



Antenna Composite Gain Test Report

Equipment	Wi-Fi 7 XGS-PON Gateway
Brand Name	ARRIS
Model Name	BGW620-700
Applicant	Vantiva USA LLC 4855 Peachtree Industrial Blvd. Suite 200, Norcross, Georgia, 30092 United States
Manufacturer	Vantiva 887 N Douglas street, El Segundo CA 90245
Standard	KDB 662911 D03 v01
Sample Received	May 09, 2024
Start Test Date	May 17, 2024
Final Test Date	May 17, 2024


Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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



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History of this test report

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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	Galtronics	DB1	PCB	I-Pex	2.4G+5G
2G5G Ant2	2	Galtronics	DB2	PCB	I-Pex	2.4G+5G
2G5G Ant3	3	Galtronics	DB3	PCB	I-Pex	2.4G+5G
2G5G Ant4	4	Galtronics	DB4	PCB	I-Pex	2.4G+5G
6G Ant1	1	Galtronics	6G1	PCB	I-Pex	6G
6G Ant2	2	Galtronics	6G2	PCB	I-Pex	6G
6G Ant3	3	Galtronics	6G3	PCB	I-Pex	6G
6G Ant4	4	Galtronics	6G4	PCB	I-Pex	6G

Note:

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

2G5G Ant1~2G5G Ant4 could transmit/receive simultaneously.

6GHz Operation Mode (4TX/4RX)

6G Ant1~6G 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	Rofy Chen	23.5~24.5°C / 45~55%	17/May/2024

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

4. Test Facility and Configuration

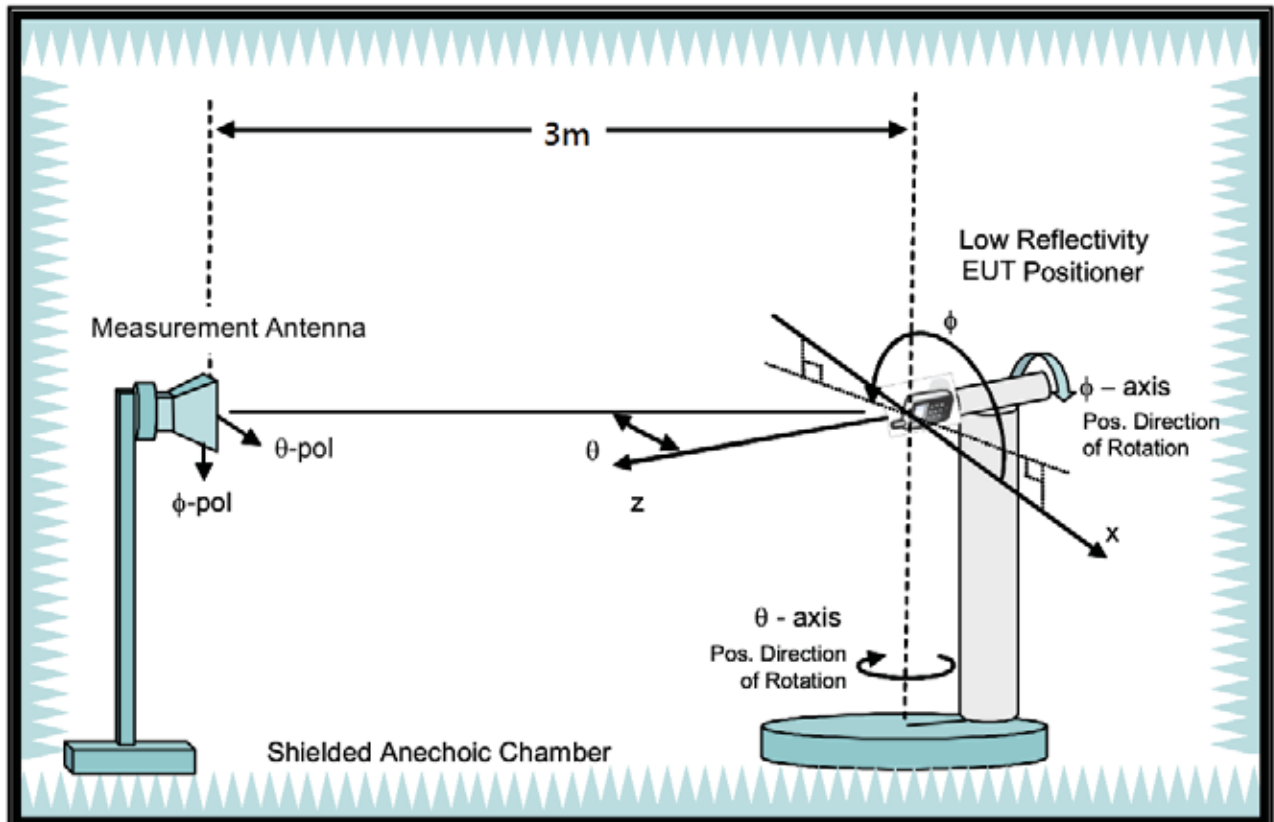
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

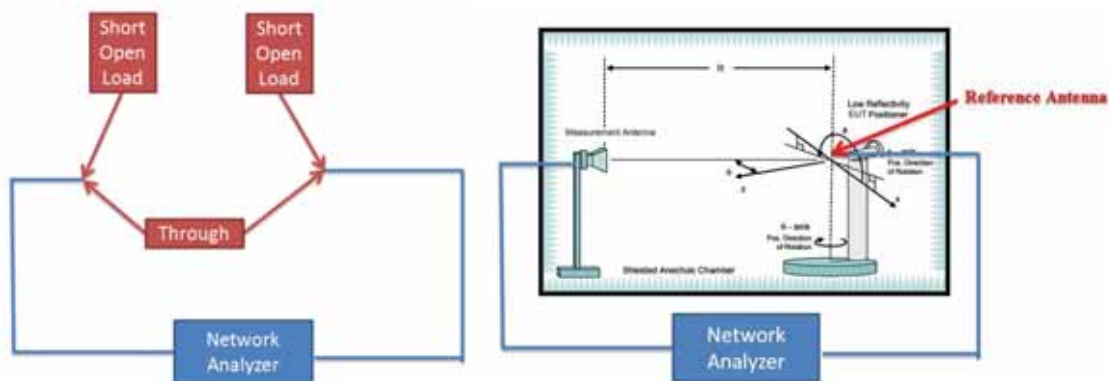
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



5. Reference Calibration

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

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



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

Note:

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

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

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

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



6. Test Method

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

DG steps:

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

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



7. Measured Values and Calculation of Maximum Gain Positions

DG_1SS Max Value Position

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	-6.85	4.59	-10.48	4.48	4.53
Ant. 2 (dBi)	1.73	-10.06	3.79	-3.74	-2.99
Ant. 3 (dBi)	-3.4	-2.07	-5.44	-2.86	-2.1
Ant. 4 (dBi)	1.72	-1.28	3.05	0.89	-1
DG [1SS] (dBi)	5.03	5.25	5.58	6.35	6.17
Polarization	Phi	Theta	Theta	Theta	Theta
$\Theta(^{\circ})$	37.5	82.5	22.5	90	90
$\Phi(^{\circ})$	187.5	262.5	262.5	270	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)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 [$10^{(G/20)}$]	$10^{(-6.85/20)}$	$10^{(4.59/20)}$	$10^{(-10.48/20)}$	$10^{(4.48/20)}$	$10^{(4.53/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(1.73/20)}$	$10^{(-10.06/20)}$	$10^{(3.79/20)}$	$10^{(-3.74/20)}$	$10^{(-2.99/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(-3.4/20)}$	$10^{(-2.07/20)}$	$10^{(-5.44/20)}$	$10^{(-2.86/20)}$	$10^{(-2.1/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(1.72/20)}$	$10^{(-1.28/20)}$	$10^{(3.05/20)}$	$10^{(0.89/20)}$	$10^{(-1/20)}$
Ant. 1 [$10^{(G/20)}$] value	0.454	1.696	0.299	1.675	1.685
Ant. 2 [$10^{(G/20)}$] value	1.22	0.314	1.547	0.65	0.709
Ant. 3 [$10^{(G/20)}$] value	0.676	0.788	0.535	0.719	0.785
Ant. 4 [$10^{(G/20)}$] value	1.219	0.863	1.421	1.108	0.891
Sum All Antenna [Amax]	3.57	3.661	3.802	4.152	4.07
DG [$10 \cdot \log(Amax^2/Nant)$]	5.03	5.25	5.58	6.35	6.17

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) = $10 \cdot \log(10^{(Gant1/20)} + 10^{(Gant2/20)} + 10^{(Gant3/20)} + 10^{(Gant4/20)} + \dots)^2 / Nant$

**DG_1SS Max Value Position**

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	-13.77	4.85	-17.18	-14.47
Ant. 2 (dBi)	-13.25	2.67	-12.29	-7.99
Ant. 3 (dBi)	4.93	-2.99	4.77	4.42
Ant. 4 (dBi)	4.36	-18.59	4.67	4.39
DG [1SS] (dBi)	5.66	5.88	5.63	5.82
Polarization	Theta	Phi	Theta	Theta
$\Theta(^{\circ})$	97.5	97.5	97.5	97.5
$\Phi(^{\circ})$	292.5	240	292.5	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)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [$10^{(G/20)}$]	$10^{(-13.77/20)}$	$10^{(4.85/20)}$	$10^{(-17.18/20)}$	$10^{(-14.47/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(-13.25/20)}$	$10^{(2.67/20)}$	$10^{(-12.29/20)}$	$10^{(-7.99/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(4.93/20)}$	$10^{(-2.99/20)}$	$10^{(4.77/20)}$	$10^{(4.42/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(4.36/20)}$	$10^{(-18.59/20)}$	$10^{(4.67/20)}$	$10^{(4.39/20)}$
Ant. 1 [$10^{(G/20)}$] value	0.205	1.748	0.138	0.189
Ant. 2 [$10^{(G/20)}$] value	0.218	1.36	0.243	0.399
Ant. 3 [$10^{(G/20)}$] value	1.764	0.709	1.732	1.663
Ant. 4 [$10^{(G/20)}$] value	1.652	0.118	1.712	1.658
Sum All Antenna [Amax]	3.838	3.934	3.825	3.909
DG [$10 \cdot \log(Amax^2/Nant)$]	5.66	5.88	5.63	5.82

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) = $10 \cdot \log(10^{(Gant1/20)} + 10^{(Gant2/20)} + 10^{(Gant3/20)} + 10^{(Gant4/20)} + \dots)^2 / Nant$



8. Summary of Test Result

Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	3.54	4.9	4.94	5.12	5.02
Ant. 2 Max Gain (dBi)	4.79	3.47	3.79	3.58	2.66
Ant. 3 Max Gain (dBi)	3.46	2.48	2.72	4.85	4.02
Ant. 4 Max Gain (dBi)	3.75	4.41	3.05	3.46	3.78
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/97.5/300	Theta/97.5/262.5	Theta/97.5/262.5	Theta/90/262.5	Theta/105/262.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/120/15	Theta/22.5/270	Theta/22.5/262.5	Phi/105/7.5	Phi/105/7.5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/105/105	Theta/67.5/127.5	Theta/105/142.5	Theta/90/127.5	Theta/90/127.5
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/105/210	Phi/127.5/210	Theta/22.5/262.5	Phi/82.5/172.5	Phi/82.5/165
Max Gain (dBi)	4.79	4.9	4.94	5.12	5.02
DG [1SS] (dBi)	5.03	5.25	5.58	6.35	6.17
DG [2SS] (dBi)	4.79	4.9	4.94	5.12	5.02
DG [4SS] (dBi)	4.79	4.9	4.94	5.12	5.02

Note:

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

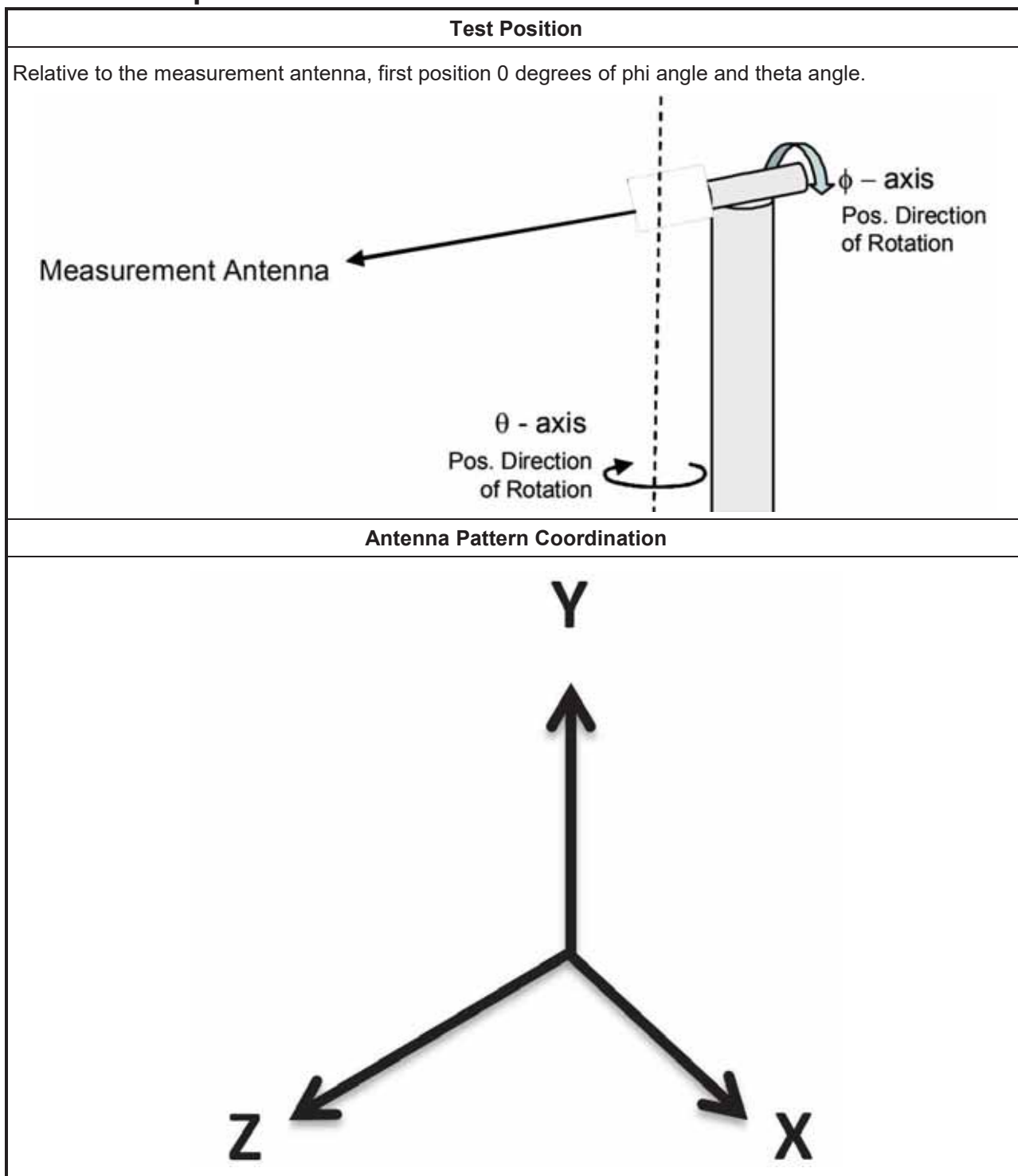


Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	4	4.85	4.11	4.22
Ant. 2 Max Gain (dBi)	3.64	4.26	3.26	4.19
Ant. 3 Max Gain (dBi)	5.5	5.4	4.77	5.07
Ant. 4 Max Gain (dBi)	5.11	5.04	4.96	5.17
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/97.5/232.5	Phi/97.5/240	Phi/97.5/307.5	Phi/105/240
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/97.5/255	Phi/90/225	Phi/97.5/225	Phi/90/225
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/97.5/285	Theta/90/292.5	Theta/97.5/292.5	Theta/97.5/292.5
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/97.5/262.5	Theta/97.5/277.5	Theta/97.5/285	Theta/97.5/277.5
Max Gain (dBi)	5.5	5.4	4.96	5.17
DG [1SS] (dBi)	5.66	5.88	5.63	5.82
DG [2SS] (dBi)	5.5	5.4	4.96	5.17
DG [4SS] (dBi)	5.5	5.4	4.96	5.17

Note:

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

9. Test Setup



Note:

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

**10. Test Equipment and Calibration Data**

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1531	1GHz~18GHz	Dec. 20, 2023	Dec. 19, 2024
Dual Polarization Horn Antenna	Sporton	S0209DP	S0209DP-001	2GHz~9GHz	N.C.R.	N.C.R.
ENA Series Network Analyzer	AGILENT	E5071C	MY46419477	100kHz~8.5GHz	Jul. 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)	3.54	4.9	4.94	5.12	5.02
Ant. 2 Max Gain (dBi)	4.79	3.47	3.79	3.58	2.66
Ant. 3 Max Gain (dBi)	3.46	2.48	2.72	4.85	4.02
Ant. 4 Max Gain (dBi)	3.75	4.41	3.05	3.46	3.78
Ant. 1 Polarization/θ(°)/φ(°)	Theta/97.5/300	Theta/97.5/262.5	Theta/97.5/262.5	Theta/90/262.5	Theta/105/262.5
Ant. 2 Polarization/θ(°)/φ(°)	Phi/120/15	Theta/22.5/270	Theta/22.5/262.5	Phi/105/7.5	Phi/105/7.5
Ant. 3 Polarization/θ(°)/φ(°)	Theta/105/105	Theta/67.5/127.5	Theta/105/142.5	Theta/90/127.5	Theta/90/127.5
Ant. 4 Polarization/θ(°)/φ(°)	Phi/105/210	Phi/127.5/210	Theta/22.5/262.5	Phi/82.5/172.5	Phi/82.5/165
Max Gain (dBi)	4.79	4.9	4.94	5.12	5.02
DG [1SS] (dBi)	5.03	5.25	5.58	6.35	6.17
DG [2SS] (dBi)	4.79	4.9	4.94	5.12	5.02
DG [4SS] (dBi)	4.79	4.9	4.94	5.12	5.02



Sporton International Inc.



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(15°)	2.78/2.53	2.65/2.29	1.93/1.56	1.36/0.52	-0.31/-2.21	-5.02/-8.15	-9.49/-8.45	-6.66/-4.48	-2.37/-0.5	0.95/1.44	1.66/2.15	2.64/3.15	3.4/3.54	3.42/2.76	2.02/1.24	0.42/-0.39	-1.49/-3.01	-5.14/-6.66	-6.19/-4.3	-2.61/-1.2	0.14/0.86	1.81/2.45	2.79/2.72	2.81/2.8
Θ(25°)	2.38/1.89	1.56/1.52	1.31/1.31	1.11/0.65	-0.32/-1.9	-3.71/-5.49	-5.99/-4.62	-3.72/-2.54	-1.54/-0.81	-0.11/0.41	0.75/1.41	2.39/3.29	3.6/3.41	3.16/2.5	1.82/1.04	-0.13/-1.85	-4.09/-6.8	-7.37/-6.5	-4.43/-3.46	-2.46/-1.41	-0.59/0.35	1.44/2.4	2.78/2.95	2.96/3.08
Θ(30°)	1.82/1.91	1.39/0.98	0.84/0.51	0.34/0.17	-0.21/-0.79	-1.74/-3.31	-3.69/-2.59	-1.48/-0.77	-0.44/0.06	0.69/1.28	1.39/1.17	2.08/3.34	3.9/3.57	3.02/2.78	2.36/1.4	-0.33/-1.92	-3.51/-5.95	-7.56/-7.34	-5.05/-3.43	-2.01/-1.09	-0.34/0.59	0.98/1.11	1.75/2.27	2.23/1.98
Θ(37.5°)	1.99/1.83	0.82/0.99	1.28/0.33	0.59/0.18	-0.42/-1.08	-1.79/-2.92	-3.33/-2.7	-2.4/-2.08	-1.05/0.34	1.34/2.18	2.54/2.26	3.13/3.8	3.88/2.9	2.47/1.93	1.03/-0.17	-1.59/-2.9	-3.89/-5.62	-7.97/-6.9	-3.93/-2.3	-1.58/-0.98	-0.48/0.01	0.96/1.25	1.99/2.08	1.76/1.65
Θ(45°)	1.98/1.72	0.85/1.77	1.86/1.51	0.31/0.37	-0.67/-2.39	-3.84/-4.01	-3.23/-1.61	-0.85/-0.51	-0.29/0.32	1.84/2.74	2.92/2.45	2.69/4.15	4.4/3.21	1.93/1.36	1.27/0.45	-0.73/-2.21	-4.99/-6.83	-6.68/-6.29	-4.88/-4.04	-2.39/-0.8	0.09/-0.16	-0.15/0.59	1.53/1.95	1.72/1.28
Θ(52.5°)	0.68/1.14	1.38/0.83	0.93/-0.02	0.24/0.99	-0.17/-1.38	-3.34/-5.23	-5.05/-3.49	-2.02/-1.59	-0.70/0.57	1.42/4.4	2.22/0.3	2.45/2.43	2.07/1.41	1.41/1.87	0.71/0.1	-1.49/-3.04	-4.27/-5.18	-5.96/-8.44	-10.24/-7.79	-5.51/-3.06	-1.06/-0.47	-0.47/0.9	1.15/1.47	1.41/1.02
Θ(60°)	-0.29/0.71	1.61/0.47	1.39/1.17	1.35/-0.28	-0.39/-1.16	-3.09/-5.06	-4.43/-3.24	-2.92/-2.61	-1.29/-0.28	0.34/0.66	0.54/0.68	-0.22/0.45	1.76/1.25	0.46/1.41	1.30/0.2	-1.85/-3.06	-4.19/-3.76	-5.04/-9.18	-10.67/-7.72	-4.12/-4.43	-3.06/-0.54	0.08/0.17	1.11/0.67	0.89/1.17
Θ(67.5°)	1.52/1.45	1.35/1.78	2.25/2.81	2.05/0.38	-2.35/-4.85	-6.43/-6.47	-6.25/-5.42	-5.14/-3.63	-1.92/-1.3	-0.15/1.58	2.28/1.67	1.03/1.18	0.8/1.44	1.69/1.22	0.92/-0.11	-1.32/-4.38	-5.95/-6.47	-9.08/-12.39	-8.76/-5.99	-4.55/-3.71	-2.37/-0.01	0.79/1.46	1.91/1.92	2.19/1.68
Θ(75°)	1.31/81	1.92/1.24	1.36/0.42	0.27/-1.63	-2.43/-3.4	-5.84/-4.74	-7.81/-8.7	-7.25/-3.88	-1.9/-1.12	0.41/86	2.44/2.78	2.42/73	2.41/51	1.98/1.82	1.25/0.31	-2.76/-5.1	-6.58/-5.1	-6.94/-11.14	-11.46/-6.17	-3.1/-2.66	-3.53/-0.69	0.83/0.83	1.05/2.05	3.15/2.55
Θ(82.5°)	1.98/1.95	3.19/2.45	2.05/0.75	-0.01/-0.62	-3.25/-4.97	-6.83/-7.5	-8.11/-10.24	-11.07/-5.22	-2.2/-0.59	0.67/0.9	0.91/0.62	1.65/1.89	0.32/0.49	0.33/0.31	0.20/1.5	-0.91/-2.1	-3.72/-4.53	-8.01/-9.28	-7.2/-7.46	-5.37/-3.13	-4.02/-1.6	0.23/1.22	1.91/1.94	2.78/2.02
Θ(90°)	1.99/1.86	2.45/1.6	1.01/0.31	-1.49/-2.69	-3.47/-5.35	-7.11/-7.55	-8.83/-11.96	-7.59/-4.37	-2.64/-1.25	0.54/1.44	1.92/1.88	0.09/1.16	1.58/1.46	-0.3/-0.81	-0.66/-0.27	-0.71/-1.56	-3.84/-5.59	-6.12/-7.29	-5.65/-8.53	-7.24/-3.7	-3.03/-2.19	-0.06/0.92	0.98/1.88	2.55/1.86
Θ(97.5°)	0.71/1	1.32/1.1	-1.05/-2.44	-3.6/-3	-3.13/-4.06	-7.02/-7.68	-7.54/-9.5	-8.53/-5.39	-4.59/-2.84	-1.68/-0.34	0.47/-0.62	-0.13/0.79	0.99/0.84	0.51/1.37	0.9/-1.2	-0.76/-0.78	-3.67/-6.54	-5.71/-5.15	-4.31/-7.71	-7.01/-6.63	-4.33/-2.25	-0.7/-0.27	-0.06/0.41	0.94/0.71
Θ(105°)	-0.03/-0.83	-0.97/-1.39	-3.52/-3	-2.84/-3.74	4.59/-5.97	-7.68/9.91	-8.78/9.18	-9.14/-6.21	-5.43/-4.23	-3.01/-1.94	0.37/1.25	1.11/0.21	-0.34/0.82	-0.77/-2.72	-2.65/-2.06	-0.94/-0.83	4.08/-3.93	-5.1/-7.75	4.81/-6.57	-6.55/-6.28	4.45/-1.84	-1.4/-2.33	-3.01/-1.21	1.12/0.04
Θ(112.5°)	-1.79/-2.16	-2.31/-2.75	-3.3/-3.51	-3.67/-4.11	-5.11/-4.94	-6.47/-7.5	-8.41/-8.38	-7.77/-8.95	-8.26/-5.64	-4.4/-3.63	-0.36/0.43	-1.16/-1.17	-0.93/-2.23	-4.36/-1.73	-0.47/-2.16	-5.73/-5.78	-4.09/-6.87	-7.25/-7.89	-8.9/-6.55	-5.55/-5.09	-4.61/-6.75	-4.81/-6.64	-3.79/-1.88	-1.65/-1.62
Θ(120°)	-3.17/-4.58	-3.85/-5.06	-4.07/-4.11	-4.53/-4.74	-3.97/-4.33	-6.12/-7.21	-6.8/-7.15	-8.08/-9.66	-7.51/-8.41	-3.94/-3.25	-2.11/-1.71	0.26/-0.02	-0.76/-1.05	0.78/0.39	-1.78/-4.55	-5.69/-5.48	-5.21/-7.23	-9.7/-8.3	-9.8/-39	-6.82/-7.63	-4.79/-5.52	-6.78/-5.13	-3.14/-2.36	
Θ(127.5°)	-8.23/9.58	-6.99/-5.15	-5.4/-4.11	-3.57/-4.55	-6.93/-7.68	-6.47/-7.23	-9.01/-11.15	-10.48/-8.58	-6.12/-4.9	-3.81/-1.66	-0.46/0.4	-0.3/-1.36	-0.12/0.85	-0.15/-1.8	0.46/0.02	-1.59/-1.97	-2.13/-3.37	-4.85/-6.82	-9.41/-9.04	-8.74/-6.45	-5.67/-9.2	-6.49/-5.05	-4.96/-4.11	-5.15/-8.7
Θ(135°)	-4.02/-4.69	-4.16/-4.15	-4.46/-4.8	-3.42/-2.06	-2.5/-4.18	-5.4/-7.6	-8.42/-8.7	-8.89/-6.12	-3.09/-1.14	-0.33/0.18	0.12/0.2	1.85/2.4	1.80/34	-0.52/2.58	3.13/0.78	-0.89/-1.19	-0.21/-3.13	-4.41/-7.51	-6.43/-6.92	-6.45/-6.35	-7.9/-7.5	-6.77/-7.65	-5.52/-3.99	-3.89/-6.06
Θ(142.5°)	-2.71/-2.59	-1.7/-1.8	-2.24/-2.67	-1.77/-1.34	-3.28/-5.44	-5.49/-5.5	-5.75/-7.05	-9.12/-7.06	-3.26/-1.84	-0.74/0.73	-0.45/1.14	1.53/-0.59	-1.32/-0.07	-0.09/-1.72	-1.34/-1.19	-3.29/-2.74	-3.23/-4.58	-3.3/-6.2	-10.58/-12.02	-0.89/-7.61	-7.82/-6.61	-6.42/-6.72	-6.94/-5.97	-4.5/-4.02
Θ(150°)	-3.79/-2.7	-2.09/-0.33	-0.48/-1.12	-1.31/-0.77	-0.12/-1.08	-3.87/-7.08	-8.76/-7.4	-5.06/-2.99	-1.45/-1.03	-0.84/-0.61	-0.4/-1.72	-3.82/-2.34	-0.35/0.31	-1.3/-2.55	-1.96/-3.53	-4.82/-5.71	-6.13/-5.42	-6.18/9.41	-11.59/-11.99	-11.62/-8.83	-5.97/-3.47	-2.85/-3.16	-2.61/-1.73	-2.44/-3.85
Θ(157.5°)	0.39/-0.02	-0.26/-0.12	-0.37/-1.02	-2.03/-3.21	-3.37/-4.33	-6.08/-6.84	-8.57/-8.82	-7.56/-5.88	-4.23/-2.08	0.19/1.25	2.24/2.45	2.05/1.39	1.01/0.71	0.38/-0.35	-0.82/-1.37	-2.11/-3.34	-4.6/-4.88	-5.14/-5.95	-6.81/-7.44	-9.63/-8.2	-5.23/-2.8	-1.33/-0.83	-0.33/0.28	0.23/0.26
Θ(165°)	-0.75/-1.41	-2.06/-2.29	-2.5/-2.26	-1.99/-2.54	-3.24/-4.49	-6.23/-7.73	-9.12/-9.83	-8.89/-7.21	-4.69/-3.1	-2.34/0.94	0.55/1.15	1.23/1.82	2.01/1.59	0.51/-1.26	-3.09/-3.68	-3.18/-3.61	-3.51/-3.48	-4.32/-5.04	-7.01/-9.04	-11.16/-8.81	-5.35/-3.27	-1.57/-0.97	-0.57/-0.42	-0.27/-0.41
Θ(172.5°)	-0.93/-1.21	-1.43/-1.76	-1.78/-1.44	-1.29/-1.87	-2.47/-3.75	-1.63/-9.43	-6.86/-5.54	-3.63/-3.07	-1.83/-0.97	-0.25/-0.01	-0.55/-1.87	-3.82/-6.05	-6.71/-5.82	-6.32/-7.98	-8.21/-8.02	-8.06/-8.29	-9.49/-10.56	-11.08/-8.68	-6.77/-5.25	-3.95/-2.89	-2.55/-2.05	-1.79/-1.57		
Θ(180°)	-3.36/-3.1	-2.64/-2.47	-2.45/-2.53	-2.48/-3.26	-4.39/-5.34	-6.69/-7.41	-8.73/-10.26	-11.45/-11	-8.9/-7.71	-6.2/-5.05	-4.1/-3.64	-4.2/-5.23	-6.62/-6.95	-6.47/-5.9	-5.78/-6.16	-6.77/-6.88	-6.62/-6.67	-7.57/-8.45	-9.75/-10.33	-11.32/-11.28	-9.66/-7.18	-5.24/-4.36	-3.97/-3.68	-3.33/-3.06
Freq(Hz)	5.3GHzPol.	ThetaL																						
DG(dB)	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°)	-6.15/-7.19	-7.58/-6.44	-3.65/-1.69	-0.14/0.76	1.45/1.88	2.22/2.38	2.24/2.2	2.12/2.11	1.91/1.43	0.68/0.04	-0.67/-1.45	-2.63/-4.4	-6.5/-7.8	-8.33/-6.46	-4.04/-2.11	-0.67/0.23	1.03/1.78	2.34/2.75	2.91/2.93	2.98/3.07	2.56/1.88	1.03/0.43	-0.68/-1.62	-2.74/-4.44
Θ(7.5°)	-6.63/-7.99	-8.78/-7.57	-5.15/-2.72	-1.26/-0.19	0.71/1.76	2.81/3.38	3.61/3.48	3.37/3.28	2.93/2.37	1.67/0.7	-0.51/-1.84	-3.59/-5.16	-6.52/-7.69	-6.84/-4.28	-1.98/-0.3	0.59/1.17	1.65/2.15	2.56/2.76	2.82/2.78	2.48/2.1	1.56/1.27	0.75/-0.03	-0.75/-1.96	-3.39/-5.58
Θ(15°)	-6.62/-9.33	-7.94/-6.06	-4.16/-2.58	-1.83/-0.7	0.38/1.75	2.81/3.5	3.54/3.35	3.43/3.64	3.51/3.06	2.31/1.14	-0.55/-2.09	-3.83/-5.22	-6.74/-6.66	-5.43/-2.85	-1.02/9	1.22/1.96	2.62/3.29	3.83/3.99	4.01/3.83	3.62/3.89	2.01/1.03	-0.09/-0.57	-1.27/-2.01	-3.58/-5.6
Θ(22.5°)	-6.08/-7.66	-7.71/-6.05	-3.83/-2.52	-1.71/-0.44	0.84/1.96	2.93/3.48	3.68/3.63	3.41/3.93	2.39/1.42	0.23/0.65	-1.59/-2.44	-3.91/-4.97	-4.8/-4.13	-3.21/2.36	-1.52/-0.29	1.21/2.65	3.78/4.7	5.36/5.58	4.95/4.1	3.44/2.99	2.33/1.7	0.93/0.08	-0.6/-1.24	-2.61/-4.31
Θ(30°)	-5.3/-6.78	-5.85/-4.48	-2.27/-0.97	-0.03/0.57	1.14/2	2.88/3.42	3.53/3.51	3.22/3.61	2/1.59	0.98/0.21	-0.88/-1.45	-2.6/-4.9	-4.14/-2.83	-2.88/-3.16	-3.69/-1.48	1.06/2.76	3.99/4.62	4.99/5.16	4.88/4.3	3.61/3.02	2.30/99	-0.72/-1.46	-1.06/-0.68	-1.3/-3.29
Θ(37.5°)	-6.38/-8.72	-4.96/-2.31	-0.70/-68	1.37/1.24	6.09/0.91	1.96/2.68	2.69/2.46	2.29/2.45	2.62/1.29	-0.22/-1.59	-3.22/-5.47	-4.97/-3.13	-3.19/-3.68	-2.71/-1.27	1.16/2.65	3.14/3.52	3.96/4.41	4.66/4.28	3.19/1.88	1.33/1.19	0.34/-1.54	-2.38/-2.13	-2.69/-4.02	
Θ(45°)	-6.58/-10.8	-6.75/-3.11	-1.83/-0.85	0.47/1.17	0.99/1.11	1.35/1.54	1.72/1.66	1.02/1.75	1.89/1.85	1.55/0.75	-1.29/-3.38	-3.88/-3.16	-4.44/-4.25	-4.92/-4.52	-1.05/-0.13	1.29/2.48	3.07/3.67	4.06/4.13	3.73/3.48	3.29/2.47	1.13/-0.54	-3.14/-3.25	-2.06/-2.68	
Θ(52.5°)	-7.59/-10.1	-7.38/-4.3	-4.03/-1.27	0.52/0.71	0.71/0.84	1.48/1.81	1.81/1.29	0.75/0.77	0.92/0.05	0.35/0.44	-2.01/-2.63	-2.53/-3.85	-3.92/-2.61	-2.72/-3.78	-1.89/-1.52	-1.13/0.5	2.62/4.02	4.27/3.86	3.83/4.34	4.74/8.3	4.59/3.2	0.95/-0.78	-2.62/-3.16	-2.66/-3.22
Θ(60°)	-7.22/-8.48	-6.31/-4.64	-2.91/0.83	2.2/2.47	2.94/3.08	2.61/3.38	2.41/2.02	1.61/1.88	1.91/1.78	1.12/0.98	-1.19/-4.18	-3.71/-3.82	-4.01/-2.47	-2.51/-1.57	-0.11/0.29	0.18/0.04	0.63/0.15	0.85/3.04	3.56/3.88	3.91/2.66	2.2/1.8	0.53/-0.55	-2.1/-3.42	-2.82/-6.88
Θ(67.5°)	-4.69/-5.71	-4.67/-4.07	-2.13/-0.01	1.19/1.39	3.95/2.83	3.26/3.14	3.43/3.57	1.94/1.78	2.31/2.39	0.73/-1.19	-3.02/-1.17	-2.8/-2.17	-3.03/-1.26	1.41/4.3	-0.67/-1.19	1.05/1.06	1.98/2.93	3.38/3.62	4.25/4.26	3.56/2.27	0.51/-0.94	-1.74/-2.72	-1.75/-3.01	
Θ(75°)	-3.75/-9.12	-5.2/-3.31	-0.68/0.43	0.66/2.32	2.89/2.28	1.54/1.83	2.93/3.56	2.84/2.53	1.92/2.34	1.72/2.3	2.32/0.52	-0.97/0.27	-0.2/-0.69	-4.6/-39	-1.91/0.84	-1.67/-1.45	0.36/-0.11	-0.4						



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

θ (60°)	2.61/1.97	0.750/3.35	-0.66/-1.36	-1.28/-1.07	-1.27/-2.48	-4.58/-6.54	-8.39/-8.33	-7.16/-4.31	-2.17/-0.32	1.19/1.66	1.95/2.72	3.15/3.09	2.52/2.49	2.28/1.8	0.41/-2.79	-4.91/-5.11	-5.49/-6.46	-7.42/-8.25	-7.71/-5.06	-4.13/-5.3	-6.1/-6.35	-4.87/-1.78	-0.67/-0.16	1.25/1.64
θ (67.5°)	1.49/1.1	0.32/-0.24	-0.58/-2	-0.81/-0.51	-3.02/-7.26	-8.48/-8.64	-8.71/-9.48	-8.2/-5.66	-3.26/-1.35	0.06/1.65	1.9/2.2	4.39/3.79	3.41/3.66	3.31/2.79	1.01/-1.3	-2.19/-3.47	-5/-6.97	-8.35/-10.33	-10.41/-8.4	-7.69/-5.9	-4.57/-4.78	-3.92/-2.13	-0.55/1.46	2.12/1.79
θ (75°)	1.47/1.28	0.93/-0.39	-1.31/-1.65	-0.52/0.21	-1.47/-4.62	-7.48/-7.57	-7.35/-5.82	-3.42/-1.46	-0.29/-0.69	0.61/2.14	2.79/3.12	3.65/3.97	3.12/3.76	3.38/2.66	2.26/+0.55	-2/-3.34	-5.74/-7.7	-10.27/-11.53	-7.5/-8.88	-8.27/-5.83	-4.45/-5.12	-3.26/-0.98	0.81/87	2.76/1.87
θ (82.5°)	2.32/1.37	0.36/-0.48	-0.54/0.04	-0.37/-1.73	-3.05/-4.56	-7.27/-7.16	-5.71/-6.52	-3.35/-0.1	0.04/0.47	2.08/2.4	2.57/3.73	4.94/5.2	4.14/2.5	2.59/2.64	1.66/-0.53	-1.92/-5.04	-6.19/-5.53	-8.22/-8.84	-8.8/-10.71	-6.68/-7.15	-7.62/-6.85	-4.95/-3.43	-0.69/1.15	1.61/4.8
θ (90°)	2.23/2.11	1.88/0.97	1.02/0.51	-0.45/-1.78	-3.3/-5.19	-8.03/-6.85	-7.6/-8.76	-3.65/-0.91	-0.7/-0.88	-0.18/0.21	1.64/3.24	4.72/4.4	4.24/3.91	2.74/1.51	1.52/0.29	-1.96/-4.99	-6.24/-6.5	-9.6/-6.97	-5.93/-6.68	-7.37/-6.32	-7.44/-5.5	-4.43/-2.97	-0.51/2.45	3.3/2.66
θ (97.5°)	1.53/1.21	1.43/1.46	1.22/0.63	-0.35/-2.14	-3.84/-6.68	-7.42/-6.41	-6.57/-5.81	-3.46/-1.95	-1.92/-0.44	-1.06/+0.24	-0.17/1.71	2.97/3.17	2.74/2.17	1.56/1.81	0.43/-1.98	-5.85/-4.77	-5.53/-5.95	-5.26/-7.97	-4.56/-2.68	-4.24/-6.09	-6.87/-3.88	-3.62/-1.69	-0.43/-0.11	0.21/0.67
θ (105°)	-0.09/1.01	0.84/0.86	-0.71/-1.14	-2.07/-3.28	-4.86/-5.64	-4.19/-5.28	-6.52/-5.91	-4.99/-3.42	-3.45/-3.39	-2.46/-0.51	-0.48/-0.05	-1.01/-0.34	0.11/0.93	1.08/1.65	0.11/-2.69	-5.55/-4.69	-3.21/-4.92	-5.06/-7.96	-5.01/-6.23	-5.27/-3.96	-3.26/-3.23	-3.27/-1.54	-1/-0.07	-0.78/-0.11
θ (112.5°)	-0.64/-0.67	-0.33/-0.7	-3.35/-2.43	-2.24/-4.42	-6.39/-7.03	-5.89/-4.69	-5.73/-5.36	-5.26/-4.37	-2.52/-1.59	-1.17/-1.25	-1.53/-1.27	-2.22/-0.56	-1.12/-1.62	-0.92/-3.01	-4.15/-3.51	-9.17/-7.01	-5.77/-5.76	-4.51/-6.54	-6.12/-8.69	-9.4/-10.29	-5.12/-6.6	-5.45/-2.08	-2.84/-3.57	-1.34/-1.18
θ (120°)	-1.3/-1.95	-0.92/-1.37	-5.14/-7.35	-6.3/-5.83	-7.91/-8.23	-8.04/-6.86	-5.03/-5.45	-4.49/-3.13	-3.38/-2.61	-1.55/-1.73	-1.73/-1.17	-2.28/-0.74	0.16/-0.29	-0.68/0.57	-1.92/-4.06	-7.53/-8.59	-8.2/-9.9	-6.43/-6.09	-5.65/-5.48	-7.65/-7.75	-5.51/-5.4	-6.54/-7.81	-6.14/-4.83	-2.14/-0.34
θ (127.5°)	-3.66/-3.63	-3.7/-5.04	-7.17/-7.01	-5.75/-6.25	-7.24/-6.19	-5.45/-6.13	-6.66/-4.68	-1.79/-0.57	-1.04/-1.81	-2.51/-2.28	-2.26/-1.96	-0.29/-0.44	-1.47/-1.53	-1.06/-2.04	-1.02/-0.46	-2.52/-3.06	-4.88/-5.58	-7.7/-7.99	-8.71/-8.09	-9.47/-9.2	-6.42/-5.79	-6.24/-4.23	-2.35/-1.24	-3.85/-3.66
θ (135°)	-7.31/-6.06	-5.01/-5.14	-4.08/-2.7	-3.18/-3.94	-5.89/-6.92	-5.94/-9.56	-7.69/-4.72	-3.21/-2.42	-1.59/-2.43	-3.12/-2.33	-2.08/-1.57	-1.36/0.4	-0.87/-0.42	-3.07/-2.11	0.55/-0.64	-3.89/-3.6	-3.51/-3.73	-6.61/-5.77	-8.21/-6.05	-3.82/-8.81	-6.26/-6.2	-4.77/-3.51	-4.19/-5.02	-6.76/-7.98
θ (142.5°)	-1.01/-1.01	-1.95/-2.87	-1.41/-1.41	-2.09/-2.6	-2.51/-2.33	-3.02/-5.47	-7.33/-6.61	-6.51/-5.32	-4.66/-4.27	-2.82/-1.77	-1.45/-0.92	0.43/-0.83	-2.87/-2.4	-1.71/-1.47	-1.56/-2.45	-3.1/-5.48	-5.97/-6.58	-5.33/-5.9	-8.39/-6.95	-6.19/-6.16	-5.96/-5.48	-6.39/-7.44	-6.7/-5.58	-5.24/-3.89
θ (150°)	-0.88/0.97	0.81/-1.6	-3/-1.84	-0.62/-0.76	-1.95/-3.26	-4.55/-7.37	-8.9/-7.93	-6.41/-5.23	-4.84/-4.31	-4.6/-5.25	-4.32/-3.2	4.36/-3.97	-2.49/-2.4	-2.38/-4.64	-3.68/-1.63	-1.13/-2	-3.52/-5.14	-5.11/-5.07	-6.31/-6.62	-6.93/-7.34	-6.22/-4.02	-2.2/-1.52	-2.34/-3.65	-5.65/-5.43
θ (157.5°)	0.12/0.34	0.41/0.41	-0.2/-1.78	-2.76/-2.33	-1.28/-2.36	-5.17/-7.2	-9.02/-8.64	-7.3/-6.2	-5.43/-4.31	-2.39/-0.67	0.71/0.63	-0.03/-1.62	-2.61/-2.01	-1.91/-2.09	-1.67/-2.03	-3.24/-4.45	-5.45/-6.92	-7.06/-6.65	-5.57/-5.22	-4.86/-3.66	-2.09/-0.61	0.81/1.46	1.03/0.12	-0.82/-0.87
θ (165°)	-2.2/-1.69	-1.67/-1.52	-1.74/-2.19	-2.71/-3.49	-4.07/-4.67	-5.78/-6.08	-6.78/-8.44	-9.48/-9.38	-8.09/-7.03	-5.5/-4.46	-3.18/-2.42	-1.84/-0.38	0.56/0.85	0.81/-0.1	-1.62/-2.78	-3.81/-4.45	-4.75/-4.51	-4.41/-4.63	-5.43/-6.98	-7.74/-5.46	-3.02/-1.42	-0.18/0.15	-0.21/-0.89	-1.47/-2.31
θ (172.5°)	-4.04/-3.58	-2.94/-2.25	-2.03/-2.04	-1.9/-2.55	-3.77/-4.76	-5.68/-7.75	-10.28/-11.08	-10.06/-8.22	-6.29/-5.48	-5.26/-4.89	-4.3/-3.27	-2.25/-1.49	-1.57/-2.09	-3.41/-4.31	-5.07/-5.73	-6.93/-8.27	-9.1/-9.29	-8.27/-7.85	-7.77/-7.68	-7.42/-7.01	-5.91/-4.8	-4.11/-3.61	-3.45/-3.2	-3.48/-3.91
θ (180°)	-2.75/-2.33	-2.71/-3.1	-3.35/-3.27	-3.08/-3.42	-4.26/-5.32	-6.85/-8.06	-8.52/-9.35	-10.74/-10.95	-10.63/-9.47	-8.5/-7.14	-5.64/-4.73	-4.54/-5.12	-5.4/-5.61	-5.45/-5.56	-5.48/-5.72	-6.14/-6.41	-7.04/-7.5	-8.06/-7.89	-8.71/-8.84	-8.71/-8.16	-6.81/-5.47	-4.6/-4.08	-3.48/-3.12	-3.73/-4.31
Freq(Hz)	5.785G/Pol.	Theta	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
θ (0°)	-7.63/-7.8	-6.66/-4.8	-2.84/-1.29	-0.03/0.93	1.51/2.04	2.28/2.58	2.65/2.39	2.11/1.5	0.91/0.24	-0.23/-1.37	-2.73/-4.16	-5.64/-7.89	-10.35/-10.12	-7.65/-5.7	-3.63/-2.16	-0.96/-0.14	0.56/1.19	2.01/2.18	2.33/2.52	2.46/2.14	1.69/1.38	0.48/-0.52	-1.92/-3.58	-4.96/-6.83
θ (7.5°)	-11.03/-10.83	-8.17/-6.39	-4.7/-2.55	-0.85/0.27	0.79/1.09	1.91/2.68	3.16/3.3	3.15/2.64	2.16/1.68	1.06/0.35	-0.72/-1.83	-3.49/-5.68	-7.09/-7.71	-6.48/-4.71	-2.71/-1.34	-0.3/0.27	0.99/1.48	1.85/1.93	1.62/1.33	1.03/0.94	0.38/-0.11	-0.77/-1.37	-2.96/-5.31	-7.72/-7.59
θ (15°)	-8.41/-7.72	-5.96/-3.98	-2.39/-1.25	-0.49/0.19	0.68/1.28	2.02/2.37	2.87/3.08	3/2.74	2.42/1.87	1.21/0.63	-0.09/-0.46	-1.12/-2.16	-3.84/-5.19	-5.59/-4.35	-2.92/-1.6	-0.43/0.29	1.09/1.71	1.95/2.13	2.08/1.97	1.68/1.57	0.83/0.15	-0.22/-1.28	-2.96/-4.81	-7.79/-9.43
θ (22.5°)	-7.56/-5.61	-4.09/-2.84	-1.26/-0.04	0.66/1.53	1.93/2.29	2.83/3.18	2.98/2.95	3.06/2.92	2.49/1.9	0.93/0.36	-0.13/-0.75	-2.06/-3.49	-4.26/-4.15	-3.34/-3.31	-2.76/-1.39	-0.26/0.82	1.68/2.21	2.47/2.5	2.56/2.58	2.39/1.67	1.1/0.37	-0.38/-2.03	-3.4/-4.74	-6.83/-8.09
θ (30°)	-4.61/-4.44	-3.85/-2.82	-2.16/-0.6	0.782/1.7	2.67/3.12	3.22/3.54	3.6/3.5	3.66/3.7	3.07/2.07	0.9/0.88	0.98/0.21	-1.26/-3.62	-4.85/-5.58	-4.48/-2.75	-2.06/-1.07	0.25/2	3.04/3.4	3.52/3.01	2.21/2.01	2.06/1.92	1.48/0.4	-0.81/-1.48	-2.23/-3.51	-4.48/-5.7
θ (37.5°)	-5.34/-7.62	-7.19/-4.67	-2.53/-1.2	0.39/1.64	2.04/2.19	2.38/2.8	3.55/3.98	4/3.68	2.97/2.2	2/2.44	1.53/-0.13	-1.96/-4.51	-5.76/-7.11	-5.11/-4.86	-4.14/-1.01	1.15/2.4	2.72/2.64	3.04/3.33	3.17/2.64	2.11/1.8	1.26/0.55	-0.05/-0.9	-2.23/-1.91	-1.75/-3.76
θ (45°)	-5.95/-9.13	-10.75/-6.92	-3.91/-3.32	-1.44/-0.87	0.02/0.06	0.84/2.43	3.66/3.94	3.94/3.43	2.37/2.05	2.32/2.05	1.83/0.5	-2.13/-4.46	-4.14/-5.94	-6.31/-5.8	-5/-3.03	-0.62/1.24	2.99/3.19	2.62/2.06	1.91/4.44	0.89/0.81	0.91/0.97	1.4/0.05	-1.25/-4.11	-5.53/-4.94
θ (52.5°)	-7.8/-6.44	-6.83/-5.5	-4.71/-2.78	-0.67/-0.38	0.72/1.94	1.71/2.42	3.21/3.76	3.58/2.63	1.31/0.82	1.24/1.79	1.37/-0.46	-4.47/-4.94	-4.17/-6.23	-5.3/-3.8	-2.48/-1.7	-1.1/1.13	2.32/2.22	2.49/2.74	2.78/2.53	1.94/2.31	3.41/3.55	2.22/0.08	-1.57/-2.53	-6/-8.49
θ (60°)	-7.4/-5.47	-6.36/-4.29	-2.61/-1.5	0.68/2.54	2.93/3.12	3.14/3.58	4.42/4.32	3.45/2.91	2.83/2.2	1.87/1.19	0.65/-0.33	-2.27/-2.5	-3.63/-4.8	-4.19/-4.58	-1.62/-1.22	-1.53/0.38	1.41/2	2.47/2.59	2.68/3.78	3.09/1.98	2.73/2.07	1.08/-0.15	-1.75/-3.11	-3.45/-4.3
θ (67.5°)	-5.91/-7.11	-6.49/-2.39	0.72/0.24	1.61/2.24	3.52/3.98	3.82/4.18	3.67/3.19	3.65/3.34	3.01/2.79	2.01/1.38	0.6/-0.29	-1.93/-3.88	-4.56/-6.31	-4.01/-1.72	-1.91/-1.91	0.79/-1.16	-0.52/1.15	0.69/1.69	1.94/2	2.43/1.36	0.39/1.5	1.43/-1.69	-2.03/-1.4	-2.14/-0.08
θ (75°)	-5.89/-5.36	-7.61/-4.34	-1.03/-0.9	1.63/2.48	3.19/3.07	2.92/3.31	3.45/3.42	4.59/4.92	3.06/2.58	2.25/1.02	1.31/3.6	0.76/-0.19	-0.18/-3.17	-3.25/-2.91	-1.38/0.44	1.41/1.14	0.55/1.46	0.62/2.9	3.07/3.05	3.43/3.1	2.25/0.94	0.76/-2.6	-2.88/-2.36	-5.44/-6.1
θ (82.5°)	-5.72/-3.76	-5.63/-4.01	-1.29/-1.3	0.96/2.11	3.18/3.16	3.07/3.61	4.32/4.58	4.32/3.92	3.77/3.84	2.29/1.23	1.76/1.69	1.31/-0.21	-0.38/-3.11	-0.41/-0.72	-0.27/0.81	1.72/0.14	1.98/0.63	1.19/4.13	4.13/2.98	3.14/2.79	1.29/-0.49	-2.51/-8.03	-5.19/-1.69	-3.75/-6.42
θ (90°)	-3.8/-0.73	-3.48/-3.05	-0.02/-1.53	1.48/2.97	3.48/3.4	3.66/3.61	3.49/3.6	4.16/3.81	3.24/3.28	2.62/3.73	2.65/1.92	-1.35/-1.54	-1.44/-1.13	-3.89/-0.63	-0.41/1.61	1.73/1.24	3.66/2.04	2.99/6.17	3.83/3.01	3.49/3.08	2.42/-0.74	-2.22/-4.99	-4.8/-0.77	-2.11/-3.66
θ (97.5°)	-3.3/0.2	-3.17/-6.41	-1.56/-1.76	0.57/2.27	3.71/3.8	4.23/4.17	3.08/3.24	2.74/2.02	2.65/3.41	2.15/1.51	1.53/-0.74	-1.86/-1.43	-2.91/-0.27	2.05/-1.29	0.43/0.64	2.09/3.71	4/2.53	3.95/5.59	3.06/3.26	3.91/2.4	0.86/-1.68	-0.21/-6.98	-8.58/-3.45	-2.76/-2.52
θ (105°)	-4.13/-2.06	-2.83/-4.06	-2.73/-1.42	0.58/1.69	2.91/2.92	3.2/2.82	1.73/1.33	-0.44/-0.31	0.76/0.7	-0.56/0.39	0.39/-1.33	-4.63/-2.32	-1.75/-1.18	-0.63/-0.75	0.62/2.21	1.97/1.17	1.08/2.24	1.47/3.14	1.17/1.87	1.05/-0.26	0.45/-3.06	-2.81/-4.6	-6.89/-6.2	-1.93/-4.64
θ (112.5°)	-4.01/-1.56	-3.48/-5.14	-2.52/-4.37	-1.46/0.73	1.57/2.05	2.41/2.45	0.84/-0.31	-1.91/-1.26	-0.96/-0.36	0.08/-0.53	-0.45/-1.28	-2.69/-1.04	-2.23/-1.38	1.15/0.51	-0.73/0.54	1.82/-0.03	0.83/2.55	3.28/3.6	0.54/1.19	1.08/-2.44	-1.6/-3.72	-3.2/-7.62	-7.37/-6.35	-2.46/-3.77
θ (120°)	-5.34/-5.62	-4.75/-6.48	-6.14/-4.51	-1.26/0.32	0.92/1.05	1.02/1.06	0.35/-0.51	-2/-2.08	-1.28/-0.92	-0.98/-0.08	-0.75/-2.83	-2.29/0.0												



Sporton International Inc



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(22.5°)	-15.71-19.17	-18.91-19.01	-17.52-13.87	-13.54-12.75	-13.51-16.11	-15.08-13.76	-13.15-13.43	-19.06-18.04	-15.18-14.31	-14.48-14.17	-14.53-16.12	-14.54-12.48	-12.61-14.79	-15.93-14.74	-13.49-15.79	-17.64-17.74	-13.06-10.82	-9.53-9.79	-9.09-9.27	-9.21-10.38	-10.61-8.55	-7.32-6.22	-6.59-7.32	-8.47-11.13
Θ(30°)	-15.75-15.24	-15.75-17.59	-12.46-9.83	-9.59-10.03	-10.15-9.52	-8.29-8.37	-8.65-9.45	-9.15-8.69	-10.06-10.82	-9.96-10.48	-13.55-18.75	-19.32-13.54	-13.69-17.51	-17.12-11.05	-9.99-12.69	-19.18-16.7	-10.15-8.75	-9.61-12.59	-13.71-13.4	-10.65-10.85	-12.08-11.88	-12.31-10.25	-8.29-8.25	-9.99-12.97
Θ(37.5°)	-8.39-11.04	-18.29-12	-9.4-12.43	-10.72-11.7	-12.61-11.98	-9.22-8.27	-9.85-15.29	-17.75-18.98	-18.42-18.07	-18.11-18.18	-18.45-18.68	-13.07-13.44	-13.68-12.2	-10.07-9.3	-10.96-15.42	-18.91-17.81	-13.57-12.33	-11.83-9.99	-9.3-8.11	-8.31-9.99	-12.33-15.24	-12.09-11.11	-10.24-12.71	-13.71-13.35
Θ(45°)	-15.3-18.14	-18.63-11.44	-11.04-11.86	-13.31-8.33	-9.04-15.35	-17.6-12.26	-9.31-9.91	-14.78-15.63	-15.5-18.98	-13.12-9.28	-10.63-13.26	-17.51-11.09	-10.93-15.06	-19.1-16.93	-13.91-14.94	-17.84-19.46	-18.61-16.04	-9.7-6.63	-5.42-5.87	-6.67-7.7	-8.38-10.13	-12-11.73	-12.11-11.72	-11.24-14.59
Θ(52.5°)	-18.64-19.2	-13.65-16.86	-18.85-15.02	-5.69-3.11	-7.26-9.36	-18.15-16.12	-14.88-18.83	-16.83-12.76	-13.15-11.45	-15.76-17.86	-13.67-18.73	-19.09-15.82	-18.28-12.74	-12.53-12.41	-16.18-19.01	-18.33-13.84	-9.92-10.18	-11.93-11.93	-12.09-12.72	-10.24-13.3	-10.8-9.9	-10.25-10.74	-8.93-12.09	
Θ(60°)	-17.86-18.5	-9.74-16.11	-17.73-13.58	-4.46-4.88	-4.18-6.43	-11.5-14.67	-18.42-19.18	-18.42-17.42	-16.71-17.14	-18.12-17.82	-18.08-13.98	-18.14-17.34	-12.67-11.38	-17.15-12.1	-11-13.2	-15.53-14	-14.87-10.28	-10.07-14.4	-16.67-18.53	-17.76-18.21	-14.05-12.32	-11.59-10.1	-11.62-13.72	-9.25-7.96
Θ(67.5°)	-10.98-13.95	-18.03-15.49	-12.72-7.08	-7.6-12	-9.65-16.19	-15.31-14.4	-18.4-17.19	-19-18.76	-15.65-16.06	-17.27-15.12	-11.59-10.25	-11.32-12.13	-13.34-13.45	-17.9-17.5	-14-14.87	-13.08-18.32	-16.13-13.26	-13.88-18.91	-18.78-17.12	-15.37-13.18	-9.52-7.81	-8.36-8.44	-9.3-7.12	-5.09-7.76
Θ(75°)	-15.58-11.44	-11.62-12.78	-10.94-18.85	-8.89-7.13	-8.12-9.56	-11.1-12.04	-14.16-14.03	-12.82-12.05	-13.45-16.98	-19.27-17.98	-18.75-11.26	-13.04-17.95	-16.66-16.33	-15.54-16.98	-17.99-18.91	-17.74-17.68	-16.9-10.53	-9.76-14.75	-19.05-12.03	-9.15-9.15	-7.78-5.59	-5.94-7.83	-11.07-9.81	-6.72-6.7
Θ(82.5°)	-13.5-13.72	-9.89-18.82	-12.92-10.74	-12.21-9.86	-9.6-8.26	-8.66-6.74	-9.46-15.01	-19.09-13.77	-14.44-17.34	-14.1-17.93	-18.42-18.8	-18.27-19.09	-19.14-15.16	-17.99-14.98	-18-14.32	-17.62-17.86	-14.41-8.51	-10.37-12.34	-12.14-19.75	-17.56-11	-9.25-9.44	-11.07-10.18	-7.65-7.44	-6.04-11
Θ(90°)	-12.84-16.6	-10.04-15.11	-12.64-9.22	-16.21-13.77	-11.95-11.46	-11.06-13.78	-15.74-19.3	-15.76-16.43	-17.95-17.98	-9.76-10.73	-17.54-17.74	-17.31-14.64	-17.8-19.1	-19.21-14.91	-18.84-18.89	-17.84-18.57	-12.78-14.03	-10.89-10.66	-13.06-18.78	-16.85-11.03	-8.53-8.73	-8.01-9.93	-11.51-7.88	-5.94-10.81
Θ(97.5°)	-17.53-17.3	-12.29-11.99	-17.49-16.16	-19.06-17.72	-18.26-12.35	-13.82-14.82	-16.65-17.5	-14.82-12.53	-18.04-16.29	-18.75-12.1	-10.89-13.04	-12.94-13.41	-16.66-17.15	-18.28-18.6	-17.67-17.81	-18.32-17.21	-15.31-13.6	-9.93-9.64	-13.38-17.27	-17.29-14.45	-10.26-9.66	-9.37-12.43	-13.43-10.46	-11.31-16.51
Θ(105°)	-16.32-18.88	-15.4-16.66	-18.61-16.79	-18.79-17.35	-18.07-16.37	-18.01-18.99	-16.11-18.69	-18.18-13.97	-17.43-19.25	-16.17-17.81	-11.7-10.01	-10.84-19.15	-16.04-12.85	-18.9-18.97	-18.11-11.3	-17.62-12.6	-18.94-12.07	-10.16-11.72	-9.09-12.69	-13.12-9.44	-8.36-5.83	-8.66-14.97	-13.61-11.68	-10.2-18.83
Θ(112.5°)	-19.45-16.83	-13.75-14.08	-18.26-14.24	-15.55-18.89	-18.25-15.34	-19.86-18.94	-16.74-15.2	-18.85-18.97	-18.41-17.81	-13.94-18.04	-7.7-8.27	-17.84-12	-10.32-17.9	-18.43-18	-16.78-11.89	-11.87-17.81	-10.78-15.08	-18.95-10.84	-13.43-15.69	-13.55-11.29	-11.04-18.81	-13.94-18.8	-9.73-14.35	-18.53-19.29
Θ(120°)	-13-19.11	-11.43-10.63	-17.98-17.98	-17.83-18.88	-18.94-18.51	-18.74-18.45	-12.41-12.15	-16.71-18.2	-17.83-17.69	-18.74-17.18	-18.71-11.89	-8.86-16.67	-13.09-10.16	-10.64-11.01	-11.41-10.37	-11.52-10.35	-18.14-13.67	-17.78-11.95	-18.73-17.95	-15.53-18.13	-13.86-17.66	-11.36-17.68	-18.25-18.61	-17.89-18.54
Θ(127.5°)	-14.94-19	-11.77-8.79	-14.09-14.45	-12.15-13.69	-17.73-17.98	-13.89-11.22	-11.57-16.04	-18.75-18.74	-18.18-19.27	-17.27-12.5	-15.16-13.98	-10.74-13.35	-13.9-12.32	-11.87-15.13	-17.93-18.28	-15.04-18	-17.62-18.8	-15.19-13.28	-17.34-17.12	-19.29-18.2	-14.3-15.74	-9.24-11.74	-16.32-11.51	-10.22-12.02
Θ(135°)	-5.84-8.82	-18.13-18.27	-17.17-18.44	-13.89-9.77	-7.86-8.69	-8.79-10.46	-11.82-14.69	-17.89-16	-18.28-17.18	-16.69-16.37	-15.87-11.98	-13.44-17.68	-16.63-17.71	-17.06-6.83	-7.53-11.49	-15.46-10.4	-9.7-18.76	-16.23-18.44	-10.63-8.05	-11.05-10.73	-13.55-16.19	-18.87-18.01	-15.94-19.11	
Θ(142.5°)	-13.73-12.66	-12.69-17.11	-16.21-17.66	-12.5-11.31	-16.03-17.91	-16.31-18.2	-18.05-18.34	-18.73-17.87	-9.76-10.54	-8.89-14.2	-17.92-18.71	-13.98-10.98	-11-11.2	-12.46-18.72	-17.44-18.76	-19.23-15.02	-12.5-17.5	-16.28-16.06	-18.36-19.36	-17.89-19.18	-18.93-16.24	-13.18-18.1	-16-13.52	-14.03-18.43
Θ(150°)	-18.69-17.68	-19.4-10.69	-12.28-17.63	-19.07-14.06	-7.08-7.76	-13.64-19.91	-18.73-17.86	-18.07-10.52	-14.14-18.46	-17.24-13.7	-13.11-14.49	-18.53-17.25	-18.34-12.14	-15.49-16.02	-6.63-7.75	-11.02-13.11	-18.02-18.48	-18.03-17.28	-18.2-12.38	-9.8-10.42	-9.53-9.92	-11.65-10.58	-10.7-11.1	
Θ(157.5°)	-8.23-10.12	-13.16-13.46	-12.84-14.11	-15.67-14.05	-9.8-11	-17.23-17.55	-18.21-18.14	-14.83-14.8	-17.08-18.75	-11.75-10.7	-8.86-9.77	-11.44-12.53	-14.23-15.81	-14.8-11.53	-8.33-6.61	-7.32-10.32	-13.59-11.5	-9.82-9.68	-10.47-10.79	-16.65-14.06	-9.49-7.85	-7.57-10.71	-16.12-14.88	-10.94-9.99
Θ(165°)	-8.26-12.09	-16.46-18.36	-18.06-18.99	-18.76-18.77	-18.51-17.99	-17.32-19.07	-16.83-15.59	-14.99-17.25	-18.08-17.7	-19.6-18.26	-18.83-14.16	-10.77-8.73	-8.36-8.99	-10.66-12.89	-15.62-19.32	-18.57-18.71	-12.45-8.88	-7.74-7.62	-9.77-11.8	-18.29-17.41	-14.07-12.66	-10.26-12.44	-14.2-13.44	-10.8-9.02
Θ(172.5°)	-10.84-15.93	-12.85-14.91	-17.14-16.53	-15.72-16.8	-17.55-18.52	-18.6-18.96	-18.37-18.16	-17.67-13.92	-16.95-16.81	-19.04-18.21	-18.28-18.93	-16.79-14.48	-14.16-15.53	-17.32-14.87	-19.13-17.42	-17.72-18.86	-13.99-11.4	-11.89-10.45	-11.89-13.75	-18.01-16.66	-14.81-13.68	-11.61-11.16	-11.7-12.96	-14.92-15.76
Θ(180°)	-18.72-18.92	-14.76-13.08	-12.74-11.66	-12.24-14.52	-18.9-17.92	-18.67-17.67	-18.56-18.93	-18.72-18.89	-18-19.63	-17.12-15.61	-16.07-17.02	-18.4-18.33	-17.54-18.18	-19.14-17.38	-19.04-19.64	-17.94-15.03	-13.44-12.18	-11.96-11.3	-12.21-13.15	-15.34-16.19	-16.57-15.29	-12.76-12.5	-14.19-16.85	-18.9-18.13
Freq(Hz)	5.3GPdL	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°)	-11.83-10.52	-10.13-9.79	-8.48-13.78	-6.43-6.48	-6.81-6.53	-17.21-19.13	-18.55-15.49	-17.21-19.13	-19.07-19.13	-16.28-16.37	-18.06-16.02	-14.86-14.38	-14.08-13.46	-13.67-13.53	-12.98-13.14	-13.59-14.54	-15.92-16.02	-17.99-18.8	-19.09-17.87	-19.21-18.85	-18.66-16.14	-15.91-13.27	-14.22-11.34	
Θ(7.5°)	-19.07-18.15	-19.4-19.3	-18.4-17.05	-18.28-18.02	-17.56-19.03	-18.33-18.45	-17.59-19.11	-18.9-17.23	-17.15-18.29	-18.57-16.36	-13.6-11.96	-11.05-10.35	-9.03-8.16	-7.23-6.55	-6.07-5.74	-5.63-5.71	-6.15-6.58	-7.77-8.74	-9.7-11.31	-13.52-16.62	-19.85-18.45	-18.47-17.73	-17.55-18.97	-17.36-18.62
Θ(15°)	-17.84-18.67	-18.23-15.53	-14.48-13.95	-15.89-15.32	-18.74-17.99	-18.27-17.9	-17.78-17.3	-17.1-15.8	-14.64-12.9	-13.89-16.01	-18.72-13.63	-14.81-10.99	-8.53-6.51	-5.31-7.45	-4.53-6.03	-5.88-6.42	-6.88-7.33	-8.18-9.62	-10.35-11.66	-11.2-13.71	-14.56-13.84	-15.96-15.26	-16.49-15.17	-16.36-17.98
Θ(22.5°)	-12.94-17.34	-19.34-15.76	-12.98-13.1	-16.4-17.05	-19.39-18.09	-18.43-18.75	-18.41-18.58	-15.71-14.54	-13.88-15.86	-18.49-17.38	-17.36-16.79	-15.69-10.79	-6.57-4.32	-4.3-5.63	-5.72-8.15	-8.23-8.5	-9.51-10.53	-10.75-10.48	-10.41-10.2	-10.25-8.8	-8.56-8	-8.81-9.27	-7.63-6.35	-6.43-6.76
Θ(30°)	-7.68-12.28	-15.61-14.79	-9.96-8.49	-9.1-9.58	-10.6-10.17	-10.23-10.26	-11.14-10.65	-10.57-14.1	-17.38-14.14	-14.83-17.87	-18.48-13.39	-12.37-15.5	-9.1-5.77	-5.75-9.14	-16.41-15.08	-12.49-11.12	-10.54-19.05	-9.73-7.92	-7.07-7.26	-9.41-11.55	-10.16-8.09	-8.427-9.99	-6.28-9.37	-3.4-4.65
Θ(37.5°)	-8.91-15.16	-12.13-9.77	-6.31-6.05	-6.91-7.29	-9.43-11.62	-11.27-10.28	-17.28-18.19	-18.73-18.39	-17.64-13.89	-10.25-10.55	-11.66-12.04	-12.85-15.72	-10.03-7.82	-10.1-15.69	-17.5-16.96	-10.47-6.93	-6.11-6.08	-5.55-6.58	-6.03-6.97	-9.44-11.93	-10.62-8.99	-7.46-6.75	-5.99-4.94	-4.54-5.11
Θ(45°)	-15.02-17.8	-7.05-3.71	-6.77-8.71	-6.43-5.76	-9.07-10.98	-10.87-10.86	-9.72-8.92	-8.94-12.33	-19.76-17.81	-15.14-38	-14.34-18.51	-18.5-14.22	-12.1-10.34	-14.77-17.78	-17.11-16.65	-13.34-9.98	-5.822-4.23	-0.83-0.48	-0.72-0.74	-0.61-0.33	-0.22-1.06	-2.26-3.71	-6.11-6.75	-3.72-2.8
Θ(52.5°)	-9.13-18.58	-6.44-4.89	-8.49-7.42	-3.89-6.16	-9.28-10.62	-9.56-10.43	-10.93-12.88	-16.12-17.35	-16.77-19.04	-8.18-11.44	-19.16-13.82	-12.87-19.4	-13.86-10.99	-15.35-19.36	-12.28-8.49	-10.72-11.1	-1.07-9	0.350.1	1.222.59	2.812.23	1.881.24	-0.31-1.78	-4.65-5.75	-2.52-1.77
Θ(60°)	-8.95-11.31	-5.37-5.7	-8.1-3.44	-3.26-5.27	-4.26-3.91	-7.57-12.87	-16.08-17.93	-17.61-13.88	-14.09-16.09	-18.32-7.24	-7.8-13.91	-13.29-15.16	-17.91-12.02</											



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(67.5°)	-11.87/-17.34	-18.22/-14.11	-10.45/-16.45	-8.1/-4.43	-8.6/-18.18	-17.79/-18.29	-17.42/-18.28	-15.79/-15.37	-14.04/-11.67	-17.89/-16.28	-15.47/-9.43	-7.63/-14.1	-12.59/-8.59	-12.64/-15.73	-18.2/-18.95	-14.72/-14.8	-15.94/-14.3	-12.02/-13.86	-12.79/-11.91	-12.08/-13.87	-13.76/-18.39	-16.99/-13.12	-11.51/-8.05	-8.57/-11.06
Θ(75°)	-17.23/-14.98	-19.72/-19.25	-14.95/-16.98	-16.73/-7.16	-8.15/-8.68	-11.34/-8.8	-6.65/-6.77	-9.54/-18.51	-18.67/-17.83	-18.92/-18.27	-17.23/-18.91	-12.91/-11.79	-13.63/-7.02	-10.16/-13.54	-10.23/-18.26	-17.58/-18.55	-18.21/-16.81	-14.14/-16.05	-19.23/-17.65	-12.1/-11.51	-12.64/-18.53	-14.71/-13.81	-13.52/-9.53	-8.22/-15.42
Θ(82.5°)	-13.72/-16.28	-18.41/-16.46	-18.33/-18.12	-16.93/-11.62	-9.39/-6.5	-11.13/-15.03	-10.4/-16.12	-9.64/-7.85	-14.97/-12.98	-7.98/-15.76	-18.79/-17.58	-9.17/-6.88	-7.09/-19.26	-15.85/-17.51	-14.39/-19.3	-18.09/-18.15	-14.69/-10.62	-11.96/-9.38	-8.86/-14.34	-8.76/-12.3	-17.54/-16.56	-18.29/-18.52	-18.04/-13.72	-11.3/-16.17
Θ(90°)	-12.3/-18.87	-15.98/-18.14	-18.54/-15.7	-17.78/-18.62	-14.62/-13.48	-17.56/-16.38	-15.18/-14.14	-4.8/-3.1	-5.92/-11.55	-10.95/-18.13	-10.36/-8.65	-8.67/-9.19	-10.01/-13.56	-18.1/-19.37	-16.81/-13.01	-13.88/-17.67	-18.78/-19.02	-18.39/-13.63	-11.52/-10.61	-13.46/-15.7	-15.22/-15.97	-18.78/-13.11	-10.12/-7.18	-7.46/-10.19
Θ(97.5°)	-14.14/-16.63	-12.94/-12.45	-16.27/-18.03	-17.75/-13.02	-10.26/-14.66	-14.68/-10.84	-12.51/-15.99	-7.76/-7.72	-17.85/-6.68	-11.07/-11.7	-11.18/-11.34	-15.67/-12.51	-14.1/-13.12	-19.55/-15.35	-17.18/-18.2	-17.88/-17.86	-18.04/-18.66	-12.15/-15.19	-12.31/-6.11	-7.85/-15.75	-16.26/-9.02	-18.6/-12.33	-9.36/-18.52	-17.9/-16.39
Θ(105°)	-18.24/-14.11	-10.8/-9.3	-19.32/-16.8	-15.17/-15.05	-15.62/-19.38	-8.18/-5.58	-8.71/-9.45	-7.72/-7.89	-13.85/-13.9	-14.39/-12.06	-13.8/-17.17	-18.2/-13.75	-11.33/-8.51	-18.01/-10.48	-15.61/-16.01	-18.31/-17.29	-18.32/-18.1	-16.4/-13.74	-10.21/-10.29	-8.69/-11.11	-8.67/-9.4	-18.97/-9.68	-9.86/-12.74	-17.91/-12.99
Θ(112.5°)	-10.87/-18.26	-10.19/-7.29	-18.98/-11.8	-14.07/-18.73	-18.21/-16.75	-12.83/-5.67	-5.37/-6.35	-7.47/-7.49	-8.44/-11.59	-13.45/-11.47	-12.3/-16.13	-12.54/-7.84	-13.1/-12.07	-8.88/-15.46	-13.91/-7.64	-17.77/-13.37	-18.95/-19.39	-17.93/-15.52	-13.42/-15.78	-18.34/-18.69	-8.73/-10.38	-16.66/-12.34	-16.02/-18.86	-18.16/-18.45
Θ(120°)	-17.12/-18.84	-10.08/-7	-13.1/-18.22	-17.02/-18.1	-17.56/-16.68	-14.09/-10.07	-7.68/-10.66	-11.13/-10.47	-16.75/-15.91	-17.3/-16.73	-11.22/-8.65	-18.27/-15.03	-8.87/-9.76	-18.85/-9.03	-11.23/-11.59	-12.58/-18.41	-18.83/-18.9	-8.88/-9.11	-11.03/-18.36	-8.69/-6.65	-12/-18.87	-13.29/-19.03	-18.31/-14.41	
Θ(127.5°)	-18.56/-16.28	-14.04/-11.5	-18.84/-18.24	-19.25/-17.84	-14.97/-18.4	-7.37/-8.53	-12.02/-12.83	-9.34/-8.27	-12.92/-19.4	-19.07/-9.19	-15.93/-10.96	-6.01/-7.5	-16.61/-16.4	-13.6/-15.19	-16.66/-18.73	-18.39/-14.84	-17.58/-15.81	-14.59/-15.87	-15.19/-11.84	-13.12/-16.74	-9.63/-10.41	-17.95/-12.22	-9.93/-12.44	-18.44/-15.37
Θ(135°)	-17.57/-13.72	-10.54/-9.17	-8.42/-8.95	-9.26/-10.18	-17.81/-14.88	-7.35/-16.96	-18.26/-15.59	-12.42/-10.48	-8.71/-11.7	-18.55/-14.68	-10.55/-12.28	-18.83/-12.25	-16.79/-11.14	-17.73/-13.77	-8.53/-10.01	-16.21/-17.58	-18.12/-17.88	-16.47/-11.68	-12.16/-9.13	-9.98/-15.93	-14.06/-13.7	-14.12/-16.14	-15.73/-18.5	-18.17/-18.33
Θ(142.5°)	-5.89/-6.98	-11.79/-18.65	-9.27/-9.14	-8.8/-10.35	-11.33/-8.35	-8.32/-12.76	-18.29/-18.37	-18.97/-16.37	-12.4/-13.42	-12.37/-10.08	-14.57/-18.8	-8.78/-7.13	-13.59/-13.23	-11.77/-17.65	-17.8/-12.94	-15.36/-17.77	-19.1/-12.82	-12.13/-9.95	-8.34/-8.1	-7.39/-6.78	-6.79/-6.92	-9.59/-13.54	-15.64/-12.32	
Θ(150°)	-2.26/-1.68	-3.01/-9.84	-12.16/-16.08	-10.08/-9.48	-12.79/-13.34	-13.36/-18.71	-17.6/-18.13	-18.26/-15.33	-14.9/-18.63	-18.45/-18.22	-18.99/-18.21	-18.77/-19.53	-13.24/-12.71	-9.26/-11.7	-7.57/-4.71	-3.82/-8.57	-19.12/-17.36	-12.06/-8.8	-8.94/-8.69	-9.65/-11.41	-15.1/-12.87	-8.64/-7.16	-8.97/-13.29	-15.53/-10.26
Θ(157.5°)	-5.57/-4.4	-4.18/-4.31	-6.25/-11.81	-18.48/-18.42	-9.77/-9.9	-14.95/-14.51	-14.04/-14.43	-12.17/-10.84	-11.26/-14.26	-17.94/-14.62	-8.37/-7.68	-8.39/-13.64	-19.01/-13.12	-9.42/-7.08	-5.66/-6.03	-8.5/-12.87	-15.66/-14.02	-11.03/-8.29	-6.95/-7.93	-10.26/-10.1	-8.24/-5.18	-2.7/-2	-2.96/-5.22	-8.4/-9.82
Θ(165°)	-14.6/-15.87	-15.96/-12.38	-13.73/-15.03	-16.03/-18.02	-19.24/-18.52	-19.14/-17.15	-17.54/-18.33	-18.42/-17.14	-18.5/-19.19	-15.36/-16.44	-18.42/-12.72	-13.42/-12.72	-12.92/-12.72	-13.07/-12.33	-12.8/-11.71	-8.56/-6.01	-4.38/-4.35	-6/-10.06	-16.89/-14.61	-9.43/-5.77	-3.51/-2.99	-3.6/-4.93	-7.05/-10.78	
Θ(172.5°)	-16.68/-15.54	-15.37/-13.71	-14.64/-17	-16.11/-16.57	-18.7/-18.97	-17.73/-19.06	-17.82/-17.76	-18.83/-15.63	-11.79/-8.99	-8.79/-11.38	-15.32/-19.09	-19.21/-73.1	-10.85/-9.18	-9.12/-9.61	-10.45/-12	-14.69/-17.95	-18.33/-15.87	-13.64/-12.17	-11.69/-12.63	-13.27/-12.8	-11.36/-9.49	-8.7/-48	-8.35/-10.42	-12.06/-14.04
Θ(180°)	-11.19/-11.84	-12.63/-14.16	-16.15/-16.85	-16.48/-18.13	-19.07/-17.66	-18.96/-18.91	-17.9/-17.66	-19.12/-14.98	-12/-10.85	-10.15/-9.25	-8.5/-7.82	-8.52/-8.93	-9.59/-10.18	-10.28/-11.23	-12.42/-13.05	-12.98/-12.18	-11.86/-11.21	-10.63/-9.54	-9.4/-9.61	-10.41/-10.75	-10.92/-10.49	-9.91/-9.48	-9.79/-10.99	-13.05/-17.91
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°)	-11.59/-10.03	-9.66/-8.49	-7.1/-7.41	-7.1/-7.1	-7.82/-8.64	-10.26/-11.08	-12.54/-15.08	-16.76/-19.25	-18.73/-19.2	-17.7/-18.73	-17.47/-15.87	-15.06/-15.06	-15.48/-14.8	-15.08/-16.28	-16.74/-17.13	-17.51/-19.15	-17.89/-16.16	-16.47/-17.36	-16.08/-17.46	-19.3/-18.54	-17.48/-17.48	-18.27/-15.15		
Θ(7.5°)	-15.47/-15.19	-15.25/-16.05	-16.11/-14.16	-14.21/-13.99	-13.98/-14.65	-14.62/-14.61	-13.41/-12.91	-12.81/-16.45	-17.72/-18.37	-18.64/-18.16	-19.04/-17.67	-15.23/-13.49	-12.41/-12.06	-10.54/-9.15	-7.93/-7.34	-7.14/-7.3	-7.82/-8.24	-9.21/-10.53	-12.49/-14.86	-18.7/-18.4	-18.5/-18.45	-19.29/-19.12	-17.82/-18.51	-16.95/-16.2
Θ(15°)	-14.76/-12.91	-12.88/-11.54	-10.38/-10.24	-9.77/-10.96	-13.75/-16.54	-15.1/-14.3	-13.56/-14.1	-15.1/-15.92	-16.26/-15.3	-16.43/-19.32	-17.07/-12.62	-9.21/-8.69	-5.97/-5.8	-5.93/-6.88	-7.57/-33	-6.25/-6.08	-4.74/-4.56	-5.11/-5.89	-6.91/-7.4	-8.46/-8.34	-9.58/-10	-10.34/-12.53	-14.03/-17.42	-18.3/-19.11
Θ(22.5°)	-18.85/-17.93	-18.18/-17.64	-11.68/-9.88	-9.77/-10.65	-13.56/-14.59	-15.89/-14.37	-14.34/-13.76	-15.15/-13.75	-15.25/-16.92	-16.94/-18.82	-16.88/-18.28	-15.9/-7.6	-6.44/-5.18	-6.42/-9.52	-10.27/-7.34	-5.41/-4.72	-4.99/-6.02	-7.52/-9.42	-9.95/-9.61	-8.73/-9.23	-9.1/-9.53	-9.76/-13.8	-12.77/-10.14	-10.33/-14.72
Θ(30°)	-8.47/-10.58	-12.96/-14.42	-17.98/-15.4	-11.64/-9.03	-9.87/-12.33	-19.2/-18.89	-18.74/-16.59	-18.37/-18.39	-18.21/-17.31	-18.5/-11.77	-9.11/-8.97	-10.09/-12.82	-10.12/-10.09	-12.55/-13.26	-14.12/-11.36	-6.99/-4.65	-4.68/-5.96	-8.17/-12.76	-18.27/-11.7	-5.79/-4.75	-5.26/-5.48	-6.37/-17	-10.73/-14.88	-11.88/-9.94
Θ(37.5°)	-8.48/-16.46	-17.34/-11.48	-9.6/-9.16	-8.26/-8.47	-11.6/-15.6	-16.66/-17.59	-16.91/-17.51	-18.15/-17.6	-16.28/-16.72	-12.39/-8.33	-7.04/-7.71	-7.88/-8.34	-12.77/-18.73	-13.49/-16.06	-17.41/-12.78	-8.77/-8.04	-8.79/-9.05	-7.13/-5.98	-5.5/-5.71	-4.76/-4.41	-5.51/-7.62	-6.54/-8.54	-9.46/-8.59	-5.3/-6.6
Θ(45°)	-5.73/-9.3	-13.25/-8.61	-6.56/-7.06	-1.93/-13.3	-11.41/-12.92	-17.51/-13.51	-8.24/-8.6	-13.9/-13.23	-18.18/-15.59	-14.57/-18.13	-14.93/-9.86	-10/-10.46	-6.88/-16.97	-19.42/-17.56	-16.58/-16.28	-18.61/-9.56	-3.92/-4.2	-3.24/-4	-3.58/-3.19	-3.15/-2.17	-2.45/-4.85	-6.65/-6.46	-7.48/-7.71	-8.03/-4.38
Θ(52.5°)	-10.92/-9.75	-10.24/-13.89	-19.25/-9.13	-8.07/-14.68	-8.83/-8.66	-17.73/-10.57	-7.33/-8.7	-15.49/-17.75	-17.88/-18.76	-16.69/-9.8	-7.94/-6.76	-17.96/-16.49	-9.01/-16.72	-16.43/-16.44	-9.29/-8.74	-8.5/-2.64	-0.58/-0.85	-1.01/-0.78	0.10/-55	-0.33072	1.73049	-0.57/-3.13	-4.42/-5.21	-8.38/-8.89
Θ(60°)	-7.58/-7.04	-12.07/-11.9	-12.64/-8.97	-7.24/-14.1	-3.09/-8.86	-8.15/-9.21	-9.16/-12.23	-16.92/-18.4	-18.08/-18.47	-18.99/-18.62	-15.2/-13.4	-15.52/-18.86	-15.95/-11.42	-11.13/-16.27	-7.34/-6.53	-8.38/-4.26	-1.3403	0.93198	1.4723	1.43/-12.8	-0.07/-0.49	-3.21/-3.95	-2.58/-2.48	-5.43/-5.18
Θ(67.5°)	-7.85/-9.97	-9.86/-12.01	-2.62/-3.31	-5.16/-2.97	-0.87/-2.43	-6.88/-6.02	-8.2/-10.92	-10.07/-17.99	-18.41/-11.77	-13.79/-12.9	-11.93/-9.57	-13.06/-13.95	-16.14/-9.77	-9.73/-10.33	-18.2/-4.4	-0.74137	0.55259	2.07118	0.18/-13.7	-3.88/-1.97	-2.88/-1.97	-2.93/-4.2	-2.79/-3.47	-8.03/-4.38
Θ(75°)	-6.73/-5.67	-15.78/-12.18	-5.43/-3.74	-1.46/-4.14	-1.43/-5.17	-8.2/-8.42	-5.94/-4.17	-3/-3.36	-16.94/-8.53	-8.01/-16.43	-19.14/-12.56	-4.72/-5.63	-4.82/-9.67	-13.15/-14.75	-9.71/-8.28	-3.78/-4.9	-3.6/-0.07	-1.25222	3.28197	0.51/-0.71	-0.94/-1.66	-0.97/-7.6	-3.95/-4.53	-6.83/-7.15
Θ(82.5°)	-8.79/-5.72	-9.67/-8.95	-5.62/-5.59	-2.48/-0.91	-2.18/-3.89	-4.12/-3.67	0.25083	-2.72/-8.46	-8.83/-8.47	-12.1/-8.14	-10.99	-6.88/-4.52	-3.75/-3.71	-9.33/-4.27	-1.98/-7	-2.78/-1.77	-0.49339	2.82152	1.64093	-0.17/-5.34	-5.77/-14.3	-6.48/-0.85	-6.12/-10.34	
Θ(90°)	-5.12/-3.52	-8.32/-11.3	-4.06/-4.69	-0.34/-8.6	0.74/-6.08	-0.25/-0.44	1.09166	-1.23/-5.39	-9.82/-4.92	-5.48/-10.26	-6.9/-14.35	-18.53/-9.71	-9.24/-2.41	-10.16/-4.23	-6.95/-1.69	1.25/-3.32	1.18027	-0.68453	-0.19/-2.34	0.04014	0.62/-6.31	-5.34/-9.58	-8.65/-5	-1.42/-5.11
Θ(97.5°)	-4.23051	-7.22/-11.98	-3.42/-3.65	-1.56/-1.43	2.13123	1.74276	2.31/-28	-3.87/-9.63	-7.61/-5.8	-9.5/-11.3	-15.09/-16.51	-18.05/-15.47	-12.64/-20.8	-1.8/-10.35	-3.55/-3.95	2.44068	-0.11/-67	2.82479	1.13012	-0.05/-0.45	-1.99/-11.88	-2.22/-17.46	-13.63/-3.59	-3.29/-4.94
Θ(105°)	-3.99/-1.51	-5/-10.45	-10.06/-7.28	-1.67009	-0.28/-1.63	0.44114	-0.42/-3.01	-11.41/-15.5	-9.69/-12.89	-16.73/-13.48	-18.98/-17.93	-17.9/-9.16	-8.84/-18.7	-1.98/-6.29	-3.36095	2.39/-1.65	0.5325	2.17502	1.39025	-0.82/-2.39	-1.11/-11.57	-5.41/-12.26	-12.84/-6.71	-1.27/-4.34
Θ(112.5°)	-3.89/-3.56	-8.81/-8.49	-5.89/-12.36	-4.19/-0.71	-0.45/-2.59	-0.73026	-19.01/-18.6	-16.11/-17.08	-13.59/-18.53	-17.13/-11.7	-7.73/-6.13	-4.72/-0.88	1.41/-0.81	-4.37/-0.99										



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(120°)	-2.6/-2.21	-3.43/-4.78	-4.82/-5.08	-5.58/-7.92	-9.31/-9.73	-10.91/-11.51	-14.65/-17.61	-16.82/-18.31	-18.63/-10.93	-9.22/-10.17	-7.16/-5.76	-2.47/-3.02	-5.18/-7.76	-13.95/-16.73	-12.59/-16.81	-15.81/-17.81	-11.97/-16.95	-17.88/-8.18	-7.2/-7.24	-9.45/-9.24	-4.04/-3.51	-8.07/-5.57	-3.49/-2.07	
Θ(127.5°)	-9.48/-9.87	-8.38/-6.49	-5.23/-4.58	-5.62/-6.86	-7.42/-9.52	-11.53/-15.64	-18.15/-14.73	-13.48/-17.31	-16.93/-19.29	-11.58/-8.88	-9.49/-8.51	-6.41/-6.43	-9.93/-13.08	-17.91/-18.93	-17.35/-17.85	-15.01/-19.21	-12.31/-18.07	-17.67/-10.54	-5.99/-6.02	-8.71/-9.63	-6.61/-3.29	-4.27/-5	-6.54/-8.06	
Θ(135°)	-2.87/-4.39	-3.24/-3.37	-3.27/-3.54	-3.2/-3.03	-4.23/-6.9	-9.62/-10.89	-11.34/-17.16	-17.16/-11.08	-9.61/-11.29	-12.26/-8.52	-6.52/-4.3	-4.96/-7.94	-8.15/-7.34	-10.23/-10.56	-8.43/-8.83	-14.31/-17.41	-17.05/-13.74	-15.55/-18.99	-13.74/-11.1	-6.74/-5.15	-10.42/-9.8	-7.22/-6.54	-6.02/-3.23	-1.9/-2.65
Θ(142.5°)	-2.79/-3.05	-3.04/-2.14	-2/-1.53	-1.97/-2.29	-3.45/-5.59	-6.74/-7.59	-8.65/-12.12	-18.86/-14.34	-11.94/-9.5	-8.2/-9.6	-14.34/-14.09	-13.67/-18.73	-12.9/-9.7	-7.14/-9.08	-9.82/-10.77	-13.31/-15.6	-17.53/-18.62	-18.83/-18.47	-17.86/-16.62	-11.38/-11.88	-16.36/-12.96	-10.32/-7.95	-9.43/-9.81	-6.82/-4.46
Θ(150°)	-6.04/-4.76	-4.02/-2.09	-0.75/-0.57	-0.85/-1.54	-2.93/-4.03	-5.61/-7.94	-10.88/-15.31	-15.23/-14.47	-14.13/-15.7	-18.73/-19.05	-18.19/-15.21	-12.04/-10.46	-10.26/-11.97	-13.33/-16.25	-17.47/-18.23	-13.6/-12.57	-13.17/-11.89	-13.31/-16.18	-18.95/-19.09	-13.67/-10.36	-7.81/-5.15	-3.63/-2.79	-2.2/-2.89	-4.66/-6.83
Θ(157.5°)	-2.27/-2.82	-2.86/-2.82	-2.47/-2.11	-1.96/-2.22	-3.24/-5.2	-6.43/-8.76	-11.52/-15.63	-18.77/-18.37	-13.64/-10.09	-8.18/-7.18	-7.49/-8.56	-10.26/-14.3	-18.83/-17.18	-14.39/-15.01	-12.43/-9.29	-9.98/-11.86	-14.52/-12.36	-14.54/-17.29	-17.81/-17.51	-17.39/-10.58	-6.09/-3.1	-1.61/-0.82	-0.130/-0.08	-0.45/-1.46
Θ(165°)	-2.1/-3.02	-3.64/-3.46	-3.39/-3.2	-2.51/-2.76	-3.31/-4.45	-6.56/-9.06	-11.3/-12.82	-12.06/-10.11	-7.89/-6.83	-6.68/-7.43	-9.47/-13.77	-17.55/-13.19	-8.97/-7.1	-6.84/-7.55	-9.01/-10.96	-13.02/-14.81	-15.47/-14.77	-14.86/-15.84	-16.82/-17.4	-15.08/-10.56	-7.04/-4.7	-3.13/-1.99	-0.98/-0.41	-0.39/-0.86
Θ(172.5°)	-1.54/-2.16	-2.46/-3.16	-3.58/-4.18	-4.54/-5.6	-7.03/-8.84	-12.19/-17.07	-17.7/-18.22	-17.96/-18.96	-18.47/-19.14	-19.05/-17.79	-13.33/-10.21	-8.77/-8.19	-8.52/-9.74	-12.05/-15.21	-18.01/-18.98	-18.59/-19.25	-17.62/-18.99	-18.22/-19.34	-18.41/-19.07	-16.03/-12.47	-9.62/-7.83	-6.31/-5.04	-4.14/-3.23	-2.55/-2
Θ(180°)	-6.5/-6.18	-6.02/-6.03	-6.58/-8.11	-8.93/-10.3	-11.39/-12.35	-13.76/-14.77	-15.45/-15.88	-15.53/-14.82	-13.31/-11.28	-9.82/-8.79	-8.31/-8.34	-9.11/-10.54	-12.32/-12.49	-10.9/-9.26	-8.29/-8.08	-8.68/-10.25	-13.17/-15.2	-17.91/-17.51	-18.81/-16.21	-13.13/-11.3	-9.81/-8.6	-7.9/-7.56	-7.71/-8.09	-8.16/-7.62
Freq(Hz)	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz	5.2GHz
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°)	-10.22/-12.56	-12.79/-9.96	-7.2/-5.03	-3.6/-2.52	-1.48/-0.91	-0.54/-0.19	-0.04/-0.13	-0.54/-0.79	-1.12/-1.64	-2.7/-4.07	-5.7/-7.9	-10.57/-13.63	-14.2/-11.83	-9.24/-6.7	-4.3/-2.53	-1.33/-0.67	-0.170/-0.37	0.780/0.82	0.580/0.36	-0.10/-0.71	-1.32/-2.15	-3.27/-4.54	-6.25/-8.41	-
Θ(7.5°)	-9.12/-13.54	-19.45/-16.25	-11.27/-7.42	-4.57/-2.33	-1.14/-0.77	-0.72/-0.43	0.120/-69	0.930/0.75	0.077/-0.7	-1.33/-2.21	-3.56/-5.31	-7.81/-10.77	-13.45/-15.89	-9.92/-7.47	-5.53/-3.96	-2.38/-0.94	0.070/0.44	0.670/0.3	0.90/0.89	0.520/1.1	-0.27/-0.63	-1.23/-2.24	-2.83/-3.87	-5.35/-6.91
Θ(15°)	-12.16/-18.76	-18.35/-17.96	-11.41/-7.25	-4.51/-2.6	-1.56/-1.41	-1.44/-1.03	-0.290/-26	0.48/-0.14	-1.11/-2.03	-2.77/-3.68	-5.11/-7.07	-10.04/-14.9	-19.08/-17.89	-11.53/-7.85	-4.92/-3.02	-1.86/-0.76	0.711/99	2.883/21	3.172/81	2.071/06	0.06/-0.81	-1.76/-2.93	-4.41/-5.65	-6.85/-8.59
Θ(22.5°)	-18.11/-18.99	-15.59/-10.81	-7.75/-5.39	-3.63/-2.41	-1.81/-1.56	-1.17/-0.52	0.160/-33	-0.38/-1.57	-2.52/-2.48	-2.36/-2.72	-3.65/-5.32	-8.06/-12.28	-17.74/-18.68	-14.29/-9.79	-5.97/-2.86	-0.51/-0.9	1.992/6	3.173/43	3.47/3.3	2.791/66	0.1/-1.81	-3.58/-5.53	-8.05/-10.82	-12.91/-15.8
Θ(30°)	-18.19/-17.1	-11.46/-8.95	-6.97/-4.91	-3.08/-1.68	-0.95/-0.57	-0.090/-4	0.690/34	-0.41/-1.22	-1.48/-1.21	-0.99/-1.47	-2.77/-4.67	-7.77/-11.38	-14.07/-13.23	-10.22/-7.5	-2.61/-0.7	0.931/62	1.61/26	0.990/101	0.850/43	-0.19/-1.58	-3.91/-6.49	-9.51/-13.06	-16.69/-17.48	-
Θ(37.5°)	-18.81/-19.13	-13.44/-9.68	-6.95/-4.29	-2.24/-1.05	-0.220/-68	1.22/14	1.260/67	-0.19/-0.81	-0.96/-0.84	-0.97/-2.18	-4.27/-6.8	-10.18/-13.87	-13.84/-10.14	-7.35/-5.32	-4.35/-4.25	-4.03/-3.99	-3.53/-1.92	-0.150/-19	-0.55/-0.8	-0.46/-0.58	-1.81/-3.46	-5.96/-8.95	-10.77/-12.23	-13.68/-19.14
Θ(45°)	-18.71/-17.74	-12.84/-8.81	-6.11/-3.77	-2.61/-1.75	-0.690/-23	0.590/35	-0.13/-0.56	-0.65/-0.83	-0.98/-1.48	-2.3/-3.91	-6.74/-10.34	-15.36/-19.52	-19.79/-15.31	-13.11/-10.86	-10.1/-8.88	-7.39/-4.79	-2.19/-2.09	-2.49/-2.01	-1.64/-1.48	-1.61/-1.23	-3.16/-5.82	-8.64/-9.85	-9.99/-12.26	-11.98/-14.35
Θ(52.5°)	-14.6/-18.48	-13.42/-9.2	-6.65/-4.46	-3.87/-3.31	-3.3/-2.76	-1.49/-0.48	-0.24/-0.89	-1.78/-2.08	-2.17/-2.21	-2.91/-4.08	-6.53/-9.86	-12.82/-18.76	-16.9/-12.6	-9.86/-9.22	-7.96/-7.81	-6.84/-7.17	-7.28/-5.53	-6.43/-4.31	-2.01/-1.37	-2.02/-2.97	-3.89/-5.81	-9.07/-10.43	-10.57/-11.19	-12.12/-13.03
Θ(60°)	-18.56/-17.37	-14.19/-9.51	-5.94/-3.86	-3.19/-2.36	-2.41/-2.01	-2.1/-2.06	-1.95/-2.31	-2.55/-2.93	-2.77/-2.63	-3.53/-5.32	-8.32/-11.13	-13.05/-18.87	-18.35/-13.04	-11.19/-6.33	-5.12/-5.43	-8.44/-7.62	-5.97/-4.01	-3.01/-2.79	-2.66/-2.96	-2.35/-3.08	-5.54/-9.65	-11.44/-11.4	-12.49/-16.11	-17.91/-19.16
Θ(67.5°)	-18.55/-17.02	-11.24/-8.77	-4.47/-3.27	-3.36/-3.75	-3.98/-3.66	-3.02/-1.81	-1.42/-1.95	-3.43/-4.4	-2.93/-1.72	-2.44/-7.33	-8.26/-10.48	-13.35/-18.91	-18.25/-19.11	-15.98/-10.47	-7.62/-7.57	-8.82/-12.06	-8.92/-8.67	-4.2/-3.33	-4.64/-5.03	-4.77/-5.97	-7.57/-9.7	-11.76/-10.54	-18.55/-17.81	-19.19/-18
Θ(75°)	-17.64/-14.38	-11.23/-8.71	-5.61/-4.47	-4.9/-6.55	-8.38/-8.55	-6.54/-3.9	-2.38/-2.56	-4.42/-4.5	-2.67/-1.86	-3.85/-6.76	-8.09/-8.15	-8.92/-13.53	-15.65/-16.66	-16.87/-18.06	-13.22/-10.09	-8.71/-6.59	-6.56/-7.52	-5.51/-5.05	-6.95/-7.85	-7.44/-8.96	-11.88/-10.22	-10.16/-14.86	-17.97/-18.93	-
Θ(82.5°)	-18.52/-18.56	-14.71/-11.65	-7.75/-6.13	-6.19/-7.59	-8.8/-8.72	-7.37/-5.42	-4.84/-5.85	-5.07/-3.33	-2.56/-4.41	-8.15/-7.62	-5.84/-7.98	-14.18/-14.29	-17.32/-15.13	-19.31/-18.29	-16.44/-9.95	-9.31/-11.61	-14.33/-10.99	-9.82/-10.06	-6.77/-5.35	-6.82/-8.82	-11.76/-12.24	-12.29/-11.37	-11.62/-13.2	-16.89/-18.09
Θ(90°)	-19.92/-16.74	-14.54/-12.13	-8.3/-4.74	-3.54/-5.18	-8.12/-11.1	-10.35/-7.4	-6.71/-7.5	-7.5/-5.57	-4.19/-5.25	-10.5/-9.39	-6.77/-8.35	-16/-18.66	-19.22/-17.75	-19.35/-19.51	-17.18/-12.97	-6.68/-10.41	-13.03/-15.64	-9.74/-7.41	-6.88/-7.3	-7.4/-12.7	-18.93/-12.5	-11.96/-9.79	-13.76/-10.38	-14.1/-18.29
Θ(97.5°)	-18.91/-16.48	-13.78/-11.48	-9.53/-4.74	-6.44/-8.18	-11.88/-16.17	-13.27/-10.53	-9.91/-11.51	-6.16/-8.03	-7.38/-8.25	-11.01/-8.76	-7.43/-11.8	-18/-14.38	-13.41/-14.98	-19.18/-14.52	-15.41/-16.95	-15.17/-12.62	-9.69/-10.44	-10.63/-8.64	-9.92/-8.98	-7.11/-9.99	-17.42/-18.12	-15.71/-11.77	-10.32/-16.94	-19.02/-18.74
Θ(105°)	-18.73/-16.34	-16.81/-17.56	-18.35/-18.37	-16.02/-14.26	-15.46/-19.53	-17.98/-16.2	-13.76/-15.35	-18.77/-15.32	-12.08/-10.84	-18.73/-15.86	-10.09/-12.8	-17.84/-17.26	-18.39/-11.9	-15.72/-12.76	-17.58/-17.76	-16.37/-13.07	-12.14/-9.08	-8.88/-9.16	-8.29/-9.41	-10.72/-10.62	-13.86/-18	-18.13/-18.65	-17.39/-19.05	-18.93/-18.33
Θ(112.5°)	-18.2/-18.08	-18.05/-19.01	-18.91/-18.15	-19.42/-17.73	-16.81/-17.24	-18.89/-17.91	-17.67/-17.38	-18.19/-15.11	-13.47/-16.26	-12.27/-8.51	-9.98/-14.9	-18.4/-18.54	-16.47/-14.76	-18.67/-14.26	-17.43/-18.13	-16.28/-16.52	-10.77/-11.72	-9.12/-9.6	-10.23/-10.86	-10.38/-13.19	-13.76/-17.1	-18.15/-17.42	-15.63/-18.03	-17.99/-18.54
Θ(120°)	-17.73/-19.01	-18.61/-17.69	-18.61/-15.16	-11.49/-8.96	-9.54/-8.69	-9.39/-10.33	-9.68/-9.75	-11.81/-16.2	-10.77/-13.53	-14.87/-12.12	-12.63/-18.06	-19.02/-18.51	-19.01/-14.74	-18.49/-18.15	-11.37/-13.14	-10.35/-18.74	-13.14/-10.2	-9.69/-9.7	-10.65/-8.1	-6.42/-7.23	-11.56/-19.63	-18.55/-17.81	-18.09/-17.97	-15.8/-14.8
Θ(127.5°)	-13.24/-14.67	-15.07/-14.13	-12.86/-10.12	-8.21/-6.33	-5.83/-6.61	-7.85/-10.58	-12.19/-10.33	-8.85/-10.57	-12/-10.36	-13.41/-17.33	-19/-19.17	-18.35/-18.94	-18.08/-16.88	-17.46/-18.57	-19.09/-16.71	-15.57/-13.88	-14.83/-7.42	-9.73/-15.84	-16.89/-18.94	-14.37/-16.1	-13.72/-15.99	-13.65/-9.68	-11.36/-10.63	-10.72/-14.19
Θ(135°)	-16.2/-17.62	-17.75/-18.94	-14.22/-9.91	-7.72/-8.69	-7.24/-7.32	-6.69/-6.58	-7.63/-9.79	-11.01/-10.13	-9.23/-9.48	-10.18/-15.17	-17.72/-18.36	-18.67/-18.17	-18.19/-17.56	-16.37/-18.57	-17.69/-11.82	-12.85/-18.16	-9.27/-9.12	-17.82/-17.62	-14.53/-12.53	-7.83/-7.61	-17.15/-12	-9.4/-7.87	-8.89/-9	-9/-12.31
Θ(142.5°)	-16.54/-18.52	-18.39/-19.45	-19.08/-19.08	-18.12/-13.22	-8.58/-6.04	-5.38/-5.85	-6.33/-7.18	-7.28/-6.7	-6.79/-8.02	-9.83/-11.52	-16.84/-17.37	-19.33/-13.67	-16.99/-15.02	-17.89/-17.81	-16.61/-19.33	-10.61/-14.69	-15.31/-8.23	-10.44/-15	-11.71/-15.92	-16.49/-10.96	-11.17/-15.92	-16.49/-15.14	-15.24/-19.14	-
Θ(150°)	-15.88/-17.86	-18.31/-18.46	-18.09/-15.6	-11.78/-9.95	-9.46/-8.95	-8.57/-3.9	-6.41/-5.59	-6.16/-7.86	-9.67/-10.01	-11.05/-11.62	-8.47/-5.9	-8.96/-9.09	-16.61/-16.59	-18.01/-18.75	-13.03/-9.15	-10.43/-13.36	-11.97/-13.28	-18.18/-17.76	-19.17/-17.78	-17.61/-13.71	-9.63/-9.49	-17.03/-18.03	-16.89/-13.43	-13.09/-13.06
Θ(157.5°)	-18.08/-18.42	-17.59/-15.83	-12.69/-8.25	-5.3/-3.89	-3.13/-2.87	-3.09/-4.17	-6.42/-9.38	-8.12/-5.38	-3.82/-3.74	-6.89/-12.9	-16.23/-13.81	-15.86/-18.25	-18.81/-16.24	-14.92/-16.5	-15.78/-10.87	-9.23/-11.76	-18.17/-18.25	-19.22/-13.35	-9.23/-6.47	-4.99/-5.14	-7.95/-12.39	-17.41/-19.23	-17.54/-17.97	-
Θ(165°)	-17.79/-18.03	-17.51/-13.36	-11.5																					



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(172.5°)	-2.5/-2.17	-2.01/-1.96	-2.1/-2.58	-2.76/-3.19	-3.75/-4.84	-6.91/-11.22	-18.18/-17.05	-14.03/-12.36	-12.16/-13.91	-15.81/-13.75	-10.3/-7.85	-6.08/-5.6	-6.19/-8.23	-11.93/-16.01	-15.3/-13.85	-14.06/-14.78	-14.67/-14.62	-16.03/-17.11	-16.26/-14.52	-12.2/-9.34	-6.57/-4.44	-3.2/-2.52	-2.18/-2.24	-2.61/-2.47
Θ(180°)	-4.31/-4.03	-4.81/-5.43	-6.25/-6.56	-6.85/-7.2	-8.28/-10.13	-13.73/-15.56	-13.21/-12.32	-13.82/-16.39	-17.8/-19.26	-15.94/-13.89	-13.31/-14.77	-17.21/-18.46	-19.05/-17.49	-11.94/-9.08	-7.47/-7.11	-8.38/-10.24	-13.03/-15.36	-18.19/-18.34	-18.08/-18.61	-16.71/-14.56	-11.83/-9.45	-7.93/-6.74	-5.83/-5.28	-4.87/-4.31
Freq(Hz)	5.6GPol.	Theta/Ant. 2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Gain	Θ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-15.76/-15.54	-12.44/-10.11	-8.25/-6.51	-4.82/-3.29	-2.36/-1.75	-0.85/-0.39	-0.45/-0.74	-1.26/-1.91	-2.7/-3.76	-5.14/-6.76	-8.64/-10.93	-12.56/-11.8	-9.38/-7.01	-4.87/-3.26	-2.03/-1.42	-1.1/-0.61	0.23/0	0.96/0.79	0.35/-0.15	-0.81/-1.58	-2.33/-3.17	-4.83/-7.08	-9.81/-13.79	
Θ(7.5°)	-12.93/-9.93	-7.65/-5.92	-4.58/-3.41	-2.16/-1.06	-0.23/0.37	0.58/0.43	0.44/0.75	1.0/63	-0.02/-0.87	-1.88/-2.99	-4.48/-6.33	-8.9/-12.35	-17.88/-18.68	-16.83/-12.28	-9.37/-6.94	-4.65/-3.14	-2.08/-1.34	-0.75/-0.32	-0.23/-0.28	-0.56/-0.8	-1.33/-2.01	-2.94/-	-5.56/-6.09	-12.03/-14.16
Θ(15°)	-10.34/-7.64	-5.43/-4.14	-3.08/-2.14	-1.44/-0.52	0.57/0.96	0.76/0.7	1.34/2.14	2.65/2.53	2/12	-0.04/-1.57	-3.22/-5.29	-7.7/-11.23	-15.68/-18.13	-15.1/-10.44	-7.39/-5.71	-4.08/-2.36	-0.75/0.23	0.60/0.56	0.22/-0.44	-0.87/-1	-1.23/-1.77	-2.53/-3.8	-5.64/-7.93	-11.15/-12.58
Θ(22.5°)	-9.23/-7.11	-5.58/-3.82	-2.38/-1.24	-0.72/-0.61	-0.21/0.04	0.05/0.17	1.02/2.09	2.79/3	2.63/1.59	0.07/-1.44	-3.51/-6.14	-10.02/-15.8	-17.74/-13.94	-10.07/-6.52	-3.72/-2	-0.91/-0.2	0.35/0.71	0.7/0.33	-0.49/-1.55	-2.82/-3.14	-3.13/-3.79	-4.56/-6.67	-6.84/-8.46	-10.67/-11.38
Θ(30°)	-11.25/-9.01	-6.23/-4.13	-2.78/-1.48	-1.03/-0.88	-0.19/-0.1	-0.35/-0.42	0.26/1.19	1.93/2.22	1.79/0.58	-0.86/-1.87	-3.43/-6.09	-9.57/-15.72	-18.19/-15.58	-10.55/-5.68	-4.09/-2.52	-0.97/0.69	1.65/1.94	2.03/1.95	1.45/0.64	-0.54/-1.79	-2.68/-3.57	-4.28/-5.41	-7.32/-9.06	-10.41/-12.1
Θ(37.5°)	-17.33/-14.78	-10.32/7.75	-5.9/-4.14	-3.06/-2.33	-1.43/-0.96	-0.32/0.2	1/1.59	1.60/5.56	-1.09/-1.99	-1.66/-0.89	-1.55/-3.99	-8.11/-17.34	-18.64/-15.16	-10.45/-7.67	-6.17/-4.94	-2.52/-0.71	1.18/2.69	2.76/2.06	1.57/0.77	-0.35/-2.04	-3.72/-4.05	-4.5/-5.74	-7.68/-9.16	-11.39/-15.45
Θ(45°)	-13.16/-10.06	-9.25/-8.02	-6.63/-4.79	-2.83/-1.52	-0.52/0.15	0.51/0.83	1.08/0.98	0.56/-0.1	-0.93/-1.57	-1.33/-1.27	-2.54/-6.39	-11.7/-17.99	-18.97/-12.95	-10.8/-9.4	-9.63/-7.75	-5.74/-3.63	-1.53/-0.72	0.67/1.61	1.51/0.56	-1.08/-3.16	-4.7/-4.86	-4.8/-5.88	-8.33/-11.99	-17.46/-18.58
Θ(52.5°)	-13.4/-12.78	-13.64/-14.49	-12.38/-14.74	-13.34/-0.78	0.21/0.26	0.48/1.18	2/1.93	0.37/-1.81	-2.39/-1.21	-5.28/-9.94	-14.69/-17.83	-18.54/-16.7	-16.14/-14.71	-10.44/-8.27	-5.8/-5.17	-5.05/-4.17	-2.92/-1.35	-0.15/-0.41	-1.48/-1.24	-4.28/-6.36	-5.29/-4.6	-7.17/-8.35	-10.83/-15.36	
Θ(60°)	-15.99/-14.73	-18.88/-17.63	-16.83/-19.15	-18.2/-12.93	-10.86/-11.17	-12.33/-13.49	-18.84/-17.75	-11.46/-7.32	-7.56/-10.68	-8.34/-6.46	-6.96/-9.59	-6.48/-14.8	-16.72/-12.77	-13.36/-14.12	-19.21/-13.21	-17.76/-18.09	-18.92/-11.73	-7.09/-5.87	-1.77/-6.82	-4.68/-6.46	-8.75/-13.75	-17.72/-17.21	-18.12/-18.67	-19.05/-19.13
Θ(67.5°)	-16.48/-16.66	-17.41/-15.48	-15.64/-14.11	-6.07/-2.98	-2.17/-1.83	-1.28/-0.95	-0.95/-1.8	-3.27/-3.64	-3/-3.16	-5.02/-7.53	-8.53/-10.68	-9.97/-13.58	-18.76/-13.03	-9.94/-7.47	-4.72/-5.47	-6.68/-7.24	-6.09/-5.2	-4.23/-4.72	-5.35/-5.31	-4.42/-5.65	-6.59/-7.1	-4.58/-5.27	-8.78/-14.67	-18.54/-18.47
Θ(75°)	-14.96/-15.44	-18.72/-18.44	-17.85/-14.06	-6.82/-3.29	-2.37/-1.49	-3.92/-2.76	-2.25/-2.16	-2.53/-2.59	-2.49/-3.13	-4.16/-3.77	-4.08/-6.12	-8.89/-13.3	-19.41/-19.35	-13.88/-7.85	-6.74/-7.33	-7.71/-9.2	-6.62/-5.87	-3.6/-3.44	-4.74/-5.08	-7.25/-9.21	-6.18/-6.07	-5.8/-6.45	-7.18/-13.44	-16.46/-16.68
Θ(82.5°)	-15.8/-17.46	-17.77/-18.24	-18.41/-11.25	-5.74/-4.69	-5.1/-7.6	-11.21/-1.05	-6.84/-4.77	-4.95/-3.5	-3.98/-5	-5.61/-6.45	-6.56/-10.02	-9.58/-15.5	-18.13/-18.16	-17.89/-14.55	-7.61/-6.34	-8.66/-6.57	-6.14/-5.57	-3.84/-2.56	-6.52/-9.12	-11.27/-9.48	-9.9/-10.1	-8.88/-12.9	-12.83/-19.21	-17.61/-17.44
Θ(90°)	-13.24/-13.84	-14.79/-18.74	-18.81/-16.54	-11.84/-8.18	-7.68/-9.75	-10.13/-8.2	-6.82/-4.63	-3/-3.01	-4.13/-5.91	-6.9/-3.86	-2.55/-4.48	-10.36/-18.83	-16.9/-18.32	-17.62/-13.49	-10.42/-8.76	-10.7/-7.51	-6.91/-7.76	-10.45/-6.45	-3.74/-6.86	-9.48/-13.16	-12.31/-7.82	-9.57/-13.86	-18.08/-16.91	-14.29/-12.87
Θ(97.5°)	-16.55/-17.29	-14.47/-16.62	-10.75/-6.17	-6.2/-0.7	-7.84/-9.32	-10.56/-13.56	-8.32/-4.47	-4.69/-8.95	-9.07/-5.48	-6.73/-10.55	-7.28/-8.77	-14.22/-14.78	-18.03/-12.56	-14.44/-18.08	-9.16/-8.1	-9.37/-9.26	-6.39/-4.78	-7.65/-6.63	-5.23/-8.38	-17.81/-18.7	-18.25/-17.25	-14.51/-13.56	-14.9/-10.9	-10.8/-10.26
Θ(105°)	-18.88/-17.63	-16.83/-19.15	-18.2/-12.93	-10.86/-11.17	-12.33/-13.49	-18.84/-17.75	-11.46/-7.32	-7.56/-10.68	-8.34/-6.46	-6.96/-9.59	-6.48/-14.8	-16.72/-12.77	-13.36/-14.12	-19.21/-13.21	-17.76/-18.09	-18.92/-11.73	-7.09/-5.87	-1.77/-6.82	-4.68/-6.46	-8.75/-13.75	-17.72/-17.21	-18.12/-18.67	-19.05/-19.13	
Θ(112.5°)	-18.04/-15.11	-15.81/-17.43	-18.44/-17.73	-17.7/-19.09	-17.6/-18.15	-15.49/-13.49	-12.53/-11.07	-11.35/-17.6	-14.4/-12.53	-17.14/-15.69	-11/-16.74	-18.88/-19.76	-17.6/-18.68	-19.41/-18.29	-12.91/-13.73	-17.32/-11.49	-10.24/-14.13	-7.19/-14.05	-8.31/-6.38	-6.72/-15.47	-18.79/-18.37	-18.16/-15.5	-15.91/-15.02	-14.31/-15.6
Θ(120°)	-14.96/-16.17	-18.49/-18.77	-18.67/-18.29	-15.86/-17.66	-14.43/-14.43	-16.92/-18	-18.09/-17.19	-15.1/-15.21	-18.02/-18.45	-14.51/-10.42	-11.82/-18.82	-10.84/-15.07	-15.86/-14.83	-18.66/-19.1	-18.54/-18.21	-13.29/-14	-8.17/-12.3	-5.6/-7.87	-14.29/-9.24	-6.23/-6.84	-9.08/-13.31	-18.75/-18.08	-18.21/-18.35	-16.07/-12.23
Θ(127.5°)	-15.53/-13.89	-15.82/-17.35	-17.41/-17.81	-12.97/-10.68	-9.69/-8.02	-6.88/-6.96	-6.32/-8.43	-12.16/-14.59	-19.22/-14.34	-10.64/-11.9	-15.49/-17.99	-16.83/-18.25	-19.31/-19.01	-11.39/-11.34	-18.24/-13.02	-10.68/-12.91	-17.97/-9.55	-7.19/-17.62	-18.08/-13.35	-8.51/-7.58	-9.68/-13.08	-16.38/-18.4		
Θ(135°)	-13.51/-13.12	-13.01/-18.24	-19.27/-16.64	-13.45/-10.39	-7.63/-6.12	-5.63/-6.28	-6.53/-6.19	-6.64/-9.84	-13.12/-9.32	-9.33/-11.22	-17.11/-12.16	-13.45/-17.31	-11.71/-15.67	-17.31/-19.1	-18.6/-12.94	-13.93/-17.84	-9.76/-12.62	-13.22/-18.61	-10.25/-11.05	-10.57/-10.44	-14.85/-8.27	-3.58/-3.7	-6.5/-9.48	-12.74/-16.67
Θ(142.5°)	-15.46/-18.51	-18.92/-18.37	-18.32/-16.74	-9.51/-5.62	-3.7/-2.79	-2.6/-3.28	-3.86/-4.21	-4.55/-7.56	-14.05/-9.31	-8.48/-9.51	-8.91/-13.44	-13.61/-18.74	-17.96/-16.87	-16.61/-12	-16.17/-12.06	-15.38/-17.03	-9.24/-8.76	-11.17/-10.27	-11.06/-15.72	-11.62/-16.14	-13.39/-10.6	-9.05/-8.51	-8.55/-8.75	-8.74/-10.16
Θ(150°)	-16.69/-19.05	-17.25/-13.24	-11.51/-8.64	-6.35/-2.52	-4.79/-4.12	-4.1/-14.32	-5.02/-5.51	-5.96/-6.92	-7.62/-7.56	-6.83/-7.47	-11.51/-6.96	-12.51/-6.63	-11.51/-13.63	-14.24/-17.73	-10.91/-8.38	-9.15/-9.47	-9.79/-	-15.02/-15.87	-17.2/-14.02	-15.69/-10.26	-9.37/-10.27	-15.25/-17.66	-13.30/-10.98	-10.11/-11.82
Θ(157.5°)	-12.63/-18.46	-18.94/-13.79	-9.53/-8.86	-5.05/-3.15	-1.77/-1.25	-1.28/-1.42	-1.94/-3.42	-5.88/-6.29	-4.85/-0.45	-3.42/-3.22	-4.34/-6.4	-12.45/-14.32	-13.95/-18.23	-15.68/-11.85	-10.9/-13.28	-11.5/-7.78	-7.17/-10.01	-17.66/-18.77	-13.92/-10.63	-7.03/-5.13	-4.82/-6.14	-9.16/-14.65	-17.13/-14.09	-11.88/-10.66
Θ(165°)	-15.38/-14	-15.05/-16.87	-17.19/-13.5	-9.75/-6.22	-3.47/-1.51	-0.68/-0.43	-0.40/-16	0.46/0.29	-0.85/-2.81	-4.9/-7.03	-10.43/-14.3	-15.42/-17.07	-18.56/-18.77	-14.7/-11.35	-11.68/-15.63	-18.73/-15.54	-12.55/-11.67	-11.09/-11.23	-10.33/-7.92	-5.31/-3.45	-4.38/-6.27	-7.03/-10.97	-18.61/-18.66	-18.43/-17.79
Θ(172.5°)	-18.47/-17.77	-18.47/-14	-10.06/-1.57	-5.6/-3.92	-2.49/-1.26	0.38/1.6	1.8/0.93	-1.34/-2.46	-7.36/-10.36	-13.46/-15.94	-15.57/-14.03	-13.99/-15.77	-18.99/-18.96	-17.09/-12.99	-10.78/-9.87	-9.44/-8.75	-8.33/-8.13	-7.76/-7.55	-6.54/-5.98	-5.76/-6.11	-6.81/-8.06	-10.46/-13.69	-18.36/-18.5	
Θ(180°)	-17.86/-17.27	-18.33/-13.82	-10.3/-9.08	-9.04/-8.95	-8.63/-7.48	-6.08/-6.44	-8.4/-13.89	-18.69/-15.2	-12.02/-10.91	-11.23/-11.79	-12.37/-13.41	-15.35/-19	-18.11/-17.88	-19.24/-17.52	-12.97/-9.44	-7.38/-6.6	-6.7/-6.37	-6.78/-6.97	-7.54/-7.79	-7.39/-7.43	-7.38/-8.09	-9/-9.9	-10.47/-12.14	-14.55/-16.71
Freq(Hz)	5.785GPol.	Phi/Ant. 2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Gain	Θ(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°)	0.35/0.39	0.29/-0.63	-1.38/-2.21	-3.39/-4.81	-6.76/-10.23	-15.95/-17.96	-17.63/-12.38	-9.52/-7.31	-5.17/-3.64	-2.57/-1.6	-0.85/-0.15	0.33/0.41	0.17/0.58	-1.46/-2.04	-2.21/-2.5	-3.46/-5.3	-7.93/-11.05	-15.57/-19.23	-18.47/-13.97	-9.13/-6.23	-4.59/-2.96	-1.61/-0.87	-0.35/-0.19	0.13/0.37
Θ(7.5°)	-1.06/-0.92	-1.08/-1.79	-2.54/-3.57	-4.85/-5.82	-7.56/-9.93	-13.62/-17.83	-18.97/-13.14	-9.19/-6.41	-4.32/-3.03	-1.77/-0.7	-0.02/0.67	1.01/1.05	0.96/0.38	-0.32/-1.08	-1.75/-2.5	-3.52/-4.93	-7.01/-9.47	-12.37/-14.67	-13.82/-10.15	-6.13/-6.34	-1.17/-3.98	-2.98/-2.1	-1.57/-1.2	-0.97/-0.8
Θ(15°)	-2.89/-3.36	-3.98/-4.47	-5.07/-5.7	-7.04/-9.26	-12.14/-14.69	-17.87/-17.74	-14.44/-9.99	-7.63/-5.73	-3.83/-2.43	-1.24/-0.36	0.27/0.64	1.01/1.11	1.21/0.87	0.52/-0.09	-0.84/-1.51	-2.28/-3.04	-4.03/-5.61	-7.76/-10.7	-14.38/-14.14	-11.2/-8.21	-6.27/-4.9	-3.72/-2.9	-2.62/-1.96	-1.82/-2.24
Θ(22.5°)	-1.04/-1.2	-2.38/-3.24	-4.07/-4.56	-																				



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(22.5°)	-19.08/-19.29	-18.54/-18.66	-15.88/-13.54	-12.02/-11.55	-11.68/-11.82	-12.2/-12.46	-12.42/-11.66	-10.47/-9.18	-7.97/-6.97	-6.34/-6.25	-6.62/-7.26	-8.02/-8.84	-9.56/-10.43	-11.55/-13.4	-15.52/-17.57	-18.82/-17.41	-19.03/-18.15	-17.06/-16.73	-17.46/-17.57	-19.03/-19.38	-18.48/-15.82	-14.35/-13.97	-14.66/-16.35	-19.25/-19.36
Θ(30°)	-18.19/-17.33	-19.18/-18.42	-17.33/-15.15	-14.02/-13.79	-13.89/-14.22	-14.54/-14.21	-12.98/-11.57	-9.96/-8.36	-6.73/-5.46	-4.74/-4.69	-5.35/-6.65	-8.17/-9.37	-9.6/-9.35	-9.3/-9.69	-10.55/-11.79	-13.03/-13.62	-14/-14.85	-16.02/-17.33	-17.98/-18.57	-19.23/-17.99	-18.26/-17.79	-17.49/-15.59	-14.88/-15.53	-17.55/-18.64
Θ(37.5°)	-18.2/-18.9	-17.89/-17.03	-14.67/-13.65	-13.5/-13.51	-13.39/-13.13	-12.45/-11.49	-10.88/-10.41	-9.65/-8.46	-6.96/-5.71	-4.85/-4.47	-4.66/-5.59	-7.24/-9.34	-10.46/-10.07	-9.06/-8.49	-8.38/-8.87	-9.42/-9.57	-9.65/-10.37	-11.95/-14.4	-17.67/-18.51	-19.14/-19.43	-17.65/-16.04	-14.97/-14.48	-14.99/-16.62	-18.91/-17.75
Θ(45°)	-17.72/-19.26	-17.37/-15.94	-13.5/-13.24	-13.67/-12.98	-12.24/-11.65	-11.14/-11.17	-11.92/-12.91	-13.1/-11.64	-9.35/-7.35	-5.96/-4.99	-4.31/-4.19	-5.6/-7.1	-8.38/-8.7	-7.96/-7.19	-6.76/-6.94	-7.35/-7.58	-7.89/-8.45	-8.95/-9.89	-12.28/-17.74	-17.94/-18.17	-15.93/-13.62	-12.56/-12.98	-13.68/-15.44	-18.2/-17.62
Θ(52.5°)	-17.75/-17.95	-18.14/-14.38	-12.81/-13.64	-12.65/-10.84	-9.89/-9.38	-9.03/-8.33	-8.94/-9.47	-10.85/-13.14	-13.55/-10.41	-7.46/-5.46	-3.89/-2.91	-3.09/-4.48	-5.95/-6.33	-6.41/-6.56	-6.84/-7.61	-8.35/-8.5	-8.71/-8.79	-9.47/-9.16	-12.47/-18.7	-17.17/-12.5	-11.18/-12.65	-14.44/-15.5	-15.83/-16.58	
Θ(60°)	-14.75/-18.19	-14.85/-9.94	-10.24/-11.83	-9.54/-7.75	-7.01/-6.26	-5.45/-4.8	-4.35/-4.23	-4.71/-5.94	-8.14/-10.02	-8.44/-5.53	-3.05/-1.36	-0.91/-1.87	-3.16/-3.46	-3.96/-4.97	-6.15/-7.96	-10.76/-11.49	-10.24/-9.38	-9.47/-11.89	-17.66/-13.7	-8.92/-6.93	-6.59/-7.41	-9.68/-14.09	-18.07/-16.92	-14.4/-13.55
Θ(67.5°)	-13.16/-19.49	-10.65/-7.15	-8.08/-8.11	-5.76/-5.01	-4.49/-3.47	-2.61/-2.14	-1.98/-2.15	-2.64/-3.42	-4.58/-5.92	-6.29/-4.83	-2.76/-9.09	-0.11/-0.34	-0.92/-1.14	-2.14/-3.47	-7.09/-10.46	-18.42/-18.31	-11.72/-10.05	-10.88/-14.65	-14.91/-9.48	-6.73/-5.79	-5.9/-7.12	-10.48/-18.85	-16.07/-10.43	-9.59/-9.9
Θ(75°)	-10.71/-18.14	-10.82/-7.35	-7.98/-6.25	-4.01/-3.86	-3.44/-2.31	-1.61/-1.37	-1.39/-1.61	-2.06/-2.49	-2.74/-2.86	-3.2/-3.64	-3.18/-1.65	-0.41/-0.24	-0.76/-1.29	-2.66/-5.13	-7.8/-11.53	-17.73/-15.52	-10.29/-8.91	-9.75/-8.41	-7.95/-8.4	-11.67/-18.52	-11.46/-7.6	-7.74/-8.35		
Θ(82.5°)	-9.34/-9.73	-8.59/-8	-8.57/-6.27	-4.8/-4.44	-4.96/-3.64	-3/-2.65	-2.12/-1.63	-1.26/-1.13	-1.14/-1.13	-1.38/-2.51	-3.2/-1.9	-1.01/-1.29	-2.13/-0.2	-4.25/-6.19	-8.23/-12.53	-18.2/-14.22	-10.82/-9.8	-9.08/-10.22	-14.32/-19.07	-15.79/-12.64	-11.04/-9.7	-10.95/-15.39	-10.85/-9.84	-11.02/-10.26
Θ(90°)	-8.31/-7.73	-8.4/-9.33	-8.74/-6.77	-6.12/-7.21	-7.25/-6.22	-5.58/-4.34	-2.53/-0.96	0.170/7.1	0.5/-0.31	-1.48/-3.55	-4.36/-1.45	-0.29/-1.41	-3.74/-5.63	-5.21/-4.43	-5.32/-9.14	-17.71/-17.68	-15.06/-13.23	-10.45/-10.21	-12.49/-16.05	-17.95/-18.17	-13.29/-9.37	-8.81/-10.16	-9.53/-10.36	-14.66/-10.72
Θ(97.5°)	-5.89/-6.53	-9.16/-12.29	-11.65/-9.33	-7.05/-6.19	-5.27/-4.12	-3.44/-2.58	-1.220/0.6	1.021/3.4	0.74/-0.73	-2.58/-4.39	-3.62/-0.42	0.59/-0.54	-2.68/-5.87	-8.37/-8.14	-9.15/-14.21	-18.27/-14.15	-15.03/-13.7	-11.29/-11.81	-14.92/-18.06	-18.36/-15.87	-11.84/-9.24	-9.92/-12.36	-12.84/-14.49	-11.31/-6.78
Θ(105°)	-4.34/-4.87	-6.35/-7.96	-10.55/-11.1	-7/-5.27	-3.5/-1.4	-0.120/5.9	1.182/7.3	3.462/2.04	1.380/2.2	-1.05/-2.42	-2.57/-0.3	0.850/2.5	-1.3/-4.21	-7.95/-7.51	-7.76/-10.41	-10.67/-9.71	-11.52/-12.87	-12.78/-15.95	-18.25/-16.91	-13.05/-12.26	-10.44/-8.61	-9.57/-12.26	-12.62/-12.49	-9.25/-6.4
Θ(112.5°)	-6.1/-5.78	-5.17/-4.8	-5.77/-6.41	-5.47/-5.96	-5.15/-2.41	-0.710/2.1	0.891/4	1.721/7.2	1.340/7.5	0.16/-1.86	-2.83/-1.27	-0.5/-0.97	-1.96/-3.93	-5.66/-5.62	-7.18/-10.79	-11.01/-9.89	-10.95/-11.25	-11.58/-15.1	-18.48/-13.85	-10.81/-9.96	-8.41/-6.75	-6.69/-6.96	-6.73/-7.7	-8.98/-7.73
Θ(120°)	-7.8/-7.82	-6.43/-5.32	-5.33/-5.04	-4.19/-4.37	-4.32/-3	-2.12/-1.96	-1.93/-1.69	-1.33/-1	-0.84/-0.81	-1.35/-2.52	-2.23/-0.76	-0.52/-1.17	-1.66/-2.49	-3.49/-3.54	-4.75/-8.11	-11.06/-10.74	-9.73/-8.28	-8.14/-10.13	-14.11/-15.21	-13.54/-11.33	-8.37/-6.2	-5.03/-4.12	-3.6/-4.29	-5.85/-6.78
Θ(127.5°)	-8.34/-7.55	-6.25/-6.07	-7.65/-9.94	-10.11/-8.73	-6.18/-3.67	-2.34/-1.85	-1.76/-1.68	-1.41/-0.98	-0.47/-0.18	-0.45/-0.85	-0.74/-0.91	-2.27/-3.94	-4.35/-4.87	-5.77/-5.78	-6.62/-8.1	-10.82/-12.04	-11.25/-9.32	-9.02/-10.71	-13.24/-14.35	-13.61/-11.12	-8.38/-6.38	-5.14/-4.36	-4.27/-5.22	-6.66/-7.03
Θ(135°)	-10.25/-7.54	-5.6/-5.07	-6.05/-8.48	-11.99/-18.31	-16.73/-9.87	-8.27/-4.21	-3/-2.18	-1.15/-0.9	-0.44/-0.36	-0.77/-1.42	-2.02/-2.88	-4.57/-6.18	-6.04/-5.85	-5.91/-5.5	-5.72/-7.46	-11.01/-16.22	-15.13/-10.75	-9.13/-9.37	-10.66/-12.07	-12.57/-10.73	-8.27/-6.42	-5.3/-4.98	-5.69/-7.66	-10.51/-11.7
Θ(142.5°)	-12.45/-10	-8.25/-7.66	-8.2/-9.41	-10.35/-11.8	-15.12/-18.21	-17.07/-11.31	-8/-5.84	-4.2/-2.99	-2.24/-2.08	-2.27/-2.53	-2.97/-3.98	-5.78/-8.09	-9.76/-11.04	-11.71/-11.08	-10.6/-11.51	-13.26/-14.15	-15.12/-10.2	-9/-9.06	-10.03/-11.22	-11.34/-9.71	-7.76/-6.34	-5.74/-5.99	-7.35/-8.88	-12.81/-13.24
Θ(150°)	-13.12/-12.71	-12.15/-11.87	-11.85/-11.4	-10.47/-9.76	-9.89/-11.02	-13.06/-14.48	-12.8/-9.95	-7.33/-5.53	-4.38/-3.82	-3.62/-3.6	-4.03/-5.33	-7.94/-12.51	-18.12/-18.7	-14.55/-11.72	-9.74/-8.87	-8.76/-9.14	-9.51/-9.79	-9.88/-10.45	-11.28/-12.24	-12.54/-11.72	-10.36/-9.28	-8.72/-8.82	-9.71/-10.83	-11.77/-11.9
Θ(157.5°)	-14.1/-14.71	-15.99/-17.36	-17.54/-15.82	-13.71/-11.9	-10.89/-10.62	-10.92/-11.4	-11.62/-10.95	-9.7/-8.46	-7.56/-7.2	-7.27/-7.96	9.93/-14.35	-18/-18.41	-12.41/-9.54	-8.05/-7.09	-6.58/-6.6	-7.24/-8.29	-9.54/-10.86	-12.09/-13.3	-14.84/-16.92	-18.46/-18.11	-17.87/-19.24	-16.46/-14.69	-13.71/-12.23	-12.84/-12.33
Θ(165°)	-18.36/-19.09	-17.47/-18.63	-18.06/-18.53	-17.8/-15.34	-13.63/-12.3	-11.41/-10.62	-9.99/-9.51	-9.35/-9.51	-10.05/-10.74	-11.57/-12.45	-13.2/-12.37	-10.44/-8.82	-7.63/-6.79	-6.21/-5.99	-6.12/-6.73	-8/-9.87	-12.32/-15.06	-16.89/-16.67	-15.85/-15.46	-15.4/-15.95	-16.96/-18.16	-19.11/-19.04	-18.54/-17.9	-17.24/-16.35
Θ(172.5°)	-19.18/-18.69	-17.85/-19.25	-18.57/-19.09	-18.57/-18.52	-16.09/-14.05	-12.3/-10.75	-9.53/-8.67	-8.25/-8.12	-8.12/-8.1	-7.9/-7.65	-7.3/-6.74	-6.26/-6.02	-5.95/-9.53	-6.19/-6.74	-7.63/-8.92	-10.93/-15.56	-17.7/-19.07	-18.36/-15.35	-13.22/-12.08	-11.52/-11.37	-11.43/-11.51	-11.71/-11.96	-12.56/-13.82	-15.69/-17.85
Θ(180°)	-11.71/-12.79	-14.19/-15.78	-17.62/-19.08	-17.56/-19.08	-18.29/-15.34	-12.89/-10.93	-9.5/-8.49	-7.89/-7.62	-7.54/-7.46	-7.25/-7.04	-6.86/-6.9	-7.2/-7.8	-8.63/-9.58	-10.71/-12.01	-13.58/-15.41	-17.61/-17.97	-19.12/-18.75	-18.35/-15.47	-13.42/-12.04	-11.18/-10.6	-10.21/-9.85	-9.55/-9.34	-9.36/-9.51	-9.86/-10.38
Freq(Hz)	5.2GPol.	Phi/Ant. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Θ(0°)/Φ(7.5°)	Θ(15°)/Φ(22.5°)	Θ(30°)/Φ(37.5°)	Θ(45°)/Φ(52.5°)	Θ(60°)/Φ(67.5°)	Θ(75°)/Φ(82.5°)	Θ(90°)/Φ(97.5°)	Θ(105°)/Φ(112.5°)	Θ(120°)/Φ(127.5°)	Θ(135°)/Φ(142.5°)	Θ(150°)/Φ(157.5°)	Θ(165°)/Φ(172.5°)	Θ(180°)/Φ(187.5°)	Θ(195°)/Φ(202.5°)	Θ(210°)/Φ(217.5°)	Θ(225°)/Φ(232.5°)	Θ(240°)/Φ(247.5°)	Θ(255°)/Φ(262.5°)	Θ(270°)/Φ(277.5°)	Θ(285°)/Φ(292.5°)	Θ(300°)/Φ(307.5°)	Θ(315°)/Φ(322.5°)	Θ(330°)/Φ(337.5°)	Θ(345°)/Φ(352.5°)
Θ(0°)	-9.07/-10.72	-10.45/-11.19	-10.87/-10.95	-10.79/-11.66	-12.02/-12.46	-12.47/-12.8	-12.41/-13.34	-12.83/-12.79	-12.61/-12.28	-12.61/-12.57	-11.62/-10.32	-9.54/-8.52	-7.8/-7.93	-8.2/-9.08	-8.10/-8.43	-10.93/-10.45	-10.74/-12.36	-14.72/-16.04	-13.29/-12.01	-10.59/-9.56	-8.25/-8.42	-9.54/-9.03	-6.97/-7.42	
Θ(7.5°)	-10.5/-10.24	-10.31/-10.07	-10.59/-10.84	-11.68/-12.49	-14.43/-14.61	-15.21/-15.52	-16.04/-17.46	-16.28/-12.19	-10.41/-10.01	-9.51/-9.14	-9.55/-10.2	-10.28/-9.93	-10.71/-12.91	-13.3/-12.36	-11.39/-11.11	-11.10/-10.67	-10.31/-10.72	-12.39/-15.26	-15.08/-13.77	-12.61/-12.25	-13.12/-12.65	-11.21/-9.85	-9.97/-10.18	-8.46/-9.48
Θ(15°)	-11.21/-10.84	-11.14/-10.43	-10.82/-10.33	-10.04/-8.62	-8.27/-8.05	-8.49/-8.72	-10.58/-11.3	-13.13/-14.17	-12.46/-11.18	-12.63/-11.19	-9.38/-9.75	-10.6/-9.76	-9.34/-9.88	-12.01/-15.6	-14.69/-12.72	-11.82/-12.62	-12.83/-12.25	-12.14/-12.71	-11.62/-11.5	-10.55/-9.42	-9.17/-9.84	-10.31/-9.86	-8.11/-9.36	-10.70/-14.1
Θ(22.5°)	-13.52/-14.13	-13.5/-14.1	-11.84/-10.74	-8.52/-6.66	-6.48/-6.64	-5.41/-0.1	-9.24/-11.18	-14.28/-17.13	-18.92/-19.03	-13.82/-10.77	-10.07/-10.06	-9.89/-9.82	-10.12/-12.47	-17.24/-17.55	-14.61/-14.26	-17.05/-19.31	-16.18/-10.93	-9.74/-10.58	-11.81/-10.32	-9.01/-7.55	-8.29/-10.04	-11.02/-11.76	-15.71/-14.32	
Θ(30°)	-12.83/-8.77	-8.5/-11.54	-11.88/-12.81	-9.32/-6.91	-6.79/-5.51	-4.25/-3.87	-4.42/-5.65	-6.62/-6.92	-8.28/-10.38	-12.1/-13.87	-17.99/-17.79	-16.36/-12.23	-10.49/-11.31	-12.72/-12.66	-11.27/-11.88	-12.4/-12.34	-14.41/-19.11	-18.91/-14.78	-13.1/-12.92	-12.9/-10.78	-8.53/-6.99	-6.85/-9.55	-12.23/-14.57	-15.92/-18.41
Θ(37.5°)	-9.6/-4	-6.43/-7.8	-8.2/-11.41	-8.65/-7.93	-6.73/-5.44	-4.63/-4.87	-5.24/-5.93	-6.97/-7.16	-7.17/-7.36	-7.98/-9.16	-15.31/-16.32	-12.73/-12.89	-10.65/-10.8	-7.58/-6.28	-7.14/-7.7	-7.64/-8.9	-12.7/-15.03	-16.9/-18.6	-18.86/-18.12	-17.3/-13.23	-12.18/-12.2	-9.81/-11.4	-11.83/-8.75	-8.24/-10.87
Θ(45°)	-7.82/-8.47	-11.27/-9.52	-6.65/-6.43	-8.64/-6.9	-7.05/-5.52	-4.75/-4.78	-4.12/-3.46	-3.91/-4.92	-5/-5	-6.57/-10.8	-11.64/-16.36	-13.39/-10.65	-8.75/-10.16	-12.87/-9.66	-6.38/-5.94	-6.7/-9.04	-11.73/-15.43	-18.94/-18.86	-15.75/-18.11	-18.16/-11.12	-16.33/-19.9	-9.2/-6.97	-6.43/-7.1	
Θ(52.5°)	-12.9/-12.73	-11.58/-9.95	-8.02/-6.44	-10.81/-7.37	-4.68/-3.55	-3.55/-3.71	-4.66/-5.23	-5.72/-6.18	-5.7/-5.17	-5.91/-8.49	-15.46/-13.16	-13.78/-13.82	-16.81/-17.76	-18.47/-9.85	-6.92/-5.98	-8.86/-16.97	-17.85/-18.18	-15.27/-12.62	-11.07/-11.15	-18.28/-16.11	-13.17/-15.82	-15.51/-17.41	-7.97/-9.76	-9.74/-11.2
Θ(60°)	-16.09/-12.92	-9.96/-17.51	-9.16/-5.88	-6.15/-7.75	-7.26/-5.96	-4.03/-4.19	-5.13/-6.37	-8.23/-9.38	-12.03/-10.85	-8.36/-10.39	-16.42/-18.46	-18.52/-15.09	-11.48/-13.68	-14.42/-18.83	-18.02/-13.12	-11.77/-14.17	-13.52/-17.47	-13.7/-13.8	-17.77/-16.56	-10.45/-12.22	-17.55/-17.57	-15.81/-13.04	-8.12/-7.28	-17.94/-12.29
Θ(67.5°)	-16.01/-14.99	-15.61/-16.24	-10.32/-10.34	-7.52/-6.95	-7.88/-9.14	-8.1/-7.25	-7.47/-6.8	-7.96/-10.15	-11.34/-13.2	-12.08/-9.56	-9.84/-17.64	-17.57/-7.49	-5.63/-10.04	-15.91/-19.02	-15.02/-11.6	-12.69/-13.64	-12.86/-							



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

θ(75°)	-9.88/-13.54	-14.27/-11.89	-7.46/-7.17	-6.78/-5.15	-3.09/-0.98	-0.220/-0.19	0.590/0.39	1.32/-1.68	1.34/-0.99	1.69/-1.85	1.97/0.53	-1.51/-0.01	1.14/-0.48	-4.31/-10.69	-6.93/-7.56	-14.09/-17.73	-16.99/-17.51	-15.81/-13.1	-18.59/-13.3	-8.77/-5.28	-12.71/-18.86	-13.41/-14.49	-15.82/-13.14	-16.45/-15.57
θ(82.5°)	-17.88/-11.79	-9.46/-10.19	-6.5/-7.29	-5.68/-2.69	-1.66/-2.03	-1.55/-0.09	0.310/0.35	0.08/-0.18	1.17/0.74	-0.38/0.92	1.5/-1.63	-1.46/0.26	-0.85/-3.08	-7.07/-8.73	-14.68/-19.27	-10.63/-12.26	-13.98/-7.2	-3.81/-3.42	-2.49/-8.37	-8.82/-6.54	-15.31/-11.07	-14.09/-14.25	-8.63/-16.07	-18.88/-8.71
θ(90°)	-13.58/-11.19	-7.44/-6.17	-4.5/-2.51	-3.07/-2.63	-0.01/-1.45	1.67/-1.47	1.12/0.34	0.64/-1.07	1.66/0.21	-0.08/-1.06	1.17/-3.23	-6.19/-2.35	-1.59/-2.94	-4.04/-3.84	-11.59/-10.47	-6.23/-0.87	-1.52/-5.26	-8.82/-5.27	-4.86/-12.25	-12.43/-8.54	-17.62/-11.17	-17.8/-15.8	-8.64/-10.67	-16.33/-10.75
θ(97.5°)	-9.1/-6.22	-7.03/-4.02	-1.06/-1.78	-1.87/-1.23	-0.05/-0.62	0.63/-0.26	0.59/-0.1	1.34/-1.49	1.86/-1.21	1.63/-1.8	1.15/-1.22	-2.31/-0.17	-0.26/-4.75	-5.29/-1.57	-2.31/-4.22	-1.75/-0.38	-5.64/-11.23	-3.76/-2.16	-2.62/-6.83	-5.6/-4.25	-11.94/-10.51	-10.43/-12.88	-11.84/-7.61	-10.39/-11.99
θ(105°)	-7.17/-5.42	-1.53/-0.87	-1.03/-1.61	-1.18/-0.99	1.31/-1.77	0.97/-0.1	-0.92/-0.6	0.56/0.42	1.52/-7.2	2.21/0.09	-2.44/-2.76	-0.98/-1.24	-2.1/-2.63	-3.48/-3.3	-11.49/-8.77	-5.4/-5.44	-10.83/-9.85	-7.79/-9.75	-12.81/-11.11	-8.07/-7.71	-7.15/-14.67	-10.87/-6.84		
θ(112.5°)	-7.52/-8.31	-5.58/-4.31	-1.21/-0.32	0.75/-1.53	1.27/-0.33	-0.93/-0.33	-0.24/-0.84	-1.53/-1.16	-0.55/-0.17	-0.63/-2.53	-3.28/-5.63	-3.35/-2.3	-4.14/-8.52	-7.94/-3.03	-2.89/-4.47	-4.31/-6.89	-4.83/-4.56	-3.29/-5.48	-11.93/-10.8	-8.3/-8.28	-14.99/-17.51	-18.93/-14.56	-7.07/-9.91	-14.18/-6.54
θ(120°)	-5.64/-5.49	-5.14/-3.7	-1.03/-1	1.82/0.78	0.46/-1.48	0.98/0	-1.04/-1.94	-1.64/-0.6	0.61/-0.27	-1.48/-1.56	-2.75/-5.75	-5.48/-2.41	-2.12/-3.55	-8.9/-9.3	-4.73/-5.44	-6.48/-2.54	-0.45/-0.34	-0.24/-3.44	-11.89/-9.61	-4.09/-5.14	-8.06/-12.48	-16.72/-18.17	-11.45/-11.21	-11.33/-9.11
θ(127.5°)	-7.15/-5.62	-9.35/-5.98	-1.36/-0.23	0.06/-1.75	2.05/-1.99	1.17/0.46	-0.29/-1.1	-1.23/-0.64	-0.41/-0.89	-1.81/-3.08	-5.49/-4.1	-1.09/-1.33	-3.58/-6.89	-10.89/-8.46	-8.15/-11.3	-2.04/0.74	0.03/-3.21	-7.13/-14.79	-14.14/-5.85	-3.5/-7.18	-13.98/-12.11	-13.97/-12.27	-19.17/-18.78	-13.68/-9.14
θ(135°)	-15.15/-5.96	-4.48/-6.91	-4.13/-0.94	0.94/0.97	1.21/-35	0.78/-0.28	-1.65/-2.83	-3.37/-3.49	-3.65/-4.5	-5.89/-8.6	-10.84/-10.57	-7.78/-0.45	-3.14/-4.55	-10.96/-18.39	-8.04/-4.99	-6.28/-12.41	-17.3/-10.74	-14.35/-18.16	-11.29/-11.99	-17.82/-7.76	-7.25/-9.84	-12.35/-11.49	-13.92/-19.2	-14.77/-11.57
θ(142.5°)	-11.74/-8.21	-3.96/-2.3	-3.33/-2.81	-1.27/0.42	1.66/-1.56	0.59/-0.46	-1.82/-2.81	-3.01/-2.85	-3.12/-4.11	-5.88/-7.09	-13.83/-16.5	-9.09/-8.25	-8.32/-9.36	-13.01/-17.82	-18.48/-13.78	-12.28/-11.47	-10.88/-15.18	-18.18/-11.89	-111/-13.79	-10.03/-6.7	-7.07/-11.22	-14.12/-15.16	-18.03/-17.47	-12.09/-11.55
θ(150°)	-13.4/-8.4	-5.25/-3.71	-3.56/-2.59	-2.38/-2.04	-1.2/-0.27	0.52/0.12	-1.24/-3.7	-6.94/-8.9	-10.13/-11.28	-14.71/-15.41	-15.24/-16.09	-12.75/-11.2	-9.53/-6.6	-5.19/-5.6	-7.24/-9.38	-12.68/-17.22	-17.1/-17.29	-15.44/-17.63	-17.98/-11.42	-10.05/-11.77	-11.38/-12.77	-16.09/-15.47	-17.89/-18.77	-17.46/-18.88
θ(157.5°)	-11.52/-6.39	-3.93/-3.22	-2.72/-2.98	-2.96/-2.17	-2.31/-3.28	-3.86/-3.61	-3.37/-3.43	-3.76/-3.79	-3.89/-5.61	-8.44/-9.51	-12.5/-17.68	-14.66/-9.3	-6.3/-4.2	-3.74/-6.4	-7.11/-11.1	-17.19/-18.56	-12.5/-9.58	-8.76/-6.76	-10.44/-14.68	-18.69/-17.46	-11.3/-8.37	-9.41/-11.27	-18.03/-19.18	-15.33/-15.08
θ(165°)	-12.46/-7.96	-4.94/-3.4	-2.75/-2.64	-2.39/-2.33	-2.01/-2.29	-2.82/-3.42	-3.96/-4.72	-5.41/-5.9	-7.79/-9.65	-10.44/-10.35	-10.33/-11.79	-13.22/-12.85	-11.63/-10.98	-11.12/-11.21	-11.13/-9.2	-6.27/-4.42	-3.54/-3.56	-4.61/-6.95	-10.07/-10.52	-9.46/-7.83	-6.77/-7.01	9.13/-14.65	-18.08/-15.75	-15.87/-15.69
θ(172.5°)	-18.84/-17.74	-12.27/-8.98	-6.23/-4.99	-4.08/-2.88	-1.79/-1	-0.48/-0.17	0.10/1.7	-0.18/-0.73	-1.42/-2.26	-3.21/-4.1	-5.99/-9.18	-12.3/-16.12	-18.67/-16.4	-13.42/-10.73	-7.95/-5.69	-4.46/-4.03	-4.72/-6.24	-8.13/-8.51	-7.09/-6.51	-5.89/-4.99	-5.48/-9.05	-15.44/-15.11	-13.51/-14.64	-14.96/-17.12
θ(180°)	-16.73/-15.86	-12.86/-11.32	-10.37/-10.29	-9.32/-7.9	-6.47/-4.57	-4.39/-3.48	-2.51/-1.89	-1.85/-1.98	-2.45/-2.67	-2.9/-4.22	-6.18/-8.11	-8.76/-9.84	-8.59/-8.27	-8.21/-8.01	-7.64/-7.78	-9.4/-14.22	-18.23/-12.74	-7.81/-6.87	-5.68/-5.79	-5.95/-6.9	-4.89/-8.36	-7.57/-7.6	-9.24/-10.37	-12.39/-17.06
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°)	-5.16/-5.18	-6.31/-6.55	-6.81/-6.91	-7.43/-8.14	-9.34/-10.35	-12.13/-14.13	-16.81/-19.02	-18.4/-18.18	-18.4/-18.15	-14.05/-14.12	-12.53/-9.19	-8.23/-9.19	-10.04/-9.95	-8.73/-7.73	-7.86/-9.96	-14.48/-12.73	-8.81/-7.2	-8.07/-13.42	-18.43/-18.93	-15.48/-13.48	-14.79/-15.42	-11.05/-7.58	-7.12/-9.33	-6.3/-5.02
θ(7.5°)	-7.27/-5.15	-6.25/-6.32	-7.21/-7.49	-8.02/-7.9	-8.95/-9.67	-10.19/-11.44	-13.28/-13.73	-13.68/-17.04	-16.47/-14.06	-14.71/-10.98	-8.85/-8.75	-9.9/-10.4	-8.85/-8.23	-6.83/-7.73	-5.86/-9.51	-10.87/-10.31	-9.64/-11.87	-15.82/-17.42	-16.96/-17.52	-17.48/-17.33	-16.21/-16.66	-7.57/-9.16	-8.91/-9.64	
θ(15°)	-8.92/-5.56	-7.15/-7.34	-8.64/-9.01	-10.03/-10.48	-11.23/-11.06	-10.14/-10.1	-9.83/-9.29	-9.98/-9.94	-8.73/-8.79	-8.85/-8.56	-9.08/-11.31	-13.44/-10.79	-8.23/-7.28	-6.53/-5.59	-4.88/-5.3	-6.6/-6.81	-13.78/-18.45	-15.55/-15.38	-13.39/-15.74	-16.6/-15.35	-13.17/-16.01	-17.48/-16.69	-17.91/-11.82	-8.83/-7.8
θ(22.5°)	-9.56/-10.41	-10.85/-10.93	-11.77/-11.16	-10.42/-9.75	-9.45/-8.95	-10.13/-11.04	-9.88/-8.96	-8.97/-8.32	-7.79/-8.83	-9.94/-8.3	-7.29/-9.42	-15.94/-11.8	-7.7/-7.07	-7.17/-8.92	-11.06/-13.44	-14.01/-11.88	-11.42/-11.94	-14.44/-16.5	-15.57/-14.67	-16.25/-16.84	-15.82/-14.54	-11.68/-10.45	-11.16/-12.07	-11.32/-10.5
θ(30°)	-13.21/-11.32	-11.27/-13.28	-18.73/-14.41	-11.59/-10.66	-9.41/-9.51	-11.59/-10.66	-8.37/-6.76	-7.27/-7.05	-6.16/-4.76	-4.19/-4.23	-4.49/-5.09	-5.86/-7.81	-12.25/-14.86	-8.54/-7.16	-7.95/-9.06	-11.75/-10.77	-13.51/-13.41	-13.32/-14.66	-14.27/-16.46	-10.69/-9.84	-12/-16.87	-14.82/-16.66	-13.41/-12.16	-19.05/-16.47
θ(37.5°)	-7.51/-10.74	-9.19/-7.84	-8.05/-8.66	-10.75/-9.91	-7.63/-6.58	-5.84/-4.99	-4.2/-4.1	-3.62/-2.83	-2.44/-1.89	-2.05/-3.01	-3.3/-4.19	-6.32/-10.45	-7.38/-7.17	-9.28/-11.13	-15.54/-13.94	-15.6/-18.38	-17.62/-17.91	-16.25/-16.34	-16.5/-18.04	-16.12/-13.26	-11.95/-12.06	-15.34/-17.53	-13.31/-11.4	-12.31/-9.91
θ(45°)	-8.01/-8.85	-9.01/-7.67	-7.52/-7.49	-7.25/-8.31	-8.4/-5.62	-4.62/-3.33	-3.31/-3.96	-3.79/-2.69	-2.15/-2.53	-1.48/-1.19	-1.12/-1.89	-3.46/-7.05	-8.3/-7.38	-7.6/-15.18	-18.15/-17.54	-14.76/-16.49	-17.21/-18.68	-19.07/-19.05	-18.39/-19.08	-17.6/-14.69	-13.63/-13.2	-17.35/-18.96	-9.73/-7.67	-8.97/-8.35
θ(52.5°)	-13.49/-11.6	-12.35/-11.47	-12.29/-9.52	-9.26/-9.06	-7.93/-6.76	-4.56/-3.08	-2.71/-3.07	-2.64/-2.25	-3.14/-3.09	-1.91/-1.59	-2.75/-4.14	-5.32/-6.79	-6.54/-6.39	-11.03/-19.04	-12.19/-9.03	-13.85/-18.51	-18.84/-19.17	-18.12/-18.32	-19.15/-15.82	-17.08/-13.08	-17.31/-15.49	-19.01/-13.1	-9.95/-8.63	-9.43/-12.01
θ(60°)	-7.5/-15.02	-11.99/-12.7	-12.89/-11.47	-10.57/-9.46	-12.07/-9.49	-6.44/-3.94	-2.41/-2.11	-2.28/-2.23	-2.64/-3.55	-5.09/-5.57	-6.19/-10.44	-7.87/-7.28	-14.05/-17.45	-8.82/-8.27	-11.85/-17.31	-18.95/-18	-17.34/-18.22	-15.78/-18.86	-16.54/-15.41	-14.28/-15.12	-18.71/-14.55	-16.54/-14.86	-17.95/-18.14	
θ(67.5°)	-17.36/-15.19	-17.75/-15.69	-16.29/-13.41	-15.57/-13.4	-10.77/-11.15	-10.5/-9.12	-9.88/-11.6	-12.02/-9.37	-6.78/-7	-7.91/-9.18	-11.28/-12.16	-9.72/-10.29	-18.23/-14.85	-11.46/-13.21	-17.49/-16.37	-16.36/-19.34	-18.25/-10.75	-11.78/-9.64	-18.55/-16.22	-17.79/-17.5	-18.48/-12.95	-16.26/-18.93	-13.35/-13.93	-15.39/-18.83
θ(75°)	-14.27/-17.14	-17.66/-18.31	-18.59/-19.63	-14.04/-13.83	-18.63/-17.74	-18.13/-18.28	-18.47/-18.79	-18.14/-18.85	-15.02/-11.42	-8.53/-7.09	-5.15/-6.47	-9.76/-7.74	-4.07/-4.96	-10.51/-14.49	-9.69/-12.68	-10.62/-6.37	-7.29/-12.94	-17.45/-15.3	-15.54/-18.08	-15.03/-13.07	-15.57/-13.88	-15.21/-18.48	-19.96/-17.77	-18.23/-13.63
θ(82.5°)	-15.06/-19.15	-18.13/-16.31	-18.55/-18.07	-17.69/-17.88	-18.45/-18.07	-19.35/-14.25	-10.49/-9.94	-9.4/-10.63	-6.8/-5.57	-3.32/-3.56	-3.17/-8.62	-7.04/-3.27	-3.84/-6.08	-9.15/-7.12	-11.69/-18.21	-14.11/-17.87	-12.46/-12.19	-17.66/-17.96	-16.38/-14.6	-18.78/-11.54	-12.45/-19.19	-18.29/-18.73	-16.69/-16.38	
θ(90°)	-18.23/-13.54	-12.05/-17.45	-19.06/-18.96	-18.66/-14.5	-18.75/-15.17	-14.52/-16.04	-9.21/-7.86	-8.2/-9.43	-7.75/-7.39	-6.97/-5.2	-2.65/-1.84	-3.87/-5.58	-4.99/-4.21	-7.12/-9.82	-10.86/-17.69	-14.68/-12.85	-11.24/-13.51	-11.46/-7.99	-8.23/-14.05	-11.35/-7.8	-18.1/-18.34	-17.21/-15.86	-17.67/-18.39	-18.3/-17.52
θ(97.5°)	-10.95/-17.78	-13.64/-19.16	-18.31/-15.46	-15.09/-13.85	-18.96/-18.44	-13.84/-14.8	-9.33/-6.44	-5.62/-6.78	-7.94/-11.17	-10.93/-5.17	-5.1/-4.96	-3.81/-2.11	-4.71/-4.79	-5.87/-6.6	-8.46/-10.27	-17.55/-10.94	-12.81/-8.15	-8.53/-13.05	-8.44/-18.08	-16.26/-8.62	-15.14/-18.3	-18.09/-18.15	-19.35/-10.91	-14.73/-18.65
θ(105°)	-12.25/-14.18	-15.94/-18.6	-18.6/-16.35	-14.86/-13.59	-10.85/-12.77	-10.11/-8.4	-8.7/-8.1	-8.11/-10.67	-16.6/-17.31	-6.15/-5.24	-6.96/-5.49	-5.02/-4.98	-2.66/-3.81	-8.18/-14.23	-11.40/-14.23	-11.62/-14.94	-13.81/-18.27	-13.39/-18.44	-17.37/-12.42	-11.52/-14.29	-17.85/-16.12	-18.46/-18.3	-17.72/-17.99	
θ(112.5°)	-18.97/-18.47	-17.07/-10.67	-10.99/-16.05	-9.01/-9.4	-13.39/-11.24	-8.3/-7.56	-12.43/-18.36	-19.1/-12.36	-9.53/-8.3	-9.03/-12.58	-16.71/-14.35	-9.4/-6.06	-6.04/-4.7	-6.08/-13.13	-7.7/-5.83	-13.9/-18.16	-11.07/-9.83	-7.82/-12.7	-10.09/-15.24	-11.87/-11.1	-8.63/-11.95	-14.96/-18.68	-18.58/-15.55	-17.69/-19.28
θ(120°)	-18.73/-17.81	-19.11/-17.68	-18.79/-13.53	-12.99/-9.72	-9.08/-11.62	-12.02/-11.69	-11.17/-11.22	-8.93/-6.59	-6.03/-7.4	-7.31/-7.99	-13.56/-15.94	-9.97/-4.58	-3.99/-5.55	-4.16/-4.4	-6.32/-10.32	-18.91/-8.56	-10.36/-15.24	-18.						



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(112.5°)	-13.87±8.5	-7.72±6.58	-3.07±3.03	-1.72±0.24	1.55±3.73	2.83±2.01	1.10±4.5	0.69±1.45	1.03±0.79	1.21±1.19	1.73±0.24	-3.22±0.97	-2.62±5.2	-3.68±1.41	-1.07±1.19	-3.58±4.18	-4.89±3.1	-2.56±3.21	-14.33±7.36	-4.51±8.1	-18.3±11.56	-10.21±19.05	-14.78±15.7	-11.76±12.88
Θ(120°)	-17.32±14.92	-8.63±5.81	-4.9±4.67	-2.99±0.1	1.07±2.1	2.33±1.98	1.25±0.51	0.3±0.16	-0.25±0.59	-0.4±0.28	-0.09±1.99	-1.25±1.75	-3.1±4.1	-5.51±5.84	-5.19±4.1	-4.11±2.35	-1.51±0.67	-1.07±2.25	-14.72±10.9	-5.42±12.72	-11.39±15.86	-10.17±10.33	-19.11±10.53	-11.15±17.65
Θ(127.5°)	-18.18±18.27	-10.07±5.42	-6.86±4.69	-2.21±0.8	-0.50±6.2	1.44±0.63	0.06±0.31	-0.99±1.72	-1.54±1.58	2.93±2.12	-2.17±5.45	-5.54±4.3	-3.76±5.27	-7.47±1.93	-4.82±5.88	-7.18±2.27	-1.71±3.56	-7.38±11.25	-12.81±5.53	-4.77±8.7	-9.7±17.08	-11.69±10.51	-18.61±12.44	-10.47±13.69
Θ(135°)	-12.47±12.89	-18.76±8.99	-5.61±5.37	-3.64±1.43	-0.87±0.78	0.36±0.99	0.57±0	-0.69±1.64	-3.25±3.79	-3.65±2.86	-2.36±3.94	-7.55±8.19	-6.98±1.74	-9.74±14.4	-10.55±5.48	-4±6.11	-7.85±9.32	-11.88±18.64	-10.77±9.76	-12.44±13.64	-11.77±16.99	-18.47±15	-17.47±14.82	-12.88±13.19
Θ(142.5°)	-14.82±15.51	-17.68±14.13	-9±9.6	-3.96±2.37	-0.80±17	0.43±0.02	-1.56±3.1	-4.33±5.39	-5.73±4.42	-5.07±5.69	-4.28±5.59	-8.85±8.41	-6.52±6.11	-8.49±14.45	-16.67±15.35	-17.54±19.04	-9.09±9.13	-11.5±14.1	-13.18±14.32	-9.48±16.15	-13.83±9.47	-11.5±14.1	-13.98±18.56	-17.68±12.93
Θ(150°)	-19.15±19.09	-15.12±15.16	-12.61±7.94	-3.89±2.08	-1.84±3.02	-5.02±6.2	-5.42±0.43	-3.21±3.37	-3.27±3.12	-6.38±9.18	-8.63±11.7	-11.99±7.39	-6.89±6.73	-6.25±8.16	-12.74±16.01	-15.55±14.63	-14.34±16.76	-17.99±17.58	-15.53±11.67	-7.7±7.37	-10.24±11.52	-13.09±18.68	-18.04±12.5	-10.44±15.29
Θ(157.5°)	-18.97±15.19	-12.24±10.8	-10.31±11.45	-10.03±6.96	-4.63±3.01	-2.36±2.5	-3.29±4.32	-5.8±6.84	-6.58±6.81	-6.5±4.71	-5.13±8.29	-11.19±9.65	-8.08±7.85	-7.97±8.9	-11.25±13.6	-15.35±14.89	-14.36±12.84	-13.38±15.99	-17.51±15.28	-13.66±10.33	-8.1±7.24	-8.34±8.46	-9.26±10.13	-11.65±14.72
Θ(165°)	-16.92±17.76	-18.6±14.49	-11.48±10.41	-9.18±8.14	-7.26±6.97	-6.48±5.93	-5.29±5	-4.92±4.9	-4.91±5.43	-6.2±7.26	-10.78±15.29	-12.78±9.8	-9.83±10.65	-10.32±9.33	-8.57±9.05	-10.79±11.9	-11.12±10.1	-10.25±12.58	-14.42±14.56	-10.76±7.74	-6.59±7.05	-8.76±11.28	-12.06±10.56	-10.67±13.97
Θ(172.5°)	-12.14±14.74	-17.38±18.94	-18.02±16.82	-13.91±10.65	-9.43±9.49	-9.19±13	-8.88±8.67	-8.69±9.15	-9.8±11.02	-12.16±12.75	-11.67±11.26	-13.06±14.66	-15.99±16.88	-16.55±15.41	-15.88±16.11	-16.78±16.26	-15.54±15.59	-16.73±18.49	-17.77±18.65	-17.58±16.03	-18.3±18.24	-15.07±10.87	-8.7±13	-9.59±11.1
Θ(180°)	-12.27±12.86	-14.5±14.96	-16±17.22	-18.32±18.15	-14.33±11.87	-10.01±8.72	-7.62±6.92	-6.82±6.34	-5.29±4.89	-4.99±5.27	-6.23±8.33	-12.96±16.4	-17.78±18.5	-17.22±18.81	-18.74±18.94	-18.65±18.13	-12.95±9.97	-7.67±6.28	-6.17±7.57	-9.2±11.22	-11.01±10.09	-9.05±8.26	-8.43±9.88	-11.5±12.51
Freq(Hz)	2.45GPol.	Phi/Ant. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)°Φ(7.5°)	Φ(15°)°Φ(22.5°)	Φ(30°)°Φ(37.5°)	Φ(45°)°Φ(52.5°)	Φ(60°)°Φ(67.5°)	Φ(75°)°Φ(82.5°)	Φ(90°)°Φ(97.5°)	Φ(105°)°Φ(112.5°)	Φ(120°)°Φ(127.5°)	Φ(135°)°Φ(142.5°)	Φ(150°)°Φ(157.5°)	Φ(165°)°Φ(172.5°)	Φ(180°)°Φ(187.5°)	Φ(195°)°Φ(202.5°)	Φ(210°)°Φ(217.5°)	Φ(225°)°Φ(232.5°)	Φ(240°)°Φ(247.5°)	Φ(255°)°Φ(262.5°)	Φ(270°)°Φ(277.5°)	Φ(285°)°Φ(292.5°)	Φ(300°)°Φ(307.5°)	Φ(315°)°Φ(322.5°)	Φ(330°)°Φ(337.5°)	Φ(345°)°Φ(352.5°)
Θ(0°)	2.12±2	1.97±1.59	1.01±0.3	-0.55±1.54	-2.71±4.36	-6.71±10.2	-15.18±16.51	-14.21±9.68	-6.8±4.86	-3.3±1.93	-0.76±17	0.89±1.34	1.63±1.73	1.65±1.44	1.10±5.5	0.27±1.41	-2.97±5.03	-8.03±12.62	-18.16±18.33	-12.3±8.12	-5.27±3.09	-1.45±0.31	0.49±1.03	1.49±1.89
Θ(7.5°)	1.95±2.03	1.92±1.63	1.14±0.49	-0.35±1.38	-2.62±4.34	-6.71±10.3	-15.9±18.14	-15.48±9.5	-6.24±4.16	-2.48±1.09	-0.01±0.89	1.57±2	2.23±2.26	2.14±1.87	1.42±0.86	0.03±1.05	-2.54±4.54	-7.51±12.01	-17.27±17.97	-14.55±9.31	-6.09±3.69	-1.9±0.61	0.25±0.85	1.33±1.76
Θ(15°)	1.77±1.89	1.84±1.57	1.12±0.52	-0.31±1.42	-2.73±4.26	-6.39±9.34	-13.52±18.88	-14.74±9.04	-5.79±3.68	-2.06±0.75	0.29±1.13	1.72±2.12	2.31±2.33	2.22±2	1.62±1.12	0.42±0.45	-1.68±3.39	-5.85±9.21	-14.26±14.65	-18.32±11.53	-7.46±4.62	-2.53±1.05	-0.03±0.56	1.06±1.5
Θ(22.5°)	1.67±1.83	1.75±1.47	0.98±0.31	-0.59±1.87	-3.45±5.23	-7.33±9.83	-12.35±13.18	-9.99±6.44	-3.77±1.94	-0.50±0.54	1.31±8.1	2.13±2.24	2.21±2.07	1.87±1.57	1.18±0.71	0.09±0.72	-1.92±3.56	-5.8±8.77	-13.07±19.28	-16.45±10.64	-7.08±4.54	-2.66±1.29	-0.32±0.3	0.78±1.27
Θ(30°)	1.71±9.1	1.88±1.62	1.08±0.23	-0.89±2.47	-4.57±7.18	-10.05±11.84	-11±8.96	-6.48±4.16	-2.07±0.43	0.81±64	2.13±2.38	2.42±2.5	2.04±1.75	1.43±1.05	0.6±0.06	-0.57±1.33	-2.43±3.84	-5.73±8.25	-11.94±15.89	-13.51±9.12	-6.06±3.93	-2.36±1.18	-0.29±0.23	0.65±1.2
Θ(37.5°)	1.67±2.01	2.18±2.09	1.6±0.6	-0.81±2.73	-5.26±9.03	-10.49±7.46	-5±2.87	-0.86±0.78	1.98±6.77	2.91±2.83	2.54±2.16	1.75±1.72	0.86±0.33	-0.29±0.91	-1.46±2.05	-5.44±7.72	-11.08±14.06	-11.54±7.46	-4.46±2.33	-0.89±0.03	-0.61±0.88	0.61±0.88	1.02±1.33	
Θ(45°)	2.02±2.18	2.17±1.98	1.41±0.32	-0.86±3.38	-6.11±10.17	-17.05±18.78	-13.21±9.12	-9.69±3.65	-1.38±0.44	1.72±2.43	2.64±2.44	2.05±1.51	0.93±0.35	-0.12±0.59	-1.04±1.49	-1.9±2.35	-3.02±4.08	-5.44±7.71	-10.71±12.59	-10.02±6.33	-3.34±1.16	0.31±1.21	1.74±1.95	1.91±8.8
Θ(52.5°)	3.16±1.38	2.75±1.97	0.85±0.66	-2.59±5.05	-8.17±12.51	-19.06±18.46	-16.62±11.86	-8.24±5.26	-2.66±0.65	0.72±1.38	1.48±1.17	0.68±0.15	-0.29±0.6	-0.83±1.09	-1.46±1.83	-2.33±3	-3.9±5.04	-6.81±9.76	-13.39±13.02	-9.01±5.59	-3.08±1.12	0.31±2.6	1.93±2.44	2.83±0.1
Θ(60°)	2.82±2.96	2.71±2	0.82±0.71	-2.42±4.29	-6.45±8.85	-11.36±14.16	-16.87±16.84	-13.09±9.15	-5.72±3.15	-1.33±0.26	0.27±0.47	0.55±0.65	0.77±0.82	0.68±0.29	-0.24±0.82	-1.41±1.88	-2.23±3.29	-5.12±8.27	-12.55±11.02	-6.45±3.55	-1.85±0.85	-0.3±0.06	0.51±1.7	2.2±63
Θ(67.5°)	0.80±8.2	0.74±0.58	0.02±0.97	-2.18±3.56	-5.31±7.52	-9.93±13.2	-18.99±18.81	-18.61±14.13	-9.02±8.83	-3.96±3.21	-3.07±2.96	-2.26±1	0.18±0.9	0.97±0.66	0.11±0.45	-0.91±1.24	-1.88±3.04	-4.92±8.21	-12.67±9.59	-15.8±2.56	-1.21±0.65	-0.72±1.24	-1.73±1.54	-0.38±0.78
Θ(75°)	0.37±0.26	-0.04±0.02	0.01±0.48	-1.59±3.21	-5.2±7.57	-10.29±14.5	-18.34±17.31	-12.18±7.38	-3.89±1.61	-0.44±0.28	-0.96±2.14	-3.41±3.79	-2.85±1.61	-0.74±0.42	-0.77±1.54	-2.38±3.47	-4.77±5.82	-7.1±10.23	-17.32±16.63	-9.94±5.87	-2.86±0.75	0.42±0.77	0.5±0.09	-0.37±0.08
Θ(82.5°)	-0.64±1.16	-1.89±2.24	-2.28±2.87	-4.43±7.06	-10.56±14.83	-17.37±18.22	-18.97±18.51	-14.47±8.97	-4.62±1.72	0.01±0.8	0.92±0.55	-0.3±1.18	-1.23±0.5	0.3±0.49	-1.07±1.5	-3.68±6.85	-9.94±11.75	-12.09±12.49	-13.85±14.29	-11.15±6.28	-2.41±0.21	1.72±2.4	2.36±1.68	0.64±0.23
Θ(90°)	-0.14±0.84	-2.49±4.6	-5.96±8.66	-7.78±8.1	-7.71±7.27	-19.34±18.2	-10.18±12.71	-13.96±14.33	-8.04±4.42	-1.54±0.43	1.53±1.76	1.26±0.33	-0.34±0.24	0.31±0.89	1.09±0.8	-0.41±2.21	-1.18±14.42	-18.08±13.5	-10.75±9.73	-8.47±6.13	-3.6±1.1	0.29±0.97	1.51±0.84	0.38±0.03
Θ(97.5°)	-1.32±1.52	-2.99±5.6	-8.26±8.85	-7.88±7.07	-6.6±5.86	-5.37±5.88	-7.89±11.67	-19.19±19.03	-11.97±6.25	-2.41±0.02	1.22±1.65	1.84±1.48	1.44±1.71	2.43±1.7	3.64±3.45	2.39±0.65	-2.19±5.73	-7.46±6.8	-6.89±8.72	-11.24±10.77	-8.37±5.81	-4.32±1.44	-4.27±3.89	-2.8±1.54
Θ(105°)	-4.95±4.61	-4.49±4.42	-4.03±3	-2.05±1.99	-3.21±4.81	-6.13±7.77	-9.96±11.86	-12.66±11.48	-8.67±5.29	-2.51±0.47	0.35±1.16	2.22±8.7	2.79±2.85	2.99±3.43	3.75±3.73	3.22±1.8	0.66±0.97	-2.96±4.53	-5.58±7.86	-11.5±8.83	-5.47±7.38	-3.1±3.8	-6.68±9.66	-6.42±5.1
Θ(112.5°)	-8.71±12.12	-17.77±18.3	-13.38±9.06	-6.1±4.74	-5.28±6.62	-7.79±10.25	-11.88±9.41	-6.28±3.98	-2.48±1.77	-1.69±1.65	-0.93±0.39	1.75±2.66	2.92±2.93	2.84±2.95	3.13±3.11	2.72±1.95	0.92±0.43	-1.59±2.21	-1.81±3.39	-9.88±17.12	-6.87±3.84	-3±3.1	-3.85±4.98	-5.57±6.49
Θ(120°)	-3.3±5.9	-6.49±8.55	-9.7±10.42	-11.13±10.67	-10.61±11.09	-11.73±13.88	-17.27±10.91	-4.9±1.41	0.71±1.58	1.51±1.03	0.89±1.4	1.56±1.96	2.31±2.36	1.91±1.1	0.63±0.86	1.34±1.52	1.39±7.7	-0.04±0.53	-0.93±3.1	-9.36±16.91	-6.64±3.34	-2.07±1.7	-1.92±2.49	-3.02±3.4
Θ(127.5°)	-10.23±9.63	-9.82±12.4	-18.6±19.24	-18.64±17.12	-14.28±12.79	-11.16±10.61	-11.16±10.28	-6.18±2.87	-0.85±0.05	0.1±0	0.34±0.71	1.11±1.86	2.48±2.61	2.11±0.5	0.35±0.31	0.69±0.79	0.29±0.68	-1.97±3.03	-3.42±4.1	-6.05±10.18	-18.34±18.92	-15.43±12.11	-11.02±11.28	-11.81±11.54
Θ(135°)	-14.87±19.44	-6.73±6.13	-7.44±9.5	-11.36±11.61	-10.26±9.04	-8.34±7.63	-6.15±4.51	-3.28±2.45	-1.9±1.54	-1.73±1.69	-1.14±0.06	0.89±0.89	-0.06±1.25	-2.11±2.46	-2.23±2.44	-3.07±3.58	-4.58±4.86	-4.27±3.41	-3±3.1	-4.3±5.62	-7.32±9.35	-11.57±14.64	-17.48±17.54	
Θ(142.5°)	-15.94±12.92	-9.08±7.11	-6.75±7.16	-7.78±8.51	-9.47±10.22	-10.51±10.57	-11.12±11.73	-11.39±9.83	-7.53±5.3	-3.53±2.41	-1.73±1.01	0.73±0.35	-0.65±1.86	-3.14±4.63	-6.24±7.5	-8.07±8.38	-8.06±7.49	-6.7±5.68	-4.84±6.47	-4.96±6.12	-8.27±11.4	-15.9±18.92	-17.53±17.86	
Θ(150°)	-8.69±8.86	-9.07±8.77	-8.53±8.59	-8.79±9.09	-9.6±10.14	-10.48±10.72	-10.63±10.32	-9.8±9.08	-8.38±7.64	-6.54±5.6	-4.74±3.71	-2.71±1.92	-1.53±1.58	-2.01±3.05	-4.56±6.9	-10.09±13.3	-14.43±13.12	-11.44±10.03	-9.02±8.5	-7.81±7.61	-8.19±7.92	-12.28±15.25	-15.81±13.72	-11.41±9.72
Θ(157.5°)	-8±8.04	-8.75±9.92	-11.13±12.34	-13.55±13.74	-13.01±13.13	-12.57±11.77	-10.55±9.28	-8.7±24	-6.89±6.76	-6.84±6.66	-6.43±6.02	-5.52±5.12	-4.68±4.83	-5.31±6.38	-8.13±10.75	-13.96±16.84	-17.15±14.59	-12.41±10.87	-10.31±10.04	-9.89±10.04	-10.71±11.88	-12.82±12.46	-11.44±10.14	-9.47±8.76
Θ(165°)	-11.77±11.65	-12.43±14.03	-16.9±17.66	-19.04±18.4	-18.23±18.92	-18.86±19.94	-16.85±14.19	-11.91±13.1	-8.39±7.35	-6.36±5.75	-5.2±4.85	-4.84±5												



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(157.5°)	-14.32/-17.78	-18.4/-18.54	-15.36/-15.88	-17.76/-18.06	-17.3/-12.45	-9.41/-7.53	-6.02/-4.91	-4.64/-4.91	-6.49/-9.34	-12.39/-11.03	-9.3/-9.37	-10.53/-12.77	-16.34/-18.46	-19.32/-17.67	-16.61/-14.75	-11.59/-8.02	-5.86/-5.18	-5.91/-6.38	-6.03/-4.93	-4.53/-5.46	-7.39/-10.97	-15.36/-14.67	-11.97/-12.38	-16.38/-12.83
Θ(165°)	-17.06/-19.2	-17.73/-18.65	-18.86/-18.92	-18.77/-17.3	-14.69/-12.34	-10.33/-8.43	-7.77/-6.67	-5.93/-5.46	-5.83/-6.11	-6.11/-5.33	-4.96/-5.73	-7.84/-11.83	-18.07/-18.59	-18.08/-13.01	-9.34/-6.65	-4.82/-3.95	-4/-5.28	-7.18/-8.16	-7.97/-7.64	-8.49/-10	-11.79/-15.17	-18.4/-17.65	-17.02/-17.43	-18.58/-17.82
Θ(172.5°)	-18.63/-16.18	-17.49/-18.38	-18.06/-15.68	-14.37/-13.67	-12.22/-11.22	-9.89/-9.23	-8.9/-9.82	-10.2/-10.02	-9.69/-9.46	-9.3/-9.31	9.96/-11.46	-14.57/-19.39	-18.66/-17.93	-15.24/-11.86	-10.39/-9.33	8.99/-10.14	-12.12/-15.98	-17.9/-18.14	-14.72/-12.88	-13.64/-16.01	-16.09/-14.55	-13.05/-12.61	-12.92/-13.91	-15.36/-18.15
Θ(180°)	-18.69/-17.63	-16.81/-15.63	-13.67/-11.93	-10.3/-9.76	-9.58/-9.04	-8.83/-8.61	-8.92/-9.36	-10.01/-10.28	-10.77/-11.3	-11.54/-11.73	-11.93/-12.66	-14.01/-16.42	-19.38/-18.97	-17.43/-18.22	-17.82/-15.63	-13.69/-11.76	-9.94/-9.14	-8.58/-7.78	-7.03/-6.9	-7.25/-7.9	-7.84/-7.06	-7.09/-7.72	-9.48/-12.49	-17.04/-17.79
Freq(Hz)	5.3GPol.	Phi/Ant. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	1.91/7	1.120/26	-0.5/-1.4	-5.89/-8.74	-13.84/-19	-17.74/-11.51	-7.85/-5.28	-3.43/-1.86	-0.83/-0.06	0.51/-1.08	1.49/-1.72	1.49/-1.75	1.47/-1.2	0.37/-0.49	-1.72/-3.17	-5.22/-8.1	-12.6/-17.39	-18.65/-11.73	-7.3/-4.31	-2.56/-2.19	-0.77/-0.27	0.59/-0.62	1.16/-1.45	1.16/-1.45
Θ(7.5°)	1.43/-1.7	1.04/-0.3	0.11/-0.62	-1.29/-2.76	-4.73/-2.33	-11.89/-18.12	-19.12/-12.32	-7.97/-5.3	-3.06/-1.52	-0.46/-0.25	0.54/-1.4	1.46/-1.63	1.45/-1.33	0.89/-0.38	-0.32/-0.92	-2.03/-3.83	-6.1/-9.35	-14.96/-17.42	-14.27/-9.08	-5.88/-3.84	-2.31/-1.21	-0.37/-0.39	0.62/-0.81	1.1/-1.28
Θ(15°)	1.39/-0.86	0.53/-0.11	-0.08/-0.5	-1.1/-2.51	-4.13/-6.54	-10.43/-17.44	-17.38/-12.05	-7.4/-4.52	-2.5/-1.08	-0.20/-2.7	0.38/-0.58	0.79/-0.99	1.17/-1.33	1.44/-1.25	0.82/-0.23	-0.63/-1.84	-3.69/-6.64	-11.78/-18.36	-14.45/-9.04	-6.38/-4.4	-2.71/-1.57	-0.27/-0.58	1.14/-1.18	1.41/-1.46
Θ(22.5°)	0.66/-0.2	-0.31/-0.58	-0.77/-0.49	-1.14/-2.35	-3.87/-5.95	-9.61/-15.21	-18.74/-14.32	-8.34/-4.85	-2.7/-1.37	-0.74/-0.66	-0.10/-0.98	-0.75/-0.02	0.58/-1.08	1.24/-0.74	-0.08/-0.78	-1.72/-2.98	-5.13/-8.4	-14.13/-17.25	-13.46/-9.79	-6.99/-4.17	-2.1/-0.65	0.62/-1.37	1.56/-1.44	1.06/-1.21
Θ(30°)	-0.32/-0.81	-1.01/-0.75	-0.9/-1.72	-2.48/-3.37	-4.78/-7.29	-12.49/-18.89	-19.32/-13.46	-8.88/-5.98	-3.8/-2.1	-0.94/-0.48	-0.54/-0.61	-0.48/-0	0.53/-0.67	0.5/-0.04	-0.67/-1.35	-2.26/-3.61	-5.47/-8.78	-15.54/-17.55	-11.41/-7.54	-4.79/-3.02	-1.44/-0.05	0.81/-1.3	1.24/-1.06	0.89/-0.47
Θ(37.5°)	-0.88/-0.81	-1.32/-1.05	-0.68/-1.84	-2.59/-2.93	-3.9/-6.06	-10.06/-15.15	-15.82/-11.35	-8.97/-7.39	-5.37/-2.78	-0.55/-0.81	1.67/-1.72	1.63/-0.44	-0.38/-1.28	-2.21/-3.15	-4.53/-5.73	-7.13/-10.12	-12.92/-11.54	-9.28/-7.54	-5.83/-3.8	-1.87/-0.23	0.87/-1.01	0.86/-0.24	-0.7/-0.55	-0.7/-0.55
Θ(45°)	-0.82/-1.02	-1.99/-2.36	-2.38/-3.17	-4.12/-4.48	-6.09/-8.58	-13.45/-18.68	-18.64/-12.09	-8.98/-7.57	-6.81/-5.53	-3.0/-8.2	0.79/-1.85	2.51/-2.95	2.96/-1.85	0.38/-0.54	-1.67/-2.65	-4.11/-6.75	-12.66/-19.08	-18.61/-17.15	-14.57/-12.43	-7.16/-3.94	-2.38/-2.06	-1.71/-1.37	-1.41/-1.23	-1.06/-1.96
Θ(52.5°)	-0.93/-0.68	-0.67/-1.9	-2.14/-5.68	-8.09/-8.53	-9.11/-10.85	-14.86/-18.08	-17.05/-11.48	-8.44/-7.36	-7.82/-8.18	-4.54/-0.74	1.07/-1.85	1.85/-1.2	2.51/-9.6	1.21/-0.45	-1.14/-2.05	-4.07/-6.67	-9.59/-11.43	-14/-17.93	-18.43/-13.62	-10.31/-7.91	-5.36/-3.58	-2.54/-2.26	-2.93/-2.91	-1.26/-0.65
Θ(60°)	0.75/-0.38	0.2/-1.07	-0.26/-4.71	-7.35/-8.12	-7.92/-9.83	-13.72/-18.89	-13.25/-10.56	-8.72/-6.25	-4.8/-4.54	-0.47/-2.82	-1.43/-1.2	-1.83/-0.8	-0.23/-0.03	0.76/-1.36	1.63/-0.44	-2.26/-4.61	-7.59/-10.17	-15.43/-17.93	-18.06/-15.29	-7.67/-5.55	-3.9/-3.83	-3.23/-1.34	0.13/-0.99	-0.13/-0.99
Θ(67.5°)	1.07/-0.39	0.53/-0.64	-0.38/-1.19	-1.67/-2.76	-5.71/-10.23	-18.55/-18.16	-16.08/-15.86	-13.29/-8.84	-6.28/-5.67	-3.6/-7.2	0.09/-1.24	-2.18/-1.15	-1.07/-1.37	-1.72/-1.6	-1.23/-1.18	-2.29/-4.76	-8.4/-11.21	-15.41/-17.78	-16.68/-12.15	-8.66/-7.59	-7.17/-4.26	-2.61/-1.72	-0.83/-0.14	0.34/-0.88
Θ(75°)	1.11/-0.86	1.24/-0.96	0.75/-0.32	-0.93/-3.05	-8.46/-11.11	-18.46/-17.48	-13/-14.23	-13.26/-8.84	-6.23/-4.58	-2.44/-0.14	0.54/-0.46	-0.99/-0.33	0.92/-1.17	1.16/-0.15	-1.15/-1.77	-2.98/-3.84	-5.2/-7.27	-13.94/-19	-15.7/-13.77	-10.17/-8.83	-9.19/-5.41	-2.61/-1.71	-0.08/-1.56	2.26/-1.59
Θ(82.5°)	1.63/-1.84	2.67/-2.47	1.0/-8.5	-1.76/-3.29	-7.42/-16.02	-17.83/-17.77	-17.92/-17.38	-18.71/-11.49	-7.04/-5.62	-3.25/-1.28	-1.85/-3.6	-2.57/-0.84	-0.86/-1.37	-1.71/-2.04	-2.79/-3.68	-3.66/-3.78	-5.12/-9.13	-15.23/-18.12	-14.34/-9.95	-9.64/-12.98	-10.66/-4.73	-1.64/-0.21	1.34/-2.49	2.67/-1.76
Θ(90°)	0.9/-0.8	0.58/-0.22	-0.97/-2.21	-2.25/-4.29	-5.26/-3.58	-17.78/-13.13	-14.78/-18.57	-10.74/-5.62	-4.82/-4.68	-4.73/-3.32	-3.04/-4.97	-5.59/-2.69	-1.4/-1.78	-2.63/-2.79	-3.09/-4.69	-7.78/-7.42	-6.05/-8.06	-12.32/-13.56	-15.52/-12.94	-6.45/-3.6	-1.63/-1	-0.37/-0.98	1.77/-0.82	1.77/-0.82
Θ(97.5°)	-2.15/-0.94	-0.47/-0.04	-1.98/-3.97	-4.88/-5.79	-8.9/-14.53	-15.97/-12.98	-14.02/-17.86	-11.78/-7.74	-6.73/-5.91	-3.81/-3.41	-5.8/-8.24	-6.23/-3.48	-1.68/-0.45	-0.95/-2.43	-2.49/-4.34	-3.55/-3.09	-5.32/-9.98	-10.92/-9.95	-10.35/-18.3	-13.75/-16.8	-9.23/-3.72	-0.99/-0.81	-1.24/-1.94	-0.96/-1.37
Θ(105°)	-6.04/-0.67	-4.97/-4.45	-7.5/-7.82	-8.68/-8.42	-10.32/-14.07	-17.84/-16.63	-18.73/-18.24	-17.76/-10.81	-9.08/-7.83	-5.53/-3.52	-3.82/-5.34	-5.32/-3.84	-4.1/-4.24	-5.32/-9.17	-8.73/-8	-5.48/-3.76	-2.52/-3.97	-6.57/-10.17	-10.72/-16.46	-18.66/-18.82	-11.24/-6.05	-5.04/-6.18	-9.5/-8.2	-2.4/-4.24
Θ(112.5°)	-8.95/-4.04	-9.17/-11.16	-11.51/-10.48	-10.84/-13.28	-15.5/-16.59	-18.52/-18.21	-19.33/-18.16	-11.8/-8.71	-8.23/-8.68	-6.77/-4.98	-5.46/-5.24	-4.66/-4.72	-6.2/-5.8	-6.27/-3.91	-6.05/-7.4	-10.98/-9.81	-7.24/-14.94	-13.08/-17.87	-13.3/-13.24	-14.71/-12.27	-10.74/-12.27	-12.27/-8.47	-6.83/-5.96	-6.83/-5.96
Θ(120°)	-19.18/-15.84	-17.89/-18.73	-14.33/-15.84	-18.11/-15.17	-13.82/-16.99	-18.17/-15.74	-16.24/-16.93	-12.83/-9.94	-8.47/-8.45	-8.84/-6.75	-4.61/-4.99	-3.27/-2.12	-1.13/-1.45	-2.53/-4.79	-4.11/-3.78	-4.08/-5.48	-5.36/-5.72	-7.14/-12.86	-15.29/-17.47	-17.35/-15.72	-17.34/-14.56	-15.76/-14.53	-10.98/-9.68	-8.77/-14.4
Θ(127.5°)	-18.9/-18.06	-17.6/-17.33	-15.13/-19.36	-17.71/-17.14	-17.68/-18.53	-17.62/-18.84	-19.18/-18.13	-15.01/-12.32	-9.5/-8.06	-6.15/-5.27	-3.41/-4.2	-2.19/-1.71	-1.56/-1.14	2.63/-2.53	-0.46/-1.77	-3.03/-4.45	-6.63/-10.23	-15.17/-18.5	-18.2/-10.11	-9.4/-17.96	-19.43/-17.91	-18.09/-14.8	-18.01/-19.12	-18.01/-19.12
Θ(135°)	-18.52/-18.01	-16.55/-18.83	-19.28/-13.96	-15.91/-18.43	-17.99/-18.43	-18.74/-17.81	-19.56/-18.91	-18.69/-15.37	-11.08/-8.28	-7.59/-5.69	-3.37/-2.79	-1.42/-0.8	-0.66/-1.07	1.22/-2.68	3.01/-5.3	-2.89/-6.62	-2.52/-6.77	-12.91/-12.63	-9.29/-15.7	-17.44/-19.09	-12.92/-12.63	-6.65/-11.84	-9.78/-10.19	-13.61/-15.59
Θ(142.5°)	-11.59/-11.27	-11.69/-10.41	-10.6/-14.15	-13.61/-11.88	-13.81/-15.64	-11.91/-14.02	-8.41/-8.86	-10.3/-9.9	-7.75/-6.07	-4.85/-4.5	-4.8/-3.04	-1.59/-2.62	-3.37/-4.22	-5.8/-5.66	-2.98/-2.88	-7.49/-4.5	-3.84/-4.46	-4.96/-9.57	-13.05/-19.49	-15.81/-11.86	-10.22/-9.29	-11.56/-12.79	-15.72/-19.15	-18.08/-15.17
Θ(150°)	-18.36/-19.16	-18.18/-18.4	-14.69/-8.69	-8.56/-10.79	-12.31/-13.44	-14.02/-14.3	-15.55/-16.98	-13.3/-9.9	-6.42/-5.63	-5.71/-5.89	-5.99/-7.45	-10.37/-10.14	-7.49/-1.79	-9.11/-8.5	-7.52/-6.75	-5.68/-6.55	-7.71/-6.38	-6.79/-10.33	-15.62/-18.98	-18.08/-18.66	-17.31/-12.26	-11.47/-11.96	-10.34/-10.25	-12.39/-10.77
Θ(157.5°)	-9.94/-9.63	-8.05/-7.15	-9.03/-10.82	-14.60/-15.72	-19.15/-18.33	-18.54/-16.21	-18.51/-15.82	-11.5/-9.19	-8.12/-6.5	-4.41/-2.42	-1.2/-0.45	-0.05/-1.7	-0.45/-0.93	-1.07/-1.1	-1.12/-2.03	-3.94/-5.15	-5.12/-5.15	-5.94/-7.23	-8.31/-9.63	-11.26/-13.94	-13.04/-11.41	-9.96/-9.35	-9.78/-10.01	-9.78/-10.01
Θ(165°)	-14.02/-13.61	-14.87/-16.42	-18.78/-17.22	-18.3/-13.84	-18.49/-17.85	-18.61/-17.58	-18.45/-18.35	-15.95/-12.72	-10.39/-9.1	-7.69/-5.71	-3.73/-2.08	-0.94/-0.54	-0.79/-1.28	-1.67/-1.9	-1.87/-1.99	-2/-2.38	-2.95/-4.11	-5.84/-9.44	-10.52/-13.77	-15.71/-16.82	-18.02/-18.81	-16.12/-18.31	-12.59/-12.3	-12.56/-13.3
Θ(172.5°)	-18.52/-18.87	-18.5/-17.74	-16.53/-14.84	-13.76/-13.14	-12.54/-12.95	-13.34/-14.2	-15.87/-17.11	-17.04/-15.74	-13.92/-12.91	-4.91/-4.17	-3.82/-3.73	-3.87/-4.23	-4.77/-5.07	-5.86/-7.33	-9.23/-11.39	-12.84/-14.31	-16.4/-17.67	-18.55/-18.48	-19.06/-17.73	-18.63/-18.17	-16.76/-17.71	-11.65/-17.71	-19.05/-18.4	-19.05/-18.4
Θ(180°)	-8.55/-7.77	-7.97/-8.04	-8.11/-8.66	-8.62/-10.05	-11.71/-13.94	-17.52/-18.03	-18.37/-17.49	-15.48/-13.58	-11.48/-9.8	-8.6/-7.69	-7.07/-6.63	-6.45/-6.38	-6.65/-7.44	-7.99/-8.87	-9.89/-11	-11.96/-13.02	-14.77/-16.88	-18.26/-18.79	-18.27/-18.87	-18.47/-15.09	-13.12/-11.94	-11.25/-10.6	-9.67/-8.45	-9.67/-8.45
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°)	-18.31/-18.16	-14.37/-9.92	-6.77/-3.98	-2.27/-1.12	-0.4/-0.2	0.39/-0.3	0.82/-0.9	0.72/-0.43	0.07/-0.44	-1.26/-2.48	-3.99/-5.76	-8.39/-12.74	-18.13/-18	-13.71/-9.27	-6.3/-4.1	-2.29/-1.08	-10.6/-61	0.97/-1.15	1.05/-0.96	0.93/-0.89	0.33/-0.36	-1.28/-2.45	-4.03/-5.9	-8.43/-13.77
Θ(7.5°)	-17.86/-19.15	-13.35/-9.58	-6.8/-4.06	-0.02/-0.4	1.25/-1.6	1.83/-1.83	1.6																	



Radiated Composite Gain Data of 2.4GHz&5GHz

Appendix A

Θ(0°)	-0.59/-0.67	-0.38/-0.37	-0.88/-1.13	-1.72/-2.18	-3.31/-4.7	-6.26/-8.61	-10.94/-12.11	-10.76/-8.81	-6.68/-4.7	-3.09/-1.88	-1/-0.67	-0.45/-0.29	-0.25/-0.12	-0.18/-0.33	-1.29/-2.2	-3.18/-4.06	-5.46/-7.09	-9.11/-11.58	-15.65/-16.49	-13.06/-9.18	-6.94/-5.61	-4.47/-3.87	-3.47/-2.53	-1.24/-0.52
Θ(7.5°)	0.34/0.4	0.55/0.17	-0.65/-1.6	-2.55/-3.79	-5.46/-7.23	-9.83/-14.2	-17.98/-17.61	-13.17/-9.55	-6.88/-5.06	-3.52/-2.38	-1.65/-1.13	-0.75/-0.5	-0.19/0.24	0.53/0.53	-0.03/-0.67	-1.44/-2.4	-3.61/-4.83	-6.19/-7.84	-9.82/-11.02	-9.75/-7.89	-6.25/-4.58	-2.99/-1.59	-0.96/-0.74	-0.19/0.07
Θ(15°)	-0.04/0	0.71/1.07	0.45/-0.65	-1.42/-1.89	-2.8/-4.15	-6.52/-10.23	-15.76/-18.1	-14.87/-10.04	-7.08/-5.26	-3.8/-2.84	-2.04/-1.2	-0.41/0.23	0.78/1.16	1.32/1.23	0.88/0.22	-0.92/-2.28	-3.45/-4.52	-5.78/-7.43	-9.15/-9.79	-8.68/-6.73	-4.88/-3.11	-1.67/-0.84	-0.18/0.16	0.04/-0.91
Θ(22.5°)	0.79/0.34	0.74/0.82	0.49/-0.51	-1.67/-2.88	-4.12/-6.06	-9.32/-14.65	-19.04/-17.75	-11.43/-7.72	-5.09/-3.3	-2.07/-1.3	-0.91/-0.2	0.45/1	1.15/0.94	0.71/0.22	-0.25/-0.94	-1.94/-3.01	-4.08/-5.34	-6.93/-8.24	-9.4/-9.49	-8.01/-5.72	-3.47/-1.62	-0.22/0.77	1.28/1.64	1.74/1.25
Θ(30°)	0.92/0.67	0.66/-0.45	-1.44/-2.62	-4.48/-5.66	-6.54/-7.8	-11.04/-18.31	-18.44/-14.39	-10.49/-7.13	-4.46/-2.64	-1.11/0.16	1.01/1.51	1.82/1.9	1.96/1.74	1.72/1.64	1.42/1	-0.03/-1.44	-3.19/-4.63	-6.71/-10.96	-17.74/-12.88	-7.98/-5.17	-3.56/-2.25	-0.61/0.66	1.27/1.71	1.36/1.04
Θ(37.5°)	0.62/-1.44	-1.3/-0.4	-0.5/-1.37	-2.83/-5.05	-8.16/-11.82	-15.71/-18.98	-15.13/-11.08	-7.99/-5.2	-3.04/-1.26	0.18/1.2	1.71/1.99	2.28/2.09	2.06/2.01	2.09/1.84	1.51/0.77	-1.03/-3.65	-6.55/-9.66	-12.63/-12.61	-15.92/-17.74	-17.6/-10.71	-6.04/-3.06	-1.24/0.1	1.12/1.45	1.02/1.16
Θ(45°)	-2.41/-2.95	-4.51/-3.26	-1.87/-1.84	-2.52/-3.66	-6.4/-11.1	-16/-17.96	-18.72/-18.93	-12.63/-7.1	-4/-1.54	0.62/1.65	2.04/2.54	2.66/2.11	1.68/1.53	2.23/3.15	2.7/0.84	-1.4/-3.41	-6.34/-8.78	-8.77/-9.73	-11.04/-11.2	-15.28/-18.58	-12.56/-7.46	-3.33/-1.33	-0.9/-1.07	-1.8/-3.59
Θ(52.5°)	-5.72/-3.2	-3.17/-2.55	-2/-2.82	-3.92/-5.98	-9.12/-12.51	-15.28/-12.89	-11.41/-13.6	-18.33/-11.36	-6.33/-2.86	-0.06/0.9	1.06/1.29	0.98/0.19	-0.9/-0.5	0.58/0.55	-0.38/-1.35	-3.47/-7.16	-8.87/-7.48	-7.92/-13.66	-19.05/-13.39	-14.18/-18.21	-12.4/-5.84	-3.66/-3.21	-2.53/-2.2	-3.16/-4.2
Θ(60°)	0.84/-0.16	-1.39/-2.59	-3.92/-3.61	-4/-7.21	-13.37/-17.76	-16.76/-14.61	-15.79/-18.01	-18.4/-13.62	-8.57/-4.31	-0.81/0.1	1.78/2.67	3.52/2.76	1.91/96	2.49/1.12	-2.08/-5.37	-6.07/-6.52	-6.59/-7.79	-10.54/-18.24	-17.71/-15.54	-19.17/-18.78	-10.91/-7.74	-5.49/-4.08	-3.75/-3.36	-1.53/-0.63
Θ(67.5°)	-0.47/0.1	-0.28/-1.18	-2.02/-2.56	-4.12/-6.83	-10.92/-18.95	-19.12/-12.58	-11.65/-12.09	-8.32/-6.62	-8.19/-8.49	-3.59/-1.09	-0.21/69	2.98/2.93	2.76/3.39	3.39/1.65	-0.86/-3.01	-3.99/-4.83	-5.7/-8.83	-13.39/-18.55	-16.89/-14.36	-18.31/-18.74	-13.07/-10.01	-6.06/-4.37	-3.23/-1.29	-0.85/-0.46
Θ(75°)	1.24/0.73	0.35/-1.06	-2.52/-2.81	-1.68/-2.59	-6.37/-17.09	-17.14/-16.54	-18.32/-12.37	-7/-4.02	-3.51/-4.6	-2.6/-0.54	-0.78/0.73	2.21/1.74	0.83/1.91	1.51/0.23	0.1/-0.69	-2.24/-5.27	-9.77/-11.63	-15.37/-19.14	-13.38/-13.87	-18.86/-13.91	-10.94/-10.07	-6.86/-4.21	-1.17/0.06	0.6/0.83
Θ(82.5°)	1.11/0.77	-0.26/-1.13	-2.03/-1.02	-0.77/-2.96	-7.17/-11.71	-17.68/-18.78	-10.33/-5.94	-4.18/-3	-2.64/-3.73	-3.35/-1.24	-0.71/89	3.78/3.03	1.31/1.42	0.77/-0.65	-1.44/-1.21	-1.82/-4.89	-10.42/-12.01	-16.49/-17.81	-17.76/-17.9	-17.44/-17.83	-18.41/-15.48	-7.7/-6.26	-3.57/-0.71	0.1/0.1
Θ(90°)	0.31/-0.37	-1.26/-1.1	-0.59/-1.13	-2.8/-4.36	-8.03/-12.37	-15.31/-17.6	-15.96/-12.24	-9.14/-5.63	-4.34/-5.16	-4.11/-3.29	-3.1/-0.47	2.11/3.08	2.93/2.02	0.81/-0.84	-2.49/-4.26	-6.02/-11.68	-7.51/-5.97	-11.62/-18.21	-11.98/-16.28	-17.67/-16.57	-14.61/-12.46	-6.75/-5.03	-3.6/-6.02	0.72/0.66
Θ(97.5°)	-1.17/-1.3	-2.76/-4.77	-3.36/-2.41	-2.1/-3.53	-7.22/-15.05	-17.58/-16.46	-10.97/-7.81	-4.64/-3.11	-3.95/-5.03	-4.68/-4.68	-5.17/-1.4	1.14/0.48	0.25/-0.06	-0.49/-2.91	-3.39/-5.14	-8.31/-7.18	-5.59/-5.39	-8.74/-17.71	-8.25/-8.72	-13.58/-14.22	-16.96/-11.1	-6.81/-4.95	-4.88/-3.57	-3.07/-2.62
Θ(105°)	-6.05/-5.06	-5.49/-5.67	-8.04/-7.19	-4.45/-6.16	-11.99/-18.64	-18.23/-19.1	-15.46/-11.48	-7.61/-5.18	-4.83/-3.8	-2.62/-2.56	-2.68/-3.3	-3.5/-6.37	-4.18/-2.02	-0.51/0.05	-1.05/-4.21	-7.31/-6.6	-3.61/-4.21	-9.08/-17.41	-9.38/-12.11	-10.67/-13.34	-14.3/-8.77	-5.44/-4.13	-3.86/-3.84	-4.85/-5.54
Θ(112.5°)	-10.02/-8.44	-8.14/-7.83	-10.15/-9.54	-6.66/-7.06	-11.71/-17.93	-17.89/-18.38	-17.96/-9.97	-7.64/-8.06	-6.16/-2.82	-2.3/-2.81	-2.14/-0.38	-1.41/-4.33	-9.18/-13.58	-9.72/-8.19	-13.18/-10.39	-5.42/-5.87	-8.38/-17.33	-16.58/-18.46	-16.71/-14.5	-17.22/-17.66	-8.59/-5.81	-7.91/-12.8	-8.02/-9.5	
Θ(120°)	-8.68/-9.57	-8.56/-11.02	-13.87/-15.41	-17.94/-18.33	-18.13/-13.73	-12.75/-13.12	-11.21/-8.96	-8.84/-8.32	-7.24/-5.35	-2.3/-2.44	-5.24/-3.92	-1.77/-1.87	-2.34/-1.23	-0.57/-2.65	-8.34/-8.54	-1.1/-12.52	-12.54/-12.13	-18.34/-16.35	-10.35/-11.56	-18.45/-11.82	-16.84/-19.19	-18.97/-17.54	-15.37/-14.46	-6.68/-6.4
Θ(127.5°)	-10.91/-9.87	-11.23/-12.47	-13.78/-18.16	-18.04/-17.77	-18.41/-17.86	-18.55/-18.39	-11.11/-8.81	-7.34/-6.16	-5.51/-4.64	-3.76/-2.6	-2.66/-4.5	-4.16/-3.13	-1.83/-2.73	-3.78/-2.72	1.02/1.34	-1.02/-3.19	-5.83/-6.38	-9.77/-10.3	-14.03/-14.43	-14.9/-11.88	-10.04/-11.03	-12.52/-18.04	-8.94/-4.72	-8.35/-11.3
Θ(135°)	-16.09/-18.04	-17.69/-19.34	-15.14/-11.46	-10.98/-12.37	-14.61/-17.73	-18.31/-18.12	-17.32/-13.75	-11.56/-9.29	-8.05/-7.42	-5.03/-4.02	-3.6/-2.8	-4.34/-3.67	-3.63/-1.93	-1.1/-0.82	1.21/0.04	-3.48/-3.47	-4.41/-4.88	-6.21/-1.17	-17/-19.12	-9.9/-18.63	-10.07/-10.28	-7.16/-7.6	-10.12/-12.07	-18.57/-18.22
Θ(142.5°)	-11.25/-12.75	-13/-11.32	-12.77/-14.53	-14.83/-14.37	-11.65/-10.95	-10.89/-11.97	-12.28/-14.68	-18.04/-14.77	-8.55/-4.97	-4.18/-3.74	-2.82/-2.81	-2.2/-3.03	-3.85/-2.74	-2.5/-1.82	-1.18/-2.06	-3.32/-7.97	-5.42/-6.63	-5.73/-9.65	-16.74/-15.23	-18.78/-15.73	-18.41/-12.63	-13.61/-15.85	-14.93/-13.32	-14/-12.47
Θ(150°)	-18.89/-17.84	-18.24/-19.02	-17.95/-12.75	-11.33/-10.05	-9.07/-9.78	-11.49/-12.81	-10.55/-8.12	-6.89/-6.17	-6.2/-6.14	-5.76/-6.15	-6.05/-4.66	-4.13/-5.28	-7.83/-10.3	-9.25/-8	-5.78/-3.89	-3.88/-2.95	-3.09/-4.92	-10.76/-15.59	-17.95/-19.07	-17.99/-10.83	-8.48/-9.45	-10.12/-10.87	-11.62/-13.64	
Θ(157.5°)	-10.16/-10.34	-10.65/-12.09	-13.61/-14.46	-15.79/-16.62	-16.09/-17.75	-19.18/-18.72	-19.73/-13.23	-9.39/-6.77	-5.12/-4.35	-3.76/-2.82	-2.03/-2.18	-2.93/-1.4	-3.13/-3.33	-4.07/-4.78	-4.95/-5.05	-5.13/-5.52	-7.48/-10.16	-10.07/-11.5	-12.38/-10.22	-10.38/-11.95	-15.06/-18	-18.93/-19.1	-18.91/-17.4	-14.46/-12.68
Θ(165°)	-18.23/-18.02	-18.94/-17.84	-17.73/-18.99	-18.39/-18.33	-18.78/-18.68	-18.65/-14.97	-12.95/-12.59	-12.59/-12.93	-11.51/-9.08	-6.22/-4.03	-2.54/-1.44	-0.42/0.4	1.02/1.27	1.15/0.51	-0.63/-1.98	-3.38/-4.62	-5.86/-7.26	-9.03/-9.78	-9.47/-9.63	-9.56/-8.9	-9.04/-9.36	-9.34/-10.6	-12.32/-15.15	-16.04/-17.12
Θ(172.5°)	-19.21/-19.04	-18.4/-18.09	-17.42/-15.63	-13.86/-13.65	-14.64/-15.8	-16.13/-15.77	-15.76/-15.27	-14.78/-13.68	-11.52/-9.29	-7.23/-5.44	-4.03/-2.93	-2.29/-2.04	-2/-2.22	-2.78/-3.66	-4.9/-6.05	-7.26/-8.3	-10.29/-12.96	-14.93/-16.03	-16.77/-17.5	-16.38/-19.06	-18.94/-17.73	-18.84/-16.7	-16.21/-18.8	-18.98/-17.14
Θ(180°)	-12.85/-12.51	-12.93/-12.73	-13.27/-13.86	-12.75/-11.91	-13.2/-14.59	-17.04/-18.95	-18.39/-18.99	-19.05/-18.37	-19.01/-16.41	-14.35/-12.03	-10.44/-9.61	-9.38/-9.08	-9.07/-9.41	-10.36/-11.59	-12.2/-13.37	-15.39/-18.02	-18.53/-17.64	-17.97/-17.58	-17.57/-17.15	-17.56/-16.95	-13.15/-11	-9.73/-9.48	-9.79/-10.76	-13.72/-15.73
Freq(Hz)	5.785GPol.	Theta Ant. 4	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-12.9/-16.43	-16.81/-13.32	-9.92/-7.07	-5.1/-3.3	-2.26/-1.32	-0.75/-0.23	0.15/0.34	0.31/-0.14	-0.62/-1.09	-1.83/-2.85	-3.97/-5.61	-7.62/-10.76	-15.02/-17.36	-13.63/-10.21	-7.47/-5.63	-4.19/-3.04	-2.09/-1.61	-1.17/-1.17	-0.66/-0.27	-0.22/-0.84	-1.31/-1.63	-2.57/-4.1	-5.57/-7.08	-7.99/-10.1
Θ(7.5°)	-18.48/-18.72	-13.93/-10.86	-8.19/-5.81	-3.84/-2.58	-1.83/-1.26	-0.59/0.06	0.48/0.61	0.32/-0.05	-0.56/-1.21	-2.16/-3.18	-4.53/-5.63	-7.54/-10.41	-13.8/-16.97	-16.17/-12.63	-9.06/-6.41	-4.5/-3.12	-2.18/-1.59	-1.28/-0.9	-0.85/-0.68	-0.82/-0.95	-1.27/-1.81	-2.49/-3.21	-4.88/-7.2	-9.71/-13.36
Θ(15°)	-18.24/-19.08	-12.45/-9.92	-7.13/-5.36	-4.01/-2.35	-1.45/-0.7	-0.01/0.39	0.59/0.52	0.43/0.02	-0.77/-1.72	-2.51/-3.31	-4.37/-5.44	-7/-9.53	-13.48/-17.88	-18.81/-12.3	-8.32/-5.43	-3.34/-1.88	-0.75/0	0.5/0.82	1.11/1.2	1.19/0.89	0.13/-0.79	-1.63/-2.97	-4.61/-7.18	-11.45/-18.13
Θ(22.5°)	-13.28/-15.35	-13.29/-9.76	-6.74/-4.62	-3/-1.66	-0.72/-0.05	0.4/0.73	0.67/0.63	0.4/-0.05	-0.93/-1.96	-2.72/-3.41	-4.22/-5.33	-7.77/-12.39	-17.86/-17.74	-10.34/-6.81	-4.83/-3.65	-2.95/-2.05	-0.96/0.08	0.86/1.36	1.53/1.69	1.66/1.13	0.34/-0.7	-1.7/-2.81	-4.84/-7.32	-9.42/-11.97
Θ(30°)	-12.62/-19.08	-18.65/-13.74	-9.34/-6.28	-3.87/-2.05	-0.7/0.05	0.42/0.72	0.92/0.48	0.2/-0.05	-0.76/-1.89	-2.87/-3.41	-3.78/-5.05	-7.61/-12.28	-18.06/-18.86	-10.36/-6.48	-4.41/-3.53	-3.4/-2.37	-0.61/0.71	1.31/1.1	0.53/-0.05	-0.59/-1	-1.57/-3.04	-4.62/-5.17	-5.75/-6.4	-7.86/-10.24
Θ(37.5°)	-14.73/-18.8	-18.6/-16.92	-11.96/-8.8	-5.99/-3.62	-1.89/-1.02	-0.2/0.39	0.45/0.22	0.21/0.22	0.18/-0.28	-0.99/-1.9	-3.45/-6.58	-10.8/-14.87	-15.53/-12.34	-9.05/-6.87	-5.14/-3.82	-3.07/-2.06	-1.23/-0.77	-0.4/-0.43	-0.16/-0.48	-0.97/-1.28	-1.49/-1.59	-2.23/-4.73	-7.65/-9.81	-11.02/-12.18
Θ(45°)	-14.43/-18.88	-18.34/-18.57	-17.84/-17.1	-9.07/-5.92	-4.39/-4.13	-3.51/-2.45	-1.42/-0.65	-0.49/-0.73	-1/-0.89	-0.92/-1.35	-2.53/-5.79	-12.77/-16.49	-11.06/-10.77	-11.09/-9.56	-6.21/-3.77	-2.76/-1.96	-1.71/-1.45	-1.89/-2.8	-3.44/-3.91	-5.24/-5.61	-4/-2.44	-2.49/-3.87	-6.95/-11.56	-14.55/-15.17
Θ(52.5°)	-18.47/-17.93	-18.35/-12.77	-13.1/-9.78	-5.52/-4.89	-6.31/-6.55	-6.52/-6.54	-6.48/-4.89	-3.37/-3.52	-4.33/-															



Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	4	4.85	4.11	4.22
Ant. 2 Max Gain (dBi)	3.64	4.26	3.26	4.19
Ant. 3 Max Gain (dBi)	5.5	5.4	4.77	5.07
Ant. 4 Max Gain (dBi)	5.11	5.04	4.96	5.17
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/97.5/232.5	Phi/97.5/240	Phi/97.5/307.5	Phi/105/240
Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/97.5/255	Phi/90/225	Phi/97.5/225	Phi/90/225
Ant. 3 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/97.5/285	Theta/90/292.5	Theta/97.5/292.5	Theta/97.5/292.5
Ant. 4 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/97.5/262.5	Theta/97.5/277.5	Theta/97.5/285	Theta/97.5/277.5
Max Gain (dBi)	5.5	5.4	4.96	5.17
DG [1SS] (dBi)	5.66	5.88	5.63	5.82
DG [2SS] (dBi)	5.5	5.4	4.96	5.17
DG [4SS] (dBi)	5.5	5.4	4.96	5.17



Radiated Composite Gain Data of 6GHz

Appendix B

DG 1SS Result

Freq(Hz)	6.175GPol	Phi-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)	
Θ(0°)	-8.57/-6.62	-4.68/-3.35	-2.86/-2.2	-2.04/-1.89	-1.61/-1.88	-2.14/-1.84	-1.73/-2.44	-3.17/-3.73	-4.65/-5.21	-6.85/-7.93	-7.72/-8.92	-9.54/-8.46	-7.34/-6.15	-4.91/-3.73	-3.12/-2.47	-2.09/-1.5	-1.16/-1.35	-1.63/-1.6	-1.78/-1.75	-2.68/-2.74	-3.41/-3.7	-4.8/-5.93	-7.01/-9.43	-10.19/-9.14	
Θ(7.5°)	-6.58/-4.91	-3.12/-2.64	-2.36/-2.07	-1.92/-1.69	-1.53/-1.93	-1.48/-2.33	-2.94/-2.84	-2.83/-2.94	-3.64/-2.7	-5.75/-7.67	-6.76/-8.91	-8.41/-8.76	-8.21/-6.45	-5.39/-4.45	-3.31/-2.44	-1.87/-1.67	-1.51/-1.33	-1.13/-1.47	-2.01/-2.37	-3.18/-3.52	-4.31/-3.41	-4.97/-6.78	-8.33/-9.14	-8.86/-1.7	
Θ(15°)	-4.73/-2.36	-3.12/-2.53	-2.07/-1.43	-0.95/-0.76	-1.11/-1.17	-2.48/-2.03	-1.54/-1.94	-2.48/-2.25	-2.28/-2.08	-4.14/-3.99	-4.16/-5.54	-6.12/-8.36	-7.15/-7.07	-2.57/-1.43	-1.14/-38	-1.61/-32	-0.94/-0.61	-0.55/-0.98	-0.55/-0.98	-1.57/-1.67	-3.25/-3.45	-3.05/-4.4	-5.87/-7.13	-7.14/-6.2	
Θ(22.5°)	-4.78/-2.89	-2.06/-2	-2.4/-1.94	-1.4/-0.28	0.8/0.8	0.59/0.46	0.31/-0.32	-0.85/-1.25	-1.33/-1.29	-1.63/-1.65	-1.33/-2.76	-5.65/-7.2	-6.19/-3.6	-1.5/-0.9	-1.02/-0.56	0.22/0.91	1.39/1.19	0.88/0.47	0.17/-0.67	-1.9/-2.96	-3.38/-3.38	-3.42/-4.65	-6.91/-7.91	-8.57/-7.38	
Θ(30°)	-4.13/-3.08	-2.6/-1.39	-0.87/-0.64	-0.74/-1.25	-1.31/-1.27	-0.8/0.17	0.08/-0.44	-1.34/-1.69	-1.8/-1.15	-0.72/-0.42	-0.36/-1.99	-4.48/-4.29	-3.32/-2.57	-1.42/0.11	0.57/0.69	1.21/0.83	0.55/1.17	1.37/1.09	0.09/-1.36	-2.55/-4.15	-5.89/-6.31	-8.31/-8.09	-6.52/-6.07	-4.76/-4.18	
Θ(37.5°)	-3.07/-1.5	0.23/0.64	-0.89/-1.51	-1.79/-2.27	-1.84/-1.07	0.02/0.53	-0.65/-0.07	-0.9/-0.85	-0.55/-0.85	-0.73/-0.64	-1.41/-3.35	-1.50/0.69	-1.50/0.69	-1.50/0.69	-1.50/0.69	-1.50/0.69	-1.50/0.69	-1.50/0.69	-1.50/0.69	-1.50/0.69	-1.50/0.69	-1.50/0.69	-1.50/0.69	-1.50/0.69	
Θ(45°)	-1.42/-1.12	-0.46/0.85	10.5	0.44/0.32	0.39/0.24	0.36/-0.03	-0.35/-0.59	-0.45/-0.01	0.56/0.64	0.28/-0.01	-0.96/-1.74	-2.31/-1.97	-0.49/0.64	1.26/1.96	2.99/3.55	3.03/2.03	0.48/0.02	0.8/0.98	0.79/0.7	0.01/-0.23	-0.53/-1.8	-3.6/-5	-5.62/-5.48	-4.9/-2.38	
Θ(52.5°)	-2.02/-1.36	-0.64/-0.28	-1.11/0.31	1.34/0.52	2.34/1.99	1.86/1.56	1.98/2.26	2.34/2.22	1.57/0.14	-1.5/-2.02	-0.45/-0.87	-2.26/-1.52	-0.45/0.54	0.66/0.51	0.58/-0.48	1.17/2.81	2.51/1.21	0.63/-0.1	-0.33/-0.25	-1.77/-0.15	0.28/0	-0.31/-2.26	-5.76/-6.02	-4.61/-4.2	
Θ(60°)	-1.50/-17	-0.09/0.88	-0.38/1.31	1.81/1.82	1.49/1.1	1.12/0.99	1.18/1.82	2.23/1.44	0.46/-0.36	-1.78/-4.13	-3.34/-3.54	-2.28/-1.52	-1.07/0.06	1.84/0.97	-0.38/-0.23	-0.06/-1.67	1.57/1.53	1.13/1.26	1.84/1.13	-0.61/-1.54	-2.01/-1.44	-1.04/-1.13	-2.71/-3.2	-0.73/-3.18	
Θ(67.5°)	-0.41/-0.77	1.39/2.08	0.27/1.66	1.32/1.52	1.21/1.47	1.35/1.09	0.79/0.09	-0.94/-2.05	-2.73/-4.42	-3.5/-3.03	-2.48/-3.13	-3.37/0.46	1.26/1.94	0.78/1.46	1.24/0.42	-1.23/-2.13	-0.45/-0.19	-0.87/-0.49	-0.37/-0.17	-0.2/-1.73	-3.07/-1.77	-0.72/-1.33	-3.37/-3.03	-2.44/-2.21	
Θ(75°)	-0.52/0.63	1.61/19	2.43/2.17	0.91/0.69	2.48/3.69	3.51/2.2	0.61/0.87	0.57/0.7	-0.65/-2.77	-1.5/-0.93	-1.28/0.13	-0.85/0.83	0.52/0.46	2.54/2.3	1/0.33	-0.96/-2.86	-4.52/-3.34	-2.32/-1.28	-0.25/-2.81	-1.69/0.8	-1.47/-1.36	-1.54/-2.51	-0.21/-35		
Θ(82.5°)	-1.36/0.75	2.23/3.48	1.89/0.1	-0.03/-0.49	2.43/4.31	1.34/1.57	1.35/1.26	1.33/1.73	1.98/3.32	0.83/0.3	-0.23/-0.7	-1.03/-1.72	-1.41/-0.53	-1.31/3.32	3.34/3.72	2.58/2.02	2.19/0.55	0.42/1.37	-1.6/-1.57	-1.65/0.64	-1.23/0.48	0.45/-1.74	0.35/0.53		
Θ(90°)	-0.79/-0.78	0.68/2.43	1.61/27	0.84/0.68	1.92/3.54	3.33/1.14	1.01/1.31	1.75/1.17	2.85/0.83	-0.04/-1.46	1.1/0.83	-0.77/0.55	-0.24/-1.14	0.33/0.49	2.83/2.64	3.38/3.85	5.07/3.91	3.29/2.65	0.87/2.1	2.23/0.92	0.22/1.22	0.68/-2.05	-1.04/-1.53	-0.21/1.06	
Θ(97.5°)	-2.38/0.72	-0.08/1.44	1.51/2.32	3.01/1.33	2.13/2.45	2.36/1.05	0.76/1.5	2.22/19	1.95/1.39	1.68/0.74	1.1/0.97	-0.93/-0.07	-0.4/1.4	1.12/1.09	2.21/3.46	3.85/4.6	5.28/4.38	3.68/3.27	1.72/2.49	1.78/1.09	1.03/0.08	-0.69/-2.41	-2.03/-1.37	-0.06/0.43	
Θ(105°)	-2.74/-1.05	-1.34/0.23	0.75/2.26	2.54/1.05	0.69/2.36	0.74/-0.44	-0.34/0.63	0.3/0.09	-2.73/-1.48	-0.12/-3.55	-0.59/-1.58	3.65/-2.19	-1.98/0.91	3.05/3.51	1.87/2.83	2.53/2.03	2.53/2.03	1.31/-2.29	-1.35/-2.49	-0.28/-2.31	1.28/-1.38	0.7/-0.35			
Θ(112.5°)	-1.24/-1.28	-0.51/-1.26	-0.68/0.47	1.45/0.96	-0.01/0.22	-0.17/-1.6	0.34/0.25	-3.01/-3.71	-1.96/0.8	-1.16/-1.13	-2.33/-4.61	-2.09/-0.99	-1.87/0.56	1.35/0.37	-0.78/0.44	1.34/-0.46	1.01/0.3	-0.11/62	1.74/2.25	-1.35/-1.18	-3.37/-1.71	-2.22/-3.35	-3.29/-3.34	-0.09/-0.27	
Θ(120°)	-2.54/-1.3	-0.83/0.22	0.04/-0.2	-0.13/-0.92	-2.13/-1.19	-2.18/-3.04	-1.79/0.35	-0.32/-1.79	-1.69/-0.9	-1.85/-2.27	-2.45/-3.17	-4.82/-3.96	-4.14/-1.16	-1.09/0.02	-1.31/-2.35	-0.18/-1.36	-0.37/-0.27	-2.02/-1.26	-0.03/-2.39	-1.8/-3.68	-1.68/-1.82	-1.84/-3.19	-3/0.35	-1.13/-1.56	
Θ(127.5°)	-3.9/-2.02	-0.64/0.74	0.25/-1.6	-1.85/-3.08	0.3/0.04	-0.16/-0.81	-2.85/-4.19	-3.53/-3.29	-2.24/-2.23	-2.21/2.66	-4.14/-7.8	-3.21/-2.97	-3.69/-2.12	-0.08/0.51	-0.38/0.65	0.11/-2.99	-2.88/-1.44	-0.02/-1.32	0.77/-1.71	-2.26/-2.04	-3.72/-3.67	-4.21/-1.94	-2.02/-0.66	-0.73/-1.38	
Θ(135°)	4.86/-2.04	-1.87/-1.4	0.07/-1.34	2.42/-0.97	0.05/-0.15	0.19/0.51	0.6/-1.53	2.03/-0.93	-0.72/-1.95	-2.44/-1.71	-2.7/-4.14	1.58/-2.07	-3.91/0.07	-1.89/-3.96	3.88/-2.04	1.01/2.05	0.49/0.17	1.82/-2.84	-0.62/-3.47	-6.12/-3.17	-2.64/-2.28	-5.29/-5.73	5.97/-4.79	-1.48/-0.01	
Θ(142.5°)	-1.23/-3.69	-0.88/0.14	-0.57/-0.45	-0.98/-0.88	-0.51/-1	-0.7/-0.06	0.16/-0.54	0.03/0.45	-0.5/-1.9	-4.07/-6.11	-3.86/-2.45	-3.4/-6.79	-6.66/-8.21	-5.71/-4.66	-4.64/-3.01	-1.93/-1.46	-4.21/-2.72	-6.62/-4.78	-0.47/-3.31	-7.16/-8.52	-3.64/-2.4	-2.67/-6.02	-5.13/-9.11	-2.57/-1.38	
Θ(150°)	-4.79/-4.42	-2.75/-1.44	-1.61/-2.14	-0.42/-0.2	-0.7/-0.03	0.53/0.09	-1.18/-1.75	-1.68/-1.01	-0.82/-1.33	-3.22/-2.55	-5.41/-6.41	-6.79/-8.91	-8.41/-8.28	-5.04/-4.24	-4.02/-4.63	-5.48/-7.47	-8.02/-9.76	-6.46/-6.55	-8.49/-7.18	-6.56/-5.28	-4.43/-5.37	-6.89/-6.46	-5.21/-5.37		
Θ(157.5°)	2.04/-2.18	-1.8/-27	-3.23/-2.41	-1.29/-0.24	0.04/-1.49	-2.57/-2.34	-2.35/-1.41	-0.43/-0.61	-2.14/-5.07	-7.51/-8.12	-6.79/-4.43	2.14/-2.73	-4.4/-5.52	-3.14/4	-4.32/-5.61	-5.4/-3.59	-3.49/-5.08	-5.23/-5.11	-7.43/-8.65	-8.16/-9.5	-9.84/-7.58	-5.69/-5.55	7.34/-6.52	-4.25/-3.38	
Θ(165°)	-1.8/-1.17	-1.77/-2.29	-1.96/-1.57	-0.43/0.03	-0.56/-1.28	-1.98/-3.19	-3.6/-3.55	-3.66/-3.96	-4.84/-5.38	-5.21/-5.58	-6.02/-7.81	-9.13/-8.38	-6.65/-5.41	-4.75/-3.93	-2.99/-2.35	-2.95/-2.62	-1.93/-2.25	-3.19/-5.32	-6.99/-7.48	-7.47/-7.54	-6.71/-6.93	-6.46/-5.43	-5.3/-7.2	-3.87/-3	
Θ(172.5°)	-3.62/-2.76	-2.12/-1.92	-2.7/-3.35	-3.45/-3.61	-3.41/-3.93	-4.35/-2.7	-5.35/-3.58	-5.44/-5.68	-6.15/-5.37	-6.76/-7.79	-9.08/-1.22	-8.37/-7.29	-6.11/-4.17	-6.18/-6.98	-6.15/-4.13	-5.11/-4.95	-5.11/-4.95	-4.01/-4.38	-4.86/-5	-5.85/-9.3	-8.95/-9.32	-8.62/-8.98	-7.47/-5.36		
Θ(180°)	-6.1/5	-3.74/-2.43	-2.82/-2.88	-1.98/-1.57	-1.44/-1.88	-2.05/-2.48	-2.64/-2.84	-2.45/-2.66	-2.83/-3.01	-3.54/-4.77	-6.09/-6.83	-6.36/-5.6	-4.75/-4.03	-4.26/-5.03	-5.34/-5.22	-4.58/-3	-2.55/-2.63	-2.28/-2.33	-2.71/-3.33	-3.99/-4.84	-4.97/-5.55	-6.54/-8.13	-7.65/-7.2	-6.79/-7.09	
Freq(Hz)	6.175GPol	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°)	-2.53/-2.85	-3.24/-2.49	-2.58/-2.06	-2.27/-1.8	-2.27/-1.44	-1.17/-1.06	-1.6/-2.7	-5.66/-8.64	-3.43/-2.71	-2.57/-2.34	-2.31/-1.98	-2.42/-3.22	-2.88/-2.66	-2.43/-2.76	-3.47/-4.15	-5.01/-6.02	-7.59/9	-8.64/-9.96	-5.6/-4.82	-4.51/-4.08	-3.49/-2.54	-1.89/-1.99	-2.16/-2.27	-2.42/-2.36	
Θ(7.5°)	-1.97/-1.68	-1.56/-2.03	-2.59/-3.18	-3.92/-4.93	-5.81/-6.96	-6.69/-5.78	-4.87/-4.2	-3.3/-0.7	-2.57/-1.75	-1.08/-1.75	-2.58/-2.05	-2.37/-1.33	-3.53/-3.31	-3.44/-3.5	-5.47/-6.47	-7.65/-8.47	-9.61/-10.79	-11.45/-9.58	-7.31/-5.5	-4.73/-4.04	-3.36/-2.41	-1.54/-1.07	-0.81/-0.62	-1.25/-1.4	
Θ(15°)	-0.69/-0.98	-0.93/-1.37	-1.37/-1.91	-3.37/-3.71	-4.1/-3.93	-2.31/-3.48	-1.29/-0.59	0.01/0.15	0.27/0.47	0.23/-0.46	-0.77/-0.9	-1.5/-1.44	-0.97/-0.95	-1.42/-2.61	-4.34/-3.45	-6.8/-7.94	-9.35/-9.35	-8.13/-5.2	-3.13/-2.46	-2.68/-2.87	-1.96/-1.28	-0.97/-0.89	-0.99/-1.17	-1.15/-0.9	
Θ(22.5°)	-1.76/-0.5	-1.26/-1.1	-2.76/-3.82	-4.35/-3.66	-3.59/-2.5	-1.42/-1.42	-1.18/-0.04	0.91/0.7	1.64/2.32	2.28/1.25	-0.5/-1.59	-1.16/-0.38	0.31/0.49	-1.73/-2.31	-2.98/-3.68	-3.74/-3.98	-3.78/-2.9	-1.97/-1.3	-0.69/-0.25	-0.01/-0.17	-0.25/0.16	0.43/-0.5	-0.62/-1.24		
Θ(30°)	-1.4/-0.55	-1.45/-2.86	-4.48/-4.68	-6.44/-2.47	-3.61/-2.44	-1.47/-1.08	-0.76/-0.75	-0.58/-0.37	0.21/0.28	0.40/1.91	1.25/1.31	1.1/1.1	1.22/0.83	1.42/1.33	-0.31/-65	-4.38/-6.32	-5.82/-4.71	-3.68/-2.25	-1.33/-0.88	-0.46/-0.94	-1.44/-1.23	-0.56/-0.03	0.32/0.85	0.92/0.24	
Θ(37.5°)	0.17/-1.09	-2.73/-4.07	-5.78/-5.32	-4.33/-3.58	-2.34/-1.49	0.13/-0.23	-0.57/-0.38	0.12/0.57	0.56/0.71	1.35/2.95	2.93/1.91	1.88/1.5	1.26/2.01	1.46/-0.11	-2.11/-3.16	-3.84/-6.54	-8/-8.89	-7.16/-5.02	-4.45/-3.32	-2.2/-0.91	-1.25/-1.76	0.21/-0.09	0.27/0.01	0.72/0.74	
Θ(45°)	-0.33/-3.24	-4.44/-3.4	-4.44/-3.22	-2.15/-1.93	-1.61/-0.84	-0.56/-0.59	-0.55/0.34	1.29/1.78	1.68/0.99	1.49/0.71	1.36/2.14	2.13/1.51	1.08/0.1	0.31/0.41	-1.39/-2.13	-4.29/-5.87	-3.84/-2.39	-2.25/-0.57	-0.24/-0.73	-1.06/-1.26	-1.21/0.35	0.95/0.24	0.63/0.61		
Θ(52.5°)	-3.36/-5.19	-4.72/-4.29	0.18/-0.14	-0.71/-0.15	0.18/0.14	0.06/0.58	-0.72/-0.01	-0.05/0.53	0.32/-0.08	0.404/2.29	0.35/0.25	-0.07/-1.49	-1.01/-0.88	-1											



Radiated Composite Gain Data of 6GHz

Appendix B

θ(22.5°)	-1.2/-0.7	-1.26/-1.49	-0.98/-0.78	-0.58/-0.17	0.090.38	0.37/-0	-0.09/-0.77	-1.39/-2.61	-4.43/-6.32	-9.23/-8.77	-7.88/-5.44	-4.58/-4.13	-3.88/-2.85	-2.79/-2.41	-0.82/-0.02	0.48/0.54	-0.08/-0.6	-0.65/-0.91	-0.99/-0.77	-0.53/-0.56	-0.76/-1.98	-4.47/-7	-8.1/-6.3	-4.31/-2.44
θ(30°)	-0.4/-0.87	-2.23/-1.25	-0.07/0.57	0.6/0.16	-0.1/-1.26	-1.2/-0.28	0.98/1.66	1.01/-0.96	-3.1/-4.76	-6.69/-8.15	-8.39/-7.5	-4.67/-3.76	-3.78/-3.92	-2.49/-0.42	0.63/1	0.33/-0.37	-1.21/-1.16	-1.12/-1.36	-1.73/-2.12	-1.95/-1.75	-1.19/-1.4	-2.35/-3.01	-5.2/-5.08	-3.62/-1.53
θ(37.5°)	-1.49/-1.61	-0.08/0.53	-1.26/-1.44	-0.78/-0.66	-1.42/-2.21	-0.8/0.57	1.45/1.07	1.34/0.76	-0.47/-3.13	-5.68/-3.94	-3.55/-5.3	-5.04/-6.22	-6.59/-4.11	-1.63/-1.18	1.79/1.56	0.19/-0.51	-0.36/-0.9	-0.97/-1.61	-2.19/-3.58	-4.38/-4.02	-3.6/-2.24	-2.08/-2.74	-2.94/-3.28	-4.43/-1.88
θ(45°)	-2.18/-2.1	0.24/0.03	0.03/0.46	0.04/-0.61	-1.07/-0.23	0.98/1.2	1.12/0.61	-0.19/-0.92	-2.39/-2.16	-1.46/-2.29	-2.57/-3.8	-3.98/-2.92	-3.48/-3.31	-0.67/0.54	1.87/2.03	0.75/0.68	0.55/-0.13	0.32/0.05	-0.17/-0.71	-1.07/-1.38	-2.97/-5.07	-5.24/-5.56	-3.72/-3.53	-1.54/-0.99
θ(52.5°)	-0.63/-0.14	0.61/0.62	0.35/0.41	-0.62/0.08	1.57/2.11	1.38/0.24	-0.79/-1.08	-1.12/-1.88	-1.99/-1.94	-0.92/-0.69	-2.47/-2.58	-1.81/-2.6	-0.81/0.1	-0.94/-0.74	1.29/1.66	2.09/2.96	2.03/-0.04	0.72/0.96	0.98/1.41	0.67/0.76	-0.49/-1.47	-2.11/-2.36	-2.76/-3.94	-1.91/-2.1
θ(60°)	-1.62/-0.47	-0.04/-1.08	0.59/0.14	0.43/-1.1	1.65/1.27	0.05/-0.17	0.42/0.7	0.26/-1.56	-3.07/-2.14	-3.3/-3.27	-4.18/-2.45	-2.05/-1.94	-1.69/-1.47	-0.6/0.84	0.99/-0.39	0.48/1.73	1.01/-1.27	-0.67/-0.81	-0.02/-0.77	-1.14/-0.83	-1.06/-1.24	-3.25/-3.14	-2.42/-1.67	-0.61/-2.53
θ(67.5°)	-0.94/0.24	1.72/1.92	1.83/1.87	1.22/1.08	0.49/1.02	0.48/0.56	0.25/-0.49	-1.84/-3.39	-4.44/-3.65	-5.44/-6.59	-4.46/-4.45	-3.24/-1.49	0.17/1.39	0.35/0.96	0.26/-1.47	-0.38/-0.06	-1.28/0.32	1.24/1.15	-0.63/-0.18	-1.06/-0.73	-1.25/-3.02	-3.5/-3.9	-1.02/0.07	-0.74/-1.45
θ(75°)	-0.83/-1.75	1.19/1.59	1.84/1.52	1.23/1.1	1.86/1.7	2.37/3.02	2.02/1.44	-0.12/-1.81	-2.64/-2.96	-3.2/-7.3	-5.94/-5.45	-4.36/-3.33	0.13/0.77	-1.18/-1.03	0.03/-0.95	1.25/-0.18	-0.8/-1.68	-3.18/-3.5	-2.59/-1.79	-2.8/-2.53	-2.04/-2.03	-2.64/-1.34	-1.12/-3.23	-1.44/-0.56
θ(82.5°)	0.47/1.19	1.85/1.78	3.02/2.37	2.14/1.06	1.41/2.09	2.6/2.3	2.86/2.23	1.58/-0.11	-0.27/-3.05	-2.3/-1.83	-2.88/-5.54	-2.58/0.01	-0.01/-0.09	1.11/0.8	0.12/1.45	4.04/2.36	1.06/-0.85	-1.54/-2.02	-1.94/-2.72	-2.11/-0.22	0.04/-2.9	-2.06/-2.23	-2.71/-3.4	-0.7/-0.55
θ(90°)	-0.34/0.21	0.35/0.52	1.88/1.48	0.34/0.31	1.18/1.53	3.31/2.71	3.02/1.96	1.51/1.45	0.83/-1.25	-0.67/-1.1	-0.46/-1.64	-3.37/-0.94	0.73/-0.46	0.63/1.64	2.07/2.06	4.04/2.85	2.89/0.63	-0.59/0.03	0.42/0.36	1.43/-2.45	0.62/1.73	-0.53/-0.84	-1.18/-3.01	0.37/-3.78
θ(97.5°)	-2.47/-0.04	-0.41/-0.53	-0.49/0.77	1.12/1.22	0.83/0.23	1.72/2.58	3.43/2.22	2.72/-0.93	0.07/-1.12	0.19/0.14	-2.15/-1.08	-1.13/-0.99	-1.49/0.83	2.46/2.92	2.03/3.28	5.24/3.97	4.94/3.21	1.75/1.72	1.52/2.03	1.14/-0.71	0.27/2.46	0.61/-0.59	-2.85/-2.59	-1.31/-2.09
θ(105°)	-2.32/-0.66	-0.65/-1.34	2.29/2.2	1.63/-1.22	1.15/0.33	-0.73/-1.64	1.63/2.29	1.1/-1.25	0.34/-0.94	0.49/-0.47	-1.89/-2.88	-1.93/-1.58	-2.21/0.77	1.51/0.47	2.5/0.24	3.31/2.3	2.59/2.71	2.64/4.21	1.91/3.91	1.34/-2.23	-0.82/-0.31	0.48/-1.73	-4.41/-2.52	-2.66/-1.26
θ(112.5°)	-2.28/0.09	0.46/0.67	1.06/0.68	1.31/-0.19	1.15/0.77	-1.69/-1.12	0.55/0.21	-0.27/-0.29	-1.91/-2.52	-1.73/-3.33	-3.26/-3.98	-3.46/-3.51	-2.14/-1.81	-1.27/0.67	0.45/0.38	1.51/-0.19	0.52/0.18	-0.37/1.62	0.36/-0.01	-0.93/-5.05	-3.94/-2.87	-4.28/-1.55	-3.33/-1.94	-0.49/0.01
θ(120°)	-2.21/-1.01	-0.17/-0.01	-1.1/-2.03	-0.22/-1.04	-0.79/-1.66	-2.6/-3.03	-1.62/-1.09	-3.07/-4.44	-4.3/-3.34	-3.21/-2.4	-2.37/-5.93	-5.12/-5.57	-3.15/-3.14	-1.31/0.13	-0.87/-2.6	0.15/0.48	-1.61/-3.57	-2.76/-0.96	-3.92/-5.6	-4.02/-5.62	-5.72/-3.55	-2.65/-3.21	-3.43/-2.59	-0.8/-0.82
θ(127.5°)	-3.11/-0.46	-1.69/-2.76	-2.5/-2.05	-2.32/-0.32	-0.96/-0.74	-2/-2.17	-2.34/-2.84	-3.37/-1.66	-2.48/-4.09	-2.58/-3.54	-3.84/-6.47	-4.83/-9.13	-8.71/-3.65	-0.77/-1.67	-2.31/-1.39	-2.4/-1.3	-1.98/-2.9	-1.92/-1.51	0.83/-1.48	-1.77/-0.62	-1/-1.73	-4.46/-6.32	-4.93/-4.08	-0.16/-0.49
θ(135°)	-3.28/-1.16	-3.57/-3.76	-2.48/-2.22	-1.27/-0.96	0.08/-0.02	-0.71/-1.52	-0.93/-2.11	-4.16/-4.29	-1.64/-2.6	-2.65/-1.8	-4.32/-7.16	-3.53/-5.04	-5.66/-2.05	-1.04/-3.03	-5.22/-3.01	-0.84/-1.18	-2.82/-1.57	-3.71/-1.65	-0.13/-0.62	-1.31/-0.61	-3.18/-4.7	-4.25/-6.15	-9.12/-1.4	-2.34/-4.92
θ(142.5°)	-0.44/-3.34	-4.29/-6.51	-4.25/-2.79	-3.65/-1.99	-1.27/-2.06	-1.62/-1.36	-1.85/-1.25	0.05/0.08	-1.77/-5.16	-5.75/-4.72	-6.68/-8.5	-7.4/-7.33	-4.82/-3	-2.59/-5.01	-8.81/-6.55	-3.96/-2.33	-3/-5.26	-6.8/-3.63	-2.28/-3.52	-6.69/-5.89	-2.68/-5.24	-6.58/-7.09	-7.4/-9.56	-5.38/-4.32
θ(150°)	-2.5/-5.54	-5.33/-4.31	-2.18/-2.59	-2.07/-1.59	-1.08/-1.41	-2.2/-1.27	-1.22/-2.24	-2.22/-1.72	-2.43/-2.57	-3.08/-3.44	-5.7/-8.09	-6.56/-5.99	-6.64/-4.13	-6.1/-5.76	-6.18/-5.33	-7.24/-6.04	-4.75/-6.78	-6.89/-8.12	-10.2/-7.35	-7.8/-6.32	-6.02/-5.59	-5.77/-6.38	-6.6/-2.06	
θ(157.5°)	-2.68/-3.4	-3.47/-3.58	-2.93/-2.56	-2.58/-2.81	-3.09/-3.31	-3.78/-4.67	-4.12/-3.83	-4.19/-4.59	-4.98/-6	-6.61/-8.25	-8.14/-6.25	-6.94/-8.68	-8.48/-8.65	-7.88/-3.99	-4.41/-4.75	-4.59/-3.63	-4.6/-4.54	-3.88/-3.9	-5.19/-5.94	-6.98/-10.16	-7.86/-7.72	-6.13/-4.97	-4.94/-3.67	-3.91/-9.5
θ(165°)	-6.57/-4.71	-2.73/-2.37	-1.53/-1.54	-1.3/-1.67	-2.41/-2.24	-1.91/-2.26	-2.59/-3.61	-4.14/-4.99	-6.78/-7.55	-8.3/-8.97	-7.57/-6.8	-6.77/-6.23	-7.08/-7.99	-7.34/-8.42	-7.57/-5.3	-4.06/-3.22	-2.3/-1.48	-2.2/-5.63	-9.5/-9.98	-8.66/-6.66	-5.87/-5.49	-4.97/-3.73	-4.24/-5.96	-5.8/-6.85
θ(172.5°)	-2.68/-2.83	-2.24/-3.03	-3.52/-3.73	-3.54/-2.45	-1.79/-2.34	-2.84/-3.32	-4.12/-4.57	-6.38/-7.63	-8.25/-10.76	-10.67/-9.05	-7.63/-5.93	-5.67/-6.17	-8.51/-10.44	-11.28/-11.44	-10.23/-9.06	-8.46/-7.42	-5.49/-4.26	-4.13/-4.4	-4.94/-5.5	-6.39/-8.9	-9.14/-9.19	-9.87/-9.02	-8.02/-7.29	-5.6/-3.92
θ(180°)	-6.09/-4.8	-3.71/-3.7	-3.26/-2.63	-2.42/-2.42	-3.17/-3.28	-2.99/-2.95	-3.64/-3.99	-4.5/-5.04	-5.68/-6.13	-6.76/-7.14	-7.23/-7.21	-7.4/-8.42	-7.73/-7.85	-6.4/-5.98	-5.78/-5.69	-5.42/-4.6	-3.75/-3.23	-2.99/-2.74	-2.86/-3.28	-4.27/-4.02	-4.44/-5.68	-7.31/-7.84	-7.87/-8.71	-8.54/-7.06
Freq(Hz)	6.995GPol.	Theta-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dc(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°)	-2.53/-2.82	-3.11/-3.36	-3.82/-4.7	-4.9/-5.17	-5.82/-6.83	-7.24/-5.92	-5.26/-5.94	-5.63/-5.17	-4.04/-3.12	-2.77/-2.62	-2.49/-2.18	-2.36/-2.18	-2.66/-3.16	-4/-4.76	-6.48/-6.98	-7.65/-0.88	-7.69/-6.93	-6.18/-5.81	-4.72/-3.53	-3.58/-3.4	-2.72/-1.99	-1.94/-2.2	-1.82/-1.8	-2.44/-2.65
θ(7.5°)	-2.49/-3.54	-4.77/-5.97	-7.04/-8.94	-9.74/-10.07	-8.71/-7.67	-5.34/-3.97	-3.05/-2.42	-1.81/-1.96	-2.12/-1.47	-0.71/-2.02	-1.73/-2.45	-2.78/-3.09	-2.71/-2.53	-2.21/-2.67	-2.85/-2.69	-3.28/-4.12	-5.12/-5.78	-5.84/-5.67	-2.81/-2.98	-2.91/-2.37	-1.42/-1.19	-1.03/-1.04	-1.18/-1.4	
θ(15°)	-2.71/-3.8	-4.44/-5.02	-5.01/-5.61	-6/-5.81	-5.71/-4.32	-3.37/-2.38	-1.37/-0.33	0.48/0.5	0.14/0.67	1.24/0.99	0.09/-0.86	-1.63/-3	-3.96/-3.59	-2.94/-3.19	-3.56/-4.18	-4.63/-4.7	-3.95/-3.39	-3.59/-3.23	-2.09/-1.19	-0.47/-0.74	-1.17/-1.74	-0.88/-0.45	-0.78/-0.82	-0.15/-1
θ(22.5°)	-1.46/-0.39	-3.52/-3.24	-3.24/-3.64	-4.35/-5.85	-5.89/-5.64	-4.82/-3.26	-1.76/-0.52	0.47/0.85	0.71/0.65	0.46/-0.55	-1.48/-2.67	-4.52/-5.37	-5.42/-5.02	-5.37/-6	-6.32/-6.65	-5.79/-4.28	-4.28/-4.14	-4.31/-2.98	-1.77/-1.58	-1.63/-1.37	-1.51/-1.95	-1.99/-1.71	-1.26/-1.23	-0.51/-0.52
θ(30°)	-0.57/-1.16	-0.58/-0.35	-2.09/-4.83	-6.92/-8.46	-7.65/-7.92	-8.33/-5.59	-2.91/-1.44	-0.08/0.62	0.79/0.83	1.27/0.48	-2.41/-4.05	-2.92/-2.69	-3.09/-3.92	-5.43/-4.97	-4.71/-4.92	-5.77/-6.37	-6.42/-3.84	-1.71/-0.68	-0.74/-1.16	-1.36/-1.44	-0.97/-0.74	-0.43/-0.83	-0.15/-0.16	0.21/-0.06
θ(37.5°)	0.26/-0.79	-0.49/-1.29	-3.69/-6.14	-5.42/-5.77	-6.66/-9.42	-6.78/-3.59	-2.03/-1.35	-0.39/-0.39	-0.58/-0.91	-0.59/0.47	1.48/1.69	0.95/-1.28	-2.4/-2.92	-2.94/-4.32	-4.36/-4.6	-5.7/-7.79	-6.49/-4.9	-3.16/-1.99	-2.27/-2.99	-3.23/-2.95	-2.95/-2.52	-1.39/0.1	1.17/1.68	1.98/1.55
θ(45°)	0.04/-0.78	-1.22/-2.71	-4.34/-2.68	-2.09/-3.15	-4.44/-6.14	-3.78/-1.58	-0.97/-1.44	-2.44/-2.67	-1.87/-1.27	-0.56/0.9	1.42/1.44	0.79/-0.23	-0.79/-1.33	-1.74/-2.28	-3.41/-5.37	-5.46/-6.08	-0.89/-6.1	-4.07/-2.36	-2.6/-2.96	-2.99/-3.13	-3.85/-2.7	-1.91/-0.59	0.72/2.12	1.17/0.58
θ(52.5°)	-1.59/-3.39	-2.55/-2.68	-2.79/-1.71	-1.25/-0.87	-2.51/-3.23	-2.26/-0.53	-1.59/-0.65	-1.29/-0.27	0.11/-0.1	-1.17/0.95	2.14/1.38	0.12/-0.43	-1.16/-1.33	-1.81/-1.91	-3.55/-3.37	-3.42/-4.05	-4.03/-2.21	-0.76/-1.06	-2.42/-1.67	0.31/2	0.92/-0.29	-0.97/-2.58	-1.59/-0.56	-0.6/-0.58
θ(60°)	-0.9/-2.38	-2.64/-3.92	-1.83/-0.44	-1.36/-0.99	-0.38/-0.54	-1.49/-0.64	0/-0.77	-0.79/0.28	0.98/1.3	1.07/-1.32	-2.29/-0.24	0.19/-0.47	-2.22/-1.07	-1.51/0.18	-0.4/-0.91	-2.85/-0.57	0.52/0.09	-0.61/-1.07	-0.79/-0.28	0.88/2.02	0.55/-1.56	-3.09/-4.22	-3.58/-0.99	1.98/0.29
θ(67.5°)	-0.76/-2.47	-3.15/-2.83	-0.48/-1.21	1.05/0.34	1.12/-0.28	-0.56/-0.05	0.46/-0.01	-0.05/0.72	1.37/1.21	0.61/-0.73	-0.37/0.34	0.96/1.16	-0.68/-1.65	0.76/2.1	-0.56/-0.38	-0.43/0.54	0.97/-0.63	-0.85/-0.55	0.2/0.78	-0.34/-0.07	0.51/0.38	-0.7/-1.2	-2.61/-0.27	0.44/1.81
θ(75°)	1.24/-0.67	-1.92/-2.82	0.15/0.23	0.36/0.56	1.75/0.13	0.7/0.7	0.71/1.13	1.89/2.56	2.12/1.91	1.89/1.27	-0.36/-1.46	1.24/2.24	2.14/-2.23	-3.48/-1.12	-4.15/-0.65	0.06/0.99	0.96/-1.91	-2.81/-1.56	-0.4/-1.16	-1.19/-2.77	-0.04/-1.18	1.01/-0.35	-3.62/-1.18	0.41/2.51
θ(82.5°)	1.77/-2.01	-2.94/-2.71	-1.53/0.99	1.23/2.01	1.71/0.92	1.63/0.03	3.79/3.44	3.59/3.5	0.68/1.88	2.07/1.27	-1.22/0.36	0.48/2	1.48/-0.96	-1.58/-1.52	-0.62/-0.2									

Report No. : AP450601



Radiated Composite Gain Data of 6GHz

Appendix B

θ(22.5°)	-5.15/-5.25	-6.02/-6.34	-7.52/-8.5	-8.32/-9	-9.16/-8.8	-7.84/-7.01	-7.62/-7.66	-6.49/-5.74	-6.57/-8.66	-13.54/-14.51	-13.95/-19.95	-19.32/-13.8	-9.09/-8.07	-7.95/-8.29	-8.01/-6.75	-5.29/-5.44	-6.16/-6.46	-6.07/-5.25	-5.25/-6.66	-7.01/-6.52	-5.82/-6.43	-8.86/-11.92	-10.86/-8.67	-7.83/-6.54
θ(30°)	-3.1/-1.3	-5.04/-5.23	-5.34/-4.61	-4.77/-5.81	-7.13/-9.17	-9.86/-8.56	-6.14/-5.39	-6.02/-6.61	-5.97/-5.76	-6.19/-15	-11.02/-9.47	-8.94/-9.51	-8.64/-8.77	-7.97/-4.69	-2.24/-1.82	-4.63/-8.12	-9.75/-8.07	-6.37/-5.02	-3.82/-3.83	-4.13/-4.53	-4.97/-5.5	-6.15/-6.27	-6.14/-6.32	-6.29/-4.04
θ(37.5°)	-4.52/-5.55	-3.69/-3.25	-4.88/-7.02	-8.48/-10.88	-11.71/-11.85	-8.98/-6.62	-5.95/-5.12	-3.36/-2.28	-1.81/-3.31	-4.71/-4.49	-6.11/-6.77	-6.94/-9.57	-7.8/-6.07	-4.28/-1.29	-1.41/-4.1	-8.83/-7.13	-4.39/-3.8	-3.14/-2.8	-3.01/-3	-3.89/-4.52	-6.22/-4.45	-3.15/-2.61	-3.08/-4.65	-4.37/-3.38
θ(45°)	-3.38/-5.35	-2.07/-4.27	-5.78/-5.61	-8.07/-11.12	-7.63/-4.71	-4.59/-6.7	-7.34/-6.06	-4.59/-4.38	-3.41/-1.77	-1.14/-2.13	-4.35/-4.95	-2.89/-3.12	-3.96/-3.71	-2.59/-1.38	-1.83/-2.07	-1.54/-0.18	-0.59/-1.97	-2.12/-1.17	-0.8/-1.88	-1.61/-0.97	-2.14/-3.39	-5.58/-6.06	-4.08/-3.1	-1.12/-0.7
θ(52.5°)	-0.31/-1.46	-0.97/-3.28	-4.68/-6.68	-4.91/-3.42	-2.88/-2.82	-3.67/-6.83	-8.57/-6.94	-4.74/-5.14	-4.58/-2.73	-2.05/-0.77	-0.31/-0.9	-2.06/-2.25	-0.95/-1.94	-2.49/-1.65	-1.17/0.62	0.87/0.64	-0.51/-1.38	-1.29/-1.05	-1.21/0	0.93/1.1	-0.51/-0.61	-0.35/-0.26	-1.08/-3.52	-1.38/1
θ(60°)	-0.9/-0.46	-0.98/-1.01	-4.06/-3.03	-1.2/-1.67	-1.53/-2.74	-4.99/-7.05	-6.56/-5.45	-5.34/-5.16	-6.35/-5.51	-4.59/-4.35	-2.19/-1.25	-1.61/-2.02	-1.21/-4.46	-4.57/-1.62	-2.06/-1.77	-2.48/-2.28	-2.03/-3.08	-3.39/-5.73	-5.28/-4.32	-2.99/-0.56	-1.54/-2.79	-3.78/-2.59	-0.9/-1	-0.71/-1.36
θ(67.5°)	-1.480/-49	0.29/-0.46	-2.25/-0.41	0.3/-2.64	-4.95/-4.15	-4.42/-7.46	-12.95/-16.46	-15.75/-12.69	-7.61/-6.39	-8.52/-6.72	-2.68/-2.15	-3.23/-2	-1.41/-3.04	-2.86/-0.53	-1.12/-2.6	-2.09/-0.42	-2.28/-0.58	-1.08/-3.17	-5.79/-3.8	-1.46/-0.58	-1.47/-4.86	-3.82/-1.82	0.13/-0.7	-0.04/-1.35
θ(75°)	-0.81/-13	-1.17/-2.15	-3.70/-23	-2.1/-3.99	-3.18/-3.48	-2.27/-2.31	-3.15/-6.17	-12.11/-9.24	-5.11/-6.68	-4.59/-5.53	-7.09/-3.2	-2.39/-2.95	-2.24/-1.7	-2.22/-0.59	0.71/-2.32	-0.16/-1.05	-3.43/-1.34	-3.1/-3.38	-3.88/-3.46	-3.33/-2.8	-0.91/-3.68	-4.130/-17	0.42/-1.19	-0.33/-0.81
θ(82.5°)	-1.130/-32	-0.50/-11	0.21/0.94	-0.65/-0.63	-0.15/0.6	0.78/0.1	0.52/-0.06	-2.11/-4.29	-0.67/-1.28	-2.29/-0.74	-2.76/-3.46	-1.01/0.94	-0.53/-0.72	0.370/-35	0.22/-0.01	2.15/-0.37	-0.34/-0.27	-1.38/-1.02	-2.99/-3.05	0.3/0.5	0.74/-2.24	-4.11/-0.37	-0.55/-0.22	1.07/0.94
θ(90°)	0.19/13	-0.83/-1.58	-0.860/-0.7	-3.02/-1.5	0.16/0.4	1.95/2.26	1.87/0.34	-1.74/-1.21	0.12/-0.74	0.1/-0.6	-0.09/-0.13	-0.70/-34	2.49/0	1.39/0.8	0.15/-0.46	2.18/0.8	1.65/0.19	-1.94/-0.67	-1.19/0.6	20.58	1.92/2.81	-0.64/0.69	0.9/-0.26	1.55/-0.5
θ(97.5°)	-1.490/-75	-2.34/-0.23	-1.97/0.19	-0.61/-0.9	-0.17/-2.01	-2.37/0.53	3.38/2.47	-4.05/-7.11	0.85/-1.41	-2.01/0.72	-0.11/1.24	-0.49/0.69	0.52/1.55	1.81/-0.63	-0.84/-0.46	3.45/3.76	3.73/1.29	-0.62/0.68	0.29/1.57	1.72/2.13	2.664/-11	1.92/1.52	0.52/-0.62	1.92/1.08
θ(105°)	-2.82/0.1	-1.37/0.77	0.40/55	1.23/-0.86	0.15/-2.07	-5.12/-6.21	0.94/1.23	-3.83/-9.8	0.2/-3.88	-3.05/0.66	-0.76/-0.82	0.58/1.48	0.28/1.08	2.33/-2.9	-1.51/-1.45	2.05/2.34	2.85/2.35	1.28/2.25	0.21/0.81	0.32/0.5	1.18/1.27	0.5/-0.85	-2.63/-0.83	0.69/-0.22
θ(112.5°)	-3.26/0.51	-0.72/0.07	-0.41/-1.57	0.02/4.13	-2.86/-2.53	-3.98/-4.93	-2.98/-1.33	-2.85/-5.06	-4.66/-9.67	-2.62/-6.33	-2.08/-1.85	-1.94/-3.23	-1.91/-1.36	1.39/-0.63	-3.6/-3.94	0.41/26	2.22/0.9	-0.85/1.56	-0.99/-0.1	-0.3/-5.48	-1.78/-1.06	-3.18/-2.72	-4.01/-0.1	0.87/0.18
θ(120°)	-4.83/-1.82	-2.22/-1.78	-2.28/-5	-0.87/-6.14	-7.3/-4.76	-6.84/-14.01	-6.07/-4.88	-10.22/-9.15	-11.28/-7.47	-5.27/-6.84	-5/-4.13	-5.04/-5.55	-3.02/-2.86	0.5/-0.51	-3.34/-3.6	-1.08/-0.69	-2.15/-4.54	-5.29/-0.75	-3.75/-4.24	-6.45/-9.78	-3.83/-2.87	-3.66/-3.68	-4.01/-2.44	-1.72/-1.55
θ(127.5°)	-9.47/-2.97	-3.52/-8.45	-5.85/-6.01	-9.32/-7.46	-16.39/-12.84	-10.13/-9.67	-15.41/-17.81	-18.82/-14.7	-10.38/-12.11	-18.35/-7.63	-7.27/-3.72	-6.18/-10.48	-8.94/-6.48	-1.1/-2.4	-5.5/-3.26	-1.89/-1.58	-0.65/-4.2	-3.25/-2.83	1.16/-0.88	-4.51/-2.74	-0.42/-0.19	-2.75/-5.9	-11.84/-4.79	-0.73/-2.96
θ(135°)	-6.36/-3.35	-3.95/-9.81	-6.9/-6.79	-8.66/-11.96	-10.12/-17.41	-19.15/-17.87	-16.51/-13.89	-18.94/-18.51	-10.38/-9.02	-11.17/-8.41	-8.22/-9.02	-7.74/-11.65	-10.15/-3.85	-1.68/-3.17	-10.8/-4.6	-1.03/-1.06	-2.49/-2.02	-7.49/-2.35	3.30/58	-2.48/-0.24	-2.77/-2.01	-1.13/-5.53	-18.08/-7.38	-1.33/-3.13
θ(142.5°)	-10.96/-10.42	-8.39/-14.08	-15.61/-12.28	-15.99/-16.04	-14.48/-19.78	-19.07/-13.73	-12.75/-13.31	-11.3/-8.81	-11.8/-18.61	-18.89/-12.4	-14.38/-16.18	-13.18/-18.03	-14.14/-8.24	-6.88/-11.06	-18.83/-10.03	-4.81/-4.24	-4.23/-7.15	-13.53/-5.31	0.99/-2.21	-10.02/-7.48	-2.66/-6.26	-6.91/-7.05	-10.77/-10.22	-10.39/-9.33
θ(150°)	-7.77/-14.6	-16.91/-17.19	-17.49/-18.77	-13.74/-15.47	-18.69/-18.63	-18.65/-18.55	-19.02/-18.06	-13.75/-13.8	-18.76/-17.66	-13.12/-9.36	-12.16/-16.41	-14.17/-12.47	-10.1/-7.9	-6.58/-8.31	-9.95/-7.5	-8.53/-11.4	-12.55/-12.97	-10.57/-8.92	-5.16/-7.76	-12.5/-8.98	-12.57/-13.2	-15.35/-11.15	-9.21/-7.47	-4.99/-5.27
θ(157.5°)	-6.78/-11.92	-16.56/-15.34	-14.7/-18.23	-18.55/-18.07	-18.98/-17.41	-17.36/-19.43	-15.06/-14.59	-16.37/-17.75	-17.65/-13.98	-10.37/-10.49	-11.63/-11.67	-12.95/-13.99	-14.16/-15.99	-12.43/-7.15	-6.59/-10.02	-16.13/-18.32	-18.06/-17.9	-15.96/-13.79	-15.09/-12.57	-11.73/-15.02	-16.73/-17.51	-18.52/-15.5	-12.91/-10.01	-6.27/-5.01
θ(165°)	-17.67/-18.43	-13.62/-12.48	-10.75/-10.2	-10.84/-13.33	-17.72/-18.82	-18.34/-18.7	-18.29/-17.53	-11.71/-9.21	-8.59/-10.18	-16.7/-18.29	-19.44/-14.96	-13.5/-14.9	-16.75/-17.57	-19.39/-18.44	-14.73/-11.33	-12.14/-14.9	-11.24/-7.35	-6.27/-8.46	-14.36/-16.63	-14.16/-10.48	-8.55/-8.6	-10.49/-10.66	-9.57/-9.14	-9.73/-11.61
θ(172.5°)	-11.39/-14.67	-13.43/-14.56	-18.46/-18.52	-17.39/-15.7	-13.25/-13.67	-13.92/-14.77	-17.48/-19.22	-17.04/-15.56	-14.47/-14.87	-14.94/-12.23	-9.97/-8.36	-8.61/-9.84	-11.99/-13.84	-15.59/-17.24	-17.77/-18.37	-18.93/-16.41	-13.04/-11.86	-11.37/-11.27	-11.5/-12.11	-13.63/-16.92	-18.92/-17.3	-18.23/-16.37	-13.3/-12.11	-11.7/-10.7
θ(180°)	-18.5/-19.52	-18.39/-15.06	-14.05/-12.09	-10.46/-9.96	-9.93/-8.74	-7.34/-7.6	-7.93/-8.29	-8.11/-7.67	-8.08/-8.2	-9/-9.96	-10.69/-11.09	-11.56/-12.7	-14.77/-16.79	-18.22/-18.45	-17.57/-17.82	-18.31/-18.84	-16.03/-15.23	-13.76/-11.5	-10.85/-11.31	-11.76/-9.92	-9.6/-10.11	-8.55/-9.75	-11.86/-15.5	
Freq(Hz)	6.995GPol.	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°)	-9.59/-9.36	-9.55/-9.53	-10.42/-11.01	-10.39/-10.27	-11.02/-12.61	-11.96/-12.57	-11.85/-14.5	-16.46/-19.14	-18.44/-13.33	-18.95/-17.42	-13.5/-11.42	-11.88/-10.37	-9.22/-9.78	-9.56/-13.2	-11.58/-9.13	-14.31/-12.91	-14.5/-15.06	-16.61/-17.79	-18.46/-18.19	-18.96/-19.16	-19.7/-17.17	-14.5/-13.71	-11.22/-10.77	-10.74/-10.13
θ(7.5°)	-8.76/-9.69	-9.78/-10.11	-16.73/-13.79	-15.56/-18.25	-17.82/-18.68	-18.73/-18.36	-19.5/-18.73	-19.43/-18.03	-18.71/-18.86	-16.86/-19.28	-18.13/-17.19	-19.51/-17.23	-14.51/-14.39	-12.93/-12.41	-11.76/-10.1	-8.93/-9.27	-9.17/0.1	-9.61/-11.1	-10.73/-12.16	-11.2/-17.22	-19.27/-17.97	-13.27/-10.94	-8.98/-6.66	-8.7/-6.2
θ(15°)	-15.2/-15.57	-15.52/-17.59	-18.56/-17.88	-15.6/-13.92	-18.87/-18.03	-18.89/-18.54	-19.06/-18.9	-16.25/-17.34	-19.22/-17.13	-16.18/-16.39	-17.73/-18.85	-18.27/-18.53	-18.94/-17.73	-14.42/-12.09	-11.26/-10.8	-11.58/-9.56	-7.87/-8.36	-10.78/-12.34	-10.77/-10.11	-10.58/-14.64	-17.28/-19.07	-19.41/-17.62	-19.04/-17.71	-13.5/-13.66
θ(22.5°)	-17.73/-19.26	-18.45/-13.16	-8.67/-8.17	-12.24/-17.47	-15.18/-15.95	-16.4/-18.08	-16.96/-16.38	-14.16/-15.55	-9.09/-7.49	-7.59/-9.69	-12.12/-14.79	-17.49/-17.21	-16.63/-17.02	-16.21/-10.41	-12.2/-10.93	-10.52/-9.16	-9.36/-11.47	-13.76/-14.55	-18.26/-19.23	-17.36/-18.06	-17.21/-16.14	-14.01/-13.23	-12.86/-14.45	
θ(30°)	-18.77/-18.48	-11.16/-7.99	-3.37/-11.46	-14.92/-19.17	-18.73/-19.05	-16.02/-14.56	-16.68/-16.8	-14.4/-13.53	-13.26/-9.01	-7.96/-4.76	-7.67/-14.3	-16.22/-15.68	-15.69/-17.71	-19.23/-12.3	-9.4/-10.11	-13.69/-16.84	-16.82/-11.69	-8.79/-7.36	-7.77/-8.4	-8.44/-9.59	-10.42/-11.06	-14.78/-18.38	-18.3/-19.5	-14.78/-15.3
θ(37.5°)	-18.95/-18.14	-16.23/-10.17	-13.18/-18.34	-18.85/-19.39	-18.66/-18.94	-18.02/-18.28	-18.07/-17.43	-18.49/-18.15	-17.34/-15.31	-10.81/-7.3	-8.03/-16.18	-18.02/-18.51	-19.26/-17.44	-18.85/-13.34	-10.62/-10.18	-14.91/-16.55	-12.27/-9.98	-8.01/-7.05	-7.83/-10.9	-13.52/-14.12	-16.22/-15.91	-13.07/-13.47	-17.58/-19.05	-12.13/-10.92
θ(45°)	-17.06/-12.49	-10.76/-8.31	-11.36/-14.49	-15.08/-18.15	-17.87/-18.94	-18.9/-18.87	-19.02/-15.59	-16.24/-18.67	-18.02/-18.25	-18.52/-8.79	-7.76/-9.91	-19.28/-18.31	-16.01/-18.5	-17.52/-16.48	-12.08/-18.54	-14.58/-9.83	-10.93/-11.98	-12.27/-15.17	-9.95/-10.2	-12.88/-16.3	-16.75/-15.94	-11.92/-10.44	-14.89/-18.36	-18.84/-18.39
θ(52.5°)	-16.07/-18.58	-19.3/-13.08	-18.74/-18.87	-16.72/-14.47	-16.91/-16.65	-15.91/-18.15	-14.1/-13.32	-14.41/-11.94	-17.75/-14.18	-17.59/-19.55	-7.5/-12.37	-15.72/-17.36	-16.19/-15.07	-17.62/-13.11	-13.95/-18.28	-17.88/-11.99	-11.6/-13.9	-13.28/-13.95	-16.57/-14.87	-18.71/-18.26	-13.72/-12.9	-14.72/-16.65	-17.53/-16.67	-15.26/-18.31
θ(60°)	-13.9/-15.69	-18.95/-17.73	-17.58/-18.85	-18.27/-14.02	-15.16/-14.93	-18.89/-19.13	-14.44/-14.1	-12.42/-9.18	-10.08/-14.47	-15.13/-14.4	-17.1/-16.14	-17.25/-17.61	-18.19/-13.07	-14.48/-11.64	-13.26/-14.24	-19.32/-15.06	-14.2/-13.1	-14.98/-15.31	-15.55/-17.86	-18.46/-16.74	-18.73/-14.35	-17.38/-15.55	-13.82/-14.56	-15.43/-19.49
θ(67.5°)	-18.94/-18.37	-17.79/-12.96	-18.46/-18.49	-15.15/-18.85	-18.66/-19.14	-18.79/-18.4	-16.54/-13.98	-13.71/-13.73	-12.22/-15.61	-11.32/-15.08	-13.79/-13.32	-19.09/-17.95	-18.93/-18.8	-18.51/-13.41	-12.8/-14.34	-12.67/-19.18	-18.36/-17.83	-16.83/-16.45	-12.29/-10.17	-16.33/-				



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(67.5°)	-3.29/-4.09	-2.11/-0.9	-2.80	0.390/2.4	0.871/5.4	0.48/-0.2	-0.22/-0.7	-1.52/-1.7	-3.28/-6	-5.28/-8.4	-17.36/-18.7	-12.7/-5.01	-4.91/-3.49	-7.67/-7.22	-2.77/-2	-1.42/-0.8	-1.3/-1.62	-1.92/-4.57	-9.2/-7.41	-7.34/-11.26	-11.32/-9.19	-9.41/-8.45		
Θ(75°)	-6.27/-3.12	-2.73/-2.44	-2.33/-0.66	0.14/-0.14	1.48/1.7	1.61/1.03	-1.17/-1.49	-0.95/-2.67	-3.75/-7.23	-3.4/-0.9	-17.95/-11.82	-17.12/-14.06	-9.7/-9.46	-7.56/-10.58	-5.35/-4.89	-3.23/-3.34	-5.98/-8.06	-8.25/-5.88	-4/-3.71	-3.88/-4.49	-9.95/-13.52	-9.33/-18.37		
Θ(82.5°)	-9/-2.65	-1.51/0.01	-4.03/-1.68	-2/-0.61	1.71/1.45	1.79/-0.71	-1.32/-1.94	-1.11/-0.49	-0.92/-3.26	-1.67/-6.42	-8.21/-10.07	-18.08/-19.07	-11.16/-14.02	-17.59/-3.72	0.29/0.83	0.29/-0.24	-2.72/-4.16	-4.77/-4.23	-1.56/-2.75	-2.84/-5.7	-13.79/-10.02	-16.6/-10.84		
Θ(90°)	-6.7/-8.21	-5.77/-2.61	-1.42/-0.07	-0.85/-0.52	1.22/1.15	1.85/0.25	-1.37/-2	0.28/-1.91	0.3/-1.87	-3.88/-3.31	-11/-10.27	-12.83/-10.35	-9.19/-11.04	-11.17/-0.45	1.59/0.05	2.21/0.55	1.88/2.7	1.79/0.58	-0.35/-1.02	1.99/-0.67	-6.82/-12.49	-8.37/-10.26		
Θ(97.5°)	-9.02/-4.91	-4.46/-1.73	-1.73/-0.15	0.3/0.4	0.820/7.3	1.74/-0.02	-3/-1.95	0.12/-2.49	-0.52/-2.28	-4.71/-5.38	-7.4/-8.48	-14.13/-12.17	-17.37/-9.32	-3.22/0.71	1.04/2.54	1.97/1.43	33/18	3.64/2.54	-0.21/35	-0.4/-2.4	-5.61/-10.78	-10.84/-15		
Θ(105°)	-9.73/-6.42	-6.13/-2.19	-2.97/-0.09	1.61/0.39	-0.130/0.9	-2.45/-1.17	-2.67/-1.63	-3.6/-2.09	4.07/-2.67	-5.1/-10.34	-9.98/-18.3	-18.94/-17.69	-16.62/-6.55	-5.17/-1.2	-0.93/-0.09	1.95/-0.39	0.74/0.62	0.61/2.68	-0.90/36	-2.05/-5.36	-7.96/-19.06	-6.85/-16.81		
Θ(112.5°)	-6.46/-7.5	-5.12/-2.14	-2.81/-2.26	-0.72/0.71	0.92/0.11	-1.13/-3.12	0.2/-1.8	-3.05/-2.1	-4.44/-6.46	-6.72/-5.39	-9.83/-17.39	-13.47/-12.74	-13.28/-12.28	-3.71/-1.39	-1.38/-3.56	-2.45/-6.04	-2.99/-3.09	-2.24/0.18	-1.46/-0.45	-18.23/-8.48	-11.49/-7.08	-9.27/-19		
Θ(120°)	-6.14/-5.05	-4.76/-4.17	-3.51/-2.57	-1.87/-1.47	-1.75/-1.86	-1.64/-1.22	-2.58/-1.64	-0.99/-1.78	-0.4/-2.32	-2.95/-5.47	-10.87/-8.7	-16.01/-13.86	-17.78/-11.22	-6.02/-4.26	-6.27/-8.42	-5.55/-11.79	-7.7/-6.24	-8.07/-5.03	-4.9/-18.69	-11.02/-18.29	-9.08/-10.24	-12.79/-17.97		
Θ(127.5°)	-8.16/-7.54	-2.62/-1.51	-2.64/-3.64	-1.62/-0.72	0.84/1.72	1.86/1.51	-1.05/-4	-3.58/-3.36	-2.38/-1.24	-2.56/-4.8	-5.33/-7.7	-9.85/-10.56	-17.89/-13.38	-11.04/-9.41	-6.66/-13.52	-12.21/-8.96	-8.76/-10.22	-3.92/-4.36	-10.02/-18.77	-6.59/-7.97	-9.48/-18.13	-14.43/-10.09		
Θ(135°)	-11.54/-3.82	-2.88/-3.47	-0.28/0.38	-0.32/0.5	0.68/0.94	1.08/0.49	-0.13/-0.07	-0.10/55	1.19/0.39	-2.02/-4.53	-9.43/-7.89	-4.95/-6.93	-12.37/-15.26	-13.27/-14.06	-12.29/-11.68	-12.35/-9.73	-13.39/-18.23	-18.71/-18.05	-17.67/-17.71	-14.95/-12.92	-19.01/-15.48	-16.49/-17.83		
Θ(142.5°)	-5.4/-3.69	-2.8/-1.21	-0.78/0.36	0.55/0.37	0.88/1.15	1.51/1.82	2.11/2.64	3.39/2.9	0.86/-1.37	-4.6/-7.23	-6.52/-5.51	-10.96/-18.44	-15.08/-18.29	-15.31/-16.52	-18.36/-14.22	-9.75/-6.2	-10.57/-18.39	-17.96/-15.22	-12.08/-17.15	-14.52/-18.09	-12.35/-11.44	-5.28/-9.83		
Θ(150°)	-7.5/-3.98	-1.86/-1.83	-1.77/-1.76	-0.58/0.22	0.29/0.75	1.04/1.15	0.77/0.53	0.73/0.41	-1.19/-2.62	-3.24/-7.63	-14.19/-19.24	-17.88/-17.26	-13.99/-19.23	-18.45/-10.83	-9.42/-12.49	-5.91/-4.97	-8.29/-10.42	-12.64/-18.47	-17.76/-18.89	-13.55/-12.36	-7.08/-11.52	-8.3/-7.63		
Θ(157.5°)	-4.53/-2.64	-1.75/-2.06	-2.33/-1.84	-0.98/0.25	1.26/1.42	0.80/33	-0.06/-0.59	-1.74/-3.27	-4.57/-7.25	-13.74/-17.71	-15.58/-9.98	-9.35/-11.3	-18.28/-14.98	-11.17/-8.03	-6.85/-8.66	-11.64/-18.37	-12.35/-10.28	-9.6/-7.36	-10.33/-16.58	-12.16/-12.78	-14.02/-12.84	-10.69/-10.92		
Θ(165°)	-5.66/-4.74	-3.9/-2.8	-1.96/-1.55	-0.93/-0.67	-0.97/0.95	-0.6/-0.82	-1.1/-1.58	-2.91/-4.81	-7.94/-11.19	-11.63/-10.32	-9.63/-10.08	-12.7/-13.9	-12.19/-12.38	-15.8/-17.42	-18.35/-18.81	-17.86/-12.15	-6.64/-4.79	-5/-6.37	-8.04/-8.68	-9.43/-14.78	-16.3/-13.5	-14.45/-16.53		
Θ(172.5°)	-5.41/-3.57	-2.64/-1.87	-1.19/-1.13	-1.28/-1.28	-0.85/-1.32	-2.02/-2.39	-2.77/-4.11	-5.76/-6.93	-8.43/-9.91	-12.14/-11.57	-18.22/-19.23	-17.87/-16.55	-18.05/-17.91	-16.45/-12.6	-10.73/-8.72	-7.2/-6.81	-6.83/-6.42	-6.19/-5.75	-4.99/-5.13	-6.7/-8.87	-10.29/-13.21	-19.32/-17.68		
Θ(180°)	-7.81/-5.69	-4.37/-3.54	-3.16/-2.39	-1.27/-0.72	-0.54/-0.96	-0.59/-0.6	-1.16/-1.27	-1.18/-2.12	-3.47/-4.21	-5.79/-9.24	-13.98/-16.7	-18.32/-16.28	-11.89/-8.36	-6.66/-5.92	-5.67/-5.28	-4.08/-2.73	-2.05/-1.86	-1.88/-2.49	-3.85/-4.63	-5.47/-6.91	-6.97/-6.77	-9.07/-12.94		
Freq(Hz)	6.175G(Pol)	Theta/Ant. 2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	0.47/0.12	-0.36/-1.73	-2.67/-4.07	-5.83/-7.76	-10.84/-17.57	-18.76/-15.44	-3.24/-3.36	-2.01/-1.25	-0.78/-0.43	0.07/0.31	-0.05/-0.49	-0.21/-0.66	-0.47/-0.91	-1.66/-2.65	-4.17/-6.71	-10.98/-17.41	-17.46/-11.83	-8.17/-6.06	-4.83/-3.1	-1.64/-0.37	0.36/0.68	0.92/1.02	0.93/0.75	
Θ(7.5°)	0.77/0.56	-0.31/-1.24	-2.09/-4.05	-6.31/-9.32	-13.84/-19.32	-16.31/-12.99	-9.57/-6.64	-4.44/-3.32	-1.73/-0.11	0.56/0.07	-0.42/-0.53	-0.87/-1.07	-1.39/-1.71	-2.05/-2.86	-4/-5.19	-6.54/-8.76	-13.21/-17.46	-18.53/-13.2	-8.25/-5.8	-4.72/-3.04	-1.62/-0.58	0.17/0.8	1.11/1.47	1.64/1.48
Θ(15°)	1.72/1.08	-0.5/-0.91	-2.54/-5.12	-6.68/-12.4	-12.78/-18.02	-10.93/-9.92	-6.55/-4.28	-3.14/-2.4	-1.4/-0.31	-0.09/-0.69	-1.05/-1.05	-1.46/-1.64	-1.41/-1.24	-1.51/-2.22	-3.88/-6.63	-10.3/-15.12	-18.35/-16.62	-16.46/-10.66	-7.4/-4.9	-3.63/-3.52	-2.58/-1.47	-0.49/0.54	11/39	1.89/-8.5
Θ(22.5°)	1.21/-1.7	0.21/-1.37	-4.16/-6.89	-9.48/-12.82	-18.87/-13.09	-6.93/-5	-4.4/-2.89	-1.03/-0.81	-0.32/0.46	-0.65/-0.36	-1.37/-1.1	-0.68/-0.53	-0.18/-0.04	-0.38/-0.83	-1.58/-2.91	-5.16/-8.06	-12.74/-19.17	-18.01/-15.62	-12.15/-8.06	-2.34/-3.36	-0.88/0.08	0.19/1.23	1.82/0.66	0.92/1.74
Θ(30°)	0.26/-1.18	-2.19/-4.87	-7.57/-8.07	-11.19/-16.76	-18.83/-13.6	-9.81/-7.39	-5.09/-3.74	-2.63/-1.59	-0.54/-0.83	-1.45/-0.6	-0.13/0.32	0.18/-0.22	-0.16/-0.17	0.57/-0.2	-1.7/-5.3	-11.03/-16.42	-17.2/-18.11	-15.68/-12.02	-8.62/-7.88	-7.24/-6.47	-5.81/-2.9	-0.77/0.41	1.29/1.65	1.31/0.78
Θ(37.5°)	-0.87/-1.56	-3.47/-6.43	-8.34/-9.93	-12.36/-17.13	-18.35/-18.79	-12.59/-8.86	-6.65/-4.68	-3.77/-3.56	-1.72/0.11	-1.72/0.11	0.89/-0.08	-0.88/-1.07	0.04/0.79	-0.33/-2.96	-6.69/-10.99	-13.89/-19.17	-18.72/-18.21	-12.14/-9.15	-8.74/-8.39	-6.41/-4.33	-5.72/-3.01	-4.96/-3.04	-1.44/-0.71	0.46/-0.3
Θ(45°)	-2.92/-3.76	-4.69/-6.8	-7.97/-10.9	-10.44/-11.9	-11.41/-13.15	-10.53/-10.27	-6.46/-5	-4.55/-3.88	-3.29/-3.67	-1.29/-4.13	-1.10/-3.4	0.73/-1.08	-1.69/-0.8	-2.24/-5.34	-12.25/-18.54	-17.45/-18.18	-11.98/-8.71	-10.72/-9.53	-7.24/-5.75	-4.89/-4.88	-4.43/-3.52	-4.31/-2.85	-1.25/-1.3	-1.53/-1.94
Θ(52.5°)	-4.6/-6.25	-8.44/-9.65	-11.04/-9.92	-10.08/-9.41	-10.32/-11.18	-11.83/-8.08	-6.22/-6.06	-6.06/-4.68	-3.68/-3.9	-4.15/-3.1	-1.59/-1.29	-2.41/-3.76	-3.24/-3.82	-7.61/-8.82	-4.64/-3.54	-6.26/-11.59	-10.61/-11.56	-16.02/-17.94	-12.46/-10.99	-9.71/-9.49	-3.99/-6.96	-6.32/-7.9	-6.32/-4.28	-2.15/-2.24
Θ(60°)	-4.08/-5.51	-6.2/-10.55	-16.46/-12.54	-9.59/-7.85	-9.14/-12.96	-15.77/-14.54	-12.65/-10.69	-9.04/-8.25	-7.22/-6.9	-6.02/-5.09	-2.64/-1.01	-3.24/-4.13	-2.54/-2.03	-2.69/-3.4	-2.56/-2.73	-7.29/-15.63	-8.97/-10.76	-16.53/-17.67	-10.11/-9	-11.05/-8.45	-4.57/-0.45	-4.77/-2.57	-5.29/-6.49	-4.12/-5.07
Θ(67.5°)	-5.5/-7.79	-8.84/-12.15	-16.68/-19.11	-16.64/-13.15	-14.68/-14.64	-14.68/-14.64	-5.97/-4.82	-5.29/-6.38	-8.09/-6.66	-4.84/-5.82	-4.15/-3.29	-4.32/-4.21	-2.57/-4.62	-8.13/-7.24	-8.6/-9.89	-11.63/-12.11	-13.71/-16.16	-18.21/-16.18	-14.45/-14.03	-13.32/-10.32	-9.93/-8.37	-8.88/-9.36	-5.73/-5.75	
Θ(75°)	-7.39/-5.71	-10.08/-18.08	-18.87/-18.79	-18.34/-14.2	-15.22/-14.51	-11.96/-9.71	-6.65/-6.47	-6.97/-9.17	-8.05/-7.13	-7.28/-9.78	-2.89/-1.75	-8.06/-5.47	-6.91/-18.2	-12.35/-6.97	-7.76/-10.85	-13.29/-11.27	-14.99/-18.45	-18.48/-18.1	-14.98/-13	-9.98/-11.65	-12.16/-7.14	-9.54/-8.56	-5.33/-10.87	-8.23/-10.13
Θ(82.5°)	-11.88/-10.15	-12.51/-14.49	-13.41/-12.8	-13.84/-16.15	-16.03/-14.45	-12.63/-10.45	-7.21/-6.56	-8.09/-7.56	-6.66/-10.47	-17.62/-8.36	-4.34/-8.67	-11.05/-9.88	-17.17/-12.43	-10.82/-14.12	-13.88/-13.47	-18.94/-12.98	-10.09/-14.48	-19.12/-19.37	-18.46/-14.18	-11.54/-13.67	-10.75/-10.72	-13.71/-15.35	-14.47/-17.96	-9.69/-18.9
Θ(90°)	-8.5/-13.11	-8.97/-13.16	-18.17/-15.77	-16.31/-18.32	-17.86/-18.8	-16.23/-9.61	-7.77/-6.95	-6.54/-7.83	-10.13/-12.34	-13.05/-8.46	-9.13/-11.61	-18.22/-18.92	-18.21/-15.31	-11.27/-11.31	-11.37/-9.94	-14.54/-17.43	-16.46/-15.17	-18.25/-10.22	-16.69/-14.62	-8.87/-10.15	-11.57/-6	-8.59/-15.84	-10.94/-8.88	-18.86/-16.43
Θ(97.5°)	-19.16/-18.64	-18.16/-17.78	-16.56/-17.28	-13.38/-17.07	-17.71/-16.1	-15.96/-11.82	-8.82/-8.23	-11.45/-14.87	-10.97/-9.54	-14.24/-17.1	-16/-18.63	-13.63/-18.95	-11.35/-7.5	-8.45/-9.17	-7.57/-9.63	-15.01/-10.51	-14.78/-13.93	-18.5/-12.92	-11.26/-9.89	-12.17/-13.25	-16.2/-14.37	-17.24/-17.94	-12.22/-14.2	-19.39/-18.5
Θ(105°)	-9.45/-13.52	-13.71/-9.47	-11.61/-11.73	-18.45/-19.35	-18.13/-16.57	-14.67/-10.49	-8.22/-9.44	-15.08/-19.3	-18.53/-11.46	-10.98/-17.39	-16.52/-11.95	-10.61/-15.65	-11.86/-12.42	-18.61/-13.26	-16.93/-18.19	-13.95/-12.87	-17.16/-14.8	-13.86/-9.57	-8.9/-11.56	-15.86/-14.36	-16.15/-18.07	-14.07/-14.29	-9.77/-12.63	
Θ(112.5°)	-14.93/-9.64	-13.1/-16.76	-18.19/-14.89	-17.03/-18.84	-18.05/-19.15	-17.21/-16.24	-10.46/-9.2	-16.18/-13.74	-18.58/-14.11	-8.67/-11.52	-17.51/-13.71	-16.02/-18.52	-18.53/-13.13	-13.02/-17.97	-17.34/-14.99	-15.42/-16.97	-14.29/-12.98	-11.16/-12.89	-17.39/-16.02	-19.09/-18.97	-15.47/-16.8	-12.59/-14.91		
Θ(120°)	-10.61/-8.27	-15.84/-12.69	-8.95/-10.2	-10.36/-11.29	-14.53/-17.94	-14.23/-14.19	-13.89/-8.5	-7.42/-8.07	-10.4/-11.23	-7.74/-1.74	-9.93/-7.09	-7.07/-15.89	-9.52/-6.69	-15.94/-18.44	-16.8/-17.76	-9.3/-10.75	-17.84/-12.77	-8.2/-13.85	-18.3/-16.2	-8.9/-14	-15.51/-10.94	-8.52/-16.43	-9.08/-8.41	-7.35/-5.59
Θ(127.5°)	-9.98/-9.25	-7.09/-9.22	-13.95/-12.53	-8.81/-8.69	-9.04/-14.08	-18.11/-17.89	-16.11/-15.12	-15.75/-18.12	-13.36/-7.93	-6.16/-8.97	-8.36/-3.95	-4.29/-8.88	-											



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(120°)	-4.55/-4.22	-5.24/-5.68	-2.39/-2.16	-2.35/-1.9	-2.29/-3.27	-2.65/-1.96	-2.52/-1.75	-1.74/-4.66	-6.47/-5.34	-10.11/-7.93	-8.91/-17.61	-13.96/-10.6	-12.02/-11.95	-10.04/-3.43	-2.05/-7.72	-8.04/-8.88	-13.27/-10.66	-7.25/-5.76	-8.95/-19.25	-10.27/-17.59	-18.32/-16.48	-12.16/-11	-9.75/-16.32	-6.19/-7.94
Θ(127.5°)	-3.23/-2.6	-7.07/-4.05	-4.92/-4.02	-4.06/-3.32	-2.34/-1.83	-1.84/-0.57	0.73/-0.25	-1.39/-2.69	-4.21/-4.92	-4.28/-10.16	-12.18/-11.9	-12.93/-16.47	-17.81/-7.36	-6.95/-6.93	-3.88/-7.34	-10.02/-18.5	-14.77/-10.72	-6.61/-7.67	-11.21/-18.75	-6.19/-8.21	-10.75/-13.46	-12.53/-13.32	-10.81/-14.88	-5.75/-6.91
Θ(135°)	-5.15/-4.33	-7.03/-3.48	-2.99/-2.93	-1.81/-1.37	-1.52/-1.06	-0.79/-0.78	-0.98/-2.13	-2.72/-3.35	-3.36/-3.35	-3.42/-3.22	-7.81/-11.43	-8.81/-10.38	-19.36/-11.82	-11.27/-12.31	-18.37/-12.66	-13.45/-6.1	-6.98/-11.9	-16.47/-16.45	-17.81/-15.21	-15.06/-11.92	-12.47/-19.33	-18.86/-18.92	-15.38/-11.59	-10.34/-14.73
Θ(142.5°)	-5.14/-3.93	-6.24/-6.39	-2.29/-1.44	-0.96/-0.69	0.01/8	0.62/0.91	0.60/6.5	1.93/1.77	0.43/-2.67	-4.42/-7.1	-9.52/-17.72	-12.08/-12.08	-12.77/-9.12	-7.92/-8.86	-10.53/-16.02	-13.06/-8.72	-9.04/-19	-17.3/-10.87	-14.48/-17.77	-18.06/-11.38	-12.05/-12.95	-14.66/-18.28	-18.3/-16.93	-10.05/-8.17
Θ(150°)	-6.93/-6.41	-5.76/-4.63	-2.81/-2	-2.51/-2.12	-1.62/-0.58	0.45/0.4	-0.13/-0.18	0.30/44	-0.65/-2.69	-5.9/-8.46	-9.99/-18.07	-18.88/-15.27	-18.34/-17.88	-17.22/-13.44	-8.3/-10.3	-9.49/-6.34	-10.05/-7.15	-7.92/-17.91	-18.78/-18.91	-17.62/-13.61	-9.43/-9.11	-16.02/-18.77	-18.11/-10.02	
Θ(157.5°)	-4.71/-3.97	-3.95/-2.5	-2.75/-2.92	-3.06/-3.4	-3.73/-4.81	-5.91/-5.87	-4.87/-4.19	-4.13/-4.16	-3.74/-5.17	-8.35/-12.69	-15.05/-13.09	-13.32/-13.52	-14.46/-12.46	-9.89/-11.05	-10.12/-5.79	-5.21/-7.37	-12.73/-11.93	-11.19/-10.6	-10.74/-12.51	-13.74/-18.65	-11.02/-7.86	-8.08/-10.18	-16.03/-13	-9.41/-6.92
Θ(165°)	-5.11/-3.12	-2.02/-3.24	-3.11/-3.81	-4.47/-4.34	-3.46/-2.54	-2.13/-2.58	-3.36/-4.48	-5.39/-7.1	-12.02/-18.97	-17.47/-17.41	-10.84/-10.53	-11.68/-10.81	-10.16/-10.51	-11.16/-15.98	-18.5/-18.91	-18.26/-11.92	-8.97/-8.01	-9.03/-12.03	-14.1/-12.69	-11.06/-14.3	-13.89/-18.1	-14.87/-12.19	-16.96/-16.82	-10.45/-7.81
Θ(172.5°)	-5.24/-3.6	-2.87/-2.32	-2.1/-91	-1.63/-0.85	-0.45/-0.66	-1.2/-1.94	-2.03/-2.52	-4.82/-7.14	-9.19/-15.35	-16.43/-16.12	-13.84/-10.16	-8.7/-8.82	-11.45/-15.96	-18.94/-19.08	-14.33/-12.48	-12.47/-11.88	-10.64/-9.31	-8.04/-7.1	-7.03/-7.78	-9.86/-17.03	-17.92/-18.12	-18.86/-13.66	-13.57/-14.08	-9.22/-6.96
Θ(180°)	-6.91/-5.28	-3.9/-4.36	-2.67/-1.67	-1.19/-1.34	-1.8/-2.45	-2.5/-2.4	-3.16/-4.31	-5.27/-7.39	-9.52/-12.82	-17.19/-18.57	-14.88/-12.61	-13.53/-17.97	-17.99/-17.8	-12.9/-9.58	-7.19/-6.08	-4.64/-2.9	-1.62/-0.97	-1.03/-1.31	-1.69/-2.11	-3.53/-5.43	-6.25/-8.29	-13.64/-17.67	-18.46/-15.26	-11.66/-8.5
Freq(Hz)	6.995GPol.	Theta/Ant. 2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)*Φ(7.5°)	Φ(15°)*Φ(22.5°)	Φ(30°)*Φ(37.5°)	Φ(45°)*Φ(52.5°)	Φ(60°)*Φ(67.5°)	Φ(75°)*Φ(82.5°)	Φ(90°)*Φ(97.5°)	Φ(105°)*Φ(112.5°)	Φ(120°)*Φ(127.5°)	Φ(135°)*Φ(142.5°)	Φ(150°)*Φ(157.5°)	Φ(165°)*Φ(172.5°)	Φ(180°)*Φ(187.5°)	Φ(195°)*Φ(202.5°)	Φ(210°)*Φ(217.5°)	Φ(225°)*Φ(232.5°)	Φ(240°)*Φ(247.5°)	Φ(255°)*Φ(262.5°)	Φ(270°)*Φ(277.5°)	Φ(285°)*Φ(292.5°)	Φ(300°)*Φ(307.5°)	Φ(315°)*Φ(322.5°)	Φ(330°)*Φ(337.5°)	Φ(345°)*Φ(352.5°)
Θ(0°)	-2.81/-3.21	-3.56/-4.7	-6.34/-8.68	-8.91/-11.16	-12.43/-13.47	-11.48/-8	-6.68/-6.09	-4.14/-3.13	-2.28/-0.79	0.25/0.5	-0.14/-0.86	-1.38/-1.91	-2.64/-3.64	-5.46/-7.14	-10.88/-14.15	-16.34/-15.7	-11.95/-8.94	-6.45/-5.21	-3.77/-2.23	-1.89/-1.24	-0.62/-0.16	-0.2/-0.38	-0.36/-0.59	-1.45/-2.26
Θ(7.5°)	-2.94/-6.9	-6.82/-8.73	-12.2/-15.54	-18.54/-17.59	-14.09/-10.44	-7.46/-4.73	-3.36/-2.55	-2.02/-1	5.50/8.4	0.06/-1.05	-1.66/-1.95	-2.17/-2.64	-3.14/-2.6	-5.19/-6.02	-7.16/-9.4	-12.04/-14.1	-13.99/-11.37	-8.57/-5.44	-4.02/-2.93	-1.4/-0.1	0.11/0.04	0.16/-0.14	-0.63/-1.48	
Θ(15°)	-4.05/-5.7	-6.94/-8.32	-10.43/-13.8	-17.72/-15.84	-12.84/-9.25	-6.77/-4.95	-3.53/-2.17	-1.25/-1.39	-2.2/-0.98	0.30/44	0.24/-0.23	-1.14/-2.39	-3.35/-3.48	-4.21/-5.26	-6.04/-7.92	-10.44/-12.94	-14.64/-16.89	-16.78/-12.42	-8.1/-5.84	-4.61/-3.34	-1.95/-1.88	-0.87/-0.36	-0.84/-1.05	-0.34/-1.32
Θ(22.5°)	-4.58/-5.4	-6.73/-7.61	-9.28/-11.53	-9.94/-9.37	-9.55/-9.71	-8.66/-8.59	-8.64/-1.95	-0.57/-0.63	-0.98/-1.29	-1.57/-1.26	-1.05/-1.74	-3.21/-4.44	-4.36/-3.84	-4.64/-6.38	-8.43/-10.24	-10.58/-11.81	-16.77/-18.07	-19.23/-15.31	-9.11/-6.34	-3.54/-1.54	-0.67/-0.18	0.67/0.79	0.49/0.25	-0.14/-0.58
Θ(30°)	-3.63/-4.61	-4.24/-4.03	-6.04/-9.12	-10.61/-11.79	-11.8/-12.56	-16.72/-12.07	-5.47/-2.47	-0.87/0.1	0.66/-0.01	-1.07/-1.25	-3.99/-4.17	-1.37/-0.1	-1.04/-2.3	-4.84/-5.79	-6.65/-7.61	-10.33/-12.58	-14.98/-12.48	-9.32/-4.59	-8.77/-8.22	-1.11/-5.63	-3.4/-1.91	-0.20/-24	0.36/0.48	-0.91/-2.05
Θ(37.5°)	-5.22/-5.25	-3.98/-5.48	-7.89/-7.8	-9.48/-14.75	-17.23/-18.36	-17.08/-12.26	-8.98/-6.16	-2.16/-0.87	-0.23/0.16	-1.22/-3.78	-2.78/-0.66	-0.53/-2.81	-4.57/-4.53	-3.58/-6.21	-9/-11.69	-13.16/-16.75	-13.68/-12.25	-10.73/-9.38	-8.65/-6.69	-6.27/-5.35	-4.04/-3.06	-1.78/-0.97	-0.34/-0.5	-1.15/-2.27
Θ(45°)	-4.85/-5.4	-5.34/-8.83	-9.56/-8.02	-11.66/-18.56	-18.85/-14.16	-11.37/-10.85	-9.31/-7.81	-6.46/-4.96	-3.32/-2.72	-2.68/-2.84	-3.1/-3.07	-3.73/-2.35	-2.29/-6.65	-6.82/-8.92	-13.58/-15.4	-18.69/-17.3	-17.65/-17.49	-13.89/-10.67	-9.98/-8.43	-6.48/-8.38	-9.28/-7.25	-5.67/-4.25	-2.31/-3.08	-1.98/-3.66
Θ(52.5°)	-5/-7.57	-5.19/-9.11	-10.69/-10.62	-15.14/-13.27	-13.73/-17.47	-19.1/-16.31	-11.78/-8.97	-6.91/-4.22	-3.01/-3.55	-4.28/-3.91	-3.06/-4.9	-4.87/-2.81	-4.37/-6.45	-10.95/-11.07	-9.32/-13.47	-13.82/-18.87	-15.98/-13.87	-17.87/-13.64	-14.75/-10.75	-6.8/-3.34	-4.18/-6.2	-4.67/-5.59	-3.36/-2.1	-3.26/-3.07
Θ(60°)	-7.59/-9.77	-9.1/-18.95	-11.17/-12.38	-17.78/-18.46	-18.45/-16.63	-18.71/-18.45	-12.88/-8.15	-6.3/-6.69	-6.74/-3.28	-2.47/-8.39	-6.72/-3.46	-3.27/-5.79	-8.08/-8.08	-8.72/-6.02	-5.61/-7.19	-6.52/-8.44	-8.77/-12.04	-14.13/-18.1	-13.75/-13.42	-12.64/-6.14	-4.56/-8.36	-7.88/-8.47	-6.62/-2.44	-3.11/-5.58
Θ(67.5°)	-7/-9.21	-11.85/-17.8	-13.12/-10.18	-12.41/-15.93	-18.2/-17.84	-13.83/-17.82	-17.98/-15.39	-11.88/-9.53	-9.44/-8.02	-6.76/-6.06	-4.46/-5.07	-6.36/-9.02	-6/-7.05	-6.67/-6.37	-4.21/-5.3	-6.97/-10.58	-8.36/-11.1	-17.59/-17.3	-18.56/-16.69	-17.03/-10.67	-6.68/-6.41	-8.6/-5.8	-8.99/-4.71	-3.85/-5
Θ(75°)	-7.34/-10.02	-11.64/-17.1	-17.87/-17.59	-17.81/-17.98	-16.42/-14.67	-17.46/-17.26	-14.17/-11.72	-6.93/-5.48	-8.84/-11.14	-6.91/-5.55	-9.77/-11.46	-4.92/-5.8	-5.61/-9.27	-12.22/-5.42	-14.09/-10.9	-10.62/-12.29	-14.43/-16.51	-15.55/-14.61	-18.33/-14.06	-14.71/-9.38	-12.02/-12.01	-17.67/-7.04	-5.48/-8.61	
Θ(82.5°)	-8.85/-12.75	-18.26/-18.28	-19.82/-18.01	-19.42/-18.18	-19.1/-17.4	-17.49/-14.68	-13.43/-9.98	-7.53/-7.86	-14.18/-9.63	-7.98/-15.06	-9.5/-7.81	-12.02/-18.66	-18.84/-11.12	-8.56/-6.37	-9.52/-13.4	-17.93/-19.41	-18.14/-13.58	-18.69/-18.06	-17.54/-13.1	-10.08/-15.37	-10.57/-8.18	-17.92/-9.78	-11.91/-10.7	-7.03/-8.08
Θ(90°)	-12.37/-16.21	-15.99/-17.7	-18.68/-16.37	-17.22/-19.22	-18.51/-17.8	-17.77/-15.12	-12.97/-10.02	-6.78/-4.66	-10.07/-14.15	-15.19/-18.35	-7.96/-10.46	-15.46/-10.16	-18.68/-13.51	-14.39/-14.63	-15.33/-18.81	-19.12/-18.17	-13.44/-17.11	-17.37/-18.11	-12.33/-12.08	-18.42/-12.98	-9.25/-8.87	-15.59/-11.58	-11.57/-18.53	-10.6/-17.98
Θ(97.5°)	-18.93/-14.35	-11.03/-18.77	-11.03/-18.77	-13.61/-19.22	-18.41/-18.38	-17.75/-16.66	-11.41/-9.51	-8.36/-9.73	-16.65/-18.26	-14.52/-17.49	-14.95/-12.86	-9.82/-16.17	-15.32/-10.51	-13.06/-13.98	-17.72/-15.2	-14.78/-16.26	-19.02/-15.37	-14.07/-15.36	-10.76/-12.29	-8.89/-10.03	-13.51/-11.1	-10.88/-18.55	-12.21/-14.06	
Θ(105°)	-17.82/-14.98	-10.81/-10	-17.73/-15.44	-11.96/-12.43	-16.24/-18.87	-18.5/-17.19	-14.04/-11.51	-11.54/-13.08	-13.04/-17.82	-18.08/-12.93	-11.98/-13.86	-11.5/-16.42	-12.69/-9.9	-10.22/-10.99	-18.86/-13.52	-17.97/-17.75	-17.44/-18.37	-18.66/-18.39	-13.74/-8.84	-9.57/-17.99	-15.69/-15.75	-17.98/-14.52	-14.19/-11.13	-17.67/-13.98
Θ(112.5°)	-12.35/-18.49	-11.71/-10.53	-8.64/-14.19	-15.91/-15.71	-16.97/-17.13	-14.3/-11.31	-10.33/-9.33	-12.13/-13.19	-17.97/-19.97	-13.87/-14.109	-16.52/-7.59	-11.84/-13.02	-7.5/-15.22	-14.8/-14.14	-15.14/-14.17	-17.88/-17.98	-17.54/-14.38	-10.76/-15.72	-18.85/-11.58	-13.67/-16.88	-15.62/-18.35	-19.07/-16.72	-14.82/-14.91	-18.1/-14.83
Θ(120°)	-11.07/-15.73	-13.76/-14.19	-10.94/-14.02	-14.2/-19.18	-18.18/-18.47	-17.62/-18.69	-16.78/-18.92	-14.52/-10.24	-9.84/-13.17	-9.62/-7.84	-9.26/-7.54	-8.04/-17.29	-12.44/-18.24	-13.1/-19.02	-11.87/-15.84	-14.78/-16.26	-19.05/-18.32	-19.03/-18.9	-10.9/-19.22	-18.87/-13.82	-19.02/-13.85	-17.68/-13.93	-10.68/-13.21	
Θ(127.5°)	-13.37/-7.85	-8.8/-13.22	-15.7/-9.96	-10.77/-11.67	-15.72/-18.52	-17.62/-18.78	-17.94/-18.58	-16.08/-11.2	-7.6/-6.27	-9.26/-8.41	-5.98/-14.3	-6.91/-3.99	-4.8/-10.02	-17.98/-14.83	-7.95/-10.02	-11.19/-17.31	-10.49/-14.53	-9.34/-16.61	-18.78/-18.25	-8.19/-15.58	-12.95/-7.54	-8.17/-14.1	-9.81/-9.73	-8.93/-11.23
Θ(135°)	-6.97/-11.72	-11.77/-11.38	-13.45/-18.45	-13.78/-10.08	-10.1/-10.08	-13.02/-18.05	-13.23/-6.88	-4.02/-0.45	-6.45/-10.92	-5.55/-2.88	-6.7/-4.4	-1.34/-0.29	-4.95/-12.19	-7.53/-9.49	-3.3/-5.82	-8.87/-10.61	-13.82/-12.48	-7.46/-16.36	-14.84/-15.59	-11.65/-10.65	-9.84/-13.38	-12.7/-8.41	-14.19/-9.49	-8.88/-11.16
Θ(142.5°)	-6.96/-6.64	-7.42/-9.77	-11.78/-14.62	-12.07/-8.36	-8.06/-11.9	-16.28/-17.48	-11.11/-7.65	-6.51/-7.29	-8.07/-5.11	-2.26/-1.84	-2.73/-3.8	-4.12/-6.33	-10.53/-11.29	-10.69/-9.02	-9.71/-11.97	-9.92/-12.11	-17.26/-12.04	-18.95/-16.95	-18.09/-18.13	-10.02/-13.52	-12.98/-11.68	-14.34/-12.01	-7.32/-8.37	-5.3/-5.2
Θ(150°)	-4.4/-2.35	-3.05/-4.14	-8.89/-9.28	-6.49/-9.26	-14.57/-16.04	-10.62/-8.59	-8.68/-8.88	-8.79/-7.49	-4.82/-4.38	-5.59/-4.44	-2.89/-3.16	-5.08/-6.59	-4.91/-6.36	-10.35/-8.63	-9.25/-8.57	-6.66/-10.94	-9.8/-7.74	-16.73/-15.13	-14.27/-9.92	-5.46/-8.06	-8.73/-5.37	-6.97/-6.17	-6.75/-5.6	-5.74/-5.26
Θ(157.5°)	-7.3/-5.36	-6.17/-6.79	-11.19/-16.01	-15.82/-17.52	-18.84/-17.81	-14.09/-11.44	-9.8/-8.99	-9.07/-7.88	-6.86/-3.6	-7.16/-6.13	-3.3/-2.37	-4.02/-5.74	-6.7/-8	-7.35/-10.74	-10.76/-8.1	-13.92/-10.92	-7.14/-7.8	-10.89/-14.1	-13.83/-11.04	-10.58/-12.63	-6.83/-3.59	-2.65/-2	-3.09/-3.53	-5.75/-6.79
Θ(165°)	-4.33/-4.53	-3.43/-4.67	-6.94/-9.22	-10.37/-9.48	-8.97/-10.27	-12.2/-14.88	-17.75/-18.52	-18.65/-13.87	-9.97/-8.68	-5.84/-10.15	-18.59/-8.71	-4.79/-7.29	-12.05/-18.88	-18.82/-13.56	-8/-6.25	-7.69/-14.94	-18.63/-11.81							



Radiated Composite Gain Data of 6GHz

Appendix B

Θ (172.5°)	-9.24/-8.68	-9.6/-11.81	-14.59/-17.14	-17.57/-16.03	-18.26/-18.11	-17.7/-19.47	-16.52/-15.56	-17.54/-17.88	-17.4/-14.93	-11.93/-10.32	-17.17/-13.03	-16.24/-19.18	-18.44/-17.99	-19.2/-18.03	-17.45/-17.37	-16.04/-16.07	-17.13/-15.62	-17.07/-15.96	-13.42/-12.84	-11.05/-9.89	-9.35/-9.43	-9.23/-9.99	-10.01/-11.8	-11.56/-9.91
Θ (180°)	-13.66/-14.09	-16.15/-16.11	-16.21/-13.94	-11.31/-11.02	-12.47/-13.64	-16.96/-18.05	-17.34/-17.55	-15.57/-14.71	-13.95/-13.98	-14.14/-13.61	-13.02/-12.04	-10.88/-10.23	-9.18/-12	-7.92/-8.72	-9.69/-9.84	-10.14/-10.53	-11.76/-13.5	-14.42/-16.37	-17.39/-18.17	-19.18/-18.91	-17.95/-16.83	-17.73/-16.15	-14.79/-16.1	-15.06/-13.77
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°)	-17.27/-18.48	-19.02/-18.12	-19.11/-17.35	-18.4/-18.63	-18.07/-17.92	-17.56/-19.02	-18.74/-17.4	-18.47/-18.03	-16.87/-18.09	-19.19/-18.64	-19.47/-18.87	-18.5/-19.14	-18.01/-17.96	-17.8/-17.74	-19.16/-17.25	-14.54/-12.47	-12/-11.23	-10.93/-9.97	-9.95/-9.86	-10.62/-11.31	-12.36/-13.26	-14.35/-15	-15.19/-15.79	-16.09/-16.33
Θ (7.5°)	-17.98/-14.71	-12.4/-11.2	-8.85/-8.25	-8.23/-8	-7.94/-7.52	-7.13/-6.95	-7.69/-8.15	-8.84/-8.6	-8.48/-8.76	-9/-9.18	-10.33/-11.44	-12.72/-14.26	-14.55/-12.67	-14.52/-16.18	-17.98/-17.84	-18.74/-18.96	-17.82/-17.75	-19.02/-17.44	-18.68/-19.24	-17.48/-18.55	-18.22/-17.35	-15.2/-13.17	-13.48/-13.98	-18.97/-18.92
Θ (15°)	-15.44/-12.74	-10.55/-9.02	-6.77/-5.01	-5.04/-5.98	-6.32/-7.07	-7.5/-7.22	-7.2/-6.68	-6.18/-6.61	-6.87/-7.53	-8.21/-8.74	-8.99/-9.05	-9.84/-10.73	-10.98/-11.67	-12.81/-15.82	-19.17/-17.04	-18.75/-18.07	-19.14/-13.97	-11.41/-8.8	-7.46/-7.77	-7.43/-7.38	-7.21/-6.82	-7.66/-9.3	-10.96/-13.41	-18.52/-17.8
Θ (22.5°)	-13.34/-14.78	-12.35/-10.54	-9.43/-7.72	-7.09/-6.93	-7.03/-8.93	-9.64/-10.57	-11.84/-11.55	-9.91/-8.85	-8.43/-8.23	-7.5/-8.31	-11.18/-15.57	-17.67/-15.38	-11.78/-10.54	-12.57/-15.73	-13.73/-14.18	-16.36/-16.54	-12.47/-9.43	-6.91/-5.18	-4.07/-3.07	-3.02/-3.07	-4.08/-5.67	-7.45/-9.64	-13.19/-15.57	-18.63/-19.28
Θ (30°)	-16.43/-14.24	-12.69/-8.88	-8.72/-7.61	-7.54/-6.99	-6.02/-5.5	-5.22/-7.58	-6.82/-9.66	-12.41/-14.9	-13.78/-12.29	-10.9/-13.7	-7.99/-7.32	-6.57/-7.12	-8.86/-8.59	-7.11/-7.51	-9.17/-11.58	-16.57/-17.71	-14.65/-9.19	-6.92/-5.05	-3.37/-1.81	-1.15/-1.81	-2.62/-4.12	-6.52/-9.73	-14.4/-18.7	-17.65/-19.26
Θ (37.5°)	-7.34/-9.31	-11.07/-12.55	-12.22/-9.99	-8.44/-5.67	-3.31/-1.83	-1.41/-3.53	-6.58/-10.35	-7.61/-6.35	-4.4/-2.83	-2.61/-2.59	-2.61/-4.31	-5.79/-5.63	-6.29/-7.63	-4.65/-7.85	-9.09/-10.87	-11.44/-12.1	-11.34/-6.9	-4.67/-2.81	-2.07/-0.9	-1.1/-0.98	-1.68/-4.62	-8.32/-9.71	-12.95/-9.26	
Θ (45°)	-4.71/-10.09	-13.13/-8.71	-9.32/-10.09	-8.79/-6.26	-4.36/-2.5	-1.97/-2.68	-5.32/-7.43	-6.14/-4.35	-3.27/-3.86	-5.39/-4.35	-3.02/-2.32	-3.54/-6.9	-7.9/-8.63	-11.49/-9.66	-8.12/-9.59	-10.8/-7.28	-6/-6.87	-7.19/-6	-4.5/-2.75	-2.17/-2.26	-1.91/-1.95	-0.96/-2.1	-2.49/-2.92	-3.31/-2.57
Θ (52.5°)	-8.85/-9.54	-5.86/-8.14	-8.74/-6.64	-4.23/-2.9	-2.38/-2.36	-2.53/-1.63	-3.06/-4.94	-5.25/-4.9	-5.41/-5.26	-5.56/-7.59	-10.65/-10.16	-13.16/-14.9	-18.12/-18.9	-16.56/-11.09	-11.51/-5.69	-5.59/-4.24	-3.55/-4.12	-5.54/-4.05	-1.3/-0.13	-0.75/-0.65	-1.66/-1.6	0.21/-0.46	1.01/-0.14	-0.63/-6.1
Θ (60°)	-0.9/-0.04	-1.28/-3.16	-3.85/-3.12	-3.8/-2.71	-2.22/-3.52	-1.07/-2.27	-2.87/-4.15	-5.6/-7.35	-9.76/-18.06	-18.95/-13.16	-6.88/-8.38	-5.98/-11.19	-15.48/-15.32	-10.03/-5.18	-3.77/-2.41	-3.38/-2.19	-1.57/-0.08	0.1/-0.24	1.24/-1.32	0.97/-0.46	0.92/-1.57	2.34/-1.2	-1.57/-3.74	
Θ (67.5°)	-2.72/-3.38	-2.3/-2.16	-1.56/-1.42	-3.4/-3.93	-7.9/-6.88	-0.59/-0.08	-1.82/-1.91	-1.97/-4.05	-8.1/-10.4	-10.24/-7.88	-6.4/-3.96	-1.91/-2.4	-2.63/-6.01	-11.82/-18.4	-7.8/-4.15	-9.38/-4.41	-4.27/-4.2	-1.46/-1.08	1.30/-13	-0.43/-1.58	-0.03/-2.06	-0.24/-1.21	2.783/-0.7	2.37/-0.53
Θ (75°)	-1.97/-0.53	0.17/-0.76	0.47/-0.22	4.1/-3.81	-4.71/-3.32	1.94/-1.96	0.12/-0.58	0/-2.1	-6.6/-8.99	-6.17/-3.01	-4.67/-5.03	-0.6/-2.58	-0.94/-2.78	-6.16/-8.95	-4.76/-5.02	-5.18/-9.04	-4.13/-3.62	-1.54/-0.65	1.15/-0.86	2.38/-0.98	-0.73/-1.64	-3.59/-1.24	1.923/-92	1.44/-5.6
Θ (82.5°)	0.380/-28	2.87/-21.1	1.990/-15	-4.2/-4.64	-6.41/-6.1	1.79/-1.74	2.01/-2.45	0.69/-0.87	-2.12/-6.59	-4.19/-1.09	-2.65/-3.69	1.76/-9.99	1.31/-0.52	-2.15/-3.02	-2.32/-1.67	0.17/-5.62	-2.85/-2.25	-2.07/-0.62	2.782/-26	2.382/-94	-1.47/-2.55	-5.51/-0.47	2.472/-6	2.6/-2.16
Θ (90°)	-0.9/-1.44	1.280/-7.2	2.240/-6.7	-4.3/-7.18	-3.96/-0.98	2.382/-7.3	2.89/-2.49	1.020/-52	-1.65/-9.38	6.56/-1.25	-0.81/-8.63	1.65/-0.34	2.17/-0.62	-4.23/-5.06	-3.98/-0.03	2.85/-0.08	1.261/-37	3.562/-96	2.053/-0.1	4/-4.55	1.570/-33	-4.68/-1.49	0.781/-95	2.171/-89
Θ (97.5°)	0.2/-2.3	0.220/-4.7	-0.58/-1.08	-6.08/-5.8	-3.860/-9.7	0.690/-6.7	1.461/-24	1.342/-0.1	-2.99/-4.19	-4.560/-5	-2.56/-9.19	1.4/-1.26	1.671/-1.25	-4.3/-4.69	-4.15/-1.99	4.223/-14	2.934/-37	4.794/-0.9	4.314/-53	5.54/-93	3.51/-0.39	-4.84/-5.24	-0.430/-39	0.022/-34
Θ (105°)	-0.56/-0.13	0.14/-0.65	0.54/-1.15	-3.59/-3.83	-4.23/-0.2	0.75/-0.13	0.53/-0.73	0.73/-1.99	-1.24/-2.06	-16.96/-1.23	-1.37/-14.54	2.02/-6.09	0.050/-79	-8.76/-7.94	-7.23/-2.24	4.082/-54	3.403/-36	3.824/-63	3.824/-63	4.462/-73	1.991/-4	-3.97/-4.94	-1.421/-1.7	0.048/-56
Θ (112.5°)	-2.72/-9.38	1.140/-29	-0.21/-4.8	-4.84/-2.9	-5.25/-2.46	-1.5/-3.62	-4.18/-2.99	-1.871/-1.74	-0.38/-4.77	-18.66/-6.83	-3.49/-11.82	0.01/-3.67	-1.31/-2.69	-14.2/-17.08	-9.18/-3.16	3.180/-25	1.911/-7	4.824/-61	-2.450/-75	3.323/-13	-0.39/-0.79	-4.09/-2.86	1.51/-0.71	-4.25/-1.38
Θ (120°)	-2.82/-4.16	-0.2/-2.4	-4.57/-7.57	-3.1/-0.3	-0.23/-3.05	-0.64/-1.04	-5.53/-6.54	-7.66/-8.78	-1.59/-3.51	-14.03/-17.49	-9.06/-13.86	-1.27/-4.96	-8.775/-7.9	-8.34/-8.62	-5.79/-2.06	0.02/-1.22	-6.95/-4.86	2.622/-4	-4.51/-1.65	-0.550/-57	-0.52/-1.67	-3.37/-2.25	0.03/-1.39	-3.74/-6.71
Θ (127.5°)	-7.66/-4.06	-1.93/-3.3	-3.82/-3.9	-8.13/-2.89	-1.85/-3.4	-8.56/-5.61	-10.26/-18.52	-9.19/-15.03	-10.49/-17.47	-16.53/-16.22	-4.09/-7.37	-4.90/-8.3	-11.35/-10.68	-9.190/-26	-3.41/-14	-3.23/-5.71	3.972/-47	-9.41/-1.96	0.40/-0.2	-0.15/-3.11	-3.960/-8	3.090/-63	-8.49/-8.5	
Θ (135°)	-2.94/-3.74	-12.22/-12.85	-11.12/-13.87	-6.85/-6.16	-9.27/-14.94	-15.46/-10.91	-8.45/-8.98	-9.04/-11.53	-16.99/-13.24	-18.47/-14.39	-14.88/-13.55	-13.75/-14.89	-6.96/-6.51	-14.43/-17.91	-8.34/-18.82	-1.72/-2.79	-13.28/-13.5	0.04/-1.27	-8.67/-5.73	2.39/-2.6	-0.86/-9.3	-2.37/-2.22	1.523/-29	-6.65/-3.16
Θ (142.5°)	-7.72/-3.54	-6.71/-13.22	-14.98/-14.6	-19.39/-15	-13/-10.15	-6.42/-3.55	-1.82/-2.67	-7.42/-8.01	-5.56/-10.6	-15.48/-28.8	-11.98/-12.92	-18.75/-18.47	-16.52/-18.62	-12.45/-12.94	-15.94/-12.26	-7.27/-7.6	-13.99/-3.57	-2.99/-5.25	-12.9/-11.82	-3.51/-1.61	-4.19/-5.87	-7.37/-6.18	-9.56/-8.12	-13/-7.29
Θ (150°)	-18.23/-15.98	-11.78/-15.02	-18.56/-15.29	-12.57/-11.26	-16.88/-11.24	-10.57/-15.15	-3.54/-3.95	-7.74/-7.56	-4.84/-7.35	-8/-18	-18.11/-12.56	-18.53/-15.18	-16.76/-18.62	-17.16/-18.62	-17.05/-16.37	-15.99/-16.19	-16.11/-12.61	-8.74/-6.67	-5.34/-6.1	-6.97/-5.52	-6.59/-8.34	-9.72/-9.26	-7.3/-7.4	-6.34/-66
Θ (157.5°)	-7.31/-6.56	-5.71/-5.62	-7.68/-10.71	-15.97/-18.9	-17.87/-17.03	-12.78/-11.36	-10.04/-11.22	-16.55/-19.06	-16.45/-15.22	-18.44/-16.69	-16.35/-11.72	-8.84/-13.54	-17.4/-19.39	-17.5/-18.2	-18.15/-18.36	-18.42/-12.61	-6.25/-5.43	-8.5/-12.07	-13.17/-17.65	-15.54/-7.64	-5.87/-5.6	-4.11/-3.87	-5.08/-6.83	-7.24/-7.32
Θ (165°)	-5.61/-6.92	-6.3/-5.57	-6.11/-7.69	-8.14/-8.11	-8.2/-7.64	-7.33/-7.48	-7.71/-9.32	-11.92/-13.52	-12.56/-11.25	-11.86/-12.6	-12.10/-11.66	-9.87/-10.71	-12.95/-15.73	-13.77/-11.11	-9.38/-8.56	-6.66/-0.53	-4.82/-5.55	-7.37/-10.26	-10.12/-9.16	-6.27/-6.13	-5.37/-5.31	-4.02/-3.15	-2.77/-3.16	-4.17/-13.5
Θ (172.5°)	-8.4/-9.06	-11.04/-10.64	-9.91/-10.22	-10.87/-12.71	-16.88/-18.28	-17.68/-17.77	-17.68/-16.62	-16.53/-18.47	-17.32/-18.66	-18.53/-18.49	-19.23/-18.88	-16.53/-17.34	-15.81/-16.22	-17.05/-16.37	-15.99/-16.19	-16.11/-12.61	-8.74/-6.67	-5.34/-6.1	-6.97/-5.52	-6.59/-8.34	-9.72/-9.26	-7.3/-7.4	-6.34/-66	
Θ (180°)	-12.07/-13.05	-13.43/-14.02	-13.68/-14.67	-18.61/-16.21	-14.07/-13.08	-11.72/-11.25	-11.64/-11.21	-10.65/-11.09	-11.69/-12.12	-11.78/-13.04	-14.59/-16.57	-17.49/-17.96	-18.95/-17.73	-18.02/-15.98	-15.47/-15.95	-18.89/-18.52	-16.12/-10.47	-13.94/-13.28	-13.23/-13.02	-12.58/-12.26	-11.25/-10.68	-10.63/-10.28	-10.35/-9.71	-10.85/-12.55
Freq(Hz)	6.475GPol	Phi/Ant. 3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-19.23/-17.6	-18.04/-18.9	-18.74/-17.85	-18.64/-19.29	-19.22/-18.36	-17.68/-19.33	-18.24/-17.25	-17.77/-17.38	-17.6/-18.31	-18.35/-18.92	-17.87/-17.49	-18.71/-15.52	-13.98/-13.44	-15.44/-13.18	-17.9/-19.28	-17.91/-17.93	-18.91/-19.25	-18.21/-19.9	-18.86/-17.92	-19.4/-17.74	-18.42/-19.02	-18.96/-18.15	-18.88/-18.15	-18.38/-18.65
Θ (7.5°)	-18.23/-17.86	-13.89/-11.59	-17.59/-18.71	-18.77/-18.71	-18.47/-18.86	-16.16/-13.89	-13.87/-15.5	-18.47/-17.55	-18.89/-18.14	-19.75/-18.61	-19.2/-19.22	-16.37/-14.33	-13.96/-14.79	-16.33/-17.16	-19.82/-17.98	-18.53/-18.29	-19.05/-18.5	-19.47/-19.13	-18.45/-18.27	-19.12/-17.37	-19.05/-16.64	-18.44/-12.55	-12.57/-13.89	-19.36/-18.05
Θ (15°)	-18.4/-17.79	-16.92/-18.84	-14.81/-12.03	-10.65/-10.52	-10.13/-10.11	-9.32/-9.86	-10.68/-11.07	-11.47/-11.58	-11.24/-11.13	-12.96/-17.98	-18.73/-15.71	-11.48/-9.34	-8.81/-9.94	-10.88/-12.22	-13.46/-15.48	-12.72/-9.95	-9.17/-9.29	-9.99/-11.44	-13.57/-18.12	-17.78/-18.49	-15.95/-13.79	-12.67/-12.23	-13.82/-14.72	-16.07/-15.8
Θ (22.5°)	-17.30/-15.63	-15.47/-18.96	-17.23/-15.51	-14.06/-13.62	-11.08/-11.99	-11.7/-9.54	-8.76/-9.12	-9.20/-10																



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(15°)	-7.45/-7.65	-8.18/-8.67	-8.88/-9.44	-10.64/-13.61	-16.79/-18.72	-19.12/-17.95	-17.55/-15.78	-12.92/-11.94	-11.15/-10.05	-9.75/-9.66	-10.85/-12.65	-15.09/-18.88	-17.8/-17.33	-13.07/-12.75	-14.81/-18.48	-17.35/-18.47	-12.92/-8.31	-7.22/-6.41	-5.75/-4.99	-4.62/-5.48	-6.99/-8.31	-8.27/-8.25	-8.06/-8.21	-8.12/-8.11
Θ(22.5°)	-4.82/-4.79	-5.76/-6.92	-9.19/-9.92	-12.64/-17.69	-17.73/-18.16	-13.3/-10.01	-7.94/-6.42	-5.94/-6.46	-7.74/-8.97	-9.88/-11.31	-12.97/-16.29	-18.28/-17.73	-18.46/-16.55	-17.09/-17.98	-17.31/-15.56	-10.61/-6.83	-4.99/-4	-3.29/-2.46	-2.38/-3.43	-4.93/-6.48	-8.26/-9.86	-12.17/-11.23	-9.23/-8.77	-7.17/-6.21
Θ(30°)	-3.78/-3.7	-4.21/-5.34	-7.69/-10.27	-13.85/-16.15	-15.45/-18.99	-17.17/-9.87	-6.13/-4.8	-4.55/-6.16	-6.43/-7.74	-9.56/-14.3	-17.83/-13.42	-12.24/-12.35	-12.68/-11.57	-11.17/-12.25	-12.41/-10.78	-8.41/-6.71	-5.61/-4.12	-3.29/-3.08	-3.52/-4.48	-5.42/-6.51	-7.42/-10.49	-16.01/-10.5	-7.35/-5.19	-3.83/-3.7
Θ(37.5°)	-1.67/-2.1	-3.23/-5.38	-8.48/-13.29	-11.19/-9.41	-11.65/-18.74	-8.6/-3.86	-2.43/-3.03	-4.55/-7.36	-11.95/-18.62	-12.77/-7.02	-3.66/-2.14	-2.56/-3.53	-3.9/-5.04	-6.75/-8.78	-10.1/-9.58	-8.93/-10.49	-11.08/-9.17	-8.49/-7.71	-8.71/-11.72	-12.59/-11.15	-10.88/-10.58	-10.94/-6.58	-3.77/-2.09	-0.86/-1.7
Θ(45°)	-1.57/-2.4	-3.13/-5.44	-8.42/-5	-2.87/-3.62	-6.31/-10.53	-6.77/-3.93	-2.92/-4.1	-7.88/-12.89	-13.93/-10.37	-6.61/-4.92	-3.73/-1.75	-1.53/-3.13	-4.95/-4.23	-4.91/-5.47	-6.07/-9.1	-12.73/-13.01	-12.08/-12.27	-9.59/-7.64	-8.37/-7.75	-8.03/-9.4	-16.9/-0.02	-10.66/-0.71	-2.54/-1.2	-1.25/-1.53
Θ(52.5°)	-2.45/-3.07	-2.94/-3.47	-3.6/-2.47	-1.31/-1.6	-3.01/-6.84	-5.72/-1.93	-1.36/-4.14	-9.36/-9.86	-7.97/-8.37	-9.48/-7.39	-5.97/-6.25	-6.31/-8.07	-9.09/-9.34	-7.43/-5.05	-6.01/-6.04	-6.71/-5.7	-5.92/-4.24	-1.59/-1.01	-1.07/-0.7	0.030/-97	-0.54/-1.94	-4.9/-6.26	-1.41/-1.95	-2.11/-1.66
Θ(60°)	-3.06/-3.15	-2.99/-2.14	-2.52/-0.31	-0.92/-2.43	-1.69/-3.42	-6.42/-2.58	-1.85/-5.08	-9.19/-8.77	-5.21/-4.16	-4.5/-7.82	-18.38/-17.48	-16.56/-12.89	-18.41/-11.34	-12.65/-5.5	-3.62/-3.99	-7.26/-4.44	-1.74/-1.02	0.660/-35	0.020/-8	1.571/-27	-0.4/-0.88	-2.44/-4.71	-8.46/-3.2	0.26/-0.22
Θ(67.5°)	-4.91/-5.7	-6.18/-3.48	-1.391/-39	0.680/-46	0.43/-2.89	-5.67/-2.91	-1.94/-13	-5.63/-6.15	-4.23/-4.92	-5.45/-7.27	-8.37/-6.1	-3.74/-1.59	-5.57/-8.35	-6.4/-3.02	-3.72/-2.92	-4.95/-1.78	-1.62/-0.93	-0.22/-0.68	-0.04/-0.57	-1.75/-1.35	0.11/-0.6	-0.4/-2.18	-6.21/-5.31	-2.85/-2.15
Θ(75°)	-2.55/-3.71	-4.85/-2.54	-3.72/-1.59	1.06/-0.09	-1.08/-6.75	-3.28/-0.24	-0.51/-0.39	-1.26/-2.61	-4.95/-4.76	-4.21/-4.24	-6.89/-2.19	-3.10/-68	0.12/-73	-13.32/-5.59	-10.6/-7.09	-11.24/-2.83	-2.27/-1.29	-1.47/-0.88	0.190/-26	1.18/-21	1.691/-54	1.63/-0.22	-3.59/-7.38	-4.150/-05
Θ(82.5°)	-5.91/-6.41	-6.45/-4.32	-3.24/-0.1	0.620/-23	-1.78/-5.46	0.282/-54	3.2/-67	2.06/-0.06	-6.56/-7.44	-3.3/-1.54	-7.68/-2.3	-1.671/-55	1.24/-5.77	-8.35/-14.2	-6.76/-7.91	-8.5/-1.9	-0.78/-0.17	-1.67/-0.82	0.3/-0.04	1.01/-1.34	-0.92/-1.4	2.5/-0.33	-4.43/-5.16	-3.86/-1.87
Θ(90°)	-1.8/-2.39	-4.13/-3.78	-2.04/-2.32	-0.09/-2.56	-13.01/-3.69	2.44/-1.61	3.140/-39	1.471/-5	-2.8/-2.54	-3.38/-2.64	-12.47/-3.46	-0.92/-57	3.87/-0.94	-2.92/-6.1	-6.83/-8.12	-0.9/-1.89	1.611/-79	-0.852/-07	2.560/-61	1.373/-64	0.21/-47	0.63/-0.41	-0.7/-5.21	-2.810/-95
Θ(97.5°)	-2.36/-2.65	-3.11/-4.74	-3.68/-6.02	-2.31/-1.18	-4.83/-2.73	3.612/-09	2.391/-64	0.950/-66	-1.17/-11.24	-5.9/-0.8	-12.24/-3.37	-0.51/-1.21	3.78/-4.46	-4.24/-6.81	-13.14/-2.06	-0.722/-01	2.824/-03	2.763/-56	3.422/-04	3.714/-77	2.021/-03	-0.84/-1.59	-2.17/-2.78	-2.38/-0.8
Θ(105°)	-3.71/-0.15	-2.74/-1.6	-1.34/-0.51	-1.40/-4.74	-4.36/-5.15	2.781/-66	0.911/-52	1.210/-96	1.35/-9.47	-8.40/-58	-9.24/-6.27	-1.41/-3.84	2.16/-1.54	-5.38/-6.31	-8.58/-2.35	0.93/-43	2.023/-07	1.871/-68	2.3/-0.19	1.593/-89	2.59/-0.49	-1.63/-0.63	0.250/-72	-3.782/-14
Θ(112.5°)	-3.83/-2.38	-4.370/-53	-1.92/-1.79	-3.95/-2.32	-0.96/-3.55	-2.78/-3.54	-0.711/-05	-4.26/-0.78	-3.24/-3.25	-7.89/-3.01	-11.28/-6.45	-2.41/-7.13	1.41/-6.22	-6.91/-7.71	-19.11/-6.4	-0.35/-0.55	0.4/-1.16	-0.62/-29	0.93/-5.43	-3.650/-67	2.36/-3.49	-6.06/-1.09	-1.77/-2.41	-0.120/-86
Θ(120°)	-3.91/-1.65	-0.01/-1.42	-3.96/-7.55	-3.1/-0.19	-0.87/-0.19	-2.63/-2.11	-2.24/-7.89	-10.56/-1.99	-8.06/-4.07	-13.39/-7.47	-14.07/-13.3	-7.46/-8.59	-3.82/-6.76	-13.14/-9.19	-14.75/-10.94	-2.74/-7.47	-1.65/-5.78	-1.571/-37	-6.44/-1.32	-2.471/-31	2.4/-1.7	-2.160/-15	-1.473/-0.34	-1.13/-1.08
Θ(127.5°)	-5.67/-5.61	-1.47/-1.49	-2.53/-6.03	-3.35/-2.15	-1.4/-2.32	-0.62/-0.59	-2.85/-3.92	-2.62/-9.47	-8.13/-6.61	-10.23/-18.91	-17.31/-19.47	-6.81/-18.52	-10.34/-16.97	-13.28/-2.23	-4.94/-2.67	0.211/-51.7	2.333/-39	-4.35/-1.34	-0.382/-88	-0.84/-6.39	-3.54/-1.46	-0.8/-8.69	-2.17/-11.28	
Θ(135°)	-10.78/-3.99	-4.41/-96	-5.83/-3.78	-5.51/-7.95	-7.39/-18.6	-9.24/-3.69	-3.17/-4.11	-4.09/-0.04	-7.89/-9.25	-18.67/-8.94	-11.9/-18.89	-18.11/-12.19	-12.79/-7.08	-19.11/-14.37	-19.9/-5.92	-10.25/-1.51	-4.23/-14.07	3.46/-2	-5.45/-9.99	-5.36/-1.4	-4.75/-9.72	-13.91/-2.16	-1.27/-6.18	-3.9/-4.95
Θ(142.5°)	-10.01/-18.5	-5.76/-6.07	-6.2/-8.11	-6.59/-8.63	-14.74/-18.34	-14.41/-16.34	-3.83/-5.35	-4.11/-7.8	-5.48/-6.73	-12.79/-4.38	-4.61/-14.34	-18.31/-9.75	-16.32/-13.74	-10.89/-18.37	-11.73/-6.53	-7.36/-13.36	-0.45/-1.61	-5.15/-67	-4.19/-6.9	-4.76/-14.52	-10.24/-11.18	-7.4/-9.14	-4.48/-6.06	
Θ(150°)	-19.29/-14.13	-12.27/-18.27	-17.27/-12.25	-9.88/-9.94	-10.16/-14.58	-15.95/-11.81	-6.56/-5.27	-9.9/-54	-7.34/-8.26	-17.18/-15.42	-10.35/-13.78	-17.95/-17.2	-15.87/-14.13	-17.34/-12.33	-10.18/-18.78	-18.92/-14.62	-15.01/-11.76	-8.04/-12.27	-17.53/-9.09	-4.39/-3.82	5.04/-6.54	-8.07/-9.04	-8.28/-15.38	-17.6/-19.07
Θ(157.5°)	-9.38/-8.93	-12.29/-14.24	-11.51/-11.17	-13.16/-14.72	-13.18/-10.96	-11.89/-18.41	-18.1/-13	-13.44/-18.75	-18.9/-14.85	-14.95/-15.46	-14.03/-18.16	-18.52/-17.98	-14.92/-13.06	-14.68/-15.5	-15.4/-17.26	-19.22/-18.92	-13.55/-10.98	-10.38/-11.1	-7.72/-5.64	-5.24/-5.45	-5.74/-4.92	-4.64/-6.89	-7.8/-53	-15.32/-16.82
Θ(165°)	-10.69/-9.51	-9.64/-10.68	-9.08/-3.7	-9.44/-10.35	-9.95/-10.27	-10.28/-10.76	-10.65/-11.62	-11.75/-14.23	-18.85/-17.13	-17.37/-16.59	-17.81/-15.81	-15.59/-12.97	-11.75/-13.81	-18.64/-18.48	-13.01/-9.25	-7.72/-7.18	-6.36/-6.69	-8.61/-8.51	-7.69/-6.99	-6.9/-7.16	-6.73/-5.47	-5.85/-7.62	-10.45/-10.6	-9.79/-10.22
Θ(172.5°)	-11.69/-14.09	-11.74/-9.93	-8.01/-6.72	-5.97/-1.77	-8.84/-11.76	-13.88/-14.73	-15.52/-16.7	-17.89/-18.5	-18.82/-16.9	-14.53/-13.73	-13.53/-14.08	-16.69/-18.48	-18.66/-17.57	-19.59/-18.74	-17.1/-9.45	-13.06/-12.31	-10.22/-9.74	-5.18/-5.87	-5.18/-5.38	-3.55/-4.63	-4.03/-6.63	-7.36/-6.48	-7.25/-9.84	-9.04/-9.6
Θ(180°)	-19.1/-18.07	-19.07/-17.82	-19.26/-18.69	-18.31/-18.3	-15.28/-11.54	-9.77/-9.78	-9.35/-8.95	-9.54/-10.48	-12/-13.59	-17.06/-18.4	-18.59/-18.11	-17.86/-18.87	-17.65/-18.17	-17.54/-16.85	-13.77/-12.83	-12.81/-12.68	-12.57/-12.04	-11.47/-11.29	-10.65/-12	-12.24/-12.75	-14.1/-15.17	-15.26/-16.44	-15.92/-18.08	-17.9/-18.42
Freq(Hz)	6.9950/Pol	Phil/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°)	-16.41/-19.38	-17.85/-18.36	-15.49/-13.17	-11.46/-10.73	-11.24/-11.67	-11.2/-12.69	-14.3/-14.54	-13.74/-15.18	-17.06/-19.21	-18.36/-17.67	-17.65/-17.66	-14.63/-12.3	-10.92/-10.3	-10.54/-12.02	-12.69/-13.27	-12.64/-11.62	-11.49/-11.26	-10.16/-10.71	-10.73/-10.55	-10.07/-9.41	-9.32/-8.67	-8.38/-8.79	-9.25/-9.27	-9.63/-10.52
Θ(7.5°)	-16.08/-15.25	-14.91/-18.7	-17.61/-16.81	-15.93/-13.86	-16.29/-16.45	-16.29/-17.5	-15.83/-13.17	-11.75/-12.07	-10.64/-10.6	-10.04/-9.56	-10.64/-11.35	-13.56/-18.59	-18.38/-19.28	-17.74/-14.59	-12.93/-10.7	-9.51/-9.1	-9.46/-9.35	-9.3/-11.24	-13.27/-14.21	-14.04/-13.38	-12.64/-11.93	-10.08/-10.28	-10.96/-12.22	-13.79/-12.77
Θ(15°)	-14.68/-13.47	-14.86/-12.39	-15.18/-16.79	-14.47/-15.36	-14.47/-15.36	-15.02/-17.29	-17.66/-14.74	-12.55/-10.63	-9.51/-9.66	-10.34/-12.53	-14.93/-18.43	-15.02/-13.03	-9.02/-6.18	-4.88/-5.06	-4.67/-5.07	-5.4/-6.34	-6.5/-8.32	-10.42/-14.87	-18.93/-18.41	-18.4/-17.3	-15.45/-15.05	-15.11/-15.01	-14.84/-13.82	
Θ(22.5°)	-6.76/-3.53	-6.34/-6.17	-7.61/-9.19	-12.5/-17.69	-18.69/-17.64	-14.99/-13.96	-13.39/-14.54	-16.01/-13.32	-9.88/-7.58	-6.93/-6.76	-7.41/-8.64	-10.41/-11.37	-11.35/-10.12	-7.74/-5.74	-4.96/-5.1	-5.05/-5.32	-6.53/-6.71	-10.16/-10.97	-11.1/-11.66	-10.57/-9.06	-8.5/-8.66	-9.2/-10.03	-11.25/-10.77	-7.84/-7.28
Θ(30°)	-8.32/-11.98	-8.89/-5.56	-7.32/-8.84	-10.26/-10.06	-9.78/-11.85	-14.78/-15.56	-18.95/-14.71	-13.44/-13.64	-15.87/-14.16	-10.08/-6.78	-5.83/-7.28	-11.78/-15.81	-10.06/-10.01	-11.46/-10.99	-8.74/-7.87	-7.58/-6.35	-6.03/-8.46	-10.82/-11.39	-10.65/-8.58	-8.9/-9.68	-9.53/-9.21	-9.48/-8.33	-7.22/-6.02	-5.74/-6.84
Θ(37.5°)	-6.82/-10.86	-8.16/-5.12	-4.97/-5.76	-8.26/-10.13	-11.81/-14.68	-19.57/-17.47	-12.78/-9.36	-8.33/-9.78	-11.22/-9.4	-6.81/-5.57	-7.31/-9.68	-16.78/-14.2	-16.6/-15.36	-16.53/-17.96	-13.43/-13.35	-13.91/-10.74	-7.48/-6.09	-7.9/-9.9	-10.16/-11.79	-14.19/-16.56	-17.68/-18.97	-17.33/-12.12	-12.47/-10.6	-5.12/-4.11
Θ(45°)	-12.77/-16.83	-8.77/-5.88	-9.34/-16.2	-14.47/-10.65	-12.54/-18.06	-17.53/-16.32	-10.56/-8.88	-8.63/-9.05	-8.84/-9.29	-9.85/-7.69	-7.89/-14.07	-16.75/-19.12	-18.96/-19.07	-12.01/-7.58	-8.23/-9.07	-13/-18.02	-13.93/-10.24	-8.19/-9.04	-15.33/-14.7	-18.54/-18.97	-14.41/-11.57	-13.82/-10.06	-8.31/-6.67	-7.57/-6.18
Θ(52.5°)	-8.18/-18.3	-9.46/-11.84	-15.51/-15.85	-11.73/-17.59	-16.18/-18.14	-16.85/-17.59	-19.05/-18.22	-17.27/-11.83	-12.23/-18.87	-9.68/-0.7	-14.58/-15.93	-10.14/-13.66	-18.15/-12.07	-7.55/-9.4	-11.14/-9.12	-7.39/-6.69	-12.47/-11.29	-8.37/-11.21	-17.58/-18.29	-16.51/-9.7	-16.19/-10.39	-10.82/-9.27	-4.78/-4.5	-6.14/-5.72
Θ(60°)	-14.83/-15.59	-15.16/-14.61	-12.78/-13.55	-11.51/-17	-11.96/-15.77	-16.85/-18.29	-13.81/-9.49	-9.05/-9.44	-17.31/-19.29	-18.45/-11.52	-19.48/-12.53	-9.71/-14.38	-18.65/-14.6	-14.68/-10.55	-12.05/-18.93	-6.47/-5.6	-9.31/-17.08	-16.36/-12.29	-18.02/-12.06	-8.21/-9.34	-18.22/-11.58	-9.98/-9.78	-11.34/-9.77	-10.33/-11.56
Θ(67.5°)	-12.43/-10.85	-1																						



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(67.5°)	-2.11/-5.22	-4.45/-1.29	-2.35/-0.1	1.05/-2.49	-1.030/-1	0.731/62	1.590/36	-0.44/-0.8	-1.85/-2.73	-2.4/-0.24	-0.07/-0.62	0.720/33	0.262/15	-0.86/-1.83	1.370/13	0.2/-1.09	-4.5/-13.55	-4.79/-3.94	-2.91/-3.48	-4.24/-5.28	-6.85/-5.91	-3.2/-3.63	-8.76/-1.88	-0.65/-0.99
Θ(75°)	-1.59/-0.84	-2.37/-1.93	-0.09/0.65	1.750/-14	0.9/28	2.653/43	2.651/-6	0.81/14	1.410/2	-2.04/-0.79	1.321/89	2.471/-15	-0.832/-35	1.12/-0.66	2.03/-0.85	-2.4/-3.27	-7.08/-8.49	-3.01/-2.02	-2.39/-4.65	-9.89/-13.19	-8.74/-5.79	-2.56/-1.68	-1.50/-52	1.650/-09
Θ(82.5°)	-0.28/-2.16	-3.94/-3.39	0.27/1.19	2.51/0.49	0.43/47	3.683/82	2.411/33	1.441/79	0.72/-0.54	-0.720/76	1.72/-19	2.610/39	-1.41/-1.82	0.76/-2.22	-1.71/-6.59	-3.49/-2.2	-16.6/-2.19	1.91/0.82	-2.68/-3.31	-3.11/-6.33	-7.11/-7.14	-0.89/0.75	-1.24/-2.8	1.880/64
Θ(90°)	-0.03/-4.71	-6.83/-3.53	-0.12/-46	2.83/-26	1.243/87	3.824/25	2.721/76	1.531/-95	2.44/-35	1.612/73	4.223/57	2.670/78	-1.850/-68	0.77/-0.96	-1.14/-3.58	-1.1/-2.9	-18.460/-6	3.69/2.25	3.8/4	1.62/-12	-0.74/-6.48	-2.71/-1.14	0.090/0.4	3.12/-1.95
Θ(97.5°)	-0.69/-7.12	-8.05/-0.84	-0.98/2.52	1.531/05	1.023/98	4.614/09	3.632/-12	2.553/26	1.6/-13	1.562/31	1.880/-11	-0.2/-0.4	1.362/-19	1.63/-1.89	-0.03/-4.58	-5.78/-0.05	-10.65/-1.76	4.925/-11	4.334/36	2.154/36	1.07/-8.45	-4.09/-0.77	-0.37/-2.27	0.87/-0.08
Θ(105°)	-2.82/-13.92	-18.01/-4.23	-1.59/-1.25	0.71/-1.06	2.182/-18	2.912/13	0.820/-95	2.242/71	1.55/-15	-0.55/-1.25	0.771/21	0.16/-96	2.81/-11	1.56/-1.92	-3.97/-1.75	-0.22/-9	-1.74/-7.04	1.91/-18	2.33/-1.53	0.534/-09	0.42/-12.6	-10.64/-6.4	-2.55/-2.21	0.92/-9.65
Θ(112.5°)	-2.75/-18.5	-18.04/-3.69	-2.51/-3.31	-1.49/-2.6	2.39/-0.28	1.112/08	1.471/-7	1.58/-0.36	-1.86/-0.96	1.852/08	1.11/-85	2.942/5	2.520/-88	-0.84/-2.9	-0.720/-19	-4.61/-0.48	-3.37/-10.24	-2.92/-2.07	-0.99/-3.67	-7.23/-0.86	-6.01/-8.3	-14.64/-4.13	-1.97/-5.74	-3.08/-11.24
Θ(120°)	-2.77/-12.53	-18.93/-8.04	-6.14/-5.02	-4.89/-4.57	0.65/-0.36	-2.37/-0.44	-0.41/-1.55	-0.250/-75	0.04/-0.59	-1.81/-2.63	-2.662/-42	2.33/-0.25	1.31/-21	0.77/-0.32	-1.76/-5.04	-0.81/-52	-0.94/-4.56	-0.18/-5.99	-7.07/-11.51	-14.34/-7.02	-5.92/-18.27	-8.15/-6.42	-18.68/-5.28	-6.79/-17.88
Θ(127.5°)	-4.82/-16.23	-15.58/-11.06	-4.65/-4.63	-5.74/-5.07	-3.0/-22	-1.1/-3.34	-2.9/-1.76	-1.56/-1.44	-1.66/-3.34	-3.27/-1.84	0.650/-66	0.4/-0.91	-0.340/-88	-0.33/-3.21	-3.39/-2	0.990/-63	-0.2/-3.33	-7.16/-7.63	-5.36/-5.8	-19.04/-10.01	-10.48/-4.09	-19.1/-17.96	-12.61/-10.75	-7.98/-18.04
Θ(135°)	-7.06/-9.15	-10.69/-15.48	-12.75/-13.71	-17.8/-13.3	-5.69/-5.6	-9.74/-11.94	-7.42/-5.85	-6.22/-6.1	-3.71/-1.79	-0.70/-59	1.13/-0.19	-2.1/-2.24	-1.84/-1.55	-2.99/-3.44	-4.11/-6.67	-5.57/-4.02	-7.58/-3.93	-9.43/-5.43	-17.4/-15.36	-16.79/-9.78	-4.65/-18.5	-15.33/-9.15	-10.06/-10.75	-15.63/-15.18
Θ(142.5°)	-17.95/-18.45	-13.02/-11.85	-9.44/-9.55	-11.24/-13.29	-9.88/-3.55	-5.03/-8.01	-9.87/-6.98	-6.36/-7.37	-8.29/-7.07	-5.86/-6.01	-7.32/-10.63	-9.48/-7.92	-5.79/-4.48	-7.06/-10.28	-6.79/-3.65	-5.68/-4.28	-11.7/-19.16	-6.74/-6.34	-9.02/-11.61	-17.84/-18.83	-16.36/-18.27	-17.41/-18.49	-11.08/-13.9	-18.46/-18.29
Θ(150°)	-8.11/-9.22	-10.51/-18.5	-11.67/-9.65	-15.55/-16.28	-6.76/-3.66	-3.68/-6.58	-10.39/-9.37	-4.84/-2.84	-2.62/-4.47	-8.38/-12.81	-14.94/-18.95	-11.66/-5.15	-3.42/-3.25	-7.09/-3.72	-7.31/-5.53	-5.03/-6.32	-8.55/-8.43	-17.61/-7.02	-5.7/-8.1	-12.54/-13.13	-14.2/-15.33	-11.22/-12.02	-16.64/-8.21	-10.66/-15
Θ(157.5°)	-17.97/-18.3	-17.79/-14.85	-16.91/-14.49	-13.34/-14.09	-11.63/-9.98	-10.64/-11.67	-12.99/-16.18	-18.34/-14.77	-9.24/-10.05	-15.09/-11.87	-10.53/-9.88	-7.25/-5.6	-5.79/-8.7	-13.94/-9.12	-7.19/-8.07	-13.66/-13.52	-7.29/-8.39	-12.48/-14.27	-15.77/-15.53	-18.06/-17.98	-15.54/-11.68	-16.88/-17.43	-18.42/-18.06	-17.69/-14.71
Θ(165°)	-12.88/-14.3	-12.99/-13.23	-14.32/-14.45	-14.13/-15.93	-15.92/-15.31	-14.15/-14.75	-18.07/-17.85	-18.13/-18.74	-19.3/-19.29	-13.47/-11.47	-11.47/-10.1	-9.06/-10.73	-13.79/-13.68	-14.75/-12.52	-10.97/-11.9	-13.77/-10.31	-1.37/-8.09	-10.41/-13.46	-17.93/-17.62	-17.14/-16.9	-18.51/-13	-12.66/-17.23	-18.35/-19.14	-14.21/-13.17
Θ(172.5°)	-15.41/-14.41	-14.69/-14.26	-14.72/-14.65	-14.77/-15.56	-15.45/-14.17	-12.88/-11.66	-10.64/-9.84	-9.71/-10.43	-11.85/-11.41	-10.04/-8.81	-8.08/-9.36	-12.2/-13.15	-11.76/-12.65	-15.23/-17.72	-19/-15.51	-12.86/-10.26	-8.98/-8.7	-9.42/-11.42	-14.25/-16.3	-17.61/-19.14	-19.27/-18.88	-18.8/-19.04	-17.85/-18.25	-17.59/-18.85
Θ(180°)	-17.17/-18.06	-17.82/-18.27	-17.62/-18.28	-17.59/-16.5	-14.04/-11.56	-10.56/-11.09	-11.19/-10.8	-10.89/-10.99	-12.18/-15.41	-15.93/-13.62	-14.08/-13.12	-11.4/-10.96	-13.01/-17.2	-17.37/-13.95	-12.47/-13.32	-15.12/-16.99	-17.85/-18.66	-17.65/-18.65	-17.78/-18.38	-16.63/-16.84	-18.29/-16.93	-13.04/-13.64	-17.82/-16.24	-13.9/-14.37
Freq(Hz)	6.475G(Pol)	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°)	-16.54/-16.45	-18.64/-18.69	-18.36/-18.74	-19.24/-17.13	-18.97/-16.95	-16.64/-17.07	-17.89/-18.4	-17.49/-16.86	-14.53/-13.84	-14.05/-13.36	-12.86/-14.71	-13.57/-13.47	-15.81/-17.73	-18.82/-17.92	-18.29/-18	-18.14/-18.84	-17.78/-18.98	-18.01/-19.44	-18.29/-19.73	-18.55/-19.25	-19.59/-18.15	-17.68/-18.93	-18.31/-17.55	-17.92/-18.05
Θ(7.5°)	-13.94/-14.45	-17.75/-18.07	-18.79/-17.15	-15.92/-13.22	-12.62/-12.33	-11.91/-13.66	-16.62/-19.16	-18.54/-18.46	-18.97/-17.99	-18.09/-18.87	-18.28/-19.01	-18.13/-16	-16.59/-17.12	-15.32/-12.93	-11.52/-11.17	-11.84/-12.43	-13.1/-12.84	-13.08/-13.92	-15.11/-16.28	-16.84/-14.81	-12.95/-12.84	-13.9/-13.11	-12.37/-12.03	-15.34/-16.64
Θ(15°)	-11.8/-11	-11.63/-14.16	-15.53/-13.67	-10.17/-8.69	-7.45/-6.79	-6.66/-7.21	-9.13/-11.4	-13.01/-10.45	-16.94/-17.2	-18.96/-15.68	-15.01/-12.62	-11.44/-14.35	-18.94/-17.7	-10.19/-7.86	-7.39/-7.95	-8.31/-10.19	-11.07/-10.26	-10.42/-12.54	-14.86/-15.67	-16.28/-17.09	-12.31/-16.06	-15.53/-14.63	-13.05/-12.19	
Θ(22.5°)	-12.71/-17.84	-18.05/-15.96	-11.1/-9.32	-8.17/-9.36	-7.48/-6.6	-8.01/-10.23	-12.43/-14.91	-16.25/-14.06	-13.4/-16.59	-17.97/-13.22	-13.98/-12.37	-16.72/-16.55	-14.39/-10.38	-6.69/-6.47	-4.61/-5.46	-7.27/-8.44	-8.48/-9.45	-9.67/-11.77	-14.09/-14.07	-13.97/-14.22	-12.11/-12.38	-16.62/-18.63	-16.52/-11.65	
Θ(30°)	-10.43/-13.33	-18.6/-18.58	-14.24/-12.08	-9.71/-8.23	-9.96/-11.5	-10.65/-9.92	-9.16/-9.46	-11.59/-12.2	-12.71/-13.97	-15.5/-17.19	-13.68/-11.26	-12.41/-11.16	-12.47/-17.54	-10.52/-7.46	-4.89/-3.51	-3.97/-5.84	-8.8/-10.98	-14.69/-16.32	-13.81/-13.92	-14.2/-14.78	-14/-11.32	-8.83/-8.5	-12.14/-18.22	-18.2/-12.15
Θ(37.5°)	-18.99/-13.4	-11.77/-10.66	-8.84/-8.71	-8.96/-10.09	-11.52/-12.57	-12.8/-8.77	-8.62/-9.14	-9.92/-10.96	-11.5/-12.24	-16.73/-15.56	-9.98/-8.71	-9.21/-10.6	-14.47/-19.27	-13.28/-7.5	-6.2/-6.49	-7.93/-10.17	-18.13/-18.27	-16.08/-10.72	-9.78/-13.04	-11.37/-15.1	-14.07/-11.61	-10.89/-10.26	-10.04/-13.63	-18.01/-13.67
Θ(45°)	-18.85/-18.01	-13.09/-13.08	-10.69/-7.82	-11.39/-17.22	-18.51/-16.71	-8.43/-10.1	-4.75/-6.1	-6.55/-6.39	-6.9/-8.42	-12.38/-13.14	-8.61/-7.7	-6.43/-8.5	-19.21/-15.39	-9.71/-6.47	-5.47/-3.6	-10.98/-19.84	-15.61/-11.72	-8.85/-8.53	-8.92/-5.49	-4.78/-8.24	-17.47/-10.59	-12.42/-17.07	-18.75/-17.81	
Θ(52.5°)	-14.12/-18.31	-12.63/-12.57	-11.66/-9.55	-10.18/-10.82	-12.57/-13.19	-10.14/-7.57	-8.63/-10.76	-9.81/-7.85	-5.81/-6.36	-10.33/-8.47	-8.71/-8.22	-8.95/-11.64	-14.16/-11.84	-16.87/-9.92	-7.31/-11.86	-12.93/-9.32	-12.5/-15.02	-19.24/-14.43	-11.31/-13.46	-8.41/-5.48	-6.53/-7.5	-10.78/-18.92	-14.25/-13.42	-18.47/-14.14
Θ(60°)	-10.49/-11.39	-7.87/-7.78	-10.05/-16.38	-13.29/-12.98	-10.1/-11.62	-12.47/-12.22	-15.33/-18.39	-18.57/-19.05	-18.91/-19.28	-18.65/-18.15	-16.03/-10.91	-13.75/-17.62	-18.97/-13.67	-17.13/-15.8	-10.76/-15.43	-18.12/-12.04	-15.89/-17.78	-17.12/-12.48	-14.34/-18.67	-10.53/-10.35	-12.92/-10.04	-11.98/-10.76	-8.17/-17.49	-18.85/-11.63
Θ(67.5°)	-17.11/-10.89	-8.48/-3.38	-3.16/-9.49	-14.9/-10.1	-8.16/-12	-9.61/-15.5	-19.14/-14.07	-17.87/-12.48	-16.07/-19	-17.14/-17.03	-15.06/-13.61	-10.33/-10.75	-17.82/-18.15	-18.19/-12.7	-17.12/-11.41	-14.64/-18.05	-15.98/-11.67	-10.4/-12.66	-18.73/-10.38	-15.37/-13.37	-17.12/-16.9	-11.83/-7.81	-12.12/-15.35	
Θ(75°)	-16.8/-13.51	-6.39/-1.03	-1.89/-11.51	-14.06/-10.02	-4.15/-4.25	-7.17/-11.66	-12.41/-13.19	-14.06/-12.5	-12.2/-12.61	-15.38/-19.27	-15.61/-11.44	-15.73/-17.99	-17.76/-18.34	-15.42/-18.27	-14.81/-13.83	-18.85/-17.97	-19.42/-15.66	-14.83/-12.27	-11.64/-13.03	-18.35/-19.08	-15.24/-17.46	-18.1/-11.45	-7.84/-8.36	-11.16/-15.09
Θ(82.5°)	-18.45/-12.61	-6.57/-4.96	-6.66/-11.16	-17.47/-9.99	-9.47/-9.87	-9.25/-8.95	-11.58/-13.13	-14.1/-11.98	-11.9/-13.65	-18.16/-18.1	-15.85/-14.35	-16.6/-18.84	-11.65/-16.2	-14.57/-8.88	-6.22/-9.76	-15.42/-17.9	-14.85/-12.64	-8.86/-10.45	-12.35/-12.06	-18.06/-18.58	-18.14/-12.45	-10.95/-11.41	-13.54/-11.17	-10.39/-17.14
Θ(90°)	-19.11/-19.16	-8.58/-6.06	-5.59/-12.84	-12.69/-11.99	-12.6/-11.42	-14.4/-11.42	-11.93/-13.81	-17.87/-18.75	-18.54/-15.88	-17.47/-19.13	-18.9/-18.69	-16.97/-18.09	-18.01/-15.29	-14.09/-9.36	-6.5/-8.76	-16.33/-18.63	-15.38/-19.04	-10.61/-11.43	-14.53/-17.4	-17.75/-15.05	-14.89/-9.01	-8.53/-8.71	-8.29/-12.65	-13.27/-16.09
Θ(97.5°)	-17.97/-14.65	-13.34/-12.82	-12.84/-13.78	-17.52/-18.81	-18.47/-18.61	-19.4/-12.07	-12.86/-17.17	-18.59/-17.71	-18.85/-19.13	-15.81/-9.99	-9.41/-17.25	-9.24/-13.72	-17.61/-13.89	-17.01/-11.43	-7.99/-11.47	-15.76/-13.16	-18.59/-11.82	-10.22/-11.35	-16.83/-17.41	-18.6/-13.97	-11.63/-11.36	-10.11/-9.96	-10.03/-14.84	-16.03/-14.92
Θ(105°)	-15.35/-14.38	-11.93/-14.8	-14.9/-18.86	-17.46/-13	-10.97/-11.21	-15.6/-11.01	-12.16/-16.31	-18.18/-52	-18.77/-17.59	-15.37/-13.75	-9.97/-8.86	-10.04/-13.59	-18.26/-17.59	-19.28/-17.57	-13.23/-15.3	-13.59/-16.89	-19.23/-16.16	-13.3/-11.55	-12.46/-8.02	-10.04/-17.97	-12.63/-14.91	-15.62/-11.73	-13.92/-17.96	-13.3/-18.47
Θ(112.5°)	-16.15/-17.37	-13.48/-11.14	-9.93/-12.32	-12.11/-11	-7.23/-6.97	-13.89/-18.31	-17.16/-18.27	-17.44/-17.53	-13.5/-10.62	-17.51/-12.86	-14.09/-18.91	-18.14/-11.93	-15.91/-14.35	-13.9										



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(112.5°)	-3.98/-12.53	-17.83/-13.06	-6.33/-4.01	-2.76/0.2	0.50/0.5	0.22/-1.19	-1.08/0.26	-1.08/0.09	1.44/-0.44	-0.63/-1.63	-1.6/-1.46	-2.3/-0.42	0.36/0.1	1.14/-2.54	-7.67/-5.05	-3.44/-3.5	-3.84/-5.12	-2.75/-14.96	-3.93/-1.52	-5.83/0.69	-2.1/-14.97	-9.88/-9.62	-10.94/-11.01	-2.5/-4.28
Θ(120°)	-6.57/-9.74	-17.1/-18.05	-10.2/-4.83	-4.85/-2.18	-2.1/0.16	-3.08/0.73	1.75/0.76	1.19/1.53	-0.08/-3.41	-3.72/-1.07	-0.28/-3.37	-1.25/1.44	-0.53/-3.18	-2.45/0.02	-6.13/-8.38	-4.76/-2.26	-4.87/-3.86	-1.41/-5.51	-8.22/-12.4	-8.95/-5.25	-9.7/-11.47	-15.06/-8.66	-15.12/-3.65	
Θ(127.5°)	-7.1/-9.81	-11.2/-16.11	-11.96/-6.72	-6.53/-2.97	-2.61/-1.74	-0.49/-2.89	-1.77/0.25	-0.95/0.29	0.47/-0.43	-2.67/-3.74	-2.96/0.18	1.31/0.52	-3.57/-1.28	-0.94/-1.4	-9.02/-15.45	-1.18/-1.39	-5.38/-3.64	-1.94/-9.25	-18.55/-4.1	-5.54/-9.88	-3.88/-9	-12.48/-17.62	-10.64/-10.61	-18.45/-4.99
Θ(135°)	-9/-11.47	-11.41/-16.52	-10.01/-8.22	-8.98/-6.44	-4.99/-5.75	-4.48/-4.13	-5.07/-2.23	-0.39/-0.48	-1.64/-6.33	-8.81/-4.85	-0.82/0.34	-0.51/-5.47	-8.42/-1.69	-2.28/-3.62	-6.75/-8.36	-4.14/-2.51	-3.09/-4.48	-3.73/-7.01	-9.6/-10.83	-9.37/-19.03	-5.19/-16.29	-13.85/-7.56	-12.57/-18.21	-7.91/-5.05
Θ(142.5°)	-11.35/-14.42	-16.54/-13.63	-14.7/-14.78	-17.39/-9.38	-4.98/-3.75	-7.43/-17.22	-10.27/-7.18	-7.93/-9.39	-6.75/-5.12	-5.23/-4.19	-4.57/-5.63	-7.42/-9.2	-7.55/-5.79	-3.27/-5.02	-6.35/-10.72	-5.88/-8.05	-6.89/-11.54	-15.59/-10.86	-10.21/-11.32	-15.53/-18.9	-18.65/-18.46	-17.78/-16.3	-12.24/-10.11	-17.97/-10.13
Θ(150°)	-10.4/-18.01	-12.24/-7.12	-7.75/-12.96	-12.07/-11.63	-8.87/-6.8	-6.4/-10.75	-13.78/-9.94	-5.45/-6.01	-7.46/-10.28	-16.1/-13.46	-8.44/-8.41	-10.98/-13.04	-8.93/-5.26	-2.81/-5.62	-6.2/-8.69	-7.54/-8.42	-13.39/-18.08	-19.29/-12.37	-6.82/-7.56	-8.74/-14.71	-17.6/-14.7	-9.78/-11.33	-7.9/-8.71	-12.58/-8.47
Θ(157.5°)	-17.08/-18.25	-14.17/-11.32	-13.46/-18.45	-15.82/-9.06	-6.93/-6.4	-8.27/-10.22	-10.21/-7.53	-5.57/-4.31	-3.31/-3.69	-5.4/-7.52	-9.07/-12.12	-8.11/-4.71	-3.63/-2.68	-4.02/-8.13	-8.34/-8.46	-7.75/-12.01	-13.12/-8.13	-8.2/-12.43	-17.72/-18.67	-15.63/-18.27	-17.7/-15.18	-14.1/-14.55	-18.74/-19.23	-13.44/-12.44
Θ(165°)	-11.55/-11.56	-18.87/-18.49	-17.71/-16.44	-13.66/-11.69	-10.7/-10.28	-10.83/-8.54	-6.06/-4.38	-3.16/-2.66	-2.72/-3.54	-5.4/-8.66	-11.25/-10.28	-9.67/-7.24	-5.45/-4.88	-5.23/-6.35	-6.21/-6.58	-8.18/-11.8	-18.35/-16.68	-12.06/-11.3	-11.66/-15.55	-18.19/-18.21	-13.74/-12.1	-12.81/-13.72	-13.88/-17.62	-18.66/-18.46
Θ(172.5°)	-16.51/-18.19	-18.99/-17.56	-17.94/-17.88	-18.85/-18.12	-16.65/-17.9	-17.83/-13.03	-19.26/-17.19	-14.76/-13.78	-14.2/-15.9	-17.33/-18.11	-15.57/-17.09	-17.59/-13.24	-10.6/-9.68	-8.9/-7.56	-7.55/-8.91	-10.38/-12.27	-16.53/-17.99	-17.19/-13.29	-11.66/-13.31	-16.22/-15.96	-14.45/-13.42	-15.88/-17.78	-17.96/-18.72	-17.53/-16.15
Θ(180°)	-17.67/-17.59	-18.12/-17.99	-18.7/-17.11	-17.27/-17.51	-17.79/-17.19	-16.9/-19.26	-17.96/-18.23	-19.05/-17.71	-17.85/-16.35	-18.49/-19.06	-14.87/-15.05	-13.93/-11.2	-12.18/-14.63	-15.43/-15.43	-15.59/-15.72	-16.67/-19.31	-17.86/-19.26	-18.13/-19.17	-16.64/-13.64	-12.1/-10.87	-11.5/-14.45	-14.15/-14.2	-16.9/-18.01	-19.1/-18.55
Freq(Hz)	6.995G/Pol	PhiAnt. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-7.59/-6.26	-5.16/-4.9	-5.76/-6.01	-5.98/-6.59	-7.28/-7.39	-7.6/-8.67	-10.07/-10.49	-10.98/-12.45	-13.78/-17.74	-18.28/-18.11	-17.82/-17.95	-14.7/-11.8	-11/-10.49	-9.87/-8.64	-7.56/-7.19	-7.77/-7.69	-8.42/-9.11	-11.35/-12.26	-13.36/-16.46	-18.7/-18.82	-14.91/-12.44	-11.44/-10.51	-7.41/-7.83	
Θ(7.5°)	-15.43/-9.68	-7.21/-7.22	-7.13/-6.51	-6.36/-7.05	-7.82/-8.3	-8.77/-11.92	-15.74/-15.27	-17.77/-18.97	-17.78/-15.98	-13.04/-13.88	-10.17/-8.45	-8.59/-7.75	-7.49/-7.88	-10.75/-10.27	-8.44/-8.28	-8.17/-8.61	-8.95/-9	-9.4/-9.38	-8.97/-9.7	-11.15/-13.06	-13.64/-13.17	-16.76/-18.09	-16.83/-15.21	-12.45/-12.96
Θ(15°)	-10.63/-12.8	-12.01/-8.12	-6.61/-6.28	-5.39/-5.52	-6.73/-8.05	-9.39/-13.22	-17.4/-18.3	-17.49/-14.95	-12.46/-10.92	-8.57/-9.53	-9.56/-9.21	-10.02/-10.58	-9.96/-9.66	-11.29/-12.9	-13.31/-15	-14.12/-13.79	-13.47/-11.45	-10.27/-10.83	-10.25/-10.62	-10.18/-11.44	-12.37/-10.42	-9.58/-10.31	-10.52/-12.48	-10.61/-9.12
Θ(22.5°)	-13.27/-10.61	-9.33/-6.8	-5.31/-4.36	-3.92/-5.37	-7.03/-8.62	-11.86/-16.58	-18.08/-17.01	-18.27/-18.91	-14/-9.43	-9.08/-11.33	-10.84/-15.31	-17.59/-18.72	-18.83/-13.89	-13.14/-13.26	-14.96/-15.35	-13.34/-13.21	-15.82/-18.84	-15.55/-10.99	-10.67/-11.62	-12.46/-15.27	-14.86/-11.47	-10.46/-11.18	-9.41/-10.54	-14.33/-12.97
Θ(30°)	-18.98/-18.9	-13.52/-9.26	-9.07/-8.28	-9.2/-12.2	-14.84/-10.98	-8.42/-8.27	-8.74/-11.14	-17.6/-18.2	-17.88/-12.45	-9.2/-9.67	-14.72/-17.59	-13.2/-12.64	-16.25/-12.35	-9.86/-10.83	-9.99/-9.51	-9.91/-10.67	-13.26/-15.42	-14/-11.3	-12.13/-13.74	-12.36/-14.9	-19.02/-18.79	-16.84/-11.15	-8.67/-7.33	-7.31/-11.86
Θ(37.5°)	-18.73/-14.88	-15.86/-13.05	-7.85/-9.03	-11.37/-17.88	-14.88/-9.83	-6.98/-7.14	-10.97/-15.02	-16/-18.04	-14.53/-12	-9/-12.37	-16.69/-17.05	-11.86/-10.04	-11/-9.2	-11.34/-13.33	-14.09/-11.84	-9.37/-8.5	-9.8/-13.27	-17.48/-15.77	-13.49/-14.51	-17.1/-17.37	-16.57/-13.4	-13.59/-18.42	-12.38/-9.01	-10.37/-18.21
Θ(45°)	-14.94/-8.3	-8.44/-15.94	-12.25/-9.76	-11.19/-17.84	-11.91/-10.24	-9.63/-10.31	-14.83/-18.83	-18.23/-18.12	-15.51/-16.45	-15.07/-13.48	-11.92/-14.03	-10.49/-10.06	-7.5/-7.11	-10.74/-18.08	-16.16/-12.23	-11.53/-15.06	-15.65/-16.83	-19.1/-18.26	-12.42/-10.51	-13.54/-16.63	-16.8/-18.75	-18.4/-13.06	-18.45/-13.61	-8.6/-10.33
Θ(52.5°)	-18.53/-16.17	-12.14/-18.26	-19.38/-14.9	-10.99/-9.64	-13.53/-17.51	-18.18/-16.14	-18.95/-18.24	-17.76/-13.54	-13.88/-17.56	-17.58/-17.7	-14.58/-10.65	-9.63/-11.2	-17.89/-18.06	-18.01/-17.99	-14.43/-12.86	-15.12/-12.06	-11.71/-10.36	-12.18/-17.66	-18.08/-18.09	-17.87/-11.04	-7.38/-9.54	-13.74/-13.78	-13.51/-13.32	-9.92/-9.12
Θ(60°)	-12.33/-16.41	-9.82/-6.53	-14.57/-16.62	-8.62/-7.23	-9.02/-9.92	-11.43/-13.41	-15.6/-15.85	-17.07/-17.71	-17.58/-14.07	-11.26/-12.89	-18.62/-18.59	-16.11/-12.67	-13.43/-19.02	-19.23/-14.41	-9.71/-10.9	-10.55/-10.68	-8.59/-9.82	-18.96/-18.32	-17.69/-15.04	-12.78/-15.23	-9.6/-12.76	-14.23/-18.36	-18.82/-18.98	-18.9/-18.64
Θ(67.5°)	-11.16/-9.58	-5.54/-3.58	-10.31/-18.72	-15.55/-8.87	-8.45/-9.73	-10.91/-17.5	-13.69/-11.48	-12.04/-18.99	-14.16/-11.67	-10.98/-12.61	-16.02/-13.48	-18.7/-12	-13.39/-11.94	-13.69/-16.1	-10.63/-10.19	-11.54/-16.94	-18.68/-17.85	-16.5/-11.07	-16.79/-9.41	-9.68/-12.81	-17.79/-15.3	-9.59/-9.91	-18.5/-12.35	
Θ(75°)	-17.45/-6.44	-5.04/-3.83	-6.99/-13.03	-8.19/-4.89	-6.32/-5.5	-7.24/-10.1	-13.45/-14.91	-15.17/-18.62	-18.86/-17.36	-13.2/-10.26	-17.83/-10.1	-13.71/-13.52	-11.2/-8.39	-13.93/-18.1	-7.81/-6.41	-10.41/-19.37	-18.74/-18.46	-17.41/-16.28	-12.54/-15.26	-16.77/-15.11	-16.64/-9.55	-18.6/-19.06	-13.47/-12.5	-17.79/-12.97
Θ(82.5°)	-15.78/-7.92	-6.18/-3.9	-10.56/-8.46	-7.64/-8	-12.55/-12.07	-8.47/-11.41	-8.85/-12.91	-17.79/-18.12	-15.27/-10.75	-16.63/-13.74	-17.7/-10.11	-14.89/-15.16	-6.02/-9.25	-18.12/-15.67	-6.91/-4.96	-8.99/-16.12	-16.54/-16.98	-15.53/-10.83	-12.23/-12.53	-8.73/-9.04	-17.67/-12.32	-11.59/-12.33	-7.71/-12.99	-17.09/-11.92
Θ(90°)	-19.31/-9.25	-6.79/-11.57	-12.73/-11.56	-11/-9.51	-16.42/-13.56	-12.9/-13.28	-13.73/-19.53	-12.13/-17.25	-18.93/-18.35	-18.22/-10.34	-11.78/-14.38	-18.13/-19.19	-10.89/-8.06	-14.28/-7.23	-4.13/-7.29	-14.33/-19.74	-18.69/-18.69	-14.07/-10.74	-13.83/-15.37	-10.99/-17.9	-18.42/-9.65	-7.65/-11.54	-12.99/-18.48	-18.96/-16.18
Θ(97.5°)	-19.12/-9.85	-10.12/-15.35	-14.18/-14.09	-12.51/-11.44	-12.01/-18.88	-13.04/-10.52	-9.43/-12.22	-18.35/-13.18	-13.64/-15.63	-12.29/-9.14	-13.02/-18.46	-8.91/-14.42	-11.76/-15.07	-8.51/-5.77	-5.88/-9.95	-15.62/-16.33	-18.47/-18.48	-13.55/-16.4	-17.23/-13.68	-11.71/-17.75	-18.81/-10.54	-6.02/-6.64	-9.36/-11.16	-17.85/-17.3
Θ(105°)	-17.52/-13.6	-16.46/-16.49	-15.44/-17.04	-11.3/-7.95	-8.64/-17.83	-19.24/-10.03	-10.1/-17.54	-18.23/-18.81	-9.76/-13.56	-14.92/-15.17	-12.26/-19	-9.22/-13.32	-15.36/-13.18	-14.97/-10.06	-7.4/-16.96	-18.83/-18.32	-18.64/-16.76	-15.35/-18.01	-13.53/-7.6	-7.51/-15.17	-18.68/-16.99	-7.97/-8.9	-16.54/-8.76	-11.71/-12.87
Θ(112.5°)	-11.02/-12.71	-10.75/-9.91	-14.37/-10.83	-9.23/-4.97	-5.76/-11.98	-15.87/-13.28	-15.69/-17.49	-11.76/-11.13	-14.03/-17.94	-15.09/-12.59	-16.44/-13.65	-15.2/-14.39	-17.97/-17.48	-12.78/-15.21	-13.56/-9.97	-12.09/-15.72	-11.97/-11.99	-14.82/-18.42	-9.62/-10.5	-10.73/-7.66	-16.1/-18.23	-8.39/-4.92	-12.11/-9.63	-18.49/-10.45
Θ(120°)	-10.58/-12.93	-7.4/-13.89	-10.83/-18.38	-9.43/-6.45	-8.99/-9.57	-13.52/-10.49	-12.9/-18.94	-18.66/-11.21	-6.5/-8.07	-13.42/-11.52	-11.6/-9.63	-14.51/-18.1	-16.75/-16.7	-18.1/-10.67	-10.09/-13.64	-18.58/-8.42	-12.57/-13.1	-5.58/-15.27	-13.84/-19.2	-18.93/-6.11	-16.76/-13.86	-6.46/-7.76	-11.61/-13.33	-8.74/-9.36
Θ(127.5°)	-10.39/-5.93	-10.63/-9.82	-10.27/-11.9	-8.11/-10.79	-9.59/-11.68	-17.17/-18.22	-18.61/-11.91	-9.6/-16.72	-14.23/-14.03	-9.82/-7.15	-9.46/-15.73	-18.34/-18.07	-11.87/-14.41	-13.62/-15.27	-11.33/-9.79	-6.5/-12.34	-17.61/-13.03	-5.11/-9.65	-11.72/-5.85	-5.25/-12.22	-17.91/-9.11	-14.71/-18.55	-13.33/-18.42	-10.04/-8.83
Θ(135°)	-6.59/-7.63	-17.22/-7.77	-10.22/-8.07	-6.21/-6.89	-5.9/-7.61	-12.86/-18.98	-17.2/-11.01	-6.8/-7.99	-13.42/-18.87	-14.16/-7.64	-6.54/-8.3	-13.35/-16.09	-10.54/-7.39	-13.38/-17.91	-12.61/-15.52	-14.35/-16.32	-16.31/-13.34	-10.64/-7.89	-13.12/-15.6	-6.23/-6.16	-10.21/-12.48	-18.31/-14.52	-18.29/-10.41	-6.14/-17.11
Θ(142.5°)	-14.86/-12.3	-15.85/-14.77	-11.67/-12.1	-7.64/-12.41	-13.39/-13.92	-18.63/-18.13	-15.36/-13.94	-12.37/-11.29	-16.63/-18.7	-17.48/-15.62	-11.31/-7.37	-8.35/-10.13	-9.77/-12.34	-18.79/-15.57	-15.56/-11.17	-12.02/-9.12	-7.63/-7.04	-13.53/-9	-10.61/-10.96	-11.91/-18.23	-11.36/-7.47	-18.5/-12.89	-6.8/-18.03	-7.16/-6.18
Θ(150°)	-9/-14.36	-7.95/-8.18	-8.03/-15.15	-12.43/-8.24	-12.51/-12.87	-9.04/-9.63	-12.32/-16.42	-18.04/-16.67	-12.96/-11.77	-14.24/-17.29	-18.59/-12.34	-13.76/-18.41	-18.13/-18.43	-11.36/-11.69	-17.99/-12.5	-8.73/-14.53	-18.65/-18.65	-17.56/-12.5	-17.67/-17.83	-15.71/-12.93	-17.95/-8.48	-14.66/-8.85	-6.66/-9.33	-16.55/-6.8
Θ(157.5°)	-9.5																							

Total Gain Data

[illegible]



Antenna Pattern of 2.4GHz&5GHz

Appendix C

Θ(22.5°)	-10.98/-9.45	-10.06/-10.18	-9.37/-8.86	-8.55/-9.45	-12.06/-12.95	-13.86/-11.49	-8.54/-7.65	-8.51/-10.74	-13.39/-14.65	-16.29/-14.87	-15.85/-15.58	-13.41/-9.01	-5.86/-4.78	-5.70/-8.12	-9.66/-7.04	-5.07/-3.91	-3.71/-4.34	-5.53/-7.20	-7.97/-7.18	-6.20/-5.46	-4.92/-4.67	-3.71/-4.66	-5.61/-7.51	-7.42/-7.83
Θ(30°)	-5.85/-7.99	-10.64/-12.50	-12.17/-12.82	-6.43/-5.58	-6.94/-9.67	-13.50/-10.03	-7.31/-4.95	-4.96/-6.35	-9.34/-12.50	-8.89/-4.73	-4.58/-5.86	-7.21/-9.42	-8.70/-9.45	-11.50/-11.86	-12.89/-10.44	-6.38/-4.11	-3.97/-5.25	-7.19/-8.88	-9.95/-7.73	-4.21/-2.79	-2.55/-2.59	-2.66/-3.64	-5.04/-6.40	-7.24/-7.41
Θ(37.5°)	-6.98/-15.33	-14.46/-8.02	-6.20/-7.33	-6.43/-5.62	-7.29/-13.31	-14.33/-12.19	-11.69/-13.24	-14.78/-13.65	-13.85/-11.68	-10.79/-5.60	-5.69/-7.37	-7.22/-7.97	-10.64/-16.02	-12.23/-13.97	-14.95/-11.66	-8.20/-7.05	-7.72/-8.06	-6.41/-5.29	-4.29/-3.75	-2.96/-3.20	-3.86/-4.95	-5.12/-6.43	-7.79/-6.84	-4.14/-3.67
Θ(45°)	-5.33/-7.92	-12.33/-6.37	-5.67/-5.83	-6.85/-8.02	-7.19/-9.05	-9.58/-9.12	-7.62/-8.11	-8.62/-12.22	-13.35/-10.62	-8.84/-11.86	-12.61/-9.36	-7.82/-8.61	-6.91/-9.90	-15.80/-12.55	-10.56/-10.10	-15.88/-9.06	-3.11/-1.83	-2.29/-3.32	-3.18/-2.22	-1.40/-0.78	-1.21/-2.73	-2.97/-4.29	-5.90/-5.25	-4.35/-3.11
Θ(52.5°)	-8.55/-8.49	-9.47/-12.50	-11.68/-6.59	-6.18/-7.05	-5.10/-5.39	-11.13/-9.08	-7.02/-8.25	-13.89/-14.75	-15.03/-13.30	-14.26/-8.56	-7.26/-5.58	-12.14/-9.89	-7.02/-9.87	-14.29/-12.79	-7.61/-7.46	-8.08/-2.52	-0.52/-0.73	-0.95/-0.71	0.22/0.98	0.79/1.31	1.87/0.60	-0.45/-2.96	-3.96/-4.56	-6.62/-5.93
Θ(60°)	-6.97/-6.02	-10.91/-9.64	-11.41/-8.05	-5.38/-1.67	-0.26/-2.49	-5.64/-7.91	-8.74/-11.08	-14.79/-15.76	-14.76/-13.66	-14.00/-14.30	-10.65/-6.35	-6.34/-5.64	-11.72/-7.50	-8.81/-15.13	-6.48/-6.06	-7.84/-3.75	-1.20/0.37	1.11/2.14	1.71/2.59	1.83/-0.97	0.00/-0.41	-3.07/-3.35	-1.28/-2.83	-3.98/-4.58
Θ(67.5°)	-6.40/-9.24	-8.85/-5.44	-1.96/-3.10	-3.38/-0.63	-0.19/-2.32	-4.47/-5.77	-7.71/-10.19	-9.04/-13.48	-12.69/-8.71	-12.36/-11.26	-10.34/-6.49	-5.91/-12.28	-9.81/-7.48	-10.79/-8.14	-7.54/-9.77	-1.58/-2.19	-0.61/-1.49	0.78/2.69	2.21/1.39	0.43/-2.82	-3.46/-1.87	-2.14/-4.46	-2.24/-1.73	-2.93/-1.57
Θ(75°)	-6.36/-5.19	-14.31/-11.40	-4.97/-3.54	-1.33/-0.41	-0.59/-3.57	-6.48/-5.60	-3.27/-2.27	-2.13/-5.15	-14.71/-8.05	-7.67/-14.24	-15.07/-11.65	-4.11/-4.61	-4.28/-5.14	-8.39/-11.09	-6.95/-7.86	-3.60/-4.72	-3.45/0.02	-1.03/2.28	0.74/-0.36	-0.66/-1.57	-0.79/-6.67	-3.50/-3.34	-4.46/-5.55	
Θ(82.5°)	-7.58/-5.35	-9.13/-8.99	-5.39/-5.35	-2.33/-0.56	-1.42/-1.99	-3.33/-3.36	0.61/0.92	-1.92/-5.13	-7.88/-4.25	-6.56/-7.67	-9.46/-9.28	-1.98/-4.15	-3.87/-5.24	-3.49/-6.91	-8.15/-4.14	-1.87/-6.68	-2.51/-1.24	-0.19/3.61	3.11/1.63	2.02/1.13	-0.09/-5.02	-5.53/-12.91	-6.19/-0.63	-4.97/-9.33
Θ(90°)	-4.36/-3.40	-7.63/-10.48	-3.91/-4.36	-0.28/-1.90	0.86/-0.46	-0.17/-0.33	1.19/1.77	0.35/-1.13	-4.44/-0.07	-4.40/-9.60	-5.28/-7.61	-8.24/-6.43	-6.60/-2.09	-9.51/-4.10	-6.52/-1.38	1.38/-3.16	1.22/0.32	-0.61/-0.46	0.12/-1.74	0.23/0.25	0.73/-5.86	-5.15/-7.99	-6.31/-1.70	-0.45/-3.94
Θ(97.5°)	-3.81/0.59	-6.19/-9.20	-3.20/-4.39	-1.46/1.58	2.37/1.34	1.84/2.95	2.44/1.36	-2.38/-5.56	-7.22/-3.21	-7.20/-8.52	-9.70/-10.19	-13.69/-10.73	-10.30/-1.75	-1.73/-11.04	-3.37/-3.79	2.48/0.74	-0.03/1.71	2.96/4.83	1.32/1.05	0.62/-0.32	-1.83/-7.21	-2.12/-11.17	-7.98/-3.45	-3.14/-4.64
Θ(105°)	-3.83/-1.28	-3.99/-6.83	-9.57/-6.82	-1.48/0.22	-0.15/-1.56	1.00/1.98	0.18/-2.12	-6.17/-1.77	-8.28/-10.36	-12.39/-9.70	-12.65/-14.52	-15.04/-7.86	-6.90/-1.02	-1.87/-4.89	-3.11/-1.04	2.43/-1.53	0.59/2.54	2.23/5.08	1.68/0.62	-0.16/-1.84	-0.41/-3.74	-5.22/-7.77	-8.09/-4.74	-1.18/-3.78
Θ(112.5°)	-3.10/-3.42	-6.44/-8.40	-5.68/-9.06	-3.77/-0.64	-0.38/-2.43	-0.47/-1.25	-1.25/-3.97	-7.18/-7.18	-7.75/-10.51	-10.51/-10.69	-11.07/-10.36	-6.49/-3.89	-4.13/-0.56	1.82/-0.66	-1.39/-1.04	2.92/-0.92	0.37/2.36	2.70/4.60	1.70/0.29	-1.04/-4.32	-0.16/-5.87	-3.28/-6.96	-9.06/-6.05	-1.27/-3.07
Θ(120°)	-4.25/-4.23	-4.55/-6.27	-10.79/-8.24	-3.60/-2.46	-1.50/-2.95	-3.69/-2.35	-2.27/-5.47	-10.04/-9.40	-8.56/-9.63	-8.53/-9.30	-9.88/-8.29	-14.27/-5.43	-5.22/-2.78	-1.72/0.12	-1.72/-4.12	-1.41/-2.69	-0.20/-0.02	0.71/4.82	2.37/-0.11	-2.48/-10.90	-1.95/-1.70	-6.81/-3.64	-4.41/-1.57	-0.27/-2.00
Θ(127.5°)	-6.66/-2.48	-3.27/-4.64	-11.63/-10.47	-6.82/-3.93	-1.10/-0.58	-1.28/-3.59	-5.72/-4.41	-5.50/-7.51	-9.48/-9.94	-14.58/-8.15	-10.42/-8.13	-4.54/-2.73	-3.13/-3.83	-0.97/-0.45	-3.61/-1.06	-0.78/-6.87	-2.83/-0.22	-0.34/-5.56	0.14/-1.02	-4.17/-12.22	-4.30/-2.33	-8.39/-1.05	-0.74/-1.04	-1.91/-2.37
Θ(135°)	-6.19/-4.12	-3.42/-3.39	-4.80/-8.53	-5.08/-2.05	-1.01/-0.98	-0.73/-2.61	-3.53/-5.88	-3.18/-1.73	-3.44/-6.27	-10.56/-12.29	-9.94/-11.17	-12.24/-8.72	-14.83/-10.26	-14.91/-9.18	-3.22/-2.85	-5.60/-1.07	-1.37/-0.55	-0.00/-1.16	-0.35/-0.77	-2.89/-7.91	-4.93/-3.66	-3.93/-0.99	-1.00/-2.25	-3.20/-3.85
Θ(142.5°)	-2.34/-3.55	-4.93/-2.64	-3.19/-4.49	-4.32/-5.62	-9.48/-4.37	-3.51/-10.72	-7.65/-4.11	-4.75/-8.52	-10.69/-12.36	-8.76/-7.10	-8.50/-11.62	-5.88/-4.72	-7.20/-10.06	-10.70/-6.92	-3.79/-2.39	-2.66/-0.69	1.77/1.79	-0.07/-0.03	0.37/1.20	0.71/-2.19	-3.12/-2.13	-2.38/-2.59	-4.49/-7.01	-5.50/-2.73
Θ(150°)	-0.22/0.07	-2.27/-4.58	-6.52/-4.96	-6.87/-5.55	-6.61/-8.90	-12.35/-10.47	-6.16/-5.80	-6.95/-9.82	-13.23/-12.73	-11.63/-14.94	-16.11/-15.14	-15.65/-16.44	-9.76/-11.09	-8.84/-10.32	-5.06/-1.76	0.11/-0.55	-0.85/0.47	0.39/0.31	1.00/2.31	2.93/0.35	-2.38/-3.67	-3.29/-2.72	-5.00/-9.84	-11.62/-7.83
Θ(157.5°)	-4.21/-4.19	-3.84/-2.57	-2.95/-5.71	-10.50/-14.44	-8.26/-9.08	-8.89/-8.26	-11.06/-12.48	-10.14/-8.78	-9.86/-11.79	-12.81/-11.69	-7.20/-5.62	-6.45/-8.96	-7.40/-4.15	-2.16/-1.14	-0.49/-0.37	-0.95/-1.71	-2.27/-2.64	-3.20/-3.00	-2.01/-1.67	-1.64/-2.18	-1.72/-1.23	-0.79/-1.09	-2.52/-5.02	-8.03/-8.79
Θ(165°)	-13.12/-14.16	-14.20/-11.13	-12.38/-13.57	-13.07/-11.20	-9.48/-9.97	-11.83/-13.99	-14.76/-13.57	-14.44/-14.68	-15.66/-13.44	-11.80/-13.27	-14.64/-13.04	-11.27/-11.78	-11.88/-11.03	-8.88/-7.39	-6.75/-6.10	-5.63/-4.48	-2.74/-1.23	0.04/0.62	0.50/-0.21	-0.78/-0.06	0.58/0.95	0.67/-0.51	-1.93/-3.82	-6.32/-9.72
Θ(172.5°)	-14.39/-13.65	-12.01/-9.66	-8.66/-8.64	-8.31/-8.61	-9.49/-11.08	-10.99/-12.89	-13.85/-14.50	-15.30/-13.61	-10.82/-9.29	-9.05/-10.63	-13.48/-15.83	-16.13/-12.44	-9.48/-7.14	-6.02/-5.15	-4.42/-3.76	-3.38/-3.09	-2.80/-2.38	-1.99/-2.25	-2.64/-3.67	-4.67/-4.93	-4.74/-4.41	-4.47/-5.32	-6.66/-7.71	-9.69/-10.35
Θ(180°)	-8.48/-9.05	-9.52/-10.00	-10.85/-11.13	-10.68/-11.94	-12.85/-12.40	-12.25/-11.20	-9.52/-8.64	-8.89/-8.72	-7.63/-7.17	-7.52/-7.79	-7.83/-7.44	-7.99/-8.46	-9.06/-9.59	-9.66/-9.48	-8.92/-9.49	-5.55/-4.23	-3.65/-3.21	-3.04/-3.37	-4.34/-5.49	-6.48/-7.51	-7.95/-7.48	-7.11/-6.87	-6.99/-7.72	-9.98/-13.82
Freq(Hz)	2.45GPol.	TotalAnt.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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°)	-2.26/-3.33	-2.43/-2.55	-2.70/-2.79	-2.90/-3.11	-3.39/-3.72	-3.95/-3.90	-3.85/-3.73	-3.45/-3.14	-2.90/-2.72	-2.62/-2.58	-2.61/-2.65	-2.71/-2.58	-2.55/-2.53	-2.45/-2.40	-2.47/-2.21	-3.08/-3.53	-3.88/-3.93	-3.67/-3.16	-2.84/-2.40	-2.00/-1.70	-1.53/-1.46	-1.51/-1.64	-1.83/-2.02	-2.15/-2.13
Θ(7.5°)	-2.98/-3.14	-3.18/-3.25	-3.29/-3.29	-3.34/-3.44	-3.69/-4.00	-4.15/-3.97	-3.73/-3.75	-3.21/-2.67	-2.38/-2.18	-2.05/-2.00	-2.05/-2.11	-2.32/-2.05	-2.08/-1.97	-1.87/-1.85	-1.97/-2.22	-2.61/-3.11	-3.69/-3.39	-3.89/-2.68	-2.38/-2.16	-2.08/-2.07	-2.37/-2.72	-2.92/-2.76	-2.92/-2.86	
Θ(15°)	-3.55/-3.82	-3.90/-3.99	-3.99/-3.95	-3.93/-4.03	-4.24/-4.49	-4.54/-4.26	-3.94/-3.56	-3.01/-2.50	-2.09/-1.76	-1.58/-1.51	-1.56/-1.64	-1.68/-1.60	-1.55/-1.45	-1.34/-1.33	-1.41/-1.61	-1.98/-2.43	-2.92/-3.29	-3.54/-3.58	-3.48/-3.24	-2.99/-2.79	-2.64/-2.59	-2.62/-2.75	-2.98/-3.22	-3.42/-3.32
Θ(22.5°)	-3.95/-4.21	-4.40/-4.50	-4.54/-5.46	-4.63/-4.92	-5.23/-5.49	-5.44/-4.99	-4.48/-4.00	-3.36/-2.69	-2.12/-1.69	-1.39/-1.24	-1.15/-1.02	-0.93/-0.72	-0.58/-0.44	-0.36/-0.32	-0.35/-0.50	-0.75/-1.13	-1.58/-2.10	-2.61/-3.01	-3.26/-3.31	-3.21/-3.07	-2.97/-2.91	-2.91/-3.03	-3.21/-3.44	-3.60/-3.73
Θ(30°)	-4.01/-4.28	-4.58/-4.79	-4.91/-5.05	-5.24/-5.65	-6.08/-6.28	-6.10/-5.50	-4.89/-4.39	-3.81/-3.13	-2.41/-1.72	-1.41/-0.59	-1.30/-2.07	-0.58/-0.76	-0.28/0.79	0.73/0.63	0.45/0.32	-0.14/-0.12	-0.51/-1.04	-1.69/-2.33	-2.80/-2.99	-3.05/-3.10	-3.22/-3.39	-3.60/-3.80	-3.93/-4.05	-4.06/-3.96
Θ(37.5°)	-4.31/-4.48	-4.88/-5.25	-5.52/-5.73	-5.99/-6.38	-6.77/-6.82	-6.28/-5.58	-5.11/-4.54	-4.03/-3.33	-2.36/-1.26	-0.12/0.84	1.55/2.02	2.21/2.20	2.02/2.10	1.37/1.01	0.69/0.47	0.27/-0.00	-0.46/-1.10	-1.91/-2.77	-3.34/-3.45	-3.29/-3.12	-3.18/-3.58	-4.24/-4.92	-5.41/-5.46	-5.05/-4.77
Θ(45°)	-5.66/-5.53	-5.92/-6.56	-7.16/-7.37	-7.41/-7.47	-7.71/-7.84	-7.27/-6.63	-5.83/-4.92	-3.91/-2.92	-1.61/-0.31	0.86/1.75	2.26/2.45	2.34/-1.98	1.53/1.03	0.62/0.35	0.17/-0.01	-0.25/-0.60	-1.04/-1.70	-2.54/-3.41	-4.09/-4.28	-3.96/-3.41	-3.02/-3.14	-3.88/-5.09	-6.53/-7.31	-7.27/-6.69
Θ(52.5°)	-7.01/-6.68	-6.96/-7.76	-9.08/-9.75	-9.82/-9.79	-9.75/-9.02	-7.92/-6.72	-5.45/-2.26	-3.22/-2.19	-1.12/-0.10	0.84/1.50	1.79/1.71	1.23/0.78	0.20/-0.19	-0.29/0.04	-0.00/-0.24	-0.64/-1.17	-1.67/-2.31	-2.94/-3.60	-4.18/-4.33	-4.05/-3.40	-2.70/-2.25	-2.40/-3.29	-4.82/-6.36	-7.39/-7.43
Θ(60°)	-5.73/-5.35	-5.43/-6.13	-7.66/-9.65	-11.53/-12.45	-11.09/-9.24	-8.08/-7.07	-6.04/-5.37	-4.87/-4.25	-3.06/-1.51	-0.02/1.03	1.60/1.66	1.32/0.81	0.32/0.25	0.52/0.68	0.47/-0.22	-1.31/-2.26	-3.03/-3.46	-3.75/-4.01	-4.25/-4.06	-3.76/-3.11	-2.39/-1.59	-1.11/-1.29	-2.25/-3.77	-5.11/-5.20
Θ(67.5°)	-3.77/-2.56	-1.91/-2.03	-3.04/-4.77	-7.11/-10.13	-11.79/-11.33	-10.63/-10.24	-10.09/-9.97	-8.55/-8.30	-2.84/-0.07	1.71/2.62	2.82/2.36	1.54/0.77	0.53/0.80	1.04/0.74	-0.22/-1.40	-2.53/-3.57	-4.65/-5.47	-5.61/-5.26	-4.77/-4.33	-4.08/-3.65	-3.22/-2.64	-1.96/-1.66	-2.09/-3.31	-4.95/-5.44
Θ(75°)	-1.61/-2.68	-1.67/-1.17	-1.51/-2.71	-4.75/-7.92	-11.31/-12.91	-13.60/-14.55	-15.39/-12.79	-9.51/-4.9	-2.07/0.35	1.66/2.13	1.91/1.21	0.41/												



Antenna Pattern of 2.4GHz&5GHz

Appendix C

Θ(67.5°)	-0.98/-2.04	-2.14/-2.17	-2.12/-1.87	-0.78/-0.00	-0.49/-0.98	-0.84/-0.80	-0.85/-1.69	-3.14/-2.68	-0.97/-0.17	-0.27/-0.66	-0.45/-0.78	-0.18/-0.72	0.90/0.57	1.40/0.91	-0.17/-2.95	-5.27/-5.44	-3.42/-2.82	-3.32/-4.53	-5.15/-4.47	-2.89/-3.30	-2.52/-1.29	-0.67/-1.08	-0.98/-0.90	-0.60/-0.32
Θ(75°)	0.02/-2.06	-1.82/-1.25	-0.16/-0.67	-0.64/-0.35	-1.19/-3.53	-3.02/-2.17	-2.07/-2.07	-2.10/-1.20	-0.56/-0.45	0.79/2.58	2.74/1.07	0.75/0.40	-0.41/0.51	1.59/1.87	1.27/0.06	-2.40/-5.71	-4.83/-4.77	-2.92/-3.21	-1.83/-2.47	-5.65/-5.64	-2.66/-1.60	-1.83/-2.07	0.79/1.58	1.00/1.02
Θ(82.5°)	0.03/0.14	0.22/-0.47	0.77/-0.67	-1.18/-2.65	-4.41/-6.00	-6.39/-7.07	-5.65/-4.08	-2.42/-1.68	-1.94/-2.86	0.05/1.37	0.67/1.07	2.31/1.33	0.15/0.62	1.20/1.56	2.08/0.38	-3.44/-5.37	-4.45/-3.16	-2.89/-2.27	-6.02/-8.70	-8.74/-5.47	-5.14/-2.92	-1.87/-3.54	-0.94/-1.73	1.48/0.42
Θ(90°)	0.86/0.06	0.36/-1.44	1.59/0.83	0.34/-0.84	-2.67/-5.72	-6.26/-4.61	-3.95/-3.66	-2.16/-1.45	-1.83/-2.05	-0.41/-1.40	1.29/1.21	1.18/0.42	1.07/1.47	0.94/1.50	1.85/0.70	-3.16/-5.75	-6.11/-6.21	-9.83/-6.08	-3.08/-5.35	-8.16/-9.93	-4.79/-3.97	-4.10/-5.29	-6.67/-1.36	1.25/1.87
Θ(97.5°)	1.82/1.80	1.54/0.06	3.02/1.08	-1.44/-4.14	-7.47/-8.21	-7.09/-7.84	-6.40/-4.02	-3.56/-5.87	-5.43/-2.90	-2.13/-3.23	-2.60/-0.55	-1.46/-1.16	-0.04/-0.28	-0.46/-0.81	-1.26/-2.02	-2.17/-3.40	-5.66/-6.35	-7.17/-6.11	-4.06/-5.12	-6.95/-6.63	-6.18/-5.20	-4.01/-3.94	-3.25/-1.31	0.15/1.02
Θ(105°)	2.30/3.61	2.26/0.38	0.09/-1.59	-3.72/-4.85	-5.55/-6.34	-7.65/-8.45	-9.23/-7.03	-6.93/-8.78	-7.16/-6.01	-4.67/-5.28	-3.59/-3.45	-2.76/-0.48	-0.25/-1.77	-1.74/-1.46	-2.66/-5.04	-4.79/-6.03	-5.76/-5.64	-8.99/-6.54	-3.94/-4.08	-7.09/-12.03	-6.17/-4.61	-5.97/-5.09	-3.22/-0.23	1.78/1.77
Θ(112.5°)	0.95/1.89	1.28/-1.27	-3.27/-3.46	-4.63/-7.48	-10.97/-14.46	-11.65/-10.37	-10.82/-10.31	-10.65/-13.79	-12.73/-11.42	-10.13/-7.99	-6.27/-8.92	-7.37/-7.08	-7.49/-5.58	-5.35/-6.53	-6.66/-6.54	-10.28/-10.52	-9.66/-3.84	-6.91/-10.46	-6.78/-5.10	-5.39/-10.86	-13.74/-11.97	-11.88/-6.35	-1.75/-0.91	1.16/1.24
Θ(120°)	1.26/0.54	0.06/-1.92	-5.94/-8.04	-6.34/-4.74	-5.11/-6.15	-8.73/-13.04	-14.57/-13.86	-11.25/-12.50	-14.65/-14.93	-12.52/-5.85	-4.65/-7.07	-6.94/-5.42	-6.41/-9.06	-9.29/-6.70	-7.64/-15.25	-11.08/-10.63	-6.97/-11.15	-5.39/-7.52	-12.93/-6.42	-3.94/-4.83	-5.56/-6.21	-4.42/-6.16	-6.97/-2.15	-0.51/1.15
Θ(127.5°)	-2.91/-4.54	-6.84/-9.38	-6.41/-3.90	-3.46/-4.35	-4.64/-4.13	-4.06/-4.76	-5.52/-6.69	-8.72/-10.05	-11.55/-9.54	-7.72/-5.96	-6.11/-10.55	-12.18/-13.06	-15.30/-15.75	-11.38/-14.10	-13.34/-9.74	-7.78/-10.67	-15.56/-9.83	-8.83/-8.77	-11.70/-7.57	-5.36/-10.82	-15.34/-10.98	-4.85/-1.40	-1.86/-1.82	-2.98/-2.57
Θ(135°)	-8.78/-7.95	-6.24/-4.58	-3.44/-2.47	-2.07/-2.08	-2.10/-2.64	-3.69/-5.64	-5.45/-4.27	-4.75/-8.40	-8.63/-6.96	-8.22/-10.23	-11.36/-6.65	-4.32/-5.36	-6.91/-7.59	-9.57/-13.72	-11.07/-7.51	-9.87/-12.01	-6.42/-6.64	-11.86/-15.03	-9.24/-8.45	-4.35/-5.73	-7.24/-5.40	-1.23/-1.31	-1.31/-1.36	-2.44/-7.31
Θ(142.5°)	-1.59/-2.10	-2.25/-2.21	-1.06/-0.06	0.90/1.13	0.60/-0.48	-1.69/-2.66	-3.06/-3.20	-3.03/-5.78	-11.06/-8.03	-5.71/-4.06	-4.09/-6.33	-6.91/-11.77	-15.56/-12.57	-7.94/-7.88	-10.10/-9.06	-12.49/-14.15	-8.46/-8.10	-6.33/-6.65	-8.80/-8.95	-6.18/-9.21	-7.92/-7.20	-6.68/-6.27	-7.86/-6.99	-3.83/-2.08
Θ(150°)	-3.85/-3.14	-1.92/-0.67	-0.26/0.84	1.14/0.76	-0.22/-1.21	-2.16/-3.13	-4.47/-5.32	-5.09/-6.41	-4.27/-4.65	-5.73/-7.15	-8.43/-6.01	-7.60/-8.00	-8.80/-9.90	-10.31/-12.37	-9.84/-7.80	-8.27/-8.66	-9.17/-8.27	-9.62/-12.54	-14.44/-11.45	-8.27/-7.22	-4.95/-2.96	-3.64/-3.66	-3.92/-4.32	-5.85/-5.96
Θ(157.5°)	-2.23/-3.08	-2.98/-2.34	-1.40/-0.58	-0.05/0.40	0.55/0.24	-0.51/-1.16	-1.85/-3.24	-5.64/-6.06	-4.48/-3.06	-1.46/-0.50	-6.57/-1.68	-4.51/-7.57	-11.75/-15.52	-11.66/-9.22	-9.47/-10.78	-6.68/-7.14	-6.58/-8.88	-14.45/-15.85	-12.45/-8.88	-5.03/-2.41	-0.26/1.10	1.32/1.33	1.13/0.63	0.13/-0.60
Θ(165°)	-2.27/-2.54	-2.78/-2.77	-1.89/-1.10	-0.47/0.02	0.53/1.01	0.89/0.41	-0.14/0.22	0.50/0.44	-0.53/-2.16	-0.30/-5.33	-7.26/-9.07	-9.78/-8.57	-6.68/-5.74	-5.80/-6.43	-8.22/-11.71	-14.91/-13.99	-11.42/-10.85	-10.36/-10.57	-9.60/-7.21	-4.47/-2.66	-1.18/-0.36	-0.14/-0.47	-0.97/-1.47	-1.84/-2.36
Θ(172.5°)	-2.39/-2.05	-1.91/-1.70	-1.46/-1.38	-0.94/-0.53	-0.06/0.32	1.12/1.82	1.84/1.00	-1.11/-3.63	-6.12/-8.77	-11.47/-11.70	-9.17/-6.91	-5.43/-5.20	-5.91/-7.77	-11.15/-14.23	-13.09/-10.39	-9.11/-8.65	-8.30/-7.75	-7.65/-7.61	-7.18/-6.75	-5.50/-3.43	-3.14/-2.18	-1.63/-1.45	-1.58/-1.94	-2.50/-2.36
Θ(180°)	-4.12/-3.83	-4.62/-4.84	-4.81/-4.63	-4.80/-4.96	-5.44/-5.60	-5.39/-5.94	-7.18/-10.02	-12.60/-12.74	-11.00/-10.32	-9.97/-9.70	-9.80/-11.03	-13.17/-15.71	-15.54/-14.67	-11.20/-8.50	-6.39/-5.11	-4.84/-5.04	-5.79/-5.85	-6.48/-6.66	-6.91/-6.66	-6.05/-5.71	-5.42/-5.03	-4.55/-4.47	-4.54/-4.07	
Freq(Hz)	5.785G(Pol.)	TotalAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Θ(0°)Ψ(7.5°)	Θ(15°)Ψ(22.5°)	Θ(30°)Ψ(37.5°)	Θ(45°)Ψ(52.5°)	Θ(60°)Ψ(67.5°)	Θ(75°)Ψ(82.5°)	Θ(90°)Ψ(97.5°)	Θ(105°)Ψ(112.5°)	Θ(120°)Ψ(127.5°)	Θ(135°)Ψ(142.5°)	Θ(150°)Ψ(157.5°)	Θ(165°)Ψ(172.5°)	Θ(180°)Ψ(187.5°)	Θ(195°)Ψ(202.5°)	Θ(210°)Ψ(217.5°)	Θ(225°)Ψ(232.5°)	Θ(240°)Ψ(247.5°)	Θ(255°)Ψ(262.5°)	Θ(270°)Ψ(277.5°)	Θ(285°)Ψ(292.5°)	Θ(300°)Ψ(307.5°)	Θ(315°)Ψ(322.5°)	Θ(330°)Ψ(337.5°)	Θ(345°)Ψ(352.5°)
Θ(0°)	0.40/0.52	0.69/0.28	0.36/0.60	0.75/0.68	0.54/0.37	0.42/0.66	0.64/0.35	0.06/-0.27	-0.35/-0.32	-0.28/-0.15	-0.01/0.25	-0.22/-0.40	-0.84/-0.75	-0.22/-0.22	-0.22/-0.22	0.21/-0.22	0.32/0.23	0.80/0.92	0.75/0.60	0.55/0.76	0.74/0.92	1.17/1.14	0.86/0.48	0.43/0.43
Θ(7.5°)	-0.98/-0.76	0.66/-0.93	-1.01/-0.95	-0.49/-0.10	-0.17/-0.25	0.32/0.99	1.37/1.36	1.29/1.26	1.16/1.00	1.06/1.19	1.19/1.33	1.29/1.12	1.01/0.56	0.22/0.00	-0.01/0.07	0.16/-0.08	-0.35/-0.39	-0.25/-0.36	-0.46/-0.44	-0.56/-0.60	-0.67/-0.49	-0.42/-0.42	-0.58/-0.69	-0.80/-0.70
Θ(15°)	-2.76/-2.98	-3.18/-3.10	-2.94/-2.51	-2.45/-2.21	-1.86/-1.70	-1.40/-1.22	-0.45/0.30	0.69/1.01	1.34/1.54	1.74/1.81	1.81/1.64	1.54/-1.31	1.26/0.93	0.65/0.24	-0.20/-0.45	-0.64/-0.79	-0.87/-1.04	-1.24/-1.27	-1.38/-1.53	-1.63/-1.66	-1.60/-1.63	-1.53/-1.52	-1.86/-1.61	-1.74/-2.13
Θ(22.5°)	-0.84/-0.51	-0.99/-1.07	-1.17/-0.99	-1.00/-0.99	-1.62/-1.84	-0.77/-0.33	-0.66/-0.95	-0.25/-0.70	1.39/1.60	1.67/2.03	2.14/2.26	2.07/1.75	1.79/1.49	0.85/0.09	-0.34/-0.39	-0.02/0.42	0.67/0.67	0.07/0.43	0.47/0.28	-0.20/-0.91	-1.07/-0.76	-0.45/-0.71	-0.17/-0.81	-1.13/-0.96
Θ(30°)	0.55/0.85	0.58/0.74	0.71/1.10	1.05/0.56	-0.07/0.42	1.12/1.00	0.27/0.09	0.77/1.38	0.97/0.32	0.50/1.07	1.64/1.93	2.13/2.09	2.00/1.46	0.76/0.19	-0.18/0.32	1.17/1.83	1.95/1.61	1.19/0.61	0.02/-0.50	-0.77/-0.96	-1.16/-1.12	-0.89/-0.72	-0.77/-0.44	-0.79/-0.60
Θ(37.5°)	2.41/2.56	1.99/1.20	1.18/1.28	1.32/0.96	0.63/0.32	-0.41/-0.78	0.22/1.55	2.09/1.46	-0.06/-1.36	-0.74/0.59	1.04/0.76	0.76/0.36	0.84/0.73	0.61/0.58	0.55/0.76	0.93/1.59	1.68/1.39	1.03/0.21	-0.21/-0.30	-0.88/-1.06	-2.00/-2.44	-1.30/0.17	1.26/1.59	0.95/1.24
Θ(45°)	1.63/2.13	2.06/0.82	-0.04/-0.34	-0.24/-0.26	-0.62/-1.23	-0.85/0.48	1.31/1.68	1.76/1.16	0.01/-1.34	-0.71/0.86	1.18/0.55	0.19/0.22	0.82/0.65	1.01/0.76	0.31/-0.42	0.03/0.74	1.58/1.63	0.75/0.59	0.53/-0.16	-0.39/-0.65	-1.37/-2.11	-1.68/-1.02	0.79/1.61	1.29/1.26
Θ(52.5°)	-0.02/-1.82	2.08/1.44	0.07/-1.00	-1.03/-0.14	0.24/0.38	0.00/-0.07	0.44/1.01	0.81/-0.90	-3.14/-3.03	-1.50/-0.44	-0.73/-1.31	-1.52/-1.58	-1.15/-0.92	-1.41/-2.32	-3.12/-3.39	-3.87/-2.72	-1.98/-1.76	-1.51/-1.62	-1.05/0.27	0.49/1.05	-1.26/-0.74	-0.46/-1.26	-2.48/-1.62	-1.51/-1.43
Θ(60°)	1.26/0.55	0.63/0.34	-0.42/-1.55	-1.53/-4.07	0.32/0.75	0.88/1.62	2.08/1.66	0.19/-0.99	-0.41/-0.09	-0.08/-0.64	-1.93/-3.38	-3.47/-2.40	-0.88/0.71	-1.23/-1.63	-1.92/-4.68	-6.39/-6.37	-4.62/-3.26	-3.24/-4.18	-3.75/-1.28	-1.19/-3.27	-3.79/-5.53	-3.99/-2.96	-3.65/-2.12	0.56/1.55
Θ(67.5°)	0.65/0.08	-1.09/-1.08	-1.45/-2.38	-1.95/-0.81	-0.01/-0.59	-0.62/-0.69	-0.88/-1.37	-1.07/-0.35	-0.13/-0.15	-0.25/-0.31	-0.42/-0.14	-0.15/-0.91	-0.44/0.72	-0.10/-2.07	-4.77/-1.07	-0.77/-0.57	-3.44/-5.07	-4.77/-6.09	-3.79/-1.41	-1.77/-2.19	-2.66/-2.78	-1.35/-0.16	1.30/-1.19	
Θ(75°)	-1.24/-0.73	0.22/-1.14	2.30/-2.75	-1.56/-0.68	-0.77/-1.08	-1.64/-2.19	-3.39/-3.38	-0.33/0.92	0.68/-0.38	-0.93/-0.19	1.12/1.58	0.74/0.42	0.01/-1.23	0.51/0.82	0.48/-1.06	-4.92/-7.15	-9.94/-6.49	-3.77/-2.39	-4.09/-6.58	-5.25/-2.43	-1.24/-1.91	-1.55/-0.78	-0.20/0.34	1.01/0.00
Θ(82.5°)	0.10/-0.57	-1.07/-1.76	-1.19/-0.78	-2.13/-3.19	-3.49/-3.55	-3.03/-3.39	-6.91/-5.59	-1.79/0.05	0.20/0.12	0.48/0.74	1.26/2.00	2.18/1.91	0.85/0.25	1.05/1.67	1.19/-0.61	-3.15/-0.77	-7.68/-5.83	-4.13/-3.24	-2.40/-6.38	-5.61/-7.40	-5.52/-5.13	-5.03/-3.75	-0.91/0.08	-0.01/0.82
Θ(90°)	1.23/1.10	1.31/1.41	0.98/-0.17	-0.50/-1.63	-3.54/-6.56	-5.95/-5.32	-9.36/-7.39	-2.09/-0.51	-1.30/-1.55	-0.63/-0.14	0.94/0.70	0.42/0.28	0.03/0.65	0.89/1.03	1.93/1.02	-1.87/-5.69	-5.99/-10.48	-6.95/-2.48	-2.76/-4.56	-8.41/-5.48	-4.62/-2.65	-2.79/-4.35	-2.05/-1.55	1.89/1.43
Θ(97.5°)	1.18/0.55	1.64/2.66	1.66/0.08	-1.17/-4.28	-7.93/-8.48	-6.53/-7.17	-15.92/-4.84	-4.41/-4.85	-4.34/-1.94	-1.27/-2.30	-2.09/-2.09	-0.11/-1.84	-1.67/-1.40	-1.18/-0.06	-0.66/-3.49	-7.18/-7.57	-4.53/-5.80	-4.85/-2.78	-2.62/-2.67	-3.32/-4.47	-4.93/-3.17	-2.48/-2.15	-0.87/-0.18	0.57/1.36
Θ(105°)	1.96/2.71	1.50/1.89	1.91/0.16	-3.17/-5.26	-5.23/-4.11	-6.37/-11.89	-13.15/-17.05	-5.90/-7.79	-7.72/-6.11	-4.96/-3.35	-3.39/-1.67	-2.82/-3.73	-2.66/-4.31	-3.56/-3.19	-3.85/-6.26	-7.51/-4.09	-4.88/-3.92	-10.08/-7.59	-4.39/-6.87	-9.31/-5.62	-3.62/-6.40	-4.22/-3.75	-3.54/-0.01	0.16/0.56
Θ(112.5°)	1.20/2.05	1.06/-0.82	-1.55/-3.65	-5.20/-5.52	-7.12/-8.63	-9.08/-10.13	-11.00/-10.93	-12.43/-12.14	-10.08/-7.85	-8.10/-6.63	-4.10/-5.26	-8.55/-8.35	-8.52/-6.11	-4.05/-4.20	-8.81/-12.37	-13.26/-8.45	-6.64/-5.40	-4.17/-6.14	-7.93/-7.40	-8.50/-14.26	-13.38/-10.03	-6.63/-2.92	-2.28/-1.49	0.84/1.36
Θ(120°)	0.71/0.33	0.01/-1.19	-5.08/-7.01	-7.12/-6.61	-8.28/-11.23	-14.37/-13.87	-12.16/-14.33	-15.26/-14.93	-14.33/-13.45	-13.06/-7.45	-3.21/-3.95	-5.98/-6.87	-9.90/-10.71	-11.98/-8.61	-6.51/-6.87	-10.09/-15.18	-8.							



Antenna Pattern of 2.4GHz&5GHz

Appendix C

θ(120°)	-5.10/-5.25	-4.51/-3.48	-0.31/0.93	2.22/1.32	1.40/2.45	1.75/0.60	-0.40/-1.28	0.78/1.04	-0.12/-0.38	-1.79/-6.26	-4.10/-0.96	-1.43/-2.54	-2.12/-1.58	-2.89/-5.70	-4.88/-1.45	-0.26/0.55	0.43/-2.80	-9.04/-8.47	-3.95/-4.91	-6.84/-11.52	-14.43/-15.57	-10.09/-10.29	-10.35/-7.07	
θ(127.5°)	-6.79/-5.15	-7.17/-5.09	-1.14/0.20	0.66/2.18	2.31/2.31	1.70/0.87	-0.41/-1.03	-1.12/-0.42	-0.03/0.15	-0.67/-1.25	-0.10/0.93	-0.45/0.28	-1.88/-1.39	-4.63/-6.31	-1.28/1.70	1.42/-1.19	-5.14/-1.06	-11.35/-5.42	-3.38/-6.71	-11.43/-11.24	-12.83/-11.29	-14.11/-15.53	-12.37/-8.55	
θ(135°)	-13.53/-5.40	-3.11/-4.73	-3.38/-0.81	1.10/1.29	1.39/1.45	0.93/-0.17	-1.58/-2.48	-2.46/-1.61	-0.14/-1.30	1.97/1.30	-1.08/-3.94	-0.31/2.47	2.04/-2.01	-6.80/-3.27	-2.10/-3.06	-2.05/-1.96	-3.44/-6.18	-9.89/-12.67	-10.41/-11.17	-14.13/-7.37	-8.86/-9.30	-11.43/-10.69	-12.44/-14.91	-11.98/-10.66
θ(142.5°)	-8.44/-6.26	-2.48/-1.49	-2.85/-2.31	-0.59/0.93	1.89/1.64	0.68/-0.34	-1.70/-2.67	-2.85/-2.34	-1.96/-1.84	-2.00/-1.44	0.14/2.22	1.56/-1.73	-3.11/-1.64	-1.93/-3.71	-4.99/-3.82	-3.75/-5.19	-8.19/-11.61	-10.26/-8.20	-10.18/-12.20	-8.69/-6.16	-6.73/-10.48	-12.76/-13.12	-11.58/-6.40	-6.15/-6.17
θ(150°)	-4.88/-3.14	-1.70/-1.00	-1.98/-2.10	-2.01/-0.99	-0.08/0.45	0.81/0.18	-1.12/-2.56	-3.26/-2.74	-1.80/-0.64	0.21/0.39	0.71/-0.69	-2.60/-0.53	1.64/2.19	1.11/-0.86	-3.51/-6.25	-10.67/-15.05	-11.73/-11.13	-12.23/-14.85	-15.54/-10.54	-9.37/-11.03	-13.17/-13.99	-12.66/-7.15	-5.48/-5.93	
θ(157.5°)	-2.81/-1.74	-1.02/-0.68	-0.58/-1.24	-1.92/-1.75	-2.07/-3.01	-3.53/-3.35	-3.14/-3.03	-3.05/-2.54	-1.38/-0.75	-0.55/-0.57	-0.01/0.31	0.00/0.06	0.77/1.02	0.20/-1.80	-5.23/-10.46	-14.65/-13.34	-10.23/-8.67	-8.22/-8.21	-9.87/-13.24	-15.15/-15.03	-10.62/-7.98	-8.35/-8.13	-7.07/-5.32	-5.22/-4.41
θ(165°)	-3.54/-2.10	-1.01/-0.48	-0.42/-0.46	-0.35/-0.76	-1.00/-1.78	-2.60/-3.28	-3.79/-4.33	-4.44/-4.17	-3.46/-2.53	-2.29/-1.32	0.56/0.78	0.20/-0.19	-0.80/-1.98	-4.06/-7.51	-10.43/-8.56	-5.32/-3.72	-3.10/-3.24	-4.44/-6.61	-9.48/-9.94	-8.74/-6.80	-5.03/-4.28	-4.40/-4.64	-4.30/-3.47	-4.22/-4.14
θ(172.5°)	-4.03/-3.83	-3.37/-2.64	-1.46/-0.64	-0.19/-0.03	0.28/0.31	0.29/0.19	0.20/0.23	-0.09/-0.35	-0.36/-0.37	-0.18/0.24	0.26/-0.04	-3.14/-5.96	-9.00/-10.08	-3.99/-3.84	-4.54/-5.97	-7.54/-7.76	-6.59/-6.13	-5.29/-4.17	-4.15/-5.92	-6.92/-6.67	-4.92/-4.62	-3.72/-3.60		
θ(180°)	-5.36/-5.56	-5.18/-4.97	-4.43/-4.04	-3.32/-3.03	-2.61/-2.58	-2.33/-2.09	-1.78/-1.59	-1.69/-1.82	-2.00/-1.94	-1.95/-2.77	-3.41/-3.81	-4.83/-6.32	-7.60/-7.80	-7.78/-7.66	-7.28/-7.40	-8.95/-12.24	-11.35/-8.69	-6.26/-5.07	-5.30/-5.48	-5.62/-6.40	-7.12/-6.02	-4.64/-4.11	-4.03/-3.50	-3.51/-4.28
Freq(Hz)	5.6GPol.	Total/Ant. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)×Φ(7.5°)	Φ(15°)×Φ(22.5°)	Φ(30°)×Φ(37.5°)	Φ(45°)×Φ(52.5°)	Φ(60°)×Φ(67.5°)	Φ(75°)×Φ(82.5°)	Φ(90°)×Φ(97.5°)	Φ(105°)×Φ(112.5°)	Φ(120°)×Φ(127.5°)	Φ(135°)×Φ(142.5°)	Φ(150°)×Φ(157.5°)	Φ(165°)×Φ(172.5°)	Φ(180°)×Φ(187.5°)	Φ(195°)×Φ(202.5°)	Φ(210°)×Φ(217.5°)	Φ(225°)×Φ(232.5°)	Φ(240°)×Φ(247.5°)	Φ(255°)×Φ(262.5°)	Φ(270°)×Φ(277.5°)	Φ(285°)×Φ(292.5°)	Φ(300°)×Φ(307.5°)	Φ(315°)×Φ(322.5°)	Φ(330°)×Φ(337.5°)	Φ(345°)×Φ(352.5°)
θ(0°)	-4.58/-4.91	-6.08/-6.18	-6.41/-6.17	-6.33/-6.37	-6.60/-6.90	-7.62/-8.05	-8.84/-9.12	-9.36/-9.20	-9.45/-9.28	-8.52/-9.26	-9.23/-7.42	-6.62/-7.02	-7.86/-8.64	-8.21/-7.00	-6.71/-7.89	-9.85/-9.13	-6.57/-4.78	-4.15/-4.83	-5.54/-5.98	-5.65/-5.40	-5.60/-6.07	-5.65/-4.47	-4.67/-6.71	-5.01/-4.18
θ(7.5°)	-6.30/-5.58	-5.46/-5.38	-5.63/-5.77	-6.21/-6.53	-6.04/-5.90	-5.63/-5.75	-6.03/-5.56	-5.00/-5.30	-5.21/-4.50	-4.69/-5.21	-5.31/-5.52	-6.85/-8.08	-7.74/-7.24	-6.48/-6.21	-6.49/-7.38	-8.17/-8.91	-9.82/-9.10	-8.49/-9.69	-10.83/-10.68	-10.07/-11.30	-12.15/-11.10	-9.36/-7.46	-5.87/-6.26	-6.58/-5.56
θ(15°)	-7.88/-6.47	-5.59/-5.22	-5.98/-6.07	-5.83/-5.57	-5.48/-5.77	-5.65/-5.70	-5.58/-5.19	-4.94/-4.91	-4.92/-4.70	-4.47/-3.45	-3.08/-3.65	-4.71/-4.94	-4.78/-4.98	-5.29/-4.91	-4.55/-5.13	-6.37/-8.17	-11.52/-12.89	-13.16/-13.42	-12.23/-11.19	-10.18/-9.66	-9.66/-11.28	-11.54/-13.16	-14.57/-11.01	-8.25/-7.14
θ(22.5°)	-5.48/-5.66	-5.37/-5.02	-5.49/-4.92	-3.73/-3.55	-3.70/-3.15	-2.94/-3.17	-2.73/-2.10	-2.08/-2.33	-2.74/-3.04	-3.65/-3.60	-2.76/-2.27	-3.32/-4.48	-3.62/-2.84	-2.77/-4.98	-8.87/-12.20	-12.75/-10.84	-10.48/-10.87	-12.33/-14.53	-13.10/-12.39	-14.05/-14.39	-14.05/-12.92	-10.87/-9.55	-9.31/-9.32	-8.23/-6.10
θ(30°)	-5.46/-4.41	-4.80/-1.58	-5.66/-4.90	-3.74/-2.89	-1.84/-1.72	-1.80/-1.48	-1.27/-0.96	-0.01/0.90	0.71/0.18	-0.92/-1.66	-2.13/-2.09	-2.40/-3.13	-2.71/-2.66	-3.05/-4.22	-6.93/-8.50	-6.52/-5.17	-4.63/-4.04	-4.83/-6.32	-6.64/-6.98	-9.54/-14.58	-15.48/-13.85	-12.62/-9.50	-11.12/-6.84	-7.44/-5.68
θ(37.5°)	-5.32/-5.90	-6.26/-4.89	-4.52/-5.93	-6.28/-3.86	-2.32/-1.72	-1.18/-0.96	-0.37/-0.01	0.50/-1.41	1.73/-1.48	1.34/0.71	-0.84/-1.35	-1.58/-2.41	-2.53/-0.22	-4.88/-7.94	-8.20/-5.91	-4.92/-3.98	-3.59/-4.84	-4.89/-6.25	-7.74/-9.76	-11.06/-10.20	-7.85/-6.72	-10.78/-10.19	-8.72/-7.80	-5.22/-4.82
θ(45°)	-7.63/-8.41	-8.60/-6.89	-6.09/-5.13	-6.71/-5.90	-3.66/-2.14	-1.83/-0.47	0.27/0.43	0.42/0.66	0.95/-1.21	1.60/-1.62	1.28/0.14	-1.02/-1.86	-2.02/-3.50	-5.80/-11.48	-8.73/-7.77	-6.16/-9.00	-11.23/-13.94	-15.07/-10.83	-10.17/-12.95	-15.24/-13.20	-11.19/-11.96	-11.74/-11.80	-6.00/-5.43	-7.95/-7.51
θ(52.5°)	-11.91/-8.52	-7.63/-7.46	-6.38/-5.99	-5.74/-5.49	-3.57/-2.51	-0.12/-1.37	1.67/1.73	2.19/2.03	1.32/1.73	1.97/1.58	0.20/-1.67	-0.77/-1.19	-1.57/-3.75	-5.97/-6.17	-9.51/-7.54	-12.45/-15.42	-16.04/-15.54	-14.76/-15.34	-16.12/-15.47	-15.04/-7.79	-8.62/-8.95	-13.29/-10.11	-9.40/-9.19	-8.92/-11.17
θ(60°)	-12.13/-11.31	-8.28/-8.80	-6.08/-4.01	-5.52/-3.74	-2.40/0.08	1.74/2.78	3.33/3.72	3.77/1.12	4.13/0.08	2.53/2.90	1.24/-0.48	0.38/0.64	-1.01/-1.48	-4.91/-5.87	-7.02/-10.77	-10.16/-12.23	-14.82/-11.61	-9.86/-9.76	-13.38/-9.94	-9.27/-12.28	-12.02/-12.29	-13.23/-11.18	-10.72/-12.14	-14.10/-14.67
θ(67.5°)	-12.53/-8.85	-8.32/-14.06	-6.53/-4.60	-3.61/-2.58	-2.55/-1.46	0.45/2.27	2.89/3.24	3.79/4.46	4.64/4.33	4.17/4.18	2.78/1.05	0.32/0.23	0.28/-1.37	-6.98/-3.93	-3.07/-2.77	-6.06/-8.05	-10.04/-6.08	-7.17/-6.52	-10.57/-9.63	-7.56/-7.47	-12.20/-11.37	-11.54/-12.19	-12.34/-12.77	-10.40/-10.62
θ(75°)	-11.06/-8.92	-10.46/-6.72	-9.92/-5.72	-4.68/-2.54	-3.21/-2.06	-0.70/0.36	1.28/0.82	1.27/2.39	3.36/3.23	3.07/3.66	3.59/2.42	-0.11/0.45	1.71/0.93	-2.54/-6.19	-4.09/-4.01	-2.94/-2.21	-3.38/-7.55	-8.82/-12.67	-13.69/-10.57	-3.66/-4.08	-12.02/-12.11	-8.85/-13.26	-13.61/-9.86	-13.93/-9.39
θ(82.5°)	-7.84/-6.37	-10.04/-6.29	-6.92/-4.70	-2.08/-1.67	-0.91/0.46	0.57/-1.05	0.05/0.48	1.65/3.17	3.43/3.58	3.60/3.94	3.37/1.84	0.11/0.98	-0.51/-2.17	-2.14/-2.51	-6.36/-8.02	-8.67/-3.62	-4.57/-9.38	-10.35/-7.72	-7.54/-6.41	-1.87/-8.90	-11.58/-10.06	-14.83/-11.78	-13.77/-11.43	
θ(90°)	-8.42/-3.65	-4.77/-7.10	-2.04/-3.23	-0.85/-1.48	1.17/0.53	-0.31/-0.55	0.09/0.34	0.94/3.42	4.72/5.10	3.84/4.72	4.79/4.08	2.65/0.80	0.20/-0.93	-1.21/-0.07	-0.69/-2.25	-5.30/0.48	-0.19/-2.83	-4.06/-0.66	-1.75/-6.06	-4.31/-6.44	-5.90/-15.41	-11.52/-13.84	-13.39/-11.36	-11.04/-8.99
θ(97.5°)	-6.34/-7.38	-3.32/-2.65	-2.81/-1.44	-1.03/0.47	1.61/-1.54	0.24/-0.01	0.41/0.99	1.30/3.43	4.07/4.43	3.58/4.26	4.98/3.12	2.08/2.43	1.69/1.10	0.76/0.58	-2.71/-1.16	0.07/2.62	-5.02/-5.75	-3.29/-3.45	-1.93/-6.25	-5.20/-4.53	-5.83/-9.36	-8.05/-15.40	-13.33/-15.13	-6.72/-8.01
θ(105°)	-7.92/-5.25	-7.18/-3.55	-2.28/-0.75	-0.78/-0.51	1.83/0.00	1.19/-0.12	-0.80/0.01	1.16/2.15	2.33/3.00	1.67/1.69	3.35/1.58	1.79/-2.12	-0.48/-1.03	0.64/-1.52	-1.73/-2.67	-1.66/-3.30	-8.60/-5.34	-4.91/-7.60	-6.13/-6.84	-5.17/-8.87	-10.23/-8.79	-7.72/-14.32	-4.04/-9.80	
θ(112.5°)	-12.30/-4.73	-4.18/-2.98	-0.99/0.97	1.01/-1.65	0.92/2.42	2.95/2.20	0.12/-1.21	0.13/-1.43	1.82/2.43	3.60/2.86	2.15/0.68	-1.38/-0.08	0.55/-0.76	-3.97/-2.67	-1.22/-1.78	-2.28/-3.46	-5.15/-2.24	0.04/-3.00	-6.92/-7.03	-5.62/-5.30	-8.16/-9.05	-10.05/-15.42	-6.96/-9.61	-11.59/-10.14
θ(120°)	-8.64/-9.05	-6.18/-3.57	-1.85/-0.57	-0.12/0.74	2.31/2.21	2.23/0.97	-0.27/-0.75	-0.27/-0.07	0.13/-1.33	1.49/-1.29	1.98/-1.14	-0.55/0.61	1.00/-0.14	-1.48/-1.72	-0.89/-3.71	-4.18/-2.54	-0.61/-0.25	-1.11/-3.88	-9.98/-9.41	-2.00/-5.81	-6.57/-14.19	-11.55/-10.49	-13.36/-9.18	-8.48/-9.91
θ(127.5°)	-13.50/-12.56	-10.58/-3.84	-3.19/-2.10	0.19/0.78	1.43/2.22	2.13/0.86	-0.24/-0.14	-0.16/-0.24	-0.24/-0.25	-0.46/-0.98	-1.73/-1.85	-0.40/-0.26	1.45/-1.75	-0.06/-3.77	-3.55/-4.63	-3.59/0.21	0.51/-1.61	-6.54/-7.66	-7.53/-3.55	-3.00/-6.17	-8.89/-14.35	-12.50/-8.37	-14.57/-13.48	-10.26/-9.91
θ(135°)	-9.32/-5.22	-5.60/-6.03	-2.78/-1.67	-0.85/0.05	0.79/1.33	1.01/-1.14	1.02/0.26	-0.46/-1.25	-1.75/-1.30	0.33/0.61	-1.04/-4.32	-2.68/-0.39	0.64/-1.47	-5.38/-3.52	-2.95/-3.11	-2.77/-2.12	-3.43/-3.99	-7.39/-8.96	-8.76/-7.71	-11.39/-15.19	-10.01/-13.17	-12.18/-9.64	-13.71/-12.54	-10.02/-12.96
θ(142.5°)	-11.78/-8.41	-5.24/-6.12	-7.02/-3.82	-1.63/-0.77	-0.73/-0.99	-0.76/-0.79	-1.54/-2.40	-2.87/-2.28	-1.60/-1.13	-1.46/-2.97	-3.44/-0.85	-0.85/-2.37	-2.75/-2.00	-2.17/-3.85	-6.53/-6.68	-8.34/-12.51	-8.44/-7.13	-9.96/-11.89	-8.96/-13.07	-13.32/-7.55	-6.34/-8.38	-10.69/-12.28	-14.10/-6.34	-5.65/-6.16
θ(150°)	-10.65/-6.93	-3.66/-3.55	-5.04/-6.66	-6.13/-3.02	-1.21/-0.86	-1.30/-2.45	-3.43/-4.46	-3.95/-2.00	-0.64/-1.28	-0.57/-1.04	-3.13/-2.30	0.49/0.55	-2.31/-7.97	-8.96/-6.26	-6.28/-7.11	-9.15/-13.64	-11.89/-11.59	-10.46/-7.00	-5.50/-7.18	-10.61/-10.54	-9.42/-9.93	-10.66/-6.37	-5.84/-7.81	
θ(157.5°)	-9.80/-5.37	-2.48/-1.62	-1.31/-1.72	-3.16/-4.06	-4.34/-3.26	-1.79/-0.90	-0.72/-0.77	-0.93/-1.05	-0.80/-0.47	-0.42/-0.80	-1.39/-1.56	-0.74/0.42	0.33/-1.44	-3.23/-4.66	-6.70/-9.48	-14.01/-13.66	-11.35/-8.95	-10.43/-11.65	-12.89/-11.93	-11.05/-11.39	-9.74/-8.48	-7.70/-7.46	-6.54/-7.47	-6.05/-7.48
θ(165°)	-7.83/-6.76	-4.13/-6.23	-1.58/-0.89	-0.89/-1.34	-2.10/-3.48	-3.28/-3.55	-3.66/-3.28	-2.92/-2.73	-2.33/-2.04	-2.58/-2.93	-1.32/-0.50	-0.75/-1.44	-1.76/-2.40	-3.77/-6.40	-10.99/-14.02	-13.01/-8.86	-6.94/-6.57	-7.07/-7.13	-7.51/-7.34	-7.13/-4.88	-3.25/-4.32	-4.65/-5.11	-6.48/-6.20	-5.35/-6.57
θ(172.5°)	-5.57/-5.14	-4.77/-3.13	-2.06/-1.37	-0.99/-0.91	-1.06/-1.36	-1.63/-1.49	-1.74/-2.15	-2.01/-1.71	-1.59/-0.80	-0.13/-0.64	-1.99/-2.46	-1.78/-5.46	-7.69/-11.84	-13.62/-12.1										



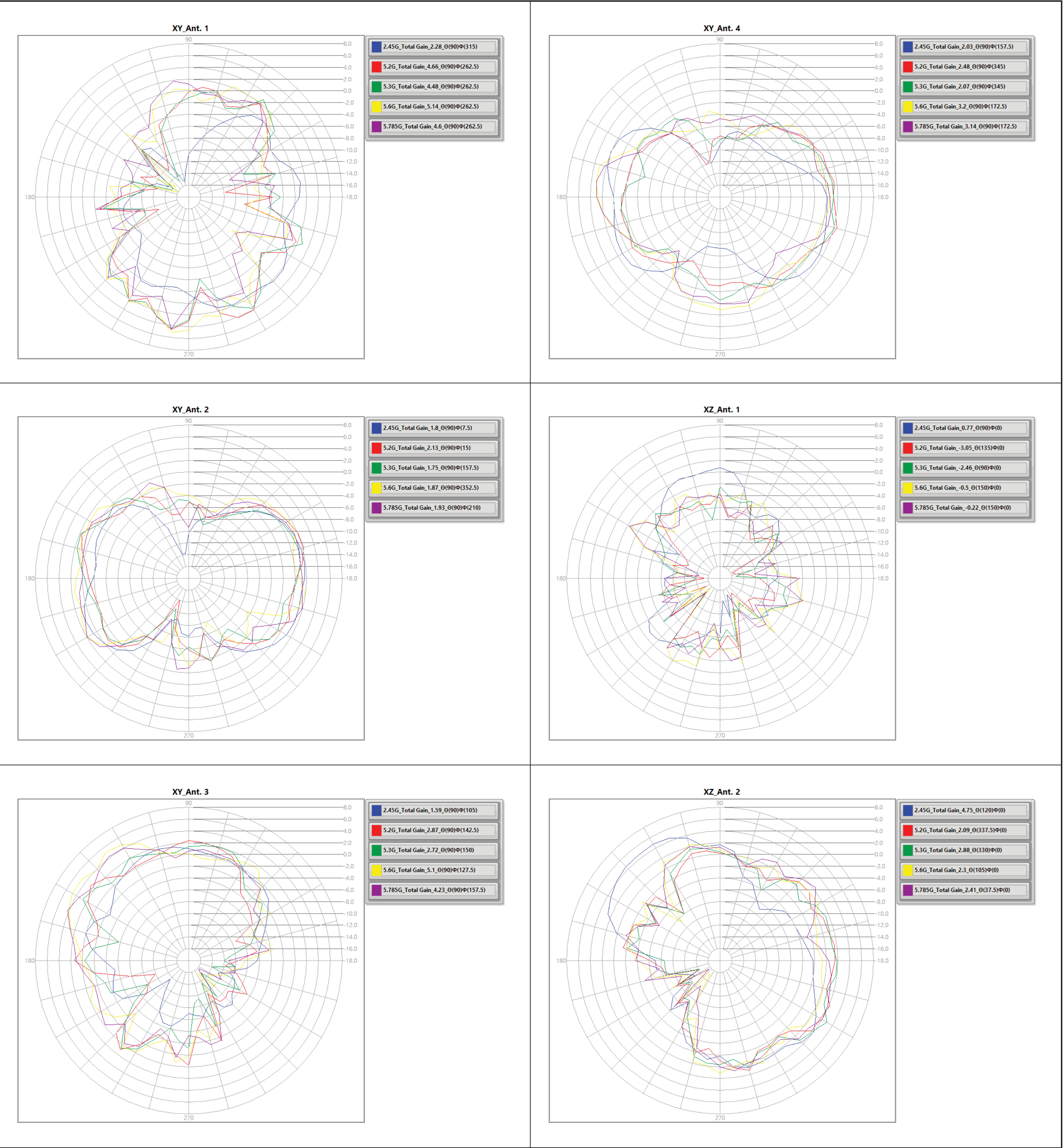
Antenna Pattern of 2.4GHz&5GHz

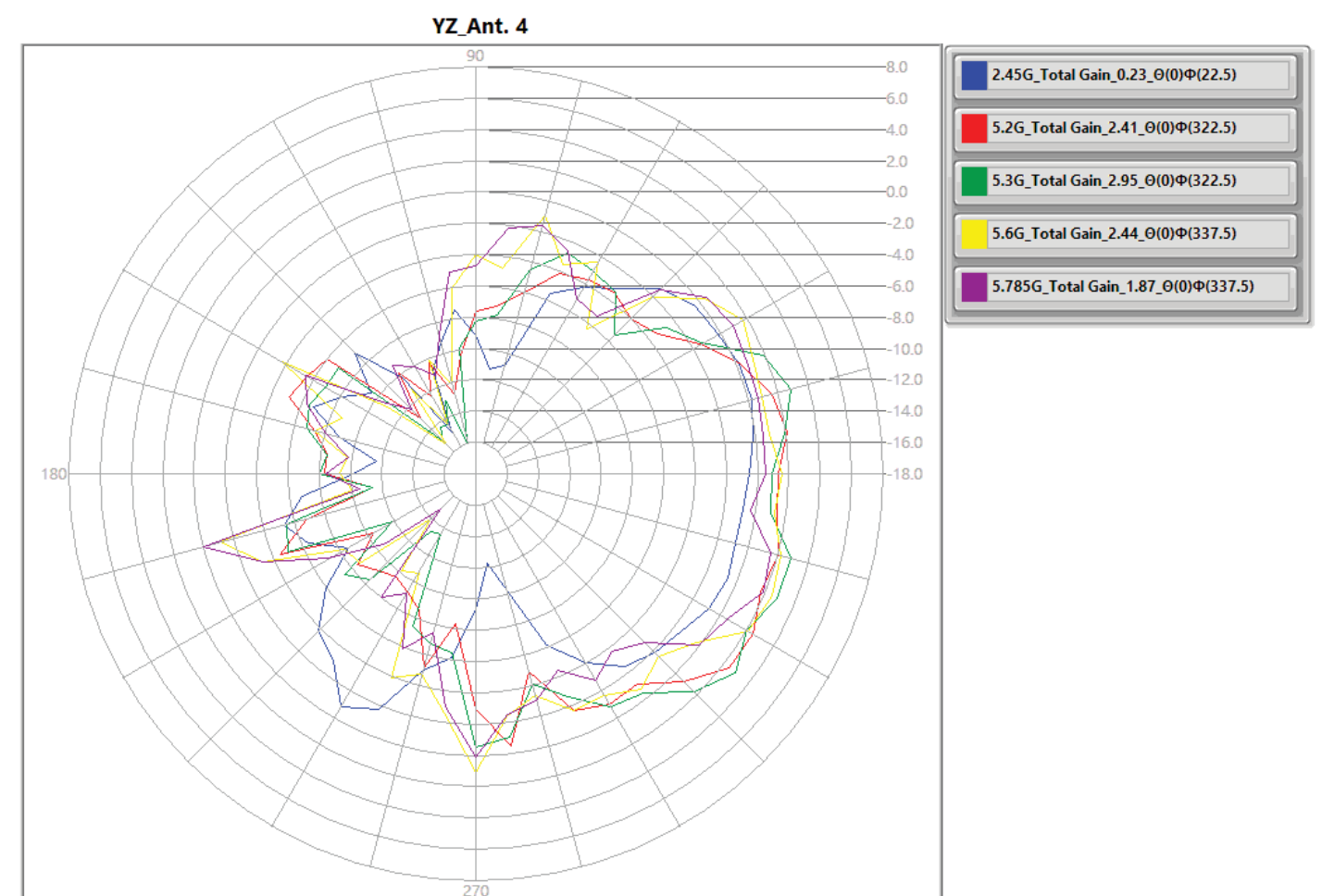
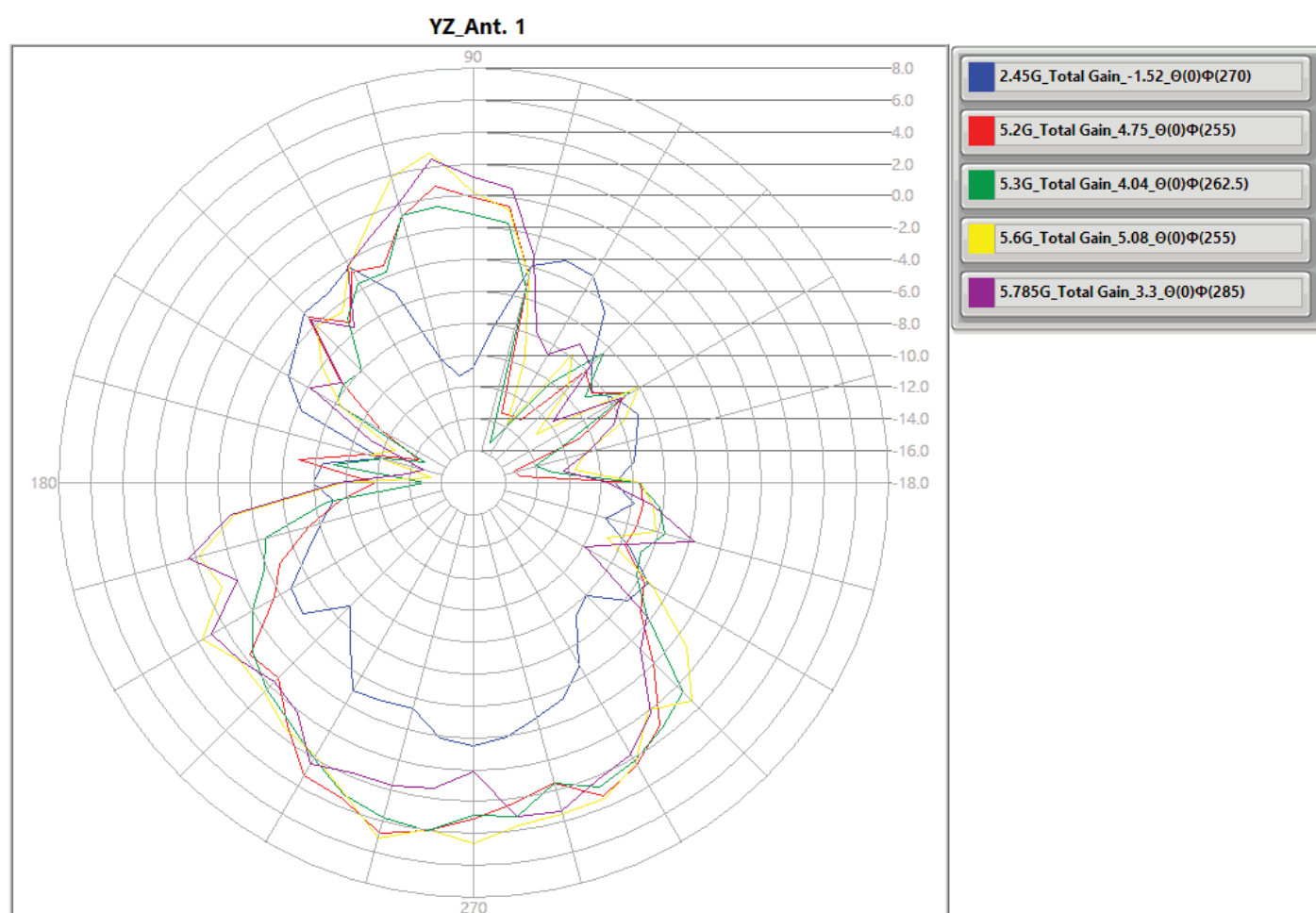
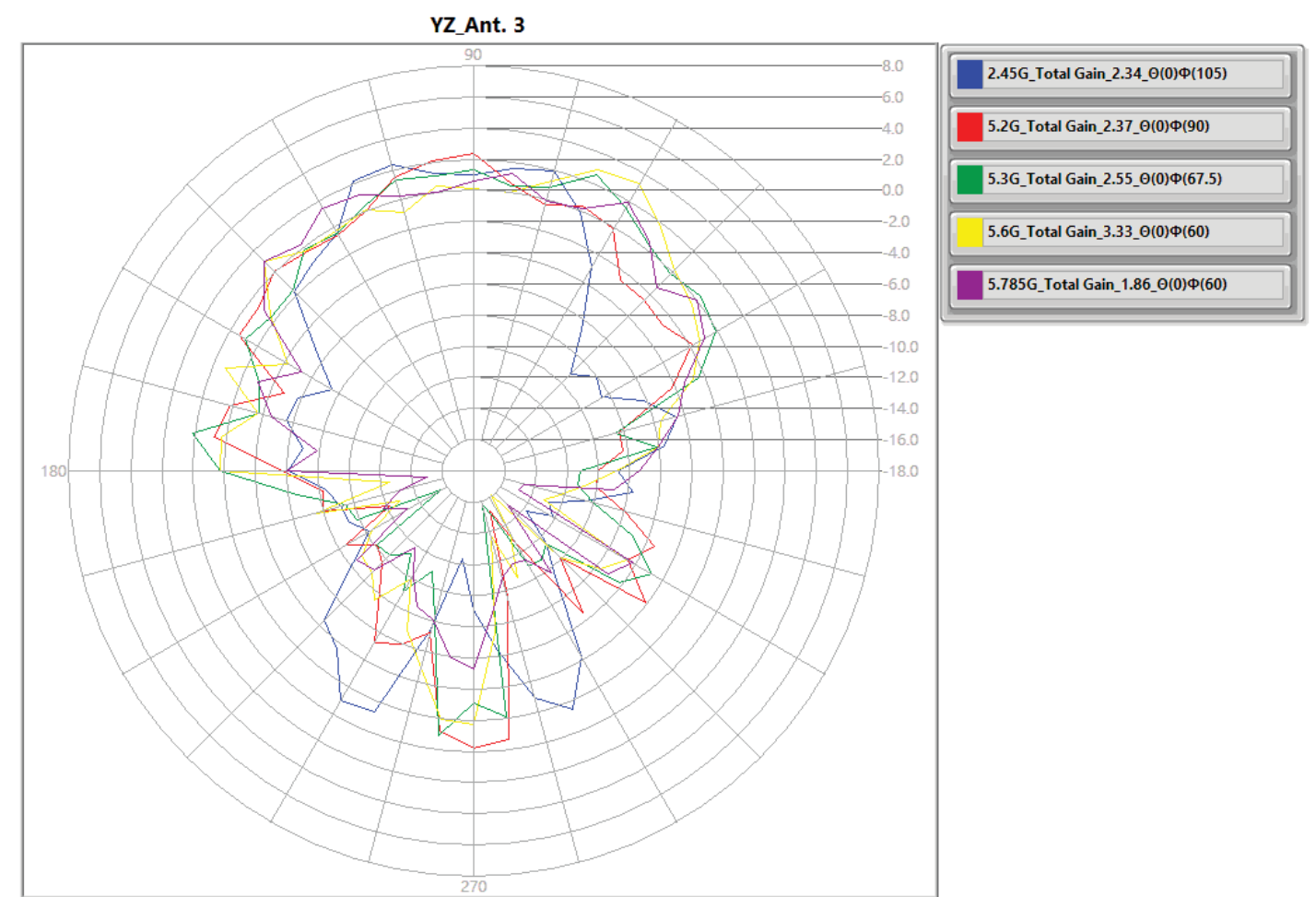
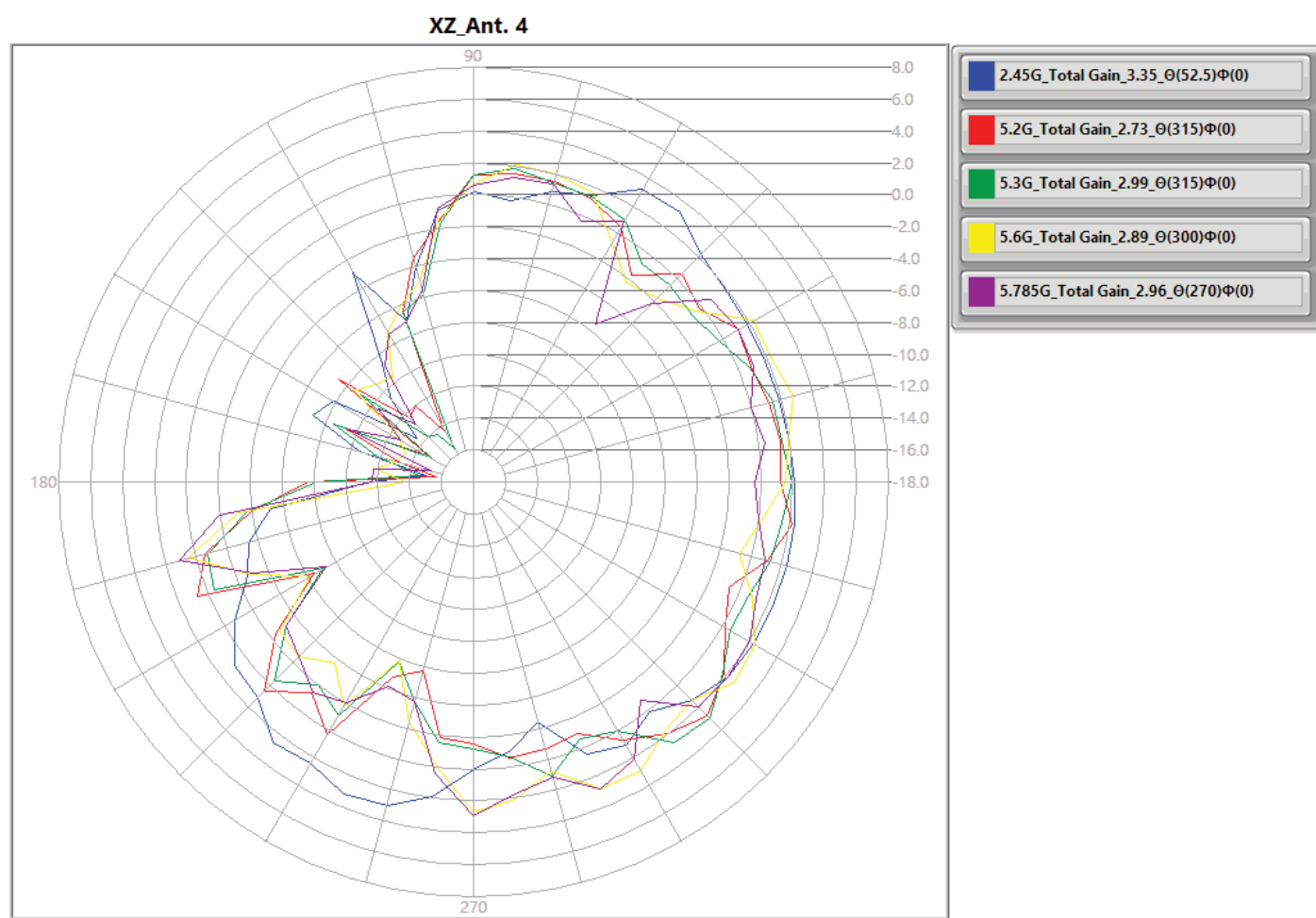
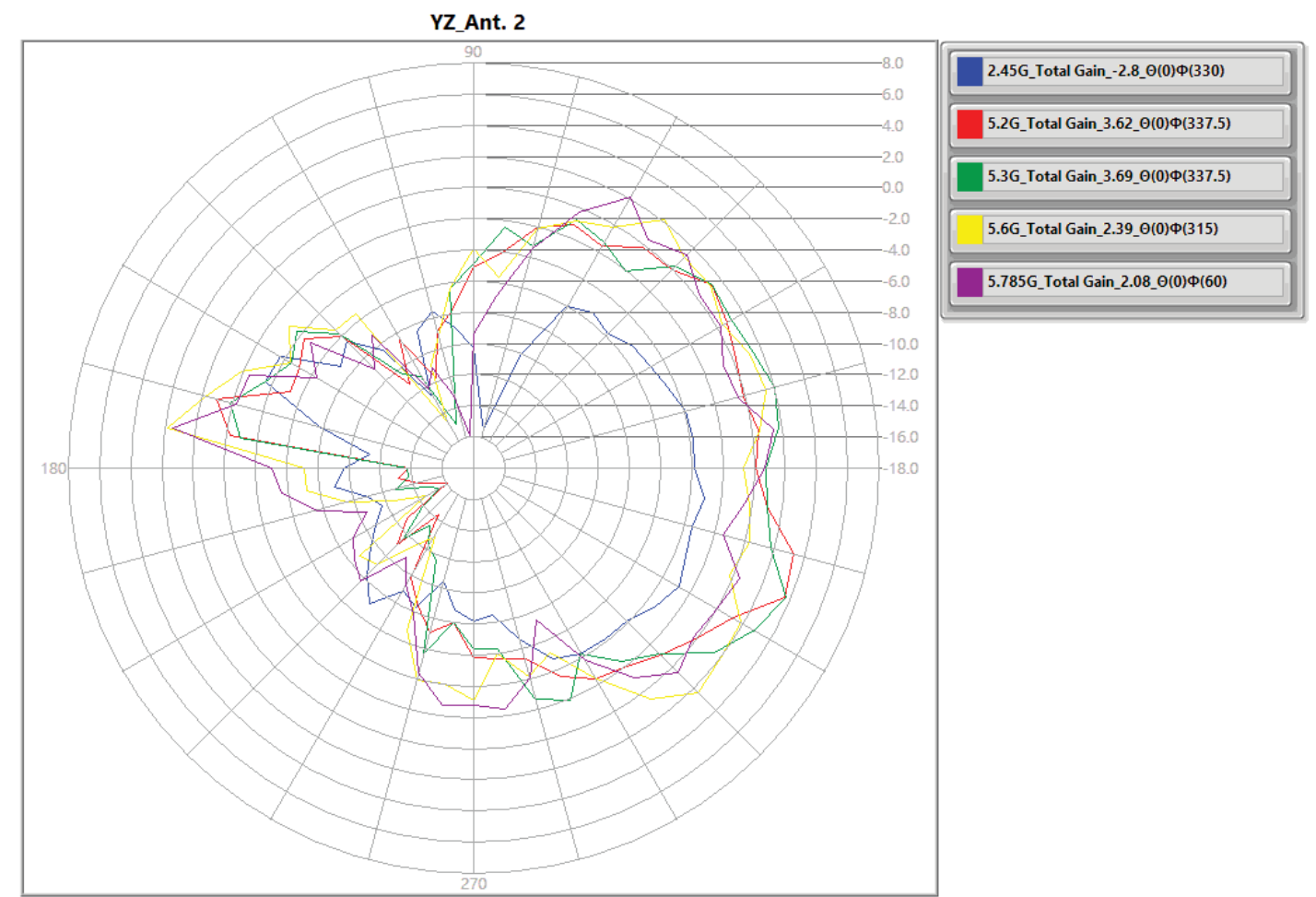
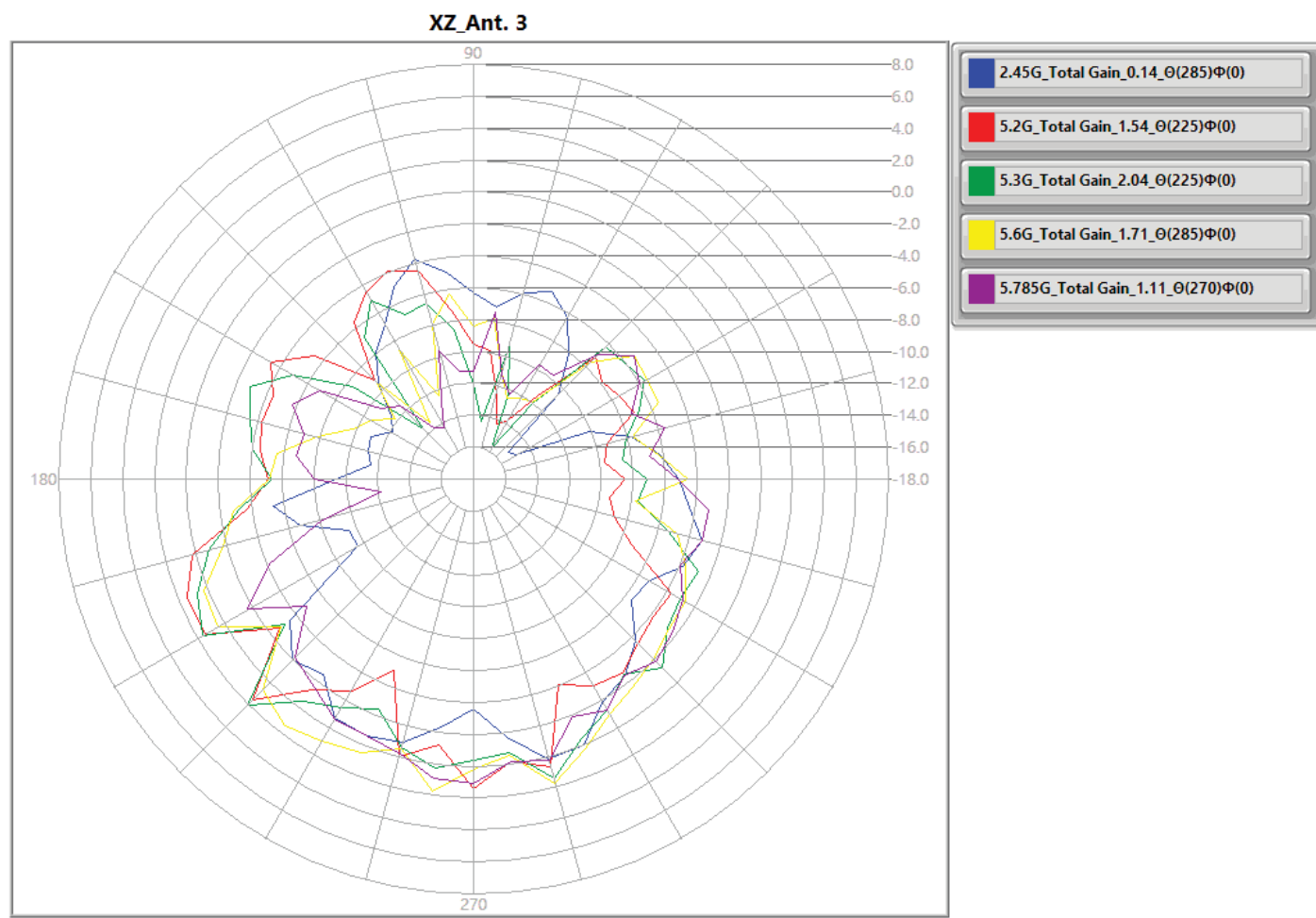
Appendix C

Θ(165°)	-13.26/-12.91	-12.09/-11.86	-13.00/-15.88	-15.73/-14.82	-13.36/-11.55	-9.71/-8.03	-7.34/-6.38	-5.59/-4.88	-4.74/-4.48	-3.69/-2.25	-0.84/-0.02	0.23/-0.03	-0.58/-0.97	-1.06/-0.91	-0.74/-0.46	-0.130.06	-0.37/-1.65	-3.94/-5.91	-6.80/-7.02	-7.87/-9.47	-10.88/-13.73	-15.91/-13.83	-11.99/-11.52	-12.13/-12.57
Θ(172.5°)	-15.67/-14.29	-14.92/-15.66	-15.51/-13.92	-11.86/-10.64	-9.45/-8.88	-8.41/-8.28	-9.47/-9.22	-8.41/-9.22	-9.47/-9.33	-9.04/-8.01	-6.95/-6.00	-5.31/-4.91	-4.89/-4.53	-3.99/-3.47	-3.30/-3.20	-3.30/-3.55	-3.76/-4.49	-5.76/-7.59	-9.12/-10.89	-11.34/-11.10	-12.38/-14.20	-14.22/-13.17	-11.85/-11.66	-11.76/-11.76
Θ(180°)	-7.62/-8.25	-8.75/-8.97	-8.60/-7.95	-7.19/-7.24	-7.66/-7.80	-8.21/-8.12	-8.36/-8.87	-9.44/-9.16	-8.92/-8.48	-7.81/-6.98	-6.05/-5.34	-4.98/-4.87	-4.95/-5.14	-5.43/-6.12	-6.65/-7.52	-8.03/-8.16	-7.95/-8.02	-8.06/-7.33	-6.74/-6.62	-6.92/-7.50	-7.16/-6.13	-5.78/-5.97	-6.88/-7.99	-8.44/-7.22
Freq(Hz)	5.3GPol.	TotalAnt. 4	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°)
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°)	1.94/1.74	1.24/0.66	0.42/0.51	0.72/0.72	0.68/0.56	0.55/0.68	0.88/1.14	1.29/1.46	1.67/1.92	1.97/1.91	1.83/1.90	1.91/1.87	1.54/1.80	1.60/1.57	1.22/1.08	1.01/1.01	1.06/1.16	1.16/1.21	1.10/1.19	1.54/2.04	2.13/2.21	2.15/2.13	1.88/1.49	1.61/1.58
Θ(7.5°)	1.48/1.21	1.20/0.93	0.92/1.00	1.25/1.25	1.30/1.38	1.46/1.65	1.86/1.99	2.08/2.22	2.47/2.57	2.56/2.37	1.93/1.98	1.89/1.78	1.49/1.38	1.07/0.96	0.86/1.01	0.92/0.76	0.80/0.77	0.85/0.90	1.02/1.33	1.65/1.79	1.73/1.84	1.86/1.92	1.64/1.49	1.41/1.36
Θ(15°)	1.44/0.91	0.70/0.27	0.53/0.61	0.72/0.87	1.20/1.62	2.02/2.49	2.80/3.06	3.34/3.56	3.48/3.29	2.93/2.44	1.80/1.47	1.26/1.19	1.22/1.38	1.57/1.70	1.77/1.81	1.83/1.87	1.97/2.21	2.48/2.71	2.85/2.80	2.58/2.39	2.23/2.08	2.30/2.28	2.10/1.71	1.64/1.53
Θ(22.5°)	0.70/0.19	-0.21/-0.36	-0.28/0.06	0.23/-0.12	-0.24/-0.26	0.13/1.08	1.84/2.45	2.86/3.02	2.84/2.30	1.58/0.82	-0.04/-0.38	-0.39/0.11	0.64/1.13	1.43/1.29	0.99/0.94	1.01/1.38	1.84/2.38	2.84/3.09	2.82/2.33	2.09/2.30	2.57/2.78	3.10/3.20	2.79/2.13	1.30/1.26
Θ(30°)	-0.26/-0.74	-0.93/-0.61	-0.57/-0.99	-1.07/-1.25	-1.30/-1.56	-1.97/-1.68	-1.33/-0.74	0.07/0.69	0.83/0.67	0.57/0.33	0.02/-0.13	-0.15/0.16	0.59/0.74	0.63/0.43	0.35/0.49	0.91/1.34	2.01/2.57	2.65/2.28	2.00/2.05	2.38/2.81	3.13/3.14	2.97/2.63	2.23/1.70	1.22/0.59
Θ(37.5°)	-0.78/-0.74	-1.07/-0.54	0.25/-0.09	-0.01/-0.20	-0.53/-1.55	-2.40/-2.78	-2.71/-2.00	-0.85/0.04	0.40/0.80	0.96/1.51	2.17/2.60	2.57/2.20	1.67/0.54	-0.01/-0.42	-0.65/-0.56	-0.02/0.93	2.06/2.66	2.85/3.02	2.95/2.34	1.67/1.56	2.08/2.88	3.16/2.54	1.74/0.77	-0.34/-0.36
Θ(45°)	-0.58/-0.82	-1.84/-1.94	-1.09/-0.56	-0.66/-0.25	-0.82/-2.30	-3.94/-4.94	-5.48/-4.91	-3.24/-1.93	-1.46/-1.52	-0.88/0.36	1.62/2.36	2.79/3.06	2.99/1.92	1.98/-0.95	-0.61/-0.79	-0.67/-0.28	0.65/1.27	0.57/1.63	-3.37/-4.72	-5.14/-4.59	-2.55/-0.89	-0.02/-0.53	-0.99/-0.35	-0.50/-0.21
Θ(52.5°)	-0.73/-0.51	-0.59/-1.51	-1.13/-2.89	-4.13/-3.90	-3.11/-3.03	-3.00/-2.90	-3.34/-4.09	-4.03/-34.1	-3.32/-4.58	-3.29/-0.05	1.63/2.16	2.02/2.25	2.60/2.11	1.62/1.40	0.82/0.52	0.30/-0.39	-0.63/-0.07	0.44/0.06	-0.39/-0.11	0.19/0.45	1.10/1.22	0.48/-0.76	-1.95/-1.96	-0.72/-0.47
Θ(60°)	0.99/0.49	0.26/-0.99	1.81/-2.17	-2.91/2.32	-2.39/-3.07	-3.61/-3.34	-2.99/-3.67	-4.05/-2.43	-0.80/-0.65	-1.53/-1.51	-0.95/-1.10	-1.71/-0.62	-0.00/0.27	1.21/2.07	2.72/1.98	3.85/-4.20	-3.83/-2.30	-0.85/-1.04	-1.11/-0.87	-1.09/-1.33	-0.93/-1.41	-1.62/-0.21	0.82/1.34	
Θ(67.5°)	1.30/0.47	0.59/0.73	-0.25/-1.10	-1.34/-1.74	-3.09/-4.59	-4.79/-3.37	-2.74/-3.31	-4.18/-3.67	-2.42/-2.58	-1.65/0.64	0.93/-0.82	-1.98/-0.95	-0.61/-0.79	-0.67/-0.28	0.65/1.27	0.57/1.63	-3.37/-4.72	-5.14/-4.59	-2.55/-0.89	-0.02/-0.53	-0.99/-0.35	-0.50/-0.21	0.20/0.55	1.01/1.33
Θ(75°)	1.42/1.05	1.30/1.03	1.02/0.59	-0.66/-1.72	-2.85/-4.07	-5.17/-5.28	-4.52/-4.91	-5.86/-6.40	-3.27/-2.58	-1.35/0.47	0.87/-0.32	-0.86/0.41	1.05/1.35	1.41/0.58	0.33/0.29	-0.03/-0.66	-1.45/-4.11	-7.19/-6.39	-4.11/-2.53	-2.27/-2.48	-2.50/-1.75	-0.65/-0.55	0.86/2.37	2.68/1.87
Θ(82.5°)	1.85/2.00	2.76/2.51	1.10/-0.71	-1.68/-2.76	-5.22/-6.66	-7.64/-7.56	-7.78/-7.83	-7.76/-6.79	-5.09/-4.43	-2.66/-0.87	-1.44/-3.28	-2.45/-0.76	-0.66/-1.10	-1.44/-1.80	-2.32/-2.80	-2.82/-2.67	-2.95/-3.21	-1.88/-0.88	-1.07/-1.22	-1.96/-3.91	-4.69/-2.42	-1.07/0.24	1.74/2.84	2.97/2.05
Θ(90°)	1.22/1.16	0.67/0.28	-0.83/-2.44	-2.15/-2.02	-4.18/-7.38	-8.10/-7.60	-8.22/-9.38	-7.45/-4.10	-2.62/-2.62	-2.85/-1.77	-1.77/-3.73	-4.86/-2.35	-1.22/-1.09	-1.66/-1.44	-1.34/-2.61	-5.63/-6.71	-4.37/-4.29	-3.57/-1.90	-0.52/-1.26	-2.28/-2.26	-0.53/-0.37	-0.28/-0.28	0.15/1.25	2.07/1.12
Θ(97.5°)	-1.66/-0.51	-0.02/0.09	-1.77/-3.82	-4.70/-5.58	-7.20/-8.14	-8.58/-9.21	-9.90/-10.04	-8.37/-6.71	-6.44/-5.51	-2.91/-2.53	-4.21/-6.33	-5.12/-2.72	-1.54/-0.38	-0.86/-1.93	-1.54/-2.66	-1.61/-1.25	-3.88/-6.22	-10.32/-7.79	-6.51/-6.77	-8.62/-6.22	-1.36/-0.56	0.22/0.23	-0.99/-1.70	-0.78/-1.22
Θ(105°)	-5.90/-3.98	-4.50/-4.27	-7.15/-7.51	-7.31/-7.90	-9.75/-11.09	-12.63/-14.68	-15.86/-15.16	-14.76/-10.12	-8.46/-7.20	-4.47/-3.24	-3.59/-5.08	-5.05/-3.37	-1.63/-3.62	-4.99/-6.77	-5.64/-4.09	-3.95/-3.02	-2.14/-3.61	-5.99/-7.54	-6.78/-10.79	-10.00/-5.42	-6.16/-4.53	-4.20/-5.54	-1.61/-5.27	-2.17/-4.10
Θ(112.5°)	-6.50/-7.08	-6.78/-9.41	-10.75/-9.69	-8.81/-12.00	-11.86/-12.48	-11.43/-11.12	-12.99/-12.84	-8.80/-6.26	-5.87/-6.84	-5.37/-4.61	-5.13/-5.06	-4.47/-4.44	-5.81/-5.47	-5.70/-2.94	-3.78/-5.38	-9.11/-8.51	-6.04/-8.52	-11.91/-10.00	-7.47/-9.18	-10.64/-8.12	-6.08/-7.22	-7.47/-6.65	-8.01/-7.81	-6.53/-5.46
Θ(120°)	-15.61/-10.99	-13.81/-15.49	-12.86/-13.95	-15.05/-10.90	-11.42/-14.92	-15.53/-13.74	-14.38/-15.72	-11.42/-7.45	-6.11/-5.81	-6.65/-5.89	-4.28/-4.64	-3.02/-1.94	-1.04/-1.33	-2.43/-4.61	-3.73/-3.04	-3.47/-5.19	-4.81/-4.27	-5.31/-7.15	-13.51/-12.88	-7.78/-12.37	-14.22/-11.91	-14.21/-8.59	-9.23/-8.05	-8.18/-12.90
Θ(127.5°)	-14.27/-15.43	-12.22/-13.27	-13.62/-15.71	-13.86/-10.50	-10.30/-10.54	-11.30/-12.49	-14.27/-15.24	-11.96/-7.68	-5.23/-4.61	-4.08/-4.24	-5.43/-3.44	-2.99/-1.47	-1.95/-1.47	-1.50/-0.99	-2.78/0.90	-0.02/-1.22	-1.90/-1.89	-3.89/-4.44	-13.29/-15.67	-7.01/-5.48	-6.81/-13.86	-4.28/-13.67	-11.67/-13.32	-15.23/-15.78
Θ(135°)	-13.97/-15.43	-15.14/-15.53	-14.77/-12.23	-11.10/-14.46	-14.86/-12.39	-10.51/-11.92	-15.05/-15.78	-12.77/-10.60	-8.82/-6.85	-5.72/-3.89	-2.26/-2.28	-1.35/-0.68	-0.36/-1.22	1.29/2.79	3.15/0.75	-2.29/-5.50	-2.11/-2.29	-2.70/-6.72	-8.43/-14.03	-10.40/-13.09	-7.45/-7.27	-13.03/-10.60	-9.25/-8.67	-12.23/-13.42
Θ(142.5°)	-9.06/-9.97	-10.71/-9.89	-9.88/-12.01	-11.15/-9.30	-8.58/-7.06	-6.92/-8.27	-9.43/-7.27	-4.57/-3.19	-2.79/-3.11	-3.83/-6.61	-4.19/-2.51	-1.46/-2.51	-2.49/-5.84	-5.24/-5.00	-2.36/-2.39	-7.12/-3.48	-2.76/-2.43	-2.36/-5.74	-7.41/-11.47	-8.42/-6.52	-5.17/-2.87	-5.94/-9.80	-11.26/-10.49	-10.68/-8.94
Θ(150°)	-14.92/-11.47	-14.11/-15.28	-13.30/-9.21	-7.77/-7.84	-7.97/-10.16	-12.88/-10.61	-6.37/-5.82	-6.93/-7.30	-5.84/-4.78	-4.53/-4.69	-4.85/-6.41	-9.55/-9.60	-7.14/-6.75	-8.43/-8.03	-7.15/-6.40	-5.45/-5.92	-5.99/-3.39	-3.47/-7.36	-11.90/-12.35	-11.66/-10.66	-8.69/-5.41	-5.78/-7.97	-7.83/-7.53	-9.34/-14.95
Θ(157.5°)	-8.50/-8.76	-7.74/-6.73	-8.03/-10.15	-11.59/-12.73	-11.75/-9.97	-8.25/-7.18	-6.51/-6.21	-5.80/-6.04	-6.85/-6.23	-4.23/-2.08	-0.79/-0.10	0.15/-0.06	-0.40/-0.85	-0.94/-0.84	-0.91/-1.72	-3.23/-3.74	-3.37/-3.16	-3.69/-4.77	-5.01/-4.42	-4.30/-5.79	-8.74/-11.85	-12.08/-10.24	-8.18/-7.78	-9.04/-8.51
Θ(165°)	-11.75/-12.19	-13.26/-14.20	-15.96/-14.85	-15.21/-13.86	-12.10/-10.11	-8.44/-7.47	-6.81/-6.30	-5.82/-5.59	-5.69/-5.70	-4.79/-3.20	-1.68/-0.71	-0.21/-0.29	-0.72/-1.19	-1.56/-1.50	-0.98/-0.47	-0.03/-0.07	-0.63/-1.79	-3.32/-4.49	-5.51/-6.45	-7.22/-8.65	-10.17/-12.63	-14.01/-12.63	-11.47/-10.92	-11.65/-12.20
Θ(172.5°)	-14.62/-14.23	-15.02/-14.28	-12.46/-10.60	-9.67/-8.97	-8.12/-8.27	-8.08/-7.94	-7.91/-7.77	-8.26/-7.86	-7.24/-6.37	-5.54/-4.82	-4.32/-3.98	-3.68/-3.55	-3.39/-3.33	-3.38/-3.38	-4.21/-5.81	-8.21/-10.74	-11.32/-10.64	-11.55/-11.08	-11.73/-11.77	-11.55/-11.08	-10.93/-11.88	-13.31/-14.94		
Θ(180°)	-8.21/-7.22	-7.17/-6.88	-6.32/-6.10	-5.63/-5.98	-6.67/-7.09	-7.67/-7.80	-8.01/-8.77	-9.60/-9.87	-9.47/-9.31	-8.87/-8.17	-7.58/-7.12	-6.78/-6.36	-6.22/-6.14	-6.33/-7.18	-7.45/-7.93	-8.14/-8.00	-7.46/-7.06	-6.67/-6.38	-6.18/-6.01	-5.76/-5.96	-6.28/-6.26	-6.13/-6.33	-7.43/-8.71	-9.23/-7.95
Freq(Hz)	5.6GPol.	TotalAnt. 4	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°)
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°)	1.55/1.22	0.87/0.77	0.72/1.03	1.28/1.77	1.64/1.60	1.54/1.46	1.53/1.68	1.71/1.58	1.45/1.48	1.38/1.41	1.44/1.35	1.39/1.41	1.20/1.48	1.32/1.48	1.31/1.42	1.38/1.32	1.30/1.29	1.55/1.68	1.48/1.12	0.78/0.78	0.94/1.39	1.29/1.47	1.55/1.58	1.42/1.10
Θ(7.5°)	1.87/1.17																							



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







Antenna Pattern of 6GHz

Appendix D

θ(15°)	2.482/50	2.461/72	1.340/99	1.111/10	0.961/17	1.090/93	0.500/08	-0.330/06	0.320/72	0.64/-0.08	-0.64/-0.79	-1.35/-1.55	-0.870/28	1.081/48	1.561/26	0.690/04	-0.110/09	0.060/33	0.340/27	0.470/25	-0.040/41	1.101/31	1.261/48	1.942/06
θ(22.5°)	2.102/62	2.422/01	1.010/93	1.581/64	1.951/72	1.340/89	0.400/39	0.370/39	0.771/52	1.620/50	0.49/-0.56	-0.50/-0.45	0.221/44	1.621/53	1.641/74	1.551/49	0.980/05	-0.40/-1.38	-2.24/-1.93	-1.46/-0.32	1.001/27	1.111/65	1.910/72	0.991/94
θ(30°)	1.210/28	0.35/-0.23	-0.151/21	1.831/74	1.340/59	0.17/-0.21	-0.46/-0.67	-0.620/01	0.991/11	0.510/87	1.401/29	0.41/-0.17	0.290/73	1.511/64	1.340/50	0.21/-0.42	-1.03/-0.46	-0.09/-0.12	-0.29/-1.31	-2.20/-3.72	-4.52/-2.36	-0.600/56	1.391/70	1.661/51
θ(37.5°)	0.570/52	0.11/-0.07	0.090/66	1.041/25	0.620/37	0.20/-0.13	0.01/-0.17	-0.58/-0.74	-0.980/10	1.051/77	1.790/28	-0.78/-1.00	0.432/07	2.201/65	0.980/33	-0.37/-0.31	0.801/15	0.910/44	0.340/61	0.46/-0.11	-1.36/-4.86	-4.76/-2.77	-1.35/-6.02	0.600/27
θ(45°)	-0.47/-0.48	-0.030/06	0.161/02	1.822/13	1.581/15	0.700/25	0.681/22	0.810/67	0.870/82	1.03/-0.07	-0.281/00	1.12/-0.49	-0.481/03	1.331/23	0.680/77	1.091/14	0.35/-1.67	-2.33/-3.01	-2.07/-1.17	-1.27/-1.08	-0.56/-1.32	-3.57/-2.70	-1.09/-0.84	-0.97/-0.64
θ(52.5°)	-1.83/-2.69	-2.35/-0.27	-0.510/48	2.002/40	2.061/91	1.641/43	1.671/74	0.960/59	0.770/15	-1.13/-1.51	-0.39/-0.35	-1.71/-2.71	-0.790/77	0.53/-0.54	0.460/47	1.360/84	0.69/-0.26	-0.96/-1.67	-1.54/-2.26	-4.05/-0.94	-0.54/-1.92	-2.34/-6.71	-6.11/-4.09	-1.80/-1.33
θ(60°)	-2.05/-1.31	-0.89/-0.17	-1.480/30	1.741/97	2.052/38	2.461/41	0.10/-0.29	0.26/-0.50	-1.59/-1.14	-1.99/-3.12	-1.48/-0.68	-2.56/-2.42	-0.611/33	1.11/-0.89	-0.150/72	-0.76/-1.02	-0.87/-1.18	-0.230/63	1.12/-0.31	-2.80/-3.67	-2.50/-1.07	-2.27/-2.09	-4.64/-3.23	-1.81/-3.44
θ(67.5°)	-1.25/-2.55	-1.27/-0.59	-2.690/05	0.480/43	0.991/64	0.660/26	0.800/72	0.00/-0.43	-2.04/-3.31	-2.04/-3.96	-3.95/-3.15	-3.730/30	-0.571/-1.70	-4.88/-4.22	-3.93/-3.76	-3.49/-3.97	-2.43/-1.84	-1.33/-0.64	-1.09/-1.38	-1.62/-3.55	-6.54/-4.85	-5.03/-7.20	-7.63/-6.54	-4.18/-3.88
θ(75°)	-3.78/-1.77	-2.00/-2.32	-2.23/-0.59	-0.070/03	1.571/80	1.801/38	-0.090/22	0.02/-1.79	-2.38/-4.17	-1.91/-3.05	-2.76/-1.34	-7.55/-4.91	-5.07/-8.92	-6.32/-4.50	-3.38/-3.91	-2.82/-2.69	-5.48/-7.68	-7.86/-5.63	-3.67/-3.23	-2.93/-3.73	-7.91/-6.24	-6.42/-8.13	-4.13/-9.22	-5.12/-4.53
θ(82.5°)	-7.20/-1.94	-1.180/16	-3.56/-1.36	-1.72/-0.49	1.781/56	1.94/-0.27	-0.32/-0.65	-0.320/29	0.112/-0.50	-1.56/-4.27	-2.85/-4.62	-10.26/-9.39	-10.14/-5.13	-9.99/-3.04	0.450/99	0.34/-0.01	-1.99/-3.77	-4.61/-4.05	-1.47/-2.45	-2.29/-5.06	-9.00/-7.35	-11.91/-9.52	-7.81/-9.90	-8.45/-5.16
θ(90°)	-6.42/-6.99	-4.07/-2.24	-1.330/05	-0.73/-0.45	1.271/19	1.920/68	-0.47/-0.79	1.10/-0.92	0.68/-1.50	-3.38/-2.15	-6.95/-7.88	-11.79/-9.78	-8.68/-9.66	-8.21/-0.11	1.802/32	2.300/62	1.942/77	1.830/93	-0.251/14	2.33/-0.21	-5.57/-5.12	-5.47/-9.20	-7.58/-8.38	-14.23/-11.54
θ(97.5°)	-8.62/-4.73	-4.28/-1.62	-1.59/-0.07	0.480/48	0.880/82	1.810/26	-1.99/-1.03	0.41/-2.25	-0.15/-1.53	-4.25/-1.50	-6.84/-8.08	-10.86/-11.34	-10.38/-6.31	-2.081/13	1.602/80	2.061/70	3.073/26	3.672/66	0.131/66	1.15/-2.06	-5.25/-9.20	-9.94/-13.22	-9.83/-12.27	-8.80/-10.08
θ(105°)	-6.58/-5.65	-5.43/-1.45	-2.410/20	1.650/44	-0.060/18	-2.20/-0.69	-1.60/-0.96	-3.30/-2.01	-3.88/-2.57	-4.91/-7.85	-7.44/-14.81	-14.55/-10.92	-9.84/-6.05	-4.33/-0.88	-0.860/11	2.01/-0.32	0.890/81	0.682/76	-0.690/78	-1.23/-4.43	-7.31/-13.09	-6.37/-14.38	-9.31/-12.03	-6.15/-2.71
θ(112.5°)	-5.88/-5.43	-4.48/-1.99	-2.69/-2.03	-0.620/76	0.970/16	-1.02/-1.96	0.56/-1.07	-2.60/-1.99	-4.25/-6.19	-6.25/-5.12	-9.29/-12.44	-7.43/-9.08	-11.89/-9.98	-3.45/-1.31	-1.30/-3.11	-2.08/-5.77	-2.83/-2.82	-2.040/26	-1.24/-0.21	-10.38/-7.14	-10.50/-6.66	-8.84/-15.97	-11.84/-4.06	-7.11/-7.12
θ(120°)	-4.81/-3.36	-4.43/-3.60	-2.42/-1.88	-1.29/-1.04	-1.53/-1.75	-1.41/-1.01	-2.26/-1.03	-0.10/-0.86	0.01/-1.79	-1.71/-3.41	-7.36/-8.11	-6.55/-11.75	-8.92/-6.10	-5.60/-4.10	-5.90/-9.74	-7.70/-5.37	-5.12/-4.49	-4.71/-14.26	-6.82/-12.63	-8.19/-5.77	-7.84/-14.12	-5.72/-5.93	-5.81/-3.62	
θ(127.5°)	-5.97/-5.30	-1.29/-0.63	-2.33/-3.11	-0.86/-0.07	1.261/83	1.901/56	-0.92/-3.68	-3.32/-3.22	-2.05/-0.40	-0.99/-3.39	-3.58/-2.42	-3.22/-6.83	-6.37/-6.82	-10.29/-4.08	-1.11/-8.83	-10.37/-8.40	-7.35/-8.02	-3.22/-7.09	-9.39/-10.75	-4.69/-5.61	-8.33/-8.05	-6.91/-3.79	-7.93/-6.16	
θ(135°)	-5.75/-1.84	-1.86/-1.87	0.560/63	0.011/18	1.111/11	1.120/59	0.180/38	0.160/73	1.931/95	0.40/-2.00	-3.20/-0.35	0.53/-3.81	-8.36/-4.24	-7.00/-8.00	-6.87/-9.47	-4.84/-7.67	-11.61/-13.34	-7.66/-10.78	-14.79/-10.54	-9.84/-10.41	-10.21/-12.88	-11.28/-7.38	-6.24/-5.90	-2.99/-3.26
θ(142.5°)	-0.900/14	-0.220/06	-0.151/22	1.310/82	1.051/22	1.762/26	2.532/96	3.663/30	1.990/21	-2.03/-4.29	-3.03/-1.67	-4.47/-6.01	-9.39/-9.04	-6.70/-6.87	-9.37/-9.91	-5.50/-5.22	-7.57/-9.45	-15.04/-11.72	-10.66/-12.81	-7.36/-9.32	-9.95/-6.61	-4.27/-6.92	-6.36/-3.64	-2.39/-0.98
θ(150°)	-1.280/08	1.770/91	-0.62/-1.34	0.250/97	0.791/02	1.151/28	1.221/43	2.082/09	0.58/-0.58	0.05/-0.65	-0.51/-2.62	-4.91/-3.81	-3.63/-7.71	-7.97/-3.95	-4.51/-4.39	-3.78/-5.43	-11.74/-13.59	-14.98/-13.23	-6.50/-4.28	-4.33/-3.90	-2.26/-3.63	-3.30/-2.99	-2.93/-2.17	
θ(157.5°)	-0.22/-0.99	-0.12/-0.38	-0.52/-0.16	0.050/95	1.711/73	1.130/70	0.30/-0.25	-1.23/-2.75	-4.16/-6.88	-12.11/-6.85	-5.78/-5.89	-4.89/-6.65	-5.42/-5.89	-6.68/-3.55	-3.43/-6.07	-10.13/-8.65	-6.05/-7.91	-8.75/-6.25	-6.36/-7.85	-6.84/-5.86	-8.61/-3.63	-0.79/-0.31	0.18/-0.81	-1.81/-1.14
θ(165°)	-0.090/40	0.480/67	0.670/66	0.610/26	-0.53/-0.70	-0.44/-0.72	-1.01/-1.42	-0.50/-0.43	-6.83/-10.02	-10.84/-8.44	-5.71/-3.23	-2.43/-2.60	-4.93/-9.65	-13.92/-11.53	-9.34/-8.26	-7.66/-6.51	-4.76/-3.49	-6.11/-6.11	-6.51/-8.05	-7.93/-4.01	-2.37/-3.15	-2.05/-8.08	-0.86/-0.58	-0.77/-1.72
θ(172.5°)	-0.170/10	0.280/46	1.000/91	0.560/16	0.20/-0.23	-0.92/-1.32	-2.63/-2.72	-2.44/-0.87	-1.91/-1.63	-4.47/-0.82	-12.41/-2.09	-8.67/-7.29	-7.55/-8.30	-8.88/-0.00	-6.78/-6.56	-6.50/-5.67	-5.09/-4.67	-3.83/-3.22	-3.87/-3.99	-5.36/-6.97	-5.75/-3.82	-2.47/-1.17		
θ(180°)	-0.38/-0.08	-0.05/-0.26	-0.72/-0.68	-0.120/09	-0.14/-0.83	-0.52/-0.41	-0.580/06	0.830/43	-0.15/-0.84	-2.30/-4.23	-5.19/-4.73	-3.92/-1.77	-1.26/-1.04	-1.20/-1.85	-2.37/-3.00	-2.65/-1.74	-1.24/-1.28	-1.51/-1.90	-2.50/-2.62	-2.59/-2.28	-1.58/-1.14	-1.50/-1.11	-0.33/-0.42	-0.54/-0.29
Freq(Hz)	6.475GPol	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°)	0.010/21	0.500/32	-0.14/-0.00	0.340/67	0.420/18	0.230/54	0.900/88	0.220/16	-0.250/45	-0.34/-0.29	-0.54/-0.56	-0.47/-0.86	-1.02/-0.94	-0.810/56	0.030/61	0.710/89	1.040/96	1.060/46	0.160/73	0.340/06	0.360/84	0.04/-0.76	-0.500/42	0.23/-0.22
θ(7.5°)	0.750/93	0.970/95	1.241/24	1.521/54	1.461/05	0.840/62	0.490/66	0.700/27	-0.28/-0.73	-1.02/-1.50	-1.55/-1.04	-0.79/-1.10	-0.98/-0.76	-0.84/-1.10	-1.08/-0.88	-0.50/-0.24	-0.22/-0.34	-0.39/-0.20	0.05/-0.04	-0.31/-0.17	-0.22/-0.00	0.340/04	-0.53/-0.12	0.360/48
θ(15°)	0.971/48	1.060/91	0.310/39	1.381/77	1.551/06	-0.69/-0.91	-0.50/-0.58	-0.30/-0.20	-0.91/-1.41	-1.78/-1.74	-1.78/-1.74	-1.35/-0.79	-0.67/-0.74	-0.98/-0.56	0.150/56	0.610/36	0.641/37	1.501/24	1.721/32	0.901/17	1.380/90	0.770/69		
θ(22.5°)	0.701/11	0.570/53	0.850/70	0.891/17	1.330/87	-0.20/-1.61	-1.90/-1.91	-2.03/-1.92	-0.88/-1.93	-2.83/-0.51	-0.12/-0.91	-0.38/-0.21	-0.67/-0.84	-0.63/-0.82	-0.88/-0.74	-0.410/15	0.630/26	0.08/-0.18	-0.69/-0.58	-0.340/-31	1.131/18	0.850/58	0.700/42	0.410/16
θ(30°)	-0.71/-1.01	-0.420/25	1.011/28	1.752/50	3.082/94	2.932/09	1.081/98	1.540/35	-1.42/-0.38	-2.80/-0.86	0.430/98	0.50/-1.33	-2.68/-1.87	-0.790/10	-0.21/-0.71	-0.190/45	0.610/63	-0.26/-1.74	-2.97/-3.09	-2.81/-2.93	-2.82/-1.41	-0.78/-0.28	-0.00/-0.18	0.230/20
θ(37.5°)	-0.94/-0.58	-0.790/-12	0.940/97	1.663/19	3.603/62	4.033/49	2.851/44	1.180/29	-1.49/-2.00	-1.14/-0.50	-1.00/-1.90	-1.18/-0.81	-0.81/-0.17	-0.05/-1.54	-1.61/-0.43	-0.77/-2.72	-1.95/-0.88	0.011/04	0.910/09	-2.06/-5.68	-8.61/-3.94	-2.34/-1.43	-0.210/56	-0.16/-1.56
θ(45°)	-3.64/-3.57	-0.920/43	0.671/12	0.981/53	1.982/63	2.742/60	2.171/18	-0.01/-1.35	-0.700/15	-1.98/-4.27	-0.26/-1.29	-2.48/-1.95	-1.450/00	-0.76/-2.29	-1.65/-1.53	-2.46/-0.94	-0.89/-0.56	-2.23/-2.41	-1.35/-1.83	-1.22/-0.51	-1.99/-4.52	-4.72/-3.54	-4.14/-1.69	-0.93/-1.15
θ(52.5°)	-4.22/-1.61	0.05/-0.06	1.192/01	1.291/55	1.992/39	2.793/93	2.481/63	0.150/45	0.260/17	-0.87/-3.17	-3.08/-1.66	-1.62/-3.46	-2.16/-1.41	-0.591/88	2.231/07	0.711/07	-1.32/-0.67	0.421/05	0.20/-1.71	-1.28/-1.98	-1.84/-2.84	-4.27/-1.46	-2.82/-1.43	-2.43/-2.09
θ(60°)	-4.44/-3.72	-1.10/-0.57	0.901/56	1.661/85	2.402/87	2.431/96	0.630/28	0.271/36	-3.22/-2.92	-2.82/-3.08	-3.71/-3.17	-4.65/-3.84	-0.850/02	-0.920/64	0.721/03	0.75/-0.52	-0.260/67	-0.510/70	-0.90/-3.15	-4.88/-4.76	-2.85/-3.06	-3.60/-4.80	-5.68/-3.36	-3.15/-2.78
θ(67.5°)	-2.11/-2.76	-0.81/-0.85	1.192/25	2.252/57	2.382/51	2.281/40	0.61/-0.44	-0.46/-2.61	-1.88/-0.67	-5.76/-7.00	-5.10/-3.69	-3.64/-2.74	0.18/-0.11	-1.16/-2.45	-5.92/-1.89	-3.44/-2.76	-1.74/-0.88	-0.771/-0.11	-1.02/-0.13	-2.91/-5.61	-4.68/-5.89	-8.84/-4.31	-3.83/-5.95	-2.16/-4.81
θ(75°)	-2.52/-1.84	0.63/-0.68	0.201/91	0.451/41	0.09/-0.72	-2.08/-1.70	-1.61/-1.68	-3.41/-2.78	-2.06/-3.33	-9.05/-5.41	-5.40/-3.24	-2.56/-5.11	-3.53/-6.29	-7.82/-8.36	-6.73/-0.81	-0.79/-2.26	-1.09/-3.22	-7.37/-10.49	-7.42/-5.13	-6.62/-6.74	-4.80/-4.81	-5.19/-6.84	-7.23/-9.02	-4.56



Antenna Pattern of 6GHz

Appendix D

θ(67.5°)	-2.62/-3.23	-2.02/-1.71	-1.44/-0.68	-1.58/-2.70	-7.44/-5.70	0.32/1.15	0.04/0.02	-0.32/-3.09	-7.75/-6.65	-9.40/-6.04	-5.01/-3.54	-1.66/-2.08	-2.25/-2.85	-3.46/-3.46	-2.44/-2.14	-8.36/-3.97	-3.35/-3.56	-1.37/1.14	1.41/0.23	-0.33/-1.48	0.35/-1.07	0.89/1.87	2.89/3.11	2.41/-0.44
θ(75°)	-1.51/-0.30	0.89/-0.06	0.76/0.49	-3.48/-3.69	-3.39/-2.58	2.13/2.36	1.27/1.63	0.67/1.74	-5.36/-7.84	-5.90/-2.89	-4.06/-3.81	0.04/-1.56	-0.19/-1.42	-2.15/-3.53	-0.88/-2.16	-4.63/-7.98	-3.92/-3.47	-1.45/0.70	1.21/0.99	2.58/1.08	-0.20/-0.47	-1.96/-0.19	2.01/3.97	1.90/-3.70
θ(82.5°)	0.58/0.49	3.42/2.47	2.72/0.80	-3.05/-4.04	-5.05/0.62	2.31/2.12	2.28/2.77	0.95/-0.54	-1.19/-0.61	-4.01/-1.00	-1.99/-1.82	2.20/-0.67	1.41/-0.39	-1.53/-1.41	0.84/-0.72	0.76/-2.93	-1.12/-0.97	-1.37/-1.10	2.89/2.29	2.42/3.05	-1.20/-1.35	-3.23/-1.00	2.72/2.98	2.95/-2.07
θ(90°)	-0.23/1.66	1.90/1.61	2.44/0.84	-4.10/-6.82	-3.78/1.61	2.66/2.91	3.20/2.67	1.16/1.00	-0.96/-0.06	-5.01/-1.46	-0.16/-2.38	2.30/0.13	2.21/-0.47	-2.38/-1.84	-1.69/0.03	3.16/1.59	2.89/2.46	3.99/3.28	2.15/3.16	4.03/4.61	1.99/1.21	-3.60/-1.35	0.94/-1.99	2.21/-1.28
θ(97.5°)	0.34/2.62	0.64/1.06	-0.14/-0.63	-4.84/-5.61	-3.54/-1.02	1.56/2.75	0.75/0.74	1.60/1.37	-2.54/-3.46	-3.34/0.57	-2.12/-4.75	1.71/-1.04	1.71/-1.04	-4.16/-4.16	-3.44/2.28	4.54/3.67	3.63/4.87	5.03/4.21	4.65/5.01	5.67/5.11	3.61/-0.23	-4.67/-4.91	-0.36/0.76	0.07/2.65
θ(105°)	-0.35/-0.05	0.21/-0.43	0.80/1.34	-3.42/-3.25	-3.44/0.65	1.16/0.17	0.68/-0.38	1.31/2.32	-1.12/-0.94	-6.36/-1.07	-1.11/-1.18	2.06/-0.62	0.11/0.99	-8.38/-7.30	-3.89/-0.74	4.35/2.76	3.48/3.57	3.81/4.36	3.86/4.75	4.76/2.91	2.12/1.45	-3.47/-4.72	-1.34/-1.50	0.88/0.96
θ(112.5°)	-2.50/-1.9	1.35/0.35	-0.00/-3.76	-3.93/-2.13	-4.47/-2.08	-1.01/-3.20	-4.02/-2.24	-1.22/-1.59	0.48/-2.17	-11.53/-6.58	-3.30/-8.60	0.30/-3.51	-0.93/-2.09	-7.61/-12.84	-8.30/-2.34	3.88/0.61	1.95/1.74	4.84/4.65	-1.87/-1.26	3.57/3.37	-0.26/-0.70	-3.87/-2.39	1.83/-0.59	-3.40/-0.75
θ(120°)	-2.07/-3.81	-0.12/-2.18	-4.00/-7.18	-2.56/-0.22	-0.07/-2.07	-0.50/-0.96	-4.39/-3.89	-5.99/-6.05	-1.02/-2.90	-12.62/-5.23	-6.40/-11.01	-1.02/-4.59	-6.81/-4.02	-6.92/-6.19	-5.10/-1.84	0.68/-0.40	-5.22/-3.52	2.73/2.48	-4.10/-1.42	0.08/0.91	-0.13/-1.17	-3.24/-1.90	0.23/-0.28	-2.11/-5.51
θ(127.5°)	-5.49/-2.60	-1.52/-2.36	-2.67/-3.75	-7.74/-1.41	-1.19/-3.64	-6.45/-4.59	-3.56/-5.61	-8.84/-9.01	-6.94/-13.00	-12.83/-12.26	-12.62/-14.14	-3.33/-6.99	-5.72/-7.19	-3.60/-5.88	-6.57/-1.74	-1.68/2.04	-2.75/-4.00	4.15/2.66	-4.57/-1.07	0.73/0.62	0.12/-2.81	-3.82/0.97	3.32/1.06	-6.98/-4.37
θ(135°)	-2.03/-2.70	-10.07/-9.88	-9.75/-12.22	-5.38/-4.77	-4.89/-6.92	-4.70/-2.91	-4.55/-6.92	-7.77/-5.44	-7.67/-11.39	-12.22/-11.17	-11.13/-12.22	-9.74/-8.77	-5.30/-1.12	-7.27/-13.93	-4.20/-10.23	0.01/0.46	-5.73/-0.38	4.58/1.64	-5.63/-4.89	2.43/-2.49	-0.62/-6.83	-2.25/-1.95	1.91/-2.60	-6.32/-1.68
θ(142.5°)	-6.43/-5.11	-5.13/-8.19	-9.13/-11.24	-11.94/-6.78	-8.14/-8.26	-5.40/-3.06	-1.35/-2.45	-6.59/-6.78	-4.86/-7.41	-13.77/-7.81	-7.91/-9.86	-14.11/-11.77	-9.16/-14.29	-10.12/-7.25	-11.26/-11.25	-5.26/-6.47	-12.36/-1.57	-1.63/-4.77	-8.04/-8.81	-3.34/-1.48	-3.59/-5.07	-6.86/-5.89	-9.13/-7.74	-11.93/-4.52
θ(150°)	-14.63/-14.21	-9.20/-8.98	-10.16/-11.24	-10.70/-7.49	-4.82/-4.96	-4.45/-2.90	-2.52/-3.07	-6.73/-7.27	-4.32/-5.01	-4.10/-6.16	-13.87/-11.07	-11.49/-13.72	-9.90/-4.79	-9.11/-10.71	-13.57/-9.95	-9.98/-9.34	-6.14/-4.76	-5.50/-9.80	-10.43/-9.32	-6.43/-1.27	-1.08/-2.67	-2.85/-3.39	-3.15/-4.23	-8.92/-12.12
θ(157.5°)	-6.33/-5.33	-4.78/-5.04	-7.10/-9.91	-13.90/-14.66	-12.75/-15.84	-11.81/-10.61	9.55/-10.04	-13.26/-16.35	-13.37/-12.02	-14.25/-14.83	-14.39/-10.82	-6.82/-10.16	-13.91/-6.87	-8.72/-14.96	-15.29/-15.56	-11.78/-5.01	-2.63/-3.63	-6.88/-8.87	-8.66/-11.69	-13.81/-7.12	-5.14/-8.44	-3.40/-2.85	-4.38/-6.35	-6.50/-5.61
θ(165°)	-2.77/-3.95	-3.89/-3.46	-4.37/-5.99	-6.47/-6.75	-7.75/-7.36	-6.99/-7.17	-7.38/-8.74	-10.91/-12.37	-11.43/-10.50	-10.55/-10.56	-9.89/-9.75	-9.27/-9.18	-8.59/-8.87	-8.76/-7.03	-4.84/-3.83	-2.60/-1.38	-1.68/-3.37	-5.60/-9.16	-9.42/-8.27	-7.01/-5.24	-4.58/-4.61	-3.57/-2.73	-2.14/-2.27	-2.91/-3.06
θ(172.5°)	-5.79/-5.86	-7.25/-8.18	-8.64/-9.42	-10.03/-11.05	-13.55/-15.18	-15.19/-15.53	-14.05/-13.05	-14.13/-15.25	-14.35/-13.40	-11.07/-9.70	-10.54/-12.03	-13.92/-15.15	-14.26/-13.71	-14.17/-14.02	-14.24/-13.83	-13.00/-13.12	-13.58/-10.85	-8.14/-6.19	-4.68/-4.00	-4.00/-1.47	-4.74/-5.84	-6.46/-6.60	-5.44/-4.78	-5.17/-5.11
θ(180°)	-9.78/-10.53	-11.57/-11.93	-11.75/-11.28	-10.57/-9.87	-10.19/-10.34	-10.58/-10.43	-10.60/-10.30	-9.44/-9.52	-9.66/-9.94	-9.79/-10.31	-10.72/-10.35	-10.02/-9.55	-8.67/-7.67	-7.52/-7.97	-8.67/-8.89	-9.60/-9.89	-10.40/-10.77	-11.16/-11.55	-11.82/-11.86	-11.72/-11.41	-10.41/-10.03	-9.86/-9.28	-9.02/-8.81	-9.45/-10.11
Freq(Hz)	6.475GPol.	Total/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°)	-15.84/-14.43	-14.63/-14.87	-15.18/-15.01	-15.41/-15.73	-16.30/-15.50	-14.97/-15.38	-15.13/-14.78	-15.34/-15.24	-14.82/-15.59	-15.28/-15.87	-15.09/-15.17	-15.48/-13.68	-12.31/-12.36	-13.39/-15.38	-14.93/-16.22	-15.17/-14.97	-15.21/-16.01	-15.21/-14.90	-15.42/-15.40	-15.54/-15.23	-15.15/-15.01	-15.87/-15.72	-15.27/-15.62	-15.67/-15.89
θ(7.5°)	-15.45/-14.50	-12.75/-10.45	-15.29/-15.13	-15.10/-14.89	-15.30/-15.61	-13.90/-12.48	-12.32/-13.60	-15.05/-14.89	-15.60/-13.57	-12.56/-12.43	-14.24/-15.50	-13.75/-12.65	-12.53/-13.08	-14.31/-14.54	-16.08/-15.22	-15.55/-15.37	-15.44/-16.03	-14.49/-14.40	-14.42/-13.79	-14.49/-13.80	-14.68/-14.16	-13.39/-11.56	-11.71/-12.25	-16.19/-15.38
θ(15°)	-15.42/-14.93	-13.67/-15.39	-13.40/-10.98	-10.11/-9.74	-9.66/-9.61	-8.68/-8.53	-9.42/-9.45	-9.74/-9.66	-9.30/-12.42	-9.80/-12.09	-11.92/-10.66	-9.24/-8.24	-8.41/-9.42	-10.25/-11.18	-12.29/-13.63	-11.53/-8.07	-6.36/-5.39	-4.76/-4.28	-4.71/-4.95	-5.19/-5.80	-6.91/-7.49	-8.31/-9.52	-12.03/-13.22	-13.87/-14.01
θ(22.5°)	-8.72/-11.34	-12.86/-15.82	-14.83/-13.92	-12.76/-12.22	-10.39/-11.15	-9.49/-7.26	-6.17/-5.83	-5.73/-5.86	-5.77/-6.64	-6.29/-7.85	-11.65/-11.53	-9.57/-8.26	-8.27/-9.06	-9.45/-9.40	-9.32/-7.09	-4.77/-3.15	-2.26/-2.38	-2.23/-2.04	-2.30/-2.56	-2.90/-3.40	-3.98/-4.52	-3.80/-4.20	-5.72/-7.24	-8.23/-8.82
θ(30°)	-3.69/-4.31	-6.07/-9.06	-11.11/-10.13	-9.55/-9.27	-10.17/-11.84	-8.40/-6.10	-5.25/-5.17	-5.32/-5.71	-5.45/-6.13	-5.23/-5.96	-5.98/-6.16	-7.22/-6.13	-5.30/-5.69	-7.33/-9.98	-12.67/-15.17	-14.81/-10.57	-7.22/-4.49	-3.04/-1.94	-1.67/-1.37	-1.47/-1.21	-2.73/-3.51	-5.13/-6.42	-5.85/-5.61	-5.13/-4.12
θ(37.5°)	-3.15/-5.40	-4.82/-7.60	-8.44/-7.10	-6.17/-8.50	-13.05/-7.97	-4.50/-3.45	-4.69/-8.69	-12.53/-15.87	-14.28/-9.87	-7.10/-6.11	-4.38/-2.45	-2.28/-2.61	-3.31/-4.10	-4.80/-4.50	-4.10/-4.34	-6.95/-9.40	-11.52/-8.70	-6.33/-2.45	-3.45/-4.11	-4.74/-3.22	-2.68/-2.09	-2.70/-4.59	-5.30/-4.88	-2.18/-1.69
θ(45°)	-1.76/-4.51	-0.61/-5.23	-4.53/-3.63	-4.05/-5.80	-5.68/-3.81	-2.09/-3.42	-1.55/-4.02	-6.62/-3.60	-6.76/-7.00	-5.62/-4.44	-4.49/-3.16	-1.92/-2.55	-5.05/-3.38	-4.34/-2.33	-1.09/-2.66	-4.28/-6.78	-4.09/-6.28	-4.92/-3.32	-3.19/-4.69	-5.01/-4.19	-5.02/-5.21	-7.89/-8.40	-4.65/-1.92	-1.06/-0.73
θ(52.5°)	-0.34/-3.28	-2.30/-1.58	-3.62/-3.27	-4.13/-6.53	-6.21/-4.51	-3.37/-3.83	-5.38/-6.57	-7.07/-5.76	-4.48/-3.34	-2.98/-4.12	-6.62/-8.21	-8.51/-8.91	-7.47/-8.69	-10.69/-6.51	-4.33/-3.36	-4.68/-4.82	-2.38/-2.11	-1.54/-0.70	-1.65/-1.13	-1.54/-1.08	-2.09/-2.87	-4.76/-5.56	-3.59/-0.18	1.51/0.26
θ(60°)	-6.02/-6.72	-4.55/-4.10	-3.03/-1.73	-1.63/-4.04	-0.54/-1.99	-2.72/-3.14	-4.06/-5.37	-5.44/-5.31	-5.92/-6.26	-6.23/-6.60	-6.52/-11.78	-10.34/-8.41	-8.25/-7.56	-8.76/-9.15	-5.18/-1.22	-4.39/-1.98	-0.52/-1.20	-0.98/-0.99	-0.68/-0.07	-1.43/-0.99	-1.50/-2.44	-2.87/-3.62	-1.05/0.65	0.64/-1.83
θ(67.5°)	-2.19/-2.41	-2.10/-1.58	-1.50/-0.14	0.63/1.35	-1.41/-1.76	-0.37/-1.76	-3.46/-4.89	-5.62/-5.32	-4.71/-7.54	-9.06/-6.32	-1.71/-2.97	-10.30/-1.34	-2.12/-6.24	-2.45/-2.50	-3.96/-5.08	-6.12/-2.93	-0.16/0.64	0.43/0.49	0.03/-0.87	-2.10/-1.04	0.97/-0.41	-0.11/-1.81	-1.15/-0.76	0.94/0.59
θ(75°)	-6.94/-4.14	-3.89/-3.48	-0.26/-1.70	0.42/-1.01	-4.85/-3.50	-1.06/0.44	1.60/0.94	-1.12/-3.10	-4.01/-4.21	-6.54/-9.10	-9.06/-3.78	-2.28/-0.15	0.23/-2.19	-1.55/-2.48	-4.59/-7.52	-7.01/-2.63	-2.43/-0.94	-0.07/-0.35	0.88/1.01	1.27/-1.48	0.77/0.46	1.24/-0.32	-1.44/-0.51	-0.29/-1.32
θ(82.5°)	-3.35/-3.74	-2.89/-2.35	-0.87/1.31	0.05/0.38	-5.54/-6.85	0.83/2.77	2.46/2.65	2.09/-3.05	-2.68/-7.31	-3.82/-2.75	-6.05/-4.82	-2.67/0.53	1.97/-0.11	-1.86/-4.00	-3.49/-9.30	-4.77/-2.33	-1.07/0.71	0.77/1.38	1.47/1.15	2.94/1.95	-0.62/0.28	0.15/-1.84	-1.84/0.33	0.17/-0.63
θ(90°)	-3.88/-3.53	-2.35/-3.05	1.41/2.31	-0.65/-3.71	-6.13/-0.64	1.94/1.42	3.66/2.94	1.94/1.42	-0.65/-6.95	-2.36/-0.65	-7.11/-2.97	-6.63/-0.07	2.43/-0.60	-5.85/-3.12	-3.33/-4.29	1.20/1.58	2.34/2.70	2.33/2.92	2.56/2.90	4.02/5.50	1.82/0.55	-1.25/0.41	0.46/0.14	-0.09/-1.09
θ(97.5°)	-3.34/0.46	-0.79/-0.06	-0.48/-1.30	-0.97/-0.76	-4.75/-4.68	1.42/1.98	1.69/2.41	2.54/2.47	1.10/-1.63	-3.70/7.73	-5.70/-4.42	1.16/-0.88	3.00/-5.27	-4.82/-5.20	-7.42/-9.03	1.80/4.17	3.17/4.18	3.73/2.29	4.44/3.53	4.55/4.36	2.59/-0.47	-2.42/-2.29	-1.27/0.76	-1.21/0.10
θ(105°)	-5.11/1.15	-3.16/-0.73	-1.84/0.28	0.91/-0.63	-3.50/-3.48	-2.26/-1.17	-0.40/1.00	1.21/1.55	-0.31/-4.15	-3.08/0.97	-3.96/-9.68	-0.92/-2.70	2.16/-1.42	-7.40/-8.27	-5.86/-5.53	0.85/2.19	3.80/3.28	3.11/3.26	2.70/2.03	2.16/3.23	3.46/0.84	-5.51/-2.02	-0.59/-0.10	-2.24/1.26
θ(112.5°)	-4.87/-2.09	-0.87/0.64	-1.76/-2.36	-3.82/-2.02	-1.48/-1.41	-3.39/-3.67	-3.12/-4.91	-2.31/1.10	-1.80/-0.64	-8.95/-3.27	-7.28/-10.54	-1.68/-5.78	0.84/-4.94	-9.43/-6.01	-8.75/-5.87	1.07/-2.55	0.56/-1.19	-0.20/0.89	-1.37/-0.41	-0.65/-0.85	-0.52/-3.85	-7.00/-2.22	-1.30/-2.17	-2.38/-0.76
θ(120°)	-4.55/-1.43	0.41/-0.62	-2.30/-4.49	-2.02/0.81	-2.31/-1.68	-1.01/-3.33	-5.60/-7.27	-8.7																



Antenna Pattern of 6GHz

Appendix D

Θ(105°)	-2.55/-11.64	-15.00/-4.07	-1.46/-1.37	0.78/-0.98	2.302/2.26	2.952/2.16	0.871/0.05	2.362/8.2	1.631/2.6	-0.40/-1.14	0.831/3.1	0.232/0.6	2.961/1.6	1.63/-1.72	-3.79/-1.66	-0.132/9.3	-1.63/-6.63	1.951/2.3	2.361/6.7	0.584/1.4	0.50/-9.26	-8.16/-4.24	-2.35/-1.95	1.24/-6.64
Θ(112.5°)	-2.23/-15.44	-9.20/-3.41	-2.30/-3.17	-1.40/-2.28	2.66/-0.05	1.162/1.1	1.591/84	1.61/-0.28	-1.23/-0.30	2.272/3.2	1.201/89	3.072/75	2.660/97	-0.77/-2.80	-0.630/3.4	-4.43/-0.30	-3.23/-9.59	-2.81/-1.79	-0.77/-3.49	-6.241/0.3	-5.75/-7.94	-9.58/-3.48	-1.72/-5.40	-2.62/-10.55
Θ(120°)	-2.66/-11.18	-15.26/-3.63	-3.83/-4.60	-4.55/-4.26	0.72/-0.05	-2.09/-0.37	-0.22/-1.21	-0.030/8.6	0.26/-0.12	-1.07/-2.20	-2.432/4.6	2.37/-0.16	1.361/45	0.82/-0.26	-1.40/-4.59	-0.621/6.5	-0.85/-3.93	-0.05/-5.71	-6.60/-10.69	-10.86/-6.11	-5.15/-15.54	-4.62/-3.90	-12.86/-3.16	-6.33/-8.15
Θ(127.5°)	-3.04/-13.83	-8.37/-5.98	-3.51/-3.57	-4.80/-4.66	-2.120/-4.7	-0.72/-3.03	-2.67/-1.17	-1.19/-1.30	-1.58/-3.01	-2.99/-1.64	0.700/7.3	0.46/-0.51	-0.10/-1.13	-0.24/-3.05	-2.92/-1.62	1.310/7.1	-0.10/-2.25	-4.41/-6.30	-5.17/-5.18	-10.30/-8.30	-8.69/-3.13	-13.26/-11.64	-9.49/-8.46	-7.54/-6.64
Θ(135°)	-6.77/-6.78	-7.99/-10.93	-8.37/-11.67	-14.40/-9.41	-4.64/-4.20	-7.81/-9.45	-6.45/-5.60	-5.91/-5.72	-3.57/-1.70	-0.530/9.8	1.45/-0.4	-1.74/-1.05	-0.88/-0.92	-2.88/-3.32	-3.40/-5.66	-4.76/-3.15	-7.10/-3.63	-5.60/-3.83	-12.15/-13.31	-10.02/-6.72	-4.39/-15.46	-12.86/-7.58	-9.39/-8.89	-6.40/-6.22
Θ(142.5°)	-9.33/-15.69	-9.75/-8.89	-8.99/-8.42	-8.14/-10.49	-7.23/-4.30	-4.10/-6.14	-8.23/-6.56	-6.11/-6.58	-6.42/-4.96	-4.30/-4.72	-6.38/-8.04	-6.37/-6.54	-5.56/-4.27	-6.76/-8.25	-5.47/-2.76	-5.49/-3.91	-11.04/-14.75	-5.93/-6.09	-7.38/-10.08	-10.67/-13.74	-12.95/-8.90	-10.05/-15.63	-7.96/-11.04	-8.08/-4.66
Θ(150°)	-4.57/-6.29	-9.30/-11.57	-8.88/-6.44	-8.42/-10.09	-5.94/-2.90	-2.99/-6.04	-9.84/-8.85	-4.55/-2.27	-1.79/-3.25	-6.62/-9.01	-9.52/-14.86	-10.87/-4.75	-2.49/-2.03	-6.30/-7.01	-6.96/-4.93	-4.84/-6.06	-8.12/-8.06	-14.19/-6.29	-5.42/-7.69	-11.15/-11.70	-10.41/-7.90	-8.36/-10.69	-12.07/-7.28	-9.85/-9.90
Θ(157.5°)	-6.91/-10.38	-10.17/-8.27	-8.83/-8.04	-7.65/-8.22	-8.59/-3.0	-9.66/-8.92	-8.59/-8.28	-7.00/-5.74	-5.78/-7.30	-8.18/-6.35	-6.86/-6.45	-3.02/-1.86	-2.64/-5.53	-9.27/-6.41	-5.10/-5.40	-6.23/-5.83	-5.17/-6.26	-8.17/-10.01	-13.53/-13.92	-15.09/-15.27	-13.82/-10.00	-11.66/-12.33	-13.56/-12.31	-8.84/-7.02
Θ(165°)	-8.52/-8.21	-9.55/-11.97	-12.76/-10.80	-7.08/-5.26	-4.61/-5.81	-8.36/-11.95	-15.30/-14.94	-11.46/-8.95	-9.04/-9.93	-10.44/-10.79	-10.72/-9.28	-7.47/-8.51	-10.19/-8.88	-7.37/-6.39	-6.02/-6.43	-6.80/-6.50	-5.66/-6.94	-9.43/-12.38	-15.32/-14.84	-14.25/-12.65	-11.94/-11.48	-9.74/-9.36	-10.93/-13.48	-9.24/-10.23
Θ(172.5°)	-10.72/-9.04	-8.08/-7.84	-9.36/-10.70	-10.85/-12.27	-13.79/-12.60	-11.50/-10.89	-9.39/-7.72	-6.72/-6.39	-6.19/-6.30	-6.77/-6.25	-6.27/-8.03	-10.97/-11.02	-8.91/-8.52	-10.00/-12.08	-12.03/-10.21	-8.77/-7.51	-7.12/-7.28	-8.01/-9.11	-10.83/-12.50	-13.83/-13.63	-13.66/-15.67	-15.11/-15.48	-15.26/-12.87	-11.86/-14.23
Θ(180°)	-13.07/-11.81	-9.32/-8.27	-9.41/-9.75	-9.14/-8.90	-8.61/-8.90	-9.14/-10.35	-10.35/-10.13	-10.21/-10.27	-11.31/-13.70	-13.68/-12.51	-12.66/-12.08	-9.83/-8.77	-10.25/-12.55	-13.43/-12.51	-11.47/-12.21	-13.43/-13.53	-13.66/-13.79	-12.14/-11.91	-12.22/-14.02	-14.08/-13.43	-12.83/-13.84	-12.03/-12.56	-14.60/-14.32	-12.68/-13.07
Freq(Hz)	6.475GPol	Total/Ant. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Θ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-14.61/-14.52	-15.52/-15.15	-15.41/-15.33	-14.35/-13.37	-14.15/-13.66	-12.71/-12.40	-13.48/-12.79	-11.09/-11.21	-9.87/-10.20	-10.81/-10.75	-10.89/-12.14	-11.15/-11.87	-14.10/-15.37	-15.91/-15.30	-15.47/-14.65	-15.35/-15.85	-15.09/-15.36	-15.29/-16.33	-15.78/-16.74	-15.65/-15.57	-16.38/-14.55	-13.24/-14.73	-15.89/-15.29	-15.15/-15.52
Θ(7.5°)	-12.82/-12.88	-14.11/-14.10	-15.95/-14.69	-14.26/-12.13	-10.82/-10.29	-9.05/-8.57	-9.47/-10.02	-9.34/-8.91	-8.85/-8.37	-10.24/-11.25	-10.16/-9.86	-12.52/-13.16	-13.14/-13.72	-13.00/-10.82	-9.58/-9.14	-9.17/-8.80	-8.14/-7.28	-7.15/-8.13	-8.82/-9.12	-8.30/-7.09	-7.27/-8.15	-8.85/-9.18	-10.44/-10.04	-10.50/-13.27
Θ(15°)	-9.16/-9.19	-10.73/-12.84	-13.77/-12.01	-9.11/-6.50	-4.73/-3.79	-2.91/-2.66	-2.84/-2.40	-2.87/-3.56	-3.57/-3.40	-4.70/-5.36	-6.08/-8.42	-11.04/-10.91	-10.47/-9.80	-7.96/-6.18	-5.55/-5.84	-5.60/-6.37	-7.07/-6.32	-6.05/-6.81	-7.41/-7.97	-9.07/-9.59	-9.81/-9.87	-10.36/-10.19	-10.24/-10.28	
Θ(22.5°)	-8.17/-10.70	-13.44/-13.46	-10.13/-8.35	-7.12/-6.34	-5.51/-4.58	-3.48/-2.51	-2.48/-3.10	-3.07/-3.33	-4.64/-4.53	-3.73/-5.34	-6.45/-6.02	-6.13/-9.20	-10.30/-9.81	-9.40/-7.09	-5.04/-3.66	-3.87/-4.50	-5.29/-5.97	-5.93/-5.74	-5.86/-6.08	-6.02/-7.28	-7.95/-8.88	-8.46/-9.62	-13.16/-15.72	-14.13/-9.91
Θ(30°)	-8.16/-8.39	-11.88/-14.39	-11.74/-10.19	-8.54/-6.80	-6.28/-6.08	-5.14/-3.69	-2.71/-2.96	-3.65/-4.17	-5.57/-6.76	-6.85/-6.05	-9.41/-8.78	-10.32/-10.50	-9.56/-8.26	-6.35/-4.92	-2.75/-1.48	-2.25/-3.88	-6.23/-7.99	-9.16/-8.80	-7.71/-7.39	-7.48/-7.30	-6.64/-5.81	-4.56/-3.73	-4.95/-6.73	-7.66/-6.05
Θ(37.5°)	-6.55/-7.19	-8.85/-9.79	-7.67/-7.02	-6.80/-7.72	-6.63/-6.99	-7.17/-3.49	-2.07/-1.24	-2.92/-3.44	-3.70/-4.27	-4.12/-4.42	-6.46/-7.09	-7.25/-9.52	-8.79/-6.13	-7.16/-4.80	-3.02/-3.20	-3.53/-4.18	-7.24/-8.43	-7.76/-7.09	-6.51/-6.94	-7.39/-8.14	-8.07/-7.62	-6.58/-4.29	-2.55/-2.22	-3.41/-5.19
Θ(45°)	-10.55/-8.90	-11.48/-12.03	-9.10/-6.27	-6.69/-7.43	-5.27/-4.70	-4.16/-1.27	0.200/0.3	-1.94/-2.16	-1.26/-1.24	-1.96/-1.89	-1.93/-2.43	-3.18/-5.77	-6.22/-5.23	-6.75/-8.73	-4.65/-1.86	-1.77/-3.97	-6.53/-8.66	-7.13/-5.74	-4.66/-4.30	-5.23/-4.14	-3.29/-5.55	-5.58/-6.57	-6.62/-5.52	-5.65/-10.43
Θ(52.5°)	-8.37/-11.89	-8.39/-9.05	-8.31/-5.05	-6.04/-5.10	-3.50/-3.69	-2.60/-3.01	0.53/-0.15	-0.930/0.1	1.241/0.0	-1.12/-1.69	-0.74/-0.51	-1.98/-4.16	-4.31/-3.22	-6.99/-6.73	-2.63/-2.00	-4.19/-4.47	-3.33/-2.26	-2.99/-2.97	-2.77/-2.75	-3.02/-2.36	-4.51/-7.06	-9.90/-11.10	-10.74/-11.07	-10.02/-6.84
Θ(60°)	-5.46/-9.92	-6.65/-4.75	-4.98/-3.19	-6.30/-2.79	-0.52/-0.70	-0.340/0.8	1.020/1.2	0.111/8.3	2.170/3.6	-2.14/-5.45	-3.84/-0.55	-1.37/-4.45	-3.60/-3.04	-3.18/-6.20	-5.63/-6.22	-6.83/-2.76	-2.09/-4.35	-6.51/-4.63	-2.25/-2.59	-2.03/-2.38	-5.30/-7.11	-10.08/-9.37	-7.76/-5.65	-11.47/-5.80
Θ(67.5°)	-1.13/-4.26	-3.39/-1.90	-0.93/-1.66	-3.28/-0.95	0.771/1.6	0.20/-0.04	0.941/7.7	1.752/3.0	3.111/7.5	-0.84/-2.14	1.301/8.1	0.460/2.1	-1.30/-2.67	-2.20/-7.96	-3.63/-1.67	0.520/8.4	-0.61/-6.55	-4.62/-3.18	-1.11/-1.58	-1.62/-2.29	-2.63/-3.89	-4.55/-7.76	-4.80/-1.16	-3.25/-1.31
Θ(75°)	1.14/-4.97	-4.01/-0.30	0.470/1.6	-0.76/-0.31	2.272/6.7	2.24/-1.56	1.521/5.8	1.471/6.2	1.12/-0.31	-0.94/-1.39	-0.980/0.6	1.031/1.6	0.00/-0.94	0.09/-2.57	-0.06/-2.35	1.480/1.2	-0.27/-8.81	-9.52/-8.18	-3.56/-5.98	-7.90/-8.00	-8.00/-3.20	-2.76/-2.82	-4.39/-2.78	-2.20/-0.87
Θ(82.5°)	2.25/-3.15	-2.760/2.0	-1.940/5.0	-1.201/5.1	2.762/4.1	2.340/6.9	0.481/9.3	2.071/0.5	1.13/-1.32	-3.70/-2.56	0.211/3.4	-0.13/-2.99	-1.92/-1.16	0.44/-0.64	0.21/-0.23	-5.57/-4.23	-6.87/-11.08	-2.71/-2.19	-2.94/-2.32	-3.99/-8.23	-7.15/-3.08	-1.30/-1.79	-5.790/3.8	2.391/4.5
Θ(90°)	0.79/-3.79	-5.55/-2.90	-1.290/6.1	-0.281/2.2	2.142/3.5	3.581/1.5	0.991/7.0	1.311/9.7	1.66/-0.19	-1.26/-1.50	-1.84/-0.28	-2.29/-2.08	-0.64/-0.80	0.18/-1.69	-0.49/-2.30	-4.47/-4.27	-7.87/-7.12	1.482/5.9	1.612/3.3	0.03/-1.04	-5.23/-2.65	-0.52/-1.87	-3.30/-3.31	2.091/0.12
Θ(97.5°)	2.04/-4.90	-10.99/-4.49	-2.880/2.6	-0.831/3.1	2.591/1.4	2.780/7.4	-0.582/3.2	1.63/-1.27	-1.30/-2.91	-2.640/1.4	2.612/3.0	-1.15/-1.95	-2.27/-1.40	0.17/-1.25	1.24/-1.78	-5.54/-2.41	-5.98/-3.33	3.433/9.9	4.435/6.6	4.173/0.8	0.59/-8.28	-3.59/-2.27	-3.50/-4.73	1.62/-0.167
Θ(105°)	-0.66/-6.93	-10.43/-7.74	-3.92/-1.05	-1.580/5.3	-0.441/0.2	-1.580/5.3	-0.782/0.9	0.680/1.9	1.421/3.9	-0.060/3.8	-0.66/-3.36	-3.01/-3.87	-2.931/2.2	1.08/-1.21	-1.61/-4.05	-3.530/5.1	-0.99/-4.93	1.110/6.3	0.981/5.4	1.022/7.3	-0.54/-9.07	-8.32/-7.07	-6.20/-2.44	-1.02/-2.62
Θ(112.5°)	-3.22/-12.25	-11.94/-6.64	-5.56/-2.07	-2.750/7.4	-0.731/5.3	1.07/-0.49	-0.84/-0.85	0.01/-0.75	-1.37/-1.15	-4.71/-1.83	0.73/-0.77	0.452/4.5	1.00/-0.53	-0.52/-2.09	-4.19/-1.72	-2.89/-2.26	-2.77/-5.91	-4.46/-4.42	-1.78/-0.20	-5.200/5.0	-3.44/-14.82	-8.06/-5.78	-7.29/-6.97	-2.54/-6.76
Θ(120°)	-6.16/-5.95	-9.64/-6.21	-8.50/-4.80	-5.12/-3.78	-1.83/-2.43	-0.06/-2.44	-0.760/8.9	0.480/7.9	-0.20/-1.61	-0.101/0.5	1.08/-1.91	-0.520/9.6	-0.92/-2.16	-1.030/7.1	-3.68/-6.86	-2.06/-1.90	-2.98/-3.02	-1.10/-4.83	-8.37/-14.42	-5.69/-1.99	-6.80/-9.40	-3.95/-9.20	-15.57/-6.28	-10.02/-8.04
Θ(127.5°)	-3.04/-9.99	-7.43/-3.99	-6.38/-6.81	-7.76/-3.76	-1.02/-2.27	-2.84/-3.75	-4.10/-1.92	-1.32/-2.37	-1.58/-1.83	-3.84/-3.82	-1.970/-4.9	1.35/-1.25	-1.801/5.4	0.51/-4.80	-5.01/-4.68	0.710/7.9	-2.35/-1.04	-2.16/-5.23	-6.80/-3.60	-7.10/-4.39	-5.39/-5.00	-8.88/-14.75	-7.97/-11.25	-7.46/-6.64
Θ(135°)	-4.92/-5.54	-11.29/-12.20	-14.50/-15.15	-9.06/-5.93	-5.21/-4.63	-4.06/-3.57	-5.43/-7.21	-5.69/-4.29	-6.38/-7.33	-3.39/-4.74	0.370/6.0	-1.59/-3.07	-3.24/-2.77	-2.80/-7.85	-4.17/-3.60	-3.06/-1.83	-3.11/-3.64	-3.77/-2.00	-9.10/-8.55	-8.05/-10.08	-5.77/-14.97	-13.68/-4.33	-14.69/-13.53	-6.83/-6.39
Θ(142.5°)	-8.79/-11.55	-10.37/-9.56	-12.13/-10.30	-8.22/-6.85	-5.21/-3.90	-3.23/-5.17	-6.76/-6.39	-5.96/-3.98	-1.86/-2.67	-3.75/-4.72	-6.06/-6.64	-7.94/-9.08	-4.72/-2.61	-3.17/-4.65	-8.11/-7.70	-5.29/-6.96	-6.49/-7.81	-12.46/-7.91	-10.96/-13.68	-15.27/-14.85	-13.11/-9.52	-12.03/-13.24	-7.43/-12.01	-8.63/-5.91
Θ(150°)	-4.32/-7.50	-11.82/-10.90	-6.47/-6.87	-9.10/-5.77	-3.14/-3.31	-4.14/-4.82	-6.09/-6.24	-5.26/-5.74	-6.52/-5.43	-4.14/-3.91	-4.15/-6.59	-11.70/-9.32	-5.55/-2.99	-3.75/-5.09	-4.68/-7.06	-7.65/-8.95	-10.22/-8.80	-14.04/-12.02	-8.31/-9.75	-11.18/-6.90	-8.30/-15.10	-9.82/-5.65	-8.20/-7.88	
Θ(157.5°)	-8.78/-10.35	-7.27/-8.19	-1.30/-8.63	-8.09/-7.31	-5.99/-5.04	-5.37/-6.36	-7.20/-6.59	-5.71/-4.85																



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

