



Antenna Composite Gain Test Report

FCC ID	MSQ-RTBE7800
Equipment	BE18000 Tri Band WiFi Router
Brand Name	ASUS
Model Name	BT10, BE18000
Applicant	ASUSTeK COMPUTER INC. 1F., No. 15, Lide Rd., Beitou, Taipei City 112, Taiwan
Standard	KDB662911 D03 v01
Sample Received	Feb. 22, 2024
Start Test Date	Mar. 04, 2024
Final Test Date	Mar. 13, 2024

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.)



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History of this test report

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1. Operation Mode and Antenna Information

Antenna Position	RF Port	Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
2G5G Ant1	2	PSA	RFDPA230512IMAB903	Dipole Antenna	I-PEX	2.4GHz, 5GHz UNII 1~3
2G5G Ant2	1	PSA	RFDPA230512IMAB903	Dipole Antenna	I-PEX	2.4GHz, 5GHz UNII 1~3
5G Ant3	4	PSA	RFDPA230512IMAB903	Dipole Antenna	I-PEX	5GHz UNII 1~3
5G Ant4	3	PSA	RFDPA230512IMAB903	Dipole Antenna	I-PEX	5GHz UNII 1~3
6G Ant1	1	PSA	RFDPA230512IMAB903	Dipole Antenna	I-PEX	6GHz
6G Ant2	4	PSA	RFDPA230512IMAB903	Dipole Antenna	I-PEX	6GHz
6G Ant3	3	PSA	RFDPA230512IMAB903	Dipole Antenna	I-PEX	6GHz
6G Ant4	2	PSA	RFDPA230512IMAB903	Dipole Antenna	I-PEX	6GHz

Note:

2.4GHz Operation Mode (2TX/2RX)

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

2G5G Ant1~2 could transmit/receive simultaneously.

5GHz Operation Mode (4TX/4RX)

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

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

6GHz Operation Mode (4TX/4RX)

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

6G Ant1~4 could transmit/receive simultaneously.

2. Table for EUT Information

EUT	Integrated circuit packaging (Location: UP1/BUP7)
1	FCFBGA Package
2	FCBGA Package

Note: 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. 04, 2024~Mar.13, 2024

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

5. Test Facility and Configuration

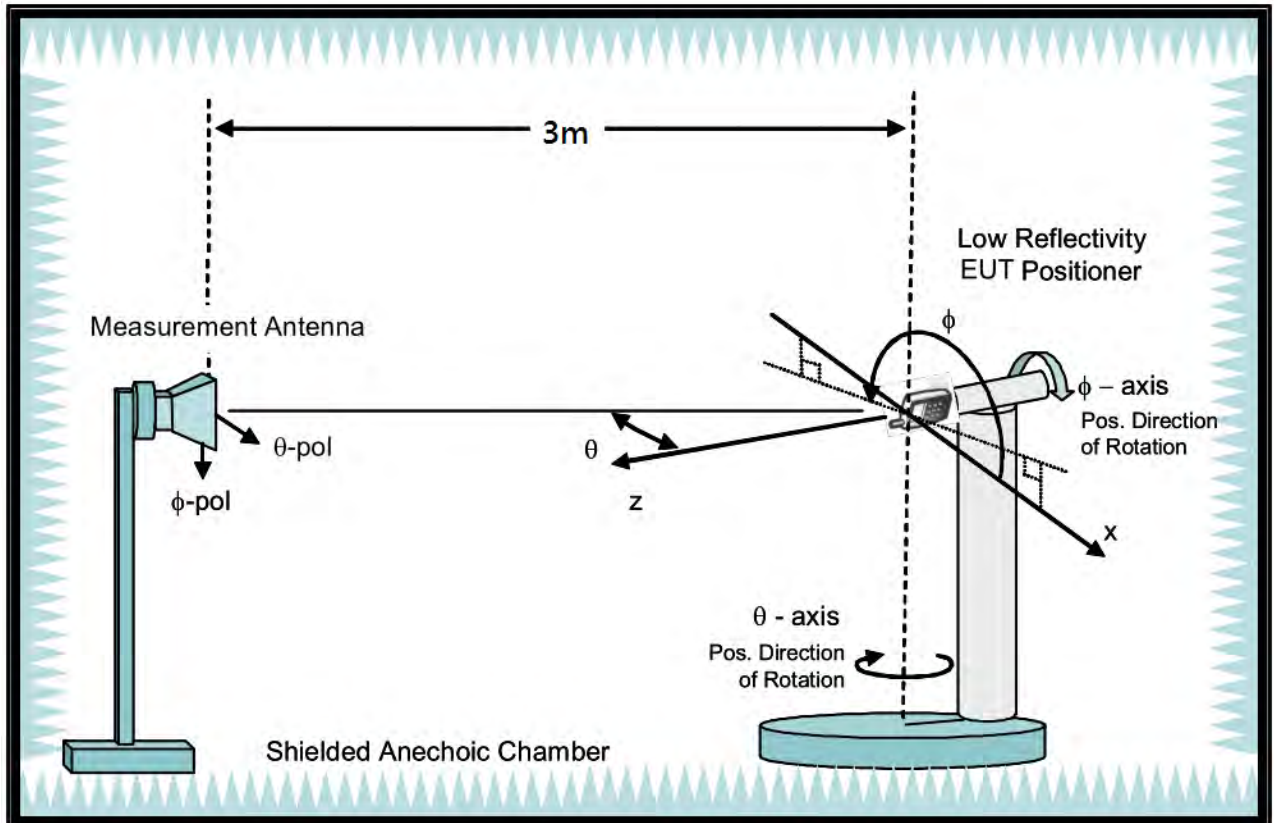
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

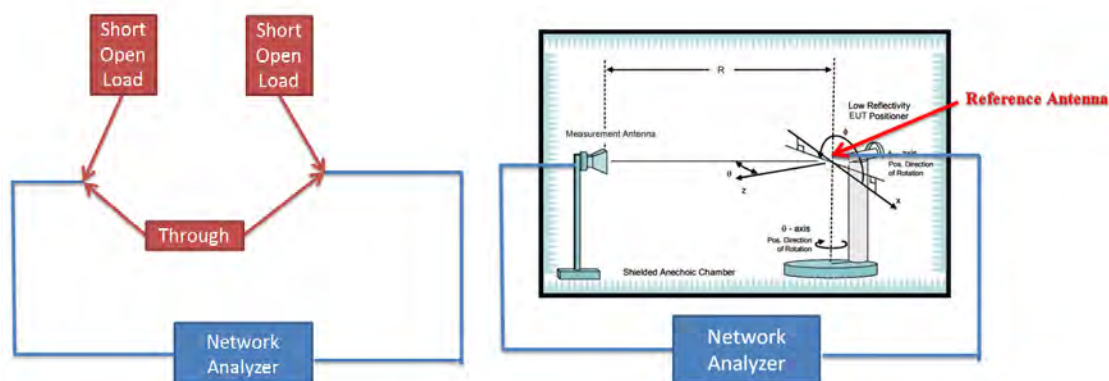
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



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

Note:

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

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

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

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

7. Test Method

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

DG steps:

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

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	1.23	-3.08	3.84	2.16	3.59
Ant. 2 (dBi)	2.42	0.53	0.9	3.04	1.67
Ant. 3 (dBi)	-	0.08	-1.83	3.72	2.47
Ant. 4 (dBi)	-	0.67	-4.84	-4.03	-3.12
DG [1SS] (dBi)	4.86	5.7	6.12	7.72	7.52
Polarization	Theta	Theta	Theta	Theta	Theta
Θ (°)	97.5	82.5	105	90	90
Φ (°)	277.5	180	345	15	15

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	-5.43	-2.49	-0.56	1.21
Ant. 2 (dBi)	0.32	-2.79	-0.29	1.91
Ant. 3 (dBi)	-4.85	-1.7	-1.43	-0.99
Ant. 4 (dBi)	3.81	1.65	1.07	-3.68
DG [1SS] (dBi)	5.33	4.88	5.77	5.89
Polarization	Theta	Theta	Theta	Theta
Θ (°)	15	60	60	67.5
Φ (°)	202.5	247.5	247.5	240

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



DG_1SS max value position calculation

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 [$10^{(G/20)}$]	$10^{(1.23/20)}$	$10^{(-3.08/20)}$	$10^{(3.84/20)}$	$10^{(2.16/20)}$	$10^{(3.59/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(2.42/20)}$	$10^{(0.53/20)}$	$10^{(0.9/20)}$	$10^{(3.04/20)}$	$10^{(1.67/20)}$
Ant. 3 [$10^{(G/20)}$]	-	$10^{(0.08/20)}$	$10^{(-1.83/20)}$	$10^{(3.72/20)}$	$10^{(2.47/20)}$
Ant. 4 [$10^{(G/20)}$]	-	$10^{(0.67/20)}$	$10^{(-4.84/20)}$	$10^{(-4.03/20)}$	$10^{(-3.12/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.152	0.701	1.556	1.282	1.512
Ant. 2 [$10^{(G/20)}$] value	1.321	1.063	1.109	1.419	1.212
Ant. 3 [$10^{(G/20)}$] value	-	1.009	0.81	1.535	1.329
Ant. 4 [$10^{(G/20)}$] value	-	1.08	0.573	0.629	0.698
Sum All Antenna [Amax]	2.473	3.854	4.048	4.865	4.751
DG [$10 \cdot \log(A_{\max}^2/N_{\text{ant}})$]	4.86	5.7	6.12	7.72	7.52

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [$10^{(G/20)}$]	$10^{(-5.43/20)}$	$10^{(-2.49/20)}$	$10^{(-0.56/20)}$	$10^{(1.21/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(0.32/20)}$	$10^{(-2.79/20)}$	$10^{(-0.29/20)}$	$10^{(1.91/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(-4.85/20)}$	$10^{(-1.7/20)}$	$10^{(-1.43/20)}$	$10^{(-0.99/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(3.81/20)}$	$10^{(1.65/20)}$	$10^{(1.07/20)}$	$10^{(-3.68/20)}$
Ant. 1 [$10^{(G/20)}$] value	0.535	0.751	0.938	1.149
Ant. 2 [$10^{(G/20)}$] value	1.038	0.725	0.967	1.246
Ant. 3 [$10^{(G/20)}$] value	0.572	0.822	0.848	0.892
Ant. 4 [$10^{(G/20)}$] value	1.551	1.209	1.131	0.655
Sum All Antenna [Amax]	3.695	3.507	3.884	3.942
DG [$10 \cdot \log(A_{\max}^2/N_{\text{ant}})$]	5.33	4.88	5.77	5.89

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

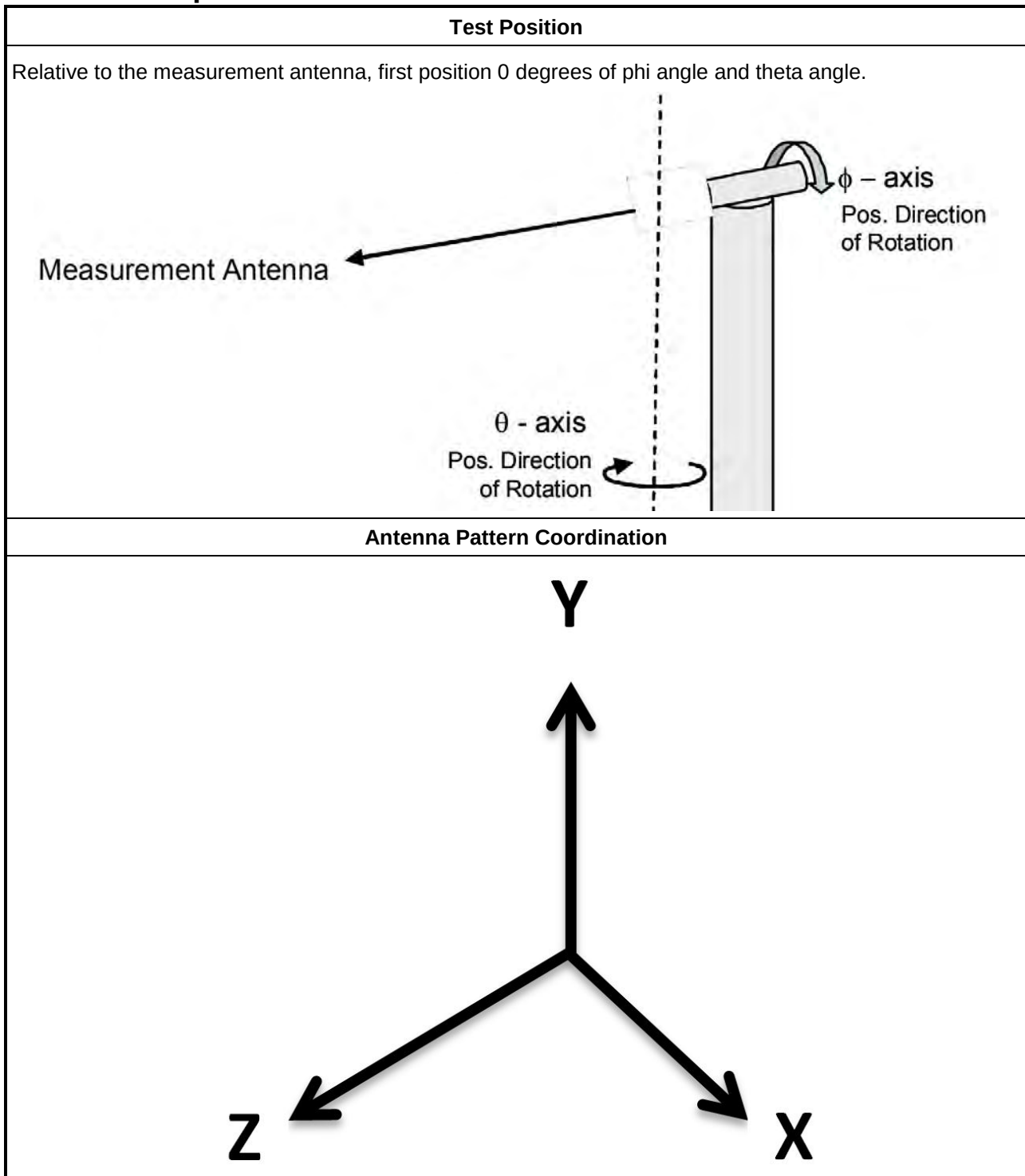
Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.39	3.69	3.93	3.99	3.59
Ant. 2 Max Gain (dBi)	2.55	2.22	2.55	3.84	3.38
Ant. 3 Max Gain (dBi)	-	3.16	2.79	3.72	2.47
Ant. 4 Max Gain (dBi)	-	2.53	2.56	2.33	3.71
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/120/67.5	Theta/127.5/262.5	Theta/127.5/262.5	Theta/120/262.5	Theta/90/15
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/75/37.5	Theta/82.5/345	Theta/112.5/60	Theta/90/22.5	Theta/97.5/352.5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	-	Theta/52.5/60	Theta/82.5/15	Theta/90/15	Theta/90/15
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	-	Theta/82.5/187.5	Theta/45/247.5	Theta/37.5/247.5	Theta/45/247.5
Max Gain (dBi)	2.55	3.69	3.93	3.99	3.71
DG [1SS] (dBi)	4.86	5.7	6.12	7.72	7.52
DG [2SS] (dBi)	2.55	3.69	3.93	4.72	4.52
DG [4SS] (dBi)	-	3.69	3.93	3.99	3.71

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	3.42	2.5	2.46	2.81
Ant. 2 Max Gain (dBi)	3.07	2.65	2.57	2.83
Ant. 3 Max Gain (dBi)	3.47	3.58	2.44	3.53
Ant. 4 Max Gain (dBi)	3.85	3.26	3.95	3.38
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/45/330	Phi/45/37.5	Phi/105/225	Theta/112.5/112.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/60/172.5	Theta/105/240	Theta/112.5/240	Theta/97.5/240
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/105/277.5	Theta/105/255	Theta/105/255	Phi/90/172.5
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/15/195	Theta/15/202.5	Theta/15/210	Phi/112.5/172.5
Max Gain (dBi)	3.85	3.58	3.95	3.53
DG [1SS] (dBi)	5.33	4.88	5.77	5.89
DG [2SS] (dBi)	3.85	3.58	3.95	3.53
DG [4SS] (dBi)	3.85	3.58	3.95	3.53

Note:

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

10. Test Setup



Note:

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

**11. Test Equipment and Calibration Data**

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1543	1GHz~18GHz	May 11, 2023	May 10, 2024
Dual Polarization Horn Antenna	Sporton	S0209DP	S0209DP-001	2GHz~9GHz	N.C.R.	N.C.R.
ENA Series Network Analyzer	AGILENT	E5071C	MY46419477	100kHz~8.5GHz	Jul. 28, 2023	Jul. 27, 2024
VNA Calibration Kit	TS RF	TS85033E-F	-	DC~9GHz	N.C.R.	N.C.R.
Multi-axis positioner	Sporton	MAPS01	MAPS01-001	Theta / Phi axis	N.C.R.	N.C.R.
Test Software	SPORTON	SENSE-RDG	V1.0.8	-	N.C.R.	N.C.R.

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

NCR means Non-Calibration required.



12. Test Results

Please refer to the appendix.

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Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.39	3.69	3.93	3.99	3.59
Ant. 2 Max Gain (dBi)	2.55	2.22	2.55	3.84	3.38
Ant. 3 Max Gain (dBi)	-	3.16	2.79	3.72	2.47
Ant. 4 Max Gain (dBi)	-	2.53	2.56	2.33	3.71
Ant. 1 Polarization/Θ(°)/Φ(°)	Phi/120/67.5	Theta/127.5/262.5	Theta/127.5/262.5	Theta/120/262.5	Theta/90/15
Ant. 2 Polarization/Θ(°)/Φ(°)	Theta/75/37.5	Theta/82.5/345	Theta/112.5/60	Theta/90/22.5	Theta/97.5/352.5
Ant. 3 Polarization/Θ(°)/Φ(°)	-	Theta/52.5/60	Theta/82.5/15	Theta/90/15	Theta/90/15
Ant. 4 Polarization/Θ(°)/Φ(°)	-	Theta/82.5/187.5	Theta/45/247.5	Theta/37.5/247.5	Theta/45/247.5
Max Gain (dBi)	2.55	3.69	3.93	3.99	3.71
DG [1SS] (dBi)	4.86	5.7	6.12	7.72	7.52
DG [2SS] (dBi)	2.55	3.69	3.93	4.72	4.52
DG [4SS] (dBi)	-	3.69	3.93	3.99	3.71



Radiated Composite Gain of 2.4GHz and 5GHz U-NII 1 ~ U-NII 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°)	-5.63/-5.41	-5.14/-7.43	-4.31/-3.99	-3.81/-3.66	-3.55/-3.56	-3.77/-4.03	-4.29/-4.44	-4.3/-4.08	-4.01/-4.25	-4.43/-4.65	-4.99/-3.77	-5.41/-5.46	-5.56/-5.67	-5.74/-5.79	-5.84/-5.96	-5.97/-5.99	-6.15/-6.5	-6.63/-5.91	-5.29/-6.01	-5.14/-5.02	-5.08/-5.27	-5.47/-7.79	-6.24/-6.44	-6.25/-5.84
Θ(7.5°)	-7.08/-6.54	-5.95/-5.32	-4.77/-4.38	-4.16/-4	-3.92/-4.09	-4.46/-4.94	-4.69/-4.33	-4.21/-4.12	-4.08/-4.22	-4.48/-4.4	-4.26/-4.07	-3.89/-3.75	-3.73/-3.82	-3.9/-4	-4.14/-4.33	-4.58/-4.71	-4.94/-5.14	-5.15/-5.1	-4.6/-4.91	-5.3/-5.94	-6.84/-7.78	-8.85/-9.34	-8.53/-7.61	
Θ(15°)	-7.84/-7.29	-6.75/-6.1	-5.44/-4.97	-4.71/-4.49	-4.46/-4.67	-4.56/-4.27	-4.22/-4.02	-3.67/-3.33	-3.31/-3.44	-3.59/-3.68	-3.64/-3.52	-3.39/-3.31	-3.31/-3.39	-3.49/-3.59	-3.66/-3.78	-3.83/-3.84	-3.91/-3.99	-3.92/-3.83	-3.87/-4.05	-4.28/-4.51	-4.85/-5.46	-6.49/-8.04	-9.83/-10.71	-10.16/-8.86
Θ(22.5°)	-8.07/-7.54	-7.05/-6.5	-5.79/-5.49	-5.12/-4.78	-4.69/-4.3	-3.98/-3.72	-3.7/-3.72	-3.41/-3.25	-3.21/-3.27	-3.36/-3.4	-3.37/-3.37	-3.42/-3.58	-3.78/-4.02	-4.21/-4.26	-4.34/-4.25	-4.17/-4.05	-3.93/-3.83	-3.72/-3.58	-3.44/-3.42	-3.47/-3.57	-5.03/-6.66	-8.75/-10.24	-10.34/-9.21	
Θ(30°)	-10.01/-8.93	-7.29/-6.03	-5.24/-4.83	-4.54/-4.34	-4.23/-4.18	-3.93/-3.89	-3.61/-3.75	-3.71/-3.76	-3.45/-3.14	-2.91/-2.9	-3.03/-3.42	-4/-4.69	-5.39/-6.03	-6.47/-6.46	-6.09/-5.61	-5.21/-4.99	-4.7/-4.34	-4.01/-37	-3.44/-3.32	-3.36/-3.55	-3.79/-4.06	-4.79/-6.37	-8.68/-10.31	-11.22/-11.11
Θ(37.5°)	-10.11/-7.74	-6.08/-5.21	-4.68/-4.67	-5.05/-4.81	-4.71/-4.67	-4.63/-4.36	-4.07/-3.66	-3.23/-2.97	-2.59/-2.02	-1.51/-1.18	-1.25/-1.83	-2.85/-4.19	-5.62/-6.83	-7.24/-6.84	-6.07/-5.4	-5.03/-4.88	-4.66/-4.18	-3.69/-3.33	-3.19/-3.33	-3.84/-4.88	-5.91/-5.92	-6.01/-6.92	-8.29/-9.07	-10.13/-11.03
Θ(45°)	-11.02/-8.99	-7.34/-6.25	-5.52/-5.68	-6.72/-8.09	-8.27/-8.4	-7.86/-6.93	-5.99/-4.7	-3.36/-2.38	-1.68/-1.11	-0.55/-0.09	0/-0.45	-1.52/-3.03	-4.63/-5.88	-6.16/-6.54	-4.98/-4.56	-4.47/-4.67	-4.43/-4	-3.86/-4.05	-4.64/-5.93	-7.48/-7.83	-8.39/-8.51	-9.62/-11.44	-12.54/-12.01	
Θ(52.5°)	-15.63/-15.19	-15.61/-12.37	-9.27/-8.12	-7.92/-8.27	-9.37/-9.98	-8.79/-7.82	-6.62/-5.12	-3.58/-2.29	-1.28/-0.58	0.010/-57	0.760/-23	-1.06/-2.96	-4.85/-6.21	-6.19/-5.47	-4.97/-4.89	-5.09/-5.63	-6.56/-7.11	-7.41/-7.04	-6.82/-6.52	-6.59/-6.83	-6.86/-6.6	-5.93/-5.47	-6.11/-8.46	-12.71/-15.14
Θ(60°)	-5.23/-5.3	-5.66/-6.45	-6.48/-6.37	-6.19/-6.53	-3.99/-3.34	-2.32/-2.73	-3.25/-4.02	-4.88/-4.87	-4.5/-2.98	-1.63/-0.47	0.260/-13	-1.17/-3.73	-7.25/-8.4	-6.79/-5.43	-4.87/-4.6	-4.35/-4.58	-5.41/-6.64	-7.9/-8.66	-8.89/-8.19	-6.53/-4.63	-3.25/-2.64	-2.49/-2.39	-2.63/-3.71	-5/-4.4
Θ(67.5°)	-4.74/-4.39	-4.19/-4.83	-5.99/-7.23	-7.14/-6.32	-5.23/-4.41	-3.8/-3.56	-3.57/-3.61	-3.68/-3.97	-4.77/-5.51	-5.13/-3.88	-2.85/-2.86	-4.38/-6.79	-7.06/-6.36	-6.05/-6.35	-6.7/-6.12	-5.35/-5.14	-5.35/-5.67	-6.13/-7.19	-8.66/-6.53	-6.53/-4.32	-3.2/-3.21	-4/-4.69	-4.52/-4.09	-4.28/-4.66
Θ(75°)	-8.18/-7.3	-6.02/-6.16	-7.48/-9.34	-8.48/-5.87	-4.31/-3.87	-4.34/-5.03	-4.92/-3.8	-2.37/-1.46	-1.37/-2.27	-3.68/-4.52	-4.96/-5.79	-7.61/-9.41	-8.62/-8.05	-8.29/-9.02	-9.27/-7.5	-6.46/-5.77	-5.46/-5.18	-4.87/-5.63	-6.84/-6.67	-4.83/-5.72	-2.99/-2.81	-3.37/-4.87	-6.46/-6	-6.24/-7.56
Θ(82.5°)	-5/-0.5	-5/-5.43	-7.23/-9.32	-8.81/-6.63	-4.44/-3.33	-3.32/-3.93	-4.51/-4.2	-3.02/-1.89	-1.54/-1.98	-2.68/-3.54	-5.11/-7.32	-6.89/-7.87	-7.04/-8.84	-11.24/-10.33	-7.34/-5.2	-3.75/-3.29	-3.75/-3.95	-3.69/-3.64	-3.49/-3.12	-2.83/-2.85	-3.15/-3.33	-3.37/-4.37	-6.7/-7.72	-6.56/-5.35
Θ(90°)	-6.65/-6.91	-6.37/-7.41	-10.29/-13.91	-14.28/-8.82	-4.99/-3.4	-2.95/-2.67	-2.58/-2.63	-2.25/-1.54	-1.26/-1.69	-2.45/-3.37	-5.36/-4.44	-11.31/-6.97	-5.33/-6.73	-10.41/-12.88	-10.4/-6.37	-4.59/-5	-5.98/-6.22	-5.75/-5.13	-3.93/-2.37	-1.02/-0.43	-0.73/-2.09	-4.04/-5.2	-6.53/-7.56	-9.38/-8.74
Θ(97.5°)	-5.51/-4.35	-4.96/-6.72	-10.96/-13.1	-9.99/-5.18	-2.25/-1.57	-0.07/-5.34	-6.14/-7.26	-7.24/-5.22	-3.51/-2.57	-2.07/-2.21	-3.57/-7.36	-10.11/-8.47	-8.87/-12.71	-12.53/-9.97	-5.22/-3.07	-3.37/-5.7	-6.49/-5.95	-6.65/-6.9	-5.02/-2.11	0.020/-91	0.73/-0.53	-3.13/-5.98	-6.35/-6.61	-8.06/-8.12
Θ(105°)	-5.4/-4.93	-5.86/-7.73	-10.47/-9.92	-6.9/-4.94	-1.350/-62	-3.67/-7.1	-3.92/-7.1	-9.11/-10.29	-8.75/-5.68	-3.86/-3.31	-4.25/-6.59	-7.6/-7.75	-10.13/-11.79	-11.27/-8.44	-4.07/-2.57	-3.43/-5.59	-3.48/-2.74	-3.03/-2.83	-3.49/-3.12	-2.83/-2.85	-3.15/-3.33	-3.37/-4.37	-6.7/-7.72	-6.56/-5.35
Θ(112.5°)	-4.99/-5.01	-6.22/-8.59	-12.36/-7.97	-4.14/-3.27	-1.57/-1	1.97/-4.7	-0.05/-1.72	-2.86/-3.82	-5.1/-5.33	-4.82/-4.99	-5.35/-6.18	-6.92/-11.37	-14.95/-12.96	-8.5/-4.41	-1.92/-1.09	-1.83/-4.48	-3.69/-2.57	-2.07/-1.19	0.251/-79	2.732/-67	1.720/-24	-1.52/-3.96	-6.55/-7.27	-6.25/-5.82
Θ(120°)	-9.01/-10.76	-14.05/-13.11	-8.06/-3.15	-0.1/-33	1.642/-3	2.782/-32	1.370/-2	-0.91/-2.2	-4.43/-7	-9/-9.32	-8.62/-7	-7.54/-9.72	-8.68/-7.71	-6.28/-4.21	-3.26/-2.92	-2.97/-3.16	-2.74/-2.34	-2.06/-1.55	-0.33/-1.22	2.272/-45	1.70/-8	-2.1/-3.88	-6.02/-6.7	-7/-8.03
Θ(127.5°)	-4.42/-5.37	-8.51/-13.13	-10.48/-3.82	-0.13/-58	1.962/-03	2.232/-03	1.14/-0.26	-1.51/-2.5	-3.63/-4.82	-6.34/-7.97	-6.73/-5.03	-5.72/-6.37	-7.37/-7.28	-4.75/-5.85	-3.91/-3.78	-4.15/-4.3	-3.35/-2.9	-2.62/-1.83	-0.39/-13	2.242/-63	2.220/-83	-1.43/-4.25	-7.43/-7.95	-5.96/-4.68
Θ(135°)	-2.77/-2.56	-3.88/-5.92	-6.69/-6.69	-5.57/-2.45	-1.53/-1.82	-2.42/-2.97	-3.73/-3.74	-2.91/-2.58	-2.8/-3.79	-5.94/-9.52	-8.92/-6.15	-6.29/-7.99	-8.74/-6.28	-4.25/-3.06	-2.82/-3.83	-6.22/-8.27	-7.03/-5.93	-5.3/-3.66	-1.450/-18	1.140/-4	0.87/-0.76	-3.91/-9.88	-15.17/-11.68	-6.53/-9.87
Θ(142.5°)	-5.5/-0.02	-3.49/-3.43	-3.38/-3.46	-3.96/-4.39	-2.55/-2.82	-4.15/-6.19	-7.17/-5.68	-4.03/-3.11	-3.02/-4.78	-5.61/-7.17	-5.45/-4.47	-5.2/-5.99	-5.33/-3.97	-2.48/-1.61	-1.73/-3.14	-6.17/-10.07	-8.15/-6.47	-5.6/-4.27	-2.04/-0.21	1.04/-1.68	1.71/-1	-0.59/-3.26	-7.04/-10.53	-10.12/-7.3
Θ(150°)	-12.32/-8.85	-7.11/-6.32	-5.7/-5.31	-5.42/-5.64	-5.14/-4.79	-4.81/-4.17	-3.17/-2.43	-2.06/-2.2	-3.2/-4.72	-7.67/-9.45	-7.45/-5.38	-1.16/-0.45	0.170/-46	0.06/-1.26	-3.49/-5.56	-9.61/-11.41	-10.8/-8.42	-5.51/-3.24	-1.63/-0.6	-0.16/-3.08	-1.44/-3.49	-6.75/-10.89	-15.52/-15.27	
Θ(157.5°)	-10.95/-10.51	-10.3/-11.01	-11.21/-11	-10.59/-10.47	-9.79/-7.87	-5.67/-4.03	-3.04/-2.59	-2.61/-3.22	-4.74/-7.43	-12.41/-14.34	-10.19/-5.36	-2.72/-1.16	-0.330/-0.9	0.07/-0.14	-0.95/-2.28	-3.8/-5.72	-8/-10.19	-11.01/-11.58	-11.76/-9.96	-8.25/-6.85	-5.83/-5.43	-5.86/-7.28	-9.51/-11.64	-11.76/-11.33
Θ(165°)	-6.46/-6.22	-6.69/-7.33	-8.32/-9.52	-10.58/-11.2	-10.86/-9.6	-7.28/-5.53	-4.79/-4.67	-5/-5.9	-7.98/-10.65	-12.15/-11.67	-8.82/-6.2	-4.33/-3.1	-2.5/-2.43	-2.92/-3.82	-5/-7.38	-9.58/-11.79	-12.37/-10.68	-9.74/-9.95	-10.79/-12.12	-14.11/-14.61	-13.53/-13.7	-12.81/-12.5	-14.12/-9.4	-7.88/-6.83
Θ(172.5°)	-4.03/-3.72	-3.66/-3.81	-4.15/-4.77	-5.5/-6.67	-7.94/-9.58	-9.55/-9.44	-8.88/-10.6	-9.69/-11.64	-11.98/-11.81	-9.63/-9.19	-8.31/-7.66	-7.31/-7.22	-7.64/-8.67	-10.51/-12.65	-15.57/-15.9	-14.05/-11.39	-9.4/-8.08	-7.36/-7.14	-7.29/-7.98	-8.79/-9.46	-10.54/-10.63	-10.54/-9.88	-7.81/-6.53	-5.32/-4.6
Θ(180°)	-3.57/-3.35	-3.2/-3.18	-3.3/-3.56	-4.07/-4.85	-5.71/-6.61	-7.38/-7.99	-8.35/-8.44	-8.25/-8.24	-8.48/-8.5	-8.2/-8.04	-8.28/-8.69	-9.07/-9.23	-9.26/-9.25	-9.23/-9.14	-8.85/-8.76	-8.33/-8.01	-7.69/-7.51	-7.21/-6.93	-6.92/-6.96	-6.97/-7.04	-7.3/-7.74	-7.22/-6.5	-5.8/-5.14	-4.57/-3.87
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°)	-6.37/-6.56	-6.93/-8.86	-7.08/-7.58	-7.49/-7.84	-7.59/-7.3	-6.98/-6.88	-6.99/-7.27	-7.49/-7.57	-7.62/-7.68	-7.71/-7.63	-7.41/-7.19	-7.1/-7.16	-7.13/-6.95	-6.7/-7.21	-7.55/-8.19	-8.52/-8.72	-8.74/-8.65	-8.4/-8.08	-8.04/-8.2	-8.08/-7.72	-7.66/-7.66	-7.36/-6.75	-6.27/-6.03	-5.94/-5.96
Θ(7.5°)	-7.22/-7.24	-7.46/-7.55	-7.77/-8.12	-8.37/-8.6	-8.49/-7.78	-7.46/-7.26	-7.36/-7.49	-7.64/-7.77	-7.83/-7.78	-7.59/-7.37	-6.92/-6.55	-6.35/-6.42	-6.26/-6.37	-6.6/-6.5	-6.84/-6.89	-7.26/-7.12	-7.07/-7.15	-7.27/-7.28	-7.27/-7.4	-7.53/-7.44	-7.26/-7.13	-6.88/-6.53	-6.3/-6.52	-7.01/-7
Θ(15°)	-5.92/-6.02	-6.17/-6.53	-7.05/-7.5	-7.85/-8.15	-8.13/-7.54	-6.91/-6.67	-6.74/-6.88	-7.16/-7.5	-7.73/-7.6	-7.27/-6.77	-6.21/-6.69	-5.25/-4.94	-4.7/-4.56	-4.52/-4.61	-4.75/-4.77	-4.91/-5.2	-5.55/-5.81	-6.07/-6.25	-6.34/-6.3	-6.31/-6.17	-5.9/-5.52	-5.24/-4.97	-4.9/-5.04	-5.34/-5.72
Θ(22.5°)	-5.15/-5.5	-5.9/-6.42	-7.04/-7.43	-7.6/-7.58	-7.04/-6.22	-5.65/-5.49	-5.62/-5.94	-6.56/-7.39	-8.19/-8.46	-7.92/-6.99	-5.96/-5.12	-4.53/-4.19	-3.98/-3.88	-3.97/-4.17	-4.43/-4.72	-5.07/-5.63	-5.81/-5.78	-5.67/-5.65	-5.71/-5.67	-5.53/-5.35	-5.06/-4.55	-3.99/-3.65	-3.58/-3.76	-4.14/-4.62
Θ(30°)	-4.06/-4.46	-4.89/-5.33	-5.89/-6.35	-6.64/-6.57	-6.22/-5.77	-5.39/-5.2	-5.07/-5.13	-5.65/-6.38	-7.79/-9.49	-8.86/-7.69	-5.42/-3.73	-2.77/-2.41	-2.5/-2.93	-3.65/-4.72	-5.8/-6.95	-7.89/-8.64	-8.22/-7.67	-6.94/-6.8	-6.32/-6.75	-5.24/-4.92	-4.68/-4.3	-3.73/-3.24	-2.95/-2.9	-3.12/-3.56
Θ(37.5°)	-2.89/-3.09	-3.12/-3.1	-3.32/-3.65	-3.89/-4.24	-4.7/-5.21	-5.42/-5.24	-4.93/-4.64	-4.62/-5	-5.93/-7.1	-7.22/-4.93	-2.27/-0.46	-0.90/-7.1	0.32/-0.66	-2.24/-4.39	-6.26/-6.55	-9.31/-9.54	-9.36/-8.83	-8.25/-7.16	-5.85/-4.69	-3.84/-3.27	-2.94/-2.86	-2.91/-2.85	-2.6/-2.34	-2.32/-2.55
Θ(45°)	-1.52/-1.74	-1.71/-1.43	-1.24/-1.27	-1.44/-1.91	-2.78/-3.91	-4.8/-4.93	-4.51/-3.84	-3.18/-2.85	-2.93/-3.38	-3.9/-3.48	-1.308/-8	2.112/-6	2.351/-45	-0.21/-2.56	-5.19/-6.5	-7.02/-7.27	-7							



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

Appendix A

Θ(15°)	-0.76/1.89	-3.34/4.98	-6.79/7.92	-7.88/7.5	-7.19/6.63	-6.37/5.6	-4.66/3.76	-3.16/2.72	-2.36/2.1	-2.24/2.47	-2.6/2.69	-2.38/2.08	-1.75/1.62	-1.69/2.06	-2.46/3.23	-4.05/4.67	-5.01/5.07	-4.72/4.04	-3.85/3.99	-4.21/3.48	-3.97/2.63	-1.34/0.52	-0.46/0.46	-0.2/0.34
Θ(22.5°)	0.14/-1.22	-2.7/4.58	-6.08/-7	-6.36/-5.1	-6.2/4.46	-6.69/-6.57	-6.19/-4.94	-4.12/-3.64	-2.93/-2.67	-2.61/2.68	-2.97/3.1	-3.16/3.15	-3.07/3.22	-3.52/4.25	-5.27/5.82	-5.67/5	-4.03/2.74	-2.12/-1.94	-1.87/-1.77	-1.53/-1.56	-1.19/-0.49	0.160/0.53	0.590/7.7	0.890/7.9
Θ(30°)	-0.4/-1.47	-3.43/-5.14	-6/-6.31	-6/-5.03	-5.04/-5.54	-6.49/-6.65	-5.38/-4.14	-2.77/1.69	-1/0.84	-1.06/-1.91	-2.62/-3.54	-2.86/-4.49	-3.74/-4.82	-4.5/-5.33	-6.2/-6.83	-6.78/-6.79	-4.94/-3.3	-1.82/-1.82	-1.45/-1.41	-1.7/1.62	-1.14/-0.56	0.380/1.3	1.32/1.37	1.150/4.7
Θ(37.5°)	-0.61/1.52	-2.97/3.44	-3.52/3.92	-4.02/4.36	-5.8/6.44	-6.05/4.07	-2.38/1.11	-0.20/0.3	-0.15/-0.49	-0.85/-1.96	-3.85/-4.59	-5.59/-4.84	-3.99/-4.02	-5.08/5.77	-5.29/5.28	-4.95/-4.44	-3.69/-2.86	-2.33/-1.54	-0.580/0.52	1.090/95	1.077/69	2.077/88	1.571/16	1.330/44
Θ(45°)	-3.11/-2.8	-2.27/-1.37	-1.27/-1.65	-3.07/-4.76	-4.96/-3.31	-1.44/-0.13	0.30/69	1.34/1.52	1.14/0.4	-0.34/-1.18	-2.24/2.69	-4.86/-4.65	-3.87/-3.19	-3.85/-4.24	-4.55/-5.2	-6.48/-6.56	-4.69/-3.22	-1.78/-0.49	-0.060/0.4	0.831/75	2.04/1.54	0.63/-0.51	-1.58/-2.96	-3.68/-3.07
Θ(52.5°)	-2.01/3.09	-3/2.45	-3.27/4.45	-6.54/-5.92	-3.4/-1.44	0.36/1.76	1.240/66	0.3/0.85	-2.21/2.32	-2.26/3.42	-4.61/-4.7	-2.9/3.03	-3.36/-1.71	-0.73/-1.9	-4.93/-6.66	-6.56/-4.85	-3.84/-2.43	-1.88/-0.93	0.060/0.82	1.180/89	-3.86/2.19	-3.86/-3.26	-3.28/-2.3	
Θ(60°)	-1.64/1.22	-1.71/2.5	-4.03/5.94	-7.97/5.27	-4.15/-3.66	-1.530/0.52	1.84/2.43	2.24/1.45	1.310/84	0.20/0.5	-0.97/1.37	-1.89/-3.09	-2.3/-1.25	-2.44/2.96	-3.8/-2.57	-2.82/4.12	-5.14/5.62	-3.28/-1.31	-0.7/0.65	-0.060/0.28	0.460/0.05	-0.44/-0.3	-0.34/-1.1	-1.19/-1.62
Θ(67.5°)	0.830/2.1	-1.33/-2.73	-3.9/5.05	-7.17/-6.1	-6.02/-5.32	-2.95/-0.69	1.05/1.76	1.710/74	0.270/59	0.30/63	-0.01/-0.2	0.19/-0.44	-0.21/-0.2	-1.08/-3.12	-5.76/-3.68	-6.21/-1.46	-1.29/-0.17	-0.06/-0.33	-0.34/-0.39	-1.4/-1.97	-1.54/-0.56	-0.09/-0.09	0.210/8	
Θ(75°)	-0.76/0.82	-1.21/2.03	-3.25/3.83	-5.02/4.65	-4.8/-3.65	-2.92/-1.55	-0.40/0.6	-0.17/-0.77	-0.9/-0.9	0.06/1.82	2.47/1.3	0.03/-1.18	-0.430/94	0.9/-1.22	-4.82/-6.02	-5.19/-6.71	-6.49/-3.61	-0.80/33	-0.4/-0.22	-0.04/-0.61	-0.65/-0.08	-0.110/0.9	-1.2/-0.87	
Θ(82.5°)	-0.34/0.88	-0.76/-1.7	-3.16/5.47	-5.77/6.06	-4.51/-3.13	-1.78/-1.61	-1.69/-1.39	-1.94/-2.14	-0.930/0.7	1.55/2.46	1.80/83	-0.38/-1.53	-0.36/1.46	0.66/1.37	-2.61/-2.94	-2.92/5.02	-4.14/-1.04	0.480/0.66	-0.45/-0.7	0.490/69	0.140/29	0.29/-0.8	-1.02/-0.86	-0.85/-0.38
Θ(90°)	-0.47/-2.08	-2.34/-3.33	-5.2/-3.87	-7.93/-5.28	-4.79/-3.45	-3.01/-3.29	-2.71/-1.55	-1.21/-1.91	-3.1/-1.69	-1/-0.01	-0.180/0.3	-0.43/-0.14	0.760/57	-0.86/-3.53	-2.51/-3.3	-4.7/-4.62	-4.36/-2.05	0.39/1.35	-1.15/-2.61	-0.86/-0.18	0.50/68	0.65/-1.08	-1.19/-0.91	-1.32/-1.43
Θ(97.5°)	-0.8/2.03	-2.6/4.56	-6.39/10.43	-8.12/5.96	-7.45/-5.65	-4.07/3.83	-4.04/3.82	-1.84/-0.95	-0.52/-1.01	-3.27/4.94	-4.6/-3.25	-2.32/-1.01	-1.38/-0.99	-2.75/4.54	-3.87/5.76	-7.08/-6.52	-6.07/-3.93	-3.68/3.46	-4.48/-5.56	-0.87/-0.05	-1.11/-2.08	-1.16/-0.66	-0.62/-1.35	
Θ(105°)	-1.47/2.92	-3.27/5.23	-7.26/11.11	-7.57/5.56	-6.24/-5.13	-3.72/-3.62	-3.54/-1.61	0.57/1.21	0.45/-0.89	-3.32/-4.96	-3.77/2.43	-2.3/-1.82	-2.82/5.46	-2.19/-2.5	-4.21/-7.95	-10.05/-7.83	-6.61/-6.34	-6.48/-6.19	-6.34/-8.5	-5.5/-3.18	-2.05/-1.7	-2.81/-4.66	-1.40/0.9	0.41/-0.35
Θ(112.5°)	-4.79/-4.41	-3.63/-6.5	-9.25/-9.82	-6.02/-5.97	-7.18/-7.69	-5.73/-5.02	-4.25/-2.09	-0.310/0.3	-0.9/-1.71	-2.73/-3.17	-2.42/-1.79	-1.48/-2.38	-5.04/-2.57	-2.34/-6.24	-7.62/-7.96	-4.62/-3.04	-4.99/-7.99	-7.74/-5.51	-5.98/-8.05	-4.54/-2.89	-2.49/-2.08	-0.59/-1.58	-4.45/-4.66	
Θ(120°)	-3.19/5.36	-3.87/5.13	-7.34/10.13	-8.79/-8.24	-8.05/-7.93	-6.98/-6.41	-5.01/5.56	-2.42/-1.88	-1.61/-2.22	-5.56/6.54	-3.92/-1.12	-1.66/-3.88	-5.66/-4.77	-4.84/-6.66	-3.82/-2.97	-3.47/-1.39	-4.74/-9.56	-5.28/-3.01	-4.28/-7.77	-5.41/-2.7	-1.72/-1.21	-2.04/-1.76	-0.630/96	-2.91/3.5
Θ(127.5°)	-2.77/3.46	-3.81/-4.44	-6.18/-7.73	-6.03/-6.1	-6.17/5.71	-5.49/-6.65	-7.14/-4.74	-4.1/-3.9	-2.61/2.51	-2.79/-2.29	-1.71/-2.6	-3.9/-4.69	-3.92/-4.11	-5.54/-6.48	-4.09/-6.06	-1.91/-2.14	-3.83/-9.99	-7.59/-4.85	-5.98/-8.3	-9.86/-4.73	-4.71/-3.41	-3.84/-3.13	-3.67/-1.55	-2.5/-4.51
Θ(135°)	-11.37/-10.96	-8.52/-8.72	-9.15/-9.8	-7.27/-8.65	-6.38/-0.67	-6.5/-7.65	-7.71/-7.29	-5.39/-3.31	-2.21/-1.76	-1.05/-3.38	-0.61/-1.12	-1.08/-1.53	-2.86/-5.35	-5.05/-3	-3.07/-2.6	-0.9/-1.8	-3.2/-4.59	-4.83/-7.27	-7.05/-6.62	-5.13/-2.68	-3.14/-3.42	-2.8/-5.05	-6.11/-8.17	-8.21/-9.47
Θ(142.5°)	-5.14/-2.22	-6.13/8.78	-7.61/8.76	-10.28/-7.66	-6.73/-7.88	-6.92/6.14	-5.55/-4.22	-2.18/-1.18	-1.16/-1.16	-0.8/-1.11	-1.6/-2.62	-3.48/-2.35	-0.89/-2.38	-4.84/-6.04	-3.85/-2.63	-4.78/-7.86	-8.48/-5.1	-4.95/-5.57	-6.16/-4.04	-2.66/-4.31	-3.77/-4.03	-5.53/-6.14	-5.56/-5.07	
Θ(150°)	-5.6/-5.84	-5.72/-6.48	-7.37/-8.48	-8.24/-7.28	-5.43/-5.26	-6.05/-6.01	-3.96/-2.09	-0.87/-0.22	-0.40/-0.2	-0.3/-0.87	-2.06/-2.42	-2.35/-3.02	-3.96/-4.08	-3.6/-3.61	-4.42/-4.87	-5.22/-5.41	-4.18/-4.61	-4.14/-4.64	-5.27/-6.76	-9.63/-8.34	-4.68/-3.56	-2.68/-1.79	-2.33/-3.28	-1.49/-4.74
Θ(157.5°)	-3.86/-4.48	-4.9/-5.1	-5.2/-6.09	-8.11/-9.59	-9.12/-6.7	-4.39/-2.98	-1.93/-1.05	-0.49/-0.17	0.210/45	0.420/1	-0.42/-1.28	-2.91/-4.65	-5.3/-5.21	-4.78/-4.55	-4.27/-4.17	-5.81/-7.02	-6.76/-6.36	-6.08/-5.98	-6.66/-7.83	-8.3/-7.94	-6.48/-5.03	-3.18/-1.24	-0.58/-0.85	-1.32/-3.29
Θ(165°)	-2.3/-2.67	-2.94/3.63	-3.78/-3.92	-4.76/-5.31	-6.1/-6.6	-5.92/5.38	-5.31/-5	-4.36/-3.37	-2.54/-1.93	-1.63/-1.28	-1.19/-1.33	-1.87/-2.39	-2.9/-3.56	-4.36/-5.4	-6.36/-7.54	-7.83/-6.73	-5.99/-5.32	-4.85/-4.76	-5.29/-6.23	-7.05/-6.58	-6.85/-6.16	-3.72/-2.1	-1.77/-1.73	-1.78/-1.96
Θ(172.5°)	-6.85/-6.15	-5.75/-5.37	-5.13/-5.47	-6/-6.77	-8.12/-8.91	-8.44/-7.66	-6.99/-6.46	-5.53/-4.58	-3.76/-3.66	-3.97/-4.2	-4.02/-3.79	-3.68/-3.69	-3.89/-4.62	-4.98/-4.97	-4.81/-4.79	-4.65/-4.57	-4.93/-5.54	-6.33/-7.53	-8.24/-8.91	-8.84/-8.84	-8.24/-7.9	-7.04/-6.36	-6.39/-6.55	-6.81/-6.78
Θ(180°)	-5.03/5.38	-5.69/5.8	-6.39/6.51	-6.59/7.24	-8.07/8.06	-8.1/8.41	-8.18/8.23	-7.34/6.19	-5.5/-4.5	-5.71/6.04	-6.06/-6.05	-6.16/-5.88	-5.83/-5.34	-4.86/-4.8	-4.66/-4.78	-5.01/-5.12	-5.77/-6.17	-6.99/-8.02	-9.16/-9.67	-9.89/-10.11	-9.88/-9.31	-9.52/-8.38	-7.53/-6.54	-5.81/-5.02
Freq(Hz)	5.36GPol.	Theta	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
DG(dB)	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°)	-3.81/-3.49	-3.33/-3.25	-3.34/-3.28	-3.47/-3.33	-2.88/-2.64	-2.51/-2.53	-2.23/-2.26	-2.19/-2.68	-3.31/-3.47	-3.76/-4.12	-4.3/-4.51	-4.76/-4.79	-4.85/-4.35	-3.74/-3.14	-2.44/-1.83	-1.43/-1.24	-1.2/-1.27	-1.59/-2.15	-2.87/-3.56	-3.91/-4	-3.83/-3.95	-4.05/-4.79	-4.99/-5.14	-4.62/-4.27
Θ(7.5°)	-5.55/-5.38	-5.14/-4.5	-3.69/-3.3	-3.14/-2.74	-2.53/-2.53	-2.72/-2.85	-3.1/-3.84	-4.43/-5.09	-4.95/-4.72	-4.42/-4.27	-3.92/-3.77	-3.38/-3.17	-3.01/-2.93	-2.71/-2.63	-2.94/-2.65	-2.23/-1.87	-2.62/-3.02	-3.03/-2.96	-2.72/-2.77	-2.96/-3.6	-4.34/-4.87	-5.19/-5.48		
Θ(15°)	-5.13/-4.93	-4.56/-4.55	-4.43/-4.01	-4.41/-4.41	-4.72/-5.19	-5.49/-5.67	-5.79/-6.39	-6.82/-7.61	-8.29/-7.89	-6.58/-5.32	-4.33/-3.51	-2.86/-2.57	-2.61/-2.88	-3.17/-3.36	-3.05/-2.42	-1.7/-1.35	-1.1/-1.26	-1.64/-2.16	-2.54/-2.88	-3.17/-3.04	-3.03/-3.34	-3.71/-4.34	-5.2/-5.44	-5.46/-4.84
Θ(22.5°)	-6.36/-4.74	-3.11/-2.94	-2.9/-2.59	-3.28/-4.33	-5.11/-5.06	-4.81/-4.69	-4.78/-5.06	-5.35/-5.32	-5.14/-5.12	-4.91/-4.37	-3.36/-3.27	-3.18/-3.28	-3.42/-3.17	-2.8/-1.31	-0.22/0.4	0.660/81	0.570/0.3	-0.44/-0.82	-1.12/-1.3	-1.3/-1.8	-2.59/-4.11	-5.83/-7.15	-7.36/-7.15	
Θ(30°)	-7.53/-5.21	-2.96/-1.93	-1.84/-1.89	-1.79/-1.77	-1.98/-2.58	-3/-2.9	-2.39/-2.39	-2.73/-3.51	-4.45/-5.12	-5.76/-5.96	-5.13/-4.62	-4.51/-5.01	-4.81/-3.3	-2.32/-2.25	-2.21/-1.37	-0.440/5	1.191/36	1.210/41	-0.71/-1.88	-2.18/-1.9	-1.02/-0.51	-0.45/-1.02	-2.23/-4.2	-6.43/-6.13
Θ(37.5°)	-4.07/3.29	-2.37/-1.42	-1.73/-1.63	-0.350/0.9	-0.78/-1.71	-3.83/-3.89	-4.26/-4.61	-4.86/-5.06	-5.67/-6.19	-6.13/-5.02	-3.38/-2.44	-2.43/-3.5	-3.42/-2.12	-1.39/-0.79	-0.46/-0.4	-0.050/95	1.310/86	-0.19/-1.37	-1.27/-1.24	-1.57/-1.68	-1.21/-0.33	-0.28/-0.81	-1.18/-1.67	-2.49/-3.92
Θ(45°)	-2.11/-1.67	-1.25/-0.98	-1.15/-0.57	0.310/63	0.38/-0.06	-1.04/-1.6	-2.25/-2.74	-4.1/-4.5	-5.3/-4.45	-3.7/-3.03	-1.79/-0.69	-0.51/-1.09	-1.040/63	0.980/37	-0.39/-0.55	0.250/71	0.931/3	0.860/14	-1.06/-2.3	-2.37/-2.34	-2.9/-3.08	-1.53/-0.69	-0.53/-1.08	-1.56/-1.91
Θ(52.5°)	1.411/0.7	-0.19/-0.94	-0.620/3.1	0.91/32	1.510/93	0.860/71	0.31/-0.63	-2.26/-3.21	-3.16/-2.05	-1.8/-2.05	-1.310/37	1.030/93	1.341/82	0.31/-0.53	-0.36/-0.17	0.08/-0.46	-1.2/-2.4	-2.77/-2.47	-2.63/-4.15	-4.19/-3.13	-1.85/-0.82	0.070/2	0.580/4	
Θ(60°)	3.172/63	1.920/72	-0.320/2	0.821/7	1.84/1.6	1.821/72	1.70/-0.2	-1.49/-2.86	-2.380/23	1.591/88	0.931/45	1.20/95	0.781/88	0.9/-1.19	-2.6/-0.64	0.280/48	-0.39/-1.61	-1.25/-1.26	-1.49/-1.32	-1.14/-0.95	-1.48/-2.42	-1.65/-0.9	0.09/1	1.4/24
Θ(67.5°)	4.555/32	2.611/0.6	-0.28/-1.26	0.211/17	1.762/45	2.422/0.4	1.550/76	-0.73/-1.75	-1.59/-0.58	0.67/1.11	-0.20/96	1.321/53	1.762/26	1.37/-1.29	-1.850/19	-0.12/-0.32	-0.78/-0.46	-0.010/37	1.491/61	1.181/22	0.12/-1.74	-1.390/49	1.432/0.9	3.114/23
Θ(75°)	4.83/88	3.682/84	1.5/-0.04	-0.44/-0.29	0.951/0.3	0.15/-0.56	-1.13/-1.08	-0.08/-0.17	-0.71/-9.9	-0.50/3	0.521/45	1.011/69	3.071/46	0.071/51	-0.33/-0.18	-0.250/1.3	-0.62/-0.69	-0.70/82	1.62/73	3.363/16	1.72/-2.43	-1.531/16	2.773/96	4.625/0.2
Θ(82.5°)	4.224/58	5.243/65																						



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

Appendix A

Θ(67.5°)	0.060/6	0.590/31	0.27/-0.18	-1.76/-4.38	-5.18/-2.88	-1.19/-0.05	0.23/1.03	1.05/1.42	2.03/1.52	0.520/93	1.82/96	2.69/0.83	1.79/1.75	-0.17/-3.16	-5.53/-1.33	-1.6/-6.84	-6.6/-2.43	-0.47/0.83	1.16/1.58	1.03/-0.23	-0.84/-2.02	-0.40/96	1.88/2.1	1.08/0.12
Θ(75°)	-0.45/0.38	-0.12/0.37	0.58/-0.05	-1.83/-5.52	-5.37/-4.79	-3.94/-3.25	-0.78/-1.01	-1.96/0	1.54/1.86	1.42/0.81	0.84/0.46	0.42/-0.41	0.36/0.33	0.79/-0.12	-2.29/-3.59	-3.39/-5.17	-3.34/-1.3	-0.77/0.44	0.67/0.57	1.26/0.23	0.78/0.27	-0.77/-0.32	1.37/0.97	-0.70/0.03
Θ(82.5°)	-0.25/-1.02	-1.16/-0.18	-1.02/-3.03	-3.84/-4.5	-3.65/-4.12	-3.85/-3.37	-3.7/-1.71	-0.52/-0.4	0.93/1.28	1.94/1.5	1.39/0.83	-0.71/-1.93	-2.86/-1.12	0.04/-0.86	-0.79/-3.75	-3.48/-3.35	-4.61/-2.84	-0.28/-1.08	0.80/44	-0.42/0.97	1.76/1.27	0.36/0.21	0.54/0.72	-0.19/1.23
Θ(90°)	1.27/1.45	0.93/1.49	-0.77/-3.17	-3.46/-4.55	-4.81/-6.03	-2.85/-2.92	-2.82/-2.56	-0.63/0.81	1.51/1.75	1.52/0.64	0.7/-0.11	-1.09/-2.18	-1.44/-0.27	1.67/-0.64	-1.46/-3.79	-4.24/-3.73	-4.77/-2.2	-2.66/-1.31	-2.41/-1.15	0.04/-0.17	1.79/2.03	1.3/1.17	1.36/0.89	-0.43/2.07
Θ(97.5°)	1.08/1.16	1.69/0.48	-3.92/-5.02	-4.49/-6.31	-7.67/-6	-1.97/-1.66	-1.5/-0.27	-0.29/-0.6	0.58/0.96	1.61/-0.41	-2.16/-2.28	0.07/0.06	0.76/0.73	-0.12/-3.14	-3.3/-5.73	-8.16/-2.26	-3.52/-3.08	-3.27/-2.58	-2.22/-2.42	-1.32/0.3	1.39/0.43	-0.57/0.71	0.86/-0.98	-0.58/1.59
Θ(105°)	-2.22/-0.53	-0.4/-0.3	-3.93/-5.08	-3.74/-6.61	-5.18/-6.39	-4.22/-1.74	-0.04/-0.22	-0.56/-0.16	0.89/0.78	0.54/-2.44	-6.64/-5.12	-2.35/-1.45	0.54/1.54	1.72/-1.18	-4.17/-9.82	0.54/-5.65	-1.65/-2.04	-5/-3.52	-2.35/-2.72	-1.31/-0.08	0.03/0.54	-2.02/-1.89	-0.15/-1.32	-4.47/-2.44
Θ(112.5°)	-5.28/-3.06	-1.89/-2.11	-5.38/-8.18	-7.2/-9.07	-8.3/-11.53	-8.39/-4.22	-1.59/1.05	1.67/1.61	0.7/0.91	-1.54/-3.82	-3.23/-2.74	-4.85/-4.85	-2.68/-2.08	-1.66/-3.67	-5.71/-4.09	-2.08/-2.11	-1.55/-2.9	-3.76/-3.88	-5.01/-1.63	-2.53/-1.07	1.65/0.35	-0.73/-1.75	-0.74/-2.36	-5.32/-3.99
Θ(120°)	-6.37/-5.41	-4.92/-5.38	-6.79/-6.96	-6.22/-7.43	-7.72/-9.91	-8.55/-6.4	-3.81/-2.49	-1.14/-1.15	-0.19/0.41	-0.39/-2.74	-3.56/-3.65	-4.36/-4.63	-4.98/-1.86	-1.74/-1.12	-3.98/-2.57	-0.88/0.8	-4.09/-8.24	-3.96/-3.79	-4.84/-3.27	-1.72/-0.82	0.07/1.02	-1.35/-2.02	-1.07/-1.31	-6.83/-6.42
Θ(127.5°)	-2.3/-2.71	-2.57/-5.59	-8.23/-9.75	-9.19/-6.93	-4.45/-4.86	-4.12/-2.42	-2.64/-2	-1.57/-1.34	-1.62/-1.74	-2.86/-3.66	-2.55/-0.66	-2.28/-4.37	-4/-3.92	-0.47/-2.26	-4.98/-5.41	-2.22/-3.23	-5.66/-7.88	-6.23/-2.93	-2.67/-2.17	-0.76/0.6	-0.53/-2.04	-3.47/-6.74	-2.59/-3.31	-2.99/-3.26
Θ(135°)	-4.46/-3.4	-2.02/-3.22	-5.94/-6.63	-5.19/-4.57	-3.94/-3.66	-4.52/-5.34	-3.33/-1.64	-1.04/-0.74	-0.99/-1.87	-1.26/-0.76	0.24/0.76	0.04/0.31	-1.51/-1.71	-1.86/-1.75	-3.03/-3.25	-1.84/-3.42	-6.4/-4.78	-1.65/-4.27	-2.76/-4.47	-5.33/-0.12	0.38/1.06	-2.2/-3.59	-3.18/-3.69	-4.15/-2.48
Θ(142.5°)	-7.57/-9.45	-7.65/-6.14	-5.92/-5.95	-4.61/-4.83	-4.3/-5.4	-3.92/-2.01	-0.66/0.27	1.08/1.43	1.18/0.69	-0.71/-0.95	-0.49/-1.31	-3.12/-4.67	-2.87/-2.2	-1.32/-2.83	-1.94/-0.62	0.78/-1.24	-3.01/-3.37	-6.59/-4.61	-3.34/-3.84	-3.53/-0.84	-0.59/-0.52	-2.12/-4.47	-5.81/-5.66	-4.53/-5.47
Θ(150°)	-8.47/-9.2	-9.41/-7.98	-7.08/-6.81	-5.17/-2.33	-1.16/-1.51	-3.96/-5.15	-4.1/-2.39	-1.22/-0.81	-0.9/-1.78	-1.98/-1.58	-1.91/-2.8	-2.96/-2.69	-1.57/-1.04	-1.64/-2.7	-4.71/-5.46	-4.6/-5.34	-6.73/-4.01	-2.46/-2.56	-4.61/-3.66	-3.09/-1.39	-1.25/-2.07	-3.08/-3.54	-5.31/-6.62	-9.25/-7.64
Θ(157.5°)	-5.96/-6.54	-8.42/-10.68	-10.89/-10.22	-9.5/-8.05	-6.29/-5.53	-5.01/-5	-4.58/-3.7	-2.79/-2.38	-1.88/-1.49	-1.43/-0.97	0.01/0.42	0.31/-0.35	-1.23/-1.6	-1.42/-1.76	-2.07/-1.67	-2.49/-4.67	-6.84/-6.39	-5.77/-5.84	-4.56/-4.06	-5.78/-6.93	-5.11/-2.93	-1.51/-0.78	-0.87/-1.98	-3.72/-5.66
Θ(165°)	-1.03/-4.59	-5.45/-6.44	-6.82/-8.05	-8.57/-7.92	-6.71/-5.94	-5.54/-5.58	-5.7/-4.72	-3.22/-2.43	-2.25/-2.4	-2.62/-2.58	-2.05/-1.5	-1.09/-0.6	-0.28/-0.65	-1.91/-3.43	-4.05/-4.95	-5.83/-5.8	-5/-4.78	-6.05/-7.12	-6.47/-5.37	-4.31/-3.93	-3.58/-2.67	-1.81/-1.63	-2.31/-3.27	-3.97/-3.88
Θ(172.5°)	-3.36/-3.03	-3.13/-3.97	-4.99/-5.84	-7.33/-8.91	-10.21/-11.14	-10.09/-9.24	-8.25/-6.16	-5.16/-4.27	-3.49/-2.96	-2.45/-2.08	-2.28/-2.72	-3.39/-4.38	-5.49/-6.73	-8.29/-8.88	-7.37/-5.98	-4.11/-2.9	-2.82/-3.5	-4.35/-4.81	-5.26/-4.98	-4.69/-4.57	-4.58/-4.81	-5.29/-5.29	-5.27/-5.43	-5.07/-4.19
Θ(180°)	-3.29/-3.87	-4.56/-5.25	-6.43/-6.43	-6.62/-7.18	-7.49/-7.41	-6.8/-6.43	-6.76/-6.63	-6.34/-6.07	-6.17/-6.59	-6.88/-7.19	-7.32/-7.56	-7.93/-8.4	-8.38/-8.69	-8.12/-7.25	-6.51/-6.22	-6.35/-6.77	-7.16/-7.47	-7.86/-6.81	-6.07/-5.38	-4.9/-4.4	-4/-3.97	-4.09/-3.93	-3.55/-3.63	-3.66/-3.37
Freq(Hz)	5.785/GPol.	Theta/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(Θ)	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°)	0.83/1.23	1.29/1.17	1.12/1.33	1.46/1.06	0.53/0.01	-0.41/-0.9	-1.57/-1.81	-2.05/-2.27	-2.49/-2.58	-2.4/-2.1	-1.74/-1.48	-1.32/-1.18	-0.88/-0.61	-0.28/-0.31	-0.37/-0.23	-0.03/0.37	0.46/0.46	0.12/-0.23	-0.82/-1.26	-1.56/-1.85	-2.51/-2.82	-3.33/-3	-2.22/-0.93	0.05/0.65
Θ(7.5°)	-0.4/-0.36	-0.35/-0.51	-0.57/-0.4	-0.12/-0.16	0.02/0.13	-0.06/-0.16	-0.41/-0.79	-1.19/-1.39	-1.74/-2.28	-1.99/-1.08	-0.39/0.03	0.29/0.48	0.76/1.11	1.13/0.86	0.71/0.53	0.49/0.54	0.41/0.16	0.07/0.03	-0.17/-0.72	-1.21/-1.83	-3.83/-3.45	-2.66/-1.77	-1.06/-0.72	-1.06/-0.57
Θ(15°)	-0.34/-0.28	-0.49/-0.68	0.12/0.24	0.28/0.51	0.59/0.46	0.21/-0.14	-0.55/-1.13	-1.68/-1.82	-2/-2.29	-1.87/-1.01	0.19/1.26	2.59/2.56	2.23/1.57	0.74/0.09	-0.09/-0	0.29/0.67	0.98/1.36	1.42/1.13	0.53/0	-0.61/-1.28	-1.79/-1.2	-0.7/-0.52	-0.43/-0.55	-0.43/-0.55
Θ(22.5°)	-0.89/-0.83	-0.32/0.06	0.39/0.52	0.84/0.05	-1/-2.29	-3.85/-4.45	-5.06/-5.4	-5.7/-5.03	-4.52/-3.59	-2.36/-0.79	0.53/1.49	1.96/2.15	2.27/1.99	1.35/0.55	0.35/1.27	1.96/2.18	2.1/1.93	1.93/2.01	2.11/1.84	1.42/1	0.74/0.5	0.58/0.97	1.32/1.22	0.42/-0.51
Θ(30°)	-0.45/-0.11	0.71/0.87	0.46/0.4	1.08/1.22	0.81/-0.36	-1.39/-2.41	-3.55/-3.67	-3.86/-4.45	-3.56/-2.47	-1.38/-0.47	1.04/1.64	1.78/2.25	2.37/1.55	0.46/0.08	0.62/1.72	2.4/2.53	2.42/2.53	2.72/2.61	2.44/2.15	1.99/2	1.89/2.09	1.76/1.29	1.25/1.24	1.03/0.37
Θ(37.5°)	-0.45/-0.93	-0.49/-0.68	-1.16/0.03	1.78/2	1.57/1.26	0.58/-0.28	-1.62/-2.21	-2.49/-2.61	-2.01/-1.27	-1.06/-0.82	0.78/2.21	2.59/1.88	0.65/-0.76	-1.8/-1.02	-0.09/0.87	1.88/2.4	2.7/2.73	2.3/2.32	2.38/2.61	2.71/2.67	1.72/0.64	0.51/0.09	0.72/1.16	0.59/-0.23
Θ(45°)	-1.44/-1.18	-1.54/-2.31	-1.81/-0.29	1.19/1.41	0.75/0.09	-1.01/-1.7	-1.28/-1.23	-1.39/-1.27	-1.07/-0.79	0.25/0.74	0.68/1.27	1.52/1.13	-0.62/-2.01	-1.95/-1.83	-0.79/0.67	1.63/2.04	2.19/2.3	2.11/1.97	2.67/3.03	2.55/2.2	1.94/0.02	-0.46/-0.29	-0.43/-0.88	-2.24/-1.73
Θ(52.5°)	-0.37/-0.99	-2.73/-5.1	-6.25/-5.34	-4.7/-2.66	-1.31/-0.79	-0.45/-1.1	-1.59/-1.09	-0.45/-0.43	-1.15/-1.47	-0.74/0.16	0.69/0.93	1.84/1.49	-1.22/-2.28	-0.86/-0.89	-1.65/-1.64	-1.43/-0.45	0.64/1.79	1.4/0.99	1.65/2.22	2.25/1.5	-0.42/-1.34	-1.11/0.26	0.68/0.22	-0.58/-1
Θ(60°)	0.75/1.43	1.45/-0.06	-1.33/-2.05	-1.97/-1.8	-0.97/-0.26	-0.08/-0.83	-1.63/-1.03	-0.2/-0.67	-1/0.05	1.15/1.68	2.29/1.58	1.95/2.44	0.86/-1.26	0.40/19	-1.55/-0.78	0.16/-0.01	-0.57/-0.24	0.72/1.77	1.98/2.23	1.69/-0.4	-3.14/-2.6	-1.23/-0.15	0.09/-0.75	-1.25/0.23
Θ(67.5°)	3.51/4.39	4.91/3.87	3.19/1.3	0.54/-0.35	1.09/1.78	1.31/-0.32	-1.18/-0.83	0.21/0.44	0.1/1.21	2.83/51	3.57/2.81	2.44/3.75	3.08/1.7	1.30.88	-0.15/-1.54	-0.92/-1.27	-0.82/-0.92	0.47/1.98	2.4/1.58	0.42/-0.4	-1.7/-1.17	-0.06/1.6	1.74/0.78	1.15/2.96
Θ(75°)	4.96/5.77	5.84/4.51	4.14/2.03	0.36/-1.25	-0.07/0.47	0.11/-0.54	-1.32/-2.52	-1.55/-0.52	-0.47/0.84	2.15/2.96	3.15/5.59	2.96/3.15	4.33/3.38	2.48/2.38	0.77/-0.23	-1.82/-0.53	-0.08/-0.53	0.14/0.84	1.44/1.41	0.91/0.38	-1.75/-1.49	1.72/3.74	3.13/2.39	1.89/3.94
Θ(82.5°)	5.13/5.5	6.15/4.19	3.73/3.24	2.26/-0.29	-1.76/-0.73	-1.37/-0.76	-1.1/-3.33	-3.99/-1.82	-0.19/0.54	1.74/2.9	2.91/2.96	2.18/2.41	4.32/4.72	4.48/3.38	2.68/0.98	0.83/2.41	1.64/-0.18	0.92/-0.83	1.13/2.23	1.26/-0.6	-1.48/0.95	3.03/3.91	3.11/3.33	3.44/4.94
Θ(90°)	6.16/6.64	7.52/5.82	5.47/4.4	2.63/-0.02	-0.27/-0.24	0.14/1.69	1.35/-0.71	-3.87/-5.66	-2.17/-0.58	0.72/2.63	2.23/2.72	3.41/2.73	4.91/5.23	4.41/3.03	2.84/1.76	2.01/2.02	1.38/1.02	2.52/0.55	1.41/2.68	-0.81/-1.24	0.87/2.27	4.26/3.94	2.3/2.7	3.63/5.26
Θ(97.5°)	4.65/5.46	6.12/5.54	5.59/4.81	3.61/8	2.22/1.4	2.46/5	2.32/1.07	-2.05/-4.48	-3.58/-2.17	-0.82/1.84	2.37/2.76	3.02/2.37	4.72/4.89	3.29/2.78	1.58/2.49	1.83/2.37	1.42/0.88	1.80/1	1.18/0.35	-0.78/1.47	2.18/3.6	3.57/3.49	3.32/2.77	4.29/5.13
Θ(105°)	3.64/5.12	4.93/3.64	3.72/3.55	2.49/1.39	2.89/2.47	1.94/1.34	1.11/1.18	-0.79/-2.89	-3.49/-2.72	-0.07/1.03	0.07/-0.01	-0.08/0.99	2.72/2.96	0.57/-1.07	-3.08/1.21	1.36/0.79	-0.12/-0.47	0.71/1.86	0.89/-0.33	1.86/0.78	2.44/2.45	3.39/2.97	2.91/3.7	3.62/3.79
Θ(112.5°)	1.78/3.4	4.47/3.69	2.42/1.56	1.64/0.17	-0.19/-0.02	-0.79/-0.38	0.61/-0.19	-0.64/-0.75	-2.59/0.05	0.78/1.32	1.59/0.3	-0.56/-0.31	1.47/-0.5	-0.53/-0.35	-0.34/0.24	2.28/2.04	0.93/-0.13	-0.03/3.14	2.19/-0.4	1.71/0.73	0.86/1.53	1.97/3.03	2.3/3.84	3.09/1.66
Θ(120°)	1.73/2.63	3.33/2.12	0.60/16	0.28/0.4	1.42/1.34	-0.86/-1.07	0.70/96	0.60/47	0.02/0.72	1.13/3.05	3.33/1.1	0.43/1.11	-0.88/-0.4	1.67/0.17	1.07/-0.78	1.62/-0.17	0.61/-0.54	2.5/2.25	0.72/-1.26	2.17/2.1	2.94/-0.71	-2.13/-0.99	0.06/2.86	1.16/-2.44
Θ(127.5°)	0.23/1.6	0.65/-1.11	-4.14/-4.8	-1.99/-0.28	0.38/0.84	-1.5/-2.7	-2.61/-1.94	-0.35/0.32	2.1/1.62	1.27/2.37	2.8/1.34	1.86/1.19	0.85											



Freq(Hz)	2.45GPol.	Phi/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°)	-0.71/-7.5	-7.03/-6.78	-6.46/-6.14	-5.85/-5.25	-4.63/-4.12	-3.72/-3.4	-3.09/-2.79	-2.54/-2.38	-2.45/-2.61	-2.82/-3.08	-3.39/-3.81	-4.16/-4.48	-4.76/-4.97	-5.11/-5.31	-5.59/-5.95	-6.14/-6.08	-6.06/-6.96	-5.35/-4.45	-3.8/-3.55	-3.59/-3.86	-4.23/-4.7	-5.2/-5.8	-6.5/-6.97	-7.14/-7.13
Θ(7.5°)	-8.23/-7.1	-7.12/-6.54	-6.02/-6.54	-5.32/-4.9	-4.38/-3.9	-3.48/-3.25	-3.05/-3.23	-2.55/-2.43	-2.49/-2.64	-2.8/-2.97	-3.19/-3.42	-3.58/-3.73	-3.87/-4	-4.08/-4.19	-4.41/-4.67	-4.9/-4.96	-5.06/-4.9	-4.31/-3.54	-3.05/-2.91	-3.02/-3.3	-3.79/-4.56	-5.63/-6.93	-8.34/-9.21	-9.09/-8.56
Θ(15°)	-8.99/-7.95	-6.9/-5.95	-5.14/-4.66	-4.35/-4.02	-3.68/-3.23	-2.77/-2.52	-2.43/-2.33	-2.19/-2.19	-2.43/-2.79	-3.11/-3.4	-3.65/-3.89	-4.08/-4.28	-4.39/-4.45	-4.46/-4.49	-4.63/-4.74	-4.78/-4.69	-4.24/-3.57	-3.15/-3.02	-3.05/-3.15	-3.48/-4.25	-5.58/-7.46	-9.72/-11.48	-11.54/-10.18	
Θ(22.5°)	-9.34/-7	-6.31/-5.18	-4.34/-3.85	-3.51/-3.25	-2.99/-2.66	-2.28/-2.04	-1.98/-1.99	-2.02/-2.15	-2.46/-2.91	-3.39/-3.91	-4.41/-5.01	-5.53/-5.99	-6.21/-6.25	-6.11/-5.86	-5.75/-5.3	-5.43/-5.35	-5.33/-5.27	-4.98/-4.47	-3.97/-3.65	-3.43/-3.36	-3.58/-4.26	-6.51/-7.5	-9.75/-11.92	-12.61/-11.14
Θ(30°)	-11.05/-8.32	-6.19/-47	-3.75/-3.22	-2.91/-2.69	-2.55/-3.27	-2.16/-2.02	-1.94/-1.9	-1.89/-1.94	-2.05/-2.28	-2.63/-3.16	-3.9/-5	-6.35/-7.15	-8.81/-9.3	-9.19/-9.58	-7.78/-6.94	-6.29/-6.03	-5.91/-5.7	-5.48/-5.16	-4.63/-4.03	-3.54/-3.46	-3.79/-4.49	-5.59/-7.22	-9.29/-11.54	-13.92/-13.81
Θ(37.5°)	-14.98/-10.06	-6.97/-5.1	-4.02/-3.54	-3.36/-3.26	-3.19/-3.16	-3.15/-3.15	-2.93/-2.57	-2.09/-1.7	-1.35/-1.1	-1.04/-1.16	-1.71/-2.83	-4.5/-6.84	-8.86/-10.2	-11.81/-11.49	-10.14/-8.58	-7.29/-6.39	-5.65/-4.94	-4.45/-4.2	-3.92/-3.58	-3.48/-3.7	-4.35/-5.13	-5.95/-7.07	-9.71/-11.11	-15.34/-18.6
Θ(45°)	-17.24/-14.25	-10.72/-8.39	-7.14/-6.85	-7.17/-7.59	-7.81/-7.76	-7.55/-7.27	-6.6/-5.38	-3.88/-2.6	-1.7/-1.1	-0.65/-0.4	-0.52/-1.24	-2.69/-4.8	-7.38/-10.1	-12.01/-12.34	-11.19/-9.41	-7.84/-6.76	-5.98/-5.22	-4.58/-4.26	-4.14/-4.15	-4.48/-5.23	-6.22/-6.92	-7.12/-7.78	-9.12/-11.68	-16.36/-18.17
Θ(52.5°)	-18.24/-18.25	-18.23/-14.91	-12.12/-11	-10.87/-10.97	-10.56/-9.38	-7.99/-6.19	-6.05/-5.1	-3.91/-2.76	-1.89/-1.39	-1.04/-0.67	-0.53/-1.06	-2.31/-3.45	-6.64/-8.75	-9.72/-9.6	-8.65/-4.99	-6.55/-6.12	-6.05/-6.1	-6.14/-6.06	-5.94/-6.01	-6.38/-6.68	-6.46/-6.26	-6.43/-7.08	-8.81/-12.25	-18.59/-18.91
Θ(60°)	-12.36/-10.79	-9.78/-8.72	-7.44/-6.82	-7.14/-6	-7.52/-6.82	-5.83/-5.06	-4.57/-4.17	-3.73/-3.24	-2.85/-2.64	-2.32/-1.79	-1.29/-1.37	-2.29/-3.97	-5.8/-11.54	-8.36/-9.18	-7.35/-6.27	-5.51/-5.3	-5.72/-6.85	-8.35/-9.12	-8.75/-7.79	-6.49/-5	-4.18/-4.49	-5.72/-7.42	-9.96/-13.93	-17.3/-15.48
Θ(67.5°)	-14.76/-14.73	-14.71/-13.09	-12.27/-12.59	-14.09/-15.02	-14.46/-13.7	-12.9/-12.07	-11.29/-10.26	-8.79/-7.45	-6.68/-6.37	-6.12/-5.37	-4.48/-4.16	-4.86/-6.52	-8.93/-11.53	-13.39/-13.15	-11.25/-8.83	-6.81/-5.71	-6.69/-6.45	-7.53/-8.49	-8.71/-7.61	-5.84/-5.2	-4.53/-6.17	-6.23/-6.92	-7.17/-7.17	



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

Appendix A

Θ(22°5′)	-5.61/6.58	-7.74/-9.74	-12.67/-14.67	-14.92/-14.94	-16.47/-17.69	-18.93/-18.58	-16.89/-11.59	-7.65/-5.95	-4.94/-4.98	-5.91/-7.46	-9.19/-10.26	-10.13/-9.39	-8.72/-9.58	-11.21/-13.6	-14.99/-14.88	-11.96/-9.81	-8.23/-7.3	-7.29/-7.94	-8.67/-8.91	-8.95/-9.59	-8.43/-7.3	-7.3/-8.03	-8.85/-7.24	-6.61/-5.62
Θ(30°)	-7.12/-6.71	-7.97/-11.47	-14.19/-14.41	-12.51/-11.39	-13.16/-13.41	-14.57/-14.19	-13.59/-14.17	-12.18/-10.48	-8.7/-8.01	-8.19/-10.5	-14.1/-14.15	-17.99/-16.18	-14.6/-17.2	-18.07/-19	-15.36/-14.01	-13.25/-12.69	-10.51/-9.61	-9.37/-8.32	-7.25/-6.9	-8.14/-8.52	-8.23/-7.33	-6.21/-6.03	-6.9/-6.5	-6.27/-6.65
Θ(35°)	-6.64/-6.18	-12.55/-13.58	-11.84/-10.28	-9.25/-10.88	-15.19/-18.24	-15.95/-12.41	-9.17/-7.03	-6.52/-7.49	-8.83/-9.51	-10.03/-12.15	-16.47/-18.9	-18.85/-10.29	-8.15/-9.77	-15.36/-17.94	-12.67/-11.39	-10.51/-9.48	-9.01/-8.06	-7.25/-6.53	-7.34/-8.46	-9.49/-10.51	-9.93/-7.54	-5.55/-4.88	-4.87/-4.68	-4.76/-4.65
Θ(45°)	-11.52/-11.57	-11.69/-9.92	-8.56/-8.02	-10.3/-14.08	-17.79/-18.97	-16.78/-14.48	-17.07/-16.62	-10.38/-8.32	-9.23/-12.36	-13.57/-12.56	-13.05/-16.09	-16.29/-10.37	-6.85/-7.41	-10.47/-9.25	-8.12/-11.17	-18.51/-18.51	-13.75/-9.84	-7.79/-7.26	-7.61/-8.69	-8.17/-6.11	-4.68/-4.5	-6.02/-8.32	-11.68/-16.18	-13.71/-14.34
Θ(52.5°)	-13.44/-19.11	-18.25/-18.57	-14.93/-16.54	-18.58/-18.49	-14.26/-10.32	-8.89/-7.25	-6.6/-7.95	-15.2/-17.45	-10.64/-13.72	-17.7/-13.27	-10.26/-10.25	-11.12/-9.4	-5.63/-6.98	-10.63/-8.79	-7.66/-9.01	-11.69/-12.13	-9.51/-7.21	-5.44/-5.1	-4.27/-5.28	-6.61/-6.73	-5.88/-6.4	-10.05/-15.01	-17.93/-17.47	-17.57/-14.31
Θ(60°)	-14.29/-18.75	-17.54/-18.82	-18.25/-17.83	-18.31/-10.68	-8.89/-9.67	-12.35/-11.74	-8.39/-7.46	-9.45/-16.69	-17.26/-10.47	-14.07/-12.27	-18.25/-10.35	-8.6/-12.34	-11.17/-8.75	-10.35/-7.55	-5.97/-6.67	-11.55/-8.87	-9.44/-9.07	-6.47/-4.19	-5.49/-7.76	-6.33/-5.01	-4.95/-4.14	-5.87/-6.14	-6.51/-8.52	-9.38/-10.74
Θ(67.5°)	-7/-9.06	-10.06/-9.93	-11.15/-11.71	-18.8/-14.22	-12.43/-13.39	-17.99/-16.19	-9.34/-6.78	-7.18/-13.02	-15.31/-10.98	-16.07/-12.3	-12.06/-7.7	-6.06/-10.65	-14.37/-9.55	-10.78/-8.66	-6.5/-6.2	-7/-7.15	-6.93/-5.95	-4.08/-3.5	-5.27/-8.58	-8.92/-8.05	-10.58/-13.43	-12.26/-8.79	-7.1/-7.24	-6.89/-4.92
Θ(75°)	-12.71/-14.65	-14.19/-9.33	-7.4/-8.05	-14.85/-18.44	-17.67/-12.29	-16.46/-19.38	-19.11/-18.17	-18.27/-17.02	-16.43/-19.24	-18.74/-10.32	-6.55/-8.79	-11.56/-17.53	-10.87/-7.58	-10.07/-9.35	-6.15/-4.91	-7.12/-5.82	-7.74/-7.85	-4.38/-3.35	-7.13/-11.07	-11.94/-11.08	-11.73/-16.29	-10.99/-6.32	-6.84/-8.64	-14.57/-13.28
Θ(82.5°)	-18.09/-17.92	-13.23/-9.15	-8.1/-9.05	-11.73/-14.3	-9.47/-8.85	-9.69/-13.6	-19.25/-14.75	-18.24/-17.82	-12.59/-14.48	-11.72/-7.68	-10.35/-12.02	-14.51/-17.01	-9.38/-8.84	-15.18/-12.42	-6.46/-4.32	-2.97/-4.09	-6.29/-5.12	-3.11/-3.2	-7.88/-16.73	-15.6/-14.86	-17.97/-17.18	-12.87/-10.91	-16.65/-17.54	-12.05/-11.6
Θ(90°)	-9.77/-12.99	-18.78/-17.66	-18.03/-13.34	-9.3/-8.64	-11.06/-13.27	-12.18/-17.05	-12.75/-10.59	-13.04/-19.01	-13.26/-18.9	-12.36/-8.11	-10.17/-9.4	-10.27/-11.67	-10.65/-9.81	-16.79/-13.3	-6.82/-4.48	-3.16/-2.98	-4.82/-5.09	-2.47/-2.56	-8.36/-15.95	-13.61/-12.54	-19.13/-14.14	-9.09/-11.37	-14.5/-14.59	-12.39/-11.36
Θ(97.5°)	-9.38/-10.85	-13.83/-16.46	-16.17/-14.93	-18.56/-18.1	-17.52/-17.47	-16.18/-10.47	-18.92/-17.48	-17.04/-17.21	-11.23/-9.4	-17.49/-18.41	-16.54/-13.89	-11.62/-9.59	-18.9/-10.68	-14.79/-17.49	-9.39/-9.46	-7.75/-6.23	-7.05/-7.67	-9.75/-6.93	-11.46/-18.79	-14.17/-11.48	-12.08/-17.41	-17.92/-17.45	-11.98/-10.52	-9.88/-9.99
Θ(105°)	-7.75/-11.51	-13.93/-17.51	-16.41/-17.37	-18.56/-17.51	-17.39/-13.2	-10.82/-12.59	-18.88/-18.25	-13.57/-9.94	-10.58/-9.38	-10.68/-13.71	-10.69/-12.51	-13.57/-10.1	-13.08/-18.82	-17.13/-13.07	-8.39/-9.47	-17.12/-18.24	-13.66/-8.54	-14.08/-17.8	-19.41/-17.53	-16.5/-18.66	-18.79/-17.71	-18.97/-17.91	-12.37/-1.51	-5.14/-5.36
Θ(112.5°)	-9.26/-9.26	-9.38/-15.19	-11.92/-10.7	-11.78/-15.81	-17.59/-15.76	-12.87/-14.22	-18.74/-11.74	-8.33/-9.77	-15.9/-17.46	-18.53/-16.87	-8.61/-9.64	-16.13/-15.34	-14.08/-10.66	-15.28/-16.2	-10.51/-9.25	-5.98/-8.08	-13.61/-17.28	-14.94/-8.99	-15.27/-19.26	-9.26/-9.24	-7.67/-16.53	-9.7/-9.53	-7.22/-12.51	-14.11/-10.65
Θ(120°)	-7.33/-15.15	-14.6/-18.53	-16.82/-12.48	-13.94/-18.74	-15.88/-18.84	-15.26/-18.58	-18.48/-13.97	-15.36/-13.26	-8/-8.57	-12.95/-15.77	-8.86/-7.85	-9.24/-12.32	-17.73/-13.34	-10.86/-18.73	-11.34/-4.47	-7.27/-4.06	-8.94/-16.61	-9.16/-6.67	-9.03/-13.71	-10.03/-9.67	-7.28/-10.66	-14.2/-9.75	-8.5/-4.84	-9.14/-9.75
Θ(127.5°)	-7.38/-10.34	-17.4/-18.54	-18.04/-18.73	-16.76/-14.71	-15.16/-12.71	-16.13/-17.17	-16.96/-12.45	-13.54/-12.32	-7.18/-7.35	-12.73/-18.5	-18.44/-17.85	-17.75/-16.02	-14.51/-6.1	-7.64/-10.21	-6.21/-11.31	-7.81/-6.45	-16.14/-16.17	-9.74/-9.06	-18.15/-17.98	-17.11/-12.03	-17.13/-18.36	-13.2/-14.86	-15.77/-11.09	-7.92/-9.79
Θ(135°)	-18.21/-18.26	-10.68/-9.87	-11.87/-14.7	-18.9/-15.65	-12.3/-8.96	-10.66/-14.52	-16.07/-14.51	-12.61/-10.4	-10/-11.95	-8.6/-5.45	-4.64/-5.58	-7.55/-11.95	-10.34/-5.89	-6.6/-8.87	-12.35/-12.23	-9.13/-13.24	-19.22/-15.11	-17.24/-17.12	-17.56/-15.22	-7.93/-5.81	-11.84/-18.73	-15.8/-14.83	-13.25/-18.22	-17.72/-16.71
Θ(142.5°)	-18.47/-19.12	-16.46/-15.49	-18.58/-18.42	-18.39/-18.65	-16.24/-16.89	-15.33/-16.65	-10.93/-18.71	-13.12/-12.05	-15.24/-14.59	-8.98/-6.36	-5.84/-5.54	-5.29/-6.78	-7.09/-6.32	-7.88/-14.83	-18.87/-18.05	-13.37/-16.02	-18.72/-18.09	-14.69/-11.65	-14.94/-17.42	-13.52/-9.34	-7.53/-13.33	-15.39/-13.33	-11.14/-4.7	-14.76/-13.49
Θ(150°)	-18.51/-18.17	-13.81/-18.95	-17.65/-19.4	-17.78/-17.78	-17.96/-19.4	-19.73/-15.15	-10.15/-7.73	-6.53/-8.56	-5.65/-5.91	-5.66/-6.19	-7.93/-7.8	-8.04/-13.75	-15.55/-10.77	-9.83/-9.4	-8.43/-8.08	-12.06/-19.09	-17.16/-16.12	-9.95/-9.35	-13.71/-15.87	-17.51/-15.52	-1.3/-14.72	-13.14/-9.66	-10.36/-13.09	-14.76/-17.19
Θ(157.5°)	-14.37/-18.46	-15.01/-13.72	-15.73/-17.76	-18.59/-13.83	-13.18/-12.6	-9.8/-8.9	-8.66/-8.82	-8.3/-6.77	-4.96/-4.34	-4.56/-5.76	-7.95/-9.5	-10.53/-12.78	-12.4/-9.77	-8.22/-7.49	-7.59/-8.79	-11.84/-14.48	-12.16/-8.03	-6.38/-7.12	-10.51/-13.83	-11.81/-10.98	-10.51/-13.65	-18.46/-13.09	-10.3/-9.14	-9.19/-10.46
Θ(165°)	-11.19/-12.47	-13.84/-13.93	-12.9/-11.23	-10.21/-9.52	-10.11/-11.5	-10.86/-10.94	-11.76/-11.9	-11.01/-9.61	-8.57/-8.31	-8.91/-8.81	-8.51/-8.2	-8.06/-7.65	-7.13/-6.97	-7.07/-8.01	-9.58/-11.19	-12.96/-11.2	-8.99/-6.98	-6.32/-6.83	-8.53/-12.15	-16.92/-17.69	-18.03/-18.56	-12.62/-8.64	-7.98/-7.41	-7.97/-9.26
Θ(172.5°)	-18.17/-17.64	-18.27/-18.46	-15.3/-14.44	-15.07/-15.23	-16.04/-13.95	-12.21/-11.75	-11.84/-11.11	-10.6/-10.23	-9.87/-11.11	-13.46/-15.46	-13.34/-9.81	-7.55/-9.59	-5.06/-4.76	-4.47/-4.57	-4.76/-5.12	-5.89/-6.23	-6.8/-7.18	-8/-10.09	-13.72/-17.95	-18.01/-16.24	-12.61/-10.83	-10.07/-8.62	-9.3/-11.25	-16.06/-18.03
Θ(180°)	-8.22/-9.69	-11.43/-12.21	-13.29/-13.73	-13.34/-12.16	-11.11/-10.16	-10.62/-12.12	-13.71/-17.66	-16.78/-14.53	-12.56/-12.15	-11.42/-10.51	-8.93/-7.39	-5.95/-4.72	-4.09/-3.64	-3.22/-3.07	-3.21/-3.56	-4.31/-5.26	-7.06/-9.33	-12.33/-15.73	-18.61/-18.12	-18.52/-18.34	-15.64/-13.72	-13.39/-12.47	-10.89/-8.65	
Freq(Hz)	5.3GPol	ThetaAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-10.55/-9.88	-9.05/-9.01	-8.17/-9.22	-9.36/-8.87	-7.57/-7.35	-7.35/-7.38	-7.1/-7.63	-7.37/-7.75	-7.92/-8.18	-8.44/-9.16	-9.42/-9.87	-10.9/-12.06	-13.57/-14.13	-14.19/-14.1	-13.2/-11.34	-9.65/-8.95	-8.37/-7.56	-7.29/-7.18	-7.96/-9	-9.36/-9.63	-9.26/-9.97	-9.91/-12.32	-13.01/-13.31	-12.16/-11.8
Θ(7.5°)	-13.7/-14.75	-15.34/-15.26	-14.77/-14.43	-13.38/-12	-10.27/-9.56	-9.62/-9.01	-8.53/-9.08	-9.12/-9.85	-9.92/-10.25	-10.6/-11.02	-10.73/-10.63	-9.98/-9.45	-9.16/-8.41	-7.85/-7.67	-7.56/-7.35	-7.05/-7.08	-7.22/-6.85	-6.22/-6.38	-7.45/-8.61	-8.77/-8.11	-7.3/-7.11	-6.73/-6.66	-8.95/-10.49	-11.67/-13.07
Θ(15°)	-9.79/-11.3	-12.87/-14.44	-17.51/-18.53	-19.26/-18.02	-17.96/-16.89	-18.19/-17	-14.57/-14.08	-13.44/-14.23	-15.88/-17.59	-16.61/-14.73	-12.95/-14.03	-8.56/-7.15	-6.17/-5.33	-4.97/-4.67	-4.52/-4.53	-5.45/-8.49	-5.54/-63	-7.09/-7.92	-8.95/-10.94	-12.68/-12.39	-11.33/-10.67	-9.26/-8.66	-9.11/-8.82	-9.28/-9.51
Θ(22.5°)	-11.39/-12.61	-12.3/-12.82	-13.04/-12.77	-15.61/-18.16	-18.69/-16.99	-14.96/-13.43	-12.77/-13.77	-14.06/-15.29	-16.65/-18.72	-17.54/-13.63	-11.96/-11.35	-10.44/-9.13	-7.4/-5.97	-5.21/-4.84	-4.99/-5.09	-5.41/-5.91	-6.36/-6.3	-6.33/-6.55	-7.76/-9.05	-10.46/-11.26	-10.22/-10.41	-10.74/-11.95	-12.61/-12.49	-11.78/-11.61
Θ(30°)	-15.25/-15.99	-13.72/-11.91	-10.76/-10.65	-11.8/-12.46	-15.39/-18.1	-18.25/-16.53	-13.66/-13.88	-14.23/-16.48	-19.16/-16.61	-19/-19.32	-15.5/-13.53	-12.82/-11.89	-10.09/-8.16	-6.68/-6.12	-6.38/-6.76	-6.99/-6.56	-6.4/-6.53	-6.46/-6.8	-7.51/-9.28	-10.34/-10.21	-8.27/-7.44	-7.97/-10.13	-11.81/-13.45	-13.79/-15.97
Θ(37.5°)	-13.83/-15.12	-16.64/-13.08	-13.07/-14.91	-11.91/-11.23	-15.12/-18.37	-18.88/-18.32	-17.63/-17.6	-18.1/-15.57	-14.11/-12.62	-11.47/-10.82	-10.12/-9.88	-9.67/-9.81	-10.44/-10.24	-9.44/-8.81	-8.59/-8.26	-7.92/-7.86	-7.43/-7.75	-9.25/-11.38	-12.42/-12.27	-11.88/-11.4	-10.15/-8.25	-8.12/-9.33	-10.3/-11.16	-10.85/-13.54
Θ(45°)	-13.96/-15.47	-18.44/-17.68	-18.35/-18.75	-13.72/-11.23	-11.99/-12.57	-18.81/-17.54	-15.75/-12.07	-12.64/-14.44	-13.44/-11.67	-10.58/-9.17	-6.92/-6.65	-6.83/-6.94	-6.96/-7.63	-8.44/-8.92	-10.93/-14.78	-17.89/-15.96	-13.3/-11.72	-11.49/-10.37	-11.12/-12.81	-13.78/-16.85	-18.29/-19.55	-15.24/-13.14	-12.35/-11.83	-13.61/-14.73
Θ(52.5°)	-8.09/-8.86	-13.88/-17.93	-17.77/-18.94	-11.99/-9.72	-13.37/-19.67	-18.34/-16.9	-13.21/-11.79	-13.46/-10.93	-7.28/-6.53	-6.51/-7.43	-7.39/-7.08	-7.27/-7.05	-8.07/-9.11	-9.74/-9.41	-11.08/-12.63	-15.1/-16.63	-15.72/-14.05	-14.37/-16.4	-15.62/-15.02	-15.71/-18.08	-17.61/-9.95	-9.88/-12.06	-10.23/-9.18	-8.34/-11.73
Θ(60°)	-6.69/-8.37	-8.2/-8.58	-14.74/-16.73	-8.54/-6.61	-7.21/-9.59	-11.22/-9.09	-7.41/-8.44	-12.72/-11.52	-6.52/-9.34	-3.26/-3.88	-4.97/-3.88	-5.31/-8.41	-9.81/-6.37	-6.36/-7.91	-9.96/-8.19	-10.09/-8.4	-8.39/-9.47	-7.13/-4.6	-5.31/-8.55	-11.64/-10.32	-8.8/-8.37	-7.37/-9.65	-9.16/-5.57	-4.2/-4.56
Θ(67.5°)	-1																							



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

Appendix A

Θ(67.5°)	-17.8/-12.27	-8.92/-7.02	-5.65/-5.1	-7.78/-12.57	-12.6/-9.62	-9.94/-13.23	-18.75/-14.62	-15.42/-16.06	-11.64/-10.42	-10.59/-12.48	-11.98/-6.3	-6.83/-10.7	-11.4/-15.94	-16.45/-11.85	-10.35/-8.21	-7.34/-9.09	-9/-4.88	-2.79/-2.43	-4.7/-7.31	-11.29/-17.08	-12.96/-11.54	-11.27/-11.69	-9.11/-8.79	-11.06/-17.09
Θ(75°)	-18.48/-10.25	-8.54/-5.7	-2.79/-1.71	-2.78/-7.66	-12.68/-12.68	-15.45/-18.62	-9.67/-11.41	-17.59/-17.36	-12.28/-13.82	-18.42/-15.63	-14.59/-14.2	-10.27/-11.32	-12.67/-18.46	-18.08/-12.29	-8.59/-6.4	-5.83/-8.58	-7.6/-3.69	-1.61/-0.57	-2.79/-5.47	-8.21/-12.57	-12.59/-13.17	-12.86/-11.74	-10.17/-11.01	-12.35/-18.09
Θ(82.5°)	-17.68/-18.27	-14.69/-10.49	-5.89/-5.64	-5.75/-18.7	-8.46/-7.9	-9.52/-11.27	-17.71/-10.43	-9.34/-16.14	-18.56/-18.97	-6.82/-8.15	-10.12/-13	-16.36/-16.14	-16.92/-18.88	-12.25/-10.27	-8.51/-5.87	-6.19/-5.79	-8.38/-7.14	-1.62/-2.08	-4.35/-6.77	-10.37/-12.97	-12.42/-16.59	-19.16/-11.72	-5.84/-4.29	-6.01/-9.54
Θ(90°)	-12.7/-11.39	-9.47/-6.86	-7.61/-7.26	-5.39/-5.82	-7.98/-10.36	-12.2/-13.19	-9.87/-12.18	-7.55/-7.25	-14.13/-18.74	-18.98/-13.62	-11.39/-12.37	-12.44/-15.91	-19.17/-15.85	-14.15/-10.39	-5.79/-5.38	-4.95/-7.54	-13.25/-9.34	-5.01/-4.78	-7.22/-8.89	-14.2/-16.49	-13.55/-10.62	-9.47/-4.99	-3.41/-4.55	-5.41/-6.25
Θ(97.5°)	-9.84/-7.96	-7.15/-7.92	-9.23/-6.93	-11.02/-12.96	-17.08/-12.36	-12.11/-14.37	-16.79/-12.22	-10.95/-12.11	-18.76/-16.83	-11.85/-14.76	-12.64/-11.05	-8.84/-10.71	-18.59/-16.4	-15.83/-8.49	-8.26/-7.78	-8.58/-6.25	-8.91/-10.3	-10.34/-13.24	-12.99/-10.41	-17.02/-19.41	-14.86/-13.36	-13.48/-5.79	-5.94/-7.05	-6.57/-3.6
Θ(105°)	-10.34/-8.01	-5.73/-4.96	-6.85/-6.95	-8.93/-12.36	-8.93/-8.39	-10.93/-16.64	-16.65/-16.13	-14.1/-17.25	-18.91/-16.92	-9.39/-11.61	-14.17/-13.62	-11.06/-8.92	-14.17/-13.62	-10.5/-18.48	-18.13/-15.41	-10.43/-9.66	-8.77/-19.07	-17.32/-12.21	-16.2/-10.15	-6.58/-9.05	-12.64/-11.63	-16.23/-11.2	-6.04/-5.13	-7.32/-8.61
Θ(112.5°)	-11.53/-9.87	-6.66/-6.06	-7.53/-12.7	-12.6/-14.5	-12.82/-17.79	-16.65/-17.29	-14.18/-9.13	-8.8/-11.46	-15.35/-9.46	-12.26/-18.77	-17.41/-12.18	-18.59/-12.29	-18.72/-16.61	-11.33/-12.54	-7.32/-7.67	-5.32/-9.55	-10.5/-14.86	-12.94/-8.78	-11.73/-7.06	-5.28/-10.04	-9.17/-8.93	-16.1/-15.44	-11.67/-14.68	-13.21/-10.59
Θ(120°)	-13.49/-18.72	-15.52/-18.29	-11.94/-6.07	-7.34/-15.81	-12.62/-18.57	-18.78/-16.81	-18.13/-14.7	-14.08/-19.55	-13.36/-8.54	-7.81/-14.45	-15.12/-12.12	-15.02/-14.55	-19.18/-12.8	-11.07/-9.9	-11.59/-3.95	-4.96/-2.98	-8.72/-17.85	-11.92/-7.85	-11.87/-9.25	-15.39/-7.6	-4.69/-12.75	-18.69/-15.05	-15.84/-10.3	-12.44/-10.31
Θ(127.5°)	-8.79/-13.16	-18.16/-18.17	-13.34/-19.32	-18.03/-13.05	-8.59/-12.68	-15.81/-14.14	-14.29/-15.02	-17.92/-17.57	-14.41/-8.49	-7.07/-11.74	-13.54/-9.19	-18.29/-17.66	-13.75/-14	-7.92/-15.08	-13.51/-9.64	-8.98/-8.32	-19.13/-14.65	-13.48/-11.47	-13.56/-10.1	-5.98/-6.57	-10.22/-12.5	-10.51/-17.98	-13.93/-7.91	-7.65/-9.68
Θ(135°)	-19.25/-18.42	-16.93/-13.05	-18.57/-19.15	-17.78/-12.93	-10.09/-8.27	-10.57/-16.57	-18.07/-18.38	-17.56/-13.16	-11.63/-9.66	-8.33/-8.54	-7.4/-5.46	-5.74/-7.54	-11.33/-14.16	-8.8/-17.65	-17.35/-17.77	-19.16/-18.11	-13.04/-14.88	-7.16/-7.07	-12.91/-14.72	-11.35/-6.22	-5.3/-7.4	-13.66/-13.47	-12.12/-12.39	-12.87/-10.72
Θ(142.5°)	-13.25/-18.37	-18.07/-18.87	-17.38/-12.85	-12.77/-14.95	-17.13/-19.19	-14.08/-10.45	-8.85/-10.19	-10.38/-8.2	-6.09/-5.5	-6.62/-5.03	-5/-6.88	-10.86/-13.96	-10.7/-8.59	-5.67/-8.5	-16.03/-11.82	-9.15/-10.13	-7.68/-6.17	-10.05/-19.39	-14.48/-15.98	-15.94/-14.02	-12.39/-15.34	-15.84/-14.02	-9.74/-7.71	
Θ(150°)	-18.31/-16.54	-18.44/-17.87	-18.33/-19.24	-14.64/-12.33	-10.61/-10.66	-16.34/-17.76	-17.91/-13.67	-15.65/-18.59	-14.28/-11.13	-10.64/-9.12	-8.53/-12.57	-15.55/-17.2	-10.38/-12.28	-10.86/-9.89	-10.25/-9.77	-16.65/-17.96	-17.15/-8.24	-4.77/-8.19	-18.25/-7.76	-5.03/-4.71	-6.63/-7.33	-18.95/-9.44	-11.85/-17.08	-18.66/-18.29
Θ(157.5°)	-18.71/-16.85	-15.82/-16.29	-18.82/-18.56	-18.64/-18.67	-17.39/-18.78	-17.62/-18.57	-16.42/-13.86	-11.66/-10.64	-11.05/-13.64	-18.94/-17.15	-12.87/-12.23	-12.42/-11.51	-7.97/-5.86	-6.4/-10.03	-18.28/-18.26	-17.73/-14.54	-11.87/-9.86	-10.41/-13.67	-7.74/-4.73	-4.89/-5.53	-6.71/-6.63	-5.21/-4.59	-5.17/-6.81	-10.29/-19.18
Θ(165°)	-17.86/-19.27	-16.19/-13.35	-10.58/-9.7	-8.93/-11.57	-13.29/-17.08	-16.72/-16.87	-18.05/-16.97	-12.96/-10.47	-11.33/-14.31	-17.99/-19.05	-16.63/-13.6	-11.26/-9.67	-8.61/-8.36	-9.07/-10.75	-11.92/-12.14	-11.69/-11.07	-10.57/-11.12	-16.31/-18.98	-10.68/-6.31	-4.66/-4.46	-5.09/-5.77	-6.28/-6.97	-8.99/-12.32	-17.07/-18.16
Θ(172.5°)	-18.41/-19.12	-18.25/-19.17	-18.93/-17.71	-18.93/-18.43	-17.61/-19.3	-18.9/-17.88	-18.95/-17.83	-18.35/-16.16	-15.6/-16.28	-15.7/-14.67	-14/-13.26	-12.98/-13.43	-13.23/-13.34	-13.12/-12.57	-11.47/-10.46	-10.07/-9.86	-11.37/-14.58	-18.26/-17.91	-14.36/-8.83	-6.82/-7.3	-8.19/-9.68	-11.57/-12.42	-14.41/-16.23	-17.39/-18.45
Θ(180°)	-9.38/-10.61	-10.53/-10.63	-10.94/-11.62	-12.71/-15.56	-18.51/-18.92	-19.09/-17.87	-18.01/-16.53	-15.04/-13.87	-12.43/-11.65	-10.68/-9.98	-10.08/-10.37	-11.09/-12.43	-13.56/-15.21	-18.22/-18.45	-18.65/-18.87	-19.18/-18.65	-16.76/-15.27	-13.82/-11.34	-9.86/-8.33	-7.64/-6.62	-6.11/-7.03	-8.29/-9.89	-10.85/-11.54	-11.41/-10.23
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°)	-8.07/-7.1	-6.78/-7.52	-7.82/-7.06	-6.7/-7.38	-7.78/-8.38	-8.13/-7.77	-7.56/-7.21	-6.72/-6.65	-6.88/-7.1	-7.07/-6.94	-6.73/-7.03	-7.84/-9.01	-10.09/-11.13	-12.6/-14.67	-17.44/-18.34	-17.38/-13.61	-11.64/-10.28	-9.48/-9.05	-9.15/-9.1	-8.63/-7.79	-7.98/-8.27	-8.95/-9.05	-9.63/-8.89	-8.64/-8.59
Θ(7.5°)	-8.16/-9	-13.39/-16.89	-19.01/-18.12	-18.66/-15.69	-12.63/-10.69	-9.75/-8.12	-6.97/-6.39	-6.37/-6.77	-7.34/-8.05	-8.18/-8	-7.97/-8.1	-8.46/-8.67	-8.25/-7.97	-7.75/-7.47	-6.92/-6.64	-6.07/-6.4	-6.95/-7.19	-7.27/-7.17	-7.07/-7.27	-6.66/-6.81	-7.16/-7.29	-7.29/-7.03	-7.71/-7.39	
Θ(15°)	-6.79/-7.65	-8.8/-11.61	-14.01/-14.22	-18.84/-14.73	-11.03/-8.74	-7.41/-6.27	-5.59/-5.66	-6.29/-7.1	-8.09/-9.1	-9.58/-8.77	-5.96/-5.34	-4.76/-4.61	-4.45/-4.23	-3.79/-3.44	-3.09/-2.79	-2.69/-2.44	-2.61/-2.66	-2.52/-2.64	-3.4/-4.13	-4.19/-4.33	-4.59/-4.51	-5.12/-5.23	-5.53/-6.5	
Θ(22.5°)	-4.24/-3.96	-5.02/-7.29	-9.93/-10.19	-10.08/-13.24	-19.05/-18.38	-19.1/-16.11	-14.23/-14.33	-15.95/-15.65	-13.67/-10.45	-7.9/-5.68	-4.53/-3.81	-3.31/-2.85	-2.63/-2.66	-2.66/-2.38	-2.04/-1.49	-1.21/-1.14	-1.18/-1.14	-1.11/-0.99	-0.63/-0.72	-1.78/-2.77	-3.01/-3.07	-2.63/-2.85	-3.89/-3.89	-4.69/-4.88
Θ(30°)	-3.38/-3.32	-4.25/-4.74	-5.31/-6.18	-6.02/-7.57	-9.54/-11.73	-11.76/-14.4	-18.97/-18.39	-17.46/-10.98	-12.65/-8.13	-4.84/-6.22	-2.02/-2.11	-2.4/-2.14	-1.91/-2.19	-3/-3.94	-3.75/-2.19	-1.51/-1.42	-1.03/-0.56	-0.55/-0.84	-0.97/-1.57	-2.05/-1.98	-2.37/-2	-1.43/-1.96	-3.65/-4.44	-5.07/-4.36
Θ(37.5°)	-5.48/-6.56	-6.9/-8.14	-9.9/-10.27	-7.64/-8.41	-9.74/-9.72	-10.98/-12.86	-18.46/-18.37	-18.32/-15.48	-10.08/-6.4	-2.22/-8.87	-1.68/-0.61	-0.31/-0.56	-0.66/-0.55	-1.03/-2.21	-2.96/-2.86	-2.39/-2.15	-2.08/-2.05	-1.95/-0.75	-0.75/-1.39	-1.8/-1.82	-2.31/-3.67	-4.39/-3.98	-2.71/-2.53	-3.44/-6.47
Θ(45°)	-5.39/-4.94	-6.44/-7.38	-6.68/-6.51	-4.94/-5.06	-6.34/-7.48	-10.34/-15.81	-12.27/-9.76	-9.48/-8.21	-6.62/-5.65	-5.2/-4.34	-2.59/-0.96	-1.12/-2.19	-2.7/-2.12	-1.93/-3.51	-5.08/-5.11	-6.92/-6.24	-6.99/-5.89	-4.76/-4.85	-4.39/-3.44	-4.07/-4.84	-4.95/-6.08	-7.66/-6.9	-5.52/-6.68	-7.45/-3.6
Θ(52.5°)	-6.66/-5.76	-6.83/-9.43	-11.47/-14.78	-17.56/-16.35	-11.19/-14	-8.91/-10.8	-10.58/-7.79	-5.6/-5.07	-5.32/-5.14	-5.45/-5.25	-3.5/-2.7	-2.78/-3.4	-5.39/-5.82	-3.45/-4.06	-7.48/-6.9	-11.41/-11.05	-7.06/-5.07	-5.16/-6.29	-7.55/-7.37	-6.69/-7.39	-7.62/-7.38	-9.49/-9.53	-8.03/-7.65	-7.93/-8.16
Θ(60°)	-9.03/-7.4	-7.35/-8.59	-6.8/-8.38	-9.54/-9.08	-7.84/-7.12	-7.02/-10.02	-10.89/-7.62	-5.01/-4.82	-5.02/-3.62	-2.93/-3.55	-2.81/-4.03	-5.61/-4.03	-5.9/-3.99	-5.62/-5.39	-11.9/-12.47	-11.31/-16.84	-13.31/-7.55	-6.59/-6.12	-7.21/-8.01	-7.55/-10.72	-14.49/-10.21	-9.86/-11.38	-11.11/-14.3	-8.42/-6.97
Θ(67.5°)	-7.41/-6.11	-4.92/-7.88	-5.89/-7.67	-5.45/-6.68	-6.24/-4.93	-5.04/-8.2	-9.47/-8.95	-6.5/-6.74	-7.44/-5.4	-3.89/-3.1	-3.55/-4.62	-6.04/-3.19	-7.19/-5.85	-4.92/-5.09	-8.28/-5.75	-8.27/-8.22	-7.42/-8.83	-5.32/-9.3	-6.28/-4.43	-6.59/-6.69	-7.27/-6.41	-4.18/-6.08	-9.57/-9.38	-4.84/-4.41
Θ(75°)	-5.36/-4.35	-2.24/-5.98	-4.32/-9.59	-7.18/-9.92	-7.31/-7.33	-9.81/-14.41	-17.85/-19.35	-12.48/-15.05	-17.55/-13.53	-13.33/-9.47	-5.93/-3.59	-5.25/-7.77	-1.78/-2.16	-4.23/-4.07	-3.18/-1.4	-1.62/-0.83	-3/-3.32	-3.89/-3.98	-4.14/-3.25	-3.74/-1.93	-3.38/-5.23	-3.55/-3.53	-5.31/-4.04	-2.23/-1.29
Θ(82.5°)	-4.99/-3.81	-10.3/-6.2	-4.13/-3.65	-3.9/-10.45	-12.96/-7.61	-14.64/-18.47	-18.33/-17.48	-9.71/-7.06	-8.66/-15.44	-17.96/-10.42	-5/-2.08	-4.61/-13.16	-2.34/-0.99	-2.01/-1.89	0.2408	0.49149	-1.56/-3.41	-0.7/-3.51	-3.55/-1.12	-2.71/-1.93	-1.3/-1.93	-1.93/-1.48	-1.62/-1.02	-0.221/-15
Θ(90°)	-0.221/64	3.590/46	1.130/21	-1.24/-8.09	-6.22/-4.67	-11.95/-10.1	-12.6/-14.23	-17.97/-19.63	-8.67/-12.92	-13.52/-4.93	-6.3/-2.17	-2.52/-10.11	-2.670/44	-0.05/-0.67	-0.57/-0.36	1.361/67	-1.52/-3.07	1.380/65	0.421/77	-2.31/-1.52	0.980/98	0.090/12	0.06/-1.03	-0.84/-47
Θ(97.5°)	-1.741/-42	1.65/-0.72	0.53/-1.4	-3.29/-6.31	-3.54/-2.73	-4.14/-4.08	-5.65/-6.27	-8.76/-11.63	-12.51/-8.17	-8.08/-4.73	-4.2/-2.32	-3.35/-4.58	-0.440/81	-1.38/-3.11	-3.360/71	0.750/93	-3.72/-2.2	2.741/23	2.32/79	-1.67/-0.86	2.252/9	2.42/-0.48	0.65/-0.29	1.120/44
Θ(105°)	-6.4/-0.42	-1.04/-1.31	0.23/-0.05	-2.33/-5.69	-2.93/-0.13	-1.43/-5.39	-9.33/-9.55	-17.18/-16.03	-9.94/-9.62	-5.79/-5.7	-8.65/-4.46	-3.77/-5.9	-1.72/-1.08	-2.66/-6.84	-9.08/-1.28	1.692/25	-1.72/-1.74	1.341/81	2.561/48	0.29/-0.01	2.431/93	1.16/-3.14	-2.650/73	0.61/-3.08
Θ(112.5°)	-15.19/-6.42	-1.97/-0.8	-0.59/-0.61	-1.26/-7.09	-11.38/-8.88	-14.74/-16.24	-10.4/-13.04	-10.41/-10.01	-16.59/-3.88	-1.88/-3.38	-3.16/-5.32	-9.87/-4.36	-5.33/-6.3	-5.37/-8.5	-18.54/-6.43	1.482/16	-0.29/-2.62	-0.65/-3.39	-2.93/-0.91	-0.46/-0.24	2.571/74			



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

Appendix A

Θ(112.5°)	-11.55/-12.35	-12.81/-16.32	-13.54/-13.54	-11.8/-13.18	-17.25/-18.25	-16.3/-10.37	-7.7/-6.62	-5.02/-4.56	-4.54/-6.52	-7.56/-10.37	-17.2/-14.47	-8.25/-8.49	-10.92/-10.53	-12.67/-18.17	-18.13/-15.61	-18.12/-8.69	-16.91/-18.8	-13.81/-19.75	-18.99/-19.03	-18.32/-17.63	-18.99/-13.25	-12.33/-9.56	-12.56/-10.45	-9.78/-10.72
Θ(120°)	-18.66/-15.21	-18.22/-17.52	-18.88/-18.17	-15.38/-13.38	-16.51/-18.44	-18.68/-17.48	-14.19/-9.18	-7.21/-6.94	-8.89/-12.82	-15.06/-11.72	-18.21/-16.61	-15.23/-18.18	-11.46/-9	-18.5/-18.52	-10.32/-10.56	-7.29/-15.7	-12.05/-17.91	-12.41/-13.83	-17.89/-18.96	-13.95/-17.67	-10.7/-9.36	-10.59/-7.55	-8.95/-7.34	-12.62/-17.77
Θ(127.5°)	-19/-16.98	-10.93/-8.92	-9.51/-11.94	-15.85/-18.35	-18.02/-18.5	-17.58/-16.8	-18.07/-16.37	-13.95/-13.44	-13.18/-15.06	-16.14/-11.19	-9.36/-12.27	-18/-11.89	-7.93/-13.22	-17.21/-12.25	-14.87/-8.05	-3.88/-7.01	-8.09/-17.75	-15.65/-10.06	-13.26/-18.03	-12.48/-12.89	-14.57/-10.25	-13.4/-16.71	-18.36/-13.03	-14.61/-18.68
Θ(135°)	-17.78/-18.73	-17.44/-18.56	-19.14/-17.22	-13.02/-10.5	-9.94/-10.41	-9.99/-10.42	-11.95/-12.56	-12.43/-11.68	-12.08/-14.42	-18.31/-18.82	-17.98/-18.19	-9.27/-5.85	-7.66/-18.01	-6.2/-4.05	-5.52/-8.3	-10.29/-8.76	-15.3/-8.25	-6.39/-6.31	-8.05/-9.32	-9.72/-12.07	-12.51/-11.76	-9.28/-9.26	-12.78/-17.59	-19.14/-16.43
Θ(142.5°)	-11.03/-15.4	-18.58/-18.08	-18.72/-16.41	-12.35/-9.99	-9.12/-9.14	-9.65/-9.6	-9.79/-10.59	-11.68/-13.44	-12.92/-10.02	-8.77/-10.61	-17.86/-16	-10.26/-8.25	-10.5/-7.62	-4.21/-3.85	-5.81/-10.15	-5.9/-5.15	-12.17/-19.17	-13.51/-8.25	-9.15/-15.31	-18.3/-18.92	-18.12/-16.51	-10.25/-15.66	-14.4/-15.28	-13.87/-11.22
Θ(150°)	-8.72/-8.21	-7.5/-5.81	-14.81/-14	-15.16/-12.45	-14.14/-8.85	-8.08/-7.42	-6.9/-6.43	-6.38/-6.64	-7.27/-8.43	-10.9/-17.61	-19.21/-10.76	-7.28/-6.84	-11.98/-11.69	-7.03/-6.61	-9.42/-10.14	-10.82/-15.24	-15.92/-11.82	-9.39/-8.31	-7.64/-7.83	-9.9/-12.48	-9.05/-9.5	-14.5/-12.49	-14.05/-9.5	
Θ(157.5°)	-9.72/-8.07	-6.56/-6.22	-6.74/-8.29	-12.38/-18.88	-15.95/-10.9	-8.85/-7.82	-7.44/-7.38	-7.63/-8.39	-9.68/-12.21	-18.72/-17.62	-18.99/-18.1	-18.84/-18.5	-17.45/-13.44	-11.42/-11.5	-11.53/-12.45	-15.73/-18.97	-18.32/-17.65	-19.17/-12.29	-10.49/-13.15	-17.37/-15.2	-9.8/-8.24	-7.35/-7.22	-8.69/-10.92	-12.39/-10.67
Θ(165°)	-11.86/-8.74	-6.53/-5.26	-5.31/-6.09	-7.82/-10.7	-13.85/-18.28	-19.41/-18.95	-17.74/-18.3	-15.52/-14.75	-15.1/-16.03	-17.75/-18.48	-18.49/-18.61	-18.97/-18.32	-17.79/-16.91	-15.95/-16.26	-15.77/-13.44	-11.93/-10.97	-11.3/-12.82	-14.94/-15.55	-17.02/-18.83	-14.87/-10.24	-8.17/-8.71	-8.16/-9.13	-12.11/-14.78	-14.23/-13.21
Θ(172.5°)	-9.47/-8.37	-7.55/-7.28	-7.03/-6.96	-7.11/-7.97	-9.03/-9.63	-9.7/-10.31	-11.05/-11.53	-11.62/-11.07	-10.37/-10.34	-11.38/-13.21	-15.25/-16.69	-18.78/-19.22	-19.05/-17.76	-14.17/-11.43	-9.39/-8.16	-7.41/-7.26	-7.93/-9.03	-9.96/-11.03	-11.69/-11.81	-11.58/-11.88	-12.92/-15.1	-17.23/-17.91	-17.64/-14.31	-11.26/-9.81
Θ(180°)	-11.29/-10.8	-10.63/-10.78	-10.4/-9.96	-9.87/-10.54	-10.99/-11.37	-11.85/-12.9	-14.26/-15.05	-15.02/-14.05	-12.88/-12.19	-12.49/-13.78	-15.48/-17.5	-18.34/-18.43	-19.01/-17.39	-18.13/-18.74	-16.15/-15.55	-15.82/-16.52	-16.81/-15.56	-14.12/-13.48	-13.61/-14.2	-15.67/-18.06	-18.43/-19.39	-16.58/-15.21	-13.88/-12.54	-11.58/-10.71
Freq(Hz)	5.2GPol.	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-7.26/-7.92	-9.24/-10.68	-11.56/-12.79	-13.98/-16.46	-19.1/-18.57	-19.27/-18.69	-16.01/-13.99	-11.37/-9.31	-8.36/-8.11	-8.15/-7.97	-7.96/-8.02	-8.28/-8.72	-10.1/-11.55	-12.72/-13.29	-12.6/-12.26	-12.15/-12.88	-14.96/-16.69	-15.98/-14.71	-13.42/-12.51	-11.49/-10.77	-9.87/-9.01	-8.2/-7.49	-6.86/-6.66	-6.71/-6.63
Θ(7.5°)	-9.99/-9.99	-10.37/-11.14	-11.45/-11.55	-11/-10.52	-10.6/-11.36	-12.51/-13.41	-13.38/-12.69	-12.29/-11.49	-10.35/-9.27	-8.11/-7.38	-6.71/-6.5	-6.68/-7.48	-8.36/-9.47	-10.05/-10.64	-11.37/-12.52	-13.71/-15.46	-18.47/-18.04	-18.88/-18.36	-14.41/-12.19	-10.73/-9.44	-8.83/-8.6	-8.31/-8.31	-8.16/-8.7	-9.21/-9.71
Θ(15°)	-16.01/-15.19	-14.51/-13.67	-14.16/-14.18	-13.22/-12.64	-13.12/-14.77	-16.72/-16.98	-15.69/-15.12	-14.49/-14.53	-13.26/-11.24	-9.49/-8.1	-7.14/-6.73	-6.92/-7.23	-7.86/-8.62	-9.07/-9.31	-9.28/-9.63	-10.08/-11.14	-13.35/-17.45	-18.94/-16.14	-11.02/-8.56	-7.16/-6.39	-5.97/-5.76	-6.52/-6.46	-9.08/-10.59	-18.31/-16.46
Θ(22.5°)	-17.29/-17.81	-18.92/-19.11	-19.38/-17.05	-15.5/-16.57	-19.16/-18.9	-18.5/-14.8	-12.7/-11.76	-12.05/-13.15	-13.94/-13.16	-11.27/-10.05	-8.66/-10.18	-10.55/-11.64	-12.79/-14.93	-19.17/-18.7	-18.55/-18.69	-17.88/-17	-16.44/-16.14	-16.32/-14.08	-11.3/-9.29	-8.31/-7.52	-6.58/-5.75	-5.34/-5.88	-7.21/-9.26	-13.88/-18.17
Θ(30°)	-10.99/-12.23	-14.67/-15.37	-15.67/-16.13	-16.15/-16.18	-15.5/-12.48	-11.32/-11.35	-11.64/-11.98	-11.55/-13.4	-11.11/-11.21	-9.9/-8.67	-9.17/-11.71	-16.23/-19.3	-15.51/-11.39	-11.01/-12.89	-16.78/-18.81	-10.75/-16.87	-15.05/-15	-15.71/-14.16	-14.15/-13.81	-12.08/-9.5	-8.38/-8.31	-7.93/-7.57	-7.51/-8.06	-9.38/-10.25
Θ(37.5°)	-7.16/-6.12	-7.57/-8.63	-9.21/-11.16	-11.5/-10.06	-8.48/-12.98	-6.75/-7.36	-8.08/-8.36	-8.81/-8.93	-9.23/-9.78	-8.27/-11.1	-5.15/-5.95	-9.77/-16.87	-10.18/-14.71	-6.83/-9.16	-9.77/-10.83	-12.61/-10.31	-12.91/-13.78	-12.4/-14.36	-16.96/-15.9	-12.99/-11.73	-8.38/-6.27	-6.01/-6.92	-7.78/-8.48	-7.83/-7.33
Θ(45°)	-4.58/-4.18	-4.97/-6.92	-7.62/-8.79	-7.66/-6.39	-5.69/-5.1	-5.29/-6.04	-7.03/-7.43	-7.28/-7.27	-7.91/-9.23	-10.66/-9.23	-6.25/-5.3	-7.15/-9.57	-5.78/-2.32	-2.46/-4.34	-6.23/-8.45	-10.12/-13.4	-15.99/-14.28	-11.47/-8.43	-6.79/-8.52	-12.13/-11.37	-8.88/-6.88	-5.27/-5.18	-5.08/-5.7	-5.35/-4.3
Θ(52.5°)	-1.38/-0.65	-1.75/-4.06	-6.53/-6.71	-4.64/-3.51	-2.82/-3.57	-5.72/-6.41	-7.22/-8.79	-6.63/-10.53	-9.61/-8.45	-7.14/-6.43	-3.72/-2.92	-4.15/-1.78	-4.5/-2.47	-3.11/-5.75	-9.64/-9.58	-9.02/-11.67	-18.29/-17.9	-13.44/-10.99	-9.35/-7.33	-5.58/-8.69	-5.89/-6.06	-5.27/-4.88	-6.06/-6.4	-4.73/-2.63
Θ(60°)	-1.06/-0.43	-1.32/-3.81	-5.38/-4.47	-2.36/-1	-0.11/-0.5	-1.18/-1.68	-2.38/-3.07	-3.57/-4.14	-3.67/-2.74	-4.73/-4.27	-5.55/-4.39	-3.08/-4.57	-4.61/-2.74	-2.02/-3.22	-6.96/-3.18	-3.64/-8.03	-0.145/-13.72	-12.83/-9.81	-7.59/-5.39	-3.11/-3.09	-3.37/-5.04	-6.4/-6.36	-4.21/-4	-3.79/-3.2
Θ(67.5°)	-1.08/-0.39	-1.09/-3.36	-4.19/-3.81	-3.11/-1.83	-1.48/-0.79	0.260/-4.7	0.18/-0.44	-1.69/-2.89	-5.5/-4.44	-3.29/-1.6	-2.87/-3.59	-2.47/-3.71	-2.66/-1.98	-1.62/-5.28	-4.94/-3.47	-7.67/-17.82	-9.01/-7.85	-10.93/-8.89	-3.66/-1.41	-0.98/-1.61	-2.76/-4.78	-6.88/-7.85	-4.05/-1.73	-0.68/-1.19
Θ(75°)	-0.36/-0.83	-0.74/-2.01	-1.92/-1.68	-1.85/-1.58	-1.080/-46	1.5/-1.93	1.520/-77	0.05/-0.12	-0.66/-1.56	-1.97/-1.45	-1.68/-2.49	-1.95/-0.59	-8.89/-3.13	-2.41/-7.16	-10.07/-7.87	-7.41/-5.93	-6.66/-10.53	-18.42/-9.07	-5.66/-3.81	-0.99/-0.85	-3.31/-8.35	-9.6/-5.71	-3.68/-0.12	1.640/-89
Θ(82.5°)	-0.43/-0.53	0.36/-0.08	-0.39/-0.5	0.270/-2.2	0.21/-2	1.95/-87	1.220/-74	0.650/-96	1.35/-17	0.93/-124	-2.45/-2.67	-0.750/-61	0.53/-34	-4.01/-12.48	-18.93/-10.88	-4.96/-2.66	-15.00/-11.57	-7.66/-3.63	-1.99/-2.4	-6.75/-13.5	-4.5/-2	-1.72/-0.03	2.22/-74	
Θ(90°)	1.140/-87	1.31/-23	0.550/-48	0.230/-0.5	0.270/-8	1.01/-108	1.080/-76	0.230/-14	1.32/-15	1.59/-0.74	-0.59/-0.85	-3.5/-0.4	1.24/-3.15	-4.01/-6.98	-17/-12.17	-7.85/-3.04	-7.03/-11.51	-6.41/-4.37	-3.73/-1.35	-2.08/-4.34	-14.76/-5.89	-1.260/-0.8	-0.25/-0.88	1.54/-68
Θ(97.5°)	0.490/-59	2.071/-75	1.070/-69	0.930/-81	0.530/-18	0.490/-19	0.110/-1	0.09/-0.17	0.160/-55	1.34/-1.01	-2/-0.02	-1.14/-2.29	-0.98/-1.47	-4.15/-6.25	-7.11/-14.65	-18.34/-11.99	-7.61/-5.48	-12.48/-12.55	-10.64/-6.29	-2.89/-4.58	-10.89/-6.39	-0.78/-1.23	-0.720/-39	0.280/-4
Θ(105°)	0.660/-43	0.321/-06	1.61/-62	1.44/-39	1.76/-177	1.571/-25	0.23/-18	-1.63/-1.91	-1.27/-0.81	-2.89/-0.52	-1.45/-4.1	-1.94/-2.04	-6.59/-8.52	-11.51/-11.23	-18.22/-15.68	-9.77/-17.37	-10.84/-8.04	-8.6/-13.18	-8.87/-7.13	-8.09/-7.76	-11.73/-3.03	-1.010/-82	0.64/-23	
Θ(112.5°)	-1.96/-1.43	-0.37/-0.47	0.46/-1.08	1.08/-1.55	0.86/-1.36	0.840/-61	0.18/-0.83	-1.79/-3.1	-3.54/-3.78	-2.22/-3.87	-5.28/-3.12	-4.39/-5.52	-4.67/-3.78	-7.08/-5.97	-9.69/-4.59	-11.41/-15.23	-3.91/-7.53	-8.96/-6.57	-9.15/-10.83	-5.07/-7.71	-3.81/-19.4	-8.08/-2.11	-4.060/-0.1	-1.37/-2.16
Θ(120°)	-3.05/-2.1	-2.57/-1.5	-1.310/-48	1.41/-44	0.53/-0.92	-1.05/-1.72	-1.91/-1.72	-1.92/-2.2	-3.24/-3.5	-3.63/-5.41	-5.93/-4.22	-3.85/-6.4	-5.27/-4.08	-9.98/-8.04	-15.78/-10.83	-10.33/-7.31	-5.56/-5.77	-10.29/-11	-15.88/-9.01	-10.11/-10.57	-4.27/-2.77	-5.86/-6.48	-9.6/-2.42	-3.1/-1.28
Θ(127.5°)	-5.01/-4.1	-3.02/-2.86	-3.22/-1.38	-0.41/-0.13	-0.65/-1.92	-3.22/-2.76	-2.27/-1.96	-1.73/-2.23	-2.44/-2.44	-3.59/-4.9	-3.78/-2.88	-4.05/-5.65	-2.84/-3.99	-7.12/-13.87	-10.26/-10.34	-18.62/-4.93	-10.92/-57	-6.87/-8.22	-19.22/-14.25	-7.45/-6.39	-5.44/-8.36	-6.82/-8.98	-9.34/-9.94	-6.84/-6.45
Θ(135°)	-14.71/-7.77	-3.95/-2.25	-2.17/-2.13	-1.47/-0.58	-0.85/-1.27	-1.6/-2.41	-2.37/-1.74	-1.46/-1.17	-0.71/-2.3	-2.29/-2.73	-1.85/-1.11	-2.16/-4.38	-3.97/-3.63	-5.18/-6.23	-7.39/-10.11	-10.84/-15.29	-10.82/-6.95	-11.02/-12.69	-18.06/-11.78	-15.94/-18.12	-17.77/-2.75	-4.78/-6.96	-9.87/-17.51	
Θ(142.5°)	-11.3/-9.02	-5.76/-4.41	-4.28/-3.94	-3.58/-2.06	-1.68/-2.67	-3.6/-4.22	-4.07/-3.79	-3.44/-3.78	-4.68/-5.12	-3.71/-1.52	0.090/-89	0.37/-1.13	-3.09/-5.64	-6.68/-11.94	-10.15/-0.6	-5/-8.4	-8.67/-5.71	-7.55/-15.1	-18.17/-14.15	-13.11/-18.1	-14.9/-10.83	-9.99/-7.98	-8.18/-7.72	-8.93/-11.35
Θ(150°)	-10.4/-9.16	-6.96/-5.47	-4.66/-3.94	-3.77/-3.74	-3.31/-2.87	-3.28/-3.67	-4.15/-4.64	-5.53/-6.69	-8.74/-11.07	-9.67/-6.69	-4.57/-3.96	-5.29/-4.59	-4.55/-4.19	-2.98/-2.98	-4.35/-5.51	-12.89/-11.66	-16.28/-18.17	-14.48/-13.93	-13.29/-13.36	-12.5/-9.25	-7.97/-7.33	-6.71/-6.69	-7.16/-9.31	
Θ(157.5°)	-11.08/-6.79	-4.54/-2.91	-2.09/-1.71	-1.62/-1.74	-2.51/-3.54	-4.22/-5.58	-7.51/-9.66	-13.54/-17.98	-17.43/-10.33	-7.36/-6.33	-6.91/-8.67	-17.03/-14.53	-17.65/-16.08	-15.59/-15.67	-13.31/-13.03	-12.96/-9.51	-8.11/-9.75	-15.26/-17.71	-16.74/-14.69	-14.32/-13.52	-14.09/-17.01	-17.79/-17.68	-16.71/-18.87	-14.84/-14.7



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

Appendix A

Θ(165°)	-8.62/-6.67	-6.24/-6.94	-8.8/-12.18	-17.95/-17.54	-13.52/-9.3	-6.87/-6.35	-6.7/-7.09	-7.56/-8.13	-8.27/-8.25	-8.09/-7.71	-7.24/-7.15	-7.83/-9.67	-12.34/-14.93	-15.98/-13.42	-11.09/-10.47	-10.44/-8.16	-6.19/-6.48	-8.64/-11.48	-13.15/-14.02	-13.42/-12.79	-13.31/-14.95	-18.68/-18.93	-17.72/-18.63	-15.37/-10.79
Θ(172.5°)	-6.42/-4.65	-3.92/-3.81	-4.47/-5.66	-6.9/-9.64	-12.66/-14.8	-15.04/-13.87	-13.02/-12.92	-12.24/-10.54	-8.71/-7.78	-8.12/-9.58	-11.62/-13.54	-16.96/-18.66	-17.56/-17.53	-11.69/-8.43	-6.13/-5.22	-4.7/-4.62	-5.46/-7.7	-11.08/-13.23	-12.77/-13.77	-15.96/-18.13	-18.51/-17.61	-14.36/-12.18	-11.07/-10.33	-8.59/-7.37
Θ(180°)	-5.03/-4.86	-5.21/-5.68	-1.98/-0.84	-6.27/-11.41	-12.34/-11.34	-10.87/-10.63	-10.19/-9.39	-8.67/-11.41	-9.42/-11.63	-15.2/-19.15	-18.5/-18.02	-14.54/-12.05	-10.64/-9.47	-8.41/-7.71	-8.01/-8.57	-9.26/-9.58	-10.81/-11.22	-10.62/-9.35	-10.01/-12.61	-17.41/-19.11	-18.64/-16.65	-12.82/-10.36	-8.45/-6.58	-4.94/-4.62
Freq(Hz)	5.66GPol	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°)	-8.76/-8.1	-7.92/-7.49	-6.85/-6.57	-7.7/-7.6	-9.55/-11.67	-11.77/-12.07	-11.28/-10.4	-9.73/-9.72	-10.15/-11.36	-11.92/-11.46	-10.55/-9.86	-9.81/-9.82	-9.25/-8.67	-7.79/-7.29	-8.04/-8.39	-8.2/-7.57	-7.55/-8.41	-10.15/-11.84	-12.25/-11.56	-10.62/-8.88	-8.04/-7.62	-7.43/-7.94	-	-
Θ(7.5°)	-10.64/-10.38	-10.33/-10.19	-10.39/-9.99	-9.67/-9.43	-9.94/-10.69	-12.23/-12.03	-11.07/-10.39	-9.49/-9.17	-10.01/-10.59	-10.6/-9.71	-8.48/-7.99	-7.65/-7.47	-7.38/-7.05	-6.65/-6.6	-6.66/-6.97	-7.46/-8.48	-9.76/-10.52	-11.49/-13.18	-14.31/-13.25	-12.18/-12.14	-11.92/-10.44	-9.19/-9.34	-10.26/-11.46	-11.87/-11.45
Θ(15°)	-6.21/-6.07	-6.9/-7.99	-8.55/-9.09	-10/-10.32	-9.75/-9.46	-9.23/-8.6	-7.52/-6.68	-6.13/-6.25	-6.15/-6.42	-6.46/-6.67	-6.51/-6.08	-5.61/-4.94	-4.41/-3.79	-3.43/-3.14	-3.24/-3.92	-5.51/-8.05	-11.79/-16.01	-18.74/-18.54	-17.69/-16.78	-12.62/-11.05	-9.08/-7.17	-6.21/-6.46	-7.66/-9.29	-8.08/-6.37
Θ(22.5°)	-3.4/-3.65	-4.42/-5.39	-5.8/-6.16	-7.1/-8.12	-10.63/-14.73	-15.8/-11.92	-8.69/-7.25	-6.01/-5.47	-5.17/-5.03	-5.02/-5.07	-5.17/-5.36	-4.87/-3.94	-3.37/-3.82	-4.43/-4.64	-4.72/-5.28	-6.69/-8.04	-10.41/-15.51	-17.46/-18.95	-17.42/-14.61	-11.85/-9.77	-7.92/-6.37	-5.44/-5.26	-5.23/-4.55	-2.82/-2.62
Θ(30°)	-3.66/-3.74	-3.37/-3.32	-3.16/-4.04	-6.45/-10.34	-17.27/-18.04	-18.8/-18.35	-15.71/-12.54	-10.73/-7.97	-5.08/-3.37	-2.49/-2.58	-3.52/-5.04	-6.76/-24.9	-12.25/-13.43	-11.39/-8.53	-7.23/-6.17	-5.49/-6.59	-8.65/-10.44	-11.54/-12.9	-12.18/-8.61	-6/-4.69	-3.35/-3.21	-3.29/-2.72	-3.46/-4.36	-2.69/-2.58
Θ(37.5°)	-5.99/-7.86	-6.87/-6.67	-7.02/-10.3	-10.87/-9.11	-10.1/-13.68	-17.03/-13.61	-10.07/-7.97	-6.37/-5.03	-3.34/-2.19	-1.65/-1.96	-3.02/-3.38	-4.66/-6.31	-8.22/-12.08	-12.95/-11.92	-10.16/-9.09	-9.39/-8.97	-9.49/-10.48	-9.45/-9.02	-7.84/-9.48	-2.59/-1.29	-0.6/-0.81	-2.75/-3.7	-3.68/-5.18	-3.56/-3.46
Θ(45°)	-6/-7.45	-7.55/-8.21	-11.72/-18.45	-12.41/-9.61	-8.57/-11.58	-18.62/-14.31	-8.17/-4.87	-3.02/-2.88	-3.55/-3.8	-4.88/-1.18	-1.6/-2.08	-1.95/-3.47	-6.47/-8.25	-7.43/-8.63	-6.45/-8.44	-8.92/-15.03	-18.96/-12.26	-10.61/-14.5	-18.88/-11.57	-5.12/-2.39	-2.31/-2.2	-2.82/-6.57	-	-
Θ(52.5°)	-10.5/-12.57	-8.76/-7.68	-10.53/-19.24	-18.57/-14.7	-12.53/-10.6	-10.26/-9.75	-6.99/-4.54	-2.66/-1.99	-2.41/-3.84	-4.84/-3.19	-3.29/-2.98	-1.46/-3.48	-7.21/-5.6	-2.14/-2.53	-4.74/-5.42	-7.8/-11.34	-16.16/-12.26	-15.22/-10.79	-5.15/-2.6	-3.05/-2.54	-2.25/-3.66	-5.87/-12.07	-19.4/-10.31	-8.31/-7.2
Θ(60°)	-3.74/-4.98	-3.49/-3.57	-5.95/-11.58	-14.24/-13.82	-11.32/-7.84	-6.09/-6.05	-5.09/-3.52	-2.51/-2.22	-2.79/-4.63	-6.5/-5.12	-4.95/-3.27	-1.26/-1.08	-3.88/-4.02	-3.06/-3.62	-4.73/-3.7	-3.25/-4.1	-8.73/-16.27	-16.01/-9.82	-6.19/-3.44	-2.53/-9.02	-0.93/-6.23	-6.03/-11.73	-8.7/-3.6	-1.69/-2.32
Θ(67.5°)	-1.65/-0.85	-0.050/0.3	-1.43/-4	-6.27/-6.32	-1.83/-9.45	-3.52/-2.88	-2.13/-1.73	-1.52/-1.73	-0.93/-1.72	-2.07/-2.35	-2.52/-1.82	-1.83/-1.22	-2.66/-3.37	-1.7/-3.02	-3.77/-4.91	-2.68/-4.82	-8.77/-12.98	-18.43/-10.84	-6.09/-2.27	-1.79/-5.16	-6.27/-6.51	-8.01/-8.48	-4.64/-2.64	-0.71/-0.24
Θ(75°)	0.31/0.1	2.41/2.22	0.99/-1.32	-2.09/-1.95	-1.45/-0.91	-0.76/-0.4	0.090/4.9	1.1/1.06	1.26/1.19	0.7/0.89	-1.46/-0.55	-0.10/6.1	0.12/-2.12	-2.54/-3.12	-8.92/-8.84	-5.46/-5.63	-7.77/-18.81	-15.73/-5.09	0.31/5.9	1.36/-0.47	-7.09/-16.79	-4.9/-1.62	-1.170/6.7	1.89/1.41
Θ(82.5°)	20/75	1.82/25	1.86/-6.56	-1.01/-0.49	-0.49/-0.15	0.860/8.7	0.130/2.7	1.932/7.7	3.32/2.38	1.470/5.4	0.370/-4.8	0.371/0.7	0.28/-3.6	-0.74/-5.81	-10.76/-5.21	-2.21/1.07	-4.51/-12	-19.57/-5.4	-2.37/-0.56	-0.11/-2.6	-7.42/-15.63	-2.55/-1.33	0.0/95	3.46/3.23
Θ(90°)	0.490/2.2	1.804/3.84	1.98/-0.09	0.28/-1.27	-0.740/3.8	1.832/3.36	2.050/4.2	1.710/7.6	3.07/6.1	2.62/6.1	0.2/-1.32	0.280/7.3	1.02/-1.28	3.09/-5.01	-12.57/-11.51	-3.750/0.9	0.74/-4.91	-8.36/-9.19	-3.31/-2.44	-3.83/-9.69	-13.57/-6.09	-1.84/-1.03	-1.61/1	3.02/2.14
Θ(97.5°)	2.58/2.79	3.363/6.7	2.48/1.24	1.07/0.21	0.62/0.46	1.61/1.49	1.05/-1.05	-3.52/-1.08	1.332/1.17	2.112/7.9	0.59/-1.35	-2.02/-2.35	-0.44/-3.95	-2.65/-4.83	-7.83/-19.23	-5.94/-0.85	0.26/-3.86	-11.32/-17.92	-8.94/-7.29	-8.24/-15.59	-13.81/-2.05	-2.43/-1.84	-0.190/6.6	1.75/3.05
Θ(105°)	-0.782/0.8	2.7/2.34	1.54/2.2	3.432/6.1	1.480/7.2	0.81/1.6	1.281/0.4	-0.21/-2.6	-3/-1.7	-0.410/3.2	-1.75/-3.33	-5.42/-3.79	-3.74/-7.47	-3.25/-4.22	-6.42/-10.19	-12.93/-9.76	-6.59/-9.72	-7.59/-6.42	-10.01/-9.61	-8.75/-12.65	-8.41/-5.36	-3.01/-1.36	-0.210/4.4	0.7/0.15
Θ(112.5°)	-2.45/-2.01	-1.06/-0.75	0.571/63	2.061/6.9	0.52/-0.26	-0.220/3.1	1.050/9.7	0.5/-0.48	-0.12/-0.71	-0.10/-5.26	-1.91/-4.16	-0.59/-2.73	-0.81/-9.15	-14.03/-7.77	-10.05/-9.85	-7.45/-4.92	-7.91/-7.37	-3.73/-8.89	-4.83/-8.62	-6.19/-18.46	-15.05/-5.22	-1.501/0.3	1.21/1.42	1.23/-1.84
Θ(120°)	-5.23/-2.78	-2.15/-4.48	-4.26/-3.48	-1.92/-0.96	-0.97/-0.85	-0.95/-0.63	0.451/3.7	1.770/6.8	-0.17/-1.07	0.4/-0.85	-3.24/-12.8	-13.49/-12.37	-9.04/-5.96	-3.39/-3.42	-2.61/-12.37	-10.15/-17.98	-3.46/-1.83	-0.13/-8.58	-4.22/-6.41	-8.91/-5.71	-1.41/-5.88	-11.44/-5.54	-2.33/-0.2	-1.03/-16.04
Θ(127.5°)	-10.51/-11.84	-12.23/-13.07	-9.83/-8.42	-6.29/-13.9	-0.71/-0.49	-0.25/-0.1	-0.25/-0.25	-0.340/2.3	0.650/0.9	-0.08/-1.5	-7.63/-8.49	-2.27/-3.39	-6.59/-6.34	-5.48/-2.7	-9.99/-10.93	-7.5/-12.82	-16.67/-5.91	-5.52/-9.45	-13.77/-7.19	-0.55/-3.33	-4.99/-11.52	-10.82/-10.41	-11.33/-2.81	-4.66/-10.13
Θ(135°)	-4.46/-8.75	-15.96/-18.73	-17.83/-9.45	-6.77/-3.91	-2.21/-1.77	-1.86/-2.42	-2.61/-2.01	-1.181/-0.9	-1.3/-1.26	-2.36/-2.75	-2.98/-1.78	0.940/1.2	-3.24/-5.49	-13.62/-	-10.33/-16.11	-8.05/-9.45	-12.15/-19.25	-16.97/-8.41	-18.19/-8.58	-12.01/-9.8	-6.15/-3.93	-3.13/-7.51	-17.91/-6.72	-5.14/-2.7
Θ(142.5°)	-4.6/-6.18	-6.73/-6.56	-5.02/-2.64	-1.9/-2.67	-3.17/-3.17	-3.06/-2.85	-2.94/-2.53	-2.14/-1.38	-0.79/-1.48	-2.67/-4.23	-4.83/-3.52	-2.61/-0.99	-0.01/0.81	-0.81/-5.81	-11.73/-18.5	-10.49/-11.47	-10.85/-10.19	-12.59/-10.1	-14.76/-16.3	-18.41/-10.98	-7.06/-3.79	-4.11/-5.78	-9.5/-19.39	-12.45/-5.62
Θ(150°)	-6.97/-7.66	-8.08/-6.75	-6.9/-8.26	-7.77/-6.02	-4.13/-3.02	-2.81/-3.25	-4.25/-6.33	-9.21/-9.22	-6.74/-5.44	-2.85/-1.86	-1.33/-3.38	-6.84/-7.1	-12.91/-9.38	-11.98/-8.27	-2.69/-1.29	-8.1/-2.66	-2.67/-3.67	-7.89/-18.77	-13.58/-9.72	-11.71/-10.28	-6.26/-4.37	-4.92/-12.67	-18.84/-18.66	-10.94/-7.77
Θ(157.5°)	-9.35/-13.45	-13.5/-10.12	-7.78/-6.31	-5.5/-4.47	-3.26/-1.87	-1.07/-1.25	-2.38/-3.56	-4.51/-5.97	-8.65/-14.95	-19.14/-17.94	-18.55/-14.92	-8.31/-4.52	-2.58/-2.16	-3.21/-5.34	-7.77/-7.78	-7.6/-8.83	-10.73/-19.33	-17.64/-10.54	-10.92/-15.13	-18.45/-13.21	-7.75/-5.21	-6.56/-5.23	-5.85/-6.65	-6.82/-7.37
Θ(165°)	-6.22/-4.23	-2.93/-1.94	-1.54/-1.13	-1.06/-1.4	-1.72/-2.18	-2.4/-2.86	-3.7/-4.75	-5.94/-7.34	-8.27/-8.1	-7.38/-7.29	-7.8/-8.56	-9.14/-10.07	-11.03/-11.83	-13.68/-17.32	-15.46/-10.93	-9.05/-8.28	-7.62/-7.78	-8.06/-9.33	-12.03/-16.19	-18.62/-18.59	-12.94/-9.77	-8.34/-7.99	-8.04/-8.11	-8.19/-7.39
Θ(172.5°)	-19.01/-18.5	-14.41/-8.58	-5.7/-3.74	-2.58/-2.03	-1.84/-2.14	-2.23/-2.74	-3.49/-3.83	-4.26/-4.92	-5.41/-5.7	-6.48/-7.91	-6.67/-11.4	-11.85/-11.41	-10.79/-10.21	-9.87/-10.16	-10.18/-9.17	-7.84/-6.41	-5.5/-5.41	-6.05/-1.2	-7.24/-6.54	-5.59/-5.3	-5.77/-7.81	-10.99/-14.71	-17.14/-18.77	-17.82/-17.21
Θ(180°)	-17.88/-18.36	-18.48/-16.11	-13.39/-11.67	-10.82/-9.99	-9.36/-8.89	-8.86/-8.77	-8.83/-8.79	-8.96/-10.33	-12.86/-15.71	-16.48/-16.65	-16.71/-16.51	-16.65/-17.3	-18.78/-18.37	-18.57/-17.59	-14.55/-12.3	-11.36/-11.08	-11.34/-11.66	-10.9/-8.7	-6.7/-5.18	-4.05/-3.68	-4.11/-5	-6.17/-7.09	-7.81/-9.91	-12.46/-17.05
Freq(Hz)	5.785GPol	PhiAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-7.84/-8.38	-8.93/-7.8	-6.3/-6.13	-6.15/-6.18	-6.57/-6.92	-5.705/-6.34	-5.714/-5.93	-4.9/-5.05	-5.32/-5.79	-6.26/-6.49	-7.05/-7.94	-9.89/-10.54	-11.44/-11.39	-9.89/-8.44	-6.75/-6.05	-6.09/-6.54	-7.38/-7.22	-6.64/-6.15	-6.02/-6.23	-6.48/-6.7	-6.16/-6.77	-7.3/-7.4	-7.85/-7.4	-
Θ(7.5°)	-5.28/-5.89	-6.27/-5.93	-5.7/-6.35	-6.37/-6.14	-5.81/-5.18	-5.67/-5.72	-5.87/-6.02	-5.81/-5.81	-6.44/-7.59	-8.36/-9.54	-11.27/-13	-14.45/-14.63	-14.16/-12.44	-11.19/-10.41	-10.13/-9.71	-9.53/-9.42	-9.27/-8.38	-7.73/-7.09	-6.39/-5.95	-5.43/-4.9	-4.49/-3.96	-3.67/-3.94	-4.28/-4.51	-4.62/-4.84
Θ(15°)	-4.68/-4.6	-4.82/-5.43	-6.43/-7.61	-8.67/-8.6	-8.4/-9.38	-9.46/-8.51	-7.73/-6.64	-6.17/-5.95	-5.79/-5.63	-5.58/-5.64	-6.33/-7.81	-9.71/-12.27	-14.86/-15.3	-14.28/-12.39	-9.95/-8.27	-7.55/-7.71	-8.67/-10.1	-11.77/-16.43	-19.11/-12.					



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

Appendix A

Θ (15°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (22.5°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (30°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (37.5°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (45°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (52.5°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (60°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (67.5°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (75°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (82.5°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (90°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (97.5°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (105°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (112.5°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (120°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (127.5°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (135°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (142.5°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (150°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (157.5°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (165°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (172.5°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Θ (180°)	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf	-inf-inf
Freq(Hz)	5.2GPol.	PhiAnt.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ (0°)	-8.15/-7.18	-6.6/-6.1	-5.86/-6.04	-6.85/-7.79	-8.56/-9.26	-9.63/-9.68	-9.93/-9.83	-9.02/-8.32	-7.76/-7.38	-6.9/-6.56	-6.47/-6.59	-7.7/-7.73	-8.29/-8.83	-9.03/-8.89	-8.96/-8.82	-8.47/-8.04	-7.37/-6.61	-6.01/-5.46	-5.39/-5.5	-5.93/-6.4	-7.08/-7.5	-8.38/-9.67	-10.9/-78	-9.21/-6.67
Θ (7.5°)	-7.02/-7.45	-8.07/-8.61	-9.37/-9.43	-9.01/-8.04	-7.16/-6.52	-5.95/-5.41	-5.2/-5.13	-5.22/-5.47	-6.04/-6.84	-9.32/-9.64	-9.6/-8.84	-9.7/-7.39	-6.99/-6.85	-7.07/-7.62	-8.28/-8.94	-9.54/-10.04	-10.11/-9.79	-9.35/-8.24	-7.18/-6.44	-5.96/-5.85	-5.85/-6.12	-5.9/-5.87	-5.97/-6.37	
Θ (15°)	-4.69/-5.38	-6.73/-8.58	-10.57/-11.31	-10.77/-10.96	-8.24/-7.95	-8.06/-8.52	-9.63/-10.64	-11.68/-12.26	-12.08/-12.26	-12.72/-13.52	-14.42/-14.48	-12.95/-10.83	-9.2/-8.16	-7.95/-8.42	-9.75/-11.65	-13.69/-15.58	-15.48/-13.43	-11.39/-9.9	-8.03/-6.06	-4.85/-4.27	-3.95/-3.8	-3.59/-3.28	-3/-3.22	-3.5/-3.99
Θ (22.5°)	-5.01/-5.74	-7.97/-10.39	-12.74/-13.35	-12.98/-11.85	-11.33/-11.42	-12.1/-13.14	-13.02/-12.34	-11.64/-10.95	-10.95/-11.8	-13.24/-15.84	-18.58/-19.33	-18.83/-14.76	-11.67/-9.88	-9.33/-10.03	-11.9/-13.62	-14.98/-16.19	-14.41/-10.8	-4.89/-7.55	-7.19/-6.82	-6.45/-5.99	-5.43/-5.28	-4.98/-4.4	-3.87/-4.03	-4.44/-4.76
Θ (30°)	-5.35/-6.32	-8.42/-11.22	-13.28/-15.44	-18.78/-17.27	-17.7/-19.1	-14.92/-11.22	-7.67/-5.77	-4.98/-5.2	-5.94/-7.36	-9.69/-13	-16.69/-18.79	-18.05/-15.43	-13.3/-12.16	-12.13/-12.83	-13.42/-14.58	-18.4/-18.28	-17.53/-12.05	-9.55/-8.47	-7.49/-6.77	-6.45/-5.18	-4.36/-3.48	-2.37/-2.15	-2.88/-4.04	
Θ (37.5°)	-8.46/-11.67	-15.96/-18.96	-19.02/-17.84	-15.55/-13.27	-12.87/-11.99	-9.67/-7.7	-5.95/-4.71	-3.73/-3.33	-3.46/-4.46	-6.82/-10.48	-14.29/-15.37	-13.58/-12.95	-11.57/-11.99	-14.27/-17.09	-15.76/-12.97	-11.19/-9.14	-7.06/-5.88	-5.71/-5.11	-3.8/-3.55	-4.04/-3.87	-3.97/-4.76	-5.21/-4.89	-5.84/-6.43	
Θ (45°)	-10.63/-18.38	-17.95/-13.31	-11.89/-12.46	-12.52/-12.64	-10.35/-6.62	-4.3/-3.21	2.1/-1.11	-0.36/-0.31	-0.93/-2.13	-4.19/-6.92	-9.38/-10.47	-9.29/-8.09	-7.83/-6.88	-6.47/-8.06	-10.48/-15.92	-19.6/-12.95	-9.68/-7.96	-7.41/-6.1	-4.8/-4.16	-3.56/-2.37	-1.97/-2.51	-2.69/-3.21	-4.35/-4.46	-5.52/-6.86
Θ (52.5°)	-5.9/-8.84	-13.68/-14.15	-14.72/-16	-16.68/-15.5	-11.27/-8.69	-7.05/-4.62	-2.54/-1.29	-0.56/-0.33	-0.79/-2.33	-4.72/-6.57	-7.08/-7.08	-6.05/-6.03	-5.97/-6.81	-7.63/-8.72	-9.81/-10.98	-13.42/-15.3	-12.59/-8.93	-7.96/-7.13	-6.63/-6.03	-5.44/-5.04	-4.18/-4.26	-5.61/-7.22	-10.23/-9.1	-6.49/-5.27
Θ (60°)	-3.55/-4.33	-6.28/-7.09	-9.03/-11.66	-14.96/-14.53	-14.44/-12.07	-8.27/-3.55	-1.5/-0.8	-0.36/-0.01	-0.06/-1.25	-3.62/-4.34	-3.92/-4.16	-4.66/-6.19	-5.08/-5.89	-6.65/-9.82	-18.16/-17.85	-16.8/-12.74	-9.71/-7.44	-5.22/-3.77	-3.53/-3.38	-2.44/-2.03	-2.47/-2.63	-3.27/-3.91	-4.93/-5.82	-3.98/-2.86
Θ (67.5°)	-2.15/-2.79	-4.75/-6.4	-7.19/-7.98	-11.06/-10.07	-17.82/-19.21	-9.23/-4.69	-2.33/-0.89	-0.28/-0.21	-0.44/-1.1	-2.7/-3.37	-3.94/-4.07	-4.37/-4.89	-4.67/-6.66	-7.83/-12.74	-18.22/-16.1	-10.66/-10.22	-11.29/-7.25	-4.13/-2.76	-1.92/-2.15	-2.83/-2.11	-1.72/-2.45	-4.53/-6.24	-8.21/-6.96	-4.03/-1.83
Θ (75°)	-3.2/-4.03	-4.67/-6.36	-9.4/-12.71	-10.77/-10.23	-10.6/-8.71	-5.99/-4.02	-2.64/-2.18	-2.77/-3.48	-4.22/-3.48	-2.57/-4.16	-1.88/-3.57	-7.13/-10.65	-10.7/-7.84	-7.64/-9.87	-14.78/-17.7	-16.07/-17.48	-11.86/-6.36	-3.54/-4.46	2.1/-2.75	-1.45/-0.76	-0.72/-1.21	-3.5/-5.19	-3.66/-3.35	-4.12/-2.73
Θ (82.5°)	-3.59/-3.99	-3.35/-4.89	-8.15/-14.06	-1.768/-18.41	-14.54/-10.22	-6.39/-4.18	-3.67/-3.21	-2.71/-2.31	-2.06/-1.71	-1.47/-1.76	-3.36/-6.04	-11.52/-14.38	-10.99/-9.29	-11.37/-17.26	-19.44/-18.26	-11.46/-16.28	-12.38/-4.08	-2.32/-2.68	-3.55/-2.37	-2.25/-0.91	-0.26/-0.49	-1.19/-3.92	-4.8/-4.6	-6.29/-5.45
Θ (90°)	-4.11/-5.26	-4.79/-5.55	-7.4/-13.45	-18.93/-13.88	-9.85/-5.1	-6.2/-1.38	-7.17/-4.79	-3.56/-3.2	-3.01/-3.37	-3.92/-4.07	-4.76/-6.67	-11.75/-10.57	-8.6/-11.15	-15.15/-17.62	-18.75/-16.76	-14.82/-16.72	-10/-6.6	-6.39/-2.98	-4.66/-6.04	-2.59/-1.33	-0.98/-1.31	-1.89/-2.25	-2.21/-1.62	-3.37/-4.09
Θ (97.5°)	-3.02/-4.06	-4.68/-5.67	-9.29/-15.67	-17.63/-18.18	-13.76/-7.46	-5.8/-6.99	-8.88/-8.79	-6.72/-5.05	-3.94/-3.97	-5.15/-7.16	-9.6/-13.2	-11.88/-11.14	-14.42/-18.93	-17.57/-18.32	-17.68/-12.06	-12.46/-17.96	-14.72/-7.29	-7.01/-6.56	-7.71/-6.23	-4.19/-2.43	-1.99/-1.73	-2.13/-1.84	-0.58/-1.22	-2.41/-2.28
Θ (105°)	-3.49/-3.75	-5.04/-7.69	9.9/-13.5	-10.75/-10.48	-11.07/-9.98	-8/-8.64	-10.02/-6.94	-4.13/-3.45	-3.48/-4.87	-6.18/-8.15	-10.25/-9.78	-9.63/-10.52	-10.55/-15.09	-8.77/-10.48	-11.37/-17.26	-19.44/-18.26	-11.46/-16.28	-2.32/-2.68	-3.55/-2.37	-2.25/-0.91	-0.26/-0.49	-1.19/-3.92	-4.8/-4.6	-6.29/-5.45
Θ (112.5°)	-5.42/-6.47	-6.7/-9.37	-18.29/-18	-12.16/-11.85	-13.75/-12.15	-9.5/-8.88	-8.72/-8.18	-7.61/-6.08	-5.88/-6.04	-7.06/-8.75	-9.26/-8.8	-7.31/-8.71	-11.93/-10.14	-8.55/-15.83	-14.37/-18.65	-9.66/-9.29	-9.29/-14.31	-17.55/-8.94	-9.68/-7.93	-6.49/-4.92	-4.4/-2.96	-3.68/-3.13	-1.47/-2.83	-5.04/-5.39
Θ (120°)	-2.91/-3.82	-4.89/-6.34	-12.88/-18.48	-15.73/-17.32	-18.3/-17.82	-15.26/-13.98	-14.14/-16.46	-12.76/-12.61	-11.08/-9.93	-10.74/-9.34	-8.67/-6.6	-10.29/-13.27	-19.07/-17.4	-16.33/-18.3	-15.32/-17.93	-9.52/-10.64	-11.04/-13.98	-12.19/-7.02	-9.27/-12.35	-8.35/-8.62	-6.36/-7.08	-7.15/-4.24	-1.49/-1	-2.45/-1.83
Θ (127.5°)	-2.34/-4.39	-6.05/-9.16	-11.95/-13.03	-10.06/-9.18	-14.44/-12.94	-11.45/-12.07	-9.74/-9	-7.62/-7.95	-5.67/-5.39	-5.66/-10.13	-9.82/-13.22	-10.14/-14.61	-17.99/-16.25	-17.61/-19.13	-15.13/-15.03	-6.96/-13.91	-12.69/-12.02	-18.25/-11.4	-10.77/-8.17	-6.24/-7.42	-2.66/-2.85	-1.01/-0.19	-1.67/-1.67	
Θ (135°)	-9.63/-10.88	-13.41/-14.58	-13.59/-15.64	-17.07/-17.89	-17.97/-18.81	-17.52/-18.02	-14.75/-10.97	-8.91/-8.06	-7.84/-4.95	-4.36/-5.27	-6.44/-9.71	-11.39/-14.94	-17.94/-19.52	-13.26/-11.21	-16.8/-9.49	-3.22/-0.99	-3.11/-7.9	-11.47/-17.01	-17.4/-9.15	-9.52/-6.54	-5.59/-7.66	-6.57/-9.17	-5.96/-6.49	-6.96/-8.41
Θ (142.5°)	-9.23/-9.27	-9.11/-9.76	-10.75/-16.3	-19.23/-12.77	-10.83/-11.99	-17.53/-18.07	-18.65/-15.15	-10.71/-7.57	-5.83/-6.89	-9.47/-12.49	-18.62/-17.6	-18.27/-19.7	-13.21/-8.16	-6.04/-6.22	-9.66/-14.07	-6.92/-4.32	-6.4/-10.65	-13.52/-13.1	-10.99/-8.02	-10.4/-13.81	-9/-12.58	-10.47/-11.48	-11.44/-10.74	-10.81/-9.39
Θ (150°)	-5.78/-8.72	-12.96/-14.08	-11.85/-10.52	-11.11/-12.13	-14.12/-12.53	-16.35/-11.23	-8.66/-6.49	-6.33/-7.12	-7.97/-9.33	-12.82/-18.96	-18.31/-18.27	-14.55/-8.17	-6.31/-5											



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

Appendix A

Θ(67.5°)	1.310/12	-1/3.7	-5.18/-4.9	-2.72/-0.81	-1.26/-0.69	-0.61/-1.63	-3.5/-5.82	-9.58/-14.46	-15.8/-8.73	-7.08/-6.31	-8.19/-5.32	-4.96/-5.14	-6.06/-8.97	-10.72/-12.68	-9.44/-6.14	-6.68/-8.49	-11.12/-15.08	-15.89/-13.01	-11.01/-11.34	-10.43/-6.88	-6.25/-6.84	-8.6/-6.55	-7.36/-4.64	-2.72/-0.16
Θ(75°)	1.52/1.29	-1/9.14	-3.84/-5.76	-5.53/-3.92	-2.76/-2.23	-4.28/-7.67	-9.83/-9.69	-8.67/-9.17	-15.97/-13.25	-9.74/-7.34	-7.64/-6.27	-5.58/-3.29	-3.08/-2.38	-3.85/-8.03	-9.05/-8.78	-10.54/-13.8	-15.66/-15.58	-15.15/-13.77	-17.93/-11.37	-9.06/-5.59	-5.68/-6.07	-8.05/-8.08	-4.83/-1.68	-1.26/-0.47
Θ(82.5°)	1.78/2.33	2.79/0.69	-2.4/-7.78	-10.42/-4.96	-5.2/-6.05	-6.37/-7.72	-8.1/-6	-5.55/-8.19	-18.29/-13.02	-8.84/-7.94	-6.6/-4.48	-2.92/-0.36	0.51/-0.44	-3.23/-7.2	-8.96/-9.33	-13.95/-11.83	-8.62/-9.42	-10.5/-14.12	-10.63/-8.45	-3.74/-0.81	-0.03/-0.68			
Θ(90°)	1.33/2.25	2.73/1.29	-1.34/-3.64	-5.67/-5.29	-4.27/-4.9	-5.93/-8.27	-10.32/-10.69	-11.3/-13.11	-18.43/-18.71	-18.35/-10.58	-6.72/-4.65	-4.86/-1.1	-0.76/-1.56	-2.28/-2.8	-5.13/-7.99	-14.3/-9.39	-12.02/-10.54	-16.81/-9.76	-8.59/-11.96	-8.32/-8.52	-9.11/-15.12	-10.81/-6.59	-3.71/-1.67	-0.34/-0.18
Θ(97.5°)	-1.56/-1.37	-0.98/-1.63	-4.06/-8.08	-11.52/-9.44	-7.76/-6.8	-6.64/-8.49	-11.47/-15.18	-12.93/-9.47	-9.3/-9.95	-11.77/-9.01	-7.1/-8.59	-10.83/-7.87	-4.79/-3.72	-3.34/-4.16	-11.25/-9.27	-10.52/-13.34	-15.02/-15.8	-9.04/-8.44	-10.48/-10.97	-6.72/-5.6	-6.65/-6.68	-7.31/-4.58	-2.66/-2.57	-1.18/-2
Θ(105°)	-3.55/-2.39	-2.89/-3.79	-7.26/-10.9	-17.14/-18.48	-18.38/-17.73	-12.8/-9.34	-10.28/-9.5	-8.96/-8.94	-10.77/-10.53	-11.09/-8.61	-7.72/-6.64	-6.39/-2.55	-0.88/-2.81	-2.93/-5.44	-6.42/-10.75	-18.64/-18.91	-11.07/-9.97	-6.99/-9.19	-16.8/-18.26	-7.95/-4.78	-8.31/-5.87	-3.29/-1.64	-1.83/-2.3	
Θ(112.5°)	-2.77/-2.24	-3.31/-5.56	-8.48/-11.9	-14.53/-15.01	-12.26/-10.4	-8.99/-7.99	-8.52/-10.69	-15.96/-14.94	-14.26/-14.87	-13.45/-9.76	-7.78/-4.82	-3.03/-1.44	-3.51/-3.49	-3.18/-3.42	-5.91/-19.09	-18.14/-11.35	-6.96/-10.74	-8.7/-17.92	-17.98/-17.95	-10.84/-8.8	-5.66/-7.18	-6.99/-5.21	-3.36/-3.1	-3.71/-3.52
Θ(120°)	-4.83/-3.26	-5.64/-10.76	-17.56/-18.52	-14.48/-15.68	-18.24/-19.39	-18.35/-12.87	-9.82/-11.4	-17.27/-18.27	-17.76/-18.42	-18.42/-18.19	-12.93/-5.3	-3.88/-3.39	-3.02/-4.6	-3.21/-3.66	-7.44/-10.01	-10.86/-11.84	-8.64/-11.4	-6.67/-13.1	-13.06/-10.12	-18.99/-12	-9.47/-9.54	-8.76/-9.05	-7.18/-7.2	-6.78/-4.68
Θ(127.5°)	-7.15/-6.1	-8.43/-11.65	-12.63/-15.46	-19.09/-19.07	-15.01/-13.91	-14.91/-15.7	-16.01/-19.24	-18.38/-18.91	-17.46/-13.77	-12.79/-18.31	-19.07/-12.08	-12.36/-7.72	-8.09/-8.04	-4.67/-2.77	-7.18/-8.97	-19.01/-8.48	-12.63/-8.66	-13.5/-18.66	-17.34/-13.53	-17.2/-18.07	-15.57/-15.73	-13.61/-9.92	-14.55/-10.45	-9.06/-6.6
Θ(135°)	-15.29/-11.37	-10.02/-10.51	-12.32/-17.59	-15.65/-10.95	-11.39/-13.44	-15.98/-19.14	-18.11/-18.09	-19.06/-16.99	-11.59/-8.18	-6.77/-7.78	-8.45/-9.34	-12.01/-12.91	-12.41/-12.17	-9.3/-6.14	-8.84/-18.12	-9.52/-4.24	-5.67/-4.83	-7.78/-13.87	-14.85/-13.73	-18.21/-11.69	-17.71/-18.44	-18.41/-14.59	-19.15/-12.91	-11.21/-14.41
Θ(142.5°)	-14.53/-12.76	-10.58/-10.37	-9.21/-10.23	-13.09/-18.66	-18.12/-19.72	-18.59/-17.34	-16.19/-18.29	-18.65/-11.6	-8.31/-6.21	-4.46/-2.49	-1.43/-2.26	-3.23/-4.92	-9.16/-10.77	-8.41/-7.97	-6.62/-4.92	-4.62/-5.86	-9.01/-12.74	-13.33/-13.07	-13.72/-13.4	-10.91/-7.87	-5.85/-6.41	-4.96/-6.63	-9.11/-13.2	-14.77/-13.78
Θ(172.5°)	-16.45/-14.69	-12.48/-10.13	-8.28/-6.94	-6.82/-6.39	-7.58/-9.11	-10.57/-12.72	-15.44/-18.76	-17.3/-18.07	-16.47/-16.61	-16.84/-15.17	-16.85/-18.64	-18.45/-17.23	-16.89/-17.63	-18.21/-18.16	-19.82/-18.97	-17.79/-17.58	-13.75/-11.92	-10.76/-10.27	-9.92/-9.13	-8.6/-8.56	-9.32/-12.86	-15.78/-18.68	-17.28/-19.12	
Θ(180°)	-18.91/-18.92	-18.84/-17.33	-15.42/-14.96	-15.04/-14.3	-15.2/-16.62	-16.77/-17.61	-18.64/-17.73	-15.16/-13.08	-11.94/-11.54	-11.73/-12.41	-13.43/-14.65	-16.23/-17.39	-17.02/-16.64	-16.91/-18.58	-18.56/-18.91	-18.91/-17.56	-19.87/-18.4	-17.39/-17.71	-18.61/-18.24	-18.35/-18.89	-18.75/-17.98	-18.43/-16.64	-17.73/-19.4	-17.66/-17.77
Freq(Hz)	5.6GPol	PhiAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-9.05/-11.53	-13.58/-14.27	-14.37/-13.96	-13.53/-11.74	-9.77/-7.92	-6.15/-4.79	-3.75/-3.06	-2.55/-2.26	-2.1/-2.21	-2.37/-2.5	-2.98/-3.6	-4.56/-6	-7.53/-9.5	-11.93/-14.85	-18.26/-17.45	-13.33/-10.03	-7.53/-5.67	-4.35/-3.13	-2.48/-2.23	-1.94/-1.7	-1.58/-1.66	-2.17/-3.16	-4.44/-5.59	-6.35/-7.16
Θ(7.5°)	-6.69/-9.14	-10.99/-12.63	-15.32/-17.71	-17.8/-13.8	-10.01/-7.45	-5.45/-3.75	-2.84/-2.31	-1.91/-1.62	-1.72/-1.8	-2.09/-2.49	-3.18/-4.1	-5.95/-8.06	-10.04/-11.92	-13.13/-13.63	-12.95/-11.47	-9.62/-8.15	-6.99/-6.17	-5.54/-4.92	-4.22/-3.58	-3.48/-3.36	-3.33/-3.3	-3.33/-3.44	-3.8/-4.46	-4.86/-4.58
Θ(15°)	-5.29/-6.44	-7.8/-9.85	-12.81/-16.91	-18.91/-17.08	-12.72/-9.46	-6.93/-5.32	-4.22/-3.52	-3.07/-2.84	-2.8/-3.44	-4.26/-5.45	-6.86/-8.6	-10.84/-12.72	-12.96/-14.82	-9.91/-8.85	-8.64/-8.37	-7.97/-7.63	-7.42/-7.17	-7.42/-7.38	-6.51/-5.71	-5.08/-4.73	-4.58/-4.26	-4.07/-3.68	-3.45/-3.54	-3.71/-4.13
Θ(22.5°)	-4.2/-5.91	-8.68/-11.05	-13.58/-17.05	-17.76/-18.14	-15.12/-12.03	-10.41/-9.14	-7.76/-7.68	-7.75/-7.89	-8.08/-9.02	-9.97/-10.69	-11.14/-11.7	-12.48/-12.29	-10.16/-8.04	-7.07/-7.04	-7.32/-7.35	-7.7/-7.16	-7.38/-7.43	-7.32/-6.4	-5.79/-4.87	-3.91/-3.25	-2.72/-2	-1.35/-0.94	-1.06/-1.28	-2.16/-3.15
Θ(30°)	-6.32/-8.86	-10.83/-10.73	-11.61/-13.82	-17.3/-18.62	-16.08/-15.62	-16.7/-13.86	-11.7/-9.6	-7.58/-6.48	-5.68/-5.6	-6.54/-8.34	-9.99/-11.38	-12.77/-14.04	-12.53/-15.08	-9.31/-9.15	-9.02/-8.52	-7.91/-8.02	-8.86/-10.76	-12.42/-9.53	-6.08/-3.54	-2.03/-1.38	-1.22/-1.13	-1.12/-0.96	-1.25/-1.49	-2.76/-4.01
Θ(37.5°)	-11.39/-14.3	-13.49/-14	-11.92/-10.75	-11.55/-13.38	-14.15/-14.62	-13.45/-10.74	-8.45/-6.67	-3.4/-2.2	-1.85/-2.37	-8.87/-6.84	-9.81/-11.34	-10.1/-8.61	-9.17/-6.59	-6.29/-6.05	-6.48/-7.92	-9.04/-9.7	-11.33/-13.23	-13.86/-7.55	-5.5/-6.15	-2.64/-2.79	-2.21/-2.12	-2.65/-2.76	-4.13/-6.51	
Θ(45°)	-9.04/-9.57	-10.23/-13.87	-14.2/-14.16	-14.8/-16	-16.59/-19.36	-14.92/-9.51	-5.86/-3.53	-2.06/-1.35	-1.32/-2.22	-3.66/-6.2	-8.78/-9.57	-7.45/-6.31	-5.74/-5.14	-4.57/-4.11	-4.75/-5.95	-6.78/-8.75	-16.11/-19.05	-13.22/-8.98	-5.38/-1.99	-1.34/-3.27	-5.4/-5.34	-6.09/-8.41	-9.16/-7.53	-6.84/-6.76
Θ(52.5°)	-2.17/-3.17	-3.45/-4.98	-5.94/-8.64	-12.34/-13.57	-13.67/-12.41	-8.72/-4.92	-2.66/-1.75	-1.48/-1.71	-2.16/-2.93	-3.25/-4.04	-4.57/-5.05	-4.79/-4.8	-3.92/-1.1	-2.67/-4.15	-6.85/-6.48	-5.1/-6.17	-8.96/-14.8	-19.27/-12.82	-10.21/-10.2	-8.71/-7.73	-6.88/-6.33	-4.52/-4.41	-5.06/-5.38	-2.83/-7.18
Θ(60°)	-1.77/-2.69	-2.71/-4.39	-5.65/-8.35	-10.34/-10.74	-9.89/-9.51	-5.44/-3.31	-2.17/-1.46	-1.64/-2.82	-4.24/-5.2	-4.42/-3.15	-1.72/-2.07	-2.66/-3.04	-2.47/-1.01	-1.32/-2.16	-5.03/-5.36	-5.41/-9.11	-13.72/-12.39	-9.44/-6.28	-4.81/-4.69	-4.18/-3.57	-3.67/-3.79	-4.41/-4.6	-4.52/-2.87	-1.78/-1.76
Θ(67.5°)	-2.21/-1.96	-2.05/-1.49	-2.08/-4.06	-8.79/-10.48	-8.5/-7.27	-5.25/-2.24	-2.20/-0.08	-0.52/-1.41	-2.56/-3.22	-1.91/-0.34	1.27/0.23	-1.93/-3.07	-2.93/-1.54	-2.8/-5.78	-8.33/-5.63	-7.53/-9.57	-11.87/-8.41	-5.64/-3.44	-3.3/-2.52	-1.6/-1.91	-2.29/-3.77	-5.04/-4.24	-2.1/-1.52	-0.76/-0.5
Θ(75°)	-3.23/-3.04	-2.44/-1.49	-2.61/-4.8	-7.5/-10.73	-11.31/-14.14	-9.15/-5.09	-2.55/-6.05	0.57/-0.02	-2.22/-3.72	-4.04/-2.79	-2.36/-2.33	-3.03/-2.75	-3.39/-2.66	-3.48/-6.36	-8.9/-8.53	-10.85/-17.9	-10.82/-8.83	-2.87/-2.54	-2.68/-3.65	-3.28/-1.62	-1.63/-1.44	-3.13/-5.1	-3.37/-1.89	-2.43/-1.25
Θ(82.5°)	-4.49/-5.55	-4.13/-3.43	-6.06/-10.32	-9.69/-6.92	-4.95/-5.49	-6.75/-6.27	-4.13/-3.8	-3.76/-3.88	-2.96/-2.22	-3.64/-5.74	-8.86/-8.73	-7.69/-5.11	-6.9/-7.71	-8.23/-11.55	-10.21/-14.22	-7.02/-2.68	-3.59/-3.21	-4.65/-3.62	-1.38/-1.87	-1.68/-1.48	-1.79/-3.31	-2.19/-1.04	-2.36/-2.49	
Θ(90°)	-3.4/-3.48	-3.16/-3.51	-6.84/-11.26	-13.79/-12.22	-8.98/-9.22	-8.67/-5.09	-4.55/-5.61	-3.25/-0.69	-0.45/-0.38	-1.27/-3.55	-8.66/-14.82	-10.87/-6.84	-4.89/-5.69	-7.96/-12.71	-12.23/-13.26	-14.43/-16.14	-9.03/-5.05	-7.89/-7.4	-6.22/-6.05	-2.78/-1.58	-0.79/-0.37	-0.15/-2.52	-2.14/-3.4	-5.21/-3.95
Θ(97.5°)	-3.78/-2.54	-1.74/-1.79	-6.38/-15.8	-1.71/-11.39	-8.26/-8.18	-7.59/-6.41	-6.61/-6.24	-7.38/-14.8	-2.64/-2.15	-2.82/-5.06	-9.89/-9.84	-5.98/-4.39	-5.87/-9.47	-11.58/-12.1	-9.76/-16.98	-18.47/-10.41	-12.86/-9.8	-18.38/-6.55	-5.4/-6.36	-1.51/-0.89	-0.77/-1.46	-2.06/-1.87	-1.59/-2.94	-4.98/-4.56
Θ(105°)	-4.41/-3.66	-2.61/-3.48	-7.72/-18.39	-13.85/-16.93	-13.68/-9.77	-9.43/-6.2	-6.09/-8.67	-7.09/-4.66	-4.52/-6.46	-7.41/-9.4	-11.2/-8.84	-5.54/-5.85	-6.92/-6.75	-5.58/-7.29	-9.55/-17.27	-17.91/-17.69	-9.4/-5.2	-7.75/-5.26	-4.44/-8.7	-4.06/-2.41	-2.16/-1.65	-3.16/-3.45	-1.17/-1.73	-3.99/-3.85
Θ(112.5°)	-6.36/-3.06	-1.94/-3.02	-7.21/-17.78	-17.11/-13.24	-14.71/-13.17	-11.66/-13.09	-10.68/-8.99	-9.22/-8.03	-6.36/-5.59	-6.87/-7.33	-7.45/-8.41	-10.1/-8.7	-8.78/-8.02	-7.39/-11.79	-12.99/-19.23	-19.29/-6.66	-7.05/-9.4	-13.43/-8.43	-10.55/-10.04	-5.46/-3.15	-2.31/-2.06	-3.88/-2.36	-2.33/-3.55	-4.89/-5.56
Θ(120°)	-8.6/-5.78	-3.38/-3.5	-8.35/-12.88	-15.85/-18.98	-18.34/-15.68	-9.67/-7.75	-8.88/-12.57	-16.27/-12.95	-7.83/-7.65	-7.49/-8.87	-8.86/-10.22	-11.38/-10.75	-17.12/-10.28	-11.35/-16.34	-12.25/-15.31	-8.57/-12.03	-11.44/-17.12	-11.27/-7.53	-8.57/-8.92	-6.33/-4.04	-5.52/-6.14	-6.16/-1.44	-0.51/-2.44	-5.5/-5.51
Θ(127.5°)	-8.43/-6.24	-6.13/-5.82	-8.82/-9.76	-10.42/-15.67	-14.56/-10.19	-8.87/-9.97	-12.2/-12.82	-9.75/-8.08	-9.55/-10.4	-11.96/-6.28	-5.53/-6.4	-12.87/-11.72	-16.38/-13.66	-17.87/-11.82	-8.95/-18.83	-18.63/-10.42	-7.87/-17.47	-18.47/-17.1	-10.88/-13.32	-9.46/-4.44	-5.64/-5.95	-14.27/-6.7	-3.93/-3.77	-6.8/-5.26
Θ(135°)	-8.29/-7.21	-6.46/-6.84	-8.39/-8.84	-8.34/-12.24	-15.79/-18.67	-17.45/-18.06	-16.95/-12.63	-10.61/-10.01	-10.41/-11.58	-7.8/-7.32	-7.51/-9.01	-9.44/-9.12	-16.06/-11.48	-17.72/-8.47	-8.83/-15.91	-6.43/-2.87	-6.06/-10.08	-13.82/-14.28	-15.85/-16.66	-1.49/-4.62	-7.2/-7.27	-13.08/-9.02	-5.95/-5.96	-7.92/-6.57
Θ(142.5°)	-6.24/-8.05	-9.03/-7.43	-7.02/-9.26	-13.73/-18.																				



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

Appendix A

Θ(157.5°)	-18.39/-11.11	-7.62/-7.25	-8.63/-8.58	-8.99/-12.49	-17.2/-13.63	-14.33/-13.46	-11.92/-11.02	-11.52/-11.49	-11.17/-10.96	-11.76/-13.32	-15.67/-18.82	-18.09/-16.38	-10.96/-9.02	-7.13/-4.8	-3.72/-3.53	-3.37/-5.02	-9.51/-16.55	-18.9/-18.53	-15.55/-14.71	-15.07/-15.79	-14.44/-12.04	-10.49/-10.82	-12.61/-15.28	-18.65/-17.5
Θ(165°)	-18.3/-17.97	-12.51/-11.11	-12.66/-16.37	-18.63/-18.53	-14.24/-19.07	-7.83/-7.34	-7.35/-7.04	-7.54/-8.27	-9.4/-10.15	-10.99/-12.76	-16.59/-18.87	-16.97/-11.31	-8.08/-6.12	-5.08/-4.61	-5.17/-6.91	-9.59/-13.5	-12.55/-9.06	-7.42/-7.66	-8.84/-10.87	-13.53/-16.03	-18.09/-18.14	-17.66/-17.93	-14.46/-13.32	-14.16/-16.66
Θ(172.5°)	-18.69/-18.88	-15.48/-14.76	-16.16/-16.02	-15.19/-15.18	-13.58/-11.97	-9.76/-9.29	-9.3/-8.38	-7.68/-7.51	-7.87/-8.78	-10.33/-13.36	-18.46/-19.22	-14.29/-11.1	-9.41/-8.62	-9.26/-11.23	-15.81/-19.1	-16.67/-11.52	-8.68/-7.57	-7.93/-7.57	-9.3/-12.19	-16.82/-16.27	-14.69/-13.73	-14.46/-15.79	-19.12/-19.36	
Θ(180°)	-10.99/-10.48	-10.2/-10.41	-10.24/-9.39	-9.23/-10.2	-10.7/-10.63	-10.31/-11.07	-12.31/-13.37	-13.87/-14.66	-17.02/-17.78	-18.52/-17.9	-15.34/-12.7	-11.68/-11.69	-12.22/-13.13	-13.42/-12.98	-11.92/-11.2	-10.15/-9.61	-9.49/-9.7	-10.12/-11.39	-12.84/-14.31	-14.86/-14.53	-15.06/-15.97	-16.52/-16.97	-16.57/-15.03	-13.12/-12.11
Freq(Hz)	5.36GPol.	PhiAnt.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-6.13/-6.68	-7.23/-7.89	-8.95/-10.45	-12.74/-14.99	-16.87/-16.61	-15.49/-14.11	-13.02/-11.5	-9.95/-8.72	-7.94/-7.13	-6.67/-6.5	-6.51/-6.34	-6.38/-6.37	-6.4/-6.78	-7.43/-8.53	-9.39/-10.68	-12.69/-14.91	-17.01/-17.32	-15.95/-14.29	-11.77/-9.73	-8.68/-7.55	-6.73/-6.41	-5.96/-5.65	-5.38/-5.26	-5.49/-5.92
Θ(7.5°)	-6.03/-6.17	-6.76/-7.38	-8.3/-9.92	-11.75/-15.2	-18.46/-18.44	-18.86/-15.6	-12.78/-11.23	-9.36/-8.3	-7.31/-6.66	-6.14/-5.87	-5.86/-5.89	-6.22/-6.46	-6.71/-7.13	-8.04/-8.93	-9.85/-10.63	-11.31/-12.42	-13.53/-14.42	-15.27/-16.4	-16.95/-16.25	-14.79/-12.54	-10.92/-9.87	-8.51/-7.35	-6.36/-5.74	-5.52/-5.74
Θ(15°)	-5.54/-5.57	-5.96/-6.86	-8.41/-9.92	-11.79/-15.35	-18.62/-18.67	-17.85/-16.72	-13/-10.37	-8.45/-7.24	-6.47/-5.88	-5.59/-5.57	-5.75/-6.16	-6.71/-7.29	-7.56/-7.84	-8.05/-8.33	-8.64/-9.89	-11.23/-13.5	-16.28/-16.33	-13.71/-12.26	-10.56/-8.99	-7.97/-7.56	-7.33/-6.71	-6.33/-6.16	-5.26/-5.23	
Θ(22.5°)	-4.94/-5.8	-6.3/-7.1	-8.57/-10.72	-12.23/-13.88	-15.11/-16.38	-16.71/-15.46	-12.8/-9.61	-7.92/-6.55	-5.56/-4.87	-4.37/-4.14	-4.38/-4.55	-4.94/-5.37	-5.7/-6.06	-6.25/-6.71	-7.94/-9.84	-13.38/-17.55	-17.31/-13.65	-10.67/-8.28	-6.33/-4.95	-4.08/-3.65	-3.07/-2.65	-2.61/-2.57	-3.18/-3.98	-4.42/-4.67
Θ(30°)	-5.42/-6.47	-7.95/-8.4	-8.63/-9.5	-12.22/-8.82	-8.73/-10.66	-12.12/-11.93	-10.44/-8.71	-6.57/-4.69	-2.96/-1.75	-1.09/-1.05	-1.35/-1.99	-3.12/-4.43	-7.12/-9.3	-8.73/-10.28	-13.56/-16.72	-15.14/-10.85	-7.71/-5.95	-5.15/-4.22	-3.44/-2.5	-1.6/-1.2	-1.11/-0.98	-1.13/-1.76	-3.09/-4.8	
Θ(37.5°)	-4.61/-5.04	-5.44/-5.98	-5.95/-6.35	-7.33/-7.01	-6.74/-9.66	-11.38/-10.22	-7.98/-6.2	-4.31/-2.9	-1.76/-0.84	-0.29/-0.36	-0.89/-1.77	-3.35/-5.9	-7.83/-10.9	-11.99/-13	-18.13/-13.13	-18.38/-16.24	-12.15/-10.84	-9.64/-6.04	-3.02/-1.32	-0.65/-0.42	-1.65/-2.47	-2.55/-2.43	-2.37/-3.1	
Θ(45°)	-5.06/-5.32	-4.45/-5.11	-5.47/-5.46	-6.49/-8.23	-10.23/-9.74	-8.34/-7.81	-6.05/-4.45	-3.27/-2.49	-2.2/-1.8	-1.27/-1.12	-1.76/-2.72	-4.36/-7.87	-13.79/-17.39	-18.93/-18.15	-15.39/-15.1	-17.36/-17.24	-14.45/-9.8	-6.53/-5.22	-4/-2.06	-0.270.41	0.14/-1.32	-3.02/-4.93	-5.81/-5.41	-4.82/-4.31
Θ(52.5°)	-3.93/-5.02	-4.46/-4.95	-5.82/-7.46	-10.24/-8.81	-6.77/-5.58	-4.21/-3.58	-3.38/-2.67	-2.37/-2.23	-1.91/-1.96	-2.54/-3.6	-5.64/-8.12	-10.1/-12.79	-11.89/-10.51	-12.16/-12.98	-11.04/-12.95	-17.94/-18.31	-18.31/-16.62	-14.48/-10.11	-6.52/-3.97	-2.27/-1.4	-1.1/-1.44	-2.63/-4.59	-6.34/-6.03	-4.81/-3.59
Θ(60°)	-4.32/-4.57	-4.19/-4.7	-5.86/-7.62	-8.95/-7.38	-6.15/-5.42	-4.53/-3.5	-2.53/-1.54	-1.08/-1.05	-1.09/-0.92	-1.04/-1.91	-3.21/-6.02	-6.98/-5.51	-4.22/-2.74	-3.78/-7.71	-18.69/-16.3	-15.41/-19.03	-19.08/-17.31	-14.05/-11.88	-9.07/-7.33	-5.84/-4.11	-3.53/-4.06	-4.11/-3.28	-2.82/-2.85	-3.44/-4.22
Θ(67.5°)	-4.05/-4.11	-5.31/-6.8	-9.75/-13	-9.74/-7	-6.42/-5.84	-5.04/-3.19	-2.41/-2.35	-1.98/-2.33	-2.92/-2.83	-2.2/-2.28	-3.29/-4.49	-4.57/-3.92	-2.13/-0.71	-1.55/-5.68	-15.76/-14.92	-14.55/-17.6	-18.48/-18.31	-14.93/-12.54	-8.41/-5.51	-4.78/-4.73	-4/-3.26	-2.46/-1.54	-1.18/-2.57	-3.92/-4.13
Θ(75°)	-5.22/-5.44	-6.05/-8.36	-10.61/-13.25	-11.63/-9.66	-10.48/-53	-4.95/-3.08	-1.92/-1.24	-1.35/-2.95	-4.3/-4.18	-2.71/-1.78	-0.26/-0.19	-1.17/-2.31	-2.61/-97	-1.1/-2.81	-9.37/-10.87	-15.53/-18	-16.0/-12.1	-7.9/-5.88	-3.59/-3.19	-3.35/-2.54	-2.4/-2.44	-2.71/-2.74	-3.08/-4.06	-6.78/-5.58
Θ(82.5°)	-4.31/-6.8	-5.59/-8.45	-10.84/-15.21	-11.49/-10.61	-9.08/-7	-5.99/-5.2	-4.09/-4.4	-1.41/-2.24	-4.25/-4.05	-3.51/-2.96	-1.96/-1.09	-1.35/-2.86	-4.2/-3.2	-1.77/-2.96	-7.51/-15.82	-17.82/-12.95	-12.93/-13.04	-8.78/-4.92	-2.86/-2.08	-1.84/-2.53	-2.33/-1.88	-1.41/-2.75	-3.84/-4.65	-6.57/-6.71
Θ(90°)	-6.13/-8.23	-6.83/-7.58	-6.85/-10.85	-15.66/-9.49	-8.09/-8.48	-7.17/-5.95	-5.49/-4.83	-4.02/-4.04	-3.95/-4.55	-5.4/-4.9	-3.55/-1.96	-1.5/-2.67	-3.97/-3.86	-2.48/-3.12	-61/-4.95	-18.94/-12.79	-14.84/-18.81	-8.07/-4.8	-2.21/-2.82	-3.65/-2.92	-2.26/-2.34	-2.32/-3.77	-5.91/-7.57	-8.39/-8.86
Θ(97.5°)	-6.69/-7.53	-5.72/-5.62	-7.71/-31.48	-9.17/-3.18	-9.94/-10.13	-10.33/-13.15	-11.65/-10.6	-7.09/-53	-4.95/-5.24	-6.51/-7.26	-5.24/-9.37	-2.62/-3.67	-3.45/-1.86	-2.17/-3.33	-18.13/-13.13	-16.09/-17.31	-12.35/-7.86	-6.06/-6.47	-5.36/-6.32	-4.68/-3.48	-3.82/-6.48	-8.91/-9.22	-9.33/-9.5	
Θ(105°)	-10.54/-13.21	-7.78/-7.54	-8.57/-19.17	-12.11/-8.07	-7.52/-9.56	-12.01/-13.23	-10.69/-7.68	-4.89/-3.87	-4.01/-4.78	-6.92/-6.92	-4.81/-2.86	-3.71/-6.2	-9.4/-5.59	-3.9/-5	-11.03/-18.5	-17.62/-14.25	-12.49/-15.35	-13.61/-12.99	-6.97/-9.81	-10.92/-8.28	-7.25/-7.54	-6.29/-6.37	-8.05/-13.3	-6.91/-10.52
Θ(112.5°)	-17.31/-18.98	-12.87/-11.81	-14.02/-18.76	-9.24/-7.2	-7.53/-9.87	-10.49/-11.59	-9.78/-8.25	-6.58/-5.47	-4.73/-4.88	-6.26/-6.19	-5.31/-3.37	-3.4/-6.34	-11.83/-8.18	-5.73/-7.71	-12.01/-18.36	-18.78/-12.92	-10.42/-11.75	-11.58/-14.4	-9.65/-12.67	-10.48/-8.73	-9.22/-7.46	-8.88/-6.52	-7.7/-6.46	-12.34/-15.25
Θ(120°)	-14.33/-16.1	-8.9/-9.58	-10.69/-17.32	-12.55/-8.71	-8.47/-9.39	-8.62/-8.14	-6.86/-5.82	-4.59/-4.17	-4.56/-6.8	-8.97/-9.62	-6.79/-4.17	-3.78/-4.64	-6.61/-3.03	-9.53/-8.09	-8.28/-10.99	-18.19/-141	-14.54/-16.37	-11.14/-13.23	-13.38/-6.28	-5.72/-8.35	-3.97/-8.86	-7.22/-6	-12.2/-17.56	
Θ(127.5°)	-4.92/-7.86	-7.32/-8.6	-13.56/-15.08	-10.07/-9.48	-7.25/-9.13	-8.62/-9.32	-7.16/-6.27	-4.92/-4.97	-5.33/-4.42	-6.28/-3.56	-3.84/-3.47	-2.76/-4.67	-9.18/-14.8	-13.39/-9.29	-9.89/-11.53	-12.96/-16.49	-13.41/-13.88	-18.96/-9.42	-5.21/-6.32	-5.85/-4.84	-13.32/-13.47	-12.47/-11.51		
Θ(135°)	-16.95/-16.55	-13.75/-13.83	-14.98/-14.48	-8.69/-6.7	-7.7/-8.54	-11.21/-11.55	-11.22/-10.11	-8.67/-7.16	-5.7/-6.03	-6.28/-4.73	-2.96/-1.16	-1.47/-3.51	-6.38/-16.54	-16.34/-13.57	-10.19/-10.92	-8.55/-13.63	-9.99/-18.1	-14.65/-18.57	-13.32/-17.72	-18.25/-13.74	-7.98/-4.76	-5.38/-8.68	-14.92/-14.64	-12.41/-15.51
Θ(142.5°)	-12.33/-10.2	-11.71/-14.06	-15.89/-16.62	-15.38/-9.12	-8.28/-9.32	-9.42/-10.12	-9.61/-8.72	-6.96/-5.34	-4.71/-4.66	-4.66/-5.05	-4.38/-3.17	-3.57/-5.3	-9.64/-3.72	-11.35/-14	-16.5/-13.08	-13.18/-12.2	-12.1/-17.62	-14.34/-9.27	-8.21/-4.81	-4.62/-5.92	-7.06/-9.49	-14.02/-12.42	-13.61/-17.1	
Θ(150°)	-16.44/-14.69	-11.48/-13.32	-16.97/-18.42	-18.08/-16.14	-9.93/-8.51	-8.88/-9.43	-9.21/-9.19	-6.96/-6.54	-6.45/-6.27	-5.6/-4.49	-3.32/-2.93	-3.3/-3.96	-5.83/-9.62	-13.13/-18.79	-17.43/-14.82	-14.09/-12.82	-14.44/-17.71	-12.45/-11.35	-11.16/-14.11	-11.14/-10.15	-10.74/-11.85	-12.98/-13.54	-13.56/-13.4	-13.31/-16.11
Θ(157.5°)	-12.95/-10.82	-10.94/-12.73	-14.43/-17.2	-19.14/-19.25	-17.61/-17.98	-19.02/-16.51	-12.16/-8.83	-7.57/-7.24	-6.9/-5.58	-3.82/-2.33	-1.63/-1.65	-2.34/-3.23	-8.83/-8.11	-12.66/-16.9	-19.3/-15.7	-14.02/-13.91	-14.85/-15.71	-14.68/-15.14	-16.56/-16.74	-17.29/-15.38	-12.45/-9.11	-6.83/-5.56	-5.29/-6.12	-8.21/-11.68
Θ(165°)	-9.22/-8.86	-9.12/-9.64	-10.32/-10.44	-11.38/-12.28	-14.01/-16.55	-17.94/-17.27	-16.01/-13.76	-11.7/-9.38	-7.3/-5.4	-3.66/-2.28	-1.5/-1.12	-1.42/-2.41	-4.03/-6.53	-9.63/-13.74	-18.39/-10.63	-17.94/-17.36	-18.07/-16.53	-13.41/-11.33	-10.66/-10.69	-10.8/-10.15	-9.3/-7.59	-6.22/-5.89	-6.71/-7.68	-8.76/-9.33
Θ(172.5°)	-14.17/-13.94	-14.17/-13.87	-14.9/-15.76	-15.13/-14.19	-14.77/-16.5	-17.56/-18.54	-17.95/-17.56	-19.04/-17.83	-14.31/-11.65	-9.61/-8.08	-7.11/-6.77	-6.95/-7.77	-9.22/-16.97	-17.23/-18.71	-17.18/-15.89	-14.37/-14.87	-16.58/-18.89	-18.08/-15.9	-14.56/-13.19	-11.87/-11.48	-11.05/-10.78	-11.12/-9.17	-16.38/-18.49	-16.34/-14.53
Θ(180°)	-11.95/-12.99	-14.02/-15.42	-18.88/-19.28	-17.88/-18.02	-13.21/-15.57	-10.41/-9.44	-8.55/-7.5	-6.94/-6.75	-8.65/-7.49	-8.64/-10.3	-12.65/-15.89	-18.18/-19.04	-18.4/-17.82	-16.59/-14.6	-13.97/-13.37	-13.34/-13.25	-13.53/-13.82	-14.4/-14.77	-14.82/-14.21	-13.32/-12.97	-12.47/-11.51			
Freq(Hz)	5.36GPol.	ThetaAnt.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°)	-13.89/-12.31	-10.67/-11.5	-8.25/-7.55	-7.11/-6.35	-6.24/-5.85	-5.34/-5.15	-5.12/-5.48	-5.87/-6.75	-7.79/-8.94	-9.81/-10.61	-11.51/-12.78	-14.32/-15.74	-16.26/-14.96	-13.02/-10.6	-8.63/-7.3	-6.63/-6.06	-5.91/-5.93	-6.08/-6.37	-6.99/-7.46	-8.03/-8.5	-9.56/-11.06	-13.08/-15.35	-16.67/-19.09	-18.6/-16.91
Θ(7.5°)	-15.51/-18.52	-15.6/-13.18	-11.02/-10.24	-9.36/-7.82	-6.28/-11.2	-6.71/-6.68	-6.67/-7.21	-7.68/-8.81	-10.4/-12.45	-1														



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

Appendix A

Θ(0°)	-3.83/-4.41	-5.76/-6.5	-6.84/-6.97	-7.06/-6.61	-6.12/-5.65	-5.37/-5.42	-5.36/-5.23	-5.13/-5.02	-4.85/-4.84	-4.79/-4.56	-4.42/-4.12	-4.22/-4.49	-4.61/-4.65	-4.58/-4.88	-5.27/-5.96	-6.43/-6.67	-6.65/-6.39	-6.21/-5.76	-5.05/-4.37	-3.69/-3.18	-2.83/-2.57	-2.54/-2.83	-2.88/-3.12	-3.74/-3.85
Θ(7.5°)	-4.2/-4.93	-5.63/-6.99	-8.18/-9	-9.93/-8.92	-7.31/-5.41	-4.34/-3.37	-2.28/-1.73	-1.24/-0.95	-0.6/-0.56	-0.65/-1.16	-1.75/-2.17	-2.92/-3.44	-3.56/-3.6	-3.56/-3.46	-3.51/-3.56	-3.77/-3.87	-4.12/-4.59	-5.13/-5.69	-6.54/-6.98	-7.56/-7.6	-7.51/-7.25	-7.37/-7.16	-6.41/-5.71	-5.16/-4.55
Θ(15°)	-4.46/-4.08	-3.87/-5.34	-7.12/-9.35	-12.19/-13.05	-11.03/-8.24	-6.46/-5.2	-4.13/-3.29	-2.51/-2	-1.47/-1	-0.65/-0.66	-1.03/-1.64	-2.51/-2.88	-2.67/-2.12	-1.6/-1.23	-0.87/-0.79	-1.13/-2.07	-3.4/-4.99	-6.63/-8.66	-10.93/-13.93	-16.9/-19.46	-19.1/-19.39	-14.32/-10.67	-8.54/-6.33	-5.02/-4.36
Θ(22.5°)	-1.49/-1.81	-2.7/-2.94	-4.28/-6.12	-8.72/-10.92	-14.57/-18.66	-15.77/-12.78	-9.91/-7.14	-5.59/-4.36	-3.2/-2.06	-1.22/-1.14	-1.74/-2.78	-4.06/-4.36	-3.16/-1.83	-1.14/-0.81	-0.81/-1.36	-2.9/-5.46	-9.52/-17.12	-18.42/-10.81	-7.33/-6.06	-5.6/-6.54	-8.37/-9.42	-8.84/-8.58	-8.9/-7.52	-4.42/-2.45
Θ(30°)	-1.74/-1.59	-1.95/-1.97	-2.68/-4.53	-5.98/-7.18	-9.41/-13.86	-18.07/-18.57	-13.71/-9.25	-6.49/-5.03	-4.23/-3.32	-2.21/-2.04	-2.79/-3.84	-5.41/-7.17	-7.13/-5.32	-4.21/-3.38	-3.02/-3.65	-5.66/-9.6	-14.12/-10.9	-6.29/-4.69	-4.28/-4.57	-4.49/-4.8	-5.58/-7.9	-9.42/-7.79	-5.61/-4.64	-4.31/-3.49
Θ(37.5°)	-3.39/-3.07	-2.71/-3.08	-3.07/-4.33	-6.09/-8.11	-10.59/-14.33	-19.02/-18.28	-12.91/-10.75	-8.72/-7.25	-5.78/-4.61	-3.11/-2.55	-3.47/-4.94	-7.43/-11.41	-11.7/-9.46	-8.57/-7.4	-6.53/-6.18	-6.88/-9.05	-15.83/-18.63	-14.93/-7.22	-3.14/-1.78	-2.46/-4.11	-6.01/-7.66	-10.82/-13.88	-11.8/-9.28	-6.31/-4.4
Θ(45°)	-2.44/-2.36	-2.01/-2.71	-4.59/-5.22	-5.66/-6.31	-7.7/-9.58	-10.39/-6.4	-4.83/-4.55	-5.26/-6.42	-7.4/-6.87	-4.67/-3.31	-3.91/-7.21	-12.24/-19.57	-18.73/-17.32	-18.64/-11.65	-7.67/-5.96	-5.64/-6.54	-10.51/-15.46	-10.81/-6.46	-4.54/-3.18	-1.84/-0.8	-0.87/-2.1	-4.83/-9.98	-6.01/-4.03	-3.41/-3.09
Θ(52.5°)	-4.3/-3	-2.59/-2.67	-3.24/-3.28	-2.8/-2.48	-3.33/-4.85	-3.45/-2.28	-1.45/-0.91	-0.89/-0.98	-1.45/-2.61	-2.97/-2.95	-2.58/-4.58	-6.14/-4.45	-4.66/-6.91	-12.95/-19.02	-10.1/-7.35	-9.15/-11.03	-13.84/-18.78	-11.42/-5.28	-2.41/-1.47	-1.1/-0.44	-0.35/-1.18	-0.94/-0.55	-0.96/-1.83	-2.83/-3.17
Θ(60°)	-1.87/-1.41	-1.83/-2.98	-5.12/-5.79	-4.33/-3.9	-4.86/-4.71	-2.59/-0.32	0.35/0.78	0.84/0.56	0.45/-0.07	-0.95/-2.31	-3.1/-2.32	-1.2/-0.07	0.5/-0.07	-3.15/-12.73	-9.27/-7.3	-10.59/-9.31	-14.76/-19.1	-7.87/-3.6	-1.64/-0.75	-0.87/-0.98	-1.13/-0.79	-1.19/-0.39	0.37/-0.96	-1.94/-2.01
Θ(67.5°)	-2.25/-2.55	-3.08/-5.72	-6.25/-6.68	-7.17/-9.24	-10.03/-5.75	-3.22/-1.97	-2.23/-1.45	-0.56/0.75	1.63/0.41	-1.22/-1.92	-1.01/0.65	1.3/0.02	-0.05/0.22	-1.28/-6.97	-13.56/-11.58	-11.11/-14.13	-17.65/-11.07	-6.36/-3.7	-2.17/0.14	0.98/0.61	-0.48/-2.25	-1.2/-0.44	-0.09/-0.66	-1.9/-2.9
Θ(75°)	-4.57/-5.07	-5.64/-7.94	-9.03/-12.31	-16.08/-13.36	-10.27/-8.53	-6.54/-6.56	-5.33/-7.2	-10.26/-5.03	-1.34/-0.39	-1.41/-3.51	-2.49/-0.56	0.5/-0.97	-1.97/-1.14	0.28/-1.62	-7.85/-15.46	-10.25/-10.26	-9.81/-13.64	-12.23/-8.65	-4.22/-1.77	-1.07/-1.2	-1.43/-1.96	-2.14/-1.14	-0.38/-2.8	-6.38/-6.92
Θ(82.5°)	-5.61/-6.55	-7.48/-7.37	-9.15/-11.9	-11.14/-11.54	-11.39/-14.64	-13.08/-10.85	-12.6/-12.41	-7.97/-3.79	-0.65/-0.15	-0.52/-1.34	-0.79/-0.45	-0.97/-4.28	-7.03/-5.17	-1.38/-2.36	-7.47/-16.12	-9.43/-7.59	-11.12/-17.39	-14.2/-7.72	-2.63/-3.47	-3.08/-1.03	-0.48/-0.33	-1.05/-2.85	-5.47/-7.32	-10.93/-5.6
Θ(90°)	-6.75/-7.75	-7.95/-6.18	-11.58/-16.4	-8.53/-7.68	-8.18/-19.3	-11.05/-11.49	-10.06/-8.66	-6.45/-3.9	0.077/1.82	1.58/0.29	0.39/0.73	0.14/-2.04	-2.57/-3.94	0.05/-0.93	-5.88/-19.35	-12.58/-7.51	-6.8/-8.8	-11.86/-8.79	-8.97/-4.42	-2.56/-1.95	-0.85/-0.13	-1.35/-3.6	-6.14/-4.27	-6.1/-4.9
Θ(97.5°)	-7.57/-9.93	-8.57/-9.09	-17.74/-11.23	-6.34/-9.77	-13.47/-10.37	-5.81/-5.63	-4.09/-3.09	-2.34/-0.77	1.32/1.66	1.87/0.35	-1.63/-3.72	-3.01/-2.21	-0.48/-0.1	0.93/-3.33	-9.68/-18.58	-15.7/-6.37	-9.89/-12.21	-15.31/-10.69	-5/-6.85	-6.11/-2.95	-0.8/-2.34	-3.45/-6.57	-4.75/-4.56	-5.25/-3.87
Θ(105°)	-9.82/-7.42	-7.28/-5.86	-14.38/-12.14	-6.1/-9.17	-11.77/-13.62	-7.63/-5.23	-3.03/-3.73	-4.86/-2.84	-1.35/-1.1	-1.34/-3.01	-5.74/-8.01	-7.54/-3.75	0.35/1.31	1.71/-1.18	-6.58/-14.92	-18.38/-18.13	-18.92/-13.9	-16.7/-14.95	-8.28/-8.02	-8.57/-5.61	-3.15/-1.58	-3.83/-6.33	-4.7/-5.65	-13.46/-9.8
Θ(112.5°)	-13.87/-11.71	-11.64/-11.63	-19.17/-12.66	-7.92/-11.71	-12.86/-18.57	-10.73/-6.16	-4.6/-2.42	-0.94/-0.91	-0.8/-0.78	-1.35/-3.95	-5.3/-4.88	-5.84/-7.22	-3.06/-1.66	-3.5/-4.94	-15.88/-16.03	-17.01/-11.64	-5.61/-6.94	-5.96/-11.22	-9.78/-7.04	-11.52/-6.08	-1.86/-3.26	-1.97/-3.12	-4.03/-5.62	-18.23/-11.46
Θ(120°)	-19.14/-18.62	-19.47/-16.09	-18.57/-18.06	-11.23/-10.6	-14.34/-17.25	-14.96/-12.25	-5.92/-2.87	-1.87/-1.1	-0.7/-1.04	-2.69/-4.1	-4.35/-2.96	-4.31/-3.34	-11.57/-6.88	-9.51/-7.95	-7.29/-9.19	-15.19/-18.29	-10.89/-10.41	-7.22/-12.31	-5.58/-6.01	-6.2/-3.03	-2.75/-3.33	-4.16/-8.82	-5.9/-6.35	-11.21/-15.34
Θ(127.5°)	-10.02/-11.77	-6.57/-12.13	-12.83/-13.49	-12.86/-8.71	-8.72/-9.37	-8.93/-4.75	-3.36/-1.92	-0.59/-1.21	-3.15/-5.28	-6.83/-8.2	-7.98/-4.72	-4.1/-8.27	-7.86/-6.08	-3.69/-8.52	-15.68/-13.85	-11.64/-10.62	-12.75/-19.53	-8.51/-11.08	-5.55/-1.66	-1.08/-2.74	-6.17/-18.89	-10.84/-13.15	-10.8/-12.02	
Θ(135°)	-8.24/-9.81	-7.69/-10.36	-12.07/-10.1	-6.28/-5.53	-4.31/-4.35	-4.12/-4.81	-3.5/-1.83	-1.72/-2.36	-3.38/-4.99	-5.69/-4.99	-3.09/-1.66	-0.84/-2.12	-4.71/-3.93	-3.49/-4.01	-9.83/-15.21	-6.13/-17.6	-18.33/-12.04	-6.29/-18.58	-5.26/-7.81	-12.73/-3.95	-8.5/-8.12	-1.22/-11.27	-18.59/-18.03	-16.23/-8.48
Θ(142.5°)	-14.45/-13.3	-17.63/-17.85	-18.67/-16.7	-6.44/-3.46	-2.98/-3.82	-5.85/-5.76	-4.47/-2.6	-1.61/-1.96	-3.82/-8	-15.09/-15.97	-9.21/-5.54	-5.41/-8.69	-13.27/-11.36	-9.37/-18.01	-7.41/-5.57	-5.92/-11.83	-9.72/-9.98	-17.72/-6.55	-6.61/-8.02	-6.35/-2.07	-2.28/-3.99	-5.33/-6.61	-9.59/-6.02	-6.16/-14.73
Θ(150°)	-16.8/-18.42	-19.31/-16.98	-17.78/-19.17	-16.54/-7.53	-4.8/-4.14	-5.5/-8.29	-8.25/-7.54	-6.33/-6.31	-9.53/-16.99	-16.24/-14.13	-10.91/-7.16	-5.73/-5.47	-5.87/-7.63	-9.93/-8.95	-8.09/-9.35	-8.1/-11.21	-18.94/-14.24	-9.99/-9.03	-9.92/-11.34	-9.73/-7.92	-9.65/-13.5	-14.91/-14.03	-14.32/-14.33	-14.24/-14.03
Θ(157.5°)	-13.63/-16.82	-19.01/-18.07	-17.79/-17.35	-19.18/-15.08	-11.19/-10.27	-10.47/-10.74	-10.1/-8.51	-7.1/-6.63	-5.82/-4.85	-3.41/-2.31	-1.45/-0.74	-0.74/-1.83	-3.63/-4.88	-5.58/-7.02	-7.99/-7.13	-6.63/-9.1	-15.16/-18.09	-18.17/-14.52	-13.49/-12.92	-14.15/-16.7	-13.49/-9.98	-8.5/-8.12	-1.62/-9.92	-11.21/-12.06
Θ(165°)	-14.98/-15.37	-16.35/-16.51	-14.75/-14.69	-15.54/-15.07	-14.42/-14.12	-16.89/-17.94	-17.7/-12.41	-9.1/-7.16	-5.05/-3.02	-1.28/-0.31	-0.65/-0.2	-0.55/-0.91	-1.54/-2.93	-5.49/-9.24	-13.66/-16.67	-14.47/-12.64	-11.92/-10.79	-9.86/-9.47	-10.32/-10.48	-9.13/-7.48	-5.91/-5.09	-4.71/-5.36	-7.28/-9.91	-12.64/-14.19
Θ(172.5°)	-13.73/-12.26	-12.43/-13.56	-13.2/-12.2	-12.01/-14.14	-16.95/-19.24	-18.85/-18.01	-13.56/-10.35	-8.44/-6.67	-4.79/-3.31	-2.14/-1.46	-1.65/-2.33	-3.7/-5.46	-7.43/-9.91	-13.37/-18.56	-18.38/-19.21	-14.7/-11.65	-9.62/-8.39	-7.41/-6.68	-6.65/-6.72	-6.87/-6.42	-6.35/-6.87	-8.11/-10.37	-13.13/-15.99	-17.42/-14.93
Θ(180°)	-12.31/-13.45	-16.9/-18.72	-18.65/-15.77	-13.95/-12.08	-10.6/-9.6	-7.5/-6.91	-6.97/-6.46	-6.09/-6.16	-6.93/-7.69	-8.56/-9.8	-10.93/-12.09	-13.9/-16.01	-17.35/-17.59	-16.36/-15.53	-13.79/-11.77	-10.7/-10.18	-9.81/-9.88	-10.06/-9.98	-10.16/-10.06	-9.7/-9.36	-9.27/-8.74	-8.74/-8.39	-8.47/-9.45	-11.66/-11.83
Freq(Hz)	5.7855/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°)	-2.92/-2.32	-2.39/-2.49	-2.69/-2.52	-2.33/-2.57	-2.81/-3.07	-3.73/-3.41	-3.9/-3.62	-3.73/-3.66	-3.88/-4.05	-4.2/-4.19	-4.32/-4.76	-5.25/-5.61	-5.51/-5.21	-4.51/-4.13	-3.51/-3.94	-2.37/-2.12	-2.33/-2.74	-3.74/-4.46	-5.33/-6.15	-6.6/-6.98	-8.24/-9.04	-9.62/-8.4	-7.05/-5.86	-4.58/-3.47
Θ(7.5°)	-4.34/-3.98	-3.48/-3.15	-3.07/-2.84	-2.1/-2.64	-2.98/-3.12	-3.29/-3.94	-4.83/-6.13	-7.8/-9.54	-10.31/-10.12	-8.86/-7.1	-5.7/-4.74	-4.1/-3.62	-3.19/-2.79	-2.71/-3.09	-3.53/-4.08	-3.97/-3.63	-3.52/-3.48	-3.43/-3.35	-3.23/-3.41	-3.09/-3.31	-3.73/-4.43	-5.18/-5.42	-5.57/-5.47	-5.16/-4.77
Θ(15°)	-7.53/-7.25	-6.39/-5.09	-3.88/-4.07	-3.31/-3.87	-4.46/-4.95	-6.12/-7.8	-10.1/-12.63	-17.24/-18.19	-18.15/-16.6	-11.49/-8.25	-5.97/-4.33	-3.2/-2.48	-2/-1.69	-1.88/-2.54	-3.96/-4.96	-4.68/-4.03	-3.48/-3.25	-3.26/-3.09	-3.31/-3.47	-3.59/-3.12	-3.08/-3.21	-3.44/-3.43	-3.95/-4.98	-6.05/-7.18
Θ(22.5°)	-15.18/-18.66	-18.03/-13.4	-9.79/-10.48	-9.94/-10.9	-11.63/-15	-18.52/-17.49	-19.01/-17.89	-19.04/-17.48	-18.64/-18.33	-13.77/-9.73	-6.78/-4.79	-3.63/-3.15	-3.12/-4	-4.91/-5.8	-5.79/-4.17	-2.09/-0.66	-0.36/-0.83	-1.05/-0.91	-0.96/-1.7	-2.23/-3.17	-4.01/-4.88	-5.2/-4.97	-4.39/-5	-6.09/-10.08
Θ(30°)	-16.71/-13.79	-10.84/-12.53	-16.07/-13.37	-8.28/-7.09	-9.22/-13.56	-18.2/-17.16	-16.81/-13.58	-13.52/-15.01	-17.09/-18.85	-19.01/-18.37	-10.95/-7.96	-6.31/-5.27	-5.09/-6.05	-7.28/-7.7	-6.54/-3.77	-1.39/-0.68	-0.85/-0.06	0.69/0.37	-0.47/-0.86	-1.15/-1.72	-2.74/-3.94	-5.32/-6.52	-7.17/-8.05	-8.07/-12.11
Θ(37.5°)	-13.26/-11.49	-8.87/-8.74	-7.78/-5.86	-4.94/-7.36	-11.26/-15.42	-18.27/-12.83	-10.07/-9.7	-11.35/-13.27	-14.87/-16.36	-19.61/-18.37	-12.28/-8.79	-6.76/-6.27	-8.1/-12.45	-13.53/-8.04	-4.4/-2.47	-0.36/0.9	1.81/1.99	0.98/-0.01	-0.28/-0.72	-2.17/-3.99	-6.6/-9.36	-10.54/-9.22	-8.02/-9	-9.29/-11.34
Θ(45°)	-8.09/-6.88	-5.33/-5.59	-6.37/-6.65	-7.56/-10.81	-17.26/-17.9	-13.44/-9.65	-9.25/-9.24	-8.65/-8.12	-8.34/-8.84	-9.68/-12.38	-16.31/-14.7	-12.55/-10.66	-17.84/-14.34	-11.33/-10.83	-5.94/-2.84	0.54/2.13	3.33/-7.1	3.37/2.79	1.78/0.22	-1.11/-3.22	-7.25/-19.75	-10.12/-5.86	-5.63/-7.57	-9.97/-9.92
Θ(52.5°)	-7.65/-6.68	-8.15/-9.87	-11.63/-13.56	-17.09/-16.22	-19.04/-19.2	-14.77/-13.41	-14.4/-14.78	-14.9/-14.87	-14.04/-14.57	-12.15/-														



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Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	3.42	2.5	2.46	2.81
Ant. 2 Max Gain (dBi)	3.07	2.65	2.57	2.83
Ant. 3 Max Gain (dBi)	3.47	3.58	2.44	3.53
Ant. 4 Max Gain (dBi)	3.85	3.26	3.95	3.38
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/45/330	Phi/45/37.5	Phi/105/225	Theta/112.5/112.5
Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/60/172.5	Theta/105/240	Theta/112.5/240	Theta/97.5/240
Ant. 3 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/105/277.5	Theta/105/255	Theta/105/255	Phi/90/172.5
Ant. 4 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/15/195	Theta/15/202.5	Theta/15/210	Phi/112.5/172.5
Max Gain (dBi)	3.85	3.58	3.95	3.53
DG [1SS] (dBi)	5.33	4.88	5.77	5.89
DG [2SS] (dBi)	3.85	3.58	3.95	3.53
DG [4SS] (dBi)	3.85	3.58	3.95	3.53

Sporton International Inc. Hsinchu Laboratory



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

Appendix B

Θ(22.5°)	-5.59/4.62	-2.25/0.13	0.28/0.05	-0.27/-0.98	-1.18/-1.8	-2.2/-1.9	-1.49/-1.56	-2.13/-3.17	-4.12/-3.99	-4.32/4.45	-3.8/-3.36	-2.76/-2.3	-2.54/-2.29	-1.2/-0.15	0.49/0.99	1/0.68	0.48/0.27	0.08/-0.12	-0.26/-0.45	-1.25/-1.78	-1.97/-1.62	-1.32/-1.52	-2.19/-2.81	-3.49/-4.53
Θ(30°)	-6.99/-5.67	-3.47/-1.58	-0.55/-0.88	-1.2/-2.08	-2.3/-1.68	-1.33/-1.12	-1.25/-1.41	-1.88/-2	-1.71/-1.84	-2.02/-2.29	-2.43/-2.08	-1.85/-2.14	-2.98/-3.09	-2.68/-0.83	0.71/1.48	1.49/1.04	0.66/0.18	-0.28/-0.88	-1.8/-2.43	-1.97/-1.28	-1.32/-1.99	-2.57/-2.95	-3.97/-5.18	-6.07/-7.07
Θ(37.5°)	-6.67/-5.67	-2.59/-0.99	0.03/0.7	1.3/1.4	0.63/-0.79	-2.99/-3.99	-3.92/-2.83	-1.92/-1.4	-0.22/-0.13	-0.86/-0.53	-0.62/-0.82	-0.09/-0.38	-3.14/-5.47	-4.1/-1.36	1.07/2.53	3.15/3.14	2.58/1.85	1.82/1.78	0.47/-0.02	0.05/-0.35	-1.29/-2.38	-3.64/-4.29	-5.21/-5.54	
Θ(45°)	-2.88/-1.26	0.04/0.71	1.83/-2.98	3.55/3.24	1.95/0.82	-0.22/-1.25	-1.33/-0.55	-0.23/-0.31	0.23/0.85	0.34/-1.05	0.84/0.88	0.47/0.92	-0.7/-2.66	-1.27/0.04	0.87/2.47	3.35/3.03	3.03/3.41	3.09/2.84	3.4/2.87	1.32/0.15	-1.04/-2.68	-3.64/-3.52	-3.89/-2.93	-2.12/-3.08
Θ(52.5°)	0.62/-1.32	1.49/2.15	3.38/3.9	3.7/2.25	0.86/0.6	0.61/0.19	-0.46/-0.41	0.18/0.14	-0.45/-0.48	-0.64/-1.48	-0.24/-1.3	-0.89/0.36	1.11/0.84	0.74/0.58	0.73/2.52	2.76/2.79	2.43/2.43	2.96/3.17	2.98/2.42	1.84/1.31	-0.24/-1.86	-4.17/-3.14	-2.73/-1.25	1.12/0.95
Θ(60°)	-0.29/-1.56	0.92/0.04	1.58/2.02	1.39/0.46	1.55/2.19	1.24/-0.76	-2.39/-1.94	-1.58/-0.52	0.14/0.37	0.76/0.16	-0.53/-1.22	-2.28/-0.99	0.99/0.98	1.11/0.13	0.25/1.47	1.4/0.3	-0.85/-1	-1.33/-0.44	0.29/0.33	0.49/-0.26	-1.37/-0.81	-2.55/-2.74	-2.43/-1.77	0.81/1.2
Θ(67.5°)	-0.39/0.98	-0.56/-1.25	0.94/-1.76	1.39/1.43	1.28/0.93	-1.23/-0.48	1.22/1.88	0.84/0.19	0.53/1.61	1.95/1.08	0.39/-1.65	-3.47/-1.59	-1.87/-0.69	-0.05/-0.08	0.92/2.25	1.05/-0.24	-0.55/0.71	0.63/0.72	0.86/0.8	0.77/-0.69	-2.05/-0.89	-0.43/-1.75	-3.31/-3.17	-1.3/-0.27
Θ(75°)	10.72	1.08/2.46	3.91/3.23	3.46/3.61	2.77/1.24	-0.05/2.17	3.63/3.78	3.66/3.45	4/3.21	2.53/2.7	2.42/0.35	-0.72/-0.26	-1.36/-0.22	0.11/0.05	0.29/2.05	2.31/0.72	-0.15/0.18	0.75/-1.25	-0.02/0.87	1.13/0.11	-2.03/-2.95	-1.54/-4.14	-4.47/-3.11	-1.71/0.51
Θ(82.5°)	0.49/0.85	2.93/3.21	2.89/-1.87	1.62/0.95	0.32/-0.13	1.51/2.26	2.51/3.43	2.96/1.92	3.59/2.67	1.78/2.01	1.93/-1.89	2.44/-1.75	-0.82/0.66	0.4/-3.08	0.49/-1.88	1.46/-0.37	-0.68/-0.09	-0.27/-3.07	-3.23/-1.08	-1.06/1.18	0.95/-1.56	-2.93/-5.02	-6.07/-1.47	0.71/1.2
Θ(90°)	1.01/2.6	2.82/1.4	0.61/0.03	-0.57/-2.73	-1.11/0.46	2.15/-1.93	1.92/2.19	2.34/0.59	1.06/0.93	-0.97/-0.45	1.71/2.12	1.96/3.28	2.71/0.93	2.23/-0.68	-0.4/0.31	-0.28/-2.2	-2.23/-1.55	-1.19/-1.45	-1.12/-4	-4.75/-0.24	1.31/-2.1	-4.6/-5.56	-2.33/-0.26	1.21/1.73
Θ(97.5°)	1.53/0.94	1.82/0.58	-1.61/-4.14	-3.77/-2.4	-1.81/-0.68	0.34/0.62	0.91/1.66	0.93/-0.7	0.97/0.38	1.07/1.19	2.17/0.62	0.09/1.72	1.78/1	1.23/-0.25	0.09/-0.94	-2.19/-0.58	-2.49/-1.71	-2.36/-1.47	-1.08/-0.89	-1.48/-0.55	-0.89/-3.44	-4.43/-5.36	-3.59/-1.97	-0.27/2.02
Θ(105°)	3.19/1.3	1.07/-0.73	-1.58/-0.89	-0.3/-2.11	-2.19/-1.33	-2.28/-0.64	0.05/0.88	0.15/-1.22	0.63/0.54	1.84/1.98	0.94/-1.47	1.07/1.17	2.74/2.08	1.28/0.87	-1.84/-0.21	0.1/-0.67	-0.83/-0.79	-1.15/-0.46	-1.71/0.09	-3.08/-0.88	-2.23/4.09	-4.55/-2.26	-3.26/-3.19	-2.42/-7.2
Θ(112.5°)	0.57/-0.08	1.61/1.03	-1.03/-0.22	0.97/-0.8	-0.3/-2.22	-1.99/-0.4	0.11/-0.72	-2.01/-0.15	-0.82/0.01	0.38/0.1	-0.72/-1.14	1.06/0.91	1.35/-0.25	-1.72/-2.26	-4.35/-1.95	-1.29/-0.29	-1.53/-5.2	-1.23/-0.03	-1.02/-2.17	-6.81/-5.66	-2.49/-2.71	-2.33/-5.44	-3.41/-3.85	-2.07/-0.37
Θ(120°)	-0.35/-2.22	0.01/0.38	-0.36/-1.95	1.66/0.14	-1.47/-0.1	-0.79/-1.65	-3.04/-2.42	-0.82/-0.16	0.2/0.44	0.33/-0.13	1.84/2.06	1.42/0.02	-2.58/-4.99	-0.8/-3.84	-2.83/-3.72	-3.99/-1.97	0.47/-0.18	-3.21/-4.53	-4/-3.85	-6.76/-3.2	-5.23/-9.35	-2.66/-0.4	-3.4/-4.31	
Θ(127.5°)	-5.52/-1.99	-0.34/-0.07	0.64/1.38	-1.22/-1.13	-1.46/-3.28	-2.85/-2.84	-1.6/-1.83	-1.65/-1.15	-0.99/-1.25	-0.32/-0.07	0.13/-0.03	5.52/0.21	3.04/0.09	-2.36/-2.27	-4.04/-0.42	-1.54/-3.03	-5.16/-1.98	-7.4/-49	-0.29/-1.06	-2.57/-0.47	-0.2/-3.17	-6.98/-5.63	-2.99/-3.99	-3.34/-3.4
Θ(135°)	-4.97/-2.71	-2.24/-2	-1.23/-1.19	-2.07/-2.26	-3.37/-3.4	-5.36/-4.99	-4.47/-3.64	-2.04/-1.1	-1.2/-0.61	-1.27/-0.51	0.85/0.71	0.62/0.95	1.89/1.58	1.64/0.83	0.07/-2.52	-3.04/-5.19	-5.48/-3.59	-4.19/-3.54	-2.93/-5.59	-7.03/-1.29	-0.3/-4.09	-5.97/-5.36	-4.53/-4.54	-4.59/-5.5
Θ(142.5°)	-0.35/-2.89	-2.33/-1.41	-1.7/-1.72	-0.39/0.34	-0.23/-2.51	-5.34/-4.78	-3.54/-3.49	-4/-4.5	-5.84/-3.22	-3.21/-3.47	-4.02/-3.63	-1.66/0.34	-0.04/-1.55	-2.2/-2.92	-4.38/-2.92	-2.27/-1.45	-3.94/-4.97	-1.97/-5.12	-4.49/-3.01	-3.4/-6.14	-5.15/-3.07	-4.53/-5.45	-6.7/-4.73	-4.71/-4.07
Θ(150°)	-7.86/-6.13	-6.37/-7.3	-7.49/-6.16	-6.41/-5.92	-6.84/-6.51	-9.49/-8.21	-5.46/-3.36	-4.26/-5.42	-5.8/-5.77	-4.63/-4.82	-5.75/-6.17	-6.69/-4.79	-3.76/-3.4	-4.02/-5.31	-5.53/-6.77	-7.23/-8.12	-4.39/-3.79	-4.62/-7.12	-4.9/-6.26	-6.67/-7.71	-6.64/-7	-7.78/-10.92		
Θ(157.5°)	-2.79/-3.15	-6.14/-9	-9.96/-9.61	-9.19/-8.96	-10.45/-10.75	-9.32/-6.83	-5.55/-4.5	-3.48/-3.41	-3.58/-3.71	-6.56/-9.6	-7.59/-6.97	-6/-4.71	-5.64/-5.63	-3.48/-1.11	-0.69/-1.81	-2.33/-3.57	-3.91/-5.64	-8.18/-11.56	-10.53/-6.96	-4.78/-4.63	-4.97/-5.32	-4.66/-3.25	-2.03/-2.35	
Θ(165°)	-3.55/-4.42	-5.08/-5.46	-6.04/-5.92	-6.27/-6.91	-6.35/-4.46	-3.29/-2.85	-2.8/-2.97	-3.22/-3.23	-3.2/-3.39	-3.09/-2.58	-1.94/-1.96	-2.08/-2.18	-2.44/-2.73	-3.09/-2.56	-1.1/-0.88	-1.37/-3.15	-6.86/-4.91	-9.59/-10.19	-9.52/-7.01	-4.14/-2.57	-2.61/-3.66	-3.58/-3.24	-2.1/-2.23	-2.72/-3.18
Θ(172.5°)	-6.24/-5.92	-6.44/-7.09	-7.59/-6.7	-5.93/-4.91	-3.76/-2.78	-1.94/-1.3	-1.13/-1.54	-2.62/-3.71	-4.17/-3.6	-2.97/-2.65	-2.85/-2.77	-2.82/-2.71	-2.83/-2.95	-3.65/-4.17	-5.41/-5.95	-6.95/-7.41	-8.28/-8.49	-8.21/-7.93	-7.03/-6.24	-5.33/-5.65	-5.42/-5.6	-6.28/-4.57	-4.22/-4.64	-5.55/-5.99
Θ(180°)	-4.91/-5.28	-5.52/-5.37	-5.44/-5.87	-6.39/-6.77	-7.08/-7.66	-7.77/-7.45	-6.62/-5.85	-5.38/-4.58	-4/-4.26	-4.71/-4.9	-5.03/-5.1	-5.23/-5.2	-5.59/-6.19	-6.47/-6.49	-6.09/-5.76	-5.78/-5.86	-5.83/-5.83	-5/-4.29	-4.51/-5.5	-9.95/-6.19	-5.92/-5.81	-6.2/-6.94	-6.74/-6.11	-5.51/-5.09
Freq(dB)	6.695dPol.	Theta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Θ(0°)	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°)	0.15/0.08	0.11/-0.27	-0.62/-0.79	-0.68/-0.46	-0.85/-1.14	-1.78/-2.17	-2.39/-2.98	-3.91/-3.34	-1.89/-0.43	0.51/0.76	0.83/0.92	0.9/0.95	0.45/-0.23	-1.2/-2.11	-3.02/-3.77	-4.25/-3.82	-3.62/-3.59	-3.8/-3.74	-3.21/-2.62	-1.99/-1.44	-1.38/-0.86	-0.6/-0.31	0.03/0.31	0.36/0.4
Θ(7.5°)	0.17/-0.58	-1.44/-2.65	-3.53/-4.13	-4.36/-4.44	-4.1/-3.72	-3.19/-3	-2.7/-2.27	-2.17/-1.75	-1.07/-0.68	-0.45/-0.37	-0.09/-0.01	0.07/0.21	0.43/0.65	0.63/0.51	0.22/0.3	0.23/-0.14	-0.97/-2.05	-3.11/-4.1	-3.53/-4.26	-1.5/-0.68	-0.41/0.1	0.54/-1.1	0.98/0.67	
Θ(15°)	-0.2/-1.37	-2.83/-3.9	-5.01/-4.92	-5.04/-4.28	-3.61/-2.53	-2.25/-1.54	-1.76/-1.9	-1.78/-1.33	-1/-0.77	-0.81/-0.87	-0.98/-0.91	-0.71/-0.35	0.4/-1.18	1.74/2.2	2.63/2.54	2.06/1.79	1.53/-1.29	0.82/-0.16	-1.41/-2.25	-2.45/-2.16	-1.83/-1.54	-0.96/-0.23	0.28/0.9	1.09/0.61
Θ(22.5°)	-1.83/-1.71	-1.91/-3.23	-5/-6.12	-5.12/-3.57	-3.33/-3.49	-3.21/-3.34	-2.96/-2.66	-2/-1.41	-1.07/-0.49	0.33/0.79	0.92/0.81	0.97/1.39	1.97/2.39	2.63/2.78	2.51/1.56	0.59/0.68	1.03/0.77	0.46/0.25	-0.11/-0.18	-0.15/-0.24	-0.69/-1.45	-1.76/-1.57	-0.98/-0.41	-0.31/-1
Θ(30°)	-1.35/-0.85	-1.17/-3.22	-4.63/-4.08	-2.87/-2.17	-2.88/-4.11	-4.51/-4.44	-4.11/-3.52	-2.88/-2.68	-2.07/-1.17	-0.18/0.52	1.06/1.34	1.88/2.48	3.16/3.96	3.71/2.9	2.29/1.84	2.14/2.29	2.16/2.14	2.09/1.71	1.01/0.85	0.62/0.39	0.08/-0.58	-2.17/-3.19	-2.53/-1.73	-0.98/-0.8
Θ(37.5°)	-0.95/-1.51	-1.77/-2.49	-2.35/-1.98	-2.61/-4.7	-5.7/-5.66	-5.79/-5.91	-4.77/-3.61	-2.24/-1.28	-0.45/0.33	0.7/0.35	1.93/57	4.37/4.59	4.34/4.17	3.73/4.3	2.84/2.65	1.85/1.55	1.69/2	1.8/0.95	-0.3/-0.54	-1.1/-1.86	-2.57/-2.23	-0.31/-21	0.95/0.06	
Θ(45°)	-1.16/-1.44	-1.06/-1.47	-2.22/-3.88	-6.85/-7.83	-6.27/-6.14	-6.4/-6.64	-6.61/-5.46	-2.95/-1.56	-0.62/0.34	1.37/1.85	1.23/-0.19	0.74/2.76	3.76/4.19	4.44/5.8	4.51/3.68	2.83/2.35	2.15/3.49	4.34/4.27	3.74/2.6	0.79/-1.25	-2.01/-1.47	-0.61/-1.75	-1.06/0.1	-1.41/-0.2
Θ(52.5°)	-0.72/-1.65	-2.03/-2.17	-2.86/-4.6	-6.68/-6.11	-4.78/-4.85	-5.82/-5.88	-5/-3.44	-1.62/-0.04	1.09/1.34	1.57/2.39	2.3/1.6	1.57/1.83	3.11/3.22	2.35/3.17	3.37/2.32	1.92/3.93	3.71/4.39	4.85/4.53	4.11/3.76	1.95/0.76	-0.14/-0.82	0.12/1.44	0.42/0.63	1.18/0.01
Θ(60°)	-0.6/-1.43	-1.23/-0.16	-1.15/-4.36	-5.9/-2.79	-2.48/-3.43	-4.96/-4.57	-3.63/-1.97	0.37/1.74	2.39/2.21	0.98/0.84	1.17/1.61	2.64/-1.96	2.21/1.86	-0.56/1.3	2.47/2.19	1.59/3.35	4.95/5.77	5.67/5.34	4.46/3.09	1.62/1.45	1.13/0.01	0.67/1.79	1.34/1.26	1.32/0.05
Θ(67.5°)	0.71/-0.85	-1.06/0.59	0.48/-0.82	-1.95/-1.04	-1.99/-3.59	-3.14/-3.9	-5.33/-3.47	-0.71/44	1.63/1.9	0.97/0.52	1.1/1.84	1.58/1.85	3.11/1.69	-1.42/-0.52	-0.15/-1.47	1/3.94	5.63/5.69	5/3.6	2.79/1.47	1.61/1.22	1.85/2.03	1.74/1.72	1.22/0.93	1.98/1.81
Θ(75°)	1.07/0.22	0.87/1.73	1.97/-1.82	-1.96/-0.35	-1.62/-0.88	-0.74/-1.78	-2.31/-2.19	-2.47/-2.31	-1.18/-0.24	1.1/0.61	-0.98/0.44	0.26/-1.58	1.32/1.27	0.1/1.09	-0.98/1.14	0.27/2.68	4.47/4.27	3.66/2.13	0.77/-0.14	-0.47/0.27	1.94/1.62	0.78/1.2	-0.76/0.81	2.94/3.16
Θ(82.5°)	0.14/1.14	1.69/2.4	3.07/-0.77	-2.02/-2.86	-1.71/-0.21	0.39/-0.7	-1.55/0	0.31/-0.92	0.48/-0.38	1.21/0.92	-0.82/-0.5	-1.68/-1.22	0.48/-0.52	-2.35/-0.28	-0.97/-0.7	-2/0.9	2.29/2.57	1.48/0.51	-1.42/-2.28	-4.21/-1.69	-0.03/-0	1.		



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

Appendix B

Gain Result

Freq(Hz)	6.175GPol.	PhiAnt.1	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-11.44/-8.74	-6.91/-5.04	-3.68/-2.51	-1.85/-1.64	-1.52/-1.34	-1.24/-1.1	-1.07/-1	-1.23/-1.7	-2.49/-3.51	-5.04/-17.5	-10.24/-14.57	-19.09/-16.51	-10.13/-17	-5.27/-3.94	-2.46/-1.78	-1.22/-0.57	-0.37/-0.59	-1.29/-1.8	-2.27/-2.95	-3.48/-4.2	-5.47/-7.51	-10.54/-12.78	-17.54/-19.01	-19.09/-15.64
Θ(7.5°)	-9.5/-6.44	-4.95/-3.77	-2.42/-0.87	-0.12/-0.02	-0.54/-1.33	-1.82/-2.14	-2.22/-2.71	-3.91/-5.82	-8.32/-10.4	-12.45/-16.17	-17.66/-18.75	-18.78/-14.43	-10.55/-8.41	-7.12/-6	-4.71/-3.43	-2.47/-1.63	-0.97/-0.6	-0.41/-0.35	-0.34/-0.56	-0.67/-1.11	-1.75/-3.15	-5.07/-6.78	-10.66/-17.42	-19.14/-14.53
Θ(15°)	-8.6/-5.06	-3.08/-2.55	-1.59/-0.67	-0.34/-0.28	-0.86/-1.49	-2.24/-2.86	-2.97/-4.04	-6.04/-9.85	-15.64/-17.91	-18.5/-17.19	-15.84/-13.13	-11.92/-11.22	-10.36/-8.82	-6.8/-4.81	-2.92/-1.74	-1.01/-0.8	-0.52/-0.42	-0.34/-0.52	-0.42/-0.53	-0.75/-1.16	-1.96/-3.44	-5.64/-8.09	-11.6/-16.74	-18.93/-13.79
Θ(22.5°)	-6.34/-4.63	-3.82/-2.67	-1.51/-0.68	-0.50/-0.12	-0.49/-1.14	-1.97/-2.99	-4.34/-6.6	-10.34/-15.32	-18.81/-18	-15.02/-11.68	-10.89/-10.79	-10.37/-10.09	-11.14/-10.78	-7.59/-4.55	-2.17/-0.58	0.761/-48	1.83/-12	3.55/-6.04	1.48/-2.36	0.16/-1.46	-6.64/-7.16	-9.79/-13.41	-14.66/-9.16	
Θ(30°)	-3.24/-2.1	-1.28/-0.12	0.340/-1	-0.23/-0.77	-2.25/-4.05	-6.41/-8.64	-10.09/-10.78	-12.08/-12.78	-12.87/-12.85	-13.06/-11.76	-9.98/-7.89	-5.42/-3.5	-3.42/-4.85	-4.6/-2.22	-0.130/-8	1.361/-78	1.981/-88	1.561/-5	1.741/-55	0.39/-1.54	-3.42/-5.11	-6.31/-8.21	-11.37/-14.31	-9.91/-4.89
Θ(37.5°)	-2.36/-0.77	0.591/-71	2.542/-43	1.49/-0.79	-3.37/-4.22	-3.93/-3.45	-3.61/-3.73	-4.36/-5.17	-6.4/-8.78	-15.4/-19.04	-11.32/-6.21	-2.89/-0.02	0.87/-0.24	-2.1/-0.74	0.991/-17	0.970/-95	0.991/-36	1.148/-28	0.85/-0.13	-1.24/-3.16	-4.94/-7.14	-11.66/-15.06	-15.23/-13.6	-8.4/-4.46
Θ(45°)	-1.940/-49	1.241/-76	1.970/-9	-1.58/-4.65	-5.37/-5.37	-5.174/-64	-3.89/-3.49	-2.51/-2.46	-3.23/-4.13	-5.51/-12.99	-12.84/-2.3	-2.04/-0.5	1.481/-85	-0.56/-1.17	-0.09/-0.77	-1.240/-3	0.731/-69	1.981/-13	0.32/-0.11	-1.32/-5.37	-9.04/-12.05	-13.37/-18.05	-16.89/-9.57	-7.24/-4.73
Θ(52.5°)	-2.35/-0.2	-1.25/-2.73	-0.8/-1.64	-4.31/-3.96	-3.38/-4.99	-8.1/-11.92	-11.74/-8.83	-7.05/-5.57	-2.35/-0.46	-1.8/-10.08	-6.29/-0.67	-0.99/-1.01	1.020/-3	-2.53/-1.7	-0.23/-0.77	-0.630/-43	0.80/-63	0.30/-22	-0.2/-1.21	-2.56/-5.37	-7.2/-9.22	-12.38/-18.02	-14.86/-10.29	-8.6/-7.03
Θ(60°)	-2.62/-1.9	-8.2/-8.25	-1.76/-1.78	-2.12/-1.06	-1.4/-2.97	-3.59/-3.83	-5.73/-8.47	-10.99/-16.29	-15.88/-5.44	-0.83/-0.95	-4.37/-0.32	1.12/-0.79	-0.66/-0.5	-2.88/-3.17	-1.22/-1.84	-1.5/-1.67	-2.38/-2.56	-3.77/-3.42	-3.23/-5.05	-6.22/-5.41	-6.53/-8.76	-13.66/-14.85	-16.55/-19.11	-8.6/-8.56
Θ(67.5°)	-10.13/-14.72	-13.43/-2.92	-0.44/-0.45	-0.34/-0.53	-2.39/-3.71	-2.94/-11.73	-2.64/-5.35	-7.35/-7.06	-7.65/-6.1	-1.680/-46	0.43/-3.61	-4.82/-4.49	-6.53/-4.97	-2.35/-2.2	-3.49/-3.78	-3.21/-4.26	-5/-6.41	-8.04/-7.36	-7.5/-7.02	-11.23/-12.71	-7.35/-8.67	-13.95/-7.63	-9.89/-9.27	
Θ(75°)	-10.27/-7.54	-3.43/-0.82	-0.47/-1.95	-2.75/-3.42	-5.87/-5.23	-3.13/-3.17	-4.41/-5.96	-6.75/-6.73	-4.9/-4.27	-4.95/-3.79	-3.53/-2.86	-1.96/-2.97	-7.81/-10.22	-5.66/-5.9	-9.8/-5.66	-5.27/-7.04	-7.89/-9.61	-8.35/-11.38	-16.43/-12.74	-11.37/-6.86	-4.46/-6.71	-7.2/-8.66	-7.48/-5.28	-5.31/-7.74
Θ(82.5°)	-4.82/-3.11	-2.25/-1.09	-0.53/-2.17	-5.6/-6.69	-3.98/-4.42	-4.08/-5.31	-7.76/-9.58	-8.9/-6.4	-4.94/-4.1	-6.11/-13.29	-5.89/-7.02	-6.75/-3.21	-2.89/-3.99	-1.18/-1.16	-4.14/-3.53	-3.58/-3.54	-5.73/-4.91	-4.68/-8.23	-6.82/-7.24	-7.12/-9.42	-1.21/-5.18	-6.04/-10.08	-7.77/-3.05	-2.67/-6.41
Θ(90°)	-4.09/-2.12	-1.38/-1.67	-2.43/-6.66	-8.1/-4.26	-2.86/-5.15	-4.98/-3.05	-2.87/-3.34	-7.89/-15.01	-6.99/-4.63	-5.4/-13.29	-12.86/-11.26	-18.21/-18.38	-7.86/-3.49	-0.93/-1.08	0.68/-0.32	-0.23/-1.14	-3.41/-4.79	-4.17/-4.12	-6.17/-9.95	-6.74/-6.7	-11.45/-11.88	-5.67/-1.96	-4.16/-6.93	
Θ(97.5°)	-2.57/-1.66	-1.8/-6.78	-12.32/-7.32	-8.73/-5.48	-5.64/-7.36	-5.9/-3.04	-2.74/-5.7	-12.74/-17.02	-9.57/-8.49	-10.28/-18.99	-10.13/-33	-13.44/-15.15	-12.42/-1.28	0.660/-45	0.91/-94	2.51/-108	-1.86/-5.46	-3.59/-1.89	-5.28/-6.84	-13.39/-8.19	-6.21/-9.77	-18.63/-11.85	-7.27/-8.6	-7.4/-3.95
Θ(105°)	-6.03/-6.25	-4.92/-15.08	-13.28/-8.36	-6.72/-6.1	-4.96/-3.74	-6.18/-4.34	-2.68/-5.2	-11.35/-12.91	-15.05/-17.86	-12.87/-12.46	-2.36/-1.33	-4.04/-4.94	-0.52/-2.77	-3.77/-0.8	0.822/-43	1.34/-126	-4.22/-0.74	-10.1/-15	-8.39/-6.85	-11.43/-13.03	-10.96/-8.83	-8.7/-6.14		
Θ(112.5°)	-8.63/-4.36	-2.38/-8.2	-17.69/-8.3	-7.12/-7.91	-11.47/-18.78	-8.78/-8.2	-9.48/-12.69	-17.95/-14.31	-10.96/-10.68	-7.83/-17.71	-9.61/-3.71	-0.36/-0.79	-4.08/-4.85	-3.74/-7.34	-5.76/-3.37	-3.6/-1.28	-0.51/-2.77	-4.94/-1.78	-3.09/-6.97	-8.88/-10.77	-17.77/-13.72	-9.03/-10.95	-13.74/-12.54	-11.87/-9.39
Θ(120°)	-7.57/-3.78	-4.59/-18.14	-8.18/-8.04	-13.37/-18.41	-13.4/-10.24	-15.92/-8.28	-10.18/-18.99	-18.06/-13.32	-9.1/-10.16	-6.9/-9.45	-14.96/-7.72	-2.87/-0.25	-2.11/-4.57	-4.24/-7.58	-8.48/-5.7	-5.9/-6.95	-5.66/-5.57	-4.94/-4.95	-5.06/-6.16	-9.5/-11.99	-17.97/-18.74	-11.31/-14.73	-18.58/-18.11	-12.76/-10.55
Θ(127.5°)	-11.69/-12.45	-18.47/-13.74	-8.82/-11.92	-19.07/-14.57	-8.78/-9.4	-13.38/-17.66	-18.23/-18.07	-15.34/-10.23	-7.45/-8.92	-15.89/-10.49	-3.18/-4.27	-2.90/-13	1.850/-05	-1.53/-4.27	-3.95/-7.96	-7.75/-10.13	-16.68/-8.56	-5.81/-6.43	-6.1/-11.61	-10.91/-11.22	-13.16/-14.94	-6.62/-8.14	-10.92/-9.29	-10.99/-9.96
Θ(135°)	-7.5/-7.52	-6.93/-7.57	-12.03/-11.8	-4.94/-2.39	-5.43/-10.01	-17.23/-17.49	-13.53/-10.17	-8.72/-9.78	-9.36/-7.93	-9.01/-18.05	-0.610/-0.2	2.222/-19	-0.34/-1.79	-3.38/-3.99	-7.92/-9.8	-12.71/-11.94	-9.92/-11.99	-15.54/-18.44	-10.12/-5.69	-15.39/-11.75	-12.85/-8.75	-10.86/-10.12	-10.28/-8.95	
Θ(142.5°)	-16.21/-16.22	-9.92/-6.96	-8.44/-9.21	-6.12/-3.69	-6.28/-12.36	-18.95/-9.34	-5.9/-4.92	-7.78/-16.55	-16.27/-10.75	-11.61/-19.21	-12.39/-6.98	-7.73/-6.01	-2.03/-0.64	-2.88/-8.14	-9.37/-7.48	-4.65/-4.06	-9.37/-11.48	-1.77/-17.23	-9.53/-8.74	-18.28/-9.63	-8.24/-13.03	-15.64/-18.47	-18.46/-18.64	-17.96/-14.3
Θ(150°)	-6.97/-9.09	-11.58/-11.96	-10.85/-10.67	-13.16/-15.85	-18.11/-18.57	-16.65/-11.86	-11.22/-11.49	-10.4/-9.84	-11.84/-12.09	-10.61/-9.61	-8.6/-7.98	-0.86/-6.41	-3.84/-3.24	-2.11/-1.98	-2.76/-5.88	-8.77/-10.16	-10.73/-11.23	-15.49/-11.99	-6.88/-5.63	-10.83/-14.25	-11.47/-18.47	-18.31/-12.15	-11.4/-7.45	-5.77/-6.34
Θ(157.5°)	-9.28/-9.87	-7.31/-5.04	-3.8/-8.88	-4.27/-6.37	-10.52/-17.97	-18.55/-13.7	-12.66/-14.16	-17.92/-16.85	-10.45/-9.02	-7.09/-3.66	-1.95/-2.31	-4.01/-6.29	-8.07/-5.56	-8.81/-7.98	-6.42/-4.73	-4.83/-7.78	-10.8/-13.28	-16.67/-9.81	-7.92/-9.25	-10.81/-10.63	-10.66/-11.05	-18.59/-13.18	-10.32/-8.99	-7.07/-7.39
Θ(165°)	-7.54/-6.71	-6.43/-7.63	-13.53/-18.94	-18.15/-81	-14.44/-13.93	-14.88/-11.91	-14.68/-11.09	-11.34/-12.78	-17.39/-18.1	-12.43/-7.74	-5.52/-4.63	-4.88/-4.62	-5.31/-5.95	-6.67/-7.87	-9.47/-8.82	-7.68/-7.47	-7.86/-8.58	-6.49/-9.29	-8.01/-6.92	-6.41/-6	-5.88/-7.57	-12.45/-14.46	-11.71/-10.31	-9.18/-6.67
Θ(172.5°)	-17.56/-18.04	-17.73/-12.81	-8.79/-7.32	-7.65/-8.06	-9.72/-12.91	-16.08/-18.71	-18.21/-17.85	-17.69/-18.55	-13.76/-10.17	-8.05/-6.91	-6.39/-5.66	-5.04/-4.42	-4.04/-4.29	-5.58/-7.09	-8.91/-10.57	-12.92/-14	-12.44/-10.24	-8.57/-7.04	-5.81/-5.56	-5.38/-4.96	-6.06/-9.94	-14.34/-18.57	-17.18/-17.49	-18.26/-18.04
Θ(180°)	-8.46/-9.53	-10.1/-9.16	-15.68/-18.07	-18.43/-16.24	-15.41/-14.79	-13.74/-13.68	-12.73/-11.92	-11.46/-12.35	-14.71/-19.1	-17.52/-18.87	-18.14/-18.23	-17.9/-17.25	-14.25/-11.71	-10.08/-9.79	-8.48/-7.14	-5.91/-5.25	-4.94/-5.2	-6.23/-7.39	-7.88/-8.42	-9.49/-13.11	-18.8/-17.92	-16.58/-14.05	-12.21/-10.58	-8.77/-8
Freq(Hz)	6.175GPol.	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°)	-2.04/-2.78	-3.37/-3.87	4.55/-19	-5.96/-7.03	-8.45/-10.69	-13.38/-14.13	-12.62/-10.22	-8.67/-6.86	-5.02/-3.48	-2.32/-1.41	-0.63/-0.14	0.020/-1	-0.41/-0.97	-1.73/-2.42	-3.69/-5.42	-7.96/-10.7	-14.94/-18.46	-18/-15.12	-10.73/-8.53	-7.34/-6.02	-4.12/-3.14	-2.19/-1.58	-1.26/-1.25	-1.17/-1.57
Θ(7.5°)	-0.47/-1.31	-2.48/-3.78	-4.74/-6.75	-9.88/-14.39	-17.41/-17.96	-16.72/-12.73	-9.86/-7.65	-6.35/-5.76	-5.21/-4.69	-3.83/-2.91	-2.34/-2.2	-2.18/-2.26	-2.37/-2.53	-2.61/-2.83	-3.27/-4.44	-6.18/-6.97	-10.61/-11.32	-10.09/-7.64	-6.82/-6.66	-5.73/-3.86	-1.76/-0.39	0.651/-0.7	0.760/-41	
Θ(15°)	0.35/-0.42	-2.08/-4.1	-6.09/-7.96	-10.87/-13.98	-18.08/-18.41	-17.62/-16.58	-13.92/-11.28	-9.21/-7.68	-6.63/-6.03	-5.82/-5.42	-5.12/-5.18	-5.09/-4.86	-5.07/-5.11	-5.19/-5.43	-6.47/-8.3	-9.65/-9.48	-9.02/-8.55	-7.96/-6.61	-5.39/-3.9	-3.94/-3.94	-3.04/-1.34	0.160/-84	1.181/-19	1.191/-2
Θ(22.5°)	0.980/-28	-1.13/-2.86	-4.84/-5.67	-8.65/-12.9	-12.64/-13.87	-12.29/-9.7	-9.36/-9.4	-9.58/-9.46	-8.33/-9.74	-10.3/-10.8	-9.09/-7.61	-6.68/-6.38	-6.64/-7.1	-7.55/-8.27	-9.62/-11.61	-13.51/-12.74	-11.17/-9.53	-8.75/-7.62	-5.54/-3.39	-2.21/-1.1	0.010/-95	1.191/-06	0.860/-52	0.560/-88
Θ(30°)	-0.31/-0.81	-1.43/-2.15	-4.76/-7.9	-11.32/-14.62	-14.77/-12.43	-12.08/-11.84	-11.32/-10.27	-8.3/-7.07	-6.5/-6.1	-6.28/-7.16	-7.95/-6.99	-5.65/-4.35	-6.04/-6.07	-6.78/-10.15	-13.91/-16.24	-15.73/-10.61	-6.26/-4.62	-3.28/-1.7	-0.480/-55	0.670/-2	0.120/-6	0.991/-27	0.940/-28	
Θ(37.5°)	0.650/-63	-0.27/-2.95	-7.91/-19.14	-17.79/-8.95	-7.62/-9.26	-10.16/-11.34	-11.47/-9.51	-8.16/-7.07	-5.8/-0.44	-2.47/-1.95	-2.95/-3.5	-3.2/-4.62	-7.4/-6.98	-4.58/-3.83	-5.04/-6.89	-8.43/-11.82	-14.78/-10.2	-8.37/-6.61	-4.07/-2.26	-1.09/-0.1	0.921/-7			



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

Appendix B

Θ(22.5°)	-8.94/8.28	-5.53/3.59	-2.48/1.89	-1.84/-2.67	-2.95/3.62	-4.68/5.18	-5.42/5.51	-5.81/6.69	-8.46/9.46	-11.07/11.68	-11.23/10.75	-9.58/8.62	-7.95/-13.02	-5.81/-4.43	-3.34/-2.44	-2.23/-2.27	-2.85/-3.71	-4.21/4.66	-5.17/5.8	-8.07/-9.44	-9.94/9.93	-8.21/7.86	-8.02/8.53	-8.07/7.69
Θ(30°)	-16.66/-13.1	-7.49/-3.84	-1.94/-1.53	-0.84/-0.6	-0.35/-0.69	-1.49/-3	-4.81/-6.61	-9.84/-12.53	-11.34/-11.23	-12.79/-11.97	-10.47/-10.96	-11.99/-12.64	-14.49/-13.61	-8.75/-5.43	-3.09/-1.79	-1.27/-1.31	-1.02/-1.12	-1.89/-2.91	-4.2/-4.6	-8.14/-8.02	-7.47/-8.28	-10.08/-10.72	-9.49/-9.2	-10.27/-13.19
Θ(37.5°)	-8.37/-7.68	-5.44/-4.65	-3.19/-1.13	-0.88/1.73	1.01/-0.59	-2.7/-5.4	-10.71/-12.7	-17.93/-18.48	-9.54/-8.69	-12.66/-10.98	-10.47/-8.63	-6.56/-7.64	-15.04/-18.82	-10.08/-5.24	-1.56/0.5	1.55/1.85	1.25/-0.04	-0.97/-1.75	-2.84/-3.39	-4.73/-6.75	-8.53/-14.51	-17.9/-17.33	-17.65/-14.41	-8.9/-7.36
Θ(45°)	-6.93/-6.38	-4.62/-4.55	-2.57/0.07	1.25/1.11	-0.4/-2.16	-3.12/3.51	-2.83/2.63	-3.75/-5.27	-6.41/4.95	-7.05/-17.5	-10.53/-7.84	-5.74/-3.21	-4.94/9.88	-5.53/-2.68	-2.06/-1.02	-0.47/-0.29	0.31/1.11	0.6/-1.25	-3.1/4.08	-5.79/-6.12	-7.55/-11.18	-17.98/-16.53	-15.3/-15.54	-9.4/-7.08
Θ(52.5°)	-3.43/-2.87	-2.87/-3.98	-1.74/-0.51	-1.08/-4.47	-8.62/-8.44	-7.51/-7.23	-5.82/-4.76	-4.32/-4.89	-4.2/-3.17	-5.95/-14.21	-7.66/-9.9	-5.15/-1.34	-2.67/-4.16	-2.52/-4.42	-4.44/-0.87	-0.04/0.34	0.89/0.97	0.71/-0.32	-2.26/-5.51	-6.27/-6.66	-8.79/-11.26	-18.25/-14.66	-15.9/-9.79	-3.86/-2.68
Θ(60°)	-4.48/-1.07	-1.73/-6.94	-2.27/-0.69	-2.13/-4.2	-3.23/-2.43	-2.95/-5.55	-9.18/-13.99	-17.53/-11.49	-5.68/-2.85	-2.18/-3.42	-11.33/-3.1	-2.3/-6.1	-4.95/-3.13	-2.12/-0.58	-2.74/-4.14	-2.35/-0.71	-0.91/-1.37	-2.08/-4.35	-6.21/-8.38	-11.78/-13.91	-13.42/-10.99	-12.19/-12.08	-3.52/-7.26	
Θ(67.5°)	-5.62/-2.97	-5.28/-9.15	-3.64/-0.66	-0.43/-0.67	-0.86/-2.18	-3.44/-3.01	-2.85/-4.51	-9.2/-14.14	-9.37/-4.2	-1.9/-2.14	-3.04/-6.68	-16.18/-7.07	-7.98/-9.49	-4.87/-2.89	-3.71/-3.22	-3.44/-7.1	-6.62/-3.9	-3.64/-3.54	-4.2/-5.5	-7.93/-8.88	-10.48/-9.75	-9.62/-10.73	-12/-18.9	-10.18/-8.24
Θ(75°)	-6.26/-9.66	-8.81/-4.71	-0.59/0.82	0.26/-1.07	-1.73/-2.65	-4.01/-3.2	-3.95/-6.24	-7.83/-6.99	-7.19/-8.65	-5.87/-1.94	-1.5/-3.39	-8.35/-8.6	-5.42/-6.9	-7.39/-3.96	-3.22/-4.45	-4.23/-17.6	-10.51/-8.75	-6.2/-7.3	-7.1/-7.62	-8.34/-10.42	-10.58/-12.25	-9.28/-15.4	-12.25/-12.28	-14.27/-8.32
Θ(82.5°)	-6.39/-4.38	-1.8/-2.48	-1.79/-1.49	-4.28/-7.65	-10.63/-10.37	-7.5/-4.85	-2.2/-2.51	-7.01/-9.11	-4.11/-7.22	-11.12/-5.89	-4.45/-5.82	-6.43/-6.02	-6.14/-2.68	-2.59/-6.21	-2.43/-3.03	-7.08/-8.34	-7.79/-9.3	-10.39/-10.49	-8.76/-8.85	-11.04/-6.99	-6.26/-11.38	-10.75/-12.39	-12.6/-11.63	-8.04/-5.99
Θ(90°)	-5.26/-2.05	-0.95/-2.73	-1.3/-2	-7.12/-12.55	-11.74/-9.19	-4.34/-3.01	-2.91/-4.49	-6.09/-9.78	-5.79/-5.26	-18.52/-18.18	-7.05/-5.93	-8.01/-5.93	-3.6/-4.96	0.55/-0.52	-3.5/-2.87	-4.01/-3.61	-3.93/-6.92	-7.39/-9.41	-10.88/-14.17	-10.98/-10.13	-8.07/-17.15	-10.71/-9.71	-5.99/-8.09	-5.51/-3.17
Θ(97.5°)	-5.86/-4.2	-1.51/-0.94	-2.95/-6.83	-10.43/-13.5	-12.93/-7.03	-3.37/-3.17	-3.71/-4.58	-8.83/-17.26	-8.04/-11.5	-17.12/-14.38	-6.61/-9.62	-16.53/-12.14	-8.74/-4.23	-0.1/-1.27	-0.78/0.5	0.13/0.27	-2.49/-3.47	-4.56/-4.06	-5.45/-7.12	-8.79/-11.41	-9.62/-14.94	-14.78/-13.53	-14.6/-10.9	-9.93/-6.83
Θ(105°)	-4/-6.2	-1.02/-1.69	-6.32/-9.19	-7.96/-11.34	-6.98/-7.1	-8.2/-9.34	-6.83/-7.77	-14.81/-18.58	-8.75/-14.14	-16.44/-9.71	-6.21/-10.35	-10.55/-18.7	-15.01/-8.24	-2.18/-0.82	-1.6/0.8	2.46/1.1	-0.91/-4.34	-6.92/-5.76	-8.03/-5.65	-10.43/-10.27	-13.91/-11.69	-9.89/-10.12	-17.5/-18.08	-18.9/-5.38
Θ(112.5°)	-4.38/-7.69	-0.58/-0.77	-5.82/-7.32	-7.25/-8.24	-10.25/-14.95	-17.01/-6.33	-5.35/-12.9	-18.45/-7.93	-11.08/-14.06	-14.75/-11.23	-4.18/-6.64	-5.78/-8.03	-8.26/-8.76	-11.07/-5.76	-10.43/-3.85	-0.6/-0.4	-1.9/-7.45	-6.82/-3.71	-5.19/-5.6	-10.19/-17.62	-10.07/-10.99	-8.99/-11.5	-14.19/-12.72	-12.33/-4.17
Θ(120°)	-4.1/-11.3	-0.77/-2.82	-11.64/-2.31	-2.17/-6.74	-8.52/-10.56	-10.15/-10.64	-11.62/-14.21	-15.26/-15.89	-17.86/-11.64	-14.79/-15.42	-10.75/-5.61	-4.11/-2.28	-3.38/-4.77	-7.23/-13.63	-16.43/-12.02	-8.85/-0.4	-5.45/-9.13	-9.71/-4.9	-3.69/-5.64	-7.16/-10.54	-14.9/-17.71	-11.54/-11.55	-17.23/-17.95	-15.29/-4.85
Θ(127.5°)	-13.29/-5.77	-2.45/-5.39	-5.91/-2	-3.23/-10.54	-7.29/-5.86	-11.22/-16.08	-16/-16.11	-16.02/-17.78	-18.33/-17.89	-10.46/-9.77	-12.3/-9.33	-5.44/-3.38	-4.06/-3.36	-6.89/-17.8	-14.33/-8.9	-8.91/-6.09	-7.78/-9.04	-6.87/-3.58	-2.52/-3.96	-6.92/-10.69	-11.43/-16.06	-13.71/-16.36	-18/-13.38	-15.45/-16.44
Θ(135°)	-8.89/-7.35	-11.34/-18.22	-11.37/-12.28	-17.95/-12.58	-11.72/-11.66	-14.04/-14.25	-8.49/-7.74	-9.26/-13.7	-14.93/-11.58	-18.38/-12.41	-4.36/-2.7	-3.27/-2.19	-1.26/0.4	0.49/-4.68	-5.21/-7.44	-7.01/-13.55	-14.03/-12.64	-7.79/-6.24	-5.33/-9.13	-9.72/-7.24	-8.57/-15.2	-14.33/-14.5	-11.16/-6.09	-8.2/-9.22
Θ(142.5°)	-8.83/-12	-10.02/-7.56	-5.76/-2.47	-3.35/-1.86	-3.8/-10.09	-18.23/-8.08	-5.73/-8.74	-13.82/-15.74	-0.95/-9.27	-17.25/-16.95	-14.99/-10.8	-8.13/-6.99	-4.53/-2.74	-4.85/-8.61	-10.47/-8.05	-11.05/-8.56	-11.78/-17.32	-15.79/-16.26	-17.9/-15.94	-19.39/-9.14	-19.11/-8.46	-9.26/-6.11	-6.66/-6.74	-8.17/-9.72
Θ(150°)	-14.35/-12.02	-13.13/-12.65	-10.3/-12.17	-18.06/-17.86	-15.93/-17.61	-17.89/-17.19	-11.34/-10.3	-16.09/-18.02	-17.55/-18.86	-13.77/-16.35	-18.49/-13.73	-10.48/-12.8	-14.22/-10.7	-8.34/-9.13	-9.37/-11.42	-12.56/-11.77	-15.45/-17.45	-17.97/-10.89	-10.8/-9.9	-14.28/-12.43	-9.06/-18.59	-9.54/-9.59	-8.42/-8.86	-11.95/-15.32
Θ(157.5°)	-6.83/-7.8	-9.98/-13.29	-14.66/-13.7	-14.53/-16.32	-16.64/-14.04	-12.45/-12.29	-13.86/-14.01	-15.09/-18.61	-17.78/-12.13	-13.03/-12.95	-12.23/-14.41	-13.25/-11.67	-12.37/-10.47	-7.43/-6.46	-8.97/-12.15	-10.46/-11.7	-11.87/-9.67	-9.37/-12.49	-17.36/-19.01	-16.58/-14.23	-17.24/-17.79	-16.86/-16.94	-18.59/-14.79	-9.91/-7.34
Θ(165°)	-9.04/-8.98	-10.2/-12.78	-16.82/-18.93	-18.67/-17.91	-18.49/-17.81	-18.13/-18.99	-17.45/-18.65	-19.15/-18.83	-17.9/-19.11	-18.73/-15.29	-11.07/-8.95	-9.6/-11	-13.04/-14.96	-14.65/-11.79	-8.11/-5.81	-5.13/-6.84	-11.61/-14.67	-14.71/-18.5	-18.02/-11.01	-6.63/-5.84	-7.32/-9.47	-9.57/-10.11	-12.64/-13.41	-11.43/-9.67
Θ(172.5°)	-18.09/-18.86	-18.08/-18.98	-17.35/-16.64	-18.31/-19.08	-18.36/-17.8	-17.59/-18.39	-18.28/-17.7	-17.76/-16.55	-14.4/-11.85	-10.56/-10.6	-10.79/-14.07	-9.58/-8.26	-7.92/-7.58	-7.61/-7.12	-7.81/-9.48	-11.67/-13.95	-15.27/-16.93	-14.77/-18.38	-13.83/-10.47	-9.78/-10.85	-13.21/-12.7	-13.41/-13.64	-14.89/-15.49	-14.86/-16.48
Θ(180°)	-9.11/-10.16	-11.02/-12.46	-14.9/-15.67	-16.8/-18.15	-18.24/-17.95	-19.54/-17.97	-18.82/-17.34	-17.18/-15.37	-12.76/-11.62	-11.44/-11.06	-10.86/-10.73	-10.32/-9.2	-9.03/-9.55	-10.41/-10.98	-10.6/-10.06	-10.28/-10.98	-13.1/-15.2	-16.88/-16.99	-17.29/-19.14	-15.74/-14.07	-13.11/-11.75	-11.17/-12.06	-12.81/-11.44	-8.74/-8.55
Freq(Hz)	6.995GPol.	ThetaAnt. 1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-7.25/8.03	-9.26/-12.01	-15.22/-15.76	-13.42/-9.73	-8.06/-6.28	-5.24/-4.28	-3.72/-3.19	-3.51/-3.21	-2.66/-2.12	-2.03/-2.53	-3.45/-4.73	-5.67/-6.13	-7.38/-8.91	-11.42/-14.13	-17.75/-18.97	-18.43/-12.95	-10.38/-8.29	-7.1/-6.69	-5.16/-4.69	-4.17/-4.13	-4.72/-4.34	-4.61/-4.46	-4.59/-4.9	-5.52/-6.3
Θ(7.5°)	-6.3/-5.75	-9.6/-14.22	-19.03/-17.79	-18.17/-14.85	-11.92/-9.4	-7.51/-5.79	-5.42/-4.87	-5.01/-4.7	-4.35/-4.22	-4.22/-4.48	-4.63/-5.26	-6.4/-6.95	-7.25/-7.81	-9/-9.87	-10.51/-10.48	-9.86/-8.08	-6.42/-5.18	-4.52/-3.82	-3.35/-3.09	-2.24/-2.28	-2.2/-2.43	-3.18/-3.1	-3.82/-1.48	-4.71/-5.58
Θ(15°)	-5.08/-6.7	-9.06/-11.42	-16.93/-18.96	-19.03/-13.76	-16.05/-8.22	-5.25/-5.04	-4.39/-3.65	-3.71/-3.92	-4.58/-4.66	-5.05/-4.58	-6.07/-6.35	-6.06/-5.65	-5.49/-5.35	-6.15/-6.26	-7.1/-7.19	-7.02/-6.19	-5.45/-4.97	-4.17/-3.25	-2.51/-2.79	-3.14/-3.5	-3.93/-3.32	-2.83/-2.49	-3.35/-3.97	
Θ(22.5°)	-4.53/-4.7	-5.34/-7.78	-11.53/-18.99	-18.51/-13.22	-11.41/-11.4	-12.39/-13.83	-12.6/-10.4	-8.57/-7.06	-5.78/-4.79	-4.57/-4.47	-4.86/-5.44	-5.17/-4.49	-3.33/-2.39	-2.18/-2.76	-4.44/-7.02	-9.22/-9.18	-7.85/-7.01	-6.27/-5.42	-4.54/-3.49	-3.16/-3.07	-3.1/-2.97	-2.59/-2.31	-2.32/-2.55	-3.3/-3.82
Θ(30°)	-0.73/-0.91	-2.41/-5.4	-7.82/-7.2	-6.69/-7.55	-9.05/-11.6	-13.11/-12.17	-11.15/-10.57	-9.03/-9.7	-9.32/-9.99	-9.15/-9.76	-6.63/-6.07	-4.9/-7.27	-1.01/-0.32	-0.85/-2.12	-4.03/-6.08	-7.78/-8.21	-7.94/-7.2	-5.63/-4.65	-4.5/-3.91	-2.85/-4.24	-2.08/-2.14	-3.42/-4.49	-4.34/-2.5	-1.53/-0.81
Θ(37.5°)	-0.89/-1.27	-1.88/-2.45	-2.64/-2.92	-4.33/-7.96	-10.68/-9.68	-8.48/-8.61	-7.84/-8.69	-5.23/-4.96	-5.32/-5.97	-6.92/-7.6	-8.87/-9.02	-6.2/-2.72	-1.47/-1.68	-2.27/-2.53	-2.38/-3.41	-5.81/-9.76	-13.74/-9.96	-8.09/-5.51	-3.26/-3.21	-4.03/-3.82	-3.98/-4.31	-3.72/-3.31	-1.94/-0.34	0.23/-0.29
Θ(45°)	-2.05/-2.08	-1.95/-2.16	-2.69/-4.75	-11.26/-17.17	-9.5/-8.03	-9.27/-10.95	-14.98/-16.07	-11.36/-8.92	-8.13/-7.7	-7.24/-5.63	-5.18/-6.66	-6.18/-4.67	-4.11/-4.46	-4.47/-4.7	-3.79/-4.35	-6.86/-12.32	-18.39/-9.81	-4.23/-2.31	-2.71/-2.74	-2.45/-3.26	-2.59/-2.22	-2.32/-2.62	-2.02/-0.08	1.09/-0.51
Θ(52.5°)	0.24/-1.22	-2.69/-2.99	-3.5/-7.62	-18.8/-11.6	-7.44/-6.43	-7.85/-9.69	-10.81/-10.28	-9.98/-7.86	-5.83/-5.17	-5.04/-3.56	-3.7/-3.67	-4.42/-9.5	-5.92/-5.44	-7.26/-5.24	-4.96/-6.42	-9/-12.87	-8.4/-4.52	-1.83/-0.29	0.99/0.92	0.12/-0.95	-2.2/-1.9	-1.47/-1.28	-0.35/-1.4	2.19/-2.28
Θ(60°)	1.23/-0.98	-2.83/-2.08	-3.74/-10.54	-8.51/-3.8	-2.78/-4.34	-6.81/-7.2	-7.12/-6.69	-5.44/-5.44	-5.35/-5.17	-5.15/-5.18	-4.66/-5.17	-4.24/-12.19	-12.2/-8.9	-17.55/-12.19	-7.93/-6.43	-8.22/-6.74	-2.68/-0.56	0.16/0.89	1.35/0.83	-0.27/-0.34	-0.92/-1.63	-1.51/0.11	0.94/1.33	2.22.36
Θ(67.5°)	0.01/-2.86	-2.48/-1.35	-3.56/-4.33	-2.62/-2.32	-5.51/-11.9	-9.2/-10.43	-15.28/-11.35	-8.28/-7.24	-7.87/-6.77	-6.43/-5.66	-6.67/-6.27	-10.77/-12.97	-17.37/-18.44	-18.75/-18.8	-13.77/-8.77	-7.83/-4.28	-0.64/0.7	1.01/0.23	0.45/0.03	0.25/-0.69	-1.83/-1.77	-1.19/-0.74	-0.88/0.96	2.12/-1.44
Θ(75°)	-1.13/-2.47	-2.03/-0.87	-1.09/-2.77	-4.96/-7.73	-15.67/-9.39	-3.78/-4																		



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

Appendix B

Θ(75°)	-18.62/-15.72	-11.83/-7.1	-6.2/-4.53	-3.06/-1.81	-1.54/-1.27	-0.38/-0.61	-1.19/-0.85	-1.46/-2.36	-2.27/-1.39	-1.47/-2.36	-3.97/-4.46	-5.46/-8.76	-11.55/-11.83	-19.09/-13.79	-7.7/-5.89	-4.5/-6.61	-7.68/-6.7	-5.23/-5.4	-6.23/-5.84	-5.81/-5.88	-6.71/-9.17	-12.62/-13.54	-10.35/-16.22	-19.16/-17.44
Θ(82.5°)	-13.61/-12.22	-9.85/-8.4	-7.1/-5.02	-3.43/-2.1	-0.92/-0.48	0.3/-0.52	-1.02/-1.76	-1.68/-2.46	-3.53/-4.1	-4.04/-5.35	-8.26/-10.16	-13.93/-13.22	-11.37/-13	-14.61/-14.3	-5.58/-6.26	-8.52/-10.94	-14.67/-8.34	-5.47/-4.61	-7.55/-6.66	-12.7/-11.1	-9.46/-10.09	-15.92/-17.7	-14.56/-17.9	-12.78/-13.68
Θ(90°)	-6.62/-5.71	-6.15/-6.7	-1.2/-2.04	-7.85/-5.64	-3.17/-1.28	-0.64/-0.99	-1.51/-2.75	-2.12/-3.1	-3.08/-4.56	-5.31/-4.96	-6.18/-12.45	-16.33/-18.63	-10.94/-18.74	-14.61/-13.62	-10.89/-14.15	-16.10/-13.22	-9.53/-4.84	-6.64/-4.62	-6.89/-5.79	-8.69/-10.19	-8.81/-6.54	-13.32/-13.74	-17.8/-16.88	-14.29/-11.01
Θ(97.5°)	-7.21/-5.69	-5.91/-5.37	-4.2/-5.4	-7.43/-8.04	-4.83/-3.6	-1.46/-2.05	-2.42/-1.54	-0.67/-1.67	-3.07/-5.95	-4.48/-3.47	-7.15/-9.02	-11.85/-18.55	-16.53/-19	-12.99/-11.34	-16.95/-15.6	-12.1/-6.65	-4.62/-3.56	-4.17/-4.98	-3.93/-5.43	-6.88/-7.85	-7.93/-8.52	-8.65/-7.92	-8.48/-8.26	-11.67/-14.64
Θ(105°)	-11.51/-7.55	-6.66/-7.08	-4.47/-4.32	-3.39/-2.67	-4.97/-3.98	-5.07/-2.59	-2.81/-1.22	-1.19/-3.84	-4.14/-5.3	-3.65/-3.67	-6.64/-4.51	-9.01/-9.8	-7.57/-18.31	-18.7/-18.23	-12.95/-7.44	-6.69/-6.81	-5.69/-5.86	-3.14/-4.06	-3.48/-5.85	-8.48/-7.29	-4.92/-5.04	-9.25/-7.57	-7.6/-8.67	-12.56/-18.56
Θ(112.5°)	-18.93/-14.99	-8.59/-9.15	-5.97/-6.7	-5.41/-3.26	-2.46/-2	-4.07/-2.9	-1.99/-3.11	-5.29/-5.35	-6/-4.26	-4.89/-5.7	-4.45/-5.21	-15.4/-10.33	-8.23/-17.91	-18.33/-14.04	-13.27/-7.6	-8.23/-8.14	-11.1/-8.44	-1.49/-0.6	-5.45/-3.33	-6.04/-11.46	-14.32/-11.71	-17.47/-9.7	-7.04/-7.56	-14.76/-18.32
Θ(120°)	-13.89/-12.58	-7.49/-7.46	-5.83/-4.23	-3.86/-3.88	-1.6/-0.26	0.62/0.18	-0.8/-1.83	-1.41/-2.43	-4.21/-4.62	-4.96/-8.61	-11.12/-11.33	-13.66/-10.77	-10.22/-16.54	-17.89/-17.28	-12.58/-6.34	-9.64/-7.51	-5.2/-10.15	-6.3/-7.86	-14.22/-13.98	-7.76/-10.34	-16.07/-11.9	-15.15/-12.52	-14.6/-13.49	
Θ(127.5°)	-18.22/-14.26	-9.3/-6.39	-5.17/-3.71	-5.23/-6.06	-4.03/-5.46	-4.42/-3.86	-3.02/-2.77	-3.96/-4.79	-6.26/-8.94	-14.93/-18.22	-17.17/-17.01	-16.32/-17.95	-16.45/-18.76	-17.98/-18.64	-14.49/-9.17	-8.45/-17.68	-7.27/-6.27	-15.37/-17.91	-10.72/-17.96	-17.15/-18.04	-15.5/-18.71	-18.49/-11.15	-10.46/-8.06	-8.67/-18.54
Θ(135°)	-17.3/-16.33	-13.02/-11.6	-10.55/-9.27	-8.3/-7.11	-17.33/-18.92	-12.28/-9.67	-9.77/-11.17	-15.25/-12.89	-8.69/-8.72	-11.65/-14.43	-14.34/-17.28	-11.57/-14.23	-11.79/-18.45	-15.69/-7.84	-8.48/-8.25	-10.3/-16.96	-17.96/-5.31	-9.87/-7.34	-15.73/-17.56	-6.63/-10.24	-10.74/-15.42	-17.07/-14.18	-17.82/-18.74	
Θ(142.5°)	-14.9/-19.09	-16.95/-14.41	-14.8/-14.73	-14.59/-12.26	-13.35/-12.42	-12.2/-12.63	-13.94/-12.88	-10.47/-9.16	-8.53/-7.64	-6.62/-9.67	-12.96/-18.46	-16.55/-15.07	-12.72/-14.25	-13.47/-11.11	-9.74/-15.53	-6.82/-5.8	-6.88/-8.48	-17.6/-12.6	-12.1/-9.29	-7.27/-10.13	-11.93/-18.19	-16.5/-17.35	-12.68/-18.62	-18.72/-17.65
Θ(150°)	-18.11/-18.03	-18.01/-17.67	-17.38/-18.84	-18.27/-18.58	-12.16/-10.03	-8.04/-7.44	-7.38/-6.84	-6.65/-6.98	-7.11/-7.34	-9.21/-9.98	-7.31/-9.59	-12.1/-17.94	-14.98/-13.17	-10.99/-12.1	-17.09/-18.92	-17.98/-15.95	-9.47/-10.09	-18.29/-17.58	-12.2/-10.53	-14.15/-18.49	-8.66/-6.41	-7.02/-10.53	-14.57/-13.32	-18.65/-16.23
Θ(157.5°)	-11.28/-15.62	-14.63/-18.94	-19.08/-19.11	-13.57/-12.23	-13.29/-13.97	-13.57/-15.08	-14.96/-12.48	-9.66/-9.39	-7.61/-6.68	-5.63/-4.95	-6.98/-9.7	-11.69/-16.45	-18.55/-18.51	-18.55/-16.87	-12.93/-8.02	-5.73/-6.24	-9.14/-12.9	-10.66/-8.55	-9.07/-14.37	-16.58/-7.78	-6.38/-8.89	-4.32/-4.83	-5.72/-6.73	-7.95/-5.85
Θ(165°)	-10.32/-12.3	-15.77/-17.59	-11.83/-7.77	-4.79/-2.83	-1.88/-1.5	-1.39/-1.49	-1.91/-2.27	-3.16/-4.71	-6.31/-7.51	-8.75/-10.56	-12.92/-14.51	-17/-17.84	-17.62/-17.35	-17.79/-15.75	-11.72/-9.86	-9.75/-10.9	-13.06/-14.59	-14.22/-11.8	-9.06/-6.32	-4.32/-3.77	-4.45/-5.03	-5.34/-7.24	-9.6/-8.62	-7.98/-8.8
Θ(172.5°)	-11.74/-14.51	-18.62/-17.98	-18.02/-17.45	-13.59/-10.08	-8.51/-7.79	-7.16/-6.27	-5.28/-4.53	-4.17/-4.67	-5.63/-6.61	-7.59/-8.54	-9.77/-12.13	-15.18/-18.9	-17.8/-19.45	-18.28/-18.1	-18.85/-17.37	-14.61/-11.88	-10.62/-10.23	-9.66/-8.68	-8.07/-7.46	-7.18/-6.76	-6.52/-6.07	-5.9/-6.05	-6.66/-7.59	-8.67/-10.24
Θ(180°)	-11.72/-15.6	-18.43/-18.97	-17.36/-13.61	-10.58/-8.22	-6.52/-5.54	-4.38/-3.55	-3.22/-2.88	-2.79/-3.22	-4.18/-5.83	-8.45/-11.34	-13.95/-15.43	-15.71/-15.59	-15.62/-16.39	-17.19/-17.8	-18.1/-18.48	-17.57/-17.71	-14.63/-13.32	-12.16/-10.68	-8.95/-7.37	-6.44/-5.64	-5.36/-5.67	-6.25/-6.77	-7.31/-7.41	-8.04/-10.05
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°)	0.390/31	-0.31/-0.99	-1.7/-2.69	-3.4/-3.97	-4.92/-6.43	-8.5/-12.7	-19.13/-18.6	-12.03/-9.1	-6.63/-4.78	-3.42/-2.37	-1.63/-1.08	-0.64/-0.63	-0.64/-0.76	-0.59/-1.52	-2.53/-4.09	-6.09/-8.06	-10.14/-13.73	-18.01/-18.17	-17.80/-17.55	-13.04/-9.3	-6.81/-5.18	-3.78/-2.83	-1.84/-1.22	-0.45/-0.37
Θ(7.5°)	-0.72/-0.44	-0.48/-1.09	-1.54/-2.43	-3.6/-4.65	-5.89/-7.78	-10.8/-15.54	-18.65/-18.56	-12.15/-8.14	-5.62/-4.34	-3.57/-2.81	-1.48/-0.31	0.260/58	0.440/15	0.01/-0.26	-0.57/-1.27	-2.51/-3.87	-5.63/-6.96	-8.87/-11.92	-16.92/-18.69	-18.56/-12.68	-9.46/-7.15	-6.01/-5.22	-3.89/-3.21	-2.01/-1.09
Θ(15°)	-2.75/-2.43	-2.58/-3.08	-3.84/-5.12	-4.46/-7.4	-8.73/-10.52	-14.5/-17.54	-14.31/-10.52	-7.74/-5.85	-4.18/-3.09	-2.21/-1.4	-0.270/83	1.070/94	0.450/12	-0.050/32	0.540/18	-0.51/-5.4	-2.71/-3.81	-4.83/-6.15	-7.87/-17.1	-19.27/-18.64	-12.55/-9.05	-7.15/-9.7	-4.73/-4.03	-3.54/-5.98
Θ(22.5°)	-4.17/-5.16	-6.13/-6.94	-7.74/-8.88	-10.23/-12.5	-15.73/-18.79	-24.22/-11.09	-8.95/-7.22	-5.72/-4.41	-1.87/-0.61	0.661/28	0.980/26	-0.27/-0.38	0.09/-0.07	-0.91/-7.5	-4.44/-3.23	-3.93/-5.06	-6.17/-7.24	-8.09/-8.42	-9.6/-11.7	-14.15/-15	-18.17/-9.6	-5.68/-4.15	-3.34/-5.45	
Θ(30°)	-5.65/-6.62	-8.64/-9.22	-9.85/-11.03	-12.63/-15.31	-17.62/-17.72	-17.32/-11.82	-8.02/-5.9	-4.58/-3.99	-2.95/-1.72	-0.96/-0.78	-0.250/58	1.270/161	2.192/28	1.93/18	0.93/-0.13	-2.02/-4.02	-5.4/-6.14	-6.92/-8.51	-11.66/-15.05	-17.19/-17.14	-14.55/-12.27	-13.93/-17.91	-17.96/-12.4	-8.46/-6.28
Θ(37.5°)	-15.26/-14.11	-14.94/-12.94	-11.24/-14.5	-18.53/-17.77	-17.94/-16.56	-11.52/-8.88	-7.48/-6.26	-4.7/-2.98	-1.55/-0.88	-0.79/-0.46	0.331/78	2.31/86	1.50/63	0.90/71	-0.24/-1.24	-2.03/-2.78	-3.14/-3.85	-3.68/-3.48	-4.65/-3.66	-11.27/-14.55	-17.69/-13.7	-7.93/-6.04	-7.77/-12.64	-17.89/-14.7
Θ(45°)	-13.06/-18.34	-18.17/-12.49	-10.6/-10.76	-11.29/-13.94	-17.26/-15.72	-10.79/-7.56	-5.21/-4.32	-4.08/-3.49	-2.14/-1.03	-0.33/-0.17	0.030/93	1.521/3	0.740/5	1.150/74	0.52/-0.86	-1.92/-1.73	-1.91/-1.99	-3.16/-3.25	-2.94/-3.32	-4.47/-6.56	-12.36/-18.8	-12.31/-10.59	-11.67/-9.75	-9.94/-9.34
Θ(52.5°)	-13.08/-16.57	-18.27/-18.7	-16.6/-18.2	-11.28/-18.43	-17.12/-12.97	-8.65/-6.13	-3.9/-2.67	-2.33/-2.54	-2.79/-2.3	-0.790/55	0.611/27	1.282/09	1.17/-0.32	-0.270/09	-1.83/-0.95	0.690/62	-0.85/-1.72	-1.68/-2.34	-2.08/-1.07	-1.99/-4.18	-6.86/-8.76	-8.81/-9.06	-11.84/-17.51	-14.64/-12.06
Θ(60°)	-10.96/-10.94	-12.24/-15.69	-18.94/-17.6	-15.23/-11.72	-9.78/-7.67	-4.82/-3.27	-2.66/-1.82	-1.34/-1.27	-1.81/-2.62	-1.72/-0.08	1.121/57	1.653/07	1.79/-1.19	0.93/-0.46	-2.970/76	1.840/81	0.071/133	-2.12/-3.8	-3.97/-4.34	-3.84/-0.66	-4.72/-5.45	-6.6/-12.04	-17.98/-13.3	-13.79/-14.87
Θ(67.5°)	-14.33/-10.93	-9.02/-9.84	-14.58/-15.2	-8.95/-7.91	-8.96/-6.37	-3.59/-2.5	-1.71/-1.16	-1.16/-1.88	-2.94/-4.22	-3.1/-0.25	0.830/27	0.91/23	-0.880/46	0.24/-2.9	0.580/85	-0.99/-3.37	-2.43/-0.35	-5.04/-5.68	-4.09/-4.12	-6.49/-7.71	-8.39/-10.51	-17.04/-14.01	-13.85/-18.5	
Θ(75°)	-11.94/-18.87	-13.1/-18.91	-10.82/-10.61	-7.88/-6.32	-6.42/-6.98	-5.27/-3.64	-3.09/-1.96	-1.19/-1.38	-2.62/-3.71	-1.910/34	0.27/-2.64	-0.221/-0.31	-3.32/-0.6	0.4/-0.78	-8.81/-26	-3.69/-3.37	-4.23/-3.74	-5.04/-5.11	-4.23/-3.74	-6.27/-6.44	-7.93/-8.53	-6.19/-5.06	-10.66/-17.64	-8.58/-8.6
Θ(82.5°)	-6.19/-6.32	-4.6/-3.58	-3.92/-5.78	-7.95/-5.98	-5.06/-5.53	-3.56/-3.68	-3.57/-3.5	-3.01/-2.3	-3.03/-3.92	-1.71/-0.42	-0.85/-0.74	-1.08/-3.12	-1.35/2	1.6/-1.4	-1.09/-3.22	-5.21/-5.05	-2.12/-4.22	-7.92/-13.33	-11.11/-7.36	-4.3/-3.4	-3.9/-9.74	-7.41/-5.84	-8.67/-9.74	-5.36/-4.88
Θ(90°)	-2.22/-2.01	-2.33/-1.7	-1.95/-1.22	-1.99/-1.52	-1.51/-2.04	-2.43/-3.3	-4.31/-3.78	-2.77/-3.08	-3.88/-4.98	-3.55/-4.82	-2.77/-3.85	-5.65/-3.19	-2.21/-1.47	-0.63/-6.54	-9.08/-2.16	-3.07/-1.41	-1.6/-7.75	-10.79/-6.94	-5.06/-6.07	-3.07/-1.9	-3.9/-8.46	-6.43/-4.64	-7.49/-5.77	-4.2/-3.46
Θ(97.5°)	-0.96/-2.31	-5.23/-2.9	-3.35/-3.04	-1.53/-2.26	-0.86/-0.81	-0.1/-0.66	-1.88/-2.12	-2.11/-3.58	-2.93/-4.42	-3.34/-5.7	-5.64/-4.49	-1.96/-3.19	-5.99/-1.97	-5.71/-7.23	-2.04/-3.95	-6.52/-0.47	0.26/-2.99	-5.9/-5.41	-3.46/-4.03	-2.52/-0.78	-3.07/-15.34	-4.03/-1.59	-4.42/-3.55	-2.15/-2.44
Θ(105°)	-3.07/-1.27	-3.94/-3.42	-4.37/-4.71	-2/-1.57	-2.46/-0.84	-1.04/-0.07	-0.9/-1.1	-2.35/-5.82	-8.72/-5.97	-4.12/-6.55	-5.98/-4.69	-5.7/-5.92	-4.47/-1.88	-7.1/-8.45	-1.07/-3.01	-4.242/27	3.01/-3.82	-3.64/-0.87	-0.09/-3.38	0.041/37	1.69/-5.9	-5.56/-2.05	-9.1/-2.99	-0.99/-4.4
Θ(112.5°)	-3.46/-1.15	-2.33/-1.6	-0.59/-2.26	-2.73/-1.11	-3.92/-4.17	-5.16/-5.17	-3.93/-4.98	-6.47/-5.77	-8.76/-6.78	-7.77/-4.76	-6.71/-13.9	-5.99/-4.36	-6.62/-5.02	-8.19/-2.55	-0.09/-4.09	-6.310/72	1.52/-1.45	-2.12/-1.06	-3.82/-5.33	-13.59/-3.12	-0.98/-4.78	-8.58/-1.86	-8.62/-4.04	-1.97/-3.25
Θ(120°)	-0.330/5	-0.21/-1.2	0.2/-0.62	-2.5/-2.39	-2.1/-3.65	-3.46/-3.62	-4.3/-5.11	-4.82/-6.72	-6.2/-9.34	-10.31/-10.35	-14.04/-11.42	-6.47/-5.66	-3.62/-2.18	-9.09/-3.22	-5.33/-2.46	-18.4/-8.12	-3.09/-7.04	-7.83/-2.05	-8.34/-4.9	-6.79/-5.48	-7.24/-8.7	-6.58/-1.52	-2.04/-0.47	
Θ(127.5°)	-1.160/9.1	0.5/-1.6	-1.060/32	-1.54/-4.15	-4.17/-3.4	-4.32/-4.37	-5.25/-6.35	-5.47/-3.79	-4.63/-5.84	-9.4/-7.89	-7.16/-7.33	-5.12/-6.8	-3.84											



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

Appendix B

Θ(127.5°)	-16.62/-8.61	-6.47/-6.67	-5.39/-4.54	-3.61/-3.21	-4.24/-5.36	-2.83/-0.63	-0.37/-1.25	-3.21/-4.81	-4.19/-6.95	-9.36/-9.41	-11.1/-14.79	-14.05/-12.87	-16.75/-17.23	-17.31/-9.34	-15.12/-6.19	-8.3/-9.62	-10.79/-10.17	-18.3/-17.55	-7.52/-10.96	-18.64/-13.09	-18.47/-18.02	-13.37/-14.27	-9.89/-14.04	-15.42/-17.67
Θ(135°)	-18.78/-14.61	-9.47/-5.66	-5.76/-5.44	-5.66/-6.64	-7.94/-7.11	-7.04/-7.58	-8.36/-8.01	-5.21/-4.05	-5.69/-4.98	-5.45/-9.29	-12.79/-18.57	-12.95/-12.67	-9.9/-18.36	-15.87/-14.25	-9.64/-9.05	-7.99/-13.96	-11.27/-14.78	-10.63/-18.32	-19.22/-13.72	-12.6/-14.62	-7.07/-18.31	-18.78/-13.27	-15.98/-14.04	-15.88/-18.16
Θ(142.5°)	-12.14/-13.69	-11.93/-11.31	-10.99/-10.7	-10.97/-7.76	-6.89/-7.75	-9.88/-12.2	-14.71/-17.27	-14.3/-10.16	-11.03/-11.33	-11.29/-11.74	-15.81/-17.96	-14.78/-9.85	-11.03/-10.77	-11.28/-12.61	-14.21/-16.14	-10.98/-5.97	-6.92/-6.1	-12.95/-7.88	-8.28/-6.3	-12.32/-15.58	-13.02/-13.46	-18.91/-14.85	-12.16/-9.48	
Θ(150°)	-14.39/-15.22	-16.82/-15.3	-15.6/-16.39	-15.59/-15.35	-16.81/-14.81	-15.34/-15.22	-13.55/-12.48	-12.1/-10.08	-8.29/-8.33	-8.2/-10.93	-13.12/-10.91	-19.2/-18.62	-17.13/-13.67	-15/-15.7	-18.31/-18.64	-13.37/-15.41	-9.78/-10.28	-15.35/-9.94	-7.79/-7.06	-8.81/-16.41	-11.34/-9.19	-13.09/-17.28	-13.89/-14.66	-13.43/-18.53
Θ(157.5°)	-11.39/-10.72	-16.58/-17.99	-17.63/-14.78	-14.44/-13.77	-16.63/-17.98	-13.82/-11.88	-10.19/-9.06	-7.3/-9.52	-5.5/-6.46	-10.07/-18.3	-13.2/-12.96	-13.6/-12.72	-15.91/-18.08	-18.77/-18.56	-14.43/-13.37	-11.86/-10.18	-9.9/-7.18	-9.38/-18.47	-14.89/-8.09	-4.54/-3.67	-7.09/-8.16	-6.45/-5.7	-6.32/-8.95	
Θ(165°)	-11.42/-14.67	-18.22/-16	-15.54/-13.09	-6.65/-7.65	-6.35/-4.75	-3.95/-12.02	-4.48/-5.08	-5.87/-6.64	-7.69/-8.5	-8.74/-8.81	-8.9/-11.14	-15.17/-17.53	-15.56/-13.03	-15.62/-18.55	-10.45/-8.69	-8.96/-10.06	-11.84/-13.03	-12.91/-13.37	-15.06/-13.35	-5.37/-6.11	-8.2/-6.05	-4.57/-5.23	-7.61/-9.94	
Θ(172.5°)	-16.25/-15.97	-18.53/-18.74	-17.62/-10.23	-6.58/-4.42	-3.07/-2.57	-2.07/-1.84	-1.99/-2.65	-4.12/-6.04	-7.72/-8.39	-8.16/-8.01	-8.44/-9.94	-11.77/-14.12	-15.68/-16.34	-18.31/-16.2	-18.66/-17.7	-19.01/-14.31	-11.98/-11.52	-10.72/-10.05	-10.27/-9.84	-8.98/-8.76	-9.24/-10.93	-10.79/-9.6	-9.76/-10.14	-11.82/-13.98
Θ(180°)	-18.02/-17.38	-15.43/-12.9	-11.06/-10.1	-9.26/-8.96	-9.08/-9.76	-10.02/-9.88	-8.57/-7.74	-7.55/-7.94	-9.32/-12.51	-16.35/-17.83	-18.11/-17.92	-18.22/-18.03	-18.92/-18.03	-16.62/-14.77	-12.75/-12.13	-11.91/-11.3	-10.06/-8.81	-7.24/-6.54	-6.97/-7.62	-8.26/-8.61	-8.71/-9.58	-11.29/-13.8	-18.15/-19.23	-18.2/-17.85
Freq(Hz)	6.695GPol.	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°)	-8.56/-9.2	-9.61/-10.31	-11.27/-11.27	-10.47/-11.26	-13.54/-16.73	-18.15/-18.44	-17.81/-19.23	-17.5/-16.89	-15.77/-13.44	-11.88/-11.31	-11.34/-11.84	-12.35/-11.21	-10.98/-11.12	-11.61/-12.82	-13.26/-14.68	-16.55/-18.25	-18.74/-18.97	-17.75/-17.31	-17.3/-13.54	-11.81/-11	-10.22/-8.97	-8.37/-8.74	-7.83/-8.06	-7.75/-7.87
Θ(7.5°)	-10.61/-11.44	-11.61/-10.91	-12.25/-13.71	-15.19/-18.25	-18.05/-19.3	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84	-18.09/-18.84
Θ(15°)	-12.09/-13.28	-12.24/-11.09	-11.26/-11.91	-14.53/-16.82	-18.45/-17.07	-18.33/-14.14	-12.63/-12.87	-13.27/-10.81	-7.88/-5.97	-4.87/-4.8	-5.29/-5.12	-5.31/-5.27	-5.47/-6.01	-6.99/-7.72	-7.82/-7.56	-7.38/-7.29	-7.37/-7.51	-8.09/-9.19	-10.34/-12.17	-14.51/-17.69	-19.33/-18.55	-14.88/-14.24	-13.82/-11.15	-9.8/-11.08
Θ(22.5°)	-15.29/-14.32	-11.25/-10.71	-10.98/-11.8	-11.59/-11.94	-14.16/-15.38	-12.75/-11.09	-10.57/-10.58	-9.64/-8.81	-8.92/-8.06	-6.5/-6.44	-2.09/-1.44	-1.29/-1.66	-2.55/-4.1	-4.8/-4.83	-4.84/-5.25	-6.19/-6.93	-7.33/-7.62	-8.9/-9.45	-10.66/-10.8	-11.63/-12.32	-13.78/-16.02	-17.12/-17.66	-15.88/-12.9	-11.74/-13.3
Θ(30°)	-15.26/-12.12	-10.61/-11.8	-13.53/-15.26	-15.37/-13.25	-12.71/-13.41	-11.94/-11.76	-11.19/-10.29	-9.23/-8.53	-8.25/-7.23	-5.57/-3.57	-1.54/-0.82	-0.32/-0.12	-0.93/-0.7	-0.94/-1.27	-1.14/-11.56	-12.68/-13.26	-14.55/-15.61	-18.53/-19.28	-18.59/-17.85	-17.3/-14.65	-13.63/-12.56	-10.63/-16	-9.36/-7.86	-8.48/-11.16
Θ(37.5°)	-11.84/-13.24	-11.24/-11.18	-11.19/-9.65	-10.14/-9.75	-8.71/-10.46	-11.12/-12.46	-12.18/-10.66	-9.19/-8.2	-7.35/-5.51	-4.58/-3.58	-1.140/35	2.12/2	1.610/79	0.280/09	-1.33/-3.01	-5.32/-6.77	-8.24/-9.06	-8.54/-8.17	-8.6/-10.13	-10.34/-8.94	-8.99/-9.81	-15.98/-17.19	-11.19/-6.74	-5.94/-8.13
Θ(45°)	-9.55/-10.37	-8.76/-8.76	-9.27/-8.29	-8.07/-8.42	-9.9/-12.54	-12.22/-11.07	-9.28/-7.21	-5.02/-4.01	-3.8/-3.7	-2.32/-1.75	-1.16/-1.15	-0.54/-0.05	-0.36/-0.27	0.81/53	1.780/62	-1.72/-6.29	-6.82/-9.41	-3.48/-3.43	-4.54/-7.49	-10.72/-13.19	-17.41/-15.04	-14.38/-18.47	-17.36/-16.63	-8.26/-9.6
Θ(52.5°)	-10.1/-135	-12.43/-12.65	-11.69/-10.63	-10.72/-14.7	-17.89/-19.1	-16.22/-11.02	-7.03/-5.12	-3.11/-1.09	0.150/1	0.030/01	0.470/04	0.020/04	0.047/04	0.047/04	0.24/-3.12	-5.01/-2.56	-1.94/-1.93	-1.38/-2.26	-3.39/-2.68	-3.27/-4.43	-6.89/-18.41	-16.93/-10.08	-18.29/-13.16	-8.57/-9.71
Θ(60°)	-17.67/-18.81	-15.64/-14.49	-18.48/-18.76	-17.46/-12.67	-9.32/-8.61	-10.03/-8.34	-5.8/-4.25	-2.67/-1.19	0.053	0.11/-0.87	-1.090/47	1.34/-0.24	-1.07/-0.39	-1.01/-1.54	-2.1/-3.24	-3.09/-0.61	0.23/-0.29	-2.02/-2.94	-3.81/-3.57	-3.75/-4.61	-7.24/-17.82	-18.39/-13.28	-16.03/-11.94	-11.37/-18.07
Θ(67.5°)	-11.27/-13.66	-17.27/-16.97	-17.81/-14.53	-14.84/-7.76	-5.35/-4.93	-5.1/-4.24	-3.78/-3.33	-2.34/-3.05	0.330/59	-1.12/-0.98	0.190/54	0.571/24	2.140/41	-1.19/-9.35	-9.23/-6.79	-2.040/24	0.24/-1.74	-4.05/-5.41	-3.43/-3.64	-2.16/-3.79	-4.24/-5.09	-8.46/-17.77	-8.87/-9.77	-10.52/-10.95
Θ(75°)	-10.15/-9.51	-11.16/-11.27	-8.87/-10.95	-9.4/-6.66	-4.41/-5.24	-4.9/-3.4	-1.82/-1.68	-2.31/-1.92	-1.02/-0.82	-2.26/-3.55	-2.480/28	0/0.4	1.350	1.02/-0.05	-1.91/-4.86	-2.32/-2.39	-1.91/-4.86	-2.32/-2.39	-1.91/-4.86	-2.32/-2.39	-1.91/-4.86	-2.32/-2.39	-1.91/-4.86	-2.32/-2.39
Θ(82.5°)	-7.94/-7.12	-6.33/-8.45	-5.02/-6.73	-11.03/-7.15	-5.29/-6.25	-4.62/-2.22	-1.18/-0.89	-1.92/-1.93	-1.62/-2.51	-3.07/-3.67	-2.33/-2.18	-3.6/-2.61	-3.09/-1.74	-0.7/-1.34	-0.94/-2.5	-4.87/-3.27	-3.95/-3.79	-6.47/-6.52	-5.55/-4.82	-4.59/-4.21	-7.74/-6.52	-5.4/-6.25	-8.35/-5.84	-9.31/-7.09
Θ(90°)	-7.53/-7.25	-6.47/-4.67	-5.46/-4.63	-7.99/-8.67	-5.88/-3.24	-2.01/-0.17	-0.13/-1.18	-1.94/-2.75	-2.47/-4.42	-4.4/-1.7	-2.68/-3.66	-0.87/-1.59	-1.580/21	-0.060/42	-1.55/-4.27	-5.72/-9.43	-10.1/-3.43	-11.88/-13.74	-4.65/-10.9	-1.99/-0.9	-3.61/-11.63	-4.47/-9.28	-5.56/-6.51	-6.93/-5.58
Θ(97.5°)	-3.22/-4.55	-5.82/-6.44	-9.37/-5.86	-6.02/-3.54	-1.95/-0.65	-1.71/-0.75	-1.98/-1.33	-2.57/-3.48	-1.73/-5.21	-4.18/-5.34	-10.03/-6.9	-4.51/-5.4	-2.84/-5.97	-4.25/-7.31	-11.74/-4.57	-10.49/-5.55	1.44/-1.44	-4.74/-1.69	-2.72/-2.36	-2.67/-1.68	-6.19/-13.98	-6.43/-5.28	-9.21/-5.25	-3.53/-4.73
Θ(105°)	-1.57/-3.39	-3.61/-2.39	-4.43/-2.8	-1.48/-0.54	-1.080/04	-3.51/-3.13	-3.99/-5.8	-5.74/-3.67	-4.74/-3.78	-7/-6.71	-6.54/-4.58	-3.27/-2.47	-0.61/-4.67	-4.05/-4.77	-4.77/-3.38	-11.62/-0.07	1.43/-2.94	-15.57/-5.07	-0.21/-4.03	-2.08/-0.81	-2.53/-0.98	-6.71/-10.35	-3.38/-3.04	-4.35/-2.27
Θ(112.5°)	-1.66/-2.05	-2.12/-0.62	-1.28/-0.62	-1.49/-4.7	-2.88/-3.25	-4.2/-7.27	-5.69/-5.72	-4.36/-5.55	-7.29/-12.36	-6.5/-11.78	-6.93/-4.91	-10.61/-7.04	-8.71/-11.53	-8.6/-13.51	-3.38/-0.19	-10.73/-2.19	2.57/-0.8	-1.76/-3.03	-2.17/-1.73	-2.52/-2.45	-1.61/-8.79	-3.37/-9.48	-10.05/-3.31	-1.98/-3.74
Θ(120°)	-1.53/-1.21	-1.89/-0.88	-0.77/-2.05	-3.39/-5.22	-7.27/-6.71	-6.02/-3.6	-3.34/-2.77	-3.46/-6.59	-5.71/-8.49	-8.48/-8.21	-7.49/-5.14	-6.62/-3.75	-5.97/-6.69	-4.67/-2.98	-3.77/-2.55	-3.27/-11.4	-2.8/-6.09	-9.94/-4.97	-11.61/-7.15	-4.33/-11.63	-11.49/-6.91	-6.92/-4.65	-10.65/-14.53	-7.46/-6.93
Θ(127.5°)	-1.03/-1.09	-1.440/07	-0.9/-4.6	-4.47/-3.31	-4.29/-4.03	-2.4/-0.78	-0.82/-3.37	-5.04/-7.88	-11.12/-10.59	-8.93/-8.83	-5.69/-7.33	-13.41/-9.79	-4.13/-2.27	-4.18/-2.29	-6.03/-4.76	-14.38/-17.64	-11.36/-15.45	-15.65/-14.97	-10.08/-16.77	-7.28/-8.7	-17.48/-18.2	-11.05/-9.9	-8.66/-3.27	-3.13/-3.76
Θ(135°)	-0.54/-0.21	-2.68/-6.15	-3.98/-3.32	-4.45/-3.96	-3.01/-1.85	-1.44/-1.94	-2.65/-3.41	-5.53/-7.62	-8.11/-9.91	-7.09/-5	-6.52/-10.28	-11.76/-6.99	-5.33/-6.62	-13.28/-6.02	-12.6/-15.69	-12.81/-16.7	-18.95/-17.97	-13.45/-11.75	-7.54/-7.82	-11.24/-7.76	-17.06/-11.15	-6.21/-14.9	-5.33/-3.61	-2.62/-2.36
Θ(142.5°)	-4.85/-3.35	-2.24/-2.36	-2.21/-1.98	-0.010/59	0/70	-0.79/-1.9	-2.82/-3.97	-4.95/-6.06	-9.27/-11.15	-10.3/-8.45	-5.9/-7.4	-10.04/-15.77	-15.98/-6.1	-4.44/-3.16	-4.83/-18.86	-12.63/-9.79	-8.25/-8.9	-6.33/-3.01	-3.8/-6.89	-5.33/-6.35	-17.7/-11.4	-11.96/-8.39	-10.27/-9.27	-5.07/-7.32
Θ(150°)	-7.75/-5.68	-5.79/-5.52	-3.58/-3.92	-4.14/-2.97	-2.76/-2.92	-3.49/-3.64	-4.23/-5.28	-6.42/-6.87	-6.81/-8.64	-13.74/-18.77	-18.03/-17.96	-18.83/-18.77	-10.93/-7.87	-9.92/-8.86	-15.52/-12.12	-11.22/-18.9	-18.65/-17.83	-14.94/-12.79	-13.88/-18.57	-18.09/-17.65	-12.98/-12.24	-9.09/-6.26	-9.49/-9.19	-9.28/-7.7
Θ(157.5°)	-7.31/-4.69	-3.01/-3.24	-2.71/-2.26	-2.67/-3.87	-5.69/-6.73	-7.32/-7.89	-8.36/-9.07	-9.59/-9.42	-9.54/-10.3	-10.4/-8.53	-7.06/-7.75	-8.39/-9.89	-15.05/-14.58	-11.78/-15.21	-19.02/-16.99	-18.02/-18.04	19/-18.01	-18.98/-14.56	-15.46/-18.12	-13.33/-8.71	-3.71/-1.18	-1.11/-1.97	-4.17/-5.72	
Θ(165°)	-2.27/-2.7	-3.45/-3.36	-2.9/-2.88	-3.51/-4.75	-6.11/-8.13	-9.78/-9.91	-8.96/-8.08	-7.99/-9.04	-10.81/-12.23	-11.61/-9.71	-8.52/-8.96	-10.85/-15.28	-15.68/-11.06	-8.01/-7.1	-8.29/-9.51	-10.06/-10.74	-13.29/-17.87	-17.72/-18.11	-13.69/-11.61	-14.25/-17.87	-16.37/-10.27	-6.56/-4.72	-2.69/-1.76	-1.35/-1.88
Θ(172.5°)	-7.51/-6.73	-5.41/-3.67	-2.42/-2.18	-2.39/-3.47	-5.32/-7.38	-9.18/-10.36	-10.35/-10.29	-9.75/-9.41	-9.24/-8.7	-8.29/-8.43	-9.79/-11.82	-14.22/-18.47	-17.25/-18.52	-17.84/-15.7	-14.27/-13.97	-16.18/-18.58	-18.72/-17.86	-17.91/-18.04	-18.38/-17.35	-14.62/-11.86	-9.81/-9.19	-9.91/-11.53	-12.27/-12.19	-



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

Appendix B

Θ(22.5°)	-10.44/-10.38	-10.98/-10.44	-11.79/-13.93	-15.1/-13	-11.53/-11.58	-11.08/-11.16	-10.44/-9.75	-9.16/-9.47	-10.78/-11.9	-13.07/-14.92	-16.86/-18.96	-18.98/-17.37	-17.22/-15.58	-14.48/-13.54	-12.05/-11.75	-12.36/-9.25	-6.28/-5.23	-4.63/-4.25	-4.45/-3.97	-3/-2.73	-3.67/-5.15	-6.14/-6.88	-7.17/-8.02	-7.51/-9.27
Θ(30°)	-8.26/-7.75	-7.28/-9.1	-9.46/-9.95	-10.16/-9.41	-11.66/-12.77	-12.13/-11.62	-9.8/-8.78	-7.67/-8.33	-8.93/-9.3	-10.45/-12.98	-17.62/-19.04	-18.81/-17.63	-14.26/-13.31	-12.4/-10.45	-7.86/-5.99	-4/-3.47	-3.01/-2.9	-3.26/-3.86	-3.84/-3.48	-4.37/-4.73	-4.27/-3.49	-4.36/-5.69	-7.6/-8.89	-8.43/-8.33
Θ(37.5°)	-6.84/-7.21	-8.39/-9.81	-8.94/-10.88	-13.08/-16.81	-17.14/-82	-14.89/-13.3	-10.73/-9.84	-9.54/-9.43	-8.72/-8.65	-9.19/-11.8	-15.55/-19.28	-18.22/-12.57	-9.22/-5.7	-5.14/-3.11	-1.72/-1.19	-1.32/-0.97	-1.62/-2.55	-2.43/-1.44	-1.49/-1.25	-1.21/-2.35	-3.73/-3.11	-5.67/-4.86	-4.46/-4.62	-6.25/-6.46
Θ(45°)	-9.09/-10.26	-13.05/-14.05	-13.61/-16.89	-18.2/-18.75	-17.82/-14.94	-12.12/-11.93	-11.04/-9.97	-10.14/-11.43	-13.1/-12.44	-11.37/-12.05	-13.36/-12.66	-9.49/-6.41	-4.35/-4.09	-3.33/-2.28	-1.1/-0.25	0.45/-0.6	-1.84/-2.1	-0.98/-0.75	-0.66/-0.85	-2.14/-4.18	-5.89/-6.86	-6.17/-6.69	-5.96/-6.15	-6.14/-7.99
Θ(52.5°)	-9.66/-10.31	-9.89/-10.71	-14.19/-13.4	-14.83/-18.29	-18.76/-15.52	-14.57/-13.47	-11.62/-9.4	-7.21/-6.02	-6.28/-4.89	-12.64/-12.32	-10.55/-9.76	-9.89/-7.2	-5.04/-4.53	-5.11/-4.25	-2.12/-0.41	0.1/-1.22	-2.13/-2.13	-2.27/-2.62	-2.49/-2.59	-5.25/-6.14	-7.62/-7.34	-8.12/-6.22	-6.57/-6.99	-9.76/-10.87
Θ(60°)	-10.42/-8.23	-5.9/-5.91	-7.96/-10.89	-18.68/-17.48	-18.42/-17.97	-18.61/-16.33	-11.99/-8.77	-6.67/-5.02	-4.58/-4.75	-6.71/-9.98	-9.86/-9.09	-8.11/-6.66	-6.56/-6.05	-6.6/-2.87	-1.31/-0.82	-1.37/-2.59	-2.44/-1.43	-0.01/-0.42	-0.89/-2.71	-4.37/-5.06	-6.24/-7.47	-8.57/-11.13	-10.04/-7.1	-6.65/-10.18
Θ(67.5°)	-7.8/-5.31	-4.84/-4.82	-4.21/-5.87	-9.22/-10.58	-12.38/-16.98	-16.23/-18.37	-17.93/-16.25	-9.71/-7.6	-6.07/-5.05	-6.15/-9.07	-8.79/-5.87	-5.78/-5.25	-2.56/-3.74	-3.67/-2.24	-2.59/-1.11	-2.66/-2.47	-1.73/-1.17	-2.72/-3.5	-4.98/-6.49	-6.85/-8.42	-8.69/-8.33	-8.46/-6.36	-9.51/-11.22	-6.16/-6.02
Θ(75°)	-5.72/-3.68	-2.87/-5.09	-5.64/-11.21	-8.64/-6.88	-7.77/-7.66	-8.97/-11.97	-13.51/-15.07	-18.44/-12.88	-9.47/-5.83	-8.23/-6.18	-5.71/-7.47	-3.94/-4.12	-5.59/-5.32	-6.32/-2.18	-1.2/-0.7	-1.98/-1.47	-4.85/-5.01	-7.96/-14.67	-19.28/-8.68	-6.95/-6.26	-8.98/-6.7	-10.6/-7.82	-1.57/-1.48	
Θ(82.5°)	-4.32/-2.7	-5.12/-7.77	-4.17/-7.71	-9.58/-9.94	-8.51/-7.31	-7.05/-8.91	-8.39/-9.07	-7.71/-6.69	-6.21/-6.33	-4.93/-4.69	-4.5/-4.33	-7.58/-9.42	-4.72/-8.51	-9/-6.62	-6.65/-4.58	-2.37/-5.05	-6.46/-4.74	-2.39/-3.29	-7.26/-5.97	-17.74/-12.7	-7.61/-10.77	-7.89/-4.13	-6.47/-5.2	-2.61/-1.68
Θ(90°)	-3.6/-1.33	-2.34/-4.28	-2.5/-4.1	-7.79/-11.4	-7.33/-9.31	-12.24/-8.09	-7.1/-5.63	-5.72/-3	-2.33/-3.28	-3.46/-2.72	-2.29/-1.35	-3.41/-4.22	-0.85/-3.19	-7.25/-8.54	-8.78/-5.63	-5.79/-9.26	-9.12/-3.19	0.91/-1.47	-3.73/-4.35	-4.7/-7.68	-3.56/-5.71	-9.16/-4.55	-4.16/-7.03	-1.25/-0.43
Θ(97.5°)	-4.88/-0.85	-1.93/-4.09	-1.99/-2.63	-5.49/-10.1	-7.18/-4.95	-9.57/-9.93	-7.27/-5.02	-5.33/-3.98	-4.77/-5.23	-5.25/-5.45	-4.22/-1.29	-1.76/-3.17	-0.93/-3.16	-5.04/-4.79	-11.22/-5.88	-5.03/-5.47	-8.66/-3.3	0.45/-0.45	-2.27/-2.19	-3.58/-13.37	-5.63/-4.77	-5.77/-2.83	-2.53/-1.5	-2.81/-2.34
Θ(105°)	-3.97/-3.01	-3.43/-7.52	-5.19/-6.93	-5.9/-10.44	-5.89/-3.48	-4.49/-3.01	-4.55/-6.23	-3.91/-4.73	-3.77/-4.46	-5.04/-6.17	-8.36/-5.69	-4.46/-3.73	-1.69/-3.31	-4.07/-3.02	-14.63/-6.47	-4.2/-4.34	-17.31/-3.61	2.440.22	-0.25/-1.19	-1.05/-11.59	-2.96/-4.77	-5.57/-8.2	-2.99/-8.2	-5.06/-1.53
Θ(112.5°)	-4.89/-2.95	-5.47/-18.3	-18.09/-18.87	-16.89/-8.52	-9.75/-6.95	-5.08/-9.22	-8.14/-5.46	-1.37/-1.74	-1.14/-0.07	-0.26/-3	-3.75/-4.75	-5.78/-4.63	-3.79/-5.59	-7.88/-8.03	-11.69/-12.6	-7.89/-8.63	-10.16/-6.12	-2.38/-4.98	-5.61/-3.87	-3.38/-9.26	-6.41/-12.74	-9.88/-2.59	-3.45/-5.1	-6.54/-2.97
Θ(120°)	-14.43/-11.81	-6.74/-8.95	-11.43/-10.78	-6.94/-8.39	-5.89/-4.72	-2.36/-1.25	-2.9/-3.5	-4.11/-2.93	-0.56/-1.09	-2.08/-2.59	-3.43/-3.76	-4.56/-4.13	-6.02/-7.43	-10.86/-18.2	-11.46/-9.37	-8.86/-9.17	-17.97/-8.47	-8.45/-1.78	-5.14/-8.76	-2.04/-8.05	-14.09/-13.7	-6.16/-8.27	-5.85/-5.32	
Θ(127.5°)	-16.84/-14.42	-5.62/-4.16	-6.02/-6.31	-6.4/-5.86	-5.71/-3.47	-1.29/-1.31	-2.29/-3.98	-5.86/-5.77	-4.56/-3.07	-3.04/-3.98	-4.63/-7.56	-8.89/-6.5	-9.34/-13.75	-7.5/-13.82	-7.74/-8.56	-7.89/-6.17	-12.62/-12.21	-10.24/-9.44	-10.46/-6.72	-6.15/-12.87	-10.28/-11.31	-11/-6	-5.88/-8.25	-12.09/-7.4
Θ(135°)	-15.69/-13.54	-9.58/-2.94	-2.97/-4.38	-6.09/-5.17	-5.53/-5.39	-3.98/-2.05	-0.74/-1.63	-2.69/-3.17	-4.54/-6.55	-6.97/-4.7	-3.35/-2.59	-2.77/-3.61	-4.59/-6.5	-7.36/-10.42	-8.95/-9.81	-11.05/-13.8	-10.57/-10.16	-11.19/-12.65	-7.81/-8.26	-8.76/-8.81	-11.51/-15.33	-18.4/-13.73	-5.48/-5.9	-9.8/-14.71
Θ(142.5°)	-19.28/-10.07	-4.75/-4.26	-3.38/-3.78	-4.56/-6.79	-6.75/-6.47	-5.64/-3.4	-2.47/-1.29	-0.41/-0.93	-2.1/-2.74	-2.28/-1.9	-2.26/-3.5	-4.56/-4.52	-3.64/-5.32	-7.28/-10.68	-16.39/-6.42	-6.67/-7.72	-13.04/-17.62	-15.97/-17.48	-17.05/-19.07	-14.3/-11.99	-17.16/-16.02	-12.74/-18.7	-15.44/-12.33	-17.17/-17.54
Θ(150°)	-15.36/-8.79	-6.41/-4.33	-5.14/-6	-7.5/-9.4	-11.16/-10.9	-6.84/-6.43	-3.17/-2.47	-2.93/-2.82	-2.73/-3.75	-5.23/-5.42	-3.79/-2.45	-2.74/-5.74	-10.07/-14.47	-9.37/-9.81	-12.27/-11.16	-11.76/-7.41	-7.41/-7.23	-10.37/-14.91	-15.8/-15.45	-15.54/-9.96	-7.84/-5.33	-6.09/-13.96	-18.45/-18.85	-16.3/-18.99
Θ(157.5°)	-15.49/-11.08	-7.93/-5.2	-4.71/-5.69	-6.61/-7.75	-8.12/-7.38	-5.93/-3.88	-2.58/-2.16	-1.9/-1.75	-1.88/-2.41	-2.96/-3.17	-3.68/-4.98	-4.34/-13.28	-14.26/-8.73	-7.19/-6.71	-9.72/-9.23	-11.27/-9.94	-9.97/-9.1	-9.65/-8.96	-15.82/-10.22	-15.02/-14.09	-8.51/-6.22	-7.17/-10.46	-15.22/-16.76	-16.72/-17.36
Θ(165°)	-11.25/-10.07	-8.47/-6.28	-5.69/-5.16	-4.93/-5.88	-7.73/-8.57	-7.04/-5.38	-4.07/-3.1	-2.36/-2.16	-2.68/-3.08	-3.82/-5.17	-7.29/-10.38	-14.34/-14.59	-13.05/-10.64	-9.61/-10.07	-11.54/-11.76	-12.12/-14.16	-19.06/-17.81	-18.19/-19.23	-18.16/-17.98	-14.78/-29.3	-7.88/-8.9	-12.09/-13.14	-15.22/-17.13	-15.17/-16.99
Θ(172.5°)	-11.91/-9.74	-7.26/-5.23	-4.59/-5.02	-6.18/-7.36	-7.82/-6.56	-4.87/-4.13	-4.15/-4.72	-5.37/-5.78	-6.75/-8.14	-9.72/-10.2	-10.87/-12.1	-14.17/-17.26	-18.32/-15.39	-13.34/-13.46	-16.11/-17.43	-16.81/-16.89	-14.44/-16.31	-14.05/-12.96	-16.15/-18.9	-18/-17.49	-16.37/-15.19	-14/-13.56	-13.97/-13.89	
Θ(180°)	-14.88/-13.79	-12.44/-10.81	-10.07/-10.92	-11.06/-11.18	-11.5/-12.05	-12.86/-10.89	-10.04/-9.87	-9.4/-8.24	-6.8/-6.12	-6.8/-8.37	-10.39/-12.95	-16.11/-18.83	-18.68/-18.56	-15.26/-12.62	-11.5/-11.21	-11.59/-12.26	-12.66/-12.99	-13.54/-16.15	-17.31/-16.86	-15/-13.14	-12.66/-11.48	-11.45/-11.86	-12.77/-13.71	-14.92/-15.15
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°)	-9.93/-9.14	-8.93/-9.39	-9.09/-7.91	-7.73/-8.66	-9.84/-9.87	-10.18/-10.72	-11.46/-11.31	-11.35/-11.43	-12.13/-13.78	-12.56/-11.91	-11.5/-11.05	-10.99/-10.64	-10.59/-10.3	-10.24/-10.61	-11.68/-13.5	-14.26/-13.4	-13.25/-15.54	-18.69/-16.35	-16.06/-14.59	-15.66/-16.04	-14.87/-14.42	-12.96/-11.53	-9.51/-9.33	-10.68/-10.3
Θ(7.5°)	-11.2/-10.74	-10.54/-10.58	-10.21/-10.3	-10.84/-11.73	-12.67/-13.91	-15.41/-17.63	-19.04/-16.76	-15.69/-15.13	-14.11/-13.04	-12.83/-12.38	-11.14/-10.04	-9.43/-9.09	-9.1/-8.44	-8.53/-8.61	-9.44/-9.96	-9.72/-8.85	-9.26/-10.95	-12.77/-11.35	-10.63/-10.21	-11.25/-13.13	-13.97/-14.63	-15.26/-15.87	-12.81/-11.06	-9.93/-11.04
Θ(15°)	-6.51/-7.11	-7.29/-7.03	-7.14/-7.89	-9.77/-11.25	-13.22/-15.02	-15.31/-15.29	-16.73/-18.24	-12.78/-13.79	-11.78/-10.36	-8.16/-6.29	-5.42/-5.61	-6.48/-7.02	-7.29/-6.75	-6.43/-6.38	-6.69/-7.22	-8.77/-11.24	-14.34/-18.29	-14.92/-11.55	-11.91/-14.2	-16.91/-16.97	-15.25/-15.16	-13.93/-11.6	-7.58/-6.71	
Θ(22.5°)	-4.51/-4.37	-5.09/-5.44	-5.8/-7.48	-10.17/-11.47	-11.94/-10.99	-9.19/-8.29	-8.95/-11.67	-14.83/-17	-17.76/-18.59	-12.88/-10.34	-8.58/-7.55	-7.72/-7.9	-7.33/-6.75	-6/-6.02	-6.6/-6.31	-6.44/-7.21	-8.5/-11.75	-14.14/-18.71	-18.24/-17.27	-17.96/-18.09	-18.36/-17.81	-16.64/-12.09	-10.74/-8.91	-6.16/-5.23
Θ(30°)	-4.29/-3.79	-4.24/-5.46	-7.06/-11.03	-12.89/-11.87	-10.19/-8.61	-10.09/-10.95	-11.87/-13.15	-18.25/-18.01	-18.93/-18.82	-14.05/-11.68	-8.73/-8.54	-10.61/-11.27	-8.5/-6.1	-5.91/-6.5	-6.08/-5.73	-6.42/-6.48	-11.89/-16.77	-16.99/-13.93	-14.02/-17.4	-19.24/-18.21	-19.26/-14.37	-11.05/-12.02	-8.64/-6.28	-4.59/-4.83
Θ(37.5°)	-6.9/-7.13	-8.51/-9.58	-11.86/-16.47	-15.07/-13.19	-12.87/-13.19	-14.79/-16.22	-16.45/-18.77	-19.05/-16.22	-13.54/-11.04	-9.17/-7.84	-7.46/-7.49	-9.02/-9.42	-8.16/-7.67	-7.36/-8.32	-6.71/-5.11	-6.7/-9.98	-15.99/-14.67	-17.41/-17.42	-16.97/-18.39	-17.04/-17.5	-18.1/-11.8	-9.45/-9.65	-10.62/-10.93	-9.9/-8.17
Θ(45°)	-10.88/-8.95	-7.73/-10.42	-17.14/-18.35	-19.40/-17.58	-18.5/-18.44	-17.8/-17.41	-13.39/-11.96	-12.84/-11.38	-8.95/-8.66	-9.75/-6.98	-3.57/-2.68	-4.29/-8.3	-6.48/-6	-7.52/-10.44	-9.87/-11.22	-15.55/-15.84	-13.87/-17.19	-15.77/-18.47	-17.36/-9.33	-8.26/-17.06	-17.81/-18.18	-16.32/-14.5	-17.40/-17.42	-17.4/-13.34
Θ(52.5°)	-6.79/-4.71	-4.29/-6.18	-7.36/-8.57	-9.71/-10.87	-11.23/-15.99	-13.26/-13.88	-13.17/-12.34	-10.57/-9.07	-6.52/-4.87	-4.37/-4.11	-4.63/-4.22	-2.7/-3.1	-4.29/-6.52	-8.07/-8.88	-8.65/-11.77	-14.78/-11.67	-14.24/-18.15	-18.54/-13.85	-16.87/-17.81	-16.31/-17.75	-17.67/-15.71	-12.87/-9.87	-7.98/-5.31	-5.06/-5.92
Θ(60°)	-4.72/-3.62	-3.41/-4	-4.61/-5.23	-4.57/-5.99	-9.81/-9.44	-9.83/-9.67	-11.02/-11.77	-10.89/-13.57	-12.07/-9.79	-7.24/-4.88	-3.78/-4.27	-3.51/-9.88	-0.09/-0.82	-3.86/-5.72	-4.25/-6.07	-6.15/-17.92	-16.16/-19.72	-16.87/-17.07	-18.28/-14.46	-10.89/-16.01	-9.56/-10.37	-6.03/-6.5	-4.09/-3.02	-1.64/-0.49
Θ(67.5°)	-3.2/-3.16	-4.99/-5.26	-7.48/-8.37	-6.48/-7.68	-9.41/-11.93	-16.52/-18.71	-17.12/-13.22	-16.11/-17.53	-14.35/-13.78	-12.92/-10.68	-9.44/-9.29	-4.64/-1.86	-0.16/-1.88	-0.19/-5.13	-4.31/-1.9	-3/-5.98	-7.52/-13.85	-18.91/-19	-14.16/-6.98	-8.31/-9.54	-10.52/-10.14	-6.43/-4.16	-2.43/-1.51	-1.54/-1.83
Θ(75°)	-0.21/-0.5	-																						



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

Appendix B

Θ(75°)	-2.57/-1.61	-1.99/-2.52	-2.19/-3.17	-9.07/-13.11	-10.45/-9.55	-10/-11.59	-13.44/-17.1	-11.93/-7.42	-3.93/-1.32	-2.86/-5.48	-5.58/-3.03	-2.1/-2.62	-9.79/-9.01	-8.22/-7.54	-6.89/-5.77	-9.13/-5.68	0.66/-1.38	0.01/-1.37	-2.73/-5.51	-12.36/-14.14	-10.7/-3.22	-1.02/-1.7	-6.76/-8.29	-4.94/-2.49
Θ(82.5°)	-1.89/-2.42	-3.78/-5.77	-4.85/-4.86	-7.89/-12.66	-14.69/-17.69	-19.43/-15.33	-16.36/-17.15	-11.2/-5.92	-4.54/-1.98	-3.2/-4.64	-6.03/-7.05	-4.71/-3.35	-6.82/-9.51	-7.45/-3.87	-3.3/-2.78	-7.26/-4.6	-1.11/-0.5	-1.05/-3.08	-2.51/-4.54	-5.9/-16.48	-7.36/-0.48	1.13/-1.32	-4.92/-5.89	-7/-3.4
Θ(90°)	-1.63/-5.7	-6.04/-4.65	-4.61/-5.92	-8.93/-10.07	-12.26/-17.92	-15.27/-7.97	-6.2/-8.88	-12.86/-7.29	-6.82/-4.26	-3.14/-3.93	-5.92/-8.13	-10.05/-7.89	-9.98/-7.8	-6.7/-2.23	-1.81/-0.5	-4.74/-9.28	-3.59/-1.13	-3.32/-2.36	-0.97/-1.16	-11.29/-6.27	1.71/-6.62	-4.34/-3.37	-1.29/-5.18	
Θ(97.5°)	-1.05/-4.55	-4.99/-3.15	-3.21/-4.56	-5.32/-5.8	-8.06/-11.4	-13.87/-9.39	-5.52/-5.16	-7.76/-7.09	-8.44/-8.15	-7.13/-5.44	-3.19/-4.83	-5.46/-5.46	-6.02/-3.89	-4.57/-3.17	-3.77/-2.87	-6.33/-15.12	-6.05/-3.23	-3.27/-11.98	-8.28/-6.99	-10.7/-5.92	-10.42/-6.56	-7.25/-8.06	-5.86/-5.85	-3.52/-1.79
Θ(105°)	-3.73/-3.79	-4.51/-4.73	-4.54/-5.89	-8.55/-7.15	-13.48/-18.42	-12/-12.46	-13.47/-11.8	-7.97/-5.22	-5/-3.19	-2.22/-2.49	-3.82/-6.02	-5.58/-3.7	-3.85/-5.08	-8.44/-5.76	-4.09/-5.91	-9.8/-10.32	-12.27/-12.2	-9.14/-13.57	-14.62/-10.33	-12.3/-7.87	-7.81/-6.51	-7.9/-9.71	-5.17/-10.77	-15.43/-5.61
Θ(112.5°)	-4.93/-3.63	-3.99/-4.51	-5.92/-6.79	-8.84/-9.35	-14.99/-12.07	-8.22/-6.67	-4.96/-5.58	-4.81/-4.99	-6.46/-1.7	-5.74/-23	-5.43/-1.97	-8.22/-6.86	-4.07/-6.59	-7.71/-9.64	-9.01/-15.18	-12.37/-7.15	-6.36/-7.65	-8.29/-18.49	-12.39/-16.79	-16.42/-8.1	-7.05/-6.37	-4.79/-7.12	-9.5/-4.2	
Θ(120°)	-3.94/-1.69	-3.48/-5.8	-6.67/-7.99	-8.8/-11.61	-11.39/-9.31	-9.1/-10.74	-10.55/-6.64	-4.65/-4.86	-6.92/-8.35	-6.59/-4.35	-3.22/-3.58	-5.91/-7.73	-7.88/-9.56	-9.7/-7.38	-5.74/-5.24	-9.37/-14.32	-18.93/-11.24	-14.31/-16.45	-18.32/-17.19	-8.29/-18.48	-15.38/-14.79	-18.45/-7.93	-6.81/-7.2	-9.3/-2.76
Θ(127.5°)	-4/-0.12	-2.22/-4.94	-13.84/-16.96	-18.39/-15.24	-17.11/-18.72	-19.19/-14.47	-8.99/-7.47	-5.88/-5.45	-8.44/-12.87	-11.21/-6.34	-3.37/-3.46	-6/-12.1	-9.31/-8.29	-5.08/-9.43	-4.77/-6.81	-10.59/-8.95	-13.78/-18.64	-16.3/-15.25	-18.73/-13.63	-8.17/-14.92	-11.55/-18.75	-10.75/-11.42	-5.21/-10.63	-18.09/-5.15
Θ(135°)	-6.09/-4.82	-6.81/-11.47	-14.45/-7.58	-4.74/-5.24	-9.08/-11.64	-16.36/-14.94	-16.16/-14.99	-11.97/-15.81	-17.74/-18.97	-18.89/-15.91	-12.15/-11.49	-17.11/-11.91	-9.35/-5.5	-4.13/-4.42	-9.75/-12.12	-18.69/-17.05	-18.27/-18.49	-11.92/-12.62	-13.49/-17.55	-12.97/-10.28	-10.21/-9.09	-7.23/-10.35	-9.55/-14.77	-18.75/-7.93
Θ(142.5°)	-6.19/-12.97	-14.22/-14.16	-17.97/-9.08	-4.36/-3.85	-4.41/-7.9	-13.48/-17.42	-15.72/-13.97	-15.46/-15.13	-14.62/-14.42	-14.62/-11.58	-9.57/-9.68	-14.72/-9.31	-8.78/-6.77	-9.22/-15.76	-8.73/-10.6	-7.18/-13.48	-18.14/-18.88	-16.7/-13.31	-10.52/-10.97	-10.3/-8.62	-8.12/-10.02	-18.78/-18.88	-11.92/-8.21	-14.21/-7.6
Θ(150°)	-4.46/-5.71	-7.51/-7.72	-8.91/-7.74	-3.96/-3.21	-4.81/-6.45	-11.56/-18	-18.56/-17.42	-18.01/-17.99	-17.99/-18	-14.83/-10.24	-8.81/-9.28	-8.03/-4.45	-3.46/-2.88	-3.8/-8.52	-17.31/-10.17	-6.43/-7.55	-7.58/-11.18	-18.62/-18.63	-15.28/-9.62	-5.65/-4.48	-6.7/-9.29	-9.93/-9.74	-9.78/-13.37	-18.28/-7.1
Θ(157.5°)	-4.98/-5.12	-6.24/-5.78	-8.51/-17.66	-11.98/-9.21	-9.28/-8.65	-8.89/-8.24	-7.52/-6.73	-7.12/-7.02	-7.47/-7.8	-6.98/-5.7	-5.02/-5.69	-7.69/-8.87	-6.96/-6.38	-9.78/-16.96	-13.91/-7.69	-5.75/-6.91	-7.05/-9.75	-13.04/-9.64	-7.76/-7.2	-6.43/-6.04	-6.35/-6.51	-5.44/-1.12	-6.83/-7.36	-17.33/-9.58
Θ(165°)	-9.94/-9.74	-9/-9.53	-11.27/-13.96	-15.76/-18.28	-19.1/-14.94	-10.32/-8.88	-8.61/-9.78	-12.91/-14.77	-16.76/-19.09	-18.62/-17.27	-14.72/-13.85	-11.45/-9.63	-10.7/-15.67	-18.98/-16.65	-13.18/-11.35	-10.42/-11.9	-14.14/-16.19	-16.48/-10.94	-7.44/-6.85	-8.12/-10.07	-10.39/-7.77	-5.97/-5.69	-7.36/-12.34	-18.93/-13.94
Θ(172.5°)	-17.84/-19.16	-19.54/-17.02	-13.44/-10.95	-9.24/-8.38	-8.01/-9.09	-8.84/-9.14	-9.29/-9.19	-9.26/-9.51	-9.72/-9.7	-10.39/-11.45	-13.04/-13.24	-12.18/-11.43	-11.75/-12.63	-13.58/-13.69	-13.6/-15.33	-17.37/-17.76	-18.35/-17.47	-14.91/-15.19	-16.03/-17.9	-17.59/-14.13	-10.64/-9.94	-6.21/-5.96	-6.96/-9.3	-11.87/-16.44
Θ(180°)	-18.56/-18.47	-18.14/-17.16	-17.75/-17.57	-16.07/-14.77	-13.4/-12.61	-11.27/-10.71	-10.6/-10.39	-10.74/-11.71	-13.09/-13.6	-13.57/-13.32	-13.85/-15.33	-17.13/-18.11	-17.57/-17.11	-16.89/-16.56	-16.37/-17.04	-17.23/-16.63	-17.38/-17.6	-16.95/-13.87	-12.93/-14.51	-14.96/-13.74	-13.7/-13.61	-13.51/-14.21	-15.88/-18.46	-18.43/-17.29
Freq(Hz)	6.475GPol.	PhiAnt. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	0.43/-5.86	-6.82/-5.71	-4.89/-3.74	-2.45/-0.88	0.060.81	1.722.53	2.722.53	2.111.51	0.56/-0.45	-1.95/-3.5	-5.64/-8.04	-9.71/-10.21	-8.53/-6.97	-5.51/-4.47	-3.61/-2.62	-1.93/-1.31	0.50/0.8	0.920.84	0.790.57	0.28/-0.19	-0.91/-1.62	-2.48/-3.54		
Θ(7.5°)	-8.48/-8.06	-6.74/-5.41	-4.98/-3.97	-3.35/-2.67	-2.29/-1.58	-0.94/-0.41	0.060.14	0.390.47	0.470.45	0.320.13	-0.21/-0.98	-2.07/-3.42	-5.04/-7.16	-7.9/-7.16	-5.34/-3.55	-1.63/-0.27	0.751.41	2/2.66	3.123.16	3.052.55	1.921.12	0/-1.47	-3.06/-4.72	-6.36/-8.05
Θ(15°)	-11.57/-9.19	-6.67/-5.7	-5.16/-4.93	-4.81/-4.92	-4.88/-4.77	-5.06/-5.12	-5.26/-5.51	-5.23/-4.33	-3.5/-2.96	-2.42/-1.93	-1.71/-1.61	-1.58/-1.85	-2.26/-3.26	-5.13/-7.26	-7.09/-4.98	-2.95/-1.02	0.441.34	1.762.24	2.392.3	1.80.96	0.38/-0.63	-2.42/-4.83	-8.3/-13.15	-18.57/-18.1
Θ(22.5°)	-8.72/-7.85	-7.39/-7.04	-6.67/-6.49	-6.17/-6.14	-5.75/-5.52	-4.63/-4.2	-4.52/-5.28	-6.99/-9.53	-13.06/-13.6	-10.54/-8.29	-7/-6.2	-5.57/-4.92	-4.54/-4.85	-5.88/-6.93	-6.71/-5.54	-4.43/-3.32	-2.51/-1.87	-1.86/-2.31	-3.09/-3.95	-1.56/-3.97	-7.23/-13.89	-15.55/-13.68	-16.39/-12.24	
Θ(30°)	-18.17/-11.83	-7.91/-7.07	-6.4/-6.16	-6.86/-7.25	-7.66/-7.6	-6.29/-5.37	-4.22/-3.8	-3.89/-4.93	-6.97/-10.44	-16.08/-17.79	-16.82/-12.15	-10.61/-9.84	-10.01/-9.78	-9.08/-7.58	-5.97/-4.28	-3.51/-3.13	-3.12/-4.16	-6.89/-8.33	-7.19/-6.01	-5.14/-4.59	-4.11/-4.44	-5.71/-7.74	-12.92/-19.02	-15.64/-16.39
Θ(37.5°)	-16.57/-10.24	-7.43/-7.96	-5.65/-4.23	-5.64/-7.32	-10.94/-16.37	-18.68/-17.79	-12.59/-7.9	-5.28/-4.44	-5.28/-5.68	-17.08/-17.9	-17.93/-19.2	-11.96/-3.97	-9.09/-11.46	-18.81/-14.61	-10.02/-6.27	-4.76/-4.38	-4.69/-5.81	-4.91/-4.67	-2.47/-1.1	-1.72/-2.51	-2.77/-3.38	-4.37/-5.49	-6.26/-7.57	-11.87/-17.99
Θ(45°)	-6.54/-3.84	-2.79/-2.44	-1.92/-1.32	-1.04/-0.78	-2.33/-2.95	-3.74/-5.64	-11.61/-17.83	-6.18/-2.66	-2.54/-5.68	-10.77/-18.78	-15.08/-15.67	-18.38/-18.69	-18.82/-18.66	-15.46/-14.97	-12.77/-5.59	-3.32/-2.53	-2.87/-2.86	-2.78/-1.55	-1.82/-1.67	-0.6/-1.24	-2.86/-4.42	-5.81/-4.92	-5.01/-4.72	-4.65/-5.65
Θ(52.5°)	-0.71/-0.6	-1.14/-2.7	-2.27/-0.76	-4.35/-2.29	-4.16/-3.69	-3.47/-4.85	-9.75/-11.03	-4.23/-0.92	-3.39/-2.28	-6.53/-10.33	-15.79/-18.46	-14.81/-12.84	-15.61/-18.56	-14.29/-11.43	-11.78/-11.29	-7.87/-5.96	-6.91/-5.91	-3.90/-0.35	1.3/1	-0.3/-2.9	-4.41/-4.57	-5.11/-2.97	-2.78/-2.93	-1.81/-0.9
Θ(60°)	-1.39/-0.57	-1.72/-3.48	-2.61/-0.9	-2.48/-5.71	-1.75/-5.54	-5.17/-6.53	-11.52/-10.44	-4.37/-1.48	-0.85/-1.36	-3.56/-5.72	-8.91/-11.8	-8.02/-7.69	-6.55/-6.54	-10.49/-15.82	-17.82/-10.29	-7.53/-4.32	-7.29/-5.63	-5.06/-3.18	-2.91/-2.59	-3.76/-3.52	-4.94/-6.68	-3.58/-1.15	-0.3/-0.65	-2.93/-1.87
Θ(67.5°)	-3.78/-2.66	-4.78/-5.5	-4.23/-4.56	-7.41/-9.73	-5.96/-4.01	-4.52/-11.47	-10.15/-7.32	-5.61/-3.42	-2.17/-0.59	-0.21/-1.14	-4.77/-6.37	-5.4/-7.5	-10.67/-5.61	-7.79/-17.25	-14.68/-7.41	-4.26/-3.75	-5.68/-5.23	-4.84/-6.27	-4.56/-2.76	-2.61/-3.65	-6.38/-5.29	-7.17/-3.1	-1.55/-2.24	-3.78/-2.87
Θ(75°)	-7.71/-6.4	-6.62/-4.97	-5.76/-9.9	-13.78/-5.38	-5.95/-4.15	-6.87/-1.46	-1.161/-26	-0.43/-1.6	-1.470.92	2.131.21	-2.65/-5.75	-3.38/-2.29	-5.2/-8.18	-3.66/-10.01	-13.06/-8.79	-4.31/-1.52	-1.16/-1.62	-1.81/-4.67	-2.55/-2.58	-3.05/-2.1	-3.41/-4.72	-4.38/-4.66	-4.25/-6.07	-8.52/-4.67
Θ(82.5°)	-10.49/-5.97	-2.95/-2.65	-5.35/-14.24	-7.92/-7.25	-8.41/-17.6	-5.69/-0.84	2.422.96	1.730.56	0.821.42	1.222.0-84	-3.7/-3.94	-2.78/-0.67	-2.81/-9.68	-5.97/-9.68	-8.83/-6.35	-2.49/-3.36	-4.78/-2.38	-1.31/-2.3	-3.21/-6.25	-1.7/-0.77	-0.54/-1.08	-2.26/-4.55	-12.83/-8.5	-6.25/-0.52
Θ(90°)	-3.84/-2.84	-2.79/-3.61	-7.41/-16.15	-9.42/-18.29	-7.38/-8.47	-1.181.19	2.643.07	2.660.5	1.441.91	2.29/-0.95	-1.93/-1.24	-1.411.09	-0.07/-5.21	-6.47/-18.78	-9.92/-5.09	-4.3/-6.71	-13.05/-3.81	-3.45/-7.9	-8.35/-3.06	-3.970.09	0.14/-1.2	-4.33/-8.71	-18.25/-9.04	-3.6/-2.2
Θ(97.5°)	-3.44/-3.47	-5.86/-8.92	-13.61/-18.33	-8.96/-4.37	-2.94/-6.69	-3.32/-2.01	-1.866.032	1.020.31	2.010.89	2.120.13	-0.39/-0.19	-0.760.49	-0.37/-6.4	-7.26/-13.43	-6.47/-6.37	-9.21/-5.26	-8.75/-7.93	-9.57/-18.31	-11.81/-10.01	-10.51/-2.02	-2.96/-5.54	-10.14/-15.17	-14.63/-14.45	-7.36/-3.72
Θ(105°)	-5.06/-5.15	-8.28/-11.8	-18.94/-12.68	-8.46/-9.53	-3.6/-8.58	-6.34/-6.76	-4.14/-2.41	-1.803.1	0.891.45	2.021.32	-1.05/-0.17	0.232.84	2.571.25	-8.55/-10.29	-12/-14.43	-9.03/-10.25	-7.04/-5.05	-6.7/-18.25	-18.7/-6.2	-12.39/-3.8	-1.69/-3.51	-8.28/-17.47	-8.05/-18.12	-10.43/-7.33
Θ(112.5°)	-6.22/-7.56	-9.43/-15.28	-18.48/-9.47	-8.76/-6.32	-3.61/-4.54	-6.46/-7.06	-4.42/-3.16	-2.19/-1.49	-2.41/-1.38	-1.33/-1.74	-4.3/-5.71	-2.491.91	2.89/-0.49	-7.21/-12.17	-8.62/-13.77	-14.52/-12.2	-8.7/-9.54	-4.11/-10.89	-5.72/-7.07	-18.05/-7	-2.87/-0.95	-4.36/-15.98	-15.75/-14.52	-6.24/-5.81
Θ(120°)	-5.18/-18.17	-16.26/-19.11	-15.68/-10.23	-6.95/-8.26	-9.94/-4.7	-4.93/-4.71	-7.71/-6.91	-3.81/-2.43	-1.59/-1.45	-2.62/-4.7	-7.05/-7.97	-6.34/-3.69	-0.93/-2.12	-5.89/-8.51	-11.64/-11.45	-9.31/-15.17	-15.72/-12.98	-6.04/-9.57	-8/-5.03	-12.73/-8.1	-2.6/-5.1	-8.92/-17.98	-17.16/-17.73	-1.85/-0.86
Θ(127.5°)	-12.91/-12.19	-12.22/-11.92	-15.92/-14.79	-13.04/-12.4	-12.41/-12.46	-11.11/-8.39	-6.89/-6.68	-6.21/-3.66	-2.16/-2.48	-4.95/-8.34	-8.74/-10.36	-9.25/-7.42	-4.13/-3.24</											



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

Appendix B

Θ(120°)	-2.79/-5.54	-6.64/-6.04	-5.08/-4.8	-10.51/-14.94	-17.65/-10.68	-8.67/-8.39	-6.19/-4.37	-4.9/-6.59	-12/-6.81	-3.78/-2.86	-4.09/-7.67	-12.67/-8.82	-10.59/-11.17	-12.51/-11.61	-7.1/-8.35	-15.99/-17.77	-11.47/-14.59	-12.08/-16.17	-13.21/-9.83	-14.61/-13.77	-12.03/-8.53	-12.1/-4.21	-4.45/-8.66	-7.05/-2.36
Θ(127.5°)	-2.59/-1.8	-2.17/-3.92	-4.61/-9.35	-17.76/-18.55	-11.54/-9.24	-9.63/-11.1	-7.16/-4.17	-3.36/-5.38	-9.91/-9.68	-5.31/-4.77	-8.23/-13.18	-18.03/-16.04	-17/-18.36	-17.92/-18.07	-8.36/-8.13	-8.98/-9.66	-11.02/-12.67	-18.06/-18.61	-14.49/-12.85	-17.12/-12.13	-4.71/-10.17	-11.47/-16.24	-15.05/-13.69	-4.96/-3.77
Θ(135°)	-7.62/-4.77	-7.8/-8.54	-13.21/-11.37	-8.53/-7.72	-6.02/-4.25	-3.99/-5.83	-10.39/-17.93	-12.15/-9.58	-9.81/-10.42	-10.11/-9.69	-10.61/-14.05	-14.71/-17.8	-17.53/-13.09	-10.16/-9.81	-10.17/-13.06	-18.42/-17.52	-8.45/-12.2	-18.01/-10.16	-9.82/-13.02	-9.5/-15.13	-11.62/-11.05	-7.63/-19.46	-9.34/-8.8	
Θ(142.5°)	-11.23/-10.54	-18.51/-18.75	-14/-7.22	-4.78/-3.88	-6.58/-6.68	-6.66/-7.09	-8.69/-10.63	-13.24/-11.35	-8.15/-6.48	-6.8/-8.43	-9.4/-15.51	-17.92/-11.35	-5.48/-6.73	-7.63/-14.62	-13.56/-7.96	-7.78/-11.79	-19.02/-17.86	-10.91/-9.95	-8.78/-8.19	-8.43/-11.89	-13.72/-18.96	-9.59/-8.28	-12.18/-13.9	-15.24/-11
Θ(150°)	-6.67/-9.74	-7.52/-6.99	-6.71/-4.17	-4.5/-5.01	-6.71/-13.91	-18.16/-14.71	-12.57/-12.65	-11.93/-10.62	-9.23/-7.95	-7.83/-8.79	-8.31/-9.05	-12.63/-12.47	-6.45/-5.81	-5.62/-7.67	-9.94/-11.45	-9.33/-9.35	-8.88/-10.94	-18/-16.73	-12.87/-10.41	-8.56/-8.22	-13.16/-17.94	-18.34/-14.14	-15/-13.59	-8.76/-5.39
Θ(157.5°)	-7.33/-7.88	-8.86/-13.71	-17.07/-11.73	-10.99/-8.97	-9.6/-14.35	-15.72/-16.39	-18.3/-17.89	-18.55/-18.81	-18.03/-18.03	-18.95/-12.94	-11.22/-9.81	-5.98/-3.84	-4.07/-4.91	-5.53/-13.23	-14.17/-8.58	-5.49/-4.86	-6.57/-9.03	-10.58/-9.6	-8.67/-7.7	-6.32/-5.9	-8.13/-13.84	-17.54/-18.54	-19.12/-9.9	-6.71/-6.71
Θ(165°)	-9.61/-12.5	-17.87/-18.75	-17.45/-14.12	-10.32/-8.27	-8/-7.12	-5.61/-5.36	-6.36/-7.76	-9.97/-12.98	-16.37/-17.17	-14.89/-12.12	-10.28/-9.83	-11.25/-10.61	-7.9/-7.56	-11.48/-18.6	-10.71/-7.76	-7.41/-9.04	-11.84/-17.11	-17.76/-13.53	-13.44/-13.31	-15.44/-16.71	-15.4/-12.45	-11.98/-11.85	-11.53/-9.68	-8.55/-8.75
Θ(172.5°)	-16.73/-13.19	-10.44/-9.24	-9.57/-10	-8.86/-8.35	-7.78/-7.51	-8.12/-8.21	-8.82/-9.92	-10.93/-11.95	-13.6/-14.68	-14.82/-14.13	-14.1/-12.98	-13.85/-17.07	-18.67/-17.39	-18.79/-18.36	-18.21/-18.22	-18.88/-14.29	-12.19/-12.27	-13.39/-16.38	-18.89/-17.86	-18.76/-18.58	-18.63/-18.51	-15.88/-12.26	-11.39/-13.41	-15.52/-17.81
Θ(180°)	-18.67/-18.16	-14.72/-11.79	-9.69/-8.63	-7.2/-6.44	-5.92/-6	-6/-6.04	-6.6/-7.23	-7.59/-8.54	-10.26/-12.41	-14/-14.79	-16.54/-16.63	-15.73/-13.73	-12.07/-12.09	-13.16/-15.02	-18.28/-17.95	-18.28/-18.67	-18.15/-18.22	-17.35/-16.31	-12.14/-11.59	-10.98/-10.34	-10.2/-11.41	-11.68/-10.64	-10.78/-12.13	-14.98/-18.01
Freq(Hz)	6.995GPol.	PhiAnt.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-7.04/-8.51	-10.38/-12.88	-13.79/-12.46	-9.08/-6.34	-4.31/-2.62	-1.42/-0.65	-0.080.33	0.28/-0.32	1.13/-9.61	-1.54/-2.53	-3.86/-5.19	-7.13/-9.61	-12.28/-15.7	-18.36/-15.2	-11.48/-9.1	-7.56/-6.39	-5.34/-4.66	-4.27/-3.81	-3.08/-3.06	-3.09/-2.68	-2.8/-3.13	-3.51/-3.95	-4.38/-4.82	-5.41/-6.04
Θ(7.5°)	-11.97/-14.37	-14.71/-11.24	-10.06/-8.72	-7.83/-6.72	-5.74/-5.68	-5.2/-5.06	-4.73/-4.26	-4.2/-4.04	-3.77/-3.56	-3.51/-3.48	-3.54/-3.72	-4.14/-5.21	-6.82/-9.33	-12.82/-18.95	-15.82/-11.03	-7.8/-5.03	-3.22/-1.75	-0.70.2	0.730.8	0.780.61	0.36/-0.37	-1.37/-2.87	-4.66/-6.33	-8.08/-9.98
Θ(15°)	-18.67/-18.81	-13.29/-11.72	-11.67/-11.61	-11.34/-11.89	-12.04/-12.54	-12.22/-12.32	-11.77/-10.88	-10.17/-9.88	-10.78/-11.84	-10.96/-6.38	-6.64/-5.34	-4.74/-4.46	-4.83/-6.27	-9.03/-13.19	-17.66/-14.27	-8.75/-5.53	-3.53/-2.25	-1.12/-0.43	0.050.29	0.11/-0.37	-0.91/-1.78	-2.67/-4.05	-6.26/-8.39	-11.94/-17.83
Θ(22.5°)	-12.46/-13.32	-15.44/-12.09	-10.18/-10.05	-10.8/-12.28	-16.21/-17.21	-15.91/-14.03	-13.75/-11.89	-9.44/-8.22	-7.11/-6.54	-6.9/-7.58	-8.24/-8.78	-8.43/-7.06	-6.34/-6.06	-6.73/-8.35	-9.4/-8.18	-7.34/-7.77	-8.53/-8.42	-7.77/-7.3	-5.85/-4.74	-4.44/-5.32	-6.21/-6.86	-7.53/-7.97	-8.78/-9.35	-12.11/-13.41
Θ(30°)	-13.16/-12.92	-18.9/-16.02	-8.96/-7.21	-8.03/-10.76	-15.2/-13.43	-9.82/-7.94	-6.84/-6.08	-5.74/-5.58	-5.47/-5.52	-4.86/-4.53	-5.04/-6.81	-9/-9.21	-6.63/-4.88	-4.68/-4.44	-4.64/-5.54	-6.98/-9.77	-12.3/-13.42	-11.93/-9.19	-8.05/-7.62	-7.53/-8.66	-11.63/-14.44	-18.36/-19.09	-18.29/-17.15	-12.67/-12.21
Θ(37.5°)	-5.1/-7.39	-10.89/-8.8	-5.36/-5.2	-6.29/-10.15	-17.78/-18.32	-18.84/-14.03	-10.65/-7.66	-5.47/-4.78	-5.45/-4.73	-7.67/-5.26	-3.66/-4.04	-6.18/-8.24	-10.52/-11.78	-12.38/-11.33	-10.68/-12.87	-12.5/-13.11	-13.12/-11.52	-9.07/-5.56	-3.02/-3.1	-5.03/-7.22	-8.99/-12.88	-19.09/-17.5	-13.82/-12.07	-18.65/-7.95
Θ(45°)	-5.03/-6.79	-8.14/-5.57	-3.69/-3.21	-3.41/-3.89	-6.63/-8.87	-10.44/-9.42	-7.91/-8.04	-8.11/-6.73	-7.1/-8.83	-12.57/-7.39	-3.08/-2.56	-3.99/-6.53	-7.82/-8.34	-11.72/-17.18	-18.5/-16.32	-8.64/-9.72	-10.14/-11.93	-6.79/-5.88	-4.92/-4.18	-4.81/-6.21	-7.26/-9.43	-13.98/-18.72	-14.49/-8.78	-7.84/-6.88
Θ(52.5°)	-5.15/-4.54	-5.34/-4.29	-3.53/-2.8	-2.16/-2.95	-3.36/-5.28	-11.6/-17.65	-11.36/-8.9	-11.26/-13	-10.72/-8.28	-7.84/-7.3	-5.87/-5.39	-8.54/-9.18	-5.25/-6.24	-10.91/-10.45	-13.2/-10.5	-8.87/-11.03	-14.86/-18.38	-14.93/-9.55	-8.28/-5.18	-2.93/-3.67	-4.77/-5.66	-6.85/-10.87	-10.91/-6.58	-4.29/-5.11
Θ(60°)	-5.03/-3.96	-3.78/-3.16	-3.62/-4.32	-4.63/-4.78	-4.2/-7.12	-11.01/-18.72	-8.49/-6.95	-9.92/-15.4	-11.95/-9.83	-6.77/-5.01	-6.23/-10.35	-18.15/-14.24	-4.38/-1.88	-6.91/-18.96	-17.53/-9.74	-10.62/-8.62	-18.39/-19.12	-17.95/-11.98	-9.23/-7.93	-7.14/-5.7	-3.03/-3.19	-3.96/-6.45	-9.97/-11.25	-6.57/-4.92
Θ(67.5°)	-5.67/-6.07	-4.73/-6.05	-6.31/-8.19	-9.04/-8.39	-9.29/-11.2	-17.83/-3.72	-0.050.34	-1.95/-6.59	-10.31/-10.08	-6.14/-3.21	-4.11/-11.36	-18.11/-17.23	-8.38/-1.52	-1.17/-6.93	-14.34/-8.72	-10.53/-14.53	-12.07/-13.16	-11.1/-12.87	-10.52/-8.45	-6.96/-4.35	-2.04/-0.17	-1.01/-5.07	-12.13/-12.74	-5.29/-4.38
Θ(75°)	-4.89/-7.05	-5.51/-9.13	-14.64/-15.03	-18.38/-16.87	-13.27/-18.49	-6.04/-1.42	1.512.86	2.451.36	-2.71/-4.3	-8.85/-7.82	-3.52/-5.06	-11/-11.41	-16.61/-3.56	0.93/-1.66	-7.22/-8.08	-7.17/-8.85	-7.85/-6.36	-6.55/-7.2	-5.93/-6.6	-8.85/-8.32	-2.55/-0.21	-2.04/-6.44	-11.23/-8.96	-3.28/-3.4
Θ(105°)	-3.21/-5.25	-5.32/-9.23	-15.37/-16.46	-14.37/-18.38	-16.67/-11.12	-9.88/-3.11	1.511.63	1.692.76	1.190.22	-4.3/-8.58	-3.45/-2.3	-2.41/-1.85	-7.26/-9.99	-4.18/-6.04	-9.76/-10.08	-5.12/-3.88	-7.02/-11.24	-11.33/-9.57	-3.74/-4.03	-5.68/-4.04	-0.070.29	-1.57/-13.33	-61.384	-1.59/-1.18
Θ(90°)	-7.09/-5.26	-3.99/-6.92	-15.23/-9.77	-9.13/-12.04	-18.08/-9.28	-15.74/-6.68	-2.29/-1.88	-2.510.09	0.110.97	-3.28/-8.28	-8.72/-4.71	-1.410.03	-2.57/-12.28	-15.85/-10.56	-12.1/-17.64	-6.26/-18.62	-18.45/-10.39	-10.35/-4.47	-5.39/-2.73	-1.71/-0.56	-2.74/-9.24	-3.46/-1.48	-3.24/-4.59	
Θ(97.5°)	-8.89/-4.22	-4.15/-12.07	-18.75/-12.35	-9.4/-6.94	-8.32/-7.72	-9.23/-4.51	-1.43/-2.39	-1.83/-1.07	-0.02/-0.25	-2.84/-4.9	-6.89/-5.5	-1.220.06	-2.6/-12.41	-12.69/-10.08	-11.28/-11.16	-18.21/-17.85	-15.65/-15.41	-14.74/-9.03	-11.35/-6.77	-10.08/-5.28	-4.49/-2.63	-3.78/-6.51	-5.16/-6.76	-8.36/-10.68
Θ(105°)	-6.46/-4.73	-6.29/-13.85	-12.13/-7.23	-5.77/-5.63	-8.17/-8.64	-8.26/-8.14	-4.24/-1.96	-2.28/-0.99	-0.93/-0.13	0.17/-1.33	-3.85/-2.72	0.231.83	1.2/-5.26	-18.49/-15.38	-11.3/-10.54	-12.96/-17.27	-10.42/-11.37	-15.32/-10.71	-14.18/-8.09	-19.06/-8.6	-5.03/-2.24	-4.35/-1.78	-4.97/-9.84	-8.77/-7.75
Θ(112.5°)	-4.21/-2.91	-4/-15.33	-7.33/-5.5	-3.96/-6.06	-8.26/-9.22	-6.93/-4.82	-3.37/-3.8	-3.92/-2.45	-1.21/-2.74	-4.92/-5.21	1.233.38	2.77/-6.69	-9.5/-9.13	-8.04/-10.27	-13.37/-15.3	-14.75/-9.9	-17.36/-15.12	-18.75/-6.86	-18.85/-7.54	-2.6/-2.39	-6.46/-13.1	-7.14/-13.61	-6.73/-8.63	
Θ(120°)	-3.11/-2.72	-6.4/-17.81	-6.7/-5.97	-9.05/-12.43	-7.11/-8.58	-6.57/-6.13	-4.08/-6.53	-7.9/-6.89	-9.18/-9.1	-6.48/-4.46	-5.52/-8.6	-3.640.19	1.09/-1.13	-8.34/-17.34	-9.54/-7.12	-5.54/-12.64	-18.03/-8.27	-12.04/-9.37	-19.03/-7.08	-17.85/-10.51	-3.92/-4.04	-8.99/-9.44	-8.75/-16.43	-12.9/-10.3
Θ(127.5°)	-8.97/-12.93	-18.61/-11.51	-8.5/-10.91	-12.75/-16.77	-18.94/-7.99	-7.39/-6.49	-7.62/-8.41	-5.03/-10.66	-10.71/-11.76	-11.63/-10.26	-12.8/-18.83	-17.92/-9.15	-4.73/-4.33	-9.86/-10.22	-10.2/-6.5	-7.29/-9.3	-18.36/-8.28	-18.23/-8.22	-11.91/-10.55	-9.14/-5.69	-3.06/-5.34	-9.81/-13.81	-18.17/-16.14	-10.71/-9.28
Θ(135°)	-12.2/-17.96	-18.88/-18.36	-18.41/-15.78	-8.87/-8.06	-8.23/-15.25	-10.34/-7.61	-7.99/-10.62	-10.24/-8.22	-8.08/-9.64	-10.22/-11.69	-13.65/-15.34	-11.18/-9.57	-6.96/-8.56	-18.11/-13.2	-12.85/-11.64	-10.18/-14.42	-15.62/-8.64	-18.79/-9.3	-9.58/-18.99	-18.19/-9.83	-10.28/-9.55	-12.51/-14.79	-13.5/-19	-8.36/-6.98
Θ(142.5°)	-12.03/-14.97	-18.51/-16.55	-13.22/-8.99	-7.37/-5.92	-5.8/-5.37	-7.96/-8.04	-7.31/-5.66	-5.88/-7.88	-9.21/-10.05	-9.89/-9.61	-11.27/-12.43	-10.14/-7.42	-7.34/-8.42	-16.09/-18.39	-14.96/-14.48	-9.62/-12.86	-18.65/-14.56	-17.97/-7.33	-6.49/-10.63	-18.54/-13.73	-11.36/-12.38	-14.53/-17.45	-18.05/-19.52	-13.31/-10.82
Θ(150°)	-13.74/-15.4	-17.73/-18.01	-12.21/-7.88	-5.81/-6.12	-7.39/-8.94	-10.84/-13.81	-10.53/-7.23	-6.21/-5.05	-4.49/-5.69	-7.87/-11.22	-13.57/-14.82	-13.71/-10.76	-9.35/-10.51	-14.1/-17.25	-18.58/-18.85	-18.58/-18.26	-17.24/-16.56	-8.28/-7.86	-9.44/-11.85	-8.98/-8.61	-11.44/-17.7	-18.18/-13.33	-15.36/-18.53	-17.63/-15.25
Θ(157.5°)	-18.39/-17.93	-17.59/-18.14	-18.8/-18.33	-14.67/-13.98	-15.84/-18.78	-16.24/-8.99	-5.18/-3.21	-2.42/-2.55	-3.63/-5.84	-9.5/-15.21	-14.93/-11.46	-9.88/-9.7	-9.87/-9.03	-7.35/-6.24	-7.56/-10.62	-12.63/-17.46	-17.62/-14.57	-11.28/-12.85	-17.87/-19.07	-16.32/-13.72	-16.42/-19.07	-18.9/-14.55	-12.42/-11.51	-13.74/-18.06
Θ(165°)	-18.74/-16.2	-13.13/-11.18	-11.45/-13.02	-13.07/-13.65	-15.97/-15	-10.33/-7.52	-6.16/-5.22	-4.54/-4.42	-5.2/-6.75	-7.33/-5.45	-4/-3.28	-2.84/-2.47	-2.37/-3.18	-4.79/-5.59	-6.1/-8.06	-11.28/-14.76	-17.53/-18.42	-18.76/-18.42	-18.43/-18.56	-17.89/-18.42	-18.6			



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

Appendix C

Total Gain Data

Freq(Hz)	2.45GPol.	TotalAnt. 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°)	-3.32/-3.24	-3.21/-3.23	-3.26/-3.24	-3.20/-3.06	-2.84/-2.64	-2.41/-2.21	-2.04/-1.87	-1.72/-1.59	-1.62/-1.70	-1.82/-1.96	-2.21/-2.32	-2.89/-2.31	-3.21/-2.32	-3.06/-3.58	-3.88/-4.03	-4.17/-4.21	-3.89/-3.20	-2.83/-2.80	-3.26/-3.57	-3.74/-3.85	-3.94/-3.87	-3.66/-3.41		
Θ(7.5°)	-3.93/-3.80	-3.75/-3.75	-3.73/-3.73	-3.68/-3.55	-3.31/-3.01	-2.69/-2.50	-2.37/-2.21	-2.01/-1.91	-1.95/-2.04	-2.12/-2.18	-2.23/-2.22	-2.12/-1.96	-1.82/-1.70	-1.63/-1.69	-1.92/-2.17	-2.38/-2.51	-2.68/-2.72	-2.46/-2.01	-1.77/-1.82	-2.02/-2.25	-2.54/-2.96	-3.47/-3.94	-4.28/-4.42	-4.25/-4.03
Θ(15°)	-5.02/-4.85	-4.64/-3.49	-4.07/-3.84	-3.65/-3.40	-3.12/-2.69	-2.23/-1.96	-1.87/-1.81	-1.73/-1.77	-2.02/-2.34	-2.60/-2.80	-2.91/-2.95	-2.86/-2.71	-2.46/-2.20	-1.96/-1.83	-1.82/-1.80	-1.81/-1.86	-1.98/-2.01	-1.86/-1.59	-1.45/-1.49	-1.62/-1.73	-1.91/-2.30	-2.94/-3.69	-4.42/-4.93	-5.16/-5.13
Θ(22.5°)	-5.93/-5.56	-5.04/-4.44	-3.89/-3.49	-3.16/-2.86	-2.54/-2.13	-1.69/-1.42	-1.36/-1.42	-1.53/-1.74	-2.13/-2.63	-3.11/-3.57	-3.91/-4.23	-4.36/-4.36	-4.16/-3.84	-3.50/-3.15	-2.88/-2.64	-2.49/-2.45	-2.42/-2.30	-2.11/-1.95	-1.88/-1.86	-1.82/-1.83	-2.92/-3.69	-4.43/-5.13	-5.68/-5.93	
Θ(30°)	-7.00/-6.20	-5.03/-3.98	-3.22/-2.73	-2.41/-2.16	-1.99/-1.76	-1.49/-1.32	-1.26/-1.26	-1.33/-1.51	-1.80/-2.18	-2.49/-3.05	-3.54/-4.12	-4.73/-5.33	-5.84/-6.14	-6.15/-5.85	-5.28/-4.62	-4.04/-3.76	-3.51/-3.13	-2.74/-2.49	-2.32/-2.13	-1.95/-2.03	-2.35/-2.83	-3.41/-4.17	-4.97/-5.72	-6.53/-7.11
Θ(37.5°)	-8.22/-6.92	-5.15/-3.75	-2.86/-2.44	-2.27/-2.23	-2.27/-2.33	-2.35/-2.34	-2.14/-1.82	-1.41/-1.15	-0.99/-0.93	-0.97/-0.97	-1.04/-1.28	-1.74/-2.51	-3.54/-4.82	-6.13/-7.15	-7.24/-6.50	-5.49/-4.64	-3.91/-3.22	-2.68/-2.34	-2.11/-1.93	-1.92/-2.22	-2.79/-3.41	-3.98/-4.61	-5.41/-6.41	-7.57/-8.32
Θ(45°)	-8.66/-8.48	-7.10/-5.53	-4.52/-4.26	-4.53/-5.02	-5.55/-5.95	-6.07/-5.91	-5.30/-4.18	-2.84/-1.74	-1.04/-0.65	-0.42/-0.22	0.04/-0.26	0.23/-0.09	-0.76/-1.73	-2.99/-4.36	-5.31/-5.32	-4.70/-4.02	-3.50/-3.08	-2.72/-2.50	-2.36/-2.31	-2.51/-2.97	-3.55/-3.97	-4.23/-4.49	-5.14/-6.32	-7.67/-8.34
Θ(52.5°)	-8.60/-9.64	-10.16/-8.63	-6.81/-6.13	-6.34/-6.80	-7.05/-6.96	-6.42/-5.65	-4.83/-3.78	-2.54/-1.45	-0.69/-0.32	-0.22/-0.27	-0.26/-0.11	0.08/0.07	-0.22/-0.87	-1.79/-2.73	-3.18/-2.96	-2.43/-2.05	-2.02/-2.33	-2.72/-2.90	-2.81/-2.74	-2.84/-2.91	-2.89/-3.00	-3.27/-3.65	-4.49/-5.96	-7.48/-8.11
Θ(60°)	-7.00/-7.24	-7.36/-6.22	-4.60/-4.07	-4.51/-5.06	-5.02/-4.84	-4.58/-4.25	-3.84/-3.29	-2.59/-1.90	-1.37/-0.96	-0.53/-0.25	-0.35/-0.69	-0.99/-1.17	-1.39/-1.87	-2.64/-3.30	-3.40/-2.79	-1.95/-1.46	-1.52/-1.28	-1.36/-3.56	-3.37/-2.83	-2.18/-1.62	-1.49/-2.09	-3.16/-4.14	-5.08/-6.09	-6.79/-7.06
Θ(67.5°)	-6.55/-7.51	-8.59/-7.99	-6.71/-6.83	-8.23/-8.69	-8.39/-9.14	-10.68/-11.12	-10.00/-8.66	-7.37/-6.20	-5.22/-4.34	-3.28/-2.26	-1.86/-2.14	-2.73/-3.16	-3.40/-3.87	-4.60/-5.37	-5.50/-4.99	-3.22/-2.32	-2.10/-2.48	-3.09/-3.43	-4.22/-4.44	-1.55/-1.15	-1.60/-3.04	-4.99/-6.32	-6.23/-5.71	-5.50/-5.80
Θ(75°)	-6.72/-7.58	-8.55/-8.11	-6.87/-6.45	-6.48/-6.11	-5.76/-6.31	-7.11/-6.82	-5.51/-4.09	-2.91/-2.08	-1.58/-1.61	-1.90/-2.11	-2.26/-2.78	-3.95/-5.40	-6.21/-6.11	-5.76/-5.44	-5.03/-4.22	-3.11/-2.20	-1.54/-1.27	-1.39/-1.66	-1.64/-1.21	-0.77/-0.73	-1.20/-2.26	-3.98/-6.04	-7.14/-6.56	-6.08/-6.14
Θ(82.5°)	-5.69/-5.44	-5.40/-5.27	-5.57/-6.59	-7.72/-7.85	-7.44/-7.65	-7.83/-6.96	-5.48/-4.27	-3.43/-2.75	-2.28/-2.46	-3.29/-3.98	-3.60/-2.98	-3.39/-5.15	-7.21/-8.02	-6.88/-5.33	-4.10/-3.19	-2.42/-1.66	-0.99/-0.65	-0.68/-0.80	-0.65/-0.30	0.08/0.20	-0.10/-1.12	-3.04/-1.67	-9.95/-10.07	-7.81/-6.20
Θ(90°)	-5.19/-4.81	-5.44/-7.02	-9.71/-13.42	-13.62/-8.37	-5.28/-3.83	-3.50/-3.56	-3.48/-3.26	-3.11/-3.04	-2.99/-3.21	-3.85/-4.65	-4.72/-4.04	-4.17/-5.88	-8.18/-9.82	-8.97/-6.14	-4.22/-3.65	-3.53/-3.19	-2.61/-2.16	-2.03/-2.08	-1.89/-1.29	-0.61/-0.46	-1.00/-2.22	-4.31/-7.01	-10.07/-9.93	-8.05/-6.19
Θ(97.5°)	-6.02/-5.60	-6.45/-6.69	-12.62/-15.01	-12.79/-6.50	-3.31/-2.02	-2.24/-3.36	-4.43/-5.03	-5.40/-5.98	-5.49/-4.28	-3.12/-2.67	-2.97/-3.76	-5.45/-8.58	-10.73/-12.31	-11.79/-6.91	-4.32/-3.71	-3.61/-3.15	-2.57/-2.29	-2.43/-2.64	-2.17/-1.90	-0.51/-0.68	-1.39/-2.52	-4.13/-6.02	-7.78/-9.68	-9.82/-7.81
Θ(105°)	-6.60/-7.32	-8.35/-10.00	-11.15/-8.29	-10.71/-2.39	-2.07/0.80	0.75/-0.30	-1.88/-3.63	-5.85/-9.70	-13.89/-8.65	-4.56/-2.79	-2.80/-4.04	-6.15/-8.40	-8.71/-9.25	-10.43/-8.52	-3.50/-3.81	-2.70/-1.74	-1.49/-1.88	-2.69/-3.41	-3.24/-2.37	-1.82/-2.20	-3.64/-4.10	-4.76/-5.36	-6.26/-7.67	-9.34/-6.65
Θ(112.5°)	-4.72/-5.74	-6.00/-7.01	-9.19/-7.62	-4.51/-2.35	-2.79/0.20	-0.27/-0.66	-2.37/-4.36	-6.36/-8.70	-10.49/-8.06	-4.95/-3.56	-3.84/-4.81	-1.71/-5.89	-9.54/-9.18	-11.39/-10.75	-7.18/-4.31	-2.11/-0.85	-0.63/-1.41	-2.64/-3.94	-4.04/-2.99	-2.20/-2.60	-3.97/-5.31	-5.82/-5.87	-5.55/-5.03	-4.44/-4.17
Θ(120°)	-7.93/-10.10	-10.03/-9.30	-7.94/-4.05	-1.45/0.37	1.62/2.53	2.13/0.58	-1.09/-2.72	-4.07/-5.28	-7.19/-8.26	-7.54/-7.60	-8.65/-8.89	-9.16/-10.43	-9.07/-7.16	-7.06/-8.15	-7.84/-5.29	-2.57/-0.90	-0.48/-1.17	-2.58/-4.11	-4.77/-4.26	-3.55/-3.78	-5.42/-8.35	-10.45/-9.04	-8.34/-7.97	-7.70/-7.34
Θ(127.5°)	-7.81/-8.67	-9.07/-9.05	-7.52/-4.14	-1.75/-0.62	-0.19/-0.03	-0.41/-1.61	-3.46/-4.91	-4.89/-4.57	-5.15/-6.45	-8.28/-1.10	-9.99/-6.92	-5.63/-6.02	-6.15/-5.74	-5.74/-6.03	-5.48/-3.85	-1.92/-0.64	-0.25/-0.82	-2.11/-3.35	-3.65/-2.78	-1.62/-1.24	-2.05/-4.02	-6.87/-7.33	-13.67/-14.55	-9.67/-1.58
Θ(135°)	-7.11/-7.46	-7.93/-9.78	-9.34/-5.97	-3.50/-2.59	-2.91/-3.76	-5.19/-6.88	-8.15/-6.86	-4.00/-2.45	-2.09/-2.93	-5.30/-9.26	-8.74/-5.23	-3.97/-4.74	-6.69/-6.38	-8.81/-8.29	-7.94/-7.25	-5.84/-4.16	-5.63/-6.94	-6.49/-5.02	-3.41/-2.69	-3.15/-4.68	-6.56/-8.69	-10.18/-10.45	-6.56/-7.13	
Θ(142.5°)	-10.74/-10.26	-10.18/-9.45	-7.35/-5.02	-3.60/-3.41	-4.50/-6.62	-9.30/-10.86	-9.62/-6.79	-4.32/-3.11	-3.13/-4.55	-7.76/-9.84	-6.87/-3.67	-2.57/-3.12	-4.67/-6.45	-7.15/-6.96	-4.48/-5.81	-4.82/-3.89	-3.63/-4.19	-5.17/-5.72	-5.74/-5.22	-4.23/-3.48	-3.45/-4.33	-5.91/-8.28	-11.54/-12.81	-12.19/-11.45
Θ(150°)	-11.46/-10.78	-9.52/-8.05	-6.62/-5.51	-5.01/-5.24	-6.21/-7.32	-7.12/-5.75	-4.27/-2.98	-2.04/-1.80	-2.42/-4.07	-6.65/-8.36	-7.61/-5.66	-4.76/-5.04	-6.32/-7.93	-9.18/-9.94	-10.64/-11.19	-11.02/-10.52	-9.86/-10.9	-10.95/-11.13	-9.90/-8.40	-7.00/-6.05	-5.79/-6.36	-7.71/-9.69	-11.54/-12.01	-11.58/-11.49
Θ(157.5°)	-9.49/-9.22	-8.57/-7.97	-7.36/-7.02	-6.90/-6.88	-6.63/-5.85	-4.61/-3.37	-2.44/-1.79	-1.46/-1.59	-2.42/-3.80	-5.53/-6.90	-7.34/-7.16	-6.93/-6.90	-7.02/-7.21	-7.42/-7.73	-8.37/-9.13	-9.47/-9.79	-9.94/-9.60	-9.08/-8.81	-8.54/-8.16	-7.37/-6.59	-6.16/-6.22	-6.70/-7.43	-8.18/-8.75	-8.91/-9.10
Θ(165°)	-9.70/-9.50	-9.48/-9.21	-8.87/-8.66	-8.49/-8.16	-7.47/-6.50	-5.50/-4.76	-4.43/-4.25	-4.22/-4.49	-5.30/-6.46	-7.52/-8.09	-8.04/-7.63	-7.04/-6.40	-5.90/-5.56	-5.38/-5.32	-5.30/-5.55	-5.72/-5.93	-6.14/-6.26	-6.36/-6.64	-7.07/-7.34	-7.19/-6.93	-6.88/-7.07	-7.17/-8.22	-8.88/-9.29	-9.59/-9.54
Θ(172.5°)	-11.84/-11.76	-11.62/-11.39	-10.98/-10.61	-10.33/-10.15	-9.67/-8.82	-8.30/-8.24	-6.67/-9.24	-9.59/-10.04	-10.92/-11.71	-11.81/-11.40	-10.73/-9.93	-9.12/-8.30	-7.66/-7.16	-6.83/-6.54	-6.49/-6.53	-6.78/-7.27	-7.80/-8.09	-8.17/-8.32	-8.61/-8.92	-8.87/-8.72	-8.75/-9.17	-9.84/-9.97	-10.47/-10.98	-11.38/-11.86
Θ(180°)	-13.49/-12.45	-11.83/-11.27	-10.89/-10.43	-10.61/-10.65	-10.49/-10.08	-9.84/-10.19	-10.94/-11.49	-11.68/-11.89	-12.56/-13.11	-13.13/-13.06	-12.95/-12.57	-12.67/-12.87	-12.34/-11.82	-11.27/-10.91	-10.65/-10.75	-10.97/-11.69	-12.44/-12.89	-12.46/-11.90	-11.63/-11.17	-10.57/-10.13	-10.18/-10.88	-11.30/-11.76	-12.31/-13.15	-14.34/-14.36
Freq(Hz)	5.62GPol.	TotalAnt. 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°)	-7.48/-7.71	-8.09/-7.41	-6.77/-6.31	-5.91/-6.00	-6.50/-6.38	-5.87/-5.64	-5.99/-6.59	-7.40/-8.08	-8.68/-8.72	-6.79/-8.12	-7.54/-7.45	-7.79/-8.18	-9.06/-9.72	-10.50/-10.52	-10.47/-10.83	-10.34/-9.61	-9.65/-10.16	-10.60/-10.63	-9.91/-9.74	-9.95/-8.61	-8.14/-8.17	-7.52/-7.67	-6.60/-6.52	-7.44/-7.46
Θ(7.5°)	-8.31/-9.27	-9.67/-9.89	-10.05/-9.84	-9.17/-9.47	-10.11/-9.95	-9.23/-8.33	-8.32/-7.87	-7.73/-8.01	-7.52/-7.38	-6.98/-6.92	-6.63/-6.76	-6.67/-6.69	-6.56/-6.48	-6.57/-6.52	-6.12/-5.90	-5.43/-4.88	-6.32/-4.86	-6.37/-7.85	-7.90/-7.15	-7.02/-7.86	-8.49/-8.74	-9.33/-8.95	-8.53/-8.48	-8.72/-7.91
Θ(15°)	-7.73/-8.73	-10.67/-12.19	-11.68/-10.99	-9.20/-9.30	-9.07/-7.60	-7.18/-6.23	-5.54/-4.95	-4.12/-3.47	-2.80/-2.60	-2.79/-3.23	-3.73/-4.35	-4.94/-5.22	-5.15/-4.88	-4.59/-4.13	-3.43/-2.73	-2.17/-1.76	-1.51/-1.65	-2.58/-3.45	-3.82/-4.25	-5.10/-5.75	-6.33/-7.09	-7.83/-8.20	-9.24/-9.05	-7.62/-7.47
Θ(22.5°)	-8.68/-10.35	-10.79/-9.69	-9.33/-9.71	-10.94/-14.02	-16.19/-15.68	-15.12/-14.44	-13.47/-11.45	-8.41/-6.08	-4.50/-4.12	-4.50/-4.58	-5.12/-5.96	-7.10/-8.11	-7.91/-7.13	-5.89/-5.23	-4.22/-3.50	-2.81/-2.55	-2.42/-2.85	-3.41/-3.73	-3.67/-4.10	-5.08/-5.56	-6.42/-6.62	-6.44/-6.24	-6.91/-7.38	-7.12/-7.58
Θ(30°)	-7.28/-9.16	-9.52/-8.34	-9.15/-12.02	-13.86/-14.07	-13.76/-12.57	-9.93/-6.88	-8.97/-9.20	-10.84/-12.78	-11.63/-10.15	-9.80/-9.50	-9.64/-9.19	-10.16/-10.53	-10.45/-9.21	-7.90/-7.00	-6.69/-4.68	-4.06/-4.46	-5.15/-5.58	-5.04/-3.37	-3.46/-3.24	-4.12/-5.98	-6.63/-6.03	-5.38/-4.88	-4.75/-4.84	-4.73/-5.79
Θ(37.5°)	-8.69/-9.79	-10.77/-9.14	-8.21/-8.34	-8.47/-11.44	-14.95/-15.01	-14.06/-10.85	-8.10/-6.22	-5.27/-6.17	-8.55/-10.04	-9.25/-7.91	-6.62/-6.17	-6.73/-7.41	-6.41/-6.10	-6.70/-8.36	-9.55/-8.94	-7.18/-6.03	-5.02/-4.19	-3.55/-4.46	-6.26/-7.80	-8.39/-7.52	-5.83/-4.32			