



Antenna Composite Gain Test Report

FCC ID	RRK-W1700A3
Equipment	Wi-Fi 7 Router
Brand Name	Quantum Fiber from AT&T / Lumen
Model Name	W1700A
Applicant	Alpha Networks Inc. No.8 Li-Hsin 7th Rd., Hsinchu Science Park, Hsinchu 300094. Taiwan, R.O.C.
Standard	KDB662911 D03 v02
Sample Received	Feb. 04, 2026
Start Test Date	Mar. 10, 2026
Final Test Date	Mar. 16, 2026

Approved by: Sam Chen

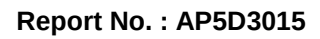
Sporton International Inc. Hsinchu Laboratory

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. Table for Multiple Listing	4
3. Test Frequency	5
4. Testing Location.....	5
5. Test Facility and Configuration.....	6
6. Reference Calibration	7
7. Test Method	8
8. Measured Values and Calculation of Maximum Gain Positions.....	9
9. Summary of Test Result	11
10. Test Setup	12
11. Test Equipment and Calibration Data	13
12. Test Results	14

[illegible]

1. Operation Mode and Antenna Information

Antenna Position	RF Port	Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
2G5GAnt1	1	AOT	ANT-M2458-AL17	PIFA	I-PEX(MHF)	2.4GHz, 5GHz UNII 1~3
2G5GAnt2	2	AOT	ANT-M2458-AL15	PIFA	I-PEX(MHF)	2.4GHz, 5GHz UNII 1~3
2G 5GAnt3	3	AOT	ANT-M2458-AL14	PIFA	I-PEX(MHF)	2.4GHz, 5GHz UNII 1~3
2G5GAnt4	4	AOT	ANT-M2458-AL16	PIFA	I-PEX(MHF)	2.4GHz, 5GHz UNII 1~3
6GAnt1	1	AOT	ANT-P5972-AL21	PIFA	I-PEX(MHF)	6GHz
6GAnt2	2	AOT	ANT-M5972-AL18	PIFA	I-PEX(MHF)	6GHz
6GAnt3	3	AOT	ANT-M5972-AL19	PIFA	I-PEX(MHF)	6GHz
6GAnt4	4	AOT	ANT-P5972-AL20	PIFA	I-PEX(MHF)	6GHz

Note:

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

2G5GAnt1~4 can be used as transmitting/receiving antenna.

2G5GAnt1~4 could transmit/receive simultaneously.

6GHz Operation Mode (4TX/4RX)

6GAnt1~4 can be used as transmitting/receiving antenna.

6GAnt1~4 could transmit/receive simultaneously.

2. Table for Multiple Listing

The brand/model names in the following table are all refer to the identical product.

Equipment Name	Brand Name	Model Name	Description of Models
Wi-Fi 7 Router	Quantum Fiber by AT&T	W1700A	1. For different marketing purposes. 2. The hardware and software of the product are identical; the only difference is the brand printed on the enclosure.
	Lumen		

Note 1: From the above models, Brand: Lumen and model: W1700A was selected as representative model for the test and its data was recorded in this report.

Note 2: The above information was declared by manufacturer.



3. Test Frequency

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

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

4. 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	Vivi Jiang	23.5-24.5 / 45-55	Mar. 10, 2026~Mar. 16, 2026

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

5. Test Facility and Configuration

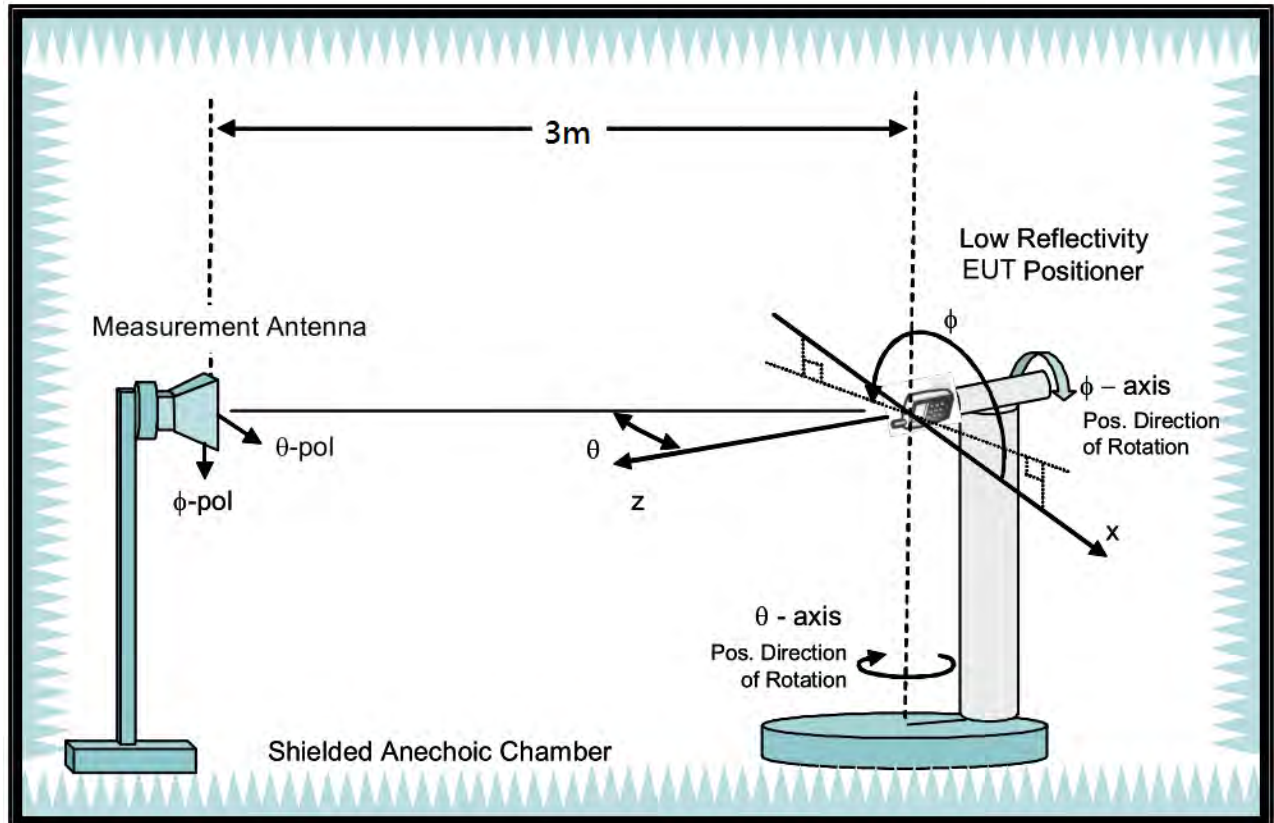
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

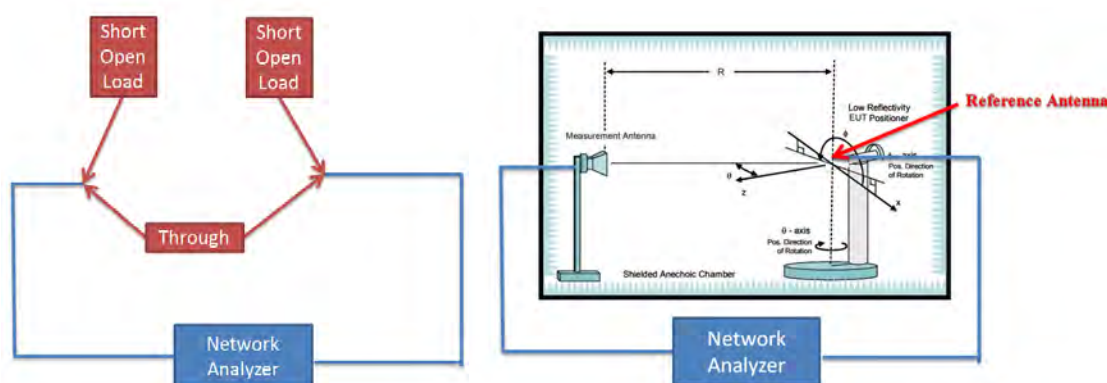
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



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)	-32.12	-32.48	-32.45	-34.55	-34.56	-34.78	-34.94	-34.89	-34.99	-35.16	-35.32	-35.68	-35.88	-35.97
G(phi) reading (dB)	-32.35	-32.11	-32.43	-34.12	-33.95	-34.23	-34.56	-34.68	-34.78	-35.32	-35.45	-35.67	-35.86	-36.11
Reference gain (dBi)	10.2	10.2	10.2	11	11.3	11.6	12	11.6	11.4	11.3	11.4	11.1	11	10.3
Factor(theta) (dB)	42.32	42.68	42.65	45.55	45.86	46.38	46.94	46.49	46.39	46.46	46.72	46.78	46.88	46.27
Factor(phi) (dB)	42.55	42.31	42.63	45.12	45.25	45.83	46.56	46.28	46.18	46.62	46.85	46.77	46.86	46.41

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 8 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

For 2G5GAnt1~4:

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	0.13	-1.45	-1.59	-4.36	-5.03
Ant. 2 (dBi)	1.16	2.18	0.5	3.53	4.12
Ant. 3 (dBi)	0.98	1.49	-0.82	2.66	3
Ant. 4 (dBi))	0.6	-11.67	-2.62	-4.57	-8.09
DG [1SS] (dBi)	6.75	5.06	4.96	6.14	5.96
Polarization	Theta	Theta	Theta	Theta	Theta
$\Theta(^{\circ})$	45	37.5	45	30	30
$\Phi(^{\circ})$	187.5	112.5	127.5	75	82.5

For 6GAnt1~4:

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	-1.08	1.94	-3.66	-3.43
Ant. 2 (dBi)	-7.42	-7.09	2	2.39
Ant. 3 (dBi)	-2.17	-7.27	1.1	2.79
Ant. 4 (dBi))	4.63	3.86	-8.97	-9.74
DG [1SS] (dBi)	5.56	5.31	4.62	5.33
Polarization	Phi	Phi	Theta	Theta
$\Theta(^{\circ})$	22.5	60	75	82.5
$\Phi(^{\circ})$	15	75	60	67.5

Note: The DG 1SS max value position is the maximum value of section 12 table DG 1SS Result.



DG_1SS max value position calculation

For 2G5GAnt1~4:

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 [$10^{(G/20)}$]	$10^{(0.13/20)}$	$10^{(-1.45/20)}$	$10^{(-1.59/20)}$	$10^{(-4.36/20)}$	$10^{(-5.03/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(1.16/20)}$	$10^{(2.18/20)}$	$10^{(0.5/20)}$	$10^{(3.53/20)}$	$10^{(4.12/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(0.98/20)}$	$10^{(1.49/20)}$	$10^{(-0.82/20)}$	$10^{(2.66/20)}$	$10^{(3/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(0.6/20)}$	$10^{(-11.67/20)}$	$10^{(-2.62/20)}$	$10^{(-4.57/20)}$	$10^{(-8.09/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.015	0.846	0.833	0.605	0.56
Ant. 2 [$10^{(G/20)}$] value	1.143	1.285	1.059	1.501	1.607
Ant. 3 [$10^{(G/20)}$] value	1.119	1.187	0.91	1.358	1.413
Ant. 4 [$10^{(G/20)}$] value	1.072	0.261	0.74	0.591	0.394
Sum All Antenna [Amax]	4.349	3.58	3.541	4.056	3.974
DG [$10 \cdot \log(A_{\max}^2/N_{\text{ant}})$]	6.75	5.06	4.96	6.14	5.96

For 6GAnt1~4:

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [$10^{(G/20)}$]	$10^{(-1.08/20)}$	$10^{(1.94/20)}$	$10^{(-3.66/20)}$	$10^{(-3.43/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(-7.42/20)}$	$10^{(-7.09/20)}$	$10^{(2/20)}$	$10^{(2.39/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(-2.17/20)}$	$10^{(-7.27/20)}$	$10^{(1.1/20)}$	$10^{(2.79/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(4.63/20)}$	$10^{(3.86/20)}$	$10^{(-8.97/20)}$	$10^{(-9.74/20)}$
Ant. 1 [$10^{(G/20)}$] value	0.883	1.25	0.656	0.674
Ant. 2 [$10^{(G/20)}$] value	0.426	0.442	1.259	1.317
Ant. 3 [$10^{(G/20)}$] value	0.779	0.433	1.135	1.379
Ant. 4 [$10^{(G/20)}$] value	1.704	1.56	0.356	0.326
Sum All Antenna [Amax]	3.792	3.685	3.406	3.695
DG [$10 \cdot \log(A_{\max}^2/N_{\text{ant}})$]	5.56	5.31	4.62	5.33

Note:

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

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



9. Summary of Test Result

For 2G5GAnt1~4:

Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	3.08	3.28	3.12	2.53	2.49
Ant. 2 Max Gain (dBi)	2.69	2.18	2.2	4.18	4.13
Ant. 3 Max Gain (dBi)	2.1	2.11	2.04	3.04	3.35
Ant. 4 Max Gain (dBi)	2.09	2.14	2.33	2.87	4.32
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/82.5/247.5	Phi/0/210	Phi/15/22.5	Phi/37.5/15	Theta/45/225
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/82.5/120	Theta/37.5/112.5	Theta/45/120	Theta/37.5/75	Theta/37.5/90
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/60/75	Theta/37.5/105	Theta/37.5/112.5	Theta/30/82.5	Theta/22.5/90
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/45/0	Theta/37.5/277.5	Theta/45/307.5	Phi/22.5/187.5	Theta/22.5/285
Max Gain (dBi)	3.08	3.28	3.12	4.18	4.32
DG [1SS] (dBi)	6.75	5.06	4.96	6.14	5.96
DG [2SS] (dBi)	3.75	3.28	3.12	4.18	4.32
DG [4SS] (dBi)	3.08	3.28	3.12	4.18	4.32

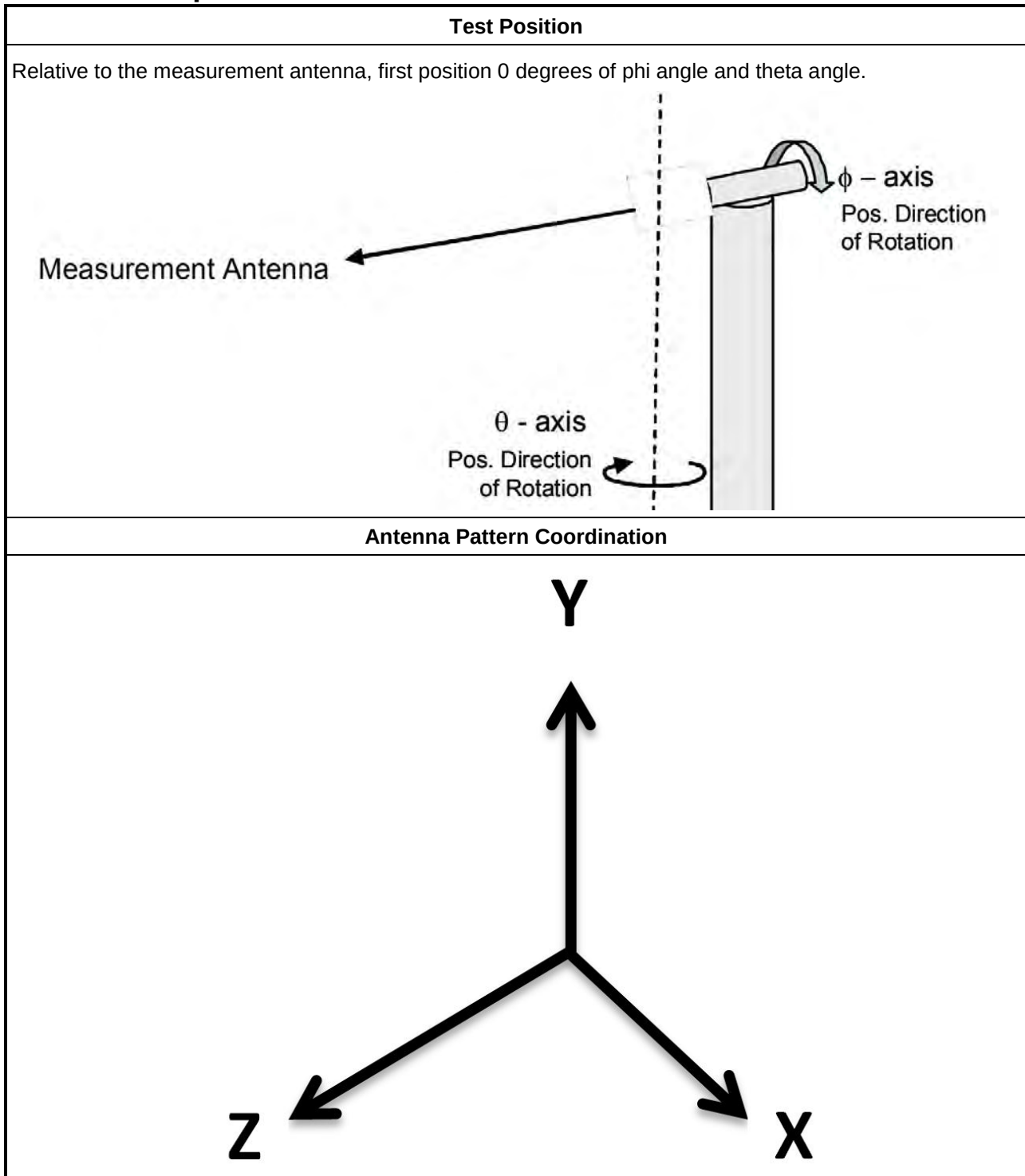
For 6GAnt1~4:

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5.27	4.43	3.07	3.59
Ant. 2 Max Gain (dBi)	2.61	2.85	3.72	2.91
Ant. 3 Max Gain (dBi)	3.62	2.06	3.4	3.55
Ant. 4 Max Gain (dBi)	5.1	4.94	3.46	3.8
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/30/225	Phi/52.5/240	Phi/75/82.5	Phi/37.5/157.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/82.5/262.5	Theta/97.5/82.5	Theta/67.5/120	Theta/97.5/67.5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/67.5/352.5	Theta/67.5/337.5	Theta/75/172.5	Theta/67.5/322.5
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/22.5/30	Phi/30/37.5	Phi/30/37.5	Phi/30/7.5
Max Gain (dBi)	5.27	4.94	3.72	3.8
DG [1SS] (dBi)	5.56	5.31	4.62	5.33
DG [2SS] (dBi)	5.27	4.94	3.72	3.8
DG [4SS] (dBi)	5.27	4.94	3.72	3.8

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. If directional gain is less than max gain, use max gain as directional gain. Refer to KDB662911D01 (F) (2) (e) (ii)
4. Directional Gain (2SS) = Directional Gain (1SS) – 3dB
5. Directional Gain (4SS) = Directional Gain (1SS) – 6dB

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-1531	1GHz~18GHz	Dec. 19, 2025	Dec. 18, 2026
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	Aug. 06, 2025	Aug. 05, 2026
VNA Calibration Kit	TS RF	TS85033E-F	-	DC~9GHz	N.C.R.	N.C.R.
Multi-axis positioner	Sporton	MAPS01	MAPS01-001	Theta / Phi axis	N.C.R.	N.C.R.
Test Software	SPORTON	SENSE-RDG	V1.0.8	-	N.C.R.	N.C.R.

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

NCR means Non-Calibration required.



12. Test Results

Please refer to the appendix.

Appendix A – Radiated Composite Gain of 2.4GHz and 5GHz U-NII 1~3.....	Page 15
Appendix B – Radiated Composite Gain of 6GHz U-NII 5~8.....	Page 29
Appendix C – Antenna Pattern of 2.4GHz and 5GHz U-NII 1~3.....	Page 40
Appendix D – Antenna Pattern of 6GHz U-NII 5~8.....	Page 47
Appendix E – Test Photos.....	Page 53



-

Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	3.08	3.28	3.12	2.53	2.49
Ant. 2 Max Gain (dBi)	2.69	2.18	2.2	4.18	4.13
Ant. 3 Max Gain (dBi)	2.1	2.11	2.04	3.04	3.35
Ant. 4 Max Gain (dBi)	2.09	2.14	2.33	2.87	4.32
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/82.5/247.5	Phi/0/210	Phi/15/22.5	Phi/37.5/15	Theta/45/225
Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/82.5/120	Theta/37.5/112.5	Theta/45/120	Theta/37.5/75	Theta/37.5/90
Ant. 3 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/60/75	Theta/37.5/105	Theta/37.5/112.5	Theta/30/82.5	Theta/22.5/90
Ant. 4 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/45/0	Theta/37.5/277.5	Theta/45/307.5	Phi/22.5/187.5	Theta/22.5/285
Max Gain (dBi)	3.08	3.28	3.12	4.18	4.32
DG [1SS] (dBi)	6.75	5.06	4.96	6.14	5.96
DG [2SS] (dBi)	3.75	3.28	3.12	4.18	4.32
DG [4SS] (dBi)	3.08	3.28	3.12	4.18	4.32



Radiated Composite Gain Data 2.4GHz and 5GHz U-NII 1~3

Appendix A

DG 1SS Result

Freq(Hz)	2.45G/Pol.	Phi+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-1.61/-1.76	-1.79/-1.76	-1.46/-0.92	-0.24/-0.46	0.97/1.43	2.11/2.5	2.66/2.64	2.54/2.33	2.11/1.85	1.57/1.21	0.6/-0.14	-0.85/-1.28	-1.63/-1.72	-1.81/-1.69	-1.31/-0.65	-0.07/0.61	1.21/54	2.06/2.44	2.62/2.65	2.54/2.36	2.09/1.77	1.47/1.08	0.52/-0.2	-1.01/-1.57
Θ(7.5°)	-1.91/-1.9	-1.91/-1.88	-1.66/-1.27	-0.64/0.14	0.89/1.53	2.01/2.34	2.47/2.49	2.28/2.19	2.02/1.86	1.62/1.31	0.73/0.11	-1.01/-1.46	-1.84/-2.09	-2.24/-1.77	-1.37/-0.57	0.08/0.57	1.14/1.55	1.78/1.98	2.03/2.03	1.88/1.67	1.5/1.3	1.01/0.66	0.45/-0.1	-0.8/-1.67
Θ(15°)	-1.62/-1.65	-1.65/-1.49	-1.3/-0.99	-0.36/0.41	1.07/1.48	1.68/1.77	1.85/1.87	1.72/1.7	1.76/1.55	1.26/0.83	0.15/-0.68	-1.52/-2.09	-2.42/-2.58	-2.31/-1.94	-1.33/-0.71	-0.22/0.29	0.79/1.18	1.34/1.5	1.51/1.43	1.37/1.26	1.1/0.89	0.52/0.04	-0.29/-0.66	-1.23/-1.56
Θ(22.5°)	-1.19/-1.16	-1.12/-0.89	-0.68/-0.39	-0.16/0.77	1.17/1.24	1.1/0.95	0.85/0.88	1.01/1.41	1.59/1.52	1.03/0.22	-1.05/-2.36	-3.26/-3.42	-3.23/-3.02	-2.38/-1.84	-1.32/-0.85	-0.52/0.05	0.61/12	1.31/1.35	1.39/1.44	1.38/1.27	1.01/0.59	-0.04/-0.86	-1.53/-2	-1.84/-1.54
Θ(30°)	-1.3/-1.07	-1.06/-1.12	-0.85/-0.53	0.26/0.89	1.17/1.02	0.52/0.08	0.05/0.46	1.33/1.77	2.11/1.96	1.36/0.21	-1.59/-3.72	-5.29/-4.94	-4.06/-3.36	-2.59/-1.82	-1.31/-0.92	-0.42/0.24	0.78/1.08	1.26/1.34	1.26/1.43	1.49/1.4	1.08/0.58	-0.08/-1.07	-2.3/-3.32	-3/-1.96
Θ(37.5°)	-2.5/-1.72	-1.58/-2.07	-2.33/-1.38	0.13/1.15	1.37/0.98	0.13/-0.63	-0.45/0.58	1.58/2.22	2.33/1.95	0.99/-0.51	-2.6/-5.1	-7.13/-6.83	-5.55/-4.73	-3.72/-2.7	-2.04/-1.43	-0.68/0.14	0.72/0.96	0.87/0.77	0.75/0.91	0.85/0.98	0.97/0.74	0.2/-1	-2.48/-3.97	-4.51/-3.62
Θ(45°)	-4.9/-3.26	-2.08/-2.09	-2.93/-2.32	-0.14/-0.5	1.18/0.53	-0.58/-1.21	-0.38/0.97	2.07/2.45	2.24/1.8	0.84/-0.6	-2.51/-4.35	-6.46/-8.33	-8.43/-8.22	-7.73/-5.85	-4.34/-3.26	-1.9/-1.17	-0.48/-0.16	-0.16/-0.33	-0.75/-0.82	-0.88/-0.43	0.14/0.4	-0.15/-1.6	-3.32/-4.93	-6.58/-6.99
Θ(52.5°)	-5.91/-3.25	-1.58/-1.47	-2.38/-2.55	-1.06/-0.15	-0.13/-0.71	-0.92/-0.07	0.71/1.29	1.71/1.58	0.82/-0.05	-1.04/-2.12	-3.05/-3.99	-5.54/-8.48	-10.55/-10.03	-8.04/-6.13	-4.73/-3.09	-2.16/-1.75	-1.61/-1.42	-1.33/-1.48	-1.78/-1.73	-1.57/-1.05	-0.47/-0.16	-0.51/-1.67	-3.36/-5.35	-6.77/-7.68
Θ(60°)	-7.03/-4.37	-3.02/-3.15	-4.33/-3.53	-2.1/-1.47	-1.17/-0.79	-0.18/0.34	0.98/1.14	0.42/-0.78	-2.51/-3.47	-3.88/-3.94	-4.44/-4.83	-5.84/-8.57	-9.92/-7.96	-5.97/-5.11	-5.02/4	-3.3/-3.17	-2.71/-2.22	-2.27/-2.21	-1.34/-0.99	-1.16/-1.72	-2.17/-2.37	-2.43/-2.61	-3.21/-4.55	-6.82/-8.69
Θ(67.5°)	-11.65/-6.83	-4.74/-4.51	-6.4/-4.15	-2.35/-2.25	-1.8/-1.14	-0.52/-0.46	-0.26/-0.54	-0.77/-2.07	-2.93/-3.26	-3.49/-3.72	-3.66/-3.3	-3.95/-6.92	-11.53/-8.95	-6.19/-6.56	-6.89/-5.29	-4.4/-4.05	-3.13/-2.3	-2.57/-2.89	-2.07/-1.2	-1.08/-1.14	-1.13/-1.53	-2.09/-2.78	-3.83/-5.5	-8.38/-12.16
Θ(75°)	-8.54/-6.45	-4.52/-4.73	-6.27/-4.44	-2.88/-3.04	-2.81/-1.32	0.04/0.11	-0.81/-1.9	-2.8/-3.64	-3.93/-3.85	-3.01/-3.17	-2.99/-2.48	-2.99/-6.22	-11.29/-9.46	-6.01/-6.43	-8.02/-4.75	-2.9/-3.07	-3.36/-1.92	-0.98/-0.85	-1.13/-1.35	-11/0.8	-0.77/-1.22	-2.01/-3.46	-4.06/-4.38	-5.78/-9.93
Θ(82.5°)	-9.26/-5.87	-5.44/-7.04	-6.89/-3.27	-1.82/-2.26	-2.9/-2.48	-1.42/-1.67	-2.85/-3.47	-3.6/-3.75	-4.01/-3.9	-3.31/-3.64	-4.13/-3.47	-3.85/-6.06	-10.11/-7.35	-5.78/-6.49	-7.76/-3.62	-2.18/-3.4	-4.64/-2.37	-1.06/-1.43	-2.73/-2.8	-2.26/-2.21	-2.37/-1.96	-1.55/-1.89	-2.72/-2.89	-4.08/-5.78
Θ(90°)	-8.82/-5.34	-4.61/-7.62	-7.89/-3.03	-1.42/-4.24	-3.01/-2.36	-2.02/-2.65	-3.64/-3.55	-3.12/-3.45	-4.18/-4.27	-4.13/-4.79	-5.34/-3.97	-3.24/-5.64	-10.73/-7.08	-4.26/-3.91	-6.12/-3.42	-1.44/-2.53	-4.39/-3.85	-1.67/-1.24	-4.23/-4.52	-2.87/-2.57	-2.61/-1.79	-1.37/-1.95	-3.2/-3.68	-4.72/-5.56
Θ(97.5°)	-9.46/-4.81	-3.1/-5.11	-7.85/-3.99	-2.33/-2.39	-1.87/-1.45	-1.65/-2.86	-4.04/-3.14	-2.45/-2.98	-4.24/-4.98	-5.38/-5.11	-4.49/-2.85	-2.51/-5.85	-8.82/-6.03	-3.65/-3.89	-7.09/-4.8	-2.15/-2.33	-3.19/-3.35	-3.46/-2.43	-1.55/-2.28	-2.79/-2.96	-3.01/-2.08	-0.91/-0.99	-2.29/-3.72	-6.62/-10.99
Θ(105°)	-9.12/-6.24	-4.18/-5.28	-6.3/-3.56	-2.6/-3.71	-2.88/-1.99	-1.86/-2.79	-3.66/-2.6	-2.82/-2.93	-3.66/-4.01	-2.8/-2.26	-3.17/-2.52	-2.88/-6.55	-10.11/-6.83	-3.54/-2.83	-4.71/-5.87	-3.98/-2.61	-2.19/-1.38	-1.67/-2.16	-1.31/-2.21	-3.91/-4.78	-4.61/-2.21	-0.15/0.25	-0.81/-1.9	-4.28/-9.58
Θ(112.5°)	-7.57/-4.97	-3.04/-2.77	-4.15/-4.36	-3.52/-3.48	-2.97/-2.05	-2.04/-3.28	-4.83/-4.04	-3.64/-4.28	-4.24/-2.75	-1.87/-2.41	-3.79/-2.78	-3.48/-6.35	-7.07/-7.24	-5.33/-4.37	-5.93/-5.66	-2.53/-0.87	-0.42/-0.94	-2.23/-3.26	-1.52/-1.44	-3.2/-4.72	-3.79/-1.87	-0.51/-0.73	-2.08/-2.83	-4.26/-6.22
Θ(120°)	-7.21/-0.67	-3.85/-2.76	-2.15/-2.27	-2.16/-1.21	-2.51/-3.07	-3.63/-3.8	-2.87/-2.21	-2.8/-3.45	-3.52/-3.44	-3.35/-3.5	-2.84/-2.02	-2.4/-4.17	-5.85/-7.4	-5.19/-2.98	-3.33/-3.42	-1.4/-0.17	-0.16/-1.3	-3.1/-3	-0.88/-0.13	-1.51/-1.49	-6.22/-4.03	-2.26/-1.92	-2.31/-1.53	-1.57/-1.12
Θ(127.5°)	-3.19/-3.26	-2.94/-2.65	-2.43/-2.57	-2.18/-1.16	-0.5/-0.51	-0.68/-1.15	-1.98/-2.87	-4.11/-5.23	-4.75/-4.35	-3.31/-1.85	-1.06/-0.93	-6.21/-6.51	-4/-3.01	-3.82/-5.26	-4.02/-2.5	-1.59/-0.86	-0.51/-0.09	-0.19/-0.78	-1.87/-3.57	-3.37/-2.6	-1.79/-1.58	-2.12/-2.81	-2.31/-2.68	
Θ(135°)	-5.08/-3.54	-2.11/-1.18	-0.69/-0.58	-0.61/-0.42	-0.44/-0.88	-1.4/-1.99	-3/-3.12	-2.76/-3.12	-3.79/-3.08	-1.95/-0.92	-0.27/-0.38	-1.29/-2.67	-3.51/-2.93	-1.85/-1.72	-2.52/-3.84	-4.66/-3.81	-2.42/-1.44	-0.78/-0.24	-0.33/-1.49	-2.17/-1.15	0.33/0.77	0.46/0.44	-2.21/-4.63	-5.96/-6.37
Θ(142.5°)	-8.3/-5.68	-3.32/-1.78	-1.09/-0.94	-1.35/-1.87	-2.12/-2.51	-2.98/-3.36	-3.1/-2.81	-2.86/-3.34	-3.55/-7.28	-1.78/-0.99	-0.99/-2.17	-4.34/-6.28	-4.99/-3.13	-1.72/-1.72	-2.2/-3.27	-4.18/-4.65	-4.2/-3.32	-2.37/-1.72	-1.86/-3	-3.35/-1.47	0.11/0.15	-0.57/-2.46	-4.74/-7.54	-10.43/-10.25
Θ(150°)	-9.02/-3.79	-2.52/-1.4	-0.77/-0.51	-0.65/-1.03	-1.14/-1.08	-0.94/-1.13	-1.49/-1.99	-2.52/-2.97	-3.19/-3.04	-2.71/-2.51	-2.94/-4.43	-7.19/-7.64	-5.33/-3.33	-2.31/-2.28	-2.92/-4.2	-5.52/-5.7	-4.95/-3.74	-2.64/-3.96	-5.04/-3.96	-2.64/-3.96	-2.78/-4.16	-5.54/-5.91	-6.23/-5.67	
Θ(157.5°)	-3.95/-3.53	-2.77/-2.01	-1.35/-0.89	-0.62/-0.48	-0.42/-0.32	-0.25/-0.39	-0.99/-1.74	-2.38/-2.92	-3.03/-2.8	-2.6/-2.66	-3.23/-4.08	-4.85/-4.88	-3.84/-3.34	-3.48/-4.14	-5.17/-6.3	-6.8/-5.73	-4.25/-2.77	-1.9/-1.66	-2.15/-3.37	-5.48/-7.19	-7.01/-6.46	-5.84/-5.48	-5.44/-5.29	-4.98/-4.65
Θ(165°)	-5.8/-5.76	-5.37/-4.6	-3.84/-3.25	-2.96/-2.91	-2.88/-3.02	-3.07/-3.33	-3.74/-4.35	-5.01/-4.94	-4.79/-4.46	-4.26/-4.63	-5.15/-32	-5.95/-5.69	-5.67/-6.06	-6.64/-7.27	-7.6/-6.95	-5.62/-4.09	-2.76/-2.01	-1.79/-1.7	-1.92/-2.69	-3.85/-4.57	-6.79/-7.28	-7.64/-7.45	-7.11/-6.94	-6.63/-6.41
Θ(172.5°)	-10.11/-9.61	-8.44/-7.65	-6.92/-6.47	-6.57/-6.47	-6.61/-6.8	-6.91/-6.66	-6.48/-6.06	-5.89/-6.04	-6.44/-6.87	-7.22/-7.57	-8.21/-8.46	-8.4/-8.43	-8.79/-12.2	-9.13/-8.38	-7.84/-6.45	-5.21/-4.25	-3.51/-2.92	-2.68/-2.55	-2.74/-3.06	-3.96/-4.98	-6.93/-5.11	-8.53/-9.11	-9.79/-9.98	-10.1/-10.9
Θ(180°)	-9.61/-8.96	-8.03/-7.66	-7.5/-6.81	-6.26/-5.85	-5.43/-4.76	-4.31/-3.67	-3.32/-3.06	-3.12/-3.47	-3.82/-4.13	-4.67/-5.42	-6.21/-6.96	-7.75/-8.71	-9.68/-9.43	-9.64/-8.89	-8.56/-7.92	-7.45/-7	-6.34/-5.94	-5.78/-5.88	-6.14/-6.7	-7.49/-8.34	-9.06/-8.92	-9.29/-9.92	-10.67/-10.47	-10.42/-10.45
Freq(Hz)	2.45G/Pol.	Theta+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	2.15/2.31	2.53/2.69	2.68/2.52	2.21/1.68	1.03/0.25	-0.52/-0.96	-1.04/-1.06	-1.06/-0.96	-0.75/-0.36	-0.05/0.3	0.99/1.5	2.14/2.54	2.65/2.69	2.68/2.68	2.66/2.59	2.38/1.93	1.29/0.54	-0.23/-0.66	-0.71/-0.97	-0.83/-0.79	-0.51/-0.17	0.17/0.49	0.92/1.29	1.63/1.93
Θ(7.5°)	1.66/1.77	1.99/2.14	2.25/2.15	1.88/1.37	0.71/-0.05	-0.5/-1.04	-1.25/-1.47	-1.66/-1.87	-1.7/-1.04	-0.32/0.54	1.49/2.49	3.08/3.52	3.63/5.2	3.36/3.2	3.01/2.79	2.43/1.88	1.26/0.66	0.12/-0.26	-0.55/-0.89	-0.93/-0.66	-0.31/0.27	0.62/0.89	1.28/1.51	1.71/1.6
Θ(15°)	1.95/1.81	1.83/1.84	1.81/1.64	1.29/0.83	0.36/0.22	0.15/0.11	0.01/-0.16	-0.05/-0.32	-0.48/-0.1	0.62/1.53	2.51/3.5	4.21/4.58	4.63/4.49	4.25/3.97	3.63/3.17	2.59/1.83	0.94/0.19	-0.31/-0.66	-0.85/-1.12	-1.3/-1.04	-0.56/0.18	0.79/1.23	1.61/1.83	2.08/2.22
Θ(22.5°)	2.46/2.39	2.28/2.13	1.87/1.42	0.92/0.57	0.75/1.19	1.75/0.17	2.07/2.1	1.89/1.55	1.38/1.58	2.90/2.7	3.66/4.46	5.09/5.35	5.35/5.14	4.84/4.53	4.11/3.66	2.96/2.05	0.82/-0.06	-0.88/-1.06	-1.28/-1.24	-1.35/-1.1	-0.59/0.16	0.86/1.48	2.03/2.36	2.62/2.66
Θ(30°)	3.29/3.35	3.18/2.83	2.25/1.68	1.31/1.44	1.83/2.22	2.67/2.91	3/2.94	2.67/2.59	2.57/2.73	3.05/3.58	4.33/5.07	5.68/5.97	6.5/7.4	5.36/4.95	4.49/3.9	3.22/2.5	1.89/1.42	1.17/0.87	0.54/0.61	0.72/0.92	0.97/0.92	1.35/1.97	2.52/3	3.25/3.24
Θ(37.5°)	4.44/4.54	4.24/3.75	3/2.32	2.21/2.7	3.38/3.78	3.94/3.75	3.19/2.52	2.21/2.36	2.84/3.4	3.87/4.28	4.81/5.4	5.97/6.4	6.56/6.34	5.95/5.24	4.45/5.36	2.83/2.52	2.72/3.02	2.92/2.72	2.66/2.75	2.93/2.92	2.67/2.43	2.28/2.37	2.82/3.32	3.78/4.17
Θ(45°)	5.39/5.36	5.13/4.43	3.73/2.44	3.37/3.82	4.31/4.6	4.65/4.38	3.71/2.8	2.98/2.15	3.11/4.14	4.48/4.69	4.82/5.22	5.81/6.34	6.74/6.75	6.31/5.49	4.36/3.04	2.29/2.45								



Radiated Composite Gain Data 2.4GHz and 5GHz U-NII 1~3

Appendix A

Θ(75°)	1.42188	2.28207	2.29272	3.09316	3.54363	3.18276	2.43019	0.76/-0.14	-0.9/-1.24	-1.02/-0.27	0.71/-1.64	2.072/2.39	2.653/3.03	3.062/2.79	2.412/2.08	1.791/1.61	1.561/2	1.251/1.68	1.851/1.47	1.070/1.69	-0.19/-1.31	-2.01/-1.4	-0.65/-0.08	0.49/0.91
Θ(15°)	1.83262	2.98281	2.81271	2.74281	2.84315	3.01277	2.32172	0.990/42	0.16/-0.44	-1.09/-1.69	-1.12/-0.74	2.273/21	3.669/8	3.412/67	1.931/19	0.560/13	0.390/2	-0.21/-0.46	1.351/166	1.330/87	0.25/-0.86	-2.23/-2.5	-1.81/-0.78	0.140/98
Θ(225°)	1.432	2.31271	2.51164	1.03059	-0.44/-0.64	-0.51/-0.24	-0.96/-2.48	-2.78/-1.38	0.1/0.8	0.590/12	-0.20/66	2.33/24	3.493/53	3.052/07	1.250/41	-0.50/-0.48	1.091/45	2.092/23	1.90/85	-0.66/-2.27	-3.94/-4.41	-4.03/-2.41	-0.61/0.66	
Θ(30°)	0.12084	2.07251	2.42192	1.15004	-0.83/-0.14	0.24016	-0.14/-0.65	-1.31/-0.95	0.471/32	1.140/89	1.52/31	2.171/99	3.154/26	3.992/51	1.270/22	-0.01/-0.22	0.060/78	1.621/56	0.91/05	0.53/-0.17	-0.71/-1.77	-2.81/-4.13	-5.42/-2.49	-0.52/0.43
Θ(375°)	-0.181/75	2.532/5	2.07734	0.970/56	0.060/91	1.371/66	2.32/41	1.990/71	1.282/08	1.540/99	1.742/8	2.231/35	2.313/35	3.011/26	0.371/02	1.680/16	1.942/44	1.271/97	2.31/33	0.11/-0.6	-2.45/-7.02	-5.31/-1.66	-1.46/-1.38	
Θ(45°)	0.871/98	1.841/71	1.611/89	1.921/92	1.521/47	1.431/63	2.392/77	1.940/77	1.752/93	2.220/99	1.83/26	3.442/35	2.091/57	0.470/2	2.321/24	-0.04/-0.11	0.540/64	0.04/-1.21	-1.16/-0.51	-1.17/-1.62	-2.49/-5.29	-2.68/-0.63	-3.49/-1.94	
Θ(525°)	0.261/31	1.321/69	2.11/53	1.281/19	1.281/34	0.66/-0.23	-0.16/-1.46	1.620/9	1.371/58	0.97/-0.59	0.01/1.63	1.942/18	3.032/28	0.670/89	0.53/-0.39	-0.03/-0.31	-0.9/-0.84	-0.37/-0.11	-1.73/-1.35	-0.17/-1.17	-2.46/-2.9	-2.81/-6.35	-5.32/-1.3	-2.17/-1.41
Θ(60°)	-0.780/87	1.070/33	1.811/91	0.840/24	0.39/0	-0.350/11	0.951/64	0.4/-0.63	0.270/72	0.94/-0.32	-0.48/-0.15	1.841/58	2.071/97	0.15/-0.13	0.52/-0.16	-1.45/-3.29	-3.12/-1.53	-1.9/-0.51	-0.51/-1.02	-2/-2.59	-3.23/-3.88	-3.52/-5.65	-2.14/-1.26	-2.71/-1.62
Θ(675°)	-2.51/-0.18	-0.32/-0.53	1.581/29	-0.29/-0.67	-0.59/-1.1	-1.28/-0.6	-0.93/-0.35	-1.56/-1.92	-0.98/-1.13	-1.12/-1	-1.45/-1.06	0.610/82	0.871/67	0.51/-0.47	0.08/-1.29	-3.47/-5.28	-2.4/-1.27	-2.63/-2.36	-0.69/-1.27	-2.43/-4.19	-3.3/-5.13	-3.98/-3.59	-2.34/-2.14	
Θ(75°)	-1.95/-0.37	-1.15/-0.67	0.560/61	-0.44/-0.51	-1.31/-3.27	-3.04/-0.91	-0.63/-1.05	-3.92/-3.57	-3.78/-3.87	-2.21/-1.67	-1.36/-1.35	-1.13/-0.15	1.120/46	-1.01/-2.53	-2.3/-1.8	-1.95/-3.63	-3.6/-2.74	-2.06/-2.1	0.26/-0.72	-3.49/-3.92	-2.99/-3.85	-3.73/-4.49	-2.1/-3.3	-3.36/-3.95
Θ(825°)	-2.02/-0.23	-1.74/-1.71	-0.49/-0.61	-2.17/-1.33	-0.16/-0.55	-2.39/-1.64	-1.04/-1.13	-4.37/-4.89	-6.8/-6.65	-4.74/-2.74	-2.44/-1.95	-2.45/-0.42	1.42/-0.09	-1.95/-1.29	-2.47/-3.56	-2.43/-1.24	-0.59/-2.8	0.360/86	-1.43/-4.01	-3.15/-3.89	-3.59/-3.57	-3.21/-4.13	-4.09/-3.17	
Θ(90°)	-2.98/-1.32	-2.00/-1.37	-0.43/-1.17	-1.19/-1.08	-0.76/-1.11	-0.97/-1.01	-1.11/-1.97	-3.24/-4.9	-7.43/-6.62	-4.49/-3.31	-3.04/-1.47	-0.97/-1.17	0.42/-1.27	-4.18/-2.43	-1.16/-2.24	-2.98/-2.37	-2.32/-1.73	-1/-1	-0.90/14	-1.91/-3.64	-3.99/-4.12	-5.06/-3.5	-3.17/-3.89	-3.23/-3.29
Θ(975°)	-2.86/-1.6	-3.04/-2.35	-1.38/-2.5	-1.45/-1.33	-0.57/-0.54	-0.97/-0.67	-0.5/-1.01	-3.34/-4.51	-7.56/-7.34	-4.08/-2.39	-4.45/-4.2	-3.39/-2.49	-0/-1.03	-2.93/-3.32	-1.01/-0.74	-3.77/-3.82	-2.26/-1.36	-3.5/-0.74	0.24/-1.46	-2.87/-3.42	-4.49/-4.52	-3.29/-5.05	-3.89/-3.1	-4.84/-3.01
Θ(105°)	-2.14/-0.23	-4.08/-2.19	-1.16/-2.83	-2.35/-1.95	-0.37/-0.97	-0.87/-0.18	-0.17/-1.59	-2.87/-2.76	-4.64/-8.43	-4.73/-2.51	-3.71/-3.79	-4.55/-3.66	-2.51/-2.22	-2.45/-0.39	-0.74/-5.05	-3.63/-3.36	-4.13/-4.87	-1.12/-2.15	-0.35/-2.23	-4.33/-6.3	-5.9/-3.75	-2.7/-4.84	-3.86/-1.53	
Θ(1125°)	-5.15/-3.65	-6.05/-2.93	-1.31/-2.82	-3.08/-2.76	-1.66/-1.67	-1.22/-0.44	-1.5/-2.61	-2.39/-3.12	-5.3/-8.6	-7.68/-3.15	-3.35/-3.81	-4.91/-3.58	-3.52/-3.93	-3.81/-5.91	-3.78/-1.33	-1.16/-2.24	-3.79/-2.58	-1.94/-3.05	-2.5/-1.44	-2.25/-2.17	-4.58/-6.18	-1.87/-5.24	-5.21/-5.16	-5.34/-3.9
Θ(120°)	-2.56/-4.39	-5.04/-3.11	-2.35/-4.85	-3.24/-3	-3.41/-3.63	-2.05/-0.55	-1.74/-4.08	-3.17/-4.82	-4.78/-6.18	-7.61/-4.63	-3.73/-3.81	-3.02/-3.03	-2.95/-4.64	-4.68/-6.33	-4.8/-3.15	-1.16/-3.61	-6.72/-4.36	-2.81/-0.67	-0.98/-0.95	-4.45/-6.97	-6.77/-5.74	-1.11/-1.7	-1.09/-2.84	-8.5/-2.78
Θ(125°)	-3.16/-5.28	-5.48/-4.65	-4.39/-3.81	-3.5/-2.09	-2.74/-2.85	-3.69/-2.86	-3.71/-3.58	-2.91/-4.98	-5.38/-6.06	-6.52/-6.33	-4.57/-4.31	-4/-2.29	-4.1/-8.34	-6.58/-9.06	-5.14/-2.75	-2.71/-6.56	-3.88/-2.21	-3.87/-1.82	-1.14/-2.55	-2.4/-1.6	-4.14/-4.88	-2.72/-4.02	-2.61/-3.8	-4.4/-2.61
Θ(135°)	-3.68/-5.71	-4.97/-4.78	-4.61/-4.7	-5.59/-3.73	-2.17/-2.8	-2.63/-2.52	-3.96/-5.48	-3.41/-5.76	-4.91/-4.25	-5.1/-5.41	-5.68/-5.97	-4.49/-4.19	-5.91/-57	-3.75/-3.98	-4.56/-4.66	-3.59/-6.16	-3.23/-1.89	-4.68/-6.05	-1.57/-1.44	-0.89/-2.2	-6.46/-6.25	-2.21/-4.91	-6.04/-3.61	-5.55/-2.52
Θ(1425°)	-4.27/-6.53	-6.78/-5.33	-5.5/-6.05	-6.63/-4.05	-4.5/-6.23	-6.05/-5.11	-4.4/-5.85	-5.71/-17	-6.79/-4.53	-4.53/-6.02	-7.13/-5.49	-4.91/-4.84	-4.55/-4.99	-4.56/-6.39	-7.89/-4.26	-5.94/-7.19	-3.06/-1.27	-2.2/-4.1	-3.52/-3.21	-5.05/-7.91	-6.72/-9.71	-6.88/-4.13	-3.53/-4.8	
Θ(150°)	-8.28/-8.13	-7.35/-4.67	-6.12/-5.53	-6.29/-5.9	-6.16/-6.6	-4.88/-3.31	-3.69/-5.6	-6.72/-5.29	-3.99/-3.47	-3.89/-4.95	-5.62/-3.68	-3.41/-3.58	-3.28/-3.68	-4.43/-4.79	-8.67/-7.93	-10.56/-9.82	-9.72/-6.74	-3.95/-4.87	-7.98/-10.24	-11.14/-8.47	-6.89/-5.62	-5.69/-7.7	-8.52/-5.74	-4.57/-7.47
Θ(1575°)	-11.41/-11.44	-10.03/-9.41	-10.03/-7.3	-4.87/-4.73	-5.39/-5	-4.71/-4.8	-5.83/-7.63	-7.33/-6.08	-5.24/-5.22	-6.08/-6.72	-5.75/-4.39	-3.81/-3.87	-6.27/-10.56	-9.59/-6.79	-5.73/-8.12	-12.19/-10.42	-10.19/-8.35	-5.97/-4.86	-4.26/-4.39	-4.77/-4.1	-2.16/-1.18	-1.36/-2.35	-4.11/-5.57	-6.59/-9.19
Θ(165°)	-8.48/-7.61	-6.63/-6.08	-5.76/-5.9	-5.28/-4.97	-4.95/-5.12	-5.89/-6.54	-6.19/-6.67	-6.61/-6.96	-5.89/-5.85	-5.59/-6.42	-6.13/-5.28	-4.4/-4.99	-7.47/-10.07	-10.68/-9.16	-8.91/-9.37	-9.13/-8.23	-6.87/-5.99	-5.6/-6.3	-6.02/-5.94	-5.8/-4.71	-3.55/-3.44	-4.35/-5.24	-5.6/-6.15	-6.83/-8.22
Θ(1725°)	-8.81/-8.54	-7.84/-7.95	-7.81/-7.73	-7.34/-7.61	-7.95/-8.43	-9.14/-10.89	-11.86/-10.36	-9.17/-8.83	-7.35/-6.17	-5.17/-4.71	-4.45/-4.75	-5.91/-7.09	-6.76/-7.56	-8.69/-8.98	-8.49/-8.18	-7.23/-6.16	-5.98/-6.34	-6.73/-7.87	-8.8/-9.7	-10.53/-9.46	-7.73/-7.04	-6.91/-7.43	-8.48/-8.65	-8.8/-8.84
Θ(180°)	-10.99/-11.5	-10.79/-10.77	-10.92/-9.96	-9.91/-9.89	-8.5/-7.73	-7.71/-8.19	-8.22/-8.72	-8.52/-8.23	-8.9/-9.29	-10.53/-11.73	-11.75/-10.97	-10.95/-9.51	-8.77/-7.75	-6.94/-6.91	-7.18/-7.74	-8.49/-7.99	-8.43/-9.59	-9.98/-10.3	-10.19/-10.55	-10.61/-10.23	-9.7/-8.88	-7.45/-7.02	-7.47/-8.07	-9.09/-10.18
Freq(Hz)	5.3GPol.	ThetaL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)/Φ(75°)	Φ(15°)/Φ(225°)	Φ(30°)/Φ(375°)	Φ(45°)/Φ(525°)	Φ(60°)/Φ(675°)	Φ(75°)/Φ(825°)	Φ(90°)/Φ(975°)	Φ(105°)/Φ(1125°)	Φ(120°)/Φ(1275°)	Φ(135°)/Φ(1425°)	Φ(150°)/Φ(1575°)	Φ(165°)/Φ(1725°)	Φ(180°)/Φ(1875°)	Φ(195°)/Φ(2025°)	Φ(210°)/Φ(2175°)	Φ(225°)/Φ(2325°)	Φ(240°)/Φ(2475°)	Φ(255°)/Φ(2625°)	Φ(270°)/Φ(2775°)	Φ(285°)/Φ(2925°)	Φ(300°)/Φ(3075°)	Φ(315°)/Φ(3225°)	Φ(330°)/Φ(3375°)	Φ(345°)/Φ(3525°)
Θ(0°)	1.270/86	0.24/-0.19	-0.57/-0.9	-0.62/-0.54	-0.280/16	0.190/17	0.430/99	1.391/44	1.591/74	1.942/27	2.491/99	1.430/15	1.450/89	0.25/-0.06	-0.53/-0.77	0.651/2	0.120/24	1.361/3	1.211/35	1.491/55	1.531/46	1.621/78	1.621/78	1.381/38
Θ(75°)	211.58	0.90/38	-0.04/-0.99	-1.74/-1.48	-0.7/-0.02	0.060/28	0.99/2.21	2.3/24	2.39/2.7	2.873/07	3.48/3.46	2.65/2.33	2.21/72	0.80/0.09	-0.06/-0.32	-0.35/-0.28	-0.48/-1.12	-1.47/-1.03	-0.76/-1.1	-1.22/-0.62	0.220/89	1.31/32	1.451/71	2.011/96
Θ(15°)	1.51/34	0.53/-0.55	-0.85/-0.81	-1.14/-1.19	-1.11/-0.61	-0.48/-0.06	0.741/54	1.932/46	2.893/17	3.433/84	4.254/45	4.53/98	3.21/25	1.270/12	-0.06/-0.62	-1.06/-1.74	-2.01/-2.25	-2.22/-1.78	-1.5/-0.45	0.350/67	0.910/92	0.640/92	1.441/55	
Θ(225°)	1.051/01	0.770/32	0.40/48	0.420/17	0.491/73	2.83/54	3.843/78	3.433/23	3.16/3	3.073/3	3.964/39	4.293/75	2.771/3	-0.53/-1.43	-1.14/-0.55	-1.26/-1.68	-2.2/-2.53	-1.54/-0.29	0.771/36	1.471/01	0.730/83	0.851/14	1.631/44	
Θ(30°)	1.141/11	0.80/24	0.771/65	2.032/62	3.123/48	3.954/1	3.913/83	3.813/4	3.12/9	2.64/67	3.173/41	3.733/27	1.82/-0.45	-1.49/-1.02	-0.9/-0.36	0.030/47	0.870/51	0.921/64	1.471/86	3.033/17	2.167/81	0.811/28	1.942/24	2.171/78
Θ(375°)	0.960/67	0.520/46	1.692/34	3.044/13	4.354/09	3.513/18	2.752/8	3.641/71	4.554/71	3.82/9	3.26/56	3.473/39	3.141/46	-0.190/2	0.610/8	0.972/9	3.172/18	1.850/69	0.421/29	1.812/57	2.852/93	1.91/93	2.992/99	21.2/6
Θ(45°)	1.450/89	0.711/14	1.140/98	1.662/4	2.622/35	2.462/85	2.581/93	1.42/92	4.764/96	4.333/26	3.243/32	2.932/51	1.910/47	0.040/11	1.031/77	2.693/32	3.182/52	0.610/11	0.630/46	1.011/61	2.53/04	2.392/4	3.112/31	1.011/22
Θ(525°)	-0.81/-0.67	0.05/7	1.060/35	0.320/53	1.071/54	1.852/22	2.842/78	1.560/13	2.813/73	3.613/07	2.742/85	3.153/19	2/-0.16	-0.610/18	1.472/44	2.992/97	3.121/99	0.560/57	0.851/1	0.550/21	1.32/08	1.431/23	2.751/47	0.630/17
Θ(60°)	-0.750/7	10.88	0.711/25	1.881/62	1.051/39	2.563/65	3.93/09	2.651/85	1.441/12	2.323/79	3.682/91	3.363/23	2.19/-0.25	-0.791/3	2.461/97	1.761/6	1.741/41	1.371/92	1.080/73	0.45/-0.02	0.571/75	1.390/84	1.31/-0.02	-0.071/-0.5
Θ(675°)	-1.030/89	1.171/09	0.741/74	2.560/88	0.61/8	2.482/85	3.463/1	2.742/14	0.33/-0.58	1.614/2	3.573/13	3.322/68	1.510/37	0.362/6	3.362/66	2.212/19	1.481/29	1.572/4	1.531/31	1.050/15	0.91/43	1.641/35	1.53/-0.05	-0.33/-1.58
Θ(75°)	-1.89/-0.34	0.970/81	0.651/89	2.540/79	0.742/29	2.912/85	2.552/83	3.172/65	0.1/-1.23	-0.43/3	2.491/97	1.43/-0.47	0.072/21	2.26/2	1.832/32	1.482/14	2.431/74	1.23/-0.09	1.341/82	1.480/87	1.6/-0.44	-2.7		



Radiated Composite Gain Data 2.4GHz and 5GHz U-NII 1~3

Appendix A

Θ(60°)	0.61/0.03	1.52/28	2/1.6	1.99/1.53	0.56/-0.02	0.36/0.36	2.54/2.86	0.81/-0.06	1.16/0.37	-0.61/-0.29	0.62/3.3	4.05/3.2	2.46/2.27	2.89/1.91	-0.44/-0.83	-1.41/-3.16	-0.47/0.09	-0.45/1.22	0.93/0.13	-0.51/-2.65	-4.38/-2.79	-4.23/-5.18	-4.13/-1.39	0.24/-0.22
Θ(67.5°)	-2.71/-1.35	0.91/54	1.42/0.43	1.38/0.54	-0.68/-0.53	0.31/-1.44	0.18/-0.76	-1.66/-1.22	-0.06/-0.47	-0.52/-0.72	-0.01/1.96	2.33/1.54	1.72/41	2.13/2.21	0.27/-1.03	0.04/-0.95	-0.08/-0.47	-1.35/0.28	-2.25/-1.53	-3.01/-6.52	-7.54/-5.14	-4.43/-4.56	-2.28/-2.53	-2.18/-2.17
Θ(75°)	-2.62/-2.23	0.19/-0.21	-0.08/-0.87	-0.48/-0.94	-2.22/-3.08	-3.32/-4.24	-1.76/-2.69	-4.98/-4.1	-3.08/-1.74	-1.34/-0.82	-0.5/0.9	1.13/0.42	0.38/1.97	1.81/1.55	0.63/-2.38	0.37/0.63	-1.65/-1.46	-0.56/-0.35	-1.04/0.59	-4.17/-4.21	-6.84/-4.74	-3.92/-2.87	-2.5/-3.12	-4.33/-2.62
Θ(82.5°)	-3.45/-1.85	-0.59/-1.09	-0.87/-2.34	-2.03/-2.79	-4.77/-3.83	-6/-6.35	-3.76/-4.83	-7.56/-5.89	-4.15/-3.12	-3.12/-2.26	-1.62/0.13	0.22/-0.57	-1.06/0.4	0.7/-0.69	-0.66/-2	-0.8/-1.89	-1.1/-0.28	-0.01/-0.24	-0.35/-0.18	-0.27/-5.11	-3.89/-5.7	-3.24/-5.03	-2.95/-6.12	-4.85/-3.3
Θ(90°)	-2.74/-2.08	-2.39/-1.42	-1.9/-2.7	-2.72/-4.08	-3.72/-3	-4.46/-6.05	-4.56/-4.4	-6.9/-5.27	-5.31/-4.19	-4.24/-2.64	-2.47/-1	-1.7/-0.73	-0.66/-1.33	-1.55/-2.43	-2.39/-2.29	-3.59/-3.08	-0.11/0.31	0.69/-1.19	1.16/0.91	0.49/-3.93	-2.96/-6.55	-4.11/-5.07	-3.31/-5.06	-3.57/-3.93
Θ(97.5°)	-2.71/-2.37	-2.6/-0.39	-2.09/-3.24	-4.85/-4.16	-3.18/-3.52	-4.35/-4.65	-4.89/-5.72	-4.64/-5.88	-5.62/-5.63	-5.56/-2.36	-3.1/-2.08	-2.44/-0.93	-0.75/-1.56	-2.49/-3.65	-3.19/-3.29	-4.04/-3.19	-1.59/0.71	-1.24/-3.04	0.32/-0.96	-0.25/-6.93	-2.69/-7.03	-3.86/-5.93	-2.44/-3.11	-3.56/-3.68
Θ(105°)	-3.23/-4.23	-3.87/-1.35	-2.89/-3.45	-4.51/-4.54	-2.89/-3.19	-2.55/-2.71	-2.98/-3.98	-5.34/-5.09	-7.58/-5.75	-7.77/-2.07	-1.99/-1.56	-3.43/-2.73	-1.76/-0.68	-2/-2.73	-2.68/-3.9	-5.17/-2.72	-3.31/-0.76	-4.35/-6.17	-1.17/-1.16	-1.18/-5.07	-5.52/-5.83	-4.58/-3.62	-3.72/-4.34	-4.73/-4.02
Θ(112.5°)	-6.12/-5.06	-5.11/-3.34	-3.44/-3.4	-5.86/-3.44	-2.68/-2.66	-2.51/-2.49	-1.88/-3.62	-4.03/-4.31	-6.32/-5.53	-6.26/-3.51	-3.85/-3.94	-2.24/-1.71	-4.1/-1.46	-1.91/-2.56	-1.03/-1.65	-2.54/-4	-3.82/-1.48	-6.33/-6.13	-0.43/-1.18	-4.57/-2.57	-3.88/-3.16	-2.51/-5.86	-3.24/-3.22	-4.5/-8.69
Θ(120°)	-5.84/-6.86	-5.96/-4.62	-3.4/-2.94	-5.3/-3.06	-3.27/-1.86	-1.47/-1.93	-2.83/-3.04	-3.99/-4.02	-7.62/-5.52	-5.85/-2.38	-2.82/-5.48	-4.47/-3.27	-4.34/-2.32	-2.53/-4.42	-1.41/-1.26	-2.07/-3.83	-2.32/-2.28	-5.46/-8.06	-2.09/-1.84	-2.09/-3.62	-3.06/-6	-3.95/-4.12	-6.97/-5.75	-4.57/-9.06
Θ(127.5°)	-5.49/-5.48	-6.95/-5.8	-3.42/-4.26	-3.93/-2	-2.01/-2.58	-2.09/-3.2	-2.43/-2.5	-2.81/-4.3	-4.55/-3.01	-5.16/-4.84	-2.38/-2.44	-4.58/-5.77	-7.19/-4.64	-4.14/-6.89	-4/-3.58	-2.45/-4.95	-3.01/-2.62	-3.8/-3.49	-3.47/-1.06	-1.27/-4.21	-0.97/-2.91	-4.62/-3.8	-4.13/-3.98	-7/-12.4
Θ(135°)	-5.54/-5.97	-7.51/-4.13	-3/-2.4	-2.71/-2.39	-2.1/-2.07	-2.41/-2.36	-2.63/-2.37	-4.25/-3.85	-3.64/-2.46	-3.2/-3.56	-2.15/-2.38	-5.5/-5.74	-5.04/-7.39	-9.98/-7.28	-3.93/-5.62	-4.58/-6.67	-6.9/-2.29	-2.67/-3.73	-4.35/-2.96	-3.46/-3.31	-2.87/-3.49	-5.55/-4.8	-5.41/-5.61	-5.06/-6.64
Θ(165°)	-5.81/-6.78	-6.23/-4.33	-2.22/-1.67	-1.67/-1.95	-3.64/-4.23	-3.17/-2.5	-2.59/-3.66	-3.37/-2.62	-3.47/-4.36	-4.02/-4.01	-2.06/-0.59	-2.03/-4.65	-4.84/-6.02	-7.05/-6.66	-8.4/-8.03	-7.39/-7.42	-2.96/-4.78	-7.66/-4.74	-6.72/-6.42	-4.17/-2.01	-2.13/-4.14	-4.69/-4.93	-5.83/-6.72	-6.64/-7.25
Θ(150°)	-6.97/-5.79	-4.66/-4.11	-4.19/-3.6	-4.05/-5.54	-6.79/-6.17	-6.39/-6.14	-4.72/-3.72	-2.89/-3.19	-3.79/-4.21	-3.22/-3.03	-3.38/-1.97	-2.04/-4.03	-5.19/-6.18	-5.74/-4.32	-5.41/-7.93	-8.13/-6.9	-2.65/-2.43	-5.22/-7.15	-5.17/-3.65	-4.01/-2.96	-2.06/-2.23	-3.82/-5.39	-5.39/-4.32	-4.31/-6.7
Θ(157.5°)	-8.97/-6.87	-5.71/-5.07	-5.47/-5.16	-4.85/-5.66	-5.53/-4.82	-5.11/-6.31	-6.38/-4.85	-3.05/-1.96	-2.01/-2.48	-2.99/-3.66	-4.14/-4.82	-6.33/-8.05	-7.12/-5.53	-5.73/-6.87	-6.73/-7	-7.85/-7.84	-7.97/-8.21	-7.66/-9.25	-9.84/-8.09	-6.03/-6.02	-5.73/-5.5	-5.77/-4.33	-2.55/-2.83	-6.3/-10.09
Θ(165°)	-6.92/-5.6	-4.98/-4.7	-4.46/-3.75	-3.53/-4.1	-5.12/-5.84	-6.83/-7.44	-6.25/-5.18	-3.96/-2.92	-3.31/-4.08	-3.95/-4.25	-4.57/-5.54	-6.36/-6.85	-7.74/-8.32	-7.66/-7.67	-7.09/-6.05	-5.53/-5.48	-6.05/-6.71	-8.91/-9.94	-10.54/-9.18	-6.12/-4.51	-4.34/-4.58	-4.82/-4.88	-5.83/-6.72	-6.64/-7.25
Θ(172.5°)	-7.27/-8.28	-8.61/-8.8	-9.47/-9.96	-9.21/-9	-9.33/-8.91	-8.24/-7.63	-7.07/-6.53	-5.7/-5.46	-5.52/-6.23	-7.7/-8.76	-8.33/-7.77	-7.79/-7.74	-8/-9.17	-9.9/-10.24	-10.38/-10.64	-9.98/-9.05	-9.16/-9.66	-10.57/-10.29	-9.85/-8.58	-7.34/-7.36	-7.01/-7.41	-6.76/-6.1	-6.46/-7.06	-7.68/-7.53
Θ(180°)	-9.94/-9.17	-9.11/-8.2	-7.87/-6.39	-5.79/-5.47	-5.24/-5.36	-6.01/-6.33	-6.33/-6.78	-6.71/-6.09	-5.91/-6.26	-6.49/-7.04	-8.21/-8.83	-8.67/-8.19	-8.06/-8.33	-7.22/-7.2	-7.07/-6.34	-5.54/-5.47	-5.81/-5.91	-6.29/-6.94	-7.73/-7.29	-6.22/-5.6	-5.76/-5.64	-5.77/-5.95	-5.58/-6.46	-7.64/-7.87
Freq(Hz)	5.785GPol.	Theta/-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	0.73/0.13	0.39/0.49	0.58/1.11	1.51/1.99	2.34/2.69	2.83/3.14	3.51/3.64	3.59/3.42	3.19/2.98	2.78/2.41	2.11/1.86	1.29/0.68	0.85/0.91	0.52/0.75	1.28/1.89	2.16/2.4	2.58/2.78	3.19/3.58	3.75/3.68	3.47/3.23	2.98/2.7	2.46/2.28	1.85/1.37	1.33/1.1
Θ(7.5°)	2.12/1.54	0.85/0.41	0.41/0.47	0.86/1.2	1.42/1.74	2.21/2.94	3.47/3.83	4.22/4.51	4.49/4.36	4.44/1.7	3.77/3.47	2.93/2.53	2.42/2.6	2.57/2.31	2.02/2.06	2.17/2.05	2.02/2.28	2.57/3.17	3.53/3.8	3.84/3.36	2.46/1.86	1.53/1.32	1.48/1.71	2.04/2.09
Θ(15°)	2.39/1.95	1.41/1.05	1.07/1.35	1.38/1.02	1/1.58	2.37/2.92	3.29/3.68	3.98/4.33	4.38/4.28	4.13/3.97	3.78/3.48	2.78/2	1.87/2.41	2.58/2.62	2.66/2.99	3.42/3.68	3.82/3.67	3.46/3.46	3.53/3.96	4.18/3.95	2.96/1.76	0.82/0.28	0.63/1.54	2.15/2.58
Θ(22.5°)	1.26/0.75	1.14/1.85	1.15/0.82	1.68/2.84	4.06/4.47	4.82/5.21	5.27/5.09	4.86/5	5.28/5.22	4.79/4.17	3.69/3.31	2.32/1.22	1.28/2.11	2.75/3.07	2.72/2.89	3.66/3.61	3.08/2.74	2.48/2.2	2.26/2.28	3.04/2.81	1.84/0.82	0.59/0.72	1.09/1.24	2/2.07
Θ(30°)	1.01/0.63	0.11/0.79	0.52/0.77	2.16/3.81	4.85/3.1	5.89/5.96	5.39/4.47	4.17/4.9	5.52/5.57	5.21/4.08	3.06/3.02	1.91/1.08	1.46/2.45	3.34/3.24	2.68/3.36	4.11/3.98	3.35/1.85	-0.21/-1.66	-2.08/0.13	2.24/2.48	1.99/0.87	-0.21/-0.41	-0.33/0.28	1.21/1.13
Θ(37.5°)	0.48/0.9	1.16/1.67	1.92/2.37	3.39/4.3	4.68/4.99	5.01/4.57	4.27/4.03	3.19/3.24	4.06/4.18	4.17/4.01	2.84/2.73	2.49/2.74	2.94/3.63	3.69/3.18	3.08/4.11	4.79/4.81	2.7/-0.25	-0.48/-0.01	-0.69/0.88	1.56/2.88	3.29/3.22	2.81/1.33	-1.51/-0.55	1.22/1.5
Θ(45°)	-0.09/-0.43	-0.38/0.68	1.72/7.2	3.29/3.09	2.72/3.33	3.88/4.12	4.54/4.04	2.74/2.07	3.33/4.3	4.34/4.37	2.29/2.31	2.63/2.23	2.31/3.02	3.42/3.64	2.87/4.32	5.84/4.98	2.44/-0.38	0.12/0.95	0.85/0.58	2.35/1.35	2.32/2.97	2.91/2.23	-0.74/0.77	1.84/1.02
Θ(52.5°)	-0.39/-1.25	-0.99/0.49	1.52/2.31	2.86/1.6	1.27/3.12	4.44/2.5	3.63/7	3.65/2.66	3.61/3.82	3.98/3.67	2.08/2.76	2.79/1.99	3.23/3.82	3.38/2.7	2.64/3.6	4.46/3.31	0.92/-0.42	2.03/1.8	0.99/1.78	0.58/1.37	2.06/1.95	1.76/0.55	-1.52/0.09	2.26/0.84
Θ(60°)	-1.32/-2.4	-0.28/2.2	2.59/1.07	1.95/1.88	1.79/2.74	4.79/5.32	4.36/3.95	3.67/2.74	2.92/2.84	2.54/3.24	2.67/3.63	3.76/2.58	2.05/3.14	3.28/2.61	2.76/2.94	2.82/1.58	0.2/0.28	2.79/2.33	0.58/0.41	-1.32/-0.04	1.09/1.09	0.7/-0.81	-2.08/0.9	1.94/0.23
Θ(67.5°)	-2.17/-2.6	0.53/2.8	3.51/4.2	1.89/2.1	2.51/2.56	4.04/4.74	3.61/4.03	3.92/2.64	1.86/1.17	1.27/3.36	3.12/3.8	3.06/1.51	1.57/2.51	2.41/1.55	3/2.34	1.2/0.98	0.53/1.18	2.5/2.41	1.55/0.16	-1.08/-0.48	0.89/1.1	0.12/0.49	0.29/1.47	1.2/0.27
Θ(75°)	-2.89/-2.55	0.45/0.95	3.38/1.87	1.36/1.92	2.73/1.86	2.88/4.61	3.24/3.33	3.32/5.8	1.64/-0.53	-0.43/2.7	4.33/3.7	3.05/1.42	2.41/1.93	1.31/1.24	2.66/2.03	0.91/0.35	1.03/1.82	2.33/3	2.6/0.88	-0.19/-1.22	1.77/0.88	-0.49/0.12	2.18/2.3	-0.13/-1.61
Θ(82.5°)	-1.84/-1.76	1.33/2.28	2.14/0.71	0.03/0.4	1.27/1.03	1.22/2.72	2.25/2.52	2.55/1.63	1.38/-1.85	-1.48/1.87	2.73/2.99	2.34/1.33	1.67/1.51	1.43/0.75	1.31/1.59	0.95/0.17	1.42/2.66	2.48/2.91	3.05/1.66	0.24/-0.04	2.1/0.63	-0.23/0.97	2.54/0.73	-2.15/-2.28
Θ(90°)	-2.24/-1.03	0.71/1.21	1.41/0.65	-1.04/-1.25	-0.5/-0.56	0.01/2.29	1.22/0.91	2.31/3.7	0.45/-3.25	-2.48/0.84	1.93/1.81	1.59/0.92	1.69/0.86	1.91/1.02	0.35/-0.01	1/0.16	0.41/1.56	2.79/2.74	3.13/2.52	0.25/-0.06	2.03/1.13	0.01/-0.01	1.14/0.07	-1.66/-2.2
Θ(97.5°)	-3.07/-1.92	-0.14/-0.2	-0.64/-1.29	-3/-3.46	-2.05/-1.24	-0.85/0.17	-0.64/0.35	0.99/0.51	0.08/-4.11	-3.21/-0.25	-0.44/0.84	-0.25/-0.35	0.45/0.14	0.83/0.63	0.17/-0.64	0.19/-0.88	-1.93/0.16	2.08/1.42	2.18/1.4	-0.88/-1.2	-0.23/-0.22	-1.72/-0.34	0.01/-0.71	-1.85/-2.81
Θ(105°)	-5.99/-2.71	-1.04/-1.6	-1.51/-2.72	-4.72/-6.42	-3.55/-2.7	-2.09/-0.09	-1.55/-0.5	0.7/-1.27	-1.32/-3.81	-3.17/0.25	-0.27/-1.64	-1.5/-1.58	-0.27/-0.34	1.71/0.53	-1.32/-0.96	-1.9/-2.12	-2.97/-1.78	-1.43/-1.62	0.51/-0.66	-2.87/-3.06	-2.68/-4.65	-4.46/-0.74	-1.18/-2.14	-3.71/-3.91
Θ(112.5°)	-5.32/-1.4	-1.86/-2.75	-3.06/-4.38	-4.7/-3.55	-3.36/-4.23	-6.05/-1.85	-1.75/-1.5	-2.6/-3.28	-1.65/-3.7	-1.89/-0.61	-1.02/-2.46	-3.46/-3.01	-1.99/-1.29	-1.48/-3.14	-3.29/-2.44	-6.34/-1.81	-1.92/-5.29	-3.63/-3.28	-1.76/-5.77	-5.24/-6.86	-4.8/-2.27	-4.4/-2.5	-3.45/-3.78	-6.48/-6.12
Θ(120°)	-4.16/-0.67	-2.35/-2.58	-2.55/-1.8	-2.94/-2.35	-3.32/-4.68	-7.11/-5.79	-5.27/-7.35	-5.44/-5.28	-3.29/-3.15	-2.32/0.18	-0.74/-4.03	-3.46/-1.92	0.01/-1.3	-1.82/-2.14	-4.59/-6.									



Sporton International Inc. Hsinchu Laboratory



Radiated Composite Gain Data 2.4GHz and 5GHz U-NII 1~3

Appendix A

Θ(22.5°)	-0.051/3.7	1.922/4.7	2.541/8.9	1.111/0.16	-1.655/1.84	-1.999/2.62	-3.981/5.23	-5.81/5.31	-4.31/3.46	-3.431/4.19	-6.731/7.63	-3.050/2.4	2.122/6	2.050/5.5	-0.991/2.57	-3.781/3.94	-3.71/2.73	-1.71/1.29	-1.671/3.02	-4.881/7.09	-9.041/12.34	-18.071/14.41	-9.561/6.95	-4.641/2.17
Θ(30°)	-0.460/1.2	0.71/3.8	1.611/3.7	0/2.27	-3.91/6.66	-4.21/5.07	-5.421/5.17	-4.981/5.05	-5.311/5.2	-4.561/3.35	-2.311/2.7	-3.331/1.54	0.982/1.8	1.41/0.87	-1.981/2.13	-2.741/4.78	-6.581/9.99	-2.981/2.49	-2.751/2.63	-3.611/5.15	-7.691/14.37	-17.891/12.61	-10.441/8.53	-4.261/1.4
Θ(142.5°)	-0.191/7.2	1.49/0	-0.191/0.33	-1.021/2.8	-2.891/1.73	-2.111/2.23	-0.791/2.6	-0.491/2.19	-4.161/11	-7.771/1.19	-5.521/4	-4.231/5.15	-2.691/2.01	-0.541/2.83	-4.231/1.98	-0.841/3.04	-7.561/6.19	-2.211/5.8	-2.691/2.41	-1.91/2.59	-3.761/6.71	-11.881/18.79	-13.231/8.96	-5.731/2.19
Θ(45°)	0.582/3.4	1.681/0.5	-0.631/0.3	1.041/0.82	-1.761/0.96	-1.781/1.87	-0.2901/7.2	0.171/1.13	-1.831/3.45	-7.141/8.66	-5.591/1.74	-0.241/1.4	-1.831/2.12	-3.71/4.9	-3.51/1.6	-0.751/3.38	-7.31/4.19	-3.611/4.89	-8.161/9.45	-5.711/6.45	-11.071/9.85	-9.021/13.81	-10.851/7.19	-6.451/2.66
Θ(52.5°)	-1.640/7.7	0.911/7	0.8701/2.1	-0.181/1.24	-0.661/0.19	-1.641/2.87	-2.051/1.18	-1.831/2.15	-1.311/2.56	-6.491/10.44	-8.291/4.1	-2.461/1.79	-1.251/2.68	-3.771/2.32	-3.021/6.36	-4.861/4.7	-6.61/17	-5.361/6.19	-8.811/5.47	-3.341/3.32	-6.521/8.62	-81/13.2	-16.171/6	-4.081/3.64
Θ(60°)	-1.491/28	1.090/48	1.1201/89	0.511/0.47	-0.911/2.1	-2.641/5.229	-0.781/0.92	-2.561/3.58	-2.971/3.59	-4.941/8.17	-9.871/6.67	-4.351/2.83	-3.111/3.63	-5.531/4.74	-5.921/7.03	-6.621/3.8	-4.731/5.81	-5.811/2.86	-4.041/6.37	-6.511/7.98	-141/12.72	-10.291/7.62	-6.751/5.52	
Θ(67.5°)	-2.670/0.6	0.060/2.9	1.281/0.05	-0.491/0.2	-0.091/0.73	-2.421/2.26	-2.171/3.91	-7.111/8.04	-4.131/4.47	-5.891/8.43	-10.841/11.99	-9.581/6.8	-7.271/4.31	-3.21/3.52	-2.281/4.03	-8.271/8.31	-3.761/2.86	-3.991/6.11	-3.611/1.81	-1.441/5.15	-5.951/7.77	-7.781/9.42	-12.51/7.1	-3.361/3.95
Θ(75°)	-2.060/5.4	0/0.42	2.0801/27	-0.0701/0.65	0.271/2.39	-3.561/1.46	-1.541/3.44	-8.191/12.21	-10.621/9.47	-5.971/8	-12.571/9.26	-17.871/8.99	-6.231/8.32	-5.411/17.9	-9.111/6.48	-6.081/5.93	-3.621/3.32	-3.741/3.13	-2.8201/6.4	-2.161/3.5	-4.751/8.26	-10.181/10.31	-6.761/5.29	-4.581/3.49
Θ(82.5°)	-1.7401/62	-0.481/1.62	0.831/108	-2.031/0.01	0.661/1.86	-3.971/2.6	-1.711/2.79	-7.71/14.94	-18.21/12.86	-8.21/9.46	-16.611/9.62	-18.531/5.47	-1.161/10.04	-11.621/13.28	-12.21/9.61	-5.781/5.66	-2.471/1.96	-1.581/4.02	-1.1621/0.59	-0.911/4.67	-6.11/6.47	-8.231/8.9	-6.761/7.84	-5.581/3.93
Θ(90°)	-2.710/0.5	-0.461/0.66	0.581/0.4	-0.411/0.53	0.21/2.03	-2.231/2.66	-3.781/4.27	-5.961/9.3	-17.61/14.45	-6.931/7.35	-15.641/5.63	-10.71/8.25	-5.051/11.37	-19.091/13.11	-8.711/6.09	-5.961/2.36	-3.431/2.2	-4.411/1.15	-3.0401/0.8	-4.721/6.17	-9.861/8.55	-8.31/9.75	-9.051/9.31	-5.741/4.09
Θ(97.5°)	-1.7201/0.4	-1.611/2.33	-0.781/2.01	-0.221/0.49	-1.631/3.14	-1.711/1.62	-2.691/3.23	-4.61/6.14	-17.081/18.28	-6.171/5.48	-18.081/10.61	-12.581/14.52	-7.011/9.11	-11.471/12.52	-7.131/1.86	-4.81/3.13	-3.071/2.09	-5.061/3.51	-1.11/4.48	-6.631/5.45	-7.041/4.93	-3.491/12.09	-11.681/6.29	-5.291/3.58
Θ(105°)	-0.601/56	-2.031/2.17	-0.861/3.27	-1.101/2.1	-0.071/2.84	-2.81/2.02	-1.951/3.54	-4.341/5.85	-10.651/12.94	-6.471/5.6	-13.461/8.56	-18.151/12.34	-7.781/10.56	-9.981/9.53	-8.791/14.7	-1.741/5.84	-5.571/5.25	-5.951/6.68	-3.471/5.38	-7.351/4.9	-101/13.33	-9.051/4.51	-6.81/14.16	-7.261/4.16
Θ(112.5°)	-4.111/2.81	-4.591/1.73	-1.161/3.38	-1.341/0.55	-0.841/2.35	-2.381/2.55	-3.31/3.99	-4.751/6.43	-8.041/12.27	-17.051/11.76	-11.781/7.79	-12.811/12.17	-12.191/10.62	-8.751/11.42	-7.11/1.21	-1.281/6.72	-3.871/5.73	-3.761/8.49	-5.561/5.29	-4.441/8.17	-6.841/8.99	-6.921/10.24	-17.091/13.29	-10.651/8.73
Θ(120°)	-3.521/3.94	-3.651/1.37	-3.431/5.56	-2.41/0.65	-1.21/2.82	-2.591/2.64	-3.611/6.59	-7.031/10.62	-10.61/9.1	-17.281/14.74	-12.111/9.13	-11.821/8.01	-6.441/10.59	-8.941/10.84	-6.761/3.18	-0.11/3.76	-6.961/4	-3.11/2.26	-10.941/11.9	-13.241/7.85	-4.241/2.73	-5.051/9.65	-5.291/3.58	-9.21/7.48
Θ(127.5°)	-3.921/3.89	-3.81/4.15	-4.081/3.38	-4.321/2.93	-1.141/2.23	-4.91/4.98	-4.161/5.5	-8.231/15.43	-10.911/10.6	-17.141/18.23	-10.531/12.42	-9.651/6.25	-6.971/16.14	-18.261/18.48	-10.141/7.49	-3.401/7.49	-4.71/3.59	-5.071/3.2	-1.441/2.28	-5.431/11.57	-6.321/11.31	-9.051/4.51	-2.11/4	-41/3.04
Θ(135°)	-2.461/3.1	-2.221/3.38	-4.251/3.47	-4.91/4.26	-2.321/2.64	-3.441/4.82	-7.721/12.32	-9.61/14.93	-17.161/12.23	-17.831/19.36	-13.691/18.79	-18.251/10.77	-8.511/7.62	-8.371/9	-9.661/12.83	-8.671/7	-9.641/7.06	-11.31/11.98	-3.041/0.75	-0.041/1.83	-7.191/12.5	-9.781/9.09	-7.131/3.87	-4.421/2.42
Θ(142.5°)	-2.131/4.79	-6.241/4.05	-3.31/0.72	-10.061/6.6	-4.911/3.72	-12.711/10.77	-9.91/4.65	-13.461/11.4	-13.351/14.07	-16.021/18.72	-17.921/11.58	-12.651/10.21	-6.031/7.76	-13.911/14.8	-14.871/6.84	-13.051/12.1	-15.051/8.54	-5.531/6.73	-11.041/6.05	-3.181/3.56	-5.691/12.86	-14.41/10.58	-81/4.76	-2.761/2.03
Θ(150°)	-10.181/9.9	-7.441/6.66	-6.421/8.28	-13.41/10.74	-9.741/12.69	-13.81/10.53	-9.841/13.18	-16.981/14.45	-13.831/11.66	-8.251/8.72	-12.741/8.57	-5.71/5.36	-6.911/17.94	-13.771/10.49	-13.781/13.14	-16.571/13.54	-9.11/12.02	-10.51/18.93	-17.381/13.87	-14.751/17.87	-13.911/10.57	-9.081/7.38	-7.451/10.17	
Θ(157.5°)	-17.541/19.65	-14.331/12.02	-13.471/12.82	-7.891/6.23	-6.531/8.36	-12.251/14.35	-14.041/17.05	-17.911/18.6	-17.521/19.09	-19.231/14.52	-10.071/9.09	-10.011/9.51	-10.281/14.84	-9.661/6.38	-6.631/11.36	-17.541/14.74	-16.211/14.84	-10.41/9.02	-9.071/7.99	-5.671/3.22	-2.111/1.8	-1.471/1.5	-2.931/6.15	-10.181/12.82
Θ(165°)	-9.281/7.18	-6.111/6.04	-6.271/6.18	-6.431/7.47	-8.981/11.77	-17.811/18.23	-14.361/14.48	-16.661/17.04	-12.831/10.18	-9.21/0.6	-8.771/8.05	-6.691/6.37	-8.371/14.35	-15.791/12.46	-12.711/16.62	-19.581/17.9	-15.531/14.57	-12.71/10.99	-9.211/9.2	-6.221/4.73	-4.051/4.33	-5.081/6.22	-8.411/11.13	-11.991/11.91
Θ(172.5°)	-8.851/8.07	-8.121/9.8	-11.711/12.94	-14.041/14.66	-16.861/18.86	-17.991/18.5	-18.621/18	-17.791/18.39	-17.081/14.7	-12.251/9.34	-7.441/7.01	-7.531/8.83	-11.331/13.33	-14.291/17.72	-18.91/16.04	-13.451/11.58	-10.581/11.8	-14.151/17.66	-18.351/15.84	-12.031/9.68	-9.081/9.86	-10.561/9.27	-9.271/9.03	
Θ(180°)	-17.351/17.69	-14.891/13.54	-12.821/11.54	-11.131/10.4	-10.11/9.56	-17.971/10.85	-11.331/11.36	-11.441/11.12	-11.861/14.15	-17.181/18.84	-18.041/16.12	-13.311/10.1	-8.131/7.02	-6.461/6.43	-6.841/7.55	-8.321/9.04	-9.661/10.73	-11.321/12.72	-13.231/13.13	-12.331/12.18	-11.341/10.11	-8.171/7.68	-8.281/9.05	-10.161/13.17
Freq(Hz)	5.63GPol.	ThetaAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-3.811/6.18	-8.581/12.53	-14.951/17.89	-13.961/9.33	-6.451/4.27	-2.451/1.32	-0.5101/4.8	1.321/1.46	1.4711/59	1.8811/97	1.4501/19	-1.321/2.78	-3.941/5.45	-8.751/14.13	-18.211/18.99	-11.331/7.34	-5.121/3.17	-1.721/7.01	0.2201/9.6	1.3511/63	1.6611/82	1.6201/56	0.001/4	-0.291/1.82
Θ(7.5°)	-1.461/3.86	-5.431/4.71	-11.91/17.94	-18.871/13.39	-9.361/6.35	-4.851/3.29	-1.5701/7.3	1.1711/29	1.6421/21	2.6521/85	2.5711/52	-0.231/2.27	-3.971/4.59	-8.171/13.3	-17.911/19.05	-13.591/10.58	-8.421/7.02	-5.351/4.29	-2.951/1.87	-1.281/0.5	0.2701/9.4	1.5311/13	0.4601/52	0.7401/0.4
Θ(15°)	-2.071/3.99	-5.951/8.04	-10.331/10.8	-10.561/1.98	-9.321/7.21	-5.961/4.34	-2.211/4.3	-0.7101/19	0.9411/93	2.2811/93	1.8201/26	-2.651/6.35	-10.31/3.12	-18.531/19.7	-17.251/19.32	-14.771/19.58	-5.631/3.49	-2.061/1.67	-1.371/0.49	0.0401/42	0.6401/21	-0.641/0.85	-0.261/0.78	
Θ(22.5°)	-3.391/4.69	-4.961/4.42	-3.611/3.43	-3.781/2.11	-4.061/4.61	0.661/0.18	-1.031/1.47	-1.021/0.27	0.8411/8	2.591/3.05	2.811/4	-1.241/5.55	-11.881/18.36	-19.511/18.02	-18.981/15.15	-11.921/10.76	-10.451/8.25	-5.371/3.22	-1.311/0.19	0.2401/58	0.511/46	-1.691/2.2	-1.831/2.1	
Θ(30°)	-4.421/5.66	-8.121/8.22	-5.061/2.84	-1.741/1.17	-0.871/0.4	0.201/35	-0.551/1.16	-0.681/0.36	-0.491/0.16	0.7911/22	1.6311/88	2.1511/87	-0.271/6.39	-14.11/13.94	-14.821/15.16	-18.051/18.07	-10.161/7.72	-5.71/4.49	-3.691/2.9	-1.311/0.4	-0.491/0.75	-0.961/1.05	-1.521/1.88	-2.51/3.33
Θ(37.5°)	-5.351/8.1	-10.721/11.99	9.31/4.28	-1.081/0.23	-0.851/2.37	-3.811/5.06	-5.351/3.04	-1.411/0.98	-0.771/0.1	0.051/10.4	1.7611/77	1.6511/65	0.611/3.25	-10.241/12.03	-10.341/9.69	-12.541/3.7	-11/1.19	-3.821/6.11	-5.531/6.31	-4.861/3.25	-3.251/2.74	-2.211/57	-1.561/1.34	-1.161/3.58
Θ(45°)	-4.351/6.06	-6.851/6.82	-7.321/6.37	-3.941/3.43	-4.621/5.95	-5.451/6.14	-6.641/4.94	-4.591/4.57	-3.281/1.59	-1.291/1.44	0.1911/55	1.3601/44	-1.991/7.37	-8.851/8.23	-7.171/9.99	-2.361/0.33	-0.451/1.77	-4.791/6.84	-4.981/4.35	-6.581/5.68	-1.311/2.8	-0.201/0.27	0.061/1.8	-3.261/3.75
Θ(52.5°)	-5.741/38	-7.941/8.04	-5.941/6.07	-8.691/7.98	-4.641/4.12	-4.491/5.86	-5.581/4.66	-4.851/4.64	-3.941/3.54	-4.541/4.54	-1.7911/38	1.6911/28	-1.961/6.89	-8.61/2.6	-6.781/4.36	-1.501/19	0.031/0.43	-10.171/17.57	-5.381/5.19	-5.611/6.33	-4.711/4.36	-1.981/0.81	-0.61/2.85	-5.941/6.06
Θ(60°)	-8.231/7.12	-8.661/9.88	-10.611/6.58	-7.731/9.82	-5.411/4.05	-2.721/1.72	-2.551/3.6	-3.131/3.48	-6.221/8.54	-5.31/2.16	-1.2401/1	0.8211/0.2	-0.861/5.71	-8.451/3.97	-4.961/7.17	-3.271/1.36	-0.541/3.4	-8.111/4.51	-3.351/4.95	-6.811/6.68	-4.851/5.27	-2.251/11.2	-1.511/5.66	-10.



Radiated Composite Gain Data 2.4GHz and 5GHz U-NII 1~3

Appendix A

Θ(67.5°)	-9.42/-7.33	-1.76/-1.52	-2.4/-2.87	-3.5/-5.57	-8.46/-5.02	-4.38/-8.1	-6.27/-6.19	-10.07/-8.57	-5.66/-7.49	-10.6/-16.21	-11.91/-7.74	-5.66/-7.8	-7.68/-5.42	-6.45/-2.53	-5.2/-6.73	-3.66/-5.86	-4.34/-3.47	-6.85/-7.38	-7.58/-12.14	-10.62/-11.42	-16.6/-17.69	-18.37/-13.29	-9.9/-14.39	-11.03/-6.64
Θ(75°)	-8.87/-7.88	-2.69/-2.61	-1.48/-2.61	-4.84/-7.13	-7.35/-5.36	-6.42/-10.83	-6.88/-7.92	-16.08/-17.61	-15.08/-8.85	-9.75/-10.73	-14.21/-10.32	-7.21/-6.67	-12.24/-5.71	-7.1/-14.4	-3.32/-8.4	-3.1/-3.31	-2.28/-2.77	-6.35/-6.33	-7.65/-6.31	-8.41/-9.17	-10.63/-13.87	-17.86/-10.69	-10.35/-12.46	-10.71/-6.34
Θ(82.5°)	-11.33/-5.37	-2.84/-2.09	-0.87/-3.48	-6.62/-8.02	-6.7/-5.95	-7.51/-11.44	-8.93/-9.31	-14.02/-17.51	-18.06/-11.44	-9.46/-10.67	-16.27/-10.76	-9.58/-8.19	-17.49/-7.19	-6.82/-11.31	-7.92/-8.03	-3.15/-2.35	-2.91/-2.01	-6.15/-6.13	-6.56/-6.45	-5.17/-11.14	-7.6/-11.43	-16.18/-12.1	-12.27/-13.5	-9.51/-6.43
Θ(90°)	-12.23/-5.08	-4.3/-2.86	-1.78/-2.96	-5.98/-8.07	-7.2/-6.59	-6.75/-12.55	-8.17/-7.78	-9.03/-11.5	-13.33/-16.23	-14.04/-8.23	-19.1/-11.79	-16.68/-8.91	-12.97/-17.29	-10.95/-18.58	-11.72/-8.29	-4.78/-2.18	-2.31/-2.88	-5.38/-6.84	-5.75/-5.91	-8.31/-9.63	-7.7/-12.56	-17.61/-10.97	-8.39/-13.2	-10.05/-10.1
Θ(97.5°)	-10.52/-4.34	-4.42/-1.76	-1.56/-4.31	-8.65/-6.07	-4.15/-5.79	-8.41/-12.33	-8.41/-8.9	-8.4/-15.2	-13.98/-18.44	-13.64/-8.28	-17.74/-9.17	-17.53/-14.77	-11.54/-16.78	-13.51/-12.95	-5.38/-5.1	-3.9/-4.06	-6.02/-7.96	-5.4/-6.46	-9.61/-12.13	-10.23/-11.98	-15.18/-13.05	-17.36/-9.37	-10.54/-13.22	
Θ(105°)	-10.4/-6.91	-6.26/-2.32	-3.2/-5.32	-7.78/-5.36	-4.4/-4.44	-5.19/-8.41	-8.9/-10.06	-9.6/-13.81	-17.99/-13.99	-15.65/-5.9	-15.29/-10.61	-19.09/-18.97	-16.12/-10.94	-13.33/-9.68	-6.8/-9.4	-5.15/-8.28	-8.93/-6.95	-9.2/-8.08	-5.16/-6.72	-5.15/-18.69	-13.18/-13.84	-12.95/-8.39	-10.83/-11.99	-13.29/-16.43
Θ(112.5°)	-13.83/-8.14	-9.33/-4.45	-2.78/-3.79	-6.92/-3.75	-2.51/-3.78	-4.81/-7.46	-7.77/-10.52	-11.8/-13.3	-16/-10.94	-10.66/-9.07	-18.24/-16.35	-11.51/-11.23	-18.66/-7.53	-7.86/-7.38	-7/-6.66	-3.46/-4.37	-11.28/-7.81	-11.16/-9.71	-6.24/-6.89	-4.9/-11.41	-13.48/-7.99	-6.49/-7.1	-5.67/-7.85	-12.04/-17.88
Θ(120°)	-9.25/-7.46	-9.03/-6.85	-3.1/-3.45	-5.88/-3.25	-2.82/-2.72	-3.63/-6.59	-9.74/-12.67	-16.23/-10.99	-13.01/-10.79	-13.06/-7.66	-16.98/-16.87	-10.26/-10.03	-15.53/-9.43	-9.99/-18.1	-4.33/-4.01	-5.82/-3.67	-4.27/-5.82	-8.31/-18.39	-4.07/-4.96	-2.71/-7.06	-7.91/-10.34	-9.52/-9.18	-14.01/-12.93	-7.84/-16.58
Θ(127.5°)	-9.22/-6.95	-11.49/-7.16	-2.42/-4.44	-6.96/-3.31	-3.09/-2.85	-4.22/-8.94	-11.43/-18.18	-12.67/-12.21	-10.47/-7.16	-15.23/-17.66	-18.26/-14.79	-9.73/-8.63	-12.32/-7.92	-13.4/-19.75	-9.23/-8.07	-6.39/-5.41	-4.49/-6.25	-8.08/-11.15	-8.86/-4.22	-3.62/-8.09	-11.34/-10.47	-7.07/-4.73	-5.84/-9.58	-17.45/-18.55
Θ(135°)	-7.18/-9.49	-12.13/-6.3	-4.56/-4.87	-6.02/-5.55	-5.08/-4.06	-5.59/-8.4	-9.09/-9.49	-12.6/-10.05	-14.53/-12.33	-14.42/-17.12	-17.81/-19.11	-16.37/-12.6	-10.31/-10.05	-14.72/-16.61	-10.66/-10.96	-9.68/-10.73	-7.32/-7.54	-6.34/-4.08	-4.94/-4.02	-5.16/-9.19	-17.8/-14.5	-13.32/-7.69	-6.16/-11.87	-17.36/-11.39
Θ(142.5°)	-7.99/-10.52	-19.24/-9.48	-4.68/-4.68	-5.07/-5.32	-5.2/-4.27	-5.09/-8.77	-12.36/-16.03	-11.92/-9	-17.37/-16.21	-17.58/-19.04	-17.1/-19.1	-11.2/-11.3	-10.4/-19.13	-12.47/-10.75	-19.13/-17.14	-18.61/-17.9	-10.28/-11.5	-13.52/-8.56	-7.25/-5.93	-4.86/-5.26	-4.72/-6.79	-7.31/-8.47	-13.44/-18.41	-7.86/-11.68
Θ(150°)	-10.26/-11.01	-15.61/-17.3	-10.3/-6.79	-7.74/-7.59	-9.33/-10.32	-13.34/-18.55	-17.36/-17.08	-14.76/-13.23	-12.15/-12.78	-15.86/-17.25	-19.39/-11.57	-18.3/-8.61	-11.3/-18.62	-18.81/-13.47	-13.68/-18.49	-15.58/-15.24	-7.82/-5.45	-8.77/-10.71	-5.89/-4.35	-4.67/-5.02	-5.24/-4.19	-5.58/-9.49	-19.34/-15.17	-12.52/-13.84
Θ(157.5°)	-13.61/-14.7	-15.61/-11.75	-10.89/-9.45	-7.72/-7.63	-8.6/-9.58	-11.53/-14.72	-17.94/-19.12	-19.28/-18.3	-18.65/-18.71	-17.96/-16.4	-12.61/-13.14	-17.3/-18.19	-14.53/-12.34	-11.5/-10.03	-7.74/-8.9	-12.9/-18.29	-17.43/-13.54	-14.47/-17.33	-14.01/-10.66	-11.68/-18.85	-17.92/-12.98	-10.19/-5.85	-5.13/-5.55	-7.67/-11.46
Θ(165°)	-9.15/-8.38	-6.63/-6.06	-5.63/-6	-7.08/-3.37	-9.94/-10.91	-12.28/-13.16	-13.67/-14.18	-13.32/-13.84	-15.45/-15.47	-13.38/-13.03	-14.65/-16.37	-16.13/-15.63	-10.68/-9.39	-9.54/-11.05	-14.69/-13.7	-14.69/-13.7	-12.76/-13.87	-17.88/-16.79	-10.32/-6.7	-5.36/-2.53	-5.01/-5.11	-6.38/-8.54	-7.71/-11.6	
Θ(172.5°)	-12.21/-4.87	-14.91/-15.38	-15.67/-17.13	-15/-13.3	-14.38/-14.87	-16.09/-17.51	-18.32/-18.69	-17.64/-17.55	-19.03/-17.81	-14.46/-13.92	-14.98/-15.81	-15.51/-15.83	-16.9/-17.14	-17.92/-19.06	-19.07/-18.74	-18.99/-18.54	-18.52/-16.69	-13.68/-10.54	-8.4/-7.26	-6.82/-7.09	-6.75/-6.37	-1.77/-8.56	-9.77/-6.63	
Θ(180°)	-16.32/-18.02	-17.9/-15.07	-13.33/-11.35	-10.68/-9.55	-9.62/-9.99	-12.11/-13.61	-14.38/-17.49	-18.37/-18	-19.32/-18.34	-16.74/-14.45	-14.89/-15.29	-14.26/-12.25	-11.15/-10.55	-9.47/-8.78	-8.67/-8.63	-9.04/-10.02	-10.67/-11.19	-13.07/-15.49	-17.9/-18.25	-17.72/-17.28	-19.53/-18.05	-17.36/-18.98	-17.27/-18.57	-18.75/-16.74
Freq(Hz)	5.785GPol.	ThetaAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-12.53/-18.8	-18.76/-18.59	-18.86/-15.07	-11.94/-9.52	-8.21/-7.11	-6.13/-5.05	-4.35/-3.83	-3.92/-4.48	-5.16/-5.4	-5.1/-5.3	-5.9/-7.49	-9.12/-10.53	-11.54/-13.53	-18.82/-19.17	-19.09/-14.08	-11.14/-9.55	-8.34/-7.13	-6.08/-5.55	-5.35/-5.36	-5.57/-5.55	-5.41/-5.26	-5.37/-5.52	-7.18/-8.51	-8.47/-10.14
Θ(7.5°)	-9.02/-10.77	-12.88/-13.18	-12.18/-10.15	-7.51/-5.48	-4.36/-3.47	-2.71/-99	-1.94/-7.2	-1.79/-16.3	-1.36/-1.56	-1.75/-2.32	-3.46/-4.98	-7.09/-8.63	-9.2/-9.56	-11.07/-12.62	-14.9/-16.69	-15.36/-14.3	-11.79/-8.58	-7/-6.02	-5.41/-4.54	-3.86/-3.98	-4.92/-5.77	-6.49/-6.08	-5.51/-6.04	-7.88/-5.55
Θ(15°)	-5.22/-5.48	-5.77/-6.16	-6.97/-6.82	-5.59/-5.07	-5.62/-5.84	-5.56/-6.37	-7.71/-7.32	-6.04/-4.64	-5.93/-6.65	-4.05/-4.31	-4.81/-5.73	-10.41/-10.49	-8.98/-11.31	-15.23/-13.29	-9.34/-6.78	-5.51/-4.42	-4.01/-3.78	-3.52/-2.88	-2.28/-2.57	-5.24/-4.77	-5.25/-5.76	-5.41/-5.2	-5.55/-5.5	
Θ(22.5°)	-5.41/-6.99	-6.97/-7.21	-8.43/-8.82	-7.25/-5.88	-5.08/-5.6	-7.2/-8.44	-8.27/-6.88	-5.45/-3.85	-3.26/-4.02	-5.11/-5.54	-4.89/-3.94	-4.39/-6.63	-7.29/-5.54	-5.36/-7.13	-11.77/-12.76	-7.69/-6.38	-6.52/-6.97	-7.45/-8.44	-9.49/-8.77	-7.44/-7.07	-7.44/-8.13	-7.47/-6.12	-5.16/-4.85	-3.93/-3.8
Θ(30°)	-5.94/-6.57	-7.07/-10.56	-14.69/-14.87	-9.99/-6.46	-5.64/-5.35	-5.18/-6.03	-5.61/-4.72	-6.16/-4.39	-3.77/-4.55	-4.88/-5.15	-4.21/-2.44	-3.27/-7.54	-8.31/-5.25	-3.83/-6.66	-5.03/-9.09	-14.28/-13.11	-18.19/-18.41	-17.91/-17.37	-19.1/-18.44	-16.85/-10.32	-7.53/-7.35	-6.89/-8.54	-7.71/-11.6	
Θ(37.5°)	-5.14/-6.12	-6.36/-7.12	-7.89/-8.6	-7.71/-5.98	-4.72/-4.36	-5.61/-8.35	-10.45/-8.8	-7.99/-7.68	-8.49/-9.28	-5.3/-3.1	-2.31/-1.19	-2.52/-2.69	-3.03/-6.17	-9.21/-5.29	-1.6/-0.87	-4.93/-4.57	-16.74/-12.69	-13.44/-8.27	-6.34/-8.01	-13.24/-13.59	-10.95/-14.89	-11.66/-6.36	-3.94/-3.4	
Θ(45°)	-4.26/-7.49	-10.93/-11.49	-9.75/-7.02	-5.29/-5.62	-8.41/-8.99	-9.16/-8.42	-6.87/-6.16	-6.34/-7.3	-10.4/-11.69	-10.19/-6.56	-5.42/-2.44	-1.84/-2.48	-2.07/-1.2	-2.16/-4.01	-6.03/-2.72	2.49/0.5	-5.02/-16.85	-4.66/-3.33	-6.34/-5.82	-6.33/-8.35	-9.39/-7.19	-7.9/-11.43	-12.07/-8.46	-4.25/-2.73
Θ(52.5°)	-5.88/-13.05	-19.04/-17.01	-19.24/-9.36	-4.5/-5.05	-10.98/-8.78	-7.57/-6.83	-6.56/-6.64	-5.8/-5.69	-5.25/-6.81	-11.59/-12.02	-8.02/-2.98	-2.98/-2.66	-1.4/-0.62	-2.17/-6.41	-4.22/-2.19	0.48/-1.07	-7.71/-9.36	-3.77/-3.61	-5.86/-5.85	-6/-7.44	-7.82/-5.89	-6.03/-10.33	-16.76/-10.47	-3.63/-3.42
Θ(60°)	-6.41/-16.05	-13.71/-7.82	-9.51/-19.22	-5.74/-5.63	-10.95/-8.24	-4.18/-2.96	-3.38/-4.29	-4.7/-4.28	-10.86/-14.78	-17.56/-14.07	-2.16/-0.8	-3.19/-2.64	-1.5/-3.08	-3.22/-2.45	-1.65/-2.5	-5.68/-5.75	-6.23/-2.22	-5.61/-7.22	-10.13/-8.64	-6.23/-6.2	-6.32/-11.93	-14.71/-9.6	-4.42/-3.97	
Θ(67.5°)	-8.2/-18.76	-16.13/-17.3	-5.77/-15.77	-8.74/-6.06	-6.69/-4.53	-3.01/-2.13	-2.49/-3.19	-3.46/-3.9	-3.82/-6.13	-15.23/-6.87	-7.63/-1.36	-0.27/-1.17	-3.21/-3.34	-1.74/-3.97	-3.21/-3.34	-3.29/-2.93	-3.81/-3.05	-2.55/-3.36	-5.32/-6.98	-7.78/-6.23	-5.4/-5.96	-4.97/-8.01	-11.04/-8.85	-4.45/-3.72
Θ(75°)	-16.53/-14.75	-11.78/-7.24	-5.28/-11.06	-13/-6.82	-5.29/-6.33	-1.23/-6.03	-1.82/-1.58	-1.73/-6.36	-5.65/-9.41	-12.42/-4.5	-3.02/-1.49	-0.42/-0.72	-1.92/-6.57	-1.9/-3.4	-4.37/-2.48	-5/-3.28	-0.64/-1.13	-2.71/-4.49	-5.28/-5.55	-4.2/-5.41	-3.88/-8.11	-7.76/-14.47	-10.58/-8.62	-5.31/-5.42
Θ(82.5°)	-13.7/-7.95	-6.36/-9.41	-7.31/-12.42	-17.93/-7.63	-5.15/-3.01	-1.04/-0.52	-2/-1.35	-1.77/-3.31	-5.14/-9.77	-9.9/-5.96	-3.87/-0.25	-1.28/-2.42	-6.75/-7.84	-3.12/-6.45	-5.09/-1.82	-2.81/-3.18	-0.390/-22	-3.14/-5.76	-5.23/-6.16	-5.02/-4.85	-5.44/-7.58	-8.05/-8.03	-7.52/-9.33	-6.69/-7.9
Θ(90°)	-12.27/-4.56	-5.54/-9.58	-5.97/-7.8	-18.58/-7.58	-3.95/-3.83	-2.38/-0.1	-1.62/-2.86	-4.6/-9.98	-10.09/-7.35	-4.3/-0.99	-1.13/-0.71	-5.33/-8.87	-3.19/-5.43	-5.51/-1.92	-1.94/-3	-0.39/-0.61	-3.88/-6.1	-6.69/-5.61	-6.74/-4.94	-4.7/-6.9	-8.12/-10.28	-6.82/-7.3	-6.18/-9.19	
Θ(97.5°)	-8.3/-2.43	-3.46/-5.93	-5.73/-8.37	-18.48/-8.2	-5.25/-5.44	-3.89/-1.22	-3.91/-3.23	-3.08/-3.35	-3.61/-10.71	-14.26/-7.15	-11.36/-3.22	-5.21/-5.12	-8.99/-8.03	-4.28/-6.33	-4.43/-2.07	-1.98/-2.45	-3.62/-2.07	-6.15/-8.68	-6.6/-8.79	-6.93/-8.08	-9.89/-9.1	-8.97/-6.35	-6.31/-9.82	-7.07/-14.77
Θ(105°)	-7.56/-2.14	-3.17/-7.38	-5.43/-6.65	-14.93/-12.97	-7.53/-5.87	-6.92/-3.58	-6.77/-6.76	-6.49/-6.91	-6.45/-10.1	-12.36/-3.18	-9.27/-10.97	-7.79/-6.78	-8.17/-7.28	-1.54/-5.56	-9.64/-4.48	-4.61/-4.95	-6.06/-8.09	-7.59/-17.65	-7.23/-9.45	-8.95/-9.3	-17.54/-14.15	-9.15/-7.36	-5.49/-9.37	-7.85/-15.22
Θ(112.5°)	-5.7/-2.13	-3.78/-7.22	-4.49/-5.54	-15.65/-12.26	-9.51/-11.18	-11.97/-5.17	-9.74/-9.52	-10.34/-10.35	-7.74/-9.66	-8.51/-4.52	-7.06/-15.09	-16.44/-12.05	-11.45/-8.33	-9.53/-9.91	-8.37/-7.73	-11.21/-5.75	-5.73/-13.72	-10.47/-16.85	-10.41/-19.65	-10.64/-18.05	-11.67/-12.38	-10.38/-6.19	-10.31/-9.71	-11.62/-18.07
Θ(120°)	-7.24/-7.22	-4.91/-9.18	-5.3/-4.96	-15.15/-15.55	-14.07/-13.24	-17.63/-12.81	-13.06/-14.95	-13.5/-15.49																



Radiated Composite Gain Data 2.4GHz and 5GHz U-NII 1~3

Appendix A

Θ(120°)	-18.12/-18.27	-19.35/-13.18	-10.18/-9.58	-8.77/-12.63	-12.9/-18.2	-18.58/-15.51	-13.73/-12.56	-11.03/-14.5	-14.14/-16.11	-13.79/-17.3	-19.02/-16.09	-16.36/-17.06	-13.01/-18.61	-14.94/-16.58	-18.31/-18.06	-14.14/-13.14	-14.36/-14.34	-10.77/-9.3	-16.7/-11.94	-13.52/-10.92	-10.96/-14.3	-12.02/-11.72	-10.56/-14.64	-18.68/-18.24
Θ(127.5°)	-13.96/-17.74	-18.84/-11.18	-10.2/-8.66	-8.86/-7.63	-9.44/-13.94	-17.19/-17.99	-17.23/-12.12	-10.56/-12.76	-13.2/-11.24	-12.64/-17.53	-14.9/-12.54	-19.29/-17.29	-16.61/-19.11	-18.97/-14.18	-16.49/-12.02	-18.13/-13.14	-14.19/-8.1	-10.81/-11.15	-19.7/-13.12	-11.22/-15.69	-11.31/-11.32	-11.93/-17.94	-13.34/-15.16	-19.01/-18.39
Θ(135°)	-10.58/-14.1	-18.19/-13.56	-9.3/-9.19	-9.4/-11.17	-10.93/-13.65	-13.31/-12.06	-13.1/-10.81	-8.41/-9.83	-13.94/-14.26	-13.88/-17.55	-18.57/-14.89	-15.35/-17.62	-19.37/-17.1	-17.6/-15.75	-11.96/-9.1	-9.65/-14.76	-10.63/-5.73	-9.83/-15.77	-12.62/-12.97	-13.72/-17.79	-17.62/-15.61	-13.72/-17.79	-16.57/-15.23	-15.66/-12.92
Θ(142.5°)	-13.69/-16.73	-16.25/-16.06	-13.46/-12.93	-11.87/-11.32	-12.73/-13.71	-14.06/-16.21	-16.56/-11.83	-9.59/-10.9	-10.67/-8.15	-8.23/-10.41	-18.73/-17.98	-15.8/-13.75	-15.79/-10.24	-9.26/-14.18	-18.83/-11.96	-11.71/-19.16	-11.34/-7.59	-8.72/-9.44	-8.8/-10.72	-19.12/-19.26	-16.85/-18.27	-17.55/-19.08	-16.38/-15.58	-15.27/-14.28
Θ(150°)	-12.27/-18.13	-17.33/-13.22	-10.79/-10.06	-10.72/-11.65	-10.81/-9.27	-8.28/-8.23	-8.98/-10.34	-12.59/-14.76	-16.88/-16.27	-11.64/-8.47	-6.51/-5.05	-4.45/-5.26	-8.74/-15.59	-17.88/-18.06	-15.3/-11.7	-11.47/-15.36	-17.85/-17.23	-14.89/-12.57	-11.83/-12.77	-14/-12.85	-10.17/-10.33	-13.46/-17.02	-13.38/-10	-8.71/-8.76
Θ(157.5°)	-13.55/-18.33	-17.94/-14.66	-14.44/-12.47	-11.95/-12.26	-12.12/-12.11	-14.04/-18.72	-18.22/-16.58	-11.45/-9.45	-8.15/-7.28	-6.79/-6.61	-7.13/-8.2	-8.51/-9.27	-12.81/-15.5	-17.26/-18.58	-18.58/-17.86	-16.85/-17.16	-18.43/-18.01	-15.66/-13.53	-13.65/-15.85	-16.68/-15.03	-12.33/-10.56	-10.84/-12.47	-11.53/-9.37	-8.71/-9.71
Θ(165°)	-16.48/-18.5	-18.23/-17.4	-18.15/-17.31	-16.43/-16.97	-18.76/-18.5	-18.41/-18.42	-17.07/-13.54	-11.52/-11.27	-11.19/-11.45	-11.64/-11.95	-12.49/-13.16	-14.14/-15.77	-17.78/-18.57	-15.99/-13.15	-13.36/-14.29	-14.98/-15.31	-15.74/-15.94	-16.89/-18.64	-18.63/-18.6	-18.38/-14.15	-11.77/-11.02	-11.63/-12.94	-13.26/-13.2	-13.86/-15.52
Θ(172.5°)	-19.21/-18.52	-19.12/-19.49	-19.03/-19.32	-18.25/-17.03	-16.71/-16.77	-17.35/-18.17	-18.32/-17.76	-16.01/-13.91	-12.04/-11.24	-11.35/-11.69	-12.69/-14.91	-18.86/-17.63	-17.61/-15.56	-15.18/-15.48	-15.51/-14.46	-13.13/-13.26	-17.47/-17.26	-18.97/-18.75	-18.79/-19.06	-17.14/-15.1	-14.84/-15.62	-16.74/-18.36	-18.97/-18.86	
Θ(180°)	-15.54/-16.66	-17.03/-18.1	-18.97/-17.83	-19.09/-17.59	-18.91/-18.88	-18.96/-18.51	-18.36/-18.17	-19.33/-18.8	-18.01/-18.3	-18.55/-16.68	-18.81/-18.76	-17.39/-17.85	-18.97/-17.16	-16.41/-17.38	-18.04/-17.37	-18.15/-16.43	-15.5/-14.82	-13.82/-13.37	-13.34/-13.51	-13.49/-13.61	-13.42/-13.13	-13.49/-14.67		
Freq(Hz)	5.2GPol.	ThetaAnt. 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°)	-5.89/-5.73	-5.49/-5.81	-6.22/-5.77	-6.13/-7.67	-9.24/-9.54	-9.56/-10.36	-11.37/-12.08	-11.95/-11.56	-10.60/-9.69	-9.22/-8.41	-7.64/-7.35	-6.24/-6.4	-6.28/-6.25	-5.89/-5.94	-6.45/-7.19	-7.37/-7.5	-7.81/-8.54	-10.01/-11.91	-13.17/-12.66	-12.22/-11.93	-11.55/-10.43	-9.86/-8.04	-7.61/-7.25	-6.58/-6.2
Θ(7.5°)	-6.09/-6.59	-5.78/-5.86	-6.94/-7.08	-7.3/-8.62	-10.35/-10.23	-8.43/-8.22	-8.48/-9.22	-9.71/-10.23	-10.34/-10.06	-9.25/-8.78	-7.4/-6.82	-6.5/-6.28	-6.17/-6.08	-5.89/-5.88	-6.24/-6.84	-7.34/-7.64	-8.28/-9.51	-11.75/-14.7	-17.45/-16.93	-15.29/-13.23	-11.73/-9.81	-8.05/-6.97	-6.39/-5.83	-5.57/-5.61
Θ(15°)	-6.04/-5.8	-4.74/-4.1	-4.19/-4.83	-5.17/-5.45	-6.27/-7.77	-6.93/-6.29	-5.98/-5.93	-5.92/-6.29	-7.09/-8.67	-9.46/-9.84	-10.16/-9.95	-8.05/-6.48	-5.94/-6.1	-6.72/-6.76	-6.7/-7.02	-7.3/-9.05	-10.66/-12.1	-14.01/-18.6	-17.62/-18.7	-17.95/-15.27	-12.56/-9.56	-7.14/-6	-5.63/-5.43	-5.33/-5.69
Θ(22.5°)	-2.75/-2.99	-3.23/-3.36	-4.35/-4.64	-4.49/-4.5	-5.35/-5.76	-5.58/-4.93	-4.12/-3.59	-3.69/-4.05	-5.06/-7.46	-8.94/-9.39	-11.64/-12.17	-8.85/-7.93	-8.3/-8.8	-9.62/-9.92	-9.57/-8.89	-8.42/-9.17	-11.21/-13.65	-15.09/-18.99	-16.67/-18	-17.37/-15.17	-13.05/-9.22	-6.54/-6.59	-3.98/-2.3	
Θ(30°)	-1.19/-1.74	-2.68/-3.58	-4.42/-4.89	-5/-5.07	-4.89/-4.13	-3.28/-2.63	-2.12/-1.82	-1.77/-1.72	-2.17/-4.24	-7.38/-7.84	-9.73/-10.66	-7.75/-7.5	-7.09/-7.11	-9.86/-12.19	-10.43/-7.53	-6.38/-7.42	-11.78/-15.08	-12.86/-13.69	-17.63/-16.15	-11.36/-9.75	-10.94/-9.58	-7.61/-8.06	-7.34/-4.13	-2.17/-1.5
Θ(37.5°)	-2.52/-4.21	-2.53/-3.14	-4.34/-5.39	-5.62/-5.33	-4.86/-3.7	-2.33/-0.97	-0.34/-0.44	-0.32/-1.86	-0.4/-2.63	-6.36/-6.42	-6.93/-8.58	-9.25/-8.6	-8.45/-9.11	-9.46/-8.73	-7.86/-6.96	-6.63/-6.49	-12.79/-16.75	-13.73/-19.17	-12.02/-15.17	-15.73/-10.68	-9.95/-8.99	-8.39/-9.16	-7.52/-3.9	-2.51/-2.61
Θ(45°)	-0.82/-2.85	-2.84/-3.36	-4.42/-5.35	-5.62/-4.77	-3.47/-2.81	-1.8/-0.52	-0.18/-1.15	-0.41/-0.27	0.01/-1.63	-4.04/-5.4	-5.93/-9.1	-9.51/-9.65	-10.28/-10.21	-8.29/-6.03	-6.23/-5.75	-5.85/-6.35	-6.47/-10.28	-14.73/-11.28	-10.16/-11	-10.74/-13.63	-11.4/-8.4	-9.09/-11.66	-7.28/-4.49	-3.72/-3.61
Θ(52.5°)	-4.13/-3.06	-3.37/-3.61	-5/-7.26	-7.63/-5.47	-3.98/-3.16	-2.13/-0.63	-0.35/-1.49	-2.25/-1.12	-0.16/-1.49	-4.29/-5.49	-5.93/-9.83	-9.16/-9.93	-11.9/-13.82	-8.61/-6.01	-6.4/-6.86	-7.85/-8.18	-6.6/-5.78	-7.63/-8.93	-8.58/-10.04	-11.62/-12.31	-11.56/-9.07	-10.94/-18.15	-8.62/-6.57	-6.55/-5.73
Θ(60°)	-4.83/-4.59	-4.57/-4.4	-5.25/-7.2	-8.44/-6.01	-4.13/-2.96	-2/-1.58	-1.32/-2.1	-3.02/-2.36	-2.4/-3.24	-5.48/-6.07	-5.51/-7.69	-7.18/-9.46	-12.94/-12.79	-8.24/-9.38	-3.68/-3.65	-4.57/-6.2	-8.61/-8.85	-5.53/-7.78	-8.65/-7.51	-7.53/-9.54	-10.91/-18.84	-11.03/-14.12	-10.07/-9.26	-7.97/-8.49
Θ(67.5°)	-6.31/-5.19	-4.84/-3.9	-4.65/-7.07	-9.23/-4.75	-5.25/-3.57	-2.06/-1.74	-1.56/-2.62	-3.6/-3.55	-4.94/-3.66	-6.92/-6.36	-6.88/-6.83	-7.13/-9.19	-13.17/-11.68	-11.33/-9.93	-8.43/-9.38	-6.44/-4.58	-8.63/-8.17	-5.44/-5.66	-9.78/-7.89	-7.95/-9.15	-8.87/-10.93	-12.31/-13.05	-12.26/-14.9	-11.21/-7.79
Θ(75°)	-8.19/-6.65	-5.74/-4.59	-4.8/-6.81	-8.48/-8.52	-7.4/-4.95	-2.91/-2.71	-3.36/-4.17	-5.27/-5.16	-6.47/-7.39	-7.52/-7.61	-7.39/-6.35	-7.92/-11.43	-16.12/-17.58	-10.17/-4.79	-4.21/-4.69	-4.78/-4.58	-8.27/-10.15	-6.82/-6.92	-7.51/-6.83	-7.35/-7.87	-7.95/-8.92	-9.86/-13.43	-12.46/-14.08	-11.22/-9.4
Θ(82.5°)	-12.54/-11.55	-8.58/-6.03	-6.62/-9.51	-7.67/-9.46	-9.75/-8.65	-3.98/-9.36	-5.76/-6.24	-6.4/-6.23	-9.97/-9.97	-7.58/-8.46	-8/-7.66	-13.58/-15.66	-18.68/-17.37	-15.51/-7.7	-6.13/-7.26	-7.1/-7.55	-10.28/-9.85	-6.69/-5.88	-4.15/-3.32	-6.25/-7	-5.65/-9.16	-10.33/-12.56	-14.07/-9.81	-9.81/-109
Θ(90°)	-12.72/-11.23	-9.89/-8.48	-5.17/-6.67	-4.77/-10.72	-10.87/-8.86	-5.4/-5.57	-7.52/-9.42	-9.91/-8.73	-8.83/-10.67	-7.62/-9.31	-8.72/-10.02	-18.06/-14.72	-14.09/-11.41	-16.1/-12.83	-8.46/-6.35	-6.66/-10.74	-10.9/-8.37	-3.57/-3.07	-4.66/-3.56	-5.03/-6.46	-6.2/-8.61	-9.32/-9.18	-17.99/-10.02	-12.82/-11.25
Θ(97.5°)	-14.39/-11.73	-11.63/-9.5	-5.63/-6.98	-8.65/-12.29	-13.01/-9.74	-6.35/-6.87	-10.58/-11.12	-11.99/-9.99	-9.61/-12.16	-8.22/-11.5	-8.5/-11.62	-14.72/-13.28	-15.28/-9.03	-11.59/-11.06	-10.88/-8.15	-10.15/-7.11	-6.26/-7.55	-3.82/-3.19	-5.4/-4.26	-4.86/-10.08	-6.76/-8.11	-8.81/-11.06	-13.95/-10.42	-13.79/-13.3
Θ(105°)	-18.38/-17.7	-13.66/-10.15	-6.04/-6.83	-7.34/-14.22	-15.46/-10.94	-9.67/-10.13	-12.93/-10.3	-12.31/-14.77	-8.71/-13.71	-8.83/-11.37	-10.76/-14.02	-12.81/-9.27	-11.43/-11.75	-12.46/-9.69	-8/-8.4	-8.27/-9.36	-7.82/-5.07	-7.16/-6.46	-7.91/-9.54	-7.85/-7.97	-9/-7.72	-6.75/-10.12	-12.41/-12.33	-14.98/-18.51
Θ(112.5°)	-19.01/-15.95	-11.82/-13.03	-8.58/-7.86	-9.66/-12.45	-14.22/-11.37	-9.81/-11.88	-13.73/-13.47	-11.22/-9.78	-10.77/-16.38	-11.69/-12.07	-10.69/-10.82	-10.3/-13.99	-16.23/-17.24	-14.67/-14.67	-10.93/-10.37	-8.26/-7.68	-7.17/-5.98	-10.17/-11.23	-9.71/-8.66	-11.22/-9.05	-15.96/-17.72	-15.96/-17.72	-17.61/-18.71	
Θ(120°)	-18.54/-13.19	-10.35/-9.39	-8.35/-8.08	-9.87/-12.03	-10.4/-9.44	-9.7/-11.93	-12.62/-10.29	-13.66/-11.97	-12.99/-15	-12.72/-16.88	-11.22/-11.56	-15.64/-11.87	-10.79/-11.85	-18.51/-16.05	-19.2/-18.37	-11.32/-9.58	-11.02/-10.47	-17.01/-9.28	-7.51/-11.4	-15.84/-13.13	-14.2/-14.91	-7.2/-13.66	-18.46/-19.05	-17.81/-16.25
Θ(127.5°)	-11.84/-11.99	-9.57/-8.62	-7.57/-7.74	-8.96/-11.7	-13.69/-11.95	-12.37/-14.83	-14.22/-12.89	-14.2/-16.38	-16.89/-13.37	-12.31/-14.34	-12.66/-18.6	-18.31/-14.5	-18.58/-10.94	-9.44/-7.01	-11.1/-12.59	-12.62/-8.5	-18.31/-15.34	-16.71/-18.7	-12.55/-10.72	-19.05/-14.46	-18.06/-16.6	-10.42/-14.74	-18.9/-16.24	-14.17/-12.9
Θ(135°)	-7.19/-6.2	-6.62/-7.1	-10.43/-12.31	-16.47/-18.86	-13.27/-9.7	-8.46/-8.51	-9.03/-10.65	-16.01/-14.18	-13.02/-14.25	-14.01/-16.31	-19.32/-17.09	-16.38/-16.58	-17.26/-14.7	-9.29/-6.58	-4.85/-5.84	-4.71/-8.36	-11.05/-18.73	-10.04/-14.7	-12.72/-9.76	-14.6/-18.41	-19.2/-18.39	-18.99/-17.31	-18.04/-18.94	-14.42/-11.72
Θ(142.5°)	-8.65/-6.48	-8.16/-9.79	-12.18/-17.18	-18.22/-19.39	-13.35/-11.01	-8.92/-10.35	-9.6/-9.26	-10.14/-11.78	-13.91/-12.88	-13.58/-16.86	-19.03/-18.83	-18.37/-17.81	-15.51/-10.02	-6.39/-6.12	-7.18/-12.17	-15.88/-12.11	-15.2/-18.57	-14.18/-16.29	-16.22/-13.56	-11.59/-14.85	-18.74/-15.2	-16.52/-16.45	-14.15/-11.89	-10.75/-10.39
Θ(150°)	-10.86/-14.04	-11.56/-11.71	-11.73/-12.81	-16.49/-18.69	-16.2/-13.61	-12.71/-11.76	-10.52/-9.92	-10.45/-11.95	-13.87/-14.22	-18.09/-18.19	-16.92/-13.92	-12.21/-13.02	-15.25/-16.17	-13.76/-11.4	-11.91/-18.83	-19.07/-13.65	-13.41/-15.5	-16.36/-19.11	-18.84/-16.05	-13.08/-14.83	-19.26/-14.3	-12.58/-14.62	-12.84/-10.72	-9.94/-10.72
Θ(157.5°)	-14.58/-13.62	-15.02/-18.93	-18.75/-18.04	-18.51/-18.72	-18.82/-18.54	-13.83/-11.04	-10.19/-10.32	-11.65/-12.92	-13.59/-15.06	-19.4/-18.69	-17.84/-15.44	-14.5/-16.51	-18.31/-14.74	-15.68/-13.18	-12.64/-13.95	-18.44/-18.98	-15.53/-12.14	-11.58/-13.33	-15.74/-17.22	-16.48/-17.37	-17.88/-17.49	-12.44/-12.77	-14.32/-15.73	-15.14/-14.79
Θ(165°)	-19.24/-17.36	-18.61/-17.84	-17.62/-18.1	-16.73/-16.08																				



Radiated Composite Gain Data 2.4GHz and 5GHz U-NII 1~3

Appendix A

Θ(172.5°)	-11.91/-14.54	-14.52/-13.63	-13.39/-14.04	-13.13/-11.25	-11.88/-12.75	-11.15/-8.88	-7.89/-8.66	-9.4/-10.05	-11.08/-13.75	-16.78/-17.13	-14.07/-11.88	-11.12/-12.02	-14.61/-18.32	-18.72/-18.43	-19/-18.27	-17.15/-15.98	-13.14/-10.73	-9.5/-8.84	-8.41/-8.1	-8.79/-10.8	-12.61/-12.45	-11.42/-10.72	-10.64/-11.23	-11.32/-10.65
Θ(180°)	-14.61/-11.22	-9.63/-11.54	-12.6/-11.71	-12.04/-14.01	-16.11/-15.2	-15.99/-18.66	-17.71/-18.97	-18.13/-15.79	-15.5/-17.2	-18.29/-18.17	-17.79/-18.59	-17.58/-18.97	-19.02/-19.05	-18.06/-17.83	-17.07/-14.91	-13.25/-13.19	-13.32/-11.91	-10.63/-10.94	-10.91/-10.4	-10.17/-10.41	-10.92/-10.61	-9.73/-9.11	-8.47/-8.38	-10.01/-13.94
Freq(Hz)	5.6GPol	ThetaAnt. 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°)	-5.27/-5.19	-5.18/-5.28	-4.94/-4.69	-4.25/-3.91	-3.53/-3.5	-3.3/-2.94	-2.52/-2.55	-2.96/-3.41	-3.35/-3.88	-4.57/-5.02	-5.26/-5.27	-4.8/-4.84	-4.76/-5	-5.11/-4.86	-4.42/-4.12	-4.35/-4.47	-3.82/-3.2	-3.31/-3.79	-4.1/-3.99	-3.82/-3.64	-3.63/-4.08	-4.33/-4.31	-4.3/-5	-5.72/-5.63
Θ(7.5°)	-3.07/-3.92	-4.06/-3.85	-4.71/-5.28	-4.89/-4.73	-4.41/-3.22	-2.04/-1.56	-1.58/-1.44	-1.42/-1.4	-1.34/-2.22	-3.44/-4.3	-4.75/-5.17	-5.07/-4.29	-3.4/-2.77	-2.99/-4.0	-4.97/-5.02	-5.47/-6.57	-6.96/-6.42	-6.17/-6.37	-6.51/-5.78	-4.98/-4.36	-4.16/-4.26	-4.14/-3.77	-3.61/-3.71	-3.1/-2.93
Θ(15°)	-1.79/-1.66	-2.05/-2.76	-3.35/-3.75	-3.45/-2.94	-2.17/-1.26	-0.65/-0.23	0.10/-4	0.48/-0.41	0.48/-0.23	-0.26/-1.01	-2.2/-3.87	-5.01/-4.88	-3.86/-3.11	-2.98/-3.56	-4.27/-4.8	-5.4/-6.29	-7.22/-7.64	-7.77/-8.74	-7.47/-6.33	-5.29/-4.49	-4.33/-4.93	-5.51/-4.92	-4.4/-4.01	-3.23/-2.42
Θ(22.5°)	-3.38/-3.83	-4.08/-5.19	-6.26/-4.93	-3.67/-2.77	-1.31/-0.22	1.43/-1.96	2.24/-2.6	2.68/-2.21	1.49/-0.34	-0.89/-1.32	-1.58/-3.42	-5.98/-6.19	-5.37/-4.47	-3.54/-3.04	-3.45/-4.25	-5.39/-6.68	-7.68/-8.7	-9.96/-12.16	-14.22/-13.36	-10.69/-9	-7.87/-7.9	-8.23/-4.96	-2.93/-2.27	-2.54/-2.82
Θ(30°)	-5.22/-8.54	-5.01/-4.45	-4.34/-3.72	-3.23/-1.83	0.53/-2.58	3.53/-3.39	2.89/3	3.13/-2.76	2.68/-1.8	0.56/-0.15	-0.26/-1.41	-3.98/-1.47	-4.09/-3.24	-3.13/-4.13	-5.94/-7.24	-5.4/-4.44	-5.41/-7.2	-9.78/-13.55	-12.61/-8.95	-7.24/-6.36	-8.56/-9.03	-6.65/-3.11	-1.5/-1.2	-2.07/-3.56
Θ(37.5°)	-4.45/-5.67	-5.97/-4.26	-3.11/-2.5	-2.99/-1.86	0.52/-2.91	4.184/-0.7	3.162/-5.6	2.89/-0.31	3.182/-59	1.53/-0.62	-1.83/-2.96	-4.9/-5.14	-4.81/-2.32	-2.02/-3.29	-4.14/-2.53	-1.01/-1.9	-4.31/-9.65	-13.53/-14.77	-9.98/-5.55	-5.67/-6.11	-9.15/-4.61	-3.24/-1.92	-1.44/-2.87	-4.83/-5.68
Θ(45°)	-5.15/-6.21	-7/-4.75	-3.24/-1.95	-2.22/-2.77	-1.07/-1.87	3.37/-2.29	3.01/-2.7	1.59/-1.33	2.74/-3.47	1.88/-1.32	-3.53/-2.67	-3.27/-4.4	-4.63/-3.65	-3.02/-2.76	-2.84/-3.47	-4.55/-5.2	-6.52/-7.81	-9/-14.94	-10.99/-8.78	-6.91/-5.24	-6.17/-5.31	-3.13/-2.1	-3.45/-7.5	-6.91/-4.71
Θ(52.5°)	-5.91/-6.95	-5.13/-3.53	-2.8/-2.32	-2.56/-3.52	-2.34/-0.54	2.39/-1.98	1.23/-0.85	1.66/-1.96	1.13/-1.44	-3.66/-3.01	-4.01/-4.79	-5.13/-4.69	-5.32/-4.88	-4.7/-5.43	-5.48/-4.88	-3.64/-4.75	-5.91/-7.62	-11.07/-7.97	-5.87/-6.7	-7/-10.18	-6.55/-4.13	-1.07/-1.97	-3.47/-3.11	
Θ(60°)	-4.81/-5.19	-3.21/-2.57	-2.67/-3.47	-4.52/-4.65	-3.15/-0.84	0.54/-0.56	1.26/-0.84	1.02/-0.87	0.83/-0.28	0.43/-2.22	-3.28/-2.75	-3.34/-4	-4.78/-4.23	-2.17/-3.1	-3.89/-3.02	-3.18/-5.14	-4.82/-3.3	-3.06/-4.87	-9.17/-8.34	-9.34/-8.47	-8.21/-13.82	-9.15/-4.61	-6.29/-4.01	-3.12/-3.57
Θ(67.5°)	-5.78/-5.33	-3.1/-2.37	-2.85/-4.33	-4.9/-5.75	-4.35/-2.12	-0.68/-1.67	-5.48/-2.12	-0.88/-0.73	-0.54/-3.4	-1.14/-2.19	-3.41/-3.56	-3.84/-5.93	-5.41/-2.78	-0.59/-0.42	-0.77/-2.4	-3.65/-2.53	-2.8/-3.2	-1.74/-2.92	-7.97/-6.67	-8.16/-9.56	-10.65/-12.04	-9.26/-6.27	-5.64/-3.1	-4.05/-4.34
Θ(75°)	-5.57/-5.63	-3.48/-3.32	-4.32/-6.18	-7.89/-9.36	-7.69/-6.12	-4.03/-4.99	-7.54/-4.27	-2.25/-3.55	-3.23/-4.42	-2.61/-3.27	-3.44/-3.8	-5.41/-8.54	-9.68/-5.03	-2.27/-0.5	-0.06/-1.34	-1.84/-1.41	-2.31/-2.89	-2.84/-2.78	-6.1/-6.98	-5.45/-9.14	-9.3/-13.72	-7.68/-6.89	-4.47/-4	-4.71/-3.8
Θ(82.5°)	-6.08/-6.31	-5.6/-6.01	-7.02/-6.99	-9.11/-12.59	-8.23/-6.45	-7.34/-8.73	-9.52/-5.58	-4.54/-6.39	-5.12/-6.57	-3.88/-4.58	-4.94/-4.84	-6.43/-10.4	-12.27/-9.8	-4.98/-1.98	-1.14/-1.66	-1.24/-3.67	-4.35/-3.5	-3.3/-2.72	-4.05/-3.06	-2.88/-3.27	-6.1/-11.33	-5.87/-6.79	-3.16/-3.42	-4.63/-3.07
Θ(90°)	-8.04/-8.22	-5.71/-5.91	-7.06/-6.96	-4.95/-12.29	-10.22/-9.69	-9.23/-9.9	-8.98/-7.03	-5.36/-10.18	-6.45/-6.15	-5.93/-5.34	-5.67/-5.55	-6.44/-13.14	-11.26/-11.37	-8.54/-5.78	-5.04/-5.97	-2.36/-4.32	-8.13/-6.46	-2.04/-1.65	-2.06/-1.49	-1.44/-1.89	-5.22/-9.1	-5.19/-6.72	-2.19/-3.88	-5.12/-4.99
Θ(97.5°)	-7.93/-11.15	-7.83/-7.68	-8.74/-6.24	-10.03/-13.27	-13.44/-16.6	-13.56/-7.54	-7.31/-6.17	-5.91/-8.75	-6.09/-6.91	-5.02/-6.54	-7.29/-6.29	-10.23/-16.91	-13.03/-11.63	-9.18/-7.52	-7.01/-6.07	-8.65/-7.3	-9.94/-3.65	-1.23/-0.51	-1.93/-1.81	-1.56/-4.08	-5.32/-6.61	-5.66/-5.22	-2.52/-6.42	-4.46/-5.16
Θ(105°)	-10.34/-15.83	-12.61/-9.4	-7.07/-5.96	-7.2/-8.94	-11.02/-11.72	-10.51/-8.15	-8.51/-6.73	-5.67/-7.76	-5.4/-6.99	-6.61/-6.52	-8.33/-7.07	-10.84/-15.87	-10.95/-5.78	-7.24/-7.11	-7.54/-8.63	-13.9/-11.8	-5.62/-2.36	-4.45/-0.51	-3.09/-2.55	-2.15/-6.27	-7.37/-3.43	-5.74/-6.99	-4.92/-10.7	-6.95/-5.78
Θ(112.5°)	-8.82/-12.59	-11.61/-6.28	-4.23/-4.33	-6.67/-8.34	-10.19/-39	-8.51/-7.5	-7.87/-7.1	-6.1/-7.78	-5.02/-4.83	-6.17/-8.95	-13.91/-13.96	-14.1/-12.51	-19.43/-14.59	-10.73/-17.9	-18.27/-9.42	-10.24/-7.6	-5.59/-5.05	-7.32/-5.59	-6.2/-5.3	-6.18/-10.96	-7.51/-2.49	-1.29/-12.84	-8.12/-10.13	-7.52/-7.41
Θ(120°)	-4.84/-9.4	-7.67/-4.43	-5.32/-4.65	-6.77/-7.69	-7.28/-6.4	-5.29/-5.2	-6.81/-5.37	-5.27/-6.4	-4.91/-6.86	-9.24/-11	-18.92/-17.84	-13.39/-15.3	-14.51/-10.72	-10.06/-18.35	-10.13/-15.56	-5.23/-6.46	-4.47/-7.31	-18.1/-8.39	-9.07/-7.39	-8.65/-15.23	-10.45/-32	-4.31/-12.97	-13.08/-17.93	-11.7/-9.5
Θ(127.5°)	-5.24/-8.25	-5.54/-5.68	-4.01/-5.68	-5.51/-3.77	-2.65/-4.01	-4.75/-4.32	-5.51/-5.65	-5.9/-5.53	-5.68/-9.02	-12.11/-13.98	-18.48/-14.04	-8.92/-12.2	-11.79/-9.71	-19.41/-4.68	-6.76/-7.1	-6.65/-2.84	-16.48/-19.2	-9.93/-9	-17.42/-12.32	-11.17/-9.87	-12.17/-9.19	-15.14/-12.71	-9.49/-4.89	-12.13/-10.22
Θ(135°)	-7.73/-6.92	-8.55/-6.34	-6.41/-7.35	-7.32/-6.13	-4.83/-4.11	-4.32/-4.59	-4.83/-5.31	-6.07/-6.39	-6.88/-11.05	-17.52/-17.34	-18.65/-9.45	-9.08/-17.63	-15.88/-8.64	-5.13/-4.63	-4.85/-7.22	-6.11/-7.22	-6.91/-17.32	-7.81/-16.53	-14.69/-12.82	-12.65/-11.67	-6.18/-14.28	-11.22/-18.56	-13.32/-8.23	-9.83/-6.12
Θ(142.5°)	-6.57/-8.4	-6.52/-7.96	-6.97/-6.33	-5.69/-4.32	-4.13/-4.96	-5.15/-6.22	-10.45/-10.56	-7.42/-6.81	-9.24/-17.51	-13.15/-13.06	-14.97/-12.55	-12.41/-16.74	-16.12/-10.81	-9.1/-9.83	-8.73/-9.54	-13.02/-17.79	-9.18/-8.71	-11.67/-17.18	-17.28/-15.42	-8.26/-15.51	-11.53/-12.12	-12.63/-9.76	-15.95/-15.34	-14.95/-9.36
Θ(150°)	-7.91/-7.94	-8.75/-8.63	-10.54/-11.93	-9.07/-5.7	-4.58/-4.43	-4.36/-4.72	-5.71/-7.77	-11.61/-15.71	-12.96/-11.9	-13.28/-13.95	-10.74/-10.47	-11.87/-10.35	-11.48/-13.08	-11.11/-12.06	-13.5/-18.2	-8.74/-15.33	-18.25/-18.86	-17.63/-17.82	-16.12/-13.47	-17.56/-16.08	-13.93/-18.66	-14.71/-8.3	-8.12/-9.4	
Θ(157.5°)	-12.78/-10.39	-11.87/-16.85	-17.46/-12.62	-11.24/-10.35	-8.82/-6.8	-6.97/-9.42	-12.22/-11.39	-10.10/-13	-10.47/-7.96	-9.91/-10.47	-10.72/-11.41	-13.45/-18.2	-19.25/-18.28	-17.24/-12.82	-10.21/-9.04	-8.06/-9.24	-17.79/-18.99	-18.65/-18.14	-19.77/-18.99	-18.45/-18.07	-13.93/-13.77	-13.91/-12.16	-10.82/-13.5	
Θ(165°)	-12.47/-12.22	-14.67/-12.78	-11.13/-10.39	-10.3/-10.06	-8.71/-8.04	-8.39/-7.4	-7.36/-9.42	-12.71/-15.06	-13.62/-12.29	-12.71/-13.15	-13.09/-15.05	-18.91/-18.95	-13.75/-11.63	-12.31/-13.04	-13.32/-12.61	-11.69/-12.22	-12.66/-13.8	-17.24/-19.18	-18.83/-17.53	-17.57/-17.96	-18.2/-15.59	-18.11/-16.66	-18.37/-19.12	-15.08/-13.47
Θ(172.5°)	-9.82/-10.23	-10.44/-10.25	-9.25/-9.68	-9.95/-8.93	-8.06/-8.57	-9.67/-10.62	-11.44/-12.72	-15.41/-19.35	-17.65/-17.25	-14.42/-12.51	-12.76/-14.26	-13.52/-11.46	-9.32/-8.29	-8.54/-9.28	-9.52/-9.38	-9.38/-10.13	-11.04/-10.64	-11.06/-13.13	-16.01/-17.55	-19.11/-18.04	-17.95/-18.41	-19.2/-16.54	-14.34/-13.39	-13.73/-12.07
Θ(180°)	-11.18/-12.32	-11.93/-12.03	-13.26/-13.52	-12.1/-11.87	-12.65/-14.39	-14.33/-13.1	-17.73/-13.3	-14.04/-14.96	-16.62/-16.9	-16.04/-14.57	-14.45/-15.45	-17.23/-18.99	-19.18/-17	-16.33/-13.21	-12.22/-10.86	-11.16/-11.45	-11.27/-11.4	-12.5/-13.11	-13.49/-15.56	-18.98/-18.22	-18.27/-14.83	-12.05/-10.91	-14.41/-12.06	
Freq(Hz)	5.785GPol	PhiAnt. 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°)	-1.89/-1.63	-1.81/-8.9	-1.46/-0.95	-1.12/-1.69	-1.72/-1.64	-2.21/-2.84	-3/-3.38	-4.17/-4.85	-4.98/-5.27	-5.37/-5.05	-4.51/-3.96	-3.41/-3.11	-2.57/-2.23	-2.13/-2.15	-2.22/-3.13	-1.92/-1.87	-2.31/-2.81	-2.86/-2.87	-3.25/-3.77	-3.98/-4.26	-4.4/-4.39	-4.33/-4.17	-3.64/-3.28	-3.12/-3.24
Θ(7.5°)	-3.89/-3.88	-3.02/-2.62	-2.76/-2.47	-1.71/-1.47	-1.52/-1.45	-1.24/-1.57	-2.22/-2.81	-3.4/-3.77	-3.96/-4.44	-5.06/-5.43	-5.12/-4.89	-4.94/-5.23	-5.66/-6.12	-5.98/-5.6	-5.42/-4.86	-4.46/-3.84	-3.36/-3.26	-3.34/-3.15	-2.96/-3.21	-3.24/-3.2	-3.28/-3.78	-4.01/-4.04	-4.14/-4.59	-4.21/-3.86
Θ(15°)	-0.94/-0.88	-1.16/-1.89	2.09/-1.8	-2/-2.36	-2.4/-2.47	-2.69/-3.11	-3.39/-2.83	-2.14/-1.7	-1.39/-1.05	-1.63/-2.79	-4.06/-4.95	-5.3/-5.59	-7.56/-5.57	-4.93/-4.44	-4.23/-4.03	-3.93/-3.71	-3.08/-2.5	-2.13/-1.83	-1.54/-1.45	-1.6/-1.91	-2.43/-3.09	-3.62/-3.78	-3.59/-3.3	-2.26/-1.43
Θ(22.5°)	0.87/-0.69	-0.05/-0.71	-1.55/-1.82	-2.47/-2.92	-2.53/-2	-2.71/-4.03	-4.42/-3.12	-1.34/-0.41	0.331/-0.04	0.69/-0.31	-1.82/-4.08	-4.95/-5.74	-5.75/-8.74	-7.8/-5.89	-4.18/-3.05	-3.95								



Radiated Composite Gain Data 2.4GHz and 5GHz U-NII 1~3

Appendix A

Θ(15°)	-1.86/-1.48	-1.18/-0.85	-0.63/-0.53	-0.66/-0.78	-0.91/-1.06	-1.37/-1.86	-2.68/-3.92	-5.51/-7.45	-9.36/-10.18	-9.3/-7.52	-5.45/-3.82	-2.62/-1.96	-1.71/-1.72	-1.83/-1.99	-2.2/-2.48	-2.85/-3.35	-3.99/-4.78	-5.88/-7.48	-9.85/-13.36	-18.42/-19.07	-17.46/-13.17	-10.11/-7.66	-5.9/-4.48	-3.32/-2.47
Θ(22.5°)	-1.65/-1.16	-0.79/-0.54	-0.45/-0.52	-0.68/-0.71	-0.51/-0.26	-0.19/-0.45	-1.08/-2.17	-3.63/-5.38	-6.91/-7.49	-7.13/-5.96	-4.3/-2.78	-1.58/-0.92	-0.73/-0.91	-1.3/-1.73	-2.08/-2.46	-2.87/-3.3	-3.67/-4.16	-5.04/-6.45	-8.49/-10.98	-12.78/-12.86	-11.66/-9.85	-8.13/-6.55	-5.25/-4.12	-3.16/-2.31
Θ(35°)	-1.8/-1.36	-1.07/-0.9	-0.92/-1.07	-1.19/-0.91	-0.22/-0.42	-0.16/-0.64	0.14/-0.71	-1.76/-2.87	-3.78/-4.34	-4.66/-4.54	-6.07/-2.33	-0.90/-0.8	0.47/-0.33	-0.18/-0.51	-1.73/-2.18	-2.67/-2.87	-2.8/-2.87	-3.4/-4.42	-5.65/-6.46	-6.56/-6.41	-6.52/-6.66	-5.34/-4.33	-3.94/-2.43	
Θ(37.5°)	-1.09/-0.93	-0.93/-1.05	-1.27/-1.52	-1.63/-1.16	-0.22/-0.49	0.80/-72	0.36/-0.14	-0.58/-0.96	-1.32/-1.68	-2.14/-2.61	-2.54/-1.72	-0.41/-0.67	1.17/-1.13	0.55/-0.39	-1.39/-2.23	-2.55/-2.26	-1.69/-1.45	-1.8/-2.55	-3.3/-3.62	-3.73/-4	-4.66/-5.51	-6.01/-5.73	-4.93/-3.76	-2.55/-1.61
Θ(45°)	0.86/-0.83	0.54/-0.1	-0.38/-0.72	-0.87/-0.55	0.21/-0.71	0.71/-0.4	0.08/-0.13	-0.12/-0.05	-0.09/-0.29	-0.65/-1.15	-1.73/-1.86	-1.15/-0.1	0.69/-0.98	0.64/-0.17	-1.32/-2.41	-2.57/-1.93	-1.23/-1.06	-1.63/-2.61	-3.3/-3.29	-2.96/-2.85	-3.26/-3.9	-4.15/-3.68	-2.77/-1.63	-0.45/-0.46
Θ(52.5°)	1.24/-1.26	1.10/-78	0.42/-0.18	0.09/-0.36	1.14/-6	1.39/-79	0.27/-0.01	-0.07/-0.05	-0.19/-0.42	-0.74/-1.25	-2.2/-3.15	-3.05/-1.74	-0.30/-53	0.6/-0.04	-1.22/-2.35	-2.54/-2.04	-1.61/-1.82	-2.67/-3.21	-2.53/-1.29	-0.57/-0.67	-1.62/-1.92	-3.83/-3.72	-2.79/-1.47	-0.10/-85
Θ(60°)	0.31/-0.47	0.48/-0.5	0.63/-0.83	0.76/-0.65	1.38/-2.08	2.11.69	1.25/-1.03	0.80/-41	-0.26/-1.1	-1.95/-2.75	-3.89/-5.05	-4.52/-2.44	-0.55/-0.35	0.35/-0.33	-1.52/-2.81	-3.22/-2.63	-2.01/-2	-2.56/-2.45	-1.13/-0.01	0.07/-1.04	-3.18/-5.69	-7.15/-6.9	-5.62/-3.76	-1.78/-0.37
Θ(67.5°)	0.04/-0.18	0.05/-0.12	0.27/-1.06	1.34/-9.74	1.29/-1.74	1.47/-92	0.57/-0.65	0.71/-0.33	-0.57/-1.65	-2.61/-3.28	-3.87/-4.24	-3.77/-2.38	-1.19/-0.8	-0.85/-1.2	-1.96/-2.98	-2.99/-1.97	-1.41/-2	-3.4/-3.24	-1.27/-0.3	-0.79/-2.45	-4.41/-5.12	-4.54/-4.1	-3.75/-2.95	-1.64/-0.5
Θ(75°)	0.02/-0.18	0.14/-0.26	-0.27/-0.6	1.11/-9.91	1.28/-1.83	1.39/-55	-0.12/-0.26	-0.14/-0.26	-0.96/-1.92	-2.71/-3.28	-3.86/-4.69	-5.38/-4.48	-2.89/-1.71	-1.07/-0.89	-1.53/-2.84	-3.21/-2.33	-2.27/-3.78	-6.08/-3.95	-1.01/-0.07	-0.76/-2.47	-3.94/-3.83	-3.23/-3.22	-3.24/-2.47	-1.26/-0.33
Θ(82.5°)	-0.56/-0.41	-0.21/-0.52	-0.23/-1	1.40/-88	0.81/-0.3	0.24/-0.7	-1/-0.69	-0.15/-0.08	-0.67/-1.59	-2.47/-3.13	-3.67/-4.4	-4.72/-3.35	-1.92/-1.25	-1.26/-1.65	-2.88/-4.63	-4.48/-3.3	-3.44/-5.44	-7.26/-3.88	-1.34/-0.93	-2.45/-4.8	-5.38/-4.11	-3.31/-3.78	-4.74/-4.08	-2.29/-0.96
Θ(90°)	-1.13/-1.26	-1.12/-1.79	-2.09/-0.04	0.98/-1.07	1.48/-18	0.9/-0.84	-2.42/-3.27	-3/-2.34	-2.17/-2.35	-2.42/-2.19	-2.03/-2.81	-4.12/-4.66	-4.51/-4.4	-4.14/-3.74	-4.15/-2.58	-4.63/-3.66	-4.27/-7.67	-11.62/-5.1	-1.93/-1.66	-3.56/-5.33	-4.68/-3.33	-2.56/-3.1	-4.61/-4.7	-2.95/-1.47
Θ(97.5°)	-2.5/-2.46	-1.85/-2.16	-2.97/-1.26	-0.45/-0.74	0.01/-99	0.91/-23	-0.49/-1.36	-1.98/-1.97	-1.76/-1.43	-0.96/-0.56	-0.96/-2.82	-5.65/-7.23	-5.89/-4.47	-3.46/-3.28	-4.45/-6.54	-6.36/-5.05	-7.73/-13.37	-9.15/-3.41	-1.46/-2.17	-4.84/-6.49	-5.27/-4.04	-3.54/-4.31	-6.36/-6.9	-4.77/-3.01
Θ(105°)	-5.96/-6	-4.82/-4.7	-5.24/-2.54	-0.96/-1.06	-0.71/-0.9	0.27/-0.04	-0.35/-0.92	-1.59/-1.77	-1.51/-1	-0.51/-0.36	-1.22/-3.55	-7.26/-9.96	-8.04/-6.9	-6.25/-5.9	-6.44/-6.85	-5.65/-5.58	-7.75/-14.62	-13.33/-6.07	-3.99/-4.97	-7.79/-7.67	-5.33/-4.06	-3.8/-4.48	-6.28/-7.92	-7.71/-6.14
Θ(112.5°)	-10.16/-3.98	-7.12/-6.94	-8.26/-6.11	-4.04/-4.04	-3.44/-1.9	-0.85/-0.23	0.24/-0.31	-0.11/-0.83	-1.75/-2.58	-3.19/-3.96	-5.82/-6.67	-3.96/-3.47	-5.42/-7.91	-14.06/-16.78	-9.56/-7.42	-9.15/-9.2	-4.19/-6.35	-11.83/-19.7	-9.58/-7.42	-6.95/-7.43	-8.28/-8.64	-8.66/-9.23		
Θ(120°)	-19.03/-14.34	-11.41/-11.13	-11.08/-7.52	-4.72/-4.19	-4.45/-4.12	-3.49/-2.93	-2.25/-1.68	-1.37/-1.3	-1.53/-1.89	-2.19/-2.54	-3.53/-4.89	-5.55/-4.57	-3.79/-3.8	-4.01/-4.58	-5.74/-7.08	-2.44/-13.63	-17.81/-17.22	-11.14/-7.99	-8.65/-13.94	-17.19/-10.73	-8.43/-9.98	-9.59/-13.03	-14.53/-13.17	-14/-17.85
Θ(127.5°)	-13.31/-11.95	-13.86/-17.25	-16.23/-11.8	-8.25/-6.41	-5.29/-4.15	-3.18/-2.47	-1.93/-1.56	-1.52/-1.68	-2.1/-2.8	-3.62/-4.67	-5.95/-6.04	-4.27/-2.44	-1.57/-1.52	-2.13/-3.24	-4.55/-6.12	-8.37/-10.99	-14.26/-18.96	-17.23/-13.13	-16.37/-18.94	-11.77/-8.04	-7.47/-8.74	-11.52/-16.96	-18.03/-15.05	-16.58/-17.32
Θ(135°)	-10.94/-11.17	-12.68/-12.94	-13.04/-15.6	-17.69/-14.24	-11.07/-8.37	-6.19/-4.7	-3.74/-2.99	-2.38/-1.89	-1.61/-1.63	-0.83/-0.39	-0.67/-1.81	-3.84/-6.1	-7.73/-9.02	-10.94/-10.92	-12.57/-16.78	-17.4/-15.62	-17.13/-16.3	-12.17/-10.55	-11.66/-14.59	-16.38/-16.47	-15.34/-14.27	-13.91/-12.34		
Θ(142.5°)	-10.8/-14.02	-17.97/-17.37	-14.98/-17.1	-18.67/-18.38	-15.06/-12.67	-9.86/-7.71	-6.55/-6.34	-6.6/-6.74	-6.84/-6.96	-6.88/-6.65	-6.84/-7.87	-9.78/-11.11	-9.15/-6.6	-5.28/-9.44	-5.08/-5.52	-6.76/-9	-11.34/-12.41	-11.89/-10.78	-10.37/-11.74	-16.91/-14.79	-10.33/-11.85	-10.33/-9.94	-9.93/-9.91	
Θ(150°)	-6.68/-8.11	-11.27/-16.42	-19.27/-16.17	-12.67/-10.21	-8.62/-7.83	-7.17/-6.19	-5.11/-4.41	-4.34/-4.64	-5.02/-5.35	-5.64/-5.73	-5.65/-5.48	-5.04/-4.37	-3.43/-2.45	-1.68/-1.38	-1.63/-2.4	-3.37/-4.49	-5.79/-7.45	-9/-9.88	-9.99/-9.76	-9.96/-11.23	-13.89/-15.25	-12.15/-9.11	-7.39/-6.52	-6.21/-6.19
Θ(157.5°)	-6.16/-6.5	-7.58/-9.45	-11.18/-11.63	-10.52/-9.81	-7.34/-6.01	-4.98/-4.09	-3.2/-2.44	-1.97/-1.8	-1.72/-1.53	-1.39/-1.31	-1.22/-1.22	-1.14/-1.06	-1.04/-1.16	-1.6/-2.33	-3.32/-4.69	-5.98/-6.91	-7.63/-8.31	-8.79/-9.06	-9.04/-8.77	-8.69/-8.79	-9.31/-9.8	-9.59/-8.52	-7.44/-6.74	-6.34/-6.2
Θ(165°)	-9.19/-9.04	-9.41/-10.49	-11.97/-13.2	-13.17/-12.2	-10.42/-8.6	-6.98/-5.71	-4.66/-3.79	-3.13/-2.77	-2.51/-2.21	-1.97/-1.85	-1.96/-2.25	-2.72/-3.33	-4.08/-5.03	-6.22/-7.34	-8.16/-8.69	-8.74/-8.51	-8.37/-8.48	-8.67/-8.84	-8.86/-8.58	-7.98/-7.36	-6.98/-6.97	-7.37/-7.96	-8.5/-8.96	-9.31/-9.44
Θ(172.5°)	-10.46/-10.82	-11.55/-12.84	-14.65/-16.9	-19.17/-18.67	-18.94/-16.64	-14.4/-12.57	-10.97/-9.59	-8.56/-7.81	-7.2/-6.58	-6.29/-6.44	-6.83/-7.54	-8.52/-9.48	-10.23/-10.6	-10.49/-9.84	-9.2/-8.78	-8.6/-8.72	-9.08/-9.8	-10.72/-11.47	-11.67/-11.15	-10.12/-9.16	-8.42/-8.13	-8.36/-9	-9.6/-9.95	-10.71/-10.25
Θ(180°)	-10.37/-10.24	-10.18/-10.48	-10.94/-11.49	-12.21/-13.06	-14.02/-14.89	-15.74/-17.66	-17.91/-19.4	-19.06/-15.54	-13.07/-11.74	-11.38/-11.66	-12.22/-12.17	-11.08/-9.8	-8.7/-8	-7.78/-7.92	-8.52/-9.41	-10.54/-11.93	-13.77/-16.3	-18.27/-18.57	-18.44/-18.49	-17.68/-18.65	-17.57/-16.62	-15.31/-13.78	-12.34/-11.7	-10.61/-10.36
Freq(Hz)	5.2GPol.	Phi/Ant. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-8.21/-8.77	-9.01/-8.02	-7.14/-6.65	-6.38/-6.06	-5.78/-5.32	-5.35/-5.09	-4.79/-4.57	-4.51/-3.49	-4.71/-5.14	-5.36/-5.33	-5.71/-6.32	-6.89/-7.03	-7.77/-8.76	-8.9/-8.32	-7.65/-7.16	-6.59/-6.34	-6.05/-5.58	-5.33/-5.26	-5.35/-5.46	-6.62/-6.47	-5.19/-5.29	-5.72/-6.03	-6.2/-6.98	-7.96/-6.05
Θ(7.5°)	-7.5/-7.42	-8.25/-8.56	-7.05/-6.31	-5.45/-4.68	-4.44/-4.13	-3.76/-3.67	-3.55/-4.32	-3.75/-4.2	-4.71/-5.45	-5.69/-6.02	-5.78/-6.15	-6.89/-7.33	-9.67/-10.17	-7.14/-9.32	-8.62/-8.37	-8.17/-7.41	-7.14/-6.95	-6.87/-6.15	-5.59/-5.58	-6.77/-6.51	-5.29/-5.86	-6.61/-6.18	-6.44/-7.71	
Θ(15°)	-6.2/-6.07	-6.03/-5.69	-6.06/-6.06	-6.22/-5.6	-5.34/-4.74	-4.35/-4.11	-3.67/-3.81	-4.5/-4.89	-4.93/-5.36	-6.2/-6.32	-6.03/-5.67	-5.79/-6.39	-6.87/-6.72	-7.74/-8.8	-9.72/-9.99	-9.68/-9.72	-9.94/-8.91	-7.55/-6.52	-5.4/-4.86	-4.98/-5.24	-5.98/-6.68	-7.12/-7.14	-7.82/-8.71	-8.07/-6.24
Θ(22.5°)	-10.47/-7.32	-4.77/-3.58	-4.83/-7.51	-7.84/-5.89	-4.57/-4.02	-3.7/-3.7	-3.63/-4.43	-5.75/-6.11	-6.44/-7.12	-6.96/-6.67	-5.81/-4.45	-3.22/-6.62	-2.7/-3.35	-4.43/-5.93	-7.38/-7.73	-6.73/-6.12	-6.7/-6.83	-5.06/-6.29	-1.52/-1.51	-2.96/-5.46	-8.41/-11.27	-13.55/-14.31	-12.55/-11.02	-12.84/-13.88
Θ(30°)	-15.46/-11.33	-5.23/-3.04	-4.37/-7.39	-6.28/-4.15	-3.86/-4.61	-4.24/-3.72	-4.63/-6.67	-7.65/-7.27	-7.47/-7.72	-7.6/-6.57	-5.07/-3.82	-2.31/-1.5	-1.96/-2.55	-3.82/-5.59	-7.9/-9.16	-7.17/-9.51	-5.56/-3.12	-2.01/-2.64	-4.43/-6.13	-6.42/-7.4	-10.67/-15.78	-18.05/-18.04	-18.62/-15.47	
Θ(37.5°)	-14.62/-11.52	-6.86/-4.12	-4.58/-6.23	-4.56/-2.65	-3.91/-5.61	-5.08/-4.72	-6.26/-6.77	-5.38/-5.51	-6.19/-6.05	-5.66/-4.86	-3.94/-2.79	-2.02/-1.88	-2.88/-5.03	-6.16/-7.38	-10.04/-11.98	-9.64/-7.71	-7.04/-6.93	-4.41/-2.77	-2.26/-2.42	-3.72/-5.42	-6.61/-6.91	-8.97/-12.79	-18.04/-18.9	-18.75/-17.98
Θ(45°)	-17.29/-12.21	-7.02/-0.58	-4.63/-0.78	-6.34/-3.28	-3.73/-5.52	-5.6/-5.71	-6.63/-6.6	-4.74/-7.5	-4.81/-3.88	-3.53/-3.65	-3.79/-3.23	-2.69/-3.89	-3.91/-5.52	-6.92/-8.33	-10.37/-11.61	-12.54/-10.11	-9.81/-6.06	-3.37/-2.48	-1.87/-2.98	-4.97/-6.96	-8.21/-9.65	-12.76/-14.83	-12.8/-14.83	-15.56/-18.44
Θ(52.5°)	-19.15/-11.97	-8.39/-7.62	-5.29/-5.86	-8.12/-6.16	-6.61/-6.6	-6.62/-7.86	-10.3/-9.55	-6.69/-5.72	-4.84/-4.05	-4.04/-4.22	-4.72/-4.38	-3.35/-3.61	-3.48/-4.71	-9.11/-13.24	-12.91/-12.65	-13.41/-13.27	-11.6/-7.93	-4.71/-4.26	-3.17/-2.84	-5.43/-6.85	-12.59/-19.07	-17.48/-12.66	-11.37/-10.62	-11.24/-15.3
Θ(60°)	-19.36/-14.05	-9.89/-8.64	-5.8/-6.15	-10.21/-11.52	-8.24/-6.85	-7.89/-8.97	-11.66/-14.19	-9.3/-8.35	-7.63/-5.87	-4.41/-3.25	-3.18/-3.96	-3.86/-4.25	-5.72/-7.07	-9.74/-17.1	-19.09/-16.9	-13.35/-11.25	-12.44/-7.99	-4.47/-6.02	-4.54/-5.12	-9.67/-15.32	-19.03/-13.85	-10.29/-11.56	-11.95/-10.46	-8.66/-13.24
Θ(67.5°)	-18.12/-13.11	-11.26/-9.3	-8.45/-8.42	-12.78/-16.44	-10.53/-8.67	-11.62/-11.53	-14.28/-15.26	-9.54/-6.99	-10.23/-9.89	-5.33/-3.81	-4.79/-5.45	-5.38/-5.43	-5.15/-5.6	-12.01/-18.71	-18.05/-17.37	-15.9/-14.29	-15.99/-9.51	-6.92/-6.87	-5.26/-7.7	-15.43/-19.46	-18.44/-17.02	-11.92/-14.69	-11.63/-12.74	-8.84/-10.47
Θ(75°)	-17.94/-17.66	-12.9/-																						



Radiated Composite Gain Data 2.4GHz and 5GHz U-NII 1~3

Appendix A

Θ(60°)	-8.16/6.66	-7.18/-5.85	-4.97/-5.71	-4.53/-5.06	-8.51/-6.15	-4.15/-3.18	-2.61/-3.79	-5.11/-5.39	-5.3/-5.35	-5.05/-4.38	-3.43/-3.8	-4.53/-5.37	-5.19/-4.86	-5/-6.2	-4.77/-4.62	-5.35/-6.32	-6.33/-5.79	-5.23/-4.5	-6.05/-6.8	-5.94/-6.89	-6.81/-7.29	-7.82/-6.83	-6.51/-6.5	-5.77/-7.88	
Θ(67.5°)	-8.03/-6.41	-7.85/-6.24	-5.35/-5.99	-5.39/-6.72	-11.75/-5.65	-4.52/-3.31	-2.83/-4.86	-6.43/-6.5	-5.48/-5.36	-5.45/-4.69	-4.48/-6.5	-4.62/-5.27	-5.62/-4.51	-4.46/-8.13	-6.14/-4.94	-6.9/-6.46	-7.51/-9.1	-4.01/-4.09	-4.96/-5.8	-7.53/-8.09	-6.83/-7.03	-5.18/-3.66	-4.91/-6.12	-6.92/-8.87	
Θ(75°)	-9.64/-8.26	-8.4/-8.16	-6.85/-6.87	-5.68/-7.14	-11.59/-6.32	-5.54/-4.42	-4.31/-5.95	-6.45/-6.8	-6.26/-6.55	-7.08/-5.49	-4.44/-4.83	-5.59/-6.46	-6.85/-6.4	-4.9/-6.69	-9/-8.3	-5.97/-7.21	-9.49/-4.92	-2.23/-3.29	-3.79/-6.91	-10.62/-7.73	-6.36/-6.15	-4.24/-4.89	-5.12/-7.19	-8.98/-6.89	
Θ(82.5°)	-11.44/-11.9	-10.45/-8.83	-7.07/-7.63	-6.46/-8.39	-11.02/-5.81	-6.33/-5.29	-4.69/-5.86	-6.05/-7.82	-7.93/-8.33	-9.09/-6.6	-5.56/-5.92	-6.8/-6.76	-5.71/-7.24	-5.16/-7.71	-9.27/-9.06	-7.59/-7.85	-10.82/-4.09	-2.31/-2.71	-4.15/-9.72	-11.8/-7.42	-5.6/-4.93	-4.38/-6.76	-7.83/-7.55	-10.43/-10.12	
Θ(90°)	-19.28/-14.27	-15.57/-10.97	-6.04/-6.91	-8.14/-8.94	-9.91/-5.86	-6.93/-6.05	-5.74/-6.66	-6.5/-8	-8.75/-8.1	-8.26/-6.87	-5.56/-5.71	-7.73/-8.54	-6.97/-7.56	-7.48/-8.78	-11.06/-12.38	-8.17/-8.59	-11.18/-6.58	-3.88/-3.86	-4.56/-9.2	-7.4/-5.19	-3.39/-5.53	-6.96/-8.83	-9.2/-7.2	-9.79/-12.56	
Θ(97.5°)	-19.33/-19.08	-12.4/-11.13	-6.01/-6.63	-8.22/-9.26	-10.03/-5.73	-6.69/-6.54	-6.11/-7.05	-6.63/-7.75	-9.8/-9.26	-8.26/-7.06	-6.62/-6.8	-8.12/-8.31	-9.43/-8.45	-8.99/-12.11	-12.68/-14.42	-8.2/-8.81	-13.39/-9.73	-6.29/-4.91	-5.62/-7.13	-6.64/-5.76	-3.75/-6.04	-8.97/-11.76	-7.61/-8.02	-15.21/-15.99	
Θ(105°)	-19.07/-13.32	-10.97/-10.79	-7.38/-6.12	-8.62/-9.32	-9.24/-5.26	-6.01/-6.62	-6.81/-7.66	-7.49/-8.01	-11.24/-10.82	-9.4/-7.65	-5.94/-6.82	-8.95/-8.39	-9.05/-10.29	-10.11/-13.66	-14.58/-14.2	-12.49/-8	-9.26/-18.71	-11.57/-7.72	-7.88/-7.6	-8.69/-9.86	-6.55/-8.06	-10.14/-9.95	-8.83/-12.31	-16.38/-16.74	
Θ(112.5°)	-16.96/-14.1	-10.84/-10.5	-9.05/-7.85	-9.24/-9.65	-9.24/-6.6	-7.41/-6.43	-5.78/-6.67	-6.58/-7.41	-10.38/-11.99	-10.26/-9.13	-7.91/-6.9	-9.82/-8.81	-8.64/-8.98	-11.64/-10.38	-18.18/-11.36	-10.31/-9.46	-10.21/-16.34	-14.05/-13.9	-11.05/-14.01	-14.69/-18.26	-9.58/-9.19	-11.18/-19.01	-15.25/-17.68	-18.22/-16.8	
Θ(120°)	-16.7/-16.11	-14.69/-14.18	-10.69/-10.06	-11.07/-10.5	-9.98/-6.86	-8.16/-6.33	-6.06/-7.63	-7.73/-7.12	-8.71/-14.17	-13.71/-11.9	-10.74/-9.9	-8.45/-7.93	-7.48/-8.19	-13.36/-9.09	-14.46/-13.58	-16.59/-7.07	-12.16/-13.27	-18.75/-16.66	-15.54/-16.08	-17.91/-15.98	-6.72/-7.05	-10.23/-14.61	-18.08/-18.16	-18.4/-11.37	
Θ(127.5°)	-18.74/-18.23	-18.98/-16.11	-15.3/-14.6	-11.36/-10.2	-8.59/-8.56	-11.84/-8.56	-6.74/-8.09	-9/-9.62	-10.5/-16.47	-18.47/-12.36	-10.09/-9.42	-7.91/-5.9	-8.03/-10.72	-11.24/-12.5	-12.92/-11.9	-16.22/-12.35	-12.52/-18.82	-14.84/-12.46	-15.86/-11.46	-14.63/-18.86	-17.54/-11.53	-12.4/-14.79	-17.84/-12.9	-19.33/-16.98	
Θ(135°)	-17.26/-19.3	-19.31/-17.95	-18.51/-14.3	-15.49/-13.01	-10.19/-8.12	-10.87/-10.47	-12.6/-12.78	-13.32/-15.2	-13.58/-10.04	-9.16/-9.01	-9.08/-10.14	-13.47/-12.88	-13.23/-12.13	-18.98/-16.84	-18.05/-14.52	-14.48/-14.53	-15.1/-16.3	-15.19/-14.28	-10.99/-10.62	-14.85/-18.65	-14.77/-17.3	-17.52/-18.15			
Θ(142.5°)	-16.65/-19.24	-16.42/-14.79	-13.42/-15.6	-18.51/-12.59	-9.13/-8.33	-10.84/-18.42	-18.13/-17.11	-15.12/-16.39	-14.23/-17.68	-17.27/-17.42	-15.5/-14.71	-12.39/-12	-10.95/-9.14	-13.34/-13.24	-17.81/-18.29	-15.85/-18.16	-16.89/-18.5	-15.84/-19.09	-18.13/-13.52	-18.43/-19.17	-13.9/-10.15	-14.14/-17.39	-17.74/-15.05	-13.75/-13.92	
Θ(150°)	-18.61/-14.62	-14.16/-19.28	-17.99/-19.28	-18.77/-17.25	-15.74/-12.74	-11.64/-13.69	-15.05/-16.49	-17.88/-18.14	-14.61/-14.72	-16.61/-18.05	-18.31/-15.73	-13/-13.05	-13.46/-13.8	-15.71/-13.77	-15.16/-18.6	-17.91/-17.42	-17.39/-17.85	-14.72/-14.76	-19.15/-18.89	-19.18/-18.98	-19.38/-17.9	-17.91/-17.11	-16.33/-17.8	-17.91/-19.18	
Θ(157.5°)	-18.44/-18.86	-19.17/-18.28	-18.68/-17.1	-17.63/-16.43	-18.68/-19.02	-16.86/-19.02	-17.82/-16.78	-16.23/-15.82	-17.16/-17.64	-14.96/-15.01	-18/-17.85	-17.53/-18.44	-16.02/-16.23	-16.6/-16.7	-18.4/-18.46	-15.63/-11.3	-10.93/-13.41	-17.22/-17.72	-18.02/-18.56	-18.59/-18.57	-18.7/-18.97	-17.68/-19.02	-17.28/-16.66	-18.37/-18.48	-18.91/-17.94
Θ(165°)	-19.22/-17.83	-18.25/-17.53	-18.72/-16.13	-16.45/-13.96	-14.65/-17.63	-18.13/-18.59	-19.18/-18.42	-17.71/-18.21	-18.6/-18.18	-16.64/-17.19	-17.14/-16.63	-16.99/-17.23	-18.76/-17.74	-14.9/-14.1	-14.63/-16.31	-17.93/-18.38	-18.56/-16.67	-15.65/-18.68	-17.54/-19.14	-18.3/-19.39	-18.38/-17.41	-17.28/-15.98	-17.12/-16.83		
Θ(172.5°)	-16.9/-16.4	-16.06/-15.47	-15.73/-16.52	-16.61/-16.05	-16.27/-17.15	-18.89/-17.18	-18.64/-19	-17.63/-19.22	-18.35/-19.01	-17.86/-17.35	-17.74/-18.2	-18.25/-18.11	-17.98/-18.08	-18.88/-18.13	-18.57/-17.92	-17.38/-18.83	-17.81/-18.3	-17.13/-18.14	-18.4/-17.72	-18.41/-18.92	-18.14/-18.26	-18.29/-18.41	-18.29/-17.24	-17.9/-18.48	
Θ(180°)	-19.77/-19.2	-17.17/-18.92	-18.95/-18.31	-18.27/-18.1	-19.2/-18.46	-18.43/-19.02	-18.2/-18.31	-17.68/-18.26	-18.07/-19.25	-18.71/-17.84	-19.26/-17.83	-17.69/-18.23	-18.6/-18.67	-17.5/-18.89	-17.87/-18.89	-18.01/-18.46	-18.29/-19.22	-18.12/-18.13	-19.2/-18.74	-18.3/-17.72	-18.1/-19.02	-18.96/-17.64	-19.15/-18.65	-17.42/-17.39	
Freq(Hz)	5.6GPol	Phi/Ant. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)	
Θ(0°)	-4.22/-6.37	-2.95/-2.21	-2.29/-2.07	-1.8/-1.94	-1.96/-2.04	-2.17/-2.71	-3.44/-4.17	-4.67/-5.68	-6.49/-6.81	-6.8/-6.55	-6.39/-5.91	-5.57/-4.6	-3.5/-2.88	-2.51/-3.93	-1.67/-1.91	-2.16/-2.29	-2.42/-2.47	-2.78/-3.55	-3.64/-3.09	-3.57/-5.21	-5.85/-7.2	-6.66/-6.81	-5.57/-5.78	-5.49/-4.01	
Θ(7.5°)	-4.05/-3.75	-2.68/-1.46	-1.01/-1.48	-1.25/-1.41	-1.72/-2.02	-2.41/-3.13	-4.23/-4.71	-5.07/-5.15	-5.95/-6.48	-6.42/-5.34	-4.18/-4.22	-2.32/-2.9	-2.01/-2.09	-2.22/-2.06	-2.73/-2.98	-3.45/-4.22	-4.57/-4.66	-5.23/-6.25	-6.96/-6.99	-6.87/-4.71	-8.16/-7.54	-7.18/-6.23			
Θ(15°)	-4.33/-4.97	-4.85/-3.86	-3.06/-2.33	-1.7/-1.11	-0.59/-0.74	-1.48/-2.99	-4.87/-6.37	-7.09/-7.28	-7.19/-7.25	-6.97/-6.37	-5.56/-4.4	-2.97/-2	-1.87/-0.63	-0.28/-0.36	-1.01/-1.62	-1.67/-1.7	-2.07/-2.49	-3.3/-4.28	-5.03/-6.01	-7.03/-7.22	-5.82/-4.63	-4.66/-4.99	-5.01/-5.61	-6.37/-5.46	
Θ(22.5°)	-6.27/-5.15	-5.26/-5.84	-6.87/-6.62	-4.81/-3.16	-1.58/-0.97	-1.31/-2.59	-4.36/-5.15	-5.21/-5.81	-7.3/-8.13	-7.15/-5.58	-4.22/-3.17	-2.14/-3.12	-0.35/-0.27	0.29/-0.07	-1.01/-2.5	-3.92/-4.88	-4.9/-4.84	-5.36/-6.49	-7.59/-8.42	-8.71/-9.28	-10.52/-9.37	-7.35/-7.17	-7.91/-8.7	-8.57/-8.19	
Θ(30°)	-5.86/-4.91	-5.28/-3.26	-5.26/-4.38	-3.52/-3.01	-2.8/-2.26	-2.69/-5.14	-5.06/-32	-2.57/-3.65	-4.32/-7.72	-1.82/-3.17	-1.02/-9.35	-1.57/-1.6	-0.99/-1.07	-1.33/-1.15	-6.03/-7.34	-5.75/-3.62	-3/-2.22	-1.68/-2.48	-4.25/-6.68	-11.97/-18.33	-18.06/-17.19	-13.04/-9.89	-12.35/-10.35		
Θ(37.5°)	-7.49/-4.56	-3.77/-2.84	-2.77/-1.42	-0.86/-2.16	-5/-4.12	-4.01/-5.4	-3.6/-2.67	-3.42/-4.14	-2.67/-1.26	-1.19/-1.64	-1.8/-1.93	-2.19/-1.82	-1.51/-2.4	-3.09/-3.64	-3.69/-3.62	-4.89/-5.94	-5.43/-5.42	-2.7/-1.89	-2.16/-3.76	-5.91/-6.12	-8.8/-15.36	-16.78/-17.85	-15.46/-10.43	-9.97/-10.54	
Θ(45°)	-6.71/-4.97	-4.26/-3.44	-2.48/-2	-0.23/-1.43	-3.2/-3.21	-5.21/-7.12	-5.29/-4.97	-6.75/-7.39	-5.37/-3.87	-2.92/-3.16	-0.71/-1.11	-1.49/-1.91	-2.39/-2.8	-6.12/-6.67	-7.32/-6.8	-6.77/-8.16	-8.88/-2.86	-3.65/-3.63	-2.26/-4.44	-9.52/-10.44	-9.89/-17.47	-17.67/-15.76	-16.1/-10.62		
Θ(52.5°)	-8.16/-4.96	-5.62/-3.3	-2/-3.39	-2.13/-2.8	-3.31/-3.16	-4.73/-8.47	-7.89/-6.08	-8.18/-7.28	-4.09/-1.52	-6.04/-0.5	-1.0/-9.8	-2.14/-3.61	-4.51/-7.69	-9.56/-7.76	-9.67/-6.59	-4.22/-9.93	-2.31/-3.53	-3.3/-6.45	-14.14/-10.72	-19.29/-17.08	-17.76/-18.88	-18.11/-17.01			
Θ(60°)	-8.15/-6.11	-5.99/-4.31	-2.95/-6.47	-5.42/-3.75	-3.51/-3.67	-5.33/-9.6	-9.15/-6.81	-9.03/-9.63	-9.83/-9.2	-4.54/-1.17	-0.41/-1.08	-1.3/-1.22	-2.53/-4.62	-4.9/-7.54	-12.45/-9.01	-12.77/-11.9	-8.75/-9.14	-4.71/-2.23	-2.99/-2.24	-4.48/-8.96	-11/-14.27	-18.03/-19.37	-15.51/-17.75	-14.7/-18.01	
Θ(67.5°)	-9.37/-8	-8.88/-6.86	-5.07/-8.34	-7.84/-5.5	-5.89/-6.34	-6.48/-1.08	-9.13/-9	-10.53/-9.65	-9.54/-7.72	-5.01/-3.01	-3.08/-3.17	-2.54/-2.03	-2.28/-1.54	-6.2/-6.78	-10.6/-10.38	-11.29/-15.03	-8.29/-13.61	-6.5/-5.64	-5.11/-4.08	-9.22/-12.64	-15.36/-13.17	-12.34/-17.7	-14.99/-19.41	-14.51/-15.15	
Θ(75°)	-11.34/-12.08	-9.8/-12.72	-9.17/-10.26	-10.96/-9.56	-10.95/-9.55	-8.54/-14.36	-12.51/-10.72	-10.12/-9.14	-10.34/-7.04	-5.72/-4.36	-4.23/-3.89	-3.64/-3.46	-2.61/-4.67	-7.74/-9.24	-11.29/-9.95	-13.53/-13.81	-10.43/-12.23	-6.42/-7.07	-5.66/-5.83	-9.64/-12.33	-17.83/-17.89	-10.34/-17.76	-13.07/-18.56	-17.17/-15.31	
Θ(82.5°)	-13.99/-17.94	-16.78/-17.56	-12.59/-10.95	-12.36/-12.45	-12.2/-14.68	-10.78/-18.92	-12.17/-12.5	-9.22/-10.39	-11.83/-8.41	-6.75/-4.5	-4.5/-4.82	-4.27/-4.01	-3.76/-5.27	-6.88/-10.22	-10.08/-10.64	-18.53/-19.33	-12.97/-10.45	-7.23/-9.12	-4.76/-6.78	-5.58/-12.91	-16.68/-15.54	-11.45/-14.89	-11.68/-18.45	-17.43/-16.38	
Θ(90°)	-17.68/-18.62	-17.49/-15.09	-18.34/-12.01	-12.52/-14.11	-17.47/-16.7	-12.65/-18.86	-16.98/-16.79	-11.1/-11.53	-11.47/-8.37	-9.06/-6.56	-5.97/-7.32	-6.08/-4.22	-3.96/-5.53	-6.69/-10.7	-7.99/-9.08	-18.71/-14.83	-14.19/-8.83	-10.46/-11.32	-4.73/-4.35	-2.72/-10.01	-4.9/-18.09	-12.13/-17.9	-12.63/-18.1	-18.25/-15.61	
Θ(97.5°)	-18.2/-16.77	-17/-15.36	-16.22/-11.42	-11.53/-13.5	-13.58/-18.84	-11.79/-16.13	-13.42/-16.15	-10.22/-11.65	-12.49/-9.51	-6.53/-9.32	-9.27/-5.99	-4.97/-5.63	-6.36/-7.31	-9.48/-9.37	-11.38/-10	-16.13/-9.29	-15.45/-12.61	-7.45/-3.5	-4.75/-5.58	-5.24/-11.14	-10.81/-18.58	-15.1/-18.41	-18.24/-13.7		
Θ(105°)	-18.64/-13.55	-17.47/-13.77	-13.62/-10.21	-13.94/-14.71	-15.58/-14.55	-12.83/-19.06	-11.85/-13.81	-10.4/-11.19	-14.06/-10.03	-11.47/-8.78	-7.12/-10.45	-13.18/-9.1	-6.59/-6.4	-5.26/-7.56	-8.39/-4.4	-9.13/-8.03	-13.7/-15.55	-11.98/-6.3	-9.74/-6.98	-8.41/-6.08	-6.72/-12.5	-16.84/-18.92	-14.49/-16.49	-18.29/-12.63	
Θ(																									



Radiated Composite Gain Data 2.4GHz and 5GHz U-NII 1~3

Appendix A

Θ(112.5°)	-18.99/-18.81	-11.59/-10.18	-15.14/-16.28	-8.1/-9.23	-9.59/-12.01	-18.26/-12.22	-10.48/-8.79	-9.8/-10.31	-10.19/-12.42	-7/-4.66	-7.79/-10.32	-12.02/-7.18	-5.8/-6.07	-4.18/-7.45	-9.79/-11	-13.89/-7.64	-10.38/-17.51	-14.28/-10.63	-7.36/-18.31	-11.99/-14.05	-11.14/-17.07	-9.66/-7.34	-8.46/-12.34	-18.93/-18.64
Θ(120°)	-10.16/-12.11	-11.24/-9.43	-13.1/-13.89	-11.84/-10.45	-7.44/-10.12	-18.66/-15.48	-12.75/-11.97	-9.38/-9.18	-8.95/-11.82	-6.63/-3.02	-13.03/-9.97	-7.95/-8.84	-5.94/-5.81	-13.03/-17.67	-12.24/-10.48	-8.76/-12.24	-13.44/-15.3	-14.49/-18.31	-6.2/-16.25	-7.34/-6.88	-14.53/-16.12	-17.76/-12.68	-19.1/-12.95	
Θ(127.5°)	-8.37/-8.12	-9.42/-12.6	-13.41/-11.82	-11.53/-11.31	-9.54/-9.63	-18.69/-12.62	-10.88/-12.33	-10.14/-10.1	-9.15/-12.16	-8.14/-3.92	-10.57/-13.15	-15.87/-10.94	-8.3/-14.06	-15.44/-11.31	-18.41/-7.08	-10.66/-6.87	-19.38/-10.45	-13.02/-9.93	-7.18/-18.71	-10.3/-10.95	-18.36/-14.86	-19.13/-10.5	-13.61/-6.98	
Θ(135°)	-12.81/-13.45	-13.82/-16.63	-12.91/-12.56	-8.83/-7.83	-8.46/-12.87	-18.9/-9.68	-7.49/-7.26	-7.03/-9.12	-13.89/-13.67	-9.5/-5.8	-4.75/-5.02	-6.58/-8.73	-10.69/-10.69	-11.39/-14.1	-9.49/-14.32	-14.68/-14.3	-10.2/-15.74	-7.71/-6.45	-17.09/-15.85	-15.81/-12.55	-17/-6.19	-5.01/-5.99	-5.82/-7.22	-6.77/-4.72
Θ(142.5°)	-18.38/-10.79	-10.68/-16.75	-15.52/-6.89	-5.01/-5.64	-10.48/-18.12	-12.02/-9.86	-11.25/-13.23	-8.62/-7.36	-8.73/-14.73	-18.2/-12.29	-11.04/-11	-8.72/-6.98	-4.45/-7.01	-6.96/-14.41	-14.72/-15.67	-18.87/-10.14	-8.1/-7.18	-10.89/-18.93	-18.89/-15.77	-15.93/-10.02	-11.91/-31.25	-2.33/-6.24	-15.08/-10.08	-9.87/-11.4
Θ(150°)	-10.59/-7.5	-9.94/-8.57	-9.44/-12.83	-15.39/-15.27	-13.5/-13.03	-14.53/-19.34	-19.05/-13.34	-11.47/-11.19	-14.71/-18.1	-14.23/-9.66	-8.64/-8.74	-11.37/-11.21	-10.75/-10.97	-11.28/-11.09	-11.41/-13.47	-17.64/-18.39	-14.37/-11.28	-17.19/-14.05	-14.4/-10.58	-8.86/-11.08	-11.01/-9.86	-11.75/-12.16	-19.17/-19.49	
Θ(157.5°)	-10.53/-10.28	-10.88/-12.45	-13.32/-16.16	-17.82/-18.07	-16.94/-15.2	-17.13/-18.48	-17.48/-17.33	-15.25/-14.24	-14.72/-18.95	-18.41/-19.06	-15.15/-12.42	-9.8/-9.53	-11.6/-12.8	-14.14/-18.36	-18.72/-17.96	-18.12/-17.76	-16.78/-16.8	-18.76/-16.53	-17.92/-18.84	-18.36/-18.61	-18.88/-17.77	-12.57/-13.52	-14.94/-14.06	-11.32/-9.33
Θ(165°)	-18.31/-19	-15.47/-17.37	-14.13/-18.38	-18.9/-18.04	-18.21/-18.79	-19.24/-17.94	-18.38/-18.05	-15.3/-14.68	-15.52/-18.71	-19.05/-14.71	-14.79/-16	-17.83/-18.36	-15.8/-13.93	-15.19/-18.48	-18.64/-19.02	-15.43/-14.65	-17.48/-17.18	-18.66/-19.55	-18.23/-18.62	-16.69/-14.84	-14.43/-16.73	-18.66/-17.85	-15.06/-17.13	
Θ(172.5°)	-18.83/-18.95	-19.32/-13.17	-19.07/-18.86	-18.4/-19.14	-17.55/-17.85	-17.56/-17.81	-18.97/-17.67	-17.45/-17.17	-14.71/-14.7	-15.34/-15.35	-16.27/-16.09	-13.89/-12.25	-11.61/-11.95	-13.17/-15.35	-16.92/-17.43	-18.43/-18.26	-19.01/-18.19	-19.01/-16.79	-15.38/-14.21	-13.54/-12.77	-12/-11.43	-11.21/-12.3	-14.7/-16.21	-16.61/-18.14
Θ(180°)	-11.73/-12.47	-12.76/-12.6	-13.33/-14.62	-16.18/-15.54	-15.64/-15.79	-16.09/-16.45	-16.77/-16.5	-17.44/-18.9	-18.47/-19.01	-19/-17.57	-17.78/-16.17	-14.49/-13.4	-13.22/-13.49	-13.7/-14.01	-14.11/-13.92	-13.91/-14.59	-16.52/-19.26	-18.96/-17.97	-18.84/-17.6	-18.39/-17.55	-15.75/-14.92	-15.17/-14.67	-12.83/-10.77	-10.77/-10.89
Freq(Hz)	2.45GPol.	PhiAnt. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-11.84/-9.4	-6.95/-5.08	-3.56/-2.46	-1.77/-1.52	-1.35/-1.15	-0.87/-0.93	-1.17/-1.51	-1.92/-2.57	-3.31/-4.27	-5.49/-7.04	-9.53/-12.21	-13.46/-12.07	-10.2/-8.24	-6.79/-5.36	-4.15/-2.95	-2.06/-1.17	-0.61/-0.37	-0.37/-0.38	-0.5/-0.7	-1.14/-1.64	-2.28/-3.23	-4.37/-5.76	-7.63/-10.24	-13.81/-15.26
Θ(7.5°)	-16.03/-12	-9.17/-6.96	-4.95/-3.44	-2.41/-1.84	-1.55/-1.43	-1.52/-1.65	-2.04/-2.48	-3.51/-3.83	-4.24/-4.76	-5.71/-7.2	-9.57/-12.62	-14.19/-11.37	-9.15/-7.59	-6.35/-5.16	-3.97/-2.78	-1.87/-1.13	-0.77/-0.46	-0.29/-0.38	-0.47/-0.52	-0.87/-1.34	-1.69/-2.37	-3.64/-5.43	-6.68/-9.43	-13.08/-18.36
Θ(15°)	-15.06/-11.47	-9.03/-6.95	-5.34/-4.13	-2.34/-2.65	-2.34/-2.65	-2.59/-3.09	-3.47/-3.75	-4.36/-4.76	-5.66/-7.06	-9.32/-11.72	-12.49/-11.08	-9.37/-8.04	-6.86/-5.68	-4.35/-3.1	-2.14/-1.43	-1.05/-0.9	-0.85/-0.85	-0.9/-1.04	-1.06/-1.12	-1.31/-1.83	-3.09/-5.14	-7.49/-11.01	-17.29/-19.22	
Θ(22.5°)	-10.39/-7.9	-6.11/-4.75	-4.04/-3.7	-3.39/-3.23	-3.13/-3.35	-3.83/-4.3	-4.81/-5.13	-5.86/-5.62	-5.55/-5.59	-6.35/-7.4	-9.62/-11.74	-12.3/-11.74	-10.42/-9.16	-7.83/-6.38	-4.94/-3.38	-2.3/-1.48	-1.03/-0.9	-1.19/-1.55	-1.76/-1.76	-1.83/-1.81	-2.01/-2.7	-4.01/-6.35	-9.09/-14	-16.29/-14.54
Θ(30°)	-8.55/-6.88	-5.08/-4.08	-3.31/-3.15	-3.15/-3.3	-3.44/-3.71	-4.23/-4.69	-4.86/-5.1	-4.86/-4.57	-5.13/-5.2	-5.57/-6.65	-8.68/-11.04	-13.34/-14.01	-13.48/-11.72	-9.66/-7.56	-6.69/-4.12	-2.83/-2.03	-1.74/-1.8	-1.19/-2.17	-2.93/-3.12	-3.48/-3.94	-4.56/-5.13	-5.69/-6.87	-9.19/-12.64	-13.21/-10.58
Θ(37.5°)	-10.91/-10.2	-8.65/-6.97	-5.81/-4.58	-3.69/-3.21	-3.1/-3.32	-3.96/-4.44	-4.37/-3.91	-3.97/-4.14	-4.73/-5.45	-6.38/-7.58	-8.99/-10.99	-13.51/-16.81	-18.82/-15.83	-12.29/-11.72	-6.67/-4.81	-3.67/-3.22	-3.2/-3.29	-3.92/-4.23	-4.44/-4.62	-6.01/-6.28	-6.15/-5.77	-5.81/-6.84	-8.85/-10.66	-10.36/-10.4
Θ(45°)	-17.4/-19.09	-13.18/-9.27	-8.21/-7.04	-5.38/-4.05	-3.5/-3.6	-4.41/-5.52	-6.23/-6.11	-4.6/-4.41	-5.32/-5.59	-6.24/-7.05	-8.8/-10.65	-12.8/-15.36	-17.31/-18.73	-18.22/-12.79	-8.62/-5.99	-4.93/-4.95	-5.51/-5.81	-5.91/-5.58	-5.79/-5.65	-6.95/-6.73	-5.41/-4.44	-4.9/-6.86	-9.38/-10.95	-11.86/-14.4
Θ(52.5°)	-17.84/-12.48	-8/-6.19	-6.5/-8.03	-8.28/-7.03	-5.79/-5.33	-6.02/-7.99	-10.89/-11.76	-8.84/-6.63	-6.74/-7.4	-8.3/-8.94	-9.76/-10.83	-11.93/-14.7	-17.04/-19.21	-18.26/-16.75	-10.3/-7.58	-6.67/-6.67	-7.29/-7.23	-6.3/-5.23	-4.79/-4.42	-5.08/-5.14	-4.74/-4.61	-5.55/-7.78	-9.78/-10.9	-12.33/-17.27
Θ(60°)	-18.55/-10.7	-7.46/-6.73	-7.85/-10.75	-13.02/-12.2	-9.64/-8.29	-8.52/-10.34	-10.31/-9.89	-10.75/-10.42	-11.28/-12.94	-10.05/-11.59	-13.37/-14.63	-15.57/-17.23	-17.09/-17.78	-18.95/-17.48	-9.86/-7.23	-6.99/-6.7	-5.91/-6.38	-4.74/-5.48	-5.31/-4.71	-4.58/-6.36	-7.63/-8.92	-11.4/-16.75		
Θ(67.5°)	-17.5/-11.17	-8.93/-10.19	-14.68/-19.21	-17.47/-16.64	-9.63/-7.73	-8.45/-11.23	-12.45/-14.15	-10.04/-10.63	-10.35/-10.84	-10.92/-10.91	-11.57/-11.47	-12.5/-15.01	-18.8/-18.82	-18.28/-18.59	-13.08/-10.12	-8.22/-6.99	-6.7/-6.88	-6.39/-4.73	-3.8/-3.87	-4.76/-4.93	-3.9/-3.59	-4.4/-6.51	-9.05/-13.28	-17.11/-17.03
Θ(75°)	-17.71/-14.49	-11.64/-12.7	-19.17/-19.26	-18.08/-16.4	-10.52/-7.53	-6.96/-6.61	-12.58/-16.34	-14.64/-12.08	-10.47/-10.75	-8.25/-11.8	-7.02/-7.35	-8.1/-10.69	-13.72/-17.14	-17.48/-17.72	-16.7/-12.04	-9.2/-6.72	-7.38/-7.73	-7.42/-5.89	-4.77/-4.67	-4.82/-4.13	-3.52/-4.33	-5.29/-8.08	-11.33/-13.45	-12.26/-18.06
Θ(82.5°)	-19.08/-14.29	-12.34/-15.62	-17.62/-16.15	-16.3/-15.98	-12.35/-10.41	-9.1/-9.48	-10.73/-10.98	-11.2/-11.97	-13.8/-14.62	-11.62/-8.88	-7.54/-7.28	-8.58/-10.57	-12.59/-13.54	-15.92/-18.22	-15.5/-11.77	-9.63/-8.85	-9.05/-9.52	-10.03/-8.43	-6.71/-5.32	-4.66/-4.1	-3.98/-4.73	-5.3/-6.72	-8.85/-9.15	-9.73/-16.64
Θ(90°)	-18.52/-12.78	-9.81/-12.56	-18.24/-13.84	-12.8/-16.08	-14.46/-13.52	-13.24/-13.17	-13.33/-11.79	-9.69/-9.92	-12.74/-16.65	-13.9/-10.33	-8.66/-8.44	-10.52/-14.41	-15.49/-15.71	-16.83/-17.66	-14.3/-11.2	-9.6/-9.14	-9.9/-11.02	-11.88/-8.91	-5.88/-4.6	-4.17/-4.15	-4.27/-4.6	-4.78/-5.58	-7.53/-8.61	-9.42/-14.39
Θ(97.5°)	-18.85/-16.14	-10.5/-11.27	-18.47/-13.44	-12.85/-14.61	-12.42/-12.4	-13.8/-15.43	-16.5/-14.36	-12.49/-11.75	-13.47/-16.49	-16.97/-12.73	-9.16/-8.04	-8.53/-10.76	-11.5/-10.13	-12.09/-15.69	-19.27/-14.81	-10.83/-9.4	-9.48/-9.74	-9.15/-8.88	-5.29/-4.16	-4.23/-4.91	-5.64/-5.87	-5.39/-5.59	-7.31/-9.26	-12.14/-18.63
Θ(105°)	-17.77/-16.59	-11.73/-11.13	-14.56/-10.95	-11.17/-17.45	-12.86/-10.86	-11.89/-14.71	-10.52/-13.38	-12.11/-10.54	-11.12/-11.6	-12.22/-11.6	-8.88/-7.54	-8.5/-10.85	-14.24/-11.6	-11.08/-13.18	-16.31/-16.33	-15.12/-11.53	-10.15/-9.17	-9.02/-8.44	-6.81/-6.15	-6.07/-6.46	-6.14/-4.49	-2.83/-2.92	-5.62/-9.67	-10.44/-17.57
Θ(112.5°)	-14.22/-13.88	-10.28/-8.89	-13.58/-15.8	-12.94/-18.07	-15.57/-11.55	-11.07/-11.42	-13.79/-16.11	-15.13/-13.28	-12.01/-9.97	-8.61/-7.52	-6.04/-5.08	-5.44/-7.3	-11.26/-13.6	-12.6/-11.77	-12.92/-17.79	-17.85/-14.56	-13.31/-13.14	-14.78/-12.37	-6.96/-4.46	-3.84/-4.44	-4.98/-3.93	-3.18/-4.25	-7.71/-10.1	-10.3/-12.43
Θ(120°)	-9.94/-10.57	-8.2/-5.69	-8.25/-15.53	-9.19/-17.84	-16.51/-13.88	-13.46/-14.16	-12.52/-11.01	-11.66/-10.54	-8.76/-7.84	-7.87/-8.12	-8.57/-8.91	-9.08/-10.12	-11.69/-11.91	-10.71/-10.05	-11.59/-14.69	-16.7/-16.47	-14.5/-12.55	-10.92/-7.04	-3.59/-2.59	-3.89/-7.65	-11.88/-8.24	-5.33/-4.69	-5.28/-4.91	-4.72/-6.86
Θ(127.5°)	-8.82/-10.17	-8.71/-7.01	-7.85/-12.6	-19.15/-16.56	-12.69/-11.1	-10.46/-11.88	-13.97/-12.53	-11.17/-10	-7.86/-6.42	-6.45/-7.17	-8.43/-8.74	-8.97/-10.28	-12.38/-14.63	-15.93/-19.05	-17.34/-15.31	-13.02/-14.77	-9.72/-8.28	-7.74/-6.11	-4.84/-5.41	-9.09/-13.03	-6.49/-2.94	-1.55/-1.3	-1.98/-2.95	-4/-6.56
Θ(135°)	-12.54/-13.66	-12.01/-9.85	-9.34/-11.25	-14.16/-13.59	-11.09/-9.15	-7.91/-7.5	-8.12/-8.72	-9.03/-10.11	-10.93/-9.69	-9.68/-9.95	-9.24/-8.19	-7.74/-7.96	-8.4/-9.25	-11.43/-14.84	-15.14/-13.56	-14.44/-14.38	-12.44/-11.23	-10.09/-8.75	-6.47/-6.94	-8.31/-6.39	-2.67/-1.19	-0.87/-1.32	-2.81/-5.09	-7.4/-10.27
Θ(142.5°)	-17.55/-16	-13.5/-11.67	-11/-11.6	-13.33/-13.59	-12.39/-11.17	-10.21/-10.28	-9.45/-9.1	-8.82/-8.78	-9.14/-9.62	-9.17/-8.03	-7.26/-8.03	-9.96/-13.85	-14.92/-13.57	-12.91/-13.69	-14.15/-15.31	-17.78/-18.31	-15.94/-12.12	-9.21/-7.1	-6.14/-6.32	-5.92/-4.78	-3.32/-3.24	-3.31/-5.57	-7.97/-11.49	-17.32/-17.74
Θ(150°)	-13.44/-12.52	-11.99/-11.48	-11.8/-12.68	-13.51/-14.25	-12.66/-11.78	-11.91/-14.36	-17.02/-18.51	-17.13/-13.68	-10.71/-8.46	-6.9/-5.77	-5.37/-5.97	-17.77/-19.14	-18.83/-14.83	-16.59/-15.76	-14.71/-12.85	-10.63/-9.22	-8.07/-7.35	-6.66/-6.29	-6.22/-6.86	-6.63/-7.86	-9.95/-13.51	-17.37/-18.84	-19.37/-14.8	
Θ(157.5°)	-11.39/-11.14	-11.09/-11.57	-12.35/-12.42	-14.65/-13.75	-12.59/-11.82	-11.55/-11.97	-14/-15.63	-15.5/-15.25	-13.43/-10.99	-9.08/-7.71	-6.91/-6.71	-7.35/-9.06	-11.41/-13.97	-16.61/-										



Radiated Composite Gain Data 2.4GHz and 5GHz U-NII 1~3

Appendix A

Θ(165°)	-10.83/-12.9	-17.63/-17.62	-18.52/-18.33	-19.02/-16.27	-14.95/-16.19	-17.63/-18.99	-16.48/-14.55	-11.97/-14.22	-17.6/-18.41	-18.55/-18.17	-18/-13.43	-11.74/-10.96	-11.12/-9.79	-9.25/-10.36	-11.75/-11.42	-11.39/-12.27	-14.02/-14.14	-12.48/-12.8	-13.88/-13.27	-13.74/-11.13	-10.28/-9.14	-8.86/-10.41	-14.62/-18.64	-16.4/-11.64	
Θ(172.5°)	-9.73/-11.19	-12.12/-11.76	-13.05/-13.6	-15.87/-18.59	-18.81/-18.65	-18.36/-16.02	-12.06/-11.34	-13.11/-16.89	-19.46/-18.34	-18.7/-17.71	-13.78/-11.76	-11.35/-10.89	-9.6/-9.79	-7.28/-7.59	-7.58/-7.44	-8.24/-10.17	-13.87/-17.5	-18.44/-15.06	-14.13/-15.69	-19.1/-18.27	-18.57/-18.26	-15.92/-14.02	-13.93/-13.27	-9.74/-9.62	
Θ(180°)	-18.26/-15.92	-16/-15.29	-15.87/-16.58	-17.75/-19.04	-17.49/-17.23	-18.54/-19.16	-18.43/-18.34	-17.36/-17.48	-17.71/-18.34	-17.45/-17.2	-18.81/-17.15	-16.99/-18.97	-19.23/-17.19	-13.82/-13.52	-15.33/-17.92	-18.88/-17.94	-18.19/-19.23	-18.81/-18.83	-18.12/-18.59	-18.8/-18.56	-17.97/-18.98	-18.55/-17.82	-18.59/-18.45		
Freq(Hz)	5.3GP/Pol.	Phi/Ant. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)	
Θ(0°)	-6.32/-5.97	-5.57/-6.13	-7.51/-7.43	-6.37/-5.49	-5.43/-5.36	-5.57/-5.11	-4.37/-3.87	-4/-3.98	-3.29/-3.12	-3.36/-3.52	-3.38/-3.42	-3.84/-4.12	-4.94/-6.12	-6.58/-6.36	-6.77/-7.79	-8.04/-6.98	-6.06/-5.29	-4.23/-3.65	-3.39/-3.44	-3.48/-3.55	-4.07/-4.42	-3.93/-3.99	-4.43/-5.48		
Θ(7.5°)	-4.21/-5.32	-7.35/-8.38	-6.93/-5.97	-5.18/-4.54	-3.36/-2.95	-3.09/-3.11	-3.32/-4.13	-5.38/-5.74	-5.84/-4.84	-4.78/-4.61	-4.35/-3.53	-3.36/-2.58	-1.88/-1.68	-2.36/-2.85	-2.98/-3.71	-4.93/-5.06	-4.66/-5.11	-4.76/-3.43	-2.73/-3.19	-3.58/-4.37	-5.58/-6.37	-6.36/-6.02	-5.71/-5.52	-5.39/-5.15	
Θ(15°)	-5.79/-6.7	-7.8/-8.28	-7.99/-7.64	-6.21/-5.29	-4.86/-5.16	-5.87/-6.05	-6.08/-6.16	-6.69/-6.8	-6.03/-6.21	-6.16/-5.41	-5/-2.99	-1.83/-1.11	-0.69/-1.04	-2.06/-3.07	-3.42/-3.95	-5.27/-7.04	-7.47/-8.77	-11.43/-7.93	-3.97/-2.28	-2.46/-3.56	-5.2/-7.24	-8.68/-8.42	-7.54/-7.05	-6.14/-5.6	
Θ(22.5°)	-7.57/-13.42	-16.53/-12.78	-9.73/-9.42	-9.59/-10.01	-14.55/-18.48	-18.28/-12.56	-13.16/-17.55	-15.6/-8.57	-5.12/-4.31	-5.23/-4.71	-5.3/-3.16	-1.41/-0.82	-1.24/-1.53	-1.78/-1.94	-2.17/-2.49	-2.84/-2.43	-1.97/-2.41	-4.71/-8.94	-6.9/-4.1	-2.46/-2.79	-2.45/-5.4	-6.14/-7.25	-9.53/-7.72	-4.82/-4.64	
Θ(30°)	-12.42/-13.19	-9.24/-8.04	-6.62/-6.06	-7.36/-11.82	-15.96/-11.56	-8.67/-6.37	-4.57/-5.58	-10.08/-8.7	-3.86/-2.25	-2.79/-4.18	-3.74/-1.89	-1.34/-2.03	-2.01/-0.77	0.580/7.8	-0.52/-2.52	-3.03/-2.68	-2.77/-1.27	-0.55/-2.91	-7.3/-7.16	-5.97/-4.49	-2.99/-2.22	-2.61/-6.44	-14.14/-7.72	-5.77/-7.35	
Θ(37.5°)	-13/-10.1	-7.84/-5.23	-4.45/-5.29	-6.86/-9.4	-9.71/-6.27	-4.26/-3.24	-1.76/-4.2	-4.59/-8.9	-5.91/-3.32	-3.37/-4.23	-2.43/-1.04	-1.49/-2.38	-1.290/-2.2	0.590/-2	-0.49/-1.14	-0.88/-1.04	-2.8/-1.52	-0.34/-2.26	-7.67/-4.3	-1.93/-1.74	-3.33/-2.77	-2.19/-8.05	-8.18/-3.29	-4.8/-12.12	
Θ(45°)	-8.08/-12.13	-14.1/-8.52	-8.64/-10.53	-14.27/-9.57	-5.98/-4.76	-3.43/-2.66	-1.46/-1.7	-4.31/-8.12	-6.88/-4.32	-5.06/-6.55	-3.33/-1.02	-1.39/-2.58	-1.050/-5	-0.55/-1.08	-0.071/-13	1.620/66	-2.02/-4.58	-3.58/-2.91	-5.08/-8.22	-8.84/-5.47	-3.49/-2.69	-1.94/-6.13	-4.51/-1.98	-10.24/-10.51	
Θ(52.5°)	-5.66/-10.79	-12.81/-10.05	-9.01/-10.27	-13.19/-11.01	-6.9/-4.94	-4.52/-5.35	-4.27/-2.25	-3.33/-5.63	-5.88/-6.93	-8/-10.98	-7.34/-3.4	-3.37/-3.7	-0.320/-63	-0.2/-0.42	-0.43/-0.33	-0.13/-1.21	-2.14/-3.31	-3.6/-3.62	-6.83/-11.77	-6.57/-6.67	-5.69/-4.68	-3.18/-8.87	-7.61/-3.64	-8.38/-6.43	
Θ(60°)	-9.71/-18.33	-15.07/-18.68	-10.93/-9.07	-13.73/-14.8	-11.16/-7.66	-4.26/-3.66	-1.08/-0.98	-4.66/-6.21	-6.2/-7.78	-7.27/-9.46	-9.99/-6	-4.51/-5.63	-1.58/-0.05	-1.09/-8.07	-0.34/-0.86	-2.68/-4.56	-7.23/-6.8	-10.84/-5.04	-4.18/-8.66	-6.69/-6.39	-5.75/-9.57	-3.86/-8.38	-2.39/-2.05	-13.36/-5.46	
Θ(67.5°)	-4.77/-15.76	-18.89/-17.11	-8.41/-8.03	-13.95/-18.92	-16.63/-13.35	-6.99/-5.5	-3.59/-2.68	-6.03/-4.61	-6.46/-10.78	-12.21/-11.82	-11.48/-8.48	-4.33/-4.42	-1.490/-13	-0.66/-0.67	-0.51/-2.53	-5.65/-9.53	-8.43/-6.21	-8.36/-6.96	-6.18/-9.61	-10.73/-8.27	-6.55/-5.39	-4.53/-10.18	-4.81/-7.58	-12.32/-9.41	
Θ(75°)	-19.22/-14.91	-18.67/-17.91	-14.05/-9.47	-13.37/-16.31	-18.79/-17.38	-9.62/-5.29	-3.55/-2.73	-9.09/-5.68	-7.08/-9.04	-10.55/-11.26	-8.41/-10.27	-4.74/-4.3	-1.7/-0.32	-2.62/-2.45	-1.44/-2.09	-4.13/-6.29	-9.72/-9.63	-8.48/-5.59	-4.02/-9.59	-12.3/-8.38	-5.01/-4.12	-3.95/-7.68	-4.53/-8.26	-18/-19.2	
Θ(82.5°)	-18.32/-11.61	-17.88/-12.63	-11.44/-11.03	-18.75/-16.15	-9.21/-6.02	-7.48/-5.29	-3.86/-3.06	-9.85/-4.66	-8.40/-10.96	-13.13/-11.14	-7.13/-9.92	-6.27/-6.39	-1.52/-0.13	-2.24/-1.74	-2.22/-3.05	-5.3/-2.75	-7.86/-5.22	-5.11/-9.53	-3.95/-4.88	-9.71/-9.77	-6.34/-7.3	-4.69/-6.09	-7.16/-9.32	-15.79/-14.83	
Θ(90°)	-15.23/-13.04	-16.72/-11.8	-10.63/-16.18	-12.49/-13.15	-8.66/-5.1	-3.81/-3.33	-2.67/-3.36	-5.4/-7.27	-7.83/-8.93	-14.71/-12.84	-6.4/-8.58	-3.8/-1.71	-4.46/-4.22	-3.22/-3.13	-6.15/-7.65	-11.08/-8.62	-6.14/-8.24	-8.65/-9.86	-7.06/-4.23	-6.37/-4.99	-6.09/-6.06	-10.86/-12.41			
Θ(97.5°)	-16.4/-13.45	-18.94/-12.66	-9.58/-17.56	-14.84/-10.44	-3.99/-2.53	-4.15/-2.39	-1.46/-2.03	-6.84/-7.79	-9.99/-8.61	-13.39/-13.02	-7.57/-9.93	-8.01/-6.28	-3.73/-3.34	-5.25/-3.75	-4.34/-5.39	-7.89/-10.34	-16.76/-10.94	-5.63/-5.51	-7.01/-10.26	-10.53/-10.15	-11.3/-11.78	-7.35/-6.25	-6.16/-7.15	-17.11/-10.41	
Θ(105°)	-13.81/-10.33	-18.07/-11.25	-9.08/-10.93	-17.98/-12.68	-4.57/-3.02	-4.3/-1.91	-2.92/-5	-5.44/-5.06	-6.29/-12.1	-14.3/-11.56	-7.66/-8.75	-5.55/-9.97	-6.85/-4.38	-6.76/-7.92	-5.52/-5.27	-6.64/-12.36	-16.88/-11.84	-7.98/-9.07	-7.23/-8.98	-10.42/-10.29	-10.5/-8.4	-8.76/-9.05	-6.77/-4.76	-8.88/-5.07	
Θ(112.5°)	-15.55/-11.44	-12.15/-16.23	-10.72/-18.31	-18.53/-13.31	-7.8/-6.62	-5.05/-1.89	-2.82/-5.07	-4.04/-6.35	-18.94/-12.95	-12.31/-8.99	-7.39/-8.44	-9.9/-9	-6.24/-5.86	-6.36/-6.93	-11.55/-18.91	-18.59/-9.49	-5.55/-7.31	-8.52/-9.29	-8.83/-7.62	-18.37/-11.56	-5.07/-8.52	-5.64/-6.32	-11.05/-7.86		
Θ(120°)	-6.54/-14.7	-15.89/-17.44	-10.45/-18.82	-18.51/-17.02	-17.52/-11.68	-6.58/-2.45	-4.13/-6.94	-4.27/-6.6	-6.92/-9.38	-12.33/-8.07	-6.79/-8.93	-6.1/-9.12	-7.56/-5.21	-7.67/-8.1	-6.89/-6.84	-9.12/-13.96	-19.05/-15.45	-8.78/-9.23	-5.64/-10.36	-17.4/-14.75	-10.7/-16.06	-3.56/-9.07	-4.69/-3.82	-14.97/-5.75	
Θ(127.5°)	-6.97/-17.7	-19.02/-18.37	-17.42/-18.31	-11.8/-11.5	-16.82/-14.38	-8.91/-6.69	-8.18/-5.98	-3.35/-6.01	-7.7/-9.5	-9.73/-9.3	-5.25/-7.54	-11.61/-10.13	-11.29/-9.66	-8.82/-11.86	-10.79/-8.92	-11.26/-10.04	-11.26/-9.13	-10.93/-9.79	-8.6/-19	-12.93/-13.93	-8.14/-8.48	-10.01/-14.39	-14.28/-9.44	-12.24/-6.81	
Θ(135°)	-10.12/-19.26	-19.67/-17.64	-15.82/-16.01	-17.95/-12.7	-11.21/-11.7	-9.79/-7.52	-6.74/-5.83	-5.21/-10.16	-16.75/-8.5	-8.62/-3.85	-6.18/-2.2	-5.82/-3.85	-16.73/-15.1	-19.03/-12.73	-6.43/-9.71	-12.37/-17.51	-13.51/-11.09	-6.99/-5.93	-7.64/-15.06	-8.66/-6.79	-15.23/-15.4	-12.04/-7.69	-2.59/-8.03	-14.81/-12.23	-18.51/-8.97
Θ(142.5°)	-14.16/-18.8	-17.07/-17.72	-18.99/-13.42	-11.76/-11.01	-12.32/-17.89	-10.56/-7.37	-5.5/-6.04	-8.71/-17.28	-10.78/-6.67	-7.02/-8.01	-9.3/-13.19	-9.88/-7.9	-11.17/-17.05	-12.83/-12.05	-14.22/-13.95	-12.2/-10.6	-9.76/-13.05	-10.11/-4.59	-5.3/-9.65	-10.05/-12.27	-13.24/-9.54	-6.8/-19.31	-11.55/-7.93	-9.57/-18.34	
Θ(150°)	-14.46/-15.28	-17.29/-18.87	-17.48/-12.03	-10.81/-12.81	-14.28/-14.37	-9.9/-7.8	-7.99/-10.9	-10.69/-6.5	-3.78/-3.77	-7.42/-12.27	-10.56/-15.99	-16.88/-16.61	-17.65/-14.51	-11.68/-12.3	-17.42/-15.18	-17.34/-17.71	-18.02/-14.12	-9.94/-10.23	-17.24/-16.89	-14.46/-16.13	-11.71/-14.4	-5.93/-15.04	-18.9/-12.4	-9.15/-13.88	
Θ(157.5°)	-18.97/-16.4	-15.71/-17.85	-18.02/-11.2	-16.02/-14.16	-18.63/-13.2	-9.08/-7.77	-8.56/-10.13	-9.59/-11.7	-7.04/-8.04	-12.14/-17.67	-19.11/-18.65	-16.89/-14.13	-19.44/-18.54	-17.83/-18.01	-12.66/-7.61	-5.38/-5.98	-9.51/-15.98	-9.28/-6.15	-6.31/-8.72	-15.38/-18.68	-15.67/-15.3				
Θ(165°)	-18.07/-18.35	-17.08/-14.42	-12.35/-11.44	-8.42/-6.41	-5.22/-4.93	-5.36/-7.04	-8.54/-9.04	-6.84/-6.08	-5.03/-6.93	-8.66/-12.84	-13.46/-11.58	-9.66/-10.47	-13.65/-15.15	-17.15/-18.34	-17.81/-15.31	-12.01/-9.43	-8.05/-7.3	-6.65/-6.66	-7.58/-9.17	-14.71/-18.8	-15.52/-14.27	-17.29/-18.97	-13.56/-11.33	-11.81/-15.45	
Θ(172.5°)	-18.45/-18.42	-14.5/-12.71	-10.17/-8.81	-8.33/-8.72	-9.39/-10.07	-11.8/-15.84	-17.4/-12.32	-9.49/-8.47	-7.77/-7.67	-7.51/-8.42	-9.29/-10.19	-12.39/-13.11	-11.76/-12.38	-13.88/-14.84	-12.62/-9.41	-6.78/-5.57	-5.72/-6.94	-8.78/-10.45	-11.03/-13.1	-18.63/-18.48	-17.45/-17.88	-19.05/-18.15	-19.28/-18.67	-16.89/-19.03	
Θ(180°)	-18.61/-19.08	-17.53/-18.38	-19.2/-17.37	-18.8/-18.09	-15.15/-12.9	-11.88/-11.7	-11.88/-13.29	-12.54/-12.77	-12.95/-13.22	-14.13/-15.83	-16.03/-15.66	-18.12/-19.4	-19.08/-18.59	-17.88/-19.17	-17.88/-18.32	-18.64/-14.1	-14.44/-16.78	-17.94/-16.98	-16.06/-16.57	-18.55/-18.8	-17.24/-15.37	-13.8/-12.25	-12.87/-14.13	-16.84/-17.77	
Freq(Hz)	5.3GP/Pol.	Theta/Ant. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)	
Θ(0°)	-4.01/-3.79	-3.65/-3.08	-2.78/-3.17	-4.01/-4.45	-4.94/-4.93	-5.85/-5.05	-7.05/-6.51	-6.74/-7.74	-7.82/-7.71	-7.74/-7.32	-5.75/-5.62	-5.45/-4.07	-3.32/-3.93	-3.75/-2.65	-2.4/-3	-3.01/-2.63	-3.26/-4.44	-5.07/-5.48	-6.62/-6.92	-6.87/-7.3	-7.83/-6.75	-6.1/-5.8	-5.42/-5.25		
Θ(7.5°)	-3.17/-3.12	-4.12/-4.61	-3.47/-3.54	-4.96/-5.67	-5.47/-5.6	-7.04/-8.09	-8.13/-7.57	-8.87/-8.84	-10.18/-9.4	-8.77/-7.73	-6.37/-5.01	-5.8/-3.68	-1.96/-1.88	-2.42/-1.7	-0.56/-0.37	-0.69/-0.59	-0.85/-2.02	-3.26/-2.7	-2.87/-4.37	-5.15/-5	-4.51/-4.53	-4.99/-5.16	-4.48/-4.36	-4.14/-4.1	
Θ(15°)	-3.81/-4.53	-6.03/-7.66	-7.69/-7.47	-9.25/-9.73	-8.67/-7.6	-7.72/-7.28	-6.73/-5.86	-5.94/-5.57	-5.27/-5.98	-6.25/-6.5															



Radiated Composite Gain Data 2.4GHz and 5GHz U-NII 1~3

Appendix A

Θ(7.5°)	-2.71/4.18	-4.94/5.64	-5.58/5.29	-4.71/4.87	-4.14/3.57	-3.34/2.89	-2.78/2.16	-2.15/-1.49	-1.53/-1.19	-0.48/0.18	0.36/0.57	0.19/0.28	-0.08/-0.38	-0.77/-1.21	-1.73/-2.12	-2.98/-4.38	-5.09/-5.68	-7.92/-9.98	-9.94/-8.03	-5.18/-2.47	-0.82/0.16	0.17/0.31	0.58/0.08	-0.4/-1.91
Θ(15°)	-8.04/-6.2	-5.13/-5.05	-4.92/-4.33	-3.65/-3.82	-5/-5.32	-4.29/-3.89	-3.53/-2.95	-2.65/-2.24	-1.98/-1.65	-0.9/-0.1	0.17/1.04	1.12/1.32	1.49/1.25	0.38/-0.2	-0.55/-1.65	-3.23/-4.04	-4.48/-5.27	-5.75/-7.4	-11.43/-10.13	-5.34/-1.68	0.05/0.69	0.25/0.05	-0.74/-2.42	-5.36/-8.34
Θ(22.5°)	-5.14/-4.19	-4.13/-3.98	-3.85/-4.11	-3.65/-4.19	-6.19/-8.91	-11.8/-16.76	-15.11/-10.58	-7.24/-4.8	-3.44/-2.8	-2.33/-0.85	0.08/0.58	1.1/1.23	1.22/0.64	-0.54/-0.81	-0.4/-0.63	-2.05/-2.38	-2.58/-3.66	-4.25/-5.15	-6.71/-7.76	-5/-2.08	-0.58/0.49	0.88/0.8	-0.31/-2.9	-7.38/-7.32
Θ(30°)	-5.96/-8.06	-7.81/-6.15	-5.36/-6.44	-6.61/-8.95	-14.32/-17.5	-12.51/-8.91	-9.09/-13.02	-12.87/-5.08	-2.8/-2.6	-2.5/-1.09	0.59/1.27	0.92/-0.15	-0.04/-0.04	-0.03/-0.57	-0.22/0.25	-0.42/-1.52	-2.55/-4.69	-4.28/-3.62	-5.16/-6.56	-5.93/-4.49	-1.54/0.39	1.29/1.39	-0.4/-4.59	-9.97/-6.76
Θ(37.5°)	-6.29/-8.76	-5.67/-2.83	-3.31/-5.8	-9.1/-12.08	-12.29/-11.03	-7.77/-4.94	-3.28/-4.92	-8.6/-5.13	-2.99/-3.2	-3.16/-2.25	-1.04/-0.31	0.03/-0.01	0.44/0.75	0.81/1.05	0.84/0.31	-0.71/-3.1	-5.94/-9.29	-11.25/-9.05	-7.89/-9.85	-8.58/-3.74	-2.32/-0.19	1.14/0.91	-0.96/-5.02	-6.21/-4.76
Θ(45°)	-10.22/-5.81	-2.93/-3.12	-3.87/-8.21	-11.69/-10.96	-9.09/-7.81	-6.78/-5.19	-1.72/-1.89	-7.71/-5.26	-2.12/-3.22	-2.69/-2.38	-3.55/-1.69	0.05/0.37	0.64/0.96	1.44/2.07	2.02/0.65	-1.01/-5.42	-9.77/-9.7	-12.93/-18.52	-9.61/-8.7	-4.44/-0.32	0.02/-0.55	-1.27/-4.47	-4.77/-6.45	
Θ(52.5°)	-13.1/-6.77	-8.31/-9.4	-12.62/-18.28	-18.46/-14.28	-11.83/-6.76	-3.53/-3.4	-1.71/-0.49	-4.29/-4.71	-2.17/-3.77	-2.77/-3.58	-8.09/-3.28	-0.14/0.33	0.3/0.4	1.47/2.39	2.19/0.36	-2.94/-5.09	-5.34/-6.94	-5.52/-10.02	-15.09/-9.99	-11.25/-13.84	-6.66/-1.17	-1.06/-1.85	-1.99/-2.69	-0.59/-6.11
Θ(60°)	-6.97/-8.19	-13.05/-17.41	-18.11/-14.45	-12.1/-16.01	-16.38/-8.11	-3.3/-1.99	-1.18/-0.85	-4.34/-6.48	-4.46/-5.76	-3.79/-3.96	-7.72/-3.35	-0.11/0.38	0.44/0.51	1.14/1.78	0.85/-1.79	-4.82/-4.9	-5.58/-7.42	-6.47/-8.46	-10.79/-9.86	-14.39/-8.45	-9.22/-2.35	-4.87/-4.75	-3.44/-1.22	-0.61/-5.43
Θ(67.5°)	-12.4/-12.59	-19.09/-17.53	-16.25/-18.76	-10.57/-10.74	-13.07/-9.8	-3.48/-2.31	-3.78/-5.09	-6.19/-5.08	-6.37/-9.98	-6.02/-4.64	-7.4/-3.66	-1.09/-0.18	-1.19/-1.11	0.18/1.33	-0.02/-3.37	-4.63/-4.76	-3.98/-7.59	-6.47/-7.82	-18.91/-9.42	-17.41/-16.12	-9.4/-3.37	-4.61/-5.17	-3.16/-2.63	-2.06/-8.52
Θ(75°)	-14.05/-17.85	-17.52/-18.7	-17.22/-18.68	-12.45/-11.96	-19.04/-18.19	-10.9/-6.33	-6.46/-7.06	-11.3/-9.48	-8.6/-14.96	-10.2/-5.72	-6.58/-5.46	-3.21/-0.62	-0.98/-0.55	0.11/0.48	-1.14/-4.93	-6.06/-4.92	-4.27/-6.31	-6.56/-5.83	-11.15/-8.3	-12.19/-18.07	-17.37/-5.69	-4.96/-5.07	-4.02/-5.16	-5.88/-10.83
Θ(82.5°)	-12.88/-18.76	-17.8/-18.56	-18.39/-17.22	-12.66/-12.21	-18.67/-11.84	-16.69/-8.38	-7/-11.04	-17/-10.61	-11.02/-18.01	-12.4/-6.66	-5.18/-4.71	-3.67/-1.36	-1.97/-1.39	-1.16/-0.99	-2.74/-6.48	-7.1/-7.46	-4.95/-8	-9.35/-4.99	-11.71/-10.11	-12.72/-15.95	-13.53/-7.45	-5.37/-5.98	-6.77/-10.9	-11.96/-18.92
Θ(90°)	-7.9/-19.31	-17.42/-11.97	-13.94/-19.07	-12.21/-11.56	-8.01/-7.37	-8.15/-5.89	-5.93/-8.29	-18.55/-12.77	-12.68/-18.01	-17.5/-7.69	-4.18/-4.79	-3.89/-1.25	-2.2/-1.95	-2.84/-2.76	-2.77/-7.33	-11.22/-8.52	-7.21/-8.13	-7.35/-10.58	-8.61/-7.99	-8.9/-11.94	-14.7/-9.02	-8.1/-9.7	-10.72/-12.23	-7.88/-11.46
Θ(97.5°)	-5.73/-17.92	-18.52/-10.47	-15.75/-18.84	-11.96/-10.7	-7.2/-5.06	-6.6/-4.63	-5.49/-12.14	-12.38/-11.5	-11.13/-17.62	-12.18/-6.74	-4.03/-4.93	-4.13/-1.87	-4.06/-3.01	-4.13/-4.65	-4.52/-8.06	-10.69/-10.53	-9.76/-8.67	-8.92/-12.84	-12.47/-11	-12.91/-18.5	-16.21/-12.21	-11.21/-10.65	-12.6/-7.25	-6.36/-8.43
Θ(105°)	-6.07/-19.07	-18.02/-11.21	-12.42/-13.16	-10.9/-11.62	-6.27/-5.17	-4.57/-3.16	-4.47/-6.87	-13.61/-8.71	-14.08/-15.65	-14.58/-7.02	-3.28/-3.54	-5.14/-2.5	-4.19/-4	-4.95/-6.61	-6.15/-8.83	-11.69/-11.03	-9.44/-8.33	-10.77/-16.69	-12.78/-10.51	-9.4/-13.65	-16.51/-15.1	-19.05/-14.54	-10.7/-9.95	-7.22/-6.8
Θ(112.5°)	-8.85/-16.97	-19.09/-13.92	-19.14/-16.51	-18.18/-11.19	-8.34/-7.46	-7.03/-3.5	-4.89/-8.2	-6.94/-7.13	-11.77/-15.94	-10.58/-6.69	-4.64/-5.1	-6.58/-3.62	-7.43/-9.99	-6.03/-9.48	-8.12/-9.06	-9.62/-9.26	-8.58/-11.18	-13/-18.18	-15.12/-18.28	-15.76/-19.09	-13.53/-17.52	-15.83/-15.12	-18.68/-11.69	-9.88/-14.95
Θ(120°)	-9.77/-17.23	-14.37/-18.81	-17.63/-11.05	-17.86/-15.98	-18.8/-10.5	-5.21/-3.95	-10.15/-8.15	-5.87/-9.52	-16.88/-12.37	-9.63/-7.97	-4.31/-4.5	-8.83/-5.81	-7.04/-10.88	-9.63/-8.93	-10.3/-9.82	-17.34/-18.14	-12.06/-13.89	-12.4/-9.28	-11.37/-14.66	-14.53/-13.19	-11.08/-17.35	-16.13/-19.29	-11.63/-8.38	-11.18/-15.04
Θ(127.5°)	-8.8/-15.52	-18.81/-18.4	-14.3/-13.63	-17.83/-15.01	-18.35/-17.04	-9.06/-8.85	-8/-4.52	-4.84/-8.81	-14.97/-10.16	-6.53/-6.84	-6.53/-4.71	-8.68/-8.5	-13.86/-10.75	-9.48/-11.23	-15.37/-18.12	-14.38/-14.39	-14.73/-12.7	-12.29/-7.85	-8.95/-9.09	-7.13/-7.4	-12.54/-9.65	-14.78/-17.39		
Θ(135°)	-13.09/-9.8	-19.24/-18.48	-11.11/-10.69	-17.49/-12.2	-9.44/-10.79	-9.22/-8.91	-10.31/-8.77	-10.1/-8.84	-5.32/-4.1	-2.69/-2.03	-5.84/-7.63	-8.18/-14.36	-18.35/-13.92	-10.39/-11.45	-17.96/-17.05	-18.17/-12.94	-8.37/-10.96	-15.35/-10.26	-7.12/-7.52	-9.79/-11.42	-19.05/-11.44	-7.74/-13.99		
Θ(142.5°)	-17.27/-12.67	-12.13/-12.79	-11.32/-10.69	-12.66/-10.76	-15.29/-18.54	-8.92/-6.58	-7.19/-10.53	-11.3/-8.11	-7.62/-6.18	-5.8/-7.4	-3.63/-2.54	-4.74/-10.68	-11.22/-11.59	-14.38/-18.75	-18.87/-16.31	-14.32/-11.32	-13.62/-18.92	-13.34/-11.32	-13.37/-18.16	-17.78/-18	-12.9/-10.89	-8.5/-7.86	-10.23/-18.73	-9.11/-10.05
Θ(150°)	-14.26/-16.72	-13.57/-11.98	-13.93/-18.57	-18.87/-15.69	-18.57/-18.98	-16.67/-10.69	-9.44/-8.7	-7.02/-6.74	-8.89/-8.34	-6.4/-9.9	-10.2/-6.46	-5.98/-11.14	-18.19/-12.87	-10.03/-11.59	-16.78/-18.59	-16.76/-12.09	-9.89/-8.74	-10.98/-16.29	-14.68/-15.82	-18.61/-11.52	-7/-7.82	-12.67/-9.99	-8.13/-15.63	-13.56/-9.83
Θ(157.5°)	-18.68/-18.79	-15.84/-18.75	-19.09/-14.9	-13.22/-13.55	-12.61/-11.17	-10.99/-13.25	-11.57/-6.68	-3.61/-2.89	-3.96/-6.48	-7.95/-8.28	-9.72/-11.14	-10.85/-12.02	-16.69/-17.74	-18.38/-19.1	-17.4/-17.83	-19.43/-15.83	-15.79/-18.43	-13.33/-11.41	-13.94/-15	-9.99/-6.33	-6.28/-8.3	-13.83/-14.74	-11.09/-12.06	-18.41/-18.95
Θ(165°)	-14.7/-17.88	-18.98/-19.17	-15.52/-12.61	-10.98/-9.54	-9.52/-10.71	-13.28/-15.04	-12.16/-10.01	-6.91/-6.38	-6.59/-7.61	-6.06/-5.44	-4.49/-4.87	-6.89/-10.38	-15.77/-18.86	-15.3/-15.75	-15.05/-15.34	-18.38/-18.21	-18.43/-16.74	-16.83/-14.39	-12.96/-12.2	-11.28/-11.09	-12.32/-14.11	-16.61/-16.23	-14.8/-12.94	-10.82/-11.59
Θ(172.5°)	-19.28/-19	-18.63/-19.37	-19.01/-18.51	-18.11/-17.94	-14.72/-12.26	-10.33/-8.07	-6.94/-6.28	-6.18/-6.38	-6.74/-7.76	-8.44/-9.5	-9.79/-10.21	-10.75/-12.34	-14.63/-18.66	-18.56/-17.98	-17.32/-18.92	-18.34/-14.8	-12.98/-13.22	-15.8/-15.68	-13.14/-14.19	-14.22/-18.95	-18.75/-17.69	-18.19/-18.1	-18.82/-19.61	
Θ(180°)	-16.7/-17.04	-18.65/-17.45	-19/-14.83	-12.78/-12.19	-10.98/-10.38	-10.52/-10.08	-10.07/-9.43	-8.53/-7.66	-7.16/-7.18	-6.59/-7.75	-9.62/-10.44	-10.66/-11.69	-14.2/-19.34	-17.97/-19.46	-16.82/-13.94	-10.93/-10.37	-11.1/-11.06	-11.01/-12.44	-15.19/-14.08	-11.17/-9.14	-8.13/-8.5	-8.85/-8.97	-9.32/-10.86	-12.87/-14.94
Freq(Hz)	5.785GPol.	Theta/Ant. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-3.79/-3.26	-2.41/-1.69	-0.92/-0.4	-0.25/0.15	0.58/0.59	0.33/0.14	0.13/-0.17	-0.64/-1.24	-1.88/-2.27	-3.52/-2.67	-3.95/-3.83	-4.12/-4.67	-3.52/-2.6	-2.33/-1.5	-0.48/0	-0.03/0.32	0.31/0.06	0.28/0.81	0.84/0.13	-0.33/-1.01	-2.13/-3.28	-3.97/-4.36	-5.15/-5.43	-5.07/-4.87
Θ(7.5°)	-2.36/-2.12	-2.08/-2.15	-1.69/-1.77	-2.11/-2.16	-1.93/-1.87	-1.86/-1.37	-0.81/-0.74	-1.15/-1.07	-1.71/-1.62	-1.4/-1.89	-3.08/-2.67	-2.67/-2.58	-2.83/-2.3	-1.72/-1.5	-1.29/-0.88	-0.67/-0.48	-0.35/-0.61	-1.04/0.03	0.74/0.75	0.4/-0.7	-2.4/-4.09	-5.47/-6.71	-6.77/-5.61	-12.4/-3.31
Θ(15°)	-4.64/-5.34	-6.2/-6.97	-6.84/-6.48	-6.93/-7.17	-7.25/-7.16	-6.46/-5.48	-4.8/-4.06	-3.83/-2.59	-1.85/-1.67	-1.58/-2.15	-3.27/-3.67	-3.89/-3.89	-3.41/-2.65	-1.89/-0.7	0.47/1.33	1.83/2.13	2.52/2.6	1.89/2.3	2.56/3.1	2.95/2.37	0.76/-1.8	-5.13/-8.77	-9.2/-6.62	-4.79/-3.94
Θ(22.5°)	-6.14/-5.94	-4.39/-3.29	-4.18/-4.8	-5.21/-6.27	-6.58/-6.23	-6.37/-6.42	-7.36/-7.31	-6.58/-5.71	-4.92/-3.68	-2.46/-1.85	-2.86/-4.29	-5.32/-6.08	-5.67/-4.3	-2.88/-1.79	-1.04/0.57	1.81/2.3	2.59/2.85	2.63/2.77	3.77/3.77	4.32/3.74	2.47/0.73	-2.26/-6.22	-7.97/-7.17	-5.54/-5.35
Θ(30°)	-5.06/-4.71	-4.96/-5.11	-4.9/-5.96	-7.97/-9.26	-8.25/-6.95	-6.43/-8.09	-12.07/-14.86	-15.84/-11.58	-8.67/-7.09	-4.11/-2.73	-4.06/-6.32	-7.08/-6.15	-4.8/-3.89	-2.91/-2.46	-1.61/-0.19	1.18/1.46	1.61/1.9	1.74/1.49	1.23/1.7	3.26/3.46	2.77/1.5	-0.42/-3.28	-7.7/-10.64	-6.6/-5.14
Θ(37.5°)	-5.21/-3.52	-2.58/-1.6	-1.78/-2.91	-3.5/-4.32	-5.47/-6.35	-6.52/-7.93	-13.38/-18.41	-15.42/-8.93	-6.14/-7.77	-7.04/-4.56	-6.99/-8.99	-6.1/-4.87	-3.43/-2.05	-1.86/-1.78	-0.24/0.71	0.66/0.93	0.51/-0.18	0.13/-0.17	-0.61/-0.18	-0.12/1.64	2.74/2.4	1.42/-0.09	-4.96/-5.1	-3.46/-4.77
Θ(45°)	-6.05/-4.44	-4.45/-3.29	-3.58/-3.61	-3.31/-5.34	-7.44/-8.53	-7.49/-7.72	-10.3/-15.84	-18.09/-12.13	-4.14/-2.03	-2.3/-2.24	-7.9/-5.06	-1.75/-2.61	-3.29/-2.22	-1.1/-0.62	-0.78/-0.07	0.48/0.84	-0.75/-0.39	-0.92/-1.51	-2.05/-3.76	0.07/0.62	0.4/-0.27	0.87/0.89	-4.2/-2.56	-2.49/-5.73
Θ(52.5°)	-4.3/-3.31	-4.73/-3.2	-2.46/-4.26	-5.74/-10.17	-10.52/-6.01	-3.59/-4.31	-7.12/-7.25	-8.41/-15.5	-6.33/-2.18	-0.48/-0.75	-5.81/-3.26	-1.75/-4.86	-4.02/-1.7	-1.95/-1.98	-1.64/-0.54	-0.97/-0.41	-1.78/-2.72	-1.94/-2.28	-2.34/-1.89	-1.38/-0.93	-0.28/-2.49	-0.49/0.94	-3.54/-4.33	-2.53/-5.07
Θ(60°)	-5.62/-4.64	-4.34/-2.42	-1.88/-5.48	-7.85/-6.4	-7.77/-7.66	-2.27/-0.52	-0.17/-1.32	-3.88/-8.77	-8.31/-2.81	-0.68														



-

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5.27	4.43	3.07	3.59
Ant. 2 Max Gain (dBi)	2.61	2.85	3.72	2.91
Ant. 3 Max Gain (dBi)	3.62	2.06	3.4	3.55
Ant. 4 Max Gain (dBi)	5.1	4.94	3.46	3.8
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/30/225	Phi/52.5/240	Phi/75/82.5	Phi/37.5/157.5
Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/82.5/262.5	Theta/97.5/82.5	Theta/67.5/120	Theta/97.5/67.5
Ant. 3 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/67.5/352.5	Theta/67.5/337.5	Theta/75/172.5	Theta/67.5/322.5
Ant. 4 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/22.5/30	Phi/30/37.5	Phi/30/37.5	Phi/30/7.5
Max Gain (dBi)	5.27	4.94	3.72	3.8
DG [1SS] (dBi)	5.56	5.31	4.62	5.33
DG [2SS] (dBi)	5.27	4.94	3.72	3.8
DG [4SS] (dBi)	5.27	4.94	3.72	3.8

DG 1SS Result

[illegible]



Radiated Composite Gain Data 6GHz U-NII 5~8

Appendix B

Θ(22.5°)	0.55/1.27	1.59/2.39	2.82/2.13	0.7/-0.22	-0.24/-1.11	-1.76/-0.78	0.83/0.87	0.75/1.27	0.56/-0.63	0.03/0.93	1.51/1.04	-0.44/-0.37	-0.05/-1.04	-1.88/-1.48	-1.24/-0.97	-0.95/-1.85	-1.53/0.07	0.16/-0.92	-1.83/-1.96	-0.54/0.84	0.97/0.61	0.26/0.05	0.04/-0.19	-0.02/0.52
Θ(30°)	1.83/1.22	0.21/0.93	2.26/2.37	1.03/1.11	0.58/-0.09	-0.58/-0.98	-0.17/0.74	1.05/1.02	1.14/1.11	0.77/0.89	1.28/0.7	0.72/1.67	1.97/0.63	-1.79/-2.52	-2.92/-3.5	-1.35/-0.1	0.69/1.37	1.76/1.44	0.21/0.18	1.71/2.13	2.14/1.68	0.73/0.57	2.22/2.84	2.43/2.17
Θ(142.5°)	1.58/0.16	-2.03/-3.13	-0.21/0.99	1.53/1.49	0.50/0.17	0.18/-0.18	1.04/1.65	1.55/1.3	2.22/0.6	2.25/1.84	1.75/0.98	-0.46/1.73	1.73/-0.66	-3.31/-3.59	-0.34/-0.11	0.79/0.25	-0.56/-0.04	2.38/1.64	-0.14/0.16	1.08/1	0.22/-0.69	-0.28/0.34	1.39/2.11	1.26/1.7
Θ(45°)	1.34/0.24	-2.4/-1.9	-0.4/0.37	1.56/1.92	1.72/2.25	2.58/1.35	1.4/1.73	1.98/2	1.43/1.62	2.66/3.14	2.69/1.84	0.58/1.71	0.75/-2.39	-1.94/-0.94	-1.73/-0.88	1.08/0.14	0.84/1.25	3.58/2.59	1.87/2.14	1.06/-0.61	-2.14/0.04	-0.74/-1.08	0.18/0.49	0.30/0.78
Θ(52.5°)	1.61/0.96	-0.11/0.97	2.12/0.91	0.03/1.44	2.83/2.63	3.11/2.2	1.59/0.88	1.13/1.28	0.73/1.7	1.03/0.31	1.76/1.76	1.06/1.24	0.56/-0.68	-0.54/-0.22	-0.69/0.7	1.19/2.01	1.52/0.71	3.25/1.69	2.85/2.07	-1.1/-1.33	-1.14/1.13	0.01/-0.49	-0.04/-0.01	0.21/2.7
Θ(60°)	1.33/1.34	0.81/1.98	3.31/2.48	1.49/1.9	3.59/3.46	3.02/2.72	1.37/0.58	1.48/0.89	-0.03/1.34	0.72/0.04	1.09/1.78	1.27/1.38	0.47/-0.32	-1.11/0.17	-0.23/0.14	1.25/0.18	1.04/-0.23	1.36/1.03	0.63/0.62	-1.63/-1.2	-1.42/0.63	-0.10/-0.19	1.21/-0.37	0.24/2.25
Θ(67.5°)	-0.55/0.44	1.1/2.46	3.36/2.94	1.43/1.21	3.83/2.76	3.36/2.34	1.7/0.56	1.09/0.9	1.4/2.06	0.92/1.27	1.71/2.2	0.69/-0.24	0.68/0.06	-2.7/-1.27	-0.97/-1.53	-0.64/-0.17	0.69/1.19	0.58/0.61	0.05/-0.41	-0.72/-1.2	-1.67/-0.94	0.04/0.53	0.19/-0.21	-0.88/-0.36
Θ(75°)	-1.12/-0.05	-1.04/1.37	2.84/2.85	1.99/1.61	3.53/3.59	3.28/3.71	2.38/1.02	1.33/0.86	1.88/2.95	1.66/0.69	0.95/2.61	2.66/-0.29	-0.2/-0.22	-1.37/-1.15	-1.3/-1.48	-1.55/-1.31	0.39/1.42	-0.80/-19	-0.2/0.85	0.5/-1.4	-2.08/-2.05	-0.76/-1.37	-1.8/-1.01	-2.54/-2.83
Θ(82.5°)	-1.39/-2.97	-2.92/0.58	0.79/1.95	1.35/1.61	3.03/2.09	3.02/3.18	0.93/-0.73	0.76/-0.22	0.51/1.65	0.58/-0.08	0.48/0.94	1.2/-0.47	-0.1/-0.23	-1.94/-1.67	-2.04/-2.35	-0.65/-2.39	-1.41/-0.83	0.11/0.04	0.90/0.64	1.3/-1.22	-1.61/-2.1	0.02/-3.23	-3.99/-1.45	-4.36/-1.54
Θ(90°)	-2.49/-2.95	-2.12/-1.71	-0.28/1.07	0.37/0.59	2.04/1.08	2/1.81	-0.8/-1.99	-0.82/-0.57	-0.77/1.39	0.74/-0.47	0.11/-0.29	-0.77/-2.17	0.07/-0.55	-2.64/-1.85	-3.44/-4.69	-1.39/-3.59	-2.57/-1.76	-0.57/-1.18	2.28/-0.15	-0.03/-0.37	-2.66/-1.7	-0.62/-4.87	-5.79/-3.4	-3.39/-1.87
Θ(97.5°)	-2.78/-2.3	-2.88/-2.62	-3.29/0	-0.43/-0.54	0.5/-1.68	0.87/1.38	0.08/-1.82	-0.31/-4.89	-2.54/0.02	0.32/0.97	0.22/-0.08	-0.72/-2.25	-0.87/-2.12	-4.29/-3.9	-4.83/-6.04	-3.04/-3.87	-0.84/-1.16	-1.11/-1.79	1.38/-1.96	-3/-2.45	-4.55/-2.97	-3.27/-4.49	-3.99/-1.4	-2.06/-2.39
Θ(105°)	-3.09/-3.85	-3.27/-2.54	-3.97/-1.25	-2.04/-1.75	-2.94/-3.16	0.07/9	2.09/2.06	0.75/-3.61	-4.86/-1.23	-0.29/0.09	0.29/-1.75	-1.17/-1.15	-1.35/-4.49	-2.79/-3.08	-2.76/-3.44	-1.39/-3.29	-2.65/-4.89	-4.94/-3.58	-2.43/-4.73	-5.52/-5.2	-9.02/-5.15	-4.53/-4.57	-4.95/-2.17	-2.57/-1.06
Θ(112.5°)	-5.72/-3.75	-3.76/-3.91	-3.97/-1.22	-4.04/-4.65	-5.06/-4.57	-1.48/-0.74	0.75/0.15	0.37/-2.82	-4.72/-3.82	-3.75/-0.93	-0.45/-1.77	-3.74/-3.57	-2.97/-3.23	-3.07/-2.58	-5.56/-2.96	-1.55/-3.38	-3.19/-6.97	-5.21/-4.96	-4.51/-6.25	-6.82/-7.94	-10.16/-5.93	-6.22/-5.89	-4.91/-3.26	-3.5/-2.82
Θ(120°)	-5.46/-3.27	-2.96/-6.62	-2.43/-1.48	-4.59/-5.97	-4.39/-5.48	-1.89/-1.01	-0.25/-0.4	-1.44/-2.04	-2.84/-6.12	-6.29/-6.39	-2.93/-3.94	-2.96/-4.29	-4.12/-3.58	-4.3/-4.21	-4.62/-3.93	-1.72/-4.56	-7.29/-5.82	-3.63/-4.56	-4.36/-2	-4.8/-6.68	-9.16/-3.68	-1.64/-6.07	-2.06/-2.39	-4.45/-5.31
Θ(127.5°)	-4.08/-2	-3.16/-3.74	-3.71/-1.36	-3.12/-4.42	-4.95/-4.16	-3.44/-3.51	-2.89/-1.79	-1.33/-1.26	-1.52/-2.61	-4.58/-5.89	-5.34/-4.36	-2.82/-3.66	-4.07/-5.24	-2.27/-3.08	-6.65/-3.34	-3.77/-5.24	-3.94/-3.41	-3.65/-2.87	-2.67/-3.97	-8.39/-9.16	-7.41/-9.44	-7.09/-5.2	-2.01/-6.03	-2.63/-5.09
Θ(135°)	-3.98/-1.44	-3.31/-4.49	-3.28/-3.61	-3.95/-4.1	-3.93/-5.34	-4.82/-4.31	-4.05/-1.55	-2.73/-2.43	-0.48/-3.16	-4.5/-3.91	-4.68/-6.92	-5.38/-4.27	-4.72/-7.05	-3.99/-7.63	-3.89/-2.9	-3.73/-5.49	-6.5/-6.55	-5.3/-7.01	-7.53/-5.75	-6.12/-7.72	-9.47/-4.74	-3.39/-3.28	-2.75/-7.01	-4/-4.12
Θ(142.5°)	-3.69/-1.15	-2.18/-3.54	-1.54/-2.08	-3.44/-6.11	-4.98/-4.23	-4.48/-4.85	-4.26/-3.59	-3.58/-3.97	-5.47/-4.66	-5.43/-4.77	-5.39/-6.11	-6.42/-7.29	-6.08/-6.31	-8.12/-5.58	-5.64/-4.73	-8.62/-5.93	-7.61/-6.94	-8.5/-9.31	-5.58/-9.36	-6.85/-7.44	-8.08/-6.61	-5.21/-3.11	-4.62/-4.32	-4.37/-4.12
Θ(150°)	-3.51/-2.76	-2.17/-2.35	-3.49/-3.16	-2.36/-3.95	-6.34/-7.33	-8.45/-7.28	-6.34/-6.04	-6.41/-6	-7.21/-8.1	-8.47/-8.23	-6.22/-4.89	-4.36/-6.15	-0.08/-7.1	-3.05/-5.12	-8.25/-4.33	-5.26/-7.2	-6.61/-4.71	-7.17/-9.17	-9.34/-8.67	-10.11/-12.59	-8.68/-8.85	-7.63/-6.56	-5.09/-4.42	-5.64/-4.62
Θ(157.5°)	-3.18/-2.64	-1.34/-1.08	-2.8/-5.32	-6.05/-6.51	-6.53/-5.92	-5.99/-6.2	-6.02/-5.55	-5.95/-6.03	-6.53/-6.99	-8.34/-8.62	-8.31/-7.38	-6.96/-8.11	-6.52/-5.35	-4.59/-5.18	-7.89/-8.16	-9.34/-8.17	-6.57/-6.76	-7.97/-9.5	-11.46/-9.7	-7.59/-5.7	-4.27/-3.49	-2.93/-3.02	-3.27/-4.39	-5.57/-4.65
Θ(165°)	-4.88/-2.24	-0.73/-0.48	-1.26/-2.18	-2.91/-3.8	-5.35/-7.11	-7.47/-6.68	-7.03/-7.11	-6.84/-7.29	-7.96/-9.05	-10.36/-10.93	-8.9/-7.11	-6.89/-6.99	-6.98/-6.73	-7.28/-10.83	-11.8/-8.43	-7.6/-9.5	-7.75/-9.34	-11.97/-10.55	-8.85/-9.14	-8.28/-8.65	-7.25/-6.85	-6.9/-5.64	-6.84/-7.98	-8.19/-8.88
Θ(172.5°)	-3.71/-2.73	-2.66/-2.89	-3.09/-3.43	-4.09/-4.83	-5.63/-7.04	-9.07/-10.75	-10.49/-10.83	-11.87/-10.23	-9.27/-9.36	-8.17/-7.91	-8/-7.8	-8.39/-8.97	-9.82/-11.39	-10.4/-9.33	-8.39/-8.51	-8/-6.91	-6.36/-6.57	-6.27/-5.94	-6.9/-7.38	-8.17/-8.98	-8.58/-8.42	-8.03/-7.65	-6.68/-5.95	-5.68/-4.87
Θ(180°)	-7.08/-7.35	-7.83/-7.7	-7.75/-7.67	-7.46/-7.32	-7.16/-7.91	-9.12/-8.85	-9.09/-10.16	-10.62/-10.21	-9.79/-8.18	-7.5/-7.75	-8.36/-9.14	-10.75/-10.66	-10.73/-10.13	-9.33/-8.37	-8.43/-7.41	-6.67/-6.55	-7.3/-8.04	-7.98/-8.62	-9.12/-10.03	-10/-10.49	-9.92/-8.95	-8.58/-8.52	-7.82/-7.72	-7.68/-7.97
Freq(Hz)	6.995GPol.	Theta-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-2.32/-4.15	-4.76/-5.18	-7.14/-8.87	-8.26/-7.8	-6.56/-4.7	-2.94/-2.06	-1.41/-0.54	-0.06/0.08	0.39/0.41	0.25/0.38	-0.03/-0.93	-1.8/-1.94	-2.52/-3.85	-5.65/-6.68	-7.7/-8.52	-8.89/-7.69	-5.45/-3.96	-3.04/-2.05	-1.34/-0.88	-0.23/0.11	0.23/0.1	0.26/0.54	0.33/-0.15	-0.24/-0.88
Θ(7.5°)	0.07/-1.62	-3.11/-4.82	-7.21/-6.83	-7.03/-0.53	-2.74/-1.17	0.56/1.54	1.91/8.4	1.95/1.22	0.57/0.08	-0.07/0.18	-0.13/-0.5	-0.73/-1.12	-2.03/-3.11	-4.57/-5.14	-5.11/-5.27	-5.52/-6.29	-6.42/-6.59	-6.33/-5.79	-4.38/-2.46	-0.98/-0.22	0.43/1.19	1.82/1.99	1.58/1.29	1.23/1.02
Θ(15°)	-0.87/-1.62	-2.01/-2.74	-4.14/-4.66	-4.64/-3.62	-1.90/1.8	1.79/2.81	3.13/2.23	2.78/2.04	1.41/0.96	0.55/0.16	-0.22/-0.35	-0.09/-0.13	-0.73/-1.38	-2.07/-2.46	-3.33/-4.08	-3.94/-3.7	-4.61/-5.43	-6.72/-6.45	-5.59/-4.1	-3.34/-2.52	-1.67/-1.01	-0.81/-1.16	-1.24/-0.64	-0.62/-0.35
Θ(22.5°)	-0.65/-2.1	-2.16/-3.05	-3.11/-1.94	-1.69/-2.7	-1.99/-0.59	0.51/1.59	2.23/2.09	1.64/0.92	0.18/0.03	0.71/1.52	1.06/-0.64	-0.9/-0.74	-1.52/-1.66	-1.52/-1.78	-2.4/-2.25	-2.2/-2.69	-3.17/-3.8	-4.59/-4.9	-4.36/-3.86	-2.55/-2.22	-2.2/-1.54	-0.57/0.01	0.41/0.71	0.77/0.68
Θ(30°)	-2.57/3	-2.86/-2.49	-2.07/-0.91	-1.1/-0.76	1.31/8.7	1.09/1.16	1.57/1.88	1.79/1.6	1.77/1.68	1.152/1.1	1.54/-0.63	-2.72/-2.26	-2.33/-1.93	-1.74/-2.42	-2.63/-1.38	-0.35/-0.11	0.14/-0.69	-2.88/-5.3	-5.92/-2.93	-2/-3.01	-0.79/-1.92	2.85/2.66	1.91/1.78	1.04/-1.44
Θ(37.5°)	-1.53/-0.48	-1.67/-0.37	0.79/1.21	1.13/1.3	2.59/2.05	-0.6/-0.91	1.44/1.29	-0.95/0.78	2.21/1.95	-0.04/0.23	1.16/0.34	0.28/0.59	-0.77/-0.5	-0.99/-2.46	-1.42/-0.22	0.17/-0.25	-0.26/0.24	-1.62/-4.39	-3.87/-0.66	0.39/-0.71	-0.57/-0.1	0.67/0.6	-0.14/-0.56	-1.01/-2.04
Θ(45°)	-0.34/-0.36	-0.18/1	0.88/1.08	2.14/1.58	1.89/1.47	0.14/1.22	3.21/2.49	0.33/1.14	1.71/1.95	1.82/0.53	1.66/1.77	2.52/2.39	0.87/0.68	0.01/-0.11	0.04/0.8	1.89/1.89	1.21/2.92	0.43/1.18	-0.18/1.29	1.81/0.46	0.15/0.35	0.12/-0.19	-1.92/-4.31	-2.23/-0.56
Θ(52.5°)	0.59/-0.36	-0.04/0.22	-1.12/-0.82	1.29/2.17	2.64/2.37	1.41/1.44	2.88/2.46	2.93/2.23	1.59/2.16	3.11/1.12	0.64/-0.15	1.83/1.17	0.72/0.75	1.39/-0.37	0.05/0.15	2.03/1.93	1.14/0.99	1.18/0.94	0.37/2.03	3.13/1.12	0.17/0.35	1.08/0.86	-0.37/-1.17	-0.05/-1.5
Θ(60°)	2.39/2.31	1.78/-9.33	-1.85/-0.05	1.78/0.55	4.14/3.57	1.25/1.86	2.47/3.57	4.14/3.48	2.82/0.96	-1.43/-2.76	0.93/2.15	2.26/2.91	2.99/0.59	0.45/0.98	2.83/0.94	-0.64/-0.19	1.36/-0.33	-0.66/1.16	1.86/0.51	-0.28/0.6	1.75/1.65	0.32/0.28	2.03/2.74	
Θ(67.5°)	2.88/3.3	3.59/1.97	-0.40/3	1.29/2.72	4.52/4.03	2.89/-0.51	0.54/1.77	0.95/0.86	4.32/3.23	2.65/1.43	-1.63/-2.41	2.53/3.68	3.37/3.66	2.45/0.31	0.48/0.71	1.73/1.56	-0.37/0.72	0.6/-0.71	-2.59/0.32	0.94/-0.06	-0.85/-0.72	1.18/0.99	0.71/1.2	2.48/3.51
Θ(75°)	3.61/3.41	4.22/2.89	0.14/-0.39	1.62/7.6	4.62/4.1	3.08/0.51	0.69/0.75	-0.64/1.93	3.66/2.32	1.86/1.7	-1.36/-2.73	3.14/4.8	3.11/3.19	2.56/0.26	-0.21/0.92	1.63/1.41	-0.67/-0.04	-0.06/-0.6	-4.07/0.4	1.14/1.59	-0.99/-1.77	1.04/-0.17	0.37/0.42	2.88/3.92
Θ(82.5°)	3.39/2.7	3.63/2.63	-0.47/-1.01	1.72/32	3.81/3.53	3.52/-0.03	1.01/-0.11	-0.64/2.68	2.34/0.87	0.92/-0.05	-1.73/-2.38	2.53/4.9												

[illegible]



Radiated Composite Gain Data 6GHz U-NII 5~8

Appendix B

Θ(15°)	-10.64/-6.49	-4.59/-3.4	-3.37/-4.24	-4.59/-5.6	-7.77/-10.78	-15.12/-16.43	-11.52/-7.16	-4.36/-2.4	-1.01/0.1	0.64/1	0.88/0.61	0.25/0.08	-0.03/-0.54	-1.11/-1.35	-1.38/-0.85	-0.34/-0.16	-0.24/-0.05	0.27/0.65	0.74/0.7	0.61/0.53	0°/-1.24	-2.74/-4.33	-6.41/-8.64	-10.87/-13.87
Θ(22.5°)	-12.23/-7.98	-5.12/-4.31	-4.08/-4.96	-6.87/-8.83	-10.76/-12.1	-13.28/-10.73	-7.49/-5.65	-3.18/-1.06	0.36/1.14	1.45/1.3	0.76/0.25	-0.27/-0.37	-0.73/-1.74	-2.22/-1.81	-1.24/-1.3	-1.45/-1.14	-0.23/0.7	1.08/0.94	0.66/0.47	0.36/0.29	-0.55/-2.26	-4.15/-6.29	-7.71/-10.62	-15.84/-14.47
Θ(35°)	-12.34/-14.23	-13.82/-11.15	-8.43/-8.89	-11.12/-12.8	-14.91/-13.7	-10.61/-10.9	-8.48/-1.98	-2.7/0.91	0.26/0.7	0.37/0.71	1.2/0.8	0.12/0.99	-0.7/0.21	-1.28/-3	-4.43/-3.36	-0.97/0.69	1.76/2.21	2.12/3.1	0.94/1.05	0.72/-0.15	-1.75/-3.58	-4.23/-4.66	-3.85/-4.61	-14.47/-8.45
Θ(37.5°)	-7.41/-10	-17.05/-18.35	-11.56/-8.38	-9.35/-12.62	-13.71/-12	-9.54/-7.43	-4.21/-1.54	-0.46/-0.36	0.01/0.35	0.68/1.66	1.95/1.81	1.23/1.88	1.58/0.63	-2.54/-4.99	-3.08/-0.43	0.62/0.61	0.24/0.24	0.6/-0.61	-2.2/-2.87	-3.57/-6.83	-7.75/-6.51	-3.87/-3.67	-3.82/-3.96	-5.15/-6.67
Θ(45°)	-5.84/-6.51	-7.34/-9.36	-14.47/-12.17	-10.95/-9.67	-8.79/-6	-4.42/-4.78	-4.06/-1.08	0.42/0.89	0.29/-0.19	0.41/-29	1.72/1.32	1.12/1.08	0.11/-1.64	-3.12/-2.23	-2.7/-3.05	-0.36/-1.17	1.04/0.94	1.43/0.21	-0.74/-0.98	-4.33/-9.02	-10.98/-6.21	-5.25/-4.32	-3.56/-3.05	-3.59/-4.96
Θ(52.5°)	-4.55/-4.08	-5.27/-4.63	-4.66/-6.72	-10.84/-9.34	-6.31/-6.02	-4.8/-3.5	-2.73/-1.07	-0.13/0.25	0.24/0.29	-1.09/-1.63	-0.86/-0.47	0.70/0.6	0.44/-1.72	-2.26/-3.22	-3.03/-2.47	-0.22/2.2	0.98/-0.15	-0.88/-1.89	-5.83/-9.52	-12.87/-7.16	-6.74/-5.04	-3.18/-2.28	-3.8/-1.4	
Θ(60°)	-4.96/-3.97	-4.08/-3.25	-2.05/-2.84	-6.02/-5.94	-3.05/-2.41	-1.27/-0.96	-1.62/-1.37	-0.64/-0.02	-0.18/1.5	0.17/-1.08	-1.78/-2.32	-1.55/-0.81	-0.62/-1.65	-2.06/-3.08	-3.15/-1.84	-1.02/-0.08	0.62/0.88	-0.18/-0.19	-2.04/-3.95	-7.04/-8.63	-11.1/-5.1	-3.59/-2.96	-2.04/-3.06	-5.54/-5.25
Θ(67.5°)	-7.98/-6.46	-4.08/-2.61	-1.69/-2.09	-5.15/-6.8	-1.46/-0.19	0.97/1.5	0.24/-0.04	-0.71/-0.68	0.87/1.61	0.72/-0.59	-2.89/-3.72	-3.51/-3.3	-2.48/-1.93	-4.92/-5.88	-3.21/-4.69	-1.55/-0.18	1.15/-0.85	-0.81/-2.71	-5.15/-4.29	-4.82/-6.56	-7.67/-3.78	-2.44/-1.61	-2.37/-2.2	-4.95/-6.06
Θ(75°)	-6.86/-7.55	-6.21/-3.64	-1.63/-1.09	-3.5/-5.01	-0.48/0.98	2.41/0.07	0.81/-1.05	-0.96/-1.86	1.1/1.54	-0.16/-2.84	-2.96/-2.29	-2.71/-5.95	-6.34/-4.11	-6.56/-5.99	-5.39/-4.22	-1.81/-26	0.71/-1.83	-3.26/-3.04	-3.61/-1.63	-1.84/-4.88	-5.66/-3.31	-2.72/-1.77	-3.02/-3.12	-5.45/-5.93
Θ(82.5°)	-6.51/-10.25	-8.89/-5.17	-3.2/-2.73	-3.52/-3.84	-0.80/-26	1.75/2.72	-0.54/-2.93	-4.78/-5.03	-1.78/-0.07	-3.23/-8.53	-8.9/-4.35	-6.01/-6.83	-7.21/-7.26	-8.41/-7.19	-6.08/-5.6	-3.33/-2.05	-1.9/-5.41	-4.21/-3.53	-1.96/-0.04	0.23/-3.67	-4.86/-6.2	-4.24/-2.98	-3.89/-2.71	-4.86/-4.35
Θ(90°)	-8.4/-11.75	-10.26/-6.78	-5.63/-4.4	-4.93/-4.29	-0.63/-0.55	1.35/-1.79	-1.11/-5.42	-10.24/-7.26	-4.07/-0.63	-2.48/-7.65	-12.64/-9.28	-11.73/-17.7	-9.76/-6.78	-14.91/-10.47	-14.17/-15	-5.15/-4.15	-3.86/-6.75	-2.79/-2.53	-1.09/-0.35	-1.47/-3.39	-6.9/-8.58	-6.69/-4.55	-6.54/-5.7	-6.12/-5.77
Θ(97.5°)	-8.69/-11.83	-14.62/-10.59	-9.38/-6.54	-4.61/-5.1	-3.77/-3.37	0.31/5.1	-0.76/-2.19	-4.23/-16.42	-9.43/-2.03	-3.19/-5.02	-12.53/-10.12	-8/-11.6	-15.76/-15.49	-17.38/-14.14	-19.07/-18.08	-8.06/-4.49	-2.92/-5.13	-2.02/-4.25	-2.35/-3.1	-5.38/-6.05	-10.57/-9.58	-8.34/-5.52	-9.34/-7.79	-7.29/-7.82
Θ(105°)	-12.29/-18.4	-13.67/-12.62	-13.3/-12.04	-6.77/-7.47	-5.29/-3.22	-0.46/0.47	1.96/0.1	-2.92/-18.95	-18.49/-3.72	-4.69/-6.3	-12.89/-11.8	-7.14/-9.8	-18.52/-18.62	-18.81/-16.97	-8.13/-13.6	-6.69/-5.61	-5.59/-11.7	-8/-8.55	-6.99/-6.81	-11.81/-9.67	-17.06/-10.91	-9.62/-7.72	-11.17/-9.5	-8.3/-8.52
Θ(112.5°)	-14.75/-18	-18.48/-15.29	-13.77/-13.29	-9.52/-11.71	-8.76/-5.22	-2.89/-2.76	-0.47/-2.1	-3.14/-10.09	-18.93/-13.18	-9.99/-7.73	-12.94/-18.3	-18.09/-14.74	-18.12/-12	-17.91/-15.04	-5.64/-5.13	-9.61/-13.9	-10/-12.6	-12.23/-9.87	-11.51/-16.32	-19.2/-14.11	-10.39/-12.72	-11.96/-14.1	-12.2/-10.99	
Θ(120°)	-15.15/-18.14	-16.87/-18.77	-17.84/-16.58	-12.61/-11.53	-13.44/-7.81	-4.37/-4.69	-2.85/-5.02	-4.95/-6.88	-7.29/-18.79	-18.39/-16.83	-9.35/-19.08	-14.81/-17.08	-18.95/-17.76	-17.2/-17.38	-18.95/-15.85	-10.48/-15.45	-17.79/-7.53	-8.01/-8.23	-11.97/-9.19	-8.27/-8.46	-18.41/-17.89	-15.15/-13.33	-15.15/-15.42	-12.89/-13.09
Θ(127.5°)	-13.69/-13.47	-17.09/-17.3	-18.33/-13.04	-10.22/-12.82	-17.61/-12.49	-9.63/-8.96	-10.89/-7.19	-5.25/-4.26	-0.83/-8.27	-8.06/-8.49	-10.26/-15.66	-12.84/-16.63	-11.23/-12.24	-8.21/-10.82	-9.92/-12.25	-11.16/-17.24	-4.49/-3.11	-3.76/-6.19	-8.58/-7.69	-11.24/-14.64	-18.86/-17.75	-18.47/-18.96	-10.29/-10.77	-18.62/-14.94
Θ(135°)	-18.66/-15.13	-18.48/-15.18	-11.66/-16.25	-12.37/-11.66	-13.07/-11.66	-16.06/-15.21	-10.27/-7.54	-5.09/-10.5	-15.6/-15.05	-17.61/-13.14	-13.12/-13.76	-12.24/-16.33	-11.35/-14.24	-16.9/-14.5	-10.8/-12.78	-12.78/-14.61	-12.02/-13.55	-16.13/-8.99	-12.11/-17.89	-17.64/-18.81	-13.75/-18.21	-12.13/-14.04	-15.78/-15.71	
Θ(142.5°)	-18.52/-17.64	-17.37/-14.18	-9.97/-10.58	-10.33/-13.51	-13.26/-13.5	-13.31/-14.31	-17.88/-17.6	-15.49/-12.84	-11.91/-16.52	-17.89/-15.19	-18.82/-13.58	-14.63/-17.52	-18.89/-19.1	-18.65/-14.3	-12.26/-10.7	-18.66/-17.54	-13/-13.41	-13.1/-12.81	-14.04/-10.86	-8.79/-11.65	-15.17/-16.76	-14.54/-19.08	-18.79/-15.19	-14.91/-13.31
Θ(150°)	-17.96/-18.63	-18.19/-18.88	-17.68/-16.89	-12.59/-12.22	-14.23/-14.63	-14.55/-15.39	-18.89/-18.4	-18.44/-15.99	-16.78/-16.42	-18.24/-19.59	-18.01/-14.56	-15.23/-16.02	-11.29/-8.64	-8.79/-10.17	-9.09/-10.81	-16.5/-17.63	-12.99/-10.81	-11.31/-10.51	-12.88/-18.03	-17.92/-18.26	-18.55/-19.74	-17.91/-17.98	-17.38/-13.72	-14.87/-17.59
Θ(157.5°)	-12.58/-12.56	-15.25/-18.99	-19.19/-18.39	-15.37/-16.05	-18.97/-18.15	-17.4/-18.28	-18.36/-17.47	-17.69/-14.85	-11.82/-11.47	-14.06/-18.09	-18.16/-18.35	-17.45/-18.33	-18.41/-17.95	-18.59/-12.19	-10.56/-11.47	-13.65/-14.57	-14.13/-18	-17.79/-17.14	-14.76/-13.2	-14.83/-16.1	-15.87/-17.04	-17.12/-12.73	-11.14/-11.04	-12.53/-13.71
Θ(165°)	-13.44/-11.07	-10.44/-11.83	-14.49/-14.09	-15.28/-16.62	-18.15/-17.38	-15.91/-14.82	-16.43/-17.45	-18.32/-18.64	-12.39/-13.61	-14.48/-17.2	-17.92/-17.96	-16.07/-15.23	-13.86/-11.72	-12.3/-14.92	-15.29/-17.25	-18.57/-19.17	-17.87/-18.17	-19.34/-19.52	-18.64/-16.15	-14.93/-14.14	-14.01/-14.03	-13.29/-12.72	-13.23/-13.29	-16.06/-16.38
Θ(172.5°)	-10.9/-9.64	-10.49/-11.51	-13.13/-8.7	-14.5/-15.49	-16.48/-18.35	-18.55/-18.63	-17.59/-17.98	-17.65/-18.22	-17.16/-19.07	-18.19/-18.49	-18.68/-18.13	-16.57/-15.03	-14.37/-14.33	-14.09/-14.73	-13.08/-12.1	-11.57/-10.58	-10.09/-9.37	-9.24/-9.9	-10.93/-12.58	-15.26/-16.93	-18.28/-16.62	-15.11/-14.16	-14.04/-12.03	
Θ(180°)	-17.84/-19.01	-18.21/-18.91	-17.69/-17.49	-16.94/-15.66	-13.94/-14.19	-15.9/-15.73	-15.6/-16.23	-16.08/-15.33	-15.11/-15.65	-18.15/-17.82	-18.64/-18.29	-17.82/-17.68	-17.77/-16.7	-15.75/-12.95	-11.74/-11.16	-11.22/-11.58	-12.53/-12.77	-12.08/-11.38	-11.09/-11.27	-11.71/-12.38	-13.24/-13.85	-15.38/-17.07	-18.79/-19.01	-19.21/-18.98
Freq(Hz)	6.995GPol	Theta/Ant. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-5.12/-7.49	-8.78/-9.9	-13.22/-17.23	-16.84/-15.31	-11.9/-8.75	-6.23/-4.26	-3.02/-2.21	-1.79/-1.62	-1.52/-1.29	-1.11/-1.21	-1.86/-2.9	-3.89/-4.23	-5.46/-7.14	-10.08/-13.36	-16.98/-17.79	-17.76/-14.81	-10.63/-7.8	-5.67/-4.07	-3.06/-2.36	-1.87/-1.42	-1.17/-1.31	-1.35/-1.67	-2.02/-2.49	-2.59/-3.34
Θ(7.5°)	-2.84/-4.25	-6.16/-9.96	-18.14/-17.86	-12.14/-7.93	-5.04/-2.75	-0.88/0.11	0.67/0.71	0.48/-0.18	-0.68/-1.31	-2.21/-3.03	-4.16/-5.81	-7.38/-7.73	-7.33/-7.78	-9.66/-11.86	-14.09/-16.19	-16.23/-19.6	-18.22/-19.15	-15.12/-12.21	-9.35/-7.43	-6.01/-4.99	-4.12/-3.43	-2.71/-2.65	-2.71/-2.47	-1.89/-1.88
Θ(15°)	-2.89/-4.2	-6.36/-10.39	-16.38/-13.6	-10.29/-7.22	-3.79/-1.05	0.69/1.8	2.01/1.86	1.26/0.45	-0.3/-1.25	-2.62/-1.48	-5.96/-7.1	-6.65/-5.61	-5.04/-8.64	-4.68/-5.42	-4.63/-5.37	-6.65/-8.4	-10.57/-13.74	-18.11/-18.04	-19.22/-14.31	-11.89/-9.59	-7.07/-5.15	-4.39/-4.28	-4.17/-3.51	-2.83/-2.4
Θ(22.5°)	-2.92/-4.19	-8.45/-18.1	-14.68/-8.06	-4.4/-2.5	-1.21/-0.39	0.61/1.4	2.11/2.27	1.51/0.38	-1.19/-2.82	-4/-3.89	-4.45/-6.24	-6.34/-4.71	-4.51/-4.19	-2.93/-1.79	-2.12/-3.45	-4.19/-5.14	-6.2/-9.18	-14.64/-17.39	-14.43/-14.7	-11.73/-9.18	-6.59/-4.91	-3.8/-3.15	-2.81/-2.74	-2.59/-2.57
Θ(30°)	-8.28/-8.8	-10.03/-13.22	-17.48/-8.83	-4.5/-1.96	0/0.7	0.29/0.14	1.22/1.81	0.94/-0.93	-2.29/-2.16	-3.02/-3.49	-5.86/-9.32	-10.25/-8.54	-5.42/-4.33	-2.81/-2.83	-3.46/-3.39	-4.13/-4.88	-5.16/-7.2	-12.34/-18.52	-18.93/-14.88	-10.04/-7.63	-6.96/-6.03	-5.74/-6.02	-6/-5.81	-6.54/-8.13
Θ(37.5°)	-11.53/-11.73	-15.55/-18.54	-17.25/-8.53	-4.32/-1.72	0.18/0.14	-2.12/-2.95	-0.61/-0.32	-2/-3	-2.57/-3.09	-4.83/-6.73	-7.33/-8.5	-6.22/-3.82	-4.45/-2.8	-4.41/-4.64	-2.78/-3.74	-5.2/-8.69	-7.53/-8.9	-17.58/-17.75	-15.48/-12.32	-10.35/-13.22	-15.69/-16.43	-11.75/-11.99	-11.67/-8.76	-8.46/-10.26
Θ(45°)	-19.22/-19.05	-18.21/-17.34	-15.05/-7.35	-4.7/-3.73	-1.55/-0.8	-1.92/-1.25	0.64/0.25	-1.86/-2.89	-3.4/-3.78	-7.88/-8.35	-3.41/-3.92	-2.53/-1.65	-1.83/-2.27	-5.57/-3.06	-3.08/-1.48	-4.81/-6.89	-8.97/-10.06	-18.21/-10.61	-9.88/-8.88	-9.19/-14.06	-19.13/-17.35	-16.06/-14.12	-14.02/-15.91	-16.92/-18.73
Θ(52.5°)	-14.24/-19.23	-18.7/-17.88	-16.84/-8.73	-5.5/-4.79	-1.98/-0.62	-0.55/-0.63	0.53/0.31	-0.58/-1.95	-6.78/-9.18	-5.32/-4.01	-4.49/-5.03	-2.18/-3.71	-6.57/-12.73	-9.19/-8.55	-6.8/-6.06	-4.87/-5.61	-8.74/-9.25	-17.21/-13.53	-12.3/-7.82	-9.54/-18.96	-19.27/-13.74	-12.33/-10.46	-9.93/-10.36	-10.88/-12.37
Θ(60°)	-7.88/-11.73	-16.24/-12.63	-11.19/-9.21	-3.92/-3.41	-3.43/-2.52	-0.92/-0.6	-0.97/-1.43	-2.24/-3.02	-8.14/-6.92	-3.83/-3.56	-10.11/-11.69	-5.96/-4.9	-7.33/-9.12	-7.38/-18.3	-14.23/-8.23	-6.67/-8.9	-9.62/-8.77	-11.77/-14.14	-11.76/-10.03	-14.51/-17.89	-11.37/-9.88	-8.31/-9.65	-10.45/-7.84	-5.



Radiated Composite Gain Data 6GHz U-NII 5~8

Appendix B

Θ(60°)	-11.93/-4.65	-3.7/-4.01	-3.42/-3.6	-5.66/-5.22	-5.66/-8.14	-7.97/-5.25	-4.32/-6.04	-9.49/-8.88	-5.91/-4.69	-2.51/-2.94	-5.53/-10.7	-6.45/-2.09	-1.4/-6.48	-8.31/-7.91	-19.02/-17.37	-14.03/-17.8	-13.31/-7.68	-5.71/-3.17	-1.86/-5.3	-18.73/-17.22	-17.92/-8.83	-4.55/-7.12	-7.05/-5.37	-5.33/-7.75
Θ(67.5°)	-11.76/-5.36	-3.54/-4.76	-3.62/-3.05	-3.55/-3.53	-4.38/-6.48	-7.49/-6.03	-6.35/-9.05	-10.6/-8.77	-7.06/-5.64	-4.15/-3.75	-4.66/-7.07	-7.28/-3.9	-2.86/-5.5	-5.18/-7.68	-19.29/-18.93	-16.28/-19	-11.23/-7.51	-5.59/-8.59	-6.09/-6.68	-14.25/-14.79	-11.41/-4.9	-2.35/-2.92	-7.82/-10.6	-8.32/-8.4
Θ(75°)	-9.06/-7.15	-3.76/-3.37	-4.19/-3.5	-1.73/-3.2	-4.32/-6.8	-10.18/-8.54	-7.29/-4.9	-10.83/-7.88	-7.18/-7.26	-4.11/-6.16	-5.76/-5.61	-6.83/-3.63	-4.56/-7.52	-5.66/-4.71	-16.42/-16.33	-18.65/-17.54	-11.54/-10.7	-4.55/-9.42	-6.04/-12.34	-10.08/-10.08	-1.73/-2.63	-8.05/-13.91	-9.51/-7.81	
Θ(82.5°)	-7.64/-7.1	-3.43/-3.39	-4.57/-3.16	-2.17/-2.74	-5.45/-9.74	-9.06/-8.66	-8.1/-9.54	-11.48/-10.49	-13.3/-7.75	-7.21/-5.31	-5.45/-7.82	-9.33/-3.52	-6.59/-7.98	-6.28/-6.92	-11.06/-13.07	-17.61/-18.71	-17.87/-10.02	-5.34/-14.04	-6.81/-8.84	-9.72/-8.27	-13.69/-3.36	-3.76/-3.51	-7.65/-12.03	-8.86/-8.8
Θ(90°)	-6.14/-6.29	-4.34/-2.97	-4.43/-3.94	-1.87/-3.94	-5.96/-7.38	-10.21/-11.47	-8.66/-7.45	-11.52/-15.2	-11.56/-10.98	-12.19/-5.62	-7.96/-11.41	-8.42/-3.53	-7.46/-6.51	-7.52/-6.75	-9.39/-9.54	-18.89/-18.52	-17.79/-11.05	-8.23/-16.36	-9.32/-7.09	-8.63/-6.71	-18.64/-4.71	-3.29/-3.34	-6.84/-10.99	-10.46/-6.56
Θ(97.5°)	-6.28/-5.79	-4.42/-2.3	-3.37/-4.24	-2.64/-3.77	-7.33/-8.97	-11.45/-18.18	-11.53/-6.16	-12.62/-17.78	-13.43/-18.27	-12.84/-7.19	-9.24/-8.11	-10.01/-7.77	-10.98/-4.49	-6.91/-7.64	-9.37/-12.01	-16.92/-14.91	-19.52/-12.65	-11.18/-16.16	-11.89/-6.11	-10.88/-12.82	-14.39/-8.03	-5.52/-5.58	-8.35/-9.71	-8.02/-6.01
Θ(105°)	-4.96/-5.75	-3.52/-1.95	-2.57/-4.81	-2.22/-3.44	-7.14/-9.16	-12.39/-19.14	-15.07/-9.29	-10.79/-10.12	-8.43/-17.72	-10.29/-7.92	-9.38/-8.98	-8.66/-7.55	-9.83/-5.02	-8.82/-6.5	-8.42/-19.12	-15.59/-17.82	-19.26/-12.99	-11.95/-10.09	-16.46/-10.27	-18.83/-14.44	-12.42/-9.16	-5.02/-6.74	-11.22/-12.06	-6.77/-6.09
Θ(112.5°)	-4.8/-5.98	-3.6/-2.37	-2.7/-3.35	-2.63/-2.84	-7.88/-11.35	-12.57/-18.97	-18.64/-11.69	-9.18/-8.1	-5.34/-10.01	-8.78/-7.31	-7.48/-8.73	-8.27/-7.63	-7.32/-7.93	-12.14/-9.82	-14.73/-14.04	-14.67/-17.59	-18.12/-18.41	-17.54/-10.45	-11.45/-17.85	-17.02/-18.52	-8.37/-9.43	-10.07/-8.76	-8.99/-10.53	-10.2/-5.21
Θ(120°)	-3.41/-7.24	-4.41/-1.78	-2.21/-3.34	-1.65/-3.16	-6.68/-13.55	-11.91/-14.05	-19.09/-17.37	-11.26/-6.25	-6.07/-6.75	-5.05/-6.77	-6.86/-9.17	-12.35/-8.04	-9.95/-11.43	-16.12/-16.98	-16.06/-13.96	-10.7/-18.97	-15.82/-18.12	-18.12/-14.73	-6.82/-18.71	-11.65/-17.37	-10.93/-7.27	-11.84/-18.94	-8.63/-7.61	-8.73/-6.49
Θ(127.5°)	-4.8/-7.6	-4.96/-3.61	-1.36/-1.74	-3.47/-3.35	-8.71/-13.75	-13.52/-11.16	-11.6/-18.38	-18.02/-11.66	-6.28/-8.22	-13.16/-7.96	-4.93/-6.61	-6.99/-9.55	-14.36/-17.96	-17.46/-18.82	-9.51/-10.19	-10.42/-18.07	-18.15/-14.73	-13.06/-18.38	-8.83/-7.1	-10.57/-15.91	-9.31/-13.52	-11.47/-18.36	-9.83/-14.42	-7.88/-3.96
Θ(135°)	-5.8/-5.16	-2.09/-1.94	-3.31/-3.16	-3.25/-6.61	-8.17/-14.48	-16.98/-11.63	-13.39/-18.34	-19.1/-11.76	-7.72/-6.17	-7.46/-9.48	-10.02/-8.75	-8.38/-6.33	-10.39/-12.39	-18.58/-19	-17.56/-7.62	-18.77/-14.95	-11.88/-18.13	-14.6/-13.31	-15.91/-7.95	-19.09/-10.63	-15.96/-11.94	-12.91/-13.19	-12.31/-13.27	
Θ(142.5°)	-6.39/-5.23	-2.03/-1.3	-3.25/-3.31	-6.13/-7.6	-9.45/-10.69	-16.62/-17.42	-12.81/-11.5	-12.21/-10.9	-8.13/-5.93	-4.89/-5.36	-5.64/-9.93	-11.4/-9.99	-6.39/-8.93	-9.53/-8.75	-8.49/-15.38	-10.25/-17.13	-12.35/-11.19	-13.27/-10.91	-10.63/-9.48	-14.27/-7.04	-10.63/-9.81	-8.32/-7.22		
Θ(150°)	-9.5/-3.91	-2.48/-3.49	-4.95/-6.27	-6.79/-10.9	-18.13/-17.73	-15.58/-15.63	-15.81/-16.67	-16.36/-13.19	-11.24/-9.89	-9.1/-7.04	-5.99/-7.14	-7.6/-5.79	-6.22/-7.15	-8.4/-6.27	-8.29/-18	-16.79/-18.25	-12.06/-8.02	-8.78/-16.29	-17.94/-13.7	-12.23/-11.85	-10.87/-12.79	-11.53/-8.85	-6.41/-5.27	-7.54/-15.74
Θ(157.5°)	-9.46/-6.77	-5.87/-7.21	-9.95/-10.68	-9.03/-7.5	-9.24/-14.69	-18.69/-18.34	-18.29/-18.86	-17.97/-15.68	-10.7/-5.73	-5.78/-4.57	-3.62/-3.35	-4.02/-5.41	-6.13/-8.4	-13.08/-13.23	-12.08/-11.22	-15.24/-17.7	-14.25/-14.31	-11.85/-15.9	-17.46/-18.31	-14.66/-15.03	-17.44/-13.05	-11.42/-10.4	-9.35/-8.94	-9.83/-11.01
Θ(165°)	-8.3/-6.74	-7.42/-8.74	-11.19/-13.19	-12.31/-10.68	-10.27/-16.8	-17.86/-15.89	-11.42/-9.5	-9.72/-10.11	-9.81/-7.82	-6.4/-6.25	-7.31/-8.34	-10.55/-12.8	-13.19/-11.78	-10.09/-9.84	-11.61/-16.34	-13.26/-9.24	-9.44/-14.62	-17.09/-18.65	-18.98/-14.87	-11.83/-11.06	-12.55/-15.6	-18.43/-18.58	-13.47/-10.91	
Θ(172.5°)	-12.44/-11.16	-11.01/-11.79	-13.7/-18.34	-18.19/-19.06	-18.77/-18.44	-18.63/-15.29	-14.46/-13.3	-11.49/-11.33	-12.08/-12.96	-14.23/-15.52	-16.71/-17.4	-17.3/-15.69	-14.3/-14.11	-14.21/-15.35	-16.33/-18.11	-18.02/-18.47	-18.21/-16.28	-16.9/-17.36	-17.69/-17.95	-16.96/-16.6	-19.33/-18.37	-16.27/-13.66	-11.63/-10.96	-11.99/-13.24
Θ(180°)	-10.52/-12.01	-13.71/-14.57	-16.41/-18.51	-18.76/-18.51	-18.42/-18.95	-18/-18.11	-15.58/-12.42	-9.95/-8.87	-8.64/-8.85	-9.64/-10.63	-10.96/-10.46	-10.52/-11.59	-12.94/-14.11	-16.1/-17.41	-17.17/-16.87	-18.75/-17.92	-17.95/-19.33	-17.55/-13.57	-10.18/-7.84	-6.88/-6.81	-6.27/-6.34	-6.26/-6.26	-5.99/-5.78	-6.77/-8.6
Freq(Hz)	6.175GPol.	ThetaAnt.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-5.79/-5.73	-5.07/-5.1	-5.22/-5.86	-6.17/-6.71	-7.29/-7.17	-8.63/-10.12	-12.48/-15.39	-17.42/-18.71	-17.97/-18.46	-14.46/-12.56	-11.32/-10.31	-9.36/-8.27	-7.29/-6.23	-5.47/-5.47	-5.45/-5.31	-5.6/-5.67	-7.74/-8.92	-9.63/-10.15	-11.83/-14.94	-18.1/-17.49	-18.93/-18.51	-14.1/-16.7	-9.92/-8.28	-6.76/-5.51
Θ(7.5°)	-6.75/-7.07	-7.01/-6.97	-7.06/-7.95	-7.4/-7.1	-7.64/-8.32	-8.27/-9.52	-12.98/-17.65	-19.16/-19.05	-17.78/-16.5	-12.09/-9.13	-9.78/-10.67	-10.69/-9.13	-8.18/-6.52	-5.39/-5.53	-6.2/-6.61	-7.19/-7.73	-7.83/-9.03	-10.25/-9.55	-10.43/-14.75	-14.73/-17.47	-18.62/-18.17	-13.04/-9.26	-7.73/-6.66	-5.89/-5.86
Θ(15°)	-5.33/-5.08	-4.2/-3.84	-3.99/-4.1	-4.78/-6.03	-7.66/-7.92	-8.26/-9.48	-10.52/-11.04	-13.6/-17.88	-19.31/-17.31	-12.99/-8.98	-6.78/-6.1	-6.38/-6.57	-6.71/-6.57	-6.47/-6.92	-7.37/-8.39	-9.44/-8.88	-9.4/-7.96	-6.17/-5.72	-7.19/-8.67	-10.34/-13.37	-11.06/-9.36	-10.43/-11.6	-8.84/-7.59	-6.05/-5.17
Θ(22.5°)	-5.09/-5.84	-4.81/-4.07	-3.54/-3.4	-3.75/-6.61	-8.97/-13.61	-13.84/-13.85	-15.97/-16.32	-15.95/-14.06	-14.14/-14.46	-10.7/-5.57	-9.12/-4.47	-8.82/-6.32	-8.26/-4.66	-5.35/-8.56	-11.81/-9.39	-7.74/-6.36	-6.7/-5.87	-5.59/-7.2	-4.56/-2.76	-3.59/-5.65	-8.75/-9.49	-8.76/-6.37	-5.28/-4.6	
Θ(30°)	-4.91/-5.92	-6.92/-4.94	-3.76/-3.08	-4.57/-9.97	-13.95/-13.63	-11.62/-11.28	-15.94/-13.82	-12.5/-11.7	-10.65/-9.52	-10.3/-12.26	-16.39/-11.79	-8.66/-5.32	-2.94/-2.52	-2/-2.32	-7.03/-11.32	-14.29/-9.57	-8.14/-9.08	-4.55/-3.43	-5.35/-7.15	-7.37/-6.59	-7.42/-7.67	-5.42/-4.34		
Θ(37.5°)	-3.58/-4.53	-5.87/-5.49	-4.38/-3.06	-6.23/-10.99	-8.65/-5.21	-5.49/-8.63	-8.75/-7.6	-7.07/-6.69	-10.98/-16.49	-11.11/-9.78	-15.98/-16.73	-9.22/-6.95	-5.98/-5.96	-4.41/-1.39	0.250/-29	-2.05/-4.6	-5.82/-4.06	-2.01/-3.11	-5.84/-4.83	-2.95/-2.29	-4.11/-6.83	-5.99/-4.86	-2.09/-1.65	-2.03/-1.29
Θ(45°)	-0.62/-1.1	-2.49/-3.25	-1.71/-1.09	-4.09/-9	-6.39/-4	-5.35/-9.4	-10.12/-6.96	-5.04/-4.84	-4.95/-6.28	-6.89/-6.48	-8.85/-15	-10.46/-9.37	-8.63/-7.27	-4.56/-1.54	0.521/-51	0.26/-1.96	-4.58/-5.13	-4.7/-3.11	-5.16/-3.5	-0.1/-0.39	-2.14/-3.31	-1.950/-92	0.90/-71	0.160/-41
Θ(52.5°)	1.271/-55	-0.46/-2.75	-0.060/-1	-3.8/-11.23	-7.66/-6.33	-7.64/-8.06	-9.06/-5.45	-2.51/-2.78	-3.02/-2.88	-4.97/-6.86	-13.13/-14.57	-3.17/-2.5	-1.060/-19	1.271/-05	0.12/-2.05	-5.88/-5.61	-3.15/-1.68	-1.97/-0.62	0.740/-14	-1.97/-2.43	0.822/-52	2.381/-66	1.070/-96	
Θ(60°)	2.01/-24	0.89/-1.48	0.760/-12	-3.75/-9.22	-8.73/-5.68	-4.35/-3.22	-2.78/-1.97	-0.03/-0.55	-2.72/-3	-4.28/-4.79	-10.38/-9.55	-4.66/-3.94	0.160/-62	0.471/-34	1.730/-07	-0.91/-2.6	-5.56/-7.1	-2.95/-0.59	-1.15/-0.41	-0.03/-0.45	-2.12/-2.37	-0.010/-74	1.581/-17	-0.430/-63
Θ(67.5°)	1.911/-95	0.78/-1.39	0.28/-0.59	-4.15/-7.41	-6.99/-3.77	-0.710/-41	0.560/-8	1.620/-84	-2.71/-3.69	-4.19/-4.35	-7.54/-2.55	-2.82/-2.22	1.230/-96	1.161/-79	0.53/-2.15	-3.14/-3.57	-6.91/-14.61	-4.91/-3.09	-0.430/-07	-0.65/-0.99	-1.36/-2.77	-0.21/-0.35	-0.40/-49	-1.570/-03
Θ(75°)	0.551/-03	0.14/-1.25	-0.66/-2.62	-4.39/-6.96	-4.62/-1.59	0.751/-78	1.81/-18	1.140/-51	-3.56/-5.42	-4.62/-5.47	-6.56/-3.75	-1.55/-2.21	1.31/-3	1.71/-1	-0.48/-3.21	-3.54/-2.02	-6.31/-10.02	-4.181/-03	-0.85/-0.15	-0.62/-1.8	-2.05/-2.92	-0.12/-2.02	-1.55/-0.48	-1.4/-0.43
Θ(82.5°)	-0.63/-0.28	-0.28/-1.8	-2.43/-4.35	-3.93/-5.08	-2.28/-0.1	0.650/-108	0.950/-38	0.641/-13	-4.37/-5.44	-4.46/-7.12	-8.12/-4.03	-2.14/-2.27	0.920/-5	-0.08/-0.53	-0.89/-5.27	-3.43/-1.42	-3.19/-3.73	-0.932/-61	0.32/-0.43	1/-0.61	-3.03/-4.39	-3.55/-4.47	-3.53/-1.46	-3.71/-19.3
Θ(90°)	-1.78/-0.9	-1.61/-2.29	-3.15/-4.91	-4.83/-4.06	-1.40/-68	1.920/-6	0.38/-11.4	-1.390/-47	-4.68/-5.59	-5.24/-12	-2.12/-1.91	0.710/-29	0.46/-1.75	-3.17/-5.02	-8.86/-2.53	-3/-2.77	-12.21	0.87/-0.46	1.770/-1	-2.72/-7.98	-6.65/-6.84	-4.95/-2.43	-4.985/-09	
Θ(97.5°)	-6.36/-3.54	-3.32/-3.11	-4.18/-7.12	-5.13/-3.15	-1.01/-38	1.05/-1.36	-0.6/-1.8	-2.03/-0.34	-5.44/-5.19	-7.58/-15.62	-9.55/-6.91	-3.51/-3.09	-0.430/-8	-0.67/-2.71	-4.38/-6.45	-5.03/-4.69	-3.420/-73	-1.26/-0.6	0.84/-1.61	-4.36/-13.06	-6.29/-9.79	-6.95/-3.98	-7.17/-8.47	
Θ(105°)	-8.27/-8.93	-8.09/-6.94	-5.18/-7.85	-5.79/-3.5	-2.71/-11	-0.42/-1.1	-2.67/-4.15	-3.79/-2.55	-5.34/-5.21	-9.49/-12.71	-9.49/-8.48	-4.27/-4.21	-1.430/-34	-0.46/-2.08	-9.34/-12.64	-18.25/-9.63	-10.44/-7.41	-11.64/-6.47	-5.79/-6.55	-6.81/-6.11	-12.59/-18.5	-10.88/-13.23	-9.56/-6.04	-10.88/-13.65
Θ(112.5°)	-11.5/-13.79	-17.71/-13.94	-8.07/-6.97	-9.21/-3.73	-4.06/-3.09	-4.1/-4.02	-4.69/-6.2	-7.06/-6.05	-4.11/-5.93	-7.23/-8.12	-10.96/-12.21	-11.12/-5.19	-2.42/-1.55	-3/-3.82	-4.66/-9.75	-9.3								



Radiated Composite Gain Data 6GHz U-NII 5~8

Appendix B

Θ(112.5°)	-7.69/-4.78	-3.81/-4.54	-3.25/-2.29	-5.63/-6.26	-7.14/-11.12	-9.24/-6.87	-9.61/-9.39	-7.84/-18.52	-19.24/-15.04	-17.67/-10.75	-6.98/-7.55	-11.89/-9.09	-6.27/-9.54	-7.72/-6.85	-13.64/-18.49	-9.34/-14.24	-5.71/-17.31	-12.52/-17.81	-11.67/-15.46	-15.67/-9.31	-11.68/-7.31	-10.95/-7.54	-5.78/-3.83	-7.18/-4.99
Θ(120°)	-4.48/-2.84	-2.88/-5.4	-1.57/-0.05	-3.63/-5.88	-6.05/-8.78	-9.22/-7.54	-8.21/-9.17	-10.45/-14.54	-19.2/-18.38	-17.87/-18.61	-14.58/-13.71	-11.31/-12.53	-10.16/-18.37	-18.01/-18.36	-17.01/-12.02	-8.61/-12.24	-9.65/-12.34	-10.03/-13.64	-7.2/-9.47	-10.9/-18.86	-7.65/-14.25	-16.58/-5.31	-2.14/-5.6	-6.07/-4.56
Θ(127.5°)	-5.17/-0.88	-2.77/-3.79	-2.66/-0.71	-2.66/-0.71	-5.12/-6.54	-9.24/-11.15	-9.29/-1.64	-6.37/-10.18	-14.79/-17.98	-15.16/-13.89	-12.47/-9.91	-6.67/-11.73	-13.86/-18.41	-18.54/-18.75	-17.95/-9.71	-13.65/-16.32	-17.95/-8.35	-14.67/-10.51	-7.84/-9.86	-17.73/-18.23	-9.33/-18.05	-11.25/-5.93	-2.89/-9.26	-3.28/-4.66
Θ(135°)	-3.99/-1.1	-3.42/-4.91	-1.92/-1.98	-3.59/-4.28	-5.9/-6.79	-8.25/-6.8	-4.05/-2.79	-5.33/-7.39	-7.82/-17.87	-15.68/-10.31	-8.75/-12.44	-11.99/-11.66	-18.41/-13.32	-8.56/-14.18	-9.25/-5.48	-4.96/-16.22	-10.72/-14.96	-9.07/-12.44	-17.82/-16.55	-14.27/-16	-13.1/-4.25	-6.67/-6.69	-5.07/-12.79	-5.45/-3
Θ(142.5°)	-3.78/-0.1	-1.86/-4.13	-1.74/-1.63	-3.18/-6.16	-5.98/-5.34	-5.32/-5.05	-4.04/-3.39	-4.19/-6.79	-5.97/-6.25	-12.43/-18.91	-16.78/-18.2	-13.09/-13.22	-15.23/-18.33	-14.02/-9.79	-10.44/-11.21	-17.66/-8.72	-13.27/-19.37	-17.68/-16.51	-8.28/-15.57	-18.61/-12.52	-13.12/-6.75	-9.31/-5.09	-7.95/-8.9	-9.29/-6.8
Θ(150°)	-2.97/-1.71	-2.43/-2.55	-1.87/-0.84	-2.19/-5.08	-9.43/-12.84	-12.37/-6.99	-4.57/-5.16	-6.11/-5.75	-15.16/-5.75	-17.91/-16.37	-16.06/-15.14	-10.14/-11.28	-16.63/-9.54	-4.32/-7.19	-15.39/-6.28	-7.46/-10.58	-17.38/-17.26	-13.26/-19.46	-19.37/-12.97	-13.71/-18.93	-10.38/-9.55	-6.77/-6.25	-4.25/-5.01	-10.36/-6.92
Θ(157.5°)	-2.9/-2.34	-1.65/-1.3	-2.12/-3.44	-6.61/-11.64	-10.04/-6.87	-5.3/-4.3	-4.2/-5.42	-6.69/-7.92	-9.41/-9.93	-9.27/-9.54	-10.17/-9.78	-10.24/-10.35	-7.36/-6.59	-6.77/-11.26	-18.23/-13.58	-13.36/-18.76	-14.99/-10.06	-10.56/-15.05	-18.9/-14.68	-12.14/-8.52	-4.8/-2.81	-2.16/-3.21	-3.94/-6.33	-10.3/-5.97
Θ(165°)	-5.05/-3.61	-1.81/-0.3	0.21/-0.53	-1.56/-3.45	-6.93/-10.35	-10.18/-8.8	-8.29/-8.34	-8.37/-9.38	-11.48/-13.58	-15.59/-17.08	-15.51/-12.46	-11.89/-14.37	-17.72/-19.33	-16.32/-16.59	-18.57/-12.32	-8.91/-9.14	-11.52/-14.65	-17.92/-12.53	-9.62/-12.26	-13.1/-14.06	-13.15/-12.73	-13.17/-9.79	-8.81/-9.35	-8.23/-7.9
Θ(172.5°)	-6.56/-5.99	-4.42/-3.69	-3.56/-3.49	-4.15/-5.05	-6.68/-9.09	-12.44/-13.13	-12.21/-13.22	-16.84/-18.13	-17.15/-18.95	-18.17/-18.57	-18.57/-17.25	-18.71/-17.63	-18.37/-17.85	-15.74/-13.13	-13.04/-13.66	-12.35/-10.23	-8.84/-8.92	-7.4/-7.38	-10.06/-11.41	-13.14/-15.17	-14.85/-18.95	-17.65/-15.7	-11.96/-10.6	-8.85/-6.75
Θ(180°)	-17.38/-18.59	-18.3/-14.97	-12.38/-11.49	-9.98/-8.29	-7.73/-8.59	-10.15/-9.73	-10.23/-12.73	-14.59/-13.68	-15.2/-13.8	-10.99/-10.63	-12.01/-14.34	-17.38/-18.56	-19.23/-18.61	-19.27/-17.85	-17.79/-13.87	-11.57/-10.86	-12.46/-14.6	-16.28/-18.82	-18.74/-18.34	-19.22/-19.03	-18.58/-18.1	-17.42/-18.83	-17.39/-19.07	-18.62/-18.58
Freq(Hz)	6.995GPol.	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-10.37/-10.92	-10.28/-10.15	-12.25/-14.62	-15.22/-16.39	-17.85/-17.9	-18.48/-18.15	-19.07/-15.45	-13.41/-13.71	-12/-10.82	-10.69/-10.42	-10.68/-11.83	-11.86/-10.65	-10.06/-10.42	-10.31/-9.7	-10.27/-11.88	-14.05/-17.73	-17.67/-17.56	-19.01/-18.87	-17.65/-16.63	-13.34/-11.81	-11.39/-10.9	-10.14/-8.14	-7.66/-8.23	-8.73/-9.05
Θ(7.5°)	-9.6/-10.2	-11.84/-12.27	-12.12/-12.03	-10.55/-10.5	-9.66/-9.56	-7.63/-7.08	-7.34/-7.59	-8.3/-12.17	-16.83/-18.56	-17.44/-11.75	-9.25/-8.01	-6.96/-7.13	-8.13/-9.48	-9.69/-8.58	-7.5/-7.34	-7.93/-8.86	-10.35/-11.84	-15.39/-37.71	-18.51/-13.86	-12.15/-11.81	-10.67/-8.85	-7.73/-7.25	-7.61/-7.96	-8.6/-9.01
Θ(15°)	-14.28/-13.34	-10.62/-8.71	-8.15/-7.95	-7.65/-7.09	-7.16/-7.2	-6.22/-4.88	-4.54/-4.43	-5.42/-7.31	-8.79/-9.85	-9.33/-8.05	-6.75/-5.31	-4.19/-4.43	-6.14/-7.14	-6.74/-6.68	-7.83/-9.79	-10.12/-10.61	-13.8/-17.7	-18.82/-18.06	-17.55/-17.93	-18.84/-17.91	-18.22/-16.75	-14.52/-13.22	-12.96/-11.88	-13.24/-13.76
Θ(22.5°)	-11.92/-13.41	-7.29/-6.8	-6.74/-5.37	-6.66/-9.35	-10.62/-9.27	-8.44/-5.25	-4.15/-4.21	-3.94/-4.33	-5.99/-6.83	-5.69/-4.11	-5.46/-8.43	-6.1/-5.14	-5.72/-4.91	-6.87/-10.9	-13.49/-10.6	-9.27/-9.49	-13.48/-19.17	-17.41/-18.33	-19.14/-16.96	-9.95/-8.64	-10.29/-10.73	-8.84/-7.83	-6.9/-6.07	-6.83/-8.54
Θ(30°)	-7.28/-10.37	-8.95/-7.53	-4.52/-2.48	-2.98/-3.65	-3.82/-4.74	-6.88/-6.46	-7.26/-8.19	-5.38/-3.04	-2.54/-3.01	-4.76/-3.68	-3.34/-4.85	-7.56/-6.61	-5.29/-4.74	-6.58/-10.8	-13.52/-9.85	-5.15/-4.81	-7.55/-12.45	-18.17/-18.76	-16.35/-15.78	-6.56/-7.18	-3.86/-4.04	0.15/-0.88	-2.54/-7.15	-2.42/-5.71
Θ(37.5°)	-3.43/-4.46	-5.33/-4.13	-1.160/-39	-3.31/-1.97	-2.71/-3.97	-7.29/-8.58	-6.34/-6.48	-9.86/-4.72	-1.27/-10.59	-3.98/-3.33	-1.36/-2.28	-6.35/-6.69	-5.34/-4.01	-5.52/-11.05	-8.82/-5.72	-6.04/-6.23	-6.77/-9.88	-13.48/-14.35	-8.15/-1.89	-0.43/-3.77	-3.74/-1.81	-0.96/-2.46	-5.18/-7.91	-8.25/-7.71
Θ(45°)	-1.05/-1.74	-1.54/-1.89	-2.34/-1.26	-1.64/-5.09	-3.39/-2.73	-4.05/-4.49	-3.71/-4.46	-6.8/-4.79	-0.932/-1.4	1.26/-3.69	-3.02/-2.24	-3.79/-7	-10.43/-5.24	-5.14/-8.54	-4.96/-1.44	-1.76/-1.12	-1.24/-2.76	-5.1/-3.83	-2.980/-76	1.61/-2.11	-3.08/-0.62	-1.68/-6.45	-11.12/-10	-7.65/-3.4
Θ(52.5°)	-1.872/-1.21	0.05/-1.09	-5.89/-4.45	-4.03/-4.91	-1.06/-0.6	-3.47/-3.9	-2.73/-4.12	-3.320/-13	0.061/-18	1.49/-2.36	-3.52/-5.66	-5.87/-10.21	-5.14/-0.26	-1.02/-5.42	-1.85/-0.47	-2.45/-2.68	-2.78/-4.32	-4.54/-3.46	-0.412/-24	3.061/-15	-1.57/-1.8	-2.56/-7.65	-12.51/-6.57	-3.08/-11.7
Θ(60°)	-1.17/-0.64	-0.47/-1.12	-5.33/-2.45	-3.77/-1.87	2.88/-22	-1.03/-3.45	-2.64/-4.86	-4.987/-5	3.41/-19	0.94/-1.93	-2.73/-9.19	-5.46/-5.29	-1.95/-1.64	1.46/-1.88	-0.250/-0.2	-1.23/-2.66	-12.26/-8.47	-3.08/-4.7	-2.240/-97	2.061/-66	-2.68/-3.27	-4.02/-7.44	-6.66/-5.89	-13.40/-5
Θ(67.5°)	-0.22/-0.24	0.630/-64	-2.44/-3.6	-6.22/-1.08	2.021/-92	-0.58/-2.56	-2.43/-4.86	-5.53/-1.9	3.721/-55	1.41/-0.73	-4.97/-14.06	-1.93/-2.83	-0.191/-85	0.94/-1.77	-1.051/-07	-0.71/-2.92	-4.82/-2.83	-2.77/-5.92	-4.6/-0.92	1.170/-15	-3.71/-7.14	-7.1/-10.66	-7.72/-4.2	-0.67/-0.82
Θ(75°)	1.050/-15	0.981/-47	-1.78/-5.7	-1.47/-2.15	21/-9	-0.13/-0.42	-1.79/-3.72	-4.480/-47	3.618/-87	0.68/-0.03	-5.45/-15.96	0.910/-71	-0.70/-74	1.05/-2.74	-2.840/-77	-1.67/-3.01	-5.21/-2.34	-2.65/-9.22	-8.56/-1.5	1.691/-15	-4.67/-11.18	-10.16/-12.84	-5.38/-4.15	-1.110/-95
Θ(82.5°)	0.9/-0.08	0.071/-14	-3.1/-6.86	-7.93/-1.05	1.671/-32	0.89/-0.24	-0.52/-3.13	-3.071/-99	1.880/-64	0.24/-1.56	-6.4/-9.66	-0.58/-0.4	0.370/-39	-0.4/-7.3	-5.79/-10.4	-2.18/-7.05	-6.10/-98	-2.19/-6.3	-7.05/-1.86	1.981/-63	-5.27/-15.33	-12.07/-16.95	7.1/-3.81	-2.68/-0.36
Θ(90°)	0.9/-0.93	-1.67/-0.22	-2.6/-6.9	-8.82/-3.12	0.270/-38	2.570/-64	0.38/-0.83	-5.251/-92	0.610/-43	-1.78/-2.15	-0.64/-8.61	-2.43/-0.27	-0.28/-0.53	-0.39/-4.28	-1.347/-1.27	-2.42/-2.9	-2.871/-49	1.3/-2.11	-3.10/-0.28	2.62/-0.05	-5.34/-18.27	-18.97/-17.66	-13.15/-5.45	-7.13/-1.63
Θ(97.5°)	-0.81/-3.06	-3.19/-1.52	-4.64/-9.78	-10.19/-5.26	-0.84/-0.53	1.92/-0.59	1.610/-94	-2.191/-71	-0.08/-0.09	-2.624/-643	-3.17/-8.06	-4.88/-1.1	0.54/-0.85	-2.78/-5.67	-11.48/-9.38	-3.48/-1.38	-2.722/-28	0.89/-3.68	-2.610/-17	1.860/-29	-10.65/-18.43	-13.47/-11.77	-18.79/-8.12	-3.85/-2.9
Θ(105°)	-4.32/-5.14	-6.14/-3.15	-8.28/-11.22	-13.08/-5.6	-2.4/-0.28	1.071/-48	1.531/-33	-2.04/-0.56	0.71/-0.31	-1.7/-2.67	-5.26/-11.59	-7.98/-3.04	-0.72/-2.48	0.1/-0.21	-5.07/-5.26	-13.71/-9.36	-6.67/-2.63	-6.41/-11.44	-11.5/-2.02	-2.55/-5.35	-15.16/-13.61	-10.45/-10.03	-8.65/-8.55	-5.29/-4.54
Θ(112.5°)	-6.01/-9.75	-11.91/-5	-9.98/-13.34	-14.04/-6.4	-3.57/-0.66	0.111/-15	1.07/-0.04	-0.98/-1.01	0.460/-69	-1.96/-6.23	-8.81/-12.83	-6.17/-3.76	-2.2/-3.2	-0.77/-3.64	-4.97/-6.74	-14.49/-9.5	-8.16/-9.94	-12.81/-6.73	-7.85/-7.16	-10.08/-13.46	-12.18/-18.01	-12.93/-11.4	-6.83/-8.92	-7.12/-10.44
Θ(120°)	-9.81/-14.62	-18.8/-19.23	-10.91/-18.65	-7.06/-4.36	-2.43/-3.19	-1.35/-1.29	-0.98/-1.8	-3.46/-3.15	-1.98/-0.95	-3.69/-7.19	-19.19/-16.28	-12.64/-7.6	-3.88/-8.14	-2.92/-3.78	-8.13/-13.92	-6.85/-14.24	-5.12/-1.15	-6.47/-1.82	-0.74/-2.35	-3.52/-6.4	-6.11/-17.33	-7.65/-9.53	-9.02/-8.48	-6.71/-14.63
Θ(127.5°)	-12.55/-11.06	-18.93/-17	-17.13/-13.14	-6.92/-2.11	-4.62/-7.85	-6.91/-9.4	1.290/-34	-2.73/-6.76	-6.44/-4.9	-6.31/-7.37	-5.21/-8.2	-10.12/-18.13	-15.17/-13.57	-17.94/-11.89	-8.61/-12.39	-7.38/-13.56	-17.72/-11.15	-8.23/-9.5	-11.82/-18.19	-18.09/-16.69	-13.96/-9.75	-4.49/-5.06	-6.14/-9.64	-6.68/-8.3
Θ(135°)	-14.62/-16.93	-17.76/-18.39	-13.9/-9.26	-7.71/-8.5	-5.99/-15.2	-5.82/-0.264	-8.64/-17.13	-7.38/-3.35	-7.54/-11.99	-5.56/-6.91	-6.87/-12.97	-11.52/-6.68	-4.1/-6.47	-3.24/-16.14	-12.28/-8.67	-2.6/-7.13	-8.36/-8.43	-7.13/-15.93	-11.03/-7.94	-14.28/-14.49	-11.32/-7.48	-7.74/-8.68	-7.72/-6.67	
Θ(142.5°)	-8.53/-13.68	-16.97/-17.82	-17.71/-12.44	-11.02/-11.23	-7.72/-8.49	-10.27/-13.45	-4.92/-3.38	-3.71/-7.07	-18.85/-9.7	-6.25/-12.17	-17.83/-8.42	-7.48/-5.91	-6.21/-12.66	-8.51/-7.75	-10.36/-9.47	-8.86/-13.63	-3.19/-04	-17.57/-6.4	-8.65/-9.02	-18.28/-3.41	-5.52/-8.29	-3.41/-2.57	-6.23/-12.17	-10.73/-8.7
Θ(150°)	-13.09/-16.69	-16.61/-18.54	-17.63/-18.4	-16.24/-10.95	-11.12/-17.78	-18.8/-14.29	-13.82/-12.01	-9.24/-8.47	-8.8/-8.78	-7.37/-7.07	-9.27/-14.02	-11.47/-8.02	-10.16/-12.33	-10.24/-12.91	-11.26/-4.33	-6.8/-18.61	-11.11/-17.91	-12.94/-6.68	-6.51/-8.16	-12.95/-18.71	-10.52/-9.78	-9.51/-6.58	-5.43/-5.32	-5.47/-7.91
Θ(157.5°)	-18.78/-19.36	-12.16/-11.82	-7.45/-6.31	-8.33/-14.72	-18.57/-13.41	-12.9/-11.8	-14.88/-16.38	-13.14/-10.09	-9.6/-10.45	-8.07/-5.75	-4.87/-5.92	-7.25/-8.31	-13.89/-18.62	-19.01/-18.48	-12.94/-14.12	-10.74/-7.66	-6.96/-5.89	-5.48/-9.3	-3.82/-6.86	-8.02/-5.97	-6.89/-8.7	-7.16/-6.74	-9.18/-9.68	-7.74/-8.68
Θ(165°)	-7.84/-8.83	-12.35/-18.58	-14.52/-8.41	-																				



Radiated Composite Gain Data 6GHz U-NII 5~8

Appendix B

Θ(165°)	-11.58/-13.82	-18.29/-18.5	-15.44/-11.35	-10.75/-10.58	-10.57/-10.77	-11.38/-12.67	-14.65/-18.51	-17.84/-19.33	-13.8/-9.79	-9.76/-11.18	-10.65/-8.99	-9.11/-10.99	-11.5/-8.66	-7.08/-7.6	-10.3/-16.39	-18.79/-18.19	-12.85/-10.87	-12.55/-15.67	-15.13/-11.63	-12.06/-12.7	-11.19/-11.07	-12.03/-14.77	-17.37/-16.94	-13.21/-10.97
Θ(172.5°)	-15.17/-15.89	-15.96/-15.26	-15.03/-13.11	-11.46/-11.1	-12.03/-11.91	-11.46/-14.69	-18.14/-17.51	-18.77/-18.14	-17.67/-18.52	-14.77/-11.38	-10.54/-11.27	-12.83/-14.76	-14.9/-14.1	-15.25/-18.37	-18.23/-19.21	-18.26/-17.89	-18.15/-18.64	-19.2/-19.17	-16.63/-17.2	-18.35/-19.15	-18.74/-17.5	-18.43/-18.07	-19.35/-16.87	-14.97/-15.53
Θ(180°)	-13.07/-13.02	-12.01/-10.77	-10.63/-11.06	-11.14/-12.65	-13.26/-12.7	-13/-13.45	-18.92/-12.12	-11.95/-12.99	-13.51/-13.17	-12.82/-14.44	-12.82/-14.01	-16.1/-17.87	-16.07/-14.7	-14.72/-15.93	-17.02/-17.85	-15.86/-13.11	-12.03/-12.4	-12.03/-11.58	-18.63/-18.7	-15.5/-14.3	-18.12/-17.67	-15.5/-14.3	-14.25/-14.66	-14.84/-13.68
Freq(Hz)	6.175GPol.	ThetaAnt.3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
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°)	-6.74/-5.77	-5.66/-6.37	-6.55/-6.67	-7.72/-8.45	-8.55/-8.42	-8.24/-8.5	-9.28/-9.5	-9.58/-9.56	-9.21/-8.58	-7.71/-6.68	-6.35/-6.74	-7.14/-7.39	-7.52/-7.25	-7.27/-7.77	-9.03/-6.88	-9.43/-8.99	-9.14/-9.44	-10.4/-11.28	-11.25/-10.49	-10.02/-10.73	-9.36/-7.98	-7.75/-7.96	-7.24/-6.21	-6.04/-6.54
Θ(7.5°)	-6.98/-5.43	-4.58/-3.9	-3.3/-3.55	-4.5/-5.88	-7.29/-8.44	-10.25/-12.57	-12.85/-11.93	-10.37/-8.72	-8.07/-7.92	-6.86/-6.54	-7.27/-8.82	-9.63/-10.33	-10.12/-9.47	-9.06/-10.2	-11.37/-11.75	-13.33/-15.35	-16.54/-15.45	-13.73/-14	-17.41/-18.44	-17.83/-19.25	-18.51/-15.86	-13.77/-12.78	-11.13/-9.39	-9.27/-8.39
Θ(15°)	-11.17/-10.17	-7.44/-5.3	-3.71/-3.49	-5.13/-7.83	-11.29/-12.17	-9.32/-8.08	-8.3/-3.72	-6.64/-7.95	-10.02/-10.06	-9.16/-9.4	-8.98/-8.06	-6.5/-6.14	-7.6/-10.29	-13.24/-18.9	-19.25/-18.22	-17.7/-13.43	-10.13/-8.2	-8.03/-10.34	-11.32/-11.57	-14.53/-18.02	-17.62/-19.15	-13.14/-11.75	-12.14/-12.46	-10.97/-10.33
Θ(22.5°)	-5.75/-6.24	-7.91/-7.58	-5.29/-4.3	-4.84/-6.18	-8.32/-9.93	-9.19/-7.05	-4.54/-3.57	-3.96/-4.18	-4.49/-5	-5.86/-5.27	-3.62/-2.18	-0.95/-0.58	-1.91/-4.37	-7.91/-12.36	-16.98/-17.47	-13.95/-8.13	-5.68/-5.07	-5.44/-6.81	-10.82/-18.01	-19.09/-19.07	-17.12/-15.73	-14.2/-12.11	-8.73/-7.54	-6.66/-6.02
Θ(30°)	-2.04/-1.66	-2.74/-4.45	-5.28/-4.32	-4.3/-6.16	-10.39/-19.02	-12.04/-6.91	-5.68/-5.12	-5.15/-5.64	-5.76/-5.67	-6.03/-7	-5.75/-4.1	-2.99/-11.3	-1.14/-4.29	-5/-9.82	-14.91/-16	-15.49/-10.52	-7.15/-5.92	-7.02/-11.27	-18.44/-16.32	-15.29/-18.49	-17.31/-16.45	-14.94/-5.54	-2.74/-2.65	-2.82/-2.21
Θ(37.5°)	-4.07/-2.91	-2.18/-3.35	-6.32/-5.17	-4.39/-6.1	-15.11/-12.96	-6.98/-5.88	-5.94/-5.85	-4.16/-3.95	-2.45/-2.09	-1.99/-2.73	-4.52/-5.07	-5.05/-5.55	-4.44/-3.99	-4.54/-5.92	-6.5/-8.1	-7.52/-9.47	-11.93/-10.43	-4.43/-6.12	-2.19/-6.82	-6.35/-4.41	-4.54/-6.3	-7.46/-5.87	-0.39/-0.5	0.29/-0.58
Θ(45°)	-4.88/-7.45	-4.2/-5.1	-7.52/-5.04	-5.11/-8.48	-10.73/-5.63	-5.94/-8.45	-8.16/-4.31	-1.35/-0.42	-8.64/-1.52	-2.35/-4.28	-2.79/-0.78	-1.4/-1.78	-4.04/-5.47	-7.5/-10.16	-6.21/-4.21	-5.68/-8.26	-2.480/-2.6	-0.42/-0.68	-1.79/-1.56	-2.46/-5.18	-5.23/-3.33	-0.670/-93	0.96/-0.29	-2.25/-3.46
Θ(52.5°)	-0.81/-2.93	-4.25/-7.04	-7.53/-5	-5.44/-6.25	-3.9/-3.69	-5.93/-6.61	-4.17/-3.42	-2.71/-1.4	-1.4/-2.99	-4.76/-3.99	-2.15/-0.2	2.05/-1.22	-0.6/-1.43	-5.41/-12.7	-5.33/-1.78	-4.68/-5.57	-2.360/-3	0.390/-14	-0.98/-1.88	-2.68/-7.49	-11.25/-5.16	-0.261/-64	2.352/-03	0.960/-77
Θ(60°)	1.650/-57	-1.06/-6.4	-7.38/-5.31	-5.09/-2	-0.85/-2.51	-4.53/-4.39	-3.35/-1.94	-0.290/-0.8	-0.88/-2.09	-3.75/-3.78	-2.66/-3.7	1.161/-13	1.871/-08	-2.76/-9.1	-8.49/-2.1	-3.99/-6.48	-2.87/-0.91	-1.53/-0.6	-1.93/-1.55	-3.08/-7.32	-9.73/-3.68	0.432/-5	3.193/-32	2.982/-8
Θ(67.5°)	2.881/-25	-0.18/-2.35	-5.19/-5.59	-4.45/-1.48	-1.56/-1.2	-1.78/-2.15	-2.54/-1.68	1.421/-7	-0.09/-1.25	-2.71/-3.8	-1.69/-0.15	-0.25/-1.5	1.950/-76	-2.44/-5.5	-9.4/-357	-5.67/-11.95	-3.46/-3.68	-2.24/-1.19	-5.35/-3.13	-2.94/-4.76	-4.7/-2.09	1.332/-39	2.873/-01	2.933/-62
Θ(75°)	2.90.7	0.63/-0.06	-3.62/-7.09	-5.35/-0.93	-1.27/-0.27	-0.79/-1.14	-2.94/-2.7	1.682/-15	0.11/-1.03	-1.14/-4.26	-2.350/-36	-0.380/-82	2.030/-43	-1.81/-4.51	-9.86/-5.16	-7.46/-18.19	-3.63/-5.08	-1.31/-0.79	-5.17/-2.22	-1.96/-3.75	-3.82/-2.47	0.451/-36	1.571/-95	2.173/-6
Θ(82.5°)	2.160/-27	0.070/-1	-4.23/-6.1	-4.51/-0.57	-1.180/-41	0.51/-1.36	-3.43/-4.4	1.361/-86	-2.18/-6.1	-2.58/-1.41	-2.98/-0.25	0.010/-0.3	0.360/-0.3	-2.74/-5.1	-11.42/-4.93	-8.61/-5.23	-6.12/-5.17	-1.21/-2.37	-5.02/-0.43	1.1/-2.32	-2.32/-2.17	-0.23/-0.5	-0.170/-89	1.562/-87
Θ(90°)	0.960/-06	-0.39/-0.32	-4.66/-5.98	-4.39/-0.22	-1.070/-69	1.57/-1.36	-3.39/-4.45	0.161/-42	-0.16/-1.76	-2.58/-2.42	-3.98/-0.45	-0.33/-0.45	-0.25/-0.88	-2.74/-6.82	-8.93/-6.31	-11.67/-18.38	-12.96/-5.83	-3.77/-2.16	-4.92/-0.22	1.27/-0.89	-0.32/-2.57	-2.16/-3.3	-1.49/-0.03	1.51/-0.71
Θ(97.5°)	-0.49/-1.11	-0.79/-1.47	-5.87/-5.68	-3.95/-0.29	-1.350/-6	1.3/-1.61	-3.4/-4.69	-1.060/-76	-0.94/-3.07	-3.18/-3.61	-6.34/-3.29	-1.1/-2.35	-1.89/-1.1	-3.84/-7.33	-8.02/-9.68	-13.14/-11.87	-19.16/-8.72	-8.19/-3.38	-5.5/-0.43	-1.05/-2.18	-1.08/-3.81	-5.04/-5.61	-0.780/-18	0.910/-13
Θ(105°)	-3.06/-2.56	-2.17/-2.94	-5.42/-2.43	-3.45/-0.89	-2.940/-35	0.871/-14	-2.85/-4.27	-1.98/-0.59	-1.07/-3.57	-4.75/-4.15	-7.62/-4.73	-2.82/-3.4	-3.51/-1.15	-4.18/-7.09	-7.63/-10.14	-10.59/-11.68	-13.87/-10.95	-11.86/-7.46	-11.72/-19.25	-5.22/-7.4	-9.28/-7.97	-2.05/-1.5	-0.91/-0.99	
Θ(112.5°)	-9.93/-5.54	-4.29/-4.94	-4.38/-3.42	-4.94/-1.26	-4.27/-1.9	-6.06/-2.61	-3.07/-2.93	-2.63/-2.62	-2.6/-4.7	-5.39/-7.82	-7.82/-7	-6.76/-7.09	-5.53/-4.47	-7.74/-9.26	-11.76/-15.31	-12.12/-18.83	-11.73/-12.09	-11.12/-9.59	-9.19/-9.38	-17.7/-9.65	-9.78/-18.52	-11.63/-6.86	-5.25/-5.98	-5.34/-7.43
Θ(120°)	-12.04/-7.54	-6.01/-4.57	-2.66/-1.68	-1.31/-2.08	-6.93/-4.35	-3.16/-4.26	-4.31/-2.12	-2.05/-2.76	-3.48/-3.45	-5.37/-8.55	-8.47/-10.81	-11.7/-11.16	-10.15/-8.37	-9.78/-7.98	-11.73/-16.81	-15.15/-16.02	-13.56/-9.68	-9.15/-13.84	-4.82/-3.76	-9.16/-4.97	-6.98/-11.83	-13.16/-13.09	-13.02/-11.86	-18.24/-17.24
Θ(127.5°)	-5.6/-5.14	-3.52/-1.45	-1.64/-0.92	-1.84/-3.28	-8.8/-6.76	-2.93/-8.31	-3.74/-2.11	-1.38/-2.31	-3.74/-5.22	-8.47/-10.86	-12.88/-18.45	-15.03/-11.57	-12.33/-7.49	-8.36/-10.6	-1.19/-11.27	-7.48/-9.17	-8.65/-11.46	-16.26/-19.34	-6.86/-7.33	-16.47/-12.41	-17.12/-19.25	-16.02/-13.1	-13.88/-7.26	-8.47/-8.36
Θ(135°)	-4.1/-3.28	-2.64/-0.76	-0.56/-2.03	-2.06/-3.94	-8.66/-16.18	-5.58/-13.3	-4.46/-5.27	-4.01/-3.45	-4.05/-5.99	-8.26/-10.2	-15.61/-13.86	-10.95/-12.48	-7.7/-6.05	-5.19/-7.24	-13.82/-12.45	-9.5/-12.69	-13.42/-16.81	-16.81/-17.88	-11.06/-17.24	-15.63/-6.63	-10.67/-13.53	-17.24/-15.2	-14.74/-7	-7.14/-6.02
Θ(142.5°)	-7.12/-4.65	-3.84/-1.91	-2.44/-3.83	-3.66/-6.65	-12.33/-18.06	-12.67/-6.53	-5.29/-6.9	-8.16/-6.62	-6.03/-7.95	-9.85/-9.6	-13.67/-17.45	-13.71/-13.84	-8.18/-9.63	-12.8/-13.02	-7.82/-13.76	-17.98/-9.99	-12.04/-7.93	-15.88/-18.82	-1.7/-11.94	-9.69/-6.36	-6.71/-10.06	-17.38/-10.39	-8.73/-7.34	-11.41/-9.21
Θ(150°)	-15.38/-14.12	-6.64/-3.82	-4.57/-5.67	-7.32/-7.24	-9.45/-11.03	-12.32/-16.7	-10.83/-7.71	-6.14/-7.4	-10.94/-11.85	-10.93/-14.57	-13.66/-11.8	-14.13/-18.66	-19.01/-15.51	-17.17/-13.72	-10.89/-11.84	-12.87/-16.08	-17.29/-17.5	-17.38/-11.3	-13.56/-18.02	-18.37/-18.49	-17.64/-17.77	-13.45/-11.54	-14.5/-14.6	-18.81/-14.59
Θ(157.5°)	-18.32/-11.26	-7.39/-5.68	-5.41/-7.95	-11.62/-12.77	-12.22/-11.93	-11.01/-15.56	-11.86/-7.53	-6.28/-8.54	-9.6/-7.65	-8.55/-12.62	-12.22/-11.93	-17.03/-18.14	-18.32/-16.38	-17.79/-17.72	-18.12/-18.79	-18.05/-16.38	-17.22/-17.86	-17.9/-18.82	-18.97/-18.6	-14.15/-13.84	-15.47/-15.71	-13.33/-12.34	-12.8/-12.75	-13.77/-14.52
Θ(165°)	-18.22/-16.01	-12.31/-8.82	-6.9/-7.13	-8.21/-8.35	-9.56/-11.67	-15.15/-13.4	-10.4/-8.58	-9.64/-9.12	-6.57/-6.1	-8.08/-10.13	-10.05/-11.27	-15.23/-18.27	-18.72/-18.34	-18.08/-16.74	-14.93/-12.07	-10.9/-11.68	-13.46/-14.71	-17.14/-18.81	-16.26/-13.56	-14.25/-15.42	-15.46/-19.03	-16.64/-13.3	-11.42/-11.43	-16.25/-18.55
Θ(172.5°)	-19.57/-19.24	-17.52/-14.65	-12.52/-11.89	-12.79/-12.09	-11.34/-12.43	-12.61/-11.66	-11.35/-10.66	-10.14/-10	-11.07/-12.24	-12.82/-13.41	-15.77/-18.57	-18.37/-18.32	-17.55/-18.46	-18.42/-18.87	-18.99/-18.69	-18.29/-17.65	-18.31/-18.29	-17.35/-16.57	-17.8/-18.35	-17.2/-17.61	-19.07/-18.1	-18.18/-18.3	-18.06/-17.3	-18.31/-18.04
Θ(180°)	-16.4/-15.59	-15.22/-15.63	-14.66/-14.18	-14.99/-17.58	-18.98/-16.89	-13.8/-12.97	-12.96/-12.88	-13.41/-13.24	-12.82/-13.35	-14.66/-17.42	-17.74/-17.54	-17/-14.74	-13.28/-13.05	-12.87/-12.44	-12.88/-14.45	-15.84/-15.66	-14.21/-13.71	-14.59/-14.89	-12.39/-11.99	-12.87/-13.24	-13.1/-13.95	-14.06/-14.93	-15.67/-15.33	-15.55/-15.54
Freq(Hz)	6.475GPol.	PhiAnt.3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
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°)	-14.58/-13.27	-14.11/-14.73	-14.9/-17	-18.92/-18.35	-17.49/-18.36	-18.58/-19.21	-15.91/-15.64	-15.14/-14.44	-12.27/-14.27	-15.14/-12.97	-11.85/-11.37	-11.11/-11.32	-12.79/-15.02	-18.07/-18.58	-18.64/-18.86	-17.45/-18.32	-18.64/-18.86	-17.32/-19.26	-15.36/-13.39	-18.23/-19.26	-16.76/-16.68	-16.51/-15.27	-14.94/-15.84	
Θ(7.5°)	-12.2/-12.94	-11.27/-10.18	-9.86/-9.18	-8.32/-9.29	-11.33/-12.72	-13.83/-15.19	-14.28/-12.26	-11.13/-11.45	-9.66/-7.43	-7.12/-6.4	-5.59/-5.51	-6.06/-6.67	-7.03/-8.36	-10.78/-13.99	-17.27/-18.92	-18.5/-18.5	-18.91/-19.17	-17/-12.47	-10.46/-8.55	-7.37/-7.47	-7.71/-8.16	-9.26/-9.83	-11.33/-10.59	-10.26/-12.81
Θ(15°)	-6.61/-7.18	-8.25/-7.56	-5.95																					



Radiated Composite Gain Data 6GHz U-NII 5~8

Appendix B

Θ(7.5°)	-4.49/-4.85	-5.46/-6.62	-8.59/-12.19	-15.87/-17.75	-15.39/-15.05	-12.41/-10.75	-11.92/-15.16	-13.25/-13.4	-14/-13.86	-11.83/-9.77	-9.64/-9.11	-8.14/-7.98	-8.39/-7.82	-7.81/-8.88	-9.69/-11	-12.81/-16.23	-18.82/-18.72	-18.07/-19.27	-18.13/-16.97	-14.42/-13.06	-11.39/-9.5	-7.71/-6.68	-6.75/-5.62	-4.73/-4.56
Θ(15°)	-4.46/-5.31	-4.61/-4.79	-5.84/-7.52	-9.35/-10.02	-10.7/-9.1	-6.22/-5.82	-6.07/-6.5	-7.57/-8.48	-9.17/-9.58	-9.21/-9.51	-9.78/-9.53	-8.72/-8.35	-8.11/-7.82	-8.33/-9.79	-11.85/-15.57	-19.17/-17.94	-18.09/-14.73	-14.34/-15.33	-14.55/-14.94	-13.93/-11.61	-8.79/-7.16	-6.21/-6.67	-5.81/-4.56	-4.43/-3.91
Θ(22.5°)	-6.86/-7.47	-5.88/-4.3	-6.66/-5.41	-6.66/-5.41	-10.57/-1.07	-7.73/-8.82	-11.38/-15.15	-17.29/-15.84	-13.67/-14.02	-13.53/-12.07	-11.11/-10.26	-10.88/-11.66	-15.08/-13.98	-9.69/-12.4	-11.11/-10.26	-10.88/-11.66	-15.08/-13.98	-9.69/-12.4	-11.11/-10.26	-10.88/-11.66	-15.08/-13.98	-9.69/-12.4	-11.11/-10.26	-10.88/-11.66
Θ(30°)	-6.58/-6.01	-6.31/-5.76	-5.04/-5.19	-9.55/-12.54	-5.17/-3.23	-4.21/-5.7	-6.29/-5.61	-5.63/-5.68	-6.49/-9.18	-10.41/-6.72	-5.82/-8.26	-9.58/-11.98	-13.71/-13.16	-13/-15.35	-16.98/-12.82	-9.36/-11.12	-7.78/-5.24	-4.94/-7.07	-12.23/-15.07	-15.08/-18.01	-9.4/-5.32	-4.48/-5.03	-6.03/-5.56	-4.62/-5.82
Θ(37.5°)	-7.76/-5.67	-7.37/-4.57	-2.99/-4.06	-7.5/-5.56	-1.69/-2.25	-6.53/-9.15	-6.87/-6.58	-5.86/-6.46	-6.97/-6.76	-7.74/-7.05	-5.13/-5.63	-3.48/-2.71	-5.37/-7.84	-9.07/-11.43	-18.6/-11.01	-6.38/-1.75	-6.97/-3.73	-2.78/-4.91	-12.06/-10.87	-7.94/-6.74	-5.42/-6.61	-7.19/-5.89	-5.17/-4.05	-2.66/-3.51
Θ(45°)	-6.3/-5.96	-7.3/-6.1	-2.59/-4.53	-2.73/-1.39	-1.93/-4.48	-8.34/-7.24	-4.46/-3.51	-4.55/-7.08	-7.18/-4.79	-4.7/-6.66	-5.59/-4.88	-1.830/-26	-0.76/-1.81	-3.26/-4.85	-13.34/-15.28	-3.97/-3.65	-4.85/-2.13	-2.56/-1.79	-6.93/-8.78	-6.99/-3.3	-2.44/-5.12	-4.24/-1.77	-2.4/-3.1	-3.4/-3.94
Θ(52.5°)	-0.87/-1.34	-4.39/-3.54	-2.15/-4.83	-1.64/-0.07	-1.72/-3.91	-4.8/-6.05	-4.15/-1.65	-1.6/-2.98	-3.4/-2.45	-2.97/-5.71	-4.04/-2.4	-0.22/-1.6	0.19/-1.46	-1/-2.12	-9.42/-9.37	-2.06/-2.77	-3.6/-2.58	-1.46/-0.82	-6.29/-8.12	-4.3/-4.32	-3.77/-4.39	-0.480/-55	0.48/-2.24	-3.42/-1.02
Θ(60°)	1.81/-47	-0.62/-2.38	-1.36/-3.23	-1.19/-0.45	-0.38/-1.27	-2.3/-7.72	-5.07/-1.59	-0.58/-0.99	-0.47/-0.78	-2.24/-4.38	-5.43/-2.74	0.42/-2.39	1.90/-52	-0.61/-1.99	-4.3/-7.07	-1.26/-1	-2.77/-2.27	-2.43/-2.84	-7.6/-6.67	-3.85/-5.67	-6.4/-2.33	0.85/-1.12	1.010/-33	-0.630/-78
Θ(67.5°)	1.88/-1.88	1.61/-1.71	-1.92/-2.56	-1.020/-0.2	1.020/-51	-1.75/-11.82	-4.96/-1.32	-2.29/-2.28	-0.37/-0.9	-2.98/-5.35	-5.23/-2.01	1.58/-3.31	1.740/-43	-1.53/-2.98	-2.44/-7.37	-1.04/-0.27	-5.34/-2.87	-3.87/-3.53	-9.49/-5.42	-3.33/-5.48	-8.31/-1.76	1.221/-06	1.140/-81	1.41/-69
Θ(75°)	1.61/-21	1.82/-1.74	-2.64/-3.52	-0.5/-0.08	1.10/-86	-0.17/-8.08	-4.87/-3.69	-3.6/-2.58	-1.06/-2.82	-5.21/-5.45	-4.44/-2.38	1.14/-34	1.620/-58	-1.23/-4.05	-2.46/-6.5	-2.210/-08	-5.09/-3.72	-3.58/-1.79	-6.9/-4.66	-2.56/-2.93	-7.28/-1.75	1.380/-68	0.45/-0.28	1.54/-203
Θ(82.5°)	1.4/-0.14	0.86/-2.32	-4.2/-3.98	-0.43/-1.05	0.01/-0.04	0.1/-13.47	-5.71/-5.02	-3.31/-0.58	-1.53/-3.66	-6.58/-6.26	-1.86/-2.11	2.09/-3.03	0.46/-0.2	-2.08/-5.53	-3.18/-1.32	-5.96/-3.42	-0.68/-1.68	-7.75/-8.11	-1.23/-2.29	-4.44/-1.77	0.070/-16	-1.24/-0.42	1.232/-19	
Θ(90°)	1.12/-1.63	-0.58/-3.88	-6.92/-6.25	-0.91/-1.2	0.35/-0.37	1.57/-13.56	-4.72/-1.78	-6.26/-0.36	-1.85/-4.94	-8.04/-6.17	-1.87/-0.81	2.03/-1.39	0.840/-14	-1.43/-7.2	-5.12/-11.01	-4.64/-2.5	-5.92/-1.79	0.21/-0.5	-6.82/-6.61	1.28/-0.06	-2.29/-0.19	-1.99/-1.53	-2.01/-2.07	1.96/-204
Θ(97.5°)	-0.14/-2.98	-2.85/-5.01	-8.07/-6.82	-0.99/-2.39	0.06/-1.43	1.41/-10.92	-4.32/-7.65	-6.68/-1.48	-2.03/-7.47	-10.29/-5.17	-3.12/-2.53	-0.150/-52	-0.170/-21	-2.82/-7.02	-3.57/-7.77	-7.81/-4.63	-6.18/-3.68	-3.74/-2.27	-5.76/-5.46	0.970/-37	-0.98/-0.27	-4.08/-3.55	-4.14/-2.59	1.55/-147
Θ(105°)	-0.93/-5.67	-3.67/-6.24	-10.45/-9.4	-2.9/-2.36	-0.790/-09	-1.16/-6.27	-4.54/-6.91	-6.23/-1.57	-1.61/-5.95	-8.1/-8.19	-6.65/-6.37	-2.95/-1.26	-0.64/-0.7	-1.23/-6.33	-3.75/-9.78	-7.66/-5.93	-9.42/-6.47	-4.63/-9.65	-6.19/-4.61	-2.4/-5.53	-7.97/-7.11	-4.49/-1.29	-1.320/-12	
Θ(112.5°)	-4.31/-8.3	-7.37/-8.5	-9.63/-8.54	-3.49/-3.81	-0.960/-96	-3.85/-5.63	-2.32/-2.16	-5.82/-4.06	-1.85/-4.75	-8.6/-10.34	-10.39/-9.59	-5.85/-3.42	-3.37/-4.58	-1.98/-6.98	-7.37/-15.56	-12.81/-12.85	-7.77/-10.81	-11.39/-5.7	-9.83/-10.26	-18.53/-15.54	-4.87/-7.03	-8.56/-9.9	-4.17/-3.25	-3.5/-3.21
Θ(120°)	-16.46/-11.17	-8.46/-9.89	-8.18/-5.54	-6.75/-5.56	-2.19/-2.3	-4.44/-4.89	-2.74/-2.89	-5.29/-4.07	-2.76/-2.95	-5.79/-8.68	-8.75/-12.15	-11.49/-11.56	-8.24/-7.81	-5.34/-15.06	-14.1/-10.86	-9.55/-12.58	-17.32/-14.6	-19.52/-5.87	-6.87/-4.59	-6.49/-1.99	-2.99/-16.87	-9.93/-9.45	-6.36/-9.73	-9.03/-10.72
Θ(127.5°)	-7/-8.35	-7.93/-4.5	-8.04/-4.1	-8.16/-1.74	-3.59/-3.91	-5.86/-6.69	-1.77/-3.12	-5.38/-5.85	-4.28/-5.75	-8.46/-9.32	-11.89/-13.56	-18.07/-18.12	-18.63/-11.29	-7.94/-10.15	-13.88/-8.29	-8.66/-13.8	-14.98/-15.89	-9.2/-13.59	-19.1/-8.59	-18.09/-11.02	-15.66/-18.03	-19.06/-8.59	-16.78/-12.89	
Θ(135°)	-4.7/-7.77	-6.7/-5.4	-8.59/-6.91	-10.1/-9.03	-6.12/-5.1	-16.16/-3.83	-2.92/-6.6	-6.89/-11.6	-17.42/-17.75	-17.45/-17.41	-11.79/-5.56	-10.12/-10.27	-10.14/-10.27	-7.13/-9.65	-11.12/-17.6	-19.02/-14.94	-14.11/-10.35	-9.03/-8.87	-11.39/-8.63	-14.92/-18.7	-13/-6.42	-8.79/-5.71		
Θ(142.5°)	-8.8/-12.32	-5.96/-5.56	-8.89/-11.03	-15.09/-13.13	-11.51/-7.63	-3.96/-1.54	-0.92/-1.61	-3.38/-4.09	-3.68/-4.54	-8.27/-17.58	-18.31/-19.4	-18.25/-13.95	-11.61/-9.13	-9.4/-1.1	-5.1/-9.66	-15.59/-18.69	-18.01/-12.08	-7.99/-17.49	-9.38/-8	-11.55/-8.17	-5.79/-11.04	-14.7/-11.2	-6.67/-6.21	-10.9/-9.31
Θ(150°)	-17.86/-12.92	-8.12/-8.73	-9.86/-8.82	-9.47/-14.22	-11.13/-7.85	-4.35/-2.7	-2.85/-3.3	-4.47/-6.3	-7.55/-6.23	-6.71/-12.6	-16.14/-18.7	-16.41/-13.45	-16.45/-15.19	-8.26/-8.21	-13.15/-18.29	-18.62/-17.72	-18.11/-11.6	-12.06/-13.74	-18.33/-17.86	-18/-15.28	-17.89/-16.35	-10.22/-8.37	-8.98/-11.75	-18.19/-17.32
Θ(157.5°)	-15.73/-8.85	-6.53/-7.16	-9.75/-9.21	-9.54/-13.13	-10.04/-6.64	-5.75/-5.01	-4.02/-3.85	-5.26/-7.63	-9.79/-11.43	-10.63/-9.63	-9.25/-10.66	-15.27/-19.62	-18.08/-18.13	-17.7/-17.62	-18.63/-18.45	-18.83/-17.84	-18.4/-19.02	-16.14/-14.39	-14.67/-12.94	-11.75/-11.57	-11.91/-11.86	-12.43/-14.76	-17.74/-18.09	
Θ(165°)	-13.49/-10.59	-8.81/-7.55	-8.42/-9.05	-9.14/-11.39	-14.62/-14.61	-10.22/-8.9	-8.06/-7.73	-6.29/-6.22	-8.11/-8.51	-8.71/-8.25	-8.21/-9.08	-10.33/-11.41	-13.58/-19.05	-18.94/-13.85	-13.57/-18.94	-19.01/-18.99	-17.67/-19.2	-15.84/-14.46	-10.56/-9.63	-10.35/-11.74	-12.56/-18.12	-17.87/-15.05	-14.46/-18.32	-18.14/-18.46
Θ(172.5°)	-19.35/-18.36	-17.91/-18.11	-14.27/-13	-11.44/-9.49	-7.84/-7.16	-6.35/-6.16	-5.1/-5.63	-5.55/-5.56	-5.91/-5.77	-6.43/-8.25	-11.99/-14.94	-18.19/-18.69	-18.07/-18.62	-19.12/-18.26	-18.39/-17.78	-14.75/-13.96	-15.66/-15.49	-14.69/-15.02	-16.53/-13.28	-10.08/-9.79	-10.82/-11.44	-11.53/-13.54	-18.6/-18.29	-18.93/-18.01
Θ(180°)	-18.9/-19	-18.15/-18.25	-17.44/-19.27	-14.99/-11.73	-10.21/-11.62	-11.99/-10.16	-10.23/-11.27	-9.07/-9.02	-10.89/-11.95	-12.54/-14.16	-18.35/-18.2	-17.56/-17.18	-19.35/-18.05	-18.69/-18.78	-18.99/-17.48	-15.28/-12.67	-11.63/-11.43	-10.64/-8.8	-7.59/-8.23	-8.93/-8.77	-9.24/-11.34	-12.28/-12.53	-14.39/-17.6	-18.74/-18.87
Freq(Hz)	6.995GPol.	PhiAnt. 3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-14.13/-14.93	-15.06/-14.99	-14.77/-15.12	-15.2/-15.53	-13.76/-13.16	-13.59/-12.47	-10.66/-11.33	-10.32/-10.55	-12.3/-15.87	-16.24/-14.33	-14.31/-14.78	-16.74/-14.46	-14.56/-14.41	-12.24/-10.33	-13.78/-11.62	-12.29/-10.19	-10.71/-10.04	-11.44/-11	-11.33/-11.98	-12/-13.2	-14.12/-13.59			
Θ(7.5°)	-8.13/-9.78	-10.88/-11.42	-9.66/-9.61	-8.98/-8.31	-8.36/-8.12	-8.08/-8.05	-7.84/-6.55	-5.61/-6.36	-7.01/-7.35	-7.92/-9.59	-12.93/-16.76	-18.25/-16.45	-16.84/-19.1	-17.83/-16.41	-12.98/-9.79	-8.71/-7.69	-6.42/-5.48	-1.69/-6.65	-7.62/-8.99	-10.09/-9.37	-8.69/-8.31	-8.16/-7.37	-6.47/-5.83	-6.63/-6.76
Θ(15°)	-4.84/-5.97	-6.15/-6.18	-6.34/-6.03	-6.5/-8.02	-10.42/-11.01	-9.15/-10.45	-15.84/-13.38	-10.61/-14.8	-18.61/-13.4	-14.25/-19.85	-13.64/-12.51	-11.4/-10.86	-18.26/-18.88	-12.88/-9.2	-6.91/-6.15	-4.9/-7.32	-4.02/-7.08	-13.75/-18.01	-11.49/-7.19	-7.12/-8.07	-9.79/-10.25	-8.39/-4.42	-3.24/-3.8	
Θ(22.5°)	-8.06/-8.95	-5.7/-5.03	-7.05/-10.69	-11.38/-7.68	-5.57/-4.99	-5.2/-5.94	-8.33/-10.38	-8.6/-9.34	-14.4/-18.04	-17.11/-18.72	-18.29/-18.36	-17.87/-17.65	-15.98/-13.21	-14.68/-14.75	-14.21/-11.49	-10.42/-12.82	-18.75/-10.73	-7.64/-10.06	-14.21/-10.18	-3.25/-9.39	-0.75/-2.21	-4.87/-6.68	-8.01/-6.48	-6.22/-6.88
Θ(30°)	-11.59/-18.84	-8.38/-4.33	-3.89/-6.12	-4.81/-3.57	-3.46/-5.24	-5.94/-5.39	-3.6/-5.55	-8.17/-9.5	-10.12/-13.11	-17.54/-19.05	-18.19/-15.92	-11.16/-6.27	-4.14/-5.1	-8.46/-13.62	-15.58/-14.79	-15.94/-15.52	-9.22/-9.85	-9.09/-5.23	-6.75/-11.46	-8.38/-4.85	-5.62/-13.2	-12.77/-14.05	-18.96/-14.62	-10.88/-9.09
Θ(37.5°)	-11.97/-17.92	-11.39/-3.83	-2.51/-3.32	-1.9/-1.7	-4.77/-7.9	-5.47/-3.34	-5.31/-12.98	-12.38/-8.51	-11.04/-13.82	-16.94/-16.46	-14.54/-12.16	-9.2/-8.11	-7.28/-9.33	-9.55/-16.57	-18.21/-15.35	-13.35/-11.21	-4.55/-8.36	-3.83/-4.58	-11.1/-17.99	-16.63/-9.85	-9.24/-8.97	-5/-5.96	-5.89/-7.86	-11.28/-10.18
Θ(45°)	-7.72/-13.74	-19.63/-4.43	-1.54/-3.21	-4.8/-1.75	-2.97/-6.37	-3.26/-2.94	-6.54/-11.6	-9.58/-10.1	-8.72/-6.62	-7.39/-9.76	-9.57/-10.45	-15.66/-16.82	-14.79/-15.09	-15.42/-15.75	-9.94/-16.32	-5.58/-2.96	-1.39/-10.09	-7.08/-5.79	-6.85/-10.71	-11.48/-7.48	-5.61/-7.8	-7.48/-11.45	-13.38/-7.92	
Θ(52.5°)	-2.69/-5.69	-8.76/-2.68	-1.54/-3.97	-6.87/-2.93	-4.53/-6.32	-4.51/-8.86	-10.74/-8.84	-8.05/-12.77	-7.24/-6.95	-9.71/-10.07	-7.79/-8.49	-16.73/-12.6	-8.57/-7.87	-12.38/-17.53	-16.11/-18.07	-8.99/-18.58	-9.93/-2.51	-2.46/-15.58	-5.72/-3.06	-8.38/-15.44	-13.44/-13.55	-17.16/-17.91	-17.17/-13.46	-16.92/-5.12
Θ(60°)	0.04/-2.18	-4.56/-0.73	-0.44/-1.51	-5.58/-3.21	-5.96/-5.23	-3.71/-7.96	-12.38/-7.78	-7.2/-15.27	-9.8/-9	-8.68/-1.33	-6.17/-14.4	-8.5/-8.5	-6.52/-4.77	-6.01/-11.56										



Radiated Composite Gain Data 6GHz U-NII 5~8

Appendix B

Θ (60°)	-13.42/-13.92	-11.59/-15.97	-13.7/-10.55	-6.7/-7.85	-11.56/-13.58	-13.7/-18.71	-6.97/-8.28	-5.79/-2.96	-5.51/-9.14	-9.24/-8.21	-6.84/-5.95	-5.8/-7.34	-12.59/-17.28	-13.35/-7.98	-5.88/-5.01	-4.36/-4.9	-6.58/-5.38	-5.11/-7.85	-8.3/-5.69	-9.1/-8.93	-6.91/9.12	-7.61/-6.37	-11.89/-11.95	-11.66/-13.43	
Θ (67.5°)	-12.45/-10.64	-10.75/-10.47	-5.71/-4.26	-5.22/-7.7	-14.28/-15.29	-16.86/-17.81	-11.22/-15.53	-6.35/-6.27	-10.5/-5.74	-7.33/-11.82	-11.92/-11.98	-10.58/-8.48	-14.92/-18.66	-13.39/-8.24	-6.97/-6.74	-4.96/-6.48	-8.97/-5.15	-6.82/-8.18	-7.8/-5.54	-9.3/-9.07	-10.44/-12.96	-7.63/-7.1	-16.84/-8.65	-9.74/-16.22	
Θ (75°)	-8.5/-6.72	-9.33/-8.63	-3.78/-2.35	-4.13/-5.76	-12.86/-13.56	-18.67/-17.78	-14.83/-18.93	-8.74/-8.46	-11.21/-5.22	-8.28/-17.18	-16.66/-15.13	-11.47/-7.3	-10.88/-18.56	-14.25/-10.91	-7.58/-7.22	-6.84/-8.25	-10.26/-7.01	-9.72/-6.67	-8.12/-5.78	-12.39/-7.66	-10.76/-13.24	-7.54/-7.4	-18.44/-8.99	-7.72/-14.04	
Θ (82.5°)	-6.78/-6.19	-9.99/-8.6	-4.22/-2.88	-4.64/-8.76	-16.29/-14.4	-18.01/-18.28	-14.06/-18.14	-10.97/-16.8	-10.11/-7.09	-14.92/-18.69	-17.28/-14.95	-11.5/-8.51	-13.59/-17.74	-11.84/-10.14	-9.54/-10.67	-7.26/-11.18	-10.81/-10.98	-9.65/-14.96	-6.59/-8.04	-8.7/-6.44	-11.48/-13.41	-9.35/-8.61	-18.61/-8.74	-10.28/-15.82	
Θ (90°)	-6.76/-6.57	-10.79/-10.48	-6.04/-8.48	-6.71/-11.03	-16.44/-17.4	-18.52/-17.76	-16.85/-14.95	-14.09/-14.5	-15.55/-10.64	-17.52/-18.83	-13.32/-11.63	-10.38/-9.01	-12.27/-18.02	-13.03/-10.03	-11.37/-10.72	-7.28/-15.6	-12.51/-17.25	-7.71/-16.74	-5.57/-12.61	-7.9/-8.89	-9.56/-10.2	-9.14/-13.63	-17.79/-14.6	-11.88/-11.93	
Θ (97.5°)	-8.07/-13.41	-12.26/-11.48	-6.95/-8.09	-10.44/-15.63	-19.34/-15.89	-19.43/-19	-18.66/-16.33	-14.52/-16.77	-17.69/-14.6	-12.93/-12.19	-11.34/-10.19	-15.77/-17.3	-11.74/-14.49	-15.95/-11.7	-10.07/-15.66	-12.22/-13.18	-18.18/-11.93	-6.18/-17.46	-8.84/-13.87	-13.96/-8.72	-9.13/-17.11	-18.01/-19.41	-16.33/-16.56		
Θ (105°)	-15.78/-17.52	-18.26/-14.18	-7.5/-8.75	-16.38/-12.95	-18.39/-16.82	-17.9/-19.06	-18.85/-18.02	-18.69/-13.33	-17.74/-17.62	-15.32/-18.45	-11.61/-11.08	-11.12/-11.17	-19.15/-17.69	-15.65/-17.48	-15.33/-11.53	-14.16/-17.05	-9.22/-13.62	-12.26/-13.14	-6.16/-14.4	-9.54/-18.4	-16.47/-13.79	-9.52/-17.54	-18.24/-18.25	-18.85/-18.14	
Θ (112.5°)	-17.34/-14.55	-18.19/-12.37	-8.65/-7.29	-14.34/-10.86	-19.29/-12.32	-17.5/-18.9	-19.18/-15.3	-15.64/-14.69	-17.59/-19.06	-18.05/-18.38	-11.5/-12.33	-14.57/-14.73	-19.12/-18.69	-18.31/-14.72	-15.35/-13.96	-17.7/-16.76	-13.44/-13.1	-18.27/-13.42	-13.17/-11.51	-13.38/-14.18	-18.4/-15.17	-12.37/-14	-18.83/-16.34	-17.65/-14.31	
Θ (120°)	-18.17/-18.98	-15.47/-13.36	-6.94/-7.93	-14.06/-10.34	-15.17/-12.06	-17.79/-16.56	-17.37/-17.52	-16.67/-14.48	-13.94/-17.89	-18.59/-14.58	-9.4/-12.11	-17.98/-17.44	-14.42/-15.58	-18.56/-15.43	-18.26/-16.86	-15.17/-16.66	-17.38/-17.03	-17.41/-15.95	-17.87/-8.68	-15.63/-9.72	-12.27/-16.42	-16.31/-14.16	-13.69/-17.22	-17.93/-12.41	
Θ (127.5°)	-11.99/-18.53	-17.17/-9.89	-11.51/-18.44	-10.65/-9.39	-12.7/-14.78	-18.71/-15.39	-14.59/-18.68	-13.88/-18.29	-19.62/-17.82	-18.82/-10.64	-10.36/-12.97	-13.08/-13.23	-11.48/-13.75	-18.49/-18.34	-16.4/-12.68	-16.26/-11.16	-18.33/-19.02	-15.42/-9.75	-8.47/-6.29	-19.39/-11.47	-7.1/-6.86	-18.11/-17.8	-12.33/-18.67	-18.22/-10.99	
Θ (135°)	-9.71/-9.94	-18.32/-10.38	-18.04/-13.91	-8.77/-9.74	-13.09/-10.42	-15.65/-11.63	-12.59/-12.47	-17.52/-15.83	-15.44/-15.83	-16.16/-147	-15.74/-13.26	-11.32/-13.37	-18.16/-19.19	-18.78/-16.61	-16.84/-19.45	-13.06/-12.88	-12.33/-18.54	-18.41/-14.19	-9.89/-10.46	-17.72/-14	-10.79/-15	-18.72/-18.95	-16.15/-18.46	-18.26/-11.75	
Θ (142.5°)	-11.74/-17.65	-18.35/-17.75	-18.97/-13.35	-18.17/-15.88	-12.45/-7.07	-9.81/-18	-9.55/-11.85	-12.63/-12.83	-11.88/-9.66	-10.62/-13.28	-13.82/-12.68	-11.03/-11.61	-12.62/-14.85	-19.19/-17.96	-18.12/-14.58	-15.63/-12.88	-18.03/-17.78	-18.41/-13.65	-12.42/-12.79	-18.68/-18.88	-14.82/-18.89	-16.02/-18.8	-13.97/-19.56	-10.81/-10.52	
Θ (150°)	-17.33/-11.62	-10.95/-11.21	-17.01/-19.11	-14.87/-11.08	-9.99/-10.38	-10.55/-11.47	-8.72/-6.78	-7.34/-9.61	-13.46/-18.65	-19.52/-15.84	-15.02/-15.32	-16.01/-17.48	-18.42/-19.41	-16.11/-13	-14.58/-18.31	-17.54/-19.21	-18.48/-18.3	-18.62/-18.91	-18.69/-13.61	-14.64/-17.87	-18.35/-16.13	-11.21/-17.59	-18.55/-19.07	-16.03/-17.05	
Θ (157.5°)	-8.56/-9.59	-11.31/-15.9	-18.86/-13.97	-12.04/-13.29	-14.61/-14.34	-12.61/-12.13	-13.47/-15.88	-14.64/-13.53	-16.63/-18.27	-18.08/-17.16	-19.09/-19.32	-18.69/-18.77	-18.84/-17.36	-15.77/-17.43	-18.25/-18.13	-15.83/-14.83	-14.01/-13.7	-17.63/-19.09	-19.2/-17.34	-18.81/-18.75	-15.38/-15.9	-16.15/-18.46	-12.56/-9.96		
Θ (165°)	-19.25/-17.13	-18.87/-17.77	-18.27/-16.42	-15.95/-16.82	-17.75/-18.72	-18.84/-18.6	-15.95/-14.14	-14.94/-15.21	-13.71/-13.25	-16.84/-16.14	-13.81/-13.63	-14.72/-15.41	-16.55/-19.14	-17/-13.05	-12.97/-16.68	-18.8/-16.13	-13.27/-12.11	-12.05/-12.98	-17.62/-18.89	-17.64/-18.64	-17.93/-17.69	-17.87/-17.76	-18.73/-18.59	-16.67/-15.08	
Θ (172.5°)	-10.86/-11.17	-10.47/-10.9	-10.14/-10.11	-10.78/-11.77	-14.18/-17.63	-18.28/-18.53	-18.92/-18.3	-18.59/-18.22	-17.94/-18.67	-18.54/-18.41	-18.64/-17.14	-16.78/-15.66	-14.27/-12.63	-10.33/-9.51	-10.07/-11.38	-12.32/-12.87	-13.1/-13.32	-13.79/-13.29	-13.26/-13.7	-14.72/-17.08	-17.37/-14.69	-13.86/-14.03	-17.31/-16	-11.96/-11.08	
Θ (180°)	-19.28/-16.26	-13.71/-17.81	-17.8/-18.07	-18.02/-19.18	-18.18/-17.77	-18.76/-17.85	-18.17/-18	-16.53/-16.33	-16.94/-17.43	-18.13/-17.63	-18.41/-16.84	-15.96/-16.04	-18.41/-17.69	-18.64/-17.94	-17.8/-19.06	-18.55/-17.59	-17.98/-16.96	-16.98/-15.97	-15.5/-14.74	-14.55/-15.81	-18.43/-17.71	-19.19/-18.54	-18.75/-18.34	-18.83/-17.93	
Freq(Hz)	6.475GPol.	PhiAnt. 4	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Gain	Θ(0°)/Θ(7.5°)	Θ(15°)/Θ(22.5°)	Θ(30°)/Θ(37.5°)	Θ(45°)/Θ(52.5°)	Θ(60°)/Θ(67.5°)	Θ(75°)/Θ(82.5°)	Θ(90°)/Θ(97.5°)	Θ(105°)/Θ(112.5°)	Θ(120°)/Θ(127.5°)	Θ(135°)/Θ(142.5°)	Θ(150°)/Θ(157.5°)	Θ(165°)/Θ(172.5°)	Θ(180°)/Θ(187.5°)	Θ(195°)/Θ(202.5°)	Θ(210°)/Θ(217.5°)	Θ(225°)/Θ(232.5°)	Θ(240°)/Θ(247.5°)	Θ(255°)/Θ(262.5°)	Θ(270°)/Θ(277.5°)	Θ(285°)/Θ(292.5°)	Θ(300°)/Θ(307.5°)	Θ(315°)/Θ(322.5°)	Θ(330°)/Θ(337.5°)	Θ(345°)/Θ(352.5°)	
Θ (0°)	-0.270/-2.4	0.740/0.6	-0.12/-0.19	-0.22/-0.41	-1.21/-2.03	-2.28/-3.52	-5.2/-7.2	-9.37/-12.28	-14.18/-12.52	-8.99/-6.36	-4.63/-3.07	-1.87/-1.33	-0.67/-0.36	1/1.03	0.780/44	0.09/-0.18	-0.8/-1.61	-2.73/-4.39	-6.1/-9.95	-10.39/-13.47	-16.19/-18.85	-8.29/-6.21	-4.58/-2.52	-1.51/-0.97	
Θ (7.5°)	-0.189/0.3	0.881/44	1.892/0.33	2.032/1.17	1.861/1.2	0.320/1.11	-0.34/-0.79	-1.23/-2.43	-4.6/-17	-9.51/-15.05	-15.54/-10.79	-22.55/-11.88	-3.99/-1.03	-2.37/-1.81	-1.58/-2.18	-3.24/-0.45	-4.54/-5.23	-6.71/-9.86	-11.25/-12.01	-13.71/-11.44	-10.41/-7.89	-5.57/-4.09	-3.33/-2.62	-1.60/-0.63	
Θ (15°)	1.56/1.9	2.29/2.43	2.76/3.22	3.53/6.8	3.44/2.7	1.68/1.2	1.12/1.28	1.21/0.24	-1.71/-4.12	-7.67/-16.6	-18.9/-13.44	-11.22/-9.5	-8.51/-7.53	-6.58/-7.75	-9.76/-11.29	-11.35/-12.54	-14.63/-17.96	-19.26/-18.21	-15/-11.3	-9.08/-6.65	-4.55/-3.02	-1.91/-0.96	-0.21/0.37	0.37/0.65	
Θ (22.5°)	2.27/2.93	3.59/4	4.17/4.11	3.57/3.28	3.21/2.98	2.16/1.54	1.92/5.1	2.26/0.11	-2.82/-5.68	-7.39/-8.66	-12.07/-18.99	-18.57/-13.69	-11.24/-3.1	-5.91/-5.1	-5.8/-8.22	-9.76/-11.01	-13.15/-14.51	-13.67/-11.47	-9.26/-7.48	-5.73/-4.06	-3.06/-2.11	-0.91/0.55	1.67/2.14	2.02/1.95	
Θ (30°)	-0.99/0.17	2.17/8.63	4.71/4.94	3.81/2.58	2.31/2.94	2.35/1.64	2.83/44	2.14/0.72	-1.72/-10.2	-0.99/-1.83	-3.48/-5.47	7.86/-10.34	-14.57/-17.94	-15.27/-16.27	-16.78/-13.84	-10.58/-9.51	-7.94/-9.42	-9.06/-6.45	-5.23/-3.69	2.01/-1.6	-1.83/-1.12	-0.04/0.86	1.48/1.55	1.51/0.66	
Θ (37.5°)	0.66/0.47	0.18/0.99	2.09/3.16	2.73/2.07	2.43/8	3.58/2.52	3.44/3.49	0.74/-1.27	-0.30/-2	-0.07/-1.45	-3.63/-5.43	-6.85/-7.24	-8.22/-11.12	-10.98/-9.24	-7.76/-8.61	-9.91/-6.69	-5.87/-6.09	-3.39/-3.52	-4.77/-1.21	-0.26/-1.94	-3.14/-1.85	0.35/2.28	2.92/33	1.05/0.5	
Θ (45°)	-0.8/-2.07	0.97/2.06	1.23/0.14	0.08/1.35	2.53/4.62	4.67/2.91	3.63/3.12	-0.71/-1.54	-0.39/-1.57	-2.09/-1.67	-2.41/-3.23	-5.08/-10.91	-18.53/-17.82	-18.29/-10.14	-5.03/-4.39	-8.59/-6.83	-4.91/-4.36	-1.75/-4.18	-2.78/1.05	1.67/0.17	0.22/0.66	0.05/4.06	0.12/0.55	0.74/0.18	
Θ (52.5°)	-1.76/-1.69	0.091/2.3	0.39/-0.59	0.71/2.84	4.09/4.9	4.41/2.38	2.781/3.7	-2.39/-1.23	-0.91/-0.47	-4.06/-8.16	-8.12/-5.74	-7.46/-12.26	-6.79/-4.19	-5.21/-6.38	-6/-6.22	-2.05/-4.16	-3.01/3.4	-0.16/-1.28	1.6/1.61	-0.63/-0.38	-1.05/-1.36	0.33/0.48			
Θ (60°)	-3.68/-2.46	-1.19/-0.84	-1.56/-0.38	2.09/3.72	4.22/4.24	1.42/0.43	2.86/4.08	2.48/1.3	-2.85/-1.62	-2.68/-5.44	-1.98/0.9	-1.61/-1.67	-2.56/-5.25	-4.65/-3.82	-2.54/-3.87	-8.77/-6.21	-6.88/-4.45	-6.04/-8.13	-2.48/-9.8	-5.37/-0.48	-3.01/-1	1.15/-0.57	-2.07/-0.12	-1.71/-1.87	-0.96/-1.75
Θ (67.5°)	-5.66/-3.5	-2.7/-4.1	-5.1/-1.27	2.42/2.89	2.71/2.86	1.53/-2.69	-0.72/-0.57	-1.11/0.1	-2.51/-3.6	-1.75/-1.26	-1.63/-1.26	-2.7/-4.67	-5.27/-4.27	-2.85/-0.96	-3.33/-4.9	-3.36/-3.56	-4.4/-5.52	-3.92/-7.54	-3.8/-2.1	-3.92/-1.74	-0.23/-0.28	-1.33/-0.68	-4.04/-2.5	-3.26/-3.62	
Θ (75°)	-6.73/-6.57	-5.28/-6.65	-8.01/-4.3	0.78/2.1	0.29/0.07	-0.87/-4.31	-1.08/-0.51	-0.61/-0.37	-1.77/-1.07	-0.27/-0.68	-1.12/-0.71	-2.18/-4.87	-7.81/-6.4	-4.13/-1.54	-1.82/-3.91	-2.23/-5.48	-4/-6.52	-3.64/-5.89	-3.57/-1.65	-4.11/-1.29	-1.32/-2.52	-2/-3.19	-8.14/-4.8	-5.65/-6.32	
Θ (82.5°)	-8.46/-10.79	-12.3/-9.82	-7.9/-6.29	-2.48/0.46	-2.24/-4.09	-4.33/-4.79	-1.41/-0.28	-0.24/-0.55	-1.63/-0.49	-1.52/-1.36	-0.96/-0.83	-2.1/-3.87	-6.49/-6.93	-3.77/-1.57	-1.89/-5.1	-3.3/-8.87	-1.1/-6.52	-4.09/-3.73	-4.18/-1.49	-0.83/-0.99	-2.95/-11.08	-15.86/-8.97	-6.98/-12		
Θ (90°)	-11.97/-7.43	-7.28/-19.18	-12.37/-5.89	-3.86/-1.3	-3.63/-5.32	-5.24/-4.38	-1.49/0.02	-0.25/-1.51	-2.06/-0.13	-1.45/-2.26	-1.67/-1.03	-1.52/-2.44	-5.47/-6.26	-4.62/-1.4	-2.38/-5.74	-1.53/-5.69	-3.48/-6.12	-1.37/-8.54	-2.75/-4.54	-5.08/-3.03	-1.36/-1.9	-4.5/-12.51	-14.77/-12.29	-6.13/-6.65	
Θ (97.5°)	-17.82/-7.79	-6.52/-18.28	-18.43/-7.25	-4.17/-3.08	-6.83/-9.24	-6.76/-5.21	-2.38/-1.12	-1.66/-2.69	-2.76/-1	-2.36/-3.05	-2.04/-1.31	-2.28/-2.84	-5.23/-6.14	-5.16/-4.04	-3.57/-3.88	-2.33/-7.29	-5.88/-6.65	-3.39/-7.62	-3.4/-8.59	-7.84/-8.67	-5.84/-6.66	-6.99/-11.2	-18.91/-11.68	-5.26/-13.82	
Θ (105°)	-14.32/-9.26	-9.14/-16.85	-18.86/-6.43	-4.61/-4.59	-11.58/-11.9	-7.22/-5.27	-2.04/-1.13	-2.16/-2.64	-3.35/-1.69	-2.25/-3.36	-3.51/-2.07	-3.27/-4.94	-6.57/-1.14	-6.23/-6.84	-3.95/-2.81	-6.									



Radiated Composite Gain Data_6GHz U-NII 5~8

Appendix B

Θ(112.5°)	-15.43/-17.48	-14.01/-14.09	-11.54/-12.4	-12.1/-10.5	-14.48/-14.19	-18.62/-17.03	-18.88/-18.36	-18.8/-19.2	-19.32/-17.53	-17.34/-17.75	-18.06/-14.71	-18.69/-18.43	-19.06/-17.73	-15.21/-11.9	-12.77/-14.89	-16.52/-17.19	-9.31/-17.18	-11.93/-19.38	-10.99/-19.11	-18.34/-18.77	-15.7/-18.52	-8.91/-8.52	-12.95/-19.01	-18.9/-19.04
Θ(120°)	-17.51/-14.83	-17.87/-12.6	-11.01/-16.36	-13.65/-10.97	-15.12/-11.43	-18.25/-19.16	-17.67/-16.06	-17.41/-17.09	-16.41/-18.23	-17.83/-14.96	-18.07/-16.1	-18.81/-17.42	-18.41/-16.45	-17.5/-14.14	-13.42/-12.5	-18.78/-16.72	-14.55/-17.84	-12.48/-18.33	-15.81/-13.53	-17.24/-7.84	-15.31/-16.88	-16.61/-5.59	-18.45/-16.91	-12.9/-17.04
Θ(127.5°)	-18.08/-18.09	-16.2/-13.82	-14.02/-18.42	-11.05/-16.44	-14.82/-11.64	-18.93/-11.89	-17.39/-13.82	-17.95/-13.47	-13.25/-13.9	-12.1/-14.77	-15.59/-18.42	-17.18/-18.39	-15.43/-18.19	-14.31/-12.64	-14.27/-17.4	-11.99/-14.56	-16.13/-12.46	-14.44/-14.64	-17.04/-11.38	-18.95/-8.02	-9.1/-6.24	-13.25/-18.81	-9.5/-14.26	-17.8/-16.01
Θ(135°)	-13.23/-13.61	-18.67/-15.81	-16.9/-16.81	-10.33/-17.49	-12.38/-13.31	-14.99/-18.12	-13.69/-18.98	-13.93/-15.05	-15.39/-12.98	-12.97/-11.99	-14.04/-18.77	-18.01/-18.16	-18.44/-13.37	-11.28/-15.82	-17.42/-12.59	-14.28/-12.66	-10.24/-12.34	-14.33/-16.64	-18.79/-14.46	-17.6/-11.16	-8.22/-6.78	-13.35/-13.43	-18.85/-18.58	-16.84/-15.82
Θ(142.5°)	-15.05/-18.29	-15.4/-15.94	-17.47/-18.85	-19.05/-17.16	-8.97/-12.21	-19.56/-10.74	-11.06/-9.59	-12.19/-15.24	-14.51/-14.25	-13.36/-14.6	-19.15/-18.42	-18.81/-18.38	-17.47/-18.77	-18.83/-13.98	-13.54/-18.36	-17.9/-17.77	-18.83/-18.65	-16.73/-17.97	-14.54/-17.03	-19/-17.74	-18.09/-15.57	-15.71/-17.77	-15.94/-18.79	-16.05/-11.55
Θ(150°)	-15.89/-9.62	-9.7/-15.94	-18.22/-15.89	-17.97/-16.26	-13.44/-13.07	-18.33/-11.36	-9.44/-12.49	-11.93/-11.67	-12.44/-13.09	-12.92/-17.4	-17.95/-19.35	-18.51/-17.53	-18.64/-14.35	-15.56/-18.68	-11.5/-9.36	-10.54/-19.17	-17.4/-14.51	-16.72/-18	-19.04/-19.35	-17.89/-17.74	-18.69/-11.71	-9.02/-14.68	-18.22/-18.19	-10.78/-16.05
Θ(157.5°)	-15.44/-11.54	-11.73/-18.24	-13.8/-16.22	-18.42/-17.78	-17.78/-15.91	-17.27/-18.92	-14.27/-13.35	-17.7/-18.78	-17.67/-18.12	-18.26/-17.16	-18.38/-17.87	-18.2/-18.1	-18.39/-17.51	-18.67/-18.77	-18.62/-19.1	-19.01/-17.97	-18.97/-18.69	-17.21/-19.08	-17.52/-19.12	-18.11/-18.35	-18.87/-17.54	-18.86/-18.33	-15.89/-13.47	-11.46/-12.54
Θ(165°)	-18.93/-18.27	-19.44/-17.14	-14.26/-15.22	-18.14/-18.39	-18.07/-18.64	-18.72/-17.51	-18.38/-18.76	-18.15/-17.98	-18.23/-18.53	-17.82/-18.56	-17.07/-17.67	-17.76/-18.34	-17.97/-17.74	-19.2/-11.23	-8.64/-7.99	-9.98/-13.23	-13.61/-14.78	-17.4/-18.72	-18.15/-14.92	-14.14/-16.19	-18.38/-17.4	-18.11/-17.77	-18.62/-18.54	-17.69/-18.64
Θ(172.5°)	-18.09/-17.59	-18.49/-17.49	-17.08/-17.59	-19.09/-18.76	-18.64/-18.08	-17.77/-18.89	-16.17/-14.73	-14.59/-16.05	-18.36/-18.37	-17.87/-19.04	-18.6/-17.66	-17.65/-17.79	-18/-17.4	-17.82/-18.31	-16.94/-15.14	-15.6/-15.9	-16.81/-17.6	-16.82/-16.81	-16.12/-14.42	-12.22/-12.97	-15.01/-16.03	-15.77/-13.55	-16.6/-18.35	-18.79/-17.04
Θ(180°)	-18.22/-15.51	-13.18/-12.97	-13.77/-14.31	-13.33/-12.87	-11.96/-12.16	-14.1/-15.17	-14.88/-13.9	-13.42/-14.08	-15.38/-15.18	-14.2/-13.81	-14.54/-15.62	-16.52/-17.52	-17.49/-16.53	-16.64/-17.04	-17.35/-15.62	-13.68/-13.58	-13.91/-15.55	-17.25/-18.19	-18.92/-16.95	-13.93/-13.39	-11.44/-11.09	-11.87/-13.13	-13.08/-14.32	-16.25/-18.58
Freq(Hz)	6.995GPol.	PhiAnt.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-5.78/-5.74	-5.46/-5.04	-4.55/-5.09	-5.4/-6.01	-7.13/-7.7	-7.87/-8.9	-10.18/-11.43	-12.89/-16.53	-18.04/-18.78	-17.62/-13.89	-11.03/-9.37	-8.36/-6.64	-5.77/-5.3	-4.9/-4.48	-4.44/-4.27	-4.44/-5	-6.1/-6.61	-7.79/-8.4	-10.23/-12.42	-15.63/-19.16	-19.36/-15.64	-12.5/-11.56	-9.54/-8.26	-8.07/-6.83
Θ(7.5°)	0.280/7.3	1.130/9.2	0.33/-0.39	-1.07/-1.28	-1.15/-0.98	-1.19/-1.49	-2.28/-3.52	-5.32/-8.03	-11.52/-14.08	-13.77/-10.28	-7.33/-5.81	-5.57/-5.5	-5.47/-4.95	-4.86/-5.61	-6.17/-5.68	-5.23/-5.81	-7.01/-9.7	-11.99/-11.99	-10.19/-9.17	-8.28/-6.78	-5.72/-4.89	-4.11/-2.85	-1.9/-0.87	-0.09/0.07
Θ(15°)	1.34/-1.82	1.9/-1.87	1.8/-1.3	0.55/-0.14	0.31/-1.5	1.72/-1.46	-0.13/-3.03	-7.33/-17.2	-19.55/-10.9	-6.89/-5.46	-5.59/-5.74	-6.25/-7.23	-8.62/-11.35	-13.92/-14.51	-13.85/-13.68	-13.77/-14.85	-16.95/-18.42	-18.91/-10.51	-6.64/-5.74	-5.86/-6.64	-5.66/-3.12	-0.87/0.64	1.14/-1.79	1.88/-1.64
Θ(22.5°)	-1.52/-1.2	-1.17/-1.06	0.030/0.95	0.73/-1.07	-1.1/-1.13	2.75/-2.57	0.04/-5.31	-10.4/-6.78	-4.78/-4.35	-4.74/-6.02	-7.54/-8.35	-8.6/-9.08	-10.92/-16.27	-17.27/-19.2	-18.66/-19.01	-14.46/-9.9	-9.9/-16.91	-14.52/-6.07	-4.25/-6.52	-11.14/-6.87	-2.27/0.16	1.477/-1.87	1.47/0.41	-0.66/-1.2
Θ(30°)	3.38/-3.8	3.47/-2.57	1.68/-1.45	1.46/0.7	-1.92/-1.02	2.28/-2.66	-0.5/-5.75	-3.5/-2.17	-3.43/-6	-7.77/-8.98	-9.04/-8.77	-9.37/-11.45	-16.32/-17.61	-19.16/-17.07	-18.39/-16.77	-8.95/-6.56	-9.24/-9.67	-5.31/-2.3	-1.87/-4.51	-6.8/-6.13	0.87/-1.18	0.17/-0.67	-0.54/-0.1	2.67/-3.2
Θ(37.5°)	0.11/-1.53	1.98/-1.56	1.71/-1.64	1.77/-1.04	-1.24/-1.72	2.593/5.8	0.41/-3.16	-2.01/-4.99	-9.89/-5.89	-3.89/-3.6	-3.29/-3.06	-3.43/-4.43	-5.96/-6.91	-8.08/-7.52	-7.82/-18.17	-9.13/-9.4	-8.61/-5.7	-10.69/-4.68	-1.7/-8.24	-7.18/-1.14	-0.55/-0.31	0.56/0.93	1.39/-1.44	1.14/0.55
Θ(45°)	-2.78/-5.23	-4.18/-1.87	0.96/-1.16	1.02/-1.21	1.16/0.1	1/2.97	0.44/-2.03	-3.04/-11.9	7.47/-2.91	-3.33/-4.55	-4.08/-4.71	-5.64/-6.43	-5.46/-5.85	-6.18/-3.85	-3.13/-7.71	-6.75/-6.73	-12.09/-3.92	-7.89/0.3	1.5/-8.62	-1.76/0.93	-1.26/-3.62	-1.93/-0.18	1.872/-2.9	-0.84/-2.97
Θ(52.5°)	-1.71/-2.41	-3.75/-2.96	-0.48/-1.09	-1.54/0.64	2/-1.34	0.53/-2.7	0.74/-0.56	-3.2/-13.13	-5.1/-5.24	-5.37/-3.69	-2.88/-4.52	-4.76/-3.01	-3/-4.69	-4.59/-5.38	-3.15/-4.56	-3.78/-4.67	-10.99/-4.02	-10.28/0.98	0.06/-5.76	0.35/0.18	-2.31/-0.3	0.49/0.43	1.09/-1.32	-4.43/-2.1
Θ(60°)	-0.69/-1.19	-2.39/-2.12	-1.13/-1.84	-2.53/-1.52	2.01/-1.71	-0.612/-3.8	1.21/0.52	-3.04/-8.6	-3.35/-5.17	-5.28/-3.38	-2.69/-3.69	-2.7/0.01	0.05/-0.72	-3.52/-4.96	-3.71/-2.93	-9.36/-4.71	-9.76/0.44	-1.18/-5.42	-1.31/-3.55	-1.12/-3.66	-3.4/-0.04	-1.71/-1.27	-0.16/-5.07	-2.54/0.22
Θ(67.5°)	-1.34/-1.98	-2.4/-1.49	-3.31/-3.3	-1.63/-0.04	2.21/0.45	-1.66/0.93	0.21/-1.14	-1.89/-3.62	-3.1/-5.61	-3.92/-2.93	-1.74/-1.78	-1.55/0.27	-0.23/-0.64	-2.08/-3.73	-5.91/-5.62	-4.3/-3.97	-8.26/-5.73	-9.68/-1.24	-5.12/-3.1	-2.22/-7.77	-2.07/-2.52	-7.69/-0.51	-0.77/-4.37	-1.64/-0.3
Θ(75°)	-3.21/-5.27	-4.99/-1.39	-4.57/-4.5	-2.19/-2.36	0.65/-1.3	-3.7/-2.85	-1.23/0.33	-3.21/-4.03	-3.05/-3.54	-1.2/-3.29	-2.23/-2.48	-1.34/0.17	-0.66/0.46	-0.08/-1.37	-5.3/-7.26	-4.77/-4.28	-5.9/-5.32	-16.93/-1.45	-6.36/-0.62	-2.4/-4.86	-0.01/-3.08	-4.3/0.16	-1/-5.25	-5.17/-5.44
Θ(82.5°)	-9.34/-6.18	-8.21/-3.81	-6.6/-6.97	-3.62/-4.38	-3.06/-2.07	-7.07/-5.56	-1.58/-0.75	-3.85/-3.07	-1.6/-1.45	-2.04/-2.77	-0.71/-2.02	-2.58/-2.12	-2.43/-0.95	-0.63/-2.13	-4.59/-5.92	-5.11/-3.2	-6.8/-1.44	-13.98/2	-8.25/-0.08	-2.19/-3.57	-1.18/-5.42	-2.84/-1.61	-4.79/-10.02	-11.79/-15.53
Θ(90°)	-14.88/-13.84	-14.32/-5.04	-6.09/-8.39	-3.11/-5.58	-5.36/-4.68	-9.02/-5.87	-0.78/-0.23	-2.66/-2.05	-2.01/-1.53	-1.44/-5.15	-2.09/-1.9	-1.22/-1.31	-2.48/-1.13	-1.11/-3.79	-4.34/-6.63	-3.47/-4.89	-9.07/-0.26	-18.51/2.34	-5.88/-0.91	-5.92/-4.23	-4.15/-3.69	-2.23/-5.65	-19.01/-18.12	-11.19/-12.28
Θ(97.5°)	-18.73/-19.21	-17.78/-27.9	-5.69/-6.41	-3.77/-7.27	-8.39/-5.81	-15.18/-5.78	-2.44/-2.14	-3.32/-1.99	-1.65/-1.74	-4.55/-5.59	-3.56/-2.38	-1.65/-2.2	-3.02/-2.85	-1.8/-4.3	-8.57/-5.72	-6.53/-4.59	-12.5/-2.24	-8.77/-0.33	-5.96/-4.92	-9.01/-3.94	-3.68/-11.77	-15.77/-14.72	-8.23/-12.59	
Θ(105°)	-18.72/-15.31	-18.82/-12.66	-7.62/-5.91	-6.14/-8.68	-8.5/-12.19	-11.71/-7.72	-3.51/-4.97	-3.9/-3.85	-3.21/-2.66	-3.8/-3.2	-4.75/-4.87	-4.11/-5.19	-4.78/-4.33	-5.37/-4.74	-5.79/-9.85	-5.29/-4.09	-12.98/-5.81	-7.55/-7.46	-6.56/-11.39	-10.93/-13.45	-18.06/-7.4	-7/-10.39	-14.04/-16.51	-7.73/-16.08
Θ(112.5°)	-18.11/-18.22	-16.55/-18.5	-8.53/-9.08	-10.07/-14.75	-17.59/-14.38	-10.79/-5.6	-0.54/-1.8	-3.93/-3.82	-5.68/-2.31	-4.85/-5.07	-4.21/-4.35	-5.63/-6.51	-4.85/-6.03	-6.06/-4.11	-8.98/-17.28	-5.74/-8.75	-9.8/-11.52	-4.46/-6.23	-2.83/-14.1	-7.21/-9.27	-19.32/-9.43	-5.73/-9.89	-18.39/-18.33	-15.22/-17.27
Θ(120°)	-19.46/-14.87	-15.33/-14.37	-8.93/-11.18	-17.33/-18.08	-15.26/-8.15	-7.68/-6.37	-2.8/-3.74	-4.99/-6.13	-5.37/-7.39	-4.66/-7.72	-8.08/-6.37	-6.14/-5.94	-5.34/-5.86	-5.34/-5.95	-11.31/-7.27	-6.91/-11.17	-7.21/-15.84	-7.48/-5.13	-2.84/-14.03	-5.39/-13.52	-12.17/-15.12	-8.31/-18.74	-19.02/-18.35	-9.68/-11.98
Θ(127.5°)	-17.99/-13.86	-7.86/-13.99	-7.09/-13.29	-18.65/-14.3	-10.96/-6.32	-6.31/-3.93	-2.96/-3.9	-9.48/-4.77	-5.1/-8.26	-5.16/-6.2	-10.37/-11.2	-9.7/-6.86	-7.53/-4.24	-7.44/-7.98	-7.47/-6.84	-18.25/-3.89	-7.56/-6.96	-17.33/-9.5	-6.57/-10.66	-7.38/-11.94	-11.34/-12.69	-18.03/-19	-12.91/-16.69	-8.59/-17.39
Θ(135°)	-6.78/-18.26	-11.59/-14.78	-16.99/-13.89	-19.22/-9.93	-14.73/-6.39	-7.36/-7.07	-4.93/-18.22	-7.86/-12.53	-8.78/-6.82	-9.37/-12.71	-8.85/-7.06	-5.85/-6.88	-7.58/-9.8	-15.45/-8.44	-9.88/-11.51	-9.63/-8.84	-17.09/-6.76	-13.01/-12.38	-8.39/-11.79	-12.38/-16.96	-12.37/-15.01	-19.04/-17.87	-12.87/-7.92	-10.08/-6.52
Θ(142.5°)	-7.3/-11.85	-17.42/-12.68	-14.48/-13.45	-18.41/-12.03	-17.18/-12.37	-10.29/-14.48	-18.06/-15.7	-10.89/-9.77	-11.63/-9.16	-9.02/-11.11	-11.41/-8.68	-7.3/-6.61	-8.1/-12.88	-8.01/-5.96	-7.89/-8.95	-8.56/-19.02	-8/-6.63	-9.46/-8.94	-13.76/-19.37	-18.63/-16.17	-7.06/-9.91	-15.92/-17.9	-18.52/-17.69	-17.41/-17
Θ(150°)	-17.73/-18.27	-15.78/-12.7	-15.96/-18.08	-15.39/-10.07	-11.13/-17.87	-14.76/-12.47	-11.61/-13.3	-8.33/-6.17	-7.28/-8.37	-9.01/-11.21	-11.41/-9.45	-8.58/-9.65	-11.2/-10.98	-11.33/-16.26	-14.09/-17.21	-16.24/-7.26	-7.23/-14.12	-10.02/-11.14	-15.2/-19.17	-18.82/-16.07	-13.22/-16.95	-17.71/-13.99	-13.92/-17.99	-19.03/-18.14
Θ(157.5°)	-18.2/-17.74	-18.31/-17.8	-19.12/-14.85	-12.48/-11.92	-13.93/-17.54	-14.95/-8.78	-7.45/-8.47	-10.25/-13.04	-18.04/-13.24	-11.47/-11.9	-13.35/-13.18	-10.22/-9.06	-9.53/-11.37											



Sporton International Inc. Hsinchu Laboratory



Antenna Pattern 2.4GHz and 5GHz U-NII 1~3

Appendix C

Θ(22.5°)	-4.01/-4.23	-2.06/-0.57	0.11/-0.23	-0.64/-1.39	-2.53/-4.10	-5.24/-5.83	-5.53/-4.68	-3.65/-2.30	-1.57/-2.01	-2.59/-2.95	-2.45/-1.23	-0.22/-2.09	0.36/-0.51	-2.74/-4.86	-5.09/-4.07	-3.01/-3.50	-4.43/-5.34	-5.65/-6.05	-6.83/-6.99	-6.94/-6.81	-7.14/-7.53	-6.10/-3.92	-2.23/-1.37	-1.56/-2.39
Θ(30°)	-2.73/-2.71	-1.29/-0.87	-1.48/-2.64	-3.40/-3.37	-3.56/-3.28	-3.19/-3.61	-4.26/-5.63	-4.80/-3.55	-2.72/-2.59	-1.49/-0.13	-0.25/-0.37	0.73/-0.10	-0.01/-2.61	-4.15/-2.98	-2.22/-2.24	-3.13/-5.90	-8.49/-9.49	-8.52/-7.93	-8.19/-9.33	-12.40/-15.42	-14.55/-10.67	-5.27/-2.10	0.04/-1.11	
Θ(37.5°)	-3.85/-4.68	-1.89/-0.67	-1.61/-3.99	-2.76/-2.00	-1.95/-2.44	-2.62/-5.22	-5.24/-3.95	-4.26/-6.45	-8.15/-8.56	-4.23/-1.14	0.77/-0.90	0.91/-0.76	-0.07/-0.77	-3.62/-3.11	-4.40/-2.25	-0.06/-0.15	-3.57/-8.70	-7.38/-6.32	-5.45/-7.59	-10.32/-12.49	-10.32/-13.30	-10.44/-4.58	-1.91/-1.34	
Θ(45°)	-2.54/-6.49	-2.49/-0.67	-3.09/-3.41	-1.29/-1.51	-4.44/-4.75	-3.58/-3.44	-1.78/0.03	-0.97/-4.92	-7.08/-8.37	-9.64/-5.06	-2.56/-1.08	2.11/0.43	0.02/0.49	-0.81/-2.71	-2.45/-0.10	3.09/-0.05	-3.51/-7.85	-3.00/-2.20	-2.74/-3.04	-4.37/-5.69	-6.08/-4.89	-6.68/-10.47	-11.22/-7.02	-1.79/-0.32
Θ(52.5°)	-3.41/-9.39	-3.08/-1.97	-4.14/-3.29	-0.63/-0.86	-4.15/-4.83	-2.96/-2.52	-1.33/0.11	-0.36/-2.06	-2.28/-4.46	-10.22/-10.28	-5.27/0.34	1.00/0.42	-0.01/-0.04	-1.73/-3.88	-2.63/0.52	1.53/0.21	-3.81/-4.57	-1.61/-1.15	-1.92/-3.44	-4.54/-5.56	-6.80/-5.65	-5.84/-9.15	-12.16/-8.89	-1.94/-0.84
Θ(60°)	-2.85/-8.39	-3.02/-1.12	-3.32/-3.15	-1.04/-1.44	-5.36/-4.82	-1.47/-0.90	-1.08/-2.03	-1.21/-3.40	-1.21/-3.40	-15.06/-12.87	-8.14/-0.46	1.97/0.90	-1.45/-1.20	-0.06/-1.32	-2.21/-0.69	-0.81/-1.06	-2.34/-4.97	-7.76/-6.21	-4.92/-5.45	-5.25/-10.38	-13.11/-8.92	-3.21/-0.75		
Θ(67.5°)	-5.76/-7.03	-1.60/-0.47	-0.76/-2.65	-2.36/-2.80	-4.48/-1.76	-0.63/-1.15	-0.97/-1.43	-2.60/-2.63	-1.63/-3.75	-9.31/-6.39	-6.25/-0.46	0.83/-0.32	-1.88/-1.25	-0.48/-0.18	-1.08/-1.70	-0.46/-1.14	-1.06/-0.22	-1.18/-1.91	-3.29/-5.82	-5.96/-5.08	-5.08/-5.68	-4.78/-6.88	-7.43/-7.78	-3.59/-1.93
Θ(75°)	-8.18/-7.07	-2.19/-1.32	0.03/-0.23	-4.22/-3.96	-3.19/-1.40	-0.08/-0.23	-0.64/-0.67	-1.57/-3.49	-5.18/-6.11	-7.87/-3.57	-2.70/-0.96	0.41/0.26	-1.53/-2.68	-0.75/-0.74	-0.80/-1.74	-0.94/-0.28	1.63/-1.14	-1.19/-2.30	-3.29/-3.42	-2.80/-3.88	-3.05/-7.09	-7.36/-8.05	-7.45/-7.12	-4.21/-2.85
Θ(82.5°)	-9.34/-3.46	-1.24/-1.35	0.02/-2.96	-6.31/-4.81	-2.85/-1.23	-0.16/-0.18	-1.20/-0.71	-1.52/-3.15	-4.92/-7.51	-6.66/-4.70	-3.63/-0.12	-0.66/-1.40	-6.40/-4.49	-1.58/-5.22	-3.27/-0.89	0.03/0.27	1.54/2.26	-1.38/-2.93	-2.87/-3.29	-2.08/-3.93	-3.38/-6.08	-7.43/-6.59	-6.27/-7.92	-4.86/-4.09
Θ(90°)	-9.24/-1.80	-1.87/-2.02	-0.38/-1.73	-5.75/-4.81	-2.27/-1.98	-1.03/0.14	-1.12/-1.12	-0.90/-2.30	-4.05/-9.06	-8.62/-4.76	-4.16/-0.64	-1.01/-0.10	-4.64/-8.29	-2.52/-5.22	-3.75/-1.02	-0.12/0.44	1.77/1.41	-1.56/-3.44	-3.18/-2.75	-4.44/-3.67	-2.94/-5.86	-7.66/-7.60	-5.49/-6.31	-4.69/-6.61
Θ(97.5°)	-6.26/-0.27	-0.90/-0.35	-0.15/-2.87	-8.22/-4.00	-1.65/-2.60	-2.58/-0.90	-2.59/-2.19	-1.96/-3.08	-3.23/-10.03	-10.93/-4.67	-10.46/-2.68	-4.96/-6.47	-7.07/-7.49	-3.79/-5.47	-3.93/-1.63	-0.35/-0.57	-0.75/0.06	-3.09/-5.29	-2.95/-4.46	-5.06/-6.64	-7.05/-7.30	-8.04/-5.51	-3.79/-6.58	-5.46/-10.92
Θ(105°)	-5.74/-0.89	-1.44/-1.14	-1.16/-2.92	-7.01/-4.67	-2.68/-2.09	-2.96/-2.35	-4.70/-5.09	-4.76/-6.10	-6.16/-8.61	-10.69/-1.32	-8.30/-7.78	-4.98/-6.53	-7.52/-5.73	-1.26/-4.14	-4.98/-3.27	-1.86/-3.29	-4.25/-4.47	-5.31/-8.51	-5.71/-8.58	-11.82/-10.98	-6.44/-4.83	-4.38/-7.48	-6.76/-12.77	
Θ(112.5°)	-5.08/-1.16	-2.71/-2.61	-0.54/-1.57	-6.37/-3.18	-1.72/-3.05	-4.05/-3.16	-5.63/-6.98	-8.00/-8.57	-7.14/-7.24	-6.44/-3.21	-6.74/-12.66	-10.30/-8.61	-10.69/-4.90	-5.60/-5.45	-4.77/-4.15	-2.79/-2.00	-4.66/-6.82	-8.92/-9.17	-4.83/-6.67	-3.87/-10.56	-9.47/-6.64	-5.00/-3.61	-4.39/-5.55	-9.31/-14.96
Θ(120°)	-5.12/-1.46	-3.49/-4.85	-1.05/-1.13	-5.39/-3.50	-2.51/-2.35	-3.46/-5.66	-8.08/-11.84	-11.64/-9.67	-10.79/-7.21	-7.25/-2.87	-4.03/-9.11	-6.25/-3.87	-5.08/-3.97	-8.70/-14.92	-3.58/-2.80	-5.45/-2.98	-2.86/-4.79	-5.89/-9.04	-3.92/-4.75	-2.59/-6.14	-6.92/-7.46	-6.49/-4.10	-7.66/-10.70	-7.44/-14.23
Θ(127.5°)	-5.85/-3.61	-7.17/-4.36	-0.31/-1.68	-4.97/-2.55	-2.60/-2.31	-3.82/-8.10	-8.56/-10.79	-7.95/-10.22	-8.34/-3.26	-7.08/-12.89	-12.95/-11.23	-6.53/-2.44	-2.07/-6.86	-9.92/-9.47	-6.64/-5.09	-3.91/-4.58	-3.64/-5.67	-6.01/-8.84	-7.00/-3.14	-3.02/-7.35	-4.15/-3.40	-5.00/-8.73	-14.88/-11.79	
Θ(135°)	-4.15/-2.96	-5.04/-4.62	-2.19/-2.21	-3.85/-3.72	-3.47/-2.52	-3.60/-7.39	-6.90/-5.62	-7.17/-5.46	-7.36/-8.32	-8.75/-12.70	-14.62/-10.45	-14.61/-5.24	-5.81/-4.97	-7.00/-9.72	-7.61/-6.78	-8.86/-5.06	-3.25/-4.79	-3.68/-2.76	-4.20/-2.46	-4.69/-8.50	-9.21/-10.96	-7.91/-6.44	-5.94/-11.06	-11.50/-5.10
Θ(140°)	-4.55/-2.56	-8.19/-8.31	-4.05/-3.24	-3.62/-3.49	-4.09/-2.54	-2.58/-4.79	-7.10/-10.62	-10.73/-8.63	-9.09/-11.36	-14.68/-12.72	-13.34/-6.70	-7.57/-6.63	-7.61/-12.18	-11.29/-8.35	-6.41/-7.94	-0.05/-4.56	-1.06/0.40	-1.29/-0.53	-6.34/-4.27	-3.54/-4.49	-3.45/-4.44	-7.04/-7.98	-10.34/-9.87	-8.42/-6.58
Θ(150°)	-8.16/-8.65	-12.88/-14.62	-9.67/-5.68	-5.30/-6.51	-8.54/-9.57	-9.84/-8.58	-7.27/-7.55	-8.67/-11.39	-10.41/-9.01	-10.24/-15.32	-13.65/-10.27	-6.15/-5.73	-7.64/-9.11	-8.09/-6.12	-4.72/-6.45	-4.71/-2.40	-1.74/-2.60	-5.77/-7.88	-4.70/-2.69	-1.99/-2.38	-3.41/-3.17	-4.95/-9.94	-14.77/-13.10	-8.55/-8.28
Θ(157.5°)	-6.36/-9.49	-11.15/-10.10	-9.47/-7.27	-5.71/-5.52	-5.75/-5.95	-6.27/-6.53	-7.12/-8.15	-8.46/-9.13	-12.89/-15.77	-12.07/-10.60	-10.30/-12.13	-13.41/-12.50	-12.76/-11.46	-9.73/-6.98	-4.99/-4.91	-3.95/-3.19	-4.36/-6.75	-10.05/-12.13	-9.65/-6.63	-5.90/-7.34	-9.41/-9.70	-8.28/-5.25	-4.96/-5.07	-5.33/-5.41
Θ(165°)	-5.66/-5.65	-5.96/-5.55	-4.91/-5.07	-5.74/-6.30	-7.29/-8.40	-10.21/-12.23	-12.18/-13.01	-11.62/-11.96	-12.59/-11.93	-11.27/-10.74	-10.19/-9.31	-8.64/-9.06	-9.48/-9.11	-7.14/-5.30	-4.28/-4.16	-4.23/-5.37	-6.73/-8.06	-10.27/-12.51	-14.10/-11.93	-8.37/-5.76	-4.74/-4.79	-4.69/-4.96	-6.16/-8.04	-8.05/-8.62
Θ(172.5°)	-8.04/-9.76	-10.54/-11.51	-13.36/-15.00	-13.29/-12.22	-13.05/-13.35	-13.78/-13.88	-11.88/-10.34	-9.33/-9.67	-10.51/-12.26	-15.79/-14.92	-13.05/-12.33	-13.26/-13.14	-12.33/-12.77	-14.18/-13.57	-13.04/-13.73	-14.29/-14.76	-14.30/-13.24	-12.58/-11.17	-9.15/-7.20	-6.09/-5.62	-5.94/-6.54	-6.44/-6.13	-6.80/-8.08	-9.11/-8.61
Θ(180°)	-10.74/-10.37	-10.28/-11.60	-12.32/-10.45	-9.98/-9.10	-8.99/-9.45	-11.36/-12.02	-11.82/-12.33	-11.61/-11.62	-12.48/-13.65	-14.16/-11.70	-10.38/-9.72	-9.57/-9.33	-8.91/-8.80	-8.31/-8.11	-8.29/-8.19	-8.54/-9.33	-10.40/-10.09	-10.78/-11.82	-12.73/-12.53	-11.66/-10.78	-10.46/-9.48	-9.36/-9.77	-9.17/-9.15	-9.74/-10.02
Freq(Hz)	2.45GPol	TotalAnt 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-2.00/-2.00	-1.99/-1.96	-1.88/-1.66	-1.34/-1.08	-0.88/-0.80	-0.86/-1.00	-1.13/-1.21	-1.22/-1.21	-1.20/-1.15	-1.09/-1.01	-1.04/-1.05	-1.14/-1.32	-1.54/-1.73	-1.81/-1.70	-1.43/-1.17	-1.00/-0.97	-1.10/-1.25	-1.36/-1.44	-1.46/-1.60	-1.59/-1.55	-1.40/-1.31	-1.18/-1.23	-1.43/-1.70	-1.59/-2.01
Θ(7.5°)	-1.80/-1.77	-1.77/-1.74	-1.71/-1.53	-1.21/-0.83	-0.50/-0.31	-0.27/-0.36	-0.53/-0.66	-0.73/-0.74	-0.74/-0.66	-0.59/-0.50	-0.44/-0.33	-0.29/-0.39	-0.61/-0.90	-1.25/-1.49	-1.58/-1.52	-1.40/-1.35	-1.37/-1.48	-1.60/-1.80	-2.05/-2.19	-2.18/-2.10	-1.94/-1.72	-1.53/-1.45	-1.50/-1.64	-1.79/-1.85
Θ(15°)	-1.16/-1.22	-1.33/-1.34	-1.32/-1.15	-0.83/-0.46	-0.12/0.09	0.18/0.15	0.17/0.01	-0.10/-0.16	-0.17/-0.15	-0.11/0.03	0.26/0.58	0.83/0.91	0.77/0.45	-0.04/-0.54	-1.01/-1.45	-1.74/-1.93	-2.06/-2.14	-2.25/-2.45	-2.70/-2.80	-2.74/-2.53	-2.24/-1.88	-1.53/-1.25	-1.09/-1.05	-1.05/-1.10
Θ(22.5°)	-0.13/-0.36	-0.62/-0.80	-0.85/-0.70	-0.38/-0.01	0.28/0.46	0.53/0.52	0.47/0.38	0.29/0.22	0.17/0.12	0.09/0.22	0.58/1.07	1.48/1.60	1.40/1.00	0.46/-0.08	-0.66/-1.32	-1.98/-2.58	-3.01/-3.06	-3.17/-3.11	-2.97/-2.76	-2.45/-2.04	-1.61/-1.20	-0.82/-0.46	-1.07/0.02	0.07/0.01
Θ(30°)	0.89/0.59	0.19/-0.18	-0.41/-0.37	-0.11/0.15	0.35/0.42	0.37/0.26	0.15/0.09	0.14/0.28	0.39/0.37	0.24/0.24	0.61/1.18	1.62/1.65	1.31/0.79	0.32/-0.15	-0.66/-1.27	-1.88/-3.28	-2.60/-2.61	-2.52/-2.34	-2.14/-1.95	-1.68/-1.31	-0.86/-0.48	-0.12/0.26	0.62/0.90	1.06/1.06
Θ(37.5°)	1.40/1.18	0.87/0.47	0.15/0.01	0.02/0.04	-0.02/-0.13	-0.25/-0.40	-0.55/-0.50	-0.21/0.29	0.68/0.75	0.50/0.34	0.68/1.28	1.64/1.61	1.26/0.91	0.44/-0.18	-0.92/-1.65	-2.09/-2.06	-1.69/-1.30	-1.03/-0.89	-0.86/-0.93	-1.03/-1.01	-0.80/-0.52	-0.30/-0.06	0.36/0.87	1.28/1.45
Θ(45°)	1.19/1.23	1.09/0.83	0.55/0.23	-0.05/-0.38	-0.64/-0.69	-0.55/-0.43	-0.41/-0.33	-0.03/-0.50	1.01/1.18	0.89/0.53	0.74/1.38	1.77/1.75	1.58/1.35	0.75/-0.19	-1.18/-2.00	-2.50/-2.55	-2.10/-1.50	-0.95/-0.61	-0.42/-0.26	-0.19/-0.23	-0.24/-0.13	-0.21/-0.48	-0.54/-0.08	0.54/1.01
Θ(52.5°)	0.82/0.81	0.64/0.40	0.20/0.10	-0.56/-0.14	-1.23/-0.91	-0.28/0.22	0.47/0.54	0.74/1.10	1.52/1.73	1.45/1.00	1.12/1.48	1.56/1.44	1.35/1.03	0.27/0.58	-1.24/-1.70	-2.07/-2.37	-2.25/-1.70	-1.10/-0.76	-0.62/-0.42	-0.22/-0.18	-0.24/0.08	0.12/0.00	-0.33/-0.34	0.08/0.56
Θ(60°)	1.09/0.78	0.14/-0.42	-0.73/-0.99	-1.42/-1.79	-1.69/-1.01	-0.17/0.39	0.60/0.75	1.09/1.56	1.97/2.17	1.92/1.29	0.90/0.88	0.85/0.68	0.53/0.05	-0.73/-1.55	-2.47/-3.27	-3.72/-3.68	-3.05/-2.17	-1.37/-0.79	-0.57/-0.53	-0.48/-0.53	-0.84/-1.16	-0.98/-0.58	-0.34/-0.07	0.44/0.91
Θ(67.5°)	1.06/1.05	0.58/0.00	-0.34/-0.80	-1.63/-2.42	-2.38/-1.50	-0.35/0.40	0.67/0.84	1.29/1.84	2.23/2.36	2.04/1.20	0.51/0.42	0.54/0.76	0.70/0.50	-0.10/-1.59	-3.93/-5.88	-6.31/-5.64	-4.39/-2.97	-1.86/-1.16	-0.89/-0.83	-0.62/-0.29	-0.17/-0.66	-1.49/-1.91	-1.66/-1.00	-1.07/0.63
Θ(75°)	0.69/0.98	0.72/0.35	0.24/0.06	-0.98/-2.09	-2.36/-1.55	-0.40/0.13	-0.16/-0.53	-0.01/-1.16	2.05/2.45	2.29/1.44	0.34/0.19	0.75/1.16	1.27/1.30	0.95/0.34	-2.39/-3.83	-3.93/-3.82	-3.50/-2.60	-1.46/-0.75	-0.77/-1.33	-1.98/-2.18</				



Antenna Pattern 2.4GHz and 5GHz U-NII 1~3

Appendix C

θ(75°)	-1.70/-1.34	0.01/-0.05	-0.89/-1.76	-1.70/-2.38	-2.39/-1.94	-1.95/-2.52	-3.08/-2.31	-0.91/-1.69	-1.76/-2.14	-0.49/-1.20	-1.03/-1.41	-3.04/-6.33	-8.94/-4.65	-1.82/-0.42	-0.00/-1.23	-0.62/-0.13	-2.10/-2.18	-0.49/-2.24	-1.28/-3.95	-3.64/-7.28	-8.84/-11.42	-6.46/-3.57	-2.77/-1.37	-0.63/-1.07
θ(82.5°)	-1.62/-2.00	-1.48/-1.78	-2.20/-1.70	-1.99/-3.94	-4.03/-3.76	-4.44/-4.93	-3.77/-3.43	-2.76/-4.51	-3.45/-3.72	-2.49/-2.90	-2.91/-2.61	-4.34/-7.89	-10.08/-6.98	-4.76/-1.90	-1.00/-1.54	-0.45/-2.73	-3.08/-2.09	-0.44/-1.56	-1.13/-1.27	-1.03/-3.20	-5.84/-10.43	-4.96/-5.03	-2.16/-1.22	-1.20/-0.56
θ(90°)	-3.30/-3.13	-1.84/-2.22	-3.68/-2.28	-3.32/-5.24	-4.88/-5.28	-4.88/-5.38	-4.09/-4.41	-3.38/-6.37	-5.53/-4.48	-4.15/-3.66	-3.49/-3.14	-5.17/-8.00	-9.26/-9.94	-8.07/-5.56	-4.67/-5.73	-0.64/-3.68	-1.89/-1.65	0.00/-1.55	0.00/-1.55	-4.63/-8.51	-4.13/-4.22	-0.88/-2.25	-1.65/-1.83	
θ(97.5°)	-4.20/-5.93	-3.82/-3.68	-3.27/-2.40	-4.44/-6.12	-5.36/-8.25	-8.26/-5.24	-4.30/-3.91	-3.36/-6.07	-5.84/-5.90	-4.02/-3.92	-4.97/-3.93	-6.12/-6.39	-7.72/-8.93	-8.29/-7.20	-6.72/-5.46	-5.55/-6.83	-4.25/-0.30	-0.120/-79	-0.31/-0.76	0.23/-3.22	-4.75/-5.02	-4.86/-3.26	-1.46/-3.73	-2.32/-2.71
θ(105°)	-7.46/-8.18	-5.45/-3.84	-3.63/-3.50	-4.85/-6.31	-6.32/-7.25	-6.57/-5.46	-4.76/-4.17	-3.87/-5.59	-5.00/-6.46	-5.36/-3.71	-4.60/-4.05	-7.59/-7.50	-6.69/-5.02	-5.91/-5.72	-7.18/-7.65	-11.62/-8.78	-2.20/-0.33	-3.100/-17	-2.01/-1.89	0.23/-3.63	-7.08/-1.82	-4.91/-4.16	-1.99/-6.28	-4.65/-3.57
θ(112.5°)	-8.26/-8.61	-4.79/-2.63	-2.62/-3.74	-2.57/-5.04	-5.79/-6.02	-4.31/-5.18	-5.22/-4.24	-4.33/-5.88	-4.42/-4.25	-5.94/-5.29	-4.68/-4.20	-5.99/-5.92	-9.50/-11.24	-9.90/-12.96	-4.52/-4.24	-3.53/-3.59	-4.62/-4.27	-1.55/-1.81	-6.67/-5.80	-6.88/-1.01	-1.55/-4.80	-4.70/-5.29	-3.76/-6.07	
θ(120°)	-4.21/-8.90	-6.32/-2.76	-4.18/-4.32	-6.05/-4.73	-4.64/-4.87	-3.93/-4.03	-4.57/-3.10	-3.54/-5.26	-4.27/-5.65	-7.60/-7.01	-10.66/-7.61	-5.81/-7.49	-6.97/-7.69	-9.46/-14.58	-9.56/-11.73	-4.28/-5.23	-3.36/-6.58	-11.81/-7.28	-6.55/-4.58	-6.30/-12.39	-8.68/-3.31	-1.94/-5.03	-9.06/-11.97	-7.28/-7.29
θ(127.5°)	-5.02/-7.85	-4.72/-4.59	-3.09/-4.78	-4.50/-2.86	-1.94/-3.22	-3.86/-3.97	-4.17/-3.15	-3.07/-3.56	-3.67/-8.03	-10.54/-7.21	-5.27/-8.58	-7.03/-9.81	-8.98/-6.58	-8.39/-4.26	-5.81/-4.18	-3.92/-2.73	-14.19/-8.52	-9.11/-8.53	-7.40/-6.13	-5.46/-9.24	-7.82/-4.56	-7.00/-7.26	-4.67/-6.26	-8.02/-8.57
θ(135°)	-6.18/-6.58	-8.07/-5.43	-3.86/-4.02	-5.09/-5.14	-4.57/-3.89	-3.88/-3.99	-2.99/-2.84	-3.76/-3.65	-4.47/-4.85	-6.19/-9.47	-13.24/-8.16	-7.69/-10.67	-13.56/-8.26	-12.60/-7.29	-4.80/-3.89	-3.20/-5.84	-6.54/-8.84	-5.31/-9.68	-11.54/-10.37	-8.64/-9.82	-5.67/-6.37	-7.22/-9.82	-9.58/-6.76	-6.46/-4.82
θ(142.5°)	-5.03/-6.94	-5.41/-4.49	-3.39/-2.68	-3.23/-3.15	-3.55/-4.51	-4.46/-5.06	-6.83/-4.79	-2.70/-2.87	-5.05/-8.03	-5.36/-5.36	-6.98/-8.58	-11.00/-14.46	-12.99/-10.10	-8.11/-7.75	-7.27/-7.76	-7.42/-4.94	-5.98/-8.24	-10.75/-14.71	-14.91/-11.42	-5.68/-5.71	-6.27/-9.74	-9.43/-7.89	-11.68/-12.52	-8.74/-6.01
θ(150°)	-7.27/-7.32	-6.94/-5.23	-5.47/-5.96	-5.66/-4.62	-3.88/-2.95	-2.49/-3.03	-3.65/-3.63	-3.56/-4.14	-5.35/-4.87	-3.45/-3.42	-4.17/-5.97	-7.55/-5.32	-5.17/-8.13	-10.41/-10.44	-11.70/-15.52	-14.02/-8.16	-7.67/-13.05	-15.69/-12.83	-13.05/-10.56	-6.37/-4.94	-5.25/-7.77	-8.34/-8.05	-8.29/-6.21	-5.47/-6.61
θ(157.5°)	-11.65/-9.09	-9.11/-8.71	-1.98/-9.11	-8.84/-7.52	-5.96/-4.79	-5.06/-6.26	-5.96/-4.30	-3.27/-2.81	-2.70/-2.71	-3.01/-3.89	-4.77/-6.06	-9.88/-13.95	-11.70/-12.00	-13.06/-11.50	-11.30/-10.15	-7.60/-8.68	-14.96/-15.87	-14.86/-15.59	-15.71/-9.77	-7.44/-7.03	-7.25/-9.34	-10.30/-9.90	-9.39/-8.96	-9.46/-12.32
θ(165°)	-11.44/-11.29	-12.88/-9.59	-8.18/-7.50	-7.09/-6.62	-5.82/-5.50	-5.80/-4.65	-3.55/-3.25	-3.39/-4.00	-4.60/-5.43	-6.56/-8.29	-10.22/-13.48	-15.89/-15.58	-12.34/-10.93	-11.28/-11.04	-10.38/-9.16	-8.08/-7.76	-7.78/-9.06	-11.90/-15.11	-15.17/-13.33	-12.32/-12.01	-12.96/-14.58	-15.44/-14.26	-15.56/-15.28	-13.68/-12.37
θ(172.5°)	-7.73/-8.86	-9.01/-8.61	-7.83/-8.32	-8.24/-6.93	-6.55/-7.17	-7.34/-6.65	-6.30/-7.22	-8.43/-9.57	-10.22/-12.15	-12.43/-11.27	-10.36/-9.90	-9.15/-8.72	-8.19/-7.88	-8.14/-8.78	-8.06/-8.85	-8.71/-9.36	-8.95/-7.67	-7.20/-7.47	-7.71/-7.63	-8.40/-10.05	-11.50/-11.47	-10.75/-9.77	-9.10/-9.17	-9.35/-8.29
θ(180°)	-9.55/-8.72	-7.62/-8.77	-9.91/-9.51	-9.06/-9.80	-10.97/-11.77	-12.07/-12.03	-11.53/-12.26	-12.61/-12.34	-13.01/-14.04	-14.01/-13.00	-12.80/-13.73	-14.39/-15.47	-16.00/-15.58	-14.10/-11.92	-10.87/-10.09	-9.11/-8.86	-9.10/-8.66	-7.93/-8.15	-8.62/-8.54	-8.51/-9.25	-10.34/-9.92	-9.16/-8.91	-6.89/-6.45	-7.66/-9.89
Freq(Hz)	5.785GPol.	TotalAnt.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
θ(0°)	0.880/9.4	0.1750/0.26	0.520/8.7	0.740/3.2	0.320/5.7	0.310/7.0	0.280/0.36	0.230/0.12	0.280/0.21	0.00/-0.03	-0.15/-0.03	0.150/0.08	0.210/0.27	0.250/0.5	0.400/5.9	0.660/5.7	0.410/3.6	0.470/5.2	0.480/4.7	0.430/3.8	0.390/3.7	0.450/4.7	0.630/6.8	0.3450/9.4
θ(7.5°)	0.990/26	0.370/3.4	-0.16/-0.22	0.150/18	0.040/12	0.510/4.2	0.020/0.36	0.580/5.5	0.450/1.7	-0.24/-0.53	-0.34/-0.32	-0.55/-0.89	-1.03/-1.00	-0.91/-1.04	-1.18/-0.85	-0.71/-0.75	-0.79/-0.73	-0.48/-0.21	0.080/28	0.460/5.4	0.570/4.6	0.560/5.5	0.600/4.7	1.13/-1.31
θ(15°)	2.32/2.10	1.61/-0.6	1.10/-1.46	1.39/-0.3	0.91/-0.4	1.020/9.4	1.09/-1.36	1.64/-1.70	1.81/-1.86	1.67/-1.32	1.11/-1.80	0.29/-0.28	-0.46/-0.51	-0.51/-0.62	-0.74/-0.77	-0.84/-1.08	-1.02/-0.87	-0.60/-0.69	0.080/0.3	-0.23/-0.52	-0.59/-0.22	0.310/-7.7	1.38/2.08	
θ(22.5°)	3.28/2.91	2.11/-1.84	1.39/-1.27	1.30/-1.89	2.710/3.1	3.163/4.0	3.463/7.8	4.154/2.3	1.86/-2.45	3.31/-2.15	1.520/-4.49	-0.84/-1.54	-1.86/-2.26	-2.13/-1.23	-0.55/-0.28	-0.68/-1.50	-2.46/-2.71	-2.45/-2.12	-1.52/-0.81	-0.37/-0.90	-2.56/-3.14	-2.59/-0.56	1.26/2.06	2.55/-0.33
θ(30°)	2.57/2.32	1.50/-1.28	1.51/2.20	3.03/3.55	3.55/3.68	4.184/7.1	4.66/3.99	3.854/6.4	5.245/26	4.23/2.23	0.46/-0.76	-3.20/-3.48	-2.42/-2.05	-1.06/-0.95	-1.82/-3.16	-3.70/-1.88	-1.08/-1.10	-1.12/-0.85	-0.79/-0.46	-0.48/-1.24	-2.46/-4.69	-3.59/-1.09	0.030/4.1	0.79/-1.94
θ(37.5°)	2.21/2.17	1.60/-1.76	2.39/2.71	2.72/2.69	2.63/3.08	3.674/-2.9	4.78/4.40	3.43/3.71	4.75/5.07	3.93/-1.55	-0.63/-0.81	-1.92/-0.69	-0.61/-0.26	0.32/-0.63	-1.76/-2.65	-1.26/-1.81	-1.61/-0.63	-1.28/-1.79	-0.48/-0.36	-1.64/-2.28	-3.27/-3.26	-2.57/-0.96	-2.31/-3.04	-0.88/-1.32
θ(45°)	1.48/-1.20	2.50/-2.34	2.62/2.25	1.87/2.60	2.31/2.36	2.96/3.48	4.39/4.15	3.39/2.55	3.52/4.60	3.77/3.91	-0.67/-1.94	-3.23/-2.94	-2.13/-1.72	-1.73/-1.90	-3.41/-3.28	-2.42/-1.68	-1.57/-1.07	-1.65/0.64	0.34/-0.18	-0.51/-3.75	-2.86/-2.56	-3.25/-4.21	-4.54/-3.46	-1.200/-7.6
θ(52.5°)	0.320/-1.7	0.84/-1.86	2.53/2.14	1.64/-1.02	1.31/-1.43	1.54/-1.96	2.26/3.03	3.24/2.95	3.25/2.89	1.86/3.40	-0.34/-0.46	-1.84/-2.02	-1.45/-2.20	-1.74/-3.57	-4.47/-5.02	-4.15/-3.72	-2.24/-1.39	-1.20/-1.49	-0.74/-0.01	-1.46/-3.13	-5.60/-3.40	-3.36/-4.78	-4.59/-2.53	-0.75/-0.35
θ(60°)	-1.27/-0.36	0.75/-1.59	1.75/-1.51	1.52/-1.08	0.900/-4.7	1.00/-1.28	0.63/-0.16	1.71/-1.83	2.38/-1.95	1.47/-0.30	-0.60/-0.05	-0.87/-1.18	-1.88/-2.40	-1.24/-3.05	-3.84/-4.45	-4.14/-6.10	-3.88/-1.17	-1.02/-1.73	-2.39/-2.19	-2.10/-4.76	-6.97/-3.93	-3.35/-4.99	-4.04/-2.86	-2.96/-3.28
θ(67.5°)	-4.00/-2.00	-2.00/-1.00	0.850/-48	0.490/-31	-0.56/-1.61	-0.280/-18	-0.43/-1.12	0.610/-57	1.300/-45	0.41/-0.02	-0.41/-0.57	-1.28/-3.04	-2.26/-2.01	-1.32/-2.28	-1.58/-3.59	-5.09/-4.64	-3.14/-2.37	-0.89/-1.21	-3.21/-4.16	-4.39/-7.16	-7.99/-6.83	-7.51/-4.07	-3.44/-4.00	-5.84/-4.38
θ(75°)	-2.86/-1.35	-0.34/-0.20	-0.03/-0.32	-0.53/-0.05	-0.79/-2.46	-1.53/-0.62	-2.88/-3.42	-1.63/-0.63	0.18/-0.95	-1.35/-0.67	-0.04/-0.49	-3.02/-6.98	-4.34/-2.81	-2.57/-2.85	-2.03/-3.92	-3.25/-3.93	-4.89/-3.36	-0.88/-1.36	-2.70/-2.49	-3.86/-8.11	-9.91/-7.45	-7.51/-3.87	-1.85/-2.93	-7.20/-4.49
θ(82.5°)	-2.84/-1.73	-0.85/-0.83	-0.97/-0.27	-2.38/-2.01	-3.22/-4.22	-3.16/-2.66	-5.13/-2.63	-3.57/-2.60	-0.98/-2.56	-4.43/-2.45	-2.30/-2.01	-3.77/-9.51	-5.74/-3.15	-3.67/-3.19	-3.45/-4.67	-3.12/-5.39	-3.46/-0.68	0.22/-0.98	-1.16/-0.48	-1.05/-5.62	-9.99/-7.90	-9.02/-4.41	-1.63/-4.59	-5.22/-3.27
θ(90°)	-2.97/-1.31	-2.15/-1.58	-2.39/-3.72	-4.23/-4.52	-5.48/-5.41	-5.17/-4.74	-8.51/-8.11	-5.21/-3.84	-4.40/-4.73	-4.17/-3.94	-3.39/-3.84	-6.72/-11.44	-6.67/-5.48	-3.00/-3.04	-5.46/-6.86	-5.18/-5.49	-2.230/-10	1.49/-1.28	0.63/-1.21	-0.43/-5.02	-6.80/-7.44	-7.52/-3.47	-1.90/-3.42	-3.73/-4.18
θ(97.5°)	-3.92/-3.05	-2.18/-2.32	-3.33/-5.52	-7.60/-7.61	-8.71/-7.20	-8.64/-7.88	-12.61/-8.33	-8.86/-4.96	-6.14/-8.48	-7.12/-4.80	-5.10/-4.51	-8.10/-8.53	-5.93/-7.26	-5.53/-3.12	-5.78/-6.99	-6.16/-9.94	-5.35/-9.90	1.030/9.4	-0.57/-0.03	-0.22/-6.18	-7.46/-5.18	-6.05/-2.80	-2.05/-3.68	-3.02/-3.63
θ(105°)	-5.68/-4.00	-1.90/-2.19	-4.11/-7.22	-8.17/-10.52	-12.48/-11.47	-6.83/-6.28	-7.47/-5.89	-4.16/-6.01	-7.61/-8.41	-9.55/-6.24	-4.46/-4.49	-8.38/-12.65	-7.37/-7.07	-6.40/-6.13	-4.15/-5.49	-13.94/-9.82	-5.720/-36	-2.61/-1.26	-0.99/-1.68	-0.60/-5.76	-7.21/-2.61	-5.89/-2.36	-4.10/-4.05	-4.47/-5.68
θ(112.5°)	-8.73/-3.20	-2.24/-3.30	-3.85/-7.47	-8.51/-10.99	-14.64/-11.29	-8.51/-7.94	-5.66/-4.50	-5.92/-6.29	-6.09/-8.63	-8.84/-10.88	-7.11/-4.45	-3.90/-8.28	-13.26/-10.33	-9.67/-12.11	-7.06/-6.37	-16.03/-9.63	-5.46/-3.59	-5.45/-5.10	-1.47/-2.33	-5.19/-4.44	-8.02/-0.52	-1.57/-9.60	-3.32/-1.72	-3.60/-4.18
θ(120°)	-9.20/-6.04	-5.66/-2.74	-5.29/-5.39	-7.73/-9.01	-12.96/-12.73	-9.27/-8.39	-5.32/-4.36	-5.24/-5.75	-6.06/-8.83	-9.91/-8.18	-8.74/-12.24	-10.69/-8.94	-8.36/-7.28	-6.88/-8.83	-6.53/-10.95	-4.04/-10.60	-5.66/-4.15	-14.31/-9.72	-5.85/-3.62	-5.40/-9.75	-10.80/-2.65	-1.61/-4.61	-8.33/-7.36	-5.20/-6.97
θ(127.5°)	-6.86/-7.96	-5.48/-5.81	-7.49/-8.28	-6.14/-5.99	-8.03/-8.45	-7.12/-8.09	-6.60/-4.54	-3.29/-3.64	-4.91/-6.15	-10.95/-11.95	-5.77/-5.91	-7.34/-13.01	-12.12/-9.59	-5.89/-6.46	-8.20/-7.47	-3.75/-5.94	-12.91/-4.49	-5.87/-5.17	-5.16/-3.63</					



Antenna Pattern 2.4GHz and 5GHz U-NII 1~3

Appendix C

Θ (112.5°)	-13.81/-10.95	-9.32/-8.48	-7.90/-6.17	-7.48/-8.44	-7.82/-5.78	-5.99/-5.45	-5.42/-6.06	-6.31/-6.69	-9.72/-11.23	-8.95/-6.40	-5.89/-6.52	-8.65/-7.23	-6.97/-7.60	-10.10/-9.79	-13.74/-9.18	-9.67/-8.19	-9.01/-11.86	-11.39/-6.16	-5.21/-6.28	-8.03/-9.26	-5.64/-7.94	-9.70/-16.07	-12.87/-13.39	-15.47/-12.23
Θ (120°)	-13.92/-11.17	-11.75/-9.68	-8.16/-8.28	-8.81/-8.78	-8.39/-6.08	-6.71/-5.30	-5.43/-6.62	-7.27/-6.73	-8.15/-12.43	-12.12/-8.88	-7.61/-7.48	-6.79/-6.56	-7.00/-7.85	-12.22/-8.53	-12.97/-12.12	-10.37/-6.07	-11.29/-10.46	-12.74/-6.19	-5.88/-4.66	-7.24/-11.49	-5.82/-5.83	-9.15/-12.67	-12.62/-13.03	-15.80/-9.83
Θ (127.5°)	-13.75/-12.92	-13.77/-10.70	-11.40/-11.06	-9.62/-7.98	-7.82/-7.06	-6.18/-7.16	-6.16/-7.61	-8.47/-8.98	-9.77/-14.43	-15.46/-10.48	-9.17/-7.37	-6.55/-9.51	-8.49/-10.06	-8.61/-6.91	-9.89/-10.39	-10.78/-14.45	-10.48/-5.88	-8.81/-7.66	-8.79/-10.16	-14.80/-9.41	-9.84/-10.91	-13.34/-11.96	-14.28/-12.57	
Θ (135°)	-15.09/-16.02	-16.30/-11.53	-10.55/-11.14	-12.60/-10.39	-8.52/-6.90	-8.25/-10.48	-10.60/-10.59	-11.87/-13.44	-12.91/-13.81	-14.85/-14.97	-11.99/-7.30	-5.07/-5.19	-6.30/-8.15	-8.18/-8.24	-7.64/-7.23	-9.54/-14.23	-9.57/-11.99	-12.98/-9.69	-9.62/-12.36	-9.16/-9.32	-9.96/-9.91	-11.04/-13.82	-12.77/-13.77	-15.10/-14.93
Θ (142.5°)	-14.52/-15.36	-12.67/-10.97	-11.58/-11.50	-10.18/-9.08	-8.37/-7.48	-8.87/-14.48	-15.04/-15.06	-13.27/-14.54	-16.24/-15.17	-14.77/-15.12	-11.59/-8.94	-7.91/-9.43	-7.70/-6.64	-6.60/-8.23	-10.08/-12.91	-10.88/-13.68	-11.43/-9.34	-8.22/-10.35	-12.37/-12.02	-11.66/-9.43	-11.16/-14.63	-14.89/-12.91	-12.19/-12.48	
Θ (150°)	-15.24/-12.51	-11.35/-11.39	-10.51/-9.69	-9.51/-10.83	-13.20/-10.95	-9.33/-10.61	-12.86/-14.03	-14.98/-15.25	-12.97/-13.26	-13.80/-14.02	-15.39/-14.02	-9.55/-8.42	-9.26/-8.95	-9.85/-12.90	-15.06/-12.93	-10.72/-9.69	-9.03/-10.26	-12.47/-14.41	-16.28/-15.68	-15.41/-13.39	-13.15/-14.88	-14.47/-13.79	-12.96/-15.47	
Θ (157.5°)	-14.54/-13.73	-14.22/-13.63	-13.23/-12.07	-11.17/-11.32	-12.91/-13.44	-12.56/-12.56	-13.80/-13.67	-14.45/-14.94	-13.49/-13.32	-15.19/-15.11	-15.23/-15.07	-12.76/-12.35	-13.82/-14.35	-15.81/-12.57	-10.72/-9.55	-10.03/-11.29	-11.57/-11.59	-13.54/-15.72	-14.94/-14.80	-15.46/-15.48	-14.97/-14.70	-14.18/-14.50	-14.85/-14.04	-13.88/-14.62
Θ (165°)	-15.75/-14.06	-13.66/-13.03	-13.58/-13.21	-13.18/-12.83	-13.24/-14.85	-15.17/-15.92	-15.18/-15.39	-14.71/-14.91	-15.84/-14.46	-14.26/-14.62	-14.65/-14.46	-14.69/-15.06	-15.40/-14.36	-14.08/-13.83	-12.97/-12.64	-13.10/-14.47	-14.40/-13.21	-13.18/-14.61	-14.45/-15.78	-14.39/-14.16	-13.44/-13.23	-12.06/-11.47	-12.36/-13.73	-14.94/-15.39
Θ (172.5°)	-14.79/-14.32	-14.21/-13.73	-13.96/-14.34	-14.48/-14.31	-14.18/-14.57	-15.47/-14.77	-15.59/-15.91	-15.24/-15.93	-15.44/-15.65	-14.82/-14.77	-15.03/-15.02	-14.72/-15.61	-15.11/-15.25	-16.03/-14.71	-14.08/-13.87	-14.28/-14.95	-14.82/-15.22	-14.27/-15.29	-15.55/-14.91	-14.86/-15.76	-15.15/-15.47	-14.83/-14.85	-15.16/-15.03	-15.12/-14.89
Θ (180°)	-15.05/-15.60	-14.80/-15.89	-16.08/-14.96	-15.45/-15.67	-15.15/-15.31	-15.06/-15.77	-15.40/-14.95	-14.83/-14.74	-15.39/-15.86	-15.69/-15.18	-15.43/-15.05	-15.28/-15.12	-15.79/-15.16	-14.37/-14.94	-14.90/-15.08	-15.19/-15.10	-15.55/-16.02	-15.08/-15.62	-15.91/-15.86	-15.20/-15.16	-15.23/-15.74	-15.80/-15.17	-15.74/-15.32	-14.67/-14.39
Freq(Hz)	5.6GPol.	TotalAnt.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-0.56/-0.62	-0.73/-0.42	-0.83/-0.91	-0.81/-0.93	-0.80/-0.73	-0.64/-0.77	-0.78/-0.78	-0.66/-0.66	-0.54/-0.35	-0.40/-0.60	-0.73/-0.48	-0.69/-0.70	-0.48/-0.38	-0.45/-0.29	-0.15/-0.40	-0.73/-0.97	-0.89/-0.66	-0.84/-1.52	-1.39/-0.44	-0.20/-0.73	-0.82/-0.60	-0.77/-0.60	-0.01/-0.39	-0.76/-0.23
Θ (7.5°)	1.07/1.13	0.76/0.66	0.45/-0.55	-0.49/-0.55	-0.52/-0.46	-0.35/-0.37	-0.45/-0.25	-0.09/0.07	0.27/0.16	0.54/0.94	1.40/1.45	1.63/1.85	1.89/1.77	1.58/1.26	0.82/0.60	0.36/-0.19	-0.73/-1.02	-1.59/-2.56	-2.91/-2.66	-2.78/-3.48	-3.83/-3.16	-2.36/-2.05	-1.41/-0.32	-1.40/-0.04
Θ (15°)	-0.11/-0.63	-0.09/-0.93	-0.51/-0.27	-0.10/-0.04	0.45/0.60	0.93/0.97	1.18/1.34	1.41/1.41	1.39/1.32	1.29/1.36	1.68/1.99	1.62/2.44	2.35/2.04	1.48/1.05	0.85/0.49	-0.06/-0.71	-0.01/-4.69	-5.44/-5.83	-4.66/-2.97	-2.20/-1.88	-1.53/-1.17	-1.00/-0.55		
Θ (22.5°)	-3.32/-3.15	-3.73/-4.01	-4.13/-4.09	-2.49/-0.66	1.08/2.15	2.91/3.43	3.21/2.83	2.58/2.08	1.49/0.71	0.29/-0.15	-0.30/0.25	0.97/1.48	2.13/2.78	2.95/2.50	1.65/0.59	-0.89/-2.00	-2.51/-2.96	-4.29/-5.88	-6.69/-6.51	-5.61/-5.38	-6.28/-6.33	-4.79/-3.96	-3.90/-3.56	-3.51/-4.08
Θ (30°)	-3.11/-2.91	-1.97/-1.55	-3.37/-3.43	-1.28/0.89	2.02/0.07	3.77/3.65	2.87/2.80	3.32/3.35	3.28/3.11	2.58/2.12	1.96/1.94	1.80/1.86	2.17/2.56	2.57/2.45	2.15/0.99	-1.25/-3.50	-3.67/-2.94	-2.62/-2.08	-1.52/-1.52	-2.16/-3.19	-4.28/-4.35	-5.29/-6.31	-6.10/-3.51	-4.65/-4.42
Θ (37.5°)	-5.56/-3.53	-2.70/-1.50	-0.94/0.14	1.09/1.53	1.63/2.45	1.55/2.06	2.67/2.59	2.50/2.36	2.35/2.39	2.09/1.60	1.22/2.21	1.62/1.41	1.07/0.50	0.99/0.82	-0.21/-1.69	-1.95/-2.89	-1.68/-3.03	-3.97/-2.99	-3.05/-3.90	-4.15/-4.28	-4.99/-2.84	-2.10/-4.74		
Θ (45°)	-5.84/-4.79	-3.49/-2.18	-0.54/0.57	2.07/1.89	1.47/1.80	1.65/1.33	0.95/1.30	0.96/-0.30	-0.87/0.16	1.78/2.89	2.72/1.59	0.83/0.48	0.13/0.17	-0.08/-1.88	-1.63/-0.42	-0.03/-1.05	-2.17/-1.17	-4.19/-0.72	-2.12/-1.65	-0.94/-1.53	-2.67/-3.18	-4.24/-5.55	-4.09/-2.87	-3.52/-5.80
Θ (52.5°)	-4.75/-4.37	-3.10/-1.60	0.08/0.74	0.97/0.21	0.80/2.01	2.24/-1.96	1.26/1.22	0.19/-1.54	-1.39/-0.27	1.06/2.00	2.30/2.34	1.45/1.15	0.38/0.07	-0.29/-1.53	-3.83/-1.36	-0.82/-0.98	-0.76/-4.91	-1.56/-0.49	-0.15/-1.44	-1.45/-2.91	-5.37/-5.33	-6.49/-9.28	-8.75/-4.81	-3.73/-5.10
Θ (60°)	-2.44/-1.88	-1.25/-0.42	0.11/0.41	-0.88/-1.00	0.95/2.18	2.07/1.92	0.83/0.19	-1.26/-2.14	-1.57/-0.72	0.24/1.92	2.81/2.59	1.73/2.21	0.58/0.86	-0.63/-3.17	-4.79/-3.00	-2.95/-2.44	-2.59/-3.63	-1.11/0.13	-0.22/-0.77	-2.02/-3.12	-4.57/-6.97	-9.02/-6.28	-5.54/-3.16	-2.31/-2.83
Θ (67.5°)	-2.47/-2.14	-0.69/0.04	-0.61/-1.58	-1.88/-2.66	0.16/0.83	0.57/0.35	-0.33/-0.74	-2.34/-2.80	-2.58/-2.32	-1.23/0.73	1.53/1.41	0.51/0.79	0.82/-0.93	-1.21/-1.20	-3.90/-3.97	-3.06/-3.94	-3.57/-4.69	-1.08/-0.55	-0.68/-1.89	-2.63/-4.68	-5.60/-5.63	-5.21/-3.56	-1.68/-2.44	-3.48/-3.40
Θ (75°)	-3.13/-3.51	-1.45/-1.60	-2.50/-3.00	-3.40/-5.34	-1.52/-0.40	-1.09/-2.19	-2.75/-2.02	-2.79/-3.25	-3.99/-3.11	-2.27/-0.82	0.56/0.85	-0.56/-0.63	0.13/-0.59	-1.73/-2.43	-3.77/-4.38	-4.39/-4.15	-5.10/-4.48	-0.82/0.87	-0.41/-1.63	-2.48/-1.57	-4.67/-5.09	-3.20/-1.48	-0.73/-3.92	-6.22/-4.27
Θ (82.5°)	-4.10/-5.66	-4.37/-4.00	-5.22/-5.32	-4.23/-2.76	-2.23/-1.91	-3.30/-5.66	-5.13/-2.75	-2.66/-3.93	-5.89/-5.22	-3.18/-0.90	0.36/0.18	-1.03/-1.15	-0.70/-0.97	-1.73/-2.33	-3.77/-4.43	-5.64/-5.24	-6.32/-4.45	0.86/2.21	0.35/-1.72	-3.54/-4.67	-1.31/-2.83	-2.88/-7.02	-9.69/-4.65	
Θ (90°)	-4.87/-9.75	-8.25/-6.79	-7.75/-6.97	-5.04/-9.70	-3.40/-2.43	-4.14/-7.50	-8.19/-4.80	-4.05/-4.61	-6.49/-6.96	-5.09/-1.97	-0.71/-1.94	-2.65/-1.67	-1.14/-1.23	-2.17/-3.26	-2.50/-5.23	-6.60/-4.17	-7.88/-4.86	0.36/1.35	0.73/-0.61	-1.64/-3.56	-1.22/-3.56	-2.20/-5.97	-6.89/-7.49	-10.42/-5.59
Θ (97.5°)	-9.84/-10.00	-9.84/-8.03	-7.16/-6.84	-5.67/-5.96	-3.74/-2.78	-4.52/-7.00	-8.16/-5.71	-4.28/-5.05	-6.36/-8.06	-5.83/-2.20	-1.64/-3.86	-4.87/-2.79	-1.70/-1.75	-1.92/-3.09	-3.58/-6.16	-6.64/-4.37	-7.49/-6.33	-2.54/-1.16	-1.19/-0.46	-2.78/-1.44	-2.01/-5.01	-4.95/-9.39	-10.92/-4.72	-9.86/-7.10
Θ (105°)	-10.89/-6.27	-8.00/-6.00	-4.41/-5.71	-8.47/-8.68	-4.20/-3.22	-5.09/-7.67	-7.01/-6.74	-5.53/-5.00	-5.03/-7.51	-8.14/-5.52	-2.44/-4.92	-7.38/-5.52	-3.16/-2.23	-1.66/-3.84	-5.21/-5.83	-6.38/-3.84	-7.51/-11.71	-2.63/-2.50	-5.44/-3.05	-6.97/-9.61	-7.70/-8.42	-11.33/-7.88	-12.52/-9.74	
Θ (112.5°)	-8.56/-6.32	-5.59/-5.70	-5.18/-6.56	-10.24/-7.70	-5.04/-3.41	-4.61/-7.47	-7.91/-7.99	-6.74/-5.80	-4.83/-6.87	-8.49/-4.05	-3.60/-4.82	-4.99/-7.67	-5.45/-5.00	-3.88/-4.89	-6.11/-4.87	-6.09/-5.39	-5.67/-10.67	-9.42/-5.57	-3.95/-6.58	-7.48/-5.13	-5.12/-6.79	-12.32/-13.03	-13.05/-13.14	-15.51/-12.66
Θ (120°)	-7.85/-6.40	-6.86/-5.99	-6.51/-7.04	-10.53/-7.15	-4.27/-3.32	-3.64/-6.69	-7.25/-8.53	-6.70/-6.65	-5.91/-7.69	-10.21/-6.29	-4.53/-4.53	-5.47/-11.23	-10.75/-6.55	-6.55/-9.33	-7.44/-6.11	-9.48/-7.11	-6.04/-7.84	-11.82/-10.40	-6.85/-7.64	-6.80/-8.95	-5.82/-6.14	-9.84/-15.58	-13.86/-15.88	-13.58/-6.51
Θ (127.5°)	-8.53/-7.56	-7.28/-7.82	-8.02/-9.84	-7.85/-5.84	-3.83/-4.28	-5.16/-5.87	-4.98/-4.91	-6.21/-6.76	-6.39/-8.28	-10.69/-9.25	-5.88/-5.19	-6.30/-6.71	-5.27/-7.09	-10.51/-8.35	-10.16/-13.27	-8.30/-6.31	-9.88/-5.71	-11.06/-6.02	-9.25/-12.00	-8.25/-8.61	-7.47/-15.22	-12.82/-11.84	-16.00/-13.04	-13.00/-8.45
Θ (135°)	-11.60/-9.59	-11.58/-9.07	-10.72/-9.03	-5.73/-8.37	-3.71/-5.89	-7.98/-7.52	-6.16/-6.10	-6.54/-6.68	-9.07/-11.51	-13.29/-8.81	-6.56/-6.63	-5.36/-4.88	-3.87/-4.27	-5.58/-6.04	-7.45/-15.38	-8.60/-9.71	-8.28/-5.68	-7.55/-8.61	-8.65/-12.47	-10.18/-7.43	-8.47/-6.68	-7.41/-9.15	-10.06/-11.59	-8.65/-8.48
Θ (142.5°)	-14.51/-12.46	-9.35/-7.51	-7.93/-8.12	-6.20/-4.64	-4.19/-6.52	-4.49/-9.16	-7.67/-8.66	-9.76/-11.43	-11.47/-11.52	-12.99/-14.74	-11.02/-7.41	-5.46/-3.89	-5.03/-6.21	-4.66/-5.23	-6.53/-8.81	-10.58/-13.00	-6.99/-7.54	-12.80/-13.48	-8.05/-8.15	-11.26/-9.67	-8.03/-4.24	-5.47/-10.57	-16.01/-10.97	-9.07/-10.53
Θ (150°)	-11.36/-8.63	-7.57/-7.23	-6.84/-5.67	-6.15/-8.91	-6.68/-8.77	-7.91/-8.85	-12.63/-14.66	-12.76/-10.79	-11.21/-11.43	-11.36/-11.25	-11.54/-9.93	-9.79/-7.38	-5.26/-6.14	-8.19/-9.98	-12.58/-11.07	-12.18/-11.41	-9.20/-8.43	-11.59/-13.73	-13.13/-15.29	-14.68/-15.40	-14.33/-12.57	-14.82/-10.87	-11.05/-15.17	
Θ (157.5°)	-8.63/-9.53	-9.87/-9.98	-8.49/-7.26	-7.93/-10.72	-14.31/-13.71	-11.63/-11.44	-12.89/-15.46	-15.00/-13.75	-10.78/-9.37	-8.41/-8.92	-11.18/-13.07	-15.90/-15.15	-13.32/-10.92	-14.96/-14.26	-10.17/-9.99	-9.99/-10.11	-10.14/-14.07	-15.13/-15.23	-13.71/-13.00	-14.86/-14.71	-14.66/-13.22	-11.31/-9.80	-8.93/-8.79	
Θ (165°)	-14.5																							