



# Antenna Composite Gain Test Report

FCC ID	MSQ-RTAX5X00
Equipment	ROG Rapture AX10000 Tri-band Gaming Mesh Router
Brand Name	ASUS
Model Name	GT6
Applicant	ASUSTeK COMPUTER INC. 1F., No. 15, Lide Rd., Beitou, Taipei City 112, Taiwan
Manufacturer (1)	Compal Networking(KunShan) CO., LTD No.520,Nan Bang RD., Economic & Technical Development Zone, KunShan,JiangSu,China
Manufacturer (2)	ARCADYAN TECHNOLOGY (VIETNAM) CO., LTD. Land plot No. D4-5-6, Thang Long Industrial Park (Vinh Phuc), Thien Ke Commune, Binh Xuyen District, 15000 Vinh Phuc Province, Vietnam
Sample Received	Apr. 06, 2022
Start Test Date	May 25, 2022
Final Test Date	May 26, 2022

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.



Approved by: Sam Chen

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### History of this test report

Report No.	Version	Description	Issued Date
AP221807-01AA	01	Initial issue of report	Sep. 23, 2022

## 1. Operation Mode and Antenna Information

Antenna Position	RF Port				Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
	WLAN 2.4GHz	WLAN 5GHz UNII 1~2A	WLAN 5GHz UNII 2C~4 (Mode 1)	WLAN 5GHz UNII 2C~4 (Mode 2)					
2G5GL Ant.1	2	4	-	-	LYNwave	MLX22M-121AA1-A / MLX22M-121AA1-B	Dipole	I-PEX	2.4GHz & 5GHz UNII 1~2A
2G5GL Ant.2	1	3	-	-	LYNwave	MLX22M-121AA1-A / MLX22M-121AA1-B	Dipole	I-PEX	2.4GHz & 5GHz UNII 1~2A
2G5GL Ant.3	-	2	-	-	LYNwave	MLX22M-121AA1-A / MLX22M-121AA1-B	Dipole	I-PEX	5GHz UNII 1~2A
2G5GL Ant.4	-	1	-	-	LYNwave	MLX22M-121AA1-A / MLX22M-121AA1-B	Dipole	I-PEX	5GHz UNII 1~2A
5GH5.9G Ant.1	-	-	4	4	LYNwave	MLX22M-121AA1-A / MLX22M-121AA1-B	Dipole	I-PEX	5GHz UNII 2C~4
5GH5.9G Ant.2	-	-	1	1	LYNwave	MLX22M-121AA1-A / MLX22M-121AA1-B	Dipole	I-PEX	5GHz UNII 2C~4
5GH5.9G Ant.3	-	-	3	3	LYNwave	MLX22M-121AA1-A / MLX22M-121AA1-B	Dipole	I-PEX	5GHz UNII 2C~4
5GH5.9G Ant.4	-	-	2	-	LYNwave	MLX22M-121AA1-A / MLX22M-121AA1-B	Dipole	I-PEX	5GHz UNII 2C~4
5GH5.9G Ant.5	-	-	-	2	LYNwave	MLX22M-121AA1-A / MLX22M-121AA1-B	Dipole	I-PEX	5GHz UNII 2C~4

Note:

### For WLAN 2.4GHz:

Operation Mode (2TX/2RX)

2G5GL Ant.1~2 can be used as transmitting/receiving antenna.

2G5GL Ant.1~2 could transmit/receive simultaneously.

### For WLAN 5GHz:

Operation Mode (4TX/4RX)

The 2G 5GL Ant.3~4 operate in UNII 1, UNII 2A.

2G5GL Ant.1~4 can be used as transmitting/receiving antenna.

2G5GL Ant.1~4 could transmit/receive simultaneously.

5GH5.9G Ant1~5 operate in UNII 2C, UNII 3, UNII 4.

The EUT supports the "5GH5.9G Ant.4, 5" with TX/RX diversity functions.

Mode1 was 5GH5.9G Ant.1~4 and Mode 2 was 5GH5.9G Ant.1~3+Ant.5.

5GH5.9G Ant.1~4 or 5GH5.9G Ant.1~3 + 5GH5.9G Ant.5 can be used as transmitting/receiving antenna.

5GH5.9G Ant.1~4 or 5GH5.9G Ant.1~3 + 5GH5.9G Ant.5 could transmit/receive simultaneously.

5GH5.9G Ant.4~5 can be used as transmitting/receiving antenna, but only one of them will be used at one time.

Note: Antennas' Model Name: MLX22M-121AA1-A are for EUT 1 use and MLX22M-121AA1-B are for EUT 2 use. They're same type of antennas.



2. Table for EUT Information

EUT	PCB board Version	Color of outer case	
		Black	White
EUT 1	R1.20	V	V
EUT 2	R2.00	V	V

Note: The above information was declared by manufacturer.

3. Table for Permissive Change

This product is an extension of original one reported under Sporton project number: AP221807AA.

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
1. Upgrading the PCB version of EUT to R2.00 from R1.20. The difference is listed below: (1) Mainboard: Adding common mode filter to TX path of USB3.0 (Location: FL1). (2) I/O board: Adding common mode filter to RX path of USB3.0 (Location: FL3). 2. Revising the black and white housing to the final version. 3. Adding Zero wait function for DFS. 4. Adding a set antennas (Model Name: MLX22M-121AA1-B) which is almost same as the original antenna but the grey color. The new antennas is available for the white housing only..	After evaluation, the test results don't be affected.

Note: All test results are based on original test report.



### 4. 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
5850-5895	5885

### 5. Testing Location

Testing Location		
<input checked="" type="checkbox"/>	HWA YA	ADD : No.13-1 & 14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333, Taiwan R.O.C.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated	05CH03-HY	Rex Liao	21-22 / 50-55	May 25, 2022~ May 26, 2022

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m\*6m\*6m

Characteristic: Fully Anechoic Chamber

## 6. Test Facility and Configuration

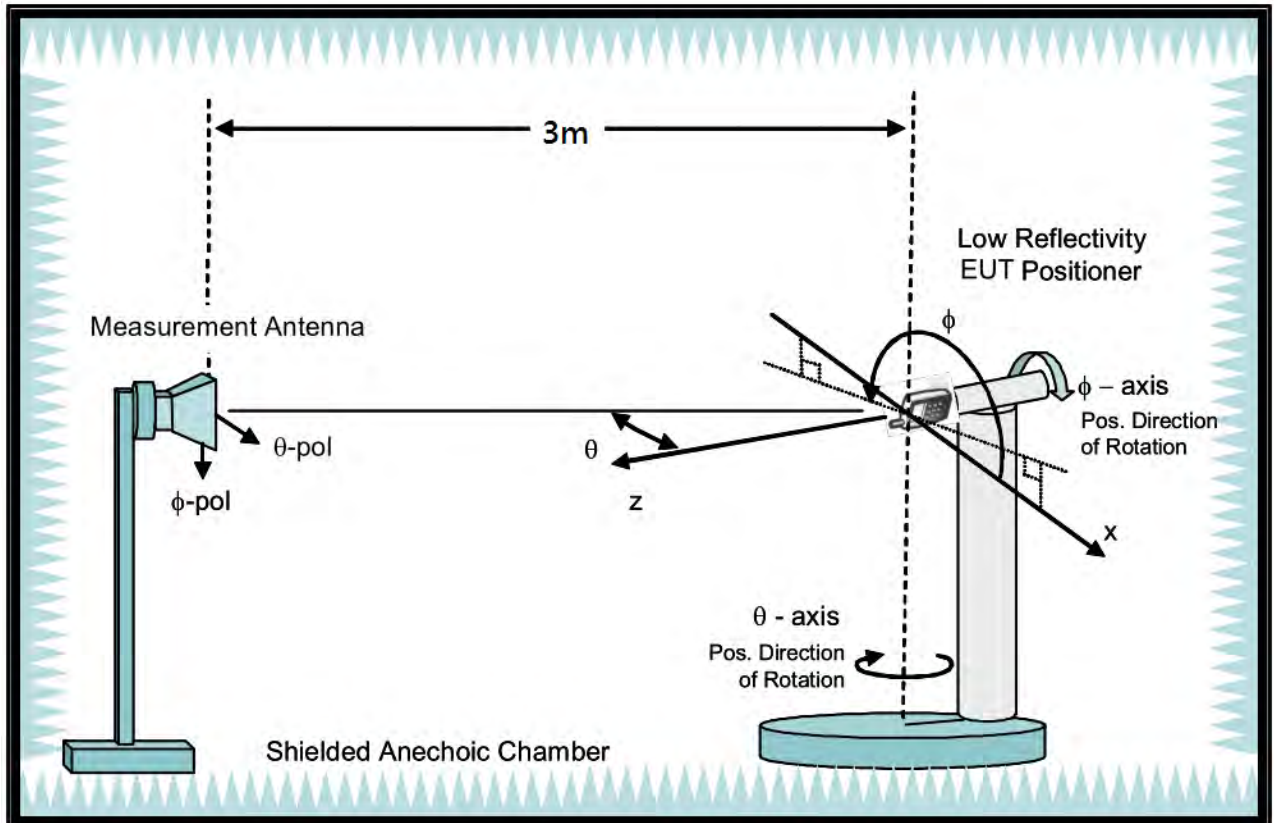
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

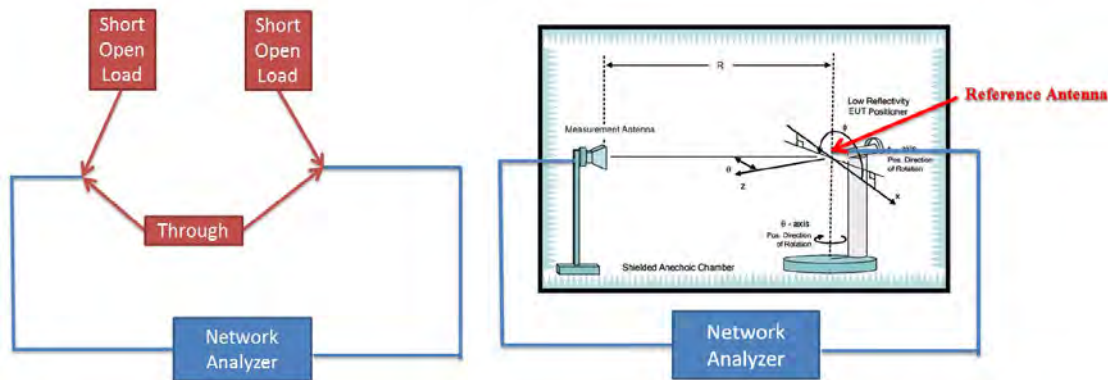
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



### 7. 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	7500
G reading (dB)	-31.4	-31.4	-31.3	-31.3	-31	-30.7	-30.1	-30.5	-30.5	-30.8	-31.3	-32.8	-34.4	-35.4
Reference gain (dBi)	10.2	10.4	10.6	12.4	12.8	13.4	13.4	13.3	13.3	13.1	13.2	12.3	11.7	11.1
Factor (dB)	41.34	41.55	41.68	43.24	43.56	43.68	43.79	43.91	43.99	44.43	44.49	45.24	46.12	46.31

Note:

$$G \text{ reading (dB)} = 20 \cdot \log(V2/V1) = 10 \cdot \log(P2/P1)$$

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.

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





## **8. 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 10 degree from 0 to 350 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 9 tables.

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



## 9. Measured Values and Calculation of Maximum Gain Positions

For 2G 5GL

### DG\_1SS max value position

Frequency (Hz)	2.45G	5.2G	5.3G
Ant. 1 (dBi)	2.65	-0.07	3.14
Ant. 2 (dBi)	3.34	0.79	3.5
Ant. 3 (dBi)	-	2.32	-2.73
Ant. 4 (dBi)	-	-3	-5.47
DG [1SS] (dBi)	6.01	6.24	6.43
Polarization	Theta	Theta	Theta
$\Theta$ (°)	70	60	80
$\Phi$ (°)	90	200	150

Note: The DG 1SS max value position is the maximum value of section 13 table DG 1SS Result.

### DG\_1SS max value position calculation

Frequency (Hz)	2.45G	5.2G	5.3G
Ant. 1 [ $10^{(G/20)}$ ]	$10^{(2.65/20)}$	$10^{(-0.07/20)}$	$10^{(3.14/20)}$
Ant. 2 [ $10^{(G/20)}$ ]	$10^{(3.34/20)}$	$10^{(0.79/20)}$	$10^{(3.5/20)}$
Ant. 3 [ $10^{(G/20)}$ ]		$10^{(2.32/20)}$	$10^{(-2.73/20)}$
Ant. 4 [ $10^{(G/20)}$ ]		$10^{(-3/20)}$	$10^{(-5.47/20)}$
Ant. 1 [ $10^{(G/20)}$ ] value	1.357	0.992	1.435
Ant. 2 [ $10^{(G/20)}$ ] value	1.469	1.095	1.496
Ant. 3 [ $10^{(G/20)}$ ] value		1.306	0.73
Ant. 4 [ $10^{(G/20)}$ ] value		0.708	0.533
Sum All Antenna [Amax]	2.826	4.101	4.195
DG [ $10 \cdot \log(A_{max}^2/N_{ant})$ ]	6.01	6.24	6.43

Note:

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

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



For 5GH

Mode 1: 5GH5.9G Ant.1~4

DG\_1SS max value position

Frequency (Hz)	5.6G	5.785G	5.885G
Ant. 1 (dBi)	-1.42	1.29	2.17
Ant. 2 (dBi)	-1.98	-1.91	-1.69
Ant. 3 (dBi)	2.8	2.47	1.01
Ant. 4 (dBi)	0.2	2.32	1.03
DG [1SS] (dBi)	6.13	7.23	6.76
Polarization	Theta	Theta	Theta
$\Theta$ (°)	90	90	90
$\Phi$ (°)	0	330	330

Note: The DG 1SS max value position is the maximum value of section 13 table DG 1SS Result.

DG\_1SS max value position calculation

Frequency (Hz)	5.6G	5.785G	5.885G
Ant. 1 [ $10^{(G/20)}$ ]	$10^{(-1.42/20)}$	$10^{(1.29/20)}$	$10^{(2.17/20)}$
Ant. 2 [ $10^{(G/20)}$ ]	$10^{(-1.98/20)}$	$10^{(-1.91/20)}$	$10^{(-1.69/20)}$
Ant. 3 [ $10^{(G/20)}$ ]	$10^{(2.8/20)}$	$10^{(2.47/20)}$	$10^{(1.01/20)}$
Ant. 4 [ $10^{(G/20)}$ ]	$10^{(0.2/20)}$	$10^{(2.32/20)}$	$10^{(1.03/20)}$
Ant. 1 [ $10^{(G/20)}$ ] value	0.849	1.16	1.284
Ant. 2 [ $10^{(G/20)}$ ] value	0.796	0.803	0.823
Ant. 3 [ $10^{(G/20)}$ ] value	1.38	1.329	1.123
Ant. 4 [ $10^{(G/20)}$ ] value	1.023	1.306	1.126
Sum All Antenna [Amax]	4.049	4.598	4.356
DG [ $10 \cdot \log(A_{max}^2/N_{ant})$ ]	6.13	7.23	6.76

Note:

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

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



For 5GH

Mode 2: 5GH5.9G Ant.1~3 + 5GH5.9G Ant.5

DG\_1SS max value position

Frequency (Hz)	5.6G	5.785G	5.885G
Ant. 1 (dBi)	0.84	1.8	-0.48
Ant. 2 (dBi)	-1.59	-0.84	0.02
Ant. 3 (dBi)	0.34	1.3	1.7
Ant. 5 (dBi)	-5.81	-8.89	-8.63
DG [1SS] (dBi)	4.83	5.25	4.95
Polarization	Theta	Theta	Theta
$\Theta$ (°)	90	90	100
$\Phi$ (°)	340	340	330

Note: The DG 1SS max value position is the maximum value of section 13 table DG 1SS Result.

DG\_1SS max value position calculation

Frequency (Hz)	5.6G	5.785G	5.885G
Ant. 1 [10^(G/20)]	10^(0.84/20)	10^(1.8/20)	10^(-0.48/20)
Ant. 2 [10^(G/20)]	10^(-1.59/20)	10^(-0.84/20)	10^(0.02/20)
Ant. 3 [10^(G/20)]	10^(0.34/20)	10^(1.3/20)	10^(1.7/20)
Ant. 5 [10^(G/20)]	10^(-5.81/20)	10^(-8.89/20)	10^(-8.63/20)
Ant. 1 [10^(G/20)] value	1.102	1.23	0.946
Ant. 2 [10^(G/20)] value	0.833	0.908	1.002
Ant. 3 [10^(G/20)] value	1.04	1.161	1.216
Ant. 5 [10^(G/20)] value	0.512	0.359	0.37
Sum All Antenna [Amax]	3.486	3.659	3.535
DG [10*log(Amax^2/Nant)]	4.83	5.25	4.95

Note:

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

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



### 10. Summary of Test Result

For 2G 5GL

Freq(Hz)	2.45G	5.2G	5.3G
Ant. 1 Max Gain (dBi)	4.1	3.53	3.81
Ant. 2 Max Gain (dBi)	3.39	3.26	4.32
Ant. 3 Max Gain (dBi)	-	2.32	2.96
Ant. 4 Max Gain (dBi)	-	2.31	2.44
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/90/130	Theta/90/250	Theta/80/80
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/80/90	Theta/70/140	Theta/80/140
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	-	Theta/60/200	Theta/50/200
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	-	Theta/50/330	Theta/50/330
Max Gain (dBi)	4.1	3.53	4.32
DG [1SS] (dBi)	6.01	6.24	6.43
DG [2SS] (dBi)	4.1	3.53	4.32
DG [4SS] (dBi)	-	3.53	4.32

Note:

1. Antenna max gain is the max value of each individual antenna through all measurement angles. Each antenna max gain is the max value of measurement G of theta and phi 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.
4. Directional Gain (4SS) = Directional Gain (1SS) – 6dB. If directional gain is less than max gain, use max gain as directional gain.

**For 5GH****Mode 1: 5GH5.9G Ant.1~4**

<b>Freq(Hz)</b>	<b>5.6G</b>	<b>5.785G</b>	<b>5.885G</b>
Ant. 1 Max Gain (dBi)	1.43	2.08	2.5
Ant. 2 Max Gain (dBi)	1.66	1.91	2.89
Ant. 3 Max Gain (dBi)	2.8	3.51	3.79
Ant. 4 Max Gain (dBi)	2.55	3.36	3.65
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/120/180	Theta/70/0	Theta/80/0
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/50/180	Theta/50/190	Theta/50/190
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/90/0	Theta/90/0	Theta/90/0
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/90/280	Theta/90/180	Theta/90/180
Max Gain (dBi)	2.8	3.51	3.79
DG [1SS] (dBi)	6.13	7.23	6.76
DG [2SS] (dBi)	3.13	4.23	3.79
DG [4SS] (dBi)	2.8	3.51	3.79

## Note:

1. Antenna max gain is the max value of each individual antenna through all measurement angles. Each antenna max gain is the max value of measurement G of theta and phi 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.
4. Directional Gain (4SS) = Directional Gain (1SS) – 6dB. If directional gain is less than max gain, use max gain as directional gain.



For 5GH

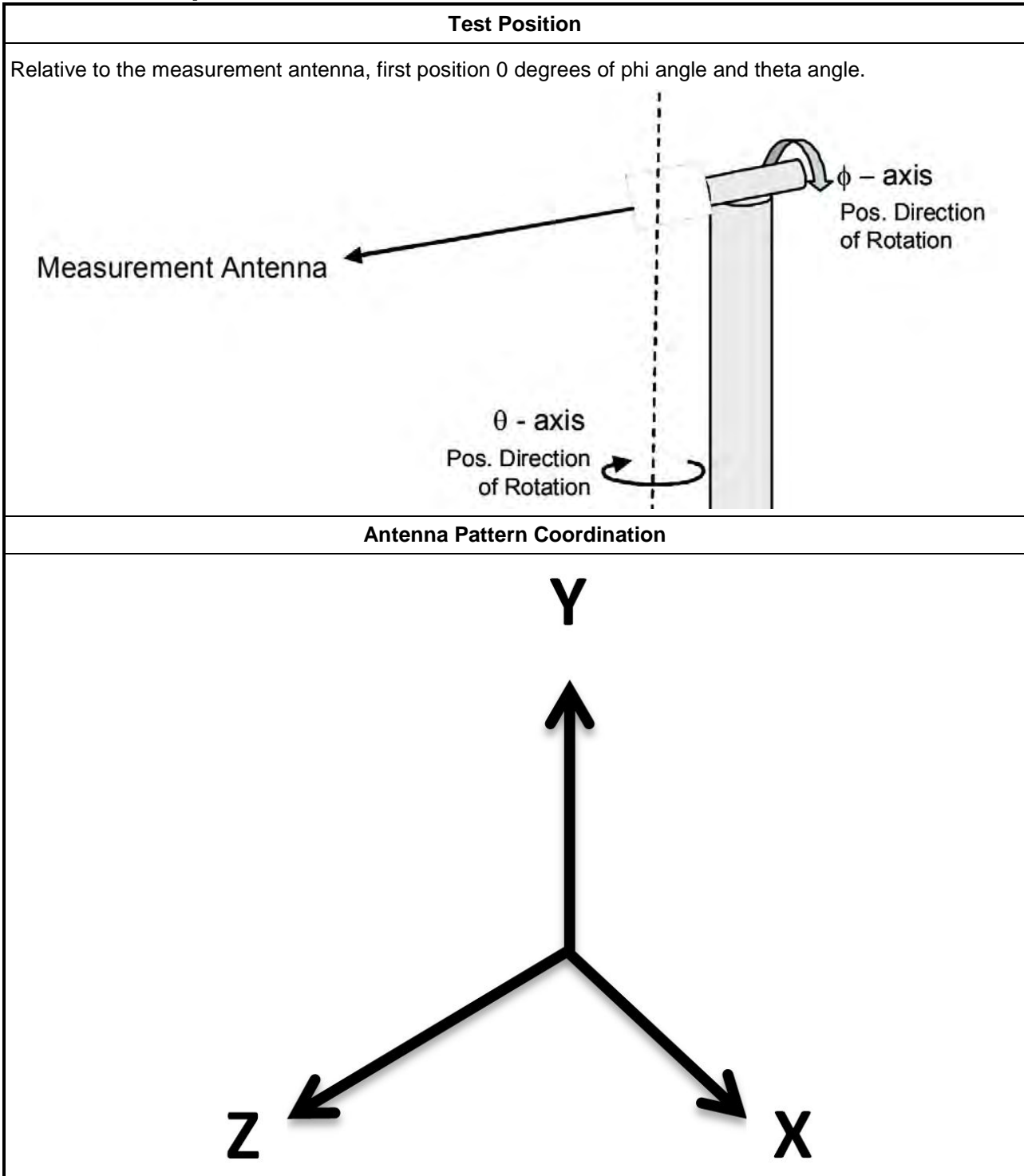
Mode 2: 5GH5.9G Ant.1~3 + 5GH5.9G Ant.5

Freq(Hz)	5.6G	5.785G	5.885G
Ant. 1 Max Gain (dBi)	1.43	2.08	2.5
Ant. 2 Max Gain (dBi)	1.66	1.91	2.89
Ant. 3 Max Gain (dBi)	2.8	3.51	3.79
Ant. 5 Max Gain (dBi)	3.64	3.64	3.29
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/120/180	Theta/70/0	Theta/80/0
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/50/180	Theta/50/190	Theta/50/190
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/90/0	Theta/90/0	Theta/90/0
Ant. 5 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/20/20	Theta/0/180	Phi/80/290
Max Gain (dBi)	3.64	3.64	3.79
DG [1SS] (dBi)	4.83	5.25	4.95
DG [2SS] (dBi)	3.64	3.64	3.79
DG [4SS] (dBi)	3.64	3.64	3.79

Note:

1. Antenna max gain is the max value of each individual antenna through all measurement angles. Each antenna max gain is the max value of measurement G of theta and phi 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.
4. Directional Gain (4SS) = Directional Gain (1SS) – 6dB. If directional gain is less than max gain, use max gain as directional gain.

### 11. Test Setup



Note:

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





## 12. Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1292	1GHz~18GHz	Aug. 04, 2021	Aug. 03, 2022
Dual Polarization Horn Antenna	Sporton	S0209DP	S0209DP-001	2GHz~9GHz	N.C.R.	N.C.R.
ENA Series Network Analyzer	AGILENT	E5071C	MY46419201	100kHz~8.5GHz	Feb. 21, 2022	Feb. 20, 2023
VNA Calibration Kit	TS RF	TS85033E-F	-	DC~9GHz	N.C.R.	N.C.R.
Multi-axis positioner	Sporton	MAPS01	MAPS01-001	Theta / Phi axis	N.C.R.	N.C.R.
Test Software	SPORTON	SENSE-RDG	V1.0.6	-	N.C.R.	N.C.R.

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

NCR means Non-Calibration required.



### **13. Test Results**

Please refer to the appendix.

Appendix A – Radiated Composite Gain of 2.4GHz and 5GHz UNII 1, 2A.....Page 18  
Appendix B – Radiated Composite Gain of 5GHz UNII 2C~4 Mode 1.....Page 26  
Appendix C – Radiated Composite Gain of 5GHz UNII 2C~4 Mode 2.....Page 34  
Appendix D – Antenna Pattern of 2.4GHz and 5GHz UNII 1, 2A.....Page 42  
Appendix E – Antenna Pattern of 5GHz UNII 2C~4.....Page 46  
Appendix F – Test Photos.....Page 50



Freq(Hz)	2.45G	5.2G	5.3G
Ant. 1 Max Gain (dBi)	4.1	3.53	3.81
Ant. 2 Max Gain (dBi)	3.39	3.26	4.32
Ant. 3 Max Gain (dBi)		2.32	2.96
Ant. 4 Max Gain (dBi)		2.31	2.44
Ant. 1 Polarization/ $\theta$ (°)/ $\Phi$ (°)	Theta/90/130	Theta/90/250	Theta/80/80
Ant. 2 Polarization/ $\theta$ (°)/ $\Phi$ (°)	Theta/80/90	Theta/70/140	Theta/80/140
Ant. 3 Polarization/ $\theta$ (°)/ $\Phi$ (°)		Theta/60/200	Theta/50/200
Ant. 4 Polarization/ $\theta$ (°)/ $\Phi$ (°)		Theta/50/330	Theta/50/330
Max Gain (dBi)	4.1	3.53	4.32
DG [1SS] (dBi)	6.01	6.24	6.43
DG [2SS] (dBi)	4.1	3.53	4.32
DG [4SS] (dBi)		3.53	4.32

## DG 1SS Result

Freq(Hz)	2.4GPol.	Phi-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DG(dB)	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)Φ(350°)	
θ(0°)	-8.91-8.81	-8.88-9.17	-9.78-9.76	-9.65-9.43	-9.47-9.79	-10.15-10.29	-10.31-9.48	-8.18-6.73	-5.61-4.98	-4.78-5.01	-5.58-6.26	-6.99-7.81	-8.66-9.3	-9.64-9.77	-10.17-10.93	-11.18-10.91	-10.44-9.23	-8.61-8.58	
θ(10°)	-7.51-7.73	-8.67-9.94	-11.34-10.97	-9.53-8.35	-7.71-7.57	-7.88-8.42	-9.47-10.01	-9.43-7.91	-6.56-5.76	-5.53-5.78	-6.31-7.11	-7.79-8.84	-9.79-10.14	-11.59-12.6	-13.68-13.02	-11.91-10.7	-9.01-8	-7.48-7.32	
θ(20°)	-7.66-8.39	-9.92-12.44	-14.43-12.66	-9.61-7.51	-6.75-6.44	-6.53-7.13	-8.44-9.66	-10.56-10.43	-9.54-8.05	-7.21-6.73	-7.01-7.98	-8.98-9.34	-10.71-11.59	-13.32-16.02	-14.16-12.51	-10.42-8.86	-7.88-7.23	-7.26-7.47	
θ(30°)	-12.05-12.43	-12.73-14.2	-15.55-15.2	-10.86-8.8	-7.99-6.88	-6.71-7.12	-10.99-10.99	-9.65-8.84	-8.81-9.28	-6.73-7.12	-8.81-9.28	-9.82-10.92	-12.73-15.13	-16.52-17.06	-15.97-13.19	-11.72-10.43	-9.96-10.63	-11.48-11.66	
θ(40°)	-14.51-14.88	-14.64-13.9	-15.13-16.44	-16.56-14.43	-11.51-8.55	-7.26-6.97	-7.17-7.03	-6.51-6.18	-6.08-6.39	-6.77-7.61	-8.88-10.43	-11.31-12.51	-14.64-16.68	-16.48-15.81	-14.23-11.85	-10.97-10.47	-10.61-11.53	-13.06-13.24	
θ(50°)	-13.97-12.64	-11.25-9.99	-9.78-10.97	-13.23-16.97	-15.94-14.96	-11.9-9.84	-8.07-6.36	-4.98-4.28	-4.04-4.1	-4.51-5.3	-6.91-9.12	-10.99-11.91	-13.31-15.76	-15.46-12.72	-10.93-9.49	-8.81-9.14	-9.61-10.79	-11.82-13.67	
θ(60°)	-7.09-6.4	-5.9-6.6	-7.71-8.47	-11.44-10.68	-8.94-10.68	-12.66-11.89	-10.96-11.72	-13.91-14.01	-11.71-8.13	-9.23-10.19	-10.35-11.41	-13.31-12.7	-12.73-10.98	-9.17-8.21	-8.44-9.35	-10.73-10.52	-9.59-9.36	-9.59-9.36	
θ(70°)	-11.48-9.6	-8.58-9.17	-10.75-13.75	-16.27-16.66	-15.43-14.25	-12.93-11.07	-10.04-9.36	-9.09-8.69	-8.72-8.77	-7.44-7.74	-7.24-6.53	-7.82-11.13	-14.57-14.69	-12.77-10.56	-9.01-7.73	-7.5-8.25	-11.47-16.97	-15.98-13.78	
θ(80°)	-7.14-6.54	-6.65-7.37	-8.32-9.54	-10.54-10.19	-8.62-7.69	-8.45-10.72	-14.49-14.54	-13.19-11.97	-10.99-9.63	-8.23-7.41	-7.02-7.18	-9.38-11.33	-11.74-12.23	-11.63-11.25	-10.21-10.96	-11.67-10.73	-9.83-8.22	-9.83-8.22	
θ(90°)	-11.24-9.64	-8.23-7.86	-7.88-8.81	-9.81-10.19	-9.09-7.68	-10.22-9.82	-10.39-9.89	-8.86-9.99	-9.1-8.71	-11.71-12.23	-6.95-7.72	-5.72-6.87	-11.53-9.14	-13.94-14.58	-8.88-11.93	-13.94-14.58	-13.51-12.86	-13.51-12.86	
θ(100°)	-11.61-9.6	-8.49-8.01	-7.47-6.8	-6.75-7.13	-7.22-6.72	-6.48-6.95	-7.8-9.33	-10.64-10.96	-12.06-13.24	-15.07-13.72	-11-10.58	-10.61-9.3	-7.47-7.21	-7.99-9.1	-10.17-10.7	-12.41-15.31	-15.11-14.31	-12.71-12.6	
θ(110°)	-16.04-12.98	-9.54-8.42	-8.41-7.53	-6.73-6.29	-6.21-6.76	-7.71-8.66	-8.95-8.98	-9.05-7.94	-7.06-8.8	-12.18-14.26	-14.69-13.67	-8.28-4.93	-3.77-4.35	-6.55-9.96	-11.93-13.21	-15.53-14.54	-14.67-15.16	-15.69-16.17	
θ(120°)	-14.12-9.66	-6.76-5.95	-7.13-7.82	-8.02-8.62	-8.69-8.53	-6.63-8.82	-8.85-9.7	-9.36-12.68	-6.26-6.99	-8.36-12.68	-15.31-11.41	-8.18-5.66	-5.61-7.68	-12.66-14.96	-15.94-14.17	-14.56-16.92	-16.51-16.42	-16.51-16.42	
θ(130°)	-16.71-16.33	-11.11-9.86	-10.72-9.59	-8.61-9.07	-10.55-12.74	-13.57-12.04	-10.51-9.41	-8.87-9.1	-8.52-8.02	-8.98-11.39	-9.71-5.94	-3.94-3.67	-4.49-6.21	-9.08-11.71	-12.81-16.13	-17.35-15.08	-12.77-11.69	-12.01-14	
θ(140°)	-10.08-10.77	-11.67-13.26	-11.67-13.18	-10.61-9.23	-9.99-8.17	-9.62-8.99	-6.56-6.47	-7.71-8.66	-9.62-8.99	-6.56-6.47	-6.99-8.17	-10.41-13.34	-12.96-10.26	-8.91-8.36	-8.08-9.27	-10.95-10.51	-8.47-7.75	-8.22-8.95	
θ(150°)	-8.65-9.13	-10.08-12.74	-15.29-15.77	-13.41-12.64	-12.94-12.98	-12.05-10.88	-10.13-9.89	-9.61-9.67	-8.34-7.09	-6.13-5.17	-4.38-3.82	-3.65-3.96	-4.81-5.68	-6.32-6.7	-6.67-6.4	-6.14-5.84	-5.31-5.36	-6.31-7.8	
θ(160°)	-7.21-6.97	-7.06-8.08	-9.84-11.97	-14.62-15.82	-15.59-16.35	-14.69-13.85	-14.35-16.14	-16.28-16.69	-11.23-7.74	-5.56-4.13	-3.41-3.1	-3.34-4.19	-5.71-7.16	-8.22-8.34	-8.33-8.38	-8.33-8.38	-7.92-7.61	-7.51-7.39	
θ(170°)	-6.43-6.15	-6.36-7.04	-8.53-10.73	-13.69-15.8	-16.61-14.81	-13.07-12.38	-11.76-11.63	-11.61-11.08	-9.81-8.78	-7.92-7.62	-7.73-7.76	-8.46-9.78	-11.71-12.03	-12-12.22	-11.75-12.43	-12.52-12.75	-12.31-10.83	-8.99-5.73	
θ(180°)	-6.41-6.72	-7.35-8.23	-9.66-11.53	-13.49-15.87	-14.43-13.82	-13.16-12.7	-12.21-11.82	-12.03-11.87	-12.03-12.07	-11.88-12.24	-12.14-12.27	-12.26-11.98	-12.33-12.45	-12.21-11.66	-11.37-10.98	-10.59-9.76	-9.14-8.15	-7.11-6.74	
Freq(Hz)	5.2GPol.	Phi-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DG(dB)	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)Φ(350°)	
θ(0°)	-8.01-9.3	-10.73-11.34	-10.58-9.85	-9.45-9.1	-6.96-7.9	-8.49-9.72	-10.11-10.04	-6.35-6.61	-8.49-9.72	-10.11-10.04	-6.35-6.61	-8.49-9.72	-10.11-10.04	-6.35-6.61	-8.49-9.72	-10.11-10.04	-6.35-6.61	-8.49-9.72	
θ(10°)	-6.67-6.21	-5.86-5.16	-4.56-4.25	-4.06-3.73	-3.32-2.74	-2.57-2.46	-2.42-2.54	-2.79-3.24	-3.87-4.93	-6.29-8.29	-10.36-12.51	-14.05-15.35	-16.33-16.46	-15.67-14.29	-14.32-13.11	-12.52-11.71	-10.58-9.4	-8.43-7.33	
θ(20°)	-3.46-2.66	-1.95-1.43	-1.05-0.87	-0.81-0.73	-0.55-0.44	-0.41-0.48	-0.84-1.18	-1.61-2.07	-2.57-3.23	-4.14-5.39	-6.82-8.19	-9.47-10.19	-10.61-11.44	-12.17-12.34	-11.21-10.4	-9.34-8.19	-6.78-5.54	-4.67-4.01	
θ(30°)	-3.06-2.34	-1.47-1.01	-0.70-0.37	0.62-0.79	0.97-1.04	0.83-0.51	1.61-2.13	-3.14-3.35	-5.75-7.18	-7.89-7.74	-7.31-6.62	-5.92-5.44	-5.04-4.9	-4.79-4.64	-4.27-3.8	-3.51-3.3	-3.51-3.3	-3.51-3.3	
θ(40°)	-1.35-0.98	-0.3-0.5	1.12-1.51	1.69-1.93	2.19-2.17	1.57-1.16	0.02-0.9	0.57-0.44	0.23-0.9	-1.45-1.79	-2.32-2.81	-2.15-2.07	-2.02-2.02	-2.21-2.39	-2.22-1.86	-1.57-1.42	-1.57-1.42	-1.57-1.42	
θ(50°)	0.69-0.6	1.11-1.99	2.54-2.61	2.74-3.38	4.08-4.4	4.25-3.7	3.69-3.85	3.91-3.35	2.28-1.29	0.91-0.54	0.03-0.79	-1.52-1.57	-1.09-1.02	-1.16-1.14	-1.0-7.9	-0.54-0.3	0.09-0.68	1.03-0.92	
θ(60°)	-0.67-1.43	-1.26-0.3	1.56-2.31	3.38-4.73	5.58-6.76	5.41-4.75	4.24-3.7	2.28-1.64	1.58-1.2	0.35-0.84	-2.46-4.66	-4.82-3.82	-2.39-1.13	-0.66-1.02	-1.09-1.01	-1.08-0.68	-0.17-0.06	-0.17-0.06	
θ(70°)	3.15-2.73	2.2-2.33	2.77-3.14	3.97-5.21	5.93-6.01	5.85-5	5.12-6.13	4.91-3.5	1.63-1.22	1.41-2.9	1.06-0.85	0.13-1.11	1.15-0.92	-0.20-0.89	1.15-0.92	0.55-0.46	0.52-0.82	1.8-2.81	
θ(80°)	3.98-3.69	3.21-3.5	4.01-3.67	3.87-4.95	5.48-5.09	4.81-4.86	4.59-4.92	5.23-3.85	2.24-2.47	2.83-2.81	2.76-2.79	2.88-2.65	1.56-0.45	0.78-1.43	1.37-1.67	2.01-1.85	2.21-2.58	3.05-3.71	
θ(90°)	3.58-3.07	2.29-2.27	3.21-3.39	3.64-4.8	4.78-4.08	3.87-4.25	4.35-5.11	5.28-3.41	2.16-2.8	3.09-2.77	2.47-2.69	3.33-3.47	3.26-2.44	1.97-2.42	2.42-2.41	3.2-3.7	2.43-2.72	3.12-3.47	
θ(100°)	0.92-0.66	-1.75-0.34	2.62-3.29	3.22-3.24	2.93-1.89	2.02-0.71	-1.07-7.8	0.88-0.07	2.02-0.71	1.01-0.22	0.82-0.6	1.61-3.8	0.74-0.13	0.82-0.6	2.87-2.76	2.66-2.32	2.1-3.1	1.11-3.4	
θ(110°)	1.81-0.97	-1.26-2	0.62-0.69	-0.69-1.14	-1.35-1.92	-2.21-2.11	-1.20-7.1	0.24-1.62	0.82-2.12	1.61-0.89	1.17-1.36	0.85-0.26	-2.31-1.3	1.41-2.08	0.53-0.59	1.91-2.75	3.3-2.7	1.55-1.52	
θ(120°)	0.83-1.51	0.51-1.36	-0.68-0.24	-0.56-0.28	0.07-0.26	-1.08-1.85	-1.06-0.19	-0.44-0.47	2.41-3.6	3.34-7.5	2.24-1.38	0.49-0.25	0.02-1.84	3.02-2.68	0.63-2.35	-1.29-0.01	0.25-0.21	-0.34-0.41	
θ(130°)	1.41-1.64	0.68-1.89	-3.61-2.03	-1.33-1.59	-1.92-2.01	0.15-1.03	0.64-0.22	-0.97-1.12	2.82-2.6	1.78-0.25	0.49-1.27	1.41-1.08	0.49-1.27	1.78-0.25	-1.91-0.53	-0.07-1.1	-1.44-0.36	-1.44-0.36	
θ(140°)	-2.64-3.08	-4.21-4.78	-4.31-3.02	-1.95-1.32	-0.97-0.6	-0.16-0.26	0.11-0.6	-1.61-1.35	-0.22-0.58	0.68-0.38	-0.25-1.54	-3.21-3.87	-2.93-2.04	-2.13-2.27	-2.52-3.34	-4.11-3.22	-2.14-2.05	-2.57-2.53	
θ(150°)	-2.14-2.92	-3.88-4.76	-5.21-5.85	-6.16-5.44	-4.73-3.62	-2.67-2.06	-2.01-2.44	-3.59-4.86	-5.91-6.29	-7-8.18	-9.57-8.64	-6.75-3.12	-1.16-0.1	0.26-0.02	-0.64-1.3	-2.83-3.09	-2.47-1.82	-1.62-1.63	
θ(160°)	-4.31-4.35	-4.07-3.87	-3.97-4.1	-4.35-4.69	-5.4-5.68	-5.45-5.77	-5.45-5.68	-5.45-5.68	-5.45-5.68	-5.45-5.68	-5.45-5.68	-5.45-5.68	-5.45-5.68	-5.45-5.68	-5.45-5.68	-5.45-5.68	-5.45-5.68	-5.45-5.68	-5.45-5.68
θ(170°)	-7.31-6.55	-6.16-6.04	-6.11-6.17	-5.88-5.76	-5.69-6.38	-7.22-8.17	-9.26-10.31	-11.01-10.31	-9.69-9.67	-9.92-10.47	-11.76-13.34	-14.42-14.16	-12.63-11.71	-11.19-10.99	-10.43-9.47	-8.51-8.24	-8.33-8.25	-7.92-7.56	
θ(180°)	-9.31-8.85	-8.26-7.6	-6.65-6.79	-5.31-5.12	-5.03-5.35	-5.85-6.69	-7.86-9.13	-10.27-10.72	-11.17-11.44	-11.61-11.13	-10.48-9.98	-9.51-8.88	-8.25-7.73	-7.81-7.91	-8.17-8.31	-8.			



# Radiated Composite Gain Data of 2.4GHz and 5GHz UNII 1, 2A

# Appendix A

Θ(60°)	4.48/4.71	3.75/2.85	2.42/4.3	1.67/0.88	1.63/1.92	1.91/1.95	2.67/4.01	5.51/5.33	5.1/4.7	4.57/5.01	5.67/4.67	2.43/1.19	0.23/-1.64	-2.07/-1.41	-1.37/1.64	2.58/1.33	1.17/2.47	2.76/3.06
Θ(70°)	3.45/4.2	4.57/4.78	4.01/3.12	3.04/3.05	4.35/3.74	3.71/4.48	3.95/4.71	5.73/5.89	5.47/4.58	4.08/4.6	5.52/5.44	4.22/3.49	1.44/1.43	-1.13/-1.69	0.58/1.12	2.28/2.85	2.69/3.36	3.81/3.36
Θ(80°)	3.16/3.71	4.91/5.15	3.78/2.86	3.73/4.46	5.68/5.29	5.3/4.98	4.79/5.16	5.99/6.43	6.14/5.1	3.82/4.25	5.55/6.17	4.78/3.52	3.18/4.24	3.07/2.66	3.38/2.99	2.02/2.74	3.18/4.57	5.04/4.7
Θ(90°)	4.43/4.23	4.44/4.31	3.95/3.82	3.92/4.26	5.92/4.23	4.19/5.03	4.91/4.33	5.02/3.77	4.66/4.31	5.01/3.66	3.98/5.04	4.92/3.66	3.59/4.81	4.94/4.53	4.97/3.17	2.17/3.78	4.36/4.64	4.22/4.9
Θ(100°)	5.42/2.94	2.14/2.74	3.86/2.4	2.65/2.65	4.2/2.63	3.25/1.71	1.49/1.07	3.96/1.38	2.17/2.73	4.12/4.51	5.43/5	4.14/9	4.34/5.42	4.24/3.71	5.2/2.17	1.78/4.35	4.59/4.74	4.71/5.52
Θ(110°)	3.53/0.09	0.67/1.37	1.92/1.3	2.66/0.75	2.15/0.59	0.8/1.1	1.15/-1.55	2.11/-1.22	-0.47/0.93	3.03/1.83	1.37/2.73	2.64/2.43	1.52/2.92	3.05/2.09	3.63/1.72	-1.01/2.85	2.32/0.57	0.43/3.04
Θ(120°)	4.24/1.64	0.23/-0.96	-2.82/-0.58	0.48/-2.69	-1.17/-1.95	-5.68/-5.86	-1.57/-4.24	-2.50/5.5	-0.53/-0.59	2.44/1.8	-0.83/0.77	1.47/2.12	1.31/0.85	0.03/-1.4	2.46/-5.2	-1.06/1.91	0.49/0.11	-0.35/3.48
Θ(130°)	-0.99/-0.26	-3.7/-3.16	-6.71/-2.28	-2/-2.34	-2.04/-2.85	-7.39/-5.15	-1.72/-2.66	-7.53/-2.38	-1.96/-1.2	-1.96/-1.9	-0.47/-1.17	-2.29/-1.63	-2.1/-2.15	-3.09/-2.96	-2.39/-4.74	-4.34/-5.11	-0.09/0.09	-0.9/-1.77
Θ(140°)	-3.49/-1.17	-0.8/-4.46	-4.77/-3.58	-2.62/-2.73	-1.53/-1.91	-4.47/-4.18	-2.12/-2.49	-4.23/-7.3	-6.09/-1.79	-0.69/-1.92	-4.34/-2.57	-3.17/-2.79	-1.15/-0.83	-2.46/-5.05	-3.61/-4.15	-4.2/-3.25	-3.34/-1.78	-3.25/-2.13
Θ(150°)	-0.75/-3	-3.73/-2.3	-2.34/-3.18	-4.6/-5.73	-3.76/-3.56	-3.76/-3.61	-2.42/-3.22	-4.7/-3.01	-2.07/-1.44	-0.81/-0.39	-0.87/-1.78	-3.68/-2.8	-2.71/-2.69	-5.1/-10.1	-5.95/-4.34	-3.21/-4.18	-4.34/-2.76	-2.17/-0.81
Θ(160°)	-2.46/-0.82	-1.21/-2.65	-3.56/-3.95	-3.96/-3.79	-3.01/-2.59	-2.33/-2.53	-2.96/-3.26	-3.2/-2.31	-10.03	0.46/0.17	-0.53/-0.97	-2.09/-2.5	-3.39/-5.6	-6.91/-8.17	-6.8/-5.04	-4.76/-5.79	-4.85/-3.91	-5.43/-4.3
Θ(170°)	-3.72/-4.17	-3.5/-2.69	-2.63/-3.63	-3.8/-3.19	-2.99/-2.97	-3.68/-3.49	-2.57/-2.2	-2.15/-2.46	-2.74/-2.71	-1.98/-1.55	-1.36/-1.16	-0.89/-0.86	-1.32/-2.57	-4.18/-5.47	-5.02/-3.41	-1.92/-1.21	-1.36/-1.42	-1.96/-3.12
Θ(180°)	-2.67/-1.41	-1.3/-1.7	-2.32/-3.14	-4.1/-5.15	-6.29/-6.83	-6.16/-5.5	-5.15/-5.04	-4.77/-3.71	-2.91/-1.82	-1.03/-0.98	-1.38/-1.98	-2.68/-3.56	-4.78/-5.74	-6.46/-7.49	-8.61/-8.93	-9.14/-9.56	-8.18/-6.76	-4.67/-3.39



# Radiated Composite Gain Data of 2.4GHz and 5GHz UNII 1, 2A

# Appendix A

### Gain Result

Freq(Hz)	2.45GPol.	PhiAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)Phi(350°)
Theta(°)	-12.43/-12.6	-13.34/-13.73	-14.34/-14.16	-15.44/-14.91	-16.64/-16.29	-17.94/-18.29	-19.34/-20.29	-20.84/-22.29	-22.44/-24.29	-24.14/-26.29	-25.94/-28.29	-27.84/-30.29	-29.84/-32.29	-31.94/-34.29	-34.14/-36.29	-36.44/-38.29	-38.84/-40.29	-41.34/-42.29
Theta(10°)	-10.39/-10.75	-11.77/-13.22	-14.94/-14.74	-13.42/-12.41	-11.57/-10.89	-10.53/-9.95	-9.57/-9.24	-8.56/-8.03	-8.01/-8.28	-7.44/-8.43	-6.91/-9.36	-6.32/-10.31	-5.77/-11.26	-5.25/-12.21	-4.75/-13.16	-4.27/-14.11	-3.81/-15.06	-3.37/-16.01
Theta(20°)	-10.98/-11.35	-12.48/-14.27	-16.27/-16.06	-13.9/-11.9	-11.15/-10.52	-10.11/-9.92	-9.32/-9.94	-8.58/-9.29	-7.81/-9.44	-7.04/-10.19	-6.28/-11.04	-5.53/-11.99	-4.78/-13.04	-4.03/-14.19	-3.28/-15.44	-2.53/-16.89	-1.78/-18.34	-1.03/-20.39
Theta(30°)	-19.44/-18.75	-17.34/-16.76	-17.59/-17.61	-13.95/-12.37	-11.03/-10.47	-10.11/-10.11	-10.39/-10.67	-10.11/-10.1	-10.51/-11.37	-12.52/-14.29	-16.63/-18.72	-19.39/-19.26	-19.58/-19.35	-18.98/-20.06	-19.97/-19.68	-20.26/-19.73	-19.28/-19.72	-19.71/-19.2
Theta(40°)	-15.39/-17.5	-20.78/-19.47	-19.2/-20.09	-19.44/-15.64	-12.39/-9.48	-8.43/-7.94	-7.87/-7.23	-6.6/-6.39	-6.86/-8.03	-6.32/-7.22	-5.32/-6.56	-4.48/-6.01	-3.81/-5.47	-3.24/-4.81	-2.71/-4.35	-2.21/-3.79	-1.71/-3.23	-1.21/-2.67
Theta(50°)	-20.48/-19.72	-19.17/-15.98	-13.69/-13.72	-15.45/-20.86	-19.51/-16.95	-12.26/-10.18	-8.16/-6.26	-4.94/-4.57	-4.92/-5.92	-7.57/-9.48	-12.14/-15.68	-17.87/-17.55	-16.8/-17.52	-19.53/-19.13	-19.95/-19.78	-18.96/-18.07	-15.82/-14.05	-12.66/-11.47
Theta(60°)	-10.47/-10.21	-10.9/-13.43	-15.8/-15.58	-13.51/-13.12	-14.45/-14.6	-14.35/-15.09	-17.5/-17.17	-14.19/-12.88	-12.81/-14.44	-17.29/-19.93	-18.72/-20.12	-16.93/-15.18	-13.87/-13.32	-13.49/-13.43	-13.3/-13.13	-13.85/-14.34	-15.1/-15.93	-14.78/-12.62
Theta(70°)	-11.37/-9.98	-10/-11.79	-14.39/-18.81	-20.19/-19.69	-18.21/-15.77	-12.98/-11.05	-9.77/-9.46	-10.23/-11.67	-14.23/-16.33	-13.98/-17.65	-17.72/-14.53	-14.09/-15.02	-16.44/-18.48	-18.48/-19.08	-19.95/-16.8	-15.05/-15.45	-19.08/-19.77	-18.96/-14.62
Theta(80°)	-9.08/-8.76	-9.03/-10.35	-12.61/-16.37	-19.3/-16.93	-13.12/-11.16	-12.26/-14.79	-17.99/-16.22	-13.99/-13.31	-13.97/-14.98	-15.43/-16.23	-14.86/-12.72	-13.15/-13.32	-13.43/-15.51	-17.08/-18.53	-19.12/-18.72	-19.03/-19.74	-20.4/-14.14	-11.11/-9.82
Theta(90°)	-14.59/-13.66	-13.28/-12.89	-12.64/-15.15	-15.72/-14.67	-11.63/-9.14	-7.74/-7.77	-10.17/-9.09	-16.86/-18.67	-18.72/-19.2	-11.69/-14.09	-16.86/-18.67	-18.92/-15.8	-13.00/-10.87	-10.83/-13.62	-17.18/-19.41	-18.43/-19.84	-17.41/-16.25	
Theta(100°)	-16.31/-13.94	-12.85/-12.59	-13.15/-14.12	-14.81/-13.96	-11.75/-9.16	-7.24/-6.67	-6.97/-8.48	-9.99/-10.82	-11.99/-13.7	-16.79/-20.09	-19.64/-19.1	-15.72/-11.96	-9.5/-9.29	-10.52/-13.96	-19.09/-19.48	-19.41/-18.93	-16.52/-15.14	-16.07/-17.95
Theta(110°)	-19.75/-13.28	-10.69/-11.26	-13.95/-15.68	-16.54/-15.61	-13.35/-12.33	-11.41/-10.6	-10.08/-9.98	-9.86/-9.52	-9.26/-9.78	-12.26/-17.55	-19.96/-15.29	-10.12/-7.11	-6.39/-7.81	-10.88/-16.57	-20.06/-19.78	-19.5/-16.46	-15.91/-16.62	-18.94/-19.02
Theta(120°)	-15.12/-9.75	-7.41/-7.74	-11.05/-14	-10.24/-9	-13.67/-10.83	-8.65/-12.93	-8.21/-8.87	-9.41/-10.07	-17.85/-17.72	-17.17/-19.72	-18.92/-15.8	-11.02/-15.84	-11.02/-15.84	-10.82/-18.94	-17.61/-16.82	-13.54/-13.54	-18.87/-19.02	
Theta(130°)	-19.68/-18.65	-13.74/-14.54	-19.47/-17.31	-15/-16.79	-19.14/-19.66	-16.89/-15.19	-15.96/-16.7	-14.63/-11.15	-7.8/-6.81	-8.26/-11.42	-13.48/-12.17	-8.81/-9.13	-11.14/-15.71	-19.6/-18.65	-16.06/-19.77	-20.21/-16.67	-16.47/-16.51	-14.44/-15.14
Theta(140°)	-14.35/-15.05	-13.27/-14.23	-19.51/-19.14	-16.19/-14.89	-16.12/-16.62	-16.84/-17.36	-17.87/-19.82	-19.81/-15.07	-11.68/-11.12	-12.57/-14.8	-16.34/-16.47	-6.11/-7.23	-18.54/-19.82	-16.56/-11.09	-8.41/-7.99	-8.94/-10.56	-9.54/-9.95	-9.73/-11.36
Theta(150°)	-11.46/-11.57	-12.29/-15.23	-18.93/-19.45	-16.34/-15.04	-16.99/-19.25	-18.16/-19.08	-18.24/-19.4	-18.98/-17.69	-8.16/-7.26	-6.79/-7.09	-8.02/-10.05	-12.76/-13.3	-10.73/-9.99	-6.24/-5.65	-5.93/-6.7	-7.02/-7.55	-8.64/-10.44	
Theta(160°)	-9.67/-9.39	-10.03/-11.86	-14.1/-15.43	-16.25/-18.45	-18.33/-19.93	-19.62/-18.91	-19.27/-19.59	-19.27/-19.42	-14.61/-10.97	-8.5/-6.78	-6.01/-5.98	-6.69/-8.27	-11.2/-13.37	-14.07/-12.27	-10.77/-10.17	-10.88/-11.69	-11.79/-11.32	-10.88/-10.36
Theta(170°)	-10.62/-9.85	-10.01/-10.84	-12.54/-14.31	-16.12/-17.78	-19.67/-19.23	-18.41/-18.12	-17.66/-17.33	-17.2/-16.56	-14.93/-13.76	-12.91/-11.99	-11.91/-11.88	-12.83/-14.96	-16.02/-19.51	-19.22/-20.11	-18.31/-19.59	-19.02/-19.8	-19.06/-18.38	-15.72/-13.29
Theta(180°)	-10.66/-10.4	-11.13/-12.44	-14.55/-16.57	-18.77/-20.02	-19.53/-18.84	-17.73/-17.59	-17.57/-17.56	-18.48/-19.38	-20.36/-19.52	-19.02/-19.91	-18.86/-19.21	-19.64/-19.79	-19.36/-17.46	-16.71/-16.15	-15.77/-15.45	-15.45/-14.59	-13.07/-11.94	
Freq(Hz)	2.45GPol.	ThetaAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)Phi(350°)
Theta(°)	-11.73/-12.4	-12.19/-11.13	-10.9/-16	-10.92/-16	-9.55/-10	-10.16/-11.39	-10.16/-11.57	-10.88/-10.73	-10.52/-10.28	-8.77/-8.74	-9.79/-9.48	-11.76/-12.16	-11.55/-9.82	-10.49/-11.24	-10.91/-11.91	-11.76/-12.16	-11.88/-11.88	-10.87/-11.07
Theta(10°)	-6.82/-6.13	-5.36/-4.41	-3.78/-3.42	-3.49/-3.66	-4.13/-4.62	-5.45/-5.98	-6.53/-6.96	-7.34/-8.01	-8.72/-9.77	-11.02/-12.85	-14.61/-16.21	-17.41/-18.73	-20.16/-19.48	-19.71/-18.98	-20.11/-17.07	-14.68/-12.21	-10.16/-8.82	-7.99/-7.36
Theta(20°)	-3.44/-2.58	-1.83/-1.18	-0.6/-2.48	-0.11/-0.37	-0.89/-1.73	-2.54/-3.15	-3.9/-4.51	-5.1/-5.68	-6.44/-7.43	-8.49/-9.57	-11.05/-12.44	-13.88/-14.75	-14.76/-15.52	-14.61/-13.08	-11.17/-9.67	-8.31/-7.1	-6.16/-5.21	-4.51/-3.91
Theta(30°)	-3.69/-2.83	-1.89/-1.03	-1.07/-0.44	0.75/0.67	0.22/0.54	0.55/0.87	-0.46/-1.63	-1.75/-2.66	-2.88/-3.46	-4.06/-4.63	-5.37/-6.06	-6.82/-7.58	-8.42/-9.26	-10.14/-10.93	-11.97/-12.81	-13.89/-14.75	-15.8/-16.7	-17.7/-18.6
Theta(40°)	-3.27/-2.62	-1.77/-0.86	0.05/0.89	1.39/1.57	1.33/0.66	-0.34/-1.28	-2.01/-2.48	-3.18/-3.86	-4.99/-5.94	-6.43/-6.28	-6.2/-5.87	-5.53/-5.37	-5.09/-4.58	-4.32/-4.15	-4.02/-3.88	-3.82/-3.91	-4.13/-4.32	-4.15/-3.77
Theta(50°)	-3.23/-2.77	-1.55/-0.03	1.27/2.06	2.56/2.87	2.89/2.62	1.99/1.41	1.1/0.93	0.68/0.08	-1.01/-2.17	-2.54/-2.5	-2.14/-1.89	-1.88/-2.1	-2.66/-3.78	-4.76/-4.53	-3.88/-3.47	-3.36/-3.35	-3.4/-3.41	-3.4/-3.53
Theta(60°)	-9.19/-9.65	-8.96/-9.45	-1.45/0.6	0.95/0.23	1.74/2.5	2.72/2.37	1.86/1.38	1.31/1.29	0.53/0.09	-0.22/-1.06	-1.54/-0.95	0.37/1.26	1.21/1.01	1.21/1.01	0.27/0.09	-1.08/-2.88	-3.41/-2.89	-4.17/-5.55
Theta(70°)	-1.55/-1.65	-2.82/-3.16	-1.72/-0.08	1.43/2.68	2.94/2.65	2.52/2.62	2.85/2.91	2.09/0.1	-2.38/-3.24	-3.27/-3.2	-2.78/-1.88	-1.48/-1.01	-1.3/-1.65	-1.51/-0.97	-0.89/-1.35	-2.33/-4.4	-6.23/-5.85	-4.08/-2.37
Theta(80°)	0.23/0.37	-0.31/-0.29	0.77/1.1	1.05/1.97	1.78/0.54	0.33/1.29	2.22/2.92	2.83/1.61	-0.03/-0.82	-0.59/-0.43	-0.14/0.21	0.61/0.1	0.67/0.43	-1.14/-0.93	-0.65/-0.73	-1.55/-2.88	-3.78/-3.24	-1.62/0.37
Theta(90°)	-0.07/-0.36	-1.62/-1.95	0.06/0.56	0.85/2.4	0.22/2.54	0.38/1.66	0.40/2.54	0.53/0.09	-0.22/-1.06	-1.54/-0.95	0.37/1.26	1.21/1.01	1.21/1.01	0.27/0.09	-1.08/-2.88	-3.41/-2.89	-4.17/-5.55	
Theta(100°)	-3.81/-4.95	-6.32/-3.76	-0.93/0.03	0.57/1.36	0.84/-1.56	-0.84/-2.4	-1.21/0.85	1.12/-0.71	-2.86/-2.65	-3.47/-1.53	-0.53/-0.05	-1.31/-5.37	-5.23/-1.15	-0.52/0.01	-2.42/-5.48	-5.45/-4.55	-4.44/-4.1	
Theta(110°)	-1.71/-2.9	-7.53/-11.91	-5.72/-4.92	-5.51/-4.04	-4.09/-6.81	-9.04/-7.16	-3.93/-1.98	-0.93/-1.98	-2.32/-1.78	-1.61/-1.23	-0.79/-1.1	-1.89/-3.15	-7.74/-7.14	-1.96/0.37	0.6/-0.2	-1.08/-0.81	-0.16/-0.72	-1.68/-1.97
Theta(120°)	-5.29/-4.5	-6.2/-10.52	-7.23/-4.79	-4.52/-3.48	-2.8/-3.66	-5.2/-5.97	-4.46/-2.12	-0.85/-0.85	-0.37/0.46	0.96/0.45	-1.08/-2.59	-2.4/-2.47	-2.78/-1.08	0.22/0.2	-0.84/-2.33	-3.48/-3.15	-2.27/-2.86	-5.6/-4.7
Theta(130°)	-2.28/-0.97	-1.84/-5.92	-9.44/-5.62	-4.26/-5.03	-6.06/-6.69	-7.47/-8.42	-8.23/-9.47	-8.44/-9.26	-8.23/-9.47	-8.44/-9.26	-8.23/-9.47	-8.44/-9.26	-8.23/-9.47	-8.44/-9.26	-8.23/-9.47	-8.44/-9.26	-8.23/-9.47	-8.44/-9.26
Theta(140°)	-16.38/-19.81	-20.37/-14.31	-8.74/-5.36	-3.8/-3.4	-3.6/-3.51	-3.3/-3.04	-3.12/-3.04	-2.9/-2.12	-1.07/-0.09	0.1/-0.38	-0.96/-1.78	-3.28/-5.1	-6.11/-7.13	-8.99/-8.84	-8.42/-9.61	-11.33/-12.68	-13.58/-13.54	-12.84/-12.74
Theta(150°)	-6.79/-6.69	-6.79/-7.43	-9.23/-13.47	-19.95/-19.6	-18.07/-14.26	-11.39/-9.29	-8.48/-7.8	-7.79/-7.87	-8.13/-8.38	-9.74/-12.7	-17.94/-14.75	-10.92/-6.96	-4.68/-3.3	-2.15/-1.32	-1.18/-1.95	-3.17/-4.62	-5.95/-6.86	-7.11/-6.78
Theta(160°)	-9.94/-9.26	-8.78/-8.56	-8.95/-9.17	-9.07/-9.15	-4.33/-10.45	-11.36/-10.87	-4.86/-5.44	-6.41/-5.03	-4.43/-4.24	-1.74/-3.9	-6.57/-5.44	-5.71/-6.42	-7.78/-9.28	-10.71/-12.25	-12.84/-12.25	-14.23/-11.41		
Theta(170°)	-14.78/-12.29	-10.66/-9.23	-8.32/-7.83	-7.34/-7.28	-7.33/-8.15	-9.22/-10.47	-11.31/-11.51	-10.79/-9.61	-9.8/8.7	-9.04/-9.98	-11.81/-14.38	-18.26/-19.61	-16.98/-15.51	-15.6/-17.02	-18.95/-19.07	-18.44/-19.22	-19.36/-19.66	-18.31/-16.19
Theta(180°)	-13.1/-11.02	-9.28/-8.21	-7.37/-6.63	-6.44/-6.73	-7.09/-7.82	-8.94/-10.74	-13.55/-16.77	-19.5/-19.94	-19.53/-18.89	-18.1/-15.54	-13.45/-11.84	-10.84/-10.09	-9.67/-9.89	-11.03/-12.29	-14.1/-16.12	-19.67/-19.99	-18.94/-17.59	-16.52/-14.52
Freq(Hz)	5.2GPol.	ThetaAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)Phi(350°)
Theta(°)	-18.82/-20.49	-15.55/-13.53	-11.25/-9.99	-8.52/-7.78	-7.16/-7.08	-7.17/-7.56	-8.39/-9.2	-10.29/-11	-12.63/-15.98	-18.91/-20.21	-15.37/-13.17							



Theta	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)Phi(350°)
Theta(0°)	-12.31-10.11	-10.47-12.61	-12.45-13.21	-15.43-18.92	-17.59-13.11	-11.18-10.53	-11.91-17.77	-18.72-14.22	-12.41-12.39	-13.66-16.17	-18.71-20.07	-19.78-19.44	-19.21-12.97	-9.75-9.68	-9.75-9.62	-8.65-7.89	-8.74-12.11	-15.67-15.83
Theta(10°)	-6.62-6.43	-6.72-7.75	-9.51-11.29	-13.85-20.02	-19.72-15.6	-13.08-11.7	-11.46-12.11	-13.46-14.24	-12.71-11.7	-11.89-14.41	-16.36-18.05	-17.95-15.8	-11.13-8.22	-6.77-6.56	-6.76-7.88	-9.44-11.99	-14.26-14.71	-11.02-8.28
Theta(20°)	-9.96-10.57	-12.45-14.72	-16.83-20.16	-19.23-19	-19.39-19.99	-16.03-13.78	-11.91-10.29	-10.65-11.11	-10.68-10.74	-12.03-12.09	-10.97-11.25	-13.67-16.29	-11.28-18	-11.83-18	-13.89-12.04	-8.61-8.51	-9.77-9.96	
Freq(Hz)	5.3GPol.	ThetaAnt. 2																
Gain	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)Phi(350°)
Theta(0°)	-17.67-18.93	-20.21-20.27	-18.70-20.19	-19.64-18.99	-17.41-15.73	-14.23-14.1	-13.78-13.97	-14.03-13.9	-14.73-18.22	-18.96-19.62	-20.02-19.57	-18.53-18.5	-17.48-16.36	-15.35-14.17	-13.16-13.11	-14.07-14.34	-14.57-14.89	-15.23-16.98
Theta(10°)	-19.95-19.95	-18.79-15.42	-14.37-15.43	-15.65-14.99	-12.19-9.33	-7.71-6.79	-6.12-5.98	-6.42-7.45	-8.81-10.06	-141-18.95	-18.46-19.95	-19.92-19.58	-18.29-15.94	-13.54-12.31	-11.19-11.05	-11.47-11.95	-13.08-17.27	-18.77-19.73
Theta(20°)	-15.45-15.32	-12.97-9.59	-9.49-11.21	-12.78-13.41	-10.55-9	-7.16-6.7	-5.57-4.91	-5.08-5.7	-7.1-8.53	-11.13-11.66	-10.95-10.2	-10.08-10.68	-10.15-9.49	-8.71-9.11	-9.21-9.81	-11.66-14.41	-15.35-15.6	-19.92-19.05
Theta(30°)	-12.29-12.06	-9.83-8.42	-7.94-7.42	-8.49-10.99	-10.55-9	-8.89-8.6	-9.31-11.06	-11.47-9.95	-6.52-7.38	-8.68-7.61	-6.03-6.16	-7.44-8.63	-8.67-6.55	-4.66-4.78	-6.68-6.89	-7.04-8.19	-9.31-9.41	-8.91-9.69
Theta(40°)	-5.48-4.94	-6.15-4.62	-5.34-4.69	-6.51-9.32	-9.87-7.85	-5.93-5.8	-8.18-10.25	-11.02-9.43	-9.81-10.85	-7.74-5.56	-5.12-4.83	-4.78-5.05	-5.46-5.63	-5.15-5.17	-6.32-6.22	-3.51-3.72	-6.76-9.5	-9.24-10.04
Theta(50°)	-0.91-0.65	-1.81-4.67	-3.93-2.48	-2.82-6.25	-12.84-6.34	-4.12-6.43	-12.71-6.78	-2.13-0.8	-3.41-5.15	-4.72-3.03	-0.63-0.31	-1.48-2.38	-4.07-5.69	-3.61-4.05	-4.69-1.44	-0.24-1.19	-5.09-6.31	-2.1-3.06
Theta(60°)	2.58-2.41	1.56-0.57	-2.19-1.95	-1.09-3.61	-1.34-3.15	-6.14-3.06	0.62-1.31	0.83-1.35	-1.34-3.15	0.62-1.31	0.83-1.35	-1.34-3.15	0.62-1.31	0.83-1.35	-1.34-3.15	0.62-1.31	0.83-1.35	-1.34-3.15
Theta(70°)	1.92-2.04	1.67-0.11	-2.09-1.42	-2.63-3.28	-1.31-1.51	-1.7-0.53	-4.72-0.28	2.11-0.38	-5.07-4.45	-3.18-1.77	-0.60-4.6	0.11-1.72	-3.99-4.88	-8.57-9.26	-5.91-3.95	-0.83-2.51	-3.07-1.49	0.12-1.16
Theta(80°)	2.12-2.37	2.56-1.34	-2.82-2.98	0.51-0.49	-0.16-0.43	0.18-0.19			4.32-3.5	-1.26-2.89	-3.91-1.78	-1.02-1.45	-4.36-3.54	-3.73-3.2	-3.57-5.84	-1.91-0.58	-0.68-1.03	-0.51-10.11
Theta(90°)	1.97-2.19	1.56-0.1	-1.27-0.52	1.58-0.71	1.66-0.79	0.71-0.12	1.66-0.79	0.71-0.12	1.66-0.79	0.71-0.12	1.66-0.79	0.71-0.12	1.66-0.79	0.71-0.12	1.66-0.79	0.71-0.12	1.66-0.79	0.71-0.12
Theta(100°)	1.29-0.6	-0.91-2.39	-0.02-0.09	-0.61-0.09	1.22-0.53	-0.10-0.7	-2.18-0.99	2.19-1.55	-0.64-0.93	-3.25-0.56	-2.55-2.92	-3.18-3.67	-6.34-1.41	-0.91-2.43	0.51-0.49	-6.34-3.5	-5.34-1.67	0.02-0.54
Theta(110°)	-1.53-5.67	-3.03-3.32	-0.91-2.3	-1.1-0.93	-1.07-1.32	-3.17-4.72	-2.25-10.81	-0.46-0.86	-12.08-4.36	-2.88-7.52	-8.37-5.55	-3.81-7.7	-6.86-4.63	-5.29-5.37	-2.24-1.86	-11.62-8.99	-8.06-5	-3.88-3.42
Theta(120°)	-3.73-0.08	-6.67-9.37	-5.33-3.16	-3.31-3.12	-2.25-1.01	-5.92-6.9	-4.17-14.24	-7.67-5.54	-13.46-9.44	-19.16-9.99	-13.46-9.44	-19.16-9.99	-13.46-9.44	-19.16-9.99	-13.46-9.44	-19.16-9.99	-13.46-9.44	-19.16-9.99
Theta(130°)	-13.94-11.34	-14.01-11.37	-8.97-5.86	-3.35-2.36	-3.07-6	-14.14-11.39	-5.82-9.31	-10.33-9.67	-8.95-10.29	-9.19-12.51	-11.71-20.04	-15.03-16.33	-11.73-16.5	-18.27-7.56	-9.61-6.85	-13.11-19.78	-12.54-15.99	-13.61-11.78
Theta(140°)	-19.77-18.82	-7.82-5.37	-3.77-3.4	-3.47-3.35	-5.24-5.87	-12.18-11.43	-9.71-8.54	-9.07-12.62	-16.03-11.23	-7.21-12.64	-15.74-19.24	-12.48-12.13	-14.21-13.49	-14.79-7.46	-8.62-19.1	-12.74-13.09	-13.71-12.52	-12.78-13.98
Theta(150°)	-14.74-13.13	-8.98-6.22	-6.81-7.26	-8.49-10.15	-7.73-5.93	-4.48-5.33	-3.29-4.34	-12.58-10.02	-10.33-7.58	-9.96-13.81	-13.36-12.53	-12.59-13.13	-14.57-18.61	-9.49-5.37	-5.17-12.8	-5.37-13.13	-13.71-12.52	-7.41-11.86
Theta(160°)	-10.25-10.22	-11.24-12.82	-11.57-9.86	-8.22-6.25	-5.21-3.98	-2.87-2.86	-3.75-5.62	-8.83-13.71	-14.51-11.22	-8.91-10.97	-19.95-19.69	-19.51-16.01	-13.17-11.43	-10.64-10.54	-10.87-12.48	-14.38-11.1	-8.63-8.36	-8.51-9.35
Theta(170°)	-12.48-9.54	-7.36-6.06	-4.91-4.71	-4.84-5.51	-6.02-6.87	-8.25-9.57	-10.21-11.57	-13.89-18.04	-20.47-18.72	-13.48-11.53	-11.07-9.37	-7.71-7.42	-9.92-9.78	-11.79-15.64	-18.39-17.92	-15.23-15.18	-18.96-18.53	-20.11-18.89
Theta(180°)	-11.43-8.92	-8.35-6.88	-6.93-7.2	-7.98-8.61	-8.69-9.34	-9.95-10.73	-11.06-14.11	-19.68-18.65	-19.42-15.19	-12.31-11.22	-10.68-10.21	-9.73-9.5	-8.91-8.51	-9.31-9.94	-11.63-13.46	-16.61-19.02	-19.33-19.44	-18.91-15.63
Freq(Hz)	2.45GPol.	PhiAnt. 3																
Gain	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)Phi(350°)
Theta(0°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(10°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(20°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(30°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(40°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(50°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(60°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(70°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(80°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(90°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(100°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(110°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(120°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(130°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(140°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(150°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(160°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(170°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(180°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Freq(Hz)	2.45GPol.	ThetaAnt. 3																
Gain	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)Phi(350°)
Theta(0°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(10°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(20°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(30°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(40°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(50°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(60°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(70°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(80°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(90°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(100°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(110°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(120°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(130°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(140°)	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf	-inf
Theta(150°)	-inf	-inf	-inf	-inf														





Radiated Composite Gain Data of 2.4GHz and 5GHz UNII 1, 2A

Appendix A

Table with 19 columns for angles (Theta) and 19 columns for frequencies (Phi). It contains multiple data tables for different antenna configurations, including Gain and Freq (Hz) data. The tables are organized into sections for 5GHz and 2.4GHz bands, with various antenna types like 5GzPol, PhiAnt, and 2.4GzPol.





Freq(Hz)	5.6G	5.785G	5.885G
Ant. 1 Max Gain (dBi)	1.43	2.08	2.5
Ant. 2 Max Gain (dBi)	1.66	1.91	2.89
Ant. 3 Max Gain (dBi)	2.8	3.51	3.79
Ant. 4 Max Gain (dBi)	2.55	3.36	3.65
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/120/180	Theta/70/0	Theta/80/0
Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/50/180	Theta/50/190	Theta/50/190
Ant. 3 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/90/0	Theta/90/0	Theta/90/0
Ant. 4 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/90/280	Theta/90/180	Theta/90/180
Max Gain (dBi)	2.8	3.51	3.79
DG [1SS] (dBi)	6.13	7.23	6.76
DG [2SS] (dBi)	3.13	4.23	3.79
DG [4SS] (dBi)	2.8	3.51	3.79



# Radiated Composite Gain Data of 5GHz UuII 2C~4 Mode 1

# Appendix B

## DG 1SS Result

Freq(Hz)	5.6GPol.	Phi-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Phi(0)*Phi(10)	Phi(20)*Phi(30)	Phi(40)*Phi(50)	Phi(60)*Phi(70)	Phi(80)*Phi(90)	Phi(100)*Phi(110)	Phi(120)*Phi(130)	Phi(140)*Phi(150)	Phi(160)*Phi(170)	Phi(180)*Phi(190)	Phi(200)*Phi(210)	Phi(220)*Phi(230)	Phi(240)*Phi(250)	Phi(260)*Phi(270)	Phi(280)*Phi(290)	Phi(300)*Phi(310)	Phi(320)*Phi(330)	Phi(340)	
0	-10.44-9.16	-6.71-4.63	-3.56-2.26	-0.86-0.08	-0.05-0.13	-0.26-0.91	-1.57-2.83	-4.41-5.88	-8.41-10.89	-12.46-10.42	-7.39-4.73	-2.96-1.78	-1.23-0.71	-0.07-0.21	-0.66-1.52	-2.36-2.92	-3.86-6.68	-10.02-10.02	
10	-8.46-9.15	-8.98-6.04	-4.36-3.1	-2.55-1.59	-0.320	-0.04-0.57	-1.51-2.48	-3.73-4.88	-5.91-7.6	-9.82-9.23	-6.51-4.42	-1.91-0.61	-0.08-0.26	-0.41-0.75	-1.27-1.52	-2.05-3.57	-5.16-1.8	-7.54-8.2	
20	-8.34-9.83	-9.57-7	-4.73-4.24	-4.05-2.23	-1.31-0.95	-1.13-1.7	-1.93-2.31	-3.05-4.01	-5.33-7.3	-7.67-8.05	-7.42-6.84	-6.44-6.4	-6.01-5.51	-4.44-4.15	-5.25-5.3	-5.36-5.22	-5.12-5.73	-6.51-6.58	
30	-7.93-8.48	-9.47-10.26	-7.51-4.62	-2.88-1.69	-1.31-1.19	-1.85-2.01	-2.36-3.33	-4.68-8.6	-10.61-11.45	-11.65-9.32	-8.71-8.2	-7.51-8.38	-9.91-7.23	-5.02-3.81	-4.51-4.41	-4.81-5.91	-7.27-7.67		
40	-8.98-8.09	-10.13-10.51	-7.32-4.66	-3.47-3.25	-2.52-2.24	-2.269	-2.47-2.97	-4.87-7.89	-9.21-10.05	-10.26-10.55	-9.79-8.43	-6.42-4.18	-2.85-2.78	-1.32-0.48	-2.31-3.36	-2.96-4.59	-6.33-8.66	-9.81-10.17	
50	-11.88-9.04	-8.18-7.59	-5.61-4.41	-3.89-3.45	-2.28-2.02	-3.44-4.53	-5.12-6.26	-6.12-6.27	-5.89-7.53	-9.54-10.15	-9.81-7.76	-4.69-2.01	-0.61-0.79	-0.74-0.69	-2.27-1.73	-1.56-3.05	-4.66-8.17	-11.48-12.18	
60	-6.85-6.6	-7.06-7.64	-7.17-6.5	-5.44-3.93	-3.45-2.89	-4.37-5	-4.74-5.87	-4.12-5.3	-4.57-5.7	-8.55-7.38	-4.12-2.61	-2.05-2.09	-1.1-1.29	-3.45-3.98	-3.11-3.69	-4.69-4.39	-5.71-5.98		
70	-5.76-7.31	-6.56-7.41	-6.79-5.61	-3.81-3.42	-3.91-2.97	-3.85-3.34	-3.09-3.89	-6.75-8.42	-6.09-5.48	-7.48-7.26	-6.11-3.55	-3.82-5.13	-3.58-3.85	-3.58-4.4	-4.28-3.41	-3.69-5.54	-3.38-1.47	-2.58-2.88	
80	-71-6.8	-6.46-6.47	-6.37-5.42	-3.46-2.86	-4.03-2.42	-2.81-2.06	-1.87-4.3	-6.96-8.66	-8.51-9.5	-12.78-8.77	-5.59-3.61	-2.49-3.96	-3.21-3.92	-5.92-6.19	-4.31-2.55	-4.48-5.29	-2.11-0.89	-2.57-3.05	
90	-6.45-6.51	-6.09-5.94	-6.17-6.39	-3.66-1.88	-3.95-2.09	-8.24-3	-3.95-2.09	-10.38-8.42	-8.41-4.61	-5.52-9.09	-7.24-5.5	-3.79-4.82	-6.54-7.14	-4.55-3.79	-5.48-4.84	-4.24-3.53	-6.11-3.35		
100	-6.81-6.59	-9.15-8.5	-7.81-4.6	-0.48-0.82	-4.36-6.63	-5.87-3.81	-2.62-5.84	-6.58-7.47	-7.21-5.32	-4.65-5.67	-7.51-8.93	-8.82-8.28	-8.49-9.61	-8.65-6.2	-4.97-6.03	-4.15-4.62	-6.89-8.21	-7.35-7.66	
110	-6.43-6.66	-7.05-9.61	-7.48-2.47	-1.02-1.51	-3.63-4.52	-3.51-2.96	-3.32-4.47	-7.54-7.54	-5.43-5.93	-5.01-9.06	-9.44-10.07	-10.53-8.35	-9.24-6.92	-8.71-5.11	-7.93-7.08	-4.93-8.1	-10.94-7.2	-5.91-5.87	
120	-6.66-4.79	-8.94-11.17	-8.81-2.93	-0.740.1	-8.59-4.01	-2.86-5.13	-2.91-5.55	-7.66-6.12	-8.59-2.75	-7.66-6.12	-1.71-10.77	-8.46-6.1	-4.98-6.46	-7.02-3.64	-6.48-5.29	-4.14-2.93	-6.57-6.77		
130	-6.91-5.53	-8.43-6.66	-5.72-4.01	-1.59-1.39	-3.82-3.61	-1.78-0.95	-2.51-4.78	-3.03-3.53	-4.49-6.13	-8.62-6.93	-8.66-11.47	-8.78-8.71	-4.81-2.5	-5.11-5.22	-4.54-5.55	-4.21-5.24	-8.21-6.94	-9.73-10.12	
140	-7.57-8.06	-5.79-5.69	-6.14-5.58	-6.63-4.27	-3.31-1.94	-1.21-1.88	-3.69-6.35	-6.07-3.23	-4.77-7.13	-7.23-6.5	-8.46-6.58	-6.41-6.2	-5.92-7.42	-1.93-9.22	-7.13-6.28	-6.27-7.62	-5.14-9.67	-7.17-7.1	
150	-7.95-7.83	-8.04-6.72	-6.71-4.4	-3.27-2.78	-2.06-1.89	-3.12-2.97	-5.28-6.17	-8.06-5.13	-8.32-3.72	-6.52-8.79	-5.85-7.62	-7.59-7.57	-9.64-8.09	-5.81-5.42	-9.34-5.72	-6.36-5.81	-5.82-6.35		
160	-10.64-10.15	-8.21-7.45	-5.25-2.77	-1.59-1.67	-2.56-3.29	-2.78-1.91	-2.06-2.11	-2.31-4	-6.09-7.32	-11.01-10.28	-7.56-4.88	-3.91-4.13	-5.85-6.81	-7.32-6.46	-5.32-7.69	-7.17-5.2	-4.73-5.41	-6.91-7.05	
170	-10.87-10.83	-9.01-6.66	-5.65-5.01	-3.22-1.95	-1.94-2.19	-2.03-1.96	-2.27-2.9	-4.74-7.98	-9.62-9.9	-8.84-8.68	-8.53-7.77	-8.31-9.3	-6.55-5.98	-4.96-3.95	-4.11-4.72	-4.54-4.02	-3.78-4.22	-7.07-7.3	
180	-11.11-10.3	-8.91-6.78	-5.96-5.28	-4.29-3.34	-3.44-4.54	-5.94-6.64	-6.32-5.92	-6.67-8.5	-9.16-9.92	-10.94-11.95	-10.72-8.77	-7.35-6.23	-6.02-5.67	-6.65-6.47	-7.69-7.52	-7.59-7.53	-8.41-10.93	-10.61-10.55	
Freq(Hz)	5.6GPol.	Theta-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DG(dB)	Phi(0)*Phi(10)	Phi(20)*Phi(30)	Phi(40)*Phi(50)	Phi(60)*Phi(70)	Phi(80)*Phi(90)	Phi(100)*Phi(110)	Phi(120)*Phi(130)	Phi(140)*Phi(150)	Phi(160)*Phi(170)	Phi(180)*Phi(190)	Phi(200)*Phi(210)	Phi(220)*Phi(230)	Phi(240)*Phi(250)	Phi(260)*Phi(270)	Phi(280)*Phi(290)	Phi(300)*Phi(310)	Phi(320)*Phi(330)	Phi(340)	
0	-0.26-0.12	-0.77-1.63	-2.96-4.41	-6.09-7.78	-10.32-11.19	-8.08-6.77	-4.77-3.12	-0.07-0.46	-0.88-1.99	-1.10-11.4	-3.18-4.59	-6.74-8.91	-11.01-11.4	-8.39-6.52	-4.33-2.67	-1.68-0.64	-0.39-0.52		
10	-1.13-1.76	-2.34-3.09	-3.52-4.38	-5.89-6.33	-6.21-6.71	-6.36-5.83	-4.16-3.24	-2.84-2.01	-0.830.16	0.580.8	0.520.19	-0.53-1.62	-2.61-4.11	-5.91-7.25	-6.26-4.9	-3.49-2.34	-1.94-1.34	-0.91-1	
20	-0.96-1.42	-1.71-2.11	-2.33-3.2	-4.25-4.15	-41-4.09	-4.71-4.61	-3.46-2.28	-1.46-1.28	-1.39-0.85	0.04-0.05	-1.11-1.77	-1.82-1.63	-1.37-1.57	-2.09-3.29	-3.64-4.29	-3.62-3.58	-2.37-1.57	-1.44-1.71	
30	1.30-6.7	-1.1-2.7	-1.67-2.54	-3.36-3.12	-3.5-4.48	-5.36-2.87	-0.81-0.29	-0.15-0.36	-1.14-1.22	-0.95-0.19	0.090.13	0.43-0.06	-1.13-1.78	-0.86-0.32	-0.73-1.76	-1.64-0.08	1.011.81	2.052.01	
40	2.080.7	-0.250.42	0.09-1.37	-2.48-3.08	-4.04-5.39	-3.91-2.15	-0.440.57	-0.041.08	1.972.21	2.031.5	0.960.46	0.48-0.28	-0.310.17	0.291.15	2.032.79	2.582.16	2.822.16		
50	2.331.42	-1.220.23	0.98-0.37	-1.99-0.56	-1.03-3.32	-1.20.4	0.391.17	0.85-0.26	1.023.38	3.784.25	3.982.68	1.791.12	1.14-0.21	-1.56-0.75	0.020.35	0.521.79	2.763.17	2.822.65	
60	3.212.83	0.180.76	1.880.47	0.150.76	0.71-1.28	0.371.5	1.190.84	1.291.1	1.540.35	3.573.77	3.312.7	2.571.98	1.36-0.04	0.260.03	0.32-0.04	1.183.07	3.433.52	2.582.4	
70	3.732.94	0.731.97	2.731.05	1.041.95	2.370.62	1.462.51	1.261.39	1.423	3.963.38	3.112.53	2.492.73	3.694.11	2.712.07	1.941.01	3.523.22	3.13.04	3.13.04		
80	5.313.6	2.183.64	3.441.44	3.153.77	3.13.84	2.212.58	1.780.59	2.333.74	3.074.08	5.36.16	4.283.49	1.862.95	4.333.02	2.362.46	3.863.01	4.554.16	3.053.54	4.264.02	
90	6.132.87	2.273.73	2.141	2.913.67	2.413.65	1.022.87	0.781.3	1.914.55	3.093.65	4.934.96	5.134.24	1.733.2	5.273.35	3.13.1	4.012.61	5.533.6	3.575.93	6.158.83	
100	5.332.41	2.394.2	1.261.54	0.963.91	3.223.53	1.932.8	1.524.27	0.932.16	3.463.31	4.981.6	2.522.27	4.471.27	3.451.1	4.981.6	3.451.1	4.471.27	3.525.5	5.064.95	
110	4.222.49	2.132.72	2.222.17	2.684.07	2.144.39	1.872.41	1.462.84	3.613.82	2.21.41	3.011.55	1.870.92	1.21-1.33	2.970.99	1.660.36	3.691.27	2.070.02	3.983.28	3.353.08	
120	3.251.87	0.540.74	0.02-0.84	1.641.72	-0.561.22	-0.32-0.52	-0.140.8	2.291.28	2.671.61	-0.141.02	1.961.29	0.451.15	0.02-0.46	0.360.38	2.161.08	1.371.92	1.120.89		
130	2.470.29	0.121.19	0.08-0.06	0.291.19	-2.93-1.93	-1.98-1.02	-0.38-0.94	-1.65-0.18	-0.031.51	0.261.63	0.74-1.71	-1.99-0.64	0.460.61	0.291.32	0.582.16	0.520.95			
140	-0.442.34	0.950.52	-0.74-1.93	-1.03-3.34	-5.83-3.48	-3.21-2.91	-1.69-3.1	-4.06-3.12	-1.730.5	-11-0.31	-0.74-4.33	-5.05-1.72	-1.86-3.28	-3.73-4.69	-2.11-1.26	-1.84-3.56	-7.42-3.22	-2.46-2.49	
150	-2.17-0.06	-0.21-1.31	-0.68-1.1	-2.13-3.88	-5.91-5.78	-7.04-7.93	-4.61-4.06	-3.86-2.02	-1.09-2.67	-3.61-0.16	0.21-2.56	-3.68-2.25	-2.61-2.2	-5.25-7.25	-3.06-1.54	-1.43-2.37	-61-0.37	-1.71-1.92	
160	-1.02-1.66	-2.18-3.26	-4.28-5.62	-6.28-6.89	-7.69-6.44	-6.12-7.07	-3.58-3.59	-2.98-2.46	-1.75-0.52	-4.09-0.46	-1.75-10.5	-8.47-6.4	-2.72-5.97	-10.02-10.24	-5.64-2.21	-2.64-1.68	-0.92-1.09		
170	-1.29-2.43	-3.08-3.16	-3.61-5.17	-6.71-7.48	-7.91-8.76	-9.18-8.14	-7.07-6.1	-5.19-3.93	-3.44-2.77	-2.46-2.9	-3.31-3.61	-3.98-5.31	-6.59-8.29	-9.05-8.76	-7.58-5.87	-4.95-4.37	-3.27-2.48	-1.11-1.27	
180	-3.14-3.49	-4.23-5.16	-6.28-7.18	-8.79-10.54	-11.07-12.22	-11.66-10.69	-10.15-9.81	-8.15-6.32	-5.22-4.8	-4.54-4.01	-4.11-4.67	-5.71-7.45	-9.52-10.79	-10.81-11.77	-11.39-9.69	-7.95-7.58	-6.89-6.15	-5.07-5.2	
Freq(Hz)	5.785GPol.	Phi-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DG(dB)	Phi(0)*Phi(10)	Phi(20)*Phi(30)	Phi(40)*Phi(50)	Phi(60)*Phi(70)	Phi(80)*Phi(90)	Phi(100)*Phi(110)	Phi(120)*Phi(130)	Phi(140)*Phi(150)	Phi(160)*Phi(170)	Phi(180)*Phi(190)	Phi(200)*Phi(210)	Phi(220)*Phi(230)	Phi(240)*Phi(250)	Phi(260)*Phi(270)	Phi(280)*Phi(290)	Phi(300)*Phi(310)	Phi(320)*Phi(330)	Phi(340)	
0	-10.71-9.08	-6.91-6.45	-2.96-1.83	-0.260.22	0.750.94	0.66-0.06	-0.51-1.81	-3.59-5.81	-8.31-10.93	-11.06-8.87	-6.45-4.71	-2.71-1.22	-0.30.16	0.450.58	0.580.11	-0.38-1.77	-4.02-6.6	-8.59-8.83	
10	-11.11-1.01	-7.94-5.61	-4.19-3.29	-1.79-0.63	-0.130.24	0.23-0.25	-0.19-1.78	-2.9											



# Radiated Composite Gain Data of 5GHz UNII 2C~4 Mode 1

# Appendix B

θ(60°)	3.95/3.19	2.08/3.38	2.45/0.75	0.57/1.33	2.54/2.99	1.74/0.92	2.34/2.81	2.81/1	0.81/3.65	3.69/4.43	3.83/2.99	1.05/2.2	1.77/0.9	0.73/1.89	0.32/0.9	-0.47/1.18	2.45/2.5	3.42/2.92
θ(70°)	4.41/3.41	2.33/3.28	1.93/0.22	2.28/1.45	2.22/3.01	2.44/1.71	2.89/1.83	1.78/0.31	0.54/3.36	3.76/3.74	4.13/3.92	1.89/3.24	3.87/2.19	3.35/3.63	1.32/2.56	2.41/3.06	3.28/3.63	5.24/5.03
θ(80°)	5.01/3.2	2.84/4.31	2.96/1.42	3.92/2.62	3.86/3.41	4.62/2.59	3.56/1.58	1.25/2.33	3.02/4.07	5.43/4.68	4.71/4.19	2.04/4.25	5.89/3.81	3.26/3.44	3.36/4.25	4.1/3.88	3.47/4.41	5.32/5.08
θ(90°)	4.99/2.63	3.32/5.17	2.33/1.71	3.97/2.21	3.06/3.42	3.03/2.94	3.58/3.71	1.57/3.98	2.47/4.17	6.17/4.86	6.09/6.35	3.75/3.49	6.46/4.2	3.55/2.79	2.55/4.22	5.49/3.01	4.05/6.76	6.23/4.7
θ(100°)	4.75/2.34	2.07/3.64	0.91/4.4	3.56/3.56	4.07/4.19	3.63/3.69	3.77/2.69	-0.69/2.91	2.61/2.99	5.49/2.44	4.5/5.28	3.28/1	5.98/3.95	3.52/1.52	2.72/4.07	4.19/0.79	4.19/6.56	5.82/5.63
θ(110°)	4.37/3.1	3.22/4.65	3.11/2.99	2.99/3.52	3.77/3.98	2.83/3.96	3.48/3.07	2.68/3.35	1.58/2.18	3.13/2.26	3.36/3.22	3.08/0.21	2.99/0.82	1.67/0.29	2.74/2.44	0.28/0.04	2.67/3.74	1.9/1.85
θ(120°)	4.18/4.48	3.25/1.69	1.01/0.01	0.35/0.62	0.91/0.33	0.21/1.87	2.15/2.14	2.56/3.96	2.49/2.61	3.51/3.08	1.83/1.98	1.66/0.86	2.33/1.88	-3.06/0.83	0.39/1.86	0.82/1.74	2.83/2.05	1.49/1.16
θ(130°)	4.32/2.35	2.74/2.3	0.12/0.29	0.69/0.9	1.4/0.34	-0/0.71	-0.96/0.36	-0.61/2.58	2.79/1.42	2.77/2.12	2.56/1.57	-0.05/0.69	0.65/3.04	1.04/0.63	0.58/3.05	0.79/1.98	0.46/2.6	2.42/2.05
θ(140°)	2.99/3.74	2.53/2.15	1.82/0.87	-0.14/1.5	-1.03/2.47	-2.23/1.7	-2.5/0.66	-2.05/2.68	-0.93/1.55	0.98/1.26	-0.37/2.11	-4.57/1.19	-1.34/3.78	-3.45/7.97	-3.96/0.16	-3.96/5.91	-4.46/0.4	0.87/0.7
θ(150°)	-1.1/0.3	-1.7/1.36	-1.07/1.19	-2.66/3.46	-4.91/6.91	-3.82/2.12	-2.33/1.67	-2.08/2.18	-2.63/3.72	-3.55/0.79	-0.34/2.95	-4.01/0.01	0.04/3.56	-5.88/7.56	-4.41/1.82	-1.67/7.35	-6.61/0.89	0.31/0.06
θ(160°)	-0.66/0.75	-0.95/2.29	-4/4.1	-3.81/4.9	-5.58/5.54	-5.12/3.82	-4.11/4	-3.47/1.69	-0.37/0.98	-1.61/0.97	0.42/0.71	-0.18/1.85	-3.87/6.09	-7.05/7.99	-7.03/4.15	-2.17/1.07	-0.37/0.15	0.65/0.33
θ(170°)	-0.55/1.05	-1.02/1.17	-1.69/3.06	-4.49/5.09	-6.03/7.11	-8.14/7.67	-6.26/5.43	-4.36/2.65	-1.33/0.81	-0.98/1.95	-3.21/4.58	-5.24/4.95	-5.66/6.95	-8.07/7.89	-6.39/5.86	-4.95/3.92	-3.49/2.5	-0.95/1.62
θ(180°)	-2.93/2.67	-2.38/2.86	-4.52/4.83	-5.38/6.94	-9.6/11.04	-12.42/11.5	-11.3/9.68	-7.69/5.89	-4.76/3.62	-2.79/2.3	-2.24/2.6	-3.03/3.88	-5.43/7.14	-9.17/9.77	-10.27/12.52	-11.77/9.96	-8.8/6.02	-4.47/4.94



# Radiated Composite Gain Data of 5GHz UNII 2C~4 Mode 1

# Appendix B

## Gain Result

Freq(Hz)	5.6GPol.	PhiAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)	-	-
Theta(0°)	-14.65/-13.9	-12.89/-11.66	-11.24/-9.57	-8.61/-7.69	-7.84/-8.72	-9.79/-9.77	-9.92/-10.94	-12.38/-14.3	-17.18/-18.52	-18.96/-17.27	-14.43/-11.65	-9.38/-8.6	-11.58/-11.01	-8.89/-9.37	-10.29/-10.66	-10.28/-10.91	-13.58/-14.08	-17.19/-17.15	-	-
Theta(10°)	-13.42/-13.15	-13.77/-12.86	-11.92/-10.26	-9.37/-7.76	-6.98/-7.26	-7.62/-8.23	-8.52/-9.19	-9.51/-10.07	-11.23/-13.92	-19.48/-18.82	-12.65/-9.01	-6.88/-6.56	-6.66/-7.37	-7.93/-8.36	-8.56/-7.92	-7.94/-7.71	-7.86/-8.36	-9.53/-9.56	-	-
Theta(20°)	-9.81/-12.63	-14.45/-12.51	-10.33/-8.86	-8.27/-8.16	-7.25/-6.94	-7.06/-7.35	-7.2/-7.18	-8.21/-9.97	-13.32/-16.74	-17.88/-17.61	-17.35/-15.74	-14.8/-15.77	-16.36/-16.03	-18.23/-18.56	-19.08/-13.52	-9.14/-6.72	-5.11/-4.92	-5.58/-5.56	-	-
Theta(30°)	-12.26/-13.79	-17.23/-18.7	-13.14/-9.48	-6.78/-5.26	-4.98/-5.2	-6.38/-6.54	-7.94/-10.45	-13.8/-17.05	-17.17/-16.88	-18.95/-18.83	-18.01/-17.62	-17.9/-18.11	-14.82/-9.79	-5.95/-5.54	-5.65/-5.51	-7.18/-10.1	-12.06/-12.08	-	-	-
Theta(40°)	-11.03/-8.37	-11.21/-19.62	-16.82/-11.15	-7.77/-4.86	-3.64/-4.02	-5.28/-6.03	-5.83/-6.07	-7.14/-7.88	-9.26/-11.49	-14.74/-18.94	-18.21/-17.8	-14.43/-7.88	-4.54/-4.24	-4.26/-2.66	-2.66/-3.84	-4.4/-6.51	-7.95/-11.68	-17.77/-17.82	-	-
Theta(50°)	-15.19/-12.61	-15.83/-18.88	-17.02/-15.47	-10.71/-5.06	-4.2/-6.06	-11.47/-15.61	-13.13/-8.69	-6.63/-6.66	-8.73/-12.24	-15.53/-18.67	-17.38/-18.08	-11.3/-5.3	-3.45/-4.2	-5.44/-4.05	-2.87/-2.11	-3.32/-4.81	-6.94/-12.14	-19.51/-19.55	-	-
Theta(60°)	-16.13/-14.58	-13.92/-18.68	-13.12/-16.2	-13.03/-5.13	-4.74/-7.69	-13.34/-14.7	-9.64/-6.12	-8.11/-4.71	-6.71/-11.2	-17.28/-18.01	-19.14/-18.92	-12.58/-6.38	-4.25/-4.94	-5.89/-4.37	-3.99/-5.01	-6.56/-8.34	-8.94/-8.21	-12.57/-12.56	-	-
Theta(70°)	-10.8/-14.03	-15.39/-18.26	-14.83/-13.5	-11.57/-7.73	-6.85/-7.49	-9.5/-8.71	-6.15/-4.74	-6.31/-8.6	-9.84/-11.08	-18.18/-18.77	-16.4/-10.76	-9.71/-7.43	-4.85/-5.39	-8.13/-9.2	-6.51/-6.88	-11.64/-11.61	-5.84/-4.35	-8.3/-8.15	-	-
Theta(80°)	-9.36/-11.02	-11.76/-11.09	-11.86/-11.91	-7.91/-6.39	-8.17/-7.53	-5.81/-4.92	-4.78/-5.7	-8.65/-9.5	-12.26/-16.33	-19.47/-13.77	-12.1/-9.04	-8.02/-9.59	-6.62/-4.87	-9.32/-8.57	-5.48/-6.92	-10.18/-6.18	-3.05/-3.45	-6.67/-5.69	-	-
Theta(90°)	-9.2/-10.1	-9.62/-9.64	-10.22/-10.29	-5.47/-3.65	-5.88/-6.18	-5.01/-3.43	-4.02/-7.03	-9.73/-7.33	-9.44/-12.23	-15.68/-12.28	-9.28/-7.33	-11.39/-15.23	-5.56/-11.04	-8.51/-7.95	-5.56/-11.04	-11.59/-5.77	-3.21/-3.71	-7.65/-6.99	-	-
Theta(100°)	-16.71/-13.69	-17.55/-15.31	-18/-11.46	-2.94/-1.83	-4.36/-5.06	-4.38/-3.09	-3.48/-4.75	-8.41/-10.46	-10.39/-8.18	-7.62/-7.12	-9.39/-12.02	-17.67/-17.86	-11.76/-11.26	-14.98/-8.8	-6.48/-16.98	-11.69/-8.78	-11.18/-15.19	-17.3/-17.55	-	-
Theta(110°)	-11.68/-11.28	-15.71/-18.23	-18.33/-4.99	-2.13/-2.2	-4.41/-7.06	-4.68/-4.81	-4.77/-5.36	-9.15/-12.8	-7.91/-5.9	-6.08/-10.36	-12.12/-13.13	-16.75/-16.07	-12.51/-11.4	-16.58/-9.73	-10.55/-9.9	-8.71/-15.82	-19.16/-17.31	-16.16/-16.23	-	-
Theta(120°)	-6.11/-6.79	-14.58/-18.25	-16.97/-5.39	-1.79/-2.65	-5.79/-6.35	-4.66/-3.36	-3.82/-3.32	-16.99/-15.2	-8.66/-5.93	-6.61/-13.25	-15.34/-15.52	-18.16/-18.47	-11.55/-14.17	-17.18/-14.07	-14.37/-13.57	-12.68/-9.26	-10.86/-7.06	-6.97/-6.89	-	-
Theta(130°)	-10.77/-8.83	-13.11/-14.58	-18.46/-8.89	-4.84/-3.8	-4.18/-4.85	-5/-2.81	-3.03/-4.03	-5.19/-5.78	-7.12/-11.19	-15.97/-15.29	-12.45/-16.49	-19.29/-18.99	-12.58/-6.85	-7.77/-10.68	-10.35/-8.35	-9.18/-10.71	-11.62/-9.63	-16.04/-16.12	-	-
Theta(140°)	-8.51/-12.93	-12.98/-12.81	-11.41/-16.69	-13.79/-7.54	-5.47/-5.8	-5.91/-7.33	-10.24/-11.09	-10.57/-6.33	-9.44/-14.79	-13.05/-17	-15.29/-11.89	-8.44/-10.83	-13.42/-16.42	-17.04/-16.36	-14.14/-12.2	-13.16/-13.07	-13.26/-17.03	-15.26/-15.35	-	-
Theta(150°)	-7.18/-9.94	-12.16/-14.24	-11.47/-9.94	-11.92/-17	-5.48/-8.84	-6.89/-6.68	-11.92/-17	-10.71/-13.22	-18.07/-19.1	-14.53/-9.4	-13.89/-17.88	-8.84/-8.7	-11.81/-9.92	-14.28/-10.79	-12.45/-16.28	-18.18/-11.25	-6.99/-7.65	-8.22/-8.38	-	-
Theta(160°)	-12.82/-11.58	-12.08/-13.74	-11.3/-7.32	-6.66/-7.11	-7.92/-7.88	-6.73/-5.56	-5.51/-5.37	-5.56/-7.03	-10.16/-13.19	-18.65/-15.29	-9.06/-5.91	-3.73/-3.62	-6.31/-8.87	-12.5/-14.44	-14.69/-18.88	-13.12/-9.01	-6.77/-7.33	-10.58/-10.68	-	-
Theta(170°)	-16.99/-13.55	-11.65/-11.43	-10.45/-9.43	-8.5/-8.19	-8.37/-8.54	-9.09/-8.78	-8.83/-9.58	-10.99/-15.53	-18.08/-17.57	-11.82/-9.04	-8.82/-9.88	-14.15/-16.68	-14.89/-14.29	-14.99/-13.91	-13.52/-14.26	-15.28/-13.58	-11.77/-12.65	-18.42/-18.55	-	-
Theta(180°)	-15.83/-16.26	-16.58/-14.99	-13.88/-14.22	-13.68/-14.2	-15.25/-16.44	-19.2/-17.37	-17.56/-17.79	-17.62/-18.07	-18.73/-18.69	-19.09/-18.17	-19.02/-17.18	-14.87/-13.4	-15.22/-16.69	-18.04/-18.37	-18.98/-17.98	-17.99/-19.43	-17.73/-18.75	-16.83/-16.83	-	-
Freq(Hz)	5.6GPol.	ThetaAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)	-	-
Theta(0°)	-9.06/-9.14	-9.51/-10.07	-10.17/-12.7	-14.31/-16.05	-17.01/-19.29	-10.33/-10.65	-19.78/-12.77	-8.88/-8.69	-4.48/-4.4	-1.11/-12.42	-12.43/-11.33	-14.15/-13.42	-15.13/-13.43	-12.43/-11.42	-12.43/-11.42	-12.43/-11.42	-12.43/-11.42	-12.43/-11.42	-	-
Theta(10°)	-5.33/-5.7	-6.2/-6.97	-7.34/-7.9	-10.17/-11.16	-12.23/-13.48	-13.78/-12.92	-12.72/-12.48	-11.41/-10.64	-9.53/-8.82	-8.52/-7.98	-8.73/-10.63	-14.22/-18.39	-18.79/-17.7	-15.42/-12.58	-10.9/-9.4	-7.92/-6.56	-5.73/-4.97	-5.02/-5.08	-	-
Theta(20°)	-3.36/-3.58	-3.24/-3.4	-4.27/-3.65	-8.93/-11.87	-14.24/-14.81	-14.11/-13.88	-14.84/-14.79	-14.11/-16.02	-18.94/-14.96	-12.74/-13.67	-18.07/-18.31	-12.99/-18.33	-15.1/-13.85	-11.14/-9.49	-8.52/-8.85	-9.27/-8.29	-5.74/-3.51	-2.72/-2.76	-	-
Theta(30°)	-0.36/-1.84	-2.89/-2.71	-3.65/-4.96	-6.11/-8.13	-11.45/-13.1	-14.36/-12.29	-9.72/-10.01	-10.54/-10.34	-12.35/-15.35	-16.04/-12.63	-11.98/-12.21	-15.64/-14.61	-10.13/-6.78	-12.13/-15.22	-6.69/-4.1	-9.02/-6.16	-2.25/-2.25	-	-	-
Theta(40°)	0.3/-1.83	-3.16/-1.78	-2.2/-2.83	-4.96/-10.32	-18.49/-13.1	-9.92/-8.3	-6.99/-7.2	-8.8/-11.64	-14.46/-15.06	-15.84/-14.53	-17.25/-16	-12.64/-15.59	-18.36/-18.66	-12.87/-13.63	-11.6/-6.57	-4.3/-3.49	-1.78/-0.11	0.91/0.86	-	-
Theta(50°)	0.79/-1.04	-5.05/-2.85	-1.27/-2.41	-5.88/-10.33	-18.79/-12.67	-8.3/-5.75	-5.79/-7.9	-9.73/-8.89	-13.91/-12.87	-10.01/-8.51	-10.11/-18.26	-17.87/-16.34	-16.49/-14.8	-11.19/-9.42	-6.72/-3.94	-2.27/-1.59	-0.44/-0.45	-0.09/-0.11	-	-
Theta(60°)	-0.06/-0.65	-5.91/-4.19	-1.23/-3.65	-6.29/-6.9	-14.9/-12.69	-5.28/-5.67	-10.73/-7.66	-4.26/-5.48	-10.83/-10.72	-7.03/-5.24	-11.89/-14.87	-6.14/-5.84	-6.4/-5.84	-3.19/-1.85	-2.58/-2.54	-3.09/-3.41	-0.00/-0.35	-	-	-
Theta(70°)	-0.75/-1	-5.24/-3.89	0.09/-3.17	-4.39/-3.2	-7.01/-8.64	-5.09/-4.49	-5.59/-4.62	-2.38/-3.37	-5.14/-7.19	-6.99/-4.29	-4.86/-6.68	-4.99/-3.51	-9.01/-10.43	-7.5/-5.86	-4.12/-2.27	-1.58/-2.14	-1.71/-0.45	-1.23/-1.25	-	-
Theta(80°)	0.13/-0.07	-5.38/-4.57	-0.28/-4.41	-1.19/-0.77	-3.17/-2.62	-3.91/-7.04	-6.23/-4	-0.95/-0.75	-1.09/-2.23	-5.04/-3.49	-5.22/-5.79	-6.95/-2.62	-4.8/-15.34	-10.34/-6.2	-3.71/-2.69	-0.38/-2.55	-1.41/-0.19	-0.01/-0.11	-	-
Theta(90°)	-1.42/-3.23	-8.38/-6.53	-2.93/-7.88	-1.12/-2.23	-7.77/-2.91	-5.4/-6.23	-5.15/-4.17	-0.84/-0.33	-1.47/-3.09	-3.92/-3.5	-3.25/-4.72	-7.72/-5.27	-2.02/-11.69	-10.51/-5.64	-7.52/-3.66	-2.16/-5.99	-0.61/0.89	0.84/-1.34	-	-
Theta(100°)	-2.71/-2.45	-4.46/-5.55	-5.04/-13.67	-2.45/-2.32	-3.34/-3	-6.57/-10.22	-7.06/-3.5	-0.32/-0.4	-1.89/-4.39	-4.98/-2.66	-5.87/-3.41	-4.4/-2.98	-1.51/-19.56	-6.88/-12.95	-6.52/-8.51	-4.49/-7.58	-1.77/-0.77	-0.72/-0.85	-	-
Theta(110°)	-4.49/-3.21	-4.61/-2.75	-2.99/-7.2	-1.94/-0.99	-2.3/-0.31	-2.34/-4.95	-3.76/-1.12	0.64/0.7	-0.39/-1.3	-1.14/-2.57	-4.65/-4.4	-5.43/-10.15	-5.21/-12.93	-5.95/-18.12	-9.79/-7.58	-8.62/-11.1	-4.74/-7.48	-2.7/-2.8	-	-
Theta(120°)	-10.47/-6.67	-8.36/-6.08	-6.24/-12.98	-5.67/-4.47	-6.98/-6.42	-4.92/-4.29	-4.8/-2.52	-0.96/-1.23	-1.79/0.34	1.43/0.24	-1.83/-3.56	-1.43/-7.19	-9.6/-17.95	-6.2/-11.98	-11.1/-10.49	-9.94/-17.95	-11.99/-13.66	-13.53/-13.64	-	-
Theta(130°)	-16.43/-13.11	-9.51/-9.42	-12.34/-18.58	-12.69/-7.61	-7.83/-12.01	-10.33/-6.77	-4.3/-3.25	-3.07/-4.15	-4.3/-3.25	-1.81/-1.83	-3.4/-2	-2.56/-18.09	-12.09/-13.68	-7.69/-16.52	-11.11/-10.29	-10.65/-16.97	-11.11/-13.57	-14.49/-14.64	-	-
Theta(140°)	-13.91/-9.88	-10.01/-10.6	-11.42/-14.87	-16.13/-17.88	-16.79/-14.38	-18.97/-8.36	-3.72/-4.42	-4.66/-3.38	-2.82/-1.08	-2.48/-1.7	-9.36/-13.55	-7.81/-12.19	-15.24/-13.17	-18.61/-14.55	-12.46/-12.05	-17.56/-13.72	-17.06/-17.89	-15.33/-15.46	-	-
Theta(150°)	-15.5/-7.4	-5.82/-7.1	-7.61/-11.12	-16.06/-13.49	-12.09/-13.18	-18.28/-15.65	-7.17/-3.87	-2.4/-2.09	-3.25/-5.79	-9.08/-5.13	-3.45/-4.94	-5.3/-5.96	-10.35/-10.11	-14.35/-10.68	-13.58/-13.62	-13.46/-12.11	-18.26/-18.85	-14.87/-14.89	-	-
Theta(160°)	-10.88/-12.59	-12.57/-12.31	-13.89/-16.79	-9.33/-8.04	-9.32/-10.9	-10.91/-9.15	-7.22/-5.84	-1.58/-0.05	-6.07/-4.44	-1.69/-0.05	-17.31/-9.17	-15.26/-18.44	-14.58/-15.08	-17.11/-19.31	-10.73/-8.73	-10.78/-8.73				



# Radiated Composite Gain Data of 5GHz UNII 2C~4 Mode 1

# Appendix B

φ (60°)	0.531-1.66	-51-164	-0.64-3.34	-2.791-7.56	-6.391-3.55	-3.851-4.97	-7.015-5.93	-5.317-9.2	-8.729-9.64	-10.261-8.86	-10.17-22.2	-17.831-8.11	-11.141-13.68	-7.491-3.93	-6.551-5.64	-2.641-1.58	-1.270-0.2	-0.541-0.55
θ (70°)	1.590	-4.61-2.46	-1.361-4.85	-0.821-3.73	-6.311-2.08	-2.771-4.47	-4.541-4.91	-5.131-6.26	-6.611-8.62	-10.171-6.82	-7.131-9.86	-16.741-4.9	-6.411-9.2	-6.361-3.75	-5.391-3.07	-0.371-1.52	-2.451-0.41	0.151-0.16
θ (80°)	2.51-3.35	-1.881-0.7	-1.21-2.87	0.971-1	-1.631-2.05	-2.41-2.14	-1.881-7.73	-2.121-8.2	-3.761-5.6	-7.151-4.93	-2.611-4.98	-2.881-5.02	-2.811-4.91	-2.271-3.02	-2.611-1.44	1.281-2.50	-2.541-0.59	0.311-0.18
θ (90°)	-0.071-0.35	-3.521-2.01	-4.691-2.12	1.041-2.44	-1.131-2.97	-3.411-1.6	-3.591-4.69	-3.841-1.54	-1.111-1.7	-2.841-3.41	-3.911-2.7	-5.191-5.67	-1.561-6.02	-19.121-6.25	-3.851-2.48	1.361-5.52	0.831-1.7	1.171-0.32
θ (100°)	-1.461-2.32	-6.681-6.23	-11.551-3.43	0.451-1.12	0.291-0.8	-3.621-1.19	-2.481-4.44	-4.241-1.03	0.201-0.6	-1.231-2.98	-2.791-1.65	-4.441-8.28	-0.851-4.03	-8.961-10.44	-5.171-5.31	-2.241-9.8	-2.451-0.48	-0.591-0.64
θ (110°)	-2.581-0.89	-3.011-1.9	-4.841-7.78	-1.531-1.26	1.521-0.24	-1.591-1.08	-1.021-2.85	-2.911-2.29	-0.851-0.06	-2.121-2.51	-2.011-1.73	-3.261-1.46	-1.411-5.14	-3.261-1.73	-7.021-9.96	-8.281-7.05	-3.161-3.18	-2.861-2.94
θ (120°)	-6.81-3.08	-6.281-6.16	-6.161-6.22	-4.041-4.51	-3.771-5.36	-5.211-1.42	0.411-0.39	0.111-0.58	0.711-0.88	-0.311-1.2	-2.521-5.33	-1.921-3.62	-5.361-11.97	-6.191-13.41	-9.651-11.43	-8.531-17.29	-8.441-13.6	-16.781-17.64
θ (130°)	-101-6.69	-6.191-9.7	-14.491-13.66	-8.641-3.71	-3.411-5.17	-7.211-8.89	-8.581-5.05	-2.651-0.58	-0.061-0.75	-0.721-0.83	-1.41-2.58	-1.711-16.25	-10.21-7.75	-5.751-13.65	-10.421-10.19	-9.531-17.27	-18.691-17.7	-15.831-15.94
θ (140°)	-11.191-8.76	-8.51-8.13	-13.281-17.29	-17.651-13.55	-10.071-7.81	-6.351-5	-4.61-5.25	-5.071-4.6	-3.011-2.05	-2.771-2.69	-4.881-5.99	-16.291-13.26	-13.041-10.81	-11.951-15.55	-12.021-17.85	-16.291-13.26	-13.041-10.81	-11.951-15.55
θ (150°)	-15.681-8.8	-10.021-12.41	-18.281-17.98	-16.081-18.22	-18.611-11.91	-5.291-2.73	-1.981-1.7	-2.251-2.61	-3.341-4.55	-5.871-9.99	-7.031-5.04	-5.961-4.95	-9.181-18.3	-10.991-16.11	-19.161-18.96	-18.931-18.66	-16.871-10.17	-6.91-7.5
θ (160°)	-18.471-16.36	-15.151-18.25	-18.361-16.27	-11.551-8.71	-8.31-10.38	-12.691-9.17	-6.291-5	-4.851-3.87	-2.641-1.95	-1.421-1.13	-0.141-0.3	-0.91-4.12	-9.861-14.49	-15.851-13.53	-14.551-18.64	-17.741-11	-9.411-10.95	-10.671-10.54
θ (170°)	-141-11.1	-9.251-10.33	-13.071-15.29	-16.521-15.14	-14.621-12.51	-11.31-10.14	-7.361-6.99	-5.311-4.21	-3.731-5.75	-18.041-10.4	-7.361-9.92	-10.051-9.52	-11.721-17.09	-18.251-18.61	-18.041-18.39	-19.11-18.33	-17.991-15.26	-12.291-13.11
θ (180°)	-18.911-18.1	-19.041-18.5	-17.551-16.52	-14.911-14.35	-14.011-16.09	-17.891-18.49	-19.11-18.75	-18.941-18.71	-181-15.48	-12.521-11.22	-10.991-11.09	-11.321-12.11	-13.71-15.28	-18.881-18.88	-17.761-19.03	-19.321-19.05	-18.921-18.48	-18.611-18.64
Freq(Hz)	5.6GPol.	PhiAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	φ(0°)φ(10°)	φ(20°)φ(30°)	φ(40°)φ(50°)	φ(60°)φ(70°)	φ(80°)φ(90°)	φ(100°)φ(110°)	φ(120°)φ(130°)	φ(140°)φ(150°)	φ(160°)φ(170°)	φ(180°)φ(190°)	φ(200°)φ(210°)	φ(220°)φ(230°)	φ(240°)φ(250°)	φ(260°)φ(270°)	φ(280°)φ(290°)	φ(300°)φ(310°)	φ(320°)φ(330°)	φ(340°)φ(350°)
θ (0°)	-15.561-12.25	-8.981-6.44	-4.741-3.11	-1.921-1.33	-1.521-1.58	-1.381-1.73	-2.451-3.69	-5.511-7.5	-10.371-13.53	-17.741-14.11	-8.791-6.32	-4.781-3.67	-2.711-2.07	-1.791-1.95	-2.241-2.65	-3.851-4.86	-6.341-8.43	-13.391-13.75
θ (10°)	-12.941-12.93	-10.671-7.2	-5.211-6.44	-4.561-3.46	-1.911-0.88	-0.631-1.13	-1.981-3.02	-4.491-6.25	-8.441-10.44	-11.891-10.79	-7.931-5.14	-3.21-2.18	-1.121-0.7	-0.771-1.17	-1.931-3.04	-4.391-6.45	-8.521-11.31	-14.641-15.54
θ (20°)	-17.581-17.78	-14.731-11.59	-8.421-6.35	-5.061-3.82	-3.381-2.56	-1.521-1.89	-4.821-7.57	-9.851-11.23	-10.341-8.77	-4.781-6.14	-6.951-5.62	-5.551-6.7	-6.91-7.27	-7.851-8.26	-9.831-13.21	-15.321-15.64		
θ (30°)	-14.431-14.79	-14.461-12.71	-9.421-7.71	-5.131-3.38	-2.311-2.31	-2.631-1.91	-2.411-4.61	-7.591-15.4	-18.521-18.72	-18.071-12.04	-9.661-8.04	-7.611-10.43	-11.631-8.7	-6.721-7.2	-8.891-9.07	-8.651-8.93	-9.671-10.76	-13.111-13.56
θ (40°)	-19.361-18.12	-19.011-15.74	-111-8.27	-6.381-7.63	-6.311-5.24	-3.921-3.22	-2.881-4.26	-8.521-10.54	-18.71-19.01	-18.411-19.01	-12.361-10.02	-7.391-5.43	-6.621-5.67	-6.731-5.66	-7.191-7.34	-7.671-8.65	-12.291-16.49	-15.641-15.92
θ (50°)	-19.861-14.86	-11.011-9.37	-10.111-12.05	-12.341-9.53	-5.491-4.3	-4.771-10.94	-12.951-13.44	-18.871-16.75	-12.521-7.5	-4.981-3.48	-12.951-10.55	-16.91-18.34	-8.921-8.89	-4.311-9.28	-7.331-4.11	-4.461-5.43	-7.411-10.48	-14.461-15.52
θ (60°)	-17.691-14.4	-11.581-10.03	-10.291-11.75	-13.811-12.08	-8.631-3.74	-3.091-4.1	-6.671-10.77	-13.311-16.2	-14.051-15	-14.971-17.65	-11.591-8.5	-4.681-5.29	-4.451-3.85	-2.61-5.04	-10.891-6.68	-3.551-4.1	-5.961-8.3	-11.241-12.35
θ (70°)	-17.941-13.22	-10.451-8.87	-7.211-5.95	-6.331-6.68	-5.911-4.6	-3.151-3.21	-5.431-10.94	-17.91-17.19	-15.081-12.39	-12.571-12.45	-7.291-4.03	-5.171-3.13	-8.051-7.25	-5.51-5.01	-6.721-4.42	-3.931-5.59	-6.191-7.32	-9.621-9.85
θ (80°)	-18.731-17.96	-12.521-8.18	-6.451-5.47	-6.051-5.43	-4.021-3.64	-4.771-10.94	-15.041-15.55	-16.91-18.34	-18.881-17.67	-8.451-4.16	-10.371-10.66	-6.821-7.64	-9.411-9.66	-7.331-4.11	-4.461-5.43	-7.411-10.48	-14.461-15.52	
θ (90°)	-9.831-11.72	-9.831-6.7	-7.21-8.8	-7.151-3.59	-3.191-5.49	-7.021-4.14	-3.991-9.55	-18.111-14.35	-13.331-18.73	-18.191-17.15	-13.381-7.2	-3.11-5.57	-8.791-8.71	-7.451-12.61	-6.521-7.75	-11.691-12.65	-10.861-10.92	
θ (100°)	-9.131-8.87	-12.311-10.41	-6.981-6.61	-3.891-4.01	-9.111-17.68	-14.941-10.08	-5.671-8.67	-12.561-10.43	-11.181-12.55	-13.171-11.52	-13.121-14.88	-13.551-13.11	-16.241-13.44	-13.931-15.3	-11.621-7.88	-12.671-18	-18.281-12.45	-9.581-9.82
θ (110°)	-9.581-9.7	-12.141-12.49	-6.541-3.29	-2.51-3.5	-7.011-7.21	-6.691-4.72	-9.811-9.6	-11.871-9.94	-13.051-18.39	-15.31-16.32	-18.71-19.55	-18.821-18.23	-16.341-10.56	-16.481-11.32	-15.821-14.4	-17.181-19.07	-18.011-11.99	-11.711-11.82
θ (120°)	-17.591-14.27	-18.051-19.34	-14.991-7.17	-13.11-1.3	-4.361-6.63	-6.211-5.17	-6.51-11	-18.341-15.13	-17.11-11.13	-7.51-9.36	-3.321-4.72	-13.381-10.62	-9.571-8.52	-6.591-7.68	-15.231-8.1	-15.421-11.91	-11.341-19.12	-18.351-19.15
θ (130°)	-18.011-17.68	-11.311-9.12	-9.051-8.2	-5.411-5.11	-9.781-8.04	-2.961-3.54	-9.431-14.14	-11.551-7.47	-8.791-8.08	-11.451-8.46	-17.291-18.85	-19.481-8.38	-9.321-4.85	-9.471-9.98	-13.031-9.71	-10.61-12.92	-14.151-17.27	-12.871-13.25
θ (140°)	-13.651-12.52	-8.261-7.08	-7.931-9.33	-13.711-13.17	-7.81-3.01	-1.871-3.14	-4.511-10.56	-9.481-7.66	-7.621-14.21	-9.891-6.96	-9.581-19.23	-18.311-14.85	-7.761-14.69	-18.021-11.12	-10.241-14.05	-16.591-15.48	-19.251-17.79	-11.491-11.52
θ (150°)	-18.651-13.7	-10.791-8.07	-8.21-7.02	-3.71-2.27	-1.851-1.91	-3.841-8.09	-1.831-10.06	-6.51-7.35	-8.751-10.44	-6.521-9.15	-13.161-18.17	-16.551-13.96	-9.941-10.86	-15.21-11.94	-14.481-14.93	-19.181-19.82		
θ (160°)	-18.241-18.35	-14.011-9.86	-61-9.42	-4.721-5.21	-6.021-6.44	-6.021-6.66	-6.281-7.03	-7.791-11.05	-16.391-18.17	-19.171-18.56	-16.711-11.04	-9.791-9.8	-11.591-12.33	-10.681-8.34	-8.081-7.09	-7.561-5.59	-6.631-7.71	-9.221-9.16
θ (170°)	-16.051-18.31	-17.811-12.01	-8.971-7.03	-5.971-4.55	-3.281-2.71	-2.641-3.12	-3.961-5.21	-7.581-11.46	-16.841-18.91	-17.991-18.81	-17.991-14.74	-13.291-12.83	-12.661-10.92	-7.671-6.12	-4.641-7.56	-7.441-9.62	-6.831-7.04	-7.421-7.52
θ (180°)	-18.381-18.24	-18.561-13.26	-10.981-10.43	-9.231-7.57	-18.131-18.65	-9.71-13.81	-17.11-19.01	-18.531-18.31	-17.11-19.01	-14.531-18.44	-14.531-18.44	-16.411-14.37	-13.521-12.03	-12.781-12.49	-12.711-12.1	-12.031-14.37	-18.461-18.52	
Freq(Hz)	5.6GPol.	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	φ(0°)φ(10°)	φ(20°)φ(30°)	φ(40°)φ(50°)	φ(60°)φ(70°)	φ(80°)φ(90°)	φ(100°)φ(110°)	φ(120°)φ(130°)	φ(140°)φ(150°)	φ(160°)φ(170°)	φ(180°)φ(190°)	φ(200°)φ(210°)	φ(220°)φ(230°)	φ(240°)φ(250°)	φ(260°)φ(270°)	φ(280°)φ(290°)	φ(300°)φ(310°)	φ(320°)φ(330°)	φ(340°)φ(350°)
θ (0°)	-1.151-1.26	-1.781-2.73	-3.911-5.26	-7.631-10.44	-13.711-17.1	-15.881-16.45	-11.891-8.37	-2.971-2.25	-2.771-1.17	-2.471-3.33	-2.471-3.33	-4.561-6.3	-9.671-14.71	-18.061-18.09	-11.431-7.57	-5.291-3.65	-2.81-2.03	-1.691-1.72
θ (10°)	-3.111-4.2	-5.311-6.22	-6.891-8.46	-11.221-13.78	-15.171-14.85	-11.351-8.61	-5.541-3.89	-3.431-2.36	-1.121-0.16	0.131-0.18	-0.171-0.78	-1.431-2.52	-4.591-8.46	-15.131-18.74	-9.211-9.26	-7.251-5.6	-4.61-3.94	-3.391-3.52
θ (20°)	-7.091-8.32	-10.511-11.72	-10.711-10.85	-121-10.96	-13.631-17.93	-16.091-9.82	-5.761-3.78	-2.891-2.53	-3.181-3.74	-3.231-3.14	-4.341-6.21	-6.691-6.75	-7.031-9.07	-13.181-9.1	-18.91-16.57	-15.111-11.1	-9.231-8.15	-8.111-8.82
θ (30°)	-12.261-11.69	-17.111-17.76	-17.911-18.84	-18.511-13.5	-15.171-15.22	-16.761-8.18	-3.951-4.27	-5.171-3.67	-2.561-2.82	-3.591-4.3	-5.111-7.78	-13.951-15.76	-91-7.49	-8.691-14.55	-18.321-12.92	-9.591-8.41	-10.461-10.52	
θ (40°)	-17.411-14.94	-13.091-16.86	-16.281-12.09	-11.171-9.81	-10.631-12.85	-14.041-8.24	-3.751-2.64	-4.361-6.84	-7.521-1.28	0.211-1.9	1.11-0.82	-3.741-5.04	-6.461-10.13	-14.331-9.77	-8.131-10.22	-13.171-13.33	-16.621-14.43	-17.711-17.82
θ (50°)	-17.091-18.18	-18.651-18.97	-16.111-9.73	-8.051-7.74	-9.431-14.62	-14.41-7.12	-3.571-1.84	-4.371-9.18	-5.221-2.5	1.681-1.58	-0.011-1.78	-1.711-1.93	-31-3.71	-13.431-9.01	-7.81-9.28	-10.411-15.49	-16.461-16.31	-17.321-17.54
θ (60°)	-6.611-6.23	-5.981-6.29	-5.911-7.09	-6.581-6.14	-6.891-8.2	-3.411-2.54	-2.981-3.74	-3.911-6.87	-3.431-3.94	-4.31-0.2	-2.441-2							







# Radiated Composite Gain Data of 5GHz UNII 2C~4 Mode 1

# Appendix B

Freq(Hz)	ThetaAnt. 3	PhiAnt. 3	ThetaAnt. 4	PhiAnt. 4	ThetaAnt. 5	PhiAnt. 5	ThetaAnt. 6	PhiAnt. 6	ThetaAnt. 7	PhiAnt. 7	ThetaAnt. 8	PhiAnt. 8	ThetaAnt. 9	PhiAnt. 9	ThetaAnt. 10	PhiAnt. 10	ThetaAnt. 11	PhiAnt. 11	ThetaAnt. 12	PhiAnt. 12	ThetaAnt. 13	PhiAnt. 13	ThetaAnt. 14	PhiAnt. 14	ThetaAnt. 15	PhiAnt. 15	ThetaAnt. 16	PhiAnt. 16	ThetaAnt. 17	PhiAnt. 17	ThetaAnt. 18	PhiAnt. 18	ThetaAnt. 19	PhiAnt. 19	ThetaAnt. 20	PhiAnt. 20		
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)																				
Θ(0°)	-14.51/13.16	-12.81/14.16	-13.77/13.5	-13.17/13.9	-15.41/17.82	-18.24/18.15	-15.79/15.55	-15.1/15.11	-13.53/13.8	-12.86/14.04	-15.26/16.02	-16.24/16.2	-16.71/16.2	-17.17/17.2	-17.17/17.2	-18.19/18.09	-14.94/14.27	-13.62/13.85																				
Θ(10°)	-18.07/17.94	-15.52/11.9	-17.02/12.08	-11.83/10.44	-12.23/15.54	-17.64/18.52	-18.88/14.21	-17.98/15.48	-19.28/14.07	-18.47/17.37	-14.45/18.35	-7.9/18.63	-8.92/15.65	-15.88/8.58	-9.81/11.28	-19.02/19.54																						
Θ(20°)	-14.38/15.88	-14/13.44	-12.54/10.4	-9.97/10.01	-9.79/10.03	-8.9/7.62	-5.24/3.45	-3/3.33	-3.77/4.41	-4.87/5.73	-6.32/7.2	-6.99/5.3	-4.9/5.49	-7.41/9.24	-9.16/7.77	-7.03/7.22	-7.97/8.26	-10.86/11.52																				
Θ(30°)	-11.71/12.44	-14.53/15.1	-11.07/16.1	-8.79/9	-6.24/3.5	-3.51/4.04	-2.5/1.66	-2.32/3.66	-4.17/3.6	-3.24/4.59	-6.44/7	-2.25/6.51	-0.94/4.22	-6.57/6.41	-5.16/4.7	-5.65/6.54	-7.54/8.52	-7.54/8.52																				
Θ(40°)	-4.87/8.46	-17.81/18.86	-18.18/12.53	-10.31/11.51	-7.36/3.78	-1.71/1.94	-1.41/1.94	-3.2/3.66	-2.49/2.48	-1.29/1.71	-3.2/3.03	-2.85/0.68	-0.72/2.41	-2.57/2.85	-4.24/4.95	-3.96/4.85																						
Θ(50°)	-4.61/6.35	-7.86/6.55	-12.57/16.1	-8.01/5.08	-8/6.83	-3.3/3.95	-1.42/1.44	-1.27/0.23	0.71/0.37	-1.7/2.54	-2.79/1.83	-2.12/3.63	-5.07/1.21	-0.11/3.17	-4.44/2.02	-2.79/3.42	-2.03/0.28	-0.39/0.85																				
Θ(60°)	-5.37/6.66	-14.6/7.77	-10.16/9.28	-8.56/2.95	-8.77/3.51	-2.23/3.39	-0.91/0.65	-0.47/0.74	0.87/0.24	-0.97/1.06	-1.31/1.94	-2.74/2.54	-2.42/4.27	-3.25/3.95	-4.86/3.87	-7.7/5.61	-2.14/1.89	-1.28/2.31																				
Θ(70°)	-2.08/9.96	-18.54/12.49	-13.37/7.31	-6.49/4.51	-2.74/2.02	-2.34/7.27	-0.93/0.86	-0.86/0.2	0.23/1.65	-0.94/1.14	-3.62/1.31	0.82/2.29	-4.06/1.58	-1.47/2.11	-0.68/2.56	-1.47/2.11	-0.32/0.65																					
Θ(80°)	1.44/14.5	-11.26/5.21	-9.73/12.35	-3.97/3.67	-2.14/1.38	-0.57/4.48	-1.64/0.06	-0.14/0.02	0.21/1.02	-1.65/1.35	-0.52/0.81	-3.81/1.43	1.18/0.61	0.79/1.87	-1.92/2.06	-4.88/0.62	-1.73/1.41	0.57/0.37																				
Θ(90°)	<b>3.79/8.9</b>	-4.58/2.84	-10.73/15.85	-6.51/4.31	-4.79/2.71	-3.41/4.78	-1.93/0.69	0.04/0.3	-0.12/0.35	-1.53/1.03	0.9/0.78	-0.24/0.24	2.13/2.38	1.58/0.2	-1.93/1.2	-0.54/0.92	-3.64/0.1	0.98/2.86																				
Θ(100°)	2.71/7.06	-6.03/0.75	-10/12.3	-8.06/4.16	-7.93/4.81	-1.35/1.63	-2.64/2.71	-1.15/0.03	-0.56/0.9	-1.28/0.49	-2.34/2.17	1.98/1.75	0.41/1.64	-0.97/0.65	-1.29/4.92	-1.49/1.7	-0.76/1.23																					
Θ(110°)	0.45/19.17	-10.95/5.13	-10.79/9.38	-13.93/5.95	-12.02/4.59	-5.13/1.27	-3.99/1.88	-2.33/0.19	-1.81/0.11	-1.72/1.35	1.42/0.52	-1.68/2.66	-0.93/0.72	-3.28/0.56	-0.93/0.72	-7.93/6.1	-1.76/1.82	-1.88/1.25																				
Θ(120°)	-3.93/10.61	-8.47/15.08	-14.84/19.02	-10.89/10.82	-10.63/6.36	-8.86/5.77	-6.65/4.51	-3.58/0.61	-2/0.4	-0.25/1.41	1.9/1.5	-3.33/2.92	0.88/0.92	-6.55/4.42	-5.31/0.12	-5.27/0.73	-6.13/6.79	-19.07/19.12																				
Θ(130°)	-1.94/10.73	-12.52/6.85	-11.98/18.09	-15.84/18.97	-6.72/7.07	-9.49/9	-9.2/6.99	-6.46/2.56	-1.09/2.34	-1.11/1.21	1.45/0.1	-5.19/2.1	2.30/2.1	0.54/5.67	-1.47/2.3	-4/4.66	-6.07/6.73	-10.95/10.98																				
Θ(140°)	-6.24/4.12	-4.4/5.79	-10.35/15.87	-6.63/8.56	-5.22/5.1	-8.79/6.69	-6.62/4.43	-5.02/5.1	-5.04/1.25	-1.17/2.88	-0.69/2.5	-2.44/13.1	-3.77/3.9	-2.44/13.1	-4.66/0.34	-4.99/11.35	-14.81/6.7	-13.73/13.08																				
Θ(150°)	-9.53/8.82	-17.22/15.91	-18.89/18.84	-19.19/17.63	-10.74/12.59	-13.32/10.7	-9.26/7.87	-6.52/7.56	-6.92/8.83	-12.38/6.54	-4/2/6.24	-6.61/6.01	-5.01/4.62	-7.87/17.48	-7.11/4.09	-3.63/9.44	-1.788/8.28	-7.82/8.08																				
Θ(160°)	-18.77/19.17	-17.9/18.08	-18.28/17.42	-18.68/16.97	-13.55/14.14	-13.99/12.19	-11.29/8.35	-5.69/4.22	-4.24/5.07	-5.59/5.86	-6.24/6.27	-6.13/5.84	-11.29/17.04	-13.79/8.64	-8.81/13.32	-13.71/12.52	-13.71/12.52																					
Θ(170°)	-13.67/18.34	-18.87/14.04	-14.38/14.65	-17.37/16.95	-18.12/18.76	-17.16/13.2	-10.58/8.28	-7.23/5.86	-5.46/5.28	-5.42/6.06	-7.53/8.58	-8.42/8.67	-9.51/10.26	-12.11/13.47	-14.62/16.12	-15.41/13.48	-14.05/13.44	-17.76/15.56																				
Θ(180°)	-11.2/10.04	-8.57/9	-10/9.77	-9.67/10.43	-13.28/15.66	-19/17.25	-18.56/18.34	-13.4/11.16	-9.37/7.36	-6.81/6.77	-6.39/5.92	-6.87/8.11	-9.25/10.87	-12.33/13.82	-15.42/19.31	-19.18/17.67	-18.11/13.11	-13.73/14.85																				
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)																				
Θ(0°)	-18.23/18.78	-12.99/13.4	-12.63/12.31	-11.18/10.66	-10.72/11.32	-11.11/12.05	-14.03/16.71	-18.94/17.68	-19.07/18.32	-18.32/16.97	-16.28/14.74	-12.99/10.8	-10.33/9.83	-9.18/9.83	-10.68/13.05	-14.72/14.2	-13.98/18.84	-17.84/16.98																				
Θ(10°)	-14.29/17.89	-19.49/13.19	-11.24/10.9	-10.94/10.64	-10.51/10.53	-10.05/10.7	-11.96/16.11	-17.06/16.69	-18.76/18.91	-15.87/15.64	-14.83/14.73	-14.58/14.28	-13.56/13.73	-15.13/18.49	-19.09/18.27	-13.8/16.37	-18.91/16.12	-17.69/18.65																				
Θ(20°)	-16.31/15.54	-16.62/14.91	-15.62/14.31	-14.83/11.48	-10.23/9.74	-10.18/12.3	-14.48/14.64	-15.3/14.31	-14.8/19.09	-18.19/18.09	-17.8/18.9	-16.73/15.96	-16.61/17.45	-17.43/16.4	-18.27/17.77	-18.56/17.56	-18.25/18.65																					
Θ(30°)	-14.67/12.44	-13.48/17.76	-16.68/10.37	-10.26/11.09	-12.94/10.79	-11.86/16.08	-17.89/19.92	-17.22/18.45	-16.89/16.68	-16.44/17.45	-18.69/19.92	-17.53/14.83	-17.59/17.36	-17.39/15.65	-13.19/18.95	-17.63/17.36	-15.29/15.41	-14.59/15.85																				
Θ(40°)	-18.04/18.39	-18.96/13.21	-9.87/9.32	-12.71/18.68	-14.85/13.35	-15.57/15.66	-15.72/14.16	-13.56/18.84	-19.05/17.25	-14.85/12.49	-16.37/17.92	-15.19/14.68	-14.11/13.1	-9.44/9.23	-19.05/16.44	-10.91/13.36	-15.96/18.1	-18.95/19.12																				
Θ(50°)	-18.36/14.97	-13.24/12.32	-8.7/8.09	-13.24/18.51	-17.57/11.55	-9.96/10.61	-9.73/17.75	-19.04/18.12	-10.01/8.59	-11.76/12.23	-17.44/18.32	-15.86/16.28	-11.48/11.9	-10.82/12.43	-11.41/15.14	-15.73/18.78	-17.33/18.54																					
Θ(60°)	-14.18/17.22	-16/13.04	-14.23/18.17	-17.5/17.81	-17/17.674	-15.5/15.34	-13.43/14.94	-12.23/15.98	-6.82/5.93	-6.75/8.82	-12.85/11.97	-11.06/10.55	-11.95/11.86	-11.87/16.28	-18.64/18.05	-17.08/14.35	-18.44/17.8	-17.45/16.98																				
Θ(70°)	-14.86/17.67	-17.74/17.52	-18.54/16.15	-13.45/18.96	-18.55/17.56	-18.36/14.48	-15.08/12.47	-14.15/18.29	-8.41/7.45	-8.72/9.05	-11.69/10.8	-10.83/15.11	-18.49/13.98	-13.95/18.85	-18.22/18.42	-14.27/17.99	-18.15/13.58	-12.19/13.58																				
Θ(80°)	-18.3/14.18	-18.02/18.1	-18.89/15.72	-18.71/18.8	-18.41/16.45	-17.47/14.58	-12.38/13.3	-11.89/11.3	-17.68/13.97	-12.02/13.24	-11.81/10.46	-18.28/19.11	-18.13/19.17																									



Freq(Hz)	5.6G	5.785G	5.885G
Ant. 1 Max Gain (dBi)	1.43	2.08	2.5
Ant. 2 Max Gain (dBi)	1.66	1.91	2.89
Ant. 3 Max Gain (dBi)	2.8	3.51	3.79
Ant. 5 Max Gain (dBi)	3.64	3.64	3.29
Ant. 1 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/120/180	Theta/70/0	Theta/80/0
Ant. 2 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/50/180	Theta/50/190	Theta/50/190
Ant. 3 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/90/0	Theta/90/0	Theta/90/0
Ant. 5 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/20/20	Theta/0/180	Phi/80/290
Max Gain (dBi)	3.64	3.64	3.79
DG [1SS] (dBi)	4.83	5.25	4.95
DG [2SS] (dBi)	3.64	3.64	3.79
DG [4SS] (dBi)	3.64	3.64	3.79



Radiated Composite Gain Data of 5GHz UNII 2C~4 Mode 2

Appendix C

DG 1SS Result

Table with columns for Freq(Hz), 5.6GHz Pol, and various Phi values (Phi(0)Phi(10) to Phi(340)). It contains multiple rows of numerical data for different frequencies and polarizations.



# Radiated Composite Gain Data of 5GHz UNII 2C~4 Mode 2

# Appendix C

θ(70°)	2.98/0.89	-0.51/0.81	0.14/-2.44	-0.37/-1.05	-0.53/1	0.72/-0.29	2.37/1.98	2.12/1.49	2.34/3.42	2.66/1.86	1.94/1.41	-1.28/1.96	2.5/-0.31	0.25/0.86	-1.24/-1.1	0.1/1.71	2.54/2.83	3.59/3.25
θ(80°)	3.73/0.71	0.88/2.02	0.41/-2.13	0.97/0.1	1.76/2.33	2.49/1.13	2.62/1.9	1.31/2.32	2.93/3.79	3.52/2.52	2.88/2.33	0.2/2.4	4.07/1.28	0.54/0.29	0.57/0.84	1.63/2.57	1.46/2.28	3.21/2.95
θ(90°)	3.92/0.33	1.69/3.17	0.61/-1.35	0.42/-0.48	2.34/2.4	1.46/0.67	3.53/3.38	2.22/3.08	2.18/3.28	3.38/1.82	3.5/3.57	2.26/1.62	4.73/2.34	1.19/-0.44	-0.4/0.31	3.67/1.95	2.45/4.85	3.91/3.06
θ(100°)	3.44/0.43	0.59/2.24	-2.56/-1.8	1.11/2.53	3.14/3.04	2.11/2.5	3.53/1.97	-0.93/1.29	1.34/2.63	2.75/-0.46	2.91/2.93	1.44/0.53	4.39/1.42	1/-2.64	0.94/0.74	2.34/-1.12	2.54/4.95	3.26/2.96
θ(110°)	2.80/5.4	0.86/2.61	1.68/1.55	2.19/2.95	2.73/2.45	1.88/2.52	3.14/2.82	2.16/3.45	2.25/2.27	0.95/1.18	2.64/2.19	2.56/-0.46	1.94/3.68	-0.62/-3.33	0.1/-0.71	-2.1/-1.15	-0.57/0.49	-1.77/-2.06
θ(120°)	1.71/1.43	0.41/-0.25	0.26/-1.2	-0.02/0.36	0.36/-0.59	-1.74/0.8	2.59/3.14	3.01/3.89	2.62/2.8	1.75/1.76	0.92/-0.08	-0.05/-0.64	0.79/-2.12	-3.54/-4.48	-3.84/-1.1	-2.54/-0.36	-0.1/-2.9	-4.64/-4.83
θ(130°)	2.50/9.5	0.49/1	-1.69/-1.81	0.29/1.68	1.96/-0.93	-2.41/0.83	-1.7/-1.47	-1.54/0.21	1.2/-0.1	0.26/0.54	1.71/-0.05	-0.67/-2.45	-1.58/-0.37	1.07/-4.67	-1.75/0.72	-2.03/-2.93	-1.72/-1.92	-1.63/-2.03
θ(140°)	-0.21/1.12	1.28/1.49	0.92/0.38	0.7/-1.28	-1.91/-3.64	-3.85/2.18	-2.18/-1.72	-1.93/-2.01	-2.06/0.1	-0.21/-1.39	-0.23/-3.06	-4.47/-4.09	-4.86/-4.43	-3.09/-9.55	-4.74/-1.49	-5.35/-5.2	-7.24/-4.64	-3.53/-3.89
θ(150°)	-2.55/-1.08	-2.22/-2.27	-2.58/-2.71	-3.23/-4.79	-5.87/-7.29	-4.51/-2.37	-2.03/-1.59	-1.41/-1.28	-1.13/-2.59	-4.51/-2.2	-1.12/-2.64	-4.21/-1.15	-2.55/-6.26	-6.64/-9.57	-5.97/-4.33	-2.83/-8.23	-8.76/-4.16	-1.49/-1.82
θ(160°)	-3.18/-3.02	-3/-3.83	-4.49/-4.99	-4.99/-5.77	-5.86/-5.3	-4.39/-3.41	-4.12/-4.07	-2.94/-1.52	-0.66/-1.07	-1.58/-1.31	-0.31/0.34	-0.66/-3.03	-4.81/-5.23	-6.73/-10.3	-9.77/-7.11	-4.2/-2.52	-2.16/-1.83	-0.99/-1.21
θ(170°)	-3.22/-3.23	-2.7/-2.48	-3.2/-3.8	-4.55/-4.92	-6.45/-7.67	-8.3/-7.77	-6.1/-4.57	-3.48/-2.48	-2/-1.79	-2.16/-3.24	-4.29/-5.25	-5.27/-4.86	-5.69/-7.43	-9.48/-10.7	-8.9/-8.52	-8.52/-7.54	-7.28/-5.81	-3.9/-4.4
θ(180°)	-6.93/-6	-5.58/-5.93	-7.12/-6.8	-6.89/-7.49	-8.24/-10.14	-11.79/-11.54	-12.75/-11.72	-10.31/-9.44	-8.24/-6.89	-5.79/-5.37	-5.2/-5.17	-5.49/-5.96	-6.88/-7.86	-9.27/-9.6	-10.14/-12.57	-13.18/-12.56	-12.07/-9.3	-8.76/-9.32

## Gain Result

Freq(Hz)	5.6GPol.	PhiAnt. 1	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)	
Gain	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)			
Theta(0°)	-14.65/-13.9	-12.89/-11.66	-11.92/-10.26	-9.37/-7.76	-6.98/-7.26	-7.62/-8.23	-8.52/-9.19	-9.51/-10.07	-11.23/-13.92	-19.48/-18.82	-12.65/-9.01	-6.88/-6.56	-6.66/-7.37	-7.93/-8.36	-8.56/-7.92	-7.94/-7.71	-7.86/-8.36	-9.53/-9.56	-11.58/-14.08	-17.19/-17.15	
Theta(10°)	-13.42/-13.15	-13.77/-12.86	-11.92/-10.26	-9.37/-7.76	-6.98/-7.26	-7.62/-8.23	-8.52/-9.19	-9.51/-10.07	-11.23/-13.92	-19.48/-18.82	-12.65/-9.01	-6.88/-6.56	-6.66/-7.37	-7.93/-8.36	-8.56/-7.92	-7.94/-7.71	-7.86/-8.36	-9.53/-9.56	-11.58/-14.08	-17.19/-17.15	
Theta(20°)	-8.81/-12.63	-14.45/-12.51	-10.33/-8.86	-8.27/-8.16	-7.25/-6.94	-7.06/-7.35	-7.2/-7.18	-8.21/-9.97	-13.32/-16.74	-17.88/-17.61	-17.35/-15.74	-14.8/-15.77	-16.36/-18.03	-18.23/-18.55	-19.08/-13.52	-9.14/-6.72	-5.1/-4.92	-5.88/-5.56	-12.06/-12.06	-12.06/-12.06	-5.88/-5.56
Theta(30°)	-12.26/-13.79	-17.23/-18.7	-13.14/-9.48	-6.78/-5.26	-4.98/-5.2	-4.94/-5.26	-5.86/-5.95	-6.38/-6.54	-7.94/-10.45	-13.8/-17.05	-17.17/-16.88	-18.95/-18.83	-18.01/-17.62	-17.9/-18.11	-14.82/-9.79	-5.95/-5.54	-5.65/-5.51	-7.18/-10.1	-12.06/-12.06	-12.06/-12.06	-5.88/-5.56
Theta(40°)	-11.03/-8.37	-11.21/-19.62	-16.82/-11.15	-7.77/-4.86	-3.61/-4.02	-5.28/-6.03	-5.83/-6.07	-7.14/-7.88	-9.26/-11.49	-14.74/-18.94	-18.21/-17.8	-14.43/-7.88	-4.54/-4.24	-4.26/-2.66	-2.66/-3.84	-4.4/-6.51	-7.95/-11.68	-17.77/-17.82	-17.77/-17.82	-17.77/-17.82	-17.77/-17.82
Theta(50°)	-15.19/-12.61	-15.83/-18.88	-17.02/-15.47	-10.71/-5.06	-4.2/-6.06	-11.47/-15.61	-13.13/-8.69	-6.63/-6.66	-8.73/-12.24	-15.53/-18.67	-17.38/-18.08	-11.3/-5.3	-3.45/-4.2	-5.44/-5.05	-2.87/-2.11	-3.32/-4.81	-6.94/-12.14	-19.51/-19.55	-19.51/-19.55	-19.51/-19.55	-19.51/-19.55
Theta(60°)	-16.13/-14.58	-13.92/-18.68	-13.12/-16.2	-13.03/-5.13	-4.74/-7.69	-13.12/-16.2	-13.03/-5.13	-4.74/-7.69	-13.12/-16.2	-13.03/-5.13	-4.74/-7.69	-13.12/-16.2	-13.03/-5.13	-4.74/-7.69	-13.12/-16.2	-13.03/-5.13	-4.74/-7.69	-13.12/-16.2	-13.03/-5.13	-4.74/-7.69	-13.12/-16.2
Theta(70°)	-10.8/-14.03	-15.39/-18.26	-14.83/-13.5	-11.57/-7.73	-6.85/-7.49	-9.54/-7.1	-6.15/-4.74	-6.31/-8.6	-9.84/-11.08	-18.18/-18.77	-16.4/-10.76	-9.7/-7.43	-4.85/-5.39	-8.13/-9.2	-6.51/-6.88	-11.64/-11.61	-8.84/-4.35	-8.3/-8.15	-8.3/-8.15	-8.3/-8.15	-8.3/-8.15
Theta(80°)	-9.36/-11.02	-11.76/-11.09	-11.86/-11.91	-7.91/-6.39	-8.17/-5.33	-5.81/-4.92	-4.78/-5.7	-6.85/-9.5	-12.26/-16.33	-19.47/-13.77	-12.1/-9.04	-8.02/-9.59	-5.62/-4.87	-9.32/-8.57	-5.48/-6.92	-10.18/-6.18	-3.05/-3.45	-5.67/-5.69	-5.67/-5.69	-5.67/-5.69	-5.67/-5.69
Theta(90°)	-9.2/-10.1	-9.62/-9.64	-10.22/-10.29	-5.47/-3.65	-5.88/-6.18	-5.01/-3.43	-4.02/-7.03	-9.44/-12.23	-15.68/-12.28	-9.28/-7.33	-8.51/-9.33	-9.7/-9.33	-11.39/-15.82	-11.59/-5.77	-5.56/-11.04	-11.59/-5.77	-3.21/-3.71	-7.65/-9.69	-7.65/-9.69	-7.65/-9.69	-7.65/-9.69
Theta(100°)	-16.71/-13.69	-17.55/-15.31	-18.11/-14.6	-2.94/-1.83	-4.36/-5.06	-4.38/-3.09	-3.48/-4.75	-8.41/-10.46	-10.39/-8.18	-7.62/-7.12	-9.39/-12.02	-17.67/-17.86	-11.76/-11.26	-14.98/-8.8	-6.48/-16.98	-11.69/-8.78	-11.18/-15.19	-17.31/-17.55	-17.31/-17.55	-17.31/-17.55	-17.31/-17.55
Theta(110°)	-11.68/-11.23	-17.17/-13.23	-18.33/-7.49	-2.13/-2.2	-4.41/-7.06	-4.68/-4.81	-4.77/-5.36	-9.15/-12.8	-7.91/-5.9	-6.08/-10.36	-12.12/-13.13	-16.75/-16.07	-12.51/-11.4	-16.58/-9.73	-10.55/-9.9	-8.71/-15.82	-19.16/-17.31	-16.16/-16.23	-16.16/-16.23	-16.16/-16.23	-16.16/-16.23
Theta(120°)	-6.11/-6.79	-14.58/-18.25	-16.97/-19.99	-1.79/-2.65	-5.79/-6.35	-4.66/-3.36	-3.62/-8.32	-6.61/-5.93	-8.66/-5.93	-17.18/-14.07	-15.34/-15.52	-14.37/-15.12	-11.55/-14.17	-17.18/-14.07	-15.34/-15.52	-14.37/-15.12	-11.55/-14.17	-6.97/-6.89	-6.97/-6.89	-6.97/-6.89	-6.97/-6.89
Theta(130°)	-10.77/-8.83	-13.11/-14.58	-18.46/-8.89	-4.84/-3.8	-4.18/-4.85	-5/-2.81	-3.03/-4.03	-5.19/-5.78	-7.12/-11.19	-15.97/-15.29	-12.45/-16.49	-19.29/-18.99	-12.58/-6.85	-7.77/-10.68	-10.35/-8.35	-9.18/-10.71	-11.62/-9.63	-16.04/-16.12	-16.04/-16.12	-16.04/-16.12	-16.04/-16.12
Theta(140°)	-8.51/-11.02	-12.98/-12.21	-11.41/-16.69	-10.57/-6.33	-13.79/-7.54	-5.47/-5.8	-5.91/-7.33	-10.24/-11.09	-10.57/-6.33	-6.33/-9.36	-13.05/-17	-15.29/-11.89	-8.44/-10.83	-13.42/-16.42	-17.04/-16.76	-17.44/-12.2	-13.16/-13.07	-13.26/-13.71	-15.26/-15.35	-15.26/-15.35	-15.26/-15.35
Theta(150°)	-7.18/-9.94	-12.16/-14.84	-12.16/-14.84	-11.47/-9.94	-11.92/-17	-14.07/-18.61	-9.47/-13.22	-13.89/-17.88	-13.89/-17.88	-13.89/-17.88	-13.89/-17.88	-13.89/-17.88	-13.89/-17.88	-13.89/-17.88	-13.89/-17.88	-13.89/-17.88	-13.89/-17.88	-13.89/-17.88	-13.89/-17.88	-13.89/-17.88	-13.89/-17.88
Theta(160°)	-12.82/-11.58	-12.08/-13.74	-11.3/-7.32	-6.66/-7.11	-7.92/-7.88	-6.73/-5.56	-5.51/-5.37	-5.56/-7.03	-10.16/-13.19	-18.65/-15.29	-9.06/-5.91	-3.73/-3.62	-6.31/-8.87	-12.51/-14.44	-14.89/-18.88	-13.12/-9.01	-6.77/-7.33	-10.58/-10.68	-10.58/-10.68	-10.58/-10.68	-10.58/-10.68
Theta(170°)	-16.99/-13.55	-11.65/-11.43	-10.45/-9.43	-8.5/-8.19	-8.37/-5.44	-9.09/-8.78	-8.83/-9.58	-10.99/-15.53	-18.08/-17.57	-11.82/-9.04	-8.82/-9.88	-14.15/-16.68	-14.89/-14.29	-14.99/-13.91	-13.52/-14.26	-15.28/-13.58	-11.77/-12.65	-18.42/-18.55	-18.42/-18.55	-18.42/-18.55	-18.42/-18.55
Theta(180°)	-15.83/-16.26	-16.58/-14.99	-13.88/-14.02	-13.88/-14.2	-15.25/-16.44	-19.21/-17.37	-17.56/-17.79	-17.62/-18.07	-18.73/-18.69	-19.09/-18.17	-19.02/-17.18	-14.87/-13.4	-15.22/-18.69	-18.04/-17.37	-17.99/-19.43	-17.73/-18.75	-16.83/-16.83	-16.83/-16.83	-16.83/-16.83	-16.83/-16.83	-16.83/-16.83



# Radiated Composite Gain Data of 5GHz UNII 2C~4 Mode 2

# Appendix C

θ(60°)	0.531-1.66	-51-64	-0.64-3.34	-2.79-7.56	-6.39-3.55	-3.85-4.97	-7.01-5.53	-5.31-7.92	-8.72-9.64	-10.26-8.86	-10-17.22	-17.83-8.11	-11.14-13.68	-7.49-3.93	-6.55-5.64	-2.64-1.58	-1.27-0.02	-0.54-0.55
θ(70°)	1.59-0	-4.6-2.46	-1.36-4.85	-0.82-3.73	-6.31-2.08	-2.77-4.47	-4.54-4.91	-5.13-6.26	-6.61-8.62	-10.17-6.82	-7.13-9.86	-16.74-4.9	-6.41-9.26	-6.36-3.75	-5.39-3.07	-0.37-1.52	-2.45-0.41	0.15-0.16
θ(80°)	2.51-35	-1.88-0.7	-1.2-2.87	0.97-1	-1.2-2.87	0.97-1	-1.2-2.87	0.97-1	-1.2-2.87	0.97-1	-1.2-2.87	0.97-1	-1.2-2.87	0.97-1	-1.2-2.87	0.97-1	-1.2-2.87	0.97-1
θ(90°)	-0.07-0.35	-3.52-0.21	-4.69-2.12	1.04-2.44	-1.13-2.97	-3.41-1.6	-3.59-4.69	-3.84-1.54	-1.1-1.7	-2.84-3.41	-3.91-2.7	-5.19-5.67	-1.56-6.02	-19.12-6.25	-3.85-2.48	1.36-3.52	0.83-1.7	1.17-0.32
θ(100°)	-1.46-2.32	-6.68-6.23	-11.58-4.33	0.45-1.12	0.29-0.8	-3.62-1.19	-2.48-4.44	-4.24-1.03	0.2-0.6	-1.23-2.98	-2.79-1.65	-4.44-8.28	-0.85-4.03	-8.96-10.44	-5.17-5.31	-2.24-9.8	-2.45-0.48	-0.59-0.64
θ(110°)	-2.58-0.89	-3.01-1.9	-4.84-7.78	-1.53-1.26	1.52-0.24	-1.53-1.08	-1.02-2.85	-2.91-2.29	-1.59-2.51	-2.01-1.67	-1.45-1.4	-3.26-17.46	-8.16-18.93	-9.28-7.05	-8.26-7.05	-3.16-3.18	-2.86-2.94	
θ(120°)	-6.8-3.08	-6.28-6.16	-6.16-6.22	-4.04-4.51	-3.77-5.36	-5.21-1.42	0.41-0.39	0.11-0.58	0.71-1.08	-0.31-1.2	-2.52-5.33	-1.92-3.62	-5.36-11.97	-6.19-13.41	-9.65-11.43	-8.53-17.29	-8.44-13.6	-16.78-17.64
θ(130°)	-10-6.69	-6.19-7.97	-14.93-13.66	-8.64-3.71	-3.41-5.17	-7.21-8.89	-8.58-5.05	-2.65-0.58	-0.06-0.75	-0.72-0.83	-1.4-2.58	-1.71-16.25	-10.2-7.75	-5.75-13.65	-10.42-10.19	-9.53-17.27	-16.89-17.18	-15.83-15.94
θ(140°)	-11.19-8.76	-8.5-8.13	-13.28-17.29	-17.65-13.55	-10.07-7.81	-6.35-5	-4.61-5.25	-5.07-4.6	-3.01-2.05	-2.77-2.69	-4.88-8.59	-16.29-13.26	-13.04-10.81	-11.95-15.55	-16.29-13.26	-13.04-10.81	-13.96-17.36	-11.24-11.34
θ(150°)	-15.68-8.8	-10.02-12.41	-18.28-17.98	-16.08-18.22	-18.61-11.91	-5.25-2.73	-1.98-1.7	-2.25-2.61	-3.34-4.55	-5.87-8.99	-7.03-5.04	-5.96-4.95	-9.16-18.3	-10.99-16.11	-19.16-18.96	-18.93-18.66	-16.87-10.17	-6.9-7.5
θ(160°)	-18.47-16.36	-15.15-18.25	-18.36-16.27	-11.55-8.71	-8.3-10.38	-12.69-9.17	-6.29-5	-4.85-3.87	-2.64-1.95	-1.42-1.13	-0.14-0.3	-9.86-14.49	-10.54-12	-15.85-13.53	-14.55-18.64	-17.74-11	-9.41-10.95	-10.67-10.54
θ(170°)	-14-11.1	-9.25-10.33	-13.07-15.29	-16.52-15.14	-14.62-10.51	-11.3-10.14	-8.37-6.69	-5.31-4.21	-3.39-3.1	-7.36-9.92	-10.04-5.52	-11.72-17.09	-18.25-18.61	-18.04-18.39	-19.1-18.33	-17.99-15.26	-12.29-13.11	
θ(180°)	-18.91-18.1	-19.04-18.5	-17.55-16.52	-14.91-14.35	-14.01-16.09	-17.89-18.49	-19.1-18.75	-18.94-18.71	-18-15.48	-12.52-11.22	-10.99-11.09	-11.32-12.11	-13.7-15.28	-18.88-18.88	-17.76-19.03	-19.32-19.05	-18.92-18.48	-18.61-18.64
Freq(Hz)	5.6GPol.	PhiAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)
θ(0°)	-15.56-12.25	-8.98-6.44	-4.74-3.11	-1.92-1.33	-1.52-1.58	-1.38-1.73	-2.45-3.69	-5.51-7.5	-10.37-13.53	-17.74-14.11	-8.79-6.32	-4.78-3.67	-2.71-2.07	-1.79-1.95	-2.24-2.65	-3.65-4.86	-6.34-8.43	-13.39-13.75
θ(10°)	-12.94-12.93	-10.67-7.2	-5.21-6.64	-4.56-3.46	-1.91-0.88	-0.63-1.13	-1.98-3.02	-4.49-6.25	-8.44-10.44	-11.89-10.79	-7.93-5.14	-3.2-2.18	-1.12-0.7	-0.77-1.17	-1.93-3.04	-4.39-6.45	-8.52-11.31	-14.64-15.54
θ(20°)	-17.58-17.78	-14.73-11.59	-8.42-7.35	-6.32-5.82	-3.38-2.56	-1.52-1.89	-4.82-7.57	-9.85-11.23	-10.34-8.77	-4.78-4.79	-6.7-7.7	-5.55-6.7	-6.91-5.77	-7.85-8.26	-8.83-13.21	-9.83-13.21	-15.32-15.64	
θ(30°)	-14.43-14.79	-14.46-12.71	-9.42-7.71	-5.13-3.38	-2.31-2.31	-2.63-1.91	-2.41-4.61	-7.59-15.4	-18.52-18.72	-18.07-12.04	-9.66-8.04	-7.61-10.43	-11.63-8.7	-6.72-7.2	-8.89-9.07	-8.65-8.93	-8.67-10.76	-13.1-13.56
θ(40°)	-19.36-18.12	-19.01-15.74	-11-11.27	-6.38-7.63	-6.31-5.24	-3.92-3.22	-2.88-4.26	-8.52-15.04	-18.7-19.01	-18.41-19.01	-12.36-10.02	-7.39-6.43	-5.62-6.57	-6.73-6.56	-7.19-7.34	-7.67-8.65	-12.29-16.49	-15.64-15.92
θ(50°)	-19.86-14.86	-11.05-9.37	-10.11-12.05	-12.34-9.53	-5.49-4.43	-3.94-7.8	-6.85-9.14	-12.96-13.44	-16.14-18.79	-12.52-7.5	-4.98-3.6	-4.46-5.4	-7.4-10.48	-7.46-6.11	-4.31-7.59	-7.4-10.48	-14.46-15.52	
θ(60°)	-17.69-14.4	-11.58-10.03	-10.29-11.75	-13.81-12.08	-6.83-3.74	-3.09-4.1	-6.67-10.77	-13.31-16.2	-14.05-15	-14.97-17.65	-11.59-8.5	-4.68-5.29	-2.61-5.04	-2.61-5.04	-10.89-6.68	-3.55-4.1	-5.96-8.3	-11.24-12.35
θ(70°)	-14.71-13.22	-10.45-8.77	-7.21-5.95	-6.33-6.68	-5.91-4.6	-3.15-3.21	-5.43-10.94	-17.19-17.19	-15.08-12.39	-12.57-12.45	-7.29-10.3	-5.17-13.3	-8.05-7.25	-5.5-5.01	-6.72-4.42	-3.93-5.59	-6.19-3.72	-6.62-8.9
θ(80°)	-18.73-17.96	-12.58-8.18	-6.45-4.47	-6.05-5.43	-4.02-3.64	-4.77-10.04	-15.04-15.55	-16.9-18.34	-18.88-17.67	-8.45-4.16	-6.82-7.64	-7.33-4.11	-3.07-4.66	-8.92-8.89	-9.27-9.28	-9.41-7.95	-6.78-9.12	
θ(90°)	-9.83-11.72	-9.83-6.57	-7.2-8.8	-7.15-3.59	-4.19-5.49	-7.02-4.14	-3.99-9.55	-18.11-14.35	-13.33-18.73	-18.19-17.15	-13.38-7.2	-5.3-5.57	-8.79-8.71	-7.45-12.61	-9.68-4.77	-6.52-17.25	-11.65-12.65	-10.86-10.92
θ(100°)	-9.13-8.87	-12.31-10.41	-6.98-5.61	-3.89-4.01	-9.11-17.68	-13.17-12.61	-12.56-10.43	-11.18-12.55	-13.93-11.52	-13.12-14.98	-13.55-13.11	-16.24-16.34	-16.48-11.32	-11.62-7.88	-12.67-18	-18.28-14.25	-9.58-9.82	
θ(110°)	-9.58-7.97	-12.14-12.49	-6.54-3.29	-2.54-3.45	-7.01-7.21	-6.69-4.72	-11.87-9.4	-13.05-18.39	-15.13-16.32	-18.71-19.5	-18.82-18.23	-16.34-10.56	-16.48-11.32	-15.82-14.4	-17.18-17.99	-18.01-11.99	-11.71-11.52	
θ(120°)	-17.59-14.27	-18.05-19.34	-14.99-7.17	-3.13-1.3	-6.21-6.63	-6.21-5.17	-5.5-11	-18.34-15.13	-17.1-11.13	-7.5-9.36	-9.32-4.72	-13.38-10.62	-9.57-8.52	-15.42-11.91	-11.34-19.12	-18.35-19.15		
θ(130°)	-18.01-17.68	-11.31-9.12	-9.05-8.2	-5.41-5.11	-9.78-0.04	-2.96-3.54	-9.43-18.14	-11.55-7.47	-8.79-0.08	-11.45-8.46	-17.29-18.85	-19.48-8.38	-9.32-4.85	-9.47-7.98	-13.03-7.71	-10.61-12.92	-14.15-17.77	-12.87-13.25
θ(140°)	-13.65-12.52	-8.26-7.08	-7.93-9.33	-13.71-13.17	-7.8-3.01	-1.87-3.14	-4.51-10.56	-9.48-7.66	-7.62-14.21	-8.89-6.96	-9.58-19.23	-18.31-14.85	-7.76-14.69	-18.02-11.12	-10.24-14.65	-16.59-15.94	-19.25-17.29	-11.49-11.52
θ(150°)	-18.65-13.7	-10.79-8.07	-8.2-7.02	-6.51-7.35	-8.75-1.91	-3.84-8.09	-13.61-10.06	-6.5-7.45	-10.5-10.44	-8.32-9.15	-9.62-8.81	-13.16-18.17	-16.55-13.96	-9.94-10.86	-15.2-11.94	-14.48-14.93	-19.18-19.82	
θ(160°)	-18.24-18.25	-14.01-9.86	-6-4.92	-4.72-5.21	-6.02-4.64	-6.02-5.66	-6.28-7.03	-7.79-11.05	-16.39-18.47	-19.17-18.56	-16.71-11.04	-9.79-9.8	-11.59-12.33	-10.68-8.34	-6.08-7.09	-7.56-5.59	-6.63-7.71	-9.22-9.18
θ(170°)	-16.05-18.31	-17.81-12.01	-8.97-7.03	-5.97-4.55	-3.28-2.71	-2.64-3.12	-3.96-5.21	-7.58-11.46	-16.84-18.91	-17.99-18.81	-17.99-14.74	-13.29-12.83	-12.66-10.92	-7.67-6.12	-7.44-6.92	-6.83-7.04	-7.42-7.52	
θ(180°)	-18.38-18.24	-18.56-13.26	-10.98-10.43	-9.23-7.57	-18.13-18.65	-9.24-7.57	-17.1-19.01	-18.31-18.65	-17.8-17.63	-13.52-12.03	-17.32-14.84	-14.53-16.58	-16.41-14.37	-13.52-12.03	-12.78-12.49	-12.03-14.37	-16.46-18.52	
Freq(Hz)	5.6GPol.	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)
θ(0°)	-1.15-1.26	-1.78-2.73	-3.91-5.26	-7.63-10.44	-15.88-16.45	-11.89-8.37	-5.85-4.19	-2.97-2.25	-1.37-1.17	-1.27-1.77	-0.67-14.71	-2.47-3.33	-4.56-6.3	-18.06-18.09	-5.29-3.65	-2.8-2.03	-0.9-1.72	
θ(10°)	-3.11-4.2	-5.31-6.22	-6.89-8.46	-11.22-13.78	-15.17-14.85	-11.35-8.61	-5.54-3.89	-3.43-2.36	-1.12-0.16	0.13-0.18	-0.17-0.78	-1.43-2.52	-4.59-8.46	-15.13-18.74	-12.71-9.28	-7.25-5.6	-4.6-3.94	-3.39-3.52
θ(20°)	-7.09-8.32	-10.51-11.72	-10.71-10.85	-12-10.96	-13.63-11.93	-16.09-9.82	-5.76-3.76	-2.89-2.53	-3.18-3.78	-3.23-3.14	-4.34-6.21	-6.69-6.75	-7.03-9.07	-13-18.91	-18.9-18.67	-15.1-11.11	-9.23-8.15	-8.11-8.2
θ(30°)	-12.26-11.69	-16.71-17.76	-17.91-18.84	-18.51-13.5	-5.17-3.67	-3.97-3.49	-3.95-4.27	-1.67-8.18	-3.97-3.49	-2.56-2.82	-3.59-4.3	-5.17-7.78	-13.95-15.76	-9-7.49	-8.69-14.55	-18.32-12.92	-9.58-8.41	-10.46-10.52
θ(40°)	-17.41-14.94	-13.09-16.86	-16.28-12.09	-11.17-9.81	-10.63-12.85	-14.04-8.24	-3.75-2.66	-4.36-6.84	-7.52-1.28	0.21-1.9	1.1-0.82	-3.74-5.04	-6.46-10.13	-14.33-9.77	-8.13-10.22	-13.71-13.33	-16.62-14.43	-17.71-17.82
θ(50°)	-17.09-18.18	-18.65-18.97	-16.11-9.73	-8.05-7.74	-9.43-14.62	-14.4-7.12	-3.57-1.84	-4.37-18.8	-5.22-2.5	-1.66-1.58	-0.01-1.78	-1.71-1.93	-3-7.91	-13.43-9.01	-7.8-9.28	-10.41-15.49	-16.46-16.31	-17.32-17.54
θ(60°)	-6.61-6.23	-5.98-6.29	-5.91-7.09	-6.58-6.14	-3.89-8.2	-1.92-4.54	-3.42-3.94	-6.89-8.2	-1.43-0.2	-2.44-3.71	-2.89-2.33	-2.44-5.26	-8.88-8.43	-13.71-10.01	-8.48-8.43	-10.17-9.47	-7.38-10.66	-18-18.12
θ(70°)	-4.42-3.81	-2.79-1.98	-2.03-4.6	-7.63-8.81	-6.61-6.51	-5.19-2.38	-2.05-5.6	-3.9-5.05	-1.36-1.58	0.99-0.29	-1.32-3.26	-3.29-1.53	-0.72-4.52	-10.43-8.8	-8.82-8.36	-5.06-3.34	-6.07-8.61	-10.63-10.88
θ(80°)	-2.89-4.22	-2.98-0.7	-0.65-3.01	-5.01-6.96	-5.26-2.73	-3.81-2.79	-0.49-4.99	-3.62-3.54	-3.2-5.1	0.11-2.3	-0.5-2.42	-5.65-3.68	0.74-3.71	-6.3-6.07	-9.29-9.12	-5.27-4.49	-7.12-6.99	-4.48-4.85
θ(90°)	-1.98-4.44	-3.56-1.99	-1.53-3.73	-2.28-4.81	-5.03-2.22	-4.31-3.13	-0.46-5.22	-2.76-3.04	-5.56-2.23									



# Radiated Composite Gain Data of 5GHz UNII 2C~4 Mode 2

# Appendix C

Freq(Hz)	ThetaAnt. 2	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)	
5.885GPol	ThetaAnt. 2	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)	
Theta(160°)	-18.84/-13.9	-9.73/-6.18	-4.02/-2.53	-1.76/-2.19	-3.09/-3.3	-2.98/-3.47	-3.71/-4.64	-5.32/-6.39	-10.73/-18.85	-13.68/-12.01	-11.59/-9.71	-6.72/-6.37	-8.96/-10.83	-9.96/-6.82	-5.11/-5.03	-4.08/-4.25	-4.51/-4.23	-6.18/-6.82		
Theta(170°)	-11.74/-19.36	-18.56/-13.62	-12/-9.8	-7.31/-4.82	-3.48/-3.27	-3.62/-4.39	-6.84/-10.05	-14.22/-18.99	-18.51/-19.03	-18.07/-18.39	-16.29/-14.86	-16.49/-16.36	-13.89/-10.22	-7.34/-5.25	-3.68/-3.05	-2.76/-2.59	-2.48/-2.63	-4.26/-6.62		
Theta(180°)	-18.01/-18.88	-19.42/-17.93	-15.39/-13.19	-10.68/-8.41	-7.61/-8.84	-11.86/-15.94	-17.43/-18.35	-17.98/-19	-17.45/-17.35	-17.32/-18.98	-18.43/-18.66	-19.06/-13.19	-10.34/-8.97	-8.43/-8.46	-5.81/-8.32	-8.92/-10.47	-11.89/-11.92			
Gain	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)		
Theta(0°)	-1.88/-1.85	-2.87/-4.54	-5.55/-7.37	-9.58/-12.67	-17.98/-15.68	-12.35/-9.95	-8.11/-6.64	-5.52/-4.47	-3.88/-3.16	-2.59/-2.75	-3.43/-4.63	-5.73/-7.05	-9.19/-13.53	-18.09/-17.03	-12.32/-9.49	-6.46/-5.94	-4.46/-3.16	-2.68/-2.68		
Theta(10°)	-5.95/-6.38	-8.01/-10.71	-11.93/-11.21	-12.43/-18.6	-19.08/-19.24	-16.96/-13.71	-10.29/-7	-4.3/-2.71	-1.69/-1.04	-1.15/-1.31	-1.31/-1.99	-3.42/-8.57	-9.06/-13.48	-16.25/-14	-9.91/-9.79	-6.19/-5.21	-4.41/-4.09	-4.52/-4.85		
Theta(20°)	-9.59/-11.95	-14.99/-17.47	-19.02/-14.82	-15.44/-16.63	-13.34/-10.8	-10.07/-9.37	-7.68/-4.69	-3.19/-1.83	-0.97/-1.0	-1.65/-1.71	-1.63/-1.91	-3.08/-5.33	-8.05/-10.78	-16.33/-18.28	-13.91/-9.47	-8.22/-7.94	-8.49/-8.82	-6.86/-8.69		
Theta(30°)	-17.44/-18.87	-18.22/-16.48	-14.64/-15.92	-17.14/-13.16	-8.79/-7.08	-5.8/-4.27	-2.87/-2.04	-2.58/-3.46	-4.98/-8.88	-6.49/-5.18	-4.94/-3.86	-4.81/-6.51	-9.68/-8.74	-8.55/-8.59	-10.42/-14.74	-14.82/-10.31	-9.68/-11.25	-13.03/-13.55		
Theta(40°)	-10.04/-9.62	-14.55/-17.87	-17.98/-14.16	-12.22/-10.51	-10.67/-10.94	-6.71/2.85	-1.49/0.83	-0.61/2.84	-6.34/-4.26	-0.49/0.63	0.87/0.68	-3.59/5.83	-7.96/8.98	-5.33/3.16	-4.12/4.48	-12.53/-13.28	-13.28/-12.2	-14.3/-14.68		
Theta(50°)	-10.56/-7.2	-7.77/-7.78	-10.05/-13.58	-8.88/-9.55	-8.19/-6.71	-6.42/-3.69	-2.68/-2.21	-0.28/-3.88	-6.52/8.66	2.41/2.89	0.31/-1.67	-1.31/-0.98	-2.64/-7.46	-6.62/-3.43	-5.21/9.71	-17.51/9.1	-18.65/-18	-15.47/-15.65		
Theta(60°)	-5.16/-5.01	-3.63/-3.23	-4.82/-6.45	-10.44/-7.8	-5.69/-1.08	-6.66/5.41	-3.33/2.27	-1.41/4.23	1.90/5.2	-1.67/2.14	-1.48/0.71	-2.62/6.17	-4.81/-11.75	-15.82/-10.64	-9.31/3.94	-7.49/8.56				
Theta(70°)	-5.79/-5.08	-2.38/-1.86	-3.42/-8.35	-10.66/-8.99	-4.95/-3.03	-4.94/-3.4	-2.03/-2.73	-1.57/-5.1	-3.98/1.11	1.5/-0.88	-0.35/0.4	-1.89/-1.87	-1.28/4.72	-10.21/-5.78	-7.63/8.48	-8.52/6.98	-6.73/6.57	-4.42/4.56		
Theta(80°)	-8.37/-5.52	-2.02/-1.64	-3.5/-6.45	-10.71/9.39	-4.92/-1.93	-1.38/-2.12	-0.2/-1.6	-2.91/-1.75	-2.15/0.76	1.67/-1.96	-1.17/-1.26	-1.93/-0.91	0.93/3.76	-6.89/7.7	-9.94/7.03	-6.79/4.23	-6.62/5.97	-5.27/5.85		
Theta(90°)	-12.62/-6.52	-1.73/6.68	-2.69/-6.27	-4.14/4.1	-1.99/0.09	-1.89/4.31	1.07/0.71	-0.12/4.52	-0.72/2.27	-0.12/4.52	-0.23/0.57	0.96/3.38	-3.16/10.14	-19.74/9.53	-6.41/6.11	-4.85/-1.69	-4.59/-10.85			
Theta(100°)	-6.69/4.8	-2.85/-1.7	-3.57/6.48	-4.48/-0.55	1.37/0.1	-1.14/-0.59	1.24/0.91	-15.31/-10.32	-11.76/4.47	-3.11/5.06	-2.36/-1.22	-3.12/5.53	-1.22/8.29	-3.75/12.97	-7.09/6.81	-5.04/5.94	-3.50/2	-2.59/2.88		
Theta(110°)	-3.52/0.71	-0.19/-0.26	0.77/0.54	-0.09/-3.7	0.58/0.47	-1.49/-1.95	-0.23/-1.41	-2.91/-1.68	-6.27/-7.2	-7.12/7.5	-6.38/17.02	-4.61/14.16	-6.13/10.78	-4.07/-10.29	-4.77/-2.32	-4.21/4.65				
Theta(120°)	0.38/1.89	0.86/0.48	-1.13/-5.67	-6.24/2.01	-0.98/-2.79	-4.41/2.93	-8.22/13.75	-2.55/2.34	-7.78/11.01	-5.47/6.79	-18.22/17.87	-12.12/11.46	-10.97/8.64	-8.77/4.17	-0.61/3.8	-1.92/-1.93				
Theta(130°)	2.55/2.08	2.11/1.25	-0.19/0.15	1.41/1.91	0.05/-3.46	-4.47/-1.58	-1.96/5.16	-9.68/-11.66	-10.64/-14.7	-18.18/-16.01	-10.79/-8.7	-10.51/9.84	-7.35/8.87	-8.24/11.62	-12.99/11.07	-9.31/6.15	-1.61/1.81	0.72/0.24		
Theta(140°)	0.22/0.37	0.87/1.32	1.89/2.16	1.82/0.67	-2.1/8.35	-19.12/11.89	-10.99/10.75	-12.12/14.4	-15.26/14.23	-15.99/-18.01	-11.82/16.64	-10.02/16.98	-18.69/18.87	-13.61/18.84	-17.95/8.88	-15.37/10.1	-8.87/7.36	-3.26/3.52		
Theta(150°)	-1.44/-1.01	-0.18/0.18	0.40/0.8	-0.82/10.07	-13.28/16.29	-14.51/16.11	-8.13/12.38	-16.26/11.77	-16.42/10.96	-11.87/11.77	-16.42/10.96	-9.87/11.77	-16.42/10.96	-11.87/11.77	-16.42/10.96	-9.87/11.77	-16.42/10.96	-9.87/11.77	-16.42/10.96	
Theta(160°)	0.33/-1.12	-1.97/-2.73	-4.72/-6.17	-6.97/9.5	-10.69/8.11	-8.55/5.75	-9.06/14.18	-17.28/-11.52	-8.76/10.47	-15.48/13.66	-9.74/7.98	-9.33/15.78	-19.15/17.58	-14.31/18.18	-17.77/11	-5.79/3.31	-2.01/0.45	0.84/0.78		
Theta(170°)	-2.4/3.65	-4.47/3.23	-4.96/5.93	-6.07/5.45	-6.27/4.94	-12.87/15.61	-15.64/18.88	-18.31/18.62	-18.76/18.69	-18.87/18.09	-15.41/13.35	-13.01/12.4	-11.66/11.79	-14.66/16.99	-12.37/9.86	-9.06/8.2	-7.34/5.91	-3.69/3.99		
Theta(180°)	-8.7/2.22	-7.15/7.92	-9.88/10.07	-11.16/14.38	-17.28/18.96	-18.83/17.7	-19.98/18.56	-18.88/18.03	-19.88/18.56	-18.61/17.92	-18.66/18.78	-16.31/14.41	-13.76/12.69	-13.02/13.45	-14.05/17.69	-19.08/19	-17.52/13.12	-10.66/11.12		
Gain	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)		
Theta(0°)	-17.95/18.3	-18.63/13.09	-14.41/11.42	-8.84/6.06	-6.67/7.81	-8.04/8.89	-9.81/13.5	-13.66/18.4	-6.94/8.89	-18.95/17.92	-16.63/13.08	-10.98/10.68	-6.69/6.2	-8.47/8.33	-9.44/12.54	-16.43/16.75				
Theta(10°)	-18.2/-18.12	-19.35/-18.78	-17.48/-13.08	-11.21/10.74	-9.64/8.74	-9.63/10.01	-11.81/12.78	-12.77/13.02	-12.19/13.23	-18.11/18.21	-17.71/19.12	-11.26/7.49	-7.36/8.28	-7.62/6.75	-7.06/5.56	-8.59/10.86	-12.71/13.8	-14.41/15.85		
Theta(20°)	-16.07/18.77	-16.81/13.42	-10.16/14.63	-17.75/12.17	-10.42/11.27	-16.73/15.47	-12.29/12.11	-12.17/9.56	-9.24/9.82	-1.13/15.36	-18.29/19.24	-17.87/15.25	-12.07/10.85	-8.73/8.09	-8.74/8.8	-13.87/18.46	-18.99/18.78	-17.92/17.47		
Theta(30°)	-14.71/17.91	-17.49/17.28	-17.17/18.09	-16.65/16.79	-15.17/17.09	-19.26/11.19	-16.04/14.36	-13.49/16.28	-15.71/17.09	-19.26/16.12	-15.09/16.14	-15.52/16.16	-18.55/12.29	-9.27/8.81	-15.53/14.91	-13.45/12.38	-13.61/13.67			
Theta(40°)	-14.09/15.81	-18.18/19.18	-18.83/15.64	-13.09/12.89	-15.33/16.31	-12.35/18.89	-18.96/18.73	-18.62/19.05	-18.37/18.93	-17.73/18	-17.57/14.58	-15.72/18.98	-17.89/16.64	-10.25/9.35	-12.11/17.39	-18.36/18.24	-15.81/13.84	-12.39/13.08		
Theta(50°)	-18.93/18.96	-18.46/17.16	-12.85/8.13	-7.11/9.55	-11.77/13.45	-16.25/16.46	-14.64/15.36	-15.01/19.27	-17.87/18.78	-17.91/18.5	-16.09/14.4	-16.18/13.09	-11.91/51	-11.41/17.2	-18.26/18.25	-17.74/18.48	-19.78/19.92			
Theta(60°)	-7.4/7.98	-11.58/15.13	-16.21/6.7	-5.88/9.35	-17.87/17.82	-18.56/15.34	-16.74/18.88	-18.18/19.21	-18.17/18.82	-18.18/19.21	-17.16/18.94	-18.18/19.21	-17.16/18.94	-18.18/19.21	-17.16/18.94	-18.18/19.21	-17.16/18.94	-18.18/19.21	-17.16/18.94	
Theta(70°)	-7.25/10.06	-9.38/12.53	-14.94/15.01	-9.6/8.83	-14.17/11.12	-17.61/18.74	-14.07/15.05	-19.01/17.9	-18.83/18.35	-18.39/15.87	-16.69/18.04	-18.31/8.76	-12.51/19	-13.92/14.76	-15.63/15.07	-13.32/16.09	-12.71/7.08	-5.61/5.79		
Theta(80°)	-10.01/10.15	-9.61/16.12	-18.73/18.58	-13.55/10.2	-18.87/19.01	-13.21/18.55	-14.62/15.4	-18.35/18.3	-19.21/18.13	-19.28/14.29	-15.2/17.47	-18.24/16.27	-11.04/17.76	-14.06/17.19	-17.52/10.23	-15.99/18.83	-9.95/6.2	-7.19/8.08		
Theta(90°)	-15.97/11.57	-13.61/18.26	-17.92/15.45	-13.52/18.87	-18.27/12.06	-16.35/16.09	-12.22/15.03	-18.52/18.99	-19.11/18.95	-15.52/17.29	-14.48/18.82	-16.73/15.82	-15.41/18.45	-17.23/18.26	-14.15/10.34	-14.47/8.73	-8.23/10.43	-15.46/3.99		
Theta(100°)	-16.21/14.2	-18.31/17.54	-17.48/14.93	-11.32/13.72	-17.55/19.02	-18.67/19.06	-13.21/14.27	-18.16/18.52	-15.08/14.08	-18.44/19.04	-16.57/15.34	-18.96/18.5	-9.91/18.53	-11.55/15.55	-6.99/6.94	-9.91/18.08	-17.51/18.08			
Theta(110°)	-19.18/15.47	-17.22/14.32	-17.93/17.11	-18.92/18	-18.53/18.17	-18.17/17.08	-15.71/15.87	-18.94/17.93	-14.66/13.85	-19.21/18.26	-14.24/17.94	-18.22/10.34	-14.14/11.14	-15.49/18.33	-15.91/10.72	-12.47/13.38	-8.22/10.44	-15.23/17.82	-18.31/8.1	
Theta(120°)	-16.84/9.58	-13.26/14.06	-11.14/14.15	-13.73/10.64	-18.77/18.08	-18.32/13.54	-14.51/14.77	-18.78/16.12	-18.89/11.49	-18.16/18.43	-15.17/18.35	-14.87/11.05	-8.35/12.06	-18.11/17.61	-11.09/6.99	-10.98/16.37	-17.13/18.08			
Theta(130°)	-17.37/12.41	-16.15/13.25	-8.05/10.7	-13.07/8.05	-14.84/17.97	-														





# Radiated Composite Gain Data of 5GHz UNII 2C~4 Mode 2

# Appendix C

Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi
0(50°)	-14.06/-9.31	-16.46/-16.25	-11.97/-8.21	-8.78/-15.63	-11.43/-11.63	-18.08/-15.84	-12.81/-18.01	-18.17/-19.41	-16.35/-17.4	-16.65/-15.58	-18.06/-18.33	-19.04/-17.73	-14.82/-18.64	-19.18/-13.88	-10.71/-15.26	-19.01/-17.03	-16.21/-18.28	-16.08/-16.25	
0(60°)	-10.26/-9.31	-10.53/-13.66	-12.52/-6.88	-5.91/-12.61	-12.09/-9.26	-14.76/-17.35	-18.41/-18.02	-17.73/-14.9	-15.52/-17.19	-17.44/-18.08	-18.86/-18.14	-18.38/-18.41	-18.53/-18.6	-18.55/-13.91	-11.71/-16.51	-18.65/-17.16	-19.05/-18.12	-14.37/-14.85	
0(70°)	-6.94/-5.57	-7.03/-12.06	-15.24/-12.06	-15.45/-11.32	-18.37/-9.18	-17.93/-18.94	-15.72/-16.14	-18.04/-14.24	-13.32/-18.33	-17.93/-13.43	-18.86/-18.06	-18.92/-18.09	-17.16/-15.39	-18.26/-15.95	-13.81/-14.73	-11.08/-13.72	-19.45/-18.62	-16.47/-16.76	
0(80°)	-8.99/-6.9	-6.99/-14.85	-12.14/-13.41	-14.35/-18.07	-15.91/-17.72	-18.58/-15.55	-18.96/-19.57	-18.08/-14.57	-13.82/-17.76	-19.36/-17.76	-14.99/-14.61	-14.77/-18.95	-13.83/-15.68	-19.21/-15.47	-13.84/-12.38	-9.33/-15.55	-18.58/-13.83	-11.42/-12.85	
0(90°)	-18.1/-17.3	-19.06/-13.97	-11.2/-11.54	-17.44/-18.6	-17.18/-18.32	-19.71/-16.46	-18.02/-18.54	-18.31/-15.66	-13.46/-19.12	-19.19/-17.41	-18.72/-14.49	-13.32/-17.83	-19.42/-17.04	-15.37/-12.75	-18.58/-10.72	-8.42/-8.66	-11.08/-31	-17.04/-3.12	
0(100°)	-15.24/-17.9	-13.22/-17.06	-19.23/-14.33	-14.14/-12.49	-19.23/-19.06	-17.25/-19.33	-19.09/-18.61	-18.04/-14	-12.41/-14.24	-17.66/-19.49	-14.65/-16.74	-14.87/-15.39	-14.87/-15.39	-14.87/-15.39	-14.87/-15.39	-14.87/-15.39	-14.87/-15.39	-14.87/-15.39	-14.87/-15.39
0(110°)	-11.29/-10.91	-13.39/-13.54	-16.41/-11	-12.21/-18	-19.28/-17.9	-12.42/-14.22	-17.57/-18.32	-19.41/-15.64	-17.83/-17.22	-17.38/-12.8	-9.71/-18.5	-16.79/-15.04	-18.17/-19.06	-19.48/-13.22	-12.86/-12.86	-18.32/-14.23	-19.41/-18.15	-17.06/-18.12	
0(120°)	-12.96/-9.75	-15.58/-17.71	-13.22/-18.27	-16.72/-12.07	-18.12/-18.55	-13.69/-10.7	-16.24/-19.05	-18.43/-17.55	-17.68/-17.74	-18.22/-19.21	-13.6/-18.7	-12.61/-17.39	-18.74/-10.31	-18.28/-14.14	-9.05/-17.95	-16.31/-8.39	-12.82/-11.56	-13.53/-14.85	
0(130°)	-15.36/-18.79	-15.52/-11.19	-7.02/-12.08	-11.83/-10.44	-12.23/-15.54	-17.64/-18.52	-12.34/-15.54	-17.98/-15.48	-19.28/-14.07	-18.61/-18.46	-12.34/-18.8	-9.92/-18.55	-14.45/-18.35	-18.47/-17.37	-8.92/-16.65	-15.88/-8.58	-9.81/-11.28	-19.02/-19.54	
0(140°)	-13.96/-10.98	-18.66/-18.98	-16.38/-7.61	-14.23/-13.14	-11.43/-11	-11.94/-18.29	-10.01/-10.11	-9.42/-15.28	-19.21/-15.43	-19.05/-17.77	-16.37/-11.82	-12.22/-13.24	-16.31/-16.25	-15.69/-14.24	-17.56/-8.31	-11.45/-15.77	-4.92/-13.39	-7.97/-8.11	
0(150°)	-16.92/-12.54	-18.8/-17.57	-18.16/-15.16	-11.1/-11.81	-10.47/-13.42	-18.93/-18.46	-18.28/-17.89	-19.09/-16.46	-19.06/-17.44	-17.15/-32	-18.71/-19.13	-16.21/-12.46	-10.94/-19.1	-16.92/-18.17	-15.12/-7.33	-17.61/-10.99	-15.76/-14.77	-16.97/-15.87	
0(160°)	-19.32/-18.16	-17.45/-18.33	-17.65/-17.82	-18.38/-19.15	-14.74/-13.83	-11.54/-8.18	-7.78/-8.39	-8.65/-8.59	-9.05/-11.9	-18.06/-17.84	-17.48/-17.28	-11.95/-10.23	-9.94/-11.63	-17.81/-18.9	-16.91/-17.66	-17.57/-17.47	-15.95/-16.85		
0(170°)	-17.11/-16.78	-13.59/-18.01	-19.05/-17.9	-13.42/-11.84	-10.71/-8.98	-8.56/-8.03	-7.58/-8.23	-9.28/-8.88	-9.58/-12.78	-15.31/-18.87	-18.57/-14.68	-10.98/-8.34	-6.47/-5.87	-6.4/-8.13	-9.6/-10.01	-9.79/-9.53	-10.44/-11.76	-17.44/-18.64	
0(180°)	-18.28/-19.06	-17.8/-14.44	-13.54/-15	-12.08/-10.1	-8.92/-9.34	-7.56/-6.2	-5.44/-6.19	-6.97/-8.16	-9.71/-12.11	-15.17/-19.09	-18.17/-37	-15.42/-12.1	-11.36/-13.22	-15.95/-18.11	-15.32/-13.52	-11.88/-10.42	-10.53/-13.4	-14.4/-15.85	
Freq(Hz)	5.885GPol	ThetaAnt. 5																	
Gain	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)	
0(0°)	-14.51/-13.16	-12.81/-14.17	-13.77/-13.5	-13.17/-13.9	-15.44/-17.82	-18.24/-18.15	-18.38/-18.23	-15.79/-15.55	-15.11/-15.11	-13.53/-13.4	-12.86/-14.04	-15.26/-16.09	-16.24/-16.2	-16.71/-18.47	-19.17/-17.72	-18.91/-18.09	-14.94/-14.47	-13.62/-13.85	
0(10°)	-18.07/-17.94	-18.74/-17.9	-17.85/-18.17	-18.09/-17.5	-17.68/-18	-17.89/-17.86	-18.02/-17.66	-17.97/-7.85	-8.02/-7.53	-11.13/-12.97	-7.17/-12.4	-6.39/-6.91	-19.12/-18.21	-19.12/-18.21	-19.12/-18.21	-19.12/-18.21	-19.12/-18.21	-19.12/-18.21	-19.12/-18.21
0(20°)	-14.38/-15.88	-14/-13.44	-12.54/-10.4	-9.97/-10.01	-9.79/-10.03	-8.91/-7.62	-5.24/-3.45	-3/3.33	-3.77/-4.41	-4.87/-5.73	-6.32/-7.2	-6.99/-5.3	-4.91/-5.49	-7.41/-9.24	-9.16/-7.77	-7.03/-7.22	-7.97/-8.26	-10.86/-11.52	
0(30°)	-11.11/-12.44	-14.53/-15.1	-11.07/-9.16	-8.79/-9	-6.24/-3.5	-3.51/-4.04	-2.51/-1.66	-2.32/-3.66	-4.17/-3.6	-3.24/-5.49	-6.44/-7	-7.25/-6.5	-2.82/-0.51	-0.94/-4.22	-6.57/-6.41	-5.16/-4.7	-5.55/-6.54	-7.54/-8.52	
0(40°)	-4.87/-4.86	-17.81/-18.86	-18.18/-12.53	-10.31/-11.51	-7.71/-6.14	-2.96/-1.67	-1.41/-1.94	-2.49/-2.48	-3.91/-2.41	-1.41/-1.94	-2.91/-1.71	-3.23/-0.63	-0.72/-2.41	-2.72/-2.41	-2.57/-2.85	-4.24/-4.95	-3.96/-4.85		
0(50°)	-4.61/-6.35	-7.86/-8.55	-12.57/-16.1	-8.01/-5.08	-6/-6.83	-3.3/-3.95	-1.42/-1.44	-1.27/-0.23	0.71/-0.37	-1.7/-2.54	-2.78/-1.83	-2.12/-3.63	-5.07/-1.21	-0.11/-3.17	-4.44/-2.02	-2.79/-3.42	-2.03/-0.28	-0.39/-0.85	
0(60°)	-5.76/-6.66	-14.6/-12.77	-10.16/-29.8	-8.56/-9.25	-3.71/-3.51	0.87/-0.24	-0.91/-0.65	-0.47/-0.74	-0.27/-0.39	-0.97/-0.76	-1.31/-0.94	-2.42/-2.54	-2.42/-2.54	-2.35/-3.95	-4.88/-3.87	-7.7/-5.61	-2.14/-1.89	-1.28/-2.31	
0(70°)	-2.08/-9.96	-18.54/-12.99	-13.37/-7.31	-6.49/-4.51	-2.87/-4.02	-2.34/-7.27	-2.04/-1.18	-0.93/-0.86	-0.86/-0.2	-2.54/-1.65	-0.94/-1.14	-3.62/-1.31	-0.23/-1.02	-4.06/-5.18	-6.88/-2.56	-1.47/-2.11	-0.32/-0.65		
0(80°)	1.44/-14.5	-11.26/-5.21	-9.73/-12.35	-3.97/-3.67	-2.14/-1.38	-0.57/-4.48	-1.64/-0.06	-0.14/-0.02	0.21/-0.02	-1.65/-1.35	-0.52/-0.81	-2.8/-1.43	1.18/-0.61	0.79/-1.87	-1.92/-2.06	-4.88/-0.62	-1.73/-1.41	0.57/-0.37	
0(90°)	3.79/-8.9	-4.58/-2.84	-10.73/-15.85	-6.51/-4.31	-4.79/-2.71	-3.41/-4.78	-1.93/-0.69	0.04/-0.3	-0.12/-0.35	-1.53/-1.03	0.9/-0.78	-0.24/-0.24	2.13/-2.38	1.58/-0.2	-1.93/-1.2	-0.54/-0.98	-3.64/-0.1	0.98/-2.86	
0(100°)	2.71/-7.06	-6.03/-0.75	-10.12/-3	-8.06/-4.16	-7.93/-1.8	-2.64/-2.7	-1.15/-0.03	-0.56/-0.9	-1.35/-1.53	-1.35/-1.53	-2.34/-2.17	1.98/-1.75	0.41/-1.64	-0.97/-0.65	-1.29/-4.92	-1.49/-1.7	-0.76/-1.23		
0(110°)	0.45/-19.17	-10.95/-5.13	-10.79/-9.38	-13.93/-5.95	-12.02/-4.59	-5.13/-1.27	-2.33/-0.19	-1.81/-0.11	-1.72/-1.35	1.42/-0.52	-1.68/-2.66	-0.93/-0.72	-2.32/-0.16	-10.24/-2.91	-7.93/-6.1	-14.81/-13.48	-10.76/-18.25		
0(120°)	-3.93/-10.61	-8.47/-15.08	-14.84/-19.02	-10.89/-10.82	-10.63/-6.36	-8.86/-5.77	-6.65/-4.51	-3.58/-0.61	-2/-0.04	-0.25/-1.41	1.91/5	-3.33/-2.92	0.88/-0.92	-6.55/-4.42	-5.31/-0.12	-5.27/-0.73	-6.13/-6.79	-19.07/-19.12	
0(130°)	-1.94/-10.73	-12.52/-6.85	-11.98/-18.09	-15.84/-18.97	-6.72/-7.07	-9.49/-8	-9.21/-6.99	-6.48/-2.56	-1.09/-2.34	1.45/-0.1	-5.19/-2.1	-2.30/-2.1	0.54/-5.67	-1.47/-2.3	-4.14/-6.6	-6.07/-7.63	-10.95/-10.98		
0(140°)	-6.24/-4.12	-4.4/-5.79	-10.35/-15.87	-6.62/-5.1	-5.04/-1.25	-6.77/-6.87	-8.79/-6.43	-0.69/-2.43	-1.17/-2.88	-0.86/-0.25	-1.21/-2.87	-3.77/-3.9	-1.17/-2.87	-3.77/-3.9	-4.99/-11.35	-14.81/-6.7	-12.63/-13.08		
0(150°)	-9.53/-8.82	-17.22/-15.91	-18.89/-18.84	-19.19/-17.63	-10.74/-12.59	-13.32/-10.7	-9.26/-7.06	-6.52/-7.56	-6.92/-8.83	-12.38/-6.54	-4.2/-6.24	-6.61/-6.01	-5.01/-4.62	-7.87/-12.78	-7.11/-10.09	-3.63/-9.44	-17.88/-8.28	-7.82/-8.08	
0(160°)	-18.77/-19.17	-17.91/-18.08	-18.28/-17.42	-18.68/-16.97	-13.55/-14.14	-13.99/-12.19	-11.29/-8.35	-5.69/-4.22	-4.24/-5.07	-5.99/-5.86	-6.24/-6.27	-6.13/-5.84	-6.15/-7.65	-11.29/-17.04	-13.79/-8.54	-8.81/-13.32	-13.21/-12.52	-13.78/-15.06	
0(170°)	-13.67/-18.34	-18.87/-14.04	-14.38/-14.65	-16.37/-16.95	-15.37/-18.76	-17.16/-13.2	-10.58/-8.28	-5.46/-5.28	-5.42/-6.06	-4.73/-5.88	-8.82/-8.67	-9.51/-10.26	-12.11/-13.47	-14.62/-16.12	-15.41/-13.98	-14.05/-13.44	-11.76/-12.56		
0(180°)	-11.21/-10.04	-8.57/-9	-10.7/-7.7	-9.67/-10.43	-13.28/-15.66	-19/-17.25	-18.56/-18.34	-13.41/-11.6	-9.37/-7.36	-8.81/-6.77	-6.39/-5.92	-6.87/-8.11	-9.25/-10.87	-12.33/-13.82	-15.42/-19.31	-19.18/-17.67	-18.11/-13.11	-13.73/-14.85	
Freq(Hz)	5.6GPol	PhiAnt. 5																	
Gain	Phi(0°)Phi(10°)	Phi(20°)Phi(30°)	Phi(40°)Phi(50°)	Phi(60°)Phi(70°)	Phi(80°)Phi(90°)	Phi(100°)Phi(110°)	Phi(120°)Phi(130°)	Phi(140°)Phi(150°)	Phi(160°)Phi(170°)	Phi(180°)Phi(190°)	Phi(200°)Phi(210°)	Phi(220°)Phi(230°)	Phi(240°)Phi(250°)	Phi(260°)Phi(270°)	Phi(280°)Phi(290°)	Phi(300°)Phi(310°)	Phi(320°)Phi(330°)	Phi(340°)	
0(0°)	-18.82/-12.77	-7.71/-3.5	-2.24/-0.72	0.21/-1.2	1.57/-1.7	1.47/-0.85	-0.11/-1.18	-2.52/-4.52	-7.86/-14.76	-18.41/-11.62	-6.33/-3.55	-1.72/-2.05	0.83/-1.4	1.82/-1.9	1.93/-1.62	1.01/-0.13	-1.61/-4.09	-7.57/-7.65	
0(10°)	-14.43/-10.6	-6.12/-3.04	-0.88/-0.68	1.542/3.4	2.862/2.7	2.462/2.1	-1.23/-3.72	-7.37/-14.82	-17.47/-10.68	-6.95/-5.16	-3.71/-2.84	-1.99/-1.74	-1.47/-1.76	-1.52/-1.88	-2.3/-3.02	-4.03/-5.67	-7.42/-7.6		
0(20°)	-15.24/-13.42	-6.43/-2.6	-0.29/-1.41	2.42/2.95	2.92/2.85	2.57/1.88	0.96/-0.59	-2.54/-5.38	-10.42/-17.75	-11.46/-7.55	-5.15/-3.29	-2.43/-1.93	-1.91/-2.04	-4.38/-3.46	-7.6/-8.9	-9.17/-9.52			
0(30°)	-12.77/-14.43	-7.63/-2.73	0.01/-1.63	2.33/1.76	0.83/0.31	0.32/0.35	0.15/-1.08	-3.94/-7.03											



# Radiated Composite Gain Data of 5GHz UNII 2C~4 Mode 2

# Appendix C

θ(150°)	-15.94/-17.56	-16.82/-16.74	-13.17/-17.13	-18.78/-17.11	-19.19/-12	-14.22/-11.6	-16.59/-17.17	-11.69/-12.6	-12.51/-15.54	-19.03/-15.95	-18.05/-17.28	-16.78/-8.05	-11.7/-14.61	-14.64/-18.81	-15.52/-16.81	-13.09/-15.94	-17.99/-18.26	-12.01/-12.12
φ(160°)	-17.82/-16.46	-11.52/-12.07	-10.14/-9.01	-10.26/-14.28	-19.26/-15.05	-12.64/-12.11	-15.76/-14.72	-13.2/-14.11	-17.13/-18.11	-17.88/-18.32	-16.59/-18.74	-18.04/-17.92	-10.8/-8.05	-9.67/-15.82	-17.79/-18.49	-14.2/-11.69	-13.29/-14.3	-12.99/-13.12
φ(170°)	-19.08/-12.86	-9.13/-9.15	-8.98/-8.03	-9.3/-12.1	-17.85/-17.45	-19.23/-18.28	-17.77/-13.89	-12.65/-11.47	-10.43/-10.33	-10.19/-11.41	-13.04/-15.64	-16.6/-15.97	-15.57/-15.64	-17.98/-18.95	-14.54/-14.67	-17.67/-18.6	-18.69/-16.97	-18.95/-19.12
φ(180°)	-18.07/-18.25	-19.31/-19.09	-18.83/-18.26	-19.03/-19.12	-15.53/-16.2	-18.05/-17.96	-16.15/-14.22	-14.03/-15.92	-15.12/-16.56	-18.16/-18.18	-18.91/-19.26	-18.84/-19.06	-18.74/-18.34	-18.34/-18.98	-18.1/-19.23	-17.26/-18.02	-18.98/-18.12	-18.63/-18.65
Freq(Hz)	5.885GPol	PhiAnt. 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)
θ(0°)	-19.12/-15.59	-8.26/-3.88	-1.680.11	1.32/1.2	2.69/2.71	2.88/2.7	2.24/1.45	0.38/-1.23	-3.82/-7.63	-15.58/-15.45	-7.45/-3.4	-1.05/0.53	1.59/2.39	2.94/3.1	3.06/2.72	2.07/1.08	-0.4/-2.3	-5.06/-5.78
θ(10°)	-15.7/-13.66	-6.94/-3.4	-1.46/0.33	1.18/1.94	2.27/1.2	2.35/2.22	1.96/1.25	0.11/-1.75	-4.19/-7.74	-14.06/-17.65	-9.7/-5.15	-2.94/-1.41	-0.56/0.07	0.37/0.44	0.30/1.1	-0.45/-1.13	-2.38/-3.71	-5.6/-5.75
θ(20°)	-13.72/-14.91	-8.48/-3.93	-1.40/0.46	1.57/2.03	2.38/2.79	2.96/2.72	2.37/1.49	0.52/-0.77	-2.72/-7.16	-14.02/-15.21	-14.43/-11.76	-8.49/-6.2	-3.91/-2.08	-1.05/-1.27	-2.14/-3.68	-4.52/-5.49	-7.19/-8.93	-8.87/-9.98
θ(30°)	-12.91/-17.59	-9.29/-3.43	-0.48/0.75	0.74/0.33	0.21/0.47	1/1.49	1.71/2.3	0.17/-2.03	-4.96/-8.91	-11.36/-12.45	-18.52/-17.79	-12.64/-10.68	-10.27/-8.97	-7.52/-6.61	-7.92/-9.98	-9.84/-7.32	-6.51/-6.85	-8.25/-8.64
θ(40°)	-8.54/-7.98	-7.65/-4.13	-0.87/0.02	-0.01/-0.82	-1.51/-0.67	0.64/1.45	0.83/-0.95	-3.87/-8.42	-11.69/-12.84	-16.36/-18.35	-17.45/-19.22	-10.34/-6.98	-6.85/-6.52	-3.48/-2.39	-3.02/-3.8	-4.91/-8.24	-12.22/-9.57	-8.11/-9.12
θ(50°)	-7.18/-4.83	-7.03/-6.1	-2.93/-0.36	1.22/1.4	0.92/0.35	1.56/2.36	1.14/-2.3	-7.66/-11.05	-8.01/-8.85	-14.08/-19.23	-9.39/-3.89	-0.9/-2.39	-2.85/-3.47	-3.74/-2.83	-0.99/-0.46	-0.9/-2.16	-3.67/-7.93	-13.96/-14.52
θ(60°)	-7.38/-5.37	-6.38/-7.62	-8.82/-4.33	0.05/1.65	0.94/-0.35	-0.06/1.42	1.55/-1.48	-5.09/-4.69	-3.64/-4.36	-10.44/-18.96	-4.14/-0.78	0.02/0.89	-2.07/-2.82	-2.72/-1.53	-0.03/-0.05	-0.38/-0.8	-1.37/-3.04	-9.01/-10.12
θ(70°)	-11.7/-7.65	-7.32/-7.23	-8.67/-6.88	-1.25/0.4	-0.42/-1.2	-1.46/-0.45	0.11/-1.26	-2.43/-1.94	-3.23/-4.65	-12.59/-11.75	-1.48/0.19	1.02/0.75	0.65/0.68	-0.18/1.31	2.37/2.99	2.05/-0.4	-0.19/-2.78	-5.48/-5.97
θ(80°)	-19.24/-17.42	-10.04/-5.76	-4.51/-3.62	-1.39/-1.08	-0.96/-0.26	-0.72/-1.07	-1.01/-1.39	-2/2.69	-5.45/-7.6	-14.2/-13.04	-2.82/-0.92	-0.38/0.22	0.73/0.91	1.62/2.91	2.59/3.29	2.14/-1.78	-2.02/-3.52	-2.97/-3.15
θ(90°)	-11.29/-13.27	-11.08/-6.86	-3.47/-1.31	0.95/0.65	1.27/0.13	-2.97/-5.05	-3.14/-1.61	-2.35/-4.91	-8.42/-10.04	-15.29/-18.89	-6.94/-5.69	-4.38/-2.66	-0.92/-0.2	1.07/2.38	2.19/2.37	1.1/-2.74	-5.13/-7.2	-4.86/-7.68
θ(100°)	-11.59/-14.53	-12.8/-7.9	-3.21/-0.59	1.75/0.75	1.07/-1.04	-1.84/-2.94	-2.95/-3.61	-3.9/-6.2	-8.28/-14.27	-19.17/-18.65	-17.91/-18.73	-9.53/-5.24	-2.49/-1.4	-0.91/0.51	-0.3/-1.21	-3.07/-5.44	-4.8/-7.45	-5.62/-6.84
θ(110°)	-9.19/-7.55	-10.86/-6.82	-2.33/-1.02	-1.59/-1.59	-11.21/-10.14	-6.89/-3.13	-0.01/-2.44	-6.16/-16.17	-18.38/-17.61	-18.94/-19.02	-14.84/-19.19	-18.14/-7.75	-5.27/-6.92	-4.67/-0.49	-3.68/-6.07	-7.1/-6.66	-7.38/-12.11	-12.99/-13.54
θ(120°)	-10.64/-11.58	-13.68/-7.82	-4.31/-1.47	-0.61/-2.22	-5.88/-8.41	-7.92/-4.74	-3.46/-4.01	-6.24/-8.63	-13.18/-19.01	-18.83/-18.11	-14.87/-17.61	-11.4/-11.27	-11.22/-11.5	-9.24/-4.88	-14.16/-11.72	-8.27/-6.01	-12.24/-12.61	-12.21/-12.84
θ(130°)	-18.1/-17.4	-16.74/-17.58	-7.61/-3.12	-0.37/-0.26	-3.4/-7.07	-6.89/-6.52	-6.04/-6.77	-9.96/-18.61	-9.81/-11.23	-9.57/-18.04	-10.97/-17.48	-9.2/-12.15	-4.14/-6.74	-4.67/-5.23	-6.63/-3.23	-5.4/-11.69	-14.69/-18.29	-8.13/-8.45
θ(140°)	-13.76/-17.61	-15.99/-17.67	-14.39/-7	-5.4/-7.83	-12.63/-14.5	-14.52/-17.68	-12.76/-17.47	-18.79/-15.52	-16.76/-18.3	-18.17/-13.1	-12.67/-19.17	-8.04/-13.56	-12.5/-17.85	-8.81/-13.45	-6.75/-11.21	-14.17/-16.71	-12.62/-13.45	
θ(150°)	-12.62/-12.29	-10.65/-9.58	-9.63/-11.26	-15.55/-17.46	-16.04/-14.02	-12.76/-12.45	-12.67/-15.29	-16.37/-14.61	-10.9/-9.89	-12.36/-14.57	-8.33/-9.74	-11.51/-11.8	-13.53/-8.87	-5.66/-7.05	-7.39/-10.19	-10.22/-5.94	-6.24/-6.84	-6.67/-7.54
θ(160°)	-15.02/-10.95	-12.27/-13.74	-15.37/-17.64	-15.48/-12.29	-11.21/-10.51	-9.67/-8.43	-8.14/-9.05	-9.98/-10.14	-9.83/-9.35	-11.29/-16.77	-17.41/-13.01	-11.87/-13.97	-14.78/-10.67	-8.77/-8.52	-8.84/-9.44	-9.43/-6.93	-4.86/-5.02	-7.55/-8.11
θ(170°)	-11.78/-13.14	-18.96/-18.67	-15.53/-13.87	-11.61/-9.76	-9.31/-8.94	-8.82/-9.3	-10.66/-13.76	-16.76/-18.3	-18.39/-17.56	-17.08/-15.52	-13.56/-12.54	-11.85/-11.39	-10.65/-10.19	-9.78/-9.77	-11.21/-13.69	-17.3/-18.79	-18.52/-18.99	-18.67/-19.12
θ(180°)	-18.38/-18.44	-17.64/-18.85	-18.33/-18.75	-18.66/-18.66	-17.99/-18.4	-18.33/-19.08	-18.4/-15.24	-14.51/-14.1	-15.9/-18.54	-18.83/-19.07	-18.51/-18.7	-18.75/-18.21	-17.25/-18.7	-17.49/-18.88	-19.47/-19.12	-19.11/-18.21	-17.42/-18.75	-18.33/-18.53
Freq(Hz)	5.885GPol	ThetaAnt. 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)
θ(0°)	2.87/2.75	2.36/1.72	0.78/-0.87	-2.92/-5.55	-9.16/-16.81	-14.12/-7.29	-3.61/-1.44	0.37/1.38	2.24/2.7	2.95/2.75	2.31/5.5	0.55/0.87	-2.96/-5.85	-10.68/-17.73	-11.57/-6.49	-3.12/-0.86	0.79/1.91	2.68/2.45
θ(10°)	2.24/2.29	1.65/0.88	-0.21/-1.76	-3.81/-6.64	-11.97/-19.37	-12.29/-7.11	-3.88/-1.45	0.35/1.36	2/2.62	2.84/2.71	2.25/1.57	0.51/0.74	-2.66/-5.32	-9.17/-14.92	-17.31/-10.74	-6.44/-3.89	-1.46/0.05	1.17/1.08
θ(20°)	2.14/2.87	2.76/1.83	1.09/0.39	-1.1/-4.34	-8.91/-18.13	-15/-6.84	-2.96/0.67	0.56/1.13	1.83/2.27	1.77/0.28	-0.75/-1.14	-1.55/-2.2	-2.94/-4.24	-7.15/-11.76	-17.06/-18.46	-13.63/-9.29	-6.37/-4.57	-2.71/2.98
θ(30°)	0.21/2.29	2.28/1.93	1.73/-0.25	-3.11/-5.74	-9.51/-18	-17.23/-9.3	-5.51/-2.74	-2.18/-3.47	-3.1/-2.82	-5.78/-9.12	-7.85/-6.36	-6.43/-6.88	-6.68/-6.36	-6.91/-10.05	-15.76/-18.77	-15.31/-9.21	-6.1/-4.69	-4.09/-4.52
θ(40°)	-3.08/-1.07	-0.87/-1.97	-1.94/-4.9	-5.56/-5.44	-7.11/-9.95	-14.72/-11.97	-8.54/-6.83	-3.62/-3.82	-3.62/-6.42	-10.06/-7.91	-8.26/-8.28	-7.86/-8.87	-10.08/-11.4	-9.33/-8.79	-11.99/-17.72	-17.34/-18.48	-14/-8.96	-5.76/-5.86
θ(50°)	-3.79/-3.54	-3.33/-6.71	-9.67/-13.68	-6.55/-5.59	-7.19/-11.83	-17.67/-11.5	-5.95/-5.97	-3.05/-2.51	-2.03/-4.33	-5.35/-8.68	-9.84/-8.43	-6.44/-6.76	-9.88/-15.12	-14.42/-11.9	-14.75/-18.63	-15.38/-8.69	-4.68/-3.77	-3.99/-4.12
θ(60°)	-5.05/-4.87	-5.41/-10.26	-13.38/-14.16	-9.62/-9.77	-12.31/-18.7	-18.83/-14.58	-7.69/-6.35	-5.49/-2.92	-1.62/-3.18	-5.13/-10.79	-11.99/-14.7	-9.12/-8.21	-9.02/-14.18	-13.91/-14.5	-13.45/-16.45	-16.55/-10.77	-4.92/-3.82	-4.67/-5.55
θ(70°)	-9.98/-9.35	-7.58/-7.99	-10.81/-18.06	-12.4/-15.3	-18.88/-18.35	-18.8/-12.85	-6.87/-9.36	-11.51/-7.41	-4.27/-6.34	-6.55/-10.74	-13.88/-13.97	-18.61/-11.34	-12.86/-12.55	-12.33/-16.22	-16.27/-17.51	-12.47/-7.86	-4.16/-4.99	-7.12/-8.65
θ(80°)	-15.05/-10.96	-9.31/-12.96	-12.68/-17.78	-14.26/-17.24	-9.77/-14.88	-18.8/-18.69	-9.61/-11.94	-12.51/-10.93	-9.13/-9.01	-5.63/-6.92	-7.93/-9.33	-13.79/-9.74	-13.31/-15.42	-14.17/-16.86	-11.18/-18.24	-12.96/-9.01	-9.52/-10.07	-12.2/-12.65
θ(90°)	-8.66/-10.88	-9.01/-7.1	-5.36/-10.98	-16.12/-18.84	-8.63/-13.79	-13.54/-16.84	-7.78/-8.91	-10.05/-9.03	-9.44/-10.88	-7.81/-10.23	-11.35/-10.44	-10.6/-13.73	-13.33/-11.58	-10.77/-18.04	-8.77/-18.62	-6.67/-6.97	-9.83/-11.55	-10.9/-13.85
θ(100°)	-10.57/-9.96	-6.81/-8.82	-12.17/-10.41	-12.86/-12.44	-11.52/-18.02	-11.12/-18.37	-8.85/-11.17	-17.41/-18.21	-18.74/-17.37	-9.91/-15.24	-16.51/-15.81	-10.51/-7.28	-10.91/-18.48	-14.4/-18.18	-9.32/-12.05	-7.46/-8.82	-7.93/-8.63	-9.98/-10.52
θ(110°)	-10.49/-14.22	-12.42/-8.6	-6.51/-4.74	-5.27/-6.35	-12.81/-16.87	-11.81/-17.92	-9.81/-8.15	-8.65/-8.89	-8.23/-15.62	-17.63/-16.81	-17.91/-17.97	-6.57/-8.21	-13.18/-18.88	-18.95/-18.69	-9.96/-13.25	-12.01/-10.84	-16.41/-15.8	-15.67/-16.12
θ(120°)	-10.98/-18.61	-17.66/-9.65	-5.86/-4.13	-4.52/-7.79	-12.07/-18.23	-18.03/-18.7	-11.48/-7.33	-7.82/-8.79	-10.71/-15.17	-18.36/-14.17	-18.61/-18.07	-10.77/-9.4	-17.33/-16.77	-18.28/-19.04	-17.72/-17.17	-13.63/-12.27	-15.27/-18.4	-18.8/-19.65
θ(130°)	-13.55/-13.71	-18.91/-12.52	-12.82/-11.25	-8.85/-7.65	-8.76/-17.68	-16.7/-12.88	-17.9/-17.75	-17.4/-19.27	-17.85/-19	-17.25/-11.22	-18.9/-18.63	-14.78/-12.12	-15.8/-18.2	-10.58/-15.03	-11.51/-11.02	-11.16/-13.43	-14.14/-12.47	-17.94/-18.98
θ(140°)	-15.72/-12.21	-12.63/-10.3	-6.73/-5.86	-5.68/-9.81	-17.28/-16.33	-9.67/-11.15	-9.38/-9.7	-10.23/-11.97	-17.17/-15.22	-14.34/-17.96	-14.07/-17.28	-13.34/-17.86	-18.02/-10.99	-14.58/-13.88	-7.42/-16.76	-18.14/-12.84	-17.95/-16.7	-17.29/-18.52
θ(150°)	-16.68/-16.44	-18.68/-15.9	-13.87/-18.59	-18.36/-19.13	-18.91/-15.77	-10.33/-9.29	-14.42/-15.92	-9.54/-8.82	-7.81/-8.24	-11.95/-12.39	-13.78/-15.35	-19.14/-7.92	-9.72/-17.59	-18.1/-17.9	-12.81/-18.34	-13.65/-15.95	-17.96/-17.98	-10.26/-10.35
θ(160°)	-18.85/-11.32	-9.99/-10.2	-8.65/-9.21	-10.55/-14.64	-17.56/-14.24	-11.52/-12.35	-17.43/-19.08	-14.12/-15.99	-17.19/-18.95	-18.11/-18.06	-17.57/-15.95	-18.61/-18.78	-12.95/-8.86	-10.59/-17.31	-17.81/-19.26	-12.85/-10.01	-13.62/-1	



# Antenna Pattern of 2.4GHz and 5GHz UNII 1, 2A

# Appendix D

## Total Gain Data

Freq(Hz)	2.4GPol.	TotalAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)Φ(350°)
θ(0°)	-9.06/-9.49	-9.72/-9.23	-8.69/-9.97	-7.71/-7.77	-7.92/-7.99	-8.12/-8.07	-7.71/-7.04	-6.12/-5.50	-7.73/-7.17	-5.11/-5.05	-6.46/-7.04	-7.45/-7.68	-7.73/-7.91	-8.24/-8.56	-8.73/-8.64	-8.40/-8.23	-7.77/-7.59	-7.79/-8.20
θ(10°)	-5.24/-4.84	-4.47/-3.87	-3.46/-3.11	-3.07/-3.12	-3.41/-3.70	-4.28/-4.52	-4.78/-4.94	-4.90/-5.01	-5.34/-5.95	-6.97/-8.46	-10.07/-11.80	-13.41/-15.25	-16.86/-16.11	-16.92/-15.20	-13.96/-11.78	-10.04/-8.47	-7.19/-6.36	-5.94/-5.56
θ(20°)	-2.65/-2.04	-1.47/-0.97	-0.48/-0.13	0.07/-0.07	-0.50/-1.19	-1.84/-2.32	-3.01/-3.41	-3.89/-4.26	-4.84/-5.67	-6.72/-8.04	-9.49/-11.28	-12.99/-13.45	-13.31/-13.83	-13.25/-11.88	-9.89/-8.32	-6.95/-5.78	-4.94/-4.11	-3.60/-3.42
θ(30°)	-3.58/-2.72	-1.77/-0.92	-0.09/-0.51	0.89/0.88	0.53/-0.12	-0.95/-1.57	-2.17/-2.70	-3.10/-3.55	-4.31/-5.18	-6.12/-7.13	-9.32/-9.08	-9.08/-8.23	-4.57/-4.59	-5.33/-4.79	-7.00/-6.09	-5.33/-4.79	-4.68/-4.56	-4.36/-4.05
θ(40°)	-3.01/-2.48	-1.72/-0.80	0.10/0.92	1.43/1.65	1.51/1.06	0.29/-0.43	-0.95/-1.23	-1.55/-1.93	-2.81/-3.85	-4.73/-5.29	-5.70/-5.69	-5.36/-5.19	-4.91/-4.45	-4.19/-4.01	-3.89/-3.74	-3.70/-3.79	-3.95/-4.03	-3.73/-3.38
θ(50°)	-3.15/-2.68	-1.48/-0.08	1.41/1.17	2.62/2.89	2.91/2.67	2.15/1.70	1.59/1.69	1.73/1.36	0.47/-0.64	-1.35/-1.71	-1.73/-1.71	-1.77/-1.98	-2.50/-3.60	-4.62/-4.38	-3.77/-3.37	-3.26/-3.26	-3.29/-3.32	-3.27/-3.42
θ(60°)	-6.77/-6.91	-6.81/-4.37	-1.29/0.70	1.87/2.62	2.80/2.46	1.97/1.48	1.37/1.35	1.08/0.44	-0.75/-1.92	-2.35/-2.51	-2.58/-2.85	-4.74/-6.11	-5.78/-4.10	-2.90/-2.70	-3.51/-5.20	-3.12/-3.62	-6.97/-8.25	-8.36/-7.29
θ(70°)	-1.12/-1.05	-2.06/-2.60	-1.49/-0.02	1.46/2.71	2.97/2.71	2.64/2.80	3.08/3.15	2.34/0.38	-2.11/-3.03	-2.92/-3.05	-2.64/-1.65	-1.25/-0.84	-1.17/-1.56	-1.42/-0.90	-0.84/-1.23	-2.10/-4.07	-6.01/-5.68	-3.94/-2.12
θ(80°)	0.71/0.87	0.24/0.12	0.96/0.79	1.09/2.03	1.92/2.80	0.56/1.40	2.26/2.97	2.92/1.75	0.14/-0.66	-0.45/-0.32	0.00/0.43	0.79/1.17	0.84/-0.30	-1.03/-0.86	-0.59/-0.66	-1.47/-2.79	-3.69/-2.90	-1.16/0.10
θ(90°)	0.08/0.16	-1.33/-1.61	0.29/0.70	0.94/2.09	2.13/1.06	0.99/2.14	1.82/2.83	0.08/0.85	0.92/0.30	-1.41/-0.88	0.42/1.34	0.42/1.34	1.37/0.31	-1.57/-0.87	0.10/0.10	-0.97/-2.78	-3.28/-2.50	-1.59/-0.43
θ(100°)	-3.57/-4.43	-5.45/-3.23	-0.68/0.19	0.69/1.49	1.07/0.86	-2.84/-2.28	-0.19/1.33	1.44/0.31	-2.36/-2.32	-2.65/-3.75	-3.37/-1.45	-0.40/0.22	-0.70/-3.89	4.10/-0.93	0.57/0.04	-2.33/-5.29	-5.12/-4.19	-4.15/-3.92
θ(110°)	-1.64/-2.52	-8.52/-8.56	-5.11/-4.57	-5.18/-3.75	-3.60/-5.74	-7.05/-5.67	-2.99/-0.84	-0.41/-1.28	-1.52/-1.14	-1.25/-1.13	-0.74/-0.94	-1.28/-1.68	-4.00/-4.45	-1.44/0.46	0.64/0.15	-1.02/-0.69	-0.05/-0.61	-1.60/-1.89
θ(120°)	-4.86/-3.37	-3.75/-5.90	-5.72/-4.30	-4.19/-3.28	-2.46/-2.90	-1.41/0.65	0.44/1.22	0.37/0.23	-3.25/-4.17	-3.95/-5.17	-4.77/-2.51	-0.72/-2.24	-3.35/-2.92	-0.72/-2.24	-3.35/-2.92	-2.10/-2.78	-4.83/-6.24	
θ(130°)	-2.20/-0.90	-1.57/-5.36	-9.03/-5.34	-3.91/-4.75	-5.85/-6.48	-6.94/-7.59	-7.63/-6.62	-3.85/-2.79	-1.17/0.08	-0.12/-1.76	-3.48/-3.31	-2.80/-3.16	-2.92/-2.11	-1.69/-1.35	-1.27/1.98	-2.50/-2.04	-1.82/-2.69	-4.31/-4.32
θ(140°)	-12.24/-13.80	-12.50/-11.26	-8.39/-5.18	-3.56/-3.10	-3.23/-3.30	-3.11/-2.88	-2.98/-2.95	-2.81/-1.91	-0.71/0.24	0.33/0.23	-0.84/-1.63	-3.04/-4.84	-5.87/-6.90	-8.29/-8.61	-5.40/-5.71	-6.96/-8.48	-8.79/-8.37	-8.00/-9.99
θ(150°)	-5.52/-5.47	-5.71/-6.78	-8.79/-12.49	-14.05/-13.74	-14.49/-13.06	-10.75/-8.86	-6.47/-6.71	-7.47/-7.44	-8.11/-8.86	-8.77/-6.17	-1.32/-5.23	-1.32/-5.23	-4.05/-2.89	-1.59/0.47	-0.00/-0.41	-3.44/-4.18	-4.80/-5.23	
θ(160°)	-6.79/-6.31	-6.35/-6.89	-7.72/-8.25	-8.31/-8.67	-8.82/-9.99	-10.76/-10.24	-8.86/-7.56	-6.19/-4.87	-4.03/-3.40	-2.81/-2.41	-2.39/-2.69	-3.24/-3.96	-4.96/-5.18	-5.00/-4.65	-4.53/-4.89	-6.05/-7.31	-8.21/-8.75	-8.58/-7.84
θ(170°)	-9.21/-7.89	-7.31/-6.95	-6.93/-6.95	-6.81/-6.91	-7.08/-7.82	-8.73/-9.78	-10.40/-10.50	-9.90/-8.81	-8.01/-7.65	-7.54/-7.86	-8.85/-9.94	-11.74/-13.68	-14.46/-14.05	-14.03/-15.29	-15.61/-16.31	-15.71/-16.49	-16.20/-15.96	-13.81/-11.49
θ(180°)	-8.66/-7.69	-7.10/-6.82	-6.61/-6.21	-6.19/-6.53	-6.85/-7.49	-8.40/-9.92	-12.10/-14.14	-15.95/-16.64	-16.91/-16.18	-15.53/-14.19	-12.35/-11.11	-10.30/-9.54	-9.23/-9.46	-10.33/-11.14	-12.20/-13.12	-14.29/-14.14	-13.84/-12.83	-11.45/-10.03
Freq(Hz)	5.2GPol.	TotalAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)Φ(350°)
θ(0°)	-10.03/-10.73	-9.75/-9.34	-8.31/-7.75	-7.05/-7.01	-6.92/-6.78	-9.37/-9.00	-8.83/-8.78	-9.87/-9.00	-10.27/-9.80	-9.86/-9.88	-7.07/-7.17	-6.52/-6.61	-8.95/-8.53	-8.52/-9.39				
θ(10°)	-9.30/-7.96	-7.16/-6.49	-6.40/-6.89	-7.19/-7.88	-7.53/-7.45	-6.83/-6.19	-5.94/-5.36	-4.97/-5.22	-5.83/-5.86	-6.05/-6.07	-5.86/-5.30	-4.30/-3.50	-3.37/-3.81	-4.98/-6.13	-6.59/-6.65	-7.22/-8.70	-10.59/-11.62	-10.54/-10.00
θ(20°)	-11.42/-9.95	-8.16/-6.77	-5.07/-5.29	-6.11/-6.73	-8.44/-8.79	-6.85/-5.14	-4.41/-4.38	-4.96/-5.57	-6.38/-6.26	-6.01/-5.73	-4.71/-3.47	-2.72/-2.22	-2.72/-3.64	-5.07/-6.66	-5.17/-5.46	-4.57/-5.52	-6.80/-8.04	-9.05/-11.52
θ(30°)	-9.31/-7.77	-8.00/-6.31	-11.58/-11.42	-10.42/-8.98	-9.89/-8.94	-8.10/-7.14	-5.48/-6.15	-7.05/-6.07	-7.51/-6.08	-7.05/-5.09	-3.66/-3.01	-6.03/-5.02	-5.76/-4.72	-4.91/-5.86	-5.03/-5.02	-5.34/-6.51	-9.34/-9.24	
θ(40°)	-3.18/-3.58	-3.66/-5.25	-7.08/-10.77	-9.52/-6.61	-5.05/-5.75	-5.94/-4.98	-2.63/-2.40	-2.62/-2.68	-3.06/-4.18	-5.60/-6.94	-5.45/-4.20	-4.71/-6.36	-8.10/-9.25	-9.72/-10.16	-12.89/-14.81	-10.06/-5.81	-3.24/-2.57	
θ(50°)	0.27/0.86	0.77/-1.74	-3.93/-6.43	-11.02/-6.11	-1.28/-1.19	-1.68/-0.38	0.40/0.07	0.11/0.09	0.46/0.38	-0.26/-0.40	-2.40/-5.63	-6.30/-5.46	-3.84/-3.80	-5.69/-6.80	-9.19/-7.38	-6.37/-5.37	-5.08/-6.62	-5.82/-2.12
θ(60°)	-3.04/-1.19	0.25/0.36	-0.95/-0.83	-3.39/-3.84	2.38/2.75	1.21/1.11	1.71/1.65	1.54/1.64	2.92/1.97	0.13/2.73	-10.55/-16.18	-9.31/1.16	-8.12/-8.05	-5.93/-5.83	-8.04/-6.53			
θ(70°)	-10.29/-6.09	-1.12/1.27	0.84/1.45	0.43/-0.79	1.71/1.92	2.37/1.67	1.13/1.28	1.75/1.99	2.53/3.12	3.52/3.27	2.72/2.06	0.96/-1.85	-3.97/-3.28	-6.01/-4.51	-3.88/-9.02	-5.27/-2.77	-3.91/-5.69	-7.41/-9.30
θ(80°)	-6.63/-7.22	-2.02/2.44	1.50/0.99	0.97/-1.35	1.93/2.65	3.50/3.40	1.60/1.31	1.86/1.40	1.93/2.65	2.82/2.53	2.60/3.23	0.17/-0.92	-1.33/-1.13	-0.51/0.57	-5.44/-4.76	-1.50/0.02	0.00/-0.36	
θ(90°)	-2.62/-9.04	-4.53/2.85	0.78/-1.48	1.47/-2.70	-0.22/1.10	1.33/-0.34	-0.02/0.14	0.21/0.66	2.08/1.36	-1.99/2.20	1.49/3.55	2.50/0.79	-1.28/-5.44	-5.43/-0.86	0.24/0.79	-3.15/-1.06		
θ(100°)	-0.49/-4.25	-2.59/3.35	-0.23/-6.98	0.27/-2.48	-2.40/-4.38	-1.55/-2.98	-0.63/-0.15	-4.42/-6.67	-5.56/-3.50	0.85/-0.51	-2.04/3.63	0.44/2.26	1.86/-1.99	-2.42/3.65	-1.99/1.08	1.86/-0.85	-2.64/0.35	
θ(110°)	1.40/-4.41	-5.07/0.34	-3.41/-13.64	-1.12/-4.17	-6.21/-7.43	-5.42/-5.27	-3.55/-3.00	-4.89/-8.55	-4.92/-5.06	-3.41/-3.84	-6.05/-3.66	-2.34/-0.92	-0.94/-3.53	-1.94/-4.17	-6.28/-9.05	-2.20/-5.94	-8.79/-1.53	
θ(120°)	-0.86/-4.03	-8.89/-8.35	-7.26/-14.34	-4.63/-4.19	-8.46/-16.41	-16.08/-11.94	-9.70/-5.69	-3.47/-3.35	-8.11/-9.38	-10.81/-11.49	-8.71/-3.95	-2.77/-5.72	-5.00/-3.56	-4.24/-7.05	-12.41/-8.82	-8.09/-8.52	-4.36/-2.87	-11.05/-6.52
θ(130°)	-4.75/-7.01	-11.40/-10.51	-13.03/-14.93	-8.78/-8.94	-8.60/-9.12	-13.26/-6.89	-8.03/-8.38	-8.00/-13.20	-10.77/-13.13	-7.76/-7.26	-9.84/-8.25	-6.82/-4.15	-5.32/-9.09	-5.75/-13.58	-2.90/-3.68	-3.51/-5.17		
θ(140°)	-7.54/-7.38	-6.10/-4.71	-10.97/-12.84	-14.40/-11.61	-7.30/-4.77	-5.75/-5.73	-4.16/-6.42	-10.09/-11.71	-14.59/-11.98	-14.62/-12.58	-12.08/-8.62	-4.83/-3.24	-4.91/-11.22	-9.64/-10.14	-8.90/-3.83	-6.62/-5.28	-5.30/-9.53	
θ(150°)	-8.02/-11.35	-17.03/-12.12	-10.65/-8.29	-7.50/-9.68	-7.31/-4.69	-4.70/-5.29	-6.49/-5.68	-5.80/-5.64	-6.54/-7.55	-8.21/-8.36	-9.45/-11.68	-10.30/-9.17	-8.01/-6.04	-5.46/-5.07	-4.77/-7.23	-13.91/-16.55	-9.79/-7.53	
θ(160°)	-8.00/-7.95	-9.21/-9.94	-8.48/-8.77	-9.04/-9.79	-8.68/-7.00	-6.43/-6.84	-4.31/-2.97	-1.84/-1.44	-1.04/-1.59	-6.59/-7.44	-9.71/-11.61	-11.14/-9.08	-6.97/-5.74	-6.75/-6.17	-8.07/-8.59	-10.27/-8.45		
θ(170°)	-10.66/-12.95	-11.50/-9.38	-7.02/-6.62	-5.21/-5.50	-6.49/-7.17	-6.24/-7.49	-3.41/-2.77	-2.27/-1.74	-1.71/-2.12	-2.63/-3.39	-3.38/-2.66	-2.20/-2.09	-2.89/-4.28	-5.68/-6.42	-4.51/-4.28	-5.02/-7.10	-8.31/-9.23	
θ(180°)	-11.37/-11.31	-10.28/-9.95	-9.72/-9.80	-10.04/-10.21	-9.73/-9.74	-9.66/-9.59	-9.74/-10.66	-11.55/-11.72	-12.09/-12.31	-12.05/-12.21	-12.05/-13.88	-13.77/-14.13	-15.38/-15.73	-14.90/-13.93	-14.31/-15.25	-14.54/-13.00	-12.07/-11.92	-12.39/-12.95
Freq(Hz)	5.3GPol.	TotalAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(							



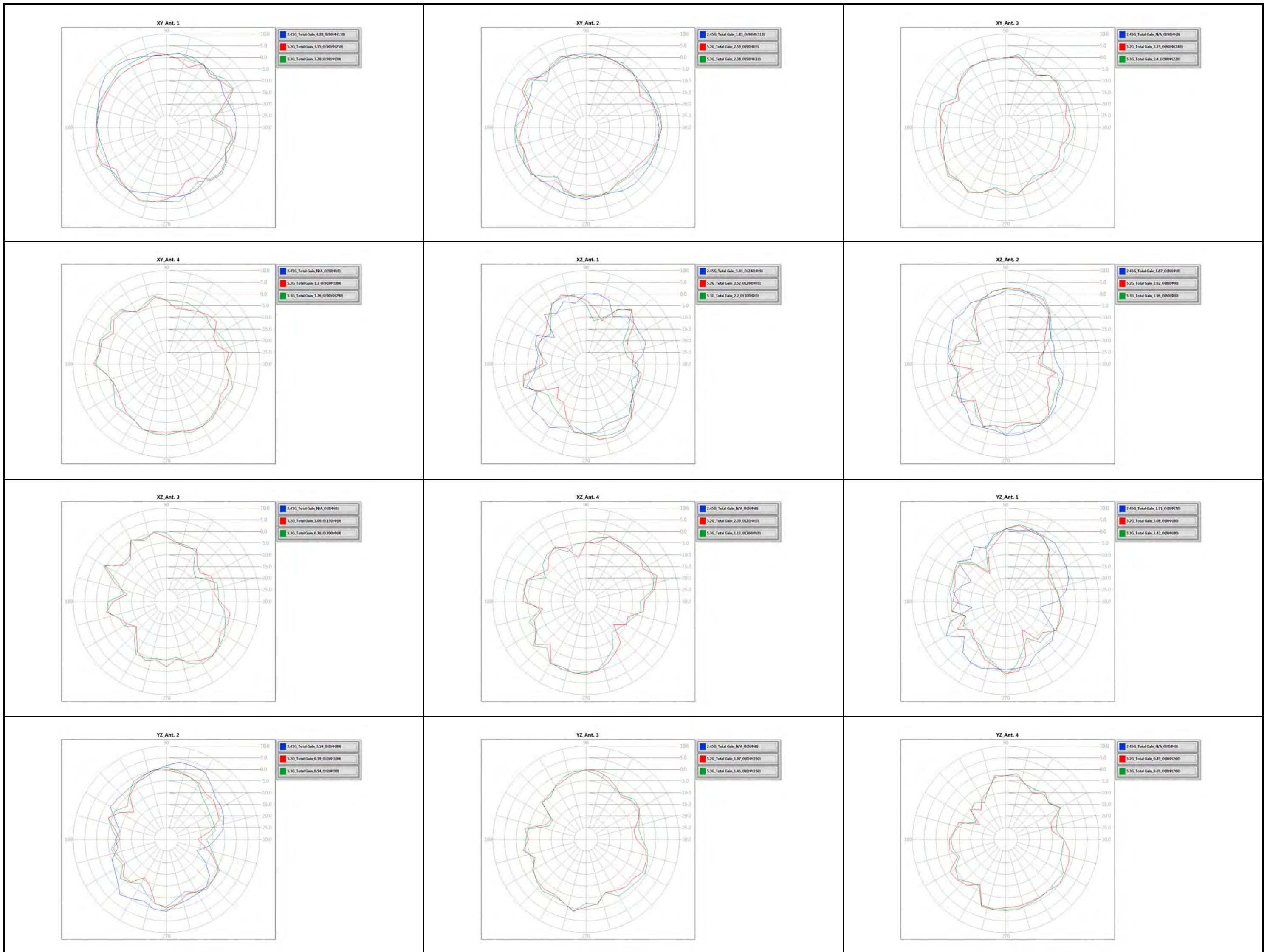
# Antenna Pattern of 2.4GHz and 5GHz UNII 1, 2A

# Appendix D

θ (60°)	2.96/2.90	1.89/1.32	-2.11/-1.66	-0.73/-3.14	-5.90/-2.91	-3.72/-3.39	-4.55/-2.28	1.45/2.40	0.40/-0.75	-0.73/-0.58	1.30/1.42	-0.62/-2.59	-2.83/-4.97	-6.24/-3.52	-3.37/-1.73	-0.51/-2.55	-4.11/-2.39	-0.18/-1.66
θ (70°)	2.41/2.72	2.16/4.41	-2.02/-3.76	-1.91/-2.44	-1.16/-1.40	-1.28/0.06	-3.47/-0.23	2.41/0.94	-4.08/-3.02	-2.21/-0.80	0.17/1.07	0.36/-1.58	-3.87/-4.21	-6.55/-6.33	-4.05/-2.71	-0.54/-2.43	-2.96/-1.36	0.26/1.53
θ (80°)	2.30/2.51	2.69/1.40	-2.45/-1.94	0.94/0.69	0.05/-0.30	-3.24/-1.45	-0.64/-1.55	4.45/3.69	-1.16/-2.35	-2.45/-1.45	-0.17/0.18	-1.29/-2.01	-3.43/-2.55	-1.32/-0.39	-0.39/-0.97	-1.32/0.35	-0.40/0.35	1.25/1.59
θ (90°)	2.34/2.38	1.67/1.05	-0.92/0.16	1.84/0.97	1.93/0.94	-0.01/2.37	0.81/-0.41	1.72/0.69	-5.76/-3.89	0.54/-0.00	-1.60/0.75	1.08/-2.45	-5.61/-1.19	-0.54/-1.09	-0.35/-0.80	-2.28/-1.98	-1.39/0.17	0.95/1.62
θ (100°)	1.81/-0.32	-0.69/-2.17	0.15/0.36	-0.36/0.26	1.66/0.04	0.73/0.30	-1.74/-4.81	2.55/1.63	-8.71/-8.92	-3.14/-0.09	-1.97/-2.39	-1.89/-2.83	-6.05/-1.11	-0.40/-1.97	0.84/0.49	-4.48/-4.04	-4.58/-1.22	0.78/1.23
θ (110°)	-0.74/-5.04	-2.65/-2.86	-0.79/-1.17	-1.03/-0.72	-0.64/-0.67	-1.58/-3.21	-2.02/-7.63	0.58/0.27	-5.68/-2.91	-6.66/-3.04	-1.78/-5.12	-1.18/-0.06	-6.06/-3.04	-4.73/-5.15	-1.01/-0.06	-8.25/-8.48	-4.58/-1.22	-2.99/2.04
θ (120°)	-3.63/-7.34	-5.17/-8.22	-4.69/-2.94	-3.13/-3.02	-2.15/-1.49	-2.99/-2.01	0.89/-3.45	-5.94/-3.90	-6.56/-5.06	-4.68/-10.18	-12.25/-7.22	-16.50/-8.96	-12.81/-8.90	-16.25/-8.10	-1.60/-5.48	-12.27/-5.20	-9.52/-16.53	-5.82/-3.17
θ (130°)	-7.33/-6.08	-7.18/-8.11	-8.42/-4.88	-2.81/-2.28	-2.83/-5.18	-6.30/-2.49	0.09/-0.54	-4.72/-8.18	-6.75/-8.00	-8.89/-11.23	-10.27/-16.61	-13.65/-9.97	-6.57/-11.91	-12.27/-5.84	-8.94/-15.12	-11.43/-11.51	-12.56/-8.10	-1.11/0.44
θ (140°)	-16.21/-12.86	-6.32/-4.29	-3.36/-3.15	-2.97/-2.81	-4.95/-8.18	-11.39/-9.63	-5.12/-5.49	-6.61/-10.80	-14.28/-10.68	-14.29/-15.89	-8.81/-9.78	-3.16/-5.43	-6.54/-12.36	-8.94/-9.47	-3.16/-5.43	-8.89/-12.06	-8.34/-9.47	-12.04/-12.18
θ (150°)	-13.57/-11.17	-8.43/-5.98	-6.48/-7.03	-8.18/-9.00	-6.58/-5.10	-4.77/-4.97	-5.70/-8.00	-8.85/-7.16	-7.69/-6.59	-3.11/-4.21	-9.48/-11.03	-10.52/-10.51	-13.50/-9.37	-7.49/-8.46	-10.78/-12.33	-8.81/-4.93	-5.23/-5.07	-7.03/-11.21
θ (160°)	-8.14/-7.15	-7.83/-9.70	-8.98/-8.21	-7.46/-6.02	-4.97/-3.48	-2.27/-2.17	-3.13/-5.36	-8.41/-10.95	-10.32/-8.76	-7.66/-9.82	-16.28/-16.87	-16.63/-14.38	-12.20/-9.12	-7.16/-7.08	-7.26/-7.81	-7.62/-6.19	-5.67/-6.83	-7.74/-8.47
θ (170°)	-5.62/-4.70	-4.02/-3.81	-3.61/-3.85	-4.33/-5.36	-5.84/-6.32	-9.60/-9.57	-7.78/-8.82	-12.04/-10.91	-9.94/-8.82	-7.32/-6.83	-6.22/-5.92	-5.58/-6.05	-6.47/-7.47	-8.42/-10.29	-12.99/-13.20	-10.52/-7.92	-9.27/-8.92	-9.27/-8.92
θ (180°)	-7.62/-6.66	-6.92/-6.22	-6.51/-6.99	-7.67/-8.23	-8.33/-8.98	-8.99/-8.98	-8.35/-8.78	-10.14/-10.41	-10.14/-9.41	-9.15/-8.62	-7.81/-7.69	-8.26/-8.67	-8.43/-8.05	-8.35/-8.65	-9.60/-9.68	-9.37/-8.91	-8.25/-8.17	-9.27/-8.92
Freq(Hz)	2.45G/Pol.	TotalAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
θ (0°)	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-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 (10°)	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-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 (20°)	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-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
θ (40°)	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-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 (50°)	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-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
θ (70°)	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-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 (80°)	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-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
θ (100°)	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-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 (110°)	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-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
θ (130°)	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-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 (140°)	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-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
θ (160°)	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-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 (170°)	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-inf/-inf	-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
Freq(Hz)	5.2G/Pol.	TotalAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)/Φ(350°)
θ (0°)	-7.16/-7.17	-8.88/-9.12	-8.04/-7.57	-7.66/-8.27	-7.97/-8.33	-7.57/-7.60	-7.49/-7.20	-7.18/-7.20	-7.62/-8.29	-8.75/-8.77	-9.14/-9.24	-8.71/-7.87	-8.19/-9.17	-9.35/-8.88	-7.78/-8.24	-8.11/-7.19	-7.15/-7.51	-7.47/-7.45
θ (10°)	-9.30/-9.53	-9.73/-9.16	-9.47/-9.53	-10.12/-10.69	-9.40/-9.18	-8.23/-6.50	-5.56/-5.00	-4.39/-3.45	-3.19/-3.00	-2.29/-1.40	-0.87/-0.87	-0.99/-1.26	-1.77/-2.57	-3.45/-3.97	-4.75/-5.31	-6.26/-2.79	-8.74/-9.13	-8.61/-10.04
θ (20°)	-8.00/-7.68	-9.18/-9.18	-8.84/-7.45	-8.44/-5.80	-6.62/-6.11	-1.90/-1.40	-1.26/-1.22	-4.01/-3.47	-3.42/-3.18	-2.61/-2.22	-1.38/-2.07	-1.39/-1.32	-2.79/-3.72	-4.20/-5.78	-7.39/-7.15	-7.19/-7.15	-7.64/-8.33	-7.64/-8.33
θ (30°)	-8.01/-6.64	-6.09/-6.76	-7.75/-6.21	-4.62/-3.81	-3.72/-3.85	-4.41/-5.37	-5.58/-3.80	-2.66/-2.68	-2.58/-2.88	-3.22/-3.53	-3.89/-4.12	-3.08/-0.71	0.84/1.50	0.52/-1.92	-4.42/-5.35	-5.58/-5.58	-6.15/-6.82	-7.99/-8.80
θ (40°)	-11.11/-10.51	-8.78/-7.61	-6.90/-7.42	-9.70/-9.13	-6.30/-3.47	-4.08/-5.07	-5.94/-3.88	-1.31/-0.70	-0.43/-0.12	-0.78/-1.23	-0.76/-1.74	-3.01/-1.24	0.91/1.61	-0.32/-3.75	-4.92/-3.54	-3.81/-5.91	-8.44/-14.01	-15.59/-14.26
θ (50°)	-9.38/-7.08	-5.38/-7.14	-7.55/-8.54	-10.37/-14.03	-8.36/-6.36	0.23/0.80	1.64/1.71	0.62/0.94	1.85/1.34	0.20/0.94	-0.36/-2.19	-0.77/0.69	-0.40/-3.41	-4.39/-3.47	-3.92/-6.60	-6.25/-4.87	-6.06/-9.11	-6.06/-9.11
θ (60°)	-4.16/-4.17	-4.82/-3.72	-2.67/-3.15	-4.31/-6.52	-0.39/-5.10	0.50/0.88	-0.39/-0.75	-0.81/-1.45	-1.52/-0.81	-2.35/-2.98	0.00/0.88	-1.24/-4.68	-6.42/-3.42	-5.65/-7.64	-6.04/-3.49	-2.88/-3.53	-2.88/-3.53	-2.88/-3.53
θ (70°)	-5.38/-6.48	-5.08/-3.22	-2.39/-3.69	-4.60/-3.09	-1.84/-1.95	-0.17/-1.27	-0.24/-2.52	-2.69/-1.68	-1.49/-2.76	-2.60/-4.48	2.30/2.00	0.90/-1.25	-3.70/-1.78	-3.11/-5.76	-3.79/-5.21	-5.83/-3.01	-2.26/-1.30	-0.66/-2.18
θ (80°)	-4.49/-3.09	-1.85/-1.82	-0.57/-2.24	-3.23/-1.46	-0.35/-0.36	0.51/0.62	-3.41/-3.52	1.07/0.00	-1.30/-2.18	-4.84/-0.98	1.88/2.66	2.31/-0.46	-2.48/-0.61	-1.83/-1.99	-3.02/-2.15	-1.01/-1.96	-0.75/-0.07	-1.17/-3.75
θ (90°)	-2.45/-3.11	-2.22/-3.14	-1.04/-0.92	-4.27/-2.44	0.73/-0.20	0.14/0.06	-0.16/-1.69	-2.79/-6.95	-4.22/-4.80	-2.06/-1.55	-0.92/-0.11	1.51/0.18	2.25/-0.22	-3.44/-0.97	-0.95/-3.43	-3.83/-3.77	-3.04/-3.51	-5.25/-2.93
θ (100°)	0.16/-0.58	-1.20/-5.13	-1.62/0.83	-1.59/-5.06	-0.17/-1.28	-2.36/-1.42	-1.00/-2.85	-2.81/-7.00	-3.76/-3.10	-4.59/-1.17	-2.04/-2.37	0.19/1.97	2.15/1.11	-0.36/0.07	0.48/-0.91	-2.38/-2.89	-1.31/-0.73	-0.69/-1.27
θ (110°)	-1.45/-3.36	-3.33/-6.47	-2.59/-2.46	-2.61/-3.03	-1.11/-2.90	-8.66/-3.36	-2.99/-5.22	-4.13/-4.46	-4.97/-4.46	-3.09/-2.39	-2.07/-1.32	-0.24/1.02	1.36/-1.10	-0.38/-1.22	1.74/-3.46	-1.34/-1.46	-2.73/-1.11	-1.97/-5.07
θ (120°)	0.40/-0.45	-0.21/-0.50	-8.24/-1.20	-3.02/-9.93	-8.24/-1.20	-6.82/-8.66	-4.99/-3.91	-9.89/-14.23	-7.87/-6.62	-1.90/-5.92	-1.68/-4.50	1.41/1.89	-1.31/-1.76	-2.80/-8.64	-1.68/-4.50	1.41/1.89	-1.31/-1.76	2.90/4.49
θ (130°)	-6.14/-0.57	-3.97/-3.35	-10.50/-2.04	-2.85/-16.04	-7.84/-5.35	-5.49/-9.78	-13.69/-10.74	-16.39/-14.74	-9.96/-9.98	-10.15/-2.65	-2.52/-4.96	-3.88/-3.64	-10.06/-0.72	-4.16/-2.14	-2.01/-4.34	-0.53/-0.43	0.02/-0.35	-4.71/-4.65
θ (140°)	-6.21/-0.83	-1.06/-7.24	-8.01/-6.82	-5.38/-6.28	-6.81/-5.88	-6.26/-11.11	-16.17/-13.52	-11.99/-12.43	-11.72/-15.32	-13.27/-6.23	-2.96/-7.20	-8.95/-6.33	-0.42/-0.85	-3.05/-2.56	-2.61/-0.99	0.25/-1.14	0.27/0.46	-4.57/-4.35
θ (150°)	1.06/-0.67	-3.21/-4.65	-4.09/-5.58	-7.67/-11.60	-10.50/-12.89	-7.87/-6.62	-11.62/-15.97	-10.63/-10.92	-14.71/-11.02	-10.63/-10.92	-4.11/-3.84	-8.59/-3.55	-3.21/-1.97	-1.93/-2.66	-3.48/-1.08	0.20/0.38	-3.48/-1.08	0.20/0.38
θ (160°)	-6.21/-4.34	-2.51/-2.70	-4.46/-6.94	-10.20/-12.67	-12.98/-11.58	-13.49/-11.05	-11.19/-11.33	-12.04/-12.05	-11.50/-12.55	-8.76/-5.86	-5.08/-6.25	-7.50/-6.75	-8.04/-11.31	-9.31/-6.69	-3.61/-1.99	-2.72/-5.86	-8.83/-9.44	-7.89/-6.63
θ (170°)	-12.90/-10.77	-7.74/-6.43	-7.04/-7.96	-5.99/-4.41	-3.73/-3.33	-4.39/-5.52	-5.06/-6.09	-6.71/-5.98	-5.11/-4.26	-3.86/-4.11	-4.35/-4.18	-4.43						

θ (160°)	-2.93/-3.43	-4.08/-3.69	-2.28/-0.81	-0.41/-1.66	-4.93/-8.70	-11.60/-13.30	-14.80/-14.11	-9.44/-7.26	-6.43/-6.25	-6.37/-6.87	-7.88/-9.29	-11.02/-8.65	-6.88/-5.90	-7.00/-8.07	-9.18/-8.10	-6.07/-6.01	-5.56/-3.97	-4.01/-3.45
θ (170°)	-3.14/-4.68	-4.36/-5.09	-6.26/-6.51	-8.67/-12.48	-11.20/-7.79	-5.77/-5.21	-4.87/-5.24	-6.36/-8.53	-10.91/-11.77	-11.11/-9.65	-9.17/-8.81	-9.94/-10.06	-8.40/-7.01	-5.73/-5.62	-6.29/-6.59	-5.51/-3.64	-2.17/-1.67	-1.56/-2.09
θ (180°)	-3.00/-1.75	-2.23/-2.97	-3.19/-3.97	-4.34/-4.32	-4.98/-5.90	-5.99/-5.03	-3.95/-2.97	-2.70/-2.85	-2.77/-2.73	-2.56/-2.37	-2.06/-1.95	-2.20/-2.07	-2.14/-1.93	-1.81/-2.14	-2.26/-2.30	-2.50/-3.20	-3.94/-4.86	-4.68/-3.99
Freq(Hz)	5.3GPol	TotalAnt 4	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)Φ(350°)
θ (0°)	-6.73/-6.18	-6.90/-7.70	-7.06/-5.91	-6.09/-6.44	-5.25/-4.91	-6.55/-7.95	-8.45/-7.45	-5.66/-5.71	-6.07/-6.61	-6.77/-6.94	-6.51/-5.91	-5.71/-5.83	-6.33/-7.06	-7.13/-6.64	-6.33/-5.76	-5.66/-6.47	-6.56/-6.46	-6.73/-6.81
θ (10°)	-1.06/-1.32	-2.28/-2.87	-3.22/-3.15	-4.60/-5.49	-6.82/-8.06	-7.95/-7.39	-6.30/-6.08	-4.87/-4.16	-4.46/-5.41	-6.09/-5.94	-5.63/-5.45	-5.44/-5.67	-6.06/-5.99	-5.62/-5.43	-4.16/-3.02	-2.05/-1.45	-1.44/-1.48	-1.23/-1.16
θ (20°)	1.01/0.70	-0.13/-0.68	-1.11/-1.10	-2.28/-3.68	-6.72/-6.77	-5.80/-5.41	-5.08/-5.41	-6.16/-7.62	-9.12/-8.91	-8.87/-10.66	-11.80/-12.46	-11.49/-9.56	-7.99/-6.70	-5.07/-5.02	-3.98/-2.00	-0.32/0.28	0.33/0.56	0.83/0.71
θ (30°)	0.52/-0.04	-1.85/-3.42	-2.91/-2.32	-3.95/-5.37	-4.67/-3.16	-3.30/-3.32	-4.01/-6.04	-7.83/-8.60	-9.35/-10.48	-10.57/-11.25	-11.41/-11.75	-11.83/-6.90	-3.34/-2.30	-2.89/-1.37	0.34/1.00	1.62/1.52	0.47/-0.46	-0.81/-0.30
θ (40°)	-0.10/0.23	-0.79/-1.86	-1.99/-2.54	-5.52/-6.24	-6.00/-5.86	-5.51/-5.29	-4.57/-2.94	-2.39/-3.89	-7.66/-12.69	-11.99/-10.26	-8.53/-7.75	-10.21/-7.16	-2.04/-0.42	-0.95/-2.01	-0.06/2.13	2.22/1.88	1.72/2.21	1.49/0.18
θ (50°)	-0.00/-1.27	-1.76/-2.04	-3.20/-6.86	-7.55/-6.14	-4.97/-3.79	-5.71/-8.58	-5.18/-2.88	-3.25/-7.24	-7.97/-8.94	-12.82/-10.39	-6.72/-6.22	-6.18/-5.91	-3.40/-1.35	-1.50/-1.36	0.51/1.45	1.66/1.02	1.60/2.66	2.20/0.89
θ (60°)	-0.67/-0.39	-1.86/-2.71	-3.19/-4.94	-5.34/-2.98	-3.63/-5.35	-8.51/-13.54	-5.84/-3.67	-4.87/-6.92	-4.10/-4.74	-6.80/-4.74	-5.23/-7.48	-7.30/-5.59	-3.31/-1.60	-1.82/-1.12	0.21/0.77	0.50/0.30	0.64/1.33	0.78/-0.77
θ (70°)	-0.68/-0.77	-1.63/-0.70	-0.84/-3.27	-2.19/-1.27	-1.65/-5.07	-3.57/-3.64	-4.15/-3.83	-2.18/-1.16	0.20/-1.35	-3.89/-5.31	-4.09/-4.95	-6.78/-2.98	-1.25/-0.09	0.09/-0.49	-0.14/0.75	0.13/0.83	0.33/0.56	0.71/0.00
θ (80°)	-2.29/-3.01	-2.50/-2.26	-3.10/-4.58	-2.03/-0.77	-1.73/-1.50	-1.43/-3.11	-5.32/-3.90	-0.42/-0.14	0.91/0.05	-0.29/-6.69	-5.59/-2.59	-5.19/-4.71	0.32/1.55	1.17/0.48	0.55/1.42	-0.74/0.45	1.41/-0.48	1.41/-0.48
θ (90°)	-4.85/-0.97	-2.86/-4.08	-5.20/-3.43	-3.20/-2.27	-2.53/-2.53	-0.39/-2.61	-4.41/0.49	0.79/-2.06	0.34/-0.95	0.62/-4.14	-5.88/-4.09	-1.67/-2.46	-2.27/-0.36	0.40/0.41	-0.45/1.26	0.72/-0.26	-1.39/-1.10	0.20/-2.15
θ (100°)	-4.91/-6.02	-8.57/-8.02	-5.03/-7.47	-7.68/-5.15	-4.92/-3.18	-1.36/-4.22	-3.13/1.33	0.36/-5.43	-0.69/-0.29	1.13/-1.40	-0.27/-0.98	-2.61/-3.63	-0.10/-0.83	-1.06/0.69	0.15/-2.38	1.21/1.27	-0.50/-1.30	-2.17/-3.44
θ (110°)	-7.38/-6.55	-6.07/-8.59	-6.65/-7.21	-7.54/-7.24	-8.95/-7.60	-2.40/-3.20	-2.69/-4.01	-3.27/-9.87	-2.25/-3.50	-0.14/-0.76	-2.38/-0.43	-0.52/-1.57	-5.24/0.34	-1.34/0.50	-0.32/0.91	-2.06/-0.06	0.01/-2.38	-2.66/-4.93
θ (120°)	-3.46/-4.87	-8.45/-9.32	-8.45/-10.64	-10.43/-16.85	-13.00/-11.88	-6.12/-12.13	-3.99/-4.94	-12.47/-2.96	-1.10/-3.03	0.72/0.87	-5.98/-3.62	-0.28/2.11	-0.42/-3.01	-1.76/-7.21	-0.35/-2.15	-1.98/-1.01	-1.82/-2.45	-2.98/-1.30
θ (130°)	-3.74/-6.75	-9.28/-7.56	-10.86/-11.41	-16.67/-10.17	-9.28/-9.11	-8.88/-7.32	-5.52/-2.08	-9.09/-3.37	-4.43/-1.72	-4.05/-3.78	-3.93/-1.16	0.16/-0.12	-1.44/-2.13	-0.32/-5.97	-2.58/-2.99	-3.44/-9.80	-2.87/-2.61	-1.96/-3.14
θ (140°)	-5.75/-3.92	-7.40/-12.89	-11.47/-9.44	-11.81/-7.13	-6.55/-10.82	-7.78/-8.46	-6.44/-7.06	-9.24/-8.09	-2.97/-1.10	-0.53/-1.79	-3.52/0.42	-1.21/-0.90	0.75/-0.14	-1.24/-3.32	-4.81/0.18	-1.49/-1.32	-10.86/-9.85	-5.73/-5.35
θ (150°)	-9.74/-14.41	-10.34/-8.46	-9.95/-8.07	-5.57/-5.28	-7.56/-15.38	-9.35/-6.61	-7.18/-11.52	-11.30/-5.94	-3.07/-2.88	-5.80/-5.71	-2.87/-3.27	-3.70/-1.71	-1.53/-1.74	-3.87/-5.19	-7.03/-3.08	-2.87/-5.48	-5.64/-6.66	-5.64/-7.43
θ (160°)	-3.40/-2.83	-4.31/-6.58	-5.74/-4.23	-3.19/-4.40	-7.18/-9.90	-10.33/-10.93	-13.23/-11.87	-8.65/-5.33	-3.10/-2.62	-3.87/-6.05	-7.12/-7.99	-9.06/-7.73	-5.93/-5.17	-6.34/-8.85	-9.48/-6.94	-5.87/-6.70	-5.72/-3.44	-3.28/-3.73
θ (170°)	-2.76/-5.00	-6.59/-6.19	-6.13/-6.78	-8.83/-12.47	-11.98/-8.03	-6.27/-5.04	-4.68/-5.16	-6.22/-8.01	-10.06/-10.90	-9.77/-8.95	-8.85/-8.85	-8.97/-9.11	-9.07/-9.36	-8.42/-6.99	-7.25/-6.88	-5.59/-4.29	-3.09/-2.34	-1.40/-1.49
θ (180°)	-4.87/-2.68	-2.55/-3.16	-3.62/-4.77	-5.58/-5.68	-6.43/-6.51	-6.17/-5.58	-4.74/-4.52	-4.25/-4.31	-4.18/-3.76	-3.47/-3.61	-3.82/-3.88	-3.48/-3.13	-3.05/-2.85	-2.17/-1.99	-2.36/-2.85	-3.56/-4.31	-4.58/-5.85	-6.25/-6.45

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





# Antenna Pattern of 5GHz UNII 2C~4

# Appendix E

## Total Gain Data

Freq(Hz)	5.6GPol.	TotalAnt. 1	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)	
θ(0°)	-8.00/-8.89	-7.94/-7.78	-7.95/-7.85	-7.94/-7.85	-7.94/-7.85	-7.94/-7.85	-7.94/-7.85	-7.94/-7.85	-7.94/-7.85	-7.94/-7.85	-7.94/-7.85	-7.94/-7.85	-7.94/-7.85	-7.94/-7.85	-7.94/-7.85	-7.94/-7.85	-7.94/-7.85	-7.94/-7.85	
θ(10°)	-4.70/-4.98	-5.50/-5.97	-6.04/-5.91	-6.74/-6.13	-5.85/-6.33	-6.88/-6.96	-7.12/-7.52	-7.35/-7.34	-7.29/-7.65	-8.19/-7.64	-7.25/-6.73	-6.14/-6.28	-6.40/-6.99	-7.22/-6.97	-6.56/-5.59	-4.92/-4.09	-3.68/-3.33	-3.70/-3.76	
θ(20°)	-2.47/-3.07	-2.92/-2.84	-3.31/-4.42	-5.58/-6.62	-6.46/-6.28	-6.28/-6.48	-6.51/-6.49	-7.21/-9.01	-12.27/-12.75	-11.58/-12.20	-14.68/-13.83	-13.19/-13.85	-12.67/-12.37	-10.36/-8.98	-8.15/-5.78	-6.19/-4.42	-2.40/-1.15	-0.93/-0.93	
θ(30°)	-0.31/-1.57	-2.73/-2.60	-3.19/-3.65	-3.42/-3.45	-4.10/-4.55	-5.29/-5.04	-4.73/-4.93	-3.19/-3.38	-6.02/-7.38	-10.00/-13.11	-14.23/-13.45	-14.25/-13.23	-11.01/-11.11	-13.61/-13.14	-8.86/-6.23	-5.01/-5.10	-3.90/-1.32	0.00/0.26	
θ(40°)	0.61/-0.96	-2.53/-1.71	-2.05/-2.23	-3.13/-3.77	-3.46/-3.51	-4.00/-4.01	-3.36/-3.59	-4.88/-6.35	-8.11/-9.91	-12.24/-13.19	-14.89/-13.80	-10.43/-7.20	-4.38/-4.09	-3.70/-2.33	-2.14/-1.98	-1.34/-1.73	-0.84/-0.39	0.97/0.92	
θ(50°)	0.90/-0.75	-4.70/-2.74	-1.16/-2.20	-4.65/-3.93	-4.05/-5.11	-6.59/-5.32	-5.05/-5.30	-4.54/-4.97	-7.58/-9.53	-8.94/-8.11	-9.36/-15.16	-10.44/-4.97	-3.24/-3.84	-4.42/-2.94	-1.37/0.08	0.25/0.10	-1.00/-1.41	-0.39/-0.40	
θ(60°)	0.05/-0.48	-5.26/-4.04	-0.96/-3.42	-5.46/-2.92	-4.34/-6.50	-4.91/-3.60	-3.15/-2.78	-0.97/-1.15	-3.37/-8.41	-9.86/-7.28	-9.35/-10.11	-5.96/-2.76	-3.56/-4.52	-3.00/-2.03	-2.02/-1.74	-1.55/-0.97	-1.68/-1.50	-2.63/-2.64	
θ(70°)	-0.34/-0.79	-4.84/-3.73	0.23/-2.79	-3.63/-1.89	-3.92/-5.02	-3.75/-3.10	-2.85/-1.67	-0.90/-2.23	-3.87/-5.70	-6.67/-4.14	-4.57/-5.25	-3.73/-2.03	-3.44/-4.21	-4.79/-4.21	-2.14/-0.98	-1.17/-1.68	-0.29/-1.03	-0.45/-0.44	
θ(80°)	0.59/0.27	-4.48/-3.70	0.01/-3.70	-0.35/0.28	-1.98/-1.40	-1.75/-2.84	-2.43/-1.76	0.04/-0.21	-1.24/-2.07	-4.89/-3.92	-4.41/-4.11	-4.44/-1.82	-2.18/-4.50	-6.79/-4.21	-1.50/-1.30	0.05/-1.06	0.86/-1.49	1.03/0.95	
θ(90°)	-0.75/-2.42	-5.95/-4.80	-2.19/-5.91	-0.28/-0.60	-1.31/-2.23	-2.19/-1.60	-1.54/-2.36	-0.28/-0.60	-1.17/-2.60	-2.36/-3.43	-2.36/-3.43	-6.17/-1.41	-0.90/-4.15	-1.69/-2.87	-3.42/-2.93	-1.29/2.18	1.42/-0.75	1.42/-0.75	
θ(100°)	-2.54/-2.14	-4.25/-5.11	-4.83/-9.42	0.32/0.94	-0.81/-0.90	-2.33/-2.32	-1.90/-1.07	0.31/0.01	-1.32/-2.87	-3.09/-1.33	-4.27/-2.85	-4.40/-2.84	-1.12/-10.66	-6.25/-7.39	-3.49/-7.93	-3.73/-5.13	-1.24/-0.62	-0.63/-0.76	
θ(110°)	-3.73/-2.58	-4.28/-3.62	-2.86/-4.33	0.98/1.46	-0.22/0.52	-0.34/-1.87	-1.24/0.27	1.07/0.89	0.32/-0.01	0.07/-1.90	-3.93/-3.89	-5.12/-9.16	-4.47/-9.09	-5.59/-9.14	-7.14/-5.58	-5.65/-9.85	-4.59/-4.54	-2.51/-2.61	
θ(120°)	-4.75/-3.72	-7.43/-5.82	-5.89/-4.69	-0.30/-0.46	-3.33/-3.37	-1.78/-0.88	-1.16/-1.51	-0.85/-1.06	-0.98/0.26	2.06/0.43	-1.64/-3.29	-9.09/-6.81	-7.46/-12.62	-5.87/-9.89	-9.42/-8.73	-8.38/-6.20	-6.10/-6.06	1.29/2.18	
θ(130°)	-9.73/-7.45	-7.93/-8.26	-11.39/-8.45	-4.18/-2.29	-2.62/-4.09	-3.88/-1.34	-0.65/-0.61	-0.99/-1.88	-1.09/-0.90	-0.07/-1.64	-2.89/-1.85	-2.47/-15.51	-9.32/-6.03	-4.72/-9.67	-8.16/-6.20	-6.80/-9.79	-8.34/-8.16	-12.19/-12.31	
θ(140°)	-7.41/-8.13	-8.24/-3.32	-8.40/-12.68	-11.79/-7.16	-5.16/-5.24	-5.70/-4.80	-2.85/-2.73	-3.67/-1.60	-1.22/-0.48	-2.11/-6.89	-8.37/-6.63	-5.10/-8.45	-11.23/-11.49	-14.74/-12.35	-11.81/-10.45	-11.75/-14.43	-12.28/-12.39	1.29/2.18	
θ(150°)	-6.58/-5.48	-4.91/-6.69	-6.11/-7.48	-10.50/-11.89	-10.16/-7.48	-6.56/-5.26	-2.64/-1.87	-1.62/-1.77	-3.11/-5.59	-7.84/-4.91	-0.70/-3.28	-3.45/-4.11	-8.01/-7.00	-11.30/-10.04	-9.97/-11.74	-12.20/-8.65	-6.68/-7.33	-6.19/-6.39	
θ(160°)	-8.73/-9.05	-9.31/-9.96	-9.39/-6.86	-6.41/-6.28	-5.71/-4.95	-4.82/-4.45	-4.41/-3.85	-4.64/-3.90	-1.60/0.08	-1.60/0.08	-1.60/0.08	-1.60/0.08	-1.60/0.08	-1.60/0.08	-1.60/0.08	-1.60/0.08	-1.60/0.08	-1.60/0.08	-1.60/0.08
θ(170°)	-11.02/-12.13	-10.66/-9.99	-9.40/-8.93	-7.98/-5.06	-6.53/-6.31	-7.06/-7.04	-6.64/-6.19	-5.78/-5.66	-5.91/-6.03	-6.01/-6.24	-6.75/-5.25	-5.94/-6.55	-8.26/-10.49	-12.45/-12.40	-12.16/-12.85	-13.45/-11.98	-9.22/-8.67	-8.67/-8.77	
θ(180°)	-13.94/-13.94	-14.31/-13.60	-12.48/-12.53	-12.58/-12.49	-13.22/-14.22	-15.72/-14.90	-15.09/-15.46	-15.42/-15.09	-15.00/-14.47	-13.98/-12.07	-11.25/-10.86	-11.67/-12.21	-13.30/-15.22	-15.36/-15.36	-15.66/-15.12	-13.78/-13.66	-14.21/-15.23	-13.63/-13.82	



# Antenna Pattern of 5GHz UNII 2C~4

# Appendix E

φ(60°)	-4.99/4.44	-2.55/-1.77	-3.02/-5.07	-5.40/4.88	-3.29/-1.47	-2.44/-2.76	-1.48/-0.81	0.18/-3.77	-4.89/1.45	2.14/0.80	-1.29/0.13	-0.76/-0.10	-0.27/-1.60	-2.59/-1.19	-2.11/-3.34	-3.47/-4.52	-5.81/-10.27	-7.21/-8.27
θ(70°)	-5.43/-4.64	-1.38/-0.43	-1.10/-2.95	-3.35/-3.91	-2.15/-0.65	-2.63/-2.62	-0.57/-1.06	-0.77/-4.34	-2.88/1.64	1.98/-0.69	0.20/0.90	-0.33/-0.96	-0.47/-2.18	-4.27/-2.70	-2.07/-1.51	-2.86/-4.55	-5.02/-4.94	-3.89/-4.12
φ(80°)	-6.73/-5.31	-1.42/-0.73	-1.37/-1.88	-1.75/-2.03	-0.94/-0.44	-1.82/-1.70	-1.75/-1.53	-1.92/0.71	-0.39/-0.39	1.17/-1.92	-0.03/0.91	-0.33/-0.96	-0.47/-2.18	-4.27/-2.70	-2.07/-1.51	-2.86/-4.55	-5.02/-4.94	-3.89/-4.12
θ(90°)	-8.16/-6.00	-1.29/0.24	-0.37/-1.35	-0.82/-1.37	0.70/0.88	-1.62/-1.83	2.54/1.23	-3.62/-3.54	-8.19/-2.18	-0.06/-4.16	0.35/1.68	1.04/-0.33	1.14/-4.32	-2.40/-8.40	-2.70/-1.98	-4.28/-5.47	-2.49/-0.44	-2.61/-7.97
φ(100°)	-3.71/-3.62	-2.36/-0.62	-1.05/-2.38	-1.16/0.33	1.86/0.03	-0.86/0.07	1.78/-0.62	-13.82/-7.99	-7.87/-3.48	-2.20/-6.62	-1.75/-1.06	-2.79/-4.38	-1.08/-7.69	-3.31/-11.91	-3.73/-4.08	-4.28/-5.47	-2.43/0.23	-2.32/-2.66
θ(110°)	-1.81/0.31	0.25/0.35	2.04/2.92	-2.30/1.73	1.39/0.21	-0.13/0.18	-5.54/-6.46	-0.70/0.70	-5.71/-9.32	-6.18/-6.73	-5.84/-9.75	-5.11/-12.15	-6.18/-6.73	-5.84/-9.75	-5.11/-12.15	-6.18/-6.73	-5.84/-9.75	-5.11/-12.15
φ(120°)	0.86/2.18	0.97/0.24	0.03/-1.38	-0.21/1.57	1.28/0.95	-0.74/0.53	1.03/0.28	-1.78/-2.20	-5.21/-5.96	-6.18/-6.67	-11.92/-6.17	-12.09/-9.88	-4.67/-7.37	-5.57/-10.54	-7.85/-6.72	-7.65/-2.81	-0.54/-3.62	-1.80/-1.83
θ(130°)	2.59/2.11	2.25/1.33	-0.12/0.70	2.87/3.88	1.98/2.04	-2.04/0.54	0.21/2.23	-6.68/-10.07	-9.34/-11.03	-14.75/-9.63	-10.16/-15.40	-8.86/-8.17	-3.63/-3.35	-5.43/-7.42	-6.76/-5.19	-7.12/-5.16	-1.48/-1.55	0.98/0.52
φ(140°)	0.62/0.74	1.34/1.86	2.41/2.52	2.22/1.07	-1.74/-2.27	-2.15/-0.88	-2.37/-5.10	-13.24/-10.41	-1.25/-1.57	-7.32/-14.43	-9.49/-5.89	-8.74/-15.42	-9.79/-11.41	-9.48/-8.39	-12.71/-7.06	-8.13/-5.14	-1.57/-1.89	-4.06/-4.49
θ(150°)	-0.84/0.65	0.43/0.96	1.51/1.76	0.87/0.10	0.07/0.10	-0.51/2.70	-6.96/10.85	-10.54/8.82	-10.37/-12.29	-10.14/-5.69	-5.55/-6.03	-9.31/10.36	-9.52/-10.69	-13.70/13.69	-8.90/-8.02	-5.78/-12.88	-8.00/-7.24	-4.56/-4.84
φ(160°)	0.38/-0.90	-1.30/-1.11	-1.35/-0.97	-0.62/-1.45	-2.39/-2.06	-1.17/-1.45	-2.60/-4.18	-5.05/-5.23	-6.62/-9.88	-11.48/-9.75	-7.56/-5.75	-4.82/-5.90	-8.56/-10.00	-8.60/-6.51	-4.88/-4.05	-1.84/-0.74	-0.07/0.17	1.63/1.48
θ(170°)	-1.96/-3.53	-4.30/-4.64	-4.18/-4.44	-12.79/-15.79	-3.64/-2.11	-1.64/-2.23	-6.30/-9.52	-12.79/-15.79	-15.62/-15.85	-15.44/-15.23	-12.82/-11.03	-11.40/-10.93	-9.62/-9.92	-3.13/-2.23	-1.85/-1.54	-0.25/-0.96	-0.66/-1.73	-1.63/-1.89
φ(180°)	-7.59/-6.93	-6.90/-7.51	-8.80/-8.35	-7.90/-7.43	-7.17/-8.44	-11.06/-13.72	-15.70/-15.41	-15.40/-15.48	-15.49/-14.90	-14.91/-15.41	-15.85/-15.60	-13.53/-12.94	-12.64/-9.92	-8.47/-7.65	-7.38/-7.97	-8.14/-7.96	-8.38/-8.59	-8.22/-8.49
Gain	5.6GPol	TotalAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
φ(0°)	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)
θ(0°)	-6.40/-6.45	-7.03/-7.03	-8.12/-7.86	-7.06/-6.37	-6.23/-5.86	-6.37/-7.47	-7.30/-7.43	-7.51/-7.28	-7.14/-6.94	-6.89/-7.29	-6.99/-6.86	-6.72/-6.95	-7.78/-7.25	-6.36/-5.95	-6.02/-7.06	-7.68/-6.88	-6.48/-6.96	-7.52/-7.59
φ(10°)	-14.73/-14.92	-15.62/-15.93	-14.59/-11.85	-10.38/-9.11	-6.84/-6.05	-6.73/-7.05	-7.18/-6.99	-7.21/-6.64	-5.16/-4.30	-3.94/-3.67	-3.44/-3.44	-3.23/-3.00	-3.56/-4.74	-5.40/-5.94	-6.71/-7.21	-8.20/-10.23	-11.64/-12.42	-13.09/-14.17
θ(20°)	-14.27/-15.98	-14.60/-12.21	-8.77/-12.52	-11.06/-8.72	-5.89/-5.41	-1.52/-1.19	-3.65/-2.17	-1.52/-1.19	-1.25/-1.57	-1.95/-2.12	-2.31/-2.77	-2.31/-2.77	-2.31/-2.77	-2.31/-2.77	-2.31/-2.77	-2.31/-2.77	-2.31/-2.77	-2.31/-2.77
φ(30°)	-7.70/-12.23	-14.99/-15.09	-14.68/-12.53	-9.13/-7.43	-6.71/-7.42	-6.36/-4.39	-3.92/-2.75	-1.27/-1.02	-1.35/-2.20	-3.08/-2.15	-2.20/-2.68	-2.08/-1.61	-1.18/-2.18	-3.83/-4.64	-3.78/-3.57	-5.66/-6.85	-8.01/-7.37	-6.12/-6.03
θ(40°)	-4.54/-8.84	-7.87/-8.76	-9.34/-12.77	-10.72/-7.23	-9.04/-10.74	-6.00/-7.38	-5.77/-3.07	-1.86/-1.39	-0.70/-0.15	-1.06/-1.92	-2.56/-3.10	-2.70/-2.93	-1.38/-0.85	-1.46/-2.98	-4.12/-1.22	-5.25/-4.74	-3.41/-2.71	-3.59/-3.95
φ(50°)	-7.72/-7.64	-10.50/-8.09	-6.87/-6.41	-1.25/-1.01	0.42/0.85	-5.50/-4.10	-5.50/-4.10	-5.50/-4.10	-5.50/-4.10	-5.50/-4.10	-5.50/-4.10	-5.50/-4.10	-5.50/-4.10	-5.50/-4.10	-5.50/-4.10	-5.50/-4.10	-5.50/-4.10	-5.50/-4.10
θ(60°)	-3.81/-5.61	-10.56/-10.95	-10.26/-5.04	-3.72/-6.23	-3.05/-6.18	-4.88/-3.08	-6.51/-3.22	-1.22/-0.75	-0.23/0.15	-0.68/-0.72	-0.69/-1.54	-2.51/-3.32	-2.84/-3.28	-2.33/-3.60	-3.22/-10.91	-6.17/-1.47	-0.41/-0.02	-1.03/-1.07
φ(70°)	-1.97/-9.83	-8.84/-9.59	-13.29/-10.82	-4.78/-4.54	-1.35/-0.27	-3.10/-1.37	-6.18/-3.47	-1.88/-1.16	-1.50/-0.21	-1.26/-0.93	-2.24/-2.43	-2.41/-2.56	-2.52/-0.92	0.41/-5.30	-2.68/-4.96	-2.21/-1.05	-1.45/-1.70	-0.43/-0.56
θ(80°)	0.65/-6.07	-7.21/-0.51	-15.76/-15.41	-4.35/-2.96	-2.72/-1.40	-1.91/-0.39	-4.35/-1.86	-0.70/-2.10	0.29/0.61	-0.29/0.61	-0.29/0.61	-0.29/0.61	-0.29/0.61	-0.29/0.61	-0.29/0.61	-0.29/0.61	-0.29/0.61	-0.29/0.61
φ(90°)	2.86/-3.90	-7.02/-2.71	-14.87/-10.64	-10.17/-3.37	-5.59/-1.66	-2.80/-1.02	-5.54/-2.25	-1.24/0.66	0.45/0.03	-0.23/-1.08	-0.83/-3.47	-4.51/-0.75	-0.02/0.78	1.00/-3.81	-0.14/-2.63	-0.34/-1.63	-1.74/-1.03	0.45/2.88
θ(100°)	1.60/-7.75	-8.25/-0.75	-14.46/-10.68	-9.70/-4.28	-6.69/-3.27	-3.30/-3.05	-5.12/-4.08	-2.51/0.35	-0.42/1.10	-0.71/-0.30	-0.10/-0.65	-4.78/-0.67	-0.27/-1.86	1.08/-2.08	-1.15/-1.33	-0.62/-3.58	0.38/-1.48	-4.73/-4.74
φ(110°)	-1.06/-11.59	-8.71/-3.69	-4.59/-8.15	-14.97/-3.97	-10.06/-3.35	-5.14/-3.27	-4.76/-0.59	-0.90/0.45	-1.99/0.11	-1.99/0.11	-1.99/0.11	-1.99/0.11	-1.99/0.11	-1.99/0.11	-1.99/0.11	-1.99/0.11	-1.99/0.11	-1.99/0.11
θ(120°)	-3.58/-9.13	-10.31/-11.46	-10.47/-12.57	-10.84/-7.28	-11.15/-3.69	-7.41/-6.33	-5.58/-3.16	-2.38/-2.93	-1.49/0.32	-1.98/-1.01	-1.56/-1.40	-3.62/-3.67	-4.04/-0.97	-1.47/-7.24	-2.23/-1.32	-1.81/-3.02	-3.58/-5.56	-14.65/-15.62
φ(130°)	-3.28/-9.16	-13.96/-5.04	-6.13/-8.42	-6.77/-6.50	-10.51/-2.69	-7.61/-5.73	-3.99/-4.43	-2.50/-0.78	-2.16/-3.52	-0.80/-1.32	-6.59/-3.44	-0.31/-0.63	0.34/-1.87	-1.07/0.12	-1.29/-4.64	-6.44/-3.03	-10.03/-10.77	-8.22/-8.39
θ(140°)	-6.43/-2.90	-3.69/-5.97	-12.17/-10.30	-5.00/-8.88	-13.78/-7.67	-7.01/-7.13	-8.60/-12.49	-8.76/-5.01	-6.30/-4.20	-0.29/-3.90	-8.56/-5.78	-0.39/-3.63	-1.96/-8.46	-5.68/-2.66	-3.16/-5.63	-5.07/-9.39	-8.22/-8.39	-8.22/-8.39
φ(150°)	-7.02/-6.21	-9.41/-13.31	-10.53/-9.25	-9.15/-10.52	-12.69/-12.01	-13.15/-10.40	-8.71/-8.12	-9.69/-7.31	-4.69/-5.69	-8.99/-3.51	-2.32/-3.37	-5.55/-6.42	-8.55/-4.80	-7.16/-14.53	-7.89/-3.83	-5.98/-6.39	-13.38/-6.83	-5.16/-5.49
θ(160°)	-15.34/-15.84	-14.13/-14.41	-15.80/-15.36	-14.94/-14.78	-13.89/-12.77	-9.20/-6.86	-6.24/-5.86	-5.07/-4.23	-3.53/-3.71	-4.61/-6.45	-7.21/-7.77	-8.41/-9.20	-10.96/-10.77	-12.65/-13.74	-10.23/-8.04	-10.12/-15.76	-14.81/-15.19	-12.75/-13.18
φ(170°)	-8.75/-11.71	-13.26/-11.35	-11.85/-14.34	-10.55/-8.09	-7.89/-9.29	-8.49/-7.63	-7.15/-6.73	-7.27/-7.27	-6.69/-6.13	-5.64/-5.17	-5.10/-5.33	-6.08/-5.95	-5.57/-5.70	-6.71/-7.40	-7.71/-7.89	-7.43/-6.75	-6.24/-6.01	-6.35/-6.72
θ(180°)	-8.82/-8.01	-7.69/-8.04	-8.85/-9.84	-8.89/-8.77	-8.89/-10.27	-9.21/-7.52	-6.82/-6.48	-8.97/-8.77	-7.05/-6.53	-6.17/-5.54	-5.10/-5.33	-6.08/-5.95	-5.57/-5.70	-6.71/-7.40	-7.71/-7.89	-7.43/-6.75	-6.24/-6.01	-6.35/-6.72
Freq(Hz)	5.785GPol	TotalAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(10°)	Φ(20°)/Φ(30°)	Φ(40°)/Φ(50°)	Φ(60°)/Φ(70°)	Φ(80°)/Φ(90°)	Φ(100°)/Φ(110°)	Φ(120°)/Φ(130°)	Φ(140°)/Φ(150°)	Φ(160°)/Φ(170°)	Φ(180°)/Φ(190°)	Φ(200°)/Φ(210°)	Φ(220°)/Φ(230°)	Φ(240°)/Φ(250°)	Φ(260°)/Φ(270°)	Φ(280°)/Φ(290°)	Φ(300°)/Φ(310°)	Φ(320°)/Φ(330°)	Φ(340°)
θ(0°)	-8.39/-9.53	-9.73/-9.68	-10.30/-10.54	-8.90/-8.97	-9.02/-8.66	-8.94/-9.63	-9.10/-9.40	-8.74/-9.26	-9.01/-8.70	-8.90/-8.78	-9.21/-9.30	-10.14/-10.65	-10.14/-10.24	-10.27/-9.35	-8.45/-8.12	-8.53/-9.78	-10.41/-9.96	-9.16/-10.33
φ(10°)	-14.54/-15.22	-14.42/-15.93	-14.91/-12.81	-10.74/-10.13	-10.26/-9.79	-9.53/-9.81	-8.45/-7.22	-6.58/-6.47	-5.99/-5.24	-5.53/-5.62	-5.82/-5.84	-6.30/-7.00	-7.18/-7.68	-7.45/-7.25	-7.24/-4.45	-8.73/-10.26	-10.42/-11.91	-15.42/-15.43
θ(20°)	-10.83/-12.72	-15.35/-14.42	-13.89/-12.06	-10.59/-8.70	-7.60/-7.57	-7.86/-5.66	-4.05/-2.90	-2.28/-2.49	-2.03/-1.73	-2.09/-3.15	-4.00/-3.67	-3.33/-3.11	-3.45/-3.94	-4.93/-6.40	-7.40/-8.31	-8.33/-8.61	-10.18/-10.72	-9.70/-10.53
φ(30°)	-11.62/-14.75	-11.84/-14.38	-13.01/-10.00	-7.95/-5.24	-4.84/-5.26	-5.20/-3.54	-1.49/-1.52	-1.49/-3.21	-3.34/-3.21	-3.15/-3.72	-4.76/-5.77	-4.27/-2.05	-4.70/-1.03	-3.73/-5.86	-2.57/-2.83	-3.73/-5.86	-6.64/-6.56	-6.61/-7.03
θ(40°)	-4.62/-5.74	-9.99/-11.74	-15.49/-13.34	-9.17/-9.00	-10.06/-5.70	-4.85/-4.39	-2.97/-2.24	-1.75/-2.78	-2.34/-1.03	-0.56/-1.76	-2.46/-2.46	-2.00/-2.66	-2.09/1.04	0.92/-1.90	-4.27/-2.57	-1.86/-3.28	-2.90/-3.67	-4.84/-5.03
φ(50°)	-5.95/-8.13	-9.09/-6.92	-7.48/-6.64	-5.68/-4.03	-5.05/-8.03	-2.82/-4.84	-2.16/-1.96	-1.75/-0.59	0.12/0.35	0.25/0.07	-0.69/-2.03	-1.66/-1.92	-2.73/-1.50	-1.44/-2.16	-2.59/-2.70	-4.05/-3.14	-1.49/-0.34	-1.04/-1.14
θ(60°)	-3.82/-4.70	-9.13/-8.55	-8.35/-4.77	-4.72/-3.39	0.67/0.45	-1.94/-0.60	-2.02/-4.11	-1.76/-0.10	0.67/0.45	-0.28/-0.52	-0.69/-1.04	-2.38/-1.42	-1.68/-3.50	-3.19/-4.92	-1.04/-4.54	-1.83/-1.33	-0.29/-0.46	-0.43/-0.56
φ(70°)	-1.34/-1.11	-6.23/-6.82	-1.75/-6.83	-4.04/-3.47	-1.37/-1.64	-1.47/-1.38	-3.94/-1.20	-1.67/-0.15	-0.33/0.53	-1.43/-1.05	-2.11/-1.48	-2.30/-0.38	0.34/-2.43	0.57/3.06	-2.97/-4.64	-4.81/-0.79	-1.05/-1.31	0.05/0.02
θ(80°)	1.13/-5.67	-5.57/-4.87	-6.89/-12.27	-5.08/-3.99	-0.96/-1.69	-0.73/-1.50	-3.11/-0.73	-0.42/0.01	0.51/1.89	0.11/-0.28	-0.81/-1.31	-2.38/0.00	1.28/-1.37	0.36/-1.21	-1.99/-1.74	-1.79/-0.14	-2.26/-1.54	-0.30/-0.45
φ(90°)	3.54/-8.42	-6.77/-2.33	-10.42/-12.27	-7.81/-3.														





# Antenna Pattern of 5GHz UNII 2C~4

# Appendix E

Freq(Hz)	5.885GPol	TotalAnt. 4																	
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)	
Θ(0°)	-10.63/-10.44	-10.25/-10.71	-9.90/-8.93	-8.45/-8.31	-8.08/-9.00	-10.12/-11.18	-10.07/-9.69	-10.52/-10.24	-9.06/-9.09	-9.27/-9.71	-10.69/-10.76	-10.09/-9.83	-9.88/-9.08	-9.69/-8.84	-9.05/-8.94	-8.98/-9.22	-9.52/-10.05	-10.51/-11.12	
Θ(10°)	-10.01/-8.71	-9.70/-9.44	-7.62/-7.31	-6.99/-7.59	-6.70/-6.82	-7.30/-8.26	-9.76/-11.14	-10.96/-11.88	-12.78/-11.07	-8.83/-8.08	-8.50/-7.93	-7.98/-9.08	-10.38/-11.84	-11.60/-10.67	-11.50/-14.24	-14.75/-12.91	-12.88/-12.00	-11.40/-11.84	
Θ(20°)	-3.63/-1.84	-1.31/-2.02	-2.41/-4.11	-5.73/-7.01	-6.19/-5.54	-6.27/-7.24	-7.51/-9.93	-12.97/-13.23	-13.51/-15.92	-15.53/-10.70	-8.41/-5.86	-4.36/-4.05	-4.97/-6.72	-8.25/-8.57	-8.57/-10.28	-8.73/-8.36	-8.27/-7.49	-6.09/-6.43	
Θ(30°)	-2.31/-2.46	-1.30/-0.98	-1.13/-2.06	-3.74/-6.23	-6.21/-4.14	-2.91/-2.98	-5.99/-12.29	-11.50/-12.92	-12.15/-9.52	-8.25/-7.57	-6.71/-6.31	-4.07/-2.86	-1.18/-1.03	-2.17/-3.96	-5.35/-4.23	-2.87/-1.89	-2.47/-3.83	-3.34/-3.41	
Θ(40°)	0.51/-1.45	-0.16/-2.12	-1.89/-3.18	-5.86/-9.18	-5.07/-2.92	-2.65/-7.24	-14.19/-13.99	-10.69/-7.77	-8.62/-6.06	-4.64/-5.81	-4.37/-1.94	-0.03/-0.59	-1.64/-0.14	0.75/-0.93	-2.29/-0.15	0.25/0.13	-1.33/-0.15	1.17/1.04	
Θ(50°)	0.05/0.24	0.91/-1.00	-3.58/-3.57	-5.65/-6.48	-1.21/-1.48	-6.13/-8.17	-8.64/-9.11	-7.28/-7.94	-7.32/-3.86	-3.20/-3.09	-2.53/-2.81	-1.27/-0.98	-2.84/-1.74	-1.09/-3.79	-2.57/-1.79	-2.74/-2.22	-2.20/-2.77	-1.94/-2.43	
Θ(60°)	0.06/0.40	1.15/1.01	-1.12/-1.99	-2.57/-1.90	0.03/-0.63	-4.52/-6.19	-3.73/-4.56	-9.20/-11.04	-4.54/-1.37	-2.29/0.21	1.01/0.64	-3.43/-3.41	-3.20/-2.10	-2.16/-4.18	-6.04/-1.73	-3.45/-3.31	-2.35/-2.63		
Θ(70°)	-1.14/1.07	1.24/1.04	-2.28/-3.32	-0.59/-2.20	-1.69/-2.33	-4.39/-2.03	-2.90/-6.92	-12.49/-13.72	-7.36/-4.23	-0.26/-0.83	-0.50/0.14	-1.00/-3.31	-3.14/-1.03	1.10/-0.06	-2.35/0.53	-1.19/-1.70	-1.05/-1.30	0.67/0.32	
Θ(80°)	-2.88/0.30	-0.77/-0.05	-0.42/-0.64	1.03/-1.21	0.02/-5.37	-1.14/-3.88	-1.97/-8.98	-9.30/-10.05	-6.80/-6.06	2.08/1.69	0.57/0.01	-3.09/-3.05	-0.28/-0.36	-0.11/0.45	0.79/1.68	0.23/-1.90	-0.36/0.35	0.39/0.17	
Θ(90°)	-1.95/-0.55	-1.24/1.62	0.20/0.11	1.74/-1.82	-4.25/-4.66	-2.55/-1.22	-5.60/-4.58	-6.74/-4.02	<b>3.69/2.88</b>	2.49/3.21	1.29/1.52	-1.29/-1.52	-0.12/-0.94	1.36/2.41	1.62/-1.77	-1.26/1.15	2.05/-1.82		
Θ(100°)	-2.07/-1.50	-1.29/-1.69	-0.15/0.36	-0.14/-4.62	-4.26/-5.20	-2.17/-5.14	-4.99/-4.50	-10.73/-3.45	-3.79/-4.73	3.14/-0.01	-2.86/0.34	-1.03/-4.60	-0.35/-0.68	-0.35/0.30	-1.08/2.35	0.92/-1.18	0.03/0.84	2.42/2.37	
Θ(110°)	-1.32/-0.63	-0.35/0.79	-0.77/0.16	-1.68/-2.63	-3.38/-2.43	-4.56/-4.02	-5.91/-5.08	-4.29/-7.34	-6.50/-9.59	-1.71/-6.67	-8.47/-6.66	-3.79/-6.49	-4.89/0.67	-2.87/-3.12	0.49/0.82	-1.88/-4.08	0.42/1.08	0.48/0.73	
Θ(120°)	0.93/0.97	-0.47/-1.68	-3.02/-1.01	-3.01/-5.48	-7.08/-7.30	-4.29/-7.52	-14.31/-14.93	-9.04/-7.78	-9.73/-5.67	-2.43/-3.29	-2.27/-2.84	-4.18/0.62	-12.50/-2.48	-0.45/-0.32	-0.41/-2.11	0.03/1.87	2.44/1.94		
Θ(130°)	-1.33/-3.38	-2.38/-3.51	-4.17/-2.49	-4.09/-7.40	-10.71/-9.39	-3.87/-8.22	-6.68/-6.14	-4.00/-1.79	-3.64/-5.94	-1.56/-2.84	-6.85/-5.32	-7.48/-4.41	-2.20/1.07	-8.72/-1.09	-1.77/0.04	-0.40/-6.53	-3.40/2.58	1.01/0.60	
Θ(140°)	0.51/0.43	-3.81/-5.96	-2.56/-2.63	-2.65/-2.56	-5.78/-7.01	-4.38/-7.67	-7.17/-4.65	-9.72/-7.52	-7.70/-3.99	-4.61/-14.13	-13.80/-6.63	-7.49/-3.97	-2.16/-7.28	-10.67/-8.92	-4.96/-5.78	-8.47/-11.21	-5.64/-7.09	0.35/0.24	
Θ(150°)	-7.22/-9.21	-12.44/-8.39	-5.58/-5.33	-10.13/-13.82	-9.51/-9.81	-7.48/-5.80	-5.06/-4.12	-8.22/-14.73	-13.13/-8.73	-8.74/-5.56	-12.54/-2.81	-12.54/-2.81	-11.40/-9.18	-6.11/-5.01	-6.86/-11.10	-7.78/-2.82	-2.71/-3.04		
Θ(160°)	-4.48/-2.54	-2.18/-2.87	-3.63/-2.75	-1.99/-3.19	-5.63/-7.75	-10.74/-12.97	-13.39/-12.69	-11.30/-12.12	-12.44/-12.91	-9.68/-8.58	-7.18/-7.87	-9.56/-8.60	-7.93/-10.16	-9.36/-7.38	-6.82/-5.95	-4.85/-4.47	-4.78/-4.74	-4.80/-5.52	
Θ(170°)	-2.55/-2.69	-2.68/-2.32	-1.97/-3.24	-5.11/-8.46	-11.24/-13.16	-14.41/-15.10	-14.80/-15.59	-12.72/-9.21	-6.08/-5.24	-5.70/-5.88	-7.27/-9.67	-13.07/-13.17	-12.99/-11.28	-10.55/-8.09	-6.79/-6.32	-5.27/-4.90	-4.44/-3.94	-3.63/-4.50	
Θ(180°)	-3.56/-4.13	-3.54/-3.80	-5.04/-5.44	-5.86/-5.95	-5.81/-6.39	-8.17/-9.77	-9.14/-6.23	-4.46/-4.46	-4.09/-3.98	-3.74/-3.27	-4.12/-4.27	-5.12/-5.85	-6.24/-6.85	-6.62/-6.22	-5.66/-5.44	-4.00/-4.49			
Freq(Hz)	5.6GPol	TotalAnt. 5																	
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)	Φ(100°)Φ(110°)	Φ(120°)Φ(130°)	Φ(140°)Φ(150°)	Φ(160°)Φ(170°)	Φ(180°)Φ(190°)	Φ(200°)Φ(210°)	Φ(220°)Φ(230°)	Φ(240°)Φ(250°)	Φ(260°)Φ(270°)	Φ(280°)Φ(290°)	Φ(300°)Φ(310°)	Φ(320°)Φ(330°)	Φ(340°)	
Θ(0°)	2.27/2.21	2.27/2.03	1.85/1.63	1.46/1.60	1.87/1.75	1.80/1.59	1.52/1.60	1.80/1.86	1.87/1.81	1.89/1.94	2.12/2.30	2.08/2.01	1.94/1.89	2.57/2.46	2.45/2.44	1.93/1.82	1.91/1.87	2.48/2.31	
Θ(10°)	2.73/3.18	3.23/3.45	3.50/3.44	3.27/3.28	3.03/2.76	2.52/2.65	2.68/2.81	2.78/2.58	2.43/1.86	1.44/0.79	0.28/0.32	-0.66/-1.19	-1.30/-1.51	-1.39/-1.64	-1.17/-1.00	-0.73/-0.29	0.17/0.87	1.44/1.35	
Θ(20°)	2.25/3.37	4.05/3.97	<b>3.93/4.17</b>	4.14/3.88	3.33/3.63	2.63/2.18	1.82/1.22	0.86/0.49	-0.18/-1.20	-1.77/-1.61	-1.89/-1.93	-2.01/-1.79	-1.81/-1.82	-2.10/-2.46	-2.57/-2.72	-2.50/-1.82	-1.27/-1.39		
Θ(30°)	-1.22/0.85	2.07/2.58	3.10/3.34	3.25/3.31	3.27/2.63	3.00/3.50	-1.52/-2.66	-0.86/0.59	-4.59/-6.00	-9.72/-11.63	-8.03/-9.80	-4.59/-9.28	-10.46/-9.71	-9.72/-11.92	-14.59/-15.10	-10.11/-6.53	-5.36/-5.59		
Θ(40°)	-4.22/-2.22	-0.58/-0.03	1.45/2.22	1.85/1.21	0.89/0.43	0.26/-0.44	-1.67/-1.99	-2.16/-2.76	-2.47/-4.98	-7.91/-8.45	-10.02/-9.05	-5.78/-5.10	-4.96/-5.17	-4.94/-4.62	-5.21/-4.74	-4.45/-6.44	-9.00/-9.66	-7.77/-8.30	
Θ(50°)	-7.42/-6.39	-5.29/-5.47	-3.20/-1.04	0.91/1.52	1.05/0.87	1.35/1.25	-0.15/-2.40	-2.60/-1.79	-0.73/-1.75	-5.42/-9.41	-9.93/-5.48	-2.44/-0.65	-0.90/-1.10	-3.00/-4.03	-3.10/-3.17	-2.88/-2.88	-4.39/-7.67	-7.29/-7.92	
Θ(60°)	-13.16/-7.83	-5.67/-6.13	-10.26/-7.98	-1.41/1.03	0.40/-1.07	1.86/1.85	0.49/-2.49	-3.61/-1.04	-0.06/-1.07	-1.52/-2.46	-1.74/-1.00	-0.06/-0.41	-1.52/-2.46	-1.74/-1.00	-0.71/-1.83	-1.76/-3.31	-4.96/-5.39		
Θ(70°)	-9.09/-5.35	-2.69/-1.92	-5.05/-9.89	-3.06/-0.59	-0.04/0.78	1.33/1.84	0.80/-2.83	-4.49/-2.34	-1.28/-2.94	-6.59/-8.71	-2.53/0.18	-0.58/-0.79	0.24/0.88	-0.07/-0.53	0.16/1.41	1.11/-2.05	-2.03/-4.63	-6.57/-7.09	
Θ(80°)	-8.14/-6.30	-2.56/-0.93	-1.47/-3.99	-3.04/-1.29	-0.56/0.34	0.71/1.54	1.61/0.55	-3.33/-3.73	-3.04/-3.74	-6.85/-8.34	-3.33/-0.77	-1.84/-0.99	0.70/1.52	1.47/1.52	1.46/2.49	1.26/2.34	-4.45/-5.39	-4.89/-5.11	
Θ(90°)	-6.48/-5.29	-1.51/0.25	-0.19/-1.80	-1.26/-0.61	0.67/1.03	0.23/0.10	0.56/-0.97	-6.01/-6.81	-8.42/-9.41	-6.38/-6.62	-4.78/-2.95	-0.22/1.13	1.27/2.16	1.87/1.16	-0.66/-3.64	-3.93/-2.66	-2.93/-6.58		
Θ(100°)	-6.33/-6.12	-4.07/2.43	-2.44/-2.33	-1.44/-0.03	0.85/1.38	0.27/0.22	0.08/3.02	-6.12/-7.05	-7.91/-9.10	-10.42/-13.44	-12.11/-11.81	-10.67/-5.19	-1.53/-1.07	0.09/1.87	1.89/1.41	-4.45/-3.74	-2.02/-3.40	-3.44/-4.24	
Θ(110°)	-9.68/-9.79	-7.07/4.26	-2.63/-1.77	-2.18/-3.75	-7.05/-4.66	-5.01/-1.19	0.45/-2.66	-3.05/-4.66	-6.88/-11.29	-14.47/-12.41	-12.34/-15.40	-10.96/-6.61	-7.06/-8.62	-3.95/-4.21	-2.58/-4.83	-0.16/-5.67	-3.57/-5.83	-6.57/-6.72	
Θ(120°)	-11.22/-13.87	-11.71/-6.90	-3.98/-1.78	-0.78/-2.29	4.79/-6.27	-4.51/-1.98	-3.86/-5.79	-6.46/-9.86	-15.52/-9.94	-12.63/-15.27	-11.95/-7.66	-11.40/-8.86	-9.18/-4.21	-10.34/-10.44	-11.17/-6.29	-7.19/-11.53	-13.37/-13.89		
Θ(130°)	-15.06/-15.55	-15.29/-10.86	-6.34/-3.39	-1.87/-1.25	-1.95/-2.50	-2.94/-3.02	-5.26/-5.51	-6.89/-13.43	-13.80/-14.59	-12.95/-11.18	-9.40/-11.56	-5.10/-4.87	-5.02/-8.91	-5.10/-4.87	-5.02/-8.91	-14.27/-15.78	-9.47/-10.48		
Θ(140°)	-8.57/-7.60	-7.35/-7.02	-6.76/-5.41	-4.61/-5.25	-6.47/-7.00	-11.46/-15.10	-11.01/-8.45	-7.41/-8.78	-9.69/-9.48	-11.08/-11.96	-11.87/-14.94	-12.55/-11.40	-13.63/-8.33	-9.99/-14.92	-8.70/-13.30	-9.44/-8.73	-10.77/-10.76	-9.03/-9.48	
Θ(150°)	-6.03/-7.69	-7.31/9.22	-10.69/-11.22	-10.34/-9.50	-8.67/-9.07	-8.89/-8.33	-8.40/-9.16	-8.84/-7.91	-6.17/-7.31	-9.95/-11.33	-10.22/-11.50	-11.27/-8.05	-8.75/-6.96	-7.27/-9.20	-8.45/-8.85	-7.61/-6.27	-7.13/-7.29	-4.57/-4.75	
Θ(160°)	-13.83/-11.85	-11.63/-12.53	-12.87/-11.56	-10.52/-9.89	-9.00/-7.43	-6.47/-6.48	-7.59/-9.60	-8.95/-10.48	-13.32/-9.75	-8.53/-10.27	-6.01/-6.36	-8.53/-10.27	-9.44/-11.46	-9.91/-8.65	-8.51/-7.18	-5.84/-6.27	-7.64/-8.05		
Θ(170°)	-15.25/-13.12	-12.02/-12.17	-12.15/-10.86	-10.61/-11.09	-12.25/-12.76	-13.55/-14.08	-15.75/-15.22	-14.24/-12.05	-11.10/-9.55	-8.88/-8.31	-8.09/-7.73	-7.62/-8.17	-9.26/-10.77	-11.15/-11.02	-9.70/-9.19	-10.43/-11.35	-12.66/-13.33	-13.87/-14.24	
Θ(180°)	-13.26/-13.44	-15.19/-14.69	-14.32/-13.10	-14.86/-15.58	-14.81/-15.07	-13.61/-13.24	-12.77/-10.99	-10.46/-10.64	-10.23/-10.13	-10.21/-10.07	-10.62/-11.07	-10.65/-10.64	-11.07/-11.20	-11.15/-11.27	-10.84/-11.40	-11.57/-11.87	-12.63/-13.41	-13.00/-13.36	
Freq(Hz)	5.785GPol	TotalAnt. 5																	
Gain	Φ(0°)Φ(10°)	Φ(20°)Φ(30°)	Φ(40°)Φ(50°)	Φ(60°)Φ(70°)	Φ(80°)Φ(90°)														

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

