.7/-5.4	-5.15/-6.56	-9.17/-9.51	-14.53/-14.07	-19.59/-18.13	-18.3/-18.8	-18.03/-18.67	-16.05/-15.41	-15.79/-16.25	-12.85/-13.48	-18/-14.61	-12.43/-14.02	-11.41/-10.12	-11.97/-14.14
Θ(172.5°)	-15.86/-17.52	-15.98/-16.94	-17.15/-16.88	-16.21/-15.47	-15.06/-14.53	-15.13/-15.63	-17.14/-14.65	-14.13/-13.3	-12.07/-11.01	-10.16/-9.03	-7.78/-6.31	-6.43/-7.36	-9.05/-9.58	-11.27/-12.15	-15.37/-17.22	-15.11/-10.72	-11.21/-11.98	-12.98/-14.75	-12.38/-12.68	-11.03/-12.15	-10.87/-11	-11.75/-13.95		
Θ(180°)	-10.53/-10.66	-11.09/-12.71	-15.14/-15.97	-17.33/-17.88	-18.99/-18.36	-18.03/-18.68	-19.21/-15.72	-13.5/-11.75	-11.05/-10.68	-9.55/-8.46	-8.63/-9.17	-10.13/-10.36	-10.13/-10.33	-11.06/-11.32	-12.41/-14.56	-16.77/-17.97	-17.7/-17.38	-14.9/-13.48	-13.29/-13.9	-15.12/-14.68	-12.92/-11.49	-11.03/-10.8	-11/-11.37	-11.55/-11.03
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°)	-8.13/-8.94	-9.56/-10.26	-9.47/-8.67	-9.42/-10.29	-10/-9.24	-9.32/-8.81	-8.48/-8.19	-7.72/-7.45	-7.25/-6.84	-6.59/-7.11	-7.36/-7.05	-7.22/-7.79	-8.17/-7.65	-8.5/-8.85	-9.37/-9.95	-10.2/-10.15	-10.42/-10.41	-10.15/-9.42	-8.73/-9.67	-11.12/-10.93	-9.1/-8.32	-8.23/-8.09	-8.2/-8.51	-8.19/-7.61
Θ(7.5°)	-7.92/-8.39	-9.92/-11.1	-10.1/-9.76	-10.27/-11.48	-11.46/-11.56	-12.88/-13.7	-12.91/-12.96	-13.1/-12.64	-11.89/-10.99	-10.16/-9.31	-9.52/-9.09	-8.89/-9.26	-10.86/-10.66	-9.04/-9.23	-10.58/-11.36	-10.61/-10.03	-9.82/-9.27	-7.91/-6.75	-5.84/-5.05	-5.16/-5.44	-5.84/-5.26	-5.14/-6.31	-7.73/-8.1	-13.66/-8.22
Θ(15°)	-17.85/-18.53	-17.55/-17.42	-13.19/-11.58	-11.51/-12.69	-13.67/-14.33	-17.07/-17.84	-19.09/-17.76	-18.88/-16.33	-14.01/-11.88	-11.05/-10.73	-11.10/-10.84	-8.33/-6.91	-8.68/-9.93	-8.16/-8.66	-12.12/-13.94	-13.58/-13.97	-14.42/-13.72	-11.53/-9.54	-8.57/-7.72	-7.38/-8.05	-8.41/-7.31	-5.93/-7.77	-6.48/-8.06	-10.05/-13.5
Θ(22.5°)	-11.17/-14.86	-12.87/-9.58	-7.32/-7.92	-11.05/-13.12	-12.67/-10.87	-9.29/-7.73	-7.02/-7.96	-9.95/-11.11	-10.2/-8.99	-10.69/-12.45	-12.54/-12.21	-10.81/-9.21	-10.57/-14.44	-11.25/-10.48	-16.15/-18.85	-19.14/-13.83	-11.94/-12.55	-14.28/-11.86	-9.42/-8.34	-8.01/-8.02	-8.42/-7.85	-7.08/-6.73	-6.54/-6.51	-7.02/-8.11
Θ(30°)	-10.88/-11.81	-7.48/-5.99	-5.99/-7.07	-12.07/-14.84	-14.69/-9.01	-7.24/-6.51	-5.75/-5.63	-5.44/-5.68	-6.35/-6.56	-8.47/-8.57	-7.94/-9.83	-12.09/-16.58	-14.95/-10.98	-10.62/-16.89	-13.81/-17.8	-17.9/-9.98	-8.99/-10.24	-9.11/-8.32	-9.21/-7.33	-4.75/-4.44	-6.14/-6.21	-9.12/-6.67	-3.86/-3.1	-3.71/-6.34
Θ(37.5°)	-17.71/-11.75	-7.91/-7.5	-10.79/-11.4	-9.93/-12.97	-19.18/-9.02	-6.29/-6.04	-4.82/-3.03	-3.44/-5.51	-3.65/-4.97	-7.047/-9.09	-8.46/-11.04	-12.62/-15.78	-14.6/-14.73	-12.94/-16.67	-18.22/-13.64	-12.67/-5.58	-9.12/-12.9	-10.09/-5.59	-8.86/-1.75	-1.03/-3.53	-7.73/-8.84	-6.74/-3.52	-1.42/-2.33	-5.54/-8.45
Θ(45°)	-10.54/-10.83	-9.86/-12.08	-18.8/-14.41	-11.29/-13.01	-19.19/-12.84	-7.46/-5.56	-3.99/-2.67	-2.37/-2.4	-2.27/-3.45	-3.22/-2.25	-3.73/-6.05	-8.54/-10.77	-12.49/-9.7	-13.49/-18.77	-17.71/-8.91	-11.37/-16.5	-12.56/-13.03	-10.38/-12.47	-9.25/-7.06	-3.11/-3.47	-4.73/-4.47	-6.82/-7.03	-5.19/-6.79	-10.8/-11.4
Θ(52.5°)	-7.16/-12.57	-15.43/-17.87	-18.37/-15.65	-17.43/-18	-18.75/-16.11	-11.28/-6.59	-4.59/-6.16	-1.92/-2.31	-1.63/-1.24	-0.17/-1.15	-2.8/-4.01	-6.71/-4.75	-10.31/-14.5	-12.9/-18.71	-14.44/-6.63	-10.15/-9.34	-10.22/-13.18	-18.64/-18.13	-10.09/-10.3	-8.26/-11	-8.68/-6.93	-10.59/-12.68	-8.15/-9.58	-7.53/-6.55
Θ(60°)	-9.53/-13.54	-17.14/-17.45	-16.59/-18.24	-16.41/-13.65	-10.72/-13.78	-18.24/-8.39	-6.86/-6.99	-4.97/-4.78	-2.26/-3.05	0.68/-0.74	-1.96/-2.92	-4.32/-5.92	-9.45/-17.19	-12.08/-14.49	-16.06/-13.63	-9.36/-11.77	-9.02/-11.25	-8.03/-8.74	-18.12/-12.97	-11.38/-10.82	-11.6/-11.64	-14.5/-13.11	-12.21/-12.86	-7.09/-6.28
Θ(67.5°)	-13.71/-14.1	-13.07/-13.96	-17.69/-18.55	-16.17/-8.07	-7.3/-10.33	-18.99/-6.39	-5.05/-6.87	-6.06/-8.04	-4.03/-2.05	-0.58/-2.32	-2.93/-5.43	-6.06/-6.18	-11.01/-17.88	-11.71/-10.31	-11.6/-10.65	-9.48/-8.15	-9.08/-10.84	-7.72/-9.53	-10.92/-14.38	-14/-10.16	-11.77/-7.26	-6.29/-6.12	-9.85/-17.66	-10.19/-9.19
Θ(75°)	-14.18/-10.47	-14.94/-18	-15.6/-18.77	-14.3/-9.57	-6.4/-5.5	-10.04/-6.65	-3.69/-4.58	-5.74/-9.14	-6.88/-5.39	-4.07/-3.82	-3.35/-1.52	-5.46/-6.84	-11.67/-18.12	-14.42/-10.83	-10.98/-7.75	-8.66/-9.95	-10.05/-9.93	-9.61/-11.87	-14.83/-10.37	-12.76/-7.09	-8.21/-10.56	-13.12/-7.66	-11.82/-16.23	-12.37/-10.24
Θ(82.5°)	-15.98/-11.66	-18.24/-10.36	-17.66/-17.53	-19.12/-8.88	-6.1/-6.46	-5.8/-2.6	-2.01/-4.33	-3.73/-5.14	-5.39/-5.9	-7.51/-4.83	-4.49/-6.45	-6.3/-7.69	-13.24/-17.6	-14.86/-11.97	-10.71/-9.19	-7.4/-8.01	-7.51/-6.06	-7.34/-9.81	-9.1/-6.57	-12/-17.2	-7.79/-11.6	-17.71/-16	-16.68/-10.62	-8.84/-15.86
Θ(90°)	-15.38/-11.19	-12.44/-15.2	-12.95/-13.37	-11.55/-10.01	-6.13/-3.9	-3.72/-2.86	-2.24/-4.98	-3.57/-5.34	-6.1/-7.48	-8.64/-5.25	-4.79/-6.81	-7.4/-6.59	-11.41/-17.52	-12.25/-13.08	-11.26/-6.8	-6.47/-8.08	-6.56/-8.83	-7.88/-9.39	-8.99/-5.76	-7.01/-7.31	-9.05/-7.57	-14.14/-14.28	-17.09/-13.04	-13.68/-19.18
Θ(97.5°)																								



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(97.5°)	-4.89/-8.45	-18.82/-10.53	-4.89/-6.34	-5.3/-8.59	-14.07/-5.08	-6.23/-4.57	-3.66/-3.18	-3.71/-3.99	-4.97/-5.91	-9.27/-15.44	-12.16/-8.25	-4.27/-3.86	-4.91/-5.78	-6.17/-8.01	-7.3/-7.66	-5.29/-6.47	-8.68/-9.08	-7.64/-3.08	-4.6/-5.73	-6.65/-6.57	-4.16/-5.01	-5.49/-7.05	-15.57/-10.13	-14.09/-17.47
Θ(105°)	-14.4/-17.58	-6.66/-8.9	-2.58/-7.58	-8.88/-8.4	-7.85/-8.83	-6.96/-7.23	-10.22/-7.03	-6.64/-4.92	-5.05/-5.08	-6.48/-12.26	-15.44/-13.3	-6.35/-5.99	-4.78/-5.7	-6.47/-6.88	-7.59/-6.83	-4.91/-6.56	-8.41/-12.58	-8.36/-4.32	-7.38/-12.31	-9.53/-12.11	-6.57/-10.31	-8.55/-13.24	-18.64/-8.02	-15.67/-18.5
Θ(112.5°)	-7.81/-4.66	-2.28/-5.41	-4.15/-6.98	-10.66/-10.68	-9.32/-8.85	-9.42/-6.95	-9/-7.84	-7.79/-7.5	-6.8/-5.69	-8.34/-11.5	-16.64/-18.17	-8.94/-7.39	-6.19/-5.83	-7.04/-6.07	-8/-5.1	-6.23/-5.72	-9.9/-13.61	-9.26/-6.11	-4.8/-8.43	-11.02/-11.47	-6.76/-19.16	-11.65/-18.45	-17.87/-14.83	-7.7/-10.81
Θ(120°)	-8.79/-8.03	-6.25/-9.1	-8.65/-12.98	-18.06/-12.12	-7.52/-9.82	-13.25/-13.18	-16.32/-12.44	-9.29/-9.41	-5.97/-5.86	-7.69/-8.07	-9.28/-15.2	-18.47/-14.47	-10.58/-7.45	-6.54/-8.06	-10.21/-10.9	-7.69/-6.71	-12.39/-18.96	-16.88/-14.29	-10.95/-17.2	-15.69/-17.3	-11.04/-7.03	-9.45/-9.89	-15.11/-10.54	-6.9/-8.65
Θ(127.5°)	-15.2/-17.65	-15.17/-12.66	-18.25/-18.7	-18.55/-8.86	-8.57/-14.32	-14.14/-14.6	-18.28/-12.83	-6.92/-7.81	-5.61/-4.82	-9.95/-9.92	-10.42/-16.27	-17.04/-14.01	-9.71/-10.28	-9.13/-11.31	-10.22/-9.47	-7.28/-7.77	-11.14/-18.15	-13.61/-13.85	-18.49/-12.41	-6.44/-10.81	-12.82/-17.38	-18.08/-14.61	-18.97/-10.21	-3.54/-10.91
Θ(135°)	-5.17/-6.77	-9.7/-10.03	-11.45/-14.4	-18.64/-16.32	-13.37/-13.91	-15.26/-15.18	-16.01/-10.35	-6.83/-6.16	-5.71/-5.93	-8.68/-9.92	-9.72/-8.61	-9.38/-10.66	-10.83/-14.53	-11.89/-17.41	-15.22/-10.95	-15.21/-19.39	-13.8/-17.9	-14.96/-15.33	-9.4/-13.7	-9.05/-9.8	-15.36/-18.38	-17.22/-18.2	-17.84/-18.06	-18.9/-9.49
Θ(142.5°)	-10.21/-15.03	-17.54/-15.99	-11.82/-10.97	-15.85/-18.11	-19.23/-17.36	-15.12/-12.67	-13.02/-11.2	-7.57/-6.38	-4.77/-4.44	-6.34/-8.08	-7.09/-7.38	-6.85/-5.33	-6.5/-6.52	-9.71/-12.16	-14.4/-14.54	-13.16/-18.19	-14.11/-19.11	-12.51/-15.35	-15.05/-11.15	-14.58/-17.66	-12.29/-10.14	-11.86/-14.46	-15.82/-16.5	-9.59/-8.45
Θ(150°)	-18.27/-17.75	-17.69/-18.28	-14.21/-14	-13.3/-14.13	-13.38/-15.49	-18.91/-18.8	-18.04/-10.63	-7.53/-6.76	-7.02/-8.97	-12.95/-13.35	-11.55/-11.3	-11.54/-11.8	-9.83/-12.48	-16.86/-14.61	-18.27/-18.52	-18.9/-18.78	-15.91/-15.86	-18.29/-17.22	-18.63/-17.68	-18.31/-19.7	-16.67/-13.51	-15.27/-18.03	-17.53/-16.2	-16.05/-17.18
Θ(157.5°)	-12.55/-10.98	-12.94/-18.66	-17.8/-18.61	-15.8/-12.26	-12.32/-12.9	-18.34/-17.82	-17.73/-19.65	-17.3/-18.28	-14.78/-13.19	-15.85/-17.75	-16.96/-15.62	-17.3/-14.04	-12.44/-11.52	-9.8/-9.92	-11.4/-11.01	-10.16/-12.21	-13.09/-11.9	-17.85/-18.37	-17.7/-13.51	-11.3/-9.99	-8.89/-8.53	-11.29/-16.66	-17.37/-17.17	-13.95/-14.92
Θ(165°)	-18.54/-17.75	-18.51/-19.08	-18.08/-18.77	-18.67/-14.88	-14.27/-12.36	-12.36/-13.58	-16.84/-17.91	-17.79/-13.46	-10.68/-8.73	-8.26/-8.22	-9.71/-12.32	-13.16/-11.48	-10/-9.78	-9.6/-7.8	-7.24/-7.72	-9.04/-10.94	-16.79/-18.56	-18.09/-15.19	-13.25/-12.14	-12.52/-13.86	-17.68/-19.28	-17.59/-15.24	-11.99/-11.94	-13.04/-15.61
Θ(172.5°)	-18.04/-17	-15.79/-15.81	-16.77/-15.23	-12.7/-12.07	-12.39/-12.74	-12.63/-13.25	-14.83/-14.98	-12.44/-9.83	-8.78/-9.14	-8.69/-8.11	-8.18/-8.12	-8.19/-7.74	-7.09/-7.2	-7.43/-7.2	-7.57/-8.48	-9.45/-10.84	-12.79/-13.75	-15.25/-16.15	-17.18/-17.54	-17.73/-15.43	-12.87/-11.42	-11.57/-11.53	-13.13/-14.54	-15.88/-17.17
Θ(180°)	-11.35/-12.22	-12.46/-13.36	-15.85/-19.03	-18.48/-18.55	-19.12/-18.33	-18.05/-15.72	-13.86/-13.04	-12.39/-11.66	-11.93/-11.5	-10.2/-10.04	-9.73/-9.2	-10.15/-10.12	-10.77/-13.14	-14.49/-13.2	-13.58/-16.04	-18.09/-17.93	-19.23/-19.24	-18.94/-17.36	-17.87/-19.65	-15.99/-14.58	-14.19/-13.13	-12.11/-12.04	-11.03/-9.92	-10.05/-10.36
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°)	-10.77/-10.44	-10.96/-11.12	-12.18/-12.41	-11.67/-12.37	-12.64/-12.76	-13.24/-13.22	-13.07/-12.41	-12.01/-11.55	-11.42/-10.82	-10.5/-10.32	-10.72/-9.61	-8.05/-8.86	-9.86/-9.56	-9.38/-9.47	-10.63/-11.77	-12.44/-12.65	-13.35/-13.6	-14.04/-13.25	-12.67/-12.07	-11.49/-11.11	-11.04/-10.52	-9.66/-9.59	-10.17/-11.07	-9.55/-10.02
Θ(7.5°)	-9.91/-10.23	-10.65/-11.19	-12.33/-12.7	-13.05/-12.62	-12.18/-11.57	-10.86/-10.83	-10.56/-10.47	-10.38/-10.46	-10.72/-10.83	-10.87/-10.91	-10.1/-9.17	-8.29/-9.11	-9.89/-8.99	-8.57/-8.61	-8.51/-9.67	-11.03/-11.7	-12.7/-13.58	-13.36/-13.56	-14.46/-15.05	-14.21/-12.81	-11.87/-10.78	-10.04/-8.74	-8.21/-9.48	-8.99/-8.84
Θ(15°)	-14.34/-18.09	-18.24/-12.59	-9.83/-9.85	-10.6/-11.15	-12.41/-13.14	-14.15/-16.56	-16.98/-15.88	-12.68/-10.18	-8.71/-7.54	-7.71/-8.07	-8.6/-8.51	-7.66/-8.67	-11.59/-11.18	-10.62/-11.51	-11.2/-12.21	-16.18/-19.43	-19.52/-16.3	-14.36/-13.69	-13.2/-12.82	-12.9/-13.06	-12.26/-11.08	-10.35/-10.69	-10.39/-11.01	-12.08/-12.1
Θ(22.5°)	-16.93/-18.8	-19.18/-16.3	-14.09/-13.95	-12.85/-12.42	-12.94/-13.86	-15.22/-16.16	-16.4/-17.51	-18.92/-13.55	-9.35/-6.53	-5.52/-6.46	-8.41/-8.43	-8.02/-10.01	-13.8/-13.19	-12.11/-16.08	-17.71/-16.57	-13.55/-14.02	-16.75/-16.32	-12.33/-9.48	-7.85/-6.68	-5.9/-5.6	-5.94/-7.97	-9.87/-10.63	-12.15/-13.88	-17.11/-14.93
Θ(30°)	-13.88/-14.03	-11.26/-13.05	-16.08/-18.07	-19.24/-12.53	-9.23/-8.71	-9.9/-11.37	-10.36/-11.67	-14.1/-12.3	-11.37/-8.45	-5.57/-6.47	-9.96/-9.52	-9.66/-10.73	-9.91/-10.89	-12.02/-11.58	-12.37/-14.25	-14.35/-14.05	-15.57/-16.81	-18.4/-16.13	-12.89/-11.18	-7.72/-4.78	-3.59/-5.34	-9.66/-16.68	-17.72/-13.96	-9.79/-10.45
Θ(37.5°)	-9.65/-9	-8.2/-10.08	-12.58/-9.87	-11.22/-15.06	-12.16/-9.98	-9.72/-9.74	-9.48/-10.42	-10.01/-9.27	-10.22/-8.5	-7.05/-8.03	-8.39/-11.13	-17.2/-12.15	-8.98/-11.42	-8.65/-8.25	-13.73/-16.92	-18.17/-18.93	-17.08/-14.59	-12.79/-17.76	-19.09/-10.13	-6.87/-5.43	-6.7/-9.55	-4.92/-5.43	-6.71/-9.82	-9.01/-9.45
Θ(45°)	-12.93/-7.87	-8.22/-12.62	-17.02/-12.32	-12/-15.78	-14.05/-9.63	-9.25/-9.46	-8.38/-8.2	-6.63/-6.68	-8.77/-7.5	-7.41/-8.64	-8.63/-12.04	-12.45/-10.55	-8.51/-10.24	-10.25/-10.07	-12.86/-16.47	-16.39/-14.94	-17.8/-15.3	-11.64/-11.07	-12.07/-13.34	-9.69/-9.94	-6.2/-6.7	-4.06/-4.71	-5.77/-7.1	-12.88/-19.07
Θ(52.5°)	-6.97/-7.69	-10.95/-13.3	-18.37/-14.06	-11.76/-12.32	-13.06/-13.51	-11.05/-8.55	-6.97/-6.08	-4.81/-5.1	-4.65/-4.31	-8.31/-10.95	-11.17/-15.64	-15.67/-14.49	-11.49/-9.91	-11.53/-13.34	-15.29/-18.08	-19.35/-15.86	-18.01/-18.4	-14.78/-12.7	-14.26/-11.71	-8/-12.05	-10.06/-5.55	-3.82/-6.29	-4.14/-7.9	-19.87/-10.71
Θ(60°)	-6.47/-11.4	-18.33/-16.09	-14.98/-12.36	-10.09/-9.34	-11.6/-11.44	-9.96/-6.23	-4.67/-4.26	-4.1/-2.58	-2.74/-3.03	-6.89/-7.35	-7.82/-11.16	-18.48/-17.18	-9.96/-9.11	-11.38/-13.61	-18.94/-18.03	-18.92/-19.01	-16.74/-18.18	-15.74/-14.51	-15.01/-12.12	-10.71/-15.3	-14.77/-12.52	-7.71/-6.51	-3.63/-11.24	-15.17/-8.66
Θ(67.5°)	-8.52/-18.87	-18.43/-15.16	-17.77/-15.63	-12.35/-10.59	-10.66/-14.51	-8.49/-6.52	-4.31/-3.48	-2.31/-1.67	-1.96/-2.79	-5.46/-6.15	-6.77/-7.99	-17.73/-18.27	-12.78/-11.38	-13.61/-16.64	-18.13/-18.46	-17.59/-18.49	-10.87/-15.11	-13.56/-11.05	-10.73/-11.09	-9.03/-17.23	-18.78/-18.59	-10.53/-8.44	-5.25/-13.69	-10.35/-6.22
Θ(75°)	-12.6/-17.99	-19.34/-12.61	-17.54/-18.06	-17.84/-12.57	-15.58/-19.16	-7.7/-5.34	-2.92/-3.04	-3.8/-3.15	-1.92/-2.72	-5.14/-5.11	-4.88/-6.89	-18.61/-19.4	-19.13/-15.4	-14.57/-18.32	-13.23/-12.41	-19.37/-15.86	-11.2/-13.08	-12.77/-8.39	-6.29/-9.58	-7.13/-9.39	-18.05/-16.75	-12.98/-8.6	-5.51/-19.1	-11.87/-8.33
Θ(82.5°)	-13.5/-16.04	-17.75/-15.33	-17.17/-14.36	-18.16/-11.92	-12.99/-16.93	-6.31/-3.38	-2.01/-1.82	-3.35/-3.35	-3.64/-3.53	-4.83/-4.18	-4.42/-7.11	-13.94/-18.57	-17.86/-14.47	-16.64/-17.19	-15.64/-18.19	-16.32/-11.19	-15.15/-10.9	-10.0/-8.5	-6.53/-9.8	-5.52/-7.22	-11.3/-7.64	-17.6/-9.01	-7.7/-18.78	-13.34/-9.66
Θ(90°)	-13.43/-15.33	-18.11/-14.95	-11.58/-11.32	-18.27/-9.55	-11.65/-12.89	-5.28/-4.29	-2.92/-2.13	-3.62/-4.36	-4.48/-3.27	-5.2/-4.15	-4.02/-5.24	-14.78/-18.24	-18.14/-18.07	-18.12/-18.77	-18.06/-15.91	-19.23/-13.65	-18.75/-11.48	-8.73/-6.78	-7.37/-13.53	-5.89/-7.58	-11.19/-9.3	-17.82/-13.33	-11.16/-18.66	-10.96/-11.93
Θ(97.5°)	-19.26/-15.56	-18.06/-16.76	-10.9/-11.98	-17.75/-8.81	-6.78/-8.5	-3.48/-4.28	-3.84/-3.65	-5.5/-6.25	-5.61/-3.55	-4.9/-4.59	-4.58/-5.58	-15.52/-18.04	-14.86/-17.63	-14.43/-12.55	-13.99/-14.25	-17.46/-16.6	-18.23/-11.62	-7.86/-7.32	-9.55/-15.8	-11.53/-5.88	-15.22/-10.15	-17.6/-18.5	-17.48/-16.56	-10.59/-17.89
Θ(105°)	-18.08/-16.84	-18.49/-13.3	-11.08/-11.27	-18.98/-9.02	-7.62/-6.91	-4.69/-6.06	-5.77/-6.39	-6.81/-7.85	-7.63/-5.3	-6.11/-4.57	-4.43/-4.07	-14.5/-17.89	-14.58/-18.19	-17.3/-8.64	-8.3/-8.35	-8.71/-13.6	-17.45/-13.59	-8.31/-7.3	-12.05/-17.97	-17.96/-7.79	-14.75/-17.01	-13.04/-18.54	-16.17/-14.08	-12.37/-17.66
Θ(112.5°)	-17.94/-17.77	-16.63/-17.34	-10.16/-12.36	-16.19/-8.33	-6.31/-7.1	-5.71/-8.69	-8.69/-10.14	-9.01/-5.12	-7.82/-6.81	-4.8/-5.11	-4.86/-5.81	-13.02/-18.56	-16.99/-19.75	-18.12/-7.49	-4.83/-6.6	-7.49/-12.56	-18.9/-13.33	-9.01/-10.68	-15.46/-13.01	-19.23/-11.81	-18.4/-17.77	-14.97/-18.66	-13.49/-13.59	-16.97/-13.83
Θ(120°)	-16.42/-11.38	-18.68/-18.55	-13.88/-11.16	-8.5/-10.18	-11.12/-9.61	-7.45/-11.31	-15.59/-9.75	-10.72/-7.41	-10.92/-7.8	-7.89/-5.24	-6.4/-7.45	-11.34/-12.92	-16.67/-18.08	-15.8/-7.6	-4.04/-8.01	-3.74/-6.46	-11.85/-18.29	-9.61/-10.31	-14.55/-13.61	-7.91/-15.11	-18.48/-9.71	-17.64/-17.35	-13.78/-18.73	-14.15/-15.23
Θ(127.5°)	-16.35/-10.19	-17.76/-18.79	-19.01/-19.49	-10.86/-16.3	-11.82/-13.76	-15.35/-17.93	-18.69/-14.62	-15.6/-9.1	-9.87/-10.06	-9.4/-8.25	-7.99/-9.54	-13.13/-14.65	-17.25/-19.19	-13.27/-6.53	-3.6/-1.9	-1.66/-5.4	-7.09/-11.84	-15.61/-8.29	-10.67/-18.36	-12.61/-8.03	-19.14/-9.69	-18.33/-13.59	-15.2/-15.79	-11.29/-18.38
Θ(135°)	-13.23/-11.18	-18.59/-18.56	-18.49/-18.67	-13.97/-19.09	-17.25/-11.67	-15.67/-18.1	-17.94/-16.54	-14.49/-14	-16.85/-10.55	-12.51/-11.01	-8.32/-11.16	-12.04/-16.01	-19.12/-18.22	-18.02/-10.76	-5.13/-2.14	-3.84/-6.96	-6.51/-5.69	-6.84/-12.33	-10.56/-18.38	-12.05/-6.37	-10.98/-12.74	-15.35/-17.53	-14.64/-16.69	



Antenna Pattern of 2.4GHz&5GHz

Appendix C

Θ(15°)	-1.10/-1.16	-1.39/-1.61	-1.77/-2.37	-2.79/-3.04	-3.14/-2.76	-2.69/-2.35	-2.06/-1.87	-1.93/-2.36	-2.36/-2.05	-1.74/-1.38	-0.96/-0.54	0.21/0.49	0.67/0.95	1.15/1.23	1.16/1.16	0.94/0.52	0.10/0.02	-0.37/-0.78	-0.83/-0.79	-1.11/-1.26	-0.94/-0.76	-1.13/-1.82	-1.47/-0.91	-1.40/-1.46		
Θ(22.5°)	-1.48/-1.03	-1.07/-1.90	-2.35/-2.98	-3.78/-4.13	-3.86/-2.93	-2.41/-2.00	-2.39/-2.86	-2.96/-2.71	-2.17/-2.07	-2.10/-2.35	-2.39/-2.14	-1.50/-0.81	-0.43/-0.25	-0.04/0.32	0.63/0.92	1.11/1.03	1.08/1.05	0.55/0.14	0.20/0.31	0.57/0.56	0.37/0.20	-0.00/-0.61	-1.06/-0.91	-1.24/-1.40		
Θ(30°)	-1.02/-1.07	-1.88/-2.84	-3.31/-4.01	-4.38/-5.34	-6.62/-5.73	-4.09/-3.74	-4.27/-4.80	-4.69/-3.59	-2.97/-2.66	-2.36/-2.28	-1.97/-1.77	-1.52/-0.76	0.07/0.44	-0.47/-1.85	-0.93/0.89	1.99/1.91	1.55/0.40	-0.75/-0.58	-0.19/-0.08	0.21/0.52	1.97/1.27	1.06/0.01	-0.25/-0.68			
Θ(37.5°)	-1.03/-0.64	-1.44/-2.50	-3.58/-4.47	-4.46/-5.61	-8.46/-5.69	-3.30/-3.74	-4.57/-4.97	-3.41/-2.39	-2.87/-3.58	-3.52/-2.42	-1.10/-0.55	-0.16/-0.11	0.18/0.93	0.86/-0.83	-0.86/1.12	1.11/0.20	-0.32/-1.57	-2.55/-1.60	-0.53/-0.78	-1.38/-0.07	0.75/1.00	1.40/1.52	1.21/0.26	-1.14/-1.74		
Θ(45°)	-0.99/-0.82	-0.77/-0.99	-3.15/-3.47	-4.07/-4.53	-10.82/-6.99	-4.58/-6.27	-7.20/-5.00	-4.52/-4.80	-3.93/-2.88	-2.00/-1.00	-0.39/-0.63	-1.23/-1.25	-0.96/-0.23	1.71/1.27	-2.09/0.32	0.44/-1.52	-2.11/-1.02	-2.11/-1.19	-1.97/-2.55	-3.57/-3.53	-2.52/-2.12	-0.23/0.65	1.05/-0.27	-1.24/-1.25		
Θ(52.5°)	0.22/0.26	-1.45/-1.29	-1.70/-0.38	-5.76/-3.37	-9.63/-5.37	-3.54/-4.40	-5.15/-5.37	-6.00/-5.22	-2.77/-1.38	-1.79/-1.31	-0.25/-0.12	-2.20/-1.71	0.65/0.35	1.38/0.75	-4.00/-1.28	-0.52/-1.94	-1.75/-1.24	-1.77/-1.23	-0.52/-0.94	-2.88/-2.31	-3.35/-2.79	-1.06/0.17	1.51/0.89	-0.53/-0.79		
Θ(60°)	-0.45/0.42	-1.30/-3.56	-2.81/-5.81	-5.20/-5.65	-9.85/-6.27	-5.80/-6.93	-8.74/-7.82	-6.07/-4.78	-3.60/-3.33	-3.84/-5.52	-3.45/0.25	0.09/-1.53	-0.34/0.50	-0.22/0.21	-4.22/-3.12	-2.40/-0.98	0.13/-0.02	0.03/-0.22	-0.23/-1.49	-2.93/-0.89	-1.61/-2.19	-0.68/-0.40	-0.18/0.35	-0.43/-1.57		
Θ(67.5°)	-0.72/0.33	0.13/-3.18	-4.45/-6.68	-5.33/-7.95	-14.19/-7.12	-6.38/-5.14	-8.85/-6.56	-5.15/-5.19	-3.11/-3.98	-2.06/-2.56	-2.73/-0.58	0.84/-2.27	-2.78/0.22	-0.80/-1.15	-4.09/-2.21	-2.61/0.38	1.67/1.63	0.42/-0.21	0.43/-0.81	-1.87/-0.71	-1.38/-1.74	-1.56/-0.73	-0.40/-0.07	-1.41/-2.31		
Θ(75°)	-2.12/-1.59	-0.91/-2.42	-4.89/-7.38	-6.27/-10.04	-13.24/-6.73	-5.44/-3.91	-5.71/-4.88	-5.69/-4.93	-4.59/-4.58	-1.59/0.39	-1.43/-1.56	-1.65/-1.54	-4.03/-2.07	-1.03/-1.14	-2.58/-1.48	-0.09/1.93	2.77/2.29	1.80/0.35	0.30/-0.29	-0.79/-2.41	-4.05/-2.49	0.38/0.54	-1.26/-2.60			
Θ(82.5°)	-1.85/-1.17	-0.60/-1.79	-5.37/-5.91	-6.36/-12.20	-7.14/-4.96	-3.57/-3.27	-4.49/-3.91	-4.46/-3.74	-6.78/-5.71	-3.85/-0.30	-2.31/-2.99	-5.36/-2.42	-7.44/-4.82	-3.59/-2.83	-3.09/-0.08	1.27/2.53	2.34/1.52	1.15/0.39	1.55/0.22	0.10/-0.96	-1.20/-2.35	-5.11/-4.28	0.79/0.74	-0.59/-2.48		
Θ(90°)	-2.73/-1.35	-0.47/-1.67	-6.22/-4.92	-7.17/-8.91	-3.02/-2.89	-2.33/-3.15	-5.37/-5.63	-4.83/-3.14	-7.38/-5.09	-5.35/-2.15	-5.49/-3.36	-6.40/-5.73	-6.71/-5.79	-7.17/-7.08	-3.82/-0.76	1.45/0.58	1.37/0.73	0.16/-0.88	-0.04/-1.60	-1.51/-1.91	-2.98/-3.10	-5.21/-3.60	0.26/-0.17	-0.35/-2.37		
Θ(97.5°)	-2.66/-1.72	0.06/-0.99	-7.67/-3.63	-5.02/-6.49	-1.40/-2.74	-1.29/-2.89	-4.63/-7.51	-5.71/-4.18	-8.19/-5.17	-8.08/-6.57	-8.31/-7.84	-8.32/-9.85	-7.62/-5.88	-10.78/-10.21	-6.72/-3.05	-0.34/-1.80	-2.25/-1.72	-2.59/-2.21	-2.01/-2.91	-3.18/-3.28	-3.59/-3.99	-2.66/-2.92	0.41/-0.45	-0.73/-2.48		
Θ(105°)	-1.69/-2.43	-0.12/-0.81	-6.02/-2.71	-4.01/-7.44	-1.62/-2.82	-0.87/-2.33	-3.21/-6.69	-5.75/-5.87	-9.71/-6.74	-10.18/-11.20	-11.40/-9.16	-7.99/-11.20	-8.47/-5.54	-7.28/-10.31	-5.05/-6.04	-3.98/-7.16	-3.53/-1.75	-4.59/-6.05	-4.44/-3.44	-3.83/-5.01	-3.45/-3.74	-2.67/-0.37	-0.48/-0.59	-2.23/-2.71		
Θ(112.5°)	-2.86/-2.37	-0.36/-1.37	-5.56/-2.69	-3.94/-5.27	-2.27/-4.08	-2.27/-4.08	-3.21/-7.30	-1.75/-2.76	-10.42/-9.75	-9.95/-10.83	-11.25/-12.56	-14.59/-13.41	-13.12/-13.62	-13.75/-11.81	-11.08/-10.48	-11.27/-10.49	-11.79/-13.55	-15.28/-15.41	-15.15/-15.30	-15.10/-15.32	-15.85/-12.99	-10.29/-9.07	-8.14/-6.97	-6.64/-6.92	-6.72/-6.33	
Θ(120°)	-1.37/-3.01	-1.13/-2.04	-4.54/-2.22	-3.57/-7.12	-5.41/-4.34	-3.19/-4.00	-2.50/-4.64	-8.83/-8.98	-9.33/-8.62	-6.91/-7.17	-9.00/-10.83	-14.10/-15.30	-12.94/-6.39	-8.25/-15.00	-2.93/-6.10	-6.67/-4.52	-2.94/-2.72	-6.85/-5.60	-2.89/-1.98	-1.10/-5.61	-8.53/-3.29	-0.32/-2.05	-3.25/-2.61	-0.43/-2.94		
Θ(127.5°)	-2.97/-3.05	-2.94/-2.12	-5.09/-4.61	-3.17/-5.23	-6.99/-7.71	-9.33/-5.70	-1.97/-2.25	-4.33/-5.40	-7.17/-8.24	-6.48/-8.07	-9.98/-8.43	-9.42/-12.69	-8.49/-7.18	-15.40/-10.02	-1.29/-10.51	-5.08/-2.36	-1.72/-3.95	-7.00/-4.79	-1.57/-2.90	-2.66/-2.87	-10.74/-4.73	-3.66/-5.42	-9.70/-6.00	-8.50/-6.88		
Θ(135°)	-1.18/-1.04	-3.77/-3.13	-3.22/-3.99	-5.16/-4.67	-3.86/-7.81	-7.06/-9.18	-9.95/-7.68	-9.18/-9.84	-10.31/-12.44	-8.42/-9.38	-8.84/-10.66	-14.53/-14.77	-8.27/-14.76	-10.29/-6.71	-5.20/-0.97	-7.38/-4.22	-5.53/-5.45	-5.90/-6.11	-2.10/-4.61	-5.90/-6.38	-11.68/-6.42	-5.91/-6.74	-6.74/-7.68	-5.56/-4.00		
Θ(142.5°)	-3.56/-4.03	-3.78/-5.59	-2.67/-4.21	-6.34/-4.07	-3.86/-8.75	-14.84/-10.37	-9.06/-9.97	-12.25/-12.43	-14.53/-14.92	-13.82/-12.05	-15.55/-14.96	-12.11/-5.96	-7.52/-12.23	-13.43/-9.76	-12.42/-13.68	-7.41/-7.37	-6.48/-6.38	-8.22/-10.36	-6.54/-6.05	-11.38/-9.82	-11.36/-10.87	-10.18/-9.38	-11.63/-10.76	-8.22/-4.91		
Θ(150°)	-6.74/-8.78	-8.94/-6.34	-5.40/-6.68	-8.90/-6.67	-6.56/-7.87	-8.44/-7.96	-8.47/-10.42	-9.83/-8.66	-8.38/-7.12	-7.36/-8.30	-10.69/-11.80	-9.15/-10.90	-15.11/-8.73	-7.98/-13.53	-9.01/-7.56	-10.10/-11.19	-8.08/-6.55	-7.31/-11.15	-11.33/-9.04	-7.84/-7.25	-10.03/-8.75	-5.89/-8.29	-7.83/-5.80	-5.96/-6.86		
Θ(157.5°)	-13.93/-14.39	-10.32/-9.17	-12.53/-9.88	-3.93/-1.36	-1.10/-2.49	-3.69/-4.72	-6.04/-7.85	-10.70/-13.31	-14.93/-13.96	-15.15/-15.10	-14.60/-13.04	-12.51/-13.66	-13.19/-13.98	-15.15/-11.12	-8.31/-9.04	-10.69/-11.31	-10.79/-9.37	-10.22/-11.00	-10.12/-10.01	-10.70/-9.93	-5.71/-5.09	-5.17/-6.48	-8.81/-8.42	-9.53/-12.27		
Θ(165°)	-4.53/-3.97	-3.63/-4.82	-5.51/-4.64	-3.91/-3.52	-3.88/-5.24	-8.07/-11.44	-11.73/-13.10	-14.74/-12.61	-11.99/-13.35	-15.45/-15.49	-15.12/-15.79	-13.72/-13.12	-13.44/-13.84	-15.17/-13.48	-11.24/-8.78	-7.57/-8.22	-10.38/-11.04	-10.07/-8.69	-8.17/-8.37	-8.98/-9.55	-8.96/-9.46	-11.82/-11.29	-9.12/-7.59	-6.24/-8.88		
Θ(172.5°)	-6.07/-6.44	-2.71/-6.95	-5.56/-4.98	-4.96/-4.85	-5.43/-7.10	-10.02/-14.43	-16.04/-13.03	-10.47/-9.75	-9.95/-10.83	-11.25/-12.56	-14.59/-13.41	-13.12/-13.62	-13.75/-11.81	-11.08/-10.48	-10.27/-10.49	-11.79/-13.55	-15.28/-15.41	-15.15/-15.30	-15.10/-15.32	-15.85/-12.99	-10.29/-9.07	-8.14/-6.97	-6.64/-6.92	-6.72/-6.33		
Θ(180°)	-2.77/-9.93	-7.93/-7.05	-7.15/-7.16	-7.71/-8.90	-10.08/-12.04	-13.16/-15.11	-14.94/-15.04	-15.47/-15.20	-15.40/-15.26	-13.53/-12.35	-12.00/-12.37	-13.26/-13.83	-14.52/-14.98	-14.52/-14.26	-13.24/-12.95	-12.10/-11.78	-11.22/-11.14	-10.18/-9.63	-9.57/-9.60	-9.11/-9.74	-10.11/-9.81	-9.13/-8.60	-8.70/-9.24	-9.07/-9.63		
Freq(Hz)	2.45GPol.	Total/Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)		
Θ(0°)	-2.06/-2.14	-2.35/-2.61	-2.79/-2.64	-2.15/-1.62	-1.21/-0.97	-0.90/-0.99	-1.10/-1.16	-1.09/-1.06	-1.13/-1.29	-1.56/-1.80	-2.08/-2.17	-2.09/-1.99	-1.89/-1.84	-1.92/-2.05	-2.16/-2.02	-1.67/-1.29	-1.04/-0.99	-1.00/-1.02	-1.10/-1.22	-1.34/-1.50	-1.78/-1.98	-2.11/-2.19	-2.18/-2.08	-2.01/-2.03		
Θ(7.5°)	-1.88/-2.04	-2.31/-2.60	-2.24/-2.61	-2.19/-1.67	-1.19/-0.84	-0.76/-0.90	-1.23/-1.45	-1.56/-1.70	-1.85/-1.97	-2.22/-2.50	-2.72/-2.74	-2.73/-2.49	-2.62/-2.61	-2.53/-2.23	-1.79/-1.29	-0.90/-0.69	-0.53/-0.45	-0.44/-0.46	-0.59/-0.91	-1.26/-1.59	-1.80/-1.90	-1.89/-1.80	-1.77/-1.79			
Θ(15°)	-2.02/-2.24	-2.44/-2.56	-2.52/-2.26	-1.79/-1.10	-0.39/-0.15	0.36/0.29	-0.03/-0.38	-0.70/-0.95	-1.11/-1.30	-1.54/-1.89	-2.23/-2.39	-2.45/-2.46	-2.46/-2.58	-2.79/-3.07	-3.04/-2.60	-2.00/-1.35	-0.89/-0.50	-0.16/0.15	0.40/0.56	0.53/0.23	-0.26/-0.70	-1.11/-1.31	-1.42/-1.48	-1.60/-1.81		
Θ(22.5°)	-1.91/-1.98	-1.95/-1.92	-1.85/-1.74	-1.42/-0.75	0.02/0.67	1.03/-1.99	0.74/0.24	-0.34/-0.87	-1.21/-1.51	-1.94/-2.47	-2.98/-3.25	-3.45/-3.48	-3.49/-3.70	-4.15/-4.52	-4.54/-3.98	-3.01/-2.03	-1.20/-0.61	-0.15/0.19	0.55/0.83	1.00/0.82	0.32/0.32	-0.83/-1.07	-1.16/-1.27	-1.50/-1.74		
Θ(30°)	-1.77/-1.64	-1.40/-1.17	-1.07/-1.13	-1.13/-0.90	-0.40/0.17	0.68/0.95	0.91/0.54	-0.10/-0.71	-1.17/-1.43	-1.84/-2.21	-2.75/-3.14	-3.30/-3.35	-3.38/-3.59	-3.97/-4.39	-4.77/-4.85	-4.37/-3.38	-2.32/-1.41	-0.77/-0.24	0.18/0.61	0.93/0.94	0.46/-0.37	-1.07/-1.33	-1.31/-1.32	-1.52/-1.76		
Θ(37.5°)	-1.90/-1.69	-1.39/-1.07	-0.80/-0.71	-0.73/-0.71	-0.63/-0.48	-0.11/0.26	0.40/0.12	-0.57/-1.39	-2.27/-2.70	-3.06/-3.56	-4.17/-4.38	-4.39/-4.17	-4.11/-4.15	-4.13/-3.85	-3.88/-4.17	-4.42/-4.09	-3.35/-2.45	-1.64/-1.09	-0.66/-0.24	0.18/0.33	0.01/-0.82	-1.66/-1.92	-1.81/-1.78	-1.86/-1.97		
Θ(45°)	-2.49/-2.32	-1.91/-1.37	-0.91/-0.73	-0.75/-0.78	-0.82/-0.83	-0.75/-0.62	-0.60/-0.77	-1.13/-1.68	-2.29/-2.72	-3.01/-3.31	-3.75/-3.74	-3.13/-2.75	-2.97/-3.50	-3.70/-3.34	-3.02/-3.04	-3.54/-4.12	-4.72/-4.59	-4.07/-3.41	-2.80/-2.19	-1.50/-1.11	-1.20/-1.81	-2.49/-2.65	-2.49/-2.54	-2.58/-2.49		
Θ(52.5°)	-3.33/-4.00	-2.88/-2.05	-1.45/-1.23	-1.15/-1.12	-1.22/-1.49	-1.71/-1.79	-1.70/-1.36	-1.18/-1.46	-2.20/-3.06	-3.61/-3.74	-3.92/-3.48	-2.79/-2.45	-2.97/-3.96	-4.35/-3.76	-3.18/-3.08	-3.49/-4.39	-5.22/-5.48	-5.23/-4.55	-3.72/-2.90	-2.11/-1.69	-1.86/-2.52	-3.23/-3.45	-3.33/-3.32	-3.26/-3.19		
Θ(60°)	-3.18/-3.48	-3.12/-2.41	-1.98/-1.83	-1.74/-1.68	-1.84/-2.15	-2.27/-2.02	-2.32/-1.93	-1.53/-1.08	-0.89/-1.18	-2.02/-3.29	-3.39/-3.41	-3.17/-2.86	-2.08/-1.73	-2.37/-3.22	-3.62/-3.16	-2.63/-2.74	-3.56/-4.69	-5.87/-5.94	-4.99/-3.82	-3.01/-2.45	-1.96/-1.61	-1.74/-2.21	-2.85/-3.52	-3.82/-3.80	-3.37/-3.01	
Θ(67.5°)	-3.08/-3.16	-2.64/-2.02	-1.86/-1.97	-2.06/-2.02	-2.02/-1.89	-1.44/-0.89	-0.66/-0.95</																			



Antenna Pattern of 2.4GHz&5GHz

Appendix C

Θ (67.5°)	-0.69/-0.58	-0.65/-1.36	-1.52/-1.05	-0.23/-0.34	-0.95/-1.59	-1.92/-2.42	-2.44/-2.71	-2.54/-2.08	-2.71/-3.17	-4.28/-5.83	-6.02/-5.62	-8.29/-7.12	-7.33/-11.00	-11.26/-6.16	-3.37/-3.21	-3.69/-2.37	-1.58/-3.11	-4.46/-3.65	-3.96/-3.48	-4.07/-7.21	-0.94/-1.54	-1.49/-0.50	0.22/0.02	0.33/0.00
Θ (75°)	-1.10/-1.24	-1.27/-2.04	-1.87/-1.33	-0.96/-0.73	-0.97/-1.23	-1.57/-1.01	-2.22/-3.55	-2.87/-2.22	-3.15/-6.03	-5.04/-5.42	-7.17/-7.54	-9.10/-6.75	-6.69/-8.29	-10.35/-11.44	-8.09/-7.28	-5.08/-4.45	-5.05/-5.15	-5.36/-3.59	-3.24/-3.20	-3.55/-2.54	-1.28/-1.06	-0.70/-0.88	-0.91/-0.38	0.63/0.36
Θ (82.5°)	-0.93/-1.45	-1.64/-2.44	-2.03/-1.53	-1.21/-0.50	-0.54/-1.88	-3.78/-2.55	-3.10/-3.25	-3.89/-3.94	-3.30/-7.42	-7.96/-8.02	-7.11/-6.74	-8.09/-5.58	-4.20/-6.29	-9.18/-11.77	-9.83/-10.09	-5.32/-7.01	-8.07/-4.98	-2.99/-3.79	-4.53/-4.28	-3.58/-3.29	-3.11/-1.88	-1.25/-1.49	-0.44/-0.31	0.20/-0.13
Θ (90°)	-1.69/-1.88	-1.28/-1.90	-1.95/-1.83	-1.46/-0.58	-0.54/-2.96	-1.99/-2.39	-6.57/-3.03	-4.11/-6.07	-4.49/-10.84	-8.98/-8.51	-9.87/-9.90	-7.55/-5.31	-3.79/-6.61	-8.49/-8.58	-10.67/-13.35	-7.53/-7.46	-7.59/-4.30	-5.17/-2.01	-3.46/-2.31	-4.16/-4.88	-2.08/-1.90	-1.54/-2.19	-1.07/-1.46	-0.47/-0.27
Θ (97.5°)	-1.83/-2.29	-2.22/-2.82	-2.34/-2.57	-3.04/-1.43	-1.04/-2.78	-0.78/-1.21	-7.94/-4.62	-5.31/-5.56	-7.28/-10.82	-10.67/-9.12	-9.12/-11.70	-7.86/-6.00	-4.37/-4.94	-8.23/-10.72	-11.54/-12.48	-9.07/-7.54	-6.32/-6.98	-7.48/-5.08	-7.98/-5.12	-6.21/-8.12	-3.91/-2.87	-1.64/-2.22	-2.42/-2.69	-0.72/-0.89
Θ (105°)	-2.21/-2.06	-1.54/-1.40	-1.43/-2.21	-3.16/-2.00	-1.71/-2.62	-0.60/-1.75	-7.27/-6.39	-7.03/-1.59	-8.84/-10.27	-9.98/-11.74	-7.80/-7.63	-7.14/-8.65	-4.84/-6.95	-5.77/-7.96	-10.09/-14.61	-11.45/-9.52	-10.68/-8.38	-8.42/-6.74	-3.29/-3.16	-4.43/-2.09	-4.43/-2.09	-2.03/-5.66	-2.42/-1.37	
Θ (112.5°)	-4.47/-2.06	-1.56/-2.41	-2.47/-2.62	-2.19/-1.90	-2.68/-2.09	-0.33/-3.08	-6.92/-7.06	-6.41/-6.86	-11.23/-9.96	-8.91/-8.35	-12.01/-9.95	-7.02/-8.98	-6.96/-9.11	-8.81/-11.95	-9.95/-13.43	-14.70/-10.21	-15.49/-10.92	-14.69/-9.93	-6.34/-7.09	-8.70/-9.65	-3.99/-1.96	-5.82/-3.94	-3.90/-4.48	-3.02/-3.47
Θ (120°)	-5.21/-4.63	-2.40/-2.06	-1.60/-1.37	-1.96/-2.57	-3.13/-1.11	-0.40/-3.64	-6.34/-5.53	-4.75/-5.81	-9.59/-8.06	-6.95/-6.78	-8.84/-13.86	-11.47/-12.53	-11.35/-8.85	-11.93/-14.75	-10.97/-8.84	-11.08/-10.52	-11.94/-6.98	-10.03/-11.91	-8.84/-5.05	-6.18/-10.57	-3.18/-3.64	-2.99/-4.76	-6.68/-7.17	-2.73/-2.22
Θ (127.5°)	-5.57/-5.07	-2.30/-1.69	-0.96/-0.80	-1.94/-3.46	-2.71/-1.20	-1.88/-4.10	-5.39/-4.59	-3.81/-6.00	-13.03/-8.46	-7.43/-8.76	-11.41/-11.87	-7.35/-9.10	-9.99/-6.86	-7.84/-13.24	-11.59/-8.56	-14.04/-15.36	-8.12/-10.68	-11.89/-9.48	-11.80/-6.87	-8.78/-10.37	-5.57/-6.20	-6.24/-4.58	-6.37/-9.65	-4.14/-3.03
Θ (135°)	-5.04/-5.63	-2.78/-1.41	-1.47/-1.58	-2.10/-1.99	-1.38/-1.60	-3.05/-4.68	-5.22/-4.82	-5.37/-7.16	-8.89/-11.25	-12.52/-10.75	-9.71/-12.46	-14.18/-13.17	-10.15/-5.81	-7.86/-8.19	-7.17/-9.05	-15.05/-14.22	-10.76/-10.38	-11.12/-15.15	-12.32/-4.61	-5.53/-8.30	-8.76/-7.09	-6.99/-8.95	-8.88/-11.19	-6.06/-3.78
Θ (142.5°)	-3.70/-5.84	-5.86/-3.98	-3.45/-2.96	-2.02/-1.26	-2.12/-4.15	-6.42/-6.16	-4.67/-4.16	-6.69/-10.88	-8.65/-7.17	-8.49/-10.26	-7.12/-8.82	-12.52/-14.66	-15.47/-12.59	-10.75/-10.14	-9.20/-8.68	-7.87/-7.58	-9.15/-10.66	-10.21/-8.50	-7.95/-7.94	-8.81/-8.35	-6.71/-6.60	-4.92/-4.10	-3.85/-4.20	-5.01/-6.98
Θ (150°)	-3.74/-3.58	-2.89/-2.95	-2.82/-2.22	-1.88/-1.64	-2.61/-4.70	-5.62/-4.63	-4.53/-5.54	-7.08/-8.47	-8.63/-8.05	-7.23/-5.60	-4.26/-7.46	-10.84/-12.37	-13.57/-15.84	-14.73/-15.86	-16.07/-11.19	-9.30/-10.41	-9.56/-8.37	-7.27/-14.4	-2.62/-3.81	-3.94/-4.15	-4.44/-7.99	-11.33/-6.43	-4.44/-3.82	
Θ (157.5°)	-5.47/-4.68	-3.38/-2.54	-2.60/-3.01	-4.18/-6.66	-9.48/-11.10	-7.43/-4.03	-2.81/-3.09	-4.62/-7.05	-8.43/-8.20	-7.69/-5.63	-4.22/-4.56	-6.62/-10.59	-15.12/-12.13	-11.26/-14.76	-15.24/-14.20	-12.20/-10.62	-8.20/-6.65	-6.71/-7.48	-6.37/-4.85	-4.77/-4.61	-3.15/-2.51	-3.69/-5.13	-6.88/-7.55	-8.11/-6.95
Θ (165°)	-6.53/-7.19	-7.61/-7.59	-6.56/-5.37	-5.08/-7.06	-8.46/-7.82	-7.85/-8.53	-9.13/-7.84	-5.97/-5.08	-4.81/-5.75	-7.12/-8.82	-12.52/-14.66	-15.47/-12.59	-10.75/-10.14	-9.20/-8.68	-9.15/-10.66	-7.87/-7.58	-7.51/-7.94	-7.95/-7.61	-8.81/-8.35	-6.71/-6.60	-4.92/-4.10	-3.85/-4.20	-5.01/-6.98	-11.00/-11.43
Θ (172.5°)	-10.71/-9.16	-8.19/-7.75	-7.02/-6.49	-6.45/-6.81	-6.49/-5.86	-5.76/-5.15	-3.93/-3.18	-3.13/-3.88	-5.23/-7.51	-9.94/-11.68	-11.59/-10.48	-11.78/-14.27	-15.78/-16.01	-15.45/-12.41	-11.28/-10.39	-9.85/-9.27	-8.57/-8.16	-8.35/-9.08	-10.59/-10.54	-9.37/-8.57	-8.71/-9.08	-9.69/-10.57	-11.00/-11.43	
Θ (180°)	-8.62/-9.05	-9.92/-10.23	-10.52/-9.78	-9.41/-10.09	-9.23/-7.90	-6.91/-6.37	-6.80/-8.54	-11.56/-13.49	-12.77/-11.01	-10.25/-10.30	-10.05/-10.42	-11.48/-13.61	-15.00/-13.67	-12.26/-10.53	-9.50/-8.77	-7.69/-6.83	-6.60/-7.43	-8.09/-8.40	-9.10/-9.56	-9.33/-9.09	-8.70/-8.23	-7.95/-7.68	-7.82/-8.53	-9.42/-8.76
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°)	0.11/0.03	0.13/0.11	0.28/0.41	0.16/-0.11	-0.09/-0.27	-0.16/0.36	0.16/-0.53	-0.41/0.10	0.14/-0.17	-0.32/-0.08	0.14/0.17	0.03/-0.04	0.16/0.54	0.60/0.37	0.11/0.13	0.42/0.55	0.66/0.66	0.38/0.42	0.54/0.54	0.52/0.41	0.28/0.32	0.32/0.12	-0.03/0.09	0.27/0.27
Θ (7.5°)	0.31/0.27	0.17/0.28	0.42/0.55	0.75/0.64	0.57/0.55	0.20/0.41	0.94/1.02	0.57/0.31	0.33/0.19	0.00/0.22	0.47/0.53	0.27/0.06	-0.00/0.22	0.47/0.53	0.32/0.34	0.77/0.78	0.65/0.73	0.58/0.27	0.17/0.17	0.25/0.27	0.02/0.04	-0.01/-0.19	-0.24/-0.21	-0.12/0.01
Θ (15°)	0.91/0.96	0.79/0.86	1.40/1.51	0.96/0.58	0.56/0.16	0.03/0.39	0.61/0.55	0.40/0.04	-0.68/-1.19	-1.43/-1.18	-0.45/-0.58	-0.31/-0.38	-0.46/-0.19	0.16/0.26	-0.09/-0.59	-0.76/-0.62	-0.47/-0.43	-0.60/-0.91	-1.20/-1.29	-1.15/-1.15	-1.31/-0.95	-0.61/-0.22	0.19/0.38	0.06/0.35
Θ (22.5°)	0.64/0.98	1.24/1.23	1.25/1.30	0.88/0.95	1.16/0.65	-0.23/-0.10	0.32/0.03	-0.33/-0.91	-1.55/-1.58	-1.55/-1.33	-0.40/0.30	0.41/-0.26	-0.55/-0.39	-0.71/-1.63	-2.37/-2.70	-2.68/-2.23	-1.44/-0.52	0.22/0.40	-0.02/-0.75	-1.16/-1.34	-1.06/-0.45	-0.13/0.16	0.58/0.57	0.35/0.47
Θ (30°)	-0.79/0.18	0.66/0.95	0.95/0.79	0.62/0.08	-0.39/-0.53	-1.28/-0.68	0.25/0.11	-0.71/-1.97	-2.64/-1.70	-0.85/-0.55	-0.47/-1.27	-0.90/-0.76	-1.30/-1.26	-1.09/-1.35	-1.37/-1.62	-1.90/-1.85	-1.04/0.29	0.75/-0.55	-1.67/-0.97	-0.31/0.03	0.29/0.17	-0.03/-0.41	-0.75/-1.31	
Θ (37.5°)	-1.58/-0.41	0.38/0.85	1.00/0.93	0.98/0.63	0.56/-0.53	2.00/-1.71	-1.23/-1.60	-1.97/-1.12	-1.49/-0.53	-0.96/-1.18	-0.79/-0.72	-1.32/-1.65	-1.42/-1.74	-2.28/-3.14	-3.87/-2.39	-0.90/-0.57	-0.33/-0.02	0.51/1.02	0.87/-0.19	-0.52/-0.02	0.90/0.78	-0.31/-0.35	-0.37/-0.69	-1.53/-2.13
Θ (45°)	-2.82/-1.63	-1.44/-1.11	-0.65/0.14	0.77/0.80	-0.06/-0.96	-0.70/-1.32	-1.99/-1.47	-2.02/-1.79	-1.25/-1.23	-2.23/-3.54	-1.95/-1.54	-1.46/-1.20	-1.24/-1.48	-1.86/-2.43	-1.07/-1.53	-2.01/-1.73	-0.36/-0.33	-0.98/-0.15	0.10/0.57	-0.15/0.18	0.58/0.38	-1.34/-0.26	-0.08/-1.17	-2.69/-3.06
Θ (52.5°)	-4.11/-3.58	-2.63/-1.58	-1.29/-0.71	0.12/0.45	0.27/0.20	-0.48/-0.94	-1.56/-1.47	-2.12/-2.08	-1.48/-2.54	-2.70/-2.86	-1.97/-1.90	-2.74/-3.99	-4.28/-3.82	-4.46/-3.10	-2.00/-0.07	-0.94/-0.75	0.20/1.07	0.97/1.03	0.32/-1.11	-0.98/0.43	0.72/-0.68	-0.78/-0.21	-1.48/-2.74	-4.22/-3.63
Θ (60°)	-4.03/-3.72	-2.28/-2.00	-2.16/-1.72	-0.24/0.40	0.00/-0.80	-0.86/-1.27	-1.76/-1.72	-3.32/-2.48	-1.40/-3.38	-3.23/-3.13	-2.61/-2.85	-3.78/-4.41	-4.08/-4.19	-5.19/-5.13	-3.51/-2.65	-0.73/-0.41	-0.33/-0.44	-0.88/-0.90	-0.11/-1.52	-0.81/0.15	-0.00/-1.42	-1.61/-1.10	-1.51/-2.47	-3.01/-2.84
Θ (67.5°)	-3.60/-4.04	-2.56/-1.84	-1.85/-2.15	-1.39/-1.11	-0.24/-1.39	-1.16/-1.57	-1.85/-2.77	-4.34/-2.86	-1.38/-2.65	-2.57/-3.44	-5.01/-4.10	-7.40/-6.07	-3.72/-3.04	-4.03/-4.46	-5.12/-3.15	-2.45/-1.82	-2.24/-2.61	-3.83/-3.73	-3.41/-4.10	-2.17/-1.46	-1.32/-1.33	-1.64/-1.54	-1.80/-1.02	-1.91/-1.80
Θ (75°)	-4.38/-4.12	-2.05/-1.92	-1.96/-1.88	-2.14/-0.96	-0.09/-1.19	-3.34/-2.12	-2.55/-3.89	-3.23/-3.76	-1.46/-3.04	-4.12/-3.68	-6.32/-9.69	-9.09/-7.28	-6.22/-5.15	-4.24/-4.65	-3.90/-6.41	-6.18/-3.95	-4.53/-4.39	-5.51/-4.30	-3.92/-1.93	-1.72/-1.53	-1.29/-1.51	-3.76/-2.78	-0.81/0.16	-0.63/-1.73
Θ (82.5°)	-3.42/-3.12	-1.91/-2.47	-2.35/-2.11	-2.47/-1.97	-0.57/-1.07	-2.84/-1.92	-2.43/-5.42	-2.50/-4.37	-1.53/-1.98	-6.22/-6.54	-8.80/-10.13	-8.10/-6.86	-6.82/-8.42	-6.48/-6.01	-4.79/-5.69	-6.38/-7.53	-5.80/-4.27	-4.21/-1.68	-2.87/-0.93	-1.12/-1.48	-1.97/-2.57	-3.44/-1.94	-4.05/0.58	-0.80/-1.57
Θ (90°)	-2.33/-2.34	-1.60/-2.26	-3.29/-4.28	-3.29/-2.02	-2.26/-2.41	-2.71/-1.83	-2.19/-4.95	-2.58/-3.63	-1.54/-3.63	-7.00/-5.97	-12.45/-12.75	-11.00/-6.21	-6.72/-8.57	-7.45/-6.07	-8.65/-11.38	-8.72/-14.23	-10.28/-9.95	-15.21/-7.18	-13.21/-7.05	-4.96/-3.67	-8.20/-9.38	-4.45/-1.44	-7.09/-3.45	-6.60/-4.80
Θ (97.5°)	-2.13/-2.09	-1.92/-2.62	-3.15/-3.03	-2.23/-2.41	-2.64/-4.33	-3.24/-1.14	-1.40/-3.84	-2.55/-4.80	-1.63/-5.69	-7.68/-8.35	-11.72/-12.42	-12.74/-8.01	-6.86/-6.29	-6.88/-1.18	-8.14/-11.09	-8.67/-9.21	-8.53/-5.94	-10.31/-5.43	-4.73/-2.15	-3.40/-5.00	-3.36/-2.88	-4.17/-3.11	-2.25/-0.23	-0.21/-0.75
Θ (105°)	-3.10/-2.02	-1.26/-2.34	-3.30/-3.29	-2.68/-1.86	-2.20/-4.29	-3.96/-0.68	-2.32/-3.91	-3.26/-5.50	-2.48/-6.01	-9.30/-7.28	-11.34/-9.92	-14.28/-8.67	-9.12/-5.53	-5.18/-5.52	-7.59/-14.52	-13.14/-11.19	-11.82/-10.39	-14.55/-10.76	-3.93/-4.14	-5.37/-3.55	-4.05/-3.95	-5.02/-3.32	-4.49/-1.61	0.73/-1.04
Θ (112.5°)	-2.93/-1.59	-1.24/-1.94	-2.61/-1.79	-1.71/-1.33	-2.62/-2.65	-1.77/-1.45	-4.20/-5.85	-4.40/-4.27	-4.73/-13.04	-7.56/-7.17	-9.94/-12.23	-13.67/-12.81	-7.45/-6.07	-8.65/-11.38	-8.72/-14.23	-10.28/-9.95	-15.21/-7.18	-13.21/-7.05	-4.96/-3.67	-8.20/-9.38	-4.45/-1.44	-7.09/-3.45	-6.60/-4.80	-4.81/-1.60
Θ (120°)	-3.84/-2.23	-1.81/-2.52	-2.17/-1.66	-0.96/-1.57	-1.62/-1.05	-0.74/-0.98	-3.74/-6.02	-5.67/-5.24	-6.57/-8.42	-7.87/-7.07	-8.64/-9.19	-14.18/-15.37	-14.89/-14.16	-11.08/-12.90	-8.11/-8.69	-8.92/-8.54	-10.26/-4.59	-6.						



Antenna Pattern of 2.4GHz&5GHz

Appendix C

Θ (120°)	-14.91/8.08	-4.91/6.44	-9.55/6.48	-7.45/7.03	-5.14/-4.80	-4.03/4.44	-5.28/-4.71	-5.97/6.65	-8.09/-10.16	-11.75/-13.99	-13.29/-9.13	-6.55/-6.54	-3.96/2.64	-2.51/-4.29	-5.98/2.34	-0.32/-0.69	-5.28/-3.00	-0.04/0.72	-0.42/-1.91	-2.98/-1.47	-1.88/-9.40	-8.84/-13.74	-12.18/-12.21	-9.04/9.85
Θ (127.5°)	-10.50/-8.46	-6.79/-6.98	-8.01/-9.48	-9.57/-7.22	-5.58/-5.13	-4.73/-5.25	-7.78/-8.41	-6.89/-7.23	-7.96/-11.00	-11.82/-12.17	-7.94/-6.58	-6.78/-4.57	-4.74/-5.20	-2.86/-1.58	-4.77/-6.01	-2.71/-2.42	-4.41/-3.00	-3.27/-4.70	-3.42/-3.87	-10.85/-6.87	-5.79/-12.27	-15.31/-13.74	-6.63/-11.05	-12.31/-14.52
Θ (135°)	-5.40/-5.99	-5.08/-5.35	-6.64/-10.06	-13.24/-8.66	-7.85/-8.31	-6.06/-6.60	-7.79/-7.78	-6.07/-6.25	-7.56/-9.24	-8.97/-5.82	-4.11/-5.22	-5.65/-4.61	-3.60/-3.67	-3.92/-3.32	-3.12/-4.48	-6.25/-10.62	-4.69/-1.63	-0.24/-0.95	-3.46/-5.58	-8.93/-6.50	-4.21/-6.85	-9.18/-8.21	-6.72/-6.56	-8.16/-9.40
Θ (142.5°)	-5.39/-4.64	-4.88/-5.76	-7.21/-9.08	-11.62/-9.98	-7.90/-8.17	-9.01/-7.24	-6.04/-6.04	-5.87/-6.57	-6.41/-5.56	-6.10/-5.64	-4.97/-5.69	-4.31/-4.67	-5.93/-6.71	-4.36/-3.55	-3.18/-4.01	-5.44/-2.28	-0.42/-0.27	-1.29/-4.48	-5.77/-7.32	-8.68/-6.39	-5.14/-6.15	-7.20/-7.89	-6.99/-5.72	-9.19/-9.21
Θ (150°)	-6.24/-5.17	-5.15/-6.13	-7.42/-9.13	-11.03/-12.35	-10.78/-9.27	-8.89/-9.26	-8.73/-8.90	-10.25/-10.62	-10.62/-10.40	-9.80/-8.81	-7.39/-6.12	-5.31/-3.16	-3.22/-5.41	-6.67/-6.53	-4.56/-2.86	-1.59/-0.94	-1.61/-2.35	-2.72/-4.19	-5.67/-6.98	-8.42/-10.14	-10.69/-13.98	-15.49/-14.94	-12.47/-10.74	-10.12/-14.76
Θ (157.5°)	-6.31/-5.79	-5.26/-4.80	-4.79/-5.54	-5.76/-6.03	-7.12/-9.45	-12.78/-15.72	-14.88/-15.19	-13.53/-11.97	-12.33/-12.37	-8.63/-6.57	-6.99/-6.40	-4.55/-7.41	-6.24/-5.20	-4.17/-4.37	-3.40/-1.81	-1.22/-1.97	-3.62/-4.85	-5.92/-8.71	-13.17/-13.18	-11.02/-12.13	-14.10/-14.20	-11.27/-10.65	-9.45/-9.56	-10.02/-7.33
Θ (165°)	-7.37/-7.47	-6.47/-6.20	-5.85/-5.61	-5.28/-5.25	-4.69/-4.54	-5.07/-5.14	-4.82/-3.90	-3.33/-3.68	-4.19/-3.84	-3.83/-4.76	-4.54/-3.96	-4.60/-5.09	-4.58/-3.81	-3.88/-4.52	-6.23/-8.20	-9.32/-7.91	-6.40/-6.12	-5.53/-5.29	-6.80/-8.52	-10.65/-12.65	-12.05/-11.26	-10.58/-9.06	-6.53/-5.65	-6.52/-7.02
Θ (172.5°)	-11.26/-9.76	-7.83/-6.40	-5.66/-4.72	-4.23/-4.04	-3.95/-3.94	-4.28/-4.87	-4.46/-3.82	-4.21/-6.33	-5.07/-7.73	-3.58/-3.73	-3.04/-2.96	-3.02/-8.47	-3.36/-4.40	-5.97/-7.59	-10.04/-12.35	-12.29/-10.58	-9.77/-10.49	-11.13/-11.78	-14.20/-14.51	-14.32/-13.19	-10.79/-9.17	-8.66/-9.13	-7.87/-7.03	-7.91/-10.26
Θ (180°)	-9.36/-7.87	-7.01/-6.63	-7.03/-6.67	-6.49/-6.80	-6.93/-6.88	-7.14/-7.26	-7.49/-7.41	-6.51/-5.90	-5.86/-5.88	-5.48/-5.26	-5.20/-5.35	-5.30/-6.37	-7.70/-9.27	-10.35/-10.91	-10.37/-9.44	-9.07/-9.09	-9.83/-11.86	-12.26/-9.21	-6.84/-5.46	-5.11/-5.46	-6.34/-7.09	-7.19/-7.48	-8.29/-9.03	-9.24/-9.16
Freq(Hz)	5.6GHzPol.	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°)	7.00/0.98	1.28/1.18	1.09/1.09	1.10/1.16	1.11/1.07	1.08/1.06	1.11/1.29	1.27/1.07	1.27/1.61	1.64/1.63	1.60/1.49	1.59/1.67	1.76/1.74	1.83/1.91	1.97/1.88	1.83/1.86	1.75/1.76	1.58/1.27	1.33/1.74	1.93/1.67	1.44/1.35	1.22/1.69	1.61/1.33	1.68/1.34
Θ (7.5°)	0.51/0.53	0.90/0.81	0.75/0.77	0.91/1.02	1.01/0.88	1.12/1.23	1.11/0.84	0.87/1.14	0.99/0.75	0.62/0.46	0.40/0.44	0.50/0.63	0.67/0.69	0.70/0.56	0.61/0.69	0.75/0.83	0.85/0.88	0.91/0.81	0.40/0.44	1.22/1.28	0.79/0.93	0.97/0.86	1.03/0.80	0.85/0.94
Θ (15°)	0.87/0.53	0.80/0.79	0.83/0.63	0.53/0.16	-0.47/-0.64	-0.81/-0.53	-0.05/0.03	-0.20/-0.27	-0.37/-0.37	-0.12/-0.03	-0.41/-0.87	-0.88/-0.69	-0.72/-0.57	-0.55/-0.81	-0.88/-0.67	-0.37/0.06	0.52/0.83	0.98/1.17	1.26/0.97	0.36/-0.01	-0.04/-0.42	-1.02/-0.94	-0.48/-0.51	0.21/1.18
Θ (22.5°)	0.62/0.72	0.92/1.12	1.35/0.89	0.59/0.19	-0.40/-0.80	-0.77/-0.42	-0.02/0.12	0.00/-0.26	-0.87/-0.91	-0.54/-0.60	-0.97/-0.95	-1.06/-1.65	-2.13/-2.26	-2.60/-2.81	-2.46/-1.39	-0.63/-0.33	-0.30/-0.10	0.43/0.90	1.10/0.77	0.05/-0.88	-1.16/-0.47	-0.10/-0.56	-0.41/-0.09	-0.63/0.30
Θ (30°)	-1.39/-2.07	-1.71/-1.93	-0.84/-0.36	-0.23/-0.41	-1.58/-3.35	-4.53/-3.93	-3.10/-2.59	-2.22/-2.13	-2.03/-1.56	-1.03/-1.24	-1.54/-1.63	-2.05/-2.20	-2.19/-3.10	-5.01/-6.09	-4.78/-2.62	-1.63/-1.82	-2.39/-3.48	-3.38/-2.73	-2.74/-2.94	-2.42/-1.84	-1.39/-0.71	0.03/-0.71	-1.74/-2.68	-2.91/-1.01
Θ (37.5°)	-0.58/-1.09	-0.32/-1.28	-1.79/-2.06	-3.14/-3.81	-4.18/-5.17	-6.94/-5.45	-3.73/-3.31	-4.07/-3.22	-3.36/-2.97	-3.05/-2.94	-2.51/-1.65	-1.08/-1.68	-1.71/-1.98	-2.73/-3.22	-3.33/-3.54	-4.32/-3.49	-4.57/-4.14	-3.48/-1.83	-0.69/-1.12	-2.38/-3.48	-2.50/-0.84	-0.77/-1.49	-2.65/-3.89	-4.11/-6.24
Θ (45°)	-0.47/0.09	-0.99/-0.63	-0.36/-1.76	-5.47/-10.12	-6.48/-5.96	-7.64/-5.14	-2.84/-2.76	-4.10/-3.94	-3.00/-3.66	-4.70/-3.86	-2.57/-2.34	-2.34/-3.04	-3.52/-4.23	-2.66/-3.04	-2.54/-3.44	-5.18/-5.77	-5.95/-5.15	-5.04/-2.73	-1.44/-2.01	-3.49/-3.39	-2.50/-5.36	-6.68/-2.90	-1.19/-1.52	-3.89/-2.24
Θ (52.5°)	-2.82/-3.84	-4.26/-1.93	-1.67/-3.00	-7.32/-12.81	-7.32/-5.49	-4.79/-4.53	-3.40/-3.15	-3.46/-2.91	-3.02/-3.77	-3.49/-3.70	-3.66/-3.22	-4.85/-3.88	-4.43/-5.27	-5.36/-5.80	-4.01/-3.43	-3.92/-5.33	-4.69/-5.31	-4.81/-4.13	-3.57/-4.28	-4.84/-2.25	-2.70/-4.79	-5.95/-5.29	-1.51/-1.96	-4.55/-4.82
Θ (60°)	-7.17/-7.11	-7.20/-6.69	-5.79/-6.38	-8.94/-8.04	-7.29/-6.84	-5.63/-4.04	-2.40/-2.47	-3.18/-3.91	-5.72/-5.56	-3.50/-3.82	-5.38/-6.62	-7.29/-5.93	-4.36/-4.12	-5.42/-4.90	-5.98/-6.39	-3.95/-3.35	-5.04/-6.81	-9.24/-9.92	-7.45/-7.13	-4.54/-5.35	-2.50/-3.47	-2.48/-6.69	-9.28/-7.47	
Θ (67.5°)	-4.50/-2.66	-4.05/-6.09	-8.38/-13.31	-8.67/-7.44	-7.79/-7.07	-5.68/-4.70	-3.65/-4.23	-4.03/-3.96	-5.28/-4.74	-3.08/-3.48	-5.31/-6.93	-4.45/-4.62	-4.29/-2.64	-4.83/-5.66	-6.02/-4.93	-3.51/-4.48	-5.66/-9.48	-8.75/-5.54	-5.52/-9.28	-12.44/-11.91	-8.83/-6.15	-4.61/-6.10	-5.66/-7.69	-7.41/-6.92
Θ (75°)	-2.23/-1.34	-1.64/-3.20	-7.33/-16.08	-7.74/-5.75	-6.95/-6.66	-5.16/-4.95	-4.05/-4.54	-4.52/-3.52	-3.63/-3.96	-3.78/-4.62	-7.08/-6.17	-3.73/-3.32	-3.20/-3.03	-2.81/-2.73	-7.41/-6.12	-3.85/-2.68	-5.22/-7.34	-3.69/-1.00	-0.47/-3.11	-6.52/-9.32	-15.12/-5.69	-4.12/-13.76	-13.15/-9.37	-9.02/-5.56
Θ (82.5°)	-2.31/-1.05	-1.74/-3.04	-4.46/-15.07	-8.54/-6.36	-6.80/-8.53	-6.05/-9.41	-4.08/-4.56	-5.22/-3.82	-2.71/-3.02	-3.78/-5.42	-4.59/-6.06	-4.07/-4.54	2.53/-1.18	-3.65/-1.99	-5.31/-5.37	-2.56/-3.77	-5.60/-5.48	-3.54/-9.13	-0.25/-2.66	-5.00/-8.19	-14.85/-8.15	-6.55/-14.92	-15.05/-8.04	-7.38/-5.81
Θ (90°)	-3.49/-2.46	-2.37/-3.64	-5.90/-15.09	-7.22/-5.24	-7.71/-7.09	-5.43/-6.38	-5.48/-5.16	-6.34/-4.10	2.20/-3.15	-4.52/-5.40	-4.93/-4.29	-4.06/-5.11	4.57/-2.62	3.22/-1.89	-4.56/-5.08	-2.73/-2.11	-2.54/-3.22	-1.78/-0.59	0.03/-0.50	5.21/-6.61	-7.96/-7.54	-6.57/-14.47	-13.45/-5.70	-6.59/-4.67
Θ (97.5°)	-3.92/-3.85	-3.99/-5.13	-8.47/-15.24	-8.62/-7.11	-7.10/-8.20	-5.37/-7.81	-5.27/-5.10	-5.77/-3.57	-2.32/-4.01	-4.55/-5.69	-4.56/-4.63	-5.96/-5.64	-4.03/-4.28	-2.76/-1.49	-3.93/-4.92	-1.56/-1.69	-5.37/-5.14	-2.00/-1.15	-4.03/-4.95	-7.20/-9.49	-7.89/-11.66	-10.67/-14.69	-12.51/-6.24	-5.99/-4.89
Θ (105°)	-4.91/-4.40	-4.45/-11.57	-11.93/-13.05	-8.18/-6.20	-7.35/-6.93	-6.97/-8.69	-6.86/-6.48	-5.88/-3.97	-3.22/-4.82	-6.72/-6.18	-6.21/-6.13	-8.36/-6.75	-4.71/-3.19	-3.07/-2.77	-2.62/-2.18	-4.98/-0.86	-1.26/-5.35	-4.76/-6.06	-2.12/-3.57	-12.24/-14.35	-12.99/-8.82	-8.51/-15.05	-15.59/-8.54	-4.55/-5.25
Θ (112.5°)	-4.81/-3.93	-6.88/-14.50	-10.93/-12.69	-9.78/-8.13	-7.79/-7.94	-7.78/-7.32	-7.61/-5.15	-5.40/-5.51	-5.60/-4.24	-6.69/-5.97	-6.29/-6.34	-13.28/-6.38	-4.64/-4.25	-2.36/-1.13	-1.67/-3.06	-4.75/0.20	-1.80/-6.88	-6.29/-6.08	-4.79/-3.36	-7.09/-3.66	-11.29/-7.63	-15.14/-9.88	-11.63/-8.25	-7.38/-14.10
Θ (120°)	-10.72/-9.89	-8.63/-10.73	-9.36/-8.64	-8.27/-9.62	-9.95/-7.88	-7.14/-6.72	-5.63/-4.70	-4.35/-5.88	-5.65/-5.14	-6.37/-6.95	-8.58/-13.33	-4.31/-4.78	-4.31/-3.23	-2.34/-2.20	-3.85/-2.20	-0.53/-0.36	-4.44/-5.79	-1.69/-0.34	-2.67/-4.42	-4.38/-14.24	-10.60/-11.92	-16.13/-14.28	-10.14/-15.10	
Θ (127.5°)	-12.95/-11.51	-10.52/-10.43	-9.51/-7.84	-8.22/-9.34	-10.58/-10.60	-8.11/-6.59	-6.38/-5.95	-6.81/-7.06	-6.27/-5.37	-6.06/-7.78	-13.89/-15.82	-9.38/-6.30	-4.01/-4.23	-3.81/-3.42	-0.78/-2.02	-2.04/-2.98	-4.32/-3.26	-4.53/-4.98	-15.03/-11.83	-8.61/-7.12	-7.50/-14.95	-12.69/-8.79	-6.16/-14.53	-10.79/-14.04
Θ (135°)	-8.78/-8.84	-6.43/-5.93	-9.08/-9.96	-9.00/-7.44	-10.52/-12.31	-11.62/-9.50	-8.97/-7.89	-9.05/-10.19	-10.45/-9.69	-7.97/-9.41	-12.37/-11.87	-8.06/-4.70	2.51/-1.06	-3.24/-2.99	-0.97/-1.41	4.30/-6.90	-7.07/-5.05	-3.51/-2.28	-4.45/-8.41	-10.30/-7.36	-6.31/-7.70	-9.28/-10.09	-8.57/-12.19	-10.33/-8.25
Θ (142.5°)	-5.78/-6.51	-6.72/-7.16	-9.12/-8.76	-7.39/-6.32	-7.96/-8.57	-9.23/-8.74	-8.23/-7.74	-7.59/-9.15	-10.08/-9.23	-8.41/-7.95	-10.27/-7.75	-5.60/-3.64	-2.10/-1.75	-3.10/-4.35	-4.25/-4.59	-4.50/-5.66	-1.72/-0.27	0.31/-1.58	-5.59/-7.07	-5.42/-4.88	-6.83/-6.10	-4.97/-7.38	-8.00/-13.26	-9.18/-5.84
Θ (150°)	-7.92/-7.00	-7.46/-9.27	-13.13/-12.44	-9.03/-6.60	-5.81/-5.65	-5.80/-7.33	-8.89/-8.31	-6.65/-6.14	-7.04/-8.51	-9.44/-10.61	-12.66/-11.28	-7.51/-4.52	-3.13/-3.49	-4.14/-4.81	-6.11/-5.15	-3.00/-0.73	0.59/0.52	-0.04/-2.70	-8.51/-11.21	-14.22/-14.57	-10.99/-10.55	-12.93/-14.33	-11.22/-11.83	-10.79/-9.19
Θ (157.5°)	-12.63/-11.78	-11.68/-11.90	-12.28/-10.06	-9.42/-8.80	-7.84/-6.92	-5.82/-5.66	-5.55/-5.11	-5.73/-6.96	-8.56/-10.42	-12.65/-12.12	-9.79/-9.62	-8.38/-7.38	-6.59/-6.69	-7.53/-7.95	-6.84/-4.34	-2.38/-1.13	-0.95/-1.83	-3.02/-5.59	-10.63/-12.47	-11.80/-12.58	-12.19/-9.21	-10.40/-12.35	-12.45/-11.82	-11.53/-12.37
Θ (165°)	-13.34/-12.91	-12.16/-11.70	-11.25/-11.28	-11.24/-11.11	-11.48/-11.05	-11.48/-10.36	-10.98/-11.79	-11.29/-9.43	-8.93/-8.54	-7.61/-7.58	-9.05/-9.40	-9.45/-9.40	-9.10/-9.59	-5.55/-6.68	-6.49/-7.84	-9.90/-11.47	-13.21/-14.58	-16.16/-14.83	-15.91/-15.53	-12.97/-12.40	-16.10/-13.55	-12.56/-11.08	-12.11/-13.84	
Θ (172.5°)	-12.84/-11.18	-9.90/-9.17	-7.90/-8.08	-8.94/-9.40	-9.30/-9.93	-10.40/-9.00	-7.92/-7.98	-7.84/-7.10	-7.36/-7.89	-7.81/-8.48	-9.66/-9.95	-10.69/-11.97												