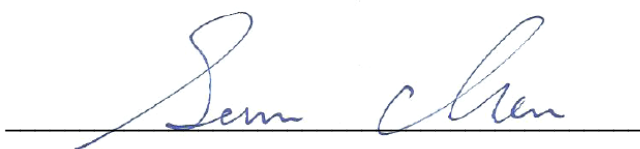


Antenna Composite Gain Test Report

FCC ID	NKR-ATTC61W1
Equipment	Wireless Genie Mini
Brand Name	DirecTV
Model Name	C61W-400, C61WBP-400, C61WNC-400
Applicant	Wistron NeWeb Corporation 20 Park Avenue II Hsinchu Science Park Hsinchu, 308 Taiwan
Manufacturer	Wistron NeWeb Corporation 20 Park Avenue II Hsinchu Science Park Hsinchu, 308 Taiwan
Sample Received	Mar. 31, 2023
Start Test Date	May 31, 2023
Final Test Date	May 31, 2023



Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory

No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



Table of Contents

History of this test report.....	3
1. Operation Mode and Antenna Information	4
2. Test Frequency	4
3. Testing Location.....	5
4. Test Facility and Configuration.....	6
5. Reference Calibration	7
6. Test Method	8
7. Measured Values and Calculation of Maximum Gain Positions.....	9
8. Summary of Test Result	10
9. Test Setup	12
10. Test Equipment and Calibration Data	13
11. Test Results	14

History of this test report

[illegible]

1. Operation Mode and Antenna Information

Antenna Position	RF Port	Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
2G Ant1	1	WNC	ANT1	PCB	N/A	2.4GHz
2G Ant2	2	WNC	ANT2	PCB	N/A	2.4GHz
5G Ant1	1	Airgain	N5X35BCMY	PIFA	I-PEX	5GHz UNII 1~3
5G Ant2	2	Airgain	N5X35BCHY	PIFA	I-PEX	5GHz UNII 1~3
5G Ant3	3	Airgain	N5X35BC2MY	PIFA	I-PEX	5GHz UNII 1~3
5G Ant4	4	Airgain	N5X35BC2MY	PIFA	I-PEX	5GHz UNII 1~3

Note:

2.4GHz Operation Mode (1TX/1RX)

The EUT supports the antenna with TX and RX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used at one time.

5GHz Operation Mode (4TX/4RX)

Port 1~Port 4 can be used as transmitting/receiving antenna.

Port 1~Port 4 could transmit/receive simultaneously.

2. Test Frequency

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

Band [MHz]	Test Frequency [MHz]
2400-2483.5	2400
	2450
	2483.5
5150-5250	5200
5250-5350	5300
5470-5725	5600
5725-5850	5785



3. Testing Location

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

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated	05CH03-HY	Rex Liao	23.5-24.5 / 50-55	May 31, 2023

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

4. EUT Support Function

Function	Supports Type	Supports band
AP	Master	5GHz UNII 1/3, RF4CE
Slave	Slave without Radar	5GHz UNII 1~3, RF4CE

5. Test Facility and Configuration

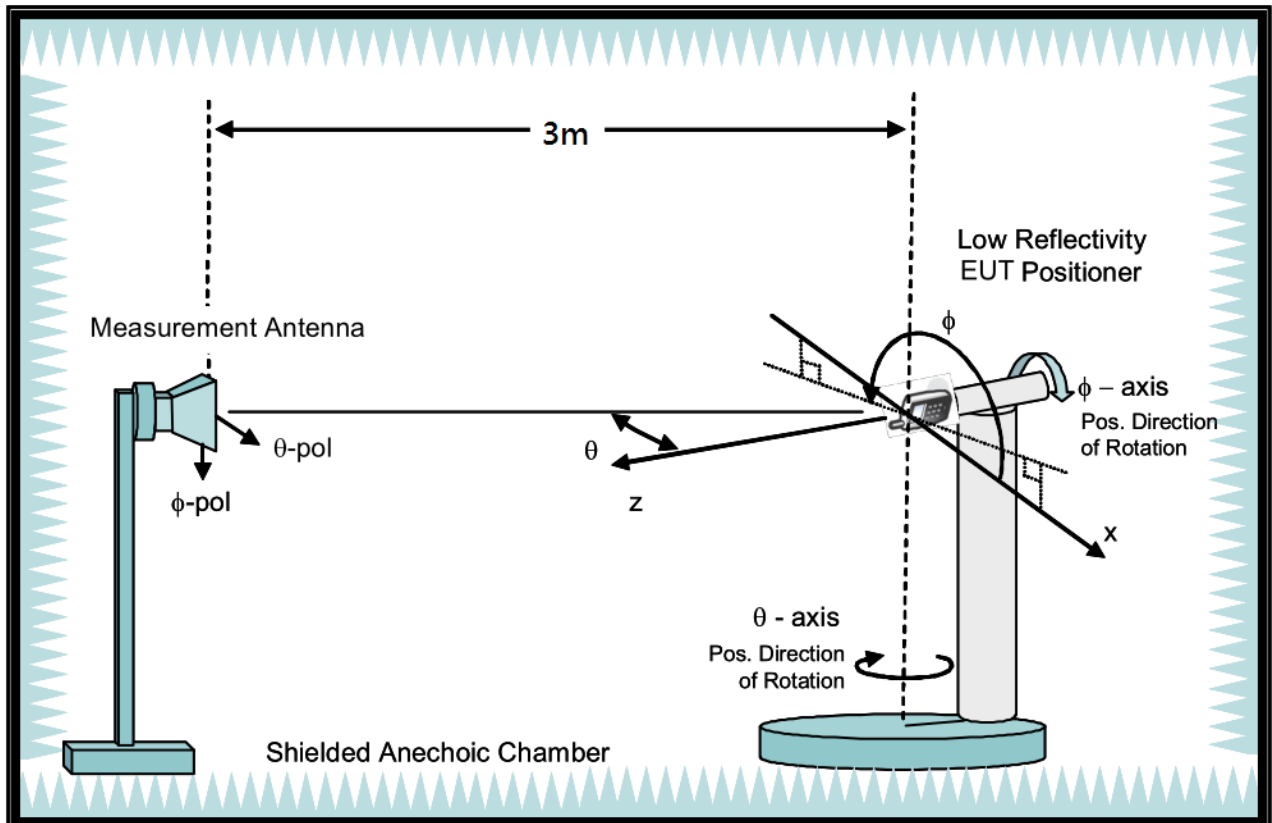
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

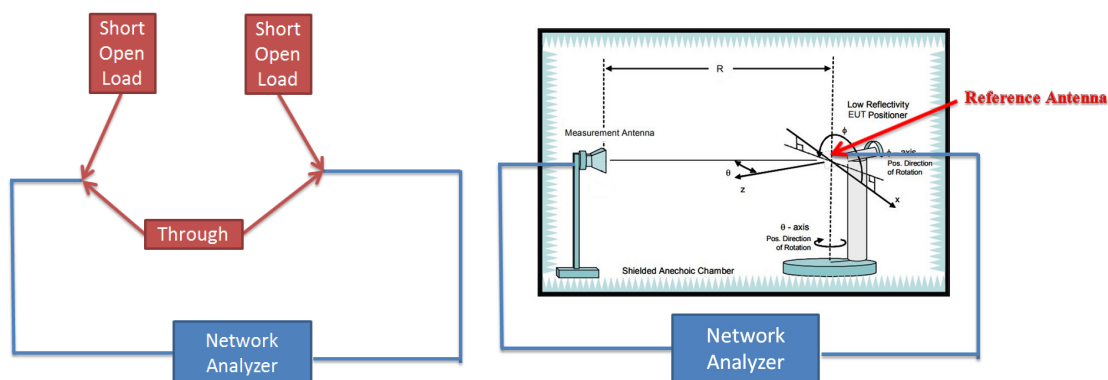
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



6. Reference Calibration

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

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



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

Note:

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

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

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

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

7. 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.

8. Measured Values and Calculation of Maximum Gain Positions

DG_1SS Max Value Position

Frequency (Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	1.38	1.27	0.17	1.71
Ant. 2 (dBi)	-1.17	-1.42	-9.61	-3.87
Ant. 3 (dBi)	-0.74	-0.79	-2.86	-0.34
Ant. 4 (dBi)	-7.83	-6.23	1.98	1.37
DG [1SS] (dBi)	4.53	4.63	4.42	6
Polarization	Theta	Theta	Theta	Theta
$\Theta(^{\circ})$	37.5	37.5	90	90
$\Phi(^{\circ})$	105	97.5	202.5	247.5

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)	5.2G	5.3G	5.6G	5.785G
Ant. 1 [$10^{(G/20)}$]	$10^{(1.38/20)}$	$10^{(1.27/20)}$	$10^{(0.17/20)}$	$10^{(1.71/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(-1.17/20)}$	$10^{(-1.42/20)}$	$10^{(-9.61/20)}$	$10^{(-3.87/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(-0.74/20)}$	$10^{(-0.79/20)}$	$10^{(-2.86/20)}$	$10^{(-0.34/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(-7.83/20)}$	$10^{(-6.23/20)}$	$10^{(1.98/20)}$	$10^{(1.37/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.172	1.157	1.02	1.218
Ant. 2 [$10^{(G/20)}$] value	0.874	0.849	0.331	0.64
Ant. 3 [$10^{(G/20)}$] value	0.918	0.913	0.719	0.962
Ant. 4 [$10^{(G/20)}$] value	0.406	0.488	1.256	1.171
Sum All Antenna [Amax]	3.37	3.408	3.326	3.991
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	4.53	4.63	4.42	6

Note:

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

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

9. Summary of Test Result

Freq(Hz)	2.4G	2.45G	2.4835G
Ant. 1 Max Gain (dBi)	1.66	2.79	2.77
Ant. 2 Max Gain (dBi)	3.72	3.49	2.32
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/82.5/352.5	Phi/82.5/352.5	Phi/82.5/345
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/90/307.5	Phi/90/315	Phi/90/315
Max Gain (dBi)	3.72	3.49	2.77

Note:

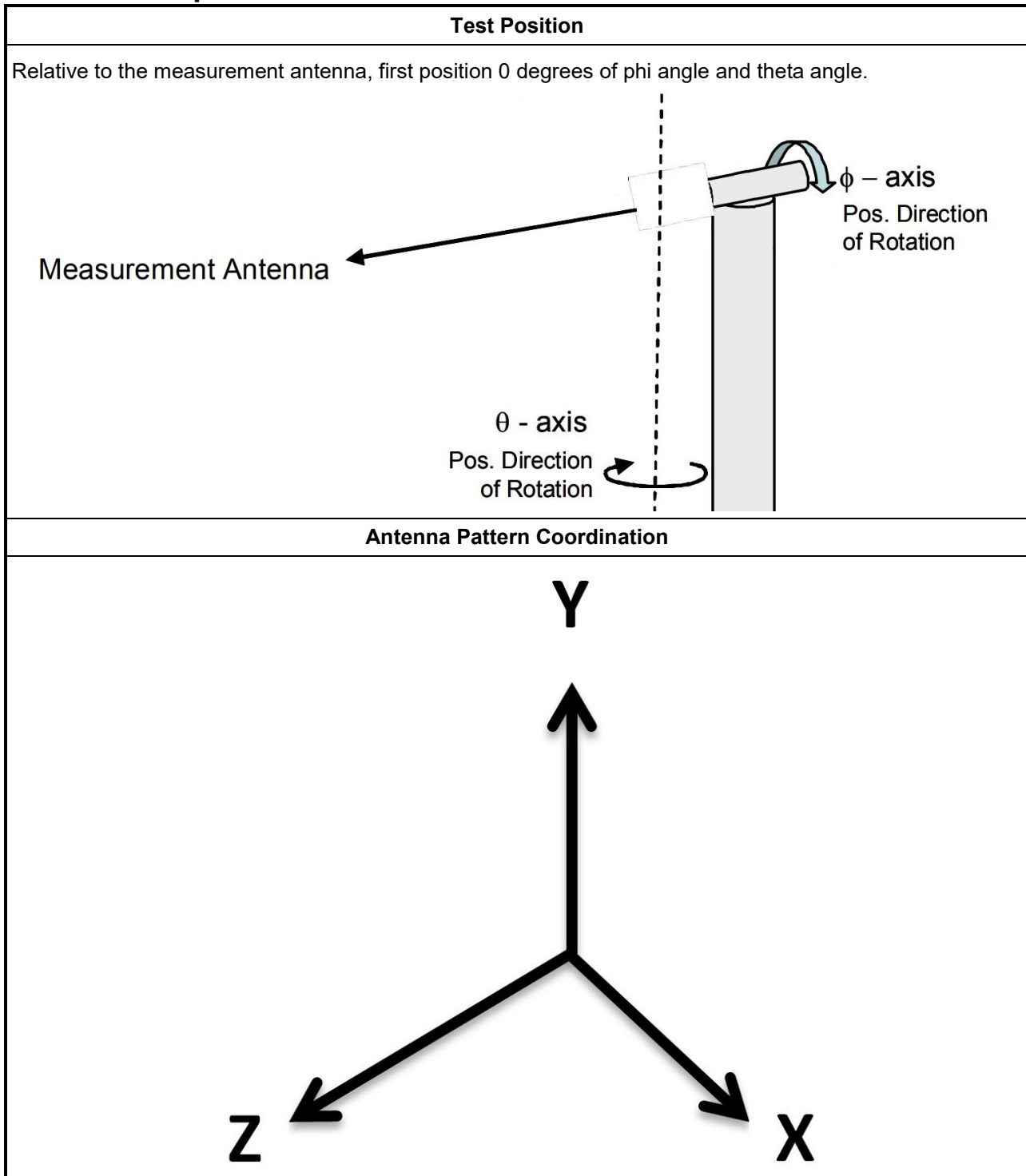
1. Antenna max gain is the max value of each individual antenna through all measurement angles.
2. The max gain is the max value of all antennas.

Frequency (Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	1.89	1.77	1.83	2.06
Ant. 2 Max Gain (dBi)	1.73	2.2	1.35	1.77
Ant. 3 Max Gain (dBi)	2.07	1.91	1.25	2.61
Ant. 4 Max Gain (dBi)	2.94	2.67	3.22	3.11
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/90/217.5	Theta/45/97.5	Theta/82.5/240	Theta/82.5/247.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/45/22.5	Phi/22.5/37.5	Theta/15/67.5	Phi/30/7.5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/90/127.5	Theta/97.5/127.5	Theta/82.5/352.5	Theta/90/225
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/82.5/300	Theta/90/322.5	Theta/82.5/210	Theta/127.5/292.5
Max Gain (dBi)	2.94	2.67	3.22	3.11
DG [1SS] (dBi)	4.53	4.63	4.42	6
DG [2SS] (dBi)	2.94	2.67	3.22	3.11
DG [4SS] (dBi)	2.94	2.67	3.22	3.11

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)

10. Test Setup



Note:

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

11. Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1543	1GHz~18GHz	May 11, 2023	May 10, 2024
Dual Polarization Horn Antenna	Sporton	S0209DP	S0209DP-001	2GHz~9GHz	N.C.R.	N.C.R.
ENA Series Network Analyzer	AGILENT	E5071C	MY46419477	100kHz~8.5GHz	Jul. 20, 2022	Jul. 19, 2023
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.

N.C.R. means Non-Calibration required.

12. Test Results

Please refer to the appendix.

Appendix A – Radiated Composite Gain of 2.4GHz.....	Page 15
Appendix B – Radiated Composite Gain of 5GHz U-NII 1~U-NII 3.....	Page 19
Appendix C – Antenna Pattern of 2.4GHz.....	Page 30
Appendix D – Antenna Pattern of 5GHz U-NII 1~U-NII 3.....	Page 33
Appendix E – Test Photos.....	Page 39



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Freq(Hz)	2.4G	2.45G	2.4835G
Ant. 1 Max Gain (dBi)	1.66	2.79	2.77
Ant. 2 Max Gain (dBi)	3.72	3.49	2.32
Ant. 1 Polarization/Θ(°)/Φ(°)	Phi/82.5/352.5	Phi/82.5/352.5	Phi/82.5/345
Ant. 2 Polarization/Θ(°)/Φ(°)	Phi/90/307.5	Phi/90/315	Phi/90/315
Max Gain (dBi)	3.72	3.49	2.77



Radiated Composite Gain Data_2.4GHz

Appendix A

Θ(22.5°)	-4.52/-5	-5.73/-6.77	-8.02/-9.33	-10.65/-12.3	-14.39/-16.96	-18.82/-18.16	-16.53/-14.49	-12.4/-10.82	-8.38/-6.61	-5.02/-3.74	-2.76/-2.1	-1.78/-1.78	-2.11/-2.77	-3.79/-5.15	-6.97/-9.29	-12.32/-15.69	-16.22/-13.25	-10.49/-8.54	-7.25/-6.45	-5.92/-5.59	-5.27/-4.93	-4.65/-4.41	-4.29/-4.25	-4.19/-4.28
Θ(30°)	-2.36/-2.85	-3.63/-4.63	-5.73/-6.9	-8.06/-9.37	-10.83/-12.16	-13.34/-14.28	-15.16/-15.78	-15.38/-13.82	-11.48/-9.05	-8.86/-4.98	-3.46/-2.3	-1.53/-1.18	-1.3/-1.89	-3.04/-4.64	-6.82/-9.61	-13.39/-16.8	-15.07/-11.25	-8.81/-6.98	-5.72/-4.88	-4.27/-3.4	-3.4/-3.05	-2.74/-2.45	-2.19/-1.94	-1.84/-1.37
Θ(37.5°)	-0.05/-0.67	-1.5/-2.49	-3.55/-4.64	-5.63/-6.49	-7.15/-7.67	-8.16/-8.61	-9.77/-9.34	-9.63/-9.87	-9.71/-8.69	-9.99/-5.16	-3.68/-2.23	-1.27/-0.8	-0.87/-1.46	-2.97/-4.05	-6.06/-8.66	-12.54/-18.8	-18.77/-13.88	-9.76/-7.17	-5.52/-4.42	-3.61/-2.99	-2.44/-1.96	-1.46/-0.86	-0.25/-0.26	-0.50/-0.26
Θ(45°)	1.40/-77	-0.09/-1.08	-2.18/-3.31	-4.14/-4.56	-4.62/-4.67	-4.94/-5.48	-6.18/-7.02	-8.02/-9.34	-10.67/-10.63	-9.16/-7.39	-5.8/-4.33	-3.11/-2.36	-2.1/-2.37	-3.01/-3.83	-4.86/-6.31	-8.37/-11.45	-16.18/-18.12	-13.12/-9.24	-6.76/-5.18	-4.25/-3.76	-3.37/-2.79	-1.86/-0.73	0.41/-1.33	1.83/-1.79
Θ(52.5°)	1.410/-77	-0.13/-1.24	-2.47/-3.65	-4.36/-4.47	-4.25/-4.25	-4.83/-6	-7.44/-8.82	-10.69/-13.84	-18.35/-18.17	-18.29/-18.99	-17.62/-13.87	-10.62/-8.65	-7.77/-7.45	-7.3/-7.12	-7.02/-7.41	-8.52/-10.37	-12.08/-11.62	-9.46/-7.12	-5.22/-3.94	-3.39/-3.63	-4.19/-4.2	-3.22/-1.74	-0.28/-0.9	1.66/-1.76
Θ(60°)	1.180/-56	-0.55/-1.98	-3.4/-4.64	-5.4/-5.68	-4.01/-3.91	-4.53/-5.6	-6.29/-6.47	-6.8/-7.65	-9.19/-11.23	-13.73/-16.11	-14.58/-10.77	-8.22/-9.64	-6.55/-6.76	-7.2/-7.43	-7.54/-8.21	-10.06/-13.11	-14.89/-11.51	-7.73/-5	-3.23/-2.21	-1.94/-2.38	-3.23/-3.47	-2.42/-1.08	-0.06/-0.7	1.27/-1.45
Θ(67.5°)	1.71/-16	0.18/-1.18	-2.59/-3.69	-3.99/-3.5	-2.89/-2.88	-3.81/-5.43	-6.88/-6.72	-6.49/-6.88	-8.23/-10.79	-15.51/-18.24	-16.99/-10.08	-6.9/-5.32	-4.68/-4.66	-4.89/-5.21	-5.75/-6.93	-9.1/-12.75	-17.92/-16.14	-9.39/-5.52	-3.57/-2.86	-3.1/-3.97	-4.9/-4.27	-2.1/-0.12	1.07/-1.61	1.83/-1.88
Θ(75°)	2.31/-84	1.11/-0.03	-1.25/-2.45	-3.08/-3.05	-2.89/-3.31	-4.72/-6.55	-6.51/-4.76	-3.54/-3.47	-4.58/-6.62	-9.3/-12.85	-18.54/-17.69	-12.84/-9.5	-7.93/-7.15	-6.67/-6.33	-6.36/-7.12	-8.84/-11.32	-15.78/-18.66	-13.21/-7.89	-5.26/-4.39	-4.86/-6.49	-8.55/-7.72	-3.98/-0.8	1.27/-2.3	2.62/-2.58
Θ(82.5°)	2.32/-173	0.92/-0.08	-1.18/-2.01	-2.25/-1.95	-1.66/-2.02	-3.21/-4.61	-4.69/-3.81	-3.53/-4.57	-7.21/-10.75	-13.33/-16.27	-18.36/-15.49	-10.55/-8.5	-8/-8.28	-8.33/-7.36	-6.27/-5.89	-6.47/-8.46	-12.59/-19.53	-15.46/-9.55	-6.32/-4.8	-4.69/-6.07	-8.23/-7.36	-3.81/-0.82	1.25/-3.9	2.77/-2.7
Θ(90°)	1.53/-1.1	0.19/-1.07	-2.26/-2.91	-2.84/-2.37	-2.13/-2.71	-4.3/-6.36	-7.21/-6.75	-6.97/-8.51	-9.64/-8.47	-7.84/-9.78	-15.66/-18.69	-12.28/-9.38	-8.64/-9.52	-11.62/-12.29	-9.92/-7.59	-7.03/-8.66	-13.23/-17.79	-11.31/-6.57	-3.99/-2.89	-2.91/-4.35	-7.09/-7.19	-3.79/-1.29	0.25/-1.12	1.52/-1.62
Θ(97.5°)	1.88/-163	0.9/-0.41	-2.1/-3.53	-4.04/-3.78	-3.53/-3.98	-5.28/-6.97	-7.59/-7	-6.68/-6.64	-5.96/-5.43	-6.57/-10.22	-16.75/-14.32	-10.05/-7.88	-7.45/-7.97	-9.02/-9.51	-8.41/-7.06	-7.07/-8.97	-14.14/-18.5	-12.36/-6.22	-3.3/-2.18	-2.25/-3.41	-5.32/-5.42	-2.59/-2.03	1.15/-1.81	2.01/-2
Θ(105°)	2.21/-77	1.05/-0.11	-1.88/-2.88	-3.19/-2.7	-2.28/-2.64	-3.89/-5.51	-5.91/-5.03	-4.64/-5.59	-4.87/-5.82	-8.75/-14.77	-18.99/-11.87	-7.68/-6.15	-6.24/-7.11	-8.86/-10.52	-9.94/-8.44	-7.92/-8.69	-17.17/-18.9	-18.12/-9.77	-4.39/-5.52	-7.17/-7.09	-3.92/-0.79	1.24/-2.77	2.59/-2.48	
Θ(112.5°)	1.65/-1.12	0.5/-0.14	-0.73/-1.14	-1.11/-0.77	-0.66/-1.21	-2.47/-3.97	-4.66/-4.96	-5.95/-7.85	-10.35/-14.45	-18.62/-15.8	-16.02/-10.87	-6.32/-4.72	-4.92/-6.17	-8.08/-9.5	-9.09/-7.92	-7.48/-8.35	-10.73/-15.45	-17.52/-12.66	-7.59/-5.31	-4.6/-4.92	-5.62/-5.75	-4.61/-2.63	-0.49/-1.03	1.79/-1.94
Θ(120°)	1.81/-141	0.64/-0.38	-1.44/-2.3	-2.67/-2.67	-2.69/-3.17	-4.14/-5.14	-9.48/-11.51	-12.4/-12.56	-11.17/-11.45	-18.17/-17.31	-9.4/-7.52	-8.32/-10.72	-13.66/-14.76	-11.74/-8.39	-6.87/-7.32	-9.49/-13.62	-18.42/-13.87	-7.81/-5	-4.03/-2.46	-4.93/-4.57	-3.38/-2.38	-1.35/-0.06	1.08/-1.72	
Θ(127.5°)	1.180/-9	-0.1/-1.66	-3.39/-4.76	-5.23/-4.77	-3.87/-3.14	-4.12/-6.09	-9.09/-13.02	-18.37/-19.09	-17.91/-19.41	-9.97/-14.57	-3.91/-4.21	-7.16/-8.23	-8.72/-8.22	-3.29/-9.91	-13.71/-18.9	-18.12/-9.77	-5.42/-4.32	-4.39/-5.52	-7.17/-7.09	-3.92/-0.79	1.24/-2.77	2.59/-2.48		
Θ(135°)	0.30/-3.9	0.02/-0.62	-1.38/-2.11	-2.7/-2.92	-2.79/-2.67	-2.82/-3.64	-5.28/-7.87	-11.27/-13.41	-12.59/-11.4	-11.24/-9.52	-5.75/-3.09	-2.14/-2.46	-3.22/-3.75	-4.33/-5.17	-5.97/-6.38	-6.73/-7.89	-10.22/-14.69	-19.11/-14.87	-8.56/-5.54	-4.04/-3.51	-3.54/-3.44	-2.61/-1.57	-0.98/-0.86	-0.65/-0.14
Θ(142.5°)	-1.67/-1.12	-0.74/-0.67	-0.97/-1.35	-2.39/-3.55	-4.8/-6.18	-7.64/-9.47	-11.71/-13.57	-12.86/-13.7	-9.26/-9.09	-9.78/-9.07	-6.62/-4.73	-4.07/-4.26	-4.65/-5.08	-5.92/-7.48	-9.3/-10.15	-10.24/-10.49	-11.28/-12.34	-12.34/-10.43	-6.23/-6.72	-5.96/-5.84	-6.29/-7.06	-7.03/-6.54	-4.01/-2.99	-2.48/-2.14
Θ(150°)	0.430/-36	0.170/-0.17	-0.65/-1.35	-2.42/-3.97	-6.08/-9	-13.24/-17.49	-18.25/-18.97	-14.96/-12.82	-12.49/-14.31	-18.94/-18.24	-13.45/-10.02	-8.55/-6.18	-8.45/-9.39	-11.29/-14.98	-17.94/-17.22	-18.02/-15.07	-13.22/-11.39	-8.91/-6.57	-4.57/-3.02	-1.93/-1.27	-0.95/-1.03	-1.33/-1.45	-1.08/-0.4	0.130/-39
Θ(157.5°)	1.130/-63	-0.05/-0.8	-1.62/-2.57	-3.74/-5.32	-7.34/-9.9	-12.87/-15.71	-17.62/-17.8	-17.53/-16.93	-15.42/-13.48	-10.9/-8.81	-7.35/-6.58	-6.41/-6.88	-9.72/-9.53	-11.49/-13.21	-14/-12.22	-14.3/-14.23	-13.88/-12.73	-10.7/-8.27	-6.09/-4.19	-2.63/-1.43	-0.56/-0.03	0.320/-51	0.71/-1	1.28/-1.34
Θ(165°)	-1.56/-2.21	-3.06/-3.92	-4.9/-5.86	-7.08/-6.43	-9.94/-11.52	-12.76/-13.42	-13.44/-12.63	-11.03/-9.16	-7.33/-5.68	-4.54/-3.72	-3.22/-3.01	-3.17/-3.77	-4.72/-6.02	-7.59/-9.21	-10.96/-12.86	-14.7/-16.6	-18.46/-19.32	-17.98/-15	-12.08/-9.56	-7.44/-5.62	-4.23/-3.15	-2.4/-1.91	-1.62/-1.4	-1.2/-1.22
Θ(172.5°)	-7.9/-8.18	-6.88/-6.8	-9.4/-10.14	-10.78/-11.34	-11.87/-12.57	-13.22/-12.97	-11.75/-9.97	-8.07/-6.39	-5/-4.06	-3.4/-3.01	-2.84/-2.89	-3.21/-3.85	-4.78/-5.97	-7.51/-9.46	-12/-15.02	-18.47/-18.55	-18.59/-18.32	-19.13/-19.07	-18.12/-18.36	-15.47/-13.31	-11.45/-9.97	-8.92/-8.27	-7.98/-7.79	-7.66/-7.6
Θ(180°)	-8.79/-8.42	-8.29/-8.65	-9.33/-10.36	-11.18/-11.7	-12.07/-12.52	-13.31/-13.07	-11.23/-10.98	-9.38/-8.11	-7.12/-6.46	-6.11/-5.97	-5.89/-6.03	-6.34/-6.89	-7.58/-8.43	-9.49/-10.75	-12.38/-14.37	-16.54/-18.76	-19.11/-18.65	-18.01/-19.76	-17.62/-15.48	-13.69/-12.29	-9.91/-9.56	-9.4/-9.36	-9.34/-9.15	
Freq(Hz)	2.4835GPol.	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-15.01/-12.83	-11.33/-10.21	-9.16/-8.17	-7.44/-6.94	-6.59/-6.43	-6.45/-6.67	-6.94/-7.17	-7.61/-8.41	-9.61/-11.1	-12.95/-15.32	-18.59/-17.9	-17.77/-18.18	-13.32/-13.97	-11.57/-10.11	-9.16/-8.79	-8.78/-8.99	-9.2/-9.21	-10.22/-10.8	-11.47/-12.57	-13.75/-14.97	-16.49/-18.69	-18.47/-17.6	-18.35/-18.37	
Θ(7.5°)	-18.59/-17.19	-15.62/-14.95	-14.34/-13.39	-12.36/-11.56	-10.78/-10.14	-9.66/-9.47	-9.31/-9.19	-9.53/-10.17	-11.14/-12.39	-14.29/-17.28	-19.03/-18.76	-19.04/-16.49	-12.87/-10.16	-8.23/-6.81	-5.9/-5.45	-5.3/-5.36	-5.41/-5.55	-5.83/-6.37	-7.14/-7.99	-8.09/-10.33	-11.81/-13.48	-15.24/-17.48	-19.39/-18.71	-17.99/-19.26
Θ(15°)	-17.56/-16.88	-16.28/-16.5	-17.54/-18.7	-19.27/-18.74	-17.2/-15.63	-14.23/-13.25	-12.42/-11.63	-11.41/-13.35	-11.54/-12.06	-13.42/-16.25	-19.43/-18.92	-19.51/-14.17	-10.79/-8.32	-6.28/-4.8	-3.76/-3.18	-2.91/-2.89	-3.03/-3.3	-3.74/-3.2	-5.07/-6.01	-7.05/-8.26	-9.71/-11.24	-12.93/-14.02	-15.75/-16.83	-17.57/-17.89
Θ(22.5°)	-15.01/-14.84	-14.74/-14.93	-15.6/-16.71	-17.91/-19.02	-19.02/-18.49	-17.83/-17.32	-16.34/-15.25	-14.73/-13.38	-12.68/-12.8	-14.71/-17.36	-18.36/-18.87	-15.5/-11.58	-8.62/-6.57	-7.47/-5.35	-2.35/-1.73	-1.44/-1.46	-1.7/-2.09	-2.59/-3.19	-3.96/-4.83	-5.63/-7.01	-8.33/-9.86	-11.35/-12.75	-13.78/-14.78	-15.2/-15.19
Θ(30°)	-15.04/-13.88	-13.25/-13.04	-13.12/-13.35	-13.63/-13.97	-14.21/-14.56	-15.45/-16.76	-18.3/-17.98	-17.3/-18.62	-16.92/-16.3	-17.33/-18.78	-17.83/-18.18	-15.44/-11.22	-8.21/-5.93	-4.06/-2.68	-1.62/-1.03	-0.98/-1.3	-1.67/-2.09	-2.62/-3.32	-4.22/-5.3	-6.55/-8.01	-9.71/-11.66	-13.95/-16.48	-17.69/-16.68	
Θ(37.5°)	-11.51/-10	-9.31/-9.14	-9.28/-9.59	-10.07/-10.67	-11.38/-12.3	-13.39/-14.44	-15.95/-19.3	-17.69/-19.77	-19.39/-16.22	-14.86/-15.25	-17.5/-18	-18.31/-14.4	-10/-6.98	-4.88/-3.37	-2.27/-1.58	-1.24/-1.17	-1.18/-1.23	-1.24/-1.41	-1.71/-2.31	-3.18/-4.26	-5.51/-6.93	-8.79/-11.44	-15.61/-19.05	-19.87/-14.35
Θ(45°)	-8.26/-7.26	-6.93/-7	-7.3/-7.98	-9.08/-10.56	-12.42/-14.53	-16.41/-17.54	-19.02/-19.11	-19.01/-17.78	-14.4/-11.67	-9.72/-9.85	-10.6/-12.79	-17.42/-19.12	-17.67/-12.1	-8.95/-6.84	-5.16/-3.99	-3.18/-2.77	-2.51/-2.3	-2.2/-2.69	-3.58/-4.77	-6.19/-7.78	-10.09/-13.54	-18.79/-17.82	-14.72/-10.27	
Θ(52.5°)	-8.89/-8.45	-8.8/-9.42	-10.18/-11.49	-13.25/-17.12	-18.65/-18.31	-19.16/-16.47	-15.08/-15.11	-15.62/-15.62	-14.52/-12.98	-11.6/-10.98	-11.36/-12.87	-14.94/-15.25	-12.83/-10.48	-8.68/-7.04	-5.42/-4.05	-3.13/-2.73	-2.67/-2.8	-2.84/-3.06	-3.38/-3.85	-4.67/-5.93	-7.55/-9.56	-12.16/-15.06	-17.07/-15.7	-12.6/-10.23
Θ(60°)	-15.22/-15.56	-17.48/-19.28	-19.19/-17.17	-17.6/-16.24	-12.78/-10.52	-9.11/-8	-7.61/-8.35	-10.05/-12.63	-17.89/-19.03	-17.67/-16.77	-15.57/-16.77	-18.23/-18.6	-14.69/-12.17	-10.17/-8.14	-5.93/-4.19	-3.13/-2.71	-2.61/-2.67	-2.86/-3.22	-3.76/-4.48	-5.39/-6.54	-8.04/-10.04	-12.29/-14.36	-15.51/-15.62	-15.47/-15.37
Θ(67.5°)	-19.19/-18.26	-17.09/-18.01	-18.39/-17.72	-17.3/-15.15	-14.43/-12.26	-11.2/-9.95	-9.72/-10.93	-13.61/-17.69	-18.25/-18.2	-13.74/-11.56	-11.59/-13.64	-16.93/-18.88	-14.97/-16.34	-13.99/-10.92	-8.08/-6.24	-5.32/-5.08	-4.99/-4.87	-4.75/-4.88	-5.66/-6.48	-8.29/-8.4	-10.75/-12.46	-14.87/-17.96	-19.14/-17.97	-18.71/-19.03
Θ(75°)	-18.03/-18.35	-18.12/-18.66	-18.74/-17.91	-17.7/-18.09	-17.18/-17.6	-18.74/-18.42	-16.92/-																	



Radiated Composite Gain Data_2.4GHz

Appendix A

Θ(67.5°)	-6.94/-5.53	-3.67/-2.9	-3.34/-4.38	-4.21/-2.56	-1.46/-1.72	-3.37/-5.62	-6.28/-5.4	-5.07/-6.22	-9.45/-14.47	-15.17/-12.06	-10.61/-9.82	-9.32/-9.11	-9.08/-8.87	-7.9/-6.34	-4.74/-3.56	-2.96/-3	-3.82/-5.08	-5.85/-4.77	-2.79/-0.85	0.61/64	2.432/97	3.112/79	1.860/19	-2.33/-5.32
Θ(75°)	-6.54/-4.71	-2.57/-1.66	-2.06/-3.42	-4.3/-3.36	-2.36/-2.82	-4.85/-7.1	-6.92/-5.48	-5.09/-6.49	-10.64/-18.02	-14.98/-11.42	-10.06/-9.33	-8.61/-8.17	-8.56/-9.96	-11.13/-9.51	-6.53/-4.23	-2.95/-2.7	-3.4/-4.64	-5.13/-3.77	-1.81/-0.23	0.91/1.79	2.553/13	3.363/13	2.27/0.65	-1.85/-4.97
Θ(82.5°)	-7.66/-5.99	-3.82/-3.05	-3.79/-5.42	-6.15/-3.71	-1.92/-2.03	-3.87/-6.07	-6.07/-4.66	-4.1/-5.33	-9.34/-15.37	-12.22/-9.43	-8.69/-8.63	-8.21/-7.37	-7.17/-7.75	-8.48/-7.94	-6.01/-4.08	-3/-2.91	-3.82/-5.76	-7.05/-5.71	-3.42/-1.43	0.21/1.48	2.463/13	3.32/93	1.90/1	-2.52/-5.6
Θ(90°)	-10.04/-7.76	-4.63/-3.36	-3.59/-4.53	-4.3/-5.56	-1.54/-2.24	-4.78/-7.99	-8.04/-5.92	-4.78/-5.4	-8.58/-15.01	-14.09/-10.37	-9.14/-9.09	-9.1/-8.65	-8.36/-8.56	-8.65/-7.82	-5.94/-4.09	-2.94/-2.67	-3.33/-4.93	-6.43/-5.67	-3.26/-0.85	0.952/16	2.993/48	3.492/94	1.71/-0.3	-3.26/-7.09
Θ(97.5°)	-9.6/-6.61	-3.49/-2.28	-2.57/-3.91	-4.77/-3.77	-3.1/-4.24	-7.3/-10.35	-9.28/-7.09	-6.12/-6.91	-10.48/-18.24	-17.57/-12.67	-11.39/-11.55	-11.67/-10.76	-9.9/-9.36	-8.24/-6.53	-4.68/-3.33	-2.67/-2.68	-3.52/-5.29	-6.63/-5.36	-2.84/-0.63	0.84/1.74	2.392/89	3/254	1.37/-0.6	-3.64/-7.26
Θ(105°)	-8.9/-7.3	-4.57/-3.48	-3.83/-4.69	-4/-1.8	-0.65/-1.39	-3.75/-6.3	-6.42/-5.08	-4.4/-5.31	-8.82/-16.36	-15.41/-11.15	-9.67/-9.25	-9.66/-10.33	-11.1/-11.81	-11.01/-8.53	-5.95/-4.16	-3.23/-3.03	-3.89/-6.14	-8.01/-6.54	-3.92/-1.68	-0.170/7.8	1.572/27	2.592/31	1.31/-0.41	-2.97/-6.31
Θ(112.5°)	-9.5/-7.53	-4.57/-3.28	-3.23/-3.25	-2.22/-0.5	0.41/-0.13	-2.07/-4.45	-5.17/-4.26	-3.72/-4.8	-8.46/-16.71	-18.38/-14.09	-11.48/-10.07	-9.19/-9.16	-9.84/-10.88	-10.73/-8.84	-6.34/-4.43	-3.21/-2.89	-4.25/-7.89	-13/-11.65	-7.58/-4.15	-1.74/-0.15	0.971/1.81	2.181/92	0.91/-0.87	-3.49/-6.84
Θ(120°)	-9.75/-8.15	-5.44/-4.44	-4.86/-5.55	-4.99/-3.2	-1.79/-1.74	-3.27/-5.9	-7.52/-6.93	-6.69/-8.54	-14.14/-17.24	-18.94/-15.31	-13.97/-13.56	-13.18/-12.58	-12.95/-13.86	-13.01/-9.89	-6.56/-4.19	-2.7/-2.2	-3.14/-5.89	-10/-11.85	-8.54/-4.59	-1.72/0.08	1.21/92	2.08/1.61	0.38/-1.53	-4.13/-7.27
Θ(127.5°)	-10.45/-8.31	-6.03/-5.43	-6.4/-7.88	-7.66/-5.66	-3.96/-3.56	-4.67/-6.55	-7.28/-6.96	-7.54/-9.85	-13.17/-14.24	-14.59/-15.8	-16.39/-17.3	-17.71/-17.6	-18.46/-17.37	-13.32/-9.92	-7.14/-5.31	-4.2/-4.02	-5.15/-7.68	-10.52/-10.43	-7.23/-3.71	-1.08/0.53	1.471/94	1.91/2	-0.3/-2.61	-5.68/-8.95
Θ(135°)	-7.75/-6.86	-5.76/-5.43	-5.75/-6.09	-5.45/-4.32	-3.31/-2.87	-3.21/-4.19	-5.33/-6.4	-7.82/-9.44	-10.66/-11.37	-12.97/-16.67	-17.82/-18.45	-18.88/-18.29	-19.32/-14.32	-10.27/-5.8	-5.9/-4.87	-4.38/-4.65	-6.04/-8.38	-10.74/-10.7	-7.72/-4.38	-1.83/-0.09	0.991/62	1.721/24	0.04/-1.91	-4.4/-6.83
Θ(142.5°)	-6.44/-6.34	-5.87/-5.49	-5.19/-4.77	-4.34/-4.1	-4.02/-4.06	-4.42/-5.35	-6.94/-9.25	-12.2/-14.74	-15.22/-13.92	-13.25/-14.48	-18.17/-18.2	-18.4/-18.56	-15.96/-13.07	-9.27/-7.76	-6.48/-4.57	-5.06/-5.38	-6/-8.4	-9.97/-10.11	-8.19/-5.49	-3.13/-1.4	-0.28/0.37	0.61/33	-0.56/-1.94	-3.84/-5.58
Θ(150°)	-4.6/-5.08	-5.31/-5.43	-5.47/-5.54	-5.85/-5.68	-7.78/-9.26	-10.45/-11.26	-12.01/-12.67	-13.53/-14.78	-15.99/-16.53	-15.97/-16.31	-17.91/-18.44	-17.22/-15.33	-13.81/-12.65	-11.54/-11.44	-10.08/-8.86	-8.01/-8.15	-8.79/-9.85	-10.55/-10.02	-8.2/-5.84	-3.69/-2.09	-1.05/-0.48	-0.31/-0.35	-0.86/-1.65	-2.67/-3.8
Θ(157.5°)	-5.19/-6.21	-7.16/-8.02	-8.82/-9.54	-10.31/-11.47	-13.72/-18.51	-18.43/-19.44	-14.91/-12.27	-11.04/-10.82	-11.36/-12.28	-12.82/-12.85	-12.51/-12.2	-12.19/-12.76	-13.93/-15.02	-15.94/-16.36	-16.04/-15.56	-15.41/-15.79	-16.57/-17.17	-16.57/-14.36	-11.49/-8.57	-6.16/-4.4	-3.22/-2.5	-2.13/-2.08	-2.27/-2.68	-3.37/-4.3
Θ(165°)	-8.76/-10.25	-11.95/-13.66	-15.18/-15.49	-14.38/-13.02	-12.26/-11.86	-11.36/-10.53	-9.61/-8.96	-8.64/-8.7	-9.11/-9.63	-10.03/-10.16	-10.31/-10.69	-11.25/-12.32	-13.76/-15.45	-17.2/-18.36	-18.81/-18.07	-18.76/-19.1	-19.82/-18.92	-19.4/-18.97	-18.29/-15.37	-12.69/-10.57	-8.91/-7.59	-6.81/-6.38	-6.22/-6.3	-6.78/-7.64
Θ(172.5°)	-16.17/-18.45	-17.16/-18.92	-18.5/-15.36	-12.75/-10.91	-8.83/-9.24	-8.83/-8.45	-8.12/-9.96	-8.11/-8.52	-9.11/-9.72	-10.34/-10.93	-11.69/-12.6	-13.66/-14.76	-15.74/-16.51	-16.91/-16.99	-16.66/-16.22	-15.74/-15.4	-15.38/-15.7	-16.6/-16.06	-15.95/-15.69	-15.23/-14.45	-13.5/-12.57	-11.91/-11.62	-11.67/-12.08	-12.82/-14.2
Θ(180°)	-18.31/-17.77	-15.95/-14.19	-12.46/-10.97	-9.89/-9.09	-8.69/-8.63	-8.81/-9.09	-9.46/-9.91	-10.57/-11.35	-12.1/-12.57	-13.05/-13.78	-14.95/-16.53	-18.4/-19.21	-18.12/-17.94	-17.96/-19.01	-17.15/-15.52	-14.1/-13.04	-12.28/-11.93	-11.76/-11.59	-11.46/-11.4	-11.34/-11.19	-11.06/-11.16	-11.76/-12.85	-14.61/-17.03	-18.21/-18.6
Freq(Hz)	2.45G/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°)	-6.31/-5.98	-5.7/-5.52	-5.44/-5.37	-5.35/-5.46	-5.74/-6.27	-7.1/-8.27	-9.69/-11.49	-13.97/-17.89	-18.33/-18.19	-17.32/-12.65	-9.93/-8.38	-7.39/-6.63	-5.98/-5.44	-4.96/-4.59	-4.36/-4.33	-4.53/-4.98	-5.66/-6.53	-7.71/-9.48	-11.73/-14.58	-18.28/-18.04	-18.28/-17.04	-13.87/-11.78	-10.18/-8.78	-7.63/-6.82
Θ(7.5°)	-5.76/-5.19	-4.78/-4.58	-4.51/-4.55	-4.75/-5.13	-5.74/-6.66	-7.87/-9.52	-11.72/-14.49	-18.58/-18.59	-18.65/-18.68	-14.02/-10.81	-8.84/-7.69	-6.93/-6.41	-6.03/-5.67	-5.3/-5	-4.81/-4.77	-4.96/-5.21	-5.7/-6.48	-7.26/-8.56	-10.08/-12.37	-14.88/-18.93	-17.7/-14.49	-17.58/-13.82	-11.61/-9.14	-7.64/-6.58
Θ(15°)	-4.9/-5.37	-3.94/-3.77	-3.73/-3.91	-4.33/-5.02	-6.03/-7.36	-9.05/-11.27	-14.35/-15.67	-17.84/-19.19	-18.17/-14.64	-11.76/-9.58	-8.07/-7.04	-6.48/-6.17	-5.07/-5.95	-5.75/-5.61	-5.46/-5.43	-5.66/-6.22	-5.99/-6.5	-7.2/-8.09	-9.28/-10.89	-12.69/-16.08	-15.51/-18.61	-16.67/-13.79	-8.47/-6.81	-7/-5.9
Θ(22.5°)	-3.81/-3.35	-3.11/-3.03	-3.09/-3.37	-3.95/-4.95	-6.38/-8.22	-10.51/-13.53	-18.17/-18.44	-18.01/-18.96	-15.31/-12.53	-10.51/-8.92	-7.74/-6.84	-6.29/-6.1	-6.13/-6.18	-6.26/-6.29	-6.41/-6.44	-6.53/-6.73	-7.12/-7.64	-8.32/-9.07	-9.94/-11.17	-12.87/-15.25	-18.24/-18.59	-14.69/-11.1	-8.44/-6.65	-5.38/-4.52
Θ(30°)	-2.61/-2.4	-2.32/-2.32	-2.42/-2.78	-3.46/-4.66	-6.34/-8.58	-11.51/-15.41	-18.5/-18.15	-18.5/-17.84	-14.54/-12.24	-10.5/-9.14	-7.96/-7.03	-6.58/-6.56	-6.78/-7.08	-7.44/-7.81	-8.19/-8.46	-8.5/-8.64	-9.02/-9.58	-10.01/-10.32	-10.77/-12.42	-12.34/-13.87	-15.52/-15.32	-12.4/-9.21	-6.78/-5.03	-3.85/-3.06
Θ(37.5°)	-1.95/-1.87	-1.89/-1.94	-2.08/-2.46	-3.19/-4.47	-6.31/-8.85	-11.97/-15.79	-18.81/-18.93	-19.49/-15.89	-13.04/-11.16	-9.84/-8.84	-7.86/-7.19	-7.07/-7.4	-7.91/-8.49	-9.19/-9.99	-10.63/-10.92	-11.11/-11.2	-11.57/-11.8	-11.57/-11.23	-10.75/-10.49	-10.66/-11.37	-12.67/-13.43	-11.95/-9.05	-6.41/-4.44	-3.08/-2.29
Θ(45°)	-2.5/-2.51	-2.66/-2.84	-3.11/-3.53	-4.17/-5.29	-6.87/-8.9	-11.06/-12.86	-14.81/-16.89	-17.2/-14.68	-12.1/-10.26	-9.08/-8.09	-7.25/-6.74	-6.87/-7.54	-8.48/-9.41	-10.46/-11.73	-12.97/-13.39	-12.89/-12.75	-13.33/-13.92	-13.47/-11.79	-10.25/-9.18	-8.69/-9.22	-10.6/-12.53	-13.58/-11.32	-8.03/-5.5	-3.8/-2.82
Θ(52.5°)	-3.61/-3.54	-3.72/-4.08	-4.55/-5	-5.52/-6.46	-7.82/-9.51	-10.89/-13.21	-12.52/-14.68	-16.68/-15.59	-13.12/-10.11	-9.48/-8.19	-7.17/-6.74	-6.98/-7.95	-9.22/-10.24	-11.08/-12.29	-13.55/-13.9	-13.64/-14.24	-15.91/-17.65	-17.34/-14.24	-11.24/-9.4	-8.67/-8.93	-10.22/-12.98	-18.18/-17.92	-11.52/-7.63	-5.33/-4.09
Θ(60°)	-4.15/-4.05	-4.46/-5.25	-6.25/-7.19	-8.11/-9.42	-11.47/-13.36	-13.03/-12.12	-12.97/-16.19	-18.17/-18.97	-18.27/-14.69	-12.34/-10.41	-8.84/-7.94	-8.11/-9.34	-11.01/-12.05	-12.63/-13.17	-13.71/-13.91	-14.13/-15.3	-17.99/-18.59	-18.76/-17.12	-13.08/-10.85	-9.93/-10.14	-11.31/-14.27	-17.91/-18.82	-13.64/-8.96	-6.34/-7.9
Θ(67.5°)	-5.55/-5.58	-6.31/-7.79	-9.9/-12.12	-13.99/-15.85	-16.58/-14.52	-12.26/-11.65	-13.18/-17.37	-18.85/-18.32	-17.6/-15.72	-13.87/-12.02	-10.17/-9.22	-9.78/-11.94	-14.74/-15.94	-15.07/-13.75	-12.92/-13.14	-14.62/-16.71	-19.25/-18.15	-18.02/-17.58	-14.36/-12.54	-11.42/-11.08	-11.69/-14.01	-18.61/-19.03	-15.94/-10.7	-7.81/-6.19
Θ(75°)	-6.57/-8.63	-9.52/-11.63	-15.63/-17.83	-18.97/-16.61	-14.57/-12.82	-11.32/-10.83	-11.53/-13.27	-17.17/-17.88	-18.67/-17.89	-16.47/-13.82	-11.44/-9.81	-9.86/-11.73	-15.1/-18.11	-17.83/-15.68	-14.42/-15.24	-18.3/-18.67	-17.94/-17.53	-19.12/-17.13	-11.65/-10.53	-10.15/-10.9	-13.47/-19.44	-18.31/-15.71	-11.79/-52	
Θ(82.5°)	-12.85/-12.57	-12.95/-14.65	-19.66/-18.26	-18.73/-18.08	-19.38/-16.87	-14.07/-11.94	-10.76/-9.9	-10.2/-11.97	-16.1/-17.83	-19.19/-18.23	-15.27/-12.13	-11.43/-12.75	-15.08/-17.14	-17.88/-16.67	-16.59/-19.28	-17.8/-18.15	-16.68/-18.01	-17.65/-18.84	-17.12/-17.57	-14.58/-12.4	-11.05/-10.68	-11.64/-14.08	-17.83/-18.32	-15.6/-13.81
Θ(90°)	-17.68/-15.2	-12.44/-11.73	-12.62/-13.92	-14.52/-15.57	-18.81/-17.88	-19.15/-16.86	-12.91/-10.65	-9.79/-10.52	-12.96/-17.1	-18.61/-18.75	-17.56/-17.79	-15.93/-16.4	-17.66/-18.25	-17.61/-16.3	-18.33/-17.67	-18.57/-18.16	-18.12/-17.77	-17.96/-19.34	-18.16/-15.61	-11.14/-13.23	-12.91/-13.53	-15.55/-18.12	-18.12/-18.41	
Θ(97.5°)	-13.29/-11.32	-9.56/-9	-9.15/-9.29	-9.41/-10.83	-15.29/-17.72	-17.86/-13.61	-10.93/-9.44	-8.91/-9.66	-11.69/-14.34	-17.17/-17.77	-17.57/-17.37	-18.44/-18.17	-18.99/-18.23	-17.65/-18.18	-18.75/-17.68	-19.26/-18.02	-18.81/-17.67	-19.06/-18.21	-18.12/-18.84	-18.26/-15.37	-12.82/-11.27	-10.5/-10.29	-10.47/-11.07	-12.18/-13.32
Θ(105°)	-8.42/-8.32	-7.78/-7.54	-7.81/-7.7	-7.29/-8.17	-11.86/-17.71	-15.06/-10.55	-8.32/-7.25	-6.87/-7.17	-8.35/-10.46	-13.77/-17.97	-18.51/-17.27	-18.35/-19.35	-18.69/-18.4	-18.87/-18.34	-19.09/-19.17	-17.19/-18.18	-17.92/-19.17	-17.22/-15.6	-15.58/-17.2	-18.66/-16.35	-12.67/-10.06	-8.8/-8.57	-8.57/-8.4	-8.28/-8.32
Θ(112.5°)	-6.71/-6.35	-5.86/-5.88	-6.94/-7.85	-7.43/-7.83	-10.89/-17.04	-13.17/-8.8	-6.55/-6.4	-4.82/-4.64	-5.22/-6.91	-10.1/-14	-15.65/-14.5	-13.97/-16.51	-19.23/-17.94	-18.48/-18.75	-18.94/-18.91	-18.37/-18.28	-17.33/-1							



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Freq(Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	1.89	1.77	1.83	2.06
Ant. 2 Max Gain (dBi)	1.73	2.2	1.35	1.77
Ant. 3 Max Gain (dBi)	2.07	1.91	1.25	2.61
Ant. 4 Max Gain (dBi)	2.94	2.67	3.22	3.11
Ant. 1 Polarization/Θ(°)/Φ(°)	Theta/90/217.5	Theta/45/97.5	Theta/82.5/240	Theta/82.5/247.5
Ant. 2 Polarization/Θ(°)/Φ(°)	Phi/45/22.5	Phi/22.5/37.5	Theta/15/67.5	Phi/30/7.5
Ant. 3 Polarization/Θ(°)/Φ(°)	Theta/90/127.5	Theta/97.5/127.5	Theta/82.5/352.5	Theta/90/225
Ant. 4 Polarization/Θ(°)/Φ(°)	Theta/82.5/300	Theta/90/322.5	Theta/82.5/210	Theta/127.5/292.5
Max Gain (dBi)	2.94	2.67	3.22	3.11
DG [1SS] (dBi)	4.53	4.63	4.42	6
DG [2SS] (dBi)	2.94	2.67	3.22	3.11
DG [4SS] (dBi)	2.94	2.67	3.22	3.11

DG 1SS Result

[illegible]



Radiated Composite Gain Data_5GHz UNII 1~UNII 3

Appendix B

Θ(15°)	1.221/43	1.852/17	2.451/96	0.711/0.77	-2.03/3.58	-5.11/-6.81	-8.12/-8.41	-6.99/-7.18	-6.69/-5.7	-4.42/-3.12	-1.69/-0.4	0.350/33	0.561/16	1.170/84	0.70/56	-0.21/-159	-2.99/3.86	-5.87/-8.67	-10.84/-11.4	-10.63/8.68	-6.52/4.57	-3.47/-2.19	-0.54/0.19	-0.29/0.37
Θ(22.5°)	1.95/-14	1.14/-124	1.43/13	0.61/-0.52	-2.58/-4	-4.74/-5.7	-7.22/-6.68	-7.02/-6.18	-5.69/-4.48	-2.49/-1.01	-0.23/-0.3	-0.27/-0.27	-0.71/-1.18	-1.15/-0.69	-0.43/-0.36	-0.51/-1.3	-3.27/-5.73	-8.17/-9.23	-10.11/-10.41	-8.26/-6.32	-4.33/-2.05	-0.25/0.4	1.192/0.8	2.232/1.4
Θ(30°)	2.3/-24/1.9	0.93/-0	-0.190/0.2	-0.77/-1.72	-3.04/-4.32	-5.38/-5.8	-6.48/-7.82	-8.34/-6.85	-3.88/-2.65	-1.91/-1.17	-0.85/-0.87	-1.03/-0.56	-0.25/-0.68	-0.89/0.05	0.39/-0.4	-1.79/-2.89	-4.19/-6.98	-10.39/-12.21	-12.63/-9.8	-6.39/-4.01	-2.05/-0.72	0.24/0.71	1.33/1.71	1.882/5.1
Θ(37.5°)	2.912/88	1.98/-0.02	-2.01/-1.9	-1.34/-2.48	-4.57/-5.82	-6.68/-6.41	-7.8/-8.88	-7.41/-5.04	-4.08/-3.18	-1.84/-0.78	0.02/-0.05	-0.88/-0.55	0.20/63	0.870/82	-0.53/-2.83	-3.23/-2.62	-3.08/5.04	-7.96/-9.66	-9/-9.09	-7.51/-5.81	-5.29/-4.05	-2.21/-0.46	0.53/1.82	3.013/0.4
Θ(45°)	3.09/2.66	1.3/-0.39	-1.05/-2.27	-3.57/-5.84	-8.21/-7.54	-6.8/-6.4	-6.72/-7.98	-8.35/-5.51	-4.25/-3.05	-1.82/-1.95	-1.87/-1.27	-1.92/-3.17	-2.76/-2.05	-0.87/-0.35	-0.78/-1.92	-3.85/-5.94	-7.66/-9.1	-11.18/-9.1	-7.03/-7.57	-7.93/-6.44	-5.23/-4.79	-3.15/-0.88	0.28/0.63	1.662/49
Θ(52.5°)	2.151/57	0.11/-0.03	-0.4/-1.79	-3.99/-5.55	-5.69/-7	-7.72/-7.09	-8.11/-9.49	-8.42/-6.82	-9/-4.38	-1.32/-1.84	-2.6/-2.31	-2.12/-1.9	-4.86/-4.74	-2.71/-1.25	-1.41/-3.02	-3.55/-4.42	-5.46/-7.07	-8.63/-10.2	-9.88/-11.16	-8.94/-6.07	-6.52/-4.71	-2.13/-1.36	-0.6/-0.21	0.91/95
Θ(60°)	1.2/0.64	-0.59/-3.01	-2.72/-2.49	-4.11/-6.7	-8.85/-9.07	-7.89/-5.87	-7.11/-9.2	-7.34/-6.99	-11.9/-8.18	-4.55/-4.96	-4.6/-4.14	-3.95/-3.89	-4.99/-5.49	-3.9/-1.71	-2.25/-2.86	-4.22/-5.4	-7.1/-10.56	-8.63/-8.53	-7.14/-9.75	-11.04/-7.17	-6.01/-3.86	-1.57/-1.86	-2.22/-1.63	-0.44/0.64
Θ(67.5°)	0.53/-1.28	-2.79/-3.33	-3.19/-2.89	-4.99/-6.86	-7.79/-8.81	-9.9/-7.65	-7.74/-9.75	-6.84/-7.79	-11.2/-7.14	-6.92/-8.14	-5.63/-4.52	-4.48/-5.9	-6.8/-4	-3.69/-3.82	-2.91/-4.22	-5.19/-5.86	-7.28/-8.94	-10.16/-10.07	-7.75/-8.43	-8.49/-4.92	-4.74/-3.98	-3.23/-3.58	-3.81/-2.71	-1.89/-0.01
Θ(75°)	-0.35/-1.43	-4.06/-5.2	-4.5/-5.11	-7.65/-7.75	-6.39/-7.37	-10.14/-8.17	-8.02/-9.84	-5.43/-6.87	-11.03/-6.96	-8.93/-7.45	-4.99/-4.19	-4.34/-3.36	-5.07/-7.83	-8.71/-4.79	-3.7/-6.47	-8.5/-10.46	-7.65/-8.16	-8.76/-11.09	-8.4/-7.82	-7.61/-4.23	-4.77/-4.22	-3.37/-4.24	-3.39/-2.82	-2.95/-1.81
Θ(82.5°)	-1.51/-2.83	-4.1/-4.65	-4.05/-4.8	-7.31/-8.19	-7.96/-8.47	-10.11/-7.56	-8.43/-9.33	-6.87/-10.01	-8.85/-6.22	-10.62/-10.07	-6.63/-5.28	-6/-6.25	-5.33/-6.39	-8.96/-7.65	-5.38/-5.67	-7.46/-10.17	-9.18/-9.46	-8.74/-7.83	-9.43/-7.32	-7.68/-3.74	-4.05/-2.15	-2.48/-4.2	-3.86/-3.08	-2.89/-2.65
Θ(90°)	-2.83/-3.98	-4.43/-4.8	-4.64/-5.08	-7.66/-7.46	-6.82/-7.69	-9.34/-9.9	-9.44/-10.18	-6.31/-9.37	-7.55/-4.93	-9.44/-7.53	-5.51/-4.01	-3.73/-4.39	-4.38/-5.87	-7.82/-7.68	-6.81/-6.57	-4.67/-7.02	-10.26/-9.78	-9.53/-8.69	-9.22/-6.31	-6.1/-4.32	-3.13/-3.37	-2.86/-4.66	-4.04/-3.11	-0.40/-3.9
Θ(97.5°)	-2.84/-3.92	-4.61/-5.04	-4.05/-6.24	-7.38/-6.72	-7.38/-7.54	-7.5/-8.26	-10.46/-9.84	-7.88/-11.34	-8.55/-6.82	-8.13/-8.68	-7.5/-5.97	-7.28/-6.4	-4.34/-5.46	-6.15/-6.95	-6.57/-6	-5.66/-6.74	-11.08/-12.03	-9.33/-8.87	-10.99/-7.14	-7.96/-6.2	-4.55/-2.43	-3.1/-6.13	-4.81/-4.9	-3.45/-3.59
Θ(105°)	-3.5/-4.31	-3.99/-3.27	-5.74/-6.51	-6.69/-6.23	-5.38/-5.38	-7.42/-8.42	-9/-10.38	-9.18/-12.03	-8.02/-5.19	-8.22/-6.52	-6.86/-5.61	-5.11/-6.93	-6.29/-5.72	-6.29/-10.03	-7.47/-8.71	-6.39/-7.43	-10.8/-11.86	-11.17/-9.07	-10.46/-7.86	-6.81/-5.15	-5.08/-5.85	-3.78/-5.34	-5.35/-4.73	-4.24/-3.5
Θ(112.5°)	-2.74/-3.7	-4.23/-4.99	-6.41/-6.63	-6.26/-6.82	-4.98/-4.31	-7.17/-11.93	-12.16/-10.97	-9.37/-9.14	-8.52/-7.24	-7.52/-10.04	-8.75/-4.34	-6.13/-6.38	-6.71/-7.84	-8.57/-9.16	-11.21/-10.13	-7.4/-7.28	-9.62/-11.21	-10.54/-9.06	-10.47/-5.95	-7.12/-5.44	-5.24/-3.87	-4.35/-4.62	-3.28/-2.98	-3.79/-3.81
Θ(120°)	-3.46/-2.77	-4.13/-5.7	-5.95/-6.95	-6.74/-5.71	-4.44/-3.88	-6.15/-7.54	-9.66/-10.85	-8.44/-9.12	-8.78/-6.68	-6.65/-9.92	-7.67/-7.46	-5.06/-7.42	-8.34/-6.76	-7.01/-8.36	-10.61/-10.23	-7.23/-8.68	-9.77/-7.32	-8.95/-9.22	-10.88/-7.14	-7.79/-5.06	-6.54/-3.93	-1.24/-4.06	-5.9/-5.19	-2.76/-1.83
Θ(127.5°)	-2.48/-2.67	-2.24/-4.55	-4.27/-5.02	-6.37/-5.08	-3.01/-4.08	-7.8/-7.49	-8.48/-10.23	-8.64/-7.43	-7.65/-5.69	-4.03/-5.69	-6.54/-3.8	-2.48/-8.48	-9.59/-10.69	-10.51/-9.53	-10.1/-7.89	-8.71/-9.7	-7.37/-7.49	-4.73/-4.79	-6.58/-6.5	-5.84/-3.82	-3.89/-3.87	-0.58/-1.73	-1.29/-3.76	-2.71/-4.26
Θ(135°)	-2.3/-2.32	-0.97/0.92	-0.01/-0.75	-3.08/-5.8	-5.6/-8.5	-12.11/-9.7	-6.88/-8.81	-7.77/-1.77	-6.78/-5.57	-4.44/-3.02	-5.64/-5.7	-6.11/-4.42	-3.98/-3.91	-5.62/-5.5	-6.92/-5.69	-3.51/-6.09	-4.54/-5.5	-8.35/-9.88	-7.78/-5.76	-3.47/-2.82	-0.59/-0.57	-2.89/-1.24	-2.41/-2.3	
Θ(142.5°)	-2.91/-1.03	0.07/-0.18	-1.15/-2.49	-2.63/-6.68	-4.69/-6.6	-7.2/-6.43	-8.28/-10.46	-7.74/-5.98	-6.74/-6.6	-5.02/-2.42	-2.13/-3.11	-3.03/-4	-6.96/-7.51	-4.46/-4.04	-6.86/-6.73	-7.48/-6.62	-9.55/-5.56	-3.98/-5.59	-7.39/-9.46	-7.11/-6.17	-6.55/-7.68	-4.9/-2.64	-3.51/-2.31	-2.92/-3.07
Θ(150°)	-4.35/-3.79	-1.44/-0.24	0.09/-0.75	-1.91/-3.33	-5.42/-6.48	-6.28/-6.97	-9.49/-11.94	-10.26/-7.12	-5.57/-5.31	-5.28/-5.7	-5.77/-5.52	-6.38/-7.46	-6.74/-7.7	-7.44/-5.39	-4.67/-2.61	-3.98/-5.37	-5.17/-3.99	-4.75/-7.06	-8.1/-9.64	-7.4/-4.54	-4.73/-5.81	-8.02/-5.9	-3.41/-2.23	-2.32/-3.17
Θ(157.5°)	-5.71/-4.04	-1.96/-0.81	-0.66/-0.71	-1.39/-2.16	-3.83/-4.67	-8.18/-8.15	-8.14/-8.26	-7.64/-5.91	-4.81/-4.86	-5.49/-5.48	-4.25/-4.32	-3.76/-5.1	-7.42/-8.55	-5.93/-4.12	-4.2/-4.2	-3.28/-2.78	-2.93/-4.3	-6.27/-7.34	-8.2/-8.32	-7.11/-6.33	-4.69/-4.64	-5.42/-4.93	-3.91/-3.55	-4.48/-5.5
Θ(165°)	-2.7/-1.49	-0.73/-1.04	-1.75/-2.33	-2.58/-3.55	-4.89/-6.84	-9.25/-9.44	-8.52/-8.81	-9.15/-7.59	-5.66/-4.5	-4.08/-4.71	-5.16/-5.36	-5.88/-6.39	-6.46/-6.65	-5.49/-4.8	-5.27/-6.2	-5.42/-4.21	-4.9/-5.86	-7.42/-7.6	-7.51/-7.37	-7.23/-6.61	-5.56/-5.42	-5.47/-5.64	-4.5/-3.7	-2.86/-2.78
Θ(172.5°)	-3.25/-3.45	-3.14/-3.22	-3.69/-4.91	-5.47/-5	-5.14/-5.38	-6.07/-6.65	-7.12/-8.52	-10.41/-11.21	-9.94/-8.88	-8.01/-7.29	-6.18/-5.15	-4.37/-4.05	-4.71/-5.09	-4.01/-3.79	-4.52/-5.95	-5.17/-4.28	-4.47/-5.8	-8.24/-10.36	-11.31/-11.13	-11.41/-10.92	-9.91/-8.9	-7.49/-5.71	-4.58/-3.81	-2.93/-2.43
Θ(180°)	-5.46/-6.04	-6.58/-5.82	-5.5/-5.85	-6.96/-6.81	-6.24/-6.87	-7.93/-9.25	-11.06/-11.62	-11.34/-10.6	-10.13/-9.49	-8.33/-7.68	-6.65/-6	-6.16/-7.21	-6.76/-6.2	-6.69/-7.26	-7.23/-6.75	-7/-7.05	-7.59/-8.84	-9.74/-9.98	-9.08/-8.05	-7.41/-6.87	-6.75/-6.41	-5.37/-4.58	-4.65/-5.39	-5.16/-4.58
Freq(Hz)	5.60/GPol.	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°)	-6.36/-7.25	-7.25/-6.48	-4.91/-3.47	-2.41/-1.44	-0.62/0.13	0.46/0.57	0.80/0.92	0.72/0.47	0.21/-0.19	-0.83/-1.71	-2.65/-3.96	-5.81/-8.07	-8.92/-8.88	-8.77/-8.66	-5.09/-3.62	-2.31/-1.27	-0.51/0.06	0.61/0.1	1.26/1.47	1.62/1.44	1.17/0.6	0.02/-0.43	-1.56/-3.12	-4.48/-5.45
Θ(7.5°)	-1.14/-12.06	-1.56/-6.4	-4.43/-2.14	-1.25/-0.36	0.76/1.7	2.05/1.83	1.61/1.57	1.46/1.59	1.57/1.37	0.95/0.21	-0.33/-1.13	-2.53/-4.46	-5.27/-5.51	-6.25/-5.12	-3.66/-2.46	-1.68/-1.08	-0.22/0.56	0.71/0.56	0.51/0.55	0.39/-0.02	-0.42/-0.94	-1.81/-2.88	-4.31/-5.81	-7.57/-9.88
Θ(15°)	-7.86/-8.12	-8.58/-8.61	-5.32/-2.03	-0.12/1.06	2.11/2.95	3.07/2.65	2.36/2.21	2.27/2.46	2.47/2.36	2.01/1.53	0.4/-1.07	-2.49/-4.21	-4.66/-5.27	-5.41/-4.44	-2.99/-1.54	-0.65/0.07	0.75/1.29	1.67/1.76	1.46/1.21	1.1/1.06	0.93/0.68	-0.11/-1.24	-2.38/-3.41	-4.76/-6.29
Θ(22.5°)	-3.91/-4.46	-4.73/-4.11	-3.63/-2.7	-0.84/0.76	2.03/2.56	2.41/2.32	2.48/2.78	2.79/2.65	2.25/1.78	1.17/0.07	-1.64/-3.52	-5.45/-6.46	-6.63/-6.28	-5.45/-4.18	-2.64/-1.71	-1.2/-0.34	0.18/0.13	-0.48/-0.06	1.26/2.31	2.48/2.09	1.35/0.69	-0.06/-0.84	-2.16/-3.13	-3.94/-4.08
Θ(30°)	-4.27/-3.76	-2.58/-1.58	-1.11/0.36	0.54/0.71	0.96/1.8	2.24/2.66	2.86/2.76	2.63/2.4	1.83/1.08	0.11/-1.22	-2.87/-3.28	-2.8/-2.21	-1.82/-2.03	-3.23/-3.84	-2.97/-1.9	-0.98/-0.56	-0.92/-1.48	-2.07/-1.51	-0.38/0.9	2.04/2.03	1.28/1.06	0.64/-0.32	-1.44/-2.66	-3.68/-3.84
Θ(37.5°)	-3.11/-3.15	-2.66/-2.15	-1.21/0.38	1.71/73	1.51/191	2.46/2.91	3.06/3.16	2.82/2.24	1.39/0.75	-0.52/-2.08	-2.15/-2	-1.51/-0.59	0.19/0.52	0.08/-0.24	-0.42/-0.06	0.55/0.6	0.89/0.18	-0.58/-0.68	-0.44/0.36	0.58/-0.18	-0.40/-0.18	0.31/0.21	0.24/-0.04	-1.43/-2.51
Θ(45°)	-1.5/-0.94	-0.13/-0.82	-1.86/-0.92	-0.07/0.52	1.04/1.74	2.29/3.25	3.68/3.38	2.81/2.77	2.12/1.41	0.55/-1.42	-2.29/-2.45	-2.28/-1.79	-1.16/-0.45	0.50/7.1	-0.05/-0.18	0.26/0.54	0.39/-0.09	-0.76/0.28	0.27/-0.97	-2.41/-2.21	-0.8/-0.15	-0.51/-0.06	1.18/1.54	0.85/-0.69
Θ(52.5°)	-0.59/-0.44	0.29/-0.1	-0.51/0.69	0.98/1.32	1.36/1.75	2.79/3.41	3.08/2.75	2.31/63	0.6/0.66	0.18/-0.13	-1.55/-0.48	0.22/-0.71	-0.77/-0.14	0.61/0.22	-0.49/-0.88	0.19/1.78	1.95/0.81	0.94/1.17	-0.65/-1.62	-1.07/-0.73	-0.72/-0.37	-0.9/-0.34	1.382/0.4	0.91/0.45
Θ(60°)	-0.51/-1.67	-1.32/-0.38	0.38/1.38	1.12/0.49	-0.37/0.33	2.55/3.69	3.12/2.75	2.89/1.73	-0.16/-0.28	-1.96/-2.27	-1.47/-0.87	0.25/-0.44	-0.22/1.12	2.44/1.94	0.71/0.04	0.09/2.22	2.54/1.93	0.12/1.08	0.81/-0.51	-0.77/-0.39	0.40/0.92	0.39/0.82	1.34/0.97	0.88/1.14
Θ(67.5°)	1.41/-0.98	-2.74/-2.58	0.12/1.43	1.12/0.96	1.1/1.13	2.32/92	2.95/3.65	3.19/1.4	-0.34/-0.25	-1.34/-2.17	-1.5/-0.86	-0.02/-0.3	0.57/1.92	3.52/2.62	0.86/1.21	1.52/34	3.14/2.87	-0.48/0.01	0.43/0.54	0.14/0.75	0.21/0.13	1.16/2.3	1.4/-0.08	0.232/1.4
Θ(75°)	3.11/0.71	-2.93/-1.99	0.07/0.56	0.41/1.15	1.67/2.43	3.07/2.96	2.82/3.68	3.66/2.05	0.82/1.03	0.45/0.18	-0.02/0.6</													

Gain Result

Freq(Hz)	52G/Pol.	Phi(Ant.)	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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°)	-5.34(-1.5)	-5.47(-1.6)	-5.86(-3.5)	-5.56(-1.8)	-7.55(-9.2)	-11.26(-14.3)	-18.18(-19.3)	-18.78(-19.9)	-15.99(-13.79)	-12.42(-10.62)	-8.04(-6.24)	-5.15(-4.56)	-4.89(-5.08)	-5.4(-4.8)	-4.98(-5.36)	-5.88(-6.81)	-7.97(-9.63)	-11.56(-13.68)	-17.81(-18.39)	-17.9(-15.02)	-12.38(-11.09)	-9.55(-7.85)	-6.88(-6.23)	-5.89(-5.46)	
Θ(7.5°)	-7.51(-6.88)	-6.41(-6.54)	-6.18(-5.99)	-6.01(-6.84)	-8.23(-10.47)	-13.24(-16.94)	-18.08(-18.17)	-16.26(-18.82)	-10.74(-9.37)	-8.88(-9.74)	-6.21(-4.99)	-4.46(-4.89)	-5.4(-5.08)	-4.77(-4.88)	-5.79(-6.69)	-7.46(-7.65)	-7.96(-8.73)	-9.54(-10.29)	-11.91(-14.64)	-18.28(-19.05)	-18.15(-16.58)	-14.35(-12.61)	-10.31(-8.47)	-7.88(-6.06)	
Θ(15°)	-6.47(-9.73)	-12.25(-10.38)	-9.04(-8.25)	-7.29(-6.84)	-7.29(-8.76)	-10.85(-14.29)	-18.33(-18.45)	-15.09(-14.08)	-11.04(-9.46)	-9.82(-9.71)	-8.05(-5.92)	-6.65(-4.43)	-4.42(-4.73)	-4.92(-4.88)	-5.97(-6.62)	-9.01(-10.18)	-11.19(-12.18)	-12.15(-12.58)	-13.56(-12.63)	-10.16(-8.74)	-9.25(-9.16)	-7.39(-6.32)	-6.5(-7.85)	-6.76(-5.34)	
Θ(22.5°)	-7.51(-9.86)	-10.86(-12.74)	-13.11(-12.21)	-10.2(-8.75)	-9.25(-11.22)	-15.14(-17.7)	-17.22(-14.19)	-13.61(-14.14)	-15.99(-16.92)	-15.41(-11.02)	-8.76(-7.39)	-6.54(-5.82)	-5.34(-5.48)	-5.81(-5.64)	-5.39(-6.33)	-8.62(-11.31)	-13.19(-14.12)	-13.16(-12.98)	-13.88(-13.15)	-9.71(-7.55)	-6.8(-7.08)	-7.28(-7.04)	-6.44(-7.2)	-8.17(-1.65)	
Θ(30°)	-3.43(-5.53)	-7.64(-9.92)	-13.4(-17.39)	-16.6(-13.15)	-13.54(-14.67)	-16.89(-16.06)	-13.69(-12.89)	-15.09(-19.26)	-19.02(-17.11)	-11.15(-8.69)	-8.63(-9.34)	-6.48(-7.19)	-7.02(-7.56)	-7.11(-6.26)	-6.3(-7.5)	-8.75(-10.04)	-12.44(-13.61)	-12.9(-12.03)	-12.07(-12.77)	-13.44(-12.27)	-9.69(-7.09)	-5.49(-4.29)	-4.19(-4.48)	-4.17(-3.1)	
Θ(37.5°)	-5.24(-5.06)	-5.56(-6.83)	-9.38(-17.78)	-18.69(-15.11)	-14.26(-15.47)	-18.51(-15.02)	-18.65(-17.27)	-19.19(-19.08)	-18.07(-16.93)	-13.11(-10.9)	-10.21(-9.76)	-8.98(-9.7)	-7.21(-6.78)	-7.24(-8.7)	-10.83(-9.98)	-8.6(-8.7)	-10.17(-11.41)	-11.63(-11.86)	-12.95(-13.11)	-11.22(-9.42)	-9.05(-10.3)	-10.82(-9.9)	-8.23(-7.23)	-7.19(-5.98)	
Θ(45°)	-6.11(-6.01)	-5.94(-8.04)	-8.94(-10.07)	-14.29(-18.3)	-18.1(-16.21)	-18.93(-18.64)	-19.03(-17.74)	-17.63(-14.39)	-13.57(-14.03)	-12.95(-10.64)	-10.73(-8.02)	-9.04(-10.38)	-8.61(-7.33)	-7.24(-7.64)	-10.13(-8.47)	-8.03(-9.59)	-13.84(-16.82)	-16.27(-17.95)	-18.26(-18.25)	-18.92(-18.78)	-16.34(-11.15)	-9.27(-9.78)	-8.24(-11.13)	-8.53(-7.26)	
Θ(52.5°)	-8.12(-6.79)	-6.92(-7.87)	-12.02(-15.87)	-14.6(-17.64)	-18.46(-18.16)	-18.01(-18.32)	-18.27(-18.7)	-17.76(-17.59)	-19.76(-13.72)	-9.47(-8.56)	-9.55(-11.01)	-16.29(-19.21)	-9.67(-8.47)	-3.41(-3.94)	-8.39(-15.96)	-18.83(-19.13)	-11.89(-12.07)	-10.95(-11.86)	-15.13(-17.22)	-12.02(-9.94)	-10.21(-10.81)	-14.64(-17.97)	-18.05(-19.05)	-13.18(-10.02)	
Θ(60°)	-10.11(-10.01)	-11.13(-13.55)	-14.63(-12.56)	-12.17(-13.04)	-16.4(-18.28)	-18.08(-18.5)	-15.29(-14.61)	-14.56(-15.2)	-15.73(-12.03)	-9.15(-7.78)	-7.73(-10.42)	-12.89(-13.77)	-18.29(-12.66)	-8.27(-7.59)	-11.79(-17.78)	-14.05(-12.33)	-15.6(-17.23)	-18.03(-15.17)	-18.23(-16.47)	-12.41(-11.56)	-13.04(-11.86)	-9(-9.31)	-11.2(-13.8)	-18.87(-15.78)	
Θ(67.5°)	-15.25(-12.98)	-13.37(-18.74)	-18.37(-14.63)	-12.13(-15.04)	-17.35(-18.24)	-18.41(-18.72)	-16.78(-18.3)	-16.8(-19.15)	-15.78(-11.23)	-9.16(-10.47)	-11.94(-13.38)	-14.41(-16.38)	-14.87(-9.04)	-5.93(-4.88)	-6.72(-11.86)	-18.71(-15.35)	-12.96(-15.99)	-11.59(-12.6)	-17.09(-15.59)	-14.07(-11.18)	-12.07(-11.16)	-10.24(-9.64)	-8.95(-10.92)	-17.44(-15.78)	
Θ(75°)	-18.51(-15.55)	-16.78(-18.7)	-18.51(-17.62)	-14.19(-14.31)	-15.66(-18.64)	-18.59(-17.18)	-17.52(-17.61)	-18.78(-18.7)	-16.29(-11.21)	-11.06(-13.59)	-16.89(-15.5)	-15.05(-17.3)	-18.85(-18.13)	-14.98(-9.79)	-8.63(-11.34)	-18.08(-17.03)	-13.59(-18.38)	-19.37(-12.42)	-13.77(-10.47)	-10.36(-12.37)	-15.87(-12.79)	-10.03(-9.27)	-10.99(-16.85)	-19.05(-18.9)	
Θ(82.5°)	-18.58(-16.86)	-14.29(-13.62)	-18.82(-17.59)	-15.41(-13.7)	-19.65(-19.17)	-17.29(-15.85)	-17.51(-19.17)	-17.89(-18.25)	-14.56(-13.65)	-15.13(-17.61)	-17.74(-17.9)	-16.06(-18.02)	-18.72(-13.3)	-14.10(-8.99)	-8.32(-10.3)	-17.16(-18.09)	-14.69(-17.49)	-18.05(-10.6)	-13.22(-12.15)	-10.53(-13.77)	-12.99(-14.02)	-12.73(-15.83)	-17.88(-18.4)		
Θ(90°)	-18.6(-16.87)	-17.63(-14.35)	-17.2(-18.02)	-16.6(-14.96)	-17.2(-18.08)	-16.18(-18.23)	-17.2(-18.08)	-18.69(-19.1)	-16.48(-12.49)	-13.89(-19.22)	-18.74(-17.49)	-15.07(-15.61)	-18.08(-18.7)	-15.65(-12.27)	-10.26(-8.78)	-10.93(-19.25)	-18.56(-16.7)	-13.87(-11.05)	-19.13(-15.69)	-15.18(-12.3)	-15.2(-14.89)	-15.22(-14.68)	-13.35(-19.56)	-18.86(-18.04)	
Θ(97.5°)	-18.12(-18.59)	-17.02(-17.82)	-18.21(-17.36)	-14.89(-15.16)	-16.37(-17.87)	-17.44(-18.37)	-18.1(-18.74)	-18.21(-15.63)	-14.06(-16.81)	-18.94(-18.94)	-18.2(-18.22)	-18.25(-18.5)	-17.85(-19.89)	-17.74(-14.62)	-12.13(-11.92)	-10.46(-11.41)	-15.06(-15.59)	-17.84(-13.33)	-12.17(-16.91)	-18.16(-17.32)	-11.33(-19.21)	-18.67(-19.48)	-16.4(-17.78)	-19.02(-18.5)	
Θ(105°)	-18.14(-19.45)	-18.37(-14.49)	-18.18(-14.98)	-12.79(-14.99)	-17.33(-18.88)	-16.52(-17.98)	-19.32(-14.97)	-17.3(-17.34)	-18.33(-14.73)	-17.77(-17.67)	-18.04(-18.22)	-17.18(-15.47)	-18.14(-14.94)	-11.43(-9.81)	-11.61(-17.7)	-18.03(-13.39)	-16.19(-17.48)	-15.9(-13.93)	-18.52(-13.27)	-18.85(-19.21)	-14.23(-18.05)	-14.13(-18.23)	-18.35(-17.88)		
Θ(112.5°)	-16.69(-17.07)	-11.25(-16.18)	-18.59(-18.31)	-12.3(-12.02)	-14.09(-18.13)	-18.89(-18.14)	-18.86(-18.37)	-18.47(-18.55)	-16.95(-15.68)	-15.78(-15.59)	-15.07(-18.2)	-18.83(-18.87)	-16.18(-17.71)	-14.87(-17.85)	-13.67(-9.01)	-8.66(-9.45)	-19.22(-18.81)	-13.02(-15.24)	-18.34(-18.2)	-18.85(-17.02)	-16.88(-8.47)	-8.79(-18.33)	-18.73(-17.27)	-18.1(-18.51)	
Θ(120°)	-12.74(-15)	-13.59(-17.8)	-16.9(-12.6)	-8.43(-9.44)	-19.31(-14.98)	-15.77(-18.18)	-17.73(-19.28)	-16.73(-10.7)	-12.39(-11.42)	-11.13(-9.6)	-9.49(-13.21)	-13.85(-17.58)	-14.58(-12.16)	-14.5(-17.8)	-16.65(-15.33)	-10.05(-9.66)	-12.6(-15.21)	-12.2(-16.24)	-17.56(-15.88)	-15.87(-9.51)	-15.92(-12.6)	-6.21(-16.12)	-17.22(-18.4)	-18.1(-15.27)	
Θ(127.5°)	-17.8(-19.94)	-15.78(-9.49)	-9.15(-9.3)	-9.82(-12.97)	-15.08(-15.89)	-13.06(-16.56)	-18.74(-17.86)	-18.82(-13.55)	-13.11(-15.02)	-13.94(-17.11)	-12.83(-9.23)	-9.88(-9.43)	-16.56(-13.61)	-9.61(-11.51)	-9.34(-11.32)	-14.07(-11.05)	-7.88(-10.16)	-13.24(-14.78)	-8.27(-5.34)	-7.99(-12.38)	-18.09(-12.25)	-16.9(-10.97)	-15.05(-13.87)		
Θ(135°)	-6.83(-9.34)	-8.12(-10.23)	-8.51(-8.9)	-10.9(-13.25)	-12.51(-11.58)	-13.04(-16.46)	-16.87(-18.35)	-18.07(-16.13)	-12.55(-17.41)	-17.32(-13.13)	-14.12(-15.45)	-17.69(-14.68)	-9.7(-6.3)	-6.37(-7.17)	-11.94(-9.78)	-9.07(-9.82)	-10.51(-8.31)	-8.48(-10.98)	-13.71(-18.41)	-8.4(-8.26)	-10.54(-12.39)	-12.73(-17.82)	-15.28(-9.98)	-12.07(-6.69)	
Θ(142.5°)	-9.74(-16.58)	-10.02(-6.42)	-5.22(-6.36)	-10.94(-13.51)	-11.57(-10.58)	-13.15(-18.6)	-17.92(-17.24)	-18.18(-10.3)	-15.2(-12.84)	-12.67(-13.98)	-15.83(-16.23)	-13.36(-10.43)	-8.49(-7.89)	-8.84(-13.63)	-9.75(-10.52)	-11.66(-11.68)	-10.41(-10.08)	-13.59(-13.61)	-9.5(-12.58)	-17.59(-15.84)	-17.91(-19.17)	-16.5(-19.78)	-15.82(-17.78)	-9.5(-8.72)	
Θ(150°)	-7.53(-11.64)	-12.72(-12.45)	-7.31(-6.01)	-6.11(-6.39)	-7.22(-9.71)	-14.09(-18.74)	-18.41(-15.31)	-16.11(-17.92)	-18.38(-15.67)	-13.76(-14.27)	-16.56(-16.28)	-12.64(-9.32)	-8.74(-8.96)	-18.44(-14.98)	-19.21(-15.8)	-8.95(-7.82)	-9.96(-12.58)	-17.78(-18.24)	-13.89(-11.24)	-10.66(-11.19)	-10.72(-7.06)	-5.55(-6.32)			
Θ(157.5°)	-16.23(-17.91)	-14.02(-8.35)	-5.52(-4.59)	-4.48(-5.47)	-7.04(-11.41)	-18.88(-18.43)	-13.71(-10.83)	-10.97(-14.2)	-19.05(-15.31)	-12.23(-11.2)	-12.79(-12.66)	-12.43(-14.09)	-17.23(-15.7)	-9.6(-6.25)	-4.12(-2.86)	-3.28(-4.35)	-6.64(-9.35)	-12.58(-17.98)	-18.48(-18.04)	-14.66(-10.19)	-9.55(-9.72)	-10.09(-6.43)	-5.96(-8.93)		
Θ(165°)	-13.33(-11.08)	-9.84(-8.54)	-6.94(-6.55)	-5.5(-6.88)	-9.32(-16.48)	-18.31(-16.47)	-12.79(-11.98)	-13.35(-16.84)	-18.3(-19.23)	-19.03(-19.27)	-18.4(-15.93)	-16.43(-14.66)	-9.86(-6.59)	-5.19(-4.23)	-3.5(-4.1)	-4.05(-4.87)	-6.18(-8.2)	-11.56(-17.7)	-18.67(-18.82)	-18.9(-18.61)	-19.2(-13.85)	-10.61(-11)	-11.81(-9.16)	-8.49(-11.7)	
Θ(172.5°)	-11.94(-10.37)	-10.16(-9.82)	-9.53(-8.89)	-10.47(-11.87)	-13.74(-17.56)	-18.5(-17.67)	-18.81(-18.67)	-17.97(-19.55)	-16.94(-15.53)	-16.38(-14.98)	-13.9(-10.83)	-9.94(-9.32)	-8.31(-7.46)	-7.25(-7.49)	-9.21(-12.58)	-16.49(-18.64)	-16.49(-17.58)	-18.13(-18.06)	-17.78(-18.06)	-19.05(-19.4)	-14.04(-15.46)	-16.84(-16.21)	-14.73(-13.91)		
Θ(180°)	-12.34(-12.45)	-11.96(-11.89)	-12.27(-11.83)	-10.67(-11.36)	-11.18(-12)	-13.01(-13.88)	-18.52(-15.09)	-16.88(-17.97)	-18.91(-18.86)	-17.51(-16.71)	-15.36(-14.34)	-13.26(-13.32)	-14.68(-15.04)	-8.45(-14.15)	-14.45(-13.3)	-12.83(-13.31)	-13.67(-15.87)	-18.66(-17.93)	-17.39(-19.09)	-18.96(-19.46)	-17.06(-18.15)	-17.61(-17.32)	-18.44(-14.92)	-13.19(-11.94)	
Freq(Hz)	52G/Pol.	Theta(Ant.)	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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°)	-15.79(-16.58)	-16.95(-16.58)	-14.11(-10.75)	-8.72(-7.75)	-7.19(-6.37)	-5.39(-4.59)	-4.38(-4.51)	-4.94(-5.2)	-5.19(-5.58)	-6.14(-7.42)	-8.42(-9.51)	-11.74(-15.22)	-18.6(-17.69)	-18.45(-16.1)	-12.32(-10.22)	-8.78(-7.55)	-6.13(-4.94)	-4.43(-4.08)	-3.71(-4)	-4.59(-4.96)	-5.07(-4.97)	-5.85(-5.57)	-9.56(-9.82)	-11.07(-14.28)	
Θ(7.5°)	-15.61(-17)	-11.02(-11.86)	-18.94(-12.48)	-9.31(-7.16)	-6.82(-5.86)	-4.78(-4.14)	-3.85(-4)	-4.2(-4.63)	-4.92(-5.62)	-5.58(-4.99)	-6.21(-6.76)	-9.71(-10.72)	-11.34(-11.32)	-8.94(-11.32)	-11.17(-11.16)	-10.94(-10.04)	-8.71(-7.55)	-6.6(-6.28)	-5.74(-5.23)	-4.88(-5.58)	-6.44(-7.13)	-8.07(-10.15)	-8.99(-10.5)	-11.33(-18.5)	
Θ(15°)	-11.74(-11.53)	-11.46(-11.61)	-12.72(-12.81)	-10.94(-8.85)	-6.76(-4.96)	-3.51(-2.29)	-1.75(-2.05)	-2.3(-2.35)	-3.05(-3.6)	-4.58(-5.36)	-6.2(-8.2)	-8.82(-8.86)	-11.84(-9.36)	-10.07(-11)	-11.26(-10.29)	-8.73(-8.02)	-7.77(-7.71)	-7.04(-6.27)	-7.34(-8.93)	-9.62(-9.58)	-10.71(-10.33)	-11.46(-13.06)	-13.33(-12.01)		
Θ(22.5°)	-7.98(-7.51)	-7.11(-6.12)	-5.77(-6.04)	-6.55(-7.35)	-7(-5.58)	-3.53(-2.45)	-2.33(-2.17)	-1.85(-1.55)	-1.59(-1.58)	-1.72(-2.58)	-3.68(-4.81)	-5.69(-7.39)	-10.09(-9.92)	-8.98(-8.98)	-9.29(-9.83)	-9.62(-8.52)	-7.77(-8.02)	-8.07(-6.44)	-5.19(-4.84)	-5.62(-7.53)	-10.21(-13.9)	-19.43(-18.35)	-15.3(-14.93)	-12.82(-9.31)	
Θ(30°)	-7.45(-7.56)	-8.06(-7.17)	-4.88(-3.67)	-3.54(-2.45)	-4.78(-4.73)	-3.5(-2.46)	-1.50(-2.02)	-1.6(-1.01)	-0.3(-0.7)	-1.1(-1.55)	-2.13(-3.19)	-4.48(-6.52)	-8.3(-8.1)	-7.89(-9.53)	-8.61(-7.07)	-5.98(-5.43)	-5.63(-3.68)	-5.61(-4.39)	-4.13(-5.22)	-8.					



Radiated Composite Gain Data_5GHz UNII 1~UNII 3

Appendix B

Θ(22.5°)	-8.55/-8.33	-7.51/-6.38	-5.35/-5.44	-6.25/-7.84	-9.5/-9.51	-8.35/-7.92	-7.93/-8.36	-11.6/-16.54	-19.07/-18.7	-13.4/-9.24	-7.43/-6.89	-6.15/-5.87	-7.07/-8.1	-8.13/-7.37	-6.49/-5.34	-4.51/-4.55	-5.64/-7.55	-10.24/-12.97	-14.33/-13.04	-10.72/-9.09	-6.98/-5.02	-4.12/-4.56	-4.92/-4.78	-5.55/-7.87
Θ(30°)	-4.88/-6.79	-11.8/-12.76	-11.25/-10.24	-8.87/-9.11	-10.11/-9.84	-8.69/-8.05	-7.57/-9.16	-14.53/-18.53	-13.92/-12.64	-12.32/-9.41	-7.53/-7.72	-8.09/-8.62	-6.49/-7.38	-8.58/-7.43	-6.92/-7.3	-7.14/-6.53	-7.37/-9.51	-13.63/-18.89	-18.19/-18.07	-12.26/-7.75	-5.01/-4.75	-5.61/-5.65	-4.58/-4.31	-5.01/-4.87
Θ(142.5°)	-4.14/-4.47	-7.04/-10.86	-12.86/-12.66	-12.49/-11.18	-10.95/-11.31	-10.54/-8.87	-8.29/-10.05	-13.65/-15.02	-12.06/-10.8	-12.06/-10.8	-7.52/-7.63	-9.14/-9.54	-9.23/-8.44	-5.93/-4.3	-5.96/-10.06	-7.52/-6.11	-5.95/-9.96	-12.96/-15.04	-12.85/-11.27	-11.92/-12.83	-10.98/-8.32	-6.99/-6.06	-5.15/-3.53	-2.55/-3.59
Θ(45°)	-3.63/-3.7	-4.95/-9.15	-13.72/-14.82	-15.75/-15.61	-13.28/-12.91	-10.54/-7.79	-7.35/-9.3	-13.67/-18.46	-13.36/-9.4	-8.46/-8.69	-8.47/-9.98	-11.15/-15.87	-14.27/-10.32	-8.32/-6.07	-5.58/-8.75	-9.79/-11.01	-13.71/-16.33	-16.42/-12.33	-10.34/-11.75	-13.58/-13.97	-10.54/-11.65	-12.92/-11.76	-9/-6.73	-5.04/-3.63
Θ(52.5°)	-6.43/-5.9	-6.24/-8.31	-12.07/-12.72	-15.81/-17.37	-12.83/-15.01	-13.05/-8.04	-7.64/-10.2	-14.56/-18.1	-17.07/-11.47	-9.11/-9.43	-10.29/-12.37	-11.77/-11.96	-18.97/-13.67	-10.11/-6.76	-6.35/-9.2	-6.65/-9.21	-9.6/-15.71	-18.27/-16	-14.53/-14.95	-16.19/-12.84	-11.41/-11.37	-10.65/-9.11	-11.43/-10.58	-9.89/-6.14
Θ(60°)	-7.13/-7.29	-8.45/-11.41	-10.41/-10.15	-12.97/-18.96	-15.81/-13.96	-12.39/-9.06	-9.02/-11.18	-13.02/-14.69	-19.4/-14.86	-10.36/-9.89	-11.28/-13.31	-12.16/-8.79	-11.25/-18.22	-14.6/-9.71	-7.14/-6.93	-13.01/-9.96	-11.87/-17.77	-14.6/-12.95	-19.01/-14.87	-13.46/-11.01	-10.5/-16.45	-18.12/-18.31	-14.24/-8.76	
Θ(67.5°)	-9.59/-11.15	-11.41/-11.84	-11.28/-9.78	-11.66/-18	-17.5/-18.34	-15.11/-9.66	-9.84/-10.73	-12.43/-16.84	-18.15/-18.27	-15.8/-13.55	-11.99/-10.64	-11.64/-14.19	-18.56/-12.9	-12.06/-11.76	-7.28/-6.7	-10.51/-12.34	-11.38/-15.45	-18.98/-13.17	-12.97/-15.19	-13.91/-11.89	-11.29/-10.61	-9.45/-9.58	-13.51/-16.13	-18/-10.09
Θ(75°)	-12.52/-13.88	-13.24/-13.02	-12.24/-10.7	-13.39/-18.98	-17.83/-18.01	-19.27/-12.19	-11.62/-10.77	-10.91/-13.75	-18.19/-17.51	-16.31/-11.52	-9.9/-10.57	-12.45/-12.7	-14.47/-18.48	-13.91/-9.93	-7.35/-7.7	-11.75/-15	-10.86/-12.08	-13.02/-15.35	-12.93/-14.74	-13.54/-11.14	-10.04/-10.97	-10.99/-11.32	-11.46/-11.86	-18.18/-17.97
Θ(82.5°)	-14.28/-14.45	-14.88/-15.58	-14.37/-13.48	-14.78/-18.11	-18.77/-18.97	-16.75/-12.14	-12/-10.41	-10.26/-15.9	-18.31/-17.8	-18.94/-16.77	-13.38/-14.26	-19.71/-17.29	-13.94/-17.55	-18.41/-12.25	-7.1/-7.07	-11.69/-17.26	-12.84/-17.21	-17.35/-14.36	-15.09/-14.79	-14.87/-10.94	-12.11/-8.68	-7.81/-10.13	-11.21/-16.24	-17.31/-18.18
Θ(90°)	-14.37/-17.01	-15.94/-15.81	-19.23/-14.29	-15.65/-19.05	-18.4/-18.76	-17.91/-17.14	-14.65/-11.1	-10.12/-14.64	-18.41/-17.11	-17.28/-13.64	-14.8/-18.84	-18.93/-17.7	-17.96/-19.06	-17.23/-15.34	-11.43/-7.69	-9.01/-17.57	-16.71/-14.4	-14.71/-19.67	-12.54/-13.42	-17.25/-16.36	-10.15/-11.31	-13.26/-11.38	-12.22/-15.42	-19.09/-16.28
Θ(97.5°)	-14.22/-18.97	-19.48/-15.56	-14.46/-16.99	-16.83/-17.88	-18.48/-15.58	-14.62/-14.38	-13.77/-13.34	-14.47/-16.99	-17.95/-18.93	-17.27/-18.75	-15.5/-19.62	-17.17/-14.23	-13.91/-15.77	-18.35/-14.39	-10.01/-10.4	-13.06/-15.45	-18.66/-17.09	-13.89/-13.9	-17.94/-18.6	-17.46/-18.12	-13.83/-15.66	-14.79/-18.12	-16.56/-17.34	-18.48/-14.75
Θ(105°)	-16.61/-18.95	-14.58/-11.41	-15.36/-14.81	-17.33/-15.31	-14.05/-13.05	-17.14/-19.31	-18.25/-16.17	-15.22/-17.83	-18.32/-14.53	-18.05/-17.01	-18.64/-17.74	-13.79/-17.02	-18.24/-17.46	-17.87/-17.55	-13.14/-9.45	-11.12/-13.69	-18.44/-17.26	-13.77/-11	-12.08/-19.11	-14.06/-14.29	-18.8/-19.16	-16.06/-18.62	-15.22/-19	-18.67/-10.63
Θ(112.5°)	-17.17/-16.73	-18.34/-14.94	-14.23/-13.5	-16.82/-17.91	-18.05/-12.4	-13.46/-19.01	-18.49/-17.52	-19.67/-18.46	-18.9/-18.11	-19.01/-18.34	-18.74/-17.46	-16.57/-13.56	-18.12/-18.99	-19.09/-18.34	-17.1/-18.4	-13.56/-11.95	-12.91/-17.81	-16.72/-12.28	-13.47/-12.29	-13.32/-13.41	-18.3/-12.95	-15.26/-14.53	-18.65/-17.83	-17.74/-17.34
Θ(120°)	-19.08/-16.29	-17.81/-19.13	-16.08/-13.54	-15.06/-16.79	-10.68/-12.1	-18.61/-17.47	-18.51/-18.2	-18.87/-19.15	-16.88/-14.72	-19.07/-18.05	-17.69/-11.89	-12.74/-14.26	-16.17/-15.17	-15.65/-18.66	-18.04/-18.24	-18.34/-12.3	-11.68/-10.74	-17.93/-14.16	-16.84/-18.5	-18.64/-9.66	-15.12/-13.86	-17.17/-19.04	-14.99/-17.32	-16.3/-14.86
Θ(127.5°)	-11.26/-11.64	-11.95/-17.32	-16.8/-15.49	-16.25/-15.66	-10.9/-10.42	-16.19/-17.55	-17.57/-18.14	-18.74/-18.98	-17.3/-18.25	-18.19/-18.34	-11/-11.24	-8.8/-14.78	-15.54/-19	-15.65/-18.8	-12.52/-12.01	-13.42/-17.39	-17.68/-18.06	-9.88/-7.51	-9.35/-14.27	-11.93/-6.63	-6.87/-16.91	-17.19/-17.83	-18.11/-15.98	-18.47/-18.37
Θ(135°)	-15.55/-12.45	-11.23/-8.83	-8.88/-9.11	-12.36/-18.52	-14.28/-14.14	-18.62/-17.67	-16.71/-18.8	-18.89/-18.66	-17.22/-17.42	-13.91/-9.89	-10.05/-7.06	-7.44/-15.09	-18.39/-12.84	-8.36/-9.31	-11.73/-13.54	-14.81/-11.09	-9.66/-9.87	-8.85/-9.17	-12.51/-18.47	-15.11/-13.31	-11.16/-10.27	-14.09/-18.79	-14.03/-14.09	-15.03/-10.59
Θ(142.5°)	-19.35/-6.68	-6.8/-4.62	-7.75/-12.93	-11.62/-14.94	-11.62/-13.56	-13.84/-15.84	-18.59/-17.69	-18.31/-18.32	-14.71/-11.51	-10.84/-11.21	-10.81/-10.01	-9.22/-10.44	-18.62/-17.32	-11.11/-7.53	-7.93/-8.8	-8.66/-10.97	-19.15/-17.14	-14.27/-12.12	-14.88/-18.4	-18.2/-18.18	-16.65/-11.88	-9.79/-10.76	-14.96/-13.01	
Θ(150°)	-14.42/-16.21	-7.99/-5.88	-5.16/-6.3	-6.52/-8.36	-11.62/-15.84	-17.27/-18.48	-18.73/-17.42	-18.81/-14.33	-17.79/-19.51	-10.85/-11.11	-10.11/-10.99	-12.45/-12.54	-14.54/-11.46	-9.31/-11.35	-15.84/-13.26	-16.87/-16.14	-9.59/-9.69	-10.77/-9.66	-13.58/-13.97	-18.19/-18.27	-17.51/-18.27	-7.42/-7.01	-7.09/-9.39	
Θ(157.5°)	-18.77/-13.38	-7.92/-6.4	-6.57/-6.61	-7.66/-9.49	-10.94/-11.94	-13.14/-12.76	-13.12/-16.69	-18.92/-17.23	-18.44/-19.16	-16.29/-13.16	-9.59/-9.31	-11.93/-13.67	-14.4/-18.26	-16.41/-13.02	-12.78/-10.7	-8.77/-4.99	-4.76/-5.91	-8.25/-11.74	-15.68/-16.82	-15.6/-18.41	-18.43/-17.52	-19.19/-14.49	-9.7/-9.97	-13.06/-15.33
Θ(165°)	-16.69/-11.76	-9.3/-9.54	-10.57/-10.74	-11.53/-11.91	-11.04/-10.61	-11/-11.4	-12.07/-14.16	-15.8/-14.19	-13.82/-14.18	-12.56/-11.28	-12.6/-15.26	-17.46/-17.2	-18.53/-18.77	-13.9/-6.3	-8.18/-7.78	-7.54/-7.65	-8.83/-10.63	-12.4/-12.97	-13.73/-13.2	-13.07/-16.33	-18.02/-17.97	-16.49/-17.86	-16.15/-18.36	-16.14/-16.2
Θ(172.5°)	-13.41/-12.87	-11.81/-13.81	-15.33/-14.32	-13.01/-11.5	-10.68/-9.87	-10.67/-12.4	-13.69/-15.95	-17.58/-18.22	-17.88/-18.89	-18.68/-19.33	-18.54/-18.2	-15.27/-12.94	-14.83/-15.01	-12.83/-12.61	-14.62/-18.18	-15.44/-12.36	-11.03/-11.07	-11.69/-13.32	-15.59/-15.14	-15.17/-16.91	-17.17/-18.97	-17.44/-17.58	-18.78/-16.96	-13.25/-11.73
Θ(180°)	-13.67/-12.5	-11.33/-10.67	-11.22/-12.01	-12.96/-12.79	-11.98/-11.91	-12.56/-14.05	-15.79/-16.61	-17.24/-18.18	-17.98/-18.44	-19.35/-19	-14.98/-12.89	-14.38/-16.41	-14.68/-12.55	-14.59/-17.64	-16.72/-11.79	-10.07/-10.04	-10.6/-12.13	-11.47/-18.35	-18.09/-19.18	-17.79/-17.24	-19.04/-18.21	-18.34/-18.21	-17.48/-19.13	-10.71/-14.78
Freq(Hz)	5.660Pol.	ThetaAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-10.77/-11.79	-13.87/-13.57	-12.39/-10.71	-9.6/-8.09	-6.93/-5.97	-5.61/-5.38	-4.92/-4.67	-4.77/-4.84	-4.62/-4.96	-5.95/-7.02	-7.42/-8.23	-10.6/-13.65	-15.43/-14.52	-13.72/-12.61	-10.53/-8.8	-7.77/-6.9	-5.82/-4.69	-4.37/-4.27	-4.16/-3.79	-3.42/-3.66	-4.45/-5.53	-6.03/-5.84	-6.53/-7.79	-8.99/-9.35
Θ(7.5°)	-18.88/-18.15	-19.53/-13.73	-9.88/-6.75	-6.65/-5.54	-4.88/-4.5	-4.3/-1.46	-3.81/-3.96	-4.51/-4.66	-4.38/-2.45	-4.73/-5.62	-5.75/-5.43	-6.07/-5.78	-8.84/-9.82	-12.01/-13.73	-13.13/-15.53	-10.62/-9.88	-8.65/-7.77	-7.45/-7.27	-6.79/-6.05	-6.15/-6.74	-6.67/-6.58	-7.42/-8.81	-10.55/-11.43	-10.44/-17.51
Θ(15°)	-17.58/-18.14	-18.25/-17.71	-11.35/-8.09	-6.8/-5.56	-4.88/-4.52	-4.58/-4.85	-4.71/-4.6	-4.07/-3.2	-2.98/-2.97	-3.23/-3.75	-6.12/-6.72	-6.73/-7.98	-8.96/-10.69	-13.02/-14.19	-13.71/-12.95	-12.38/-11.31	-9.75/-8.76	-9.17/-10.18	-9.99/-6.94	-7.88/-6.96	-6.23/-5.22	-4.75/-5.33	-7.01/-8.29	-13.17/-13.3
Θ(22.5°)	-9.37/-9.39	-8.88/-8.77	-8.89/-8.33	-7.79/-6.89	-6.01/-4.76	-3.86/-2.96	-2.25/-1.82	-1.28/-0.89	-0.53/-0.75	-1.33/-2.65	-4.52/-5.87	-6.61/-8.59	-10.65/-11.52	-12.41/-13.4	-13.1/-11.93	-10.36/-9.29	-9.16/-10.07	-11.94/-11.13	-9.22/-8.44	-9/-9.12	-9.05/-9.52	-10.04/-10.49	-13.34/-13.5	-11.51/-9.87
Θ(30°)	-7.24/-6.97	-5.89/-4.25	-4.41/-5.52	-5.44/-5.61	-5.62/-3.87	-2.26/-0.76	-0.06/-0.15	0.34/-0.14	-0.43/-0.88	-1.5/-2.46	-3.76/-4.81	-5.51/-6.52	-7/-6.63	-7.52/-9.42	-10.35/-9.45	-8.34/-7.91	-8.39/-8.75	-9.25/-8.55	-7.3/-6.54	-6.39/-6.39	-12.59/-15.27	-18.18/-18.59	-15.37/-17.28	-13.84/-8.54
Θ(37.5°)	-8.04/-7.3	-6.9/-5.58	-5.17/-4.54	-3.85/-4.46	-3.63/-1.77	-0.34/-0.9	0.770/-36	-0.107/-83	-1.16/-2.24	-3.2/-4.3	-4.74/-4.82	-5.19/-5.37	-4.23/-3.41	-4.23/-4.82	-5.31/-7.18	-8.53/-10.14	-8.72/-8.2	-9/-7.88	-7.19/-8.59	-11.27/-16.45	-17.9/-12.46	-12.24/-14.18	-15.65/-15.33	-18.04/-12.69
Θ(45°)	-9.55/-6.32	-4.89/-6.02	-6.49/-3.67	-2.73/-57	-2.98/-1.5	-0.07/-0.78	-0.12/-1.18	-1.77/-1.65	-1.46/-1.8	-2.62/-3.61	-5.33/-5.59	-4.73/-4.43	-4.42/-3.39	-1.66/-1.78	-4.14/-5.67	-5.74/-5.51	-5.44/-6.78	-6.91/-6.62	-6.27/-8.95	-15.18/-14.12	-10.39/-8.78	-9.66/-10.07	-8.8/-8.22	-7.67/-8.43
Θ(52.5°)	-6.27/-5.17	-5.09/-6.32	-5.33/-2.99	-2.78/-2.42	-2.33/-1.37	0.170/-75	-1.02/-2.01	-2/-2.3	-3.04/-0.58	-6.76/-6.06	-5.54/-5.44	-6.09/-5.9	-3.82/-2.71	-1.31/-1.01	-2.05/-4.26	-5.66/-3.58	-2.88/-6.45	-6.38/-6.75	-8.1/-9.25	-10.66/-8.49	-7.61/-7.23	-6.9/-5.19	-4.27/-5.08	-6.52/-6.81
Θ(60°)	-8.44/-5.72	-6.36/-6.25	-5.09/-3.01	-1.47/-1.76	-2.62/-1.29	-0.180/-52	-1.52/-2.28	-1.22/-1.7	-3.08/-5.22	-9/-9.6	-6.8/-5.91	-5.46/-7.29	-5.4/-3.69	-0.79/-0.53	-2.92/-4.67	-3.85/-1.12	-1.22/-2.38	-4.34/-7.09	-10.09/-11.77	-10.99/-10.9	-9.77/-8.11	-5.62/-3.35	-3.41/-6.54	-8.89/-9.09
Θ(67.5°)	-6.21/-4.67	-6.21/-7.7	-5																					



Radiated Composite Gain Data_5GHz UNII 1~UNII 3

Appendix B

Θ(60°)	-0.77/0.32	0.88/1.3	0.35/-1.15	-1.97/-2.97	-5.43/-9.84	-8.48/-9.09	-16.12/-8.48	-8.68/-15.1	-9.35/-6.08	-4.58/-5.58	-9.35/-10.51	-10.72/-10.15	-10.84/-7.62	-5.48/-4.11	-3.27/-4.96	-6.06/-5.01	-6.13/-9.57	-17.03/-18.47	-18.91/-13.93	-13.44/-6.87	-2.51/-2.44	-4.19/-2.63	-0.50/-1	0.44/-0.77
Θ(67.5°)	-1.14/-0.47	0.29/0.1	-1.34/-2.35	-2.33/-2.48	-3.69/-6.09	-6.72/-9.05	-18.17/-8.57	-8.46/-9.44	-6.74/-10.61	-8.76/-8.48	-7.67/-6.98	-9.34/-14.31	-13.41/-13.11	-12.05/-6.91	-9.05/-9.54	-10.36/-10.57	-9.4/-10.75	-14.56/-18.74	-18.13/-19.14	-13.66/-6.61	-1.89/-1.67	-3.41/-2.88	-2.51/-2.4	-1.52/-1.17
Θ(75°)	-1.40/0.43	1.17/0.34	-1.73/0.45	-1.41/-3.87	-4.83/-6.63	-8.75/-10.57	-11.83/-9.3	-12.73/-8.78	-4.48/-7.45	-11.27/-17.21	-8.15/-27	-10.39/-11.05	-16.83/-11.05	-10.71/-13.35	-13.07/-10.58	-8.05/-10.24	-12.83/-18	-18.12/-12.13	-10.32/-4.36	-1.19/-2.53	-2.48/-1	-8.14/-1.13	0.85/0.34	
Θ(82.5°)	-0.88/-0.75	0.11/-0.38	-1.56/-3.66	-4.63/-4.08	-3.62/-4.88	-9.29/-11.74	-10.81/-7.42	-7.97/-9.26	-8.32/-9.46	-7.28/-15.39	-7.35/-4.63	-6.16/-7.18	-6.88/-6.45	-10.44/-18.38	-18.91/-18.83	-13.57/-12.51	-10.98/-10.11	-9.1/-19.26	-13.2/-6.55	-7/-4.43	-0.82/-1.38	-2.06/-1.69	-3.45/-1.6	0.41/-0.38
Θ(90°)	-0.76/-1.18	-0.49/-1.6	-3.5/-4.32	-4.63/-5.85	-5.95/-6.31	-8.12/-10.68	-14.92/-10.56	-11.42/-8.12	-8.1/-12.33	-9.62/-13.45	-6.99/-4.41	-4.63/-7.22	-11.71/-7.65	-7.64/-19.36	-16.38/-18.15	-16.51/-11.22	-10.46/-9.61	-9.8/-17.38	-14.66/-8.96	-6.22/-4.12	-0.65/-1.48	-3.02/-4.74	-2.07/-2.29	0.56/0.3
Θ(97.5°)	-2.58/-1.22	-0.32/-0.32	-2.2/-5.91	-6.26/-3.35	-2.97/-6.5	-10.88/-10.26	-12.62/-9.83	-8.03/-8.99	-11.72/-8.72	-7.04/-17.88	-6.44/-4.45	-4.52/-4.54	-5.58/-6.53	-13.61/-19.42	-17.71/-9.97	-14.42/-13.67	-10.05/-18.66	-5.31/-5.04	-1.78/-1.62	-0.69/-0.33	-3.95/-1.69	-0.21/-1.16		
Θ(105°)	-0.36/-0.88	-0.19/-0.68	-2.37/-4.28	-6.32/-6.01	-4.5/-4.37	-7.03/-11.14	-19.67/-15.74	-13.99/-8.64	-11.33/-11.38	-7.34/-10.52	-10.05/-10.07	-10.77/-8.9	-6.7/-6.58	-8.95/-18.14	-13.46/-18.86	-19.28/-11.94	-12.73/-15.08	-12.77/-18.18	-13.03/-9.37	-6.38/-5.18	-3.3/-3.51	-2.64/0.01	-0.44/-1.21	-0.54/-0.01
Θ(112.5°)	-1.71/-1.01	-0.4/-0.32	-2.2/-4.72	-6/-5.12	-6.12/-8.95	-9.87/-10.15	-11.52/-18.18	-15.2/-10.44	-11.02/-8.59	-8.79/-11.7	-5.26/-6.29	-9.75/-12.3	-8.92/-18	-16.47/-11.29	-13.08/-19.06	-9.67/-11.98	-16.85/-15.04	-11.77/-14.49	-14.12/-9.61	-3.48/-2.23	-1.81/-1.27	-1.48/-0.94	-1.25/-0.83	
Θ(120°)	-0.92/-0.96	0.02/-0.48	-1.83/-3.05	-2.53/-3.12	-3.84/-6.36	-12.81/-12.59	-16.78/-19.03	-14.05/-14.26	-19.18/-6.43	-3.97/-8.12	-14.74/-8.43	-14.64/-14.95	-15/-14.5	-12.66/-17.46	-7.92/-15.21	-9.01/-12.85	-9.82/-7.72	-8.46/-18.41	-13.76/-7.76	-7.36/-7.49	-5.02/-4.08	-1.96/-0.51	-4.94/-3.96	-1.68/-1.95
Θ(127.5°)	-2.1/-2.29	-0.96/-0.98	-1.13/-1.59	-2.76/-3.01	-4.99/-8.03	-9.98/-10.93	-11.97/-11.64	-7.77/-8.45	-16.66/-10.81	-7.46/-6.73	-3.39/-5.11	-11.38/-16.27	-9.02/-7.38	-6.87/-7.02	-5.95/-5.38	-12.43/-10.13	-7.62/-12.44	-16.72/-10.11	-10.91/-13.15	-12.75/-6.13	-6.59/-6.54	-6.63/0.18	1.43/0.94	0.56/-1.7
Θ(135°)	-6.84/-7.62	-5.73/-4.34	-5.1/-4.39	-5.35/-9.93	-14.87/-13.71	-7.9/-7	-9.25/-11.02	-10.2/-13.07	-15.24/-4.61	-2.21/-4.38	-9.19/-10.07	-10.01/-18.18	-14.64/-10.37	-4.14/-3.94	-7.68/-9.2	-11.25/-9.25	-15.33/-14.63	-17.86/-13.1	-14.86/-11.01	-7.54/-8.5	-6.42/-2.55	0.17/0.96	-0.11/-4.01	
Θ(142.5°)	-3.77/-5.64	-6.58/-5.39	-5.21/-7.29	-8.31/-9.07	-10.79/-11.23	-9.98/-9.81	-11.05/-9.7	-8.68/-11.49	-18.39/-11.72	-6.12/-3.07	-2.1/-3.08	-6.47/-8.21	-10.73/-8.72	-4.99/-9.84	-8.86/-8.55	-13.63/-17.66	-15.6/-13.97	-17.52/-16.97	-18.07/-14.51	-7.53/-6.04	-10.28/-10.7	-5.54/-2.4	-1.07/-1.78	
Θ(150°)	-3.99/-3.68	-3.78/-4.27	-4.59/-5.48	-7.57/-9.1	-9.4/-10.63	-14.22/-18.83	-14.45/-11.23	-10.2/-10.06	-8.39/-5.52	-3.11/-2.69	-3.82/-5.6	-7.84/-9.29	-10.42/-11.15	-9.96/-7.79	-5.45/-4.93	-5.51/-6.69	-8.34/-9.22	-11.12/-14.73	-17.99/-18.11	-18.49/-10.64	-5.87/-3.16	-2.71/-5.46	-9.63/-9.91	-7.12/-4.91
Θ(157.5°)	-4.19/-4.01	-4.13/-4.46	-4.88/-4.55	-4.19/-4.99	-6.74/-9.25	-13.46/-11.93	-17.66/-11.93	-8.04/-5.99	-5.4/-5.15	-5.06/-5.86	-7.48/-10.44	-15.71/-12.12	-8/-5.78	-4.64/-4.2	-4.85/-7.45	-12.45/-17.84	-18.15/-18.82	-17.53/-19.24	-18.92/-18.62	-17.55/-15.05	-9.21/-4.87	-2.11/-3.13	-1.67/-1.28	-3.17/-4.01
Θ(165°)	-9.55/-12.43	-17.1/-19.55	-18.54/-17.34	-18.37/-18.13	-17.95/-19.5	-17.53/-16.86	-16.43/-13.46	-10.85/-9.02	-7.81/-7.23	-7.17/-7.64	-8.35/-8.93	-8.34/-6.6	-4.91/-3.98	-4.07/-4.8	-5.79/-6.73	-9.18/-9.35	-10.39/-13.12	-16.9/-18.15	-16.5/-12.66	-9.35/-5.54	-4.44/-3.59	-4.34/-5.64	-6.91/-6.12	
Θ(172.5°)	-2.8/-3.02	-3.23/-3.98	-5.35/-6	-6.14/-6.63	-7.63/-9.67	-12.41/-14.97	-18.5/-17.92	-19.05/-16.84	-15.27/-14.97	-16.39/-18.3	-17.75/-13.92	-10.28/-7.68	-6.12/-5.44	-5.56/-5.96	-6.2/-6.14	-6.12/-6.69	-7.49/-8.12	-9.26/-10.71	-12.85/-14.1	-12.99/-11.66	-9.96/-7.77	-5.84/-4.08	-3.04/-2.49	-2.32/-2.5
Θ(180°)	-6.4/-6.47	-6.82/-7.96	-9.2/-9.88	-10.76/-12.58	-14.88/-17.87	-17.64/-18.57	-19.22/-19.44	-18.19/-18.06	-18.96/-18.12	-16.33/-14.88	-14.32/-14.23	-14.25/-15.12	-15.92/-16.73	-17.46/-17.54	-16.74/-14.86	-13.97/-14.73	-16.51/-17.65	-16.54/-15.88	-15.78/-15.31	-14.03/-13.09	-12.72/-12.35	-11.68/-10.22	-8.41/-7.34	-6.76/-6.48
Freq[Hz]	5.20GPol.	ThetalAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-11.45/-11.51	-10.31/-7.46	-5.98/-6.24	-6.9/-5.95	-4.13/-2.86	-2.61/-3.03	-3.43/-3.61	-3.68/-3.84	-4.2/-4.28	-4.76/-5.69	-6.71/-7.91	-9.83/-11.22	-11.72/-11.31	-11.15/-10.25	-8.2/-6.21	-4.9/-4.4	-4.13/-3.74	-3.2/-2.33	-2.55/-2.79	-2.98/-3.06	-3.3/-3.74	-4.51/-5.14	-6.24/-7.82	-9.53/-11
Θ(7.5°)	-12.21/-14.01	-13.79/-9.73	-6.78/-5.91	-6.58/-6.64	-4.21/-1.74	-0.96/-1.24	-2.11/-2.88	-2.71/-2.44	-2.28/-2.48	-3.31/-4.44	-5.93/-7.65	-9.28/-11.21	-11.68/-10.29	-9.81/-9.12	-7.16/-5.03	-4.02/-4.15	-4.6/-4.8	-4.42/-4.37	-4.76/-4.96	-4.92/-4.89	-4.97/-5.31	-5.69/-6.02	-6.84/-7.98	-9.08/-10.59
Θ(15°)	-12.58/-15.58	-16.69/-13.94	-9.58/-5.69	-3.59/-3.23	-3.14/-1.92	-0.59/-0.35	-0.67/-0.92	-0.57/-0.11	0.13/-0.15	-1.09/-2.66	-4.76/-7.18	-8.86/-10.8	-10.8/-9.66	-7.81/-5.89	-5.14/-4.38	-3.21/-2.16	-1.62/-1.6	-1.8/-2.05	-2.72/-3.44	-3.68/-3.39	-3.4/-4.21	-5.53/-6.6	-7.43/-8.48	-9.28/-10.33
Θ(22.5°)	-13.17/-16.98	-19.18/-79	-12.05/-6.39	-3.15/-2.05	-1.21/0.27	1.18/0.8	0.48/0.76	1.17/1.51	1.39/0.69	-0.99/-3.45	-6.72/-10.11	-13.47/-14.97	-13.10/-10.55	-8.01/-5.9	-4.24/-2.95	-1.94/-1.21	-0.71/-0.29	0.08/0.2	-1.01/-0.74	-1.18/-1.2	-1.18/-1.94	-3.65/-5.66	-8.88/-11.05	-11.33/-12.31
Θ(30°)	-14.13/-17.18	-17.28/-17.36	-12.82/-6.78	-3.85/-3.17	-2.23/-0.38	0.55/0.54	0.30/-4.3	0.83/0.9	0.49/-0.74	-2.86/-5.58	-7.81/-9.82	-12.17/-14.96	-14.45/-10.85	-9.25/-8.29	-6.16/-3.87	-2.27/-1.21	-0.29/-0.1	-1.15/-3.2	-3.42/-0.08	-1.51/-1.61	-1.65/-1.94	-3.88/-7.97	-11.53/-12.82	-12.41/-13.08
Θ(37.5°)	-18.84/-17.59	-18.05/-10.97	-6.36/-3.76	-2.88/-3.4	-4.04/-3.35	-1.97/-1.03	-0.82/-1.11	-1.17/-1.15	-1.28/-1.77	-2.39/-3.42	-5.31/-8.01	-10.86/-13.93	-14.28/-12.59	-11.54/-9.62	-7.43/-6.72	-5.62/-4.89	-5.45/-5.23	-3.63/-2.61	-4.3/-3.81	-1.12/-0.68	-2.3/-3.5	-3.58/-5.12	-9.06/-12.82	-13.54/-15.41
Θ(45°)	-19.18/-10.3	-13.11/-9.08	-6.31/-4.71	-3.37/-3	-3.18/-3.62	-2.66/-1.3	-1.05/-1.94	-3.51/-4.55	-3.56/-2.54	-2.93/-4.82	-8.49/-10.83	-13.49/-18.09	-16.57/-17.71	-13.81/-13.71	-10.95/-9.66	-7.73/-5.86	-3.69/-2.41	-2.04/-2.84	-4.06/-3.9	-3.18/-1.75	-2.6/-1.57	-5.14/-5.08	-7.18/-9.59	-13.34/-16.87
Θ(52.5°)	-18.79/-19.16	-12.76/-8.27	-5.53/-3.44	-2.49/-2.18	-2.76/-3.81	-4.72/-5.08	-3.32/-2.19	-3.29/-4.22	-2.98/-3.39	-5.39/-9.08	-14.22/-14.77	-15.02/-16.14	-13.02/-12.99	-13.73/-11.72	-8.67/-7.08	-5.48/-3.54	-2.91/-3.19	-3.69/-3.22	-2.85/-2.97	-1.01/-1.74	-3.66/-5.3	-5.07/-6.45	-9.81/-11.46	-10.48/-15.91
Θ(60°)	-12.63/-8.94	-8.03/-8.49	-8.36/-6.86	-5.42/-5.29	-6.41/-6.81	-5.69/-4.28	-3.5/-3.68	-4.81/-4.5	-3.67/-4.21	-7.11/-14.55	-19.14/-18.09	-16.97/-10.35	-7.19/-8.91	-10.15/-10.69	-9.79/-8.29	-7.12/-6.46	-5.8/-5.38	-5.14/-7.05	-9.43/-4.2	-3.57/-2.98	-4.91/-6.63	-6.47/-8.33	-8.11/-7.37	-10.63/-17.76
Θ(67.5°)	-15.03/-13.11	-12.75/-13.37	-9.78/-9.13	-8.96/-9.15	-7.48/-5.37	-5.68/-6.96	-5.87/-5.34	-3.81/-7.37	-6.79/-8.49	-15.18/-18.53	-15.85/-18.95	-17.22/-9.56	-7.15/-7.62	-10.51/-13.64	-17.02/-17.16	-13.07/-10.13	-9.34/-5.1	-4.27/-5.69	-5.81/-5.06	-2.61/-3.48	-6.29/-6.27	-4.95/-11.34	-13.16/-8.11	-9.41/-17.9
Θ(75°)	-16.08/-15.83	-13.88/-16.31	-9.5/-8.52	-9.61/-12.87	-12.68/-8.67	-9.64/-7.47	-7.04/-5.99	-7.46/-7.14	-7.66/-13.18	-19.02/-17.73	-17.38/-14.46	-17.14/-14.04	-9.16/-11.51	-11.91/-9.33	-9.25/-13.44	-18.54/-17.89	-12.97/-8.61	-4.71/-4.96	-5.66/-4.68	-4.5/-5.64	-7.56/-5.59	-5.58/-17.67	-11.66/-7.03	-7.07/-17.38
Θ(82.5°)	-14.25/-13.85	-11.85/-14.31	-8.81/-7.99	-8.04/-10.34	-13.05/-11.08	-9.57/-12.05	-10.8/-6.25	-6.15/-8.72	-12.9/-18.44	-12.91/-13.57	-17.84/-17.07	-17.88/-13.03	-10.51/-13.64	-18.16/-10.34	-9.52/-12.81	-17.66/-17.89	-14.27/-17.81	-5.73/-5.52	-5.47/-8.48	-6.94/-7.19	-9.95/-8.27	-6.61/-14.7	-7.28/-5.48	-7.61/-14.74
Θ(90°)	-17.36/-15.91	-14.9/-13.59	-10.52/-9.46	-9.65/-12.8	-14.21/-10.53	-9.67/-12.54	-18/-14.8	-12.39/-10.28	-15.41/-16.51	-9.21/-11.52	-12.56/-17.68	-16.13/-18.69	-14.36/-16.61	-15.19/-14.43	-11.68/-15.38	-17.65/-18.78	-15.19/-10.06	-5.63/-6.77	-8.85/-7.14	-8.11/-8.38	-12.16/-15.02	-10.61/-19.11	-10.22/-17.16	-9.19/-14
Θ(97.5°)	-14.04/-14.33	-18.81/-18.93	-12.93/-10.83	-13.87/-18.59	-14.78/-12.47	-12.77/-14.45	-18.8/-19.05	-14.99/-13.32	-18.5/-14.54	-10.01/-13.32	-11.3/-8.24	-10.71/-17.08	-14.45/-18.92	-15.87/-13	-12.87/-13	-17.27/-15.68	-11.11/-8.09	-4.89/-5.66	-8.47/-6.9	-8.17/-9.46	-10.85/-18.26	-13.97/-17.83	-17.23/-9.21	-10.01/-13.07
Θ(105°)	-12.77/-14.41	-18.96/-18.45	-17.12/-10.34	-19.12/-18.72	-11.98/-11.96	-15.34/-18.05	-17.76/-16.19	-14.32/-10.46	-11.37/-3.29	-4.42/-16.66	-12.36/-7.28	-8.68/-9.62	-17.92/-12.54	-12.54/-12.91	-13.41/-15.78	-13.38/-12.09	-7.61/-3.7	-9.62/-12.91	-18.96/-8.37	-9.78/-15.74	-13.35/-17.67	-13.54/-10.48	-11.3/-6.97	-6.09/-6.72
Θ(112.5°)	-9.47/-10.44	-11.91/-18.89	-17.94/-17.84																					



Radiated Composite Gain Data_5GHz UNII 1~UNII 3

Appendix B

Θ(97.5°)	-0.42/-1.53	-1.66/-3.12	-4.06/-5.23	-6.16/-5.2	-7.22/-12.1	-11.08/-11.06	-18.5/-18.15	-13.62/-16.29	-11.8/-8.64	-13.65/-11.72	-12.65/-7.49	-8.24/-6.63	-6/-9.47	-10.96/-13.04	-14.4/-10.08	-7.08/-7.45	-14.75/-18.53	-13.31/-14.81	-18.47/-6.36	-7.98/-4.27	-3.97/-1.45	-1.57/-1.4	-2.76/-2.54	-1.33/-1.56
Θ(105°)	-1.34/-1.47	-1.73/-2.47	-4.1/-6.6	-6.5/-5.7	-5.44/-9.31	-10.76/-12.08	-12.55/-18.01	-14/-16.69	-11.72/-8.51	-12.3/-10.02	-9.68/-8.06	-8.91/-10.4	-8.95/-10.62	-9.4/-18.47	-11.51/-19.2	-8.3/-19	-14.99/-18.23	-19.3/-16.19	-17.7/-7.39	-7.77/-3.59	-3.65/-3.9	-1.39/-2.79	-3.36/-1.81	-1.56/-2.07
Θ(112.5°)	-0.97/-0.89	-1.29/-3.42	-5.89/-8.01	-1.81/-3.33	-0.22/-1.53	-4.43/-5.65	-7.76/-13.09	-18.89/-12.21	-13.82/-12.85	-9.87/-6.64	-6.25/-10.36	-15.82/-10.26	-12.07/-8.88	-7.05/-4.94	-5.59/-6.66	-6.91/-9.81	-5.58/-10.04	-14.72/-12.55	-19.69/-14.73	-10.08/-5.4	-1.74/-0.55	-1.25/-1.7	-2.69/-2.82	-0.95/-1.62
Θ(120°)	-2.15/-1.07	-2.96/-3.28	-6.11/-6.91	-7.08/-5.66	-5.83/-6.08	-7.04/-11.63	-12.43/-19.07	-15.31/-11.82	-14.76/-11.99	-9.14/-7.41	-10.22/-18.21	-11.9/-18.32	-15.43/-18.49	-17.61/-16.31	-14.95/-15.79	-6.14/-11.81	-16.55/-11.07	-15.59/-17.13	-16.5/-9.53	-8.06/-5.96	-5.69/-1.72	-0.49/-2.26	-7.18/-4.18	-3.09/-0.97
Θ(127.5°)	-2.75/-2.96	-2.37/-3.66	-3.56/-5.07	-4.45/-5.43	-5.81/-6.65	-10.3/-11.93	-12.23/-19.49	-13.85/-11.9	-14.38/-15.9	-10.56/-6.82	-8.22/-3.71	-7.38/-11.26	-15.44/-18.02	-14.47/-19.02	-16.47/-9.71	-12.2/-13.45	-6.67/-6.3	-11.95/-16.06	-14.19/-8.64	-8.3/-9.86	-8.78/-5.09	-0.86/-0.3	-2.34/-2.09	-2.54/-2.88
Θ(135°)	-1.81/-3.3	0.03/-0.2	-0.22/-1.53	-4.43/-5.65	-7.76/-13.09	-18.89/-12.21	-13.82/-12.85	-9.87/-6.64	-6.25/-10.36	-15.82/-10.26	-12.07/-8.88	-7.05/-4.94	-5.59/-6.66	-6.91/-9.81	-5.58/-10.04	-14.72/-12.55	-19.69/-14.73	-10.08/-5.4	-1.74/-0.55	-1.25/-1.7	-2.69/-2.82	-0.95/-1.62	-1.56/-2.07	-0.95/-1.62
Θ(142.5°)	-3.6/-2.84	-1.45/-0.63	-1.18/-1.31	-2.01/-3.68	-5.29/-8.59	-14.94/-18.73	-18.86/-18.07	-12.84/-10.02	-12.07/-17.97	-17.93/-8.69	-5.77/-5.47	-6.73/-11.38	-10.45/-7.75	-5.17/-6.17	-12.12/-19.12	-14.44/-10.39	-14.31/-12.18	-10.2/-12.89	-17.32/-18.62	-12.39/-8.27	-10.61/-10.76	-7.06/-4.83	-4.79/-4.81	-6.34/-5.61
Θ(150°)	-4.85/-3.9	-3.18/-3.77	-3.85/-3.54	-3.4/-4.02	-5.37/-7.06	-8.94/-11.18	-14.35/-18.19	-15.52/-10.4	-8.17/-17.7	-7.23/-6.99	-6.51/-7.35	-9.09/-11.9	-13.02/-17.28	-15.23/-9.61	-5.91/-3.57	-3.36/-5.83	-10.91/-10.67	-10.97/-16.21	-18.34/-18.23	-14.41/-8.19	-5.92/-6.3	-7.46/-6.46	-5.22/-5.15	-5.89/-6.12
Θ(157.5°)	-4.55/-3.85	-3.11/-2.33	-1.97/-2.26	-3.15/-3.87	-4.67/-6.7	-10.47/-12.19	-11.92/-14.29	-12.96/-11.22	-8.05/-6.88	-6.64/-7.56	-8.33/-9.08	-10.53/-13.16	-18.08/-19.14	-13.31/-10.18	-9.1/-13.3	-10.08/-10.36	-10.28/-12.03	-17.24/-18.08	-17.49/-16.53	-12.04/-7.65	-4.98/-3.49	-2.67/-2.86	-3.4/-4.1	-4.6/-4.81
Θ(165°)	-4.16/-4.58	-4.51/-4.22	-3.57/-3.49	-4.14/-5.97	-8.41/-12.72	-17.93/-15.92	-12.23/-11.91	-13.86/-16.21	-13.58/-11.25	-10.45/-11.1	-11.67/-12.15	-13.56/-16.89	-17.63/-18.04	-18.83/-19.08	-18.1/-17.64	-19.11/-17.18	-18.99/-17.2	-18.79/-17.83	-18.69/-17.91	-15.83/-10.64	-7.21/-5.47	-4.6/-4.41	-4.43/-4.27	-3.99/-3.92
Θ(172.5°)	-7.23/-7.48	-7.87/-7.83	-8.72/-10.76	-11.06/-9.38	-8.42/-8.1	-8.13/-6.64	-9.35/-10.67	-13.51/-18.36	-17.41/-18.44	-19.17/-16.14	-14.28/-14.26	-16.63/-18.28	-17.67/-19.04	-18.18/-19.39	-17.86/-19.19	-15.13/-14.27	-15.25/-16.73	-17.66/-18.2	-19.25/-18.36	-17.96/-16.88	-13.06/-10.24	-8.89/-6.87	-6.51/-6.64	-7.01/-7.04
Θ(180°)	-7.14/-7.41	-8.87/-8.41	-8.18/-8.72	-9.88/-10.7	-10.85/-11.88	-13.91/-16.37	-19.33/-18.78	-17.97/-17.5	-19.4/-18.63	-16.5/-15.73	-16.55/-18.58	-18.42/-19.14	-15.95/-15.58	-15.26/-13.32	-12.48/-13.88	-16.41/-18.48	-18.98/-17.87	-18.67/-19.35	-18.03/-18.64	-16.16/-14.24	-12.39/-11.29	-9.95/-9.16	-8.41/-7.33	-1.56/-1.56
Freq(Hz)	5.6GHzPol.	Theta/Ant. 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°)	-18.01/-19.77	-15.18/-11.45	-8.23/-6.13	-4.72/-3.24	-2.38/-2.07	-1.92/-1.96	-2.04/-1.99	-2.09/-2.22	-2.6/-3.08	-3.85/-4.92	-6.37/-8.53	-11.9/-16.65	-17.98/-17.3	-16.03/-10.86	-8.55/-6.94	-4.98/-3.65	-2.28/-2.96	-2.42/-2.04	-1.92/-2.03	-2.24/-2.73	-3.13/-3.6	-4.51/-6.04	-7.69/-10.05	-13.18/-17.98
Θ(7.5°)	-17.42/-18.32	-17.16/-12.67	-7.75/-5.36	-4.73/-3.77	-1.99/-0.72	-0.61/-1.4	-2.54/-3.02	-2.81/-2.69	-2.8/-3.24	-4.37/-5.62	-7.08/-9.38	-12.99/-19.46	-19.04/-17.11	-12.38/-8.77	-6.08/-4.7	-3.65/-2.42	-1.38/-0.93	-0.75/-0.59	-0.35/-0.33	-0.72/-1.28	-1.85/-2.55	-3.72/-5.41	-7.27/-8.78	-11.92/-16.15
Θ(15°)	-14.54/-12.7	-10.93/-8.61	-5.89/-3.78	-2.32/-1.21	0.19/-1.35	1.320/-39	-0.76/-1.47	-1.85/-2.1	-2.03/-2.08	-2.43/-3.26	-5.15/-8.41	-13.04/-13.81	-17.48/-16.2	-11.9/-8.4	-6.24/-9.43	-3.74/-2.36	-1.33/-0.64	0.080/7.2	0.980/9.4	0.610/2.6	-0.15/-0.9	-2.52/-3.81	-5.84/-8.14	-11.92/-16.15
Θ(22.5°)	-15.98/-14.12	-10.97/-7.47	-5.08/-3.75	-2.21/-0.72	0.440/6.8	0.26/-0.41	-0.81/-0.92	-1.37/-1.84	-2.23/-2.32	-2.27/-3.06	-5.22/-9.36	-16.53/-18.95	-17.23/-13.94	-14.34/-7.71	-5.62/-4.33	-3.77/-2.32	-2.41/-2.42	-2.5/-1.47	0.24/-1.1	0.950/0.7	-0.88/-1.79	-3.53/-5.8	-7.92/-11.08	-15.22/-18.51
Θ(30°)	-17.8/-12.84	-8.82/-6.52	-5.12/-3.28	-1.92/-1.29	-0.93/-0.71	-0.77/-0.97	-0.84/-0.86	-1.36/-1.75	-2.09/-2.64	-3.5/-6.05	-11.45/-18.97	-15.83/-14.24	-14.11/-14.97	-16.32/-11.63	-7.33/-5.05	-3.88/-3.3	-2.99/-2.99	-2.92/-2.67	-2.1/-1.09	0.03/-0.03	-1.33/-2.17	-3.06/-5.2	-7.55/-10.44	-14.11/-18.81
Θ(37.5°)	-17.28/-12.3	-8.9/-7.25	-5.36/-4.09	-3.81/-3.61	-3.26/-2.46	-1.54/-1.64	-2.17/-2.51	-3.15/-3.47	-2.78/-2.36	-2.98/-6.21	-10.13/-167	-15.85/-16.1	-16.97/-13.65	-11.12/-9.96	-8.49/-5.78	-3.98/-3.22	-1.87/-0.66	-0.97/-2.62	-2.16/-0.59	-0.99/-2.47	-3.92/-8.18	-5.32/-3.53	-3.56/-3.74	-11.83/-17.15
Θ(45°)	-13.84/-14.85	-10.93/-10.19	-9.05/-9.01	-9.77/-9.26	-7.11/-4.46	-2.53/-2.05	-2.89/-2.88	-2.92/-2.32	-4.06/-4.9	-5.73/-10.19	-12.97/-13.97	-17.03/-18.16	-17.95/-14.19	-9.61/-9.38	-9.84/-6.8	-5.94/-5.1	-3.17/-2.01	-1.91/-1.45	-1.55/-4.05	-4.24/-4.09	-5.22/-4.59	-4.85/-7.84	-13.99/-17.03	-1.56/-1.56
Θ(52.5°)	-15.95/-13.53	-13.26/-10.62	-9.54/-8.99	-6.93/-5.16	-5.38/-4.4	-2.83/-3.1	-3.88/-3.85	-2.86/-4.59	-6.64/-4.28	-3.86/-5.8	-16.06/-18.84	-18.25/-19.02	-17.03/-18.69	-18.19/-14.72	-12.63/-12.21	-10.53/-8.42	-5.7/-3.7	-2.31/-1.62	-2.77/-2.86	-2.62/-4.1	-6.23/-4.62	-6.59/-6.02	-6.06/-8.31	-19.11/-14.73
Θ(60°)	-12.63/-15.45	-17.49/-11.86	-11.32/-9.45	-8.54/-7.24	-7.34/-5.1	-2.74/-1.34	-6.11/-5.61	-2.93/-5.4	-9.44/-7.64	-6.82/-10.39	-13.85/-19.1	-18.76/-18.7	-19.23/-14.31	-13.43/-12.38	-9.52/-8.28	-8.04/-6.18	-5.13/-5.21	-4.49/-2.99	-1.7/-1.93	-4.09/-6.75	-3.83/-3.98	-8.27/-7.33	-6.54/-10.77	-19.36/-12.12
Θ(67.5°)	-13.68/-18.18	-18.06/-10.79	-9.62/-7.82	-9.27/-3.2	-5.27/-4.35	-4.11/-5.23	-4.48/-3.69	-2.37/-4.5	-9.6/-5.32	-7.59/-16.32	-18.89/-17.71	-18.45/-16.24	-12.04/-10.2	-7.77/-9.25	-8.77/-9.54	-8.55/-8.22	-5.74/-3.85	-5.22/-6.35	-3.82/-3	-4.09/-5.45	-5.57/-8.31	-11.04/-3.72	-4.64/-9.74	-18.11/-9.69
Θ(75°)	-15.34/-18.34	-17.09/-10.55	-9.7/-9.55	-10.48/-7.9	-7.14/-3.83	-2.88/-5.26	-7.27/-6.49	-5.06/-9.13	-11.73/-6.75	-9.3/-18.37	-18.48/-18.21	-16.1/-15.15	-11.87/-7.94	-8.42/-8.98	-9.12/-10.83	-9.89/-11.07	-8.2/-4.62	-5.06/-5.68	-3.68/-2.48	-4.5/-9.74	-5.81/-8.75	-11.69/-4.63	-5.65/-13.73	-19.18/-10.98
Θ(82.5°)	-15.13/-18.29	-18.32/-14.36	-14.59/-13.35	-13.37/-19.8	-7.71/-6.21	-5.28/-7.01	-6.99/-5.85	-6.77/-10.88	-13.99/-8.38	-13.91/-11.78	-18.6/-15.64	-13.19/-14.83	-13.93/-9.39	-9.31/-9.86	-11.4/-12.57	-10.72/-9.66	-8.86/-5.71	-4.08/-5.41	-5.23/-4.38	-3.78/-12.69	-6.79/-9.3	-15.06/-5.31	-5.23/-4.99	-18.89/-12.57
Θ(90°)	-10.58/-15.49	-19.22/-18.93	-19.81/-19.31	-15.97/-8.66	-7.58/-5.16	-6.62/-6.26	-7.07/-9.07	-9.93/-13.79	-16.68/-12.58	-14.32/-11.29	-16.21/-16.49	-12.29/-11.91	-17.29/-14.57	-12.47/-9.61	-14.86/-13.21	-10.85/-8.13	-9.27/-7.62	-4.45/-4.31	-3.48/-4.53	-7.45/-12.4	-14.07/-13.37	-17.6/-7.38	-6.31/-9.63	-19.22/-11.76
Θ(97.5°)	-12.44/-15.71	-17.51/-17.69	-19.33/-15.41	-14.37/-11.25	-8.62/-8.68	-12.9/-14.67	-18.18/-8.1	-14.46/-16.7	-12.47/-14.17	-17.12/-17.44	-11.63/-12.59	-18.19/-18.98	-17.48/-17.1	-16.17/-12.7	-10.69/-9.01	-8.22/-9.26	-6.97/-5.45	-4.40/-7.38	-7.99/-10.39	-18.17/-14.91	-16.33/-9.24	-13.87/-12.6	-8.66/-7.98	-18.51/-12.76
Θ(105°)	-15.03/-13.24	-15.13/-13.08	-11.23/-9.27	-8.154/-6.18	-9.58/-13.94	-18.19/-10.05	-7.58/-12.58	-17.65/-10.56	-14.69/-16.5	-11.74/-6.91	-9.54/-17.11	-12.96/-10.31	-11.59/-19.12	-18.77/-16.53	-17.88/-19.36	-12.6/-9.41	-11.48/-11.58	-9.45/-10.28	-8.41/-6.61	-13.36/-12.44	-14.14/-14.23	-17.77/-11.45	-7.5/-6.1	-11.43/-18.99
Θ(112.5°)	-18.05/-18.06	-13.75/-10.73	-8.61/-7.34	-6.95/-8.83	-14.09/-18.02	-12.64/-10.09	-10.83/-16.59	-17.82/-14.77	-15.35/-11.97	-7.6/-8.13	-12.61/-17.96	-13.6/-9.2	-9.48/-9.69	-14.89/-18.41	-18.26/-18.51	-16.49/-13.26	-11.52/-8.91	-14.15/-16.77	-9.5/-6.89	-11.42/-9.96	-11.25/-19.19	-17.68/-14.64	-13.38/-10.24	-11.48/-19.11
Θ(120°)	-18.82/-17.63	-12.79/-10.44	-9.73/-10.17	-13.06/-13.97	-12.94/-10.85	-7.66/-7.78	-14.08/-17.5	-9.17/-9.82	-17.02/-8.59	-6.08/-6.79	-11.23/-18.8	-10.72/-7.43	-14.68/-9.7	-7.86/-10.92	-19.29/-14.67	-8.27/-9.53	-9.89/-5.78	-13.65/-17.68	-11.54/-5.05	-13.68/-8.36	-11.57/-17.17	-8.18/-10.98	-13.37/-13.21	-7.88/-17.92
Θ(127.5°)	-12.48/-11.84	-8.27/-9.15	-11.67/-15.9	-13.78/-9.91	-6.74/-5.31	-5.26/-7.56	-18.6/-4.3	-3.96/-6.04	-17.9/-7.88	-4.93/-7.1	-14.83/-19.11	-10.84/-7.27	-10.65/-8.2	-14.97/-15.21	-19.22/-9.27	-11.61/-10.16	-4.84/-5.34	-8.71/-9.01	-4.77/-2.53	-6.99/-6.33	-7.93/-13.36	-11.36/-6.02	-8.46/-7.4	-5.6/-9.06
Θ(135°)	-9.88/-9.57	-12.1/-12.53	-11.44/-9.5	-6.92/-5.28	-4.08/-4.32	-5.63/-10.2	-13.61/-5.8	-2.64/-4.54	-16.8/-0.95	-5.55/-6.4	-9.92/-18.68	-15.88/-11.25	-8.25/-7.82	-6.05/-4.73	-12.39/-18.77	-10.65/-11.79	-10.73/-3.8	-6.68/-18.48	-9.35/-7.05	-6.36/-6.96	-4.68/-18.45	-12/-9.09	-10.2/-8.25	-6.01/-7.45
Θ(142.5°)	-9.8/-8.58	-7.11/-5.51	-4.06/-3.01	-2.79/-3.43	-3.39/-5.47	-7.9/-4.2	-8.07/-5.03	-5.6/-7.08	-5.46/-4.38	-5.57/-8.78	-13.41/-18.6	-15.42/-12.1	-14.21/-13.08	-18.43/-18.58	-18.64									



Radiated Composite Gain Data_5GHz UNII 1~UNII 3

Appendix B

Θ(150°)	-11.7/-10.14	-14.82/-17.81	-18.83/-18.61	-19.08/-18	-18.21/-14.62	-12.02/-12.32	-14.22/-16.57	-17.71/-15.56	-13.26/-11.31	-11.86/-16.04	-19.03/-16.21	-12.92/-12.21	-11.12/-9.01	-6.92/-8.19	-12.27/-11	-13.33/-18.72	-15.56/-13.45	-11.71/-11.04	-12.94/-12.93	-12.69/-10.61	-10.13/-12.04	-14.03/-12.15	-10.71/-13.54	-17.83/-17.97
Θ(157.5°)	-18.81/-18.46	-11.29/-9.36	-10.33/-12.64	-16.33/-19.08	-19.13/-18.6	-18.62/-17.88	-18.7/-17.21	-17.97/-17.47	-18.79/-18.22	-16.73/-13.06	-11.8/-12.12	-14.21/-17.86	-17.99/-10.56	-8.71/-9.10	-16.94/-18.76	-19.2/-18.69	-18.77/-18.76	-14.81/-14.87	-14.77/-13.09	-13/-16.2	-19.09/-18.19	-15.52/-16.42	-18.3/-18.81	-17.42/-17.74
Θ(165°)	-7.27/-6.1	-6.31/-7.37	-9.32/-12.64	-19.03/-18.81	-16.79/-17.9	-18.42/-18.54	-17.98/-18.81	-18.44/-19.1	-15.53/-17.8	-18.83/-18.01	-18.8/-15.72	-18.45/-19.05	-18.56/-18.81	-18.74/-16.06	-13.32/-12.69	-13.24/-11.73	-13.97/-12.37	-10.91/-10.38	-11.68/-14.13	-15.99/-12.75	-11.08/-11.49	-9.1/-10	-10.69/-11.49	
Θ(172.5°)	-7.87/-8.59	-8.46/-9.68	-12.51/-16.49	-18.09/-18.49	-17.56/-18.88	-18.52/-19.15	-18.12/-18.38	-19.12/-18.8	-17.86/-17.75	-15.6/-14.79	-12.91/-11.68	-11.25/-11.96	-13.51/-14.63	-15.24/-16.29	-16.98/-15	-13.24/-12.71	-12.69/-11.99	-11.16/-10.61	-9.96/-9.08	-8.37/-7.92	-8.08/-7.81	-7.19/-6.39	-5.5/-5.45	-5.93/-6.83
Θ(180°)	-13.93/-15.58	-17.86/-18.45	-18.23/-15.17	-14.02/-13.72	-14.17/-14.53	-15.98/-18.3	-19.59/-17.98	-17.76/-18.93	-18.07/-18.47	-17.75/-19.04	-17.92/-17.51	-17.61/-18.93	-18.52/-17.1	-14.77/-14.63	-16.39/-18.37	-17.23/-17.22	-17.2/-18.66	-18.08/-16.75	-15.72/-14.29	-13.86/-14.47	-15.72/-16.17	-16.15/-15.27	-14.75/-14.92	-15.57/-13.99
Freq(Hz)	5.62GPol.	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°)	-17.83/-18.75	-15.55/-12.68	-10.67/-8.65	-6.84/-5.67	-4.92/-4.78	-4.48/-4.06	-3.98/-3.63	-3.69/-4.12	-4.85/-5.79	-6.57/-6.84	-6.76/-8.52	-10.42/-14.21	-17.62/-18.38	-15.57/-11.41	-8.59/-6.79	-5.43/-4.8	-4.17/-3.85	-3.48/-3.25	-3.13/-2.95	-3.28/-4.05	-5.56/-6.7	-7.71/-7.8	-8.71/-10.56	-13.17/-17.18
Θ(7.5°)	-14.06/-13.09	-9.56/-7.47	-6.93/-5.98	-4.76/-3.83	-3.54/-3.79	-3.77/-3.39	-3.46/-3.52	-3.85/-4.48	-5.3/-6.46	-7.68/-8.57	-10.08/-10.59	-17.43/-18.67	-18.43/-19.8	-17.77/-13.78	-10.93/-8.29	-6.82/-5.95	-4.62/-4.58	-4.49/-4.4	-4.54/-5	-6.01/-6.55	-7.35/-7.81	-9.1/-10	-10.69/-11.49	
Θ(15°)	-17.31/-14.92	-9.78/-6	-4.25/-3.23	-2.48/-2.06	-2.03/-2.51	-3.01/-3.38	-4.21/-4.84	-5.85/-6.95	-8.59/-9.95	-11.92/-13.97	-15.61/-17.41	-17.32/-18.69	-18.34/-18.35	-18.45/-18.8	-18.27/-13.73	-10.68/-8.15	-7.31/-6.68	-6.24/-6.97	-6.62/-7	-7.76/-8.35	-9.65/-10.63	-11.13/-12.02	-11.27/-11.73	-13.52/-14.18
Θ(22.5°)	-14.59/-18.33	-19.16/-10.03	-6.22/-4.13	-2.92/-2.59	-2.38/-2.6	-3.24/-4.1	-5.03/-5.91	-6.37/-6.98	-8.07/-9.34	-11.82/-13.25	-15.13/-15.13	-14.63/-13.91	-14.45/-17.46	-18.43/-18.47	-17.88/-13.73	-18.28/-15.71	-13.22/-11.65	-11.94/-12.9	-11.9/-9.93	-8.87/-8.62	-8.72/-8.76	-8.65/-7.89	-8.07/-8.86	-10.2/-11.39
Θ(30°)	-9.03/-11.26	-10.65/-7.95	-6.05/-4.14	-3.13/-8.2	-4.17/-3.76	-3.42/-3.22	-2.96/-2.73	-2.54/-2.77	-3.72/-5.18	-6.76/-7.66	-8.06/-9.11	-9.4/-8.64	-8.72/-8.94	-11.15/-12.19	-11.53/-11.68	-10.37/-9.26	-10.07/-15.04	-12.31/-6.93	-5.16/-5.48	-5.74/-5.59	-6.01/-6.6	-7.02/-7.77	-1.41/-7.97	
Θ(37.5°)	-8.8/-8.88	-6.72/-4.54	-3.29/-2.12	-2.23/-4.3	-6.61/-4.39	-2.17/-1.46	-1.05/-0.49	-0.74/-2.37	-4.24/-5.18	-6.08/-7.34	-9.27/-11.8	-12.44/-10.55	-8.25/-8.39	-10.34/-12.1	-9.61/-6.27	-5.19/-5.55	-6.26/-7.16	-10.69/-18.16	-10.42/-5.52	-3.49/-3.33	-4.02/-4.06	-3.46/-3.73	-6.11/-8.78	-9.19/-9.9
Θ(45°)	-9.19/-8.8	-8.25/-4.73	-2.03/-4.74	-0.63/-3.27	-8.62/-4.58	-1.28/-0.35	0.02/-0.14	-1.85/-4.7	-5.14/-4.08	-4.32/-4.41	-5.63/-5.6	-6.01/-10.14	-12.19/-8.17	-4.63/-5.12	-10.04/-9.42	-4.79/-3.65	-4.08/-5.69	-10.74/-14.89	-14.29/-8.92	-7.04/-5.55	-4.97/-5.4	-3.73/-2.07	-2.85/-3.77	-7.56/-7.97
Θ(52.5°)	-5.84/-7.2	-9.67/-4.69	-1.84/-0.55	-0.46/-3.42	-8.71/-3.07	-0.1704	0.08/-1.45	-3.95/-5.92	-4.78/-3.62	-3.26/-3.89	-6.14/-4.49	-4.6/-9.3	-12.53/-7.04	-2.26/-2.4	-7.37/-11.72	-6.19/-4.8	-4.12/-4.5	-8.27/-18.87	-14.18/-9.14	-6.69/-4.43	-3.24/-3.07	-1.92/-0.77	-1.21/-2.09	-3.08/-4.89
Θ(60°)	-3.99/-5.91	-6.77/-2.65	-1.52/-1.84	-2.36/-3.55	-5.17/-2.03	0.13003	-0.62/-1.9	-4.16/-4.37	-3.98/-5.62	-6.25/-4.7	-6.84/-5.84	-6.09/-8.05	-8.08/-8.13	-3.35/-1.53	-3.79/-10.44	-9.3/-5.48	-3.36/-2.7	-6.07/-11.89	-8.73/-5.07	-4.11/-3.67	-2.26/-2.99	-2.92/-2.04	-2.66/-2.56	-3.21/-3.36
Θ(67.5°)	-5.34/-6.79	-5.71/-3.66	-1.57/-1.17	-1.88/-2.74	-4.59/-1.28	0.17073	-0.15/-2.24	-3.53/-3.03	-3.38/-5.44	-5.86/-6.97	-11.43/-8.23	-8.34/-10.08	-4.88/-5.65	-5.72/-3.12	-2.71/-5.44	-6.56/-4.5	-2.39/-1.85	-6.13/-12.44	-8.13/-5.15	-4.15/-3.33	-3.63/-4.99	-5.62/-7.18	-2.79/-1.9	-2.84/-3.12
Θ(75°)	-3.85/-8.15	-5.44/-1.84	-2.16/-2.08	-1.05/-1.05	-2.45/-1.35	0.11010	0.34/-0.68	-0.56/-0.64	-1.33/-1.98	-2.98/-3.18	-11.52/-4.84	-6.68/-8.52	-2.22/-5.95	-7.67/-6.52	-3.31/-2.85	-1.97/-1.36	-3.38/-1.97	-4.77/-2.34	-1.47/-3.21	-3.05/-5	-8.14/-6.51	-3.72/-2.17	-2.58/-1.31	
Θ(82.5°)	-3.22/-7.63	-4.89/-1.54	-2.07/-2.19	-0.880.11	-1.44/-1.91	-0.570.54	1.010.88	0.550.42	0.620.84	-1.110.05	-6.45/-2.12	-4.71/-1.61	-1.12/-3.32	-4.86/-4.59	-2.93/-0.2	1.781.41	-2.64/-3.12	-2.09/-3.95	-2.85/-0.29	-0.67/-1.03	-2.9/-4.15	-8/-5.66	-3.73/-0.95	-1.2/-2.01
Θ(90°)	-2.31/-5.96	-5.83/-2.3	-1.86/-2.41	-0.550.31	-2.05/-2	-0.410.69	0.970.35	0.620.38	6.62/-0.27	-1.141.04	-5.680.17	-4.44/-2.85	1.03/-0.53	-4.58/-4.21	-2.3/-0.62	1.451.7	-1.5/-2.54	-1.78/-2.67	-2.860.74	-0.35/-0.44	-2.41/-4.7	-5.96/-6.07	-3.58/-1.6	-1.07/-2.69
Θ(97.5°)	-5.13/-4.66	-3.72/-3.77	-1.63/-0.22	0.020.12	-2.35/-2.76	-0.50.81	0.850.75	0.250.03	0.992.03	-1.571.22	-4.83/-0.14	-5.68/-4.18	-0.38/-1.59	-5.39/-6.06	-3.18/-1.01	0.391.39	0.06/-1.31	-3.08/-4.83	-2.030.02	-0.1/-5.56	-3.1/-6.77	-2.22/-5.05	-4.88/-0.82	-0.66/-4.99
Θ(105°)	-4.61/-6.28	-3.89/-3.62	-2.840.07	0.650.03	-3.18/-2.91	-0.75/-0.24	-0.18/-0.36	-0.76/-0.68	0.31/-4.6	-0.67/-0.51	-11.15/-1.72	-6.62/-6.24	0.03/-0.36	-6.05/-10.76	-5.68/-1.19	-0.61/-0.81	-1.5/-1.77	-3.23/-8.49	-2.85/-1.7	0.07/-3.49	-2.92/-5.83	-5.55/-4.2	-4.06/-3.35	-1.78/-2.38
Θ(112.5°)	-4.37/-4.16	-3.81/-2.89	-1.8/-0.25	-2.37/-0.85	-2.29/-3.17	-1.85/-1.31	-0.76/-1.19	-2.07/-3.29	-1.61/-2.57	-1.92/-7.13	-19.27/-11.3	-0.54/-1.32	-14.04/-18.09	-4.62/-1.01	-3.23/-1.55	-1.97/-2.21	-3.81/-11.29	-2.79/-2.45	-0.01/-3.45	-3.67/-9.98	-6.85/-8.49	-1.8/-2.46	-2.14/-4.43	
Θ(120°)	-4.25/-6.66	-4.14/-1.59	-0.10.61	0/-2.4	-5.71/-4.45	-1.76/-0.63	-2.24/-3.58	-4.61/-4.07	-2.99/-2.93	-1.31/-3.84	-11.79/-12.68	-8.61/-18.86	-1.78/-0.06	-2.43/-0.89	-1.14/-2.36	-2.62/-7.26	-4.82/-1.46	-1.1/-8.5	-5.47/-5.84	-11.70/-8.03	-5.37/-1.88	-3/-2.64		
Θ(127.5°)	-4.34/-5.49	-3.8/-1.4	-0.45/-0.75	-2.28/-3.8	-4.55/-2.84	-0.73/-2.06	-4.57/-5.34	-6/-4.53	-7.26/-4.93	-3.32/-4.73	-8.31/-3.65	-8.32/-11.37	-2.42/-4.74	-13.16/-12.32	-1.42/-1.74	-2/-0.83	-3.45/-3.83	-3.97/-8.76	-2.15/-1.59	-2.7/-2.25	-18.23/-5.7	-16.02/-3.61	-2.34/-2.02	-2.39/-4.49
Θ(135°)	-4.17/-2.92	-2.41/-2.45	-2.41/-3.6	-4.64/-3.75	-2.37/-1.81	-2.38/-2.28	-2.64/-3.98	-2.03/-1.81	-3.45/-4.34	-6.36/-6.56	-4.9/-5.34	-1.67/-4.92	-8.53/-4.4	-2.79/-9.33	-2.63/-2.13	-5.7/-4.31	-5.99/-10.43	-6.810.11	-2.02/-4.43	-6.04/-17.19	-18.04/-8.34	-2.27/-1.53	-2.96/-4.48	
Θ(142.5°)	-5.36/-5.83	-7.97/-11.44	-13/-10.05	-5.12/-2.29	-1.93/-3.8	-4.79/-9.98	-5.31/-3.45	-2.06/-1.22	-2.25/-5.02	-11.65/-6.16	-9.57/-6.53	-5.52/-4.71	-6.73/-7.22	-4.96/-4.35	-8.54/-10.27	-7/-1.34	-3.26/-8.18	-13.84/-16.17	-16.8/-5.28	-4.11/-5.19	-5.11/-8.21	-17.71/-15.6	-5.26/-5.75	
Θ(150°)	-14.59/-17.33	-17.35/-13.09	-10.27/-7.56	-4.85/-3.32	-4.08/-5.23	-5.34/-4.2	-3.58/-3.73	-3.77/-2.74	-2.63/-4.87	-9.87/-11.7	-10.31/-11.51	-10.48/-8.04	-7.17/-7.45	-4.12/-6.97	-13.26/-16.75	-13.08/-10.51	-10.8/-10.51	-12.39/-16.18	-12.87/-7.28	-4.75/-6.43	-5.89/-6.61	-7.99/-10.01	-10.04/-9.33	-12.52/-18.25
Θ(157.5°)	-10.51/-9.55	-9.39/-8.45	-6.53/-5.27	-4.62/-4.93	-6/-7.83	-4.89/-8.65	-7.67/-8.67	-6.59/-6.76	-8.03/-10.06	-12.02/-12.39	-13.93/-14.92	-14.63/-13.7	-13.41/-14.84	-17.1/-1.91	-18.06/-18.6	-18.06/-18.21	-17.86/-18.7	-18.43/-14.9	-10.67/-8.75	-8.07/-8.2	-8.92/-8.78	-7.11/-9.59	-5.51/-6.59	-9.15/-10.3
Θ(165°)	-12.71/-13.31	-9.45/-6.5	-5.35/-4.68	-4.6/-5.37	-6.66/-8.3	-9/-9.18	-10.72/-13.28	-15.74/-14.88	-13.71/-13.23	-13.78/-13.7	-14.57/-17.38	-18.83/-19.05	-18.14/-18.31	-14.45/-12.84	-12.55/-13.28	-15.11/-18.7	-18.5/-18.31	-17.35/-18.05	-14.26/-10.7	-8.95/-7.77	-7.29/-7.08	-5.96/-5.35	-5.85/-7.08	-8.16/-10.01
Θ(172.5°)	-15.52/-11.1	-8.15/-7.64	-6.9/-5.53	-7.96/-9.09	-11.72/-16	-18.14/-19.08	-13.07/-10.47	-9.18/-8.83	-9.23/-9.75	-10.53/-12.35	-16.02/-18.91	-18.46/-19.53	-16.73/-14.06	-11.92/-11.66	-12.55/-13.4	-15.72/-17.46	-19.18/-18.08	-18.82/-17.97	-15.02/-12.72	-11.48/-10.34	-9.53/-9.36	-10.61/-11.63	-13.42/-16.65	-17.19/-19.14
Θ(180°)	-11.73/-12.71	-14.98/-16.46	-19.12/-18.13	-18.01/-17.38	-16.73/-14.67	-12.68/-11.22	-9.93/-9.35	-9.29/-9.84	-10.23/-11.02	-12.65/-14.57	-16.32/-18.62	-19.34/-17.68	-18.92/-18.38	-18.68/-18.46	-16.82/-16.72	-17.79/-18.67	-17.69/-17.3	-15.89/-15.98	-17.82/-19.4	-18.18/-17.64	-17.8/-18.05	-19.02/-18.87	-17.62/-15.29	-13.95/-12.93
Freq(Hz)	5.63GPol.	Theta/Ant. 3																						
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-4.34/-4.11	-3.73/-4.56	-5.27/-7.57	-6.64/-7.73	-8.95/-10.72	-12.51/-15.6	-17/-13.89	-10.56/-8.18	-7.17/-6.44	-5.6/-4.76	-3.87/-3.37	-3.66/-3.79	-3.49/-3.55	-3.94/-4.57	-5.41/-6.65	-7.92/-9.19	-11.35/-12.4	-14.92/-15.3	-16.07/-13.25	-11.83/-10.1	-8			



Radiated Composite Gain Data_5GHz UNII 1~UNII 3

Appendix B

Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-10.69/-10.65	-9.64/-8.88	-8.04/-7.33	-6.52/-5.98	-5.59/-5.24	-5.06/-4.93	-4.69/-4.66	-5.07/-6.05	-7.26/-8.19	-8.96/-9.67	-11.31/-12.94	-13.61/-13.91	-14.08/-13.86	-13.05/-11.32	-9.72/-8.82	-7.89/-7.68	-5.93/-5.55	-4.82/-4.73	-4.49/-4.52	-4.76/-4.71	-5.11/-5.95	-6.66/-6.88	-8.07/-10.23	-11.22/-10.39
Θ(7.5°)	-17.17/-18.41	-16.42/-13.55	-11.45/-8.7	-8.3/-7.46	-6.62/-5.81	-5.25/-5.09	-4.52/-4.24	-4.21/-4.13	-4.66/-5.28	-6.29/-6.42	-6.06/-12.26	-8.69/-10.42	-11.42/-11.42	-11.21/-10.59	-5.66/-5.84	-3.77/-3.61	-2.59/-2.42	-5.31/-5.56	-5.92/-6.1	-6.53/-7.2	-6.59/-9.75	-10.97/-10.79	-11.44/-15.21	-18.61/-17.14
Θ(15°)	-9.42/-10.06	-13.01/-18.16	-19.34/-14.81	-10.46/-8.19	-6.48/-5.27	-4.79/-4.77	-4.43/-4.26	-4.13/-4.28	-4.84/-5.17	-5.53/-5.26	-5.57/-16.55	-7.88/-9.73	-11.04/-13.52	-18.62/-18.44	-14.61/-11.79	-8.82/-8.47	-7.57/-7.32	-6.85/-6.66	-6.77/-7.67	-6.82/-6.95	-7.31/-7.6	-8.75/-9.49	-9.37/-9.6	-9.78/-9.84
Θ(22.5°)	-7.56/-7.19	-8.48/-10.18	-11.78/-12.08	-9.93/-7.13	-4.71/-3.73	-3.84/-4.5	-4.48/-4.16	-4.68/-5.92	-8.08/-9.76	-12.11/-13.53	-15.38/-16.45	-18.34/-18.67	-18.28/-18.21	-19.32/-19.07	-18.01/-19.02	-19.29/-14.4	-13.34/-12.26	-10.93/-9.32	-7.19/-5.53	-4.53/-4.1	-4.54/-5.11	-5.64/-6.21	-7.92/-9.69	-11/-9.3
Θ(30°)	-11.24/-11.11	-9.77/-8.93	-8.41/-9	-6.35/-5	-3.51/-2.9	-2.81/-3.01	-2.94/-3.05	-3.14/-4.27	-6.82/-11.2	-16.45/-18.59	-15.98/-11.91	-10.06/-7.61	-6.31/-7.65	-11.81/-19.05	-18.04/-15.15	-13.32/-12.96	-16.54/-17.77	-13.5/-8.32	-6.87/-5.45	-3.69/-2.85	-2.93/-1.6	-3.36/-4.49	-7.39/-9.3	-11.04/-10.92
Θ(37.5°)	-7.57/-9.17	-7.84/-6.3	-5.67/-3.44	-1.51/-1.39	-2.68/-4.1	-4.63/-4.83	-3.46/-2.17	-1.95/-3.02	-5.42/-7.97	-10.24/-12.61	-12.65/-13.4	-11.15/-7.03	-5.42/-6.16	-8.19/-9.96	-10.2/-8.22	-6.3/-5.7	-7.77/-16.51	-14.98/-9.43	-7.53/-5.93	-4.65/-4.3	-4.57/-4.82	-4.92/-5.02	-5.32/-4.84	-4.56/-5.35
Θ(45°)	-3.88/-4.76	-5.53/-4.49	-4.03/-3.41	-1.84/-1.63	-3.21/-5.35	-6.93/-4.98	-2.09/-1.21	-1.61/-2.1	-4/-5.74	-8.85/-7.07	-9.82/-14.15	-16.49/-13.53	-11.29/-9.93	-6.83/-6.03	-7.96/-7.69	-5.75/-5.33	-6.83/-11.65	-18.18/-8.5	-7.04/-9.64	-10.52/-9.73	-11.45/-12.32	-9.89/-7.91	-5.29/-3.88	-3.35/-3.6
Θ(52.5°)	-3.8/-4.75	-4.32/-3.91	-4.08/-2.98	-1.24/-1.05	-2.35/-4.25	-4.51/-3.32	-2.96/-2.85	-3.52/-4.86	-7.48/-7.24	-6.81/-6.16	-7.27/-6.86	-5.99/-9.54	-10.79/-6.14	-4.01/-5.51	-7.84/-6.95	-5.32/-4.04	-5.73/-15.06	-16.08/-10.52	-10.94/-9.99	-9.84/-9.94	-16.41/-15.99	-7.81/-3.41	-2.19/-2.29	
Θ(60°)	-2.62/-5.13	-5.26/-2.71	-1.29/-1.3	-1.64/-2.5	-4.14/-5.75	-3.46/-1.03	-0.55/-1.4	-3.99/-7.77	-12.47/-13.41	-16.84/-10.93	-9.78/-8.59	-7.08/-10.25	-8.79/-4.44	-2.96/-4.93	-7.4/-7.29	-8.25/-7.62	-5.79/-8.83	-14.67/-11.14	-9.31/-9.33	-7.48/-5.13	-9.3/-11.88	-8.39/-8.39	-6.1/-3.12	-0.66/-0.2
Θ(67.5°)	-0.54/-2.71	-6.07/-3.51	-1.16/-1.5	-2.12/-2.92	-3.3/-2.51	-1.68/-0.9	-1.38/-0.69	-2.82/-7.31	-9.17/-12.81	-13.46/-10.72	-13.83/-13.51	-8.84/-3.91	-3.34/-4.89	-2.01/-6.74	-7.01/-6.74	-5.68/-5.32	-4.47/-6.06	-12.55/-8.43	-8.59/-5.99	-5.71/-4.18	-6.69/-9.15	-6.26/-6.66	-3.99/-2.89	-0.160.53
Θ(75°)	0.96/-0.7	-5.51/-5.04	-1.9/-1.43	-2.05/-3.26	-6.62/-2.5	-0.510.4	-0.29/-0.4	-2/-3.47	-2.58/-4.27	-6.7/-6.11	-10.76/-9.39	-5.95/-5.55	-4.3/-5.29	-6.13/-3.62	-3.19/-3.82	-7.67/-7.09	-5.47/-4.67	-3.15/-3.33	-5.09/-6.7	-3.31/-2.54	-2.35/-1.68	0.37/-2.4		
Θ(82.5°)	1.09/-0.32	-4.74/-4.98	-1.94/-2.24	-2.64/-2.53	-2.19/-1.43	-0.590.75	0.58/0.73	-2.19/-2.27	-0.55/-1.34	-3.29/-3.03	-7.71/-3.42	-6.47/-4.06	-2.24/-6.13	-7.26/-3.34	-2.38/-1.43	0.77/-0.32	-3.1/-3.7	-5.64/-4.77	-3.55/-3.57	-1.91/-2.72	-3.01/-4.14	-1.48/-2.02	-1.66/-0.98	0.41/-2.5
Θ(90°)	1.2/-0.86	-5.04/-3.21	-2.09/-3.1	-2.39/-1.46	-1.58/-2.13	-1.510.87	1.25/0.85	-1.14/-0.62	1.15/-0.31	-2.18/-2.92	-6.98/-2.6	-3.27/-2.59	-1.84/-3.67	-5.02/-2.86	-2.16/-1.42	1.23/0.49	-2.21/-2	-3.64/-2.32	-2.35/-1.94	-2.34/-1.26	-4.75/-2.7	-0.87/-1.09	-1.79/-0.44	-0.750.74
Θ(97.5°)	-1.71/-1.88	-7.17/-5.2	-1.8/-2.86	-2.9/-2.16	-1/-1.36	-1.640.01	0.61/0.23	-1.36/0.03	0.41/-0.28	-3.66/-4.84	-9.19/-2.52	-3.9/-3.58	0.1/-2.95	-9.49/-5.82	-3.51/-2.58	0.63/-0.18	-2.28/-1.03	-6.18/-3.09	-7.68/-1.67	-5.27/-2.44	-0.7/-1.74	-1.72/-1.51	-1.8/-0.83	
Θ(105°)	-0.42/-2.15	-11.34/-5.95	-1.34/-2.36	-2.58/-1.26	-1.14/-2.03	-2.66/-0.02	0.2/-0.71	-2.06/-0.3	0.34/-1.25	-5.16/-9.04	-13.38/-6.88	-3.84/-5.6	-1.67/-2.09	-9.94/-10.86	-5.07/-2.08	-1.14/-2.63	-2.86/-0.45	-4.22/-5.49	-2.01/-2.49	-2.15/-4.66	-8.64/-3.93	-1.39/-0.87	-2.12/-0.7	-2.08/-2.4
Θ(112.5°)	-2.59/-6.26	-10.26/-5.21	-1.96/-1.61	-1.09/-0.67	-1.57/-1.36	-2.71/0.103	0.62/-1.93	-3.92/-1.07	-1.28/-2.35	-6.69/-8.24	-15.32/-11.71	-8.08/-9.26	-1.87/-4.09	-11.59/-11.9	-5.84/-2.57	-0.86/-2.14	-3.99/-2.72	-7.56/-7	-8.83/-2.62	-0.19/-4.96	-6.59/-6.23	-1.22/-0.12	-3.15/-2.5	-2.02/-1.93
Θ(120°)	-5.18/-6.16	-5.63/-4.8	-3.63/-1.97	-1.09/-0.02	-1.8/-3.11	-3.46/-0.75	-0.41/-3.96	-9.93/-6.05	-3.68/-6.5	-7.67/-6.2	-16.92/-10.4	-12.92/-13.3	-1.67/-7.69	-15.05/-13.56	-3.15/-5.08	-0.65/-1.51	-1.13/-2.94	-4.97/-11.63	-0.07/-1.43	-0.63/-4.06	-4.65/-7.73	-0.36/-0.71	-1.14/-4.51	-1.64/-2.96
Θ(127.5°)	-4.75/-7.76	-3.68/-2.5	-2.74/-1.71	-0.71/-1.96	-3.86/-3.42	-1.510.08	0.16/-2.94	-11.32/-8.8	-4.85/-6.53	-5.19/-5.52	-9.46/-10.11	-6.39/-11.3	-5.75/-9.17	-8.05/-12.02	-3.6/-2.91	-4.75/-1.54	-1.8/-3.74	-6.67/-14.38	-1.31/-0.2	-1.66/-1.75	-8.76/-11.91	-1.68/-2	-2.58/-2.1	-4.91/-2.73
Θ(135°)	-1.23/-2.25	-4.46/-3.25	-2.61/-3.48	-3.53/-3.1	-3.79/-1.88	-0.100.08	-0.32/-2.08	-6.19/-4.4	-2.44/-2.1	-2.98/-6.44	-7.98/-6.08	-6.34/-3.77	-4.29/-6.94	-8.83/-9.78	-4.19/-6.92	-8.33/-4.43	-3.74/-2.79	-8.58/-15.03	-10.2/-3.23	-6.06/-3.1	-15.24/-10.36	-7.02/-9.63	-1.12/-3.21	-2.74/-2.72
Θ(142.5°)	-1.71/-2.04	-3.93/-4.2	-3.37/-4.42	-5.39/-3.76	-5.11/-6.13	-0.47/-0.36	-0.56/-2.54	-5.36/-5.07	-5.52/-5.81	-7.48/-13.53	-10.94/-12.04	-16.03/-8.03	-7.86/-9.12	-8.82/-8.36	-11.31/-18.89	-13.02/-4.88	-3.68/-1.62	-18.65/-16.68	-11.45/-8.67	-6.73/-5.52	-6.15/-15.12	-14.47/-10.97	-6.15/-4.81	-5.14/-3.23
Θ(150°)	-8.55/-9.1	-12.67/-14.74	-13.14/-11.52	-11.15/-9.55	-6.53/-4.23	-3.79/-5.23	-7.16/-6.16	-4.99/-4.93	-4.89/-4.41	-4.5/-5.09	-5.58/-6.58	-9.21/-10.28	-8.58/-7.77	-8.3/-10.53	-16.44/-15.38	-14.96/-18.8	-9.8/-6.23	-7.22/-11.72	-15.81/-13.31	-13.54/-18.53	-18.52/-15.96	-12.92/-17.27	-17.62/-18.99	-13.29/-10.15
Θ(157.5°)	-15.8/-16.62	-12.58/-11.16	-10.97/-10.02	-9.81/-7.16	-4.97/-4.05	-4.42/-5.73	-8.76/-13.46	-16.87/-14.5	-14.94/-16.88	-15.67/-11.46	-9.73/-9.93	-9.45/-10.72	-11.32/-12.76	-18.99/-19.99	-17.99/-16.21	-15.56/-15.15	-13.79/-14.03	-17.73/-14.03	-10.96/-12.56	-18.3/-16.16	-18.19/-16.31	-10.72/-10.01	-10.08/-10.6	-11.42/-13.82
Θ(165°)	-10.18/-10.6	-9.84/-8.86	-7.74/-6.09	-4.79/-4.09	-3.77/-4.42	-6.07/-8.88	-11.53/-10.4	-9.31/-9.49	-10.88/-12.1	-12.41/-11.7	-11.79/-12.11	-13.47/-14.05	-15.18/-14.55	-12.39/-11.03	-10.77/-10.10	-9.97/-11.48	-13.95/-17.86	-18.79/-18.2	-18.43/-16.66	-13.23/-11.45	-10.16/-8.7	-7.72/-6.95	-6.56/-6.89	-7.74/-9.63
Θ(172.5°)	-13.28/-11.02	-9.92/-6.28	-5.41/-5.04	-5.27/-5.52	-5.94/-3.37	-10.14/-14.78	-16.4/-11.55	-8.91/-8.34	-8.91/-10.01	-10.98/-12.17	-15.1/-18.18	-17.97/-18.27	-14.72/-11.32	-9.13/-8.47	-8.16/-8.26	-4.83/-9.53	-11.31/-12.96	-13.74/-12.61	-13.72/-12.03	-11.22/-9.53	-8.27/-7.36	-6.56/-6.63	-7.62/-9.64	-11.44/-12.42
Θ(180°)	-0.189/-0.37	-5.91/-9.24	-9.28/-10.77	-12.5/-14.03	-15.57/-16.22	-17.09/-15.6	-12.41/-10.81	-10.32/-11.15	-11.76/-11.87	-12.13/-12.31	-14.23/-15.78	-16.99/-18.28	-17.87/-18.34	-15.69/-14.18	-13.08/-11.81	-10.3/-9.09	-8.85/-9.01	-9.1/-9.29	-9.83/-11.01	-12.3/-14.51	-16/-17.48	-18.76/-18.73	-17.89/-17.3	-13.48/-12.17
Freq(Hz)	5.785GPol.	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°)	-3.82/-3.66	-4.2/-5.01	-6.11/-6.87	-7.87/-8.25	-10.47/-12.51	-14.85/-15.72	-14.33/-12.59	-10.64/-9.84	-8.99/-8.09	-6.41/-6.06	-6/-6.38	-6.24/-5.03	-4.54/-5.6	-5.4/-5.69	-6.99/-6.97	-7.96/-8.7	-11.01/-12.99	-13.13/-13.52	-11.91/-10.6	-8.11/-6.44	-5.94/-5.56	-5.57/-5.23	-4.22/-3.27	-3.1/-3.59
Θ(7.5°)	-7.51/-7.7	-7.84/-8.01	-8.61/-9.85	-11.11/-13.58	-14.72/-16.13	-16.85/-15.25	-12.37/-10.01	-8.43/-7.6	-6.41/-6.55	-5.16/-5.39	-4.1/-4.22	-3.76/-2.91	-2.51/-3.2	-4.24/-6.69	-4.95/-5.78	-6.93/-8.83	-11.45/-11.94	-16.39/-16.08	-14.45/-11.94	-9.53/-9.79	-9.94/-9.4	-8.26/-7.12	-7.07/-7.66	-7.88/-7.7
Θ(15°)	-16.65/-15.8	-16.03/-17.78	-16.96/-14.16	-12.82/-13.56	-16.21/-18.26	-19.04/-17.2	-13.28/-11.69	-11.76/-12.56	-13.05/-12.61	-12.1/-7.64	-5.67/-4.54	-3.15/-1.97	-1.76/-2.36	-2.85/-3.03	-3.44/-4.55	-6.56/-9.02	-12.44/-14.66	-18.75/-18.59	-18.09/-18.28	-16.06/-13.88	-11.66/-10.47	-10.1/-11.02	-10.3/-9.66	-9.06/-11.95
Θ(22.5°)	-6.1/-7.31	-8.4/-11.43	-19.06/-18.74	-14.96/-11.55	-12.55/-18.54	-18.4/-18.14	-16.09/-18.69	-18.78/-18.38	-12.72/-10.42	-10.78/-11.17	-10.59/-8.83	-7.47/-6.58	-6.67/-6.98	-7.31/-7.14	-6.62/-7.07	-8.07/-10.81	-13.6/-16.89	-19.24/-18.58	-19.02/-18.31	-14.17/-11.19	-9.2/-8.23	-8.74/-10.49	-9.95/-7.5	-5.16/-5.03
Θ(30°)	-2.21/-2.42	-3.96/-7.17	-13.33/-18.51	-11.91/-9.69	-11.43/-17.49	-16.13/-17.85	-16.63/-17.3	-15.57/-10.22	-6.67/-3.43	-16.8/-8.35	-16.62/-14.94	-13.1/-11.36	-10.63/-10.93	-8.06/-8.83	-12.3/-14.8	-12.78/-13.24	-13.1/-16	-19.11/-18.5	-16.82/-15.51	-13.39/-14.84	-17.02/-16.3	-14.63/-12.6	-10.06/-6.59	-4.08/-2.76
Θ(37.5°)	-2.17/-2.88	-4.57/-8.97	-19.15/-55	-10.84/-10.95	-13.39/-18.74	-17.29/-17.07	-14.41/-16.32	-12.15/-7.37	-5.33/-5.77	-7.19/-8.18	-8.48/-9.82	-10.64/-8.17	-5.35/-3.85	-3.68/-5.07	-8.52/-12.84	-15.76/-19.13	-18.53/-18.97	-19.15/-17.12	-14.56/-15.51	-17.76/-18.11	-18.53/-11.64	-9.51/-8.31	-6.73/-4.75	-3.98/-2.67
Θ(45°)	-3.1/-4.41</																							



Radiated Composite Gain Data_5GHz UNII 1~UNII 3

Appendix B

Θ(45°)	-3.19/-3.9	-4.15/-6.22	-10.97/-13.71	-17.31/-18.9	-17.29/-18.63	-17.56/-14.25	-12.84/-9.87	-8.29/-7.55	-6.98/-5.67	-5.2/-6.73	-10.73/-12.33	-9.4/-6.21	-4.83/-3.32	-2.22/-2.22	-2.58/-2.52	-4.26/-7.04	-4.4/-3.96	-5.34/-3.96	-3.62/-4.58	-4.92/-2.41	-3.09/-1.81	-2.52/-2.91	-1.09/-0.21	0.03/-1.36
Θ(52°)	-2.03/-4	-5.34/-5.87	-7.02/-6.68	-7.31/-11.37	-15.58/-17.99	-17.16/-13.93	-9.96/-8.54	-6.67/-6.43	-6.16/-7.53	-4.48/-5.14	-7.21/-6.73	-7.1/-5.9	-4.43/-3.58	-3.55/-3.33	-3.33/-3.29	-4.98/-11.6	-5.64/-4.77	-4.83/-5.77	-6.56/-6.42	-3.65/-2.15	-0.27/-1.36	-5.27/-5.52	-1.74/-0.22	-0.14/-0.89
Θ(60°)	-7.02/-9.72	-8.35/-9.51	-10.23/-11.67	-4.03/-6.05	-9.04/-11.04	-10.45/-6.42	-7.63/-10.38	-5.89/-6.28	-3.57/-4.62	-4.09/-4.68	-5.89/-7.26	-6.15/-3.06	-1.94/-1.78	-2.88/-2.82	-1.81/-1.7	-2.34/-5.25	-3.37/-3.9	-8.85/-6.36	-2.81/-2.73	-2.04/-2.2	-3.34/-2.19	-1.67/-3.44	-5.04/-9.43	-5.04/-9.43
Θ(67.5°)	-3.25/-11.76	-9.66/-12	-13.57/-14.71	-5.49/-4.29	-2.66/-2.9	-5.88/-6.31	-8.32/-6.01	-1.03/-1.09	-3.8/-4.45	-3.28/-2.32	-2.33/-3.68	-3.19/-1.82	2.32/-2.05	-2.84/-7.8	-5.59/-5.29	-3.12/-5.14	-2.88/-3.4	-3.63/-5.76	-4.35/-1.8	-1/-0.5	0.51/-0.9	-2.71/-0.74	-0.37/-1.64	-2.07/-1.48
Θ(75°)	0.28/-3.37	-13.75/-11.82	-15.53/-9.37	-9.18/-4.45	-0.92/-0.59	-5.42/-7.41	-5.05/-5.26	-2.19/-1.4	-2.43/-2.84	-1.94/-1.19	-1.15/-3.06	-3.3/-1.4	-0.69/-0.49	-0.03/-1.84	-3.41/-6.2	-6.08/-8.4	-5.66/-3.02	-0.72/-1.18	-2.96/-4.34	-1.13/-1.46	2.01/-0.26	-1.06/-0.54	0.18/-1.57	-1.22/-0.09
Θ(82°)	1.86/-1.45	-7.77/-5.37	-13.33/-7.92	-8.27/-4.73	-0.19/-0.22	-5.61/-6.93	-3.08/-3.58	-2.03/-1.97	-1.68/-0.26	-0.26/-0.97	-1.72/-1.39	0.10/-91	1.92/-16	-0.12/-0.71	-0.51/-3	-4.56/-2.83	-3.95/-3.74	-1.79/-0.2	0.55/-1.3	-1.13/-1.27	2.942/53	1.31/-21	0.23/-0.43	0.11/-35
Θ(90°)	2.06/0.06	-6.69/-1.91	-5.39/-7.26	-6/-6.22	-3.01/-1.97	-4.38/-5.09	-2.99/-4.83	-4.66/-1.66	-0.14/-0.6	-1.44/-1.33	-1.03/-0.12	0.44/0.51	1.54/-1.2	-0.38/0.3	-1.11/-4.02	-3.65/-3.21	-4.68/-3.38	-3.19/-0.75	-0.2/-0.62	-0.81/-2.2	2.21/-1.26	0.68/-1.42	-0.24/-2.26	-1.77/-0.37
Θ(97.5°)	1.19/-0.85	-3.62/0.04	-4.66/-6.48	-5.19/-7.19	-4.28/-2.54	-3.16/-0.55	-4.49/-3.66	-3.14/-1.56	-0.45/-0.57	-0.44/-0.6	0.43/-0.04	0.23/-0.29	1.01/-0.23	-1.11/-1.0	-2.86/-6.77	-5.42/-3.27	-4/-3.36	-1.67/-1.44	-1.12/-0.9	0.44/-2.5	0.41/-0.79	0.02/-0.14	-2.84/-6.53	-6.08/-1.02
Θ(105°)	0.05/-1.79	-10.21/-2.13	-4.13/-10	-8/-10.37	-6.08/-2.99	-3.06/-6.11	-6.36/-5.2	-3.8/-2.52	-1.83/-1.52	-0.83/-4.2	0.30/-12	0.28/0.58	-0.01/0.53	-0.08/-0.62	-1.86/-1.95	-5.49/-4.71	-6.95/-4.25	-0.21/-2.4	-1.51/-2.48	-0.47/-2.72	-0.2/-3.91	-2.06/-0.5	-3.78/-12.54	-11.51/-2.87
Θ(112.5°)	-3.69/-1.79	-6.29/-5.92	-6.85/-13.92	-10.99/-18.68	-7.29/-4.15	-4.09/-7.82	-7.45/-6.42	-4.12/-1.31	-1.71/-2.06	-1.11/-1.16	-0.6/-0.8	-0.84/-0.57	0.91/0.6	-0.2/-1.42	-2.61/-3.12	-4.49/-6.82	-4.08/-1.46	1.4/-1.51	-0.78/-4.54	-1.33/-2.38	0.53/-2.42	-2.62/-0.54	-2/-11.68	-15.76/-8.73
Θ(120°)	-7.91/-7.94	-14.15/-16.27	-11.51/-13.89	-18.62/-17.57	-7.56/-3.73	-5.67/-10.24	-11.14/-7.68	-5.8/-2.35	-2.71/-3.98	-1.82/-2.16	-1.43/-2.73	-1.11/-0.81	-0.13/-0.72	-1.64/-4.5	-1.11/-2.69	-3.42/-6.16	-2.93/-0.1	2.27/0.51	0.98/-1.31	-0.49/-1.88	1.16/-2.05	-2.95/-3.65	-3.7/-12.17	-17.46/-9.4
Θ(127.5°)	-4.83/-7.95	-12.63/-7.57	-14.97/-12.87	-8.88/-8.4	-8.67/-6.65	-9.17/-12.5	-8.95/-4.5	-2.43/-2.96	-5.77/-5.6	-1.62/-1.57	-2.78/-2.64	-3.77/-5.4	-1.89/-1.73	-7.35/-1.82	-0.46/-0.8	-8.64/-6.72	-2.21/-1.82	1.09/1	-3.50/-2.5	0.41/-2.52	-2.55/-10.65	-6.04/-8.21	-18.02/-9.35	
Θ(135°)	-11.25/-6.42	-6.9/-12.18	-18.78/-17.81	-17.78/-18.67	-15.98/-13.38	-9.67/-8.08	-8.85/-13.42	-10.85/-6.67	-4.31/-3.32	-2.37/-2.94	-4.18/-7.24	-8.79/-4.21	-0.44/-1.43	-3.86/-0.1	1.64/-0.17	-11.25/-10.03	-4.97/-0.14	-0.03/-0.22	0.25/-6.54	-11.43/-4.27	-1/-1.15	-2.61/-12.08	-11.56/-14.28	-13.01/-11.77
Θ(142.5°)	-13.71/-13.68	-16.95/-18.57	-17.01/-15.66	-13.49/-13.43	-14.18/-12.64	-10.59/-9.29	-7.89/-6.86	-5.66/-4.25	-6.32/-12.11	-18.92/-8.4	-4.03/-3.38	-2.79/-0.92	-0.55/-0.88	0.87/-2.44	2.23/0.72	-1.87/-7.95	-4.6/-3.08	-3.62/-1.28	-1.61/-3.46	-6.1/-3.5	-1.86/-6.36	-3.12/-7.43	-12.99/-8.17	-11.74/-15.32
Θ(150°)	-11.71/-11.16	-12.76/-18.85	-19.97/-13.67	-16.84/-18.85	-18.86/-19	-18.37/-13.95	-13.84/-17.57	-18.47/-9.75	-7.34/-4.9	-3.71/-3.12	-3.49/-3.65	-3.87/-5.8	-8.43/-8.24	-4.8/-2.14	-1.42/-3.75	-6.04/-5.11	-8.46/-9.21	-8.75/-4.21	-1.62/-9.85	-1.62/-9.85	-3.12/-9.85	-15.46/-12.16	-12.39/-14.49	
Θ(157.5°)	-10.51/-12.07	-12.61/-12.4	-10.31/-9.15	-11.47/-16.61	-18.51/-18.23	-16.55/-12.6	-10.78/-9.68	-8.14/-6.95	-7.21/-7.79	-8.31/-8.49	-8.85/-9.14	-9/-9.56	-9.81/-8.56	-5.99/-4.38	-4.04/-4.84	-4.69/-4.94	-6.47/-6.28	-4.58/-4.98	-7.3/-8.83	-7.69/-5.17	-3.77/-4.81	-8.57/-14.5	-18.69/-18.37	-16.55/-11.97
Θ(165°)	-9.26/-9.58	-11.01/-13.23	-12.43/-13.51	-17.04/-18.62	-18.03/-14.74	-17.72/-17.81	-15.3/-10.78	-7.24/-5.56	-4.55/-6.36	-3.19/-2.73	-2.73/-0.5	-3.39/-3.2	-2.29/-1	0.10/-38	0.35/0.23	-0.62/-2.39	-4.91/-6.05	-7.64/-9.67	-11.62/-12.66	-11.36/-10.77	-11.62/-14.41	-17.96/-18.36	-17.76/-12.94	
Θ(172.5°)	-10.16/-12.23	-16.11/-13.79	-14.75/-19.06	-17.69/-18.46	-13.71/-19.09	-18.21/-18.84	-18.44/-14.1	-17.76/-9.28	-9.74/-9.79	-10.13/-10.28	-10.68/-11.31	-11.61/-11.09	-10.51/-10.2	-10.07/-10.98	-12.6/-14.7	-14.95/-10.74	-8.13/-7.25	-7.32/-6.68	-11.53/-15.75	-18.61/-17.46	-18.42/-10.77	-19.17/-16.24	-14.18/-13.04	-12.99/-10.76
Θ(180°)	-5.62/-6.39	-6.47/-6.41	-6.88/-7.59	-7.66/-7.18	-7.24/-8.09	-8.91/-9.51	-10.24/-10.27	-10.46/-11.15	-12.47/-14.16	-15.08/-15.63	-15.52/-13.91	-12.28/-11.61	-10.62/-8.71	-6.7/-5.83	-6.09/-6.39	-5.69/-5.05	-5.09/-6.47	-8.75/-11.52	-13.73/-13.85	-13.7/-12.62	-11.5/-10.26	-8.93/-7.43	-5.92/-5.29	-5.3/-5.46
Freq(Hz)	5.3GPol.	PhiAnt. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-6.05/-5.56	-4.63/-4.42	-4.11/-3.85	-3.78/-3.81	-4.81/-6.37	-7.33/-8.61	-10.3/-12.06	-14.95/-17.73	-17.69/-18.39	-15.71/-12.72	-10.35/-8.55	-7.48/-7.42	-6.45/-5.32	-4.81/-4.6	4.71/-4.77	-4.74/-4.83	-5.5/-6.05	-6.68/-7.85	-9.76/-11.73	-13.65/-15.5	-16.56/-15.32	-14.86/-14.85	-13.2/-9.93	-7.66/-6.69
Θ(7.5°)	-3.89/-9.66	-9.42/-7.8	-6.68/-7.59	-6.12/-6.14	-7.26/-8.76	-8.21/-8.34	-9.49/-9.49	-11.15/-12.4	-15.64/-16.02	-16.86/-16.05	-13.08/-13.63	-8.05/-6.84	-6.48/-5.7	-4.33/-3.94	-4.05/-4.2	4.04/-4.3	-5.02/-6.16	-5.92/-6.37	-12.8/-16.36	-16.45/-13.76	-18.24/-18.63	-16.25/-16.58	-11.91/-11.49	
Θ(15°)	-5.71/-4.44	-4.36/-6.18	-8.27/-8.89	-8.51/-1.09	-14.71/-18.24	-13.09/-9.82	-10.98/-11.73	-13.12/-14.27	-15.46/-16.25	-16.12/-15.35	-13.08/-11.23	-9.47/-8.66	-8.28/-8.07	-7.46/-7.07	-7.04/-6.83	6.5/-6.78	-7.28/-8.03	-8.73/-10.73	-15.21/-18.81	-18.16/-18.77	-18.82/-19.3	-18.67/-16.53	-12.64/-10.37	-7.58/-6.79
Θ(22.5°)	-7.82/-5.73	-4.17/-4.56	-4.76/-6.14	-6.59/-8.32	-13.28/-17.61	-18.26/-13.61	-13.13/-12.13	-13.71/-13.39	-14.09/-15.47	-15.21/-12.04	-9.93/-6.66	-8.65/-8.15	-7.6/-7.29	-7.33/-7.71	-8.33/-9.15	-9.47/-10.25	-10.24/-9.38	-10.18/-14.32	-17.13/-18.48	-18.16/-18.71	-16.76/-15.24	-14.35/-12.56	-10.02/-9.29	-8.38/-8.13
Θ(30°)	-8.34/-9.15	-11.07/-11.64	-12.44/-11.88	-11.68/-12.81	-16.05/-18.85	-17.09/-16.11	-11.41/-10.1	-10.98/-14.64	-17.63/-16.98	-12.77/-9.61	-8.71/-6.63	-8.28/-6.65	-5.49/-5.34	-5.91/-5.85	-5.2/-4.7	-5.67/-8.07	-7.84/-7.05	-8.79/-12.71	-17.71/-18.21	-14.39/-13.3	-16.83/-14.76	-11.95/-11.01	-9.26/-7.71	-7.26/-6.74
Θ(37.5°)	-8.32/-9.62	-7.28/-10.85	-15.4/-19.09	-18.86/-17.57	-17.6/-17.73	-19.16/-17.16	-13.41/-13.64	-18.91/-17.42	-12.53/-10.8	-10.45/-10.28	-12.05/-15.06	-13.31/-10.57	-9.78/-10.64	-12.87/-11.09	-7.45/-6.45	-8.81/-10.65	-9.88/-9.77	-10.88/-12.3	-14.84/-18.81	-18.6/-18.37	-18.87/-12.9	-12.64/-10.66	-8.49/-8.22	-9.27/-9.98
Θ(45°)	-4.94/-4.24	-4.98/-6.89	-3.86/-13.73	-18.84/-18.83	-18.54/-18.29	-11.62/-10.03	-11.76/-12.55	-16.98/-18.82	-14.98/-11.14	-9.83/-8.25	-9.49/-12.27	-12.88/-12.17	-10.17/-19.08	-9.61/-8.6	-6.84/-6.48	-8.65/-6.51	-9.02/-12.09	-15.12/-18.9	-18.16/-18.2	-16.2/-18.76	-18.71/-11.98	-9.67/-7.86	-5.24/-4.07	-4.89/-5.35
Θ(52.5°)	-10.18/-4.66	-6.6/-10.7	-16.08/-13.44	-10.61/-10.44	-15.71/-18.96	-16.34/-14.05	-18.19/-19.17	-18.83/-12.49	-12.26/-12.73	-13.86/-13.4	-15.95/-12.91	-8.77/-4.72	-7.61/-8.23	-9.34/-9.77	-9.6/-12.4	-12.03/-10.1	-12.26/-11.3	-10.7/-10.85	-13.82/-19.02	-17.48/-17.22	-19.14/-17.49	-11.66/-9.61	-10.57/-10.18	-8.66/-9.36
Θ(60°)	-9.04/-14.11	-13/-13.34	-17.66/-13.24	-11.21/-11.9	-15.02/-17.76	-16.01/-12.77	-13.03/-19.02	-18.32/-15.44	-13.14/-15.49	-13.74/-11.29	-14.11/-19.14	-13.13/-10.46	-8.72/-9.59	-10.49/-8.71	-8.13/-7.54	8.3/-4.98	-12.2/-14.74	-15.95/-19.2	-19.1/-18.66	-16.62/-17.51	-18.43/-14.79	-12.68/-10.13	-9.69/-12.56	-10.24/-7.37
Θ(67.5°)	-8.42/-12.61	-18.21/-17.12	-17.75/-16.76	-14.12/-12.77	-14.16/-15.29	-14.16/-11.4	-11.87/-18.61	-10.88/-15.63	-14.75/-17.83	-16.18/-11.98	-16.02/-18.3	-12.14/-9.84	-10.98/-13.3	-11.92/-9.52	-11.35/-15.31	-17.3/-12.97	-15.46/-17.19	-12.86/-13.48	-17.81/-18.3	-17.81/-19.35	-17.18/-11.34	-8.91/-8.69	-9.99/-11.21	-6.89/-7.42
Θ(75°)	-17.23/-18.66	-18.24/-18.55	-18.24/-19.37	-16.24/-16.94	-13.44/-14.17	-14.82/-14.51	-15.74/-18.13	-16.14/-17.83	-18.66/-18.44	-17.01/-12.87	-14.53/-18.24	-17.49/-18.12	-17.92/-13.6	-11.93/-10.67	-9.89/-12.3	-19.36/-17.65	-14.07/-12.21	-9.87/-9.41	-15.26/-18.9	-17.87/-18.69	-16.5/-12.41	-12.28/-12.72	-18.01/-18.36	-16.95/-12.47
Θ(82.5°)	-9.92/-18.01	-18.39/-19.02	-18.78/-19.04	-19.23/-14.49	-13.33/-12.62	-14.94/-17.71	-11.53/-15.06	-16.79/-18.65	-18.49/-19.04	-18.16/-14.57	-17.15/-18.45	-15.17/-15.31	-12.96/-9.85	-11.09/-10.75	-10.33/-16.7	-18.72/-14.65	-9.8/-13.41	-12.08/-9.78	-14.99/-18.3	-15.06/-18.39	-15.43/-10.13	-11.38/-13.28	-16.38/-18.58	-14.29/-10.12
Θ(90°)	-13.91/-15.98	-13.99/-17.97	-17.99/-18.85	-17.52/-16.05	-14.55/-18.92	-18.21/-13.44	-12.31/-19	-18.51/-17.3	-17.5/-18.36	-18.23/-15.16	-15.66/-14.78	-13.56/-12.03	-9.46/-9.55	-13.44/-17.28	-18.37/-18.61	-17.77/-18.02	-15.41/-12.07	-8.64/-9.67	-14.06/-18.52	-14.52/-18.71	-12.15/-10.81	-12.33/-12.69	-16.25/-16.84	-17.99



Radiated Composite Gain Data_5GHz UNII 1~UNII 3

Appendix B

Θ(97.5°)	-0.74/-2.58	-4.96/-1.98	-13.8/-6.22	-13.72/-5.02	-4.54/-3.21	-4.15/-8.03	-7.27/-6.01	-4.52/-2.21	-1/-1.04	0.47/-1.18	-1.15/-0.22	0.87/-1.72	2.52/-1.31	1.19/-1.21	1.12/-1.05	-0.64/-3.37	-2.38/-1.62	-7.5/-5.1	-3.64/-3.37	-6.06/-0.56	-1.02/-1.22	-1.03/-0.87	-1.83/-5.17	-8.62/-5
Θ(105°)	-2.62/-5.37	-6.73/-2.71	-10.96/-10.98	-17.65/-9.07	-5.81/-4.39	-4.9/-5.97	-8.4/-7.76	-4.42/-2.06	-1.45/-0.39	0.25/-1.24	-1.17/-0.05	-0.56/-0.75	1.47/-0.78	1.54/-0.79	0.62/-0.7	0.12/-3.93	-3.24/-2.01	-5.55/-6.2	-5.01/-4.07	-4.95/-0.62	-2.44/-4.21	-3.89/-2.22	-4.37/-8.3	-7.14/-4.6
Θ(112.5°)	-8.28/-4.2	-11/-8.66	-13.89/-18.03	-16.53/-10.09	-6.21/-4.86	-6.55/-9.29	-8.69/-7.48	-3.5/-2.2	-2.64/-1.18	-0.73/-1.97	-1.67/-1.56	-0.76/-1.23	0.88/-0.88	0.75/-0.38	1.49/-0.47	-2.02/-4.84	-3.19/-4.04	-2.16/-3.84	-3.6/-9.18	-3.93/-0.31	-0.6/-2.61	-3.89/-3.44	-4.69/-9.03	-18.19/-10.29
Θ(120°)	-10.61/-8.45	-17.38/-12.5	-19.06/-16.32	-15.86/-12.79	-7.19/-9.66	-11.34/-8.14	-7.9/-9.4	-4.3/-3.4	-2.17/-1.1	-2.1/-2.74	-2.4/-2.93	-2.23/-0.4	-0.67/-0.56	0.29/-1.28	-1.5/-1.5	-1.53/-5.82	-0.8/-3.2	-0.33/-2.08	-0.66/-6.41	-2.6/-3.7	-0.14/-2.48	-5.09/-3.66	-6.47/-16.33	-18.49/-17.88
Θ(127.5°)	-10.93/-12.86	-19.23/-18.59	-18.49/-18.76	-12.02/-8.34	-5.72/-7.47	-10.26/-6.35	-8.91/-10.56	-4.49/-2.15	-2.34/-3.32	-3.59/-3.86	-3.46/-2.43	0.21/-0.45	-1.1/-0.95	-1.22/-1.66	2.41/-0.87	-1.09/-11.83	-2.29/-2.57	0.11/-0.92	-0.86/-7.51	-3.28/-1.48	1.47/-2.91	-12.58/-7.51	-5.25/-19	-13.9/-11.33
Θ(135°)	-11.94/-14.24	-11.69/-16.94	-18.43/-18.84	-17.69/-12.87	-14.14/-11.16	-10.05/-8.48	-13.22/-12.66	-5.56/-3.38	-4/-5.75	-7.44/-6.27	-3.16/-0.2	-0.44/-2.47	0.25/-0.77	-1.7/-0.52	0.55/-0.44	-4.71/-10.65	-3.88/-0.2	-0.58/-0.02	-1.38/-7.87	-6.87/-1.16	-0.2/-1.49	-6.41/-19.03	-7.59/-11.76	-11.39/-8.23
Θ(142.5°)	-17.84/-17.37	-15.21/-19.07	-17.92/-18.12	-19.31/-18.2	-17.56/-16.88	-13.23/-9.18	-7.47/-8.67	-12.37/-18.32	-18.99/-9.29	-5.61/-4.41	-3.09/-3.32	-5.31/-4.45	-3.9/-6.63	-7.82/-4.33	-4.15/-7.42	-10.34/-6.91	-1.39/-0.29	-1.54/-4.03	-8.43/-9.32	-14.49/-4.78	-0.94/-1.24	-6.81/-17.84	-11.62/-8.45	-13.61/-18.61
Θ(150°)	-5.55/-6.6	-10.34/-9.58	-7.85/-11.12	-19.21/-18.12	-16.12/-12.32	-10.13/-9.08	-10.36/-12.28	-10.41/-6.64	-5.09/-5.79	-7.93/-11.24	-18.68/-17.81	-15.61/-10.92	-7.72/-6.36	-5.75/-5.24	-4.73/-4.13	-6.36/-16.73	-11.89/-6.46	-3.05/-2.57	-5.91/-13.21	-14.26/-9.84	-5.81/-6.53	-9.9/-15.51	-17.75/-10.89	-6.21/-5.83
Θ(157.5°)	-18.85/-18.57	-18.61/-19.13	-18.75/-17.5	-14.33/-12.91	-14.15/-17.63	-17.58/-18.13	-19/-18.95	-15.75/-11.52	-8.65/-7.06	-4.91/-3.48	-3.29/-3.45	-3.44/-3.84	-4.76/-5.22	-4.84/-4.07	-3.21/-3.41	-3.69/-3.86	-5.19/-8.2	-10.99/-12.64	-18.54/-19.25	-12.31/-6.49	-3.42/-3.09	-4.62/-7.48	-10.42/-12.6	-18.31/-18.09
Θ(165°)	-18.06/-16.57	-15.13/-13.49	-12.93/-12.56	-11.02/-10.39	-12.08/-12.68	-11/-7.82	-5.42/-4.5	-4.09/-4.3	-4.23/-5.32	-6.01/-6.13	-6.05/-6.9	-7.88/-8.36	-8.14/-7.75	-7.26/-6.24	-5.43/-5.64	-6.19/-7.34	-8.63/-7.7	-5.32/-3.88	-3.86/-4.81	-6.19/-7.11	-7.69/-8.91	-10.16/-11.45	-14.14/-17.27	-18.4/-18.7
Θ(172.5°)	-11.86/-16.72	-19.21/-17.81	-17.73/-17.32	-15.37/-12.59	-9.53/-8.34	-7.58/-6.72	-5.69/-5.15	-5.19/-5.68	-5.65/-6.05	-6.58/-6.55	-6.81/-7.42	-8.54/-9.49	-9.82/-9.8	-10.34/-10.26	-9.04/-9.06	-8.6/-7.3	-5.95/-4.82	-4.54/-4.76	-5.13/-6.17	-7.71/-8.86	-9.64/-10.97	-13.26/-12.32	-10.23/-10.31	-10.53/-9.75
Θ(180°)	-6.73/-8.06	-8.08/-7.5	-7.94/-8.34	-7.79/-6.56	-5.47/-5.36	-5.72/-6.24	-6.83/-7.32	-8.62/-9.84	-11.32/-13.03	-15.85/-19.1	-18.55/-18.2	-18.61/-17.19	-14.07/-11.6	-9.86/-8.63	-7.69/-7.24	-7.53/-8.24	-8.51/-8.98	-12.11/-19.44	-17.33/-18.73	-14.95/-13.75	-13.64/-12.71	-11.74/-9.98	-8.03/-7.53	-7.38/-6.49
Freq(Hz)	5.785GPol.	PhiAnt. 4		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-10.29/-8.42	-8.11/-8.71	-7.69/-6.19	-5.75/-7.76	-9.79/-10.83	-11.18/-11.35	-12.14/-13.57	-14.1/-14.63	-15.36/-16.3	-17.68/-18.82	-15.37/-12.4	-11.03/-10.56	-10.84/-9.72	-8.44/-8.11	-7.68/-8.08	-8.01/-7.75	-8.53/-9.73	-9.86/-9.62	-9.77/-10.77	-12.2/-13.62	-17.55/-18.34	-18.66/-14.6	-12.27/-10.18	-9.21/-9.52
Θ(7.5°)	-14.73/-12.47	-11.59/-11.12	-9.71/-9.1	-9.27/-11.06	-12.32/-11.12	-10.74/-11.21	-11.93/-13.63	-14.34/-15	-18.02/-14.45	-13.74/-11.76	-9.82/-8.71	-9.07/-9.06	-7.81/-7.76	-7.78/-7.33	-6.81/-7.37	-8.78/-9.21	-9.15/-9.65	-10.81/-12.05	-12.6/-14.64	-15.48/-15.59	-17/-17.57	-14.59/-11.69	-11.11/-10.93	-11.98/-13.31
Θ(15°)	-10.39/-9.15	-8.71/-9.27	-12.98/-19.37	-13.62/-13.41	-17.41/-14.08	-11.53/-11.41	-13.25/-15.56	-17.45/-14.88	-19.57/-16.31	-13.43/-10.97	-8.14/-8.88	-6.42/-5.68	-5.16/-4.56	-4.05/-4.06	-4.97/-5.75	-6.22/-7.24	-8.6/-9.62	-10.92/-12.33	-15.1/-18.08	-18.69/-18.05	-17.74/-16.91	-14.28/-13.3	-13.48/-14.81	-12.51/-10.59
Θ(22.5°)	-4.13/-3.57	-3.7/-3.78	-5.44/-6.76	-7.31/-9.06	-14.78/-18.94	-13.83/-12.56	-14.73/-18.43	-18.95/-18.64	-14.74/-11.8	-9.92/-8.57	-6.82/-5.41	-3.96/-3.24	-3.84/-4.57	-3.86/-2.98	-3.43/-4.55	-5.25/-5.18	-6.37/-8.87	-10.01/-8.43	-9/-13.2	-19.18/-15.89	-12.69/-13.25	-14.05/-13.96	-11.91/-9.33	-6.04/-4.51
Θ(30°)	-4.08/-3.28	-4.06/-5.45	-6.27/-7.02	-7.23/-8.18	-10.61/-18.72	-19.05/-19.47	-17.61/-17.27	-18.24/-14.86	-10.06/-7.99	-8.43/-9.38	-9.7/-8.71	-7.51/-7.18	-6.77/-7.22	-7.8/-6.93	-6.37/-7.13	-8.09/-9.1	-11.63/-16.4	-13.62/-9.06	-8.82/-12.44	-18.03/-18.02	-18.34/-18.3	-10.44/-6.81	-6.07/-5.79	-5.26/-4.74
Θ(37.5°)	-2.79/-1.25	-1.86/-4.95	-8.86/-7.97	-7.18/-8.31	-10.82/-15.75	-18.34/-19.12	-17.49/-17.32	-11.67/-9	-7.98/-7.52	-7.89/-8.12	-8.31/-7.3	-6.06/-5.08	-4.27/-3.97	-4.93/-6.58	-8.33/-13.13	-18.73/-16.35	-13.29/-15.62	-18.64/-18.41	-18.48/-19.26	-17.5/-11.31	-8.73/-7.36	-6.3/-5.47	-3.47/-3.26	
Θ(45°)	-3.73/-4.2	-8.86/-5.62	-7.65/-10.83	-10.22/-15.1	-12.92/-18.04	-18.95/-18.08	-16.84/-15.11	-13.22/-14.34	-11.88/-10.06	-9.2/-10.72	-10.72/-7.45	-5.98/-6.39	-5.77/-4.75	-5.64/-7.38	-9.48/-14.58	-17.36/-17.93	-14.01/-10.81	-16.67/-14.01	-14/-18.06	-18.29/-17.95	-17.94/-18.59	-13.71/-9.28	-7.88/-5.04	-2.8/-2.32
Θ(52.5°)	-3.33/-4.96	-4.26/-4.17	-5.87/-5.69	-9.17/-17.51	-18.42/-18.23	-18.11/-17.67	-15.61/-15.16	-11.65/-11.84	-10.97/-9.18	-9.85/-18.01	-12.68/-9.46	-10.2/-14.73	-17.93/-13.92	-9.88/-7.87	-9.38/-10.25	-7.86/-7.78	-9.87/-12.57	-18.88/-15.35	-12.5/-19.15	-18.04/-17.69	-15.99/-17.75	-18.14/-12.91	-9.08/-6.03	-5.03/-3.39
Θ(60°)	-5.94/-6.84	-7.45/-8.23	-7.44/-7.09	-9.19/-16.6	-18.53/-18.46	-17.38/-12.46	-14.69/-18.46	-15.41/-16.54	-18.3/-11.08	-9.37/-16.14	-16.69/-18.82	-12.64/-11.89	-13.42/-18.99	-18.63/-19.25	-18.52/-16.85	-14.98/-10.88	-12.45/-13.52	-10.64/-11.89	-15.73/-18.69	-16.06/-16.65	-16.93/-19.18	-9.72/-10.26	-13.12/-9.37	-7.8/-6.5
Θ(67.5°)	-6.98/-10.45	-12.48/-15.08	-13.17/-8.38	-14.52/-15.09	-18.37/-16.79	-17.09/-18.19	-12.92/-17.68	-18.65/-11.49	-14.67/-18.21	-11.26/-16	-12.33/-10.05	-10.24/-12.09	-15.97/-16.65	-17.28/-17.73	-11.63/-11.33	-13.47/-9.47	-12.15/-16.64	-15.6/-15.16	-18.91/-18.68	-13.02/-18.5	-14.3/-11.57	-12.44/-12.12	-10.3/-9.29	
Θ(75°)	-7.03/-8.64	-15.45/-16.54	-19.12/-12.89	-16.48/-17.29	-18.12/-13.87	-18.27/-12.32	-16.54/-16.61	-13.49/-19.15	-17.74/-14.4	-18.17/-16.42	-12.03/-7.56	-5.84/-6.27	-7.79/-9.53	-12.96/-14.27	-15.63/-16.97	-9.65/-9.82	-13.82/-11.3	-12.65/-12.13	-10.64/-13.65	-16.79/-15.35	-9.59/-13.05	-17.67/-13.5	-15.6/-10.77	-9.1/-9.61
Θ(82.5°)	-12.25/-15.43	-16.06/-17.77	-18.02/-19.27	-18.83/-18.04	-16.34/-14.15	-18.2/-15.89	-18.92/-17.42	-14.12/-18.15	-17.85/-18.62	-17.59/-15.7	-13.14/-8.95	-9.02/-12.3	-12.73/-10.11	-9.57/-9.47	-13.26/-13.34	-11.05/-10.98	-13.93/-14.57	-17.08/-17.37	-17.48/-13.18	-18.25/-18.56	-11.77/-15.61	-15.2/-14.23	-14.47/-12.17	-13.14/-13.24
Θ(90°)	-14.24/-11.6	-19.13/-18.72	-17.17/-17.98	-18.36/-16.57	-19.02/-13.22	-19.34/-13.88	-17.86/-15.83	-14.42/-18.2	-16.6/-17.57	-16.56/-11.07	-10.77/-6.66	-7.77/-10.98	-9.6/-7.97	-9.45/-9.96	-9.72/-11.19	-8.41/-9.03	-9.74/-11.76	-16.09/-18.81	-16.61/-15.6	-18.95/-17.84	-9.44/-12.78	-14.95/-19.34	-17.47/-19.31	-13.59/-15.52
Θ(97.5°)	-18.68/-12.03	-16.03/-18.17	-16.51/-18.48	-18.03/-17.68	-15.9/-11.99	-17.19/-17.82	-18.87/-13.52	-18.43/-16.1	-12.44/-18.2	-14.85/-15.31	-17.75/-12.95	-14.8/-11.62	-9.6/-7.51	-5.44/-6.83	-11.73/-16.06	-15.67/-11.92	-11.89/-10.92	-15.43/-18.41	-18.41/-16.74	-18.39/-16.71	-15.37/-11.48	-17.81/-17.58	-17.99/-18.4	-14.1/-16.22
Θ(105°)	-19.71/-13.84	-18.25/-17.36	-18.2/-15.01	-13.66/-15.66	-15.83/-18.42	-18.13/-16.63	-19.2/-16.3	-17.8/-15.91	-13.85/-18.86	-15.28/-14.71	-14.5/-9.44	-11.47/-10.89	-8.19/-6.56	-10.78/-16.18	-14.27/-15.86	-13.02/-13.21	-12.12/-13.3	-16.71/-19.07	-18.02/-18.71	-17.57/-17.09	-15.21/-18.85	-17.09/-15.06	-17.67/-18.11	-18.05/-17.62
Θ(112.5°)	-7.24/-16.82	-9.39/-14.76	-17.93/-16.03	-16.76/-17.21	-18.31/-18.11	-18.99/-18.65	-18.49/-19.11	-18.79/-12.45	-12/-16.57	-17.56/-18.98	-12.83/-12.32	-12.4/-10.68	-8.78/-8.29	-10.48/-12.25	-12.2/-12.24	-11.37/-18.04	-14.49/-13.11	-17.84/-18.14	-19.04/-16.05	-18.37/-13.42	-17.62/-14.08	-18.84/-15.63	-8.46/-15.21	-14.2/-7.43
Θ(120°)	-11.29/-10.23	-13.11/-18.06	-12.38/-14.99	-17.56/-16.2	-17.52/-18.22	-19.27/-19.27	-18.15/-14.71	-15.76/-14.83	-16.17/-16.9	-14.46/-11.62	-11.24/-11.82	-15.31/-16.06	-11.62/-7.19	-8.83/-9.17	-15.6/-13.9	-11.88/-12.64	-19.44/-15.58	-19.82/-15.12	-19.39/-17.81	-19.28/-10.85	-18.15/-16.8	-13/-10.63	-11.29/-18.73	-16.54/-12.09
Θ(127.5°)	-11.34/-18.05	-10.11/-12.39	-18.68/-13.72	-19.42/-10.88	-12.73/-19.36	-18.15/-10.99	-12.27/-16.43	-17.56/-9.54	-15.27/-16.43	-10.34/-12.07	-15.89/-8.26	-12.48/-18.89	-17.58/-11.01	-14.62/-17.91	-13.85/-17.08	-13.81/-11.02	-16.71/-10.99	-15.78/-10.72	-14.57/-16.63	-18.68/-8.15	-7.47/-17.99	-9.3/-4.18	-5.13/-17.71	-8.5/-10.45
Θ(135°)	-8.15/-10.12	-13.35/-6.45	-7.29/-11.76	-8.65/-9.33	-9.02/-14.84	-19.43/-18.89	-13.97/-12.37	-10.34/-13.08	-14.19/-8.94	-8.91/-18.89	-13.84/-7.74	-9.21/-14.62	-6.42/-6.77	-11.39/-9.7	-9.29/-10.7	-8.89/-13.81	-9.55/-11.84	-8.89/-10.39	-12.33/-18.15	-17.33/-6.36	-3.78/-8.25	-10.34/-8.17	-17.79/-7.2	-11.54/-11.01
Θ(142.5°)	-8.72/-9.5	-15.78/-16.86	-11.86/-12.5	-8.79/-8.6	-11.53/-14.45	-18.01/-17.59	-19.09/-18.82																	