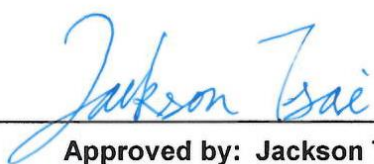




Antenna Composite Gain Test Report

Equipment	Cisco Wireless 9172I Series Wi-Fi 7 Access Point
Brand Name	CISCO
Model Name	CW9172I
Applicant	Cisco Systems, Inc. 170 West Tasman Drive, San Jose, CA 95134 USA
Manufacturer	Cisco Systems, Inc. 170 West Tasman Drive, San Jose, CA 95134 USA
Standard	KDB 662911 D03 v01
Sample Received	Aug. 29, 2024
Start Test Date	Aug. 30, 2024
Final Test Date	Aug. 30, 2024



Approved by: Jackson Tsai

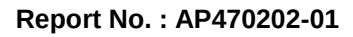
SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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



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Issued Date : Jan. 07, 2025
Report Version : 01

1. Operation Mode and Antenna Information

Antenna Position	RF Port	Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
2G5G Ant1	1	Sercomm	6172004VJHDB1H	PIFA	I-Pex	2.4G+5G
2G5G Ant2	2	Sercomm	6172004VJHDB2V	PIFA	I-Pex	2.4G+5G
5G6G Ant3	3	Sercomm	6172004VJH561H	PIFA	I-Pex	5G+6G
5G6G Ant4	4	Sercomm	6172004VJH562V	PIFA	I-Pex	5G+6G
SC Ant1	1	Sercomm	6172004VJHSC1V	PIFA	I-Pex	2.4G+5G+6G
SC Ant2	2	Sercomm	6172004VJHSC2V	PIFA	I-Pex	2.4G+5G+6G
BLE Ant3	1	Sercomm	6172004VJHBLEV	PIFA	I-Pex	BTLE

Note:

2.4GHz and 5GHz Operation Mode (1TX/1RX)

2G5G Ant1 could transmit/receive.

2.4GHz and 5GHz Operation Mode (2TX/2RX)

2G5G Ant1~2G5G Ant2 could transmit/receive simultaneously.

5GHz Operation Mode (4TX/4RX)

2G5G Ant1, 2G5G Ant2, 5G6G Ant3, 5G6G Ant4 could transmit/receive simultaneously.

6GHz Operation Mode (1TX/1RX)

5G6G Ant3 could transmit/receive.

6GHz Operation Mode (2TX/2RX)

5G6G Ant3~5G6G Ant4 could transmit/receive simultaneously.

2.4GHz, 5GHz and 6GHz Operation Mode (2RX)

SC Ant1~SC Ant2 could receive.

BT Operation Mode (1TX/1RX)

BLE Ant3 could transmit/receive.

2. Test Frequency

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

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

3. Testing Location

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
☒ Wen 33rd.St.	ADD:	No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)		
	TEL:	886-3-318-0787	FAX:	886-3-318-0287
Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated	05CH03-HY	Vivi Jiang	23.5~24.5°C / 45~55%	30/Aug/2024

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

4. Test Facility and Configuration

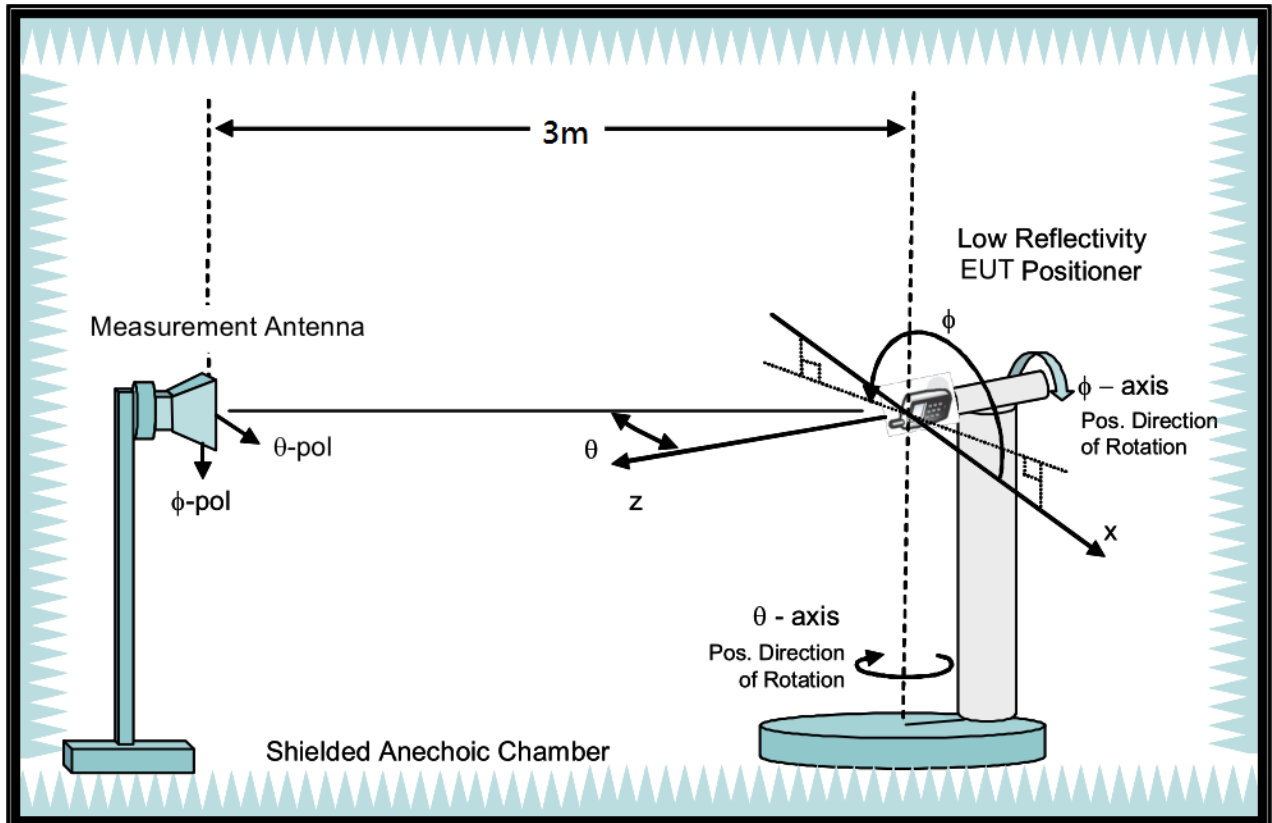
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

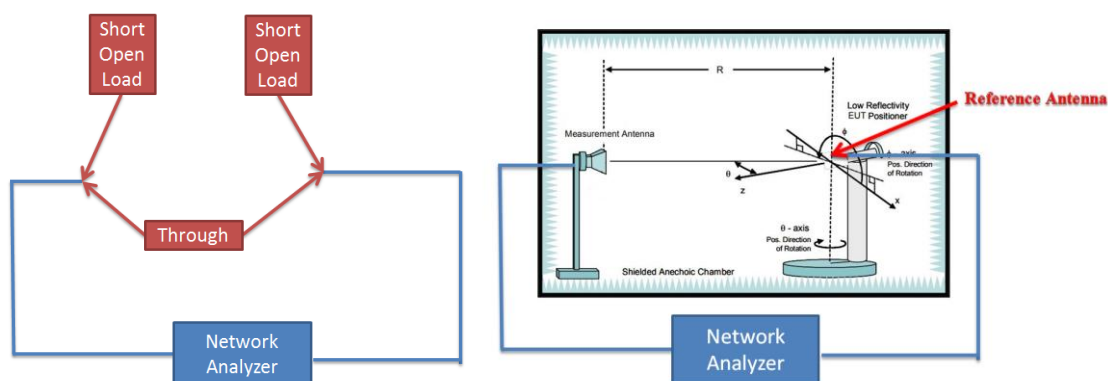
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



5. Reference Calibration

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

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



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

Note:

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

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

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

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

6. Test Method

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

DG steps:

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

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

7. Measured Values and Calculation of Maximum Gain Positions

<2G5G Ant1, 2G5G Ant2, 5G6G Ant3, 5G6G Ant4>

DG_1SS max value position

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	3.47	0.84	0.53	-1.97	3.05
Ant. 2 (dBi)	-0.68	-1.35	-1.07	0.81	1.08
Ant. 3 (dBi)	-	2.53	1.76	5.23	0.48
Ant. 4 (dBi)	-	0.49	-0.32	-4.6	-2.94
DG [1SS] (dBi)	4.65	6.76	6.31	6.67	6.69
Polarization	Phi	Phi	Phi	Phi	Phi
$\Theta(^{\circ})$	37.5	60	60	52.5	37.5
$\Phi(^{\circ})$	60	0	0	172.5	195

Note: The DG 1SS max value position is the maximum value of section 11 table DG 1SS Result.

DG_1SS max value position calculation

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 [$10^{(G/20)}$]	$10^{(3.47/20)}$	$10^{(0.84/20)}$	$10^{(0.53/20)}$	$10^{(-1.97/20)}$	$10^{(3.05/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(-0.68/20)}$	$10^{(-1.35/20)}$	$10^{(-1.07/20)}$	$10^{(0.81/20)}$	$10^{(1.08/20)}$
Ant. 3 [$10^{(G/20)}$]	-	$10^{(2.53/20)}$	$10^{(1.76/20)}$	$10^{(5.23/20)}$	$10^{(0.48/20)}$
Ant. 4 [$10^{(G/20)}$]	-	$10^{(0.49/20)}$	$10^{(-0.32/20)}$	$10^{(-4.6/20)}$	$10^{(-2.94/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.491	1.102	1.063	0.797	1.421
Ant. 2 [$10^{(G/20)}$] value	0.925	0.856	0.884	1.098	1.132
Ant. 3 [$10^{(G/20)}$] value	-	1.338	1.225	1.826	1.057
Ant. 4 [$10^{(G/20)}$] value	-	1.058	0.964	0.589	0.713
Sum All Antenna [Amax]	2.416	4.354	4.135	4.31	4.323
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	4.65	6.76	6.31	6.67	6.69

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

<5G6G Ant3, 5G6G Ant4>
DG_1SS max value position

Frequency (Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	1.56	0.69	2.35	3.63
Ant. 2 (dBi)	2.33	3.37	3.21	2.36
DG [1SS] (dBi)	4.96	5.14	5.8	6.03
Polarization	Phi	Phi	Phi	Phi
$\Theta(^{\circ})$	30	30	37.5	30
$\Phi(^{\circ})$	217.5	217.5	232.5	202.5

Note: The DG 1SS max value position is the maximum value of section 11 table DG 1SS Result.

DG_1SS max value position calculation

Frequency (Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 [$10^{(G/20)}$]	$10^{(1.56/20)}$	$10^{(0.69/20)}$	$10^{(2.35/20)}$	$10^{(3.63/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(2.33/20)}$	$10^{(3.37/20)}$	$10^{(3.21/20)}$	$10^{(2.36/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.197	1.083	1.311	1.519
Ant. 2 [$10^{(G/20)}$] value	1.308	1.474	1.447	1.312
Sum All Antenna [Amax]	2.504	2.557	2.758	2.831
DG [$10 \cdot \log(A_{\max}^2/N_{\text{ant}})$]	4.96	5.14	5.8	6.03

Note:

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

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

<5G6G Ant3, 5G6G Ant4>
DG_1SS max value position

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	6.23	5.27	3.79	5.18
Ant. 2 (dBi)	0.49	2.59	2.55	1.55
DG [1SS] (dBi)	6.84	7.04	6.2	6.56
Polarization	Phi	Phi	Phi	Phi
$\Theta(^{\circ})$	52.5	52.5	52.5	60
$\Phi(^{\circ})$	157.5	150	150	150

Note: The DG 1SS max value position is the maximum value of section 11 table DG 1SS Result.

DG_1SS max value position calculation

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [$10^{(G/20)}$]	$10^{(6.23/20)}$	$10^{(5.27/20)}$	$10^{(3.79/20)}$	$10^{(5.18/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(0.49/20)}$	$10^{(2.59/20)}$	$10^{(2.55/20)}$	$10^{(1.55/20)}$
Ant. 1 [$10^{(G/20)}$] value	2.049	1.834	1.547	1.816
Ant. 2 [$10^{(G/20)}$] value	1.058	1.347	1.341	1.195
Sum All Antenna [Amax]	3.107	3.182	2.888	3.011
DG [$10 \cdot \log(A_{\max}^2/N_{\text{ant}})$]	6.84	7.04	6.2	6.56

Note:

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

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

8. Summary of Test Result

<2G5G Ant1, 2G5G Ant2, 5G6G Ant3, 5G6G Ant4>

Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	3.78	3.45	2.71	4.22	3.86
Ant. 2 Max Gain (dBi)	4.06	3.44	3.37	4.88	4.62
Ant. 3 Max Gain (dBi)	-	5.26	5.46	5.47	4.92
Ant. 4 Max Gain (dBi)	-	4.03	5.09	4.08	4.73
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/37.5/277.5	Phi/52.5/22.5	Phi/45/22.5	Phi/37.5/30	Phi/30/15
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/67.5/26 2.5	Phi/22.5/225	Phi/30/217.5	Theta/52.5/21 7.5	Theta/45/217. 5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	-	Phi/60/75	Phi/60/75	Phi/52.5/165	Phi/52.5/165
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	-	Theta/60/180	Theta/82.5/30 7.5	Theta/60/172. 5	Theta/52.5/17 2.5
Max Gain (dBi)	4.06	5.26	5.46	5.47	4.92
DG [1SS] (dBi)	4.65	6.76	6.31	6.67	6.69
DG [2SS] (dBi)	4.06	5.26	5.46	5.47	4.92
DG [4SS] (dBi)	-	5.26	5.46	5.47	4.92

<5G6G Ant3, 5G6G Ant4>

Freq(Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	3.45	2.71	4.22	3.86
Ant. 2 Max Gain (dBi)	3.44	3.37	4.88	4.62
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/52.5/22.5	Phi/45/22.5	Phi/37.5/30	Phi/30/15
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/22.5/225	Phi/30/217.5	Theta/52.5/217.5	Theta/45/217.5
Max Gain (dBi)	3.45	3.37	4.88	4.62
DG [1SS] (dBi)	4.96	5.14	5.8	6.03
DG [2SS] (dBi)	3.45	3.37	4.88	4.62

<5G6G Ant3, 5G6G Ant4>

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	6.23	5.81	5.59	5.8
Ant. 2 Max Gain (dBi)	4.68	3.89	3.74	4.66
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/52.5/157.5	Phi/60/150	Phi/82.5/247.5	Phi/82.5/255
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/30/292.5	Theta/75/255	Theta/52.5/157.5	Theta/75/345
Max Gain (dBi)	6.23	5.81	5.59	5.8
DG [1SS] (dBi)	6.84	7.04	6.2	6.56
DG [2SS] (dBi)	6.23	5.81	5.59	5.8

< SC Ant1, SC Ant2, BLE Ant3>

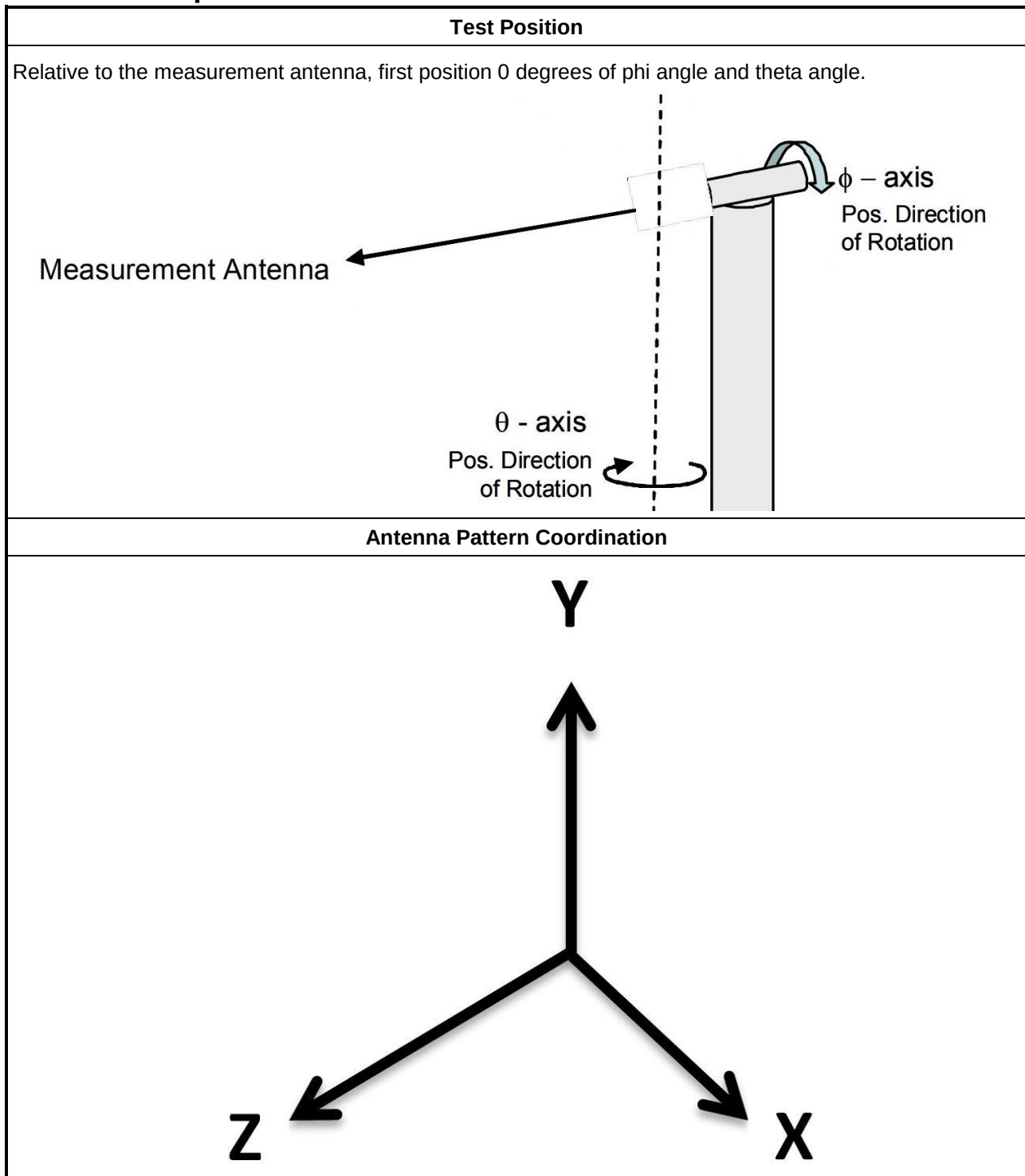
Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.4	2.87	2.96	3.08	2.71
Ant. 2 Max Gain (dBi)	2.3	3.24	3.56	3.46	3.18
Ant. 3 Max Gain (dBi)	2.23	-	-	-	-
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/75/52.5	Phi/22.5/150	Theta/67.5/90	Theta/60/97.5	Theta/60/15
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/60/292.5	Theta/75/285	Theta/75/285	Theta/75/270	Theta/52.5/210
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/22.5/255	-	-	-	-

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	3.61	3.17	4.38	3.32
Ant. 2 Max Gain (dBi)	3.96	4.12	3.98	4.08
Ant. 3 Max Gain (dBi)	-	-	-	-
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/67.5/172.5	Theta/52.5/120	Theta/52.5/127.5	Theta/52.5/285
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/67.5/135	Theta/67.5/135	Theta/75/135	Theta/67.5/135
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	-	-	-	-

Note:

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

9. Test Setup



Note:

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



10. Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1531	1GHz~18GHz	Dec. 20, 2023	Dec. 19, 2024
Dual Polarization Horn Antenna	Sporton	S0209DP	S0209DP-001	2GHz~9GHz	N.C.R.	N.C.R.
ENA Series Network Analyzer	AGILENT	E5071C	MY46419477	100kHz~8.5GHz	Jul. 30, 2024	Jul. 29, 2025
VNA Calibration Kit	TS RF	TS85033E-F	-	DC~9GHz	N.C.R.	N.C.R.
Multi-axis positioner	Sporton	MAPS01	MAPS01-001	Theta / Phi axis	N.C.R.	N.C.R.
Test Software	SPORTON	SENSE-RDG	V1.0.8	-	N.C.R.	N.C.R.

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

NCR means Non-Calibration required.



11. Test Results

Please refer to the appendix.

Appendix A – Radiated Composite Gain of 2.4GHz(2TX) and 5GHz(4TX).....	Page 17
Appendix B – Radiated Composite Gain of 5GHz(2TX).....	Page 31
Appendix C – Radiated Composite Gain of 6GHz (2TX).....	Page 38
Appendix D – Radiated Composite of Scan Radio and BLE.....	Page 45
Appendix E – Antenna Pattern of 2.4GHz(2TX) and 5GHz(4TX).....	Page 55
Appendix F – Antenna Pattern of 6GHz(2TX).....	Page 62
Appendix G – Antenna Pattern of Scan Radio and BLE.....	Page 65
Appendix H – Test Photos.....	Page 72

————THE END————



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Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	3.78	3.45	2.71	4.22	3.86
Ant. 2 Max Gain (dBi)	4.06	3.44	3.37	4.88	4.62
Ant. 3 Max Gain (dBi)		5.26	5.46	5.47	4.92
Ant. 4 Max Gain (dBi)		4.03	5.09	4.08	4.73
Ant. 1 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Phi/37.5/277.5	Phi/52.5/22.5	Phi/45/22.5	Phi/37.5/30	Phi/30/15
Ant. 2 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/67.5/262.5	Phi/22.5/225	Phi/30/217.5	Theta/52.5/217.5	Theta/45/217.5
Ant. 3 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$		Phi/60/75	Phi/60/75	Phi/52.5/165	Phi/52.5/165
Ant. 4 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$		Theta/60/180	Theta/82.5/307.5	Theta/60/172.5	Theta/52.5/172.5
Max Gain (dBi)	4.06	5.26	5.46	5.47	4.92
DG [1SS] (dBi)	4.65	6.76	6.31	6.67	6.69
DG [2SS] (dBi)	4.06	5.26	5.46	5.47	4.92
DG [4SS] (dBi)		5.26	5.46	5.47	4.92



Radiated Composite Gain Data of 2.4GHz (2TX) and 5GHz (4TX)

Appendix A

DG 1SS Result

Freq(Hz)	2.450/Pol.	Phi-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-9.58/-9.47	-9.58/-9.63	-9.59/-9.47	-9.28/-9.13	-8.92/-8.79	-8.58/-8.69	-8.98/-8.92	-8.9/-9.33	-9.66/-10.28	-10.48/-9.91	-9.4/-9.06	-8.92/-8.92	-9.14/-9.37	-9.69/-9.79	-9.75/-9.61	-9.63/-9.71	-9.89/-10.13	-10.4/-10.71	-10.12/-9.59	-9.13/-8.71	-7.97/-7.59	-7.53/-7.95	-8.75/-9.79	-10.33/-10.08
Θ(7.5°)	-6.81/-6.36	-6.15/-5.97	-5.62/-5.13	-4.73/-4.45	-4.39/-4.35	-4.53/-4.83	-5.32/-5.79	-6.21/-6.72	-7.16/-7.25	-7.01/-6.53	-5.85/-5.3	-4.92/-4.73	-4.69/-4.78	-4.93/-5.09	-5.21/-5.37	-5.54/-5.77	-6.14/-6.47	-7.05/-7.74	-8.25/-8.27	-7.84/-7.31	-6.82/-6.81	-6.81/-6.88	-7.13/-7.58	-7.85/-7.49
Θ(15°)	-1.64/-1.34	-1.17/-0.97	-0.56/-0.13	0.32/0.51	0.53/0.33	-0.02/-0.61	-1.46/-2.28	-3.08/-3.63	-3.71/-3.7	-3.67/-3.26	-2.7/-1.89	-1.33/-0.99	-0.84/-0.84	-1/-1.19	-1.35/-1.47	-1.47/-1.47	-1.5/-1.55	-1.78/-2.1	-2.63/-3.33	-4.13/-4.39	-4.1/-3.64	-3.2/-2.74	-2.43/-2.37	-2.34/-2.06
Θ(22.5°)	1.21/-1.4	1.49/-1.4	2.17/-2.67	3.05/3.22	3.19/2.94	2.47/1.68	0.64/-0.38	-0.78/-0.6	-0.33/-0.29	-0.49/-0.53	-0.13/-0.51	1.01/-1.31	1.39/-1.28	1.03/0.74	1.11/-1.27	1.36/-1.33	1.21/0.94	0.42/-0.4	-1.41/-1.63	-1.23/-0.61	-0.07/0.32	-0.07/0.32	0.6/0.93	
Θ(30°)	2.71/2.79	2.81/2.99	3.42/3.89	4.3/4.5	4.54/3.32	2.78/1.85	1.58/0.49	0.61/1.2	1.44/1.36	1.03/0.8	1.02/1.56	2.08/2.42	2.53/2.44	2.11/-1.69	1.29/1.13	1.26/1.6	1.97/2.28	2.56/2.84	3.08/3.16	2.94/2.41	1.52/0.34	-0.16/0.05	0.77/1.42	1.91/2.39
Θ(37.5°)	2.97/3.02	2.95/3.1	3.44/3.96	4.37/4.63	4.65/4.63	4.23/3.26	1.97/1.05	1.43/1.8	1.89/1.59	0.99/0.67	1.09/1.84	2.39/2.7	2.83/2.73	2.43/1.9	1.28/0.86	0.84/1.21	1.75/2.3	2.93/3.52	4.02/4.24	4.12/3.67	2.92/1.97	0.98/0.39	0.49/1.27	2.05/2.63
Θ(45°)	2.45/2.42	2.14/2.08	2.32/2.78	3.19/3.5	3.79/3.99	3.83/1.9	2.36/2.13	2.3/2.4	2.17/1.56	0.7/-0.12	0.26/1.09	1.68/2.06	2.26/2.32	2.15/-1.71	1.06/0.37	-0.08/0.15	0.79/1.55	2.54/-4.43	4.01/4.15	3.88/3.33	2.61/1.9	1.43/-1.18	0.72/0.71	1.28/2.05
Θ(52.5°)	2.05/2.04	1.62/1.21	1.05/1.28	1.49/1.64	2.06/2.59	2.82/2.88	2.65/2.89	3.16/3.17	2.72/1.88	0.75/-0.48	-1.11/-0.53	-0.02/0.42	0.78/1.1	1.17/0.94	0.38/-0.41	-1.19/-1.12	-0.46/0.66	2.03/3.12	3.65/3.66	3.29/2.68	1.87/0.99	0.65/0.76	0.74/0.54	0.84/1.61
Θ(60°)	1.25/1.14	0.68/0.26	0.15/0.37	0.69/0.7	0.77/1.08	1.26/1.35	1.54/1.92	2.43/2.61	2.18/1.3	0.24/-0.64	-1.09/-1.21	-1.13/-0.91	-0.56/-0.15	0.15/0.18	-1.1/-1.09	-1.98/-2.39	-1.93/-0.22	1.47/2.68	3.28/3.3	2.92/1.3	1.13/0.23	0.02/0.18	-0.05/-0.1	0.06/0.83
Θ(67.5°)	-0.26/-0.71	-1.17/-1.5	-1.73/-1.62	-1.12/-0.65	-0.25/0.19	0.48/0.56	0.4/0.43	0.91/1.3	0.65/-0.27	-1.21/-1.41	-1.28/-1.3	-1.36/-1.47	-1.5/-1.39	-1.11/-0.83	-1.01/-1.81	-2.97/-3.52	-2.86/-1.48	0.33/1.65	2.24/-1.99	1.21/0.18	-0.96/-1.29	-0.56/-0.32	-0.65/-1.07	-0.74/-0.25
Θ(75°)	-1.02/-1.77	-2.4/-2.5	-2.59/-2.71	-2.69/-2.52	-2.34/-2.17	-1.94/-1.66	-1.54/-0.73	0.36/1.1	0.91/-0.17	-1.69/-2.69	-2.83/-2.76	-2.91/-3.44	-4.05/-4.37	-4.18/-3.78	-3.87/-4.66	-4.83/-4.13	-3.96/-4.03	1.91/-0.03	0.48/0.11	-0.89/-1.26	-1.39/-2.62	-1.77/-1.45	-1.94/-1.27	-1.22/-0.81
Θ(82.5°)	-2.25/-3.37	-3.99/-4.43	-4.62/-4.77	-4.77/-4.56	-3.85/-3.27	-2.92/-2.97	-3.64/-3.51	-1.33/0.02	0.22/0.61	-1.87/-2.74	-3.06/-3.24	-3.89/-5.2	-6.56/-7.2	-7.13/-7.05	-6.51/-6.21	-6.18/-5.23	-5.3/-5.49	-2.8/-0.98	-0.65/-1.58	-2.27/-2.5	-3.36/-3.99	-7.28/-2.16	-2.77/-3.43	-2.54/-1.98
Θ(90°)	-3.36/-4.66	-5.29/-4.97	-4.83/-5.11	-5.44/-5.48	-5.16/-4.34	-3.45/-3.16	-3.9/-5.2	-3.84/-2.05	-1.54/-2.33	-3.57/-4	-3.76/-3.68	-4.45/-6.32	-8.94/-10.99	-10.87/-9.96	-9.06/-7.53	-5.58/-4.23	-4.52/-5.95	-6.45/-3.92	-2.98/-3.61	-4.05/-4.05	-4.51/-4.12	-2.98/-2.98	-4.55/-4.97	-3.46/-2.87
Θ(97.5°)	-3.62/-4.59	-6.27/-6.12	-5.91/-6	-6.17/-6.35	-6.17/-5.84	-5.42/-5.27	-5.65/-5.75	-4.22/-2.82	-2.74/-3.85	-4.83/-4.48	-3.89/-3.93	-4.92/-7.4	-9.58/-10.6	-9.68/-8.8	-8.37/-7.06	-5.17/-4.84	-6.39/-10.2	-9.19/-5.17	-4.18/-5.12	-5.46/-4.86	-4.61/-4.32	-3.47/-3.8	-5.94/-6.43	-4.16/-3.51
Θ(105°)	-6.02/-7.23	-8.25/-6.85	-5.83/-5.94	-6.17/-6.66	-6.17/-7.88	-4.86/-8.41	-8.08/-7.08	-4.93/-3.22	-3.4/-2.3	-5.9/-5.79	-4.48/-3.67	-4.14/-6.37	-9.9/-12.17	-11.02/-11.43	-11.29/-9.38	-7.21/-6.36	-7.01/-9.52	-11.29/-8.4	-7.26/-7.44	-5.53/-4.54	-5.03/-5.65	-1.58/-7.35	-2.77/-3.43	-2.54/-1.98
Θ(112.5°)	-5.77/-7.14	-9.11/-8.06	-5.96/-5.68	-5.81/-6.04	-6.64/-7.58	-8.41/-9.09	-9.86/-9.23	-6.32/-4.26	-3.88/-4.8	-6.07/-6.13	-4.89/-4.09	-5.11/-7.83	-9.49/-9.41	-10.58/-12.66	-12.64/-9.5	-7.18/-5.83	-6.47/-10.01	-13.84/-9.61	-7.65/-6.75	-6/-6.7	-9.15/-9.79	-9.24/-8.39	-8.66/-7.11	-5.35/-5.09
Θ(120°)	-7.47/-7.51	-9.25/-8.41	-7.43/-7.26	-7.51/-7.57	-7.52/-7.47	-7.3/-7.32	-7.53/-7.73	-7.24/-6.47	-6.49/-7.46	-8.19/-6.93	-4.88/-4.14	-5.44/-8.05	-9.03/-9.22	-10.89/-13.2	-12.56/-10.96	-8.27/-6.64	-6.96/-9.39	-10.46/-8.76	-8.23/-7.88	-7.86/-9.72	-11.97/-9.85	-7.11/-5.94	-6.38/-8.61	-9.98/-8.48
Θ(127.5°)	-11.8/-10.39	-10.13/-9.56	-9.53/-9.12	-10.26/-11	-11.99/-10.65	-9.48/-8.95	-8.52/-7.61	-6.65/-6.07	-5.98/-6.37	-7.16/-7.29	-6.19/-6.14	-7.32/-7.37	-6.89/-7.06	-8.5/-10.22	-11.54/-9.91	-7.75/-7.14	-8.41/-9.73	-10.87/-6.39	-5.93/-5.92	-6.72/-9.69	-13.91/-11.55	-8.92/-5.64	-12.67/-12.86	
Θ(135°)	-7.85/-7.76	-8.31/-9.95	-9.69/-8.21	-7.19/-7.36	-7.79/-7.74	-7.52/-7.83	-8.84/-9.62	-8.87/-7.45	-6.26/-5.83	-6.16/-6.41	-5.91/-5.82	-6.2/-6.36	-6.84/-8.42	-10.97/-10.52	-8.18/-5.91	-4.54/-4.37	-5.53/-6.41	-6.48/-5.97	-5.78/-6.09	-7.45/-10.63	-13.67/-11.36	-9.66/-8.74	-7.78/-7.43	-7.89/-8.17
Θ(142.5°)	-5.17/-5.05	-5.53/-6.59	-7.33/-6.43	-5.32/-4.95	-5.19/-5.45	-5.72/-6.28	-7.1/-6.5	-7.58/-6.86	-6.31/-6.57	-7.7/-8.92	-9.16/-9.49	-9.81/-10.63	-11.27/-10.72	-8.3/-5.99	-4.12/-3.17	-2.79/-3.32	-5.07/-7.38	-10.03/-10.88	-9.75/-9.42	-10.17/-13.48	-14.71/-13.94	-12.08/-10.72	-8.84/-7.41	-6.52/-5.83
Θ(150°)	-5.86/-5.33	-5.18/-5.25	-5.03/-4.34	-3.53/-3.15	-3.31/-3.95	-4.92/-6.16	-7.32/-7.94	-7.91/-7.69	-7.73/-8.43	-6.65/-11.32	-12.22/-11.95	-11.34/-9.23	-7.79/-6.73	-5.95/-5.34	-4.96/-5.17	-7.59/-7.18	-9.81/-14.3	-14.55/-10.72	-8.66/-8.21	-9.15/-11.72	-10.63/-15.23	-11.89/-14.19	-11.03/-8.76	-7.44/-6.52
Θ(157.5°)	-8.94/-7.95	-6.89/-6	-5.04/-4.06	-3.26/-2.8	-2.88/-3.53	-4.66/-6.31	-8.23/-9.84	-10.24/-9.72	-9.31/-9.07	-8.91/-8.63	-8.09/-7.31	-6.63/-6.31	-6.49/-7.16	-8.21/-9.54	-10.85/-11.24	-11.55/-12.15	-12.79/-11.6	-10.41/-9.11	-8.21/-8.3	-9.56/-11.94	-15.06/-14.98	-15.02/-14.82	-12.2/-10.31	-9.33/-9.09
Θ(165°)	-13.29/-12.68	-10.67/-8.91	-7.26/-5.9	-4.97/-4.6	-3.78/-3.9	-4.51/-5.61	-7.12/-9.17	-11.19/-13.73	-10.89/-9.8	-8.8/-8.16	-7.78/-7.71	-8.02/-8.93	-10.14/-12.16	-15.35/-15.06	-14.72/-12.04	-10.49/-10.02	-9.73/-9.91	-10.04/-10.04	-9.43/-9.97	-11.05/-12.77	-14.25/-14.72	-13.99/-12.1	-11.46/-10.49	-10.55/-11.94
Θ(172.5°)	-15.45/-15.71	-12.81/-11.33	-10.06/-8.66	-6.74/-7.18	-6.21/-6.12	-6.74/-3.37	-8.43/-10.24	-12.34/-13.73	-13.21/-12.66	-12.37/-12.96	-14.33/-15.09	-14.93/-15.28	-14.31/-12.72	-10.95/-10.29	-14.34/-13.02	-11.45/-12.38	-13.29/-13.47	-14.34/-10.02	-13.01/-13.01	-13.47/-13	-11.2/-11.17	-11.52/-11.71	-12.55/-14.29	
Θ(180°)	-14.8/-13.22	-12.3/-11.65	-10.78/-10.6	-10.21/-10.14	-10.42/-10.65	-11.09/-11.9	-11.97/-12.53	-12.74/-13.07	-13.35/-14.13	-14.62/-14.94	-14.78/-14.46	-13.01/-11.78	-11.31/-10.57	-10.23/-10.42	-11.12/-12	-13.36/-14.51	-15.29/-15.17	-15.27/-15.83	-14.72/-13.31	-12.8/-13.39	-13.62/-13.58	-14.19/-14.19	-14.58/-14.5	-14.83/-14.45
Freq(Hz)	2.450/Pol.	Theta-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-10.35/-10.35	-9.51/-8.67	-8.17/-8	-8.09/-8.38	-8.77/-9.09	-9.33/-9.69	-9.96/-10.31	-10.66/-11.29	-11.77/-11.85	-11.71/-11.46	-11.16/-10.94	-10.61/-10.28	-10.3/-10.15	-10.31/-10.31	-10/-10.54	-10.15/-9.92	-9.93/-10.1	-10.19/-10.22	-10.3/-10.53	-10.84/-11.26	-11.85/-12.53	-12.9/-12.21	-11.5/-10.52	-10.36/-10.32
Θ(7.5°)	-13.72/-12.88	-11.6/-10.67	-10.23/-10.26	-10.54/-10.67	-10.51/-10.03	-9.5/-8.3	-8.15/-7.79	-7.62/-7.72	-7.95/-8.37	-8.68/-8.67	-8.48/-8.34	-7.96/-7.82	-7.62/-7.43	-7.55/-7.43	-7.47/-7.23	-7.16/-7.21	-7.54/-7.95	-8.34/-8.58	-8.77/-8.87	-8.96/-9.14	-8.71/-10.63	-12.07/-13.3	-14.88/-15.44	-14.42/-13.28
Θ(15°)	-12.02/-10.77	-9.5/-8.83	-8.65/-8.82	-8.8/-8.15	-7.06/-5.9	-4.78/-3.72	-3.02/-2.6	-2.43/-2.61	-2.93/-3.52	-4.25/-4.94	-5.67/-6.14	-6.43/-5.98	-5.53/-5.18	-5.11/-5.14	-4.88/-4.98	-5.35/-5.69	-6.76/-7.85	-8.59/-9.35	-9.71/-9.75	-9.18/-8.63	-8.39/-8.44	-8.96/-10.14	-11.91/-12.64	-12.81/-13.12
Θ(22.5°)	-8.52/-7.74	-7.04/-6.69	-6.8/-7.09	-6.87/-5.81	-4.3/-3.15	-1.81/-0.76	-0.17/0.08	0.07/-0.25	-0.75/-1.43	-2.19/-2.9	-3.6/-4.14	-4.52/-4.51	-4.04/-3.73	-3.37/-3.19	-3.27/-3.44	-3.73/-4.81	-6.16/-7.45	-8.19/-8.89	-9.13/-9.36	-9.12/-8.64	-8.17/-7.84	-7.79/-8.01	-8.59/-9.13	-9.31/-9.08
Θ(30°)	-6.53/-6.22	-5.93/-5.98	-6.4/-6.73	-6.09/-6.41	-2.76/-1.33	-0.26/0.59	0.94/-1.2	0.84/0.39	-0.26/-0.96	-1.64/-2.15	-2.58/-2.95	-3.25/-3.52	-3.31/-2.86	-2.54/-2.39	-2.29/-2.61	-3.09/-4.15	-5.33/-5.93	-5.68/-5.34	-5.26/-4.57	-5.52/-5.47	-5.37/-5.32	-5.48/-5.73	-6.19/-6.39	-6.56/-6.62
Θ(37.5°)	-5.23/-5.5	-5.66/-6.07	-6.91/-7.07	-6.14/-3.98	-2.36/-1.03	0.05/0.66	0.89/0.76	0.38/-0.33	-1.19/-1.88	-2.44/-2.63	-3.13/-3.35	-3.13/-2.71	-2.23/-2.1	-2.09/-2.09	-2.64/-3.1	-3.39/-3.03	-2.25/-1.79	-1.82/-2.22	-2.73/-3.17	-3.47/-3.66	-3.83/-3.97	-4.04/-4.1	-4.34/-4.8	
Θ(45°)	-4.43																							



Radiated Composite Gain Data of 2.4GHz (2TX) and 5GHz (4TX)

Appendix A

Θ(22.5°)	3.42/3.34	3.35/3.37	3.21/2.94	2.74/2.5	2.06/1.86	1.89/1.65	1.59/1.03	0.76/0.4	0.39/0.79	1.18/1.98	2.44/2.83	2.98/3.08	3.06/3.37	3.81/4.06	4.02/3.8	3.48/2.89	1.93/1.07	0.54/0.54	0.78/1.18	1.75/2.11	2.15/2.04	1.88/2.11	2.66/3.27	3.64/3.42	
Θ(30°)	4/4.1	4.52/4.91	4.68/4.14	3.34/3.03	2.68/2.53	2.69/2.72	2.77/2.87	2.8/2.71	2.73/2.46	2.67/2.93	3.32/3.76	4.37/4.56	4.68/5.34	5.62/5.59	5.34/5.11	4.44/3.41	2.17/1.86	1.76/2.35	2.93/2.7	3.17/2.94	3.23/3.08	2.41/2.15	2.78/3.47	4.08/4.03	
Θ(37.5°)	4.35/4.96	5.55/5.93	5.58/4.6	4/3.64	3.41/3.23	3.53/3.95	4.09/4.4	4.57/4.46	4.34/0.1	3.97/3.62	3.41/4.12	4.54/4.71	5.46/5.73	5.63/5.45	5.19/4.79	4.33/5.5	3.39/3.12	3.31/3.66	3.95/3.73	3.57/3.67	3.2/3.08	2.62/2.73	2.06/2.26	3.24/3.78	
Θ(45°)	5.41/5.58	5.89/5.74	5.06/4.34	4.2/4.25	4.16/4.19	4.57/4.99	5.08/5.14	5.2/5.4	5.27/4.68	4.32/3.88	3.49/4.09	4.64/5.25	6/6	5.93/5.41	5.42/5.15	4.42/3.78	4.12/3.94	3.55/3.53	3.92/4.4	4.92/5.21	5/4.33	4.47/4.33	3.57/2.84	3.73/4.69	
Θ(52.5°)	5.92/5.69	5.55/5.79	5.32/4.91	4.57/4.45	4.44/5.28	5.5/5.43	5.54/5.5	5.34/5.28	5.26/4.65	3.96/3.31	3.63/4.66	5.31/5.33	5.26/4.71	4.84/5.28	5.34/4.29	3.21/3.47	3.82/3.63	3.39/3	3.06/4.12	4.98/5.56	5.74/5.23	4.39/4.43	5.08/4.97	5.25/5.88	
Θ(60°)	6.31/5.66	5.87/5.96	5.45/5.22	4.82/4.49	3.93/5.16	6.1/5.9	5.42/4.82	4.42/4.53	4.8/4.5	3.69/3.83	2.85/4.13	5.06/5.5	5.42/4.68	4.55/4.81	6.54/4.1	4.1/4.3	2.64/1.96	1.77/2.23	2.02/3.56	4.53/5.69	5.93/5.24	4.44/4.28	5.37/5.82	6.06/6.13	
Θ(67.5°)	5.33/4.84	5.51/5.41	4.45/4.49	4.16/3.5	3.14/4.7	5.12/4.79	4.39/3.79	3.44/3.24	3.64/3.43	2.91/2.45	2.56/3.95	4.85/4.25	3.85/3.8	4.43/4.24	4.6/3.99	2.92/3.5	2.57/1.84	2.09/1.6	1.91/3.45	4.63/5.28	5.44/5	4.27/4.24	5.07/5.66	6.05/5.68	
Θ(75°)	3.74/3.1	3.69/3.99	2.62/2.42	2.2/2.1	1.75/2.81	3.19/2.79	2.63/1.81	1.99/2.16	2.19/1.62	1.21/0.84	1.15/2.19	3.39/2.94	2.63/2.51	2.79/3.09	3.87/2.72	0.81/0.54	1.62/1.94	1.92/1.15	1.69/3.02	4.3/5	4.51/4.25	3.49/2.43	3.4/4	4.05/3.88	
Θ(82.5°)	0.98/0.3	0.99/1.76	1.15/1.04	0.74/0.32	-0.12/1	1.16/0.8	0.77/0.23	0.18/0.49	0.04/0.43	-0.29/0.74	-0.47/0.4	1.71/0.68	0.67/1.37	1.52/1.73	2.51/1.28	-0.1/0.41	0.89/1.47	1.08/-0.22	1.01/2.14	3.78/5	3.46/2.52	2.28/1.33	1.41/1.86	2.69/1.94	
Θ(90°)	-1.51/-1.75	-1.85/-1.35	-0.95/-1.65	-2.31/-1.77	-1.94/-1.41	-1.51/-2.49	-2.19/-2.26	-1.59/-0.65	-1.45/-2.25	-2.06/-2.72	-2.21/-2.04	-0.19/-0.71	-1.1/-0.31	0.41/0.8	0.76/-0.11	-2.76/-2.52	-0.84/0.54	0.38/-2.27	-0.77/0.22	2.41/3.28	1.80/53	-1.29/-1.98	-1.55/-1.07	-0.32/-0.37	
Θ(97.5°)	-4.26/-3.98	-4.48/-2.33	-1.57/-4.15	-3.46/-4.42	-4.99/-3.96	-3.66/-5	-4.56/-3.89	-4.05/-2.94	-3.28/-4.12	-2.94/-3.14	-2.93/-4.17	-1.42/-1.83	-2.08/-0.57	-0.04/-1.48	-4.52/-3.92	-2.38/-1.63	-2.08/-3.65	-0.86/0.49	-0.24/-3.35	-4.47/-4.39	-4.95/-4.64	-3.41/-3.73			
Θ(105°)	-4.14/-4.9	-4.77/-2.68	-2.91/-4.43	-2.44/-5.88	-6.79/-7.21	-6.32/-7.82	-6.92/-5.74	-4.75/-4.53	-5.8/-5.32	-3.94/-4.18	4.99/-6.1	-5.32/-5.09	-6.26/-2.13	-2.17/-1.7	-1.79/-1.45	-3.89/-5.61	-4.66/-3.01	-2.68/-5.21	-6.52/-6.77	-4.58/-4.94	-4.69/-5.78	-6/-4.9	-6.12/-4.69		
Θ(112.5°)	-7.81/-7.74	-8.04/-6.37	-4.03/-5.12	-6.66/-7.62	-7.4/-9.83	-8.51/-8.66	-7.62/-6.14	-5.85/-6.93	-6.67/-6.98	-4.33/-5.11	-6.71/-7.78	-6.91/-5.86	-3.72/-5.95	-4.62/-3.49	-4.37/-5.59	-4.05/-4.16	-3.82/-4.8	-3.25/-4.39	-6.23/-6.37	-6.97/-7.2	-5.21/-4.14	-4.44/-6.03	-7.69/-7.67	-6.51/-4.38	
Θ(120°)	-5.84/-4.9	-7.21/-6.36	-6.79/-11.79	-10.37/-8.86	-9.64/-11.57	-9.57/-9.37	-8.26/-7.1	-8.14/-8.5	-7.72/-6.29	-5.91/-5.67	-7.25/-7.28	-7.59/-7.23	-5.91/-5.67	-7.11/-6.17	-4.62/-6.22	-6.21/-5.28	-4.5/-4.81	-2.29/-2.53	-5.46/-5.54	-6.84/-6.1	-6.35/-5.5	-4.05/-5.79	-7.83/-10.04	-8.31/-6.89	
Θ(127.5°)	-7.14/-6.11	-8.81/-8.51	-5.03/-5.65	-6.79/-9.66	-9.49/-9.93	-9.31/-8.56	-8.44/-7.65	-8.65/-9.85	-7.56/-7.01	-5.54/-6.17	-8.91/-9.12	-7.65/-7.38	-6.52/-6	-6.45/-4.96	-6.13/-7.37	-6.65/-4.68	-3.02/-3.11	-4.71/-4.84	-7.65/-5.78	-5.23/-1.77	-7.77/-5.97	-7.08/-8.25	-10.62/-10.53	-10.35/-9.31	
Θ(135°)	-7.44/-6.66	-8.63/-10.4	-9.36/-8.45	-9.41/-8.25	-7.83/-10.63	-9.86/-8.23	-10.01/-8.92	-7.76/-8.14	-6.94/-5.52	-6.5/-8.62	-10.54/-8.27	-6.14/-4.68	-6.35/-6.68	-8.1/-8.4	-11.53/-11.51	-9.41/-9.4	-6.49/-5.71	-5.43/-6.64	-7.23/-8.26	-8.66/-9.79	-9.99/-12.12	-8.33/-5.83	-8.98/-11.23	-7.41/-5.64	
Θ(142.5°)	-7.77/-9.28	-9.68/-10.06	-9.27/-9.72	-9.85/-9.16	-8.92/-9.46	-8.96/-23	-8.89/-8.21	-6.84/-7.62	-8.26/-9.63	-8.57/-7.5	-8.47/-7.95	-6.4/-7.43	-6.16/-6.13	-9.11/-14.8	-12.2/-9.68	-8.22/-9.78	-9.42/-8	-8.31/-10.49	-9.85/-9.56	-10.24/-9.97	-8.8/-10.33	-10.87/-10.3	-9.63/-8.35	-6.18/-5.32	
Θ(150°)	-8.17/-8.11	-6.92/-5.93	-6.78/-10.02	-12.38/-10.37	-8.95/-8.25	-8.02/-9.26	-10.82/-10.96	-11.27/-9.91	-8.92/-7.69	-7.19/-7.1	-8.33/-9.68	-8.86/-7.68	-8.44/-8.15	-9.71/-10.44	-9.73/-9.92	-10.65/-12.2	-9.61/-8.77	-8.07/-8.09	-9.58/-11.68	-11.76/-11.44	-11.58/-10.47	-10.62/-10.53	-10.35/-9.31		
Θ(157.5°)	-11.61/-8.85	-6.72/-6.32	-6.58/-6.73	-7.78/-8.57	-9.37/-9.61	-9.18/-7.83	-7.38/-6.82	-7.16/-8.11	-8.92/-9.59	-9.7/-8.53	-8.01/-7.74	-7.85/-6.56	-6.28/-6.83	-7.86/-9.22	-9.66/-10.8	-11.05/-9.63	-8.47/-8.27	-8.64/-9.88	-12.2/-12.34	-11.87/-10.34	-10.13/-10.94	-11.44/-12.24	-10.53/-10.51	-11.77/-11.9	
Θ(165°)	-11.8/-9.02	-7.11/-6.37	-6.33/-6.19	-6.16/-6.28	-6.77/-8.04	-6.69/-8.31	-9.07/-8.95	-10.06/-9.11	-8.55/-8.92	-9.17/-8.4	-7.97/-7.74	-7.12/-6.51	-7.21/-8.42	-9.99/-9.69	-8.72/-7.31	-7.03/-7.61	-9.21/-11.42	-11.99/-12.21	-12.34/-12.2	-11.65/-11.71	-11.83/-11.83	-12.98/-11.79	-10.29/-10.21	-11.91/-11.85	
Θ(172.5°)	-8.91/-8.14	-7.24/-7.04	-6.54/-6.16	-6.7/-7.14	-7.05/-7.2	-7.81/-7.69	-7.58/-7.75	-8.71/-9.78	-10.76/-11.13	-11/-10.48	-9.79/-8.32	-7.52/-7.13	-7.02/-7.12	-7.3/-8.14	-7.87/-7.43	-7.46/-8.19	-9.05/-8.83	-8.54/-8.84	-9.58/-10.59	-10.84/-11.45	-12.03/-12.21	-12.29/-12.26	-11.67/-12.21	-11.27/-10.19	
Θ(180°)	-8.59/-7.96	-7.72/-7.68	-7.05/-6.72	-6.53/-6.8	-6.67/-6.82	-7.03/-7.74	-8.79/-9.69	-9.69/-10.02	-10.7/-10.99	-11.53/-10.06	-9.65/-9.26	-9.63/-9.98	-9.6/-9.57	-9.74/-10.01	-9.81/-9.8	-10.14/-10.6	-9.84/-10.05	-10.68/-10.69	-10.87/-11.38	-11.75/-12.25	-10.63/-9.58	-9.21/-8.63	-8.46/-8.91		
Freq(Hz)	5.3GPol	Theta-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)	
Θ(0°)	-2.97/-3.01	-3.51/-3.96	-4.37/-4.57	-5.11/-5.92	-5.32/-4.57	-3.63/-2.47	-0.49/-0.94	-0.81/-0.87	-1.1/-4.2	-1.84/-2.33	-2.82/-3.81	-3.62/-4.01	-3.41/-3.21	-3.12/-3.69	-4.54/-5.01	-4.67/-4.64	-4.34/-3.36	-2.56/-1.98	-1.63/-1.36	-1.25/-1.4	-1.34/-1.52	-1.51/-1.92	-2.62/-3.12	-3.11/-3.3	
Θ(7.5°)	-2.74/-2.86	-2.64/-3.4	-4.14/-4.67	-5.23/-5.05	-4.13/-2.59	-1.55/-1.02	-0.22/0.47	0.66/0.51	-0.12/0.36	-0.78/-0.61	-0.43/-0.66	-1.34/-1.89	-2.24/-2.31	-2.37/-2.62	-3.54/-3.33	-4.13/-3.55	-2.94/-2.49	-1.97/-1.42	-1.08/-1.11	-1.17/-0.94	-0.79/-0.52	-0.66/-0.68	-0.98/-1.74	-2.22/-2.53	
Θ(15°)	-1.34/-2.12	-2.83/-3.25	-4.17/-4.91	-5.26/-4.71	-4.14/-2.86	-1.77/-0.78	0.05/0.6	1.15/1.06	0.88/0.45	0.33/0.66	1.21/-38	1.12/0.4	-0.17/-0.83	-0.96/-0.92	-1.82/-2.43	-2.99/-3.07	-2.55/-1.66	-1.07/-0.49	0.08/0.46	0.68/0.78	0.65/0.53	0.50/-31	-0.18/-0.43	-0.55/-0.49	
Θ(22.5°)	-0.58/-1.59	-2.61/-3.7	-4.6/-5.77	-5.92/-5.49	-4.29/-3.17	-2.14/-1.19	-0.52/0.13	0.27/0.2	0.07/-0.12	0.12/0.81	1.57/2.37	2.61/-428	1.85/-132	1.22/0.82	-0.35/-1.9	-3.57/-3.89	-2.89/-1.53	-0.53/0.29	0.97/1.3	1.51/1.59	1.74/1.88	1.7/1.6	1.28/0.48	-0.34/-0.63	
Θ(30°)	-1.46/-2.18	-3.89/-3.99	-6.69/-5.33	-6.85/-7.23	-6.68/-6.91	-5.48/-3.74	-3.17/-2.21	-0.98/-0.55	-0.62/-1.11	-1.09/-0.8	-0.22/0.53	1.63/2.57	3.44/3.44	3.03/2.78	2.44/2.28	1.53/0.23	-1.24/-2.41	-2.62/-1.16	-0.28/0.53	1.46/2	2.12/-125	2.37/2.6	2.24/-52	2.21/-6	0.72/0.85
Θ(37.5°)	-1.56/-2.29	-4.11/-5.36	-7.23/-6.68	-6.46/-7.21	-5.74/-4.21	-3.85/-3.68	-2.79/-1.91	-1.44/-1.14	-1.02/-0.58	0.31/0.8	1.59/0.95	4.01/3.86	3.45/3.54	3.62/3.22	2.52/2.02	1.61/0.93	-0.02/-0.78	-0.52/0.25	0.78/1.27	1.51/-47	1.95/3.38	4.06/3.39	2.55/2	1.31/-0.51	
Θ(45°)	-3.01/-2.81	-4.5/-0.3	-4.8/-3.47	-4.91/-5.43	-4.55/-4.23	-3.25/-1.88	-1.12/-0.95	-1.01/-0.82	-0.63/-0.79	0.04/1.34	1.72/2.63	4.06/4.35	3.48/3.41	2.85/2.95	2.66/1.85	1.44/-12	0.83/0.8	1.03/1.19	1.54/1.71	1.59/2.37	3.12/2.8	2.41/2.26	1.35/-1.28		
Θ(52.5°)	-3.87/-3.99	-2.64/-3.63	-3.19/-3.3	-5.31/-5.13	-3.39/-4.42	-3.19/-3.3	-0.9/-0.41	-0.33/0.68	1.28/0.33	-0.36/0.63	0.52/1.67	3.18/3.41	3.63/3.65	3.74/3.1	2.52/97	3.28/2.07	1.91/-44	1.07/0.79	0.32/0.42	1.01/1.58	1.93/0.9	1.31/-1.77	0.9/-1.26		
Θ(60°)	-4.7/-5.5	-3.27/-2.29	-2.55/-2.43	-4.32/-4.05	-2.14/-2.7	-4.5/-3.03	-1.23/-0.49	-0.18/1.09	2.52/1.89	-0.04/-0.74	-0.87/0.63	2.32/2.87	2.72/99	3.25/2.9	2.92/3.55	3.85/2.9	1.93/1.4	1.01/0.51	-0.42/-0.14	1.32/1.59	1.84/2.32	1.98/0.39	0.74/1.58	0.91/-2.27	
Θ(67.5°)	-4.14/-6.22	-2.61/-1.72	-1.32/-1.99	-4.07/-1.79	-0.95/-0.99	-2.84/-9.22	-0.88/-0.52	-0.45/0.83	2.11/1.34	-1.32/-1.68	-2.09/-0.16	1.93/2.69	2.26/3.15	4.03/3.59	3.08/2.89	3.66/3.18	2.41/1.18	0.51/-0.2	-1.14/-0.69	1.01/0.22	2.83/2.24	2.09/0.38	0.59/0.83	0.53/-1.21	
Θ(75°)	-3.8/-6.5	-2.9/-1.91	-0.9/-2.07	-4.66/-2.5	-1.62/-0.56	-1.83/-3.24	-1.26/-0.45	-0.81/0.42	-0.56/0.83	-1.23/-1.61	-2.17/-2.92	-0.11/0.69	0.48/1.72	3.93/3.2	2.32/71	3.91/3.76	2.46/1.12	-0.32/-0.79	-1.72/-2.77	-0.61/0.99	4.18/4.3	2.50/-48	-0.02/-1.17	-1.37/-1.64	
Θ(82.5°)	-3.87/-6.33	-3.76/-2.22	-1.54/-2.81	-3.68/-3.23	-1.98/-1.37	-2.47/-3.6	-2.02/-1	-0.81/-1.08	-0.93/0.32	-1.21/-1.61	-2.23/-3.5	-0.97/0.17	-1.12/-1.38												



Radiated Composite Gain Data of 2.4GHz (2TX) and 5GHz (4TX)

Appendix A

Θ(67.5°)	4.54/4.19	4.56/3.29	2.23/2.43	2.8/3.09	2.74/2.53	3.41/4.75	4.17/4.16	4.42/4.72	4.78/5.01	5.16/4.82	4.47/4.73	4.76/3.98	2.92/3.18	3.79/3.93	2.44/1.14	0.88/0.63	0.12/0.41	0.96/0.98	0.89/2.56	2.09/2.57	3.49/2.52	2.51/2.6	3.31/4.45	5.25/5.4
Θ(75°)	4.03/3.31	3.72/2.03	0.86/1.28	2.21/2.75	2.08/1.8	2.37/3.64	2.97/2.78	2.87/3.04	3.55/3.59	3.86/3.48	2.84/3.42	3.89/3.28	1.86/1.21	1.62/2.51	1.17/0.7	0.83/0.99	0.62/1.11	1.57/1.08	-0.02/2.29	1.47/2.21	3.37/2.43	2.62/2.85	2.74/4	4.97/4.75
Θ(82.5°)	2.11/1.4	1.78/0.18	-2/0.95	0.63/0.9	0.45/0.14	0.88/2.13	1.63/0.96	1.03/1.17	1.79/1.85	1.74/1.39	1.18/1.73	2.14/0.88	-0.34/0.61	-0.33/0.51	-0.05/-0.76	-0.3/0.27	0.81/1.33	1.26/0.23	-1.11/0.95	0.69/1.69	2.37/1.54	1.26/1.13	1.5/1.9	2.97/2.46
Θ(90°)	-0.35/-1.24	-0.81/-2.71	-3.98/-2.6	-1.13/-1.67	-1.71/-1.8	-1.65/-0.1	-0.93/-1.89	-0.94/-0.59	0.11/0	-0.52/-1.41	-1.7/-0.88	-0.33/-0.29	-1.93/-3.38	-2.51/-1.64	-1.87/-1.72	-1.3/-1.68	-0.52/0.75	0.34/-0.82	-3.13/-0.94	-0.89/0.08	0.61/-0.42	-0.13/-1.13	-0.91/-0.65	1.85/0.56
Θ(97.5°)	-3.96/-4.53	-4.01/-5.31	-4.75/-4.71	-3.1/-3.53	-3.28/-4.28	-4.46/-2.54	-2.63/-3.99	-3.27/-2.33	-1.43/-1.8	-2.89/-3.68	-5.11/-4.1	-2.23/-2.92	-5.4/-4.93	-4.12/-2.75	-2.89/-4.07	-3.94/-3.64	-2.55/-1.92	-2.36/-3.14	-4.59/-3.01	-3.73/-2.28	-2.05/-3.56	-3.25/-4.36	-2.57/-2.46	-0.42/-2.94
Θ(105°)	-6.5/-7.35	-7.8/-6.32	-5.61/-7.71	-4.77/-5.15	-6.31/-5.47	-6.62/-5.78	-4.79/-6.34	-4.44/-3.82	-3.32/-4.69	-5.78/-6.03	-6.82/-6.32	-5.19/-3.89	-6.43/-6.7	-5.07/-3.62	-3.01/-4.05	-5.78/-6.77	-5.33/-4.93	-6.64/-6.79	-8.16/-7.23	-8.22/-6.95	-6.82/-6.15	-5.59/-5.46	-4.08/-4.63	-2.74/-5.74
Θ(112.5°)	-8.53/-7.71	-9.93/-4.76	-5.09/-8.89	-8.47/-8.21	-9.19/-7.81	-6.24/-7.08	-7.92/-8.59	-5.84/-5.69	-5.39/-6.06	-7.3/-6.8	-8.45/-7.36	-7.26/-5.85	-8.22/-7.27	-6.25/-5.09	-3.64/-5.97	-6.72/-5.99	-5.83/-5.01	-6.82/-7.67	-10.4/-6.56	-8.39/-10.46	-7.18/-6	-6.14/-6.52	-5.77/-4.87	-3.28/-4.46
Θ(120°)	-8.79/-8.76	-9.03/-7.95	-7.66/-8.73	-10.38/-8.92	-8.33/-9.61	-8.69/-8.63	-9.52/-8.82	-7.26/-6.73	-6.02/-6.16	-6.55/-7.52	-9.86/-7.34	-7.99/-9.41	-8.63/-8.36	-6.94/-5.02	-6.33/-5.34	-5.28/-6.75	-6.88/-5.92	-5.63/-6.15	-7.53/-9.47	-8.17/-6.74	-8.27/-5.02	-5.89/-5.46	-6.79/-7.87	-5.7/-5.34
Θ(127.5°)	-5.41/-9.1	-9.06/-8.39	-5.64/-6.5	-8.5/-8.67	-8.56/-10.51	-10.97/-8.6	-8.68/-7.4	-5.51/-4.95	-6.31/-6.31	-7.67/-7.86	-7.73/-6.35	-6.51/-7.62	-6.76/-9.71	-6.2/-5.17	-6.04/-6.3	-6.6/-9.1	-7.87/-7.26	-6.36/-5.81	-6.12/-10.34	-8.72/-5.7	-7.54/-9.55	-8.74/-9.18	-7.37/-6.79	-5.52/-4.7
Θ(135°)	-4.41/-3.76	-7.24/-9.41	-9.09/-11.91	-10.68/-7.43	-10.5/-9.47	-7.76/-7.47	-6.44/-5.92	-5.56/-6.66	-8.05/-7.69	-8.19/-8.5	-8.04/-8.65	-7.06/-8.4	-6.81/-7.57	-7.12/-4.02	-4.44/-6.78	-7.66/-9.89	-8.53/-7.5	-5.58/-8.3	-12.16/-11.73	-8.88/-8.32	-8.61/-10.1	-8.56/-8.28	-9.09/-6.36	-6.65/-7.04
Θ(142.5°)	-7.69/-9.18	-10.15/-8.87	-8.58/-8.25	-6.64/-8.02	-10.31/-8.62	-8.41/-10.12	-6.48/-6.49	-9.55/-9.55	-8.84/-6.58	-5.97/-7.42	-10.16/-8.51	-5.58/-6.01	-8.84/-10.42	-12.2/-10.63	-10.33/-10.38	-9.74/-7.27	-8.03/-9.29	-8.57/-8.71	-8.04/-7.43	-8.59/-9.75	-10.28/-9.63	-8.03/-7.42	-11.39/-10.56	-11.32/-8.25
Θ(150°)	-10.29/-11.45	-9.81/-8	-9.01/-11.53	-8.5/-7.47	-7.92/-8.14	-8.98/-9.47	-9.96/-9.76	-8.66/-7.4	-7.15/-6.57	-5.85/-6.59	-8.18/-10.91	-10.85/-10.46	-9.83/-8.95	-7.38/-8.05	-8.69/-9.02	-8.21/-7.74	-8.54/-8.33	-7.72/-7.25	-7.46/-8.2	-8.91/-9.59	-9.73/-9.54	-8.69/-9.52	-9.31/-7.95	-6.88/-7.55
Θ(157.5°)	-10.17/-8.52	-8.36/-9.06	-9.62/-9.32	-7.74/-7.27	-8.16/-8.77	-8.37/-7.03	-7.64/-9.07	-9.21/-8.04	-7.54/-8.87	-6.4/-6.7	-8.36/-10.11	-9.36/-8.83	-9.66/-9.02	-7.88/-8.45	-10.53/-9.55	-7.75/-7.04	-6.24/-5.76	-6.31/-7.14	-8.28/-10.26	-11.3/-11.74	-11.17/-11.62	-12.55/-11.56	-11.13/-10.1	-9.26/-9.18
Θ(165°)	-10.06/-10.77	-8.44/-8.1	-7.67/-7.46	-6.66/-6	-6.22/-6.91	-7.49/-7.5	-7.01/-7.27	-8.21/-8.64	-9.06/-8.69	-8.86/-9.04	-8.82/-8.96	-9.84/-10.69	-10.83/-11.1	-11.15/-11.02	-10.41/-9.41	-8.31/-8.14	-7.97/-7.48	-7.49/-8.14	-9.78/-10.74	-11.15/-12.1	-11.93/-10.87	-10.39/-9.76	-9.08/-9.26	-9.17/-9.75
Θ(172.5°)	-10.9/-10.26	-9.43/-9.4	-9.29/-9.13	-9.09/-9.32	-9.55/-9.3	-10.21/-10.62	-10.22/-9.51	-9.49/-9.94	-10.35/-10.18	-9.36/-8.48	-8.34/-8.46	-7.85/-7.88	-8.11/-9.01	-10.69/-11.34	-10.46/-9.83	-9.43/-9.34	-9.57/-10.49	-11.6/-11.78	-12.09/-12.34	-11.98/-12.6	-12.5/-11.85	-11.11/-11.06	-10.84/-11.12	
Θ(180°)	-8.92/-8.75	-9.08/-8.6	-8.86/-8.92	-9.39/-9.32	-9.43/-9.23	-10.04/-10.12	-10.36/-10.84	-10.77/-10.61	-10.99/-11.1	-10.9/-10.12	-8.7/-8.07	-7.8/-7.81	-8.08/-8.93	-9.81/-9.71	-9.31/-9.17	-9.16/-9.2	-10.05/-10.56	-10.67/-11.13	-10.82/-10.62	-10.14/-10.38	-11.81/-12.28	-11.8/-10.17	-9.88/-8.31	-8.66/-9.47
Freq(Hz)	5.785GPol.	Theta	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-2.06/-2.36	-2.36/-2.67	-2.7/-2.7	-2.28/-2.3	-2.08/-1.8	-2.03/-1.99	-2.08/-2.33	-2.7/-3.29	-3.78/-4.26	-4.48/-4.32	-4.09/-3.79	-3.56/-3.44	-2.94/-2.66	-2.58/-2.55	-3.01/-2.58	-2.08/-1.53	-1.68/-2.49	-2.44/-2.12	-2.18/-2.43	-2.77/-3.22	-3.41/-3.85	-3.52/-3.36	-2.85/-2.5	-2.03/-1.82
Θ(7.5°)	-3.8/-3.76	-4.06/-3.82	-3.35/-3.16	-2.39/-1.53	-1.12/-0.96	-0.86/-0.68	-0.6/-0.72	-0.91/-1.09	-1.42/-1.98	-2.25/-2	-2.09/-1.73	-1.66/-1.52	-1.61/-1.83	-2.25/-2.19	-2.04/-1.56	-1.32/-0.73	-0.18/-0.32	-0.82/-1.19	-1.2/-1.45	-1.91/-2.51	-3.22/-3.62	-3.87/-3.99	-4.25/-4.31	-4.15/-3.89
Θ(15°)	-4.71/-4.67	-4.59/-4.51	-3.88/-2.86	-1.98/-1.35	-1.56/-1.94	-2.33/-2.99	-2.76/-2.13	-1.59/-1.39	-1.61/-1.99	-2.6/-2.85	-2.45/-1.22	-0.47/-0.14	-0.05/-0.1	-0.38/-0.95	-1.85/-1.96	-1.35/-0.79	-0.13/0.25	0.03/-0.21	-0.28/-0.36	-0.27/-0.36	-0.75/-1.75	-2.88/-3.42	-3.91/-3.64	-3.72/-4.32
Θ(22.5°)	-2.99/-4.21	-5.46/-6.8	-7.25/-6.1	-5.03/-4.22	-4.22/-4.53	-4.27/-3.7	-2.97/-2.48	-2.13/-2.33	-3.11/-3.56	-3.18/-2.11	-0.83/0.79	1.83/2.4	2.25/1.68	1.36/1.35	0.84/-0.01	-0.3/0.19	0.27/0.08	0.08/0.01	-0.17/-0.43	-0.05/0.4	0.73/0.51	-0.32/-1.05	-2.17/-2.06	-1.75/-1.96
Θ(30°)	-1.59/-3.61	-6.9/-8.6	-5.34/-4.14	-4.19/-4.17	-5.68/-6.11	-3.87/-1.48	-0.01/0.44	0.14/-0.83	-1.23/-1.04	-0.74/-0.35	-0.11/1	2.21/2.6	2.23/1.63	2.09/2.47	2.38/2.55	2.84/2.94	1.87/1.47	1.45/1.58	1.29/0.93	1.23/1.3	0.64/0.55	0.16/-0.99	-0.94/-0.2	-0.06/-0.42
Θ(37.5°)	-1.1/-3.87	-6.98/-6.79	-6.08/-6.55	-5.36/-5.51	-5.61/-3.48	-1.43/-0.42	-0.08/0.04	0.2/-0.02	-0.03/-0.04	0.15/0.13	0.06/1.49	2.76/2.9	2.65/2.66	3.22/3.09	3.13/3.98	4.73/4.35	3.14/1.84	0.90/0.76	0.22/0.71	2.25/2.91	1.96/0.41	-0.06/-0.2	-0.35/0.21	0.52/-0.11
Θ(45°)	-0.6/-1.74	-4.26/-4.49	-4.19/-4.76	-3.87/-3.19	-2.14/-0.55	0.46/1.14	1.14/0.49	-0.26/-0.24	0.16/-0.47	-1.58/-1.03	0.33/1.66	2.76/3.97	4.61/4.21	3.16/3.89	4.88/5.25	5.31/4.22	2.71/2.22	1.62/0.85	0.09/0.55	1.26/2.28	1.37/0.87	1.52/0.98	0.41/-0.24	-0.49/-0.54
Θ(52.5°)	-0.29/-1.38	-4.83/-5.9	-3.81/-4.07	-3.58/-3.6	-2.43/-0.96	0.22/1.17	1.15/0.8	0.85/0.05	-1.41/-2.91	-2.67/-0.24	1.8/2.43	3.55/4.96	5.1/4.36	4.02/4.62	5.37/5.34	5.54/4.7	3.11/2.99	2.92/1.6	0.76/1.25	1.44/1.42	0.5/0.84	1.74/0.85	-0.33/-0.48	-1.25/-0.6
Θ(60°)	0.23/-0.42	-3.03/-4.5	-3.81/-6.13	-6.03/-4.09	-0.71/-0.23	-0.50/-4.1	0.65/1.41	1.73/0.86	-1.11/-2.21	-0.88/1.09	2.53/2.13	1.93/3.84	4.53/4.9	3.82/4.44	5.07/4.98	5.24/4.47	3.21/3.7	3.12/2.21	1.98/1.74	0.97/0.13	0.32/1.2	2.46/0.07	-1.28/-0.05	-0.55/0.66
Θ(67.5°)	0.76/0.27	-2.73/-3.59	-3.19/-7.26	-6.5/-2.83	0.67/0.31	0.06/0.64	0.89/2.16	2.29/1.21	-0.98/-1.82	-0.13/1.39	2.21/1.81	0.99/2.8	3.32/2.05	2.48/3.52	3.854.1	4.64/3.96	3.85/4.17	3.93/3.31	2.75/2.42	0.56/0.15	1.45/2.35	1.93/-0.31	-0.5/0.9	0.92/1.89
Θ(75°)	-0.11/-0.15	-3.37/-4.39	-3.38/-7.48	-6.24/-2.42	0.72/0.52	1/0.95	0.84/2.33	2.09/0.57	-1.2/-2.14	-0.74/0.66	1.33/1.77	0.71/1.08	2.34/1.8	1.01/1.9	1.93/2.47	3.63/57	3.49/3.77	3.97/3.08	2.66/2.91	1.06/1.03	2.15/2.88	1.91/-0.66	-0.39/0.42	1.36/1.77
Θ(82.5°)	-1.24/-1.56	-3.67/-5.26	-3.93/-8.42	-7.14/-3.39	-0.02/-0.32	0.2/0.12	-0.08/1.73	1.14/-0.76	-2.51/-3.48	-0.93/-0.24	0.03/0.75	-0.34/1.13	1.52/1.37	-0.15/-0.21	0.65/1.54	2.66/3.21	3.01/3.28	3.73/2.42	1.76/2.26	0.45/1.27	1.44/2.14	1.63/-0.7	-0.81/-0.7	0.35/0.64
Θ(90°)	-2.24/2.37	-2.83/-5.41	-4.75/-11.53	-9.31/-4.31	-0.68/-1.66	-1.66/-1.48	-1.54/0.68	0.26/-1.79	-3.05/-4.37	-2.14/-1.76	-0.82/-0.05	-2.27/0.47	1.2/0.2	-0.93/-1.28	-0.5/-0.03	0.87/2.23	2.26/1.69	2.01/0.99	0.06/0.15	-1.09/0.54	-0.21/0.24	0.52/-1.37	-2.08/-2.42	-0.78/-1.66
Θ(97.5°)	-2.84/4.11	-5.49/-5.2	-4.12/-8.18	-9.02/-6.33	-2.36/-3.94	-4.35/-3.09	-2.6/-0.26	-0.53/-3.33	-4.09/-5.33	-2.59/-2.49	-1.71/-0.6	-2.71/0.28	0.23/-0.3	-0.46/-2.41	-1.53/-1.5	-0.7/0.39	0.14/-1.15	-1.98/-3.58	-3.6/-3.51	-3.26/-1.15	-3.11/-2.94	-1.61/-2.39	-3.07/-3.8	-2.53/-4.41
Θ(105°)	-3.9/-6.32	-4.91/-5.29	-5.7/-5.76	-8.41/-7.91	-3.68/-3.05	-3.64/-3.49	-2.85/-1.17	-0.67/-3.15	-3.62/-5.14	-3.45/-3.51	-3.01/-1.84	-3.89/-1.08	-0.67/-1.31	-3.02/-3.79	-2.17/-2.42	-2.93/-1.99	-1.18/-2.92	-5.81/-7.82	-6.57/-4.6	-5.06/-2.81	-3.93/-6.73	-4.68/-3.77	-4.69/-3.83	-2.46/-3.89
Θ(112.5°)	-5.51/-10.91	-8.52/-10.37	-8.61/-6.07	-9.7/-6.71	-5.52/-3.87	-3.32/-2.69	-2.36/-1.06	-1.54/-3.58	-4.24/-5.62	-3.68/-2.94	-3.01/-3.16	-4.3/-1.75	-2.32/-2.33	-3.25/-4.29	-4.52/-5.1	-5.08/-3.88	-2.49/-4.29	-5.21/-7.07	-5.76/-2.75	-3.61/-4.3	-4.96/-6.6	-7.93/-7.11	-7.12/-5.44	-4.13/-4.21
Θ(120°)	-8.01/-10.39	-9.99/-10.91	-12.3/-9	-9.4/-6.51	-7.32/-5.15	-3.7/-3.31	-2.89/-2.51	-3.31/-4.07	-4.3/-6.53	-5.58/-4.34	-3.61/-4.58	-4.68/-3.36	-3.09/-2.76	-3.08/-4.42	-5.52/-6.43	-6.99/-5.89	-4.8/-3.37	-3.44/-5.45	-9.91/-4.42	-5.16/-8.7	-6.53/-6.13	-5.8/-6.88	-8.04/-7.69	-5.77/-5.78
Θ(127.5°)	-9.68/-8.89	-7.61/-9.23	-9.39/-9.11	-10.63/-9.59	-7.23/-7.56	-																		



Sporton International Inc.



Radiated Composite Gain Data of 2.4GHz (2TX) and 5GHz (4TX)

Appendix A

Θ(22.5°)	-2.23/-1.96	-1.52/-1.23	-1.05/-1.1	-1.6/-2.15	-2.3/-2.43	-2.17/-1.72	-1.47/-1.42	-1.25/-1.65	-1.51/-1.49	-1.34/-1.65	-2.14/-2.05	-1.86/-1.62	-1.37/-1.2	-0.85/-0.85	-0.95/-1.37	-1.8/-2.11	-2.38/-2.39	-2.2/-1.7	-1.44/-1.38	-1.29/-1.39	-1.47/-1.58	-1.72/-1.84	-1.89/-2.28	-2.19/-2.58
Θ(30°)	-1.54/-0.81	0.18/0.74	0.79/0.49	-0.24/-0.93	-1.21/-1.49	-1.46/-1.11	-0.79/-0.29	0/0.1	0.37/0.17	-0.17/-0.39	-0.88/-1.12	-0.73/-0.09	0.23/0.85	0.88/0.77	0.70/0.69	0.68/0.36	-0.25/-0.65	-0.69/-0.48	-0.02/0.61	0.64/0.5	0.55/0.59	0.35/-0.24	-1.38/-1.88	-1.99/-2.24
Θ(142.5°)	-0.69/0.48	1.44/1.92	2.18/1.79	1.21/0.23	-0.36/-0.81	-0.91/-0.5	-0.05/0.66	1.01/1.25	1.38/1.14	0.51/-0.19	-0.87/-1.01	-0.63/-0.06	0.65/0.84	0.72/0.75	0.78/0.83	0.67/0.14	-0.41/-0.74	-0.9/-0.95	-0.42/0.17	0.47/0.35	0.50/1.71	0.74/0.11	-0.23/-1.28	-1.69/-1.47
Θ(45°)	0.32/1.37	2.38/2.71	2.65/2.34	1.77/0.73	0.11/0.02	-0.19/-0.26	0.08/0.93	1.41/1.83	1.75/1.43	0.86/0.05	-0.71/-1.03	-1.28/-0.95	-0.42/0.32	1.09/1.3	0.87/0.14	-1.05/-1.93	-1.75/-1.55	-1.59/-0.7	0.71/1.4	1.73/1.56	1.13/0.77	0.47/0.31	-0.09/-0.35	-1.44/-1.22
Θ(52.5°)	0.56/1.74	2.47/2.7	2.68/2.32	1.44/0.93	0.57/0.26	-0.74/-1	-0.55/0.49	1.35/1.63	1.72/2.84	0.23/-0.14	-0.54/-0.61	-0.99/-1.08	-0.72/0.38	1.03/1.62	0.84/-0.09	-1.61/-3.11	-3.45/-3.31	-2.49/-1.15	-0.16/0.53	1.28/1.5	1.54/1.26	0.76/-0.39	-0.36/-0.94	-1.56/-0.54
Θ(60°)	0.53/1.52	1.99/2.11	1.75/1.17	1.07/0.01	0.05/-0.3	-0.82/-1.29	-1.29/-0.45	0.51/1.05	1.09/0.44	-0.63/-0.9	-0.96/-0.94	-1.05/-1.34	-1.09/0.35	1.42/1.83	1.83/0.91	-0.8/-2.81	-4.54/-5.93	-1.7/-2.43	1.35/1.18	1.35/1.18	0.41/-0.5	-1.33/-1.94	-1.66/-1.4	
Θ(67.5°)	-0.71/0.31	0.75/0.63	0.25/-0.46	-1.22/-1.52	-1.39/-1.02	-1.61/-2.5	-2.64/-1.71	-0.87/0.05	-0.02/-0.89	-1.95/-2.26	-2.36/-2.06	-2.27/-2.65	-2.12/-0.77	0.23/0.81	0.90/1.9	-1.23/-2.66	-4/-5.8	-5.29/-2.84	-1.31/-0.11	0.54/0.55	0.47/0.19	-0.42/-1.17	-2.38/-2.89	-2.91/-2
Θ(75°)	-2.72/-1.72	-1.32/-1.34	-1.72/-2.44	-3.08/-3.26	-3.2/-2.85	-3.09/-4.06	-4.39/-3.65	-2.4/-1.38	-1.57/-2.83	-4.18/-5.13	-4.86/-3.62	-3.8/-3.91	-3.78/-2.44	-1.86/-0.8	-0.3/-1.4	-2.57/-3.48	-4.02/-4.64	-5.38/-3.86	-1.72/-0.8	-0.33/-0.58	-1.39/-1.8	-2.21/-2.72	-3.4/-4.52	-4.77/-4.02
Θ(82.5°)	-5.01/-4.16	-3.81/-4.05	-4.48/-4.84	-5.1/-3.52	-4.85/-4.34	-4.71/-6.23	-6.66/-5.89	-4.26/-3.33	-3.46/-4.71	-6.58/-7.57	-7.36/-6.33	-6.91/-6.65	-6.18/-5.04	-4.74/-3.37	-2.95/-4.1	-4.5/-5.14	-5.26/-4.71	-5.74/-5.44	-2.78/-2.25	-1.73/-1.91	-3.58/-4.36	-5.01/-5.11	-5.63/-6.73	-5.89/-5.98
Θ(90°)	-7.78/-7.22	-6.64/-6.12	-6.37/-6.89	-7.52/-8.02	-7.55/-7.23	-7.88/-9.4	-9.75/-8.6	-6.63/-5.68	-6.1/-7.27	-8.69/-10.65	-9.72/-8.52	-9.95/-9.24	-9.11/-7.79	-8.26/-5.91	-5.45/-6.3	-6.62/-7.77	-7.18/-6.08	-6.88/-7.85	-4.49/-3.82	-3.82/-4.68	-6.72/-8.14	-8.67/-7.22	-7.18/-8.59	-8.44/-9.22
Θ(97.5°)	-10.4/-9.65	-8.64/-8.25	-8.98/-9.81	-10.37/-10.31	-10.49/-10.37	-10.58/-12.3	-12.83/-11.53	-10.29/-9.15	-8.33/-8.91	-10.73/-12.37	-11.06/-10.21	-14.64/-12.32	-16.48/-12.58	-11.98/-9.78	-9.33/-10.89	-10.66/-11.37	-10.77/-8.71	-9.8/-12.45	-8.12/-8.16	-7.68/-8.08	-9.91/-12.06	-12.99/-10.1	-9.96/-11.43	-10.24/-11.08
Θ(105°)	-13.72/-13.46	-12.53/-12.46	-12.41/-12.7	-13.31/-13.61	-12.74/-13.16	-13.77/-15.62	-16.69/-14.73	-12.27/-11.3	-10.71/-10.2	-12.4/-15.17	-13.01/-14.23	-18.03/-17.27	-16.48/-12.14	-13.97/-12.36	-13.28/-13.86	-15.48/-16.92	-16.04/-13.57	-14.25/-18.16	-15.74/-15	-12.62/-13.47	-14.69/-16.18	-15.56/-12.08	-14.58/-15.21	-13.41/-13.61
Θ(112.5°)	-16.36/-15.83	-15.91/-14.4	-14.84/-15.93	-17.63/-15.77	-14.31/-15.72	-18.42/-18.53	-17.72/-17.62	-15.6/-13.43	-10.93/-11.35	-15.61/-16.44	-14.87/-18.02	-17.87/-18.58	-18.55/-15.74	-14.58/-14.68	-15.45/-17.45	-18.31/-18.28	-18.27/-19.14	-19.35/-17.79	-17.85/-18.95	-16.82/-16.19	-16.37/-17.45	-16.95/-14.74	-16.89/-18.59	-18.88/-17.06
Θ(120°)	-16.94/-17.47	-17.06/-16.63	-17.19/-18.6	-16.29/-15	-15.43/-18.09	-17.96/-17.2	-17.75/-16.63	-18.6/-16.64	-14.33/-14.8	-18.05/-17.9	-16.82/-17	-18.52/-17.61	-19.11/-18.39	-17.41/-16.63	-17.02/-18.62	-18.7/-18.75	-17.99/-18.23	-18.31/-17.87	-17.04/-15.5	-13.41/-13.82	-15.77/-18.46	-17.6/-15.48	-18.16/-17.57	-17.31/-18.61
Θ(127.5°)	-18.05/-18.05	-18.12/-19.24	-17.29/-15.7	-14.74/-16.8	-17.55/-18.26	-18.6/-17.89	-18.72/-19.02	-16.8/-17.93	-16.58/-19.04	-18.94/-17.17	-18.12/-18.36	-17.77/-18.23	-18.64/-18.57	-18.49/-17.7	-17.44/-18.51	-18.63/-17.76	-18.38/-18.63	-18.87/-18.92	-18.14/-18.5	-15.52/-16.74	-18.51/-17.64	-19.26/-15.13	-18.1/-18.7	-18.55/-18.69
Θ(135°)	-19.2/-18.1	-19.34/-17.68	-18.68/-18.64	-18.96/-17.89	-18.05/-18.62	-17.47/-18.53	-17.11/-18.75	-18.8/-18.29	-18.38/-18.31	-17.8/-18.48	-18.22/-18.29	-17.14/-18.38	-17.98/-18.95	-18.48/-18.75	-18.26/-18.15	-17.64/-17.88	-18.79/-18.42	-18/-19	-17.99/-18.51	-18.72/-18.55	-17.95/-18.52	-18.84/-17.25	-18.32/-17.8	-18.71/-17.53
Θ(142.5°)	-17.9/-18	-18.27/-18.93	-18.41/-18.79	-17.67/-18.79	-18.19/-19.23	-18.51/-19.97	-17.99/-17.2	-18.7/-18	-18.79/-18	-18.5/-17.1	-17.83/-14.93	-18.18/-19.35	-18.11/-18.65	-18.59/-18.14	-18.11/-18.35	-18.76/-18.01	-17.91/-17.83	-18.59/-19.22	-18.01/-18.11	-17.63/-17.11	-18.21/-18.46	-18.7/-18.42	-18.03/-18.44	-18.57/-17.82
Θ(150°)	-17.75/-18.3	-18.38/-18.04	-17.85/-18.72	-18.33/-18.25	-18.49/-18.14	-19.14/-18.08	-17.92/-17.45	-19.3/-17.47	-17.72/-18.08	-18.88/-18.4	-18.67/-17.49	-18.37/-18.16	-18.44/-18.23	-18.83/-17.65	-18.58/-17.93	-17.51/-18.55	-19.23/-16.51	-17.85/-18.7	-19.29/-18.56	-18.73/-17.46	-17.45/-17.14	-19.08/-18.25	-17.88/-19.03	
Θ(157.5°)	-18.84/-17.78	-18.16/-19.09	-18.96/-17.62	-19.11/-17.76	-18.51/-17.91	-18.01/-18.24	-18.41/-18.08	-18.66/-18.57	-18.63/-18.17	-18.4/-18.55	-19.37/-18.42	-18.58/-17.82	-19.13/-18.9	-18.19/-18.14	-17.81/-18.61	-17.73/-18.86	-18.67/-18.12	-19.03/-18.14	-18.97/-17.52	-18.54/-18.18	-18.11/-18.01	-17.72/-18.11	-18.34/-17.63	-18/-17.22
Θ(165°)	-18.43/-18.63	-19.08/-18.84	-19.47/-17.66	-18.64/-18.4	-17.94/-17.74	-18.5/-18.11	-19.2/-18.43	-18.69/-18.3	-18.33/-17.74	-18.24/-18.18	-18.74/-18.88	-19.13/-17.59	-18.61/-18.66	-18.16/-17.73	-18.73/-18.04	-17.22/-17.94	-18.13/-17.94	-17.99/-18.35	-17.98/-17.29	-18.41/-18.02	-18.73/-18.05	-18.28/-18.64	-18.28/-18.75	-17.31/-17.78
Θ(172.5°)	-18.48/-17.94	-17.23/-18.16	-18.55/-18.69	-17.38/-18.49	-17.87/-19.16	-18.84/-18.95	-18.28/-18.52	-17.59/-18.5	-18.85/-18.63	-17.93/-17.3	-17.8/-17.18	-18.95/-18.78	-18.22/-18.92	-18.25/-18.44	-18.9/-18.96	-18.42/-18.06	-18.3/-18.47	-18.56/-17.3	-18.4/-17.52	-17.57/-18.41	-18.96/-17.93	-17.58/-17.71	-18.77/-17.98	
Θ(180°)	-18.62/-17.6	-18.61/-18.4	-17.45/-18.79	-18.13/-18.13	-18.48/-18.79	-17.66/-17.85	-17.91/-19.47	-18.48/-18.28	-18.44/-18.66	-19.11/-17.93	-18.97/-17.61	-18.51/-18.69	-17.5/-18.81	-18.6/-18.4	-18.33/-18.53	-19.39/-19.26	-17.33/-18.27	-18.21/-17.45	-18.35/-18.48	-18.02/-18.73	-18.88/-17.93	-19/-17.75	-18.28/-18.4	-17.82/-18.55
Freq(Hz)	5.3GPol	ThetaAnt.1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-18.41/-18.42	-18.27/-18.45	-18.39/-18.86	-18.68/-18.53	-17.84/-17.55	-18.75/-17.54	-16.62/-16.22	-17.11/-17.42	-17.5/-18	-18.29/-18.27	-17.37/-19.49	-17.3/-18.36	-18.36/-18.7	-18.71/-18.43	-17.16/-17.87	-17.51/-19.09	-17.74/-17.25	-16.1/-15.26	-14.77/-14.83	-14.53/-15.01	-14.49/-15.41	-16.03/-17.05	-17.81/-18.26	-18.14/-18.19
Θ(7.5°)	-11.53/-12.14	-12.21/-12.95	-14.56/-16.59	-18.24/-17.57	-17.74/-18.25	-17.2/-18.11	-17.85/-17.85	-18.43/-19.07	-19/-18.72	-18.16/-19.72	-17.86/-17.87	-19.28/-18.67	-17.8/-18.06	-17.85/-17.64	-18.26/-17.4	-18.07/-18.33	-17.74/-18.85	-18.35/-18.6	-16.07/-15.46	-14.93/-14.57	-13.85/-12.93	-12.15/-11.6	-11.04/-10.74	-10.79/-11.07
Θ(15°)	-10.13/-10.12	-10.43/-11.26	-11.93/-12.06	-12.21/-12.31	-13.57/-18.25	-18.54/-17.86	-18.19/-18.74	-17.72/-18.63	-19.23/-18.73	-18.52/-18.75	-17.39/-15.46	-15.3/-14.96	-14.71/-14.05	-13.44/-14.15	-17.07/-17.66	-18.77/-18.58	-17.95/-18.8	-18.66/-17.86	-15.43/-13.53	-12.55/-11.68	-11.15/-10.97	-10.57/-10.53	-10.97/-10.65	-10.29/-10.07
Θ(22.5°)	-10.49/-10.52	-11.06/-11.81	-11.16/-10.08	-10.12/-10.16	-11.18/-12.07	-13.42/-16.18	-18.8/-17.7	-17.71/-17.13	-16.96/-18.11	-15.15/-18.6	-15.48/-12.84	-11.61/-11.54	-14.21/-11.38	-12.04/-14.37	-18.11/-18.83	-18.97/-18.97	-17.87/-18.46	-18.39/-15.47	-13.64/-12.13	-10.59/-8.83	-9.11/-8.61	-8.37/-8.34	-9.16/-10.97	-11.49/-11.52
Θ(30°)	-9.38/-9.41	-9.91/-10.71	-10.34/-9.72	-9.81/-9.66	-8.93/-9.9	-8.58/-10.23	-12.85/-15.2	-14.65/-13.61	-13.63/-13.89	-14.62/-15.15	-12.77/-10.29	-9.03/-8.54	-8.49/-9.59	-11.56/-12.62	-13.4/-13.48	-13.41/-14.16	-14.92/-14.15	-11.63/-9.51	-8.3/-8.29	-8.25/-9.56	-9.42/-9.83	-10.19/-10.4	-10.75/-10.5	-10.56/-10.65
Θ(37.5°)	-8.08/-8.04	-9.13/-9.93	-9.62/-9.43	-9.13/-8.73	-8.08/-7.83	-7.69/-8.06	-9.37/-11.58	-11.97/-10.66	-10.72/-11.82	-12.38/-11.72	-11.33/-8.72	-7.8/-7.57	-7.75/-9.01	-9.69/-10.25	-12.01/-12.83	-12.28/-11.98	-11.64/-11.46	-9.96/-7.91	-6.76/-6.9	-7.96/-9.18	-9.25/-9.83	-10.99/-12.8	-12.89/-11.24	-8.8/-8.24
Θ(45°)	-8.05/-8.65	-10.06/-10.29	-9.74/-9.62	-8.8/-9.15	-9.9/-9.13	-8.69/-8.02	-8.15/-9.14	-10.64/-10.27	-9.13/-9.46	-10.86/-11.73	-12.61/-10.64	-8.75/-7.51	-7.37/-7.58	-8.06/-9.97	-13.36/-15.51	-14.24/-12.77	-11.13/-10.97	-9.87/-7.23	-5.96/-6.22	-7.4/-8.73	-11.94/-12.92	-12.64/-10.83	-9.49/-8.7	
Θ(52.5°)	-9.84/-10.02	-11.87/-11.07	-9.95/-9.75	-10.04/-10.97	-11.16/-11.73	-11.98/-9.75	-8.1/-8.38	-9.61/-10.39	-10.49/-9.82	-11.16/-12.49	-13.98/-11.74	-10.2/-8.15	-7.48/-7.4	-9.07/-12.18	-17.67/-17.64	-18.09/-14.5	-12.13/-11.71	-9.7/-7.39	-6.84/-7.66	-8.71/-9.91	-10.74/-11.71	-12.43/-14	-12.12/-12.96	-10.97/-9.55
Θ(60°)	-10.19/-11.71	-13.41/-12.52	-11.15/-10.22	-10.82/-11.6	-11.95/-12.58	-13.3/-12.03	-9.23/-8.9	-10.84/-11.4	-11.45/-11.17	-11.25/-13.63	-16.01/-15.08	-12.97/-9.6	-8.01/-7.86	-9.72/-11.94	-14.57/-18.9	-18.69/-13.2	-15.88/-15.23	-12.04/-9.65	-8.95/-9.17	-10.44/-11.67	-12.57/-12.63	-12.71/-13.26	-12.65/-13.87	-13.19/-11.57
Θ(67.5°)	-10.59/-12.1	-13.52/-14.28	-12.96/-12.23	-13.07/-13.08	-14.73/-12.53																			



Radiated Composite Gain Data of 2.4GHz (2TX) and 5GHz (4TX)

Appendix A

Θ(67.5°)	-5.46/-3.62	-1.17/-0.07	-0.65/-1.17	-0.38/-0.47	-1.9/-2.49	-1.95/-2.36	-3.18/-2.48	-1.11/-0.77	-1/-0.83	-0.24/-1.82	-2.34/-1.85	-2.41/-3.89	-4.75/-2.41	-0.95/-0.66	-1.05/-1.75	-2.18/-3.92	-4.82/-6.31	-5.43/-6.36	-8.16/-4.29	-0.92/0.39	-0.57/-2.34	-2.71/-2.46	-1.9/-2.18	-3.04/-5.27
Θ(75°)	-6.29/-5.68	-3.39/-1.86	-1.95/-2.62	-1.39/-1.18	-1.82/-2.13	-1.98/-2.86	-4.71/-4.52	-2.86/-2.65	-2.55/-2.18	-1.53/-3.02	-3.09/-1.83	-1.52/-3.41	-5.47/-4.93	-2.82/-2.72	-2.68/-2.82	-2.71/-2.48	-2.15/-3.27	-3.38/-4.3	-7.6/-5.32	-1.68/0.01	-1.36/-3.37	-3.37/-1.94	-1.61/-1.51	-2.28/-4.81
Θ(82.5°)	-7.65/-7.94	-5.6/-3.95	-3.9/-3.98	-2.58/-2.24	-2.35/-3.06	-3.36/-4.37	-6.78/-6.96	-4.75/-4.84	-5.07/-4.26	-3.36/-4.07	-3.67/-2.55	-2.45/-5.24	-8.67/-7.28	-5.84/-5.32	-4.58/-5.08	-3.88/-2.22	-1.45/-1.98	-3.26/-3.33	-6.68/-5.96	-2.13/-0.88	-3.39/-5.6	-5.01/-2.68	-2.24/-2.28	-2.78/-5.95
Θ(90°)	-9.6/-11.65	-9.94/-6.96	-6.14/-6.31	-4.88/-4.22	-3.44/-4.18	-5.31/-6.56	-9.11/-10.38	-7.24/-6.24	-6.98/-6.03	-5.72/-7.01	-6.57/-4.55	-4.27/-6.9	-10.62/-11.52	-9.56/-9.61	-8.32/-9.19	-6.84/-4.54	-1.96/-2.26	-3.88/-5.79	-6.96/-7.44	-4.57/-3.02	-5.04/-7.79	-6.97/-4.75	-3.63/-3.8	-3.37/-6.7
Θ(97.5°)	-12.02/-13.88	-13.48/-9.27	-7.78/-8.24	-6.62/-6.16	-4.98/-5.93	-7.67/-8.09	-11.08/-14.64	-10/-8.95	-9.17/-7.95	-7.13/-8.39	-8.11/-6.68	-7.16/-11.13	-14.54/-15.67	-14.49/-13.85	-12.07/-12.02	-10.11/-7.67	-5.13/-4.51	-6.65/-7.91	-8.23/-11.23	-8.85/-7.46	-8.74/-12.41	-9.59/-7.5	-6.43/-6.03	-5.03/-6.68
Θ(105°)	-17.38/-17.02	-15.95/-12.73	-10.66/-10.82	-8.99/-8.23	-6.41/-7.44	-10.45/-10.19	-12.15/-15.15	-11.69/-11.62	-12.48/-12.78	-10.37/-10.11	-9.15/-7.55	-9.44/-13.67	-15.96/-17.47	-18.41/-17.74	-12.99/-13.33	-13.69/-12.55	-10.41/-9.53	-12.14/-15.46	-12.78/-18.79	-17.46/-13.67	-14.41/-15.35	-10.88/-7.69	-1.87/-8.46	-6.91/-11.82
Θ(112.5°)	-17.76/-15.71	-15.98/-13.24	-14.02/-14.73	-12.18/-9.82	-9.44/-9.46	-10.3/-12.71	-17.41/-18.21	-15.41/-15.87	-14.25/-14.02	-12.76/-12.3	-10.25/-9.22	-12.79/-18.7	-18.07/-18.58	-18.5/-18.61	-17.49/-18.84	-17.92/-14.23	-14.46/-13	-16.8/-17.58	-18.91/-17.68	-17.99/-15.67	-14.55/-16.64	-12.97/-9.82	-9.79/-10.44	-9.81/-11.29
Θ(120°)	-17.06/-19.1	-18.66/-16.98	-15.71/-13.79	-13.93/-14.08	-12.42/-11.64	-12.43/-14.68	-15.79/-18.14	-19.25/-18.42	-17.8/-15.59	-14.14/-14.71	-12.83/-11.85	-12.66/-17.4	-18.35/-17.91	-19.36/-18.7	-18.33/-18.78	-17.82/-14.96	-11.95/-11.18	-16.92/-18.42	-19.05/-19	-14.64/-12.08	-11.46/-14.45	-19.05/-14.75	-12.52/-13.2	-13.48/-13.65
Θ(127.5°)	-17.72/-18.71	-17.8/-15.25	-15.24/-18.21	-18.32/-13.45	-11.06/-12.64	-16.5/-17.32	-18.75/-17.63	-19.04/-17.94	-17.52/-14.09	-14.38/-15.37	-15.77/-14.09	-14.86/-16.5	-15.75/-17.2	-18.59/-18.27	-16.84/-18.46	-18.65/-18.29	-13.64/-13.9	-17.63/-18.43	-17.85/-17.64	-18.45/-17.9	-17.79/-18.77	-18.86/-16.29	-14.6/-15.96	-15.78/-17.11
Θ(135°)	-17.24/-17.37	-18.59/-18.22	-18.9/-18.49	-14.97/-13.23	-16.74/-18.44	-16.48/-15.67	-18.5/-19.21	-18.78/-19.02	-16.81/-15.61	-18.29/-18.8	-17.35/-18.15	-13.68/-14.25	-16.09/-17.04	-19.28/-18.08	-15.64/-18.46	-17.62/-18.92	-18.26/-18.69	-17.85/-18.2	-19.21/-18.83	-18.59/-19.17	-18.01/-18.56	-16.4/-17.39	-16.51/-15.87	-16.41/-17.7
Θ(142.5°)	-18.94/-19.1	-16.82/-17.45	-17.95/-18.1	-18.91/-18.94	-18.46/-18.74	-14.73/-18.77	-18.35/-19.04	-17.84/-18.76	-17.81/-18.34	-17.74/-17.71	-18.42/-16.98	-15.03/-15.99	-18.82/-18.21	-17.98/-17.51	-17.63/-17.74	-17.98/-18.84	-18.16/-18.74	-17.69/-18.14	-18.57/-18.28	-17.94/-18.22	-17.89/-19.09	-18.21/-17.54	-18.16/-18.41	-18.61/-18.56
Θ(150°)	-17.71/-17.63	-18.1/-18.84	-18.42/-18.17	-16.42/-17.99	-17.23/-16.91	-17.83/-18.1	-19.9/-17.94	-17.87/-18.26	-18.91/-18.11	-18.29/-18.53	-17.59/-18.07	-18.71/-16.9	-15.59/-17.58	-17.56/-18.54	-17.85/-18.26	-15.95/-18.2	-18.15/-18.69	-18.95/-18.52	-18.19/-18.22	-17.68/-19	-18.32/-18.52	-19.01/-18.24	-18.18/-18.79	-18.26/-17.94
Θ(157.5°)	-18.56/-18	-17.98/-19.15	-17.79/-17.83	-17.21/-17.99	-17.58/-17.99	-18.67/-18.29	-16.68/-18.64	-18.84/-18.61	-18.1/-18.96	-19.15/-18.78	-17.77/-18.89	-19.25/-18.57	-17.98/-18.39	-17.45/-17.43	-18.22/-18.52	-17.64/-17.35	-18.04/-17.69	-17.74/-18	-17.28/-18.67	-18.16/-18.36	-18.14/-17.54	-18.69/-18.43	-18.38/-17.91	-18.9/-17.88
Θ(165°)	-17.76/-18.22	-18.09/-19.41	-17.8/-19.24	-18.96/-17.9	-18.46/-18.34	-17.84/-18.12	-18.3/-18.06	-18.02/-18.96	-19.32/-17.74	-17.4/-14.83	-18.32/-17.74	-18.13/-18.94	-18.82/-18.21	-17.98/-17.51	-17.63/-17.74	-17.98/-18.84	-18.16/-18.74	-17.69/-18.14	-18.57/-18.28	-17.94/-18.22	-17.89/-19.09	-18.21/-17.54	-18.16/-18.41	-18.61/-18.56
Θ(172.5°)	-19.46/-17.71	-18.27/-18.51	-17.71/-18.92	-17.9/-17.96	-18.91/-17.54	-19.03/-18.54	-17.24/-17.99	-17.79/-18.14	-17.46/-18.97	-17.34/-18.45	-18.58/-18.49	-17.63/-18.84	-18.66/-18.55	-19.1/-18.94	-18.47/-18.9	-19.23/-18.7	-18.24/-18.03	-18.76/-18.22	-18.34/-17.82	-18.26/-18.83	-17.24/-18.04	-18.34/-18.76	-18.42/-18.43	-17.04/-18.54
Θ(180°)	-17.94/-17.33	-18.89/-18.32	-19.31/-18.83	-19.25/-18.08	-17.99/-17.4	-17.19/-19.03	-18.86/-18.29	-18.26/-18.53	-17.71/-18.53	-18.05/-18.6	-17.8/-18.09	-18.19/-19.16	-18.84/-18.27	-18.25/-18.65	-18.09/-18.34	-17.99/-17.51	-18.51/-18.82	-18.14/-19.36	-18.85/-18.24	-18.94/-18.71	-18.43/-19.06	-18.48/-17.81	-19/-17.26	-18.96/-18.26
Freq(Hz)	5.785GPol.	ThetaAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Ψ(7.5°)	Φ(15°)Ψ(22.5°)	Φ(30°)Ψ(37.5°)	Φ(45°)Ψ(52.5°)	Φ(60°)Ψ(67.5°)	Φ(75°)Ψ(82.5°)	Φ(90°)Ψ(97.5°)	Φ(105°)Ψ(112.5°)	Φ(120°)Ψ(127.5°)	Φ(135°)Ψ(142.5°)	Φ(150°)Ψ(157.5°)	Φ(165°)Ψ(172.5°)	Φ(180°)Ψ(187.5°)	Φ(195°)Ψ(202.5°)	Φ(210°)Ψ(217.5°)	Φ(225°)Ψ(232.5°)	Φ(240°)Ψ(247.5°)	Φ(255°)Ψ(262.5°)	Φ(270°)Ψ(277.5°)	Φ(285°)Ψ(292.5°)	Φ(300°)Ψ(307.5°)	Φ(315°)Ψ(322.5°)	Φ(330°)Ψ(337.5°)	Φ(345°)Ψ(352.5°)
Θ(0°)	-12.87/-13.68	-14.36/-15.51	-16.83/-18.85	-17.3/-17.63	-17.74/-18.15	-17.84/-17.92	-18.82/-19.23	-19.13/-18.19	-16.9/-15.66	-15.01/-15.12	-15.39/-15.41	-15.73/-16.64	-17.88/-18.4	-18.46/-18.64	-18.35/-17.81	-18.24/-18.32	-17.41/-18.4	-17.93/-18.73	-18.75/-16.65	-15.08/-14	-13.12/-12.85	-12.3/-12.12	-11.97/-12.01	-12.36/-12.62
Θ(7.5°)	-14.26/-14.19	-14.71/-16.11	-17.41/-19.35	-18.51/-18.01	-18.46/-18.44	-18.85/-18.05	-17.97/-16.63	-18.15/-18.92	-18.71/-18.78	-15.41/-14.74	-13.28/-12.75	-13.2/-13.39	-13.63/-14.35	-15.17/-16.3	-17.52/-17.99	-18.14/-18.94	-17.76/-17.52	-17.98/-18.1	-16.57/-13.99	-12.72/-12.61	-11.35/-11.27	-11.67/-12.02	-12.75/-13.33	-13.74/-14.42
Θ(15°)	-11.62/-12.16	-11.96/-11.67	-12.41/-14.2	-16.51/-17.07	-16.89/-18.31	-17.8/-17.51	-16.43/-15.73	-15.97/-16.76	-18.72/-18.05	-18.48/-18.46	-16.22/-14.4	-14.68/-15.49	-15.17/-13.43	-12.22/-11.8	-13.25/-17.02	-17.73/-18.62	-18.56/-17.98	-18.56/-17.12	-16.22/-15.04	-13.16/-11.84	-10.94/-11	-11.37/-11.62	-10.97/-10.35	-9.99/-10.7
Θ(22.5°)	-9.47/-10.19	-9.46/-8.97	-9.98/-12.15	-14.43/-14.46	-15.7/-16.06	-14.71/-12.17	-10.2/-9.99	-10.92/-13.49	-17.75/-18.74	-17.31/-17.9	-18.69/-14.98	-16.84/-17.3	-18.59/-16.13	-13.33/-12.55	-14.6/-17.7	-17.67/-18.14	-18.26/-17.45	-19.14/-18.88	-17.67/-13.94	-11.05/-9.62	-8.63/-8.67	-9.7/-11.34	-12.47/-12	-10.15/-9.29
Θ(30°)	-8.51/-9.63	-9.76/-8.97	-9.84/-12	-12.66/-14.86	-14.65/-11.08	-9.9/-10.99	-12.24/-16.87	-18.85/-17.99	-18.68/-18.05	-18.66/-14.21	-16.1/-18.39	-17.81/-17.7	-19.18/-11	-17.94/-17.35	-19.19/-17.7	-18.55/-17.94	-17.06/-18.27	-18.44/-14.72	-11.25/-8.45	-7.43/-8.42	-10.32/-12.16	-11.63/-12.96	-11.39/-12.7	-11.39/-12.7
Θ(37.5°)	-7.73/-9.38	-10.64/-10.64	-8.78/-12	-13.33/-17.84	-17.76/-18.65	-17.84/-17.77	-13.71/-12.97	-13.54/-17.7	-18.89/-18.28	-18.74/-18.25	-18.08/-15.19	-18.87/-17.27	-14.31/-12.5	-13.98/-19.19	-18.05/-19.7	-15.17/-18.71	-17.58/-13.98	-11.08/-9.58	-8.36/-7.59	-7.73/-9.69	-14.14/-18.49	-14.57/-11.94	-10.03/-8.54	-10.03/-8.54
Θ(45°)	-8.52/-10.13	-10.92/-12.55	-12.07/-10.74	-13.16/-15.58	-16.17/-16.58	-14.17/-12.82	-13.37/-14.53	-15.55/-17.17	-18.77/-18.36	-15.63/-12.88	-16.48/-15.21	-11.76/-10.67	-13.39/-18.05	-18.49/-18.35	-18.5/-18.19	-18.25/-18.89	-8.44/-7.6	-7.78/-7.67	-8.42/-10.7	-14.96/-18.34	-17.19/-12.72	-11.48/-9.49	-11.48/-9.49	-11.48/-9.49
Θ(52.5°)	-11.41/-12.83	-15.1/-18.12	-13.84/-11.92	-14.71/-18.85	-18.6/-18.71	-14.43/-11.72	-11.9/-15.99	-18.98/-18.94	-18.15/-18.17	-17.18/-18.77	-12.44/-11.44	-15.41/-12.9	-10.23/-11.18	-13.89/-18.27	-17.98/-18.05	-18.68/-17.23	-16.99/-18.2	-18.26/-11.58	-8.56/-8.25	-8.62/-9.77	-9.55/-10.71	-14.08/-17.45	-18.02/-13.92	-12.15/-10.27
Θ(60°)	-16.52/-17.83	-18.42/-17.95	-17.14/-14.31	-15.25/-18.09	-17.84/-17.47	-16.03/-12.4	-12.79/-14.74	-12.64/-18.09	-17.27/-18.09	-17.81/-13.93	-11.89/-11.66	-14.11/-12.34	-11.48/-11.74	-14.58/-18.2	-18.13/-17.93	-18.95/-18.19	-18.34/-17.67	-14.88/-11.74	-9.13/-8.47	-8.94/-9.98	-10.13/-10.05	-12.82/-18.66	-19.19/-14.73	-13.19/-11.73
Θ(67.5°)	-17.71/-17.52	-18.75/-19.3	-18.24/-17.71	-16.84/-19.35	-17.10/-16.36	-14.96/-13.72	-15.1/-14.53	-12.65/-13.58	-16.81/-16.11	-17.7/-14.55	-12.57/-15.5	-15.28/-13.74	-16.44/-15.4	-17.74/-18.92	-18.79/-18.46	-17.89/-18.09	-18.43/-18.31	-15.33/-11.93	-10.26/-8.95	-10.22/-13.61	-12.47/-11.89	-14.38/-19.13	-17.65/-16.41	-15.31/-13.56
Θ(75°)	-18.58/-17.6	-17.89/-17.91	-18.13/-18.91	-17.45/-16.33	-14.89/-13.84	-13.36/-14.25	-15.68/-13.49	-11.46/-11.82	-14.67/-16.75	-16.98/-13.77	-12.25/-13.5	-16.56/-17.63	-19.08/-18.55	-18.56/-18.53	-17.76/-19.09	-18.7/-18.98	-18.16/-16	-14.29/-11.83	-11.98/-10	-10.12/-14.62	-14.11/-13.71	-14.84/-19.02	-17.9/-18.52	-16.84/-16.88
Θ(82.5°)	-17.53/-18.94	-18.48/-17.89	-18.08/-17.99	-16.77/-14.35	-13.89/-13.79	-14.28/-15.05	-16.06/-13.88	-12.78/-12.99	-16.69/-16.74	-14.58/-12.73	-15.49/-18.36	-17.07/-18.08	-18.15/-18.98	-17.78/-18.5	-18.85/-18.5	-16.94/-17.2	-17.47/-14.88	-12.68/-13.98	-13.78/-10.93	-12.29/-17.43	-18.51/-15.4	-19.17/-19.6	-17.97/-19.32	-18.54/-19
Θ(90°)	-17.59/-17.77	-17.96/-17.41	-17.64/-17.49	-17.1/-13.81	-12.43/-12.64	-14.68/-16.53	-17.21/-14.9	-13.52/-13.06	-16.96/-17.73	-15.94/-14.02	-16.67/-17.97	-18.69/-17.8	-18.74/-18.66	-18.14/-17.8	-18.71/-18.23	-16.07/-14.84	-18.02/-14.89	-13.85/-14.5	-17.13/-13.75	-14.43/-17.78	-19.38/-18.27	-19.07/-18.96	-18.18/-18.56	-17.78/-19.06
Θ(97.5°)	-18.76/-18.04	-18.12/-18.14	-17.86/-18.21	-18.79/-14.86	-12.78/-13.66	-16.68/-16.9	-17.04/-16.05	-15.8/-15.03	-17.52/-18.51	-15.84/-13.84	-18.13/-18.14	-17.31/-18.92	-18.45/-19.5	-18.52/-18.23	-18.56/-18	-17.72/-15.17	-17.88/-18.98	-17.36/-18.16	-18.39/-19.08	-18.91/-18.5	-17.67/-17.9	-17.77/-18.89	-19.12/-18.77	-18.01/-18.73
Θ(105°)	-18.1/-17.45	-17.68/-19.13	-17.89/-17.47	-17.88/-1																				



Radiated Composite Gain Data of 2.4GHz (2TX) and 5GHz (4TX)

Appendix A

Θ(120°)	-12.27/-10.3	-10.55/-9.02	-9.36/-17.89	-18.29/-15.93	-15.45/-17.04	-19.33/-18.6	-16.74/-11.4	-10.54/-9.36	-11.3/-8.18	-7.89/-9.28	-18.22/-13.16	-11.95/-13.31	-13.06/-13.63	-17.15/-7.34	-5.4/-6.23	-3.6/-3.22	-6.09/-5.84	-5.61/-5.43	-7.08/-10.21	-19.41/-10.94	-16.9/-17.01	-13.64/-13.77	-15.42/-18.98	-16.15/-18.21
Θ(127.5°)	-13.05/-11.44	-12.83/-9.85	-7.73/-6.95	-15.76/-13.45	-13.21/-15.01	-16.07/-18.3	-14.23/-11.25	-14.47/-19.33	-14.81/-11	-7.92/-12	-17.37/-17.26	-17.49/-16.64	-19.02/-18.59	-18.61/-9.7	-8.7/-5.56	-3.38/-7.22	-8.47/-4.54	-3.88/-4.45	-5.62/-7.57	-14.71/-10.7	-10.39/-18.9	-15.2/-19.03	-15.64/-18.54	-19.16/-18.48
Θ(135°)	-13.69/-13.75	-11.98/-15.9	-18.89/-17.98	-14.76/-11.97	-10.42/-11.94	-16.74/-17.65	-16.27/-13.44	-14.76/-19.33	-12.59/-14.17	-12.69/-9.02	-6.68/-10.81	-15.82/-11.68	-18.9/-18	-17.38/-16.02	-15.13/-14.29	-9.96/-7.92	-6.59/-7.38	-7.97/-8.23	-9.38/-14.45	-17.91/-17.61	-17.91/-17.8	-15.22/-17.55	-14.78/-12.91	-11.27/-18.7
Θ(142.5°)	-7.12/-12.11	-12.52/-11.23	-11.17/-12.69	-16.28/-16.36	-18.47/-18.53	-18.5/-14.41	-12.71/-13.31	-13.16/-12.96	-13.41/-13.46	-11.65/-13.03	-18.64/-16.84	-11.15/-8.66	-8.91/-13.92	-19.08/-16.27	-15.53/-8.36	-8.72/-10.62	-10.58/-7.05	-8.05/-12.77	-16.54/-17.31	-18.41/-16.64	-17.96/-18.1	-18.68/-17.23	-11.79/-12.93	-15.2/-8.87
Θ(150°)	-7.92/-9.48	-9.93/-8.05	-7.23/-8.37	-13.3/-18.9	-12.12/-10.17	-10.25/-13.28	-17.75/-18.07	-18.08/-18.46	-18.45/-16.05	-12.23/-11.5	-13.16/-17.13	-15.31/-13.14	-15.36/-12.5	-14.56/-16.13	-13.23/-10.82	-15.56/-17.41	-12.09/-10.49	-10.78/-12.85	-16.19/-16.95	-16.35/-17.06	-17.4/-17.76	-16.22/-13.28	-12.96/-17	-18.88/-10.32
Θ(157.5°)	-15.73/-17.79	-11.86/-7.96	-6.51/-5.9	-5.96/-6.6	-7.74/-9.24	-9.85/-11.34	-11.75/-10.18	-9.19/-9.18	-10.14/-10.97	-10.29/-9.53	-10.48/-14.99	-17.75/-10.82	-8.71/-10.56	-17.33/-18.32	-18.87/-18.51	-18.11/-15.57	-15.24/-17.31	-16.66/-17.31	-18.84/-18.89	-18.68/-19.31	-17.71/-18.82	-18.28/-19.31	-18.12/-19.01	-15.21/-13.14
Θ(165°)	-18.29/-17	-12.44/-10.17	-9.2/-8.54	-8.08/-7.52	-7.22/-7.6	-7.95/-7.84	-8.87/-11.2	-13.85/-14.19	-13.21/-12.47	-12.16/-11.44	-11.67/-12.26	-12.29/-12.09	-12.64/-14.63	-16.92/-17.24	-15/-12.44	-11.88/-13.29	-16.69/-18.13	-18.23/-17.63	-17.46/-18.37	-17.94/-18.73	-17.72/-17.75	-18.24/-18.12	-18.22/-15.09	-12.49/-14.81
Θ(172.5°)	-13.94/-11.37	-9.76/-9.04	-8.99/-9.39	-9.5/-9.44	-10.27/-12.23	-13.75/-14.21	-13.99/-14.92	-17.51/-16.18	-18.72/-16.91	-16.56/-17.43	-16.27/-15.09	-14.46/-13.18	-12.59/-13.52	-16.24/-18.1	-18.69/-18.03	-18.22/-17.59	-16.35/-14.24	-13.57/-13.41	-14.6/-17.26	-18.29/-15.58	-18.22/-18.18	-18.08/-19.14	-18.71/-18.36	-16.89/-16.96
Θ(180°)	-10.64/-10.78	-10.34/-9.87	-9.78/-10.05	-10.42/-10.8	-14.91/-17.31	-17.34/-19.24	-17.46/-17.18	-17.63/-18.48	-17.34/-14.54	-14.1/-14.78	-14.48/-12.85	-12.91/-15.78	-18.95/-18.69	-16.65/-15.48	-14.68/-13.81	-13.97/-15	-15.96/-17.83	-17.81/-19.15	-19.11/-17.59	-18.42/-18.02	-18.91/-15.89	-13.71/-12.47	-11.41/-11.03	
Freq(Hz)	5.2GPol.	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-0.75/-1.35	-1.55/-2.41	-4.26/-6.94	-10.36/-14.48	-16.95/-12.16	-8.36/-5.96	-4.75/-3.59	-2.35/-0.98	0.16/0.85	0.96/0.67	0.43/0.41	0.48/0.18	0.0/-0.84	-2.38/-4.06	-5.68/-8.18	-12.72/-19.29	-18.49/-12.59	-8.01/-4.97	-3.18/-2.02	-0.99/-0.37	-0.13/0.2	0.77/1.01	1.17/1.15	0.73/0.34
Θ(7.5°)	-0.75/-1.56	-2.04/-3.19	-5.67/-9.51	-14.13/-18.02	-18.72/-10.21	-6.46/-4.44	-3.25/-2.07	-1.14/-0.33	0.33/1.21	1.48/1.21	0.3/-0.05	0.03/0.07	-0.69/-1.63	-3.28/-5.18	-6.83/-9.47	-14.21/-17.11	-13.69/-10.01	-7.13/-4.93	-3.42/-2.37	-1.7/-1.25	-1.41/-1.04	-0.61/0.35	0.56/0.65	0.52/0.27
Θ(15°)	-1.47/-2.23	-2.55/-3.85	-6.63/-10.7	-16.07/-18.26	-13.57/-7.99	-5.09/-3.3	-1.65/-0.53	0.46/1.01	1.72/2.17	2.46/2.27	1.28/0.48	0.14/-0.53	-0.63/-1.57	-2.87/-4.07	-5.62/-7.77	-11.5/-15.02	-13.68/-10.74	-8.22/-5.55	-3.31/-2.08	-1.11/-1.04	0.54/0.39	-0.1/-0.32	-0.48/-0.44	-0.8/-1.26
Θ(22.5°)	-2.29/-3.19	-4.29/-6.3	-9.33/-14.27	-18.47/-14.85	-9.78/-6.8	-5.26/-4.29	-3.3/-2.42	-1.77/-0.95	-0.04/0.96	1.76/1.98	1.39/0.62	-0.19/-0.89	-1.16/-1.03	-1.72/-3.02	-5.7/-7.2	-12.46/-18.29	-17.45/-18.21	-10.69/-6.94	-3.11/-1.34	-0.05/0.72	0.83/0.49	0.11/0.32	0.23/-0.65	-1.92/-2.75
Θ(30°)	-3.75/-3.52	-4.44/-7.49	-12.33/-17.43	-14.43/-10.02	-7.97/-6.9	-6.73/-7.15	-6.26/-4.9	-3.76/-3.39	-2.95/-1.96	-0.41/0.86	1.25/0.57	-0.54/-1.26	-1.22/-0.44	0.02/-0.49	-1.98/-4.08	-7.09/-9.55	-10.61/-12.14	-11.42/-8	-4.22/-2.07	-0.48/0.51	1.29/1.37	0.1/-1.8	-2.16/-1.15	-1.5/-3.16
Θ(37.5°)	-5.65/-6.6	-6.02/-9.56	-15.17/-14.79	-11.49/-10.52	-8.84/-8.58	-9.94/-9.62	-6.86/-6.43	-3.84/-3.91	-3.77/-3.17	-1.94/-0.1	0.66/0.74	0.12/-0.92	-0.47/0.73	1.28/1.08	0.03/-1.15	-2.44/-3.34	-5.3/-8.26	-9.08/-9.77	-7.31/-14.1	-1.24/0.42	0.97/1.02	0.78/0.12	-1.54/-1.58	-1.73/-3.5
Θ(45°)	-6.08/-6.28	-6.88/-8.56	-8.13/-7.34	-8.88/-9.62	-8.88/-11.43	-15.56/-11.31	-6.84/-4.92	-5.25/-5.71	-4.16/-2.5	-1.89/-1.28	-0.21/0.52	-1.81/0.39	2.01/2.1	2.01/2.1	0.07/-3.62	-7.67/-9.41	-7.45/-4.47	-1.88/-0.65	-0.37/-1.16	-2.1/-1.92	1.86/-2.97	-2.96/-2.79		
Θ(52.5°)	-7.52/-10.51	-7.76/-5.84	-3.88/-4.98	-7.3/-11.63	-11.99/-13.24	-13.12/-9.14	-6.44/-5.99	-7.32/-5.48	-2.64/-1.81	-1.99/-2.37	-2/-1.18	-2.22/-3.78	-2.34/-0.12	1.56/2	1.87/1.5	1.51/1.46	0.49/-1.81	-5.36/-9.45	-6.99/-4.51	-3.72/-3.14	-2.23/-2.04	-2.49/-3.06	-2.6/-2.66	-3.06/-4.05
Θ(60°)	-6.69/-8.82	-5.72/-8.25	-1.42/-3.62	-1.74/-13.24	-10.48/-12.81	-9.21/-7.23	-5.1/-5.09	-5.5/-3.37	-1.91/-1.95	-3.91/-7.57	-4.83/-3.21	-3.22/-5.3	-4.21/-2.06	0.74/1.83	2.96/2.82	1.65/0.18	-1.25/-2.8	-5.27/-6.62	-6.16/-6.16	-2.71/-2.2	-3.4/-4.26	-3.82/-4.45	-4.45/-4.82	
Θ(67.5°)	-7.43/-9.58	-5.72/-4.26	-1.38/-3.37	-1.86/-7.41	-9.03/-7.73	-7.64/-6.52	-4.01/-3.46	-2.91/-1.53	-1.54/-2.58	-4.98/-7.75	-6.47/-2.5	-2.41/-4.87	-4.54/-1.18	1.05/0.96	1.94/2.66	1.86/0.79	-2.25/-3.58	-4.71/-5.2	-5.62/-6.15	-8.47/-4.5	-1.42/-2.3	-5.41/-2.34	-4.62/-5.57	-5.05/-5.8
Θ(75°)	-8.62/-9.83	-4.65/-1.58	-1.74/-3.29	-6.18/-5.23	-8.9/-7.49	-6.42/-5.12	-2.53/-1.86	-1.43/-0.88	-1.52/-3.71	-7.95/-12.07	-8.55/-3.81	-2.28/-3.58	-2.63/-1.18	-0.42/0.06	1.73/0.6	1.88/-1.24	-3.98/-3.58	-3.75/-6.46	-7.77/-6.95	-8.91/-3.84	-2.09/-3.26	-5.9/-6.13	-6.05/-8.21	-7.56/-9.14
Θ(82.5°)	-12.41/-14.26	-5.38/-1.84	-2.44/-3.54	-7.73/-7.82	-8.1/-6.29	-5.16/-4.4	-2.09/-1.98	-0.91/-0.52	-1.6/-3.4	-6.44/-7.87	-6.71/-5	-4.01/-5.14	-3.19/-0.73	-1.16/-0.04	0.81/2.32	0.14/-3.41	-3.4/-2.44	-3.75/-8.49	-7.28/-7.06	-6.4/-1.87	-2.05/-4.51	-9.4/-7.83	-7.45/-16.38	-11.15/-16.44
Θ(90°)	-11.58/-13.14	-8.98/-1.41	-4.41/-5.37	-5.59/-9.39	-7.35/-7.77	-4.38/-4.41	-3.04/-2.28	-1.74/-1.3	-1.71/-3.1	-5.48/-7.83	-7.39/-4.45	-2.87/-4.68	-4.61/-3.14	-1.9/-1.52	-10.71/-9	-17.47/-51	-4.32/-2.1	-4.84/-13.78	-10.8/-12.87	-8.85/-3.92	-3.33/-3.79	-6.27/-9.18	-6.79/-12	-13.35/-15.07
Θ(97.5°)	-9.74/-11.23	-9.19/-6.46	-5.99/-6.61	-8.28/-10.46	-7.74/-7.44	-6.3/-5.6	-4.06/-2.62	-1.79/-1.73	-2.66/-3.45	-5.02/-8.06	-8.73/-5.41	-3.26/-4	-4.35/-4.5	-4.17/-2.55	-1.13/-0.59	-2.69/-7.54	-6.4/-3.86	-7.45/-16.11	-10.6/-10.65	-5.87/-3.64	-6.21/-8.43	-8.25/-11.2	-8.99/-11.8	-15.38/-12.37
Θ(105°)	-8.25/-9.5	-11.06/-9	-7.12/-7.76	-8.33/-9.82	-7.54/-9.54	-7.48/-6.2	-4.63/-3.7	-2.52/-2.29	-2.98/4.8	-7.04/-4.03	-1.24/-6.95	-3.58/-6.28	-4.35/-5.24	-5.38/-7.77	-3.3/-3.75	-2.65/-7.42	-10.13/-9.66	-10.73/-12.48	-8.89/-9.36	-6.63/-5.02	-6.25/-9.51	-13.61/-12.04	-12.62/-14.6	-10.71/-8.08
Θ(112.5°)	-19.33/-15.65	-13.32/-11.09	-10.99/-8.66	-10.65/-10.13	-9.74/-9.05	-7.78/-6.11	-6.4/-4.92	-2.16/-1.83	-2.84/-8.5	-16.74/-14.51	-12.55/-9.98	-4.71/-77	-5.28/-5.68	-8.86/-7.53	-2.85/-4.05	-5.09/-8.84	-7.86/-9.15	-7.43/-15.38	-12.58/-10.12	-11.8/-1.91	9.07/-13.64	-18.12/-15.04	-14.8/-17.84	-18.82/-17.38
Θ(120°)	-18.41/-17.96	-18.08/-11.51	-8.96/-7.49	-6.73/-8.15	-7.04/-5.63	-6.7/-6.87	-4.98/-4.55	-4.33/-2.9	-2.92/-4.82	-9.41/-11.93	-10.88/-6.17	-5.51/-6.27	-7.08/-7.25	-7.97/-9.37	-8.36/-7.86	-7.63/-10.88	-9.04/-9.8	-10.89/-17.64	-18.51/-12.78	-14.06/-12.84	-8.9/-9.5	-15.28/-18.25	-12.75/-18.78	-19.02/-18.02
Θ(127.5°)	-17.14/-16.36	-15.71/-12.85	-17.91/-12.41	-8.02/-7.6	-5.68/-6.31	-6.54/-6.45	-4.68/-4.28	-4.47/-3.36	-3.59/-1.1	-9.53/-8.15	-5.86/-6.26	-6.01/-8.09	-6.49/-8.22	-9.59/-15.88	-11.55/-5.56	-10.67/-10.63	-12.48/-11.98	-11.44/-15.01	-11.47/-1.76	-15.47/-10.48	-11.96/-9.13	-9.82/-13.4	-14.42/-18.34	-16.62/-14.27
Θ(135°)	-8.94/-11.18	-13.22/-15.38	-17.92/-18.12	-10.93/-9.65	-11.95/-13.75	-14.11/-10.15	-7.11/-4.72	-3.89/-3.84	-4.51/-5.87	-7.28/-7.12	-6.61/-8.7	-6.16/-4.84	-5.31/-6.21	-6.7/-12.39	-17.53/-14.24	-8.04/-3.87	-17.34/-14.8	-14.32/-17.24	-11.33/-17.93	-18.1/-15.68	-7.5/-9.76	-12.58/-13.38	-15.11/-17.07	-10.81/-10.66
Θ(142.5°)	-17.68/-17.58	-17.99/-14.28	-12.46/-13.95	-14.42/-14.14	-13.75/-15.15	-10.78/-7.97	-6.71/-6.5	-7.08/-8.18	-8.23/-7.7	-7.89/-9.45	-10.68/-11.92	-10.72/-9.49	-8.61/-6.64	-7.44/-9.64	-13.24/-14.13	-18.47/-14.97	-16.45/-17.9	-16.08/-18.7	-13.52/-15.25	-10.66/-14.8	-13.07/-8.8	-10.08/-12.78	-12.92/-18.09	
Θ(150°)	-17.12/-19.21	-18.1/-18.22	-18.11/-16.86	-14.58/-12.98	-10.07/-19.7	-11.17/-10.91	-8.96/-8.26	-7.87/-7.73	-6.98/-6.34	-6.71/-7.83	-9.13/-12.42	-14.71/-12.32	-13.24/-16.53	-16.16/-18.38	-17.68/-16.9	-17.95/-18.16	-18.76/-18.84	-18.39/-18.52	-18.09/-19.02	-15.06/-13.28	-13.74/-13.23	-12.9/-12.98	-15.53/-16.08	-14.27/-15.84
Θ(157.5°)	-19.28/-17.85	-15.75/-15.35	-17.32/-18.26	-18.2/-18.9	-18.26/-17.37	-17.56/-14.17	-10.01/-8.18	-7.35/-6.87	-6.18/-5.85	-5.64/-5.96	-7.19/-7.77	-7.33/-7.52	-9.3/-10.74	-11.88/-12.03	-13.03/-17.95	-17.31/-16.2	-11.96/-11.84	-14.51/-18	-18.87/-18.75	-17.72/-19.16	-18.42/-18.45	-18.67/-18.99	-17.53/-17.82	-18.23/-19.24
Θ(165°)	-17.35/-16.77	-15.98/-16.85	-18.37/-17.9	-16.36/-18.36	-16.12/-28	-9.49/-8.69	-8.25/-7.8	-7.14/-6.51	-6.36/-7	-7.46/-7.72	-9.05/-9.44	-9.39/-9.46	-9.21/-8.83	-9.09/-9.86	-10.99/-11.74	-10.61/-8.98	-8.26/-9.24	-12.72/-18.67	-18.09/-18.45	-17.36/-17.74	-17.92/-18.23			



Radiated Composite Gain Data of 2.4GHz (2TX) and 5GHz (4TX)

Appendix A

Θ(172.5°)	-11.26/-11.21	-10.76/-9.34	-9.57/-11.44	-13.21/-13.6	-13.59/-15.41	-18.34/-18.03	-17.77/-18.99	-17.15/-14.27	-13.93/-14.16	-12.96/-11.11	-10.44/-10.56	-9.37/-8.05	-8.62/-11.39	-15.46/-18.13	-19.07/-16.48	-13.41/-12.3	-13.29/-14.45	-14.98/-15.79	-16.32/-17.25	-18.92/-19.02	-19.01/-19.33	-18.5/-17.59	-18.18/-17.51	-14.22/-12
Θ(180°)	-8.13/-7.9	-7.64/-6.92	-6.91/-7.09	-7.6/-7.98	-8.12/-8.24	-8.77/-9.34	-10.21/-11.56	-13.62/-16.48	-18.85/-18.36	-18.16/-18.12	-14.21/-11.24	-11.01/-12.9	-16.78/-16.29	-13.66/-13.18	-13.94/-13.28	-12.35/-12.06	-12.94/-14.96	-18.95/-19.06	-18.61/-17.29	-14.79/-14.68	-16.74/-17.06	-17.41/-17.49	-15.48/-12.72	-10.78/-9.07
Freq(Hz)	5.6GPol.	Theta/Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)°Φ(7.5°)	Φ(15°)°Φ(22.5°)	Φ(30°)°Φ(37.5°)	Φ(45°)°Φ(52.5°)	Φ(60°)°Φ(67.5°)	Φ(75°)°Φ(82.5°)	Φ(90°)°Φ(97.5°)	Φ(105°)°Φ(112.5°)	Φ(120°)°Φ(127.5°)	Φ(135°)°Φ(142.5°)	Φ(150°)°Φ(157.5°)	Φ(165°)°Φ(172.5°)	Φ(180°)°Φ(187.5°)	Φ(195°)°Φ(202.5°)	Φ(210°)°Φ(217.5°)	Φ(225°)°Φ(232.5°)	Φ(240°)°Φ(247.5°)	Φ(255°)°Φ(262.5°)	Φ(270°)°Φ(277.5°)	Φ(285°)°Φ(292.5°)	Φ(300°)°Φ(307.5°)	Φ(315°)°Φ(322.5°)	Φ(330°)°Φ(337.5°)	Φ(345°)°Φ(352.5°)
Θ(0°)	-4.6/-5.51	-6.33/-7.28	-8.61/-10.58	-12.81/-14.07	-14.25/-14.07	-13.88/-11.63	-9.34/-7.36	-6.35/-6.26	-5.74/-4.76	-4.18/-4.23	-4.12/-14.7	-3.87/-4.05	-4.22/-4.97	-6.55/-8.31	-9.94/-11.4	-13.47/-15.83	-17.23/-16.22	-13.67/-10.61	-9.02/-8.49	-7.33/-6.46	-4.18/-3.94	-3.87/-3.92	-3.69/-4.03	-3.99/-4.18
Θ(7.5°)	-5.34/-7.05	-9.1/-11.25	-13.85/-17.85	-18.53/-18	-17.54/-13.1	-9.6/-4.2	-5.73/-5.09	-4.1/-2.99	-3.07/-2.37	-2.39/-2.69	-2.84/-2.8	-2.91/-3.35	-4.29/-5.67	-7.97/-7.36	-6.73/-7.36	-8.23/-9.01	-8.05/-8.86	-6.66/-6.91	-7.09/-6.08	-4.36/-3.66	-4.02/-4.36	-3.7/-3.28	-3.31/-4.3	
Θ(15°)	-3.84/-6.48	-10.84/-15.62	-18.88/-15.31	-12.9/-5.5	-7.48/-4.91	-3.39/-2.98	-3.27/-3.56	-3.16/-2.58	-2.38/-2.47	-2.79/-2.84	-2.5/-1.9	-1.46/-1.33	-1.02/-1.15	-1.79/-2.71	-4.27/-5.09	-5.9/-6.38	-6.76/-6.61	-5.75/-5.19	-4.68/-4.69	-4.77/-4.84	-4.12/-2.99	-2.46/-2.66	-3.09/-2.25	-1.88/-2.4
Θ(22.5°)	-2.89/-5.89	-12/-16.74	-16.43/-12.27	-8.89/-6.65	-4.9/-3.79	-3.17/-3.64	-3.75/-3.29	-2.72/-2.35	-2.39/-3.16	-4.03/-4.44	-3.99/-2.42	-0.79/0.51	1.46/-1.37	0.58/-0.5	-1.77/-2.97	-4.17/-5.93	-7.25/-7.59	-6.95/-6.14	-5.05/-4.03	-2.8/-2.23	-2.02/-1.64	-1.13/-1.04	-1.9/-2.54	-2.59/-2.57
Θ(30°)	-5.69/-7.78	-14.25/-18.85	-14.5/-10.52	-9.7/-8.53	-8.74/-8.37	-6.55/-4.82	-3.18/-2.52	-2.56/-2.81	-3.1/-3.53	-3.71/-3.2	-2.23/-1.3	0.42/24	2.79/2.26	1.92/1.29	0.58/0.15	-0.91/-3.04	-5.47/-5.66	-4.79/-3.18	-2.53/-2.73	-2.56/-1.96	-1.07/-0.87	-1.44/-2.31	-2.9/-3.08	-4.94/-6.25
Θ(37.5°)	-5.91/-6.32	-12.13/-17.14	-14.09/-17.79	-11.5/-9.52	-14.51/-9.61	-4.81/-3.1	-3.03/-3.99	-4.57/-3.22	-1.97/-2.09	-2.93/-3.66	-3.36/-1.45	0.79/2.11	2.34/-1.82	1.67/2.27	3.01/2.54	0.66/-2.27	-3.95/-5.05	-6.01/-6.41	-7.4/-5.9	-1.79/0.3	0.85/0.68	-0.38/-1.68	-3.53/-5.97	-6.05/-0.87
Θ(45°)	-5.73/-5.49	-8.86/-9.28	-7.57/-13.37	-11.92/-10.91	-10.39/-5.61	-2.99/-2.73	-4.1/-5.52	-3.76/-0.96	0.2/-0.99	-4.25/-4.74	-8.15/-7.58	-1.53/1	2.01/1.66	1.18/2.3	3.87/4.4	2.69/-1.64	-2.84/-2.85	-6.15/-14.29	-12.18/-5.94	-1.37/0.63	0.30/2.5	0.2/-0.62	-1.36/-5.66	-10.24/-7.15
Θ(52.5°)	-3.63/-3.36	-4.86/-3.22	-2.12/-5.73	-14.05/-12.94	-6.21/-3.37	-3.5/-3	-3.36/-2.91	-0.96/-0.13	-0.34/-24	-5.88/-4.58	-5.16/-5.79	-1.42/24	2.95/2.53	2.15/68	4.84/4.88	3.12/-0.69	-1.99/-1.31	-3.7/-6.65	-4.51/-2.29	-1.58/-2.28	-2.4/-0.49	-0.01/0.29	-1.38/-4.67	-13.99/-6.04
Θ(60°)	-3.5/-4.64	-5.29/-2.25	-0.43/-2.52	-11.68/-14.49	-4.77/-3.18	-3.74/-0.97	-0.03/-0.24	0.29/-0.16	-2.2/-4.88	-4.76/-2.37	-2.42/-6.55	-3.81/-1.86	3.62/9.7	2.34/-0.2	4.65/4.51	3.72/0.6	-1.48/-0.82	-3.34/-3.53	-4.03/-4.93	-6.88/-9.49	-3.51/0.25	0.44/-1.01	-2.52/-2.94	-6.58/-4.91
Θ(67.5°)	-3.43/-6.42	-5.83/-2.15	-0.32/-4.29	-11.75/-10.17	-1.86/-2.71	-2.58/0.83	0.91/0.32	0.79/-0.01	-2.9/-5.27	-2.72/-1.57	-2.39/-7.46	-5.44/-1.41	3.27/3.17	2.54/4.13	4.49/3.64	3.03/0.39	-2.96/-2.09	-1.34/-1.11	-1.83/-3.92	-8.11/-9.66	-1.07/0.84	0.17/-2.06	-3.61/-4.35	-3.85/-3.57
Θ(75°)	-4.33/-8.07	-4.87/-3.21	-0.36/-1.98	-9.29/-9.06	-1.39/-2.51	-1.86/-1.49	1.59/1.4	1.73/0.24	-1.33/-4.93	-1.94/-0.86	-2.54/-6.26	-2.93/-5.23	2.43/2.5	1.42/3.56	3.67/1.68	2.24/0.31	-3.13/-1.73	-2.74/-2.85	-6.39/-3.24	0.51/-1.22	-1.07/0.46	-6.07/-4.88	-1.83/-3.35	
Θ(82.5°)	-5.26/-6.91	-3.52/-1.79	-0.87/-2.98	-8.15/-6.98	-1.45/-2.37	-0.74/-1.36	1.28/1.73	2.31/0.02	-2.89/-3.3	-0.79/-0.08	-2.13/-6.85	-9.28/-0.54	1.39/0.83	0.21/2.92	2.75/0	0.94/-0.66	-5.28/-2.07	-0.53/-2.72	-3.86/-4.41	-7.02/-3.46	0.86/0.08	-1.6/-5.9	-7.86/-7.05	-1.75/-3.84
Θ(90°)	-6.58/-6.96	-2.73/-2.4	-2.1/-4	-8.51/-6.36	-1.16/-1.87	-0.93/-1.09	0.97/1.53	1.96/-0.14	-2.8/-3.39	-1.66/-0.87	-2.49/-4.13	-10.15/-4.11	1.37/1.04	-2.66/0.95	1.16/-14	-1.29/-4.03	-4.64/-3.3	-1.29/-4.03	-5.48/-5.97	-4.46/-2.43	-1.89/-0.87	-1.89/-5.4	-10.25/-11.29	-3.85/-7.36
Θ(97.5°)	-7.48/-8.57	-4.4/-4.81	-4.83/-6.98	-1.8/-5.33	-2.04/-1.98	-1.19/0.58	0.28/1.3	1.61/-0.62	-2.71/-3.33	-1.89/-1.07	-2.83/-5.97	-9.15/-3.05	0.72/0.57	-5.97/-0.38	-0.91/-2.94	-2.68/-1.51	-4.64/-6.03	-4.05/-8.28	-7.52/-8.65	-6.96/-3.56	-5.1/-5.72	-4.77/-8.85	-9.74/-16.63	-6.65/-11.4
Θ(105°)	-10.92/-10.28	-5.71/-7.47	-9.95/-8.9	-7.7/-5.24	-2.66/-2.86	-1.74/-0.37	-0.57/-0.08	0.12/-1.61	-3.09/-3.35	-3.27/-3.21	-5.01/-6.06	-10.38/-5.85	-0.41/-0.42	-4.13/-4.19	-3.47/-4.65	-6/-6.74	-8.98/-7.93	-7.7/-10.51	-8.84/-6.52	-7.12/-3.08	-3.68/-13.53	-9.47/-10.51	-18.13/-7.94	-6/-12.44
Θ(112.5°)	-12.32/-13.89	-9.84/-9.68	-13.24/-12.78	-8.29/-4.41	-4.1/-4.49	-2.43/-1.23	-1.36/-0.96	-1.24/-2.5	-3.51/-3.45	-3.77/-3.68	-5.03/-10.08	-10.46/-2.58	0.15/-2.43	-6.52/-6.46	-7.21/-10.77	-5.45/-8.53	-18.44/-8.96	-9.07/-17.24	-11.27/-6.3	-9.39/-9.19	-8.13/-11.23	-17.07/-17.61	-18.34/-10.8	-8.26/-9.75
Θ(120°)	-15.55/-11.27	-8.33/-8.74	-14.26/-19.25	-11.48/-6.53	-4.61/-5.91	-3.84/-3.01	-4.29/-3.47	-2.32/-2.58	-3.75/-4.16	-4.63/-5.59	-7.99/-11.89	-16.98/-3.94	-0.23/-0.66	-4.34/-9.48	-9.66/-13.4	-11.07/-12.38	-7.69/-14.56	-15.6/-3.87	-11.46/-17.26	-9.57/-8.06	-9.77/-7.36	-12.62/-11.08	-10.67/-13.15	
Θ(127.5°)	-17.37/-10.97	-9.02/-9.64	-9.71/-11.87	-11.49/-10.95	-8.44/-7.15	-7.53/-5.79	-5.45/-4.41	-2.83/-2.76	-3.83/-4.57	-4.99/-5.37	-9.11/-18.19	-10.53/-4.04	-2.67/-2.91	-3.38/-5.4	-8.81/-19.22	-13.31/-10.27	-19.01/-17.36	-10.69/-16.02	-10.33/-15.69	-13.17/-8.01	-13.44/-14.01	-10.8/-5.67	-8.38/-15.35	-18.79/-17.85
Θ(135°)	-18.26/-17.64	-16.63/-13.74	-11.7/-9.77	-8.79/-8.27	-7.56/-7.28	-7.09/-6.65	-6.42/-5.24	-3.55/-2.87	-2.87/4	-5.66/-7.89	-10.33/-15.37	-15.41/-9.73	-5.23/-3.42	-3.97/-5.53	-5.5/-11.93	-19.08/-9.35	-12.68/-12.6	-11.85/-17.08	-9.49/-15.48	-10.19/-9.61	-8.67/-15.77	-13.89/-8.57	-10.6/-11.37	-13.72/-17.52
Θ(142.5°)	-16.86/-17.96	-18.01/-15.87	-15.9/-24	-7.83/-10.48	-9.37/-6.71	-5.38/-3.82	-2.15/-1.55	-2.28/-4.17	-7.82/-11.49	-17.55/-17.36	-12.82/-7.49	-3.67/-3.72	-3.48/-5.76	-7.99/-7.9	-9.53/-10.76	-12.35/-13.8	-10.35/-14.9	-18.49/-15.21	-16.26/-17.66	-11.64/-10.07	-10.33/-10.42	-9.74/-10.98	-13.17/-17.28	
Θ(150°)	-16.9/-17.96	-19.22/-19.24	-19.45/-18.48	-14.7/-12.08	-11.19/-10.23	-8.64/-6.76	-5.56/-5.74	-5.55/-4.77	-5.21/-6.93	-11.04/-18.12	-18.95/-16.89	-15.16/-11.17	-8.88/-7.08	-6.3/-7.07	-9.23/-13.22	-16.74/-14.77	-16.61/-18.47	-18.88/-18.31	-18.47/-17.26	-19.06/-18.1	-18.17/-18.18	-18.91/-17.17	-18.72/-18.79	-19.02/-16.75
Θ(157.5°)	-17.32/-18.35	-18.16/-18.97	-18.08/-17.76	-17.17/-16.12	-18.17/-15.12	-13.23/-11.05	-8.43/-6.99	-6.4/-6.08	-6.87/-9.36	-13.29/-17.18	-18.32/-18.67	-15.62/-13.07	-13.41/-16.83	-16.54/-11.5	-8.61/-7.8	-8.93/-13.48	-18.49/-18.7	-18.47/-18.07	-17.96/-17.74	-18.18/-16.76	-15.99/-17.36	-18.75/-17.67	-18.34/-17.65	-17.44/-17.11
Θ(165°)	-11.55/-12	-14.15/-17.73	-18.35/-18.91	-17.16/-16	-14.24/-11.25	-8.78/-8.16	-8.06/-7.7	-7.08/-7.56	-8.65/-9.45	-11.19/-14.26	-16.03/-15.4	-14.09/-11.64	-9.35/-8.54	-8.26/-9.07	-10.45/-11.59	-14.52/-14.39	-10.9/3	-12.31/-18.34	-19.02/-18.82	-16.18/-15.03	-14.77/-12.81	-13.62/-18.18	-17.37/-13.31	
Θ(172.5°)	-12.81/-13.48	-13.96/-15.33	-15.39/-13.26	-11.16/-10.27	-10.13/-9.7	-8.36/-7.48	-7.42/-7.66	-8.15/-8.84	-9.5/-9.66	-9.74/-15.54	-8.92/-8.29	-8.5/-9.46	-10.73/-11.65	-11.55/-11.49	-11.34/-11.13	-11.12/-11.53	-12.6/-13.68	-14.3/-13.37	-12.43/-11.41	-10.17/-8.68	-8.33/-8.93	-9.81/-9.82	-10.77/-12.38	-11.95/-12.8
Θ(180°)	-15.01/-18.6	-19.13/-19.42	-18.12/-18.42	-15.12/-13.23	-12.35/-12.21	-11.54/-11.31	-10.51/-9.55	-8.62/-8.06	-7.76/-7.83	-8.22/-9.02	-9.98/-10.97	-12.52/-15.98	-18.6/-18.35	-18.34/-18.98	-17.92/-17.89	-18.04/-18.71	-18.3/-18.15	-14.46/-12.15	-11.36/-11.96	-12.52/-12.09	-11.35/-11.73	-11.59/-11.98	-12.25/-12.38	-12.64/-13.03
Freq(Hz)	5.785GPol.	Phi/Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)°Φ(7.5°)	Φ(15°)°Φ(22.5°)	Φ(30°)°Φ(37.5°)	Φ(45°)°Φ(52.5°)	Φ(60°)°Φ(67.5°)	Φ(75°)°Φ(82.5°)	Φ(90°)°Φ(97.5°)	Φ(105°)°Φ(112.5°)	Φ(120°)°Φ(127.5°)	Φ(135°)°Φ(142.5°)	Φ(150°)°Φ(157.5°)	Φ(165°)°Φ(172.5°)	Φ(180°)°Φ(187.5°)	Φ(195°)°Φ(202.5°)	Φ(210°)°Φ(217.5°)	Φ(225°)°Φ(232.5°)	Φ(240°)°Φ(247.5°)	Φ(255°)°Φ(262.5°)	Φ(270°)°Φ(277.5°)	Φ(285°)°Φ(292.5°)	Φ(300°)°Φ(307.5°)	Φ(315°)°Φ(322.5°)	Φ(330°)°Φ(337.5°)	Φ(345°)°Φ(352.5°)
Θ(0°)	-9.12/-6.83	-5.77/-5.48	-5.06/-4.65	-4.51/-4.49	-4.2/-0.04	-4.61/-5.12	-5.93/-5.65	-7.05/-7.76	-8.97/-8.63	-10.16/-11.84	-12.49/-11.73	-10.19/-8.91	-8.03/-7.22	-6.62/-6.44	-6.29/-5.32	-5.03/-4.97	-5.03/-5.35	-6.24/-7.07	-6.63/-5.54	-8.1/-9.64	-10.15/-11.51	-15.79/-15.71	-11.68/-11.17	-11.79/-11.43
Θ(7.5°)	-6.59/-4.59	-4.69/-4.19	-3.54/-3.01	-3.22/-3.42	-3.35/-3.73	-4.79/-6.14	-7.84/-9.68	-12.24/-14.12	-14.92/-15.23	-15.14/-13.4	-11.71/-10.46	-9.58/-9.05	-8.32/-7.72	-7.12/-6.53	-6.53/3	-5.29/-5.34	-5.38/-5.77	-6.12/-6.52	-6.98/-6.65	-6.34/-7.14	-8.39/-9.29	-11.1/-12.35	-10.84/-10.23	-9.71/-8.4
Θ(15°)	-6.56/-4.81	-3.58/-3.01	-2.63/-2.38	-2.78/-3.47	-4.27/-5.41	-7.15/-9	-10.86/-13.55	-14.82/-14.93	-13.91/-12.17	-9.29/-7.26	-6.74/-7.05	-6.87/-5.89	-4.78/-3.91	-3.1/-2.48	-2.36/-1.99	-2.41/-3	-3.43/-3.41	-2.99/-3.26	-3.43/-4.02	-4.55/-6.21	-8.4/-10.75	-11.87/-12.26	-10.49/-10.06	-11.37/-9.45
Θ(22.5°)	-6.61/-6.31	-2.29/-2.26	-2.37/-2.13	-1.96/-1.94	-2.43/-4.04	-6.14/-7.58	-8.38/-9.73	-12.45/-16.2	-12.87/-8.96	-6.25/-4.38	-3.79/-4.22													



Radiated Composite Gain Data of 2.4GHz (2TX) and 5GHz (4TX)

Appendix A

Θ(22.5°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(30°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(37.5°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(45°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(52.5°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(60°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(67.5°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(75°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(82.5°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(90°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(97.5°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(105°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(112.5°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(120°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(127.5°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(135°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(142.5°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(150°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(157.5°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(165°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(172.5°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Θ(180°)	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf	-Inf/-Inf
Freq(Hz)	5.2GPol	PhiAnt.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-6.77/-6.76	-6.8/-6.71	-6.89/-7.2	-7.81/-8.63	-9.69/-10.75	-11.79/-12.89	-14.89/-17.48	-17.46/-18.34	-15.93/-13.9	-12.14/-10.84	-9.09/-7.91	-7.22/-7.15	-6.82/-7.14	-7.46/-6.87	-6.48/-6.45	-6.76/-7.48	-8.89/-9.88	-11.63/-13.82	-15.97/-17.55	-18.81/-17.54	-15.21/-13.46	-12.47/-11.02	-9.92/-8.85	-8.07/-7.47
Θ(7.5°)	-5.39/-5.16	-4.89/-4.92	-5.07/-5.78	-7.09/-8.28	-9.53/-11.47	-13.45/-16.43	-17.99/-18.71	-18.73/-18.69	-17.06/-15.23	-13.37/-11.47	-9.8/-7.92	-6.74/-6.02	-6.61/-7.61	-8.1/-8.56	-8.64/-8.93	-9.98/-12.28	-15.47/-17.52	-15.18/-13.26	-12.37/-10.97	-10.11/-9	-8.55/-8.03	-7.27/-6.7	-6.28/-5.72	
Θ(15°)	-4.63/-4.6	-4.43/-4.18	-4.45/-5.21	-6.12/-6.45	-6.31/-6.29	-6.96/-7.74	-9.13/-11.88	-15.83/-18.18	-16.35/-13.64	-11.23/-9.68	-8.35/-7.53	-6.77/-6.75	-7.01/-7.02	-7.54/-7.21	-6.78/-6.24	-6.57/-4.3	-8.77/-9.45	-8.99/-8.08	-7.46/-6.29	-4.32/-4.74	-5.31/-4.52	-4.32/-4.74	-4.59/-4.88	-4.95/-4.59
Θ(22.5°)	-4.69/-4.69	-5.09/-5.53	-6.04/-6.03	-5.75/-5.1	-4.02/-3.48	-3.15/-2.9	-3.53/-4.41	-5.48/-6.72	-8.21/-10.17	-12.91/-13.33	-10.29/-7.62	-6.11/-6.8	-7.37/-7.89	-7.89/-7.78	-7.23/-7.02	-6.48/-7.07	-9.02/-12.36	-16.54/-17.03	-13.44/-10.58	-7.86/-5.64	-4.1/-3	-2.39/-1.9	-1.99/-2.31	-1.78/-4.45
Θ(30°)	-5.33/-4.83	-4.17/-3.95	-4.7/-5.19	-5.55/-5.45	-4.89/-5.46	-2.21/-1.45	-0.98/-0.92	-1.06/-1.3	-1.33/-1.67	-2.38/-3.51	-3.25/-4.43	-1.64/-1.88	-2.01/-2.26	-3.32/-4.22	-5.34/-5.26	-5.39/-5.56	-7.94/-9.83	-9.42/-7.75	-6.54/-5.78	-5.28/-4.53	-3.41/-2.38	-1.72/-1.32	-1.44/-2.48	-3.53/-5.09
Θ(37.5°)	-6.05/-5.13	-2.97/-1.9	-2.09/-3.2	-4.47/-4.51	-3.27/-2.18	-1.2/-0.35	0.68/-1.35	1.33/-1.24	1.53/-1.66	1.30/-68	0.86/-1.4	1.33/-1.9	1.43/-1.27	0.36/-0.77	-1.24/-1.38	-1.37/-1.65	-2.65/-4.03	-4.63/-3.37	-2.46/-2.27	-1.83/-0.78	0.17/-0.69	0.11/-1.7	-2.83/-4.99	-6.11/-6.17
Θ(45°)	-4.41/-5.04	-4.07/-2.32	-2.04/-2.95	-3.73/-2.63	-0.32/-1.33	1.96/-1.95	1.97/-1.33	2.42/-2.58	3.02/-3.31	2.94/-2.37	2.58/-2.64	2.72/-2.81	2.69/-2.65	2.06/-1.4	0.70/-93	0.52/-15	-0.33/-1.67	-2.33/-1.57	-1.14/-0.88	-0.16/-1.37	2.95/-1.86	0.15/-1.73	-2.53/-3.84	
Θ(52.5°)	0.28/-0.74	-2.31/-2.07	-1.87/-2.3	-2.21/-5.62	1.31/-2.58	4.26/-4.08	3.62/-81	2.47/-2.46	3.05/-3.71	3.72/-3.33	3.72/-3.78	3.54/-2.93	3.02/-2.56	1.75/-1.83	2.57/-1.2	2.21/-52	0.74/-0.28	-1.1/-1.04	-1.14/-1.02	-0.06/-1.43	2.31/-2.86	3.23/-16	2.73/-18	2.15/-2.26
Θ(60°)	2.53/-1.87	0.51/-0.42	-0.7/-0.12	0.21/-0.41	1.86/-3.93	5.26/-5.22	4.89/-4.04	2.99/-2.63	2.57/-3.13	2.97/-2.61	3.34/-3.91	3.12/-22	2.48/-2.09	1.82/-1.95	3.52/-3.22	2.85/-1.84	1.65/-1.29	0.44/-0.33	-0.34/-0.37	0.63/-1.95	2.47/-2.34	2.75/-2.3	3.31/-3.6	4.13/-0.7
Θ(67.5°)	2.962/-47	1.44/-45	-0.04/-43	0.51/-19	1.67/-4	4.78/-47	4.25/-25	2.65/-22	1.81/-21	2.55/-239	2.51/-269	2.21/-11	1.34/-72	1.84/-25	3.66/-279	2.13/-51	2.51/-189	1.1/-0.4	-0.6/-51	1.51/-189	1.93/-78	2.22/-63	2.61/-3	4.18/-53
Θ(75°)	1.65/-59	0.67/-0.09	-0.42/-0.08	-0.39/-1.39	0.06/-2.28	3.54/-25	2.91/-89	0.72/-93	0.33/-2.08	1.18/-1.4	1.21/-41	1.16/-0.05	-0.24/-0.28	0.51/-44	2.71/-192	10.82	1.83/-235	1.63/-0.17	-0.83/-0.06	1.51/-194	1.72/-9.97	0.43/-45	0.53/-186	2.87/-185
Θ(82.5°)	-0.47/-0.15	-1.44/-2.03	-1.74/-1.25	-2.1/-2.83	-1.81/-55	1.69/-116	1.05/-35	-0.67/-0.61	-1.4/-1.46	-0.31/-0.18	-0.51/-0.52	-0.22/-1.42	-1.65/-0.95	-0.95/-0.03	0.90/-05	-0.23/-0.1	1.07/-1.58	1.21/-0.43	-1.57/-1.43	0.57/-1.53	1.06/-45	-0.61/-1.99	-2.26/-1.04	0.78/-0.17
Θ(90°)	-2.42/-2.86	-5.43/-5.93	-5.25/-4.3	-5.3/-5.38	-4.85/-2.57	-1.6/-2.4	-1.88/-1.63	-2.81/-2.66	-3.46/-4.22	-2.82/-2.38	-2.44/-2.87	-2.45/-2.92	-3.34/-3.13	-2.91/-2.31	-2.03/-1.55	-2.25/-1.34	-0.61/-0.21	-0.26/-1.33	-3.33/-4.05	-2.44/-0.59	0.41/-0.7	-3.07/-5.22	-5.77/-3.62	-1.44/-1.41
Θ(97.5°)	-5.5/-5.88	-8.09/-8.09	-7.16/-7.19	-8.72/-7.82	-7.38/-5.16	-3.94/-3.59	-4.45/-3.14	-4.38/-4.93	-6.24/-7.67	-5.75/-4.82	-4.79/-5.55	-4.89/-5.12	-5.68/-6.79	-5.22/-5.43	-4.01/-3.73	-5.84/-5.16	-4.02/-2.18	-0.91/-3.57	-6.74/-7.42	-5.77/-4.11	-2.64/-3.3	-6.93/-9.17	-10.86/-7.45	-4.78/-4.62
Θ(105°)	-7.19/-7.78	-10.94/-11.17	-10.54/-10.3	-10.88/-10.59	-9.8/-8.08	-7.15/-8.44	-7.56/-6.22	-6.78/-6.93	-7.69/-9.83	-7.58/-6.24	-6.17/-7.09	-7.3/-5.9	-6.3/-8.54	-6.53/-7.07	-6.56/-5.72	-8.72/-6.85	-6.51/-6.06	-4.72/-6.24	-8.78/-10.96	-11.06/-10.21	-7.78/-6.18	-11.12/-14.64	-18.35/-11.88	-7.87/-8.09
Θ(112.5°)	-12.15/-12.3	-16.71/-13.22	-11.15/-10.64	-12.48/-14.26	-13.02/-13.12	-10.25/-9.2	-8.98/-8.55	-10.08/-11.59	-10.55/-10.33	-8.63/-8.95	-8.61/-8.06	-8.49/-9.59	-8.29/-9.98	-9.15/-8.07	-8.46/-9.54	-12.16/-7.52	-5.94/-6.69	-7.41/-10.71	-9.42/-12.97	-16.42/-15.28	-13.9/-9.94	-12.95/-15.19	-17.53/-15.16	-18.33/-13.41
Θ(120°)	-14.71/-13.5	-16.72/-18.39	-17.54/-16.47	-17.11/-18.12	-18.51/-18.46	-14.69/-11.63	-10.67/-10.62	-12.67/-14.9	-10.92/-10.15	-11.63/-9.71	-10.05/-9.91	-9.59/-9.54	-9.78/-11.75	-11.28/-9.94	-12.01/-14.22	-17.88/-10.93	-6.95/-6.32	-6.3/-9.98	-8.55/-12.86	-16.57/-9.96	-13.63/-11.28	-11.01/-10.18	-10.37/-12.86	-12.19/-11.66
Θ(127.5°)	-13.38/-17.12	-15.89/-16.06	-16.78/-13.73	-12.43/-16.07	-15.77/-12.62	-12.77/-13.48	-15.51/-15.92	-15.86/-17.8	-16.33/-14.43	-13.15/-12.86	-11.89/-11.38	-11.9/-10.95	-10.81/-13.87	-17.16/-10.39	-13.77/-18.17	-11.69/-8.3	-8.63/-9.28	-7.65/-14.08	-16.08/-7.47	-8.15/-15.65	-15.03/-14.32	-18.4/-15.28	-12.08/-11.13	
Θ(135°)	-15.56/-16.06	-12.91/-14.54	-18.01/-17.8	-17.73/-18.4	-17.76/-13.69	-14.41/-13.35	-15.88/-18.01	-17.99/-17.89	-16.84/-16.3	-15.89/-12.94	-11.2/-11.5	-11.49/-11.22	-11.07/-12.65	-17.63/-17.92	-18.61/-16.85	-18.52/-18.64	-16.28/-12.03	-15.36/-15.08	-12.36/-18.77	-18.5/-14.48	-15.35/-15.68	-18.48/-15.3	-18.15/-18.2	-14.11/-17.3
Θ(142.5°)	-16.26/-18.86	-19.11/-19.35	-18.66/-18.77	-14.76/-13.45	-15.65/-17.21	-18.97/-17.91	-16.51/-17.07	-17.5/-18.19	-17.21/-17.8	-17.31/-15	-12.04/-11.86	-14.16/-15.78	-16/-18.25	-17.92/-18.98	-18.67/-18.44	-18.64/-18.62	-16.79/-13.76	-15.13/-13.16	-13.49/-15.61	-15.02/-15.17	-16.72/-19.35	-18.3		



Radiated Composite Gain Data of 2.4GHz (2TX) and 5GHz (4TX)

Appendix A

Θ(75°)	-11.48/-18.17	-17.84/-13.62	-9.33/-8.57	-12.45/-12.43	-10.07/-9.73	-13.03/-17.78	-18.84/-18.96	-18.42/-14.21	-16.95/-17.75	-19.18/-12.02	-11.37/-13.39	-12.33/-14.96	-16.15/-13.65	-9.24/-11.04	-18.46/-11.02	-8.03/-4.95	-7.54/-8.35	-6.72/-6.21	-6.59/-7.49	-7.09/-5.24	-3.84/-3.28	-5.06/-12.52	-16.64/-12.36	-11.08/-9.98
Θ(82.5°)	-12.66/-18.14	-18.56/-14.16	-9.25/-8.9	-11.49/-13.25	-12.44/-10.87	-13.36/-17.84	-18.85/-18.62	-18.62/-16.02	-18.13/-18.16	-18.17/-13.09	-13.48/-18.09	-15.88/-18.33	-18.14/-14.42	-9.98/-13.41	-19.25/-13.32	-7.96/-5.33	-6.55/-7.49	-5.99/-6.53	-7.95/-8.77	-7.08/-5.39	-4/-3.02	-5.66/-12.25	-14.51/-13.22	-14.33/-10.3
Θ(90°)	-13.9/-18.52	-18.51/-13.57	-10.71/-9.56	-10.60/-15.99	-18.39/-12.9	-10.07/-16.25	-18.81/-15.63	-18.61/-16.71	-17.75/-18.15	-17.98/-15.09	-16.18/-18.48	-17.99/-18.15	-16.16/-14.49	-17.07/-7.72	-10.91/-17.89	-10.51/-7.52	-6.24/-6.95	-8.27/-9.13	-7.76/-5.68	-4.57/-6.79	-13.73/-13.78	-12.99/-12.87	-16.22/-10.09	
Θ(97.5°)	-15.02/-15.62	-17.53/-14.73	-11.43/-11.61	-12.85/-17.79	-18.86/-14.41	-14.41/-19.66	-18.3/-18.46	-19.25/-15.66	-17.83/-17.62	-17.88/-16.52	-18.94/-18.07	-16.13/-18.19	-17.46/-16.2	-12.42/-15.71	-17.32/-18.52	-14.21/-10.56	-9.21/-8.79	-7.61/-9.15	-9.73/-10.93	-10.12/-8.07	-7.17/-7.83	-15.33/-14.73	-11.67/-13.16	-14.87/-8.64
Θ(105°)	-18.15/-18.33	-18.53/-18.08	-16.21/-15.25	-17.08/-18.58	-16.17/-15.85	-16.92/-18.97	-18.12/-17.68	-17.71/-17.26	-17.84/-16.08	-16.94/-17.83	-18.25/-18.92	-17.52/-19.07	-17.88/-16.93	-14.49/-15.01	-18.39/-18.45	-19.03/-15.82	-14.21/-10.36	-10.05/-11.77	-11.41/-12.43	-15.09/-12.66	-10.07/-10.17	-17.5/-15.24	-11.7/-17.29	-13.17/-9.65
Θ(112.5°)	-18.51/-17.88	-18.66/-16.7	-16.92/-14.96	-18.02/-17.7	-13.85/-15.52	-16.25/-18.88	-17.97/-17.82	-18.04/-19.03	-16.43/-17.52	-18.15/-17.17	-16.38/-18.48	-18.18/-18.39	-15.19/-13.28	-17.99/-18.52	-18.58/-17.83	-18.65/-13.77	-14.42/-13.45	-13.53/-15.46	-17.79/-16.25	-11.33/-10.1	-17.3/-13.94	-13.88/-17.66	-18.07/-19.11	-18.14/-12.52
Θ(120°)	-18.73/-18.05	-18.25/-18.65	-18.11/-18.68	-18.47/-15.52	-15.6/-16.52	-18.76/-18.77	-17.64/-18.38	-17.96/-17.46	-18.78/-18.73	-18.24/-18.9	-17.44/-18.38	-18.94/-19	-18.2/-18.36	-17.71/-13.25	-17.56/-17.89	-18.03/-18.99	-17.77/-12.43	-12.75/-12.88	-14.44/-15.61	-18.62/-18.53	-10.75/-10.1	-12.92/-17.56	-18.76/-17.79	-18.33/-14.29
Θ(127.5°)	-16.09/-17.77	-18.68/-18.01	-15.46/-18.26	-18.73/-18.08	-17.42/-17.22	-19.34/-18.84	-18.06/-17.89	-18.06/-17.32	-18.23/-18.83	-18.54/-18.33	-18.85/-18.84	-18.71/-19.01	-18.55/-18.97	-18.07/-16.2	-18.9/-18.56	-17.13/-16.06	-12.67/-13	-12.21/-12.85	-17.01/-18.62	-16.3/-15.64	-16.71/-13.94	-18.14/-18.45	-16.51/-16.72	-18.01/-18.35
Θ(135°)	-18.52/-18.16	-17.07/-18.78	-15.72/-18.45	-18.24/-17.94	-17.96/-16.48	-19.46/-16.98	-18.21/-18.35	-19.4/-18.1	-18.57/-17.15	-17.2/-18.15	-17.71/-18.88	-18.86/-18.27	-18.53/-18.49	-17.58/-15.81	-18.95/-18.74	-18.23/-15.64	-18.21/-18.59	-16.24/-15.56	-17.88/-18.52	-17.2/-17.81	-18.51/-18.81	-17.6/-17.75	-18.87/-17.71	-19.06/-18.84
Θ(142.5°)	-19.28/-17.42	-18.57/-18.27	-17.95/-17.51	-16.99/-14.87	-16.65/-18.41	-17.71/-18.48	-17.13/-19.12	-19.18/-17.85	-18.34/-17.18	-17.76/-17.77	-18.12/-18.95	-18.31/-18.13	-19.22/-15.12	-19.6/-18.02	-17.79/-18.83	-16.57/-15.57	-17.17/-18.46	-18.87/-17.4	-16.38/-16.89	-18.8/-18.03	-15.56/-14.21	-15.6/-16.7	-18.41/-16.14	-16.1/-17.95
Θ(150°)	-19.03/-17.71	-18.39/-18.15	-17.09/-17.92	-18.16/-17.63	-17.17/-18.35	-18.43/-17.98	-17.74/-18.33	-18.97/-18.5	-16.13/-17.82	-17.78/-19.04	-18.88/-18.93	-18.04/-16.26	-17.76/-19.25	-18.06/-18.78	-19.07/-18.36	-18.58/-18.71	-17.84/-19.12	-17.3/-18.55	-16.73/-17.45	-17.33/-17.58	-19/-18.49	-18.24/-18.08	-18.08/-18.12	-17.74/-18.02
Θ(157.5°)	-18.52/-18.26	-18.54/-18.61	-17.73/-18.4	-18.92/-18.75	-18.44/-18.69	-19.01/-19.36	-17.92/-18.45	-18.33/-18.71	-17.78/-17.73	-18.55/-18.56	-18.36/-17.87	-17.38/-17.65	-18.69/-18.45	-16.49/-15.67	-17.93/-17.61	-18.83/-17.62	-17.71/-17.75	-18.71/-18.33	-18.17/-18.36	-17.92/-17.81	-17.3/-18.08	-16.84/-14.47	-14.47/-15.41	-16.75/-18.63
Θ(165°)	-18.09/-18.78	-18.33/-18.51	-17.93/-18.1	-18.63/-18.65	-17.79/-18.15	-19.01/-17.26	-18.07/-17.9	-17.92/-17.84	-18.9/-18.18	-18.23/-18.04	-19.36/-17.54	-17.9/-18.74	-19.02/-18.15	-18.45/-18.4	-17.93/-19.13	-18.56/-17.85	-17.76/-18.9	-18.58/-18.26	-18.64/-17.11	-18.1/-18.41	-18.72/-18.24	-18.24/-16.08	-14.28/-16.03	-18.45/-18.1
Θ(172.5°)	-17.54/-18.53	-18.98/-18.67	-18.95/-18.27	-18.44/-17.57	-18.4/-18.17	-17.9/-18.18	-17.55/-18.03	-18.76/-18	-18.36/-18.16	-17.92/-17.92	-18.77/-17.52	-17.47/-17.47	-17.18/-17.37	-17.25/-18.61	-18.97/-18.57	-17.01/-16.19	-16.89/-18.64	-18.05/-18.86	-18.1/-18.14	-17.97/-18.41	-18.62/-17.6	-18.41/-18.32	-18.69/-18.73	-18.24/-18.14
Θ(180°)	-16.7/-18.65	-17.98/-17.88	-17.55/-18.54	-18.31/-16.9	-17.67/-17.24	-17.43/-17.11	-17.78/-18.05	-17.74/-17.97	-18.76/-17.64	-17.4/-18.86	-18.56/-18.64	-18.19/-18.11	-17.33/-16.09	-14.96/-13.88	-14.02/-14.59	-15.03/-16.22	-16.6/-17.14	-17.95/-18.21	-18.99/-19.04	-18.9/-17.56	-18.53/-17.38	-19.15/-19.39	-18.13/-18.78	-18.02/-17.94
Freq(Hz)	5.6GPol.	PhiAnt.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-6.33/-6.02	-6.07/-5.82	-5.78/-6.14	-6.79/-7.36	-8.06/-9.13	-9.88/-11.74	-14.31/-19.13	-17.71/-19.19	-18.74/-15.14	-12.62/-14.59	-9.09/-8.13	-7.75/-7.65	-7.48/-7.28	-6.67/-6.38	-6.48/-7.23	-12.56/-14.91	-12.56/-14.91	-12.56/-14.91	-12.56/-14.91	-12.56/-14.91	-12.56/-14.91	-12.56/-14.91	-12.56/-14.91	-12.56/-14.91
Θ(7.5°)	-10.13/-10.53	-11.09/-12.81	-13.18/-14.54	-15.93/-13.83	-11.49/-10.27	-8.79/-8.66	-8.45/-9.16	-9.61/-10.69	-11.2/-10.8	-9.69/-8.13	-6.76/-5.46	-4.53/-3.55	-2.84/-2.15	-1.97/-2.05	-2.73/-3.87	-5.41/-7.15	-10.04/-13.72	-17.02/-17.84	-17.27/-14.99	-13.16/-11.98	-10.94/-10.38	-10.29/-10.19	-9.71/-9.56	-10.12/-10.35
Θ(15°)	-4.59/-4.78	-5.28/-5.97	-7.15/-8.97	-11.72/-13.03	-11.31/-10.09	-9.19/-8.7	-7.92/-7.69	-7.38/-7.55	-7.83/-9.76	-7.1/-11.1	-5.27/-4.54	-4.15/-3.75	-3.09/-2.63	-1.92/-1.8	-2.27/-3.1	-4.71/-5.65	-7.03/-7.82	-8.51/-8.01	-6.68/-5.9	-5.78/-5.14	-5.01/-5.31	-5.64/-5.91	-5.59/-5.36	-4.92/-4.46
Θ(22.5°)	-1.77/-2.02	-2.63/-5.97	-4.62/-5.29	-6.33/-6.93	-6.59/-6.26	-5.75/-5.58	-5.63/-6.47	-7.44/-8.96	-9.65/-9.05	-7.16/-5.5	-4.21/-3.35	-3.27/-3.54	-3.38/-4.34	-2.63/-1.82	-1.13/-1.25	-2.22/-2.65	-5.22/-7.86	-10.07/-9.92	-8.41/-7.34	-6.28/-5.21	-4.52/-3.58	-2.51/-1.65	-1.34/-1.79	-2.18/-2.11
Θ(30°)	-3.24/-3.4	-3.41/-4.06	-4.5/-4.64	-5.03/-4.59	-3.78/-2.72	-1.66/-0.77	-0.08/-0.41	-1.49/-3.02	-4.72/-5.73	-4.98/-3.69	-1.83/-0.58	-0.18/-0.61	-1.23/-2.02	-2.56/-2.54	-2.49/-2.57	-2.67/-3.4	-5.63/-8.05	-10.06/-9.79	-7.48/-5.61	-3.91/-3.79	-3.5/-3.42	-2.27/-0.88	0.160/-0.6	-0.73/-2.18
Θ(37.5°)	-5.08/-3.36	-1.59/-2.1	-2.99/-3.55	-4.07/-3.3	-2.26/-1.82	-1.43/-0.96	0.42/-1.1	0.910/-4.2	-0.64/-1.63	-1.9/-1.6	0.482/-0.6	2.62/-58	1.63/-0.09	-1.24/-1.22	-0.70/-9.69	-1.01/-1.37	-1.14/-1.83	-3.31/-4.09	-2.73/-1.59	-1.41/-1.29	-1.34/-1.2	-1.37/-2	-2.64/-2.91	-3.37/-4.75
Θ(45°)	-4.69/-2.67	-1.35/-1.6	-2.91/-4.94	-4.03/-1.85	-0.58/-0.41	-0.310/-0.98	0.881/-58	1.992/-14	2.31/-7	1.42/-1.65	2.34/-77	4.57/-47	3.53/-99	1.05/-35	2.22/-06	1.21/-13	1.090/-88	-0.65/-2.18	-1.96/-1.5	-0.450/-88	1.912/-59	1.720/-57	-2.01/-4.93	-5.79/-6.22
Θ(52.5°)	-1.5/-0.73	-0.88/-3.24	-6.08/-6.76	-5.29/-1.9	0.64/-19	3.1/-3.25	2.44/-2.46	3.073/-28	3.483/-74	3.93/-58	3.594/-72	5.47/-5.23	4.34/-39	2.913/-24	3.793/-07	1.761/-38	1.030/-3	-0.81/-1.53	-1.82/-0.7	-0.330/-22	1.061/-85	2.1/-86	1.17/-0.39	-3.37/-3.73
Θ(60°)	1.171/-61	0.40/-2.26	-2.64/-0.92	-0.96/-0.16	2.113/-36	4.494/-88	4.163/-44	3.203/-27	3.573/-87	4.123/-81	3.343/-58	4.024/-46	3.54/-29	2.813/-94	4.033/-15	1.471/-05	0.641/-4	0.789/-54	-1.8/-1.26	-1.02/-1.06	2.371/-9	1.962/-1	2.392/-54	0.660/-8
Θ(67.5°)	1.432/-43	1.43/-0.13	-0.091/-51	1.480/-44	2.063/-53	4.485/-07	4.222/-81	2.612/-52	3.173/-44	3.733/-08	2.463/-02	3.623/-88	3.472/-21	2.453/-39	3.752/-69	0.913/-3	-0.391/-29	1.851/-24	-0.27/-0.57	-0.44/-38	2.72/-35	2.252/-7	2.922/-61	0.53/-0.3
Θ(75°)	-0.160/-9.1	0.98/-0.16	-0.56/-1	1.25/-0.24	1.462/-52	2.863/-49	3.191/-56	0.630/-53	2.2/-05	2.71/-96	0.971/-55	1.882/-22	2.170/-41	0.512/-08	2.54/-17	0.061/-0.75	-1.280/-99	2.291/-28	-1.21/-0.61	-0.93/-1.76	3.052/-04	1.962/-07	2.22/-48	0.49/-1.8
Θ(82.5°)	-3.25/-0.83	-0.42/-1	-2.34/-1.01	-0.13/-1.98	-0.051/-33	0.751/-32	1.27/-1.01	-1.42/-1.69	0.090/-43	0.680/-21	-1.45/-3.03	0.42/-0.07	-0.39/-2.45	-2.21/-0.37	0.76/-0.2	-1.27/-1.85	-1.110/-43	1.860/-79	-1.68/-1.26	-1.082/-25	2.751/-39	0.670/-68	0.390/-36	-0.92/-1.3
Θ(90°)	-5.91/-3.74	-3.52/-3.69	-6.15/-3.46	-1.53/-4.45	-3.22/-1.4	-1.77/-0.84	-0.03/-2.55	-4.03/-0.41	-2.05/-1.39	-1.64/-2.1	-3.24/-2.39	-1.29/-1.9	-2.39/-4	-5.02/-1.49	-0.97/-2.28	-2.68/-3.47	-3.41/-0.67	0.93/-0.17	-3.14/-3.21	-4.580/-21	1.57/-0.05	-1.02/-2.31	-2.34/-2.28	-2.3/-4.74
Θ(97.5°)	-9.07/-6.73	-7.24/-4.92	-5.83/-6.01	-3.86/-5.95	-6.14/-3.94	-4.57/-4.39	-2.42/-4.68	-6.13/-5.74	-4.5/-3.96	-5.2/-5.09	-6.25/-4.66	-3.22/-4.76	-5.32/-7.03	-7.72/-3.37	-2.8/-3.4	-0.86/-5.37	-5.84/-3.19	-1.4/-2.81	-5.64/-5.38	-7.29/-2.84	-0.92/-3.36	-1.73/-5.73	-5.91/-4.24	-3.73/-5.62
Θ(105°)	-7.96/-8.65	-10.37/-9.71	-9.76/-9.57	-7.91/-8.58	-11.04/-7.9	-6.71/-4.24	-5.09/-5.28	-7.78/-7.27	-8.18/-6.55	-6.95/-7.22	-8.14/-6.96	-5.56/-6.38	-8.53/-8.69	-8.72/-5.18	-3.39/-5.46	-8.81/-7.66	-7.89/-5.51	-4.76/-6.62	-9.81/-9.55	-13.2/-10.08	-6.28/-5.76	-9.08/-10.48	-8.33/-5.75	-6.85/-8.71
Θ(112.5°)	-10.61/-10.35	-15.13/-11.69	-7.76/-8.38	-12.34/-10.89	-15.32/-10.87	-7.85/-9.59	-8.81/-7.22	-9.06/-9.83	-11.07/-7.93	-7.87/-8.74	-8.83/-11.3	-8.63/-8.94	-11.15/-10.32	-8.13/-7.14	-6/-7.55	-12.16/-9.21	-7.2/-6.24	-5.33/-8.01	-11.14/-13.68	-15.98/-15	-9.24/-6.93	-11.21/-10.41	-15.5/-10	-7.25/-9.77
Θ(120°)	-11.17/-8.88	-18.64/-17.63	-16.82/-12.71	-15.12/-14.25	-13.09/-13.07	-9.82/-9.96	-12.4/-11.32	-12.69/-12.86	-15.97/-12.69	-7.53/-10.89	-10.62/-12.53	-13.04/-9.63	-10.73/-12.03	-14.75/-9.28	-9.11/-11.									

Sporton International Inc.



Radiated Composite Gain Data of 2.4GHz (2TX) and 5GHz (4TX)

Appendix A

Θ(180°)	-18.17/-18.28	-17.71/-18.02	-18.84/-18.51	-19.29/-18.97	-18.16/-18.04	-15.95/-13.73	-14.17/-16.73	-17.56/-18.42	-17.02/-17.1	-17.37/-16.14	-12.69/-10.69	-10.62/-11.68	-13.08/-15.91	-17.66/-18.56	-17.48/-18.99	-18.04/-18.42	-18.53/-18.69	-18.16/-16.87	-15.55/-14.68	-15.13/-15.21	-17.16/-18.36	-17.19/-18.72	-17.34/-14.74	-15.05/-19.17
Θ(120°)	-12.99/-12.92	-12.75/-12.94	-15.31/-19.2	-18.72/-18.1	-17.54/-17.88	-18.87/-18.54	-18.1/-17.76	-17.93/-18.5	-18.13/-18.73	-18.98/-17.64	-15.3/-12.85	-11.54/-10.99	-11.02/-11.69	-12.11/-59	-10.89/-11.39	-12.78/-13.93	-15.22/-15.26	-17.13/-18.67	-18.17/-18.64	-17.53/-18.95	-17.78/-18.91	-18.57/-18.87	-18.55/-19.06	-18.25/-15.47
Freq(Hz)	5.3GPol.	PhiAnt.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-4.94/-5.59	-6.11/-7.16	-9.02/-11.74	-14.71/-18.47	-18.28/-16.35	-13.22/-11.02	-8.6/-7.31	-5.95/-5.37	-4.41/-3.79	-3.6/-3.58	-3.29/-3.34	-3.66/-4.15	-4.63/-5.57	-7.06/-8.55	-10.34/-11.6	-13.85/-18.66	-19.02/-16.61	-12.16/-9.99	-7.54/-6.07	-5.11/-4.52	-4.81/-4.99	-4.74/-4.41	-4.17/-4.07	-4.53/-4.69
Θ(7.5°)	-3.39/-4.28	-4.12/-4.67	-5.89/-7.85	-9.71/-12.71	-16.81/-19.65	-16.72/-12.91	-9.73/-6.48	-4.89/-3.61	-3.07/-2.41	-2.5/-2.6	-3.27/-3.87	-4.93/-6.06	-7.3/-9.21	-11.82/-14.82	-17.91/-18.38	-17.35/-17.5	-18.74/-16.73	-12.02/-10.28	-8.48/-7.77	-6.21/-5.26	-4.34/-3.62	-3.32/-3.18	-2.69/-2.37	-2.59/-2.72
Θ(15°)	-0.81/-1.4	-2.09/-2.77	-2.93/-3.93	-5.95/-8.96	-13.71/-17.79	-18.41/-17.87	-11.29/-7.02	-4.6/-3.29	-2.43/-1.68	-1.33/-2.03	-2.66/-4.33	-6.37/-8.5	-10.97/-13.9	-15.39/-14.35	-13.2/-12.66	-11.88/-11.67	-11.8/-12.25	-12.11/-10.85	-8.61/-7.53	-6.04/-6.4	-3.55/-2.8	-2.52/-2	-1.25/-0.56	-0.83/-0.42
Θ(22.5°)	-0.04/-0.38	-1.36/-2.55	-3.71/-5.1	-6.94/-10.29	-16.75/-18.4	-18.09/-16.95	-11.41/-7.99	-5.52/-4.11	-2.46/-1.15	-0.67/-0.79	-1.74/-3.04	-4.67/-6.86	-9.31/-9.19	-8.11/-8.77	-8.4/-8.91	-8.41/-8.65	-11/-14.75	-18.27/-17.99	-14.27/-9.4	-6.01/-4.24	-3.46/-3.33	-3.96/-4.07	-2.89/-1.35	-0.23/-0.22
Θ(30°)	0.68/0.34	0.19/-0.56	-2.38/-4.49	-7.6/-11.41	-17.04/-17.78	-15.12/-13.71	-9.76/-5.76	-4.31/-3.79	-2.87/-2.14	-1.81/-2.32	-3.03/-3.87	-7.5/-6.62	-4.66/-4.86	-7.49/-10.26	-16.56/-17.82	-17.88/-12.15	-10.48/-9.4	-9.51/-8.84	-5.79/-4.14	-4.32/-4.25	-2.36/-0.18	1.05/-1.7		
Θ(37.5°)	-0.35/0.2	1.19/0.16	-2.47/-5.78	-8.64/-10.34	-12.56/-18.04	-15.94/-10.78	-9.09/-6.11	-3.89/-3.41	-3.23/-2.37	-2.72/-4.86	-6.65/-5.41	-7.5/-13.55	-10.46/-6.55	-6.14/-8.26	-10.06/-10.67	-12.44/-18.05	-17.97/-18.36	-13.95/-10.58	-8.77/-9.91	-11.82/-9.34	-6.16/-4.74	-3.64/-3.2	-2.28/-0.49	0.67/-0.11
Θ(45°)	0.2/0.97	1.74/-0.23	-4.87/-8.56	-9.16/-10.08	-13.48/-18.95	-16.79/-8.94	-6.72/-5.45	-3.94/-2.62	-2.97/-3.62	-2.88/-1.62	-10.28/-6.77	-7.84/-13.97	-10.59/-6.99	-5.27/-7.29	-8.4/-8.97	-12.88/-18.96	-15.44/-13.5	-12.42/-14.32	-14.9/-11.6	-10.29/-8.79	-6.45/-4.38	-2.88/-2.37	-2.74/-1.64	0.38/0.24
Θ(52.5°)	-1.08/-0.61	0.33/-0.06	-2.06/-4.2	-5.66/-10.85	-16.95/-11.51	-10.81/-7.33	-5.43/-4.08	-3.26/-2.57	-3.78/-5.17	-4.66/-7.73	-8.26/-6.24	-13.1/-18.2	-16.83/-18.16	-11.13/-12.51	-17.83/-11.43	-9.18/-9.12	-10.32/-14.81	-14.38/-9.22	-11.25/-8.91	-4.16/-3.18	-3.06/-2.62	-2.3/-1.17	0.07/-0.63	
Θ(60°)	-0.32/-1.29	-0.72/-1.09	-2.61/-3.07	-3.33/-6.42	-19.22/-13.43	-7.98/-6.15	-6.34/-6.37	-5.11/-3.66	-3.08/-5.07	-5.74/-8.25	-10.79/-9.13	-9.38/-11.19	-12.51/-18.9	-15.71/-14.44	-7.52/-6.44	-14.62/-15.33	-12.03/-15.48	-12.35/-13.13	-18.39/-11.11	-10.13/-5.28	-3.82/-3.91	-3.46/-2.29	-1.78/-0.82	0.21/0.18
Θ(67.5°)	-1.68/-2.63	-1.26/-1.78	-4.4/-4.16	-4.83/-6.89	-17.63/-10.99	-7.88/-7.15	-8.06/-8.22	-6.7/-7.72	-5.98/-7.88	-7.75/-8.53	-6.99/-7.1	-7.65/-13.46	-15.2/-15.54	-8.19/-12.01	-8.68/-8.18	-17.34/-11.17	-9.11/-9.78	-8.84/-15.34	-13.16/-8.57	-7.47/-5.29	-4.22/-3.21	-2.18/-1.25	-1.38/-1.14	-0.06/-0.29
Θ(75°)	-3.61/-5.8	-3.3/-1.96	-4.21/-5.85	-6.66/-9.87	-17.09/-13.13	-11.35/-8.26	-10.38/-13.51	-10.07/-12.53	-9.88/-9.46	-7.15/-8.38	-8.81/-14.87	-15.01/-13.9	-8.03/-12.89	-9.49/-8.06	-18.38/-13.42	-8.56/-3.84	-7.49/-12.47	-12.59/-7.05	-6.98/-6.8	-5.4/-1.95	-2.22/-4.52	-3.44/-3.79	-3.95/-2.81	
Θ(82.5°)	-6.85/-10.46	-6.08/-3.37	-4.34/-5.72	-8.28/-6.99	-14.01/-15.35	-11.83/-9.94	-11.96/-17.33	-14.62/-17.08	-14.83/-14.41	-10.87/-10	-7.47/-9.73	-9.34/-19.19	-12.37/-9.53	-7.18/-12.28	-9.09/-9.54	-13.34/-12.29	-8.07/-6.49	-7.27/-11.83	-9.78/-6.75	-6.72/-4.63	-6.62/-3.99	-2.3/-3.33	-7.73/-8.17	-4.74/-3.64
Θ(90°)	-9.56/-9.97	-6.45/-8.33	-8.69/-10.25	-10.61/-10.94	-14.87/-13.3	-11.54/-14.01	-14.08/-18.71	-18.47/-16.97	-18.47/-19.93	-13.45/-11.17	-8.41/-11.09	-10.38/-18.31	-11.34/-8.55	-5.67/-10.11	-12.01/-17.77	-18.89/-17.86	-9.93/-6.67	-6.5/-14.25	-8.58/-6.63	-7.43/-6.98	-10.15/-6	-5.4/-8.3	-9.64/-9.83	-7.16/-6.85
Θ(97.5°)	-10.46/-11.01	-11.2/-7.21	-6.58/-12.6	-15.53/-15.57	-18.58/-15.72	-13.13/-17.17	-16.41/-18.69	-19.47/-16.96	-17.64/-19.03	-14.61/-10.98	-8.41/-11.93	-10.71/-18.41	-9.19/-9.06	-6.77/-9.41	-9.81/-11.72	-18.89/-17.93	-9.97/-6.71	-9.84/-10.87	-10.29/-10.23	-9.33/-7.62	-9.54/-11.28	-8.72/-9.26	-14.52/-17.71	-7.66/-10.19
Θ(105°)	-8.24/-9.58	-7.69/-5.42	-8.04/-9.31	-7.55/-17.29	-14.86/-17.46	-12.87/-18.16	-16.65/-18.62	-18.18/-14.64	-18.89/-17.79	-12.99/-9.78	-9.22/-10.89	-10.13/-16.64	-8.89/-6.49	-5.48/-6.65	-11.48/-12.58	-14.51/-16.77	-11.88/-7.57	-9.24/-15.86	-9.69/-10.58	-9.19/-10.01	-10.97/-8.23	-5.81/-8.11	-9.55/-11.62	-13.77/-8.7
Θ(112.5°)	-12.93/-12.61	-11.58/-13.33	-11.41/-9.28	-11.02/-15.84	-11.48/-15.99	-12.72/-17.5	-17.48/-18.75	-18.07/-18.97	-15.77/-17.47	-12.71/-9.47	-9.91/-18.46	-13.3/-13.26	-6.28/-8.65	-10.11/-11.47	-18.83/-17.23	-12.63/-15.83	-11.18/-8.56	-8.3/-13.59	-10.62/-7.03	-6.17/-8.72	-9.87/-6.66	-5.3/-7.06	-14.16/-18.05	-8.74/-5.41
Θ(120°)	-6.01/-8.61	-13.77/-18.27	-8.33/-18.51	-18.05/-13.04	-13.65/-18.62	-16.12/-18.85	-10.49/-15.44	-15.76/-19.1	-14.91/-11.59	-9.59/-8.65	-9.49/-10.8	-16.18/-10.22	-9.82/-6.75	-8.1/-12.9	-14.23/-18.78	-15.93/-14.29	-11.5/-10.6	-8.73/-8.41	-14.23/-8.54	-7.48/-9.85	-6.82/-7.19	-5.72/-11.07	-10.06/-14.63	-14.05/-7.48
Θ(127.5°)	-8.52/-9.02	-18.45/-14.7	-9.15/-10.73	-10.62/-17.9	-18.06/-18.26	-15.85/-13.24	-14.23/-13.36	-11.81/-12.9	-8.68/-7.71	-7/-6.21	-9.86/-12.98	-10.43/-8.27	-6.34/-5.08	-5.81/-6.45	-17.45/-18.42	-16.58/-11.92	-11.49/-10.18	-10.14/-10.92	-13.53/-5.99	-7.78/-13.73	-8.46/-6.04	-3.88/-4.61	-6.86/-7.79	-7.7/-8.37
Θ(135°)	-6.95/-9.4	-18.04/-17.61	-12.45/-11.75	-15.16/-13.19	-12.56/-18.07	-14.82/-18.05	-11.84/-11.98	-14.77/-12.42	-15.86/-12.97	-11.8/-10.4	-9.33/-8.27	-6.59/-6.3	-8.16/-11.02	-10.55/-9.52	-10.9/-13.59	-15.64/-14.93	-14.61/-14.77	-14.84/-15.79	-17.72/-18.15	-16.62/-13.32	-13.43/-15.34	-18.99/-17.71	-13.25/-13.52	-17.09/-18.49
Θ(142.5°)	-14.3/-14.72	-16.24/-18.97	-16.18/-17.59	-17.78/-14.12	-11.65/-13.47	-13.63/-18.63	-18.01/-9.16	-6.08/-6.16	-8.8/-13.51	-11.06/-10.65	-8.82/-9.6	-7.55/-6.2	-9.14/-16.35	-16.38/-19.37	-15.83/-17.12	-18.03/-15.66	-15.69/-19.55	-18.2/-12.51	-14.1/-14.12	-17.16/-15.66	-16.82/-17.22	-17.15/-10.17	-7.49/-7.3	
Θ(150°)	-17.81/-15.13	-11.24/-9.99	-11.78/-15.5	-18.66/-18.16	-18.42/-16.78	-12.57/-11.12	-13.15/-15.79	-14.89/-11.95	-9.9/-9.13	-8.64/-8.56	-11.43/-14.54	-11.64/-9.15	-9.13/-10.92	-13.43/-14.32	-15.14/-17.1	-18.36/-18.82	-16.48/-15.04	-13.63/-13.24	-12.95/-17.08	-18.32/-14.14	-14.56/-18.35	-17.91/-18.41	-13.54/-12.71	-12.31/-12.63
Θ(157.5°)	-18.27/-13.06	-17.32/-14.16	-16.76/-17.12	-16.81/-19.25	-17.65/-18.79	-18.56/-13.33	-11.84/-11.98	-14.77/-12.42	-15.86/-12.97	-11.8/-10.4	-9.33/-8.27	-6.59/-6.3	-8.16/-11.02	-10.55/-9.52	-10.9/-13.59	-15.64/-14.93	-14.61/-14.77	-14.84/-15.79	-17.72/-18.15	-16.62/-13.32	-13.43/-15.34	-18.99/-17.71	-13.25/-13.52	-17.09/-18.49
Θ(165°)	-16.21/-10.6	-8.51/-8.45	-9.43/-11.12	-10.54/-10.99	-13.18/-16.75	-18.13/-15.94	-14.89/-13.44	-12.58/-11.57	-17.22/-17.09	-14.4/-11.57	-9.32/-7.77	-14.18/-8.87	-12.14/-13.17	-12.05/-11.27	-11.72/-12.83	-16.16/-18.93	-16.53/-17.34	-18.49/-17.48	-17.14/-18.32	-19.17/-18.91	-17.79/-17.31	-14.56/-15.68	-18.55/-18.33	
Θ(172.5°)	-13.62/-12.25	-11.15/-10.83	-9.48/-9.16	-9.82/-10.45	-10.36/-9.69	-10.29/-10.53	-11.01/-10.92	-11.61/-12.34	-13.34/-14.1	-11.43/-13.38	-11.73/-9.44	-8.24/-7.12	-6.38/-6.52	-7/-7.35	-7.15/-6.24	-10.77/-7.23	-9.07/-10.25	-10.83/-12.99	-15.81/-18.99	-17.79/-17.49	-17.72/-17.24	-17.77/-17.85	-18.11/-18.54	-18.13/-15.71
Θ(180°)	-17.81/-18.04	-17.6/-17.33	-14.63/-12.26	-11.78/-12.02	-11.43/-10.34	-10.18/-9.97	-10.99/-12.22	-12.66/-13.1	-15.15/-16.8	-18.74/-17.78	-18.2/-14.67	-18.3/-16.9	-14.82/-13.91	-14.23/-15.58	-16.25/-15.53	-16.78/-17.59	-15.38/-14.46	-15.45/-17.1	-17.75/-18.46	-18.67/-18.31	-17.63/-17.15	-17.31/-15.58	-15.21/-16.08	-16.77/-18.19
Freq(Hz)	5.3GPol.	ThetaAnt.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-9.83/-8.38	-7.67/-6.63	-6.82/-4.72	-4.61/-4.7	-4.18/-3.97	-4.26/-4.42	-4.2/-4.46	-4.72/-5.63	-6.85/-8.82	-11.32/-15.17	-17.82/-19.09	-17.49/-15.65	-11.25/-8.6	-7.14/-6.48	-6.2/-5.2	-3.95/-3.62	-3.96/-3.82	-3.69/-3.91	-4.78/-3.53	-5.97/-6.73	-7.57/-9.99	-12.89/-14.94	-16.83/-16.07	-14.28/-12.71
Θ(7.5°)	-17.9/-14.1	-11.21/-9.99	-8.49/-6.14	-4.95/-3.99	-2.98/-2.33	-2.27/-2.68	-2.47/-2.37	-2.48/-3.4	-5.16/-7.6	-10.71/-8.9	-9.66/-9.15	-8.46/-9.94	-5.02/-4.25	-4.31/-4.28	-4.54/-4.51	-3.48/-2.8	-2.95/-3.28	-3.15/-3.05	-3.36/-4.07	-4.47/-4.53	-4.68/-5.47	-7.34/-9.27	-11.05/-14.09	-18.23/-17.8
Θ(15°)	-15.1/-17.9	-14.84/-11.31	-9.13/-6.57	-5.08/-3.77	-2.9/-2.03	-1.97/-2.17	-2.67/-3.16	-3.22/-4.19	-5.64/-8.08	-9.23/-8.9	-7.49/-6.63	-5.88/-4.36	-3.11/-2.24	-2.21/-2.47	-3.09/-3.04	-2.51/-2.38	-2.16/-1.92	-1.6/-0.99	-					



Radiated Composite Gain Data of 2.4GHz (2TX) and 5GHz (4TX)

Appendix A

Θ(22.5°)	-0.86/-1.48	-2.94/-3.5	-4.4/-5.42	-6.55/-8.72	-11.53/-16.78	-19.19/-14.11	-9.77/-8.15	-7.02/-5.31	-3.41/-2.32	-2.46/-3.4	-4.04/-3.79	-4.08/-5.44	-7.06/-6.9	-6.1/-6.18	-7.55/-9.2	-10.97/-13.96	-14.8/-8.6	-4.94/-3.09	-1.67/-1.45	-1.15/-1.82	-2.43/-2.79	-2.69/-2.85	-3.84/-3.6	-2.01/-1.12
Θ(30°)	-1.71/-2.78	-2.41/-2.01	-3.75/-8.58	-14.17/-13.74	-15.87/-18.34	-17.92/-18.02	-9.93/-6.53	-5.18/-3.77	-0.61/-1.3	0.77/-0.85	-2.7/-2.52	-2.96/-5.66	-7.7/-5.5	-3.88/-4.98	-8.7/-15.03	-18.8/-17.11	-18.72/-16.43	-9.72/-5.69	-3.37/-3	-3.29/-4.39	-6.47/-6.05	-3.45/-2.96	-4.06/-3.51	-1.38/-0.7
Θ(37.5°)	-0.06/-1.21	-0.95/-1.9	-5.33/-12.65	-12.85/-12.52	-15.17/-16.89	-14.82/-12.9	-9.05/-5.14	-3.59/-2.07	0.51/-1.69	1.71/-0.45	-1.13/-0.87	-1.85/-5.54	-6.46/-3.91	-2.94/-4.76	-7.69/-9.4	-12.01/-17.41	-16.3/-18.54	-17.9/-9.33	-5.08/-3.46	-4.79/-8.06	-7.97/-5.91	-2.59/-0.97	-1.29/-0.02	1.55/-1.15
Θ(45°)	-1.1/-0.89	-1.42/-3.33	-8.19/-12.73	-13.08/-16.96	-17.97/-18.85	-18.19/-10.92	-6.99/-4.16	-1.47/-0.19	1.32/-1.32	1.16/-0.9	-0.95/-2.52	-4.22/-7.5	-9.12/-9.42	-8.75/-8.62	-8.52/-8.55	-12.4/-18.41	-14.92/-15.81	-15.53/-9.74	-6/-4.68	-6.8/-9.68	-9.44/-9.05	-6.58/-3.24	-1.38/-0.77	1.54/-0.37
Θ(52.5°)	-0.71/-2.64	-4.14/-6.47	-8.65/-8.41	-10.89/-15.43	-18.05/-17.37	-18.46/-11.67	-5.78/-3.3	-1.75/-0.84	1.91/-0.7	0.77/-0.72	-1.6/-4.03	-6.3/-7.39	-15.71/-18.12	-14.35/-9.7	-11.55/-14.3	-17.58/-15.14	-10.83/-11.25	-13.79/-13.76	-8.98/-7.07	-10.7/-14.15	-8.92/-10.56	-10.59/-5.23	-2.19/-0.24	0.6/-0.2
Θ(60°)	0.15/-2.94	-4.22/-5.54	-6.84/-6.46	-8.74/-10.42	-17.04/-17.84	-18.22/-10.29	-5.29/-1.86	-1.17/-0.45	1.58/-0.28	-0.71/-0.41	-2.3/-3.73	-4.55/-4.79	-14.84/-16.3	-17.85/-11.61	-12.47/-13.19	-17.78/-16.8	-8.82/-6.74	-9.34/-13.16	-10.51/-9.5	-11.06/-14.2	-10.64/-9.23	-8.66/-7.27	-4.34/-0.48	0.64/-1.54
Θ(67.5°)	0.31/-2.87	-3/-5.41	-7.5/-6.06	-7.94/-8.53	-15.18/-17.61	-17.65/-8.03	-5.83/-2.81	-2.02/-0.63	-0.54/-0.54	-0.96/-1.54	-2.9/-4.58	-6.53/-7.8	-11.81/-14.37	-18.88/-9.58	-11.66/-18.88	-18.31/-14.34	-7.26/-5.65	-8.59/-11.92	-10.11/-8.98	-17.73/-11.37	-7.2/-10.28	-9.02/-6.29	-2.97/-1.57	-0.12/-1.71
Θ(75°)	-0.19/-3.7	-4.1/-7.48	-9.82/-7.41	-8.64/-8.52	-18.22/-15.21	-17.82/-9.35	-9.63/-5.21	-4.69/-3.61	-3.29/-2.36	-2.01/-2.88	-4.74/-5.55	-7.01/-7.31	-11.19/-12.11	-18.58/-10.27	-14.97/-18.14	-18.45/-15.51	-7.27/-5.54	-7.89/-12.29	-14.26/-8.46	-15.92/-13.35	-8.12/-8.2	-8.18/-7.3	-5.1/-3.02	-1.37/-0.7
Θ(82.5°)	-2.75/-5.88	-6.09/-10.58	-14.23/-10.61	-11.22/-8.52	-15.98/-18.88	-17.64/-12.52	-10.35/-8.63	-7.85/-6.32	-6.27/-4.19	-4.29/-5.57	-6.06/-7.98	-9.8/-12.41	-15.81/-18.51	-17.65/-12.4	-16.75/-19.45	-17.96/-16.84	-7.49/-6.07	-8.13/-13.44	-16.3/-11.26	-15.91/-16.6	-9.1/-7.45	-17.51/-10.07	-8.09/-8.16	-5.74/-2.59
Θ(90°)	-5.7/-7.72	-7.09/-9.4	-14.7/-14.11	-16.78/-13.79	-17.79/-17	-19.39/-13.7	-15.49/-13.09	-9.61/-9.52	-8.43/-8.19	-6.66/-8.02	-8.8/-11.07	-14.28/-12.76	-13.01/-17.66	-16.81/-14.29	-17.27/-17.21	-17.87/-18.66	-11.18/-8.21	-11.2/-16.79	-18.52/-14.03	-14.14/-18.45	-12.04/-9.49	-9.82/-12.79	-17.63/-16.53	-8.76/-6.01
Θ(97.5°)	-8.78/-9.46	-8.06/-15.74	-14.09/-14.36	-16.82/-12.38	-11.9/-17.85	-18.79/-16.65	-14.54/-12.93	-13.48/-13.3	-11.48/-10.12	-9.85/-10.45	-15.44/-16.43	-15.8/-14.48	-16.36/-18.48	-19.12/-14.8	-17.61/-18.05	-19.39/-19.08	-15.5/-13.47	-16.35/-16.03	-17.81/-12.89	-12.34/-15.03	-17.93/-12.15	-9.91/-13.36	-19.03/-17.32	-17.39/-15.4
Θ(105°)	-9.94/-18.86	-18.71/-10.72	-13.82/-18.54	-12.4/-12	-18.86/-18.81	-18.38/-18.15	-14.99/-16.49	-12.36/-14.93	-11.31/-14.65	-14.02/-13.69	-15.85/-16.28	-18.71/-14.42	-14.89/-17.65	-18.49/-16.53	-15.4/-17.27	-17.13/-14.41	-18.7/-18.47	-14.86/-11.9	-10.89/-12.06	-19.05/-12.04	-11.5/-12.02	-16.1/-18.83	-15.14/-18.44	
Θ(112.5°)	-10.81/-12.83	-12.91/-9.81	-17.69/-19.04	-17.96/-19.18	-18.32/-18.47	-18.4/-18.42	-15.03/-18.2	-16.08/-18.36	-17.11/-15.1	-16.56/-12.72	-17.9/-15.97	-16.62/-11.5	-13.17/-14.72	-16.01/-17.26	-16.56/-19.04	-18.7/-15.22	-14.64/-16.94	-17.7/-17.69	-18.22/-11.63	-9.98/-14.75	-16.62/-11.95	-11.75/-14.08	-12.46/-9.66	-10.19/-8.66
Θ(120°)	-17.91/-15.18	-11.94/-18.16	-15.56/-15.45	-17.52/-16.04	-17.89/-17.48	-18.45/-18	-16.87/-18.73	-12.17/-10.54	-11.85/-13.35	-18.07/-11.56	-16.39/-9.15	-14.93/-13.54	-18.31/-19.37	-19.08/-18.5	-18.73/-17.87	-15.2/-13.2	-10.85/-11.97	-18.02/-9.98	-9.06/-8.29	-17.93/-12.15	-9.91/-13.36	-19.03/-17.32	-17.39/-15.4	
Θ(127.5°)	-5.36/-11.97	-14.17/-18.4	-9.17/-12.44	-18.95/-18.2	-18.1/-18.04	-16.37/-11.4	-17.54/-13.21	-9.77/-10	-9.85/-8.83	-11.86/-11.64	-9.8/-7.2	-8.84/-9.84	-7.78/-10.96	-9.96/-12.47	-12.64/-15.7	-18.58/-18.61	-18.72/-18.15	-18.7/-13.89	-10.62/-12.9	-14.56/-10.31	-10.01/-11.84	-9.04/-6.33	-7.75/-5.08	
Θ(135°)	-6.36/-7.01	-13.28/-15.51	-10.91/-16.66	-15.95/-12.71	-19/-18.42	-12.91/-16.71	-14.08/-9.31	-7.3/-8.87	-10.65/-8.97	-10.52/-9.85	-7.48/-9.55	-10.89/-10.11	-7.64/-9.75	-9.69/-6.98	-18.69/-18.74	-17.91/-17.36	-13.47/-17.94	-18.09/-19.26	-18.1/-16.41	-10.81/-10.68	-13.11/-11.72	-10.84/-9.38	-11.46/-11.71	-10.75/-8.38
Θ(142.5°)	-15.93/-15.29	-17.26/-15.75	-13.76/-12.24	-11.35/-16.25	-17.77/-15.41	-15.83/-14.68	-9.65/-9.09	-10.97/-10.36	-12.6/-11.05	-8.6/-10.41	-13.57/-12.06	-10.12/-15.69	-17.62/-18.34	-18.14/-12.69	-14.22/-17.39	-18.78/-18.27	-18.51/-19.53	-17.98/-18.35	-18.5/-16.32	-14.93/-16.83	-17.98/-16.63	-11.39/-11.06	-18.07/-17.74	-17.72/-11.28
Θ(150°)	-13.73/-18.61	-18.8/-17.6	-17.97/-18.53	-12.91/-11.38	-18.24/-13.31	-18.04/-17.59	-14.28/-15.74	-14.38/-9.12	-8.58/-9.59	-9.35/-9.47	-10.18/-14.48	-19.16/-16.63	-16.65/-12.78	-12.45/-17.55	-16.84/-14.85	-16.4/-14.17	-15.96/-18.09	-16.54/-17.78	-16.68/-15.77	-12.06/-15.09	-16.48/-11.81	-7.68/-8.05		
Θ(157.5°)	-16.17/-11.84	-12.61/-16.06	-18.46/-18.05	-16.78/-14.35	-18.35/-17.21	-16.39/-13.58	-15.74/-18.37	-18.32/-14.67	-13.7/-12.92	-11.86/-10.82	-10.41/-11.5	-11/-10.65	-11.21/-11.48	-10.19/-10.51	-14.19/-18.53	-18.57/-18.31	-14.75/-13.73	-15.59/-18	-18.58/-18.64	-18.21/-16.26	-15.12/-15.72	-18.23/-18.31	-17.3/-13.26	-12.67/-14.8
Θ(165°)	-15.93/-16.75	-13.37/-15.31	-17.02/-18.19	-17.27/-14.14	-15.6/-17.7	-18.52/-17.77	-17.54/-18.18	-18.99/-17.88	-18.4/-17.76	-17.93/-17.98	-17.86/-18.62	-18.14/-18.15	-17.45/-18.85	-17.84/-17.9	-17.65/-18.76	-17.83/-17.81	-18.97/-17.91	-18.39/-18.58	-18.73/-18.28	-18.7/-18.44	-17.6/-14.2	-12.61/-11	-10.04/-9.79	-10.55/-12.92
Θ(172.5°)	-18.18/-17.89	-15.57/-16.62	-15.18/-13.52	-14.06/-16.38	-18.78/-18.73	-18.44/-18.02	-18.58/-17.42	-18.2/-18.43	-18.7/-17.97	-19/-18.48	-12.34/-11.28	-11.12/-10.83	-10.28/-10.12	-10.15/-12.25	-15.35/-17.22	-16.63/-17.97	-18.6/-18.66	-18.01/-18.89	-18.44/-18.87	-18.18/-18.4	-17.44/-16.35	-18.27/-17.5	-17.24/-17.29	-17.86/-18
Θ(180°)	-15.07/-17.15	-18.53/-18.01	-18.47/-18.54	-18.99/-18.28	-19.08/-17.83	-18.98/-18.52	-18.92/-18.5	-18.89/-17.24	-16.29/-15.28	-14.19/-13.21	-12.8/-12.26	-12.99/-15.41	-17.29/-19.08	-18.97/-19.19	-18.94/-18.53	-19.31/-18.14	-17.93/-18.04	-18.83/-18.54	-17.59/-18.94	-18.38/-17.8	-16.4/-13.31	-12.47/-10.94	-11.58/-14.8	
Freq(Hz)	5.785GPol.	ThetaAnt.4	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-3.73/-3.08	-2.2/-1.7	-1.16/-1.27	-0.81/-0.79	-0.68/-0.94	-1.82/-2.51	-3.23/-4.65	-6.41/-8.49	-11.15/-18	-18.78/-16.14	-11.6/-8.28	-6.27/-4.64	-3.33/-2.16	-1.44/-0.98	-1.25/-0.91	-0.64/-0.17	-0.79/-2.2	-2.68/-2.92	-4.01/-5.24	-6.53/-8.89	-11.86/-16.9	-17/-13.29	-9.86/-7.57	-5.73/-4.4
Θ(7.5°)	-3.89/-3.01	-2.19/-1.22	-0.69/-0.64	-0.29/-0.07	-0.26/-0.73	-1.39/-2.36	-3.35/-4.63	-6.35/-8.32	-10.7/-14.31	-18.3/-18.28	-18.94/-13.24	-10.63/-8.32	-6.74/-5.18	-4.35/-3.1	-2.12/-1.44	-1.45/-0.69	-0.17/-0.59	-1.64/-2.17	-2.46/-2.93	-3.97/-5.44	-7.14/-8.93	-9.52/-9.32	-8.43/-6.99	-5.99/-4.74
Θ(15°)	-10.9/-7.9	-5.76/-4.44	-3.01/-1.88	-1.43/-1.3	-1.76/-2.54	-3.66/-5.1	-6.23/-6.59	-6.81/-7.27	-8.41/-10.68	-14.81/-17.39	-19.19/-13.88	-10.11/-7.94	-7.21/-7.14	-7.58/-7.37	-6.15/-3.9	-2.18/-1.06	-0.17/-0.15	-0.73/-1.76	-2.39/-2.66	-2.74/-2.82	-3.58/-4.6	-5.78/-7.28	-9.36/-10.35	-10.98/-12.09
Θ(22.5°)	-15.53/-12.67	-11.05/-10.88	-9.66/-7.56	-5.8/-5.31	-5.34/-6.29	-7.06/-7.59	-9.39/-12.5	-15.32/-15.35	-14.3/-13.43	-11.56/-8.75	-6.45/-4.12	-2.53/-2.13	-3.29/-5.59	-6.55/-4.45	-2.17/-0.59	0.61/-1.99	2.16/-1.73	1.34/-0.97	0.23/-1.29	-2.4/-2.86	-2.85/-3.04	-3.67/-5.39	-7.57/-7.99	-9.23/-12.4
Θ(30°)	-8.34/-10.19	-16.22/-16.31	-6.77/-5.67	-8.29/-10.15	-10.73/-9.09	-6.76/-5.41	-4.99/-6.61	-8.82/-10.51	-9.09/-6.03	-3.83/-3.06	-3.4/-3.06	-1.71/-1.46	-3.2/-5.95	-5.33/-2.27	-0.43/-0.98	2.67/-3.74	3.17/-2.61	2.53/-2.63	1.81/-0.9	0.42/-0.17	-2.21/-2.43	-2.44/-3.36	-3.47/-2.79	-3.17/-5.25
Θ(37.5°)	-3.49/-6.52	-10.21/-9.5	-8.33/-10.1	-12.24/-12.58	-10.14/-6.67	-4.76/-3.93	-4.75/-6.88	-8.4/-8.95	-7.27/-4.81	-2.8/-2.55	-3.05/-1.8	-0.19/-0.55	-2.2/-3.72	-3.81/-3.07	-1.95/-0.33	3.09/-4.33	3.87/-2.88	1.88/-1.41	0.91/-1.07	1.94/-1.79	-0.8/-3.02	-1.38/-0.42	-0.20/-54	0.07/-1.71
Θ(45°)	-3.29/-4.75	-10.01/-9.66	-7.44/-6.66	-5.17/-4.93	-4.95/-3.95	-2.54/-1.33	-1.56/-4.03	-7.32/-6.53	-4.96/-3.31	-3.13/-2.25	-0.82/-0.78	2.48/-2.77	1.98/-0.01	-1.51/-0.59	0.85/-1.82	2.76/-3.06	3.09/-2.75	1.80/-95	0.91/-0.27	-0.57/-0.53	0.03/-1.17	-0.13/-0.02	-0.29/-0.22	-0.62/-2.64
Θ(52.5°)	-5.47/-6.54	-10.2/-11.96	-6.83/-4.28	-2.54/-5.64	-10.23/-8.09	-3.81/-1.89	-1.93/-3.51	-4.05/-2.32	-1.38/-2.83	-5.35/-1.88	1.31/-3.38	4.65/-7.3	3.33/-16	1.76/-2.18	2.51/-1.7	1.85/-2.26	1.34/-1.85	1.36/-0.47	-0.27/-0.7	-0.69/-0.01	0.15/-0.39	0.26/-0.6	-1.99/-1.82	-2.61/-4.7
Θ(60°)	-6.83/-5.19	-5.51/-7.13	-6.79/-8.12	-5.57/-9.64	-9.59/-7.27	-5.96/-5.45	-4.45/-4.07	-4.24/-1.62	-0.64/-2.68	-3.63/-0.55	1.26/-2.35	3.38/-4.5	3.87/-1.41	2.22/-2.52	2.18/-1.74	1.34/-1.9	0.65/-2.43	1.95/-1.22	1.43/-0.45	-0.62/-0.69	0.75/-1.46	0.84/-2.41	-3.96/-3.94	-5.41/-5.12
Θ(67.5°)	-5.62/-3.14	-4.29/-4.56	-4.44/-8.78	-7.71/-9.08	-4.68/-4.09	-5.1/-5.49	-5.63/-4.57	-5.56/-1.9	-0.52/-2.93	-2.28/-0.23	0.49/-1.27	1.93/-8	2.84/-0.26	1.33/-1.29	0.58/-0.8	0.91/-0.54	1.79/-3.24	1.96/-1.77	2.28/-1.26					



Freq(Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	3.45	2.71	4.22	3.86
Ant. 2 Max Gain (dBi)	3.44	3.37	4.88	4.62
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/52.5/22.5	Phi/45/22.5	Phi/37.5/30	Phi/30/15
Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/22.5/225	Phi/30/217.5	Theta/52.5/217.5	Theta/45/217.5
Max Gain (dBi)	3.45	3.37	4.88	4.62
DG [1SS] (dBi)	4.96	5.14	5.8	6.03
DG [2SS] (dBi)	3.45	3.37	4.88	4.62



Radiated Composite Gain Data of 5GHz (2TX)

Appendix B

DG 1SS Result

Freq(Hz)	5.2GPol.	PhiL	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
DG(dB)	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-5.01/-4.24	-7.63/-5.29	-2.09/-1.46	-0.99/-0.82	-1.08/-1.14	-1.59/-1.48	-2.08/-2.92	-3.49/-4.71	-6.58/-8.74	-11.07/-14.98	-14.74/-12.23	-9.97/-4.47	-5.49/-3.69	-2.52/-1.63	-0.97/-0.35	-0.050/-11	0.170/03	-0.41/-1.18	-2.06/-3.19	-4.95/-6.44	-12.34/-15.57	-14/-11.03	-8.57/-5.13	
Θ(7.5°)	-2.48/-1.57	-0.78/-0.03	0.39/0.74	0.85/0.92	0.84/0.48	0.13/-0.19	-0.79/-1.52	-2.69/-4.26	-6.24/-8.64	-11.35/-11.68	-9.94/-7.33	-5.68/-4.25	-3.03/-1.95	-1.22/-0.57	0.08/0.56	0.71/0.71	0.65/0.32	0.38/-1.22	-2.09/-2.8	-3.89/-5.48	-7.22/-7.16	-7.84/-9.77	-9.59/-7.35	-5.42/-9.83
Θ(15°)	-0.4/0.15	0.78/1.32	1.62/2.03	2.44/2.54	2.51/2.55	2.41/2.03	1.71/1.05	-0.04/-1.55	-3.32/-5.44	-5.73/-4.21	-3.03/-1.94	-1/-0.58	0.3/1.01	1.75/2.56	3.02/3.44	3.65/3.4	3.12/2.4	1.69/0.84	0.07/-0.61	-1.17/-1.95	-3.31/-4.7	-4.58/-0.44	-3.84/-2.46	-1.68/-1.02
Θ(22.5°)	0.81/36	1.86/2	2.32/56	2.47/2.09	1.94/2.13	2.21/2.06	1.83/1.22	0.08/-0.86	-1.4/-2.43	-2.54/-1.6	-0.72/0.56	1.6/2.29	2.6/3	3.46/3.98	4.45/4.59	4.51/4.08	3.56/3.2	2.91/2.75	2.55/2.09	1.28/0.07	-1.29/-2.75	-3.16/-2.84	-2.18/-1.32	0.03/0.21
Θ(30°)	1.26/1.63	2.29/3.03	3.19/3.2	2.59/2.11	2.13/2.35	2.46/2.38	2.28/1.77	1.2/0.69	0.21/-0.86	-1.45/-0.82	0.49/1.57	2.35/2.85	3.19/3.98	4.41/4.65	4.86/4.96	4.84/4.52	4.38/4.41	4.43/4.36	4.36/3.98	3.22/2.26	1.42/0.22	-1.35/-1.63	-2.06/-1.16	0.34/1
Θ(37.5°)	1.91/2.64	2.83/3.5	4.09/3.99	3.35/2.57	2.15/2.13	2.38/2.75	3.04/3.27	2.92/2.22	1.53/-0.2	-0.74/-0.42	0.41/1.41	1.97/2.32	2.69/3.67	4.36/4.31	4/4.1	4.35/4.39	4.31/4.21	4.21/3.9	3.5/3.26	3.07/2.24	0.95/-0.44	-0.98/-1.43	-1.64/-1.69	-0.33/-0.12
Θ(45°)	3.32/3.42	3.44/4.03	4.55/4.5	4.26/3.59	3.27/3.08	3.06/3.12	3.71/4.31	4.33/3.71	2.86/0.94	-0.43/-1.23	-0.8/0.26	1.16/1.8	1.73/2.13	3.98/4.58	4.23/2.34	3.09/2.96	3.14/3.15	3.33/3.75	4.24/4.61	4.79/3.95	2.04/4.65	-0.95/-1.03	-0.65/-0.28	-0.32/1.73
Θ(52.5°)	3.14/3.44	3.74/4.23	4.56/4.54	4.02/3.67	3.61/3.29	2.55/2.46	3.01/3.7	3.89/3.6	3.08/1.6	-0.45/-1.66	-1.86/-0.49	1.21/2.17	2.35/2.85	4.09/4.51	2.86/1.43	2.14/2.2	2.22/1.1	2.44/2.85	3.27/4.14	4.7/4.24	3.26/1.87	-0.08/-1.61	0.18/1.06	1.51/2.38
Θ(60°)	2.82/2.48	3.01/3.96	4.15/3.98	3.49/3.32	2.71/1.96	1.76/1.71	2.17/2.66	2.99/2.99	2.64/1.35	-1.14/-2.64	-3.11/-0.84	1.54/2.25	2.87/1.99	2.87/3.29	1.84/1.97	1.54/0.39	-0.02/-0.55	-0.18/0.63	1.83/3.35	3.8/3.72	0.78/-1.52	-0.51/-1.05	1.77/2.04	
Θ(67.5°)	1.41/1.05	2.08/2.66	2.48/2.22	1.83/1.65	0.92/1.16	0.49/0.01	0.18/0.84	1.63/2.24	2.02/0.49	-2.16/-3.69	-4.44/-1.3	1.24/2.23	1.98/1.25	1.95/1.73	1.13/-0.31	-1.19/-1.69	-1.3/-0.45	1.22/2.97	3.37/2.92	2.21/0.5	-0.2/-2.48	-1.26/0.73	1.1/1.16	
Θ(75°)	-0.85/-1.13	0.04/0.75	-0.09/-0.4	-0.78/-0.11	-0.31/-1.01	-1.27/-2.13	-1.9/-1.38	-0.27/0.91	0.99/-0.6	-2.84/-4.49	-5.83/-4.05	-0.51/0.78	0.58/-0.28	-0.15/0.68	1.13/0.79	-0.48/-1.41	-2.77/-2.87	2.62/-2.26	0.68/2.17	2.68/2.76	1.24/-1.25	-2.38/-3.51	-3.39/-0.82	-1.05/-1.69
Θ(82.5°)	-3.54/-4.43	-3.06/-2.51	-3.21/-2.68	-2.07/-2.3	-3.38/-3.31	-3.58/-4.16	-4.01/-3.44	-1.45/-0.32	-0.67/-2.49	-4.35/-6.54	-8.62/-5.95	-2.32/-1.25	-1.12/-1.88	-2.06/-0.78	0.23/-0.31	-1.62/-2.51	-4.01/-3.55	-3.78/-3.94	-0.39/-1.02	1.97/2.19	0.06/-3.71	-5.36/-6.29	-4.74/-2.1	-1.78/-3.38
Θ(90°)	-7.66/-6.63	-6.12/-4.11	-3.61/-5.02	-5.34/-6.3	-4.4/-5.39	-6.08/-7.3	-7.58/-6.05	-3.02/-1.43	-1.76/-4.26	-5.78/-8.3	-10.63/-8.25	-4.88/-3.3	-4.19/-4.3	-3.29/-1.83	-1.25/-1.71	-2.83/-2.4	-4.8/-4.6	-5.09/-7.6	-3.04/-1.33	-0.23/0.3	-1.87/-5.95	-9.05/-7.26	-7.06/-4.64	-5.6/-8.78
Θ(97.5°)	-10.27/-9.29	-8.29/-6.36	-5.22/-7.52	-6.23/-6.05	-7.21/-9.31	-10.14/-10.87	-11.8/-8.07	-4.55/-3.24	-3.54/-5.81	-7.03/-10.13	-11.28/-10.15	-8.32/-5.68	-5.91/-8.18	-5.17/-2.12	-1.52/-3.57	-3.72/-3.65	-6.13/-6.21	-7.13/-10.27	-8.6/-6.17	-4.56/-3.74	-4.25/-8.27	-11.92/-8.63	-8.4/-7.92	-8.49/-11.12
Θ(105°)	-11.21/-9.49	-9.47/-11.6	-5.19/-9.39	-7.1/-8.39	-11.61/-12.99	-13.79/-14.09	-13.77/-9.9	-6.22/-4.75	-5.81/-4.89	-8.45/-10.42	-13.39/-9.36	-9.48/-7.72	-8.65/-4.86	-4.37/-6.1	-6.49/-7.32	-8.51/-9.71	-14.23/-11.97	-9.36/-10.79	-7.52/-9.49	-13.47/-8.18	-11.79/-9.22	-10.35/-12.17		
Θ(112.5°)	-10.94/-10.09	-10.46/-8.6	-6.56/-7.85	-9.3/-11.63	-13.6/-14.03	-14.47/-14.72	-12.05/-4.64	-7.13/-6.92	-5.7/-9.88	-9.27/-10.91	-12.01/-10.08	-11.96/-12.6	-12.18/-12.53	-8.01/-6.23	-4.55/-6.37	-3.23/-4.25	-6.02/-8.92	-9.54/-7.83	-9.12/-12.12	-13/-12.96	-8.29/-9.61	-14.86/-12.37	-14.17/-11.15	-14.78/-10.45
Θ(120°)	-9.92/-8.72	-8.67/-7.95	-8.76/-13.92	-14.59/-14.46	-13.84/-14.8	-15.83/-15.6	-13.75/-9.99	-10.03/-9.57	-10.35/-8.09	-8.75/-9.82	-13.51/-11.65	-11.4/-12.47	-12.13/-12.98	-13.36/-7.1	-5.81/-7.01	-5.12/-4.59	-7/-6.68	-0.08/-6.48	-7.81/-9.15	-13.09/-9.76	-13.72/-13.25	-12.03/-11.39	-13.62/-15.06	-13.74/-14.6
Θ(127.5°)	-12.27/-11.1	-12.5/-9.82	-8.3/-9.32	-12.83/-12.3	-12.61/-13.7	-13.93/-15.03	-12.85/-10.81	-13.18/-15.69	-12.22/-10.87	-8.63/-11.73	-14.59/-14.64	-15.07/-14.52	-15.86/-15.47	-15.49/-8.9	-8.47/-6.77	-4.85/8	-8.7/-6.5	-5.5/-5.81	-6.54/-8.38	-12.26/-9.87	-10.69/-15.38	-12.76/-13.03	-13.83/-15.02	-16.17/-15.72
Θ(135°)	-12.38/-12.68	-11.61/-14.17	-15.25/-13.89	-12.91/-11.49	-10.41/-11.5	-14.55/-15.02	-13.96/-12.43	-11.91/-12.66	-12.07/-9.52	-9.3/-10.53	-15.53/-15.18	-14.14/-11.22	-15.38/-15.48	-14.73/-14.41	-13.05/-13.05	-10.11/-8.39	-7.74/-8.14	-8.36/-9.88	-9.92/-12.93	-15.28/-15.11	-15.16/-14.6	-15.03/-14.1	-13.5/-11.84	-11.2/-15.35
Θ(142.5°)	-8.16/-11.79	-11.86/-11.04	-11.25/-12.07	-13.79/-14.09	-15.89/-15.57	-13.79/-14.58	-12.05/-12.68	-12.4/-12.6	-12.67/-12.59	-11.03/-12.03	-15.89/-14.65	-11.19/-9.37	-9.19/-12.83	-12.17/-14.57	-13.67/-9.06	-9.35/-10.66	-8.67/-11.73	-14.64/-14.84	-14.71/-13.93	-15.27/-14.98	-15.35/-14.89	-11.19/-12.04	-13.42/-9.21	
Θ(150°)	-8.45/-9.78	-10.19/-8.53	-7.69/-6.84	-12.79/-15.7	-11.66/-10.56	-10.41/-12.45	-15.5/-15.21	-15.26/-15.21	-15.06/-13.72	-11.53/-10.02	-12.38/-14.98	-13.64/-12.49	-13.98/-12.25	-13.26/-14.02	-12.42/-10.86	-14.15/-15.27	-11.8/-18.04	-10.58/-11.96	-13.58/-13.39	-13.81/-14.75	-14.98/-15.25	-14.53/-12.6	-12.16/-14.84	-15.82/-10.43
Θ(157.5°)	-14.23/-15.25	-11.28/-6.69	-7.47/-7.21	-7.13/-7.51	-8.49/-9.83	-10.21/-11.3	-11.68/-10.18	-9.5/-9.67	-10.55/-11.07	-10.21/-9.82	-10.54/-13.16	-15.29/-10.73	-9.24/-10.45	-14.42/-15.32	-15.57/-15.15	-15.22/-14.07	-13.53/-14.53	-14.69/-14.46	-16.03/-16.07	-15.45/-16.73	-15.28/-15.64	-15.41/-15.97	-15.03/-15.41	-13.49/-12.37
Θ(165°)	-14.88/-14.92	-11.86/-10.39	-9.49/-9.16	-8.89/-8.21	-8.84/-8.18	-8.59/-8.74	-9.31/-1.08	-10.90/-12.89	-12.48/-12.09	-11.71/-11.19	-11.54/-11.96	-11.92/-11.36	-12.17/-13.14	-14.32/-14.62	-13.62/-11.98	-15.25/-15.21	-14.71/-15.59	-15.25/-15.21	-14.57/-15.7	-15.14/-15.08	-14.87/-14.63	-15.23/-14.8	-13.71/-13.55	-11.86/-13.38
Θ(172.5°)	-12.58/-11.08	-9.94/-9.31	-9.47/-9.92	-9.7/-9.74	-10.44/-11.93	-13.03/-12.75	-13.11/-13.21	-14.9/-15.92	-15.5/-14.98	-14.22/-15.19	-14.24/-13.29	-13.03/-12.68	-12.07/-12.68	-14.53/-15.14	-15.83/-15.42	-15.05/-14.7	-14.54/-12.53	-12.78/-12.44	-12.97/-14.54	-14.89/-16.11	-14.93/-15.15	-15.41/-16.01	-15.93/-14.91	-14.86/-14.59
Θ(180°)	-10.9/-11	-10.23/-10.33	-10.02/-9.9	-10.51/-10.96	-11.29/-12.09	-13.38/-14.74	-15.28/-15.8	-14.79/-14.62	-15.14/-15.56	-14.82/-13.48	-13.14/-13.55	-13.05/-12.04	-12.37/-13.85	-15.35/-14.98	-14.48/-13.79	-13.55/-12.56	-12.9/-13.16	-13.69/-14.92	-15.28/-15.46	-15.99/-14.66	-15.47/-15.37	-15.62/-14.17	-12.57/-11.9	-11.12/-10.97
Freq(Hz)	5.2GPol.	ThetaL	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
DG(dB)	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-2.47/-3.23	-3.33/-4.11	-5.69/-7.93	-10.61/-10.34	-14.56/-11.97	-9.03/-7.06	-6.08/-5.2	-4.1/-2.84	-1.72/-1.04	-0.91/-1.19	-1.44/-1.5	-2.04/-2.75	-4.17/-5.56	-8.63/-9.01	-12/-15.98	-15.88/-12.16	-8.48/-6.3	-2.84/-2	-1.66/-1.33	-0.86/-0.71	-0.56/-0.6	-1.04/-2.08		
Θ(7.5°)	-1.15/-2.01	-2.92/-4.63	-6.86/-10.04	-13.25/-15.24	-15.33/-10.44	-7.42/-5.85	-4.88/-3.86	-3.05/-2.73	-1.67/-0.82	-0.7/-0.87	-1.78/-1.93	-2.02/-2.12	-2.56/-3.41	-4.92/-6.29	-7.98/-9.84	-12.87/-14.5	-12.54/-10.25	-8.03/-6.17	-5.15/-3.99	-3.57/-2.74	-2.57/-2.03	-1.5/-1.63	-0.3/-0.09	-0.08/-0.69
Θ(15°)	-1.3/-1.99	-2.88/-4.61	-7.55/-10.72	-14.16/-14.79	-12.91/-8.77	-6.24/-4.72	-3.43/-2.53	-1.57/-1.18	-0.57/-0.11	0.18/0.09	-0.88/-1.46	-1.91/-2.58	-2.62/-3.34	-4.65/-5.39	-6.77/-8.63	-11.42/-13.15	-12.72/-11.03	-9.11/-6.83	-4.89/-3.95	-3/-2.06	-1.01/-0.74	-0.82/-0.8	-0.83/-0.65	-0.88/-1.16
Θ(22.5°)	-2.61/-2.94	-4.23/-6.3	-8.73/-11.1	-12.18/-10.4	-8.3/-6.57	-5.64/-5.12	-4.63/-4.05	-3.88/-2.82	-2.13/-1.1	-0.45/-0.16	-0.68/-1	-1.63/-2.37	-2.69/-2.54	-3.24/-4.55	-6.32/-8.34	-11.33/-13.62	-13.01/-12.96	-9.19/-6.23	-4.42/-3.09	-2.06/-0.99	-0.45/-0.39	-0.41/-0	0.02/-0.89	-2.05/-2.79
Θ(30°)	-3.23/-2.94	-4.01/-6.77	-9.91/-11.5	-9.83/-7.8	-6.11/-5.14	-4.87/-5.24	-5.28/-5.09	-4.89/-4.89	-4.43/-3.66	-2.41/-1.22	-0.52/-0.63	-3.13/-1.85	-1.93/-1.61	-3.21/-4.54	-6.31/-7.73	-8.5/-9.68	-9.29/-6.84	-4.12/-2.71	-1.76/-0.95	-0.09/0.1	-0.89/-2.3	-2.51/-1.57	-1.37/-3.04	
Θ(37.5°)	-3.92/-3.84	-4.67/-7.35	-10.45/-10.35	-8.38/-7.55	-6.21/-5.84	-6.3/-5.79	-4.6/-3.82	-3.81/-4.02	-2.46/-1.49	-3.34/-1.73	-0.65/-0.03	-0.34/-1	-0.76/0.03	0.43/0.05	-1.21/-2.26	-3.09/-3.66	-4.95/-0.74	-7.2/-6.3	-4.95/-3					



Radiated Composite Gain Data of 5GHz (2TX)

Appendix B

Θ(22.5°)	0.83/2.38	3.49/6.67	3.47/3.31	3.16/3.5	3.52/3.1	2.18/1.22	0.73/0.52	0.40/0.4	-0.19/0.12	0.46/0.84	1.11/1.56	1.91/2.45	3.08/3.63	3.91/3.87	3.69/3.63	3.63/5.2	3.13/2.54	1.82/1.33	0.74/0.37	0.34/0.14	-0.17/0.32	-0.19/0	-0.17/-0.64	-0.71/-0.57
Θ(30°)	2.38/3.03	4.57/5.43	5.34/8.9	4.75/4.76	4.43/3.68	2.72/2.25	2.62/7	2.22/0.97	0.13/0.61	1.01/1.37	1.65/1.67	1.78/2.28	3.18/4.57	5.56/5.54	5.08/4.8	4.85/4.98	4.66/3.94	3.55/3.83	3.99/3.57	2.84/2.1	1.62/0.9	-0.1/-0	0.5/0.55	1.35/2.06
Θ(37.5°)	3.04/3.42	4.64/5.64	5.64/5.32	5.05/4.15	3.52/3.02	2.51/2.62	2.92/89	2.21/18	0.05/+0.09	0.23/0.25	-0.26/+0.42	0.46/1.82	3.61/5.14	5.72/5.58	5.35/5.5	5.76/5.8	5.18/4.36	4.26/4.24	4.15/3.62	2.76/1.76	1.56/1.74	1.75/0.39	-1.4/-0.07	1.83/2.79
Θ(45°)	3.26/3.06	4/5.33	5.58/5.14	4.26/3.38	2.41/1.53	1.41/1.85	2.17/2.19	1.65/0.91	0.63/0.58	-0.27/-2.1	-3.83/-3.39	-0.54/1.58	2.97/4.31	4.99/4.85	4.45/4.32	4.23/87	3.99/3.6	3.84/4.13	3.83/3.5	3.61/3.08	1.38/0.67	1.09/0.64	-1.38/-1.98	0.22/2.39
Θ(52.5°)	2.74/3.27	3.8/4.64	4.81/4.18	3.11/1.85	0.76/0.31	0.75/1.37	1.73/1.59	0.85/-0.22	0.52/1.62	0.97/-1.08	-2.42/-1.14	1.02/2.54	3.48/4.13	4.31/3.86	2.65/1.94	1.15/1.32	1.96/1.94	1.97/2.53	2.79/2.6	3.35/3.26	1.7/-0.6	-0.31/-0.96	-1.56/-2.55	-0.31/-1.74
Θ(60°)	1.94/2.76	3.41/3.91	3.48/2.61	1.39/1.06	-0.29/-0.77	-0.31/0.72	1.26/1.39	1.28/0.44	0.16/1.13	0.86/-1.03	-2.59/2.7	2.07/2.51	2.32/2.19	1.82/1.04	-0.24/-0.83	-0.39/-0.88	-0.31/0.1	1.03/1.84	2.76/2.95	1.98/0.13	-1.96/-2.39	-2.06/-1.82	0.69/1.3	
Θ(67.5°)	0.76/2.05	2.6/2.59	1.83/0.38	-0.76/-1.84	-1.47/-1.28	-0.50/2.9	0.27/0.58	0.9/0.55	0.02/0.21	-0.01/-0.96	-0.87/0.73	1.66/1.8	1.34/2.05	1.78/0.65	0.09/-0.11	-0.74/-1.71	-2.49/4.93	-3.16/-1.07	-0.30/0.96	2.26/2.6	1.79/-0.62	-2.52/-1.34	-1.48/-2.02	1.11/0.89
Θ(75°)	-1.3/-0.48	0.33/0.27	-0.52/-1.86	-2.87/-4.18	-2.73/-2.32	-1.16/-0.47	-0.68/-0.43	-0.04/-0.45	-0.82/-1.48	-1.77/-2.73	-2.37/+0.69	0.76/0.83	-1.14/-0.55	0.37/+0.4	-1.9/-0.83	-0.81/-1.62	-2.66/-5.27	-4.9/-2.83	-1.40/-7.9	1.92/2.1	1.22/-2.08	-4.15/-1.89	-1.43/-2.15	0.85/0.21
Θ(82.5°)	-4.26/-3.28	-2.79/-2.79	-3.27/5.04	-5.5/-6.15	-5.58/-4.48	-3.19/-2.55	-2.33/-1.67	-1.21/-1.48	-1.66/-2.99	-3.65/-4.24	-4.16/-2.25	-0.77/-1.19	-2.54/-2.11	-2.38/-2.04	-2.96/-3.13	-2.86/-2.63	-3.52/-4.88	-5.23/-3.18	-1.18/-0.19	0.75/1.43	-0.44/-6.69	-6.55/-3.47	-1.74/-2.9	-0.54/-2.11
Θ(90°)	-8.55/-7.86	-6.39/-5.02	-5.57/-6.7	-6.75/-8.16	-7.13/-5.74	-4.98/-3.93	-4.4/-3.99	-3.43/-3.89	-3.3/-4.41	-5.24/-6.6	-7.21/-5.57	-3.94/-3.85	-4.12/-4.38	-4/-3.81	-4.39/-4.51	-4.19/-4.35	-4.83/-5.19	-5.59/-5.76	-3.78/-3	-1.64/0.02	-2.84/-7.25	-9.47/-5.67	-3.05/-4.17	-2.33/-4.38
Θ(97.5°)	-12.57/-10.98	-8.18/-6.06	-6.56/-5.82	-7.38/-9.35	-8.67/-7.66	-8.2/-6.8	-7.22/-6.78	-5.48/-5.27	-4.12/-5.51	-7.11/-8.48	-9.62/-8.1	-5.99/-5.78	-6.59/-5.82	-5.13/-5.26	-6.34/-6.71	-6.37/-7.16	-7.14/-6.2	-6.42/-8.04	-6.27/-6.04	-5.63/-3.05	-5.27/-9.54	-10.82/-8.6	-4.4/-6.04	-5.27/-7.32
Θ(105°)	-14.34/-12.03	-10.27/-8.24	-8.35/-8	-9.69/-11.26	-10.57/-9.43	-10.51/-8.81	-9.51/-9.87	-8.18/-7.65	-6.26/-6.9	-7.73/-11.36	-11.69/-9.9	-8.58/-8.49	-8.11/-8.96	-5.54/-5.98	-7.22/-7.3	-8.44/-9.08	-9.96/-10.47	-10.31/-12.49	-10.83/-11.97	-11.23/-6.25	-9.76/-10.62	-12.75/-7.73	-7.06/-8.34	-9.17/-11.9
Θ(112.5°)	-12.82/-10.46	-9.48/-6.71	-7.7/-7.7	-11.27/-12.69	-12.58/-12.64	-11.87/-12.19	-12.46/-12.43	-10.15/-7.65	-7.46/-8.52	-9.42/-12.38	-11.23/-10.16	-10.72/-10.05	-11.84/-10.96	-7.49/-6.66	-5.36/-6.76	-10.38/-8.79	-9.12/-11.04	-15.42/-9.38	-14.72/-12.88	-13.01/-10.9	-10.36/-10.94	-12.86/-10.02	-8.68/-10.14	-11.41/-11.68
Θ(120°)	-11.26/-11.28	-12.65/-9.27	-10.97/-11.42	-11.24/-13.31	-13.61/-12.72	-11.86/-13.24	-14.47/-15.56	-12.53/-8.78	-8.9/-9.1	-9.53/-14.4	-11.92/-11.15	-11.76/-12.87	-11.99/-15.62	-8.15/-9.01	-8.83/-5.76	-6.42/-7.65	-11.39/-11.57	-12.61/-9.34	-13.26/-10.89	-11.47/-9.05	-11.67/-13.43	-13.65/-13.21	-13.67/-13.39	-13/-13.79
Θ(127.5°)	-11.51/-10.31	-12.99/-10.81	-11.31/-14.55	-14.62/-15.02	-11.57/-11.1	-13.99/-15.33	-12.42/-10.56	-11.02/-9.89	-11.01/-9.81	-9.95/-10.84	-12.59/-10.77	-10.16/-14.65	-15.73/-12.54	-8.37/-11.86	-8.6/-5.37	-6/-9.08	-11.87/-12.23	-10.06/-6.95	-8.19/-13.43	-13.03/-11.94	-10.32/-13.8	-13.91/-12.58	-13.8/-16.25	-11.47/-14.97
Θ(135°)	-13.03/-8.34	-9.59/-11.83	-13.17/-15.46	-13.56/-12.81	-12.77/-12.56	-13.03/-13.06	-11.4/-12.42	-14.74/-14.37	-12.53/-11.42	-9.65/-11.65	-15.12/-13.91	-12.5/-13.1	-15.22/-11.65	-10.01/-7.11	-5.94/-7.57	-12.3/-12.2	-11.64/-10.01	-9.44/-12.91	-15.64/-14.56	-15.03/-15.63	-15.4/-12.17	-15.57/-15.11	-15.12/-11.99	-11.09/-12.67
Θ(142.5°)	-12.7/-10.39	-10.62/-12.18	-15.49/-12.46	-9.27/-9.56	-12.57/-13.46	-13.7/-14.91	-13.69/-12.39	-13.09/-13.93	-11.4/-9.7	-10.28/-12.67	-16.04/-12.14	-9.3/-9.75	-15.99/-15.29	-15.55/-13.42	-11.71/-11.58	-8.79/-9.84	-10.03/-11.23	-11.47/-11.53	-13.29/-12.54	-12.64/-12.94	-14.01/-12.93	-11.97/-13.32	-15.51/-14.8	-14.54/-12.5
Θ(150°)	-12.28/-14.88	-11.59/-9.85	-10.05/-12.36	-11.83/-10.91	-12/-11.7	-10.51/-10.63	-12.09/-11.87	-11.29/-11.05	-10.67/-9.12	-9.58/-12.14	-15.24/-15.74	-15.54/-15.33	-13.53/-11.83	-9.43/-10.34	-12.29/-9.89	-8.91/-11.19	-11.05/-9.26	-7.81/-7.34	-8.95/-10.75	-11.77/-10.01	-9.68/-10.53	-11.28/-12.15	-12.55/-15.6	-15.17/-11.61
Θ(157.5°)	-12.16/-10.68	-9.53/-9.16	-8.58/-9.77	-10.47/-9.09	-8.97/-9.32	-9.04/-8.67	-9.26/-10.06	-11.39/-11.87	-11.76/-11.09	-10.42/-11.53	-13.11/-15.97	-14.97/-13.4	-14.68/-12.78	-12.19/-14.83	-16.09/-14.21	-11.73/-9.17	-8.1/-7.77	-7.51/-7.54	-9.05/-12.36	-15.52/-15.08	-14.59/-13.61	-14.96/-15.83	-15.85/-12.88	-10.92/-11.81
Θ(165°)	-12.44/-11.48	-9.75/-9.77	-8.72/-9.88	-10.15/-9.03	-8.36/-8.51	-8.5/-7.9	-7.88/-7.79	-8.75/-12.9	-9.84/-9.82	-9.54/-9.5	-10.71/-11.44	-10.94/-10.36	-10.58/-11.68	-11.87/-11.06	-10.23/-9.28	-8.51/-8.37	-9.47/-11.55	-11.66/-11.87	-13.55/-14.95	-15.13/-15.08	-14.68/-13.09	-15.3/-15.25	-14.64/-13.39	-12.71/-12.12
Θ(172.5°)	-10.85/-11.07	-11/-9.73	-10.07/-11.28	-12.19/-12.87	-12.47/-13.7	-15.38/-14.98	-14.94/-15.69	-14.68/-13.13	-12.67/-13.14	-12.43/-10.92	-10.51/-10.51	-9.87/-8.68	-9.24/-11.04	-13.66/-15.04	-15.23/-14.51	-12.51/-11.41	-12.31/-13.47	-13.15/-13.76	-14.25/-14.8	-15.78/-16.13	-15.55/-15.87	-15.26/-14.88	-15.39/-14.89	-13.07/-11.47
Θ(180°)	-8.6/-8.69	-8.25/-7.94	-7.91/-8.04	-8.44/-8.81	-8.84/-8.71	-9.17/-9.73	-10.41/-11.28	-12.82/-13.99	-15.92/-14.91	-15.05/-15.07	-12.68/-11.19	-10.63/-12.19	-14.76/-14.49	-12.78/-12.43	-12.64/-12.39	-11.82/-11.76	-12.24/-13.67	-15.75/-15.08	-15.61/-14.82	-13.48/-13.21	-14.25/-14.61	-14.89/-14.9	-13.7/-12.09	-10.85/-9.25
Freq(Pol)	5.6GPol	ThetaL	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-5.37/-6.4	-7.29/-8.28	-9.21/-10.4	-12.35/-12.65	-11.33/-12.25	-11.03/-9.23	-7.73/-6.34	-5.68/-5.62	-5.26/-4.61	-4.22/-4.35	-4.33/-4.52	-4.39/-4.82	-5.23/-6.15	-7.56/-8.9	-10.12/-11.17	-12.42/-14.02	-13.33/-12.12	-10.39/-8.47	-7.29/-6.74	-6.01/-4.91	-4.13/-3.97	-3.94/-4.08	-3.9/-4.17	-4.4/-4.82
Θ(7.5°)	-5.83/-7.64	-9.52/-11.25	-13.01/-15.17	-15.85/-15.05	-14.97/-12.39	-9.3/-7.34	-6.45/-5.58	-4.58/-6.36	-3.47/-3.77	-3.63/-3.17	-3.34/-3.69	-3.91/-4	-4.16/-4.69	-5.57/-6.94	-7.62/-8.26	-8.63/-9.45	-9.58/-9.32	-8.53/-7.24	-6.45/-6.2	-6/-5.09	-3.74/-3.12	-3.36/-3.69	-3.43/-3.45	-3.68/-4.81
Θ(15°)	-4.04/-6.54	-10.09/-12.86	-14.09/-13.21	-11.7/-9.65	-8.42/-6.16	-5.03/-4.55	-4.71/-4.98	-4.86/-4.26	-4.12/-4.09	-4.22/-4.16	-3.97/-3.68	-3.21/-3.22	-2.88/-3.03	-3.71/-4.43	-5.74/-6.27	-6.95/-7.5	-7.83/-7.46	-6.93/-6.51	-5.86/-5.54	-5.18/-4.82	-3.96/-3.03	-2.69/-3.13	-3.67/-2.82	-2.36/-2.73
Θ(22.5°)	-2.35/-4.86	-9.23/-11.82	-11.02/-10.11	-9.19/-7.64	-5.62/-4.03	-3.18/-3.26	-3.36/-3.25	-3.14/-3.26	-3.94/-4.87	-5.58/-5.74	-5.58/-4.11	-6.26/-1.47	-0.72/-0.8	-1.44/-2.47	-3.54/-4.55	-5.74/-7.14	-8.13/-8.27	-7.9/-7.16	-5.69/-4.41	-3.2/-1.28	-1.74/-1.39	-1.2/-1.4	-2.39/-2.83	-2.52/-2.21
Θ(30°)	-3.09/-4.6	-7.96/-9.41	-8.95/-8.6	-8.85/-7.58	-7.33/-6.59	-4.79/-3.13	-1.83/-1.66	-2.27/-3.22	-4.34/-4.92	-5.29/-4.91	-3.91/-3.16	-1.61/0.27	0.89/0.55	-0.01/0.89	-1.5/-1.87	-2.84/-4.79	-6.59/-6.65	-5.04/-3.16	-2.3/-3.28	-2.04/-1.45	-0.84/-0.8	-1.51/-2.49	-2.71/-2.61	-3.64/-3.74
Θ(37.5°)	-2.89/-3.73	-7.49/-9.62	-9.03/-11.35	-8.84/-8.2	-10.88/-7.25	-3.81/-2.39	-2.17/-3.03	-4.34/-4.55	-3.55/-3.72	-4.45/-5.26	-4.89/-3.4	-0.39/1.4	1.78/1.02	0.16/0.2	0.79/0.31	-1.32/-4.09	-5.58/-3.57	-4.31/-3.63	-3.72/-3.37	-1.19/0.27	0.55/0.18	-1.02/-2.58	-3.52/-4.35	-3.57/-4.26
Θ(45°)	-2.61/-3.69	-6.98/-12.18	-6.24/-9.28	-9.15/-9.47	-8.4/-5.03	-3.01/-2.65	-3.59/-4.69	-3.94/-2.49	-1.76/-2.43	-5.87/-8.48	-8.78/-6.6	-1.2/0.83	2.12/1.28	0.18/0.29	1.51/0.99	0.41/-3.4	-4.4/-3.44	-4.4/-3.7	-5.42/-3.07	-0.70/0.47	-0.09/-0.72	-1.2/-2.32	-2.93/-4.39	-5.17/-5.58
Θ(52.5°)	-1.85/-2.9	-4.8/-4.47	-3.35/-5.68	-12.35/-11.72	-6.83/-3.68	-3.15/-2.78	-3.42/-3.49	-2.23/-1.66	-1.85/-3.59	-6.93/-6	-5.74/-6.14	-1.52/-17	2.97/2	0.96/1.41	2.42/2.47	0.83/-2.62	-3.45/-2.34	-3.34/-4.22	-2.61/-1.48	-1.2/-2.09	-2.74/-1.74	-1.7/-2.24	-3.12/-5.1	-7.81/-5.14
Θ(60°)	-2.69/-4.14	-5.59/-4.01	-2.22/-3.8	-11.34/-13.03	-5.94/-3.86	-3.56/-1.44	-1.25/-1.92	-1.3/-1.65	-3.66/-6.12	-6/-4.11	-3.86/-6.62	-3.97/1.43	2.98/2.2	1.08/1.83	2.29/2.1	1.38/-1.51	-3.17/-3.28	-3.82/-3.24	-3.14/-3.61	-4.97/-7.01	-1.44/-1.57	-1.39/-2.71	-3.7/-4.47	-5.74/-3.27
Θ(67.5°)	-3.72/-6.44	-6.64/-3.78	-2.28/-4.11	-11.62/-10.29	-3.58/-3.87	-2.94/-0.26	-0.99/-1.74	-0.91/-1.46	-4.59/-6.69	-4.42/-3.42	-3.63/-7.95	-5.56/5.08	1.96/1.96	0.78/1.82	2.19/2.25	1.75/-1.7	-4.57/-3.82	-2.74/-2.3	-6.42/-6.69	-2.78/-1.17	-1.64/-3.85	-4.4/-5.08	-4.7/-3.45	
Θ(75°)	-5.13/-8.72	-6.19/-4.01	-2.33/-3.81	-9.75/-9.52	-3.27/-4.28	-2.68/0.01	-0.64/-0.67	-0.11/-1.46	-4.74/-6.25	-3.8														





Radiated Composite Gain Data of 5GHz (2TX)

Appendix B

Θ(22.5°)	0.010/86	1.481/88	2.132/18	1.771/65	1.541/25	1.020/93	1.141/32	1.511/61	1.611/24	0.960/73	0.310/16	0.160/39	0.510/55	0.730/97	1.130/83	0.17/-0.5	-0.9/-0.83	-0.8/-0.52	-0.58/-0.38	0/-0.02	-0.17/-0.49	-0.73/-0.96	-1.09/-1.2	-1.09/-1.04
Θ(30°)	1.932/68	3.343/78	3.873/69	3.342/88	2.321/73	1.51/93	2.522/93	2.231/98	2.331/98	1.51/13	0.48/-0.12	0.1/0.8	1.392/5	3.052/92	2.481/95	1.56/13	0.990/71	0.86/-0.4	1.932/47	2.582/57	2.582/25	1.710/83	-0.04/-0.12	0.53/-1.1
Θ(142.5°)	2.393/11	3.784/14	4.223/97	3.432/44	1.841/66	1.542/01	2.713/28	3.272/93	2.291/83	1.450/54	-0.92/-1.94	-1.370/08	1.642/88	3.112/98	2.937/11	2.962/35	1.550/99	0.740/41	0.951/77	2.312/41	2.612/38	2.21/57	0.69/-0.02	0.68/-1.7
Θ(45°)	1.92/72	3.333/82	3.833/43	2.541/57	0.820/11	-0.020/93	1.972/85	3.022/52	2.282/08	1.48/-0.07	-2.43/-4.57	-4.32/-2.11	0.15/2	2.632/77	2.542/17	1.831/26	0.720/3	-0.34/-0.21	0.541/51	2.743/01	2.761/8	0.850/45	0.1/-0.52	-0.330/8
Θ(52.5°)	1.031/9	2.783/19	3.082/4	1.330/73	-0.36/-0.92	-0.480/57	1.72/42	2.52/02	2.192/4	1.58/-0.56	-2.57/-3.44	-3.01/-1.97	-0.091/54	2.542/63	1.760/58	-0.54/-1.5	-1.51/-1.15	-1.32/-0.98	-0.20/58	1.982/66	2.491/54	0.37/-0.98	-1.14/-1	-0.880/03
Θ(60°)	-0.510/45	1.552/28	2.051/23	0.640/18	-0.62/-0.86	-0.70/-0.22	0.831/75	1.951/79	1.881/93	1.22/-0.81	-2.2/-1.7	-1.78/-2.14	-1.420/55	1.982/15	1.5/-0.03	-1.63/-6.1	-4.51/-4.4	-2.98/-1.99	-2.04/-1.07	0.792/25	2.281/34	0.08/-1.21	-1.83/-1.26	-1.05/-1.43
Θ(67.5°)	-2.21/-0.92	0.821/64	1.23/-0.04	-0.63/-1.15	-1.59/-1.08	-0.9/-0.87	-0.41/0.31	0.610/72	1.11/24	0.04/-2.07	-2.02/-0.82	-1.63/-2.36	-2.37/0	1.061/18	0.72/-0.11	-1.6/-3.27	-4.26/-5.88	-3.87/-2.09	-2.18/-1.06	0.61/74	1.620/45	-0.55/-1.1	-1.83/-1.32	-1.46/-2.46
Θ(75°)	-4.41/-2.98	-0.990/19	-0.3/-1.62	-2.32/-2.69	-2.72/-1.71	-1.9/-2.29	-1.76/-1.18	-1.02/-1	-0.37/-0.62	-1.76/-1.48	-3.47/-1.96	-2.29/-3.62	-4.62/-1.98	-0.9/-0.81	-0.67/-1.26	-2.31/-2.98	-3.18/-4.84	-4.12/-2.02	-2.07/-1.59	0.231/26	0.61/-0.94	-2.39/-2.11	-2.57/-1.64	-1.59/-3.87
Θ(82.5°)	-7.16/-5.3	-2.94/-1.55	-2.08/-3.5	-3.96/-6.15	-4.46/-3.25	-3.92/-4.1	-3.39/-2.82	-2.78/-3.14	-2.32/-2.44	-4.15/-5.73	-4.72/-3.25	-4.44/-6.34	-7.17/-3.74	-3.37/-2.88	-2.81/-3.54	-3.84/-3.43	-3.46/-3.88	-4.71/-2.87	-2.54/-1.72	-0.870/28	-1.93/-3.28	-5.26/-4.16	-3.21/-3.01	-2.65/-5.95
Θ(90°)	-10.7/-8.26	-5.38/-3.61	-4.11/-5.77	-6.31/-7.09	-5.94/-4.36	-5.66/-5.65	-5.16/-5.14	-4.93/-5.49	-4.3/-4.82	-5.92/-8.29	-8.11/-5.9	-6.52/-9.43	-9.99/-7.65	-7.12/-6.48	-5.98/-6.45	-6.14/-5.41	-4.26/-4.2	-5.67/-5.53	-3.74/-4.87	-2.97/-1.5	-3.28/-6.43	-8.89/-6.75	-4.87/-4.82	-4.4/-8.9
Θ(97.5°)	-13.65/-10.75	-7.49/-5.5	-6.12/-7.36	-8.28/-9.16	-7.92/-6.59	-8.42/-8.32	-7.44/-2.77	-7.22/-8.57	-7.12/-7.29	-8.23/-9.93	-9.58/-7.96	-10.01/-12.53	-11.96/-10.86	-11.1/-9.72	-9.28/-10.08	-9.23/-8.59	-7.39/-6.01	-3.88/-9.16	-6.53/-8.77	-7.11/-4.96	-6.93/-11.19	-13.29/-9.3	-6.78/-7.29	-6.67/-10.98
Θ(105°)	-15.96/-13.85	-10.66/-9.16	-9.48/-10.02	-10.98/-11.32	-10.35/-8.74	-10.71/-11.21	-10.3/-10.25	-10.93/-11.16	-9.34/-9.43	-4.9/-13.28	-12.12/-9.79	-11.27/-15.56	-13.42/-16.6	-12.77/-14.37	-13.99/-12.99	-11.24/-10.2	-13.22/-17.94	-14.07/-16.33	-13.84/-9.29	-11.3/-14.77	-15.42/-10.45	-9.66/-9.84	-9.67/-13.25	
Θ(112.5°)	-15.27/-14.62	-12.19/-11.57	-11.68/-12.87	-15.55/-13.84	-13.15/-13.3	-12.55/-13.09	-13.72/-13.8	-15.09/-14.4	-12.72/-10.99	-11.02/-14.7	-11.18/-11.21	-13.73/-17.89	-18.22/-18.78	-18.43/-15.88	-15.58/-16.26	-14.25/-14.48	-13.98/-14.2	-19.19/-17.86	-17.91/-18.35	-14.29/-11.04	-13/-17.65	-15.45/-11.4	-11.07/-12.04	-11.6/-12.13
Θ(120°)	-18.03/-10.93	-16.71/-15.84	-16.29/-16.18	-16.19/-14.24	-14.99/-15.38	-14.05/-15.22	-19/-18.96	-17.97/-16.64	-17.25/-13.69	-13/-16.85	-12.77/-12.64	-13.44/-18.17	-18.48/-18.97	-18.23/-17.95	-17.27/-18.48	-17.6/-14.81	-18.58/-17.97	-16.75/-17.05	-13.7/-11.44	-13.1/-16.76	-17.45/-14.88	-15.55/-14.98	-14.31/-15.5	
Θ(127.5°)	-19.24/-18.64	-17.98/-16.87	-15.92/-16.64	-15.97/-18.36	-14.84/-14.2	-16.92/-18.58	-18.54/-17.88	-18.49/-19.04	-19.04/-14.81	-14.95/-17.63	-13.47/-13.47	-13.77/-17.61	-18.73/-17.61	-17.9/-18.21	-12.88/-18.27	-17.93/-18.31	-14.76/-15.36	-18.44/-17.08	-15.8/-18.24	-17.25/-18.15	-17.66/-18.53	-17.27/-13.15	-15.78/-19.26	-16.26/-18.35
Θ(135°)	-18.77/-17.93	-17.71/-18.54	-18.25/-18.86	-18.18/-15.45	-15.15/-17.89	-17.72/-16.6	-15.77/-17.25	-18.85/-18.18	-18.14/-17.99	-17.23/-17.75	-18.06/-15.84	-15.31/-14.16	-18.17/-17.52	-17.95/-19	-14.12/-17.02	-17.32/-17.66	-17.56/-18.53	-17.95/-17.93	-18.8/-17.89	-18.32/-19.05	-18.03/-17.95	-18.59/-17.06	-18.05/-17.7	-18.27/-18.54
Θ(142.5°)	-18.29/-18.27	-17.81/-18.77	-18.22/-16.37	-17.82/-17.92	-18.26/-17.8	-19.19/-17.86	-17.64/-18.45	-17.53/-17.63	-17.17/-18.62	-18.32/-18.41	-19.06/-17.84	-14.44/-17.01	-18.99/-18.61	-18.13/-18.68	-18.46/-18.51	-18.32/-19.24	-17.8/-18.25	-19.16/-17.58	-14.77/-16.59	-16.6/-17.89	-18.22/-18.76	-18.46/-17.71	-18.92/-17.6	-18.91/-17.45
Θ(150°)	-18.32/-18	-17.2/-18.25	-19.18/-17.23	-18.14/-18.9	-17.87/-17.69	-18.18/-17.93	-18.71/-18.52	-19.11/-18.24	-17.9/-19.56	-18.08/-18.21	-17.49/-18.58	-18.96/-18.65	-17.79/-19.26	-17.81/-17.43	-18.07/-17.99	-17.43/-19.19	-18.45/-18.04	-18.03/-18.52	-18.6/-16.59	-18.55/-18.72	-17.14/-18.59	-17.84/-18.8	-18.09/-18.24	-18.91/-17.45
Θ(157.5°)	-18/-17.77	-17.86/-19.33	-17.36/-18.34	-18.95/-18.7	-17.79/-18.13	-18.97/-17.81	-18.38/-17.68	-18.49/-18.15	-18.28/-19.09	-17.47/-18.22	-19.22/-19.34	-18.6/-18.08	-19.19/-18.15	-18.06/-17.71	-19.05/-18.1	-18.98/-18.33	-18.46/-18.27	-18.41/-18.01	-17.74/-17.79	-18.93/-18.74	-18.77/-18.47	-18.4/-18.51	-19.13/-18.41	-17.67/-18.46
Θ(165°)	-19.36/-17.93	-18.09/-18.4	-17.79/-17.87	-18.62/-18.13	-19.16/-18.3	-17.96/-17.38	-18.45/-17.67	-19.2/-18.9	-18.36/-17.68	-17.8/-17.97	-19.03/-18.37	-18.18/-18.13	-18.17/-19.02	-18.05/-17.87	-18.15/-18.14	-17.86/-17.66	-17.68/-17.95	-18.67/-17.86	-17.96/-17.42	-19.32/-19.09	-18/-17.75	-18.79/-18.43	-18.14/-18.94	
Θ(172.5°)	-17.6/-18.4	-19.25/-18.41	-19.05/-18.57	-17.78/-18.96	-17.91/-18.24	-18.45/-17.96	-18.14/-18.42	-18.27/-18.54	-17.88/-17.5	-18.93/-18.14	-18.32/-18.04	-18.85/-18.06	-18.59/-17.92	-18.08/-17.88	-17.49/-18.71	-18.32/-17.73	-17.98/-19.14	-17.52/-17.87	-18.31/-18.4	-18.67/-19.26	-18.14/-18.46	-18.04/-18.21	-18.63/-18.31	-18.44/-17.97
Θ(180°)	-17.52/-18.63	-17.58/-18.7	-18.61/-18.56	-18.54/-18.87	-18.53/-17.63	-17.89/-18.4	-18.66/-18.3	-18.81/-17.55	-19.01/-17.5	-17.96/-18.04	-17.48/-18.74	-17.43/-18.34	-18.88/-18.91	-18.62/-18.5	-17.79/-18.22	-18.31/-17.23	-18.41/-18.82	-18.58/-17.22	-18.64/-18.4	-18.61/-18.1	-17.82/-18.21	-18.41/-18.36	-18.14/-18.39	-18.68/-17.36
Freq(Hz)	5.6GPol	ThetaAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-15.24/-16.66	-17.81/-18.98	-18.53/-17.64	-19.01/-17.6	-19.1/-16.64	-14.2/-12.89	-12.4/-11.94	-11.91/-11.91	-11.87/-11.91	-11.99/-12.29	-12.5/-13.08	-13.46/-14.68	-15.97/-17.56	-18.28/-18.16	-18.22/-18.3	-17.96/-18.42	-15.53/-14.17	-13.14/-12.45	-11.81/-11.27	-11.13/-11.38	-11.66/-11.71	-11.76/-12.13	-12.1/-12.47	-13.15/-14.23
Θ(7.5°)	-14.81/-16.9	-18.58/-18.89	-18.91/-18.53	-19.21/-18.13	-18.45/-18.54	-17.71/-17.72	-16.04/-14.55	-13.51/-13.19	-12.98/-12.68	-12.82/-13.14	-16.84/-14.36	-14.89/-15.49	-15.29/-16.84	-17.51/-18.75	-17.71/-18.57	-16.32/-18.26	-16.65/-18.17	-17.71/-15.29	-13.62/-12.35	-11.48/-10.74	-10.05/-9.6	-9.59/-9.91	-10.48/-11.53	-12.31/-13.85
Θ(15°)	-12.22/-14.34	-16.15/-16.13	-15.63/-17.23	-18.68/-17.54	-18.88/-17.89	-18.72/-17.87	-17.35/-17.5	-18.92/-18.21	-18.45/-17.65	-16.8/-16.19	-16.75/-18.25	-17.6/-18.52	-18/-18.3	-19.27/-18.59	-18.51/-17.66	-17.85/-18.66	-18.77/-17.6	-18.34/-18.54	-17.28/-16.08	-13.91/-12.42	-11.23/-10.77	-10.91/-12.02	-12.9/-12.01	-11.28/-11.22
Θ(22.5°)	-8.82/-10.45	-12.48/-12.14	-12.16/-14.05	-17.63/-17.22	-15.32/-12.31	-10.85/-10.7	-10.2/-10.8	-11.91/-13.59	-16.9/-19	-18.77/-17.85	-17.83/-18.08	-17.86/-17.47	-18.52/-18.5	-17.74/-18.4	-18.04/-17.89	-19.05/-18.67	-18.39/-18.74	-18.4/-17.93	-15.1/-13.07	-11.16/-9.7	-8.77/-8.46	-9.01/-9.17	-11.37/-11.24	-10.12/-10.94
Θ(30°)	-6.54/-7.45	-8.5/-8.76	-9.99/-12.85	-14.75/-13.29	-12.31/-11.03	-6.28/-7.69	-6.9/-7.4	-9.25/-11.95	-16.78/-17.29	-18.66/-19.02	-17.88/-18.31	-17.85/-15.71	-14.5/-13.56	-15.61/-18.64	-18.36/-18.22	-18.51/-18.15	-17.73/-17.31	-13.33/-10.77	-9.42/-9.25	-8.56/-8	-7.95/-8.28	-9.33/-10.58	-9.93/-9.22	-8.79/-9.27
Θ(37.5°)	-5.89/-7.18	-9.13/-9.67	-10.38/-11.91	-12.21/-13.31	-13.32/-10.97	-8.45/-8.53	-8.04/-8.73	-11.45/-16.63	-16.91/-17.35	-17.47/-18.74	-17.97/-18.37	-11.82/-8.24	-7.39/-8.93	-12.84/-16.52	-17.4/-17.94	-17.36/-18.9	-19.22/-13.85	-8.86/-6.87	-6.11/-6.89	-7.56/-7.46	-7.86/-8.83	-10.44/-12.89	-11.14/-9.02	-7.15/-6.53
Θ(45°)	-5.82/-11	-11.28/-11.37	-11.33/-13.31	-12.4/-14.1	-12.56/-11.47	-10.71/-10.2	-10.13/-10.63	-12.04/-15.56	-17.6/-15.05	-19.46/-19.1	-18.19/-16.62	-11.41/-7.24	-5.29/-7.35	-10.53/-15.98	-18.49/-18.56	-18.47/-17.82	-17.62/-17.23	-8.88/-6.73	-5.82/-6.23	-6.93/-7.58	-8.75/-11.28	-13.64/-16.35	-16.21/-9.75	-6.52/-6.06
Θ(52.5°)	-6.68/-9.55	-12.31/-16.17	-14.99/-13.2	-16.91/-17	-16.19/-12.15	-10.01/-9.94	-11.22/-12.74	-14.83/-15.05	-17.78/-18.49	-14.99/-14.72	-9.34/-5.65	-4.65/-7.1	-10.48/-17.28	-18.24/-18.07	-18.1/-18.26	-16.2/-13.15	-10.17/-7.85	-6.9/-7.45	-7.99/-9.3	-11.29/-13.45	-15.67/-18.04	-17.47/-13.9	-18.51/-16.3	-6.5/-6.26
Θ(60°)	-8.66/-10.71	-14.01/-18.43	-16.85/-15.68	-18.22/-17.94	-17.32/-13.42	-10.8/-10.35	-12.82/-15.83	-14.75/-14.53	-16.37/-17.81	-17.68/-18.46	-16.47/-14.44	-12.02/-7.37	-6.39/-7.65	-10.49/-16.1	-17.5/-18.34	-18.13/-18.65	-17.19/-15.61	-12.75/-10.22	-8.96/-8.72	-9.25/-10.58	-13.53/-16.44	-16.29/-16.77	-15.13/-17.59	-11.85/-7.91
Θ(67.5°)	-12.12/-14.15	-16.65/-17.46	-18.1/-17.67	-18.96/-18.25	-17.76/-15.21	-11.53/-11.3	-16.37/-18.13	-14.14/-14.13	-18.6/-12.3	-18.52/-18.43	-15.28/-18.93	-13.51/-9.5	-10.02/-9.5											



Radiated Composite Gain Data of 5GHz (2TX)

Appendix B

Θ(67.5°)	-3.51/-7.61	-5.54/-3.65	-3.13/-2.29	-1.85/-1.45	-2.53/-1.73	-2.72/-3.67	-3.55/-3.28	-3.02/-2.93	-3.45/-6.3	-12.14/-15.13	-18.45/-7.29	-1.74/-0.04	-1.18/-4.18	-3.86/-5.89	-8.4/-3.9	-4.15/-5.62	-6.33/-6.12	-4.76/-3.97	-2.62/-0.41	-0.36/-1.4	-3.16/-5.76	-8.83/-18.67	-8.94/-3.19	-2.17/-2.55
Θ(75°)	-6.83/-10.39	-7.57/-5.62	-7.05/-5.83	-4.71/-3.21	-3.27/-4.13	-4.64/-6.6	-6.19/-5.67	-4.86/-6.62	-3.37/-6.43	-10.57/-11.83	-16.54/-12.11	-3.2/-1.01	-1.71/-4.66	-5.16/-4.99	-5.29/-5.02	-6.61/-7.16	-10.05/-10.61	-8.13/-6.34	-2.59/-1.02	-1.02/-1.09	-3.74/-8.28	-10.63/-14.13	-12.7/-4.66	-4.66/-6.83
Θ(82.5°)	-10.66/-19.21	-14.34/-11.37	-11.28/-7.15	-5.04/-5.64	-7.54/-6.98	-7.79/-9.16	-8.34/-7.47	-5.03/-3.74	-4.63/-8.37	-10.41/-12.59	-19.1/-12.33	-4.18/-2.54	-3/-5.23	-5.94/-4.66	-3.48/-4.01	-5.94/-6.77	-10.65/-11.97	-11.07/-8.33	-3.73/-2.02	-0.92/-0.87	-3.99/-10.84	-14.34/-19.2	-11.68/-4.62	-4.87/-8.08
Θ(90°)	-18.8/-17.99	-18.39/-10.84	-7.87/-9.11	-9.12/-7.94	-7.09/-8.86	-10.54/-13.47	-12.85/-9.74	-6.06/-4.12	-4.88/-9.57	-10.48/-10.91	-18.26/-14.21	-5.84/-3.81	-5.64/-7.42	-5.14/-4.01	-3.69/-4.18	-5.85/-5.46	-8.97/-11.42	-13.16/-14.33	-7.29/-5.01	-2.81/-1.92	-4.98/-10.79	-18.76/-14.69	-13.5/-7.29	-10.02/-18.04
Θ(97.5°)	-18.2/-18.21	-17.94/-12.69	-8.45/-11.53	-8.91/-9.34	-11.14/-14.04	-15.76/-16.01	-16.82/-11.61	-7.49/-5.41	-6.23/-10.01	-9.3/-12.26	-17.66/-15.16	-8.86/-5	-6.19/-12.16	-6.05/-5.23	-1.69/-4.53	-4.82/-4.23	-7.79/-10.07	-13.03/-14.33	-15.67/-11.3	-7.93/-6.19	-6.55/-11.31	-18.95/-14.54	-13.82/-10.66	-12.34/-18.35
Θ(105°)	-17.6/-15.11	-12.77/-8.57	-6.63/-11.53	-9.39/-10.65	-15.18/-18.1	-18.86/-16.68	-18.83/-13.31	-8.37/-5.95	-7.84/-12.81	-9.97/-11.37	-18.41/-14.47	-15.52/-9.28	-9.59/-9.9	-10.64/-5.73	-1.94/-1.38	-4.08/-5.4	-6.09/-7.62	-9.39/-9.69	-16.71/-16.51	-13.23/-16.25	-9.01/-9.21	-17.52/-11.9	-17.92/-11.9	-14.71/-18.46
Θ(112.5°)	-13.58/-14.62	-15.75/-12.11	-7.85/-9.56	-11.07/-12.99	-15.78/-18.1	-17.55/-17.34	-14.1/-10.36	-8.12/-6.79	-8.67/-12.59	-9.16/-13.31	-17.65/-12.2	-12.16/-13.51	-12.72/-15.77	-9.33/-5.68	-4.17/-6.18	-1.91/-2.81	-4.74/-8.16	-9.58/-6.85	-8.89/-12.92	-17.66/-18.58	-9.32/-9.43	-17.19/-15.69	-18.55/-12.34	-18.28/-12.24
Θ(120°)	-12.27/-10.3	-10.55/-9.02	-9.36/-17.89	-18.29/-15.93	-15.45/-17.04	-19.33/-18.6	-16.74/-11.4	-10.54/-9.36	-11.3/-8.18	-7.89/-9.28	-18.22/-13.16	-11.95/-13.31	-13.06/-13.63	-17.15/-7.34	-5.4/-6.23	-3.6/-3.23	-6.09/-5.84	-5.61/-5.43	-7.08/-10.21	-19.41/-10.94	-16.9/-17.01	-13.64/-13.77	-15.42/-18.98	-16.15/-19.21
Θ(127.5°)	-13.05/-11.44	-12.83/-9.85	-7.73/-9.65	-15.76/-13.45	-13.21/-15.01	-16.07/-18.3	-14.23/-11.25	-14.47/-19.33	-14.81/-11	-7.92/-12.2	-17.37/-17.26	-17.49/-16.64	-19.02/-18.69	-18.61/-9.7	-8.7/-5.56	-3.38/-7.22	-8.47/-5.44	-3.88/-4.45	-5.62/-7.57	-14.7/-10.17	-10.39/-18.9	-15.2/-19.03	-15.64/-18.54	-19.16/-18.48
Θ(135°)	-13.69/-13.75	-11.98/-15.9	-18.89/-17.98	-14.76/-11.97	-10.42/-11.94	-16.74/-17.65	-16.27/-13.44	-12.75/-14.17	-12.69/-9.02	-8.68/-10.81	-18.66/-18.35	-15.82/-11.68	-18.9/-18	-17.38/-16.02	-15.13/-14.29	-9.96/-7.92	-6.59/-7.38	-7.37/-8.23	-9.38/-14.45	-17.91/-17.61	-17.91/-17.8	-18.25/-17.55	-14.78/-12.91	-11.27/-18.7
Θ(142.5°)	-7.12/-12.11	-12.52/-11.23	-11.17/-12.69	-16.28/-16.36	-15.83/-14.41	-18.5/-14.41	-12.71/-13.31	-13.16/-12.58	-14.31/-13.46	-11.65/-13.03	-18.64/-16.84	-11.15/-8.66	-8.91/-13.92	-19.08/-16.27	-15.53/-8.36	-8.72/-10.62	-10.56/-7.05	-8.05/-12.77	-16.54/-17.31	-16.41/-16.64	-17.96/-18.1	-14.78/-12.93	-11.79/-12.93	-15.2/-8.87
Θ(150°)	-7.92/-9.48	-2.95/-8.05	-7.23/-8.37	-13.3/-18.9	-12.12/-10.17	-10.25/-13.28	-17.75/-18.07	-18.08/-18.46	-14.45/-16.05	-12.23/-11.5	-13.16/-17.53	-15.31/-13.14	-15.36/-12.5	-14.56/-16.13	-13.23/-10.82	-15.55/-15.02	-12.05/-10.49	-10.78/-12.85	-16.19/-16.95	-17.4/-17.76	-16.22/-13.28	-12.96/-17	-18.88/-10.32	
Θ(157.5°)	-15.73/-17.79	-11.86/-7.96	-6.51/-5.9	-5.96/-6.6	-7.74/-9.24	-9.85/-11.34	-11.75/-10.18	-9.19/-9.18	-10.14/-10.97	-10.29/-9.53	-10.48/-14.99	-17.75/-10.82	-8.7/-10.56	-17.33/-18.32	-18.87/-18.51	-18.1/-15.57	-15.24/-17.31	-16.66/-17.31	-18.84/-18.89	-18.68/-19.23	-17.77/-18.82	-18.28/-19.31	-18.12/-19.01	-15.21/-13.14
Θ(165°)	-18.29/-17	-12.92/-11.7	-9.2/-8.54	-8.08/-7.52	-7.22/-7.6	-7.95/-7.84	-8.87/-11.2	-13.85/-14.19	-13.21/-12.47	-12.16/-11.44	-11.67/-12.26	-12.29/-12.09	-12.64/-14.63	-16.92/-17.24	-15/-12.44	-11.88/-13.29	-16.69/-18.13	-18.23/-17.63	-17.46/-18.37	-17.94/-18.73	-17.72/-17.75	-18.24/-18.12	-18.22/-19.05	-12.49/-14.81
Θ(172.5°)	-13.94/-11.37	-9.76/-10.04	-8.99/-9.39	-5.9/-9.44	-10.27/-12.23	-13.75/-14.21	-13.99/-14.92	-17.51/-18.6	-18.72/-16.91	-16.66/-17.44	-16.27/-15.09	-12.59/-13.52	-16.24/-18.1	-18.69/-18.03	-18.22/-17.59	-16.35/-14.24	-14.6/-17.26	-18.29/-19.58	-18.22/-18.76	-18.48/-19.14	-18.7/-18.36	-16.89/-16.96		
Θ(180°)	-10.64/-10.78	-10.34/-9.87	-9.78/-10.05	-10.42/-10.8	-11.74/-13.15	-14.91/-17.31	-17.34/-19.24	-17.46/-17.18	-17.63/-18.48	-17.34/-14.54	-14.1/-14.78	-14.48/-12.85	-12.91/-15.71	-18.95/-18.69	-16.65/-15.48	-14.68/-13.81	-13.97/-15	-15.96/-17.83	-17.81/-19.15	-19.11/-17.59	-18.42/-18.02	-18.91/-15.89	-13.71/-12.47	-11.41/-11.03
Freq(Hz)	5.2GPol.	ThetaAnt.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-0.75/-1.35	-1.55/-2.41	-4.26/-6.94	-10.36/-14.48	-16.95/-12.16	-8.36/-5.95	-4.75/-3.59	-2.35/-0.98	0.160.85	0.960.67	0.430.41	0.480.18	0/-0.84	-2.38/-4.06	-5.68/-8.18	-12.72/-19.29	-18.49/-12.59	-8.01/-4.97	-3.18/-2.02	-0.99/-0.37	-0.130.2	0.770.11	1.17/-1.15	0.73/-0.34
Θ(7.5°)	-0.75/-1.56	-2.04/-3.19	-5.67/-9.51	-14.13/-10.82	-18.72/-10.21	-4.46/-4.44	-3.25/-2.07	-1.14/-0.33	0.33/-1.21	1.48/-1.21	0.3/-0.05	0.03/-0.07	-0.69/-1.63	-3.28/-5.18	-6.83/-9.47	-14.21/-17.11	-13.69/-10.01	-7.13/-4.93	-3.42/-3.27	-1.17/-1.25	-1.41/-1.04	-0.610.35	0.560.65	0.52/-0.27
Θ(15°)	-1.47/-2.23	-2.95/-3.85	-6.23/-8.17	-16.07/-18.26	-13.57/-7.99	-5.09/-3.3	-1.65/-0.53	0.46/-0.17	0.72/-1.27	2.46/-2.27	1.280.48	0.14/-0.53	-0.63/-1.57	-2.87/-4.07	-7.12/-6.77	-11.51/-15.02	-13.68/-10.74	-5.22/-5.55	-3.31/-2.08	-1.11/-0.14	-0.540.39	-0.1/-0.32	-0.48/-0.44	-0.81/-1.26
Θ(22.5°)	-2.91/-3.19	-4.29/-6.3	-9.33/-14.27	-18.47/-14.85	-9.78/-6.8	-5.28/-4.29	-3.3/-2.42	-1.77/-0.95	-0.040.96	1.76/-1.98	1.390.62	-0.19/-0.89	-1.16/-1.03	-1.72/-3.02	-5/-7.72	-12.46/-18.29	-17.45/-18.21	-10.69/-5.94	-3.11/-1.34	-0.050.72	0.830.49	0.110.32	0.23/-0.65	-1.92/-2.75
Θ(30°)	-3.75/-3.52	-4.44/-6.18	-12.32/-18.43	-14.13/-10.02	-7.97/-6.9	-6.73/-7.15	-2.62/-4.9	-3.76/-3.39	-2.95/-1.96	0.410.86	1.250.57	-0.54/-1.26	-1.22/-0.44	0.02/-0.49	-1.98/-0.48	-7.09/-8.55	-10.61/-12.14	-11.42/-8	-4.22/-2.07	-0.480.51	1.29/-1.37	0.1/-1.8	-2.16/-1.15	-1.3/-1.36
Θ(37.5°)	-5.65/-5.6	-6.02/-9.56	-15.17/-14.79	-11.49/-10.52	-8.94/-8.58	-9.94/-9.62	-6.86/-4.63	-3.84/-3.91	-3.77/-3.17	-1.94/-0.1	0.860.74	-0.12/-0.92	-0.470.73	1.28/-1.08	0.03/-1.15	-2.44/-3.34	-5.38/-2.96	-9.09/-8.79	-7.31/-4.11	-1.240.42	0.97/-1.02	0.780.12	-1.54/-1.58	-1.73/-3.5
Θ(45°)	-5.08/-6.28	-6.88/-8.56	-8.13/-7.34	-8.84/-9.52	-8.88/-11.43	-15.56/-11.31	-6.8/-4.92	-5.25/-5.7	-4.16/-2.5	-1.89/-1.28	-0.210.2	-0.52/-1.81	-1.810.39	2.01/-2.21	1.790.76	0.08/-0.54	-1.07/-3.62	-7.67/-9.41	-7.45/-4.47	-1.88/-0.65	-0.37/-1.16	-2.1/-1.92	-1.86/-2.97	-2.96/-2.79
Θ(52.5°)	-7.52/-10.51	-7.76/-5.84	-3.88/-4.98	-7.3/-6.13	-11.99/-13.24	-13.12/-9.14	-6.44/-5.98	-7.32/-5.48	-2.64/-1.81	-1.99/-2.37	-2/-1.8	-2.22/-3.78	-2.34/-1.02	1.56/-2	1.67/-1.5	1.51/-1.46	0.49/-1.81	-5.36/-9.45	-6.99/-5.41	-3.72/-3.14	-2.23/-2.04	-2.49/-3.06	-2.6/-2.66	-3.06/-4.05
Θ(60°)	-6.69/-8.82	-5.72/-2.85	-1.42/-3.62	-7.14/-13.24	-10.84/-12.81	-9.21/-7.23	-5.11/-5.09	-5.53/-3.37	-1.91/-1.95	-3.91/-5.77	-4.83/-3.21	-3.22/-5.3	-4.21/-2.06	0.74/-1.83	2.96/-2.82	-5.27/-6.62	-7.57/-5.67	-6.16/-6.16	-2.71/-2.22	-3.4/-4.26	-3.82/-4.45	-4.45/-4.82		
Θ(67.5°)	-7.43/-9.58	-5.7/-2.46	-1.38/-3.37	-6.87/-7.41	-9.03/-7.73	-6.74/-6.52	-4.01/-3.46	-2.91/-1.53	-1.54/-2.58	-5.49/-8.75	-6.47/-2.5	-2.41/-4.87	-4.54/-1.18	1.050.96	1.94/-2.86	1.86/-0.79	-2.25/-3.58	-4.7/-5.2	-5.62/-6.15	-8.47/-4.5	-1.42/-2.3	-4.51/-4.34	-4.62/-5.57	-5.05/-5.8
Θ(75°)	-8.62/-9.83	-4.65/-5.18	-1.74/-3.29	-6.18/-5.23	-8.9/-4.9	-6.42/-5.12	-2.53/-1.86	-1.43/-0.88	-1.52/-3.71	-7.95/-10.27	-8.55/-3.81	-2.28/-5.38	-2.63/-1.18	-0.420.06	1.730.6	1.88/-1.24	-3.98/-3.58	-3.75/-6.46	-7.77/-6.95	-8.91/-3.84	-2.09/-3.26	-5.96/-6.13	-6.05/-8.21	-7.56/-9.14
Θ(82.5°)	-12.14/-14.26	-5.38/-1.84	-2.44/-3.54	-5.73/-7.82	-8.1/-6.29	-5.16/-4.4	-2.09/-1.98	-0.91/-0.52	-1.6/-3.4	-6.44/-7.87	-6.71/-5	-4.01/-5.14	-3.19/-0.73	-1.16/-0.04	0.81/-2.32	0.14/-3.41	-3.4/-2.44	-3.75/-8.49	-7.28/-7.06	-6.4/-1.87	-2.05/-4.51	-9.4/-7.83	-7.45/-16.38	-11.15/-16.44
Θ(90°)	-11.58/-13.14	-8.98/-4.11	-4.41/-5.37	-6.59/-8.39	-7.35/-5.77	-4.38/-4.41	-3.04/-2.28	-1.74/-1.3	-1.71/-1.31	-5.48/-7.83	-7.39/-4.45	-2.87/-4.68	-4.61/-3.14	-1.91/-1.52	-0.710.79	-0.77/-4.51	-4.84/-13.78	-10.8/-12.87	-8.85/-3.92	-3.33/-3.79	-6.27/-8.79	-6.79/-12	-13.35/-15.07	
Θ(97.5°)	-9.74/-11.23	-9.19/-6.46	-5.99/-6.61	-8.28/-10.46	-7.74/-7.44	-6.3/-5.6	-4.06/-2.62	-1.79/-1.73	-2.66/-3.45	-5.02/-8.06	-8.73/-5.41	-3.26/-4	-4.35/-4.5	-4.17/-2.55	-1.13/-0.59	-2.69/-5.4	-6.4/-3.86	-7.45/-16.11	-10.6/-10.65	-5.87/-3.64	-6.21/-8.43	-8.25/-11.8	-8.99/-11.8	-15.38/-12.37
Θ(105°)	-8.25/-9.45	-11.06/-9	-7.12/-7.76	-8.33/-9.82	-7.54/-9.54	-7.78/-6.1	-4.63/-3.7	-2.52/-2.29	-2.98/-4.8	-7.04/-10.43	-11.24/-6.95	-3.58/-2.86	-4.35/-5.24	-5.38/-7.47	-3.3/-3.75	-2.85/-7.42	-10.13/-5.96	-10.73/-12.48	-8.89/-9.36	-6.63/-5.02	-6.25/-9.51	-13.61/-12.04	-12.62/-14.6	-10.71/-8.08
Θ(112.5°)	-9.33/-15.65	-13.32/-11.09	-10.99/-8.66	-10.65/-10.13	-8.74/-9.05	-7.67/-6.11	-4.6/-9.92	-3.21/-1.83	-2.81/-4.85	-8.16/-14.51	-12.55/-5.98	-4.74/-7.77	-5.28/-5.68	-6.86/-7.53	-3.28/-4.05	-5.09/-8.84	-7.86/-9.15	-10.73/-15.38	-12.58/-10.12	-8.11/-4.91	-9.07/-13.64	-18.12/-15.14	-14.8/-17.84	-18.02/-17.38
Θ(120°)	-18.41/-17.96	-18.08/-11.51	-8.96/-7.49	-6.73/-8.15	-7.04/-5.63																			



Radiated Composite Gain Data of 5GHz (2TX)

Appendix B

Θ(120°)	-11.65/-11.24	-14.73/-9.77	-12.16/-12.97	-12.66/-17.55	-18.62/-16.1	-15.77/-17.41	-16.18/-18.17	-13.65/-8.7	-8.63/-10.78	-12.17/-17.54	-17.81/-16	-16.34/-14.07	-12.53/-18.31	-7.32/-8.53	-8.52/-4.3	-5.29/-7.86	-16.48/-16.75	-13.41/-8.96	-15.81/-11.6	-15.33/-12.73	-16.61/-16.13	-15.93/-17.81	-17.98/-18.11	-18.13/-18.32
Θ(127.5°)	-11.47/-10.04	-14.39/-11.56	-12.97/-18.58	-17.72/-17.72	-14.33/-14.03	-17.09/-18.1	-13.15/-10.71	-11.1/-9.34	-10.86/-11.21	-11.34/-11.22	-18.42/-14.1	-12.61/-17.71	-18.76/-14.08	-7.71/-12.47	-9.47/-3.88	-4.7/-8.5	-15.01/-15.12	-9.77/-6.1	-8.21/-14.95	-14.97/-12.62	-10.45/-15.38	-12.25/-18.99	-17.98/-19.27	-13/-17.63
Θ(135°)	-13.96/-7.65	-9.4/-12.26	-14.51/-18.1	-15.22/-16.2	-16.47/-13.74	-14.64/-15.57	-13.24/-13.93	-16.77/-16.64	-13.55/-11.91	-9.68/-12.39	-18.2/-18.43	-15.71/-18.62	-18.29/-12.52	-9.89/-5.82	-5.73/-6.92	-13.68/-13.3	-12.48/-9.68	-9.11/-14.29	-18.51/-17.27	-17.77/-18.25	-18.8/-13.08	-18.58/-19.32	-18.21/-12.95	-11.3/-13.53
Θ(142.5°)	-13.72/-10.3	-10.37/-12.66	-18.79/-14.65	-8.93/-9.28	-13.54/-15.31	-14.79/-17.98	-15.77/-13.15	-14.88/-16.31	-12/-9.22	-10.12/-13.6	-19.04/-13.1	-10.6/-9.92	-18.81/-18	-19.02/-16.16	-12.1/-11.9	-8.12/-9.21	-9.98/-11.51	-11.46/-12.3	-15.3/-13.86	-16.62/-17.43	-17.47/-14.35	-12.62/-14.44	-18.58/-17.91	-16.36/-13.15
Θ(150°)	-13.05/-17.79	-13.24/-9.56	-9.5/-13.84	-12.45/-10.77	-12.86/-12.5	-10.5/-10.78	-12.58/-12.49	-11.22/-11.25	-10.41/-8.67	-9.25/-12.89	-19.09/-18.92	-18.16/-18.04	-15.45/-11.93	-9.14/-10.59	-13.2/-9.71	-8.54/-11.12	-11.16/-8.83	-6.93/-6.21	-8.24/-10.67	-10.72/-9.61	-9.76/-10.37	-11.78/-12.61	-13.6/-18.99	-17.59/-12.49
Θ(157.5°)	-13.04/-10.92	-9.27/-8.3	-8.15/-9.42	-10.15/-6.67	-8.53/-8.89	-8.25/-8.12	-8.72/-10.08	-11.63/-12.51	-12.28/-10.95	-10.69/-11.97	-13.84/-18.64	-17.4/-15.01	-16.42/-13.93	-13.06/-17.97	-19.15/-16.42	-11.9/-8.62	-7.19/-6.82	-6.45/-6.6	-8.65/-13.48	-18.15/-17.49	-16.57/-15.09	-17.56/-19.19	-18.59/-13.94	-11.33/-12.27
Θ(165°)	-12.76/-12.03	-9.48/-8.21	-8.19/-9.75	-9.84/-8.49	-7.33/-7.76	-7.85/-7.25	-6.91/-7.01	-7.81/-8.37	-9.5/-9.74	-9.3/-9.19	-10.45/-11.76	-11.12/-10.31	-10.61/-11.82	-12.56/-11.44	-10.12/-8.83	-7.89/-7.78	-9.19/-11.66	-12.44/-12.61	-14.86/-18.06	-18.33/-18.81	-16.29/-17.21	-18.64/-18.8	-16.64/-14.75	-13.13/-12.49
Θ(172.5°)	-11.26/-11.21	-10.76/-9.34	-9.57/-11.44	-13.21/-13.6	-13.59/-15.41	-18.34/-18.03	-17.77/-18.99	-17.15/-14.27	-13.93/-14.16	-12.96/-11.11	-10.44/-10.56	-9.37/-8.05	-8.62/-11.39	-15.46/-18.13	-19.07/-16.48	-13.41/-12.3	-13.29/-14.45	-14.98/-15.79	-16.32/-17.25	-18.92/-19.02	-19.01/-19.33	-18.5/-17.59	-18.18/-17.51	-14.22/-12
Θ(180°)	-8.13/-7.9	-7.64/-6.92	-6.91/-7.09	-6.7/-9.8	-8.12/-8.24	-8.77/-9.34	-10.21/-11.56	-13.62/-16.48	-18.85/-18.36	-18.16/-18.12	-14.21/-11.24	-11.01/-12.9	-16.78/-16.29	-13.66/-13.18	-13.94/-13.28	-12.35/-12.06	-12.94/-14.96	-18.95/-19.06	-18.61/-17.29	-14.79/-14.68	-16.74/-17.06	-17.41/-17.49	-15.48/-12.72	-10.78/-9.07
Freq(Hz)	5.6GPol.	ThetaAnt.2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-4.6/-5.51	-6.33/-7.28	-8.61/-10.58	-12.81/-14.07	-14.25/-14.07	-13.88/-11.63	-9.34/-7.36	-6.35/-6.26	-5.74/-4.76	-4.18/-4.23	-4.12/-14.7	-3.87/-4.05	-4.22/-4.97	-6.55/-8.31	-9.94/-11.4	-13.47/-15.83	-17.23/-12.22	-13.67/-10.61	-9.02/-8.49	-7.33/-5.46	-4.18/-3.94	-3.87/-3.92	-3.69/-4.03	-3.99/-4.18
Θ(7.5°)	-5.34/-7.05	-9/-11.25	-13.85/-17.85	-18.53/-18	-17.54/-13.1	-9/-6.42	-5.73/-5.09	-4.12/-9.99	-2.84/-2.83	-3.07/-2.37	-2.39/-2.69	-2.84/-2.8	-2.91/-3.35	-4.29/-5.67	-6.73/-7.36	-8.23/-9.01	-9.05/-8.66	-7.97/-7.08	-6.66/-6.91	-7.09/-6.08	-4.36/-3.66	-4.02/-4.36	-3.7/-3.28	-3.31/-4.3
Θ(15°)	-3.84/-6.48	-10.84/-15.62	-18.88/-15.31	-12/-9.55	-7.48/-4.91	-3.39/-2.98	-3.27/-3.56	-3.16/-2.58	-2.38/-2.47	-2.78/-2.84	-2.5/-1.9	-1.46/-1.33	-1.02/-1.15	-1.79/-2.71	-4.27/-5.09	-5.9/-6.38	-6.76/-6.61	-5.75/-5.19	-4.68/-4.69	-4.77/-4.84	-4.12/-2.99	-2.46/-2.66	-3.09/-2.25	-1.88/-2.4
Θ(22.5°)	-2.89/-5.89	-12/-18.74	-16.43/-12.27	-8.89/-6.65	-4.9/-3.79	-3.17/-3.64	-3.75/-3.29	-2.72/-2.35	-2.39/-3.16	-4.03/-4.44	-3.99/-2.42	-0.790/5.1	1.46/-1.37	0.58/-0.5	-1.77/-2.59	-6.95/-6.14	-5.05/-4.03	-2.8/-2.23	-2.02/-1.64	-1.13/-1.04	-1.9/-2.54	-2.59/-2.57		
Θ(30°)	-5.69/-7.78	-14.25/-18.85	-14.5/-10.52	-9.7/-8.53	-8.74/-8.37	-6.55/-4.82	-3.18/-2.59	-2.56/-2.81	-3.1/-3.53	-3.71/-3.2	0.42/24	2.79/2.26	1.92/1.29	0.580/15	-0.91/-3.04	-5.47/-5.66	-4.79/-3.18	-2.53/-2.73	-2.56/-1.96	-1.07/-0.87	-1.44/-2.31	-2.9/-3.08	-4.94/-6.25	
Θ(37.5°)	-5.91/-6.32	-12.13/-17.14	-14.09/-17.79	-11.5/-9.52	-14.51/-9.61	-4.81/-3.1	-3.03/-3.99	-4.57/-3.22	-1.97/-2.09	-2.93/-3.66	-3.36/-1.45	0.792/11	2.34/1.82	1.67/2.27	3.01/2.54	0.66/-2.27	-3.95/-5.05	-6.01/-6.41	-7.4/-5.9	-1.790/3	0.85/0.68	-0.38/-1.68	-3.53/-5.97	-6.05/-8.07
Θ(45°)	-5.73/-5.49	-8.86/-9.28	-7.57/-13.37	-11.92/-10.91	-10.39/-5.61	-2.99/-2.73	-4.1/-5.52	-3.76/-0.96	0.2/-0.99	-4.25/-7.44	-8.15/-5.78	-1.53/1	2.01/1.66	1.18/2.3	3.87/4.4	2.69/-1.64	-2.84/-2.85	-6.15/-14.29	-12.18/-5.94	-1.37/0.63	0.30/25	0.2/-0.62	-1.36/-5.56	-10.24/-7.15
Θ(52.5°)	-3.36/-3.36	-4.86/-3.22	-2.12/-5.73	-14.05/-12.94	-6.21/-3.37	-3.5/-3	-3.36/-2.91	-0.96/-0.13	-0.34/-2.4	-5.88/-4.58	-5.16/-5.79	-1.42/2.24	2.95/2.53	2.15/3.68	4.84/4.88	3.12/-0.69	-1.99/-1.31	-3.71/-6.85	-4.51/-2.29	-1.58/-2.28	-2.40/-0.49	-0.01/-0.29	-1.38/-4.67	-13.99/-6.04
Θ(60°)	-3.5/-4.64	-5.29/-2.25	-0.43/-2.52	-11.68/-14.49	-4.77/-3.18	-3.74/-0.97	-0.03/-0.24	0.29/-0.16	-2.2/-4.88	-4.76/-2.37	-2.42/-6.55	-3.81/1.86	3.62/97	2.34/02	4.694/51	3.72/06	-1.48/-0.82	-3.34/-3.53	-4.03/-4.93	-6.88/-9.49	-3.51/0.25	0.44/-1.01	-2.52/-2.94	-6.58/-4.91
Θ(67.5°)	-3.43/-6.42	-5.83/-2.15	-0.32/-2.49	-11.75/-10.17	-1.86/-2.71	-2.58/0.83	0.91/0.32	0.79/-0.01	-2.9/-5.27	-2.72/-1.57	-2.39/-7.46	-5.44/-1.41	3.27/3.17	2.54/4.13	4.49/3.64	3.03/0.39	-2.96/-2.09	-1.34/-1.11	-1.83/-3.92	-8.11/-6.96	-1.07/0.84	0.17/-2.36	-3.61/-4.35	-3.85/-3.57
Θ(75°)	-4.33/-8.07	-4.87/-3.21	-0.36/-1.98	-9.29/-9.06	-1.39/-2.51	-1.88/-1.49	1.59/1.4	1.73/0.24	-3.13/-4.93	-1.94/-0.86	-2.54/-6.26	-9.25/-0.23	2.43/2.5	1.42/3.56	3.67/1.68	2.24/0.31	-3.13/-1.2	-1.3/-1.73	-2.74/-2.85	-6.39/-3.24	0.51/1.22	-1.07/-4.06	-6.07/-4.88	-1.83/-3.35
Θ(82.5°)	-5.26/-6.91	-3.52/-1.79	-0.87/-2.98	-8.15/-6.98	-1.45/-2.37	-0.74/-1.36	1.28/1.73	2.31/0.22	-2.89/-3.3	-0.73/-0.68	-2.13/-6.85	-9.28/-0.54	1.38/0.83	0.21/2.92	2.75/0	0.94/-0.66	-5.28/-2.07	-0.53/-2.72	-3.86/-4.41	-7.02/-3.46	0.86/0.08	-1.6/-5.9	-7.86/-7.05	-1.75/-3.84
Θ(90°)	-6.58/-6.96	-2.73/-2.4	-2.1/4	-8.51/-6.36	-1.16/-1.87	-0.93/1.09	0.97/1.53	1.96/-0.14	-2.8/-3.39	-1.66/-0.87	-2.49/-4.13	-10.15/-4.11	1.37/1.04	-2.66/0.95	1.16/-1.4	-1.66/-1.53	-4.64/-3.6	-1.29/-4.03	-5.48/-5.97	-6.46/-2.43	-1.89/-0.87	-1.89/-5.4	-10.25/-11.29	-3.85/-7.36
Θ(97.5°)	-7.48/-8.57	-4.4/-4.81	-4.83/-6.98	-9.18/-5.33	-2.04/-1.98	-1.19/0.58	0.28/1.3	1.61/-0.62	-2.71/-3.33	-1.89/-1.07	-2.83/-5.97	-9.15/-3.05	0.72/-0.57	-5.97/-0.38	-0.91/-2.94	-2.08/-4.21	-8.4/-0.63	-4.05/-8.28	-7.52/-8.65	-6.96/-3.56	-5.1/-5.72	-4.77/-8.85	-9.74/-16.63	-6.65/-11.4
Θ(105°)	-10.92/-10.28	-5.71/-7.47	-9.95/-8.9	-7.7/-5.24	-2.66/-2.86	-1.74/-0.37	-0.57/-0.08	0.12/-1.61	-3.09/-3.35	-3.27/-3.21	-5.01/-6.06	-10.38/-5.85	-0.41/-0.42	-1.34/-1.19	-3.47/-4.65	-6/-7.4	-8.98/-7.93	-7.71/-10.51	-8.84/-6.52	-7.12/-3.08	-3.68/-15.33	-9.47/-10.51	-8.38/-15.74	-6.12/-44
Θ(112.5°)	-12.32/-13.89	-9.84/-8.68	-13.24/-12.78	-8.29/-4.41	-4.1/-4.49	-2.43/-1.23	-1.36/-0.96	-1.24/-2.5	-3.51/-4.35	-3.77/-3.68	-5.03/-10.88	-10.46/-2.58	0.152/-4.3	-6.52/-6.46	-7.21/-10.77	-5.45/-8.53	-18.44/-9.86	-9.07/-17.24	-11.27/-6.3	-9.39/-9.19	-8.13/-11.23	-17.07/-17.61	-18.34/-10.8	-8.26/-9.75
Θ(120°)	-15.55/-11.27	-8.33/-8.74	-14.26/-19.25	-11.48/-6.53	-4.61/-5.91	-3.84/-3.01	-4.29/-3.47	-2.32/-2.58	-3.75/-4.16	-4.63/-5.59	-7.99/-11.89	-16.98/-3.94	-0.23/-0.66	-4.34/-9.48	-9.66/-13.4	-11.07/-12.38	-18.02/-14.05	-7.69/-14.56	-15.6/-8.37	-11.46/-17.26	-9.57/-8.06	-9.77/-7.36	-12.62/-11.08	-10.67/-13.15
Θ(127.5°)	-17.37/-10.97	-9.02/-6.64	-9.71/-11.87	-11.49/-10.95	-8.44/-7.15	-7.53/-5.79	-5.45/-4.1	-2.83/-2.76	-3.83/-4.57	-4.99/-5.37	-9.11/-18.19	-10.53/-4.04	-2.67/-2.91	-3.36/-5.4	-8.81/-19.22	-13.71/-10.27	-19.01/-17.36	-10.69/-16.02	-10.33/-15.69	-13.17/-8.01	-10.84/-5.67	-8.38/-15.74	-17.93/-17.85	
Θ(135°)	-18.26/-17.64	-16.63/-13.74	-11.71/-7.77	-8.79/-8.27	-7.56/-7.28	-7.09/-6.65	-6.42/-5.24	-3.55/-2.87	-2.87/4	-5.66/-7.89	-10.33/-15.37	-15.41/-9.73	-5.23/-4.22	-3.97/-5.53	-5.5/-11.93	-19.08/-9.35	-12.68/-12.6	-11.85/-17.08	-9.44/-9.48	-10.19/-9.61	-8.67/-15.77	-13.89/-8.57	-10.61/-11.37	-13.12/-17.52
Θ(142.5°)	-16.86/-17.96	-18.01/-15.87	-15/-12.4	-6.35/-6.27	-7.83/-10.48	-9.37/-6.71	-5.38/-3.82	-2.15/-1.55	-2.28/-4.17	-7.62/-11.49	-17.55/-17.36	-12.82/-7.49	-3.67/-3.72	-3.48/-5.76	-7.99/-7.9	-9.53/-10.76	-12.35/-13.8	-10.35/-14.9	-18.49/-15.21	-16.26/-17.66	-11.64/-10.07	-10.33/-10.42	-9.74/-10.98	-13.17/-17.28
Θ(150°)	-16.9/-17.96	-19.42/-19.24	-19.45/-18.48	-14.7/-12.08	-1.19/-10.23	-6.64/-6.76	-5.56/-5.74	-5.21/-6.93	-1.04/-18.12	-18.95/-16.89	-15.16/-11.7	-8.68/-7.08	-6.3/-7.07	-9.23/-13.22	-16.74/-14.77	-16.61/-18.47	-18.88/-18.31	-18.47/-17.26	-19.06/-18.1	-18.71/-18.18	-18.91/-17.17	-18.72/-18.79	-19.02/-16.75	
Θ(157.5°)	-17.32/-18.35	-18.16/-18.97	-18.08/-17.76	-17.7/-17.62	-18.17/-15.12	-13.23/-11.05	-8.43/-6.99	-6.4/-6.08	-6.87/-9.36	-13.29/-17.18	-18.32/-18.87	-15.62/-13.07	-13.41/-16.83	-16.54/-11.5	-8.61/-7.8	-8.93/-14.38	-18.49/-18.7	-18.47/-18.07	-17.96/-17.78	-18.18/-16.76	-15.99/-17.36	-18.75/-18.37	-18.3/-17.65	-17.44/-17.19
Θ(165°)	-11.55/-12	-14.15/-17.73	-18.35/-18.91	-17.16/-16	-14.24/-11.25	-8.78/-8.16	-8.06/-7.7	-7.08/-7.56	-8.65/-9.45	-11.19/-14.26	-16.03/-15.4	-14.09/-11.64	-9.35/-8.54	-8.26/-9.07	-10.45/-11.59	-14.52/-14.39	-10.9/-3	-11.23/-18.34	-19.02/-18.82	-18.57/-18.33	-16.18/-15.03	-14.47/-12.81	-13.62/-18.18	-17.37/-13.31
Θ(172.5°)	-12.81/-13.48																							



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Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	6.23	5.81	5.59	5.8
Ant. 2 Max Gain (dBi)	4.68	3.89	3.74	4.66
Ant. 1 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Phi/52.5/157.5	Phi/60/150	Phi/82.5/247.5	Phi/82.5/255
Ant. 2 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Theta/30/292.5	Theta/75/255	Theta/52.5/157.5	Theta/75/345
Max Gain (dBi)	6.23	5.81	5.59	5.8
DG [1SS] (dBi)	6.84	7.04	6.2	6.56
DG [2SS] (dBi)	6.23	5.81	5.59	5.8



Radiated Composite Gain Data of 6GHz(2TX)

Appendix C

DG 1SS Result

Freq(Hz)	6.175GPol.	PhiL	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
DG(dBi)	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)		
Θ(0°)	-5.05/-6.75	-7.37/-7.67	-8.35/-11.06	-12.62/-13.08	-12.19/-9.15	-8.16/-6.78	-6.32/-5.75	-5.25/-4.33	-3.53/-3.19	-3.45/-3.7	-2.35/-3.58	-3.62/-4.18	-5.39/-6.45	-7.89/-10.06	-1.99/-13.65	-12.75/-10.39	-9.43/-9.17	-9.21/-7.86	-5.6/-4.54	-3.69/-3.47	-2.47/-2.47	-2.24/-2.36	-2.38/-2.46	-3.28/-3.46		
Θ(7.5°)	-2.72/-3.21	-4.06/-5.23	-5.28/-4.62	-4.21/-4.36	-3.93/-3.79	-4.15/-4.15	-3.91/-4.07	-3.61/-2.77	-2.04/-1.51	-1.02/-0.55	-0.2/-0.12	-0.08/-0.17	-0.49/-0.73	-0.81/-1.03	-1.79/-2.75	-3.96/-5.32	-7.52/-9.41	-10.43/-11.22	-9.14/-6.27	-4.29/-3.27	-3.18/-3.01	-2.78/-2.75	-2.96/-3.18	-2.9/-2.66		
Θ(15°)	-1.09/-0.03	0.570/-77	0.670/39	0.08/-0.74	-1.74/-2.51	-3.65/-4.18	-3.71/-3.05	-2.02/-1.01	-0.30/-0.6	0.460/62	0.660/69	0.70/86	0.960/98	0.32/-0.79	-1.54/-1.64	-1.62/-2.48	-3.94/-5.31	-7.38/-8.17	-7.37/-5.34	-3.24/-2.39	-2.12/-1.98	-1.82/-1.63	-1.44/-1.79	-1.62/-1.6		
Θ(22.5°)	0.240/84	0.941/45	1.661/33	0.63/-0.73	-2.01/-3.91	-5.36/-6	-5.45/-3.86	-1.250/53	0.990/75	0.660/71	0.941/15	1.151/33	1.551/15	1.140/81	0.840/98	0.940/95	0.8/-0.31	-1.89/-3.62	-3.58/-2.24	-0.90/03	0.871/01	1.190/93	0.740/15			
Θ(30°)	0.810/16	-0.69/-0.42	0.761/56	1.60/73	-0.22/-1.71	-3.5/-3.78	-4.12/-3.92	-1.780/27	1.161/44	1.52/14	2.873/01	2.872/89	33/04	3.363/54	2.971/78	0.930/9	0.45/-1.72	-4.29/-5.82	-4.78/-3.2	-0.45/-1.54	2.122/75	2.82/57	2.261/11	0.330/76		
Θ(37.5°)	0.3/-0.7	-1.68/-0.76	0.340/4	-0.51/-2.39	-2.51/-2.63	-3.1/-1.84	-0.930/87	2.162/15	1.111/93	3.144/01	4.945/19	4.444/03	2.883/1	2.62/01	0.64/-0.44	-0.420/72	1.46/-0.07	-1.51/-1.82	-2.55/-2.31	-0.29/-1.16	1.391/65	2.21/9	0.960/34	0.490/27		
Θ(45°)	1.070/48	0.231/53	2.090/7	-0.87/-1.95	-1.44/-2.3	-3.24/-0.44	0.751/86	3.883/59	1.963/08	4.885/09	5.176/19	5.84/12	3.744/02	2.50/68	-0.24/-0.37	-0.47/-0.44	0.53/-0.11	-0.73/-0.78	-0.43/-0.8	-2.060/23	0.761/29	2.582/38	1.751/05	1.911/81		
Θ(52.5°)	0.430/16	0.921/41	-0.12/-3.81	-3.67/-1.9	-0.2/-0.83	-3.4/-0.17	1.443/14	4.94/78	3.184/25	5.214/4	5.286.84	6.054/27	3.963/26	0.910/59	0.751/34	0.940/2	1.270/1	-2.17/-1.62	-0.15/-0.71	-1.55/-0.54	0.910/86	1.522/53	2.731/59	1.591/42		
Θ(60°)	2.130/24	1.070/27	-3.37/-7.87	-5.82/-1.87	-0.18/-0.68	-0.761/75	3.394/3	4.874/41	3.784/36	4.724/03	4.426/39	6.154/26	3.412/49	1.391/59	1.91/8	1.20/17	1.781/48	-0.39/-1.53	-1.15/-0.31	-1.25/-2.19	-0.230/31	12/79	3.452/21	1.822/82		
Θ(67.5°)	21/46	1.11/-0.05	-1.2/-1.1	-1.42/-0.01	-0.06/-0.69	1.983/87	4.594/79	4.543/57	3.433/52	3.292/61	3.845/27	4.462/11	0.570/82	1.090/87	0.821/21	0.50/15	1.131/42	0.211/12	0.020/01	-0.62/-2.84	0.062/11	2.182/72	2.882/28	1.682/39		
Θ(75°)	0.961/38	1.370/02	0.310/89	0.070/38	-0.2/-0.03	2.273/63	3.714/17	3.741/98	1.732/13	1.861/61	2.393/34	2.760/8	-0.93/-0.11	1.130/62	-0.92/-1.08	-1.32/-0.63	0.561/39	0.631/51	-0.460/14	-0.1/-1.56	-0.582/38	2.822/32	1.430/71	0.20/73		
Θ(82.5°)	-1.05/-0.23	-0.45/-0.98	-0.9/-0.51	-2.39/-0.95	-0.68/-0.91	0.281/12	1.172/45	2.350/1	-1.210/11	-0.670/48	0.222	0.571/-1.37	-1.93/-0.2	-0.74/-0.86	-2.43/-2.35	-1.72/-0.98	-0.590/96	1.081/8	-0.560	-0.69/-0.07	0.461/94	1.350/49	-1.46/-1.85	-1.7/-2.81		
Θ(90°)	-9.44/-3.74	-3.26/-2.88	-3.27/-1.28	-2.46/-3.23	-2.6/-2.32	-1.54/-2.13	-1.92/-1.56	-0.4/-1.16	-3.5/-2.71	-3.03/-2.73	-3.05/-0.56	-1.86/-3.84	-3.89/-1.77	-2.31/-1.07	-2.99/-4.41	-4.56/-3.06	-0.88/-0.11	-1.47/-0.45	-3.110/35	-1.82/-2.34	-1.57/-1.37	-1.94/-0.94	-3.59/-3.58	-2.67/-4.89		
Θ(97.5°)	-3.59/-9.32	-5.67/-4.26	-6.25/-2.5	-3.29/-6.13	-4.84/-4.71	-4.64/-4.6	-3.98/-3.25	-1.83/-3.85	-5.69/-5.35	-6.28/-5.31	-5.58/-2.76	-5.44/-5.73	-5.97/-2.54	-4.22/-2.42	-4.3/-6.53	-8.55/-5.84	-2.94/-2.09	-4.71/-2.78	-6.98/-1.78	-5.31/-4.69	-1.6/-4.53	-4.52/-4.78	-6.07/-4.06	-2.35/-5.85		
Θ(105°)	-10.32/-13.55	-7.61/-6.48	-5.94/-4.91	-2.36/-9.67	-8.34/-6.89	-7.17/-6.36	-6.32/-5.08	-4.09/-2.75	-7.61/-6.94	-8.31/-7.9	-9.44/-6	-7.82/-7.99	-8.71/-4.9	-6.47/-4.37	-5.97/-8.22	-10.01/-7.79	-5.15/-1.54	-8.28/-5.43	-10.13/-4.4	-6.58/-9.78	-5.13/-9.21	-8.63/-10.25	-8.1/-5.72	-5.32/-9.93		
Θ(112.5°)	-7.19/-12.48	-10.32/-7.36	-7.63/-7.39	-4.23/-8.61	-2.8/-8.61	-9.76/-9.38	-7.01/-7.09	-9.17/-11.15	-9.51/-8.9	-8.35/-9.72	-6.77/-5.83	-7.14/-6.15	-6.85/-5.34	-7.3/-6.3	-7.17/-8.23	-8.09/-8.18	-6.56/-5.97	-7.74/-5.84	-9.57/-6.96	-8.97/-9.23	-4.55/-6.23	-6.36/-9.44	-6.52/-6.81	-4.17/-6.03		
Θ(120°)	-6.7/-7.02	-10.03/-11.64	-11.45/-9.37	-12.82/-9.35	-11.07/-9.31	-7.75/-11.66	-11.52/-11.96	-10.72/-9.27	-11.47/-11.27	-9.55/-7.94	-8.38/-8.94	-8.88/-6.67	-8.1/-8.95	-6.9/-9.56	-6.04/-8.76	-8.49/-11.64	-8.31/-7.39	-8.2/-7.69	-13.59/-7.31	-9.7/-7.45	-6.09/-5.86	-6.61/-5.07	-7.6/-8	-4.61/-5.48		
Θ(127.5°)	-4.81/-8.02	-12.52/-12.74	-8.56/-9.15	-9.01/9.01	-10.78/-1.95	-13.56/-12.34	-11.54/-4.75	-7.8/-7.99	-7.79/-8.51	-7.03/-7.66	-9.13/-8.26	-10.29/-10.37	-13.64/-12.95	-8.68/-5.56	-5.38/-8.72	-9.07/-11.93	-12.69/-9.88	-10.37/-12	-13.84/-8.47	-8.76/-9.3	-7.33/-6.17	-8.09/09	-6.69/-7.3	-7.24/-7.43		
Θ(135°)	-7.5/-8.87	-11.76/-13.18	-15.07/-13.15	-13.73/-12.76	-14.04/-15.51	-7.02/-6.17	-6.19/-5.16	-9.85/-9.05	-6.15/-5.8	-8.92/-10.29	-8.54/-9.41	-9.62/-10.5	-12.22/-11.31	-9.9/-10.44	-10.35/-9.86	-7.96/-9.56	-10.91/-12.88	-12.71/-10.27	-12.18/-7.07	-6.34/-14.97	-14.45/-5.96	-4.64/-8.05	-7.29/-5.71	-9.03/-10.54		
Θ(142.5°)	-5.28/-14.65	-10.98/-9.13	-7.83/-8.8	-11.63/-13.18	-11.04/-8.76	-8.04/-9.3	-9.83/-8.51	-9.66/-7.53	-6.8/-7.89	-9.24/-11.05	-10.48/-13.37	-12.48/-12.68	-15.08/-12.36	-12.02/-13.96	-11.95/-14.89	-12.06/-11.52	-11.56/-12.27	-14.45/-15.11	-10.24/-11	-15.22/-15.05	-10.72/-10.12	-11.22/-7.12	-8.62/-9.64			
Θ(150°)	-7.88/-11.18	-15.21/-13.49	-13.37/-14.87	-11.26/-9.77	-11.7/-14.93	-13.31/-11.75	-14.18/-11.79	-8.56/-8.62	-8.89/-7.89	-6.75/-4.86	-11.42/-11.86	-11.77/-12.22	-11.55/-9.56	-7.02/-6.24	-8.86/-11.74	-11.41/-13.19	-14.91/-15.51	-14.87/-13.91	-14.97/-13.36	-12.75/-15.53	-13.29/-6.68	-10.39/-13.76	-11.79/-8.01	-6.31/-6.73		
Θ(157.5°)	-13.55/-11.72	-10.76/-12.64	-13.28/-11.17	-9.94/-12.73	-15.41/-13.29	-10.44/-10.16	-13.84/-15.52	-12.05/-10.87	-13.17/-13.38	-11.88/-12.33	-12.36/-12.12	-11.43/-11.55	-12.11/-12.38	-13.01/-12.83	-12.09/-11.06	-9.82/-9.97	-11.29/-11.6	-12.61/-14.35	-13.89/-13.31	-14.85/-15.24	-11.84/-9.59	-10.01/-12	-13.37/-12.37	-9.4/-10.31		
Θ(165°)	-14.07/-15.96	-15.23/-15.33	-11.98/-11.8	-12.04/-11.77	-13.51/-12.83	-11.97/-12.83	-16.09/-15.51	-12.66/-12.32	-12.46/-12.66	-14.07/-12.33	-13.67/-12.21	-11.19/-39	-7.85/-7.48	-7.38/-8.18	-9.81/-11.76	-12.06/-10.45	-8.83/-8.8	-9.29/-9.28	-9.6/-10.82	-12.32/-14.05	-10.41/-10.53	-10.82/-9.61	-10.82/-9.61	-9.47/-10.69		
Θ(172.5°)	-11.77/-13.33	-14.56/-15.22	-15.52/-14.78	-13.29/-12.22	-11.43/-10.82	-10.94/-11.25	-10.57/-10.09	-10.15/-10.42	-10.05/-9.7	-10.02/-10.91	-11.5/-14.26	-13.02/-13.5	-14.76/-14.67	-14.19/-14.48	-13.57/-14.1	-9.66/-9.6	-11.1/-12.11	-12.37/-13.8	-14.85/-14.19	-12.75/-13.03	-13.8/-13.01	-13.46/-13.59	-14.3/-13.46	-13.23/-12.4		
Θ(180°)	-9.44/-9.59	-9.23/-9.72	-10.22/-10.05	-10.38/-10.22	-9.57/-9.75	-10.73/-12.31	-12.74/-12.27	-12.84/-13.72	-13.64/-12.74	-11.85/-11.89	-12.4/-12.12	-11.51/-11.44	-11.05/-10.71	-9.92/-9.93	-10.76/-11.14	-11.58/-12.56	-13.02/-13.14	-14.72/-14.98	-15.46/-15.97	-15.78/-15.18	-13.31/-12.43	-12.93/-15.04	-14.56/-12.65	-10.63/-10.04		
Freq(Hz)	6.175GPol.	ThetaL	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-		
DG(dBi)	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)		
Θ(0°)	-6.42/-5.71	-5.3/-4.89	-4.06/-3.17	-3/-3.2	-3.03/-2.82	-3.53/-4.24	-5.5/-6.37	-6.36/-6.81	-8.81/-11.3	-12.55/-13.19	-11.95/-10.31	-8.87/-7.75	-6.52/-7.67	-5.34/-4.81	-4.28/-6.37	-3.94/-4.36	-4.97/-4.95	-4.9/-5.34	-6.29/-7.8	-8.91/-10.26	-12.3/-13.87	-14.15/-13.89	-12.18/-10.11	-7.94/-7.29		
Θ(7.5°)	-5.9/-4.47	-3.54/-3.76	-4.28/-3.99	-3.47/-4	-4.48/-4.18	-3.63/-3.06	-3.25/-3.98	-4.64/-5.06	-6.2/-8.1	-9.96/-10.6	-9.92/-8.77	-7.68/-7.72	-6.46/-6.24	-5.94/-6.2	-3.24/-2.27	-2.14/-2.25	-2.66/-2.66	-2.16/-2.07	-2.5/-3.27	-3.96/-4.71	-5.81/-7.81	-10.32/-12.31	-14.89/-14.25	-10.94/-7.76		
Θ(15°)	-12.22/-9.09	-5.06/-2.45	-1.29/-1.28	-2.08/-2.88	-3.46/-3.94	-4.24/-4.28	-3.66/-3.6	-2.63/-2.4	-2.42/-3.24	-4.66/-6.48	-4.87/-3.41	-2.81/-3.09	-4.79/-6.05	-4.74/-3.57	-2.63/-1.73	-1.81/-3.27	-3.25/-1.9	-1.53/-1.28	-0.93/-1.79	-3.48/-5.36	-7.08/-7.5	-6.8/-6.1	-6.4/-4.72	-9.97/-12.4		
Θ(22.5°)	-10.58/-12.79	-7.8/-4.77	-3.57/-3.36	-3.66/-4.47	-5.38/-7.24	-9.83/-11.46	-8.81/-5.48	-4.06/-3.84	-4.86/-6.03	-5.94/-4.89	-3.2/-1.73	-1.34/-2.5	-3.61/-3.05	-1.47/-1.4	1.251/99	1.520/67	0.040/69	1.752/3	0.08/-1.6	-3.44/-4.51	-5.08/-5.22	-5.14/-5.54	-7.07/-8.8			
Θ(30°)	-7.28/-6.51	-5.12/-6.21	-8/-6.36	-5.45/-5.57	-5/-4.4	-2.29/-1.46	-2.15/-3.16	-2.7/-3.02	-5.7/-0.6	-7.68/-5.31	-3.08/-0.93	0.190/2	-0.090/4	1.541/78	1.692/02	2.782/95	3.022/44	3.633/58	3.823.78	3.693/36	1.840/01	-2.94/-6.19	-6.86/-7.15	-6.98/-6.92		
Θ(37.5°)	-4.82/-5.65	-5.17/-7.5	-8.43/-5.65	-4.35/-3.33	-2.77/-1.66	-0.13/-0.03	-0.85/-1.04	-1.72/-2.62	-2.95/-4.02	-3.25/-0.77	0.360/77	1.844/43	2.252/49	2.922/93	2.262/76	3.233/13	1.62/-409	-0.531/13	2.162/62	2.892/67	1.850/42	-2.28/-4.49	-4.32/-3.45	-2.75/-3.57		
Θ(45°)	-4.97/-5.48	-5.73/-6.14	-4.85/-4.35	-0.58/-0.58	0.121/41	2.04/2.12	0.66/-0.68	-0.63/-1.9	-2.49/-1.37	-0.260/27	0.040/03															



Radiated Composite Gain Data of 6GHz(2TX)

Appendix C

Θ(22.5°)	0.650/19	-0.23/-1.27	-2.86/-3.1	-2.14/-1.18	-0.88/-1.23	-1.55/-1.02	-0.71/-0.5	-0.06/0.3	0.150/0.8	0.831/7.1	2.151/9.5	1.751/9.1	2.05/2	1.791/8.8	1.951/9.4	1.481/0.2	0.70/29	-0.38/-1.2	-2.44/-3.63	-1.52/0.71	1.93/2.81	3.09/2.37	1.090/3.7	0.26/0.64
Θ(30°)	2.78/2.1	1.25/0.09	-0.65/-0.15	0.46/-0.28	-2.1/-3.11	-3.24/-2.66	-2.88/-2.87	-1.47/0.34	1.28/2.25	3.35/3.82	3.36/1.99	1.071/6.4	1.630/69	0.050/7.7	1.71/5.5	1.01/-0.25	-2.17/-4.74	-7.17/-5.86	-3.78/-2.2	-1.22/-0.23	0.54/1.44	3.08/3.87	3.2/2.17	2.11/2.8
Θ(37.5°)	2.591/95	0.7/-1.42	-1.83/-0.22	0.29/-0.45	-0.59/-0.97	-2.57/-2.64	-0.50/-0.5	-0.50/-0.5	2.67/3.87	4.2/4.45	4.43/3.27	2.59/3.29	2.520/8.3	0.190/1.1	0.22/-0.25	0.44/0.03	-2.8/-4.26	-4.4/-3.11	-3.42/-2.43	-0.7/0.03	-0.34/-1.03	0.53/1.6	4/3.38	2.72/2.12
Θ(45°)	1.52/1.81	1.31/0.67	1.13/1.23	-0.15/-1.72	-0.4/-1.05	-2.61/-1.63	-3.61/-1.46	-0.89/0.78	4.22/4.6	4.44/5.21	5.93/5.12	3.79/3.51	2.71/0.76	-0.07/-0.52	-0.26/-0.15	-0.26/-0.49	-1.97/-2.07	-2.92/-3.44	-2.78/-1.6	-1.52/-1.29	-0.7/-0.41	0.62/2.78	2.73/2.38	1.580/96
Θ(52.5°)	-0.14/-0.26	1.56/0.63	1.03/0.23	-2.38/-2.6	-0.52/-1.1	-3.08/-1.74	-1.57/0.98	1.55/-2.42	4.84/4.73	4.77/5.89	6.24/9.5	3.09/-2.42	1.41/0.55	0.64/0.01	0.22/-0.36	-0.62/-1.24	-0.06/-1.94	-3.67/-4.79	-3.08/-3.64	-5.68/-4.45	-2.42/-0.77	0.08/0.96	-0.16/-0.07	-0.16/-0.73
Θ(60°)	2.02/2.66	0.64/-1.03	-1.09/-3.09	-6.11/-3.8	-1.17/0.43	0.44/1.06	1.93/26	2.77/3.2	4.82/4.45	4.66/5.58	5.54/4.52	2.65/1.03	0.71/0.96	0.65/-1.37	-1.79/-3.33	-2.5/-1.59	0.49/-1.88	-3.09/-4.71	-3.33/-4.8	-8.86/-7.28	-7.45/-3.49	-0.4/0	0.42/1.68	1.43/0.57
Θ(67.5°)	3.58/3.54	2.26/1.27	-1.21/-7.33	-4.4/-0.9	-0.25/-1.93	1.84/2.24	2.54/2.86	2.38/2.86	3.93/2.9	4.08/4.78	4.55/3.89	0.83/0.38	-0.56/0.23	-0.3/-0.75	-1.6/-4.06	-2.62/-0.73	2.19/0.37	-0.25/-1.87	-0.69/-1.81	-3.24/-5.05	-4.63/-3.65	-0.14/0.73	1.92/2.54	2.35/1.48
Θ(75°)	3.42/2.73	2.97/2.42	0.32/-4.7	-2.14/-0.27	0.14/-1.67	1.09/3.43	2.96/3.05	-0.17/0.84	1.75/1.41	2.56/3.03	3.45/3.17	-0.21/-1.4	-2.46/-1.8	-2.67/-2.12	-1.08/-3.79	-3.13/-1.54	2.23/2.57	2.2/-0.8	0.33/1.73	0.72/-2.12	-2.52/-2.73	0.48/0.11	0.72/1.23	0.6/-0.57
Θ(82.5°)	1.71/0.47	1.51/9.1	0.3/-1.8	-1.35/-2.32	-0.7/-0.39	1.59/3.48	2.45/2.36	-2.43/-0.42	-0.17/-0.18	0.3/1	1.69/1.45	-3.35/-2.94	-3.83/-3.53	-5.78/-2.71	-1.83/-3.84	-4.07/-1.19	2.79/3.81	3.26/-0.89	0.82/3.04	1.81/-1.74	-1.83/-1.62	0.88/-0.31	-1.63/-0.63	-2.33/-3.1
Θ(90°)	-0.38/-1.44	-0.36/-0.65	-0.64/-1.8	-3.25/-4.27	-1.74/-3.06	0.05/1.82	-0.04/-1.26	-2.67/-3.24	-1.02/-1.62	-1.17/-1.74	-0.53/-0.5	-4.03/-6.17	-5.02/-6.77	-6.31/-3.67	-2.07/-5.06	-5.46/-3.15	2.03/2.37	2.39/-1.92	-1.66/-1.47	0.78/-2.23	-2.64/-1.98	-0.86/-2.28	-3.55/-2.63	-4.61/-4.01
Θ(97.5°)	-3.45/-4.55	-3.12/-2.68	-2.46/-1.69	-6.71/-8.11	-1.88/-9.1	-6.76/-9.5	-5.98/-7.42	-2.41/-1.62	-1.84/-0.82	-4.25/-4.14	-2.43/-3.71	-3.96/-4.29	-3.4/-4.69	-6.54/-7.24	-6.17/-8.22	-4.36/-7.13	-8.05/-5.69	0.01/-0.52	-0.4/-5.1	-5.79/-1.05	-2.45/-4.94	-5.11/-4.84	-4.13/-6.57	-9.05/-4.84
Θ(105°)	-5.68/-6.48	-6.6/-4.89	-3.1/-2.81	-8.49/-12.19	-4.11/-4.55	-6.17/-5.5	-3.77/-3.4	-6.26/-6.29	-5.93/-6.19	-6.58/-6.51	-5.36/-7.69	-7.15/-8.99	-6.79/-9.08	-6.25/-5.87	-3.98/-6.66	-8.03/-6.83	-2.84/-3.34	-3.17/-9.45	-9.05/-4.02	-3.89/-7.85	-7.41/-8.52	-6.34/-8.54	-8.26/-6.77	-11.36/-8.75
Θ(112.5°)	-9.24/-8.04	-0.19/-7.42	-8.19/-6.14	-5.15/-11.14	-7.21/-6.3	-4.78/-6.27	-5.7/-5.83	-5.45/-6.39	-9.86/-10.23	-8.29/-9.5	-7.65/-9.2	-9.45/-10.65	-8.72/-8.59	-7.58/-6.35	-6.58/-6.97	-11.45/-9.23	-4.19/-2.87	-4.38/-10.52	-8.52/-3.84	-5.89/-9.26	-7.78/-8.2	-7.3/-7.08	-8.65/-5.13	-4.89/-6.67
Θ(120°)	-7.05/-8.77	-0.4/-10.5	-1.88/-9.1	-6.76/-9.5	-6.37/-13.68	-1.18/-8.9	-9.06/-12.24	-8.59/-9.59	-11.94/-12.92	-8.11/-10.6	-11.2/-11.69	-11.01/-10.81	-7.16/-5.66	-8.21/-10.15	-15.03/-10.38	-6.9/-3.7	-7.29/-11.23	-15.66/-7.95	-7.27/-13	-8.45/-7.74	-9.5/-9.81	-10.27/-7.89	-5.57/-7.34	-5.57/-7.34
Θ(127.5°)	-6.92/-8.83	-8.26/-13.39	-13.71/-15.33	-8.23/-10.8	-11.7/-10.1	-6.38/-10.01	-6.11/-10.84	-8.76/-8.75	-7.28/-8.84	-8.65/-9.05	-5.9/-8.05	-10.23/-14.1	-8.53/-10.44	-8.28/-8.72	-4.56/-7.9	-14.61/-12.91	-12.27/-9.15	-10.65/-15.4	-15.1/-9.67	-9.52/-11.7	-7.17/-7.83	-10.38/-8.48	-12.19/-10.23	-9.06/-5.1
Θ(135°)	-9.26/-10.4	-11.16/-10.91	-13.74/-11.54	-12.6/-12.48	-14.95/-12.46	-7.31/-10.01	-6.41/-8.45	-8.67/-8.45	-10.13/-10.44	-6.91/-7.9	-9.34/-8.55	-8.21/-10.84	-7.18/-6.86	-9.09/-6.51	-6.47/-9.45	-14.96/-9.87	-8.3/-6.62	-7.03/-10.2	-13.51/-10.14	-5.97/-11.65	-15.12/-7.67	-7.3/-12.81	-10.45/-11.89	-11.94/-8.77
Θ(142.5°)	-9.16/-12.58	-12.45/-13.29	-11.81/-13.26	-15.22/-12.88	-11.49/-10.88	-14.62/-10.36	-8.91/-11.61	-11.52/-9.78	-9.42/-9.33	-9.79/-10.53	-11.47/-12.95	-12.39/-11.12	-9.04/-8.72	-11.23/-12.77	-15.65/-14.58	-15.41/-12.62	-10.91/-13.05	-15.59/-13.82	-9.75/-12	-13.11/-05	-10.12/-14.19	-15.26/-8.75	-15.62/-8.33	-7.52/-8.33
Θ(150°)	-15.68/-12.46	-11.29/-9.58	-12.35/-13.2	-15.66/-9.27	-15.66/-9.27	-7.59/-12.37	-10.33/-9.06	-8.21/-10.19	-8.61/-7.99	-10.79/-13.34	-12.4/-15.18	-15.52/-12.46	-12/-13.63	-13.96/-12.79	-11.4/-12.34	-12.94/-14.73	-9.14/-8.91	-12.59/-15.6	-14.82/-12.8	-8.83/-8.54	-12.03/-15.84	-13.32/-13.6	-12.62/-10.93	-9.45/-11.84
Θ(157.5°)	-12.18/-10.87	-12.48/-12.38	-13.63/-14.92	-14.92/-14.58	-10.99/-8.96	-8.89/-14.89	-13.2/-10.49	-11.46/-13.6	-10.4/-8.34	-8.52/-9.66	-11.25/-13.55	-14.93/-14.67	-11.5/-9.86	-9.06/-9.94	-13.19/-15.54	-14.99/-14.73	-12.45/-12.62	-15.1/-13.82	-10.96/-14.29	-15.23/-11.8	-10.27/-10.24	-10.06/-9.76	-11.02/-13.16	-15.35/-15.21
Θ(165°)	-10.91/-11.6	-12.8/-13.87	-13.04/-14.29	-14.13/-12.91	-11.94/-13.34	-15.75/-15.53	-14.73/-14.34	-13.67/-12.72	-10.53/-10.41	-13.52/-15.51	-12.46/-11.2	-9.97/-8.47	-6.93/-12.7	-7.31/-7.23	-8.07/-8.95	-10.66/-12.51	-11.58/-11.14	-12/-11.67	-12.24/-15.4	-15.17/-13.44	-11.19/-9.98	-10.36/-10.71	-11.64/-14.29	-14.23/-11.89
Θ(172.5°)	-14.84/-15.51	-15.37/-14.97	-15.28/-14.2	-12.71/-12.6	-13.1/-13.49	-15.2/-15.06	-14.5/-13.83	-14.04/-14.02	-14.87/-15.14	-14.88/-14.21	-13.96/-13.66	-13.28/-12.74	-11.87/-12.78	-14.06/-14.1	-12.88/-10.63	-9.9/-9.1	-8.55/-8.44	-9.63/-12.64	-15.08/-14.86	-15.67/-15.14	-14.08/-13.03	-13.61/-13.94	-13.57/-13.99	-15.27/-15.15
Θ(180°)	-11.57/-10.87	-10.27/-11.14	-10.89/-10.4	-10.99/-11.89	-13.1/-12.6	-12.63/-12.19	-11.85/-12.61	-13.53/-14.95	-15.28/-15.42	-13.36/-12.15	-11.97/-11.77	-10.74/-10.4	-11.25/-11.75	-11.56/-11.94	-12.84/-11.8	-11.21/-12.46	-13.99/-12.72	-13.33/-14.27	-14.78/-15.63	-15.38/-15.25	-13.13/-13.67	-13.31/-14.94	-15.22/-15.45	-14.99/-12.25
Freq(Hz)	6.995GPol.	Theta/°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-7.64/-7.17	-5.92/-4.99	-4.85/-5.07	-5.16/-5.02	-4.32/-3.64	-3.52/-3.88	-4.39/-4.5	-3.87/-3.36	-3.47/-4.26	-4.62/-5.03	-5.7/-5.92	-6.71/-7.71	-7.78/-7.95	-7.18/-6.76	-5.72/-5.12	-4.99/-5.77	-6.35/-5.5	-4.81/-4.84	-4.86/-5.11	-4.81/-4.36	-5.45/-5.22	-5.62/-6.09	-5.79/-6.06	-6.55/-7.48
Θ(7.5°)	-7.8/-7.74	-7.94/-6.74	-7.85/-6.8	-8.87/-8.87	-7.59/-6.13	-6.01/-6.66	-7.84/-8.48	-9.31/-10.39	-11.4/-12.14	-11.05/-10.33	-9.39/-9.29	-11.12/-12.89	-13.61/-10.97	-8.42/-3.71	-6.06/-4.5	-3.71/-4.05	-4.2/-3.57	-3.71/-3.68	-3.28/-3.35	-3.59/-2.48	-5.14/-6.12	-7.11/-8.59	-9.07/-9.2	-8.74/-8.15
Θ(15°)	-9.3/-9.42	-7.76/-6.82	-6.58/-6.68	-8.32/-10.8	-9.76/-6.62	-7.36/-2.51	-2.12/-2.22	-2.66/-0.49	-5.97/-8.9	-10.46/-10.77	-10.8/-6.65	-10.33/-13.69	-10.92/-6.41	-4.11/-3.65	-2.95/-1.25	-0.06/-0.13	-0.9/-1.02	-0.6/-0.46	-1.11/-1.75	-3.08/-5.22	-7.68/-10.29	-13.97/-15.38	-11.76/-8.58	-8.55/-9.03
Θ(22.5°)	-11.14/-15.98	-10.25/-6.69	-5.41/-5.13	-5.58/-8.09	-10.93/-9.46	-5.45/-3.28	-1.97/-1.68	-2.18/-3.01	-3.26/-3.89	-4.55/-6.25	-8.29/-9.03	-6.73/-2.67	-0.35/0.05	-0.48/-0.49	0.09/0.89	1.01/0.34	-0.23/0.17	0.65/0.69	0.7/0.63	-0.31/-2.12	-3.95/-3.73	-3.57/-6.19	-8.44/-6.56	-6.8/-8.18
Θ(30°)	-9.13/-11.48	-10.5/-8.25	-8.59/-7.1	-5.99/-7.48	-12.61/-15.63	-10.66/-10.53	-7.26/-4.05	-3.73/-5.11	-4.6/-2.08	-1.18/-1.62	-1.86/-1.43	-1.28/-0.05	0.67/0.39	0.15/1.21	1.19/0.3	0.3/-0.27	-0.22/-0.02	0.16/0.04	-0.66/-1.22	-0.33/0.68	0.06/-0.42	0.78/-0.42	-3.27/-5.03	-6.97/-8.34
Θ(37.5°)	-4.75/-5.38	-4.14/-6.09	-7.84/-8.44	-7.7/-9.44	-13.88/-6.76	-4.11/-4.74	-4.79/-2.43	-1.6/-2.12	-1.88/-0.17	0.43/-1.13	-1.03/0.2	-0.88/-1.37	0.06/0.64	1.06/1.94	1.17/-1.29	-2.23/-1.92	-0.98/-1.1	-0.9/-0.11	-0.43/-1.96	-2.77/-1.19	0.11/0.25	1.53/-1.2	-0.39/-2.69	-5.5/-5.83
Θ(45°)	-1.02/-0.56	-1.16/-3.32	-6.38/-5.36	-2.87/-3.65	-4.76/-3.53	-4.39/-2.55	-1.96/-0.85	-0.11/-0.72	-1.27/-1.54	0.09/1.77	-0.06/-1.22	1.07/1.19	1.43/1.51	-0.21/-2.24	-0.95/-0.36	-1.14/-2.61	-2.98/-2.13	-2.09/1.53	-2.23/-3.36	-1.86/-0.37	1/1.47	0.52/-2.13	-3.22/-1.49	-3.22/-1.49
Θ(52.5°)	0.19/-0.35	-0.55/-2.54	-7.89/-4.36	-1.94/-3.08	-3.03/-3.27	-0.66/0.4	-1.11/-2.02	-1.46/-1.5	-0.62/-2.09	-3.45/-6.26	2.34/2.79	0.31/-0.1	0.39/-0.41	0.06/0.39	-1.33/-1.75	0.48/1.35	1.15/-0.86	-2.08/-1.87	-2.51/-2.24	-1.01/-3.17	-3.02/-1.36	-0.52/0.74	0.19/0.32	-0.97/-0.84
Θ(60°)	-1.03/-1.34	-3.34/-5.26	-8.12/-4.97	-3.77/-2.72	-2.09/-1.84	-0.71/0.6	-0.8/-1.45	-2.27/-2.31	-4.9/-1.23	2.45/2.86	0.22/-1.2	-0.17/-0.36	1.05/0.5	-1.71/-1.41	-0.15/1.64	2.77/0.97	0.62/-0.16	-2.11/-1.34	-0.29/-2.37	-4.13/-1.64	-2.19/-1.64	-0.33/-1.54	1.21/-0.74	1.21/-0.74
Θ(67.5°)	0.45/-3.67	-5.75/-9.29	-6.89/-4.25	-3.21/-2.38	-0.33/0.62	0.1/-0.73	0.09/-1.83	-0.65/-0.46	-4.45/-3.8	-4.79/-1.74	1.55/1.33	-0.71/-1.06	-0.27/-0.59	0.46/-1.4	-0.35/0.56	0.42/1.35	3.82/2.41	0.71/-0.96	-0.91/-0.29	-0.86/-1.03	-2.68/-1.96	-3.14/-1.87	-0.35/2.38	3.0/7
Θ(75°)	1.33/-4.58	-8.63/-10.93	-7.66/-3.44	-2.71/-3.28	-0.05/0.92	0.11/-0.8	-2.57/-2.94	-3.31/-0.23	-5.67/-7.56	-5.68/-3.49	-0.27/0.39	-2.14/-2.55	-0.38/-2.56	-0.47/-1.59	-0.74/0.36	-0.05/0.66								



Sporton International Inc.



Radiated Composite Gain Data of 6GHz(2TX)

Appendix C

Θ(22.5°)	-2.68/2.59	-2.34/-2.9	-3.37/-3.24	-2.64/-1.48	-0.49/-0.1	0.30/8	0.66/0.16	-0.47/-0.82	-1.26/-1.54	-1.1/-0.13	0.51/-0.13	-1.37/-1.84	-1.45/-0.76	-0.30/-59	1.32/1.85	2/2.13	2.14/1.98	1.22/-0.11	-1.27/-1.94	-1.97/-1.81	-1.39/-0.57	-0.5/-1.43	-2.23/-2.42	-2.51/-2.64
Θ(30°)	-1.06/-1.09	-0.88/-0.94	-0.83/-0.06	0.30/12	-0.67/-1.25	-1.7/-1.62	-2.27/-3	-2.55/-1.31	-0.76/-407	0.22/0.85	1.13/0.36	-0.66/-0.5	-0.11/0.11	0.65/1.7	2.23/1.54	0.38/-1.93	-4.37/-5.36	-5.93/-6.24	-4.65/-3.44	-2.66/-2.83	-2.47/-1.2	0.54/1.48	1.13/-0.29	-1.66/-1.32
Θ(37.5°)	-2.01/-2.06	-2.13/-2.16	-1.24/0.36	1.12/1.24	1.24/0.47	-0.61/-1.83	-3.67/-4.57	-3.89/-2.01	-0.47/0.14	0.87/1.78	1.81/1.1	1.02/1.67	1.50/96	1.31/82	1.88/1.07	0.99/-0.24	-2.02/-2.52	-3.03/-4	-5.7/-4.19	-2.18/-2.41	-3.32/-2.64	-3.41/0.05	1.8/1.2	-0.63/-2.27
Θ(45°)	-3.55/-3.01	-2.54/-1.22	0.49/1.3	0.75/-0.13	-0.95/-1.17	-0.6/-0.89	-2.13/-3.7	-3.12/-0.74	1.1/1.59	2.58/3.77	3.27/2.51	2.45/2.54	2.34/2.35	1.72/1.29	1.37/1.36	2.07/1.21	-0.36/-1.69	-2.44/-3.3	-3.18/-2.64	-3.02/-2.67	-1.81/-0.76	0.29/0.69	0.65/0.21	-0.76/-2.81
Θ(52.5°)	-5.14/-2.49	-1.86/-0.65	0.21/0.35	-1.06/-1.34	-1.12/-1.67	-1.34/-1.46	-1.5/-1.58	-0.67/-1.59	2.47/2.15	3.44/7.1	3.79/2.73	1.97/2.07	2.54/2.65	1.34/0.45	-0.13/-0.27	1.12/0.78	0.67/-2.31	-3.5/-3.36	-1.94/-3.54	-6.69/-5.23	-3.05/-1.2	0.12/-0.77	-1.37/-2.12	-3.17/-5.75
Θ(60°)	-2.83/-3.87	-4.28/-3.52	-4.21/-4.66	-5.8/-2.37	0.2/1.71	2.15/1.08	1.11/1.58	0.69/2.47	3.62/3.61	3.97/4.9	4.23/0.06	1.59/1.17	2.04/2.17	0.46/-0.51	-0.74/-1.71	-0.48/0.35	1.74/-0.98	-1.71/-3.26	-2.39/-3.22	-8.72/-9.44	-6.4/-4.7	-0.98/-1.34	0.55/0.86	-1.83/-3.68
Θ(67.5°)	0.45/-2.15	-3.62/-2.94	-5.62/-10.31	-6.67/-0.79	2.06/3.6	3.11/2.28	1.68/1.27	0.39/2.8	3.54/3.06	3.58/4.41	3.52/2.47	0.06/0.39	0.52/0.65	-0.93/-0.44	-0.76/-2.34	-0.6/1.47	3.68/2.46	2/0.35	0.13/0.08	-4.98/-5.34	-4.68/-2.97	0.22/-0.92	1.78/2.2	-0.11/-0.94
Θ(75°)	2.1/-1.48	-1.75/-1.06	-2.62/-5.41	-4.45/-4.17	2.08/2.78	2.69/3.74	3.27/2.24	-1.46/0.07	2.77/1.45	2.22/3.16	2.97/2.27	-0.52/-0.24	-0.68/-0.8	-2.42/-1.88	-0.9/-2.24	-1.41/0.62	3.74/5.55	4.61/3.37	1.53/54	-0.1/-3.18	-3.17/-1.36	1.53/-1.6	1.27/1.62	-0.43/-0.68
Θ(82.5°)	1.64/-3.1	-4.41/-2.12	-2.5/-2.8	-2.67/-4.13	0.83/1.16	2.33/4.06	2.96/2.49	-1.99/-1.81	1.93/-0.21	0.17/1.37	1.73/0.87	-2.82/-1.36	-2.08/-2.94	-4.91/-3.2	-1.72/-3.21	-2.37/0.59	3.87/5.59	5.39/1.24	2.26/6.4	1.22/-3.19	-2.47/1.1	2.62/-0.29	0.03/1.18	-1.04/-1.61
Θ(90°)	1.1/-2.71	-5.15/-5.52	-4.8/-3.82	-3.78/-5.65	-0.65/-1.69	2.36/2.39	1.75/2.01	-1.56/-5.02	0.47/-1.09	-2.15/-1.05	-0.85/-1.07	-3.49/-4.81	-3.38/-5.47	-5.98/-4.99	-2.63/-5.83	-5.06/-1.43	3.07/4.04	4.21/0.09	0.14/3.46	0.43/-3.91	-3.96/0.04	1.29/-1.45	-2.17/-0.67	-3.13/-2.23
Θ(97.5°)	-2.24/-3.49	-5.27/-7.7	-6.68/-4.42	-7.88/-8.42	-2.18/-3.42	-0.37/-0.6	0.11/0.44	-4.86/-6.25	-0.98/-3.7	-4.82/-3.49	-2.63/-4.26	-5.46/-6.21	-5.37/-7.4	-7.51/-5.07	-4.85/-6.86	-6.92/-4.54	1.14/0.8	0.93/-3.6	-4.2/-1.4	-2.38/-6.88	-7.7/-3.17	-2.27/-5.17	-4.82/-3.16	-8.77/-5.92
Θ(105°)	-5.73/-5.33	-6.82/-7.87	-7.68/-7.26	-13.13/-12.62	-3.45/-3.82	-6.3/-4.6	-2.9/-2.16	-7.74/-7.77	-4.67/-6.38	-6.31/-5.97	-4.17/-6.78	-6.08/-6.15	-6.8/-8.7	-7.89/-7.4	-5.69/-6.65	-7.04/-7.12	-2.3/-2.19	-2.6/-9.11	-8.49/-2.19	-5.79/-11.53	-13.82/-8.81	-5.06/-8	-7.32/-7.39	-12.68/-13.99
Θ(112.5°)	-12.25/-10.97	-11.27/-10.15	-10.32/-11	-9.95/-11.3	-6.95/-4.93	-4.16/-4.9	-5.67/-4.57	-4.22/-5.6	-9.56/-12.87	-8.92/-9.15	-6.48/-8.45	-9.09/-10.75	-8.45/-13.08	-10.86/-10.92	-7.67/-7.42	-12.06/-9.21	-4.5/-1.71	-3.53/-10.41	-9.3/-2.15	-6.56/-12.06	-13.54/-9.52	-6.58/-6.63	-8.05/-7.48	-8.82/-11.24
Θ(120°)	-11.54/-18.58	-16.74/-10.91	-12.36/-11.69	-10.03/-14.35	-9.26/-15.33	-11.81/-5.53	-4.53/-6.55	-8.49/-13.45	-10.4/-12.16	-17.57/-13.16	-14.88/-16.22	-14.26/-15.53	-12.53/-11.08	-9.49/-10.14	-17.48/-11.62	-7.52/-3.54	-6.37/-11.61	-18.71/-6.93	-11.35/-11.18	-10.54/-12.58	-10.15/-9.42	-8.31/-8.57		
Θ(127.5°)	-9.23/-15.88	-13.33/-15.38	-15.21/-18.16	-13.09/-14.35	-19.36/-9.93	-8.87/-9.67	-10.34/-15.49	-17.14/-15.35	-13.12/-13.44	-15.08/-14.25	-12.4/-11.95	-14.88/-15.48	-14.63/-18.77	-13.55/-17.61	-6.39/-8.26	-17.98/-13.62	-14.15/-9.29	-10.77/-17.72	-18.07/-9.9	-10.34/-17.23	-11.51/-12.87	-13.84/-15.39	-14.58/-10.2	-13.01/-10.54
Θ(135°)	-14.94/-13.24	-14.71/-17.51	-15.52/-11.92	-13.9/-13.46	-17.35/-18.94	-11.52/-11.8	-11.52/-14.04	-17.2/-19.03	-18.55/-18.74	-18.85/-17.73	-18.78/-19.14	-19.11/-19.06	-18.91/-14.85	-17.08/-15.15	-6.82/-9.34	-17.78/-10.65	-8.37/-6.72	-5.88/-9.68	-14.74/-10.05	-5.8/-12.06	-19.01/-9.31	-11.83/-18.58	-14.12/-17.35	-16.69/-13.78
Θ(142.5°)	-12.42/-13.51	-13.99/-14.93	-14.85/-15.71	-17.81/-17.97	-16.55/-15.01	-18.09/-17.23	-16.07/-18.57	-17.13/-13.66	-17.68/-19.19	-17.29/-17.48	-18.09/-16.72	-18.79/-19.19	-18.59/-13.13	-17.36/-13.42	-11.63/-13.44	-18.32/-17.52	-18.36/-13.02	-10.85/-14.7	-19.05/-17.42	-11.98/-14.51	-16.98/-18.11	-17.39/-17.89	-18.13/-16.85	-18.17/-13.25
Θ(150°)	-19.06/-19.15	-18.97/-14.74	-14.16/-14.05	-16.1/-16.79	-18.95/-13.2	-11.14/-13.03	-13.78/-16.12	-17.72/-19.28	-18.95/-17.83	-17.38/-17.85	-18.84/-18.26	-19.08/-19.24	-18.98/-19.36	-17.76/-18.16	-14.49/-13.33	-14.49/-12.43	-11.94/-13.17	-18.13/-18.29	-17.95/-13.62	-10.87/-11.81	-15.69/-16.98	-18.27/-18.25	-18.48/-17.46	-18.26/-17.62
Θ(157.5°)	-18.48/-17.42	-18.58/-15.69	-17.21/-18.95	-18.13/-17.93	-13.58/-14.03	-16.01/-17.84	-19.26/-17.74	-18.94/-18.83	-17.92/-18.4	-15.78/-15.38	-18.41/-17.25	-15.5/-18.95	-17.59/-18.03	-14.92/-12.99	-15.41/-18.54	-18.67/-18.45	-12.89/-13.02	-17.73/-15.24	-14.83/-18.62	-18.28/-18.7	-18.46/-18.66	-17.75/-18.01	-19.04/-18.22	-18.27/-17.8
Θ(165°)	-18.26/-18.33	-18.28/-18.94	-17.77/-18.34	-18.1/-15.75	-14.04/-15.78	-19.22/-17.93	-17.9/-16.78	-15.37/-14.18	-12.76/-13.4	-16.26/-13.73	-17.34/-18.71	-17.41/-17.42	-17.45/-18.63	-16.64/-12.53	-13.06/-14.3	-13.91/-14.95	-17.81/-18.25	-19.31/-18.38	-18.53/-16.85	-16.61/-16.16	-18.52/-18.18	-18.27/-18.24	-18.16/-18.87	
Θ(172.5°)	-17.86/-18.32	-18.79/-18.12	-17.58/-18.45	-18.37/-17.23	-17.62/-18.36	-18.43/-18.64	-16.87/-15.97	-15.67/-15.96	-16.88/-18.47	-18.89/-18.62	-18.53/-19.03	-18.78/-18.86	-18.05/-18.79	-18.78/-18.77	-16.66/-14.33	-13.37/-11.84	-10.88/-16.66	-11.36/-13.42	-17.27/-17.79	-18.49/-18.43	-18.41/-16.75	-16.06/-17.57	-17.69/-17.37	-18.92/-18.3
Θ(180°)	-18.43/-18.38	-18.60/-18.2	-18.05/-18.03	-18.39/-18.58	-18.52/-18.8	-17.87/-16.48	-15.86/-16.1	-18.04/-17.57	-18.13/-18.49	-18.17/-17.98	-18.38/-18.82	-17.86/-17.8	-18.7/-18.59	-18.17/-17.96	-18.31/-18.79	-17.71/-17.61	-18.62/-17.89	-18.24/-17.32	-17.62/-18.69	-18.2/-18.48	-18.05/-19.1	-17.91/-17.98	-18.63/-18.61	-18.69/-19.19
Freq(Hz)	6.995GPol.	ThetaAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-6.61/-6.46	-6.53/-6.82	-8.05/-9.52	-11.14/-12.31	-12.72/-14.23	-15.78/-17.99	-18.79/-18.2	-16.36/-13.44	-11.95/-11.11	-9.94/-9.43	-8.94/-7.66	-6.89/-6.68	-6.79/-7.16	-7.81/-8.68	-9.48/-10.65	-12.24/-15.34	-18.34/-18.71	-15.81/-18.94	-17.45/-18.87	-16.37/-13.71	-12.57/-11.59	-9.99/-8.43	-6.57/-6.84	-6.04/-6.53
Θ(7.5°)	-8.33/-8.92	-9.41/-10.3	-11.9/-14.53	-17.25/-10.72	-14.64/-12.27	-11.99/-12.1	-12.51/-14.03	-14.59/-17.09	-18.31/-18.73	-16.69/-15.28	-12.87/-11.53	-12.34/-14.15	-14.85/-14.41	-13.31/-14.42	-16.09/-15.94	-15.43/-16.79	-18.02/-17.08	-19.01/-18.17	-14.75/-14.01	-12.24/-12.16	-11.5/-11.41	-10.65/-9.61	-8.65/-8.42	-8.06/-8.05
Θ(15°)	-14.56/-11.08	-9.53/-9.38	-9.9/-11.05	-14.03/-19.5	-18.54/-12.93	-9.73/-8.26	-7.46/-8.1	-8.6/-9.05	-10.19/-12.1	-14.11/-13.35	-15.5/-17.82	-11.41/-6.64	-5.75/-7.51	-6.84/-6.55	-5.77/-6.96	-9.09/-9.14	-7.82/-6.96	-6.8/-7.61	-10.29/-13.88	-16.75/-17.37	-14.22/-18.92	-16.96/-14.54	-17.09/-17.03	
Θ(22.5°)	-18.99/-18.38	-15.96/-13.89	-12.02/-11.62	-11.66/-13.83	-18.2/-17.03	-11.11/-8.78	-7.27/-6.83	-7.13/-7.41	-6.82/-6.88	-7.36/-8.85	-10.45/-11.52	-10.46/-5.74	-3.28/-3.66	-3.2/-2.55	-3.32/-5.6	-7.29/-6.88	-1.68/-5.28	-4.66/-5.53	-8.13/-13.87	-17.42/-9.57	-6.07/-6.27	-7.63/-8.54	-11.44/-17.24	
Θ(30°)	-15.73/-18.11	-17.51/-13.89	-14.01/-11.69	-12.45/-15.72	-19.08/-18.33	-15.31/-11.54	-8.6/-7.25	-7.45/-8.48	-6.66/-6.48	-5.62/-5.86	-10.31/-10.33	-12.42/-8.25	-5.49/-5.48	-5.68/-5.18	-7.66/-11.98	-9.65/-9.59	-9.98/-9.56	-8.7/-7.2	-5.77/-5.71	-5.91/-6.92	-11.32/-17.19	-7.18/-4.4	-4.77/-1.7	-12.29/-16.53
Θ(37.5°)	-18.84/-13.12	-8.47/-12.64	-10.41/-8.07	-8.29/-11.13	-16.22/-14.78	-10.07/-17.7	-7.02/-7.05	-5.97/-5.46	-4.88/-3.85	-5.65/-10.45	-10.02/-10.36	-17.8/-14.88	-8.61/-5.84	-4.89/-5.27	-14.58/-13.44	-10.51/-9.6	-10.56/-11.28	-11.89/-10.81	-10.3/-10.14	-9.56/-8.51	-5.58/-5.42	-5.07/-6.34	-10.29/-18.53	
Θ(45°)	-8.32/-6.36	-4.95/-8.47	-10.22/-6.23	-4.19/-9.68	-17.02/-15.5	-6.84/-6.02	-6.73/-8.33	-6.46/-4.25	-4.11/-5.29	-8.2/-7.11	-5.22/-7.7	-18.46/-17.81	-9.68/-7.15	-5.91/-7.21	-7.89/-9.58	-8.42/-10.16	-17.88/-18.36	-17.31/-14.92	-19.03/-17.04	-17.42/-17.5	-15.41/-9.14	-5.53/-6.69	-10.15/-15.63	-14/-11.45
Θ(52.5°)	-6.12/-5.94	-5.87/-9.39	-13.25/-7.82	-7.91/-18.91	-12.48/-11.83	-8.23/-9.09	-6.28/-9.31	-7.28/-5.49	-6.76/-7.8	-10.18/-2.89	-1.8/-7.69	-17.74/-15.28	-18.53/-18.57	-13.69/-10.75	-9.42/-10.73	-8.49/-4.5	-9.03/-12.92	-17.17/-11.26	-12.63/-19.15	-18.65/-18.9	-17.78/-10.54	-6.97/-10	-19.37/-11.62	-11.15/-8.09
Θ(60°)	-4.71/-6.37	-11.54/-15.45	-15.61/-13.54	-16.51/-15.84	-8.22/-7.15	-7.49/-5.01	-6.3/-9.15	-7.94/-7.32	-11.59/-9.76	-11.09/-4.22	-0.96/-6.44	-18.44/-13.75	-10.94/-11.85	-6.79/-7.4	-8.62/-8.08	-8.53/-9.1	-6.78/-8.46	-12.46/-10.44	-10.96/-12.72	-19.09/-18.35	-18.22/-14.17	-11.47/-17.94	-17.12/-7.29	-5.75/-4.1
Θ(67.5°)	-2.25/-6.8	-14.6/-17.52	-17.43/-18.67	-17.24/-12.82	-6.31/-6.23	-7.99/-3.98	-4.85/-9.12	-8.06/-8.88	-16.48/-9.43	-12.05/-4.6	-1.97/-10.19	-1.92/-8.54	-6.59/-8.38	-4.66/-8.26	-7.91/-6.49	-7.44/-8.47	-3.66/-6.2	-11.54/-14.58	-12.35/-10.64	-17.48/-18.02	-16.12			



Radiated Composite Gain Data of 6GHz(2TX)

Appendix C

Θ(75°)	-5.81/3.31	-0.8/-0.56	-3.29/6.47	-10.41/-15.63	-14.71/-11.27	-6.92/3.88	-3.44/-3.27	-3.06/-4.69	-4.05/-5.01	-5.19/-7.22	-7.39/3.63	-7/-11.89	-19.03/-14.55	-7.76/-9.61	-16.2/-11.75	-10.83/-18.42	-11.32/-8.11	-7.74/-6.93	-18.15/-11.87	-6.81/-10.48	-14.49/6.46	-4.38/-6.4	-10.5/-12.77	-14.7/-6.52
Θ(82.5°)	-11.09/-5.7	-4.61/-2.9	-4.9/-8.33	-14.87/-17.4	-13.93/-15.46	-9.95/-7.03	-7.27/-6.66	-6.43/-8.04	-8.21/-7.51	-9.98/-7.58	-11.89/-8.95	-10.64/-18.88	-14.06/-9.11	-7.49/-11.82	-17.33/-13.15	-12.15/-16.42	-14.82/-11.84	-8.86/-6.33	-14.96/-10.45	-7.83/-7.49	-15.5/-7.44	-7.27/-10.69	-14.93/-17.4	-18.26/-13.36
Θ(90°)	-18.96/-10.68	-11.75/-6	-7.47/-6.88	-11.08/-18.21	-16.34/-16.44	-10.08/-11.62	-9.28/-15.35	-12.16/-9.79	-9.02/-10.28	-11.59/-12.07	-18.04/-10.23	-11.3/-17.28	-11.71/-9.41	-6.83/-9.37	-15.43/-15.8	-15.72/-16.14	-14.01/-15.9	-16.34/-8.62	-18.69/-6.49	-8.49/-9.34	-18.12/-12.55	-11.14/-10.2	-18.68/-18.46	-15.83/-10.58
Θ(97.5°)	-9.18/-18.3	-12.63/-6.86	-9.05/-6.17	-9.8/-16.88	-15.23/-16.7	-12.09/-17.75	-11.46/-15.19	-10.19/-11.33	-10.51/-15.77	-16.14/-13.92	-17.57/-11.74	-15.35/-14.22	-10.28/-17.51	-7.62/-10.17	-14.04/-16.96	-19.08/-16.44	-18.67/-13.57	-18.31/-10.35	-18.12/-7.06	-10.01/-8.81	-10.07/-15.75	-13.41/-12.07	-18.56/-15.58	-10.76/-10.86
Θ(105°)	-15.99/-17.41	-18.29/-8.53	-8.45/-8.46	-7.24/-19.49	-18.22/-18.88	-12.91/-18.08	-18.62/-14.45	-13.45/-13.78	-12.53/-17.1	-17.47/-14.26	-18.01/-11.78	-13.94/-12.39	-10.79/-7.82	-11.02/-10.15	-16.88/-18.78	-18.12/-16.38	-18.04/-14.72	-19.28/-11.44	-17.8/-7.47	-9.14/-9.3	-9.46/-16.28	-14.25/-19.77	-15.72/-18.37	-15.19/-16.51
Θ(112.5°)	-10.55/-15.86	-18.67/-9.96	-12.46/-11.32	-9.82/-18.39	-11.52/-17.45	-11.24/-16.24	-18.11/-13.88	-15.16/-18.42	-18.04/-14.57	-15.9/-14.66	-9.9/-9.31	-11.11/-7.81	-8.2/-7.01	-9.58/-11.31	-17.64/-16.08	-18.91/-18.45	-16.37/-13.84	-18.15/-12.83	-12.95/-9.61	-9.64/-11.52	-14.16/-10.9	-11.31/-19.1	-6.8/-9.17	
Θ(120°)	-6.78/-10.46	-10.78/-17.82	-15.83/-10.5	-18.09/-14.81	-14.27/-14.24	-17.68/-18.23	-18.99/-18.31	-17.43/-13.9	-16.24/-17.42	-13.61/-10.01	-11.25/-13.04	-13.21/-9.35	-10.62/-9.05	-10.56/-14.76	-13.28/-16.95	-18.06/-18.81	-13.49/-11.49	-16.34/-14.85	-15.58/-8.99	-12.77/-8.22	-7.97/-10.87	-9.13/-5.1	-10/-17.31	-8.83/-5.4
Θ(127.5°)	-4.04/-9.94	-13.56/-13.71	-10.37/-18.22	-11.41/-15.08	-19/-13.46	-18.37/-13.44	-15.17/-6.37	-10.79/-9.01	-8.15/-8.87	-7.66/-7.66	-9.63/-9.28	-11.01/-10.44	-15.1/-15.2	-7.87/-8.24	-18.02/-16.89	-12.84/-16.1	-17.93/-12.86	-12.97/-12.67	-18.88/-10.31	-10.99/-8.99	-6.42/-8.85	-8.04/-11.75	-11.62/-10.77	-13.16/-6.41
Θ(135°)	-9.73/-10.04	-12.32/-14.47	-18.79/-18.48	-15.46/-17.79	-16.22/-18.44	-10.26/-10.12	-10.04/-6.61	-13.71/-9.72	-6.44/-6.96	-9.87/-10.28	-8.08/-8.73	-10.09/-10.38	-12.71/-12.87	-11.28/-18.66	-18.15/-14.84	-11.98/-18.04	-17.97/-17.3	-17.17/-13.37	-18.53/-11.63	-9.81/-17.55	-16.81/-6.44	-3.76/-6.96	-8.18/-6.22	-10.22/-14.76
Θ(142.5°)	-6.86/-16.96	-11.23/-9.68	-8.5/-9.9	-15.84/-16.86	-11.05/-11.46	-11.92/-14.03	-13.69/-10.21	-9.33/-7.27	-6.01/-7.15	-8.74/-11.21	-10.54/-14.79	-13.8/-14.2	-18.05/-13.4	-13.31/-18.7	-18.02/-18.43	-17.95/-16.77	-14.84/-14.65	-18.78/-15.11	-18.45/-18.26	-11.23/-14.31	-19.31/-18.09	-10.98/-10.81	-11.27/-7.13	-8.06/-8.03
Θ(150°)	-6.75/-11.19	-18.81/-18.28	-14.91/-17.48	-11.64/-9.58	-12.26/-17.7	-14.66/-12.55	-16.42/-12.88	-7.99/-8.11	-9.44/-6.9	-5.55/-7.8	-12.01/-12.42	-11.89/-13.11	-12.37/-9.15	-6.15/-6.94	-13.65/-16.78	-15.22/-15.47	-18.06/-18.39	-16.83/-15.59	-16.94/-16.57	-14.55/-18.32	-16.46/-9.23	-10.53/-14.97	-12.8/-8.01	-5.94/-8.57
Θ(157.5°)	-18/-12.45	-10.54/-13.3	-18.64/-16.18	-11.77/-13.36	-17.98/-15.43	-10.59/-6.67	-16.02/-18.56	-12.69/-11.32	-14.73/-14.66	-12.1/-12.87	-13.05/-13	-10.46/-15.76	-14.05/-13.45	-14.57/-14.4	-13.86/-16	-17.22/-18.49	-18.84/-16.29	-17.25/-18.36	-18.1/-18.68	-18.69/-18.63	-12.25/-9.25	-7.8/-12.2	-14.59/-12.71	-10.18/-13.71
Θ(165°)	-16.09/-19.55	-19.05/-18.28	-13.78/-13.56	-13.57/-13.13	-18.03/-18.2	-14.58/-14.56	-18.89/-18.46	-13.74/-13.06	-13.53/-13.35	-13.39/-14.63	-15.32/-12.67	-11.15/-8.92	-7.21/-6.53	-7.75/-10.27	-13.25/-16.3	-17.7/-15.11	-12.26/-12.16	-14.37/-16.88	-18.15/-18.01	-18.17/-18.35	-18.97/-15.91	-11.28/-10.99	-10.68/-9.21	-9.36/-10.85
Θ(172.5°)	-12.3/-14.36	-17.41/-17.83	-18.65/-19.19	-18.49/-17.43	-15.91/-13.7	-13.85/-15.04	-13.67/-12.69	-12.49/-12.83	-12.26/-11.45	-11.85/-13.33	-14.04/-13.92	-14.51/-15.02	-17.6/-16.98	-15.63/-16.69	-15.16/-11.85	-10.03/-10.54	-12.32/-13.27	-13.35/-16.42	-18.22/-17.82	-16.75/-16.66	-19.06/-18.13	-18.68/-18.16	-16.47/-15.57	-14.83/-12.95
Θ(180°)	-10.46/-9.25	-9.03/-9.26	-9.93/-9.63	-10.52/-10.01	-9.09/-9.37	-11.07/-13.31	-14.4/-14.13	-15.39/-17.55	-18.67/-18.05	-17.38/-17.35	-18.76/-17.83	-18.14/-15.24	-14.23/-13.05	-11.63/-10.52	-11.3/-11.33	-11.77/-13.18	-14.32/-14.53	-16.9/-17.49	-18.72/-18.88	-18.62/-19.13	-18.16/-17.45	-17.54/-18.64	-16.47/-14.96	-13.31/-12.34
Freq(Hz)	6.175GPol.	Theta/ Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-5.57/-4.61	-3.79/-3.3	-2.7/-2.18	-2.58/-3.36	-3.16/-2.86	-3.35/-4.06	-5.41/-6.54	-6.56/-7.06	-9.57/-12.8	-14.04/-14.43	-12.65/-10.3	-8.42/-6.72	-5.34/-4.35	-3.75/-3.37	-3.03/-2.6	-2.9/-3.38	-3.91/-3.81	-3.98/-4.74	-6.55/-8.76	-10.77/-12.57	-16.19/-18.09	-18.53/-15.81	-13.52/-10.15	-7.14/-6.06
Θ(7.5°)	-7.06/-4.92	-3.47/-3.34	-3.02/-2.12	-1.62/-2.2	-2.88/-3.17	-3.2/-3.22	-4.13/-6.08	-7.86/-8.81	-10.52/-14.09	-17.86/-16.27	-12.6/-9.83	-7.85/-6.51	-5.67/-5	-4.52/-3.77	-3.04/-2.2	-2.17/-2.24	-2.51/-2.11	-1.43/-1.41	-1.76/-2.8	-3.54/-3.1	-5.34/-7.63	-10.42/-13.28	-17.11/-11.57	-12.61/-9.4
Θ(15°)	-18.27/-14.12	-7.43/-5.3	-1.72/-1.21	-1.25/-1.42	-2.14/-2.94	-3.91/-4.72	-4.39/-4.1	-4.43/-4.76	-5.22/-6.93	-9.8/-10.87	-8.78/-6.51	-5.28/-4.62	-4.82/-4.81	-4.27/-2.95	-1.56/-0.28	-0.14/-1.35	-1.85/-1.26	-1.43/-1.49	-0.89/-1.78	-3.67/-5.65	-6.65/-6.42	-5.42/-5.08	-6.03/-7.81	-11.07/-16.25
Θ(22.5°)	-10.87/-14.69	-11.97/-8.1	-5.33/-3.66	-2.89/-3.02	-3.86/-5.99	-9.37/-14.43	-13.28/-8.44	-6.38/-6.16	-7.97/-11.61	-14.78/-13.01	-9.05/-6.54	-6/-6.35	-5.9/-4.7	-2.32/-0.85	0.38/-1.2	1.28/-1.02	0.06/-0.03	0.56/-1.18	1.38/-1.05	0.69/-0.06	-1.62/-3.73	-4.32/-3.54	-3.43/-4.16	-5.9/-7.9
Θ(30°)	-6.42/-8	-10.83/-12.42	-11.57/-9.31	-8.22/-8.1	-7.77/-6.01	-4.57/-5.01	-8.98/-13.27	-10.67/-10.74	-12.83/-13.68	-12.46/-11.27	-6.63/-3.55	-2.19/-1.52	-1.28/-0.94	-0.47/-0.47	-0.160/6.1	2.18/-0.03	2.73/-2.64	2.25/-1.96	2.65/-3.54	4.11/-2.22	-2.49/-7.16	-6.39/-6.1	-5.85/-5.8	
Θ(37.5°)	-5/-8.55	-12.74/-13.14	-9.79/-9.37	-6.84/-6.05	-4.29/-3.2	-2.31/-4.29	-9.62/-11.06	-11.46/-11.95	-10.67/-11.91	-5.82/-2.24	-0.16/-2.7	1.21/-1.87	1.21/-1.95	2.42/-2.26	2.23/-2.16	1.080/-15	1.43/-1.9	2.45/-3.2	3.33/-2.4	1.71/-4.36	-3.63/-3.49	-3.93/-4.12		
Θ(45°)	-6/-7.66	-9.98/-8.29	-6.19/-3.91	-1.40/-36	1.41/-6	1.42/-0.47	-5.45/-10	-6.38/-6.02	-6.83/-5.1	-2.11/-0.34	1.09/-1.33	3.09/-6.3	2.31/-9	3.09/-3.49	3.63/-46	1.720/-86	-1.32/-30.5	-3.41/-2.82	-0.490/-98	0.52/-0.31	-0.220/-63	0.230/-63	-0.71/-1.84	-2.82/-8.3
Θ(52.5°)	-8.83/-10.16	-11.61/-7.86	-3.47/-2.09	-0.65/-0.82	-0.10/-6	1.280/-09	-3.37/-7.49	-4.85/-4.04	-4.69/-2.36	-1.36/-0.42	0.54/-1.1	3.21/-3.5	1.91/-42	2.28/-258	1.81/-113	-0.55/-1.2	-5.08/-3.76	-1.340/-11	1.050/-78	0.32/-2.06	-1.92/-0.53	-0.440/-81	-0.33/-1.46	-1.4/-4.94
Θ(60°)	-10.9/-11.77	-10.67/-11.23	-3.63/-1.01	0.22/-1.03	-1.25/-1.19	-0.53/-2.32	-6.73/-6.15	-3.12/-2.36	-0.47/-2.04	-1.75/-2.78	-0.760/-73	3.763/-82	1.670/-67	0.141/-43	0.73/-0.06	-2.23/-4.25	-6.94/-2.8	0.160/-69	2.53/-7	-1.07/-2.52	-0.98/-0.18	-0.341/-16	-0.4/-2.05	-1.27/-1.09
Θ(67.5°)	-8.18/-6.56	-8.51/-8.04	-5.44/-4.04	1.34/-0.19	-0.79/-2.08	-2.98/-3.52	-4.79/-6.13	-2.56/-2.55	-4.85/-2.82	-3.38/-5.17	-1.341/-43	4.263/-16	0.570/-04	1.161/-66	0.05/-2.77	-4.49/-4.74	-5.49/-1.31	0.170/-5	2.413/-11	0.26/-2.62	0.220/-98	-0.780/-3	0.250/-1	0.133/-34
Θ(75°)	-8/-7.73	-5.57/-8.08	-6.57/-1.46	0.03/-0.63	-1.3/-1.93	-2.26/-2.54	-2.55/-4.58	-2.67/-1.92	-3.69/-6.33	-4.17/-6.27	-1.550/-83	3.73/-11	-0.11/-1.12	1.41/-1.04	-0.78/-5.21	-5.69/-2.95	-2.220/-8	1.04/-36	1.42/-1.73	1.481/-68	-0.280/-64	0.180/-52	-1.17/-7.35	
Θ(82.5°)	-8.92/-5.19	-4.27/-2.11	-6.79/-2.99	-1.91/-0.89	-2.65/-2.45	-2.32/-2.16	-1.66/-4.53	-3.03/-2.55	-3.63/-4.37	-6.72/-5.62	-2.28/-1.71	2.81/-74	-2.29/-2.42	-5.61/-1.28	0.231/-06	0.69/-30.5	0.723/-1	2.07/-1.88	2.411/-63	0.64/-0.59	-0.140/-24	-0.97/-2.9		
Θ(90°)	-9.38/-9.82	-3.3/-5.31	-5.4/-8.14	-7.58/-3.01	-5.49/-4	-2.14/-4.53	-3.56/-5.63	-6.19/-5.63	-6.03/-6.19	-7.24/-6.02	-3.520/-72	1.791/-03	-2.5/-4.79	1.06/-23	-4.82/-6.96	-8.69/-1.99	0.94/-0.55	-0.22/-2.03	-1.680/-48	1.57/-2.36	-0.180/-93	-0.580/-16	-2.62/-1.84	-2.32/-2.21
Θ(97.5°)	-6.92/-11.56	-4.46/-6.1	-3.7/-9.32	-10.78/-5.78	-9.45/-6.76	-4.47/-7.97	-7.53/-6.31	-11.73/-10.29	-6.66/-4.73	-9.24/-4.46	-4.33/-0.09	0.07/-1.42	-4.26/-4.6	-0.74/-3.49	-5.26/-6.69	-10.41/-3.39	-0.63/-4.69	-4.13/-5.9	-4.39/-2.33	-0.02/-1.48	-2.69/-3.63	-3.78/-2.15	-4.13/-3.94	-5.01/-2.51
Θ(105°)	-7.46/-8.4	-3.71/-46	-6.33/-10.58	-10.02/-7.32	-9.75/-14.19	-16.03/-6.76	-7.44/-7.04	-10.71/-10.82	-7.71/-7.79	-11.83/-5.34	4.28/-2.1	-1.6/-3.22	-5.57/-6.05	-3.78/-3	-6.06/-5.09	-15.31/-5.98	-2.39/-5.12	-5.96/-6.33	-3.14/-5.66	-2.27/-4.75	-4.92/-6.64	-7.36/-5.5	-6.25/-4.17	-10.42/-8.2
Θ(112.5°)	-8.3/-9.63	-9.17/-18.54	-13.61/-8.99	-8.66/-8.57	-11.48/-13.55	-10.89/-5.44	-5.13/-7.66	-6.14/-7.66	-8.17/-9.95	-14.26/-7.21	-4.86/-3.24	-3.05/-6.38	-8.26/-7.53	-4.93/-4.37	-7.16/-13.23	-10.33/-4.63	-3.08/-3.37	-10.57/-8.96	-4.9/-3.23	-3/-8.97	-4.18/-3.53	-8.79/-8.48	-10.88/-8.89	-4.92/-2.59
Θ(120°)	-10.52/-16.62	-15.49/-11.69	-17.15/-18.56	-18.27/-13.58	-10.28/-14.53	-18.32/-12.04	-7.72/-8.8	-8.1/-8.62	-11.43/-8.21	-9.32/-10.32	-6.79/-4.51	-4.39/-7.41	-11.45/-8.76	-7.69/-6.66	-6.08/-15.43	-7.84/-3.56	-5.49/-3.23	-15.55/-15.56	-7.98/-7.22	-2.29/-10.43	-7.77/-6.4	-14.65/-11.08	-11.29/-11.87	-7.23/-8.46
Θ(127.5°)	-13.23/-14.31	-16.09/-13.05																						



Radiated Composite Gain Data of 6GHz(2TX)

Appendix C

Θ(120°)	-8.79/-8.14	-11.01/-17.23	-18.47/-12.56	-9.52/-10.99	-9.5/-18.3	-18.5/-17.84	-18.65/-17.64	-18.26/-17.52	-12.99/-13.06	-12.94/-19.13	-12.16/-16.57	-13.59/-13.4	-13.78/-10.77	-8.32/-8.28	-13.38/-17.82	-18.64/-15.82	-13.21/-11.76	-17.69/-18.02	-18.63/-18.7	-13.8/-15.69	-11.57/-10.34	-15.05/-13.07	-18.23/-12.68	-8.85/-5.25
Θ(127.5°)	-10.7/-10.6	-9.6/-17.55	-18.54/-18.53	-9.71/-13.3	-11.7/-18.18	-9.94/-18.55	-8.05/-12.47	-8.48/-9.23	-8.16/-10.51	-9.21/-10.32	-7.97/-10.25	-10.41/-19.12	-9.27/-10.17	-9.5/-8.25	-8.94/-14.75	-17.28/-19.4	-16.59/-16.47	-18.01/-19.17	-18.16/-16.8	-15.48/-11.92	-9.02/-9.2	-12.96/-8.81	-15.86/-17.97	-11.22/-6.22
Θ(135°)	-10.23/-13.59	-13.66/-11.39	-18.19/-18.35	-17.73/-18.15	-18.61/-13	-9.27/-14.43	-7.73/-9.47	-8.33/-7.48	-9.83/-10.18	-5.61/-7.14	-8.69/-7.57	-7.15/-10.61	-5.93/-6.72	-8.95/-6.13	-13.33/-17.38	-18.16/-15.88	-15.79/-14.04	-18.34/-19.27	-18.77/-18.03	-14.06/-18.4	-17.34/-12.32	-9.02/-13.73	-12.84/-12.99	-13.51/-10.16
Θ(142.5°)	-11.91/-18.32	-17.24/-17.94	-14.79/-15.18	-18.67/-14.34	-12.84/-12.89	-17.2/-10.71	-9.12/-11.91	-12.53/-9.42	-9.18/-8.56	-9.86/-10.84	-11.94/-14.34	-12.97/-10.96	-8.28/-10.52	-9.23/-11.06	-18/-18.99	-19.02/-17.67	-18.48/-19.39	-18.7/-17.68	-18.17/-16.28	-13.62/-15.55	-15.14/-11.31	-10.28/-16.56	-18.41/-8.57	-6.51/-9.77
Θ(150°)	-18.34/-12.89	-11.28/-10.87	-16.75/-19.09	-18.05/-19.05	-18.4/-11.45	-10.09/-18.6	-12.93/-9.32	-7.54/-9.66	-7.7/-7.23	-11.28/-15.07	-12.96/-18.12	-18.01/-12.85	-12.29/-14.58	-16.24/-13.95	-13.83/-18	-16.44/-11.76	-12.37/-10.83	-13.64/-18.95	-17.72/-18.76	-12.93/-11.29	-14.44/-18.09	-18.88/-15.23	-13.49/-11.45	-8.02/-12.76
Θ(157.5°)	-12.81/-11.37	-13.21/-15.11	-16.1/-17.02	-17.74/-17.27	-14.45/-10.31	-10.61/-17.97	-13.96/-10.66	-11.54/-14.85	-10.45/-7.51	-8.69/-10.61	-11.47/-15.92	-18.34/-16.57	-12.24/-9.66	-9.93/-12.92	-16.96/-18.57	-17.37/-17.09	-19.13/-19.38	-18.51/-18.78	-13.19/-16.15	-18.21/-12.14	-10.06/-9.94	-10.05/-9.52	-10.88/-14.52	-18.02/-18.67
Θ(165°)	-11.04/-12.01	-13.89/-15.21	-14.61/-16.38	-16.28/-16.09	-15.96/-16.96	-18.32/-19.19	-17.58/-17.97	-18.22/-17.61	-14.4/-13.44	-16.81/-18.31	-13.93/-11.26	-10.06/-7.98	-5.97/-5.92	-6.7/-8.43	-11.55/-13.52	-14.76/-16.94	-15.32/-13.41	-12.9/-12.16	-12.49/-18.44	-17.85/-16.06	-12.31/-10.68	-10.16/-10.79	-12.11/-16.46	-16.41/-12.18
Θ(172.5°)	-17.85/-18.72	-17.98/-17.84	-19.03/-16.12	-13.69/-14.24	-14.83/-14.97	-17.99/-17.54	-18.2/-17.81	-18.69/-18.25	-19/-17.84	-16.99/-16.01	-15.64/-14.82	-14.35/-13.47	-12.66/-13.56	-15.65/-15.73	-15.18/-13	-12.48/-12.4	-12.3/-12.31	-14.14/-18.67	-18.99/-17.96	-18.87/-17.88	-15.94/-15.38	-17.21/-16.38	-15.6/-16.65	-17.69/-18.03
Θ(180°)	-11.92/-10.93	-10.22/-11.4	-11.11/-10.41	-11.1/-12.32	-14.06/-13.28	-13.87/-14.09	-13.97/-15.17	-16.06/-18.37	-16.06/-18.37	-14.59/-13.04	-12.54/-12.04	-10.97/-10.51	-11.34/-12.11	-12.04/-12.72	-13.94/-12.09	-11.74/-13.75	-15.63/-14.01	-14.79/-17.25	-17.97/-18.6	-18.58/-18.04	-14.57/-14.79	-14.97/-17.92	-17.85/-18.32	-16.64/-12.57
Freq(Hz)	6.895GPol.	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-18.44/-16.84	-12.25/-9.36	-7.68/-6.84	-5.96/-5.18	-4.03/-2.66	-2.15/-2.17	-2.64/-2.86	-2.46/-2.52	-3.29/-4.61	-5.8/-6.84	-8.48/-10.43	-13.92/-18.53	-18.53/-17.87	-8.04/-6.18	-5.17/-5.09	-5.04/-3.95	-3.17/-3.13	-3.42/-3.46	-3.6/-3.75	-7.45/-9.83	-11.81/-13.76	-15.59/-18	-	-
Θ(7.5°)	-14.31/-13.07	-12.83/-11.02	-9.94/-8.96	-8.58/-8.67	-7.85/-6.84	-6.81/-7.77	-9.45/-11.18	-10.53/-10.82	-11.72/-12.62	-12.05/-11.76	-11.95/-13.14	-16.4/-18.1	-19.36/-13.58	-9.88/-7.54	-5.24/-3.32	-2.45/-2.59	-2.54/-1.96	-1.81/-1.91	-2.09/-2.36	-3.21/-4.19	-5.74/-7.32	-9.63/-14.2	-17.82/-19.11	-18.29/-16.06
Θ(15°)	-10.53/-10.42	-12.21/-10.31	-9.3/-8.52	-9.28/-10.4	-9.37/-7.24	-4.57/-3.44	-3.46/-3.81	-4.18/-6.2	-9.24/-13.26	-18.18/-18.87	-12.04/-10.24	-11.63/-15.71	-17.5/-13.52	-6.74/-5.89	-3.91/-2.45	-1.01/-1.49	-0.69/-0.83	-0.78/-1.18	-2.08/-2.62	-3.27/-4.84	-7.15/-10.12	-16.56/-17.9	-13.03/-9.4	-8.21/-8.6
Θ(22.5°)	-11.06/-19.64	-11.21/-6.88	-5.88/-5.67	-6.34/-9.03	-11.09/-9.49	-6.44/-4.36	-3.17/-2.97	-3.64/-8.2	-5.75/-6.93	-7.76/-9.69	-12.24/-12.59	-9.07/-5.63	-3.44/-2.32	-2.65/-1.71	-0.85/-0.48	-0.49/-0.09	-0.29/-0.12	-0.47/-0.08	-0.24/-0.86	-2.35/-4.61	-7.13/-13.69	-18.45/-10.73	-8.1/-7.66	-
Θ(30°)	-9.61/-11.95	-10.78/-9.25	-9.72/-8.78	-6.54/-7.25	-13.15/-18.96	-12.29/-16.14	-12.34/-6.88	-6.08/-7.78	-8.67/-5.53	-2.96/-1.94	-1.55/-0.96	-0.16/-0.16	-0.04/-0.48	-0.74/0.63	1.64/1.67	1.1/0.45	0.52/0.66	0.62/-0.26	-1.98/-2.97	-1.36/0.65	1.23/1.65	0.9/-2.55	-8.1/-9.09	-8.16/-8.21
Θ(37.5°)	-3.05/-3.5	-6.6/-5.9	-11.31/-10.57	-14.09/-14.14	-17.19/-6.62	-4.93/-8.37	-8.65/-4.08	-3.44/-8.42	-4.91/-2.55	-0.32/-0.53	-0.53/-1.7	1.21/0.16	0.45/0.1	0.24/1.75	1.8/0.47	-0.83/-0.72	-0.31/-0.77	-0.19/0.1	0.76/-1.51	-2.82/-0.7	0.82/0.67	1.29/0.73	-2/-5.1	-7.04/-4.37
Θ(45°)	0.1/-1.46	-3.46/-4.62	-8.64/-11.22	-7.98/-4.42	-3.39/-2.23	-1.48/-3.66	-8.13/-3.46	-3.73/-4.9	-1.59/-2.58	-1.11/-2.42	2.18/0.83	2.09/1.46	1.31/9.1	-0.21/-2.37	-1.03/0.39	0.93/-0.66	-1.24/-0.66	0.03/0.38	-0.36/-1.65	-0.25/0.05	0.49/1.67	1.52/-0.52	-2.32/-0.69	-
Θ(52.5°)	-0.43/-1.38	-1.73/-2.9	-9.05/-6.95	-2.75/-1.12	-2.38/-2.92	-0.71/-0.68	-2.39/-2.18	-2.35/-3.63	-1.33/-3.05	-3.87/-4.53	0.33/3.74	2.51/1.77	2.67/1.81	1.71/1.51	-1.15/-1.25	0.97/1.78	2.01/0.46	-0.22/-1.24	-1.67/-0.15	1.16/-1.23	-1.21/-0.8	-1.07/1.75	2.53/1.62	-0.11/-1.01
Θ(60°)	-3.41/-2.72	-3.12/-4.39	-8.19/-4.62	-2.31/-2.14	-2.81/-3.03	-1.1/-0.42	0.56/0.83	-0.48/-2.31	-1.67/-2.4	-5.54/-4.27	-0.17/-0.46	2.48/0.23	0.85/0.84	1.13/0.6	-2.04/-1.85	0.13/2.32	3.45/1.61	2.15/0.73	-1.66/-0.17	1.99/-0.39	-2.43/-0.22	-1.6/0.38	1.74/1.99	-0.91/-2.16
Θ(67.5°)	-2.88/-6.56	-7.81/-8.06	-5.93/-2.49	-1.52/-1.44	-1.13/0.27	0.27/-3.5	-1.65/-1.99	-0.76/-0.16	-3.13/-4.8	-4.56/-4.9	-0.97/2.53	0.43/-1.13	-0.89/-0.54	-0.85/-1.75	0.52/1.1	3.74/2.78	2.07/0.67	0.28/0.62	3.09/1.07	-0.97/-0.38	-1.74/0.14	1.57/0.03	2.61/-1.57	-
Θ(75°)	-1.61/-6.49	-11.33/-18.07	-7.43/-1.62	-0.78/-2.16	0.25/1.34	-0.19/-3.51	-5.76/-3.09	-3.75/0.84	-4.26/-8.64	-5.37/-5.31	-3.31/1.37	-0.75/-3.22	-0.95/-2.84	-2.21/-1.87	-0.33/-0.19	-1.05/1.4	3.52/2.87	1.84/0.07	-0.55/-1.39	3.27/1.64	0.08/0.35	-1.36/0.47	2.29/3.49	3.49/-0.15
Θ(82.5°)	-3.28/-6.67	-12.09/-18.59	-9.24/-3.73	-2.8/-5.26	-0.13/0.51	-6.75/-2.62	-7.18/-0.31	-5.86/-10.96	-6.46/-5.36	-3.64/0.16	-2.59/-2.87	-0.84/-4.49	-1.89/-0.82	-1.4/-0.17	-1.99/0.03	2.57/2.33	0.6/-0.67	-1.03/0.24	1.99/1.02	-0.62/0.01	-0.63/0.74	2.19/2.97	3.34/0.6	-
Θ(90°)	-6.24/-6.85	-9.28/-18.84	-16.09/-8.15	-4.74/-9.66	-1.81/-1.5	-4.29/-6.38	-9.12/-7.19	-15.37/-2.18	-17.61/-1.55	-8.88/-5.75	-3.5/-1.23	-2.2/-4.34	-1.12/-4.87	-2.66/-1.23	-3.33/-1.17	-4.02/-3.2	-0.47/-1.52	-0.68/-4.39	-3.12/-2.9	-2.26/-0.8	-0.66/-2.41	-2.4/-1.13	0.03/-2.99	1.89/-0.51
Θ(97.5°)	-9.61/-6.46	-6.17/-15.16	-17.37/-12.58	-6.79/-12.61	-5.1/-5.97	-7.88/-9.63	-17.74/-8.8	-18.06/-4.25	-11.97/-10.42	-8.77/-6.26	-3.51/-1.78	-4.48/-3.84	-2.15/-6.13	-2.86/-2.53	-4.23/-1.66	-5/-5.92	-3.41/-6.11	-5.95/-4.55	-4.08/-7.71	-7.28/-5.22	-5.84/-6.42	-4.91/-5.7	-5.35/-2.06	0.64/-2.24
Θ(105°)	-5.74/-6.26	-6.81/-9.51	-11.29/-10.35	-8.84/-8.38	-8.93/-12.34	-16.31/-9	-8.95/-4.62	-8.71/-5.46	-16.42/-9.65	-7.3/-7.06	-5.56/-2.02	-3.44/-4.43	-3.34/-5.95	-3.38/-4.43	-1.49/-3.28	-5.11/-5.76	-4.59/-3.58	-4.51/-4.98	-3.43/-7.35	-6.02/-5.99	-6.37/-6.75	-8.64/-10.23	-6.32/-0.48	-0.99/-3.05
Θ(112.5°)	-5.71/-9.02	-11.2/-16.12	-18.12/-9.12	-8.51/-11.57	-9.71/-11.01	-13.16/-6.8	-8.96/-3.5	-12.1/-9.78	-18.86/-9.58	-6.66/-9.02	-5.86/-3.52	-6.57/-5.33	-5.68/-6.75	-6.37/-3.63	-4.26/-4.44	-9.74/-6.84	-4.84/-3.28	-5.93/-6.17	-2.96/-6.39	-4.23/-8.74	-0.58/-6.83	-8.1/-10.68	-10.58/-6.01	-4.94/-3.16
Θ(120°)	-8.58/-17.4	-15.18/-10.21	-14.61/-19.27	-18.04/-16.13	-10.61/-8.97	-9.9/-7.85	-8.84/-7.25	-12.06/-10	-15.11/-8.75	-9.54/-9.69	-6.73/-6.62	-7.21/-8.44	-7.15/-7	-6.94/-4.03	-4.58/-5.16	-11.3/-9.08	-6.22/-6.32	-6.2/-10.36	-4.82/-9.37	-7.33/-18.7	-13.5/-8.43	-14.15/-18.28	-16.83/-9.76	-8.22/-5.96
Θ(127.5°)	-12.43/-18.06	-12.23/-9.72	-9.03/-4.97	-16.33/-14.03	-14.15/-18.01	-14.3/-16.43	-17.66/-18.9	-18.67/-15.22	-10.94/-9.9	-11.79/-10.22	-8.1/-9.71	-9.14/-13.57	-8.6/-9.28	-9.43/-6.47	-3.94/-11.46	-10.79/-6.74	-8.04/-3.47	-7.61/-6.83	-3.38/-5.83	-3.22/-17.49	-14.44/-6.88	-13.03/-13.54	-18.08/-17.95	-17.97/-9.94
Θ(135°)	-8.58/-10.46	-9.85/-8.12	-8.53/-9.36	-11.61/-15.42	-18.59/-17.95	-14.84/-13.49	-10.5/-11.43	-13.86/-18.24	-13/-11.5	-15.01/-12.14	-10.68/-8.23	-14.28/-14.79	-7.69/-8.05	-10.04/-4.35	-7.28/-11.21	-18.38/-7.74	-10.11/-4.72	-12.8/-10.42	-4.68/-6.54	-1.98/-13.74	-11.72/-10.77	-7.6/-17.55	-8/-11.74	-12.64/-12.06
Θ(142.5°)	-10.17/-14.21	-15.09/-15.73	-18.22/-18.4	-16.15/-15.96	-17.62/-18.5	-17.73/-17.95	-17.74/-16.29	-18.62/-18.63	-14.42/-17.68	-14.9/-10.03	-10.45/-14.11	-18.44/-13.17	-10.82/-11.07	-10.27/-9.27	-9.74/-14.61	-13.82/-13.17	-8.11/-11.31	-13.93/-8.55	-4.48/-5.64	-5.84/-12.61	-18.32/-12.28	-18.15/-13.77	-13.82/-14.64	-18.43/-13
Θ(150°)	-16.92/-18.71	-17.76/-18.78	-16.81/-18.2	-19.01/-18.95	-16.9/-11.9	-11.62/-12.38	-11.45/-11.6	-11.13/-12.7	-18/-18.95	-19.13/-18.07	-18.84/-17.98	-13.89/-13.58	-17.09/-18.71	-15.77/-12.73	-12.09/-17.64	-14.06/-9.05	-10.13/-12.69	-9.39/-9.88	-10.63/-11.29	-9.19/-8.64	-14.67/-18.42	-18.94/-17.62	-14.08/-13.18	-10.45/-11.85
Θ(157.5°)	-14.62/-17.76	-18.85/-18.37	-18.96/-16.52	-18.39/-17.21	-16.63/-18.74	-18.15/-15.92	-14/-15.16	-18.26/-14.85	-10.88/-12.94	-17.12/-18.7	-17.41/-18.95	-17.87/-18.1	-18.61/-17.29	-13.19/-11.53	-11.63/-11.17	-9.57/-11.58	-17.17/-16.32	-11.53/-11.31	-14.35/-17.57	-12.84/-12.64	-16.59/-17.44	-14.99/-15.61	-17.76/-17.64	-16.53/-14.45
Θ(165°)	-17.17/-18.69	-17.31/-18.67	-18.18/-18.51	-14.85/-14.21	-13.13/-16.31	-18.11/-18.03	-14.75/-11.85	-10.94/-11.66	-11.93/-12.95	-17/-17.37	-18.61/-18.71	-18.65/-18.83	-17.4/-13.01	-10.91/-10.55	-14.77/-15.57	-12.15/-15.21								



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Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	2.4	2.87	2.96	3.08	2.71	3.61	3.17	4.38	3.32
Ant. 2 Max Gain (dBi)	2.3	3.24	3.56	3.46	3.18	3.96	4.12	3.98	4.08
Ant. 3 Max Gain (dBi)	2.23								
Ant. 1 Polarization/Θ(°)/Φ(°)	Theta/75/52.5	Phi/22.5/150	Theta/67.5/90	Theta/60/97.5	Theta/60/15	Theta/67.5/172.5	Theta/52.5/120	Theta/52.5/127.5	Theta/52.5/285
Ant. 2 Polarization/Θ(°)/Φ(°)	Theta/60/292.5	Theta/75/285	Theta/75/285	Theta/75/270	Theta/52.5/210	Theta/67.5/135	Theta/67.5/135	Theta/75/135	Theta/67.5/135
Ant. 3 Polarization/Θ(°)/Φ(°)	Phi/22.5/255								





Radiated Composite Gain Data of Scan Radio and BLE

Appendix D

Θ(22.5°)	1.05/1.13	0.81/0.26	-0.73/-2.37	-4.9/-8.75	-14.18/-18.07	-12.92/-9.67	-8.27/-6.47	-4.47/-3.3	-2.85/-2.36	-1.67/-1.05	-0.08/-0.12	-0.94/-2.23	-3.88/-4.99	-5.43/-5.53	-5.92/-6.54	-8.22/-11.07	-13.66/-15.92	-18.86/-17.52	-15.42/-9.94	-5.87/-2.65	-0.94/0.1	-0.03/-0.27	0.18/0.65	0.91/0.76
Θ(30°)	-0.67/-0.42	-0.56/-0.97	-1.46/-2.26	-3.75/-5.83	-9.96/-17.72	-13.93/-9.26	-7.24/-4.93	-3.18/-1.66	-0.1/-0.05	-0.73/-1.13	-0.87/-0.59	-1.31/-2.68	-4.51/-5.47	-4.63/-5.42	-4.45/-5.12	-6.23/-6.15	-7.34/-9.37	-14.93/-17.9	-16.77/-10.57	-5.35/-2.4	-0.42/0.13	-0.29/-0.58	-0.16/0.28	-0.42/-1.11
Θ(142.5°)	-4.58/-3.52	-4.35/-4.97	-4.92/-4.57	-4.84/-5.8	-9.44/-18.04	-18.11/-10.38	-7.78/-5.3	-3.11/-1.27	-0.14/-0.56	-1.47/-0.95	-0.19/-0.33	-1.94/-4.31	-6.19/-5.48	-8.67/-11.44	-12.48/-11.3	-9.1/-8.84	-8.31/-8.91	-12.31/-13.65	-8.77/-5.28	-3.31/-1.6	-0.4/-1.1	-0.78/-0.92	-3.68/-5.55	
Θ(45°)	-5.18/-5.94	-8.04/-9.74	-8.28/-6.64	-5.64/-5.76	-8.01/-14.11	-19/-12.16	-9.18/-6.14	-2.91/-0.99	-1.28/-1.25	-0.78/-0.4	-0.63/-1.59	-3.71/-4.06	-4.1/-3.25	-3.93/-7.87	-18.82/-17.98	-18.34/-15.13	-10.17/-9.07	-9.71/-11.65	-7.27/-2.51	-1/-1.53	-1.07/-1.91	-1.01/-1.59	-1.34/-2.3	-7.77/-7.61
Θ(52.5°)	-5.06/-8.24	-11.84/-11.91	-10.47/-9.48	-8.39/-8.94	-12.22/-17.63	-17.89/-10.65	-6.86/-5.67	-4.55/-2.45	-1.11/-1.13	-2.76/-3.31	-0.9/-1.1	-2.77/-4.41	-5.1/-6	-4.34/-5.96	-9.75/-10.96	-14.06/-13.7	-6.33/-3.34	-2.8/-2.53	-2.87/-2.1	-1.42/-2.25	-1.42/-2.25	-2.96/-3.08	-6.41/-6.82	
Θ(60°)	-6.23/-11.39	-13.58/-10.54	-11.28/-12.49	-11.03/-9.85	-12.19/-13	-15.73/-10.32	-7.81/-6.4	-6/-4.36	-4.03/-3.06	-2.68/-3.22	-2.93/-4.57	-7.04/-6.94	-4.79/-5.29	-1.68/-9.51	-9.52/-8.17	-11.19/-15.79	-11.63/-10.57	-12.91/-13.41	-9.03/-6.23	-4.74/-4.67	-4.73/-3.64	-3.95/-3.16	-6.51/-4.69	
Θ(67.5°)	-10.35/-19.04	-13.4/-9.04	-10.09/-10.54	-9.67/-8.2	-9.65/-18.33	-17.03/-8.76	-6.99/-9.02	-8.46/-4.97	-4.19/-3.92	-6.26/-6.1	-4.66/-7.15	-11.15/-13.77	-9.34/-9.03	-5.96/-7.74	-10.73/-8.25	-15.19/-14.67	-11.22/-10.17	-8.69/-14.31	-11.44/-11.34	-8.87/-7.01	-6.96/-4.99	-3.03/-5.75	-5.91/-3.35	-7.4/-6.98
Θ(75°)	-18.87/-18.73	-16.32/-8.55	-8.98/-12.7	-9.57/-8.59	-9.58/-17.79	-13.31/-7.84	-8.97/-10.5	-8.12/-6.96	-7.92/-5.26	-7.27/-10.71	-10.41/-14.7	-18.56/-16.89	-9.85/-10.76	-9.47/-9.6	-11.14/-10	-18.01/-19.14	-8.56/-9.45	-11.3/-12.23	-13.4/-9.05	-11.7/-12.3	-9.11/-9.02	-4.07/-6.05	-6.87/-4.82	-10.07/-11.45
Θ(82.5°)	-18.98/-18.81	-15.03/-8.13	-8.91/-9.81	-8.51/-8.29	-10.5/-18.45	-13.66/-7.67	-8.32/-14.89	-11.65/-7.23	-7.96/-6.62	-11.46/-10.4	-13.91/-17.41	-19.03/-17.88	-14.4/-18.69	-11.96/-13.67	-9.06/-9.61	-12.35/-19.9	-8.05/-10.2	-8.23/-14.93	-14.4/-15.98	-10.84/-11.82	-11/-9.53	-6.15/-9.93	-10.43/-8.53	-13.57/-15.55
Θ(90°)	-17.47/-15.8	-12.89/-7.03	-7.72/-7.98	-7.12/-7.08	-9.88/-19.44	-18.79/-10.45	-10.05/-17.34	-13.32/-8.99	-8.01/-8.37	-14.87/-13.58	-14.71/-14.72	-16.33/-18.1	-9.96/-12.57	-17.94/-17.64	-8.35/-9.37	-11.99/-15.4	-9.65/-10.13	-18.2/-17.76	-12.9/-9.18	-7.79/-14.75	-13.33/-13.2	-9.66/-14.45	-11.72/-10.65	-18.88/-18.79
Θ(97.5°)	-14.41/-11.38	-10.83/-7.06	-7.55/-9.54	-8.72/-7.54	-10.31/-18.91	-15.15/-11.61	-12.94/-18.91	-13.63/-9.7	-9.74/-9.57	-13.1/-12.42	-17.72/-10.42	-9.17/-18.63	-11.74/-13.11	-9.85/-17.95	-9.59/-9.83	-10.67/-12.84	-14.11/-17.71	-17.94/-14.71	-10.78/-7.46	-9.94/-13.2	-11.98/-15.23	-16.33/-17.13	-16.17/-18.13	-18.16/-16.84
Θ(105°)	-11.99/-9.99	-12.56/-6.37	-7.16/-9.98	-8.59/-7.45	-10.34/-19.21	-14.56/-12.36	-12.47/-18.76	-12.52/-10.28	-9.24/-10.73	-14.56/-11.53	-12.72/-15.95	-8.64/-11.21	-11.37/-17.03	-9.92/-12.2	-15.13/-17.17	-10.16/-12.79	-19.28/-17.99	-17.35/-19.82	-12.03/-10.9	-9.94/-18.67	-14.87/-17.67	-18.4/-18.68	-18.8/-18.51	-19.02/-15.14
Θ(112.5°)	-9.77/-9.73	-8.85/-8.15	-7.68/-10.78	-10.59/-8.83	-9.91/-15.87	-12.23/-11.95	-16.04/-17.44	-14.14/-12.57	-9.47/-9.97	-17.94/-12.26	-10.25/-11.06	-11.93/-12.12	-7.55/-11.23	-11.03/-16.03	-14.58/-17.4	-10.13/-15.03	-18.14/-18.28	-18.82/-18.22	-10.45/-17.01	-11.84/-11.96	-18.07/-18.53	-19.11/-18.52	-16.48/-16.01	-11.63/-9.99
Θ(120°)	-10.22/-5.57	-9.53/-9.43	-10.58/-12.18	-13.59/-11.84	-13.87/-13.91	-10.86/-13.28	-18.21/-18.04	-14.34/-11.42	-10.36/-11.9	-14.24/-17.43	-13.7/-9.31	-7.43/-12.88	-9.31/-7.03	-15.95/-17.15	-10.89/-16.68	-13.81/-13.32	-13.9/-12.16	-18.98/-18.15	-17.32/-14.28	-14.57/-14.6	-14.27/-12.86	-11.57/-10.61	-11.81/-10.61	
Θ(127.5°)	-10.68/-11.03	-11.05/-13.62	-11.64/-11.6	-12.12/-13.34	-18.65/-15.52	-9.34/-9.69	-16.86/-18.01	-13.47/-11.57	-11.54/-11.53	-15.66/-12.02	-15.66/-11.94	-6.19/-7.76	-14.51/-11.85	-10.74/-10.18	-9.57/-13.3	-18.52/-13.17	-9.91/-18.75	-9.65/-10.54	-12.92/-8.65	-16.06/-18.93	-17.02/-16.29	-11.01/-14.2	-13.1/-7.45	-10.69/-11.18
Θ(135°)	-12.34/-10.98	-16.09/-15.88	-11.9/-10.11	-10.47/-13.6	-17.96/-15.58	-10.67/-11.14	-15.14/-17.52	-18.79/-10.89	-7.94/-8.96	-15.77/-16.96	-13.43/-13.8	-10.35/-13.12	-11.41/-7.48	-10.32/-13.17	-16.98/-14.07	-18.71/-17.09	-14.38/-12.56	-10.53/-9.07	-17.98/-13.35	-17.53/-15.83	-15.88/-17.65	-13.14/-13.33	-10.73/-10.37	-10.5/-12.23
Θ(142.5°)	-12.44/-11.26	-11.04/-11.83	-13.67/-12.76	-12.97/-15.09	-14.1/-12.29	-11.76/-13.97	-15.13/-17.97	-17.85/-14.28	-8.21/-9.49	-15.65/-13.93	-12.69/-17.88	-16.83/-11.87	-14.55/-16.11	-18.31/-17.81	-18.66/-11.98	-13.25/-14.67	-11.41/-16.38	-18.01/-13.13	-15.63/-15.08	-18.81/-13.77	-11.26/-11.6	-9.86/-11.06	-11.47/-13.7	-10.69/-11.18
Θ(150°)	-12.44/-12.64	-11.84/-10.96	-10.41/-10.04	-9.78/-10.89	-13.05/-13.71	-11.76/-11.27	-16.87/-17.08	-18.94/-12.43	-9.86/-11	-12/-14.78	-19.09/-17.85	-16.57/-17.14	-18.77/-19.26	-14.41/-12.58	-11.22/-14.66	-18.85/-18.44	-19.35/-12.27	-15.61/-11.23	-13.61/-14.77	-11.56/-9.12	-9.86/-11.64	-13.39/-14.45	-12.86/-10.06	
Θ(157.5°)	-10.51/-10.54	-10.57/-11.37	-12.45/-13.24	-12.32/-11.6	-10.1/-9.03	-8.12/-8.72	-9.29/-13.2	-18.84/-19.19	-16.41/-11.13	-9.24/-9.01	-9.16/-9.59	-10.52/-10.82	-10.09/-9.66	-10.34/-12.73	-12.88/-10.79	-10.22/-11.94	-17.52/-18.48	-13.94/-10.26	-9.99/-11.81	-14.22/-13.49	-9.92/-7.41	-7.21/-7.94	-8.87/-12.5	-14.33/-11.63
Θ(165°)	-8.39/-9.54	-12.38/-13.9	-13.61/-12.53	-12.16/-12.34	-11.82/-10.46	-9.4/-9.19	-10.28/-13.3	-17.36/-17.02	-12.93/-10.16	-8.78/-8.52	-8.95/-11.08	-14.92/-16.16	-19.33/-18.86	-17.27/-18.29	-14/-13.12	-13.26/-14.77	-16.75/-14.1	-10.51/-10.49	-13.04/-15.79	-16.54/-14.88	-11.63/-15.53	-11.08/-11.68	-11.71/-11.83	-11.42/-9.95
Θ(172.5°)	-8.78/-12	-7.94/-7.88	-8.28/-8.28	-7.97/-7.56	-7.9/-8.66	-8.99/-9.26	-10.72/-14.14	-19.04/-18.13	-15.39/-13.48	-12.44/-12.86	-14.93/-17.18	-17.46/-17.25	-16.47/-14.87	-14/-15.42	-16.97/-16.14	-14.32/-15.72	-18.34/-17.84	-18.33/-17.62	-14.72/-12.84	-11.86/-10.57	-9.62/-8.9	-9.88/-9.25	-9.48/-9.25	
Θ(180°)	-6.89/-6.51	-6.41/-5.45	-5.53/-6.39	-6.92/-7.56	-8.31/-9.44	-11.24/-14.55	-18.12/-18.3	-18.23/-18.93	-17.66/-18.1	-16.7/-16	-13.69/-11.71	-10.13/-9.86	-10.22/-11.2	-12.4/-12.3	-11.04/-10.49	-15.03/-11.87	-12.51/-13.46	-16.09/-18.52	-17.98/-19.23	-17.99/-17.75	-15.55/-13.47	-10.99/-9.05	-7.69/-6.88	-9.38/-9.67
Freq(Hz)	5.3GPol	ThetaAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-7.76/-9.99	-11.15/-10.52	-8.42/-6.97	-6.24/-4.74	-2.72/-1.72	-1.17/-8.01	-0.6/-0.33	-0.1/-0.02	-0.22/-0.49	-0.9/-1.57	-2.77/-4	-3.68/-6.72	-7.96/-9.21	-9.45/-8.56	-17.77/-5.86	-3.88/-2.81	-1.54/-1.19	-0.09/-0.65	-0.3/0.21	0.25/-0.1	-0.3/-0.65	-1.21/-1.81	-2.81/-3.88	-5.07/-6.23
Θ(7.5°)	-10.63/-7.96	-6.12/-4.72	-3.58/-3.08	-2.9/-3.16	-2.27/-1.49	-1.41/-1.65	-1.37/-0.86	-0.63/-0.7	-1.22/-1.85	-2.69/-3.9	-4.99/-6.89	-9.3/-12.94	-18.39/-18.71	-17.77/-12.15	-8.27/-5.9	-4.1/-2.93	-2.57/-2.19	-1.79/-1.19	-1.21/-1.85	-2.92/-3.82	-4.78/-6.71	-9.76/-13.02	-13.8/-13.26	
Θ(15°)	-12.04/-9.72	-6.84/-4.69	-3.29/-2.17	-1.64/-1.12	-0.77/-0.23	-0.07/-0.01	-0.71/-7.35	-1.98/-2.43	-3/-3.43	-4.53/-6.18	-8.51/-11.33	-14.54/-15.96	-14.3/-12.98	-10.35/-8.95	-6.98/-6.24	-5.92/-4.33	-3.14/-2.48	-2.74/-2.64	-2.64/-2.59	-3.11/-4.55	-7.17/-10.26	-15.2/-17.39	-18.29/-17.07	-14.15/-13.04
Θ(22.5°)	-16.94/-10.66	-6.83/-4.3	-2.58/-1.54	-0.82/-0.72	-0.38/-0.33	-0.13/-0.37	-0.32/-0.89	-1.89/-2.73	-4.14/-6.41	-9.68/-13.26	-13.74/-11.04	-10.12/-10.46	-8.98/-7.4	-6.97/-5.84	-4.52/-3.19	-1.92/-0.88	-0.52/-0.7	-1.15/-0.9	-0.89/-1.25	-2.12/-3.5	-1.77/-10.03	-13.45/-14.44	-14.41/-17.11	-18.55/-18.19
Θ(30°)	-5.77/-3.96	-1.92/-0.77	-0.56/-0.69	-1.14/-1.52	-1.9/-1.84	-1.42/-1.22	-1.63/-1.98	-3.02/-4.55	-5.84/-7.81	-11.38/-15.8	-15.69/-12.44	-15.21/-1.66	-9.17/-7.7	-7.12/-6.35	-5.51/-5.94	-7.69/-7.67	-5.67/-2.97	-1.74/-1.65	-1.3/-0.95	-2.11/-3.52	-5.18/-7.1	-7.89/-7.27	-8.21/-8.72	-8.24/-9.65
Θ(37.5°)	-2.97/-2.17	-0.84/-0.01	0.37/0.46	-0.01/-0.33	-0.46/-1.34	-1.49/-0.81	-0.73/-0.61	-2.86/-1.77	-6.55/-7.88	-9.55/-12.19	-14.5/-12.49	-10.16/-7.77	-5.53/-4.75	-5.53/-6.64	-3.32/-2.12	-1.78/-1.7	-1.43/-0.71	-1.75/-3.83	-5.19/-6.37	-7.91/-8.81	-7.8/-5.7	-4.02/-3.3		
Θ(45°)	-5.05/-6.08	-3.34/-1.58	-0.14/0.34	0.89/0.96	0.8/0	-0.13/0.5	0.46/-0.29	-1.67/-3.72	-5.4/-5.7	-6.35/-8.23	-10.49/-9.61	-9.15/-8.1	-6.93/-6.28	-7.22/-7.12	-6.55/-5.03	-3.81/-2.92	-1.21/-0.16	-0.02/-0.76	-1.92/-3.1	-2.44/-3.28	-4.74/-6.45	-11.91/-17.86	-16.14/-8.21	-4.64/-4.51
Θ(52.5°)	-6.8/-7.27	-4.08/-2.35	-1.36/-0.94	0.25/0.13	1.08/0.55	0.29/0.79	1.02/0.12	2/-3.6	-3.45/-2.09	-3.55/-1.62	-8.5/-4.15	-3.01/-14.8	-6.13/-11.11	-14.58/-12.36	-9.74/-6.68	-4.69/-3.11	-0.62/0.96	1.65/0.53	2.16/-4.86	-3.94/-3.64	-4.48/-5.7	-8.35/-13.4	-18.37/-11.71	-6.75/-7.65
Θ(60°)	-5.5/-3.59	-0.95/-0.21	-1.79/-2.49	-0.78/-0.04	-0.18/-0.29	-0.24/0.82	1.45/0.53	-1.73/-2.67	-2.43/-2.02	-2.45/-6.29	-4.63/-1.51	-0.5/-1.87	-2.81/-7.82	-15.37/-18.61	-14.41/-9	-7.15/-5.92	-2.72/-0.2	0.25/-0.62	-3.81/-8.54	-7.32/-3.59	-6.13/-6.38	-6.49/-9.38	-18.41/-11.65	-7.22/-6.73
Θ(67.5°)	-3.69/-1.34	0.98/1.24	-1.93/-3.65	-3.51/-2.2	-2.17/-1.87	-0.77/0.94	2.96/0.92	-1.31/-2.7	-2.13/-1.68	-2.9/-1.1	-3.23/0.93	1.6/-0.35	-1.93/-1.51	-9.16/-13.28	-10.27/-3.38	-6.88/-6.09	-2.74/-0.24	-0.19/-1.49	-3.59/-8.35	-14.28/-7.81	-8.57/-8.03	-7.22/-10.72	-17.94/-9	