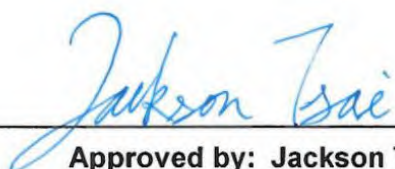


Antenna Composite Gain Test Report

Equipment	Access Point
Brand Name	Extreme Networks
Model Name	AP4020
Applicant	Extreme Networks, Inc. 2121 RDU Center Drive Morrisville North Carolina United States 27560
Manufacturer	Extreme Networks, Inc. 2121 RDU Center Drive Morrisville North Carolina United States 27560
Standard	KDB 662911 D03 v01
Sample Received	Jun. 27, 2024
Start Test Date	Sep. 28, 2024
Final Test Date	Sep. 28, 2024



Approved by: Jackson Tsai

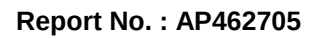
SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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



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[illegible]

1. Operation Mode and Antenna Information

Antenna Position	RF Port	Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
2G 5G Ant1	1	Sercomm	6172005QWA01	PIFA	I-Pex	2.4GHz, 5GHz
2G 5G Ant2	2	Sercomm	6172005QWA02	PIFA	I-Pex	2.4GHz, 5GHz
5GL Ant1	1	Sercomm	6172005QWA04	PIFA	I-Pex	5GHz
5GL Ant2	2	Sercomm	6172005QWA05	PIFA	I-Pex	5GHz
6G Ant1	1	Sercomm	6172005QWA06	PIFA	I-Pex	6GHz
6G Ant2	2	Sercomm	6172005QWA07	PIFA	I-Pex	6GHz
Scanning	1	Sercomm	6172005QWA03	PIFA	I-Pex	2.4GHz, 5GHz, 6GHz
BTE(BT1)	1	Sercomm	6172005QWA08	PIFA	I-Pex	BLE_chain 0
BLE(BT2H)	1	Sercomm	6172005QWA09	PIFA	I-Pex	BLE_chain 1_H
BLE (BT2V)	2	Sercomm	6172005QWA10	PIFA	I-Pex	BLE_chain 1_V

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 (1TX/2RX)

5GL Ant1 could transmit/receive.

5GHz Operation Mode (2TX/2RX)

5GL Ant1, 5GL Ant2 could transmit/receive simultaneously.

6GHz Operation Mode (1TX/2RX)

6G Ant1 could transmit/receive.

6GHz Operation Mode (2TX/2RX)

6G Ant1~6G Ant2 could transmit/receive simultaneously.

2.4GHz, 5GHz and 6GHz Operation Mode (1TX/1RX)

Scanning could transmit/receive.

BT Operation Mode (1TX/1RX)

BTE(BT1), BLE(BT2H), BLE (BT2V) 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	Rofy Chen	23.5~24.5°C / 45~55%	28/Sep/2024

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

4. Test Facility and Configuration

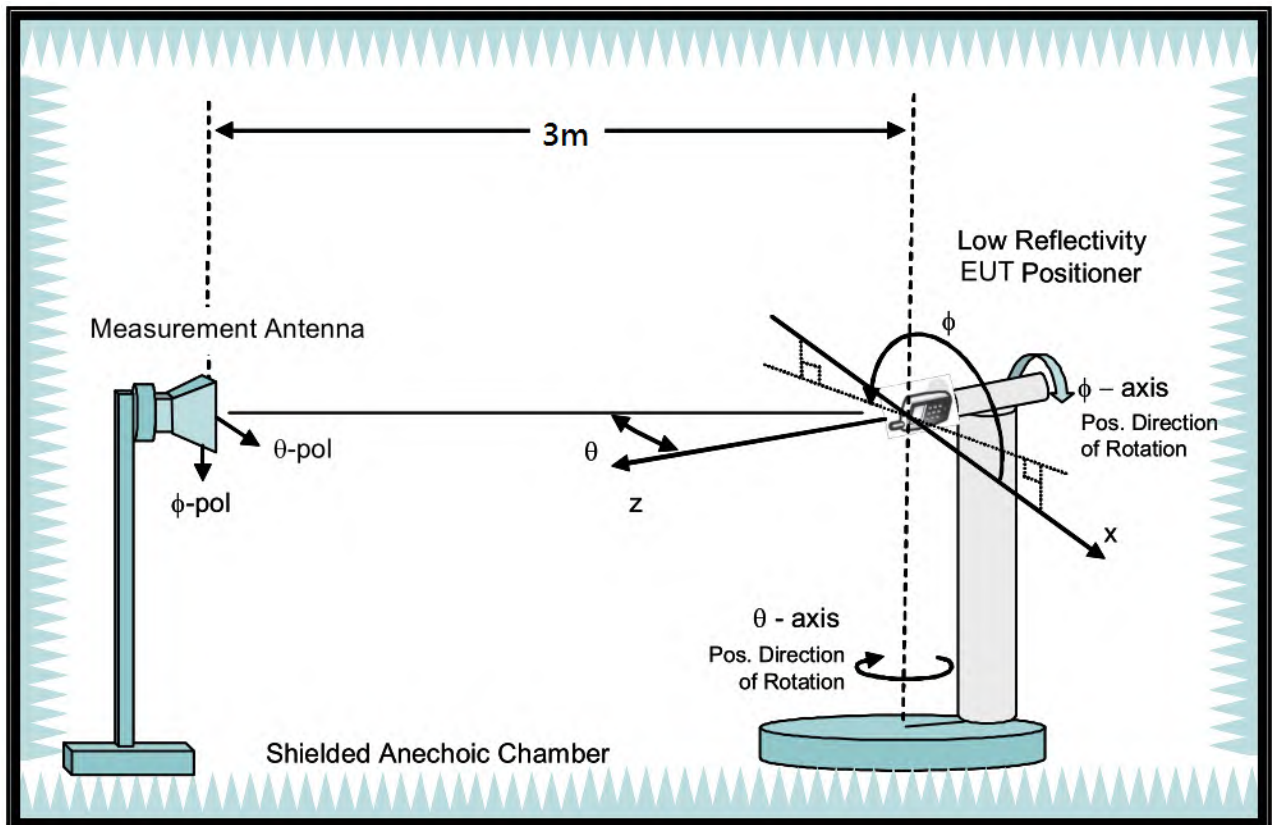
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

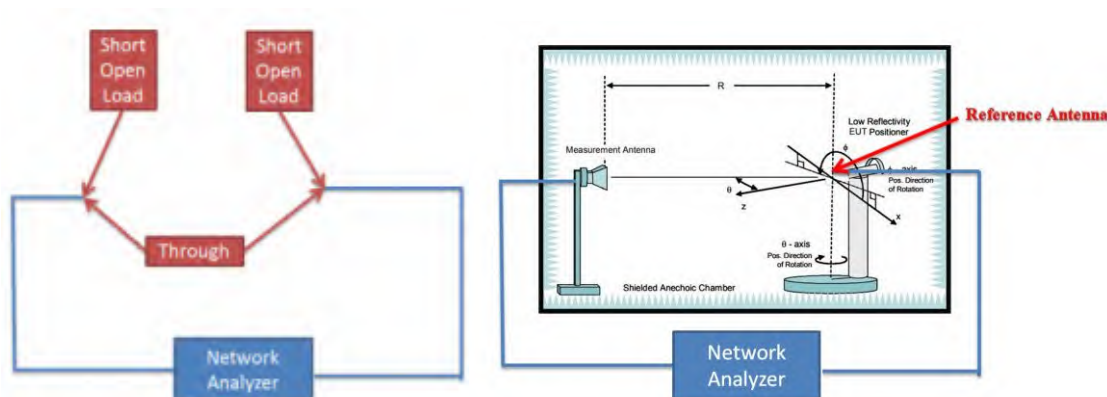
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



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>

DG_1SS max value position

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	-5.67	-2.64	3.56	4.68	5.34
Ant. 2 (dBi)	1.36	2.3	-0.96	-0.7	-2.32
DG [1SS] (dBi)	1.55	3.19	4.6	5.41	5.34
Polarization	Theta	Theta	Theta	Theta	Theta
$\Theta(^{\circ})$	52.5	60	67.5	67.5	82.5
$\Phi(^{\circ})$	97.5	75	22.5	22.5	45

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 $[10^{(G/20)}]$	$10^{(-5.67/20)}$	$10^{(-2.64/20)}$	$10^{(3.56/20)}$	$10^{(4.68/20)}$	$10^{(5.34/20)}$
Ant. 2 $[10^{(G/20)}]$	$10^{(1.36/20)}$	$10^{(2.3/20)}$	$10^{(-0.96/20)}$	$10^{(-0.7/20)}$	$10^{(-2.32/20)}$
Ant. 1 $[10^{(G/20)}]$ value	0.521	0.738	1.507	1.714	1.849
Ant. 2 $[10^{(G/20)}]$ value	1.169	1.303	0.895	0.923	0.766
Sum All Antenna [Amax]	1.69	2.041	2.402	2.637	2.615
DG $[10 \cdot \log(A_{\max}^2/N_{\text{ant}})]$	1.55	3.19	4.6	5.41	5.34

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

<5G Ant1, 5G Ant2>

DG_1SS max value position

Frequency (Hz)	5.2G	5.3G
Ant. 1 (dBi)	2.83	3.19
Ant. 2 (dBi)	2.69	2.42
DG [1SS] (dBi)	5.77	5.82
Polarization	Phi	Phi
$\Theta(^{\circ})$	60	60
$\Phi(^{\circ})$	210	210

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
Ant. 1 [$10^{(G/20)}$]	$10^{(2.83/20)}$	$10^{(3.19/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(2.69/20)}$	$10^{(2.42/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.385	1.444
Ant. 2 [$10^{(G/20)}$] value	1.363	1.321
Sum All Antenna [Amax]	2.748	2.765
DG [$10 \cdot \log(A_{\max}^2/N_{\text{ant}})$]	5.77	5.82

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

<6G Ant1, 6G Ant2>

DG_1SS max value position

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	5.28	1.7	5.85	4.31
Ant. 2 (dBi)	-1.4	2.9	-1.53	-1.12
DG [1SS] (dBi)	5.58	5.33	5.93	5.02
Polarization	Theta	Theta	Theta	Theta
$\Theta(^{\circ})$	67.5	67.5	52.5	52.5
$\Phi(^{\circ})$	67.5	127.5	97.5	105

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 [$10^{(G/20)}$]	$10^{(5.28/20)}$	$10^{(1.7/20)}$	$10^{(5.85/20)}$	$10^{(4.31/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(-1.4/20)}$	$10^{(2.9/20)}$	$10^{(-1.53/20)}$	$10^{(-1.12/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.837	1.216	1.961	1.642
Ant. 2 [$10^{(G/20)}$] value	0.851	1.396	0.838	0.879
Sum All Antenna [Amax]	2.688	2.613	2.8	2.522
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	5.58	5.33	5.93	5.02

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

8. Summary of Test Result

<2G5G Ant1, 2G5G Ant2>

Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	1.53	2.94	3.56	4.68	5.34
Ant. 2 Max Gain (dBi)	1.36	2.3	2.23	2.37	2.92
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/52.5/300	Theta/82.5/30	Theta/67.5/22.5	Theta/67.5/22.5	Theta/82.5/45
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/52.5/97.5	Theta/60/75	Theta/60/202.5	Theta/75/142.5	Theta/67.5/142.5
Max Gain (dBi)	1.53	2.94	3.56	4.68	5.34
DG [1SS] (dBi)	1.55	3.19	4.6	5.41	5.34
DG [2SS] (dBi)	1.53	2.94	3.56	4.68	5.34

<5G Ant1, 5G Ant2>

Freq(Hz)	5.2G	5.3G
Ant. 1 Max Gain (dBi)	3.49	3.73
Ant. 2 Max Gain (dBi)	2.69	2.56
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/52.5/240	Phi/60/240
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/60/210	Phi/45/292.5
Max Gain (dBi)	3.49	3.73
DG [1SS] (dBi)	5.77	5.82
DG [2SS] (dBi)	3.49	3.73

<6G Ant1, 6G Ant2>

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5.48	5.28	5.85	4.31
Ant. 2 Max Gain (dBi)	2.82	2.9	2.64	2.43
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/75/67.5	Theta/52.5/97.5	Theta/52.5/97.5	Theta/52.5/105
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/75/292.5	Theta/67.5/127.5	Theta/82.5/270	Theta/90/285
Max Gain (dBi)	5.48	5.28	5.85	4.31
DG [1SS] (dBi)	5.58	5.33	5.93	5.02
DG [2SS] (dBi)	5.48	5.28	5.85	4.31

<Scanning, BTE(BT1), BLE(BT2H), BLE (BT2V) >

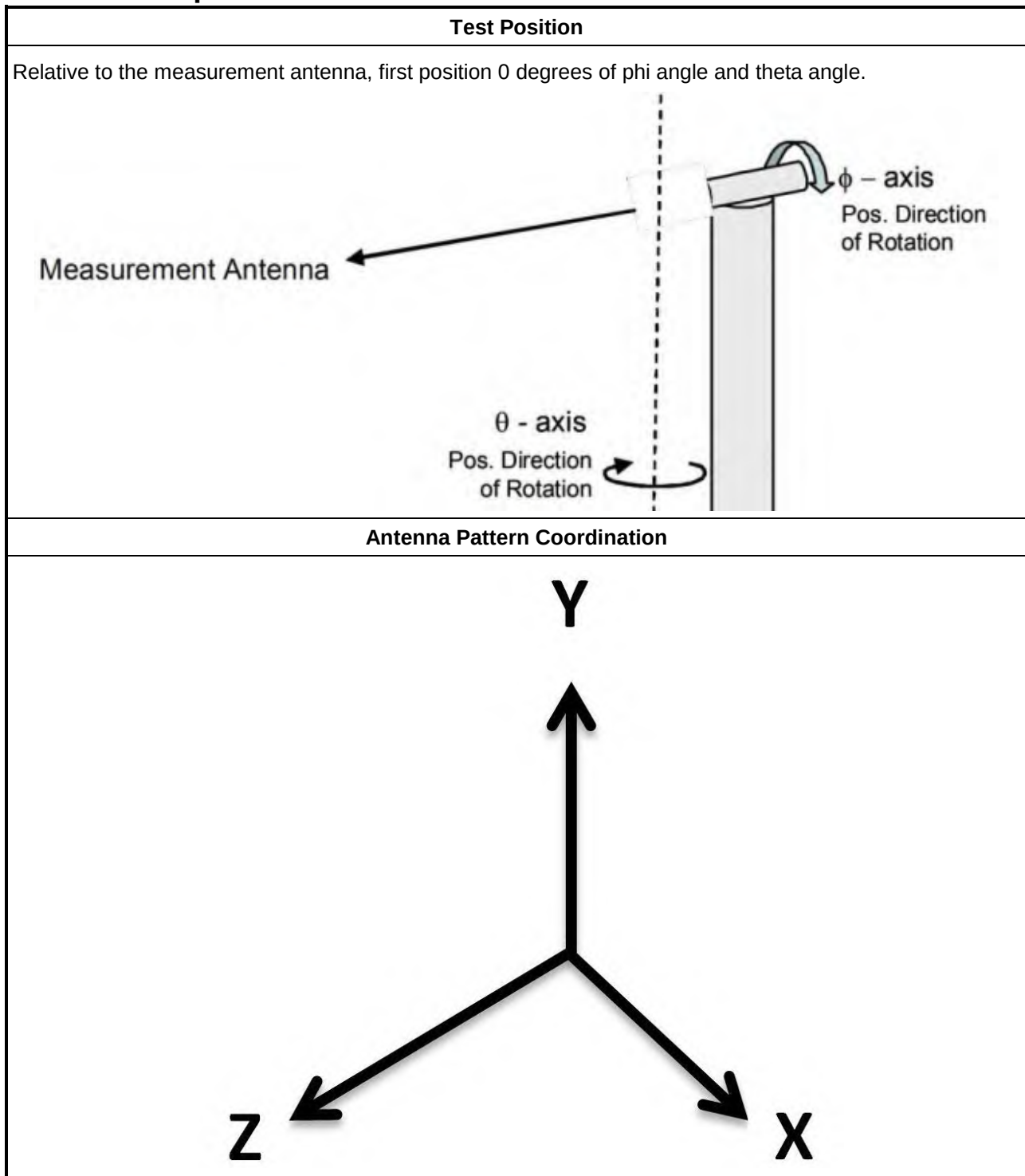
Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.22	3.14	3.33	3.41	4.5
Ant. 2 Max Gain (dBi)	1.58	-	-	-	-
Ant. 3 Max Gain (dBi)	2.24	-	-	-	-
Ant. 4 Max Gain (dBi)	1.8	-	-	-	-
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/67.5/90	Theta/52.5/172.5	Theta/52.5/165	Theta/52.5/157.5	Theta/75/172.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/82.5/67.5	-	-	-	-
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/60/345	-	-	-	-
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/52.5/52.5	-	-	-	-

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5.35	4.73	4.59	4.69
Ant. 2 Max Gain (dBi)	-	-	-	-
Ant. 3 Max Gain (dBi)	-	-	-	-
Ant. 4 Max Gain (dBi)	-	-	-	-
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/67.5/112.5	Theta/60/135	Theta/67.5/120	Theta/67.5/120
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	-	-	-	-
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	-	-	-	-
Ant. 4 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)

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 and 5GHz(Full band).....	Page 17
Appendix B – Radiated Composite Gain of 5GHz(Low-band).....	Page 26
Appendix C – Radiated Composite Gain of 6GHz.....	Page 30
Appendix D – Radiated Composite of Scan Radio and BLE.....	Page 37
Appendix E – Antenna Pattern of 2.4GHz and 5GHz(Full band).....	Page 44
Appendix F – Antenna Pattern of 5GHz(Low-band).....	Page 48
Appendix G – Antenna Pattern of 6GHz.....	Page 50
Appendix H – Antenna Pattern of Scan Radio and BLE.....	Page 53
Appendix I – Test Photos.....	Page 58



Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	1.53	2.94	3.56	4.68	5.34
Ant. 2 Max Gain (dBi)	1.36	2.3	2.23	2.37	2.92
Ant. 1 Polarization/Θ(°)/Φ(°)	Theta/52.5/300	Theta/82.5/30	Theta/67.5/22.5	Theta/67.5/22.5	Theta/82.5/45
Ant. 2 Polarization/Θ(°)/Φ(°)	Theta/52.5/97.5	Theta/60/75	Theta/60/202.5	Theta/75/142.5	Theta/67.5/142.5
Max Gain (dBi)	1.53	2.94	3.56	4.68	5.34
DG [1SS] (dBi)	1.55	3.19	4.6	5.41	5.34
DG [2SS] (dBi)	1.53	2.94	3.56	4.68	5.34



Radiated Composite Gain Data of 2.4GHz and 5GHz(Full band)

Appendix A

DG 1SS Result

Freq(Hz)	2.45GPol.	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°)	-2.53-2.25	-2.17-2.23	-2.31-2.28	-2.25-2.32	-2.52-2.29	-3.42-3.96	-4.52-2.29	-6.42-7.32	-7.8-7.96	-7.56-6.54	-5.27-14.8	-3.38-2.95	-2.76-2.78	-2.92-2.98	-2.92-2.86	-2.81-2.85	-2.97-3.17	-3.64-2.44	-4.85-5.29	-5.77-5.96	-6.04-5.84	-5.44-5.09	-4.79-4.41	-3.81-1.14
Θ(7.5°)	-5.08-4.79	-4.56-4.43	-4.34-4.25	-4.25-4.3	-4.22-4.19	-4.21-4.26	-4.41-4.87	-5.67-6.16	-6.22-6.08	-3.63-2.83	-2.07-1.31	-0.73-0.46	-0.52-0.73	-0.9-0.9	-0.95-1.07	-1.33-1.77	-2.48-3.41	-4.5-5.56	-6.26-6.5	-6.59-6.57	-6.43-6.27	-6.18-6.03	-5.77-5.51	
Θ(15°)	-5.59-5.31	-5.05-4.82	-4.44-4.04	-3.75-3.6	-3.56-3.6	-3.75-4.09	-4.61-5.29	-6.15-6.41	-6.04-5.49	-4.77-4.04	-3.39-2.69	-1.8-0.76	0.08-0.56	0.54-0.25	-0.07-0.23	-0.2-0.15	-0.26-0.55	-1.17-2.22	-3.76-5.22	-5.4-5.2	-5.06-5.11	-5.28-5.49	-5.5-5.43	-5.58-5.78
Θ(22.5°)	-4.02-3.82	-3.73-3.81	-3.73-3.44	-3.11-2.89	-2.9-3.2	-3.82-4.88	-5.99-7.01	-7.62-7.27	-6.43-5.34	-4.15-3.22	-2.6-1.93	-1.05-0.18	0.49-0.78	0.63-0.09	-0.58-0.99	-0.99-0.72	-0.47-0.5	-0.9-1.87	-3.47-4.26	-4.39-3.92	-3.6-3.6	-3.91-4.22	-4.28-4.13	-4.08-4.16
Θ(30°)	-3.05-3.09	-3.21-3.49	-3.81-3.88	-3.77-3.59	-3.68-4.19	-5.29-7.35	-9.71-10.48	-9.73-8.59	-7.09-5.25	-3.31-1.77	-0.8-0.12	0.41-0.8	10.96	0.56-0.21	-1.24-2.32	-2.87-2.63	-1.97-1.49	-1.36-1.86	-3.2-4.24	-4.61-3.93	-3.54-3.63	-4.19-4.74	-4.69-3.94	-3.27-3.04
Θ(37.5°)	-3.89-3.67	-3.44-3.63	-4.21-4.73	-4.97-5.07	-5.13-5.7	-7.49-11.43	-14.42-12.67	-10.02-8.85	-7.84-5.86	-3.37-1.24	0.13-0.98	1.38-1.44	1.19-0.65	-0.14-1.22	-2.65-4.12	-5.12-5.16	-4.4-3.46	-2.87-2.97	-3.87-5.36	-5.94-5.38	-5.18-5.81	-7.27-8.27	-7.3-5.43	-4.22-3.88
Θ(45°)	-6.68-5.15	-4.72-4.98	-5.25-4.47	-3.67-4.32	-6.39-8.08	-9.76-10.13	-10.35-9.17	-8.29-0.98	-10.73-9.11	-6.19-2.87	-0.64-0.55	0.92-0.81	0.55-0.15	-0.68-1.24	-4.09-5.87	-6.44-6.7	-6.09-5.93	-5.26-4.91	-4.98-5.74	-6.98-7.16	-7.32-9.24	-13.18-12.95	-8.67-6.31	-5.66-5.7
Θ(52.5°)	-6-6.75	-6.12-6.74	-5.93-3.67	-2.05-2.52	-5.8-9.7	-7.14-5.26	-6.13-6.32	-6.96-8.31	-10.5-10.89	-7.76-4.18	-1.51-0.27	-0.35-0.94	-1.14-1.16	-1.87-3.7	-6-6.25	-6.49-7.02	-7.72-7.94	-7.73-5.98	-4.28-4.09	-5.63-7.85	-9.7-12.53	-15.18-10.18	-6.03-4.45	-4.48-5.22
Θ(60°)	-7.1-7.7	-6.85-7.17	-7.55-4.43	-1.64-1.09	-3.24-5.4	-3.87-3.12	-5.19-6.4	-6.96-8.88	-10.36-9.12	-6.17-4.71	-3.1-1.47	-3.18-2.32	-2.84-2.47	-2.93-6.14	-6.84-5.43	-5.1-7.62	-10.18-8.6	-7.43-5.53	-3.33-3.06	-5.16-9.52	-11.92-11.29	-8.79-5.78	-3.83-3.27	-4.06-5.83
Θ(67.5°)	-9.14-7.94	-5.76-6.12	-7.76-4.74	-1.47-0.65	-2.32-4.47	-3.87-3.57	-6.11-5.54	-8.57-9.91	-10.93-7.12	-4.3-3.86	-4.46-3.16	-3.07-2.49	-4.77-3.73	-4.1-6.29	-7.5-5.82	-5.84-8.89	-8.55-5.4	-5.02-7.73	-4-3.3	-4.58-7.41	-8.73-8.14	-6.45-4.6	-3.45-3.55	-5.25-7.98
Θ(75°)	-10.86-9.12	-5.85-5.42	-7.52-4.74	-1.66-0.85	-2.61-5.32	-4.08-4.34	-5.67-5.46	-6.68-8.84	-12.77-8.29	-5.1-4.71	-5.95-5.77	-5.01-5.93	-6.58-5.84	-4.95-6.57	-8.63-6.35	-5.47-6.97	-7.37-6.68	-4.44-6.5	-5.18-2.93	-2.89-5.29	-7.9-8.12	-6.17-4.13	-2.92-3.05	-4.8-8.26
Θ(82.5°)	-11.69-8.12	-3.97-3.14	-6.21-6.55	-2.68-1.4	-2.7-4.73	-3.32-4.55	-5.82-6.53	-4.69-5.84	-9.01-7.64	-6.22-6.75	-8.3-7.32	-6.02-6.15	-7.02-7.11	-6.35-7.52	-9.14-6	-4.5-5.68	-7.04-4.57	-3.99-6.64	-6.67-3.14	-2.79-5.67	-9.14-7.52	-5-3.74	-3.41-4	-5.79-9.19
Θ(90°)	-11.7-4.4	-3.07-2.13	-4.5-6.25	-3.42-1.78	-3.22-5.99	-4.02-4.51	-4.98-5.55	-4.04-5.44	-7.49-5.85	-4.93-5.23	-6.34-9.06	-8.43-7.78	-8.69-9.28	-7.77-8.27	-9.65-6.53	-4.72-6.18	-9.66-5.89	-4.24-7.62	-7.93-3.31	-2.33-4.8	-8.38-6.49	-4.29-3.87	-4.16-5.32	-7.32-9.74
Θ(97.5°)	-13.26-8.92	-3.29-2.29	-5.03-5.47	-2.55-1.27	-2.76-5.66	-4.25-4.68	-5.15-5.05	-3.76-5.99	-7.76-5.23	-4.27-4.73	-6.05-10.57	-13.64-12.28	-12.3-10.23	-9.82-11	-13.18-10.69	-7.63-9.21	-13.79-7.49	-4.86-5.81	-7.12-3.43	-2.66-4.93	-7.71-5.17	-3.49-3.08	-3.3-5.02	-8.35-11.52
Θ(105°)	-13.27-8.37	-2.91-1.68	-4.72-6.69	-2.45-1.1	-2.08-4.21	-4.4-5.81	-7.16-3.65	-1.66-3.57	-7.38-6.74	-6.12-5.77	-6.23-9.84	-12.74-11.5	-9.42-8.79	-11.49-12.07	-12.48-11.35	-8.15-7.98	-11.72-9.34	-4.73-4.59	-7.31-5.77	-3.77-5.47	-7.01-6.04	-3.43-2.38	-2.57-4.5	-8.56-12.83
Θ(112.5°)	-12.04-7.23	-3.03-1.98	-5.31-7.03	-2.71-1.46	-1.88-2.25	-2.18-4.1	-5.72-2.79	-1.29-3.12	-6.7-6.38	-6.13-6.03	-6.21-9.09	-13.26-14.33	-12.52-14.05	-13.15-9.89	-10.75-10.57	-7.93-7.47	-9.05-7.07	-3.74-4.28	-8.82-9.11	-4.45-3.75	-5.12-5.07	-3.18-2.59	-3.12-5.1	-10.04-14.82
Θ(120°)	-10.07-5.71	-2.46-1.55	-3.72-5.64	-2.36-1.76	-2.83-2.53	-1.81-2.87	-5.13-7.35	-2.24-3.55	-6.13-5.18	-4.52-4.98	-5.45-7.05	-10.69-14.92	-14.73-14.93	-12.31-8.99	-8.84-8.05	-6.65-6.22	-8.46-9.54	-5.17-7.98	-4.92-5.41	-3.92-4.62	-6.82-8.62	-6.4-5.19	-5.01-5.92	-9.85-14.66
Θ(127.5°)	-12.16-7.52	-3.76-2.51	-3.71-7.78	-2.17-2.08	-4.39-4.99	-3.8-5.34	-2.86-1.34	-0.84-2.17	-4.31-3.83	-3.08-4.27	-7.22-10.34	-13.6-14.1	-14.67-15.07	-12.74-9.75	-7.54-6.35	-5.92-6.16	-8.52-9.93	-5.62-3.63	-4.09-4.89	-6.96-5.8	-7.3-9.42	-6.31-5.66	-4.52-4.64	-7.02-13.87
Θ(135°)	-14.18-10.38	-6.14-4.14	-3.92-4.63	-3.08-3.16	-5.41-5.64	-3.59-2.72	-2.46-2.26	-2.61-3.78	-4.44-3.14	-2.18-2.64	-4.42-7.26	-10.03-11.1	-11.67-12.64	-12.84-11.44	-11.03-11.35	-9.22-7.65	-7.54-6.59	-4.17-3.24	-4.25-5.93	-5.98-4.75	-4.33-5.69	-7.22-6.39	-5.79-6.33	-8.51-12.41
Θ(142.5°)	-15.37-11.52	-7.34-4.69	-3.57-4.27	-5.38-6.83	-8.88-6.28	-3.16-1.86	-1.96-3.05	-5.29-9.16	-9.33-9.55	-4.26-4.31	-5.6-7.67	-9.9-11.4	-12.2-12.22	-10.99-14.09	-10.53-10.64	-9.46-7.86	-6.56-9.49	-3.59-3.25	-4.06-5.46	-5.71-5.06	-5.17-6.94	-9.47-9.68	-8.62-9.12	-12.52-15.22
Θ(150°)	-14.25-11.48	-8.12-6.11	-5.35-6.26	-8.48-9.98	-9.28-5.66	-3.15-1.97	-1.94-2.91	-4.98-7.85	-8.92-7.55	-6.73-9.99	-8.43-11.29	-14.63-13.62	-12.03-10.61	-9.46-9.98	-9.71-9.88	-11.04-11.01	-7.04-5.56	-4.77-4.46	-6.62-5.14	-5.66-6.1	-7.19-16	-11.59-12.28	-11.13-11.05	-12.48-14.32
Θ(157.5°)	-10.49-9.56	-8.19-7.46	-7.47-8.05	-8.32-7.69	-7.32-6.18	-4.85-4.11	-3.96-4.49	-5.87-7.25	-7.22-5.72	-5.26-5.78	-7.37-10.29	-13.37-15.13	-13.04-11.64	-11.27-11.51	-11.34-10.26	-8.79-7.55	-7.08-7.45	-7.97-7.82	-7.34-7.08	-7.17-7.13	-7.58-8.58	-10.57-12.43	-13.68-13.69	-12.85-11.87
Θ(165°)	-11.41-10.05	-8.07-8.32	-8.21-8.47	-7.92-8.25	-8.79-9.04	-9.39-8.28	-7.44-7.1	-7.33-7.47	-6.53-5.48	-5.08-5.24	-6.08-7.61	-10.26-12.99	-15.21-15.33	-15.26-12.35	-10.23-8.41	-7.38-7.24	-8.12-10.07	-12.02-11.85	-10.77-9.97	-9.33-9.1	-8.86-8.79	-11.55-9.36	-15.59-15.31	-14.98-13.17
Θ(172.5°)	-12.71-11.56	-10.52-10.17	-10.50-10.78	-11.6-13.08	-14.37-12.71	-10.44-8.69	-7.48-6.89	-6.69-6.65	-6.63-6.65	-6.97-7.66	-8.33-9.27	-10.76-12.78	-15.25-15.32	-13.31-10.02	-8.38-7.87	-11.87-9.07	-10.54-12.01	-12.79-12.66	-12.25-11.91	-11.85-12.08	-12.81-13.65	-14.76-14.91	-15.15-13.89	
Θ(180°)	-12.65-12.08	-12.32-12.59	-11.9-11.78	-11.45-10.86	-9.5-8.05	-7.02-6.39	-6.07-6.09	-6.43-7.1	-8-8.93	-9.86-10.7	-11.25-12.38	-13.11-15.06	-15.13-14.71	-14.37-11.49	-10.29-10.4	-11.21-11.94	-11.95-11.67	-11.67-11.64	-11.36-11.01	-11.13-11.48	-12.01-12.56	-13.26-14.89	-14.82-15.23	-15.04-13.92
Freq(Hz)	2.45GPol.	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°)	-9.2-10.07	-10.88-11.25	-10.92-10.38	-9.98-9.83	-9.84-9.06	-8.08-7.2	-6.54-6.12	-5.72-5.55	-5.61-5.77	-5.88-5.99	-6.32-6.96	-7.79-8.73	-9.56-10.09	-10.36-10.5	-10.86-11.12	-11.04-10.66	-9.98-9.45	-8.85-8.09	-7.4-6.92	-6.64-6.49	-6.44-6.41	-6.38-6.42	-6.58-7.04	-7.76-8.49
Θ(7.5°)	-8.29-8.39	-8.78-9.09	-9.24-9.26	-9.16-9.06	-8.97-8.68	-8.03-7.34	-6.79-6.39	-6.17-5.95	-5.88-5.81	-5.66-5.72	-6.14-6.75	-7.47-8.42	-9.68-10.24	-10.6-10.75	-11.48-10.72	-9.77-8.78	-7.81-7.08	-6.45-6.84	-5.46-5.32	-5.32-5.43	-5.6-5.8	-6.03-6.35	-6.86-7.48	-8.02-8.25
Θ(15°)	-6.03-6.53	-7.05-7.44	-7.82-7.66	-7.39-7.12	-6.97-6.41	-5.87-5.44	-5.23-5.14	-5.18-5.19	-5.15-4.98	-4.86-5	-5.33-5.73	-6.03-6.48	-7.24-8.46	-8.93-9.51	-9.52-8.73	-7.93-6.63	-3.99-3.45	-3.14-2.96	-2.99-3.19	-3.49-3.77	-4.04-4.68	-4.86-5.17	-5.46-5.75	
Θ(22.5°)	-4.68-5.9	-6.89-7.37	-7.45-7.11	-6.27-5.37	-4.62-4.04	-3.59-3.32	-3.22-3.27	-3.45-3.57	-3.57-3.45	-3.38-3.52	-3.68-3.86	-4.17-4.7	-5.44-6.47	-7.28-7.43	-7.2-6.81	-6.26-5.46	-4.49-3.55	-2.71-2.06	-1.63-1.34	-1.3-1.43	-1.67-1.19	-2.07-2.15	-2.25-2.43	-2.9-3.69
Θ(30°)	-4.83-6.48	-7.52-7.36	-6.29-4.97	-3.96-3.32	-2.87-2.57	-2.23-1.86	-1.65-1.58	-1.75-0.72	-2.3-2.41	-2.88-3.38	-4.43-5.88	-6.94-6.74	-6.17-7.53	-5.29-7.4	-4.08-3.25	-2.3-1.42	-0.79-0.53	-0.44-0.47	-0.54-0.5	-0.39-0.39	-0.56-0.96	-1.84-3.23		
Θ(37.5°)	-6.35-8.82	-8.54-7.12	-5.02-3.28	-2.41-2.19	-2.32-2.46	-2.21-1.53	-0.87-0.54	-0.65-1.14	-1.71-2.05	-2.22-2.42	-2.67-3.34	-4.89-6.69	-7.47-6.51	-5.56-4.84	-3.31-3.85	-3.52-2.95	-1.98-0.95	-0.29-0.06	-0.11-0.18	-0.02-0.39	0.64-0.56	0.08-0.79	-2.23-4.17	
Θ(45°)	-8.37-9.01	-7.87-5.76	-3.44-1.91	-1.45																				



Radiated Composite Gain Data of 2.4GHz and 5GHz(Full band)

Appendix A

Θ(22.5°)	-2.45/-3.98	-5.27/-6.47	-7.29/-7.31	-6.78/-6.16	-4.88/-3.04	-2.19/-2.44	-3.03/-2.54	-1.34/-0.63	-0.59/-1.1	-0.95/-0.53	-0.81/-1.69	-2.28/-2.28	-2.27/-2.96	-3.73/-4.38	-5.37/-6.17	-7.62/-9.62	-8.1/-6.55	-6.29/-4	-1.98/-0.93	-0.52/-0.45	0.22/-0.04	1.52/-1.59	1.48/-1.28	0.81/-0.46
Θ(30°)	-4.35/-6.64	-4.26/-3.43	-5.29/-8.01	-7.09/-5.95	-4.98/-2.4	-1.38/-1.28	-1.98/-1.08	-0.02/-0.53	-1.06/-0.81	0.20/56	-0.72/-2.95	-3.97/-4	-4.04/-4.48	-5.72/-6.67	-5.41/-4.85	-6.76/-6.89	-4.31/-4.97	-5.98/-3.43	-1.34/-1.24	-2.34/-3.05	-1.83/-0.55	0.36/-0.9	1.15/-1.26	0.71/-1.36
Θ(37.5°)	-0.44/-3.16	-6.41/-3.81	-3.62/-8.31	-10.48/-5.91	-5.36/-5.24	-2.53/-1.95	-2.21/-0.43	-0.44/-0.63	-0.56/-4.01	0.57/-10.5	-1.53/-4.23	-1.96/-1.78	-2.24/-3.28	-3.53/-4.33	-5.86/-5.9	-1.93/-2.02	-2.35/-2.6	-5.5/-3.26	-0.85/-1.1	-1.83/-2.46	-2.7/-1.2	-0.13/-0.01	0.34/-1.26	2.1/-1.42
Θ(45°)	1.23/-0.15	-5.04/-9.29	-4.21/-4.27	-10.51/-10.11	-6.58/-6.05	-4.64/-3.79	-5.37/-1.55	-0.31/-1.72	-0.68/-0.56	-0.37/-0.79	-1.46/-4.27	-5.81/-4.1	-3.39/-4.54	-3.43/-9.23	-4.76/-7.72	-8.01/-5.99	-3.04/-3.41	-6.28/-2.77	-1.44/-1.22	-1.93/-3.05	-1.85/-0.29	-1.11/-2.64	-1.17/-1.44	2.65/-2.09
Θ(52.5°)	-0.71/-1.19	-4.35/-8.44	-7.55/-4.92	-6.73/-13.87	-6.29/-3.92	-4.22/-6.79	-5.67/-1.42	-1.61/-3.72	-3.37/-3.64	-3.29/-1.69	-0.89/-3.62	-6.43/-5.69	-4.7/-6.82	-7.95/-3.62	-4.7/-9.46	-8.29/-6.13	-4.3/-5.85	-4.91/-2.84	-3.09/-3.02	-2.24/-2.09	-1.15/-0.84	-1.73/-1.96	-1.12/-0.19	0.35/-0.52
Θ(60°)	-1.45/-4.35	-4.05/-4.21	-6.54/-4.49	-4.41/-9.5	-9.45/-6.32	-3.51/-3.31	-5.63/-4.49	-4.31/-3.29	-3.16/-5.54	-5.84/-0.7	-1.01/-1.57	-5.19/-4.81	-4.35/-5.01	-6.34/-5.82	-4.33/-5.6	-8.42/-8.22	-6.52/-7.46	-6.37/-3.94	-8.83/-4.17	-2.96/-3.59	-2.19/-2.33	-2.95/-1.23	-2.48/-1.4	-0.45/-0.7
Θ(67.5°)	-1.78/-5.81	-3.94/-3.07	-4.54/-6.29	-7.34/-11.04	-9.39/-6.69	-5.81/-4.21	-4.48/-4.7	-4.82/-3.59	-4.13/-5.8	-5.7/-3.32	-0.82/-3.31	-7.69/-5.94	-5.53/-4.82	-4.87/-6.85	-4.14/-4.44	-7.36/-6.89	-9.53/-7.29	-8.94/-4.52	-4.53/-5.98	-3.35/-4.68	-2.97/-2.63	-2.46/-2.39	-5.82/-4.06	-3.4/-1.59
Θ(75°)	-2.14/-6.29	-4.1/-4.01	-5.82/-7.72	-7.25/-11.45	-10.75/-9.9	-5.59/-5.57	-6.52/-0.77	-2.95/-4.44	-5.25/-6.67	-7.64/-7.85	4.11/-6.1	-8.6/-5.21	-6.98/-5.75	-5.06/-4.67	-3.99/-4.27	-6.99/-8.72	-12.51/-9.07	-10.61/-7.18	-12.58/-6.28	-2.66/-5.43	-4.09/-5.67	-3.26/-5.02	-10.05/-8.35	-7.01/-3.15
Θ(82.5°)	-5.35/-9.91	-4.36/-3.57	-6.87/-7.87	-8.29/-10.96	-9.55/-10.3	-10.22/-8.75	-6.64/-6.34	-3.97/-5.81	-4.4/-7.07	-9.3/-11.55	-8.47/-10.64	-8.49/-6.27	-8.71/-6.35	-5.35/-5.55	-5.41/-7.95	-9.59/-10.37	-13.29/-9.15	-12.64/-7.26	-4.16/-6.41	-3.75/-7.11	-3.76/-5.48	-3.93/-6.81	-7.16/-8.69	-9.59/-5.94
Θ(90°)	-8.04/-11.9	-5.12/-5.57	-9.43/-7.28	-6.09/-12.27	-11.46/-12.69	-9.84/-14.26	-11.09/-8.28	-3.62/-6.64	-5/-6.42	-7.04/-9.72	-14.15/-13.99	-10.82/-6.95	-9.71/-8.44	-5.72/-6.64	-5.83/-9.03	-13.2/-11.65	-13.25/-13.83	-15.37/-8.9	-4.24/-8.28	-4.39/-9.62	-6.13/-8.49	-3.2/-7.44	-7.68/-8.48	-9.28/-8.48
Θ(97.5°)	-10.13/-13.66	-6.47/-8.96	-10.43/-11.19	-9.03/-10.96	-10.1/-14.37	-13.72/-13.29	-9.96/-8.77	-5.93/-7.26	-4.93/-9.78	-7.81/-9.24	-13.05/-15.03	-11.06/-7.37	-7.97/-8.41	-7.05/-6.76	-7.43/-11.4	-14.59/-16.03	-9.74/-12.42	-12.89/-8.81	-8.63/-9.46	-9.68/-12.81	-8.61/-7.56	-4.87/-7.81	-7.78/-11.06	-9.41/-11.45
Θ(105°)	-14.64/-9.56	-8.45/-10.15	-8.9/-11.05	-10.02/-11.38	-11.78/-15.45	-14.93/-11.51	-10.38/-7.97	-7.91/-8.88	-4.86/-9.56	-10.24/-10.35	-15.87/-13.12	-15.47/-10.31	-8.4/-12.31	-8.71/-10.65	-9.34/-15.8	-13.71/-14.53	-12.75/-15.72	-13.53/-9.19	-8.23/-7.48	-8.37/-12.83	-10.01/-8.89	-6.36/-8.04	-11.59/-10.95	-9.6/-11.33
Θ(112.5°)	-12.11/-10.78	-11.63/-8.28	-7.61/-12.5	-8.9/-10.92	-14.43/-10.52	-10.94/-9.42	-10.4/-7.41	-9.73/-8.44	-9.06/-14.74	-8.59/-12.01	-14.75/-14.6	-15.64/-13.04	-10.62/-11.87	-10.25/-8.8	-11.57/-14.63	-15.13/-11.66	-10.99/-11.18	-10.51/-8.74	-7.74/-8.35	-10.39/-10.8	-10.47/-8.2	-9.53/-10.51	-9.68/-9.93	-8.3/-15.45
Θ(120°)	-9.79/-11.66	-12.51/-7.99	-6.45/-15.08	-12.22/-14.38	-12.15/-6.61	-8.75/-11.16	-12.39/-6.72	-10.14/-10.13	-10.69/-12.08	-10.78/-12.19	-14.65/-14.3	-10.06/-10.28	-9.49/-12.86	-10.71/-13.63	-12.23/-8.24	-9.7/-11.01	-9.18/-5.3	-6.85/-5.38	-9.11/-8.68	-8.17/-3.62	-3.6/-5.67	-7.74/-9.54	-9.43/-8.91	-9.53/-9.72
Θ(127.5°)	-7.79/-14.59	-12.54/-12.43	-9.65/-13.61	-11.59/-13.47	-12.81/-8.79	-10.32/-8.56	-10.77/-9.19	-13.24/-6.46	-9.51/-11.36	-8.27/-10.34	-14.8/-10.46	-14.13/-12.07	-8.99/-14.24	-12.52/-10.21	-12.07/-9.98	-9.16/-6.09	-13.12/-11.24	-8.09/-5.88	-6.15/-5.07	-8.26/-8.99	-7.29/-4.37	-2.34/-8.23	-9.15/-12.08	-13.08/-9.34
Θ(135°)	-8.56/-9.44	-9.67/-10.74	-12.85/-14.03	-13.31/-11.19	-9.26/-11.93	-15.77/-11.86	-10.79/-9.89	-12.44/-8.32	-8.83/-11.33	-7.5/-7.67	-15.39/-7.96	-9.68/-13.58	-7.65/-13.92	-15.33/-10.84	-9.47/-11.03	-9.78/-10.3	-13.96/-10.46	-7.5/-6.41	-9.68/-6.42	-7.26/-7.22	-6.11/-9.19	-5.25/-8.98	-11.25/-9.08	-11.38/-9.1
Θ(142.5°)	-9.94/-11.52	-12.27/-11.59	-6.45/-15.14	-9.62/-8.33	-10.28/-11.38	-10.83/-11.98	-12.4/-9.58	-9.01/-10.65	-11.84/-15.25	-10.57/-10.96	-11.1/-8.73	-11.17/-12.13	-6.41/-12.67	-11.26/-10.92	-15.07/-13.47	-13.15/-15.09	-12.96/-11.17	-12.91/-9.41	-9.71/-11.33	-10.67/-10.4	-10.43/-9.38	-9.57/-14.34	-9.43/-8.91	-9.53/-9.72
Θ(150°)	-14.63/-15.12	-14.39/-14.48	-14.99/-14.53	-13.92/-14.98	-13.13/-10.02	-9.73/-14.12	-12.62/-8.47	-12.64/-10.55	-12.64/-8.96	-8.42/-11.52	-12.01/-10.58	-10.12/-11.42	-11.34/-14.82	-12.95/-9.14	-9.13/-13.37	-15.81/-14.39	-15.12/-13.67	-12.32/-12.77	-10.51/-10.67	-10.82/-14.34	-15.91/-12.16	-12.32/-13.71	-12.08/-7.7	-7.54/-12.12
Θ(157.5°)	-15.03/-13.2	-11.71/-10.96	-11.61/-13.36	-15.05/-15.63	-13.57/-11.66	-11.24/-14.33	-12.69/-8.32	-7.11/-9.72	-12.77/-14.03	-13.75/-14.15	-15.03/-12.86	-10.04/-9.79	-12.31/-15.24	-14.15/-14.37	-15.58/-13.49	-12.41/-13.4	-15.11/-14.76	-13.3/-11.61	-11.9/-11.88	-10.71/-10.7	-12.21/-10.93	-10.26/-11.98	-13.18/-12.14	-14.21/-15.14
Θ(165°)	-15.08/-15.7	-14.06/-13.52	-14.3/-13.46	-13.97/-11.83	-10.46/-9.94	-11.22/-12.47	-15.65/-14.85	-12.79/-11.4	-11.92/-11.97	-12.13/-13.03	-12.15/-12.73	-14.42/-15.41	-15.5/-14.57	-15.49/-15.14	-14.99/-15.05	-15.15/-15.32	-13.26/-11.26	-10.96/-11.42	-11.78/-11.9	-11.79/-11.55	-12.09/-14.17	-13.67/-13.18	-11.64/-11.63	-12.78/-14.99
Θ(172.5°)	-13.1/-14.87	-15.6/-14.8	-14.97/-13.19	-13.9/-13.43	-14.3/-15.43	-14.5/-13.45	-12.9/-11.62	-10.83/-10.13	-9.99/-9.8	-10.23/-10.6	-10.44/-9.29	-8.65/-8.76	-8.94/-9.14	-10.09/-10.36	-10.69/-11.9	-12/-10.83	-10.07/-10.3	-10.38/-9.59	-8.36/-7.26	-6.87/-6.86	-7.71/-9.35	-8.73/-9.4	-10.79/-11.65	-10.95/-11.54
Θ(180°)	-11.59/-13.02	-12.4/-13.29	-13.38/-14.29	-14.3/-14.61	-15.37/-14.5	-14.03/-12.8	-11.61/-11.13	-11.29/-11.97	-12.61/-12.81	-12.37/-11.58	-10.67/-10.62	-10.81/-11.38	-12.33/-12.96	-14.26/-15.19	-14.8/-15.07	-14.66/-13.88	-12.46/-10.71	-9.11/-8.02	-7.67/-4.7	-7.6/-7.14	-6.94/-6.71	-6.47/-6.97	-7.54/-7.85	-8.43/-10.02
Freq(Hz)	5.30/Pol.	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°)	-4.51/-3.09	2.34/-1.76	-1.5/-1	-0.41/-0.02	-0.13/-0.55	-0.85/-1.17	-1.6/-2.29	-3.25/-4.41	-5.69/-6.85	-8.32/-9.57	-10.99/-10.01	-8.63/-7.63	-6.47/-5.09	-4.29/-3	-2.11/-1.51	-0.89/-0.6	-0.5/-0.38	-0.63/-0.77	-1.12/-1.8	-2.7/-3.69	-4.87/-6.2	-7.83/-10.04	-10.82/-10.08	-8.19/-6.33
Θ(7.5°)	-2.34/-1.85	-1.35/-0.97	-1.05/-0.93	-0.52/-0.02	0.49/-0.38	0.04/-0.46	-0.91/-1.46	-2.21/-3.33	-4.83/-6.7	-7.3/-6.67	-5.39/-4.66	-3.73/-2.98	-2.16/-1.46	-1.37/-1.42	-1.15/-1.08	-1.15/-1.28	-1.72/-2.34	-2.58/-2.88	-3.36/-4.17	-5.06/-5.63	-6.21/-6.69	-6.44/-5.4	-5.04/-4.25	-3.56/-2.86
Θ(15°)	-3.57/-2.68	-1.89/-0.79	-1.09/-0.46	1.22/-1.91	2.29/-1.93	0.95/-0.19	-1.37/-2.27	-2.96/-3.65	-5.27/-7.38	-8.44/-7.48	-6.13/-4.89	-4.24/-3.52	-2.58/-1.45	-0.97/-0.97	-1.29/-1.19	-0.89/-1.05	-1.8/-2.57	-2.98/-3.25	-3.91/-5.18	-5.68/-9.97	-12.62/-13.28	-11.84/-8.73	-7.6/-18	-5.57/-43
Θ(22.5°)	-3.55/-2.41	-1.76/-0.89	0.05/-0.61	1.04/-1.7	2.45/-2.53	1.53/-0.15	-1.83/-2.62	-3.38/-5.13	-7.8/-10.12	-9.21/-6.38	-4.79/-4.43	-4.13/-3.27	-2.52/-1.74	-1.43/-1.53	-1.82/-1.98	-2.54/-3.24	-3.48/-2.44	-1.1/-1.18	-2.31/-3.29	-3.41/-3.31	-3.72/-5.06	-7.15/-9.57	-11.03/-10.82	-7.58/-5.31
Θ(30°)	-5.82/-5.32	-3.64/-1.46	0.19/-1.38	1.61/-07	0.81/-0.91	0.09/-0.98	-0.94/-0.7	-2.2/-5.42	-11.03/-11.36	-8.57/-7.95	-6.99/-6	-5.49/-5.67	-5.66/-4.2	-1.75/-0.24	-0.44/-1.16	-1.23/-1.35	-2.25/-2.39	-1.43/-1.71	-3.21/-3.33	-1.25/-0.08	-0/-1.88	-5.16/-7.23	-8.67/-10.28	-8.25/-6.34
Θ(37.5°)	-1.45/-0.49	1.51/-1.39	0.68/-0.88	1.78/-1.76	1.22/-0.95	0.54/-0.64	-0.30/-5	-0.93/-5.23	-10.2/-8.68	-7.22/-6.67	-5.12/-3.29	-2.39/-2.15	-1.83/-0.86	0.04/-0.43	0.19/-0.53	-0.77/-0.26	-1.08/-1.41	-0.49/-1.21	-4.04/-4.79	-1.97/-1.35	-2.8/-4.69	-6.41/-7.61	-8.79/-9.57	-6.27/-3.4
Θ(45°)	0.28/-1.48	2.37/-2.27	1.56/-1.36	1.59/-1.23	0.89/-2	2.55/-0.64	-2.49/-1.14	-11.4/-04	-4.5/-3.02	-3.88/-4.73	-2.98/-1.27	-1.12/-0.95	-0.11/-0.3	0.51/-0.18	-0.61/-1.46	-1.01/-1.04	0.12/-2.37	-0.41/-0.21	-2.22/-3.94	-2.91/-3.72	-4.68/-4.49	-3.99/-5.38	-6.47/-5.53	-3.05/-2.72
Θ(52.5°)	-0.11/-73	1.47/-1.46	1.56/-1.68	2.66/-1.5	1.77/-2.92	3.06/-0.77	-4.58/-4.17	-3.4/-5.17	-2.25/-1.33	-2.75/-3.5	-1.59/-0.07	0.69/-1.73	1.85/-0.92	1.45/-1.67	-0.12/-2.36	-2.05/-2.05	-0.17/-3.73	-1.67/-0.72	-2.2/-2.77	-2.59/-3.98	-3.75/-3.13	-2.94/-4.02	-5.96/-4.52	-2.42/-1.89
Θ(60°)	1.49/-2.96	2.97/-6.3	2.71/-83	2.65/-2.03	2.45/-0.33	1.69/-0.75	-5.6/-6.68	-7.11/-6.18	-2.19/-1.79	-0.67/-0.22	0.34/-0.56	1.32/-11	2.53/-41	1.022/-54	0.25/-2.21	-2.5/-2.63	-3.39/-1.49	-0.77/-1.12	-1.24/-3.32	-3.34/-2.65	-2.49/-3.45	-3.81/-1.03	0.27/-0.03	
Θ(67.5°)	1.22/-2.13	3.18/-4.6	2.90/-81	2.87/-2.21	2.47/-2.72	-0.17/-3.03	-5.64/-5.71	-6.39/-2.97	-0.68/-0.6	1.48/-1.15	1.19/-1.27	2.19/-2.67	2.57/-2.16	0.93/-7	1.23/-0.57	-1.68/-6.57	-3.01/-2.95	-2.56/-0.48	-0.74/-0.97	-0.62/-3	-1.45/-1.29	-1.95/-2.75	-2.51/-0.1	1.59/-0.7
Θ(75°)	-0.38/-0.01	1.9/-4.5	3.67/-1.42	2.12/-2.25	1.41/-1.76	-1.28/-4.82	-3.42/-4.28	-4.81/-1.8	-0.37/-0.02	1.39/-1.22</														



Radiated Composite Gain Data of 2.4GHz and 5GHz(Full band)

Appendix A

Θ(67.5°)	-2.12/-6.36	-12.64/-11.21	-7.86/-7.34	-12.47/-8.25	-13.35/-7.27	-4.91/-4.29	-7.68/-5.9	-2.73/-3.29	-2.58/-1.12	-2.74/-2.3	-2.99/-2.22	-4.85/-7.69	-8.69/-11.12	-12.84/-6.62	-7.56/-10.04	-13.04/-7.57	-8.56/-5.67	-6.45/-5.91	-6.06/-4.34	-8.81/-5.35	-7.63/-8.95	-9.55/-5.82	-3.61/-1.07	-0.9/-1.35
Θ(75°)	-1.64/-4.96	-12.02/-11.61	-6.39/-7.35	-10.33/-6.3	-10.43/-7.01	-6.64/-5.51	-8.67/-4.82	-4.46/-6.04	-5.38/-3.53	-4.34/-4.46	-4.77/-2.97	-5.38/-10.22	-9.28/-7.77	-10.77/-6.28	-5.75/-9.81	-11.74/-11.43	-10.57/-6.13	-7.03/-5.46	-3.91/-5.11	-7.33/-4.78	-9.17/-6.45	-11.71/-11.38	-7.39/-1.32	-1.4/-1.52
Θ(82.5°)	-4.77/-6.36	-11.41/-11.06	-6.84/-7.73	-8.76/-5.47	-11.56/-6.5	-7.74/-7.5	-10.39/-6.18	-5.79/-6.17	-6.86/-4.05	-4.92/-6.24	-6.72/-6.42	-8.31/-13.17	-12.24/-7.76	-10.56/-6.3	-6.66/-11.33	-11.79/-13.16	-10.7/-5.51	-8.21/-5.88	-3/-6.47	-7.2/-5.16	-8.59/-6.75	-13.6/-10.74	-11.21/-4.19	-5.14/-4.79
Θ(90°)	-8.45/-7	-10.91/-11.86	-6.94/-7.96	-9.14/-6.58	-10.73/-5.79	-8.39/-10.34	-8.02/-4.83	-6.46/-5.32	-8.42/-5	-6.83/-7.05	-9.97/-9.25	-9.37/-12.99	-15.49/-9.31	-11.5/-5.87	-6.86/-14.35	-9.29/-13.41	-12.81/-7.77	-8.92/-6.85	-4.84/-7.63	-5.69/-7.14	-9.67/-5.2	-11.28/-11.02	-11.24/-6.44	-6.31/-7.07
Θ(97.5°)	-14.55/-9.33	-10.84/-13.11	-8.52/-7.68	-8.39/-7.9	-12.54/-6.16	-8.57/-10.22	-6.36/-4.64	-6.91/-5.81	-6.66/-4.33	-7.2/-7.58	-13.72/-14.68	-12.07/-15.48	-15.52/-8.6	-13.17/-5.06	-8.28/-12.04	-11.88/-11.91	-9.98/-6.23	-9.75/-10.5	-6.99/-12.95	-7.62/-7.16	-10.6/-7.37	-10.72/-12.27	-9.15/-7.98	-8.46/-11.77
Θ(105°)	-13.2/-8.27	-12.19/-14.27	-9.71/-8.49	-10.78/-8.71	-11/-7.6	-6.74/-8.54	-5.2/-5.41	-4.69/-6.89	-7.29/-3.85	-7.19/-7.06	-11.99/-13.31	-12.19/-14.9	-12.65/-9.36	-11.41/-9.61	-10.52/-13.95	-12.97/-12.33	-10.69/-8.7	-13.01/-8.85	-7.64/-11.95	-9.84/-10.1	-11.58/-9.83	-7.36/-12.47	-9.3/-9.67	-9/-10.98
Θ(112.5°)	-15.05/-11.13	-14.18/-11.83	-8.45/-10.1	-13.19/-10.94	-13.73/-8.28	-3.75/-6.38	-5.73/-6.46	-5.12/-8.77	-7.58/-8.32	-9.37/-6.97	-14.3/-15.27	-15.02/-14.85	-11.3/-10.65	-13.35/-8.19	-13.59/-11.16	-15.18/-9.98	-11.17/-6.89	-9.91/-6.24	-8.29/-11.71	-9.9/-9.26	-11.53/-6.95	-10.85/-11.75	-11.5/-11.85	-9.48/-14.64
Θ(120°)	-10.74/-14.97	-12.63/-12.83	-9.48/-9.14	-14.77/-15.48	-11.79/-7.38	-5.81/-8.37	-6.03/-8.86	-8.56/-9.23	-7.35/-12.64	-9.04/-8.51	-13.24/-15.35	-15.57/-13.74	-9.74/-15.8	-13.76/-11.2	-13.19/-9.45	-13.81/-6.89	-9.53/-9.12	-8.92/-5.66	-5.92/-7.55	-8.01/-10.16	-7.2/-4.41	-5.06/-5.95	-11.36/-15.48	-9.43/-15.15
Θ(127.5°)	-5.11/-9.47	-15.65/-11.69	-9.56/-12.97	-15.2/-15.25	-12.07/-10.32	-7.32/-13.91	-5.82/-8.43	-8.68/-11.33	-9.09/-6.7	-8.81/-10.17	-13.79/-10	-12.05/-9.62	-11.02/-15.72	-9.28/-15.56	-7.18/-11.37	-8.81/-6.98	-9.44/-11.87	-11.18/-6.23	-6.34/-8.01	-7.02/-7.23	-9.56/-6.26	-5.1/-4.15	-6.37/-8.34	-9.88/-6.93
Θ(135°)	-4.85/-11.9	-7.81/-6.06	-9.6/-15.34	-12.15/-12.9	-14.63/-10.2	-10.17/-13	-7.91/-9.36	-7.94/-11.78	-9.84/-11.51	-9.65/-6.22	-12.05/-8.73	-7.2/-11.2	-10.47/-13.21	-13.09/-11.43	-14.25/-11.68	-9.63/-13.74	-11.55/-11.92	-10.71/-8.38	-7.3/-11.2	-9.98/-7.76	-7.68/-4.96	-4.59/-7.73	-11.65/-8.26	-14.86/-7.78
Θ(142.5°)	-7.18/-8.65	-10.9/-10.39	-13.26/-12.91	-9.01/-11.68	-15.62/-9.48	-6.94/-6.37	-9.02/-14.94	-9.61/-13.6	-15.66/-14.7	-10.29/-11.24	-11.45/-8.41	-9.54/-15.77	-9.77/-15.35	-9.28/-10.5	-11.47/-12.79	-14.85/-12.15	-10.15/-11.62	-11.63/-9.16	-8.89/-7.14	-10.51/-10.25	-7.96/-8.31	-6.58/-8.17	-9.22/-7.68	-10.04/-14.43
Θ(150°)	-10.36/-13.54	-13.82/-11.59	-11.54/-9.45	-8.81/-11.28	-11.34/-11.54	-14.45/-11.33	-10.54/-9.61	-7.75/-10.21	-11.27/-11.78	-13.84/-15.52	-13.8/-10.05	-10.18/-9.69	-7.63/-11.86	-13.9/-13.56	-10.88/-12.85	-13.45/-13.07	-14.68/-15.6	-9.27/-9.03	-13.49/-7.67	-5.73/-7.21	-11.33/-13.43	-9.75/-8.84	-12.29/-14.25	-8.66/-9.81
Θ(157.5°)	-11.37/-13.44	-15.48/-14.42	-15.27/-13.93	-10.98/-11.17	-13.64/-15.42	-13.4/-10.53	-11.87/-11.48	-10.01/-11.89	-14.19/-13.82	-14.14/-14.53	-15.45/-13.77	-11.6/-10.95	-14.43/-15.32	-15.02/-14.22	-12.26/-14.68	-15.26/-15.03	-15.55/-10.89	-8.45/-10.91	-13.38/-8.85	-6.96/-8.43	-12.99/-12.89	-9.7/-7.32	-8.12/-12.43	-10.17/-9.74
Θ(165°)	-13.47/-14.96	-15.55/-14.18	-15.3/-14.81	-15.21/-15.58	-13.05/-11.38	-10.37/-11.46	-14.29/-14.5	-14.4/-15.86	-15.41/-13.95	-13.58/-14.62	-12.33/-12.16	-11.46/-10.76	-9/-9.33	-11.09/-12.18	-14.43/-15.26	-15.76/-14.32	-12.22/-10.49	-10.22/-9.24	-7.88/-7.4	-7.94/-10.9	-11.81/-11.85	-10.97/-10.65	-12.48/-14.78	-14.01/-13.11
Θ(172.5°)	-12.96/-13.38	-14.86/-11.53	-10.33/-10.14	-10.91/-12.24	-12.62/-14.65	-14.67/-15.77	-14.16/-11.55	-10.66/-10.37	-10.16/-10.34	-10.13/-8.66	-8.5/-10	-11.25/-11.94	-13.04/-13.95	-14.4/-15.17	-12.37/-10.9	-9.91/-9.71	-11.3/-11.78	-11.67/-12.76	-12.05/-9.33	-7.71/-7.8	-8.03/-8.14	-8.87/-10.93	-13.79/-13.37	
Θ(180°)	-11.7/-12.34	-13.69/-15.29	-15.55/-13.91	-13.56/-14.4	-15.63/-14.89	-14.55/-13.39	-12.25/-11.57	-11.19/-10.89	-10.33/-11.04	-12.43/-12.4	-11.98/-13.42	-13.34/-13.18	-14.25/-14.08	-13.47/-14.48	-13.56/-12.81	-12.29/-10.95	-10.43/-10.03	-10.02/-10.1	-10.15/-9.86	-10.94/-10.74	-11.38/-12.48	-13.16/-12.53	-13.39/-13.43	-11.42/-11.18
Freq(Hz)	5.785GPol.	Thetala	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
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°)	-5.82/-5.32	-5.65/-5.35	-5.29/-4.96	-4.43/-4.02	-4.39/-5.13	-6.07/-6.95	-7.12/-8.01	-9.64/-10.98	-11.98/-12.09	-11.92/-10.99	-9.86/-8.7	-7.41/-5.88	-5.31/-4.52	-3.9/-4.05	-3.94/-4.05	-4.33/-4.4	-4.74/-5.46	-6.22/-7.15	-7.96/-8.87	-9.48/-10.12	-10.63/-11.54	-12.7/-12.23	-10.39/-9.45	-8.38/-7.27
Θ(7.5°)	-3.77/-2.2	-1.71/-1.67	-1.5/-1.29	-1.1/-1.07	-1.1/-1.52	-2.31/-3.4	-4.16/-5.49	-7.79/-9.68	-11.3/-12.26	-13.14/-14.28	-13.08/-9.91	-8.2/-6.71	-5.86/-5.07	-3.82/-3.47	-3.11/-2.55	-2.17/-1.95	-1.58/-1.85	-2.58/-3.29	-4.24/-5.82	-8.12/-10.66	-13.42/-14.96	-14.64/-11.93	-8.59/-6.56	-5.72/-4.99
Θ(15°)	-1.59/-1.08	-0.53/-0.37	-0.52/-0.38	-0.31/-0.05	0.420/6.7	0.52/-0.16	-1.38/-3.4	-6.42/-9.99	-12/-10.53	-10.62/-9.66	-8.65/-7.02	-6.31/-5.58	-5.26/-5	-4.38/-4.09	-3.47/-2.75	-2.34/-1.83	-1.56/-1.36	-1.42/-1.87	-2.12/-3.02	-4.85/-7.94	-9.42/-7.33	-5.19/-4.12	-3.12/-2.07	
Θ(22.5°)	-4.45/-3.25	-2.52/-2.07	-1.62/-0.71	0.40/32	-0.04/-0.55	-1.34/-2.27	-4.14/-6.51	-10.64/-14.14	-11.5/-9.67	-9.23/-7.52	-6.16/-6.13	-5.97/-5.69	-5.09/-6.87	-5.95/-4.54	-2.46/-0.35	0.79/-1.36	1.110/27	-0.1/-0.93	-2.85/-4.9	-6.15/-7.21	-7.36/-9.88	-12.47/-8.51	-6.23/-5.45	-5.61/-5.13
Θ(30°)	-3.1/-1.95	-1.32/-2.01	-1.430/15	1.382/12	2.33/-1.87	0.9/-0.67	-2.92/-5.27	-7.44/-10.34	-7.86/-6.4	-4.73/-3.42	-2.16/-2.66	-3.51/-2.58	-1.3/-0.66	-0.27/-0.92	-3.62/-3.72	0.08/-1.66	0.710/12	0.56/-0.66	-1.65/-3.47	-6.19/-6.74	-4.14/-4.5	-5.64/-3.38	-2.26/-1.63	-2.47/-3.52
Θ(37.5°)	-4.54/-4.68	-1.99/-1.38	-1.24/-0.03	1.863/23	3.42/-1.85	-0.21/-0.31	-1.78/-2.73	-3.4/-2.86	-3.37/-4.97	-3.79/-1.51	-0.25/-0.31	-1.03/-2.16	-2.64/-1.7	0.03/-1.32	0.19/-1.04	1.72/85	2.73/-1.09	-1.03/-0.47	0.23/-1.27	-2.28/-2	-1.39/-1.76	-3.07/-4	-2.35/-0.17	0.03/-1.39
Θ(45°)	0.780/87	1.532/-11	1.95/-1.72	2.393/97	4.212/01	-0.930/34	-0.4/-2.29	-2.75/-0.32	0.59/-0.52	-2.150/22	2.332/97	2.67/-1.6	1.542/24	1.190/4	1.140/95	1.26/-1.59	3.012/84	0.040/1	0.23/-2	-3.1/-1.06	-2.04/-2.8	-3.12/-3.98	-2.14/-0.33	-0.490/24
Θ(52.5°)	2.092/33	0.71/-0.59	0.642/79	3.854/22	4.962/99	-0.06/-0.72	-0.63/-2.43	-2.950/59	2.782/39	0.04/-1.42	4.233/89	2.54/-1.51	2.232/31	1.60/63	0.210/16	1.110/19	0.793/16	0.91/-2.02	-0.09/-3.98	-4.51/-1.31	-1.67/-1.54	-1.76/-2.22	-1.25/-1.58	-2.31/-0.05
Θ(60°)	3.463/76	1.020/09	0.723/39	4.063/96	4.573/73	1.65/-1.32	-2.21/-4.73	-4.97/-0.85	2.323/36	2/-2.48	5.014/55	2.562/22	2.210/85	2.272/73	1.26/-1.23	0.080/4	-1.41/-1.7	2.22/-0.48	0.34/-2.63	-4.34/-1.32	-3.71/-1.34	-0.94/-2.63	-0.7/-0.8	-0.80/96
Θ(67.5°)	3.614/14	2.992/48	2.213/42	54/14	4.343/19	1.56/-2.17	-3.54/-6.81	-3.46/0.08	1.93/75	3.34/06	4.644/08	3.524/-1	3.34/-1.75	4.254/39	2.062/46	1.06/-0.59	-2.13/-0.25	2.97/-1.67	1.31/-1.39	-2.92/-0.9	-2.42/-0.74	-0.54/-0.38	1.260/69	0.53/-1.26
Θ(75°)	3.324/01	2.932/98	1.712/32	5.154/08	3.591/97	0.52/-2.77	-2.08/-3.86	-2.830/28	1.483/86	3.362/37	3.373/31	4.093/74	3.6/-1.84	3.884/6	2.162/76	2.07/-0.42	-1.13/-0.15	3.454	2.80/64	-1.13/-0.46	-2.66/-1.11	-0.320/23	1.39/-1.25	1.55/-1.6
Θ(82.5°)	1.762/53	1.582/37	0.74/-1.57	5.343/02	2.080/29	-1.66/-3.24	-2.61/-5.16	-2.281/02	0.822/82	2.462/85	2.581/88	3.232/55	3.122/47	3.734/12	1.552/26	0.890/22	0.24/-0.31	3.34/59	2.942/09	0.63/-1.29	-1.41/-0.43	1.36/-1.6	1.010/82	0.92/-1.1
Θ(90°)	0.260/3	0.192/38	1.13/-0.35	3.662/08	0.01/-1.74	-2.74/-4.12	-3.35/-6.03	-2.410/39	-0.262/15	0.78/-1.72	2.44/-1.45	2.120/59	1.39/-1.79	2.742/22	0.14/-1.49	0.38/-1.5	0.26/-0.84	1.260/43	1.762/11	0.83/-0.68	-1.9/-0.79	1.020/24	0.26/-0.52	-0.520/51
Θ(97.5°)	-0.45/-3.37	-0.22/-1.76	0.63/-2.68	1.680/33	-2.27/-2.79	-3.68/-5.27	-5.43/-8.2	-3.27/-1.44	-1.30/48	-0.76/-1.35	1.12/-0.04	0.3/-0.72	0.060/68	0.77/-0.92	-2.27/-0.87	-1.74/-2.64	-1.93/-1.98	-0.730/99	-0.01/-0.75	-1.5/-1.67	-1.72/-0.99	-0.5/-1.99	-1.83/-0.81	-0.6/-0.32
Θ(105°)	-3.54/-4.83	-0.52/-1.15	-0.69/-3.08	-0.59/-0.11	-1/-6.26	-3.94/-5.15	-5.35/-11.1	-4.03/-3.63	-3.1/-1.88	-2.88/-0.22	-0.11/-0.06	-1.73/-4.66	-2.61/-3.53	-2.2/-2.51	-4.47/-3.15	-2.38/-5.92	-2.53/-4.19	-3.02/-2.72	-1.79/-3.49	-2.53/-2.42	-3.62/-2.99	-2.15/-2.3	-3.44/-1.78	-1.13/-0.62
Θ(112.5°)	-3.64/-3.3	-2/-4.54	-7.48/-3.19	0.610/04	-2.04/-9.31	-6.41/-7.98	-8.18/-11.5	-8/-7.63	-4.13/-3.8	-3.61/-2.04	-1.68/-1.23	-3.72/-4.18	-3.54/-3.51	-5.1/-5.98	-5.19/-3.38	-1.5/-6.52	-5.24/-4.74	-2.02/-3.89	-1.08/-5.74	-4.49/-2.06	-4.32/-3.97	-3.18/-1.15	-3.37/-4.24	-1.49/-0.18
Θ(120°)	-4.61/-5.32	-2.6/-7.2	-4.9/-4.5	-1.13/-2.9	-5.67/-11.27	-5.98/-10.05	-8.79/-11.3	-11.42/-8.87	-5.43/-5.92	-5.59/-3.57	-2.66/-2.72	-3.31/-4.63	-7.31/-3.07	-4.21/-7.25	-3.87/-5.07	-3.05/-4.59	-							



Radiated Composite Gain Data of 2.4GHz and 5GHz(Full band)

Appendix A

Θ(30°)	-7.52/-10.63	-8.49/-9.96	-12.38/-14.46	-15.21/-15.63	-11.82/-6.89	-5.19/-4.96	-5.94/-5.85	-4.73/-4.2	-4.73/-6.34	-5.65/-4.16	-4.27/-4.63	-3.72/-2.91	-3.08/-4.01	-5.56/-6.59	-7.13/-7.58	-7.63/-5.79	-4.36/-4.54	-4.43/-2.21	-0.61/-1.13	-2.81/-3.56	-1.54/-0.03	-0.08/-0.63	-0.57/-0.18	-0.8/-3.54
Θ(37.5°)	-5.91/-6.88	-7.7/-8.73	-10.69/-16.1	-18.44/-17.51	-17.89/-15.1	-8.78/-5.9	-5.37/-5.4	-4.5/-4.23	-5.33/-5.33	-4.35/-4.79	-6.54/-7.21	-5.69/-6.48	-4.41/-4.98	-6.07/-6.75	-6.09/-6.17	-7.08/-4.83	-3.44/-3.67	-4.15/-1.96	-0.31/-0.94	-1.63/-1.21	-0.85/-0.2	0.51/-0.22	-0.22/-0.6	0.01/-2.68
Θ(45°)	-3.56/-3.86	-8.21/-12.74	-11.35/-16.23	-14.36/-19.15	-17.97/-18.58	-18.32/-10.28	-7.96/-6.51	-5.16/-5.89	-6.23/-6.42	-6.28/-9.4	-6.18/-9.1	-11.57/-7.89	-6.91/-6.21	-5.25/-5.21	-6.39/-6.75	-7.14/-6.61	-5.44/-3.89	-4.93/-2.47	-0.61/-0.43	-1.63/-2.1	-1.09/-0.1	-0.03/-0.64	0.28/-1.93	1.35/-1.89
Θ(52.5°)	-1.95/-3.48	-8.72/-14.38	-16.17/-13.36	-12.95/-18.53	-15.36/-9.09	-8.67/-10.9	-10.51/-8.82	-7.81/-9.28	-9.77/-5.3	-6.86/-6.3	-4.08/-8.52	-16.48/-9.23	-8.36/-9.73	-6.87/-6.25	-7.23/-9.26	-7.33/-6.61	-6.85/-5.45	-4.86/-3.57	-2.63/-3.56	-2.97/-1.87	-1.14/-0.92	-0.63/-0.8	-0.93/-0.41	-0.16/-1.84
Θ(60°)	-0.92/-4.97	-7.88/-9.08	-11.45/-10.41	-11.08/-12.38	-15.66/-9.27	-5.6/-5.85	-9.88/-14.24	-16.51/-12.07	-10.66/-7.75	-11.47/-8.22	-4.47/-8.77	-19.28/-8.29	-7.06/-9.08	-6.95/-5.58	-6.38/-9.78	-9.96/-8.1	-8.32/-6.25	-7.73/-5.88	-3.88/-4.28	-3.12/-4.21	-2.12/-2.1	-2.37/-1.95	-4/-1.79	-0.41/-5.4
Θ(67.5°)	-2.95/-6.62	-6.98/-6.29	-8.95/-12.94	-18.76/-15.34	-13.71/-8.19	-7/-7.13	-10.58/-13.77	-17.34/-17.08	-14.4/-12.38	-13.04/-5.28	-4.33/-11.44	-13.61/-6.85	-7.57/-9.61	-6.75/-5.79	-6.38/-6.84	-7.92/-7.94	-8.92/-6.84	-10.55/-6.36	-4/-5.93	-4.23/-5.03	-2.35/-2.54	-3.05/-4.18	-9.53/-5.67	-4.55/-2.79
Θ(75°)	-3.67/-9.78	-5.55/-7.2	-11.33/-12.14	-12.99/-18.19	-12.44/-9.65	-9.1/-10.58	-13.09/-13.34	-9.68/-18.38	-17.45/-13.42	-11.75/-10.39	-8.37/-16.5	-14.79/-7.56	-6.89/-8.46	-6.93/-6.19	-6.04/-7.45	-8.47/-8.05	-13.15/-8.6	-13.76/-9.96	-3.89/-9.51	-4.03/-6.59	-3.66/-6.61	-4.97/-7.64	-18.5/-13.32	-10.21/-5.23
Θ(82.5°)	-8.26/-18.21	-6.24/-9.02	-13.31/-11.62	-12.23/-12.9	-10.71/-10.48	-15.9/-15.63	-11.81/-10.5	-8.22/-17.55	-9.23/-12.8	-13.14/-69	-12.21/-18.05	-13.05/-8.34	-7.79/-8.85	-6.69/-6.71	-7.74/-10.55	-11.05/-10.67	-16.66/-10.51	-13.27/-16.1	-7.99/-10.85	-5.83/-9.58	-4.32/-6.25	-6.12/-13.24	-12.18/-17.58	-16.77/-7.81
Θ(90°)	-10.25/-19.08	-7.39/-9.01	-18.04/-8.45	-7.28/-18.94	-11.43/-14.3	-15.48/-18.4	-12.91/-9.72	-6.2/-12.81	-8.89/-11.8	-10.78/-18.43	-16.98/-18.73	-18.15/-11.22	-9.22/-12.45	-8.27/-6.9	-9.48/-11.54	-15.71/-13.53	-19.08/-16.31	-18.31/-18.06	-10.68/-19.26	-8.29/-15.06	-8.18/-10.24	-5.71/-15.11	-11.9/-14.15	-12.1/-11.85
Θ(97.5°)	-11.08/-18.86	-8.46/-14.52	-18.84/-12.59	-11.55/-13.48	-9.89/-16.13	-17.31/-17.42	-10.98/-8.07	-6.03/-11.86	-6.83/-12.25	-14.66/-16.77	-14.73/-17.34	-19.05/-12.63	-9.88/-13.42	-8.59/-8.23	-9.73/-12.12	-16.79/-18.91	-19.04/-18.9	-18.85/-18.03	-19.48/-18.78	-17.35/-19	-13.68/-11.86	-8.21/-11.99	-11.65/-17.89	-14.28/-18.77
Θ(105°)	-18.78/-12.97	-12.05/-18.6	-14.29/-12.77	-9.88/-12.4	-11.99/-18.67	-17.07/-11.85	-10.66/-17.6	-8.2/-9.84	-6.65/-14.52	-16.94/-18.42	-18.68/-18.99	-19.01/-16.13	-12.95/-15.45	-11.25/-10.17	-14.1/-18.82	-15.89/-16.98	-19.18/-18.78	-17.58/-15.46	-17.06/-13.53	-14.2/-18.44	-18.6/-12.23	-10.89/-13.35	-18.39/-18.46	-12.04/-13.58
Θ(112.5°)	-13.66/-17.74	-19.04/-13.92	-9.64/-13.53	-11.68/-13.84	-16.23/-10.6	-10.87/-10.7	-10.24/-7.79	-9.24/-8.55	-9.41/-17.65	-14.18/-17.87	-16.7/-17.16	-19.01/-15.95	-15.61/-18.46	-14/-11.47	-12.77/-19.02	-18.33/-18.75	-17.94/-16.63	-15.37/-11.12	-19.23/-17.74	-19.01/-14.45	-18.09/-18.19	-18.09/-14.01	-9.8/-19	
Θ(120°)	-10.71/-14.36	-16.81/-11.31	-8.93/-18.48	-15.84/-17.79	-15.96/-7.3	-8.22/-11.29	-13.06/-7.3	-11.21/-11.96	-11.25/-12.88	-18.34/-17.92	-18.4/-17.74	-17.22/-18.76	-13.93/-10.21	-13.41/-14.34	-10.63/-16.95	-18.06/-18.76	-17.94/-18.9	-14.84/-10.94	-17.58/-13.1	-17.81/-12.59	-11.99/-7.7	-8.17/-12.46	-14.05/-18.94	-10.21/-12.42
Θ(127.5°)	-9.12/-19.09	-17.55/-17.92	-14.63/-15.6	-14.21/-18.02	-17.75/-8.42	-11.16/-15.18	-11.42/-10.79	-17.41/-9.21	-12.4/-18.11	-18.27/-18.41	-18.55/-16.83	-15.95/-19.23	-13.89/-16.86	-17.55/-10.15	-16.66/-18.32	-12.95/-14.52	-18.33/-17.89	-14.93/-12.23	-13.77/-10.17	-13.09/-12.5	-10.96/-8.99	-6.78/-16.19	-14.63/-18.72	-14.58/-8.92
Θ(135°)	-12.76/-15.17	-11.91/-12.31	-17.22/-16.44	-15.6/-15.48	-18.33/-15.44	-18.44/-14.23	-14.76/-18.17	-14.79/-10.95	-12.06/-16.93	-17.88/-13.54	-18.31/-18.54	-19.12/-15.27	-12.2/-18.47	-18.15/-14.97	-9.75/-16.47	-18.15/-18.91	-18.69/-17.88	-13.75/-13.2	-18.72/-12.21	-14.09/-10.24	-9.3/-8.1	-9.81/-18.52	-11.73/-8.73	-12.01/-9.1
Θ(142.5°)	-12.86/-18.43	-13.11/-11.68	-17.74/-17.32	-9.14/-9.63	-16.38/-17.89	-17.81/-18.92	-17.19/-18.13	-11.29/-12.33	-19.18/-17.88	-15.76/-18.37	-14.68/-17.24	-18.87/-15	-9.51/-13.34	-18.37/-18.72	-17.92/-15.03	-14.86/-17.71	-17.97/-17.35	-18.5/-17.21	-14.31/-16.39	-15.56/-14.09	-18.42/-11.27	-11.07/-17.76	-8.78/-9.01	-13.09/-11.71
Θ(150°)	-17.44/-18.18	-15.94/-16.3	-18.36/-18.46	-15.48/-17.15	-18.61/-13.95	-12.7/-15.87	-18.04/-18.41	-17.72/-15.87	-15.46/-10.69	-8.93/-12.81	-15.64/-15.11	-13.47/-10.29	-18.41/-18.37	-15.11/-9.88	-10.92/-17.56	-19/-17.44	-18.85/-18	-18.18/-19.16	-16.53/-13.52	-15.14/-18.23	-19.03/-13.74	-14.58/-18.77	-17.49/-9.45	-10.15/-18.09
Θ(157.5°)	-17.48/-15	-16.37/-12.45	-14.13/-16.36	-18.91/-17.59	-18.58/-17.81	-15.57/-15.25	-18.64/-18.87	-9.70/-9.56	-14.06/-16.89	-19.43/-17.98	-19.23/-14.58	-10.41/-10.24	-13.23/-17.66	-18.81/-7.83	-19.03/-14.61	-13.44/-15.66	-18.15/-18.37	-17.78/-15.69	-17.56/-17.23	-18.62/-15.48	-17.11/-17.13	-17.77/-14.23	-17.41/-18.21	
Θ(165°)	-17.46/-18.54	-12.3/-14.59	-18.11/-17.35	-17.24/-14.31	-13.31/-11.46	-12.32/-16.05	-18.68/-18.32	-14.98/-15.7	-18.01/-17.16	-15.95/-14.56	-13.04/-13.43	-15.86/-19.27	-18.92/-17.99	-18.71/-18.88	-17.98/-18.14	-18.26/-18.78	-18.71/-18.74	-17.9/-18.3	-17.57/-18.21	-19.13/-18.48	-17.39/-18.19	-17.87/-18.38	-13.96/-11.87	-13.94/-16.97
Θ(172.5°)	-17.76/-18.9	-13.78/-16.96	-17.59/-16.62	-15.6/-15.32	-16.09/-17.71	-18.37/-17.81	-18.95/-16.02	-14.16/-13.05	-12.65/-11.46	-10.46/-10.59	-10.17/-9.46	-9.38/-9.08	-8.61/-8.91	-10.11/-10.1	-10.78/-12.64	-13.46/-13.22	-13.78/-15.48	-16.1/-14.76	-12.44/-11.11	-10.98/-11.26	-11.62/-11.89	-12.21/-12.95	-15.44/-16.92	-16.08/-16.1
Θ(180°)	-11.72/-14	-16.81/-13.84	-15.12/-16.63	-16.42/-17.84	-18.66/-17.58	-15.9/-14.12	-12.13/-11.52	-11.69/-12.28	-13.61/-14.15	-13.69/-13.05	-12.43/-13	-13.41/-13.12	-12.86/-14.21	-16.11/-17.2	-17.31/-17.42	-16.72/-15.52	-14.44/-12.87	-11.81/-11.63	-12.15/-12.57	-13.19/-12.67	-11.89/-11.22	-9.88/-9.65	-9.61/-8.6	-8.48/-9.74
Freq(Hz)	5.30/Pol.	Theta/Ant. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-6.57/-5.3	-4.63/-3.98	-2.78/-3.37	-2.44/-2.7	-3.39/-3.85	-4.38/-4.86	-5.79/-7.04	-8.27/-9.23	-10.33/-14.04	-10.77/-9.87	-8/-6.45	-5.16/-4.5	-4.12/-3	-2.25/-2.04	-1.86/-2.2	-2.53/-2.33	-2.52/-2.68	-3.13/-3.95	-5.06/-6.03	-7.19/-8.24	-10.25/-10.38	-10.87/-10.11	-9.32/-8.15	
Θ(7.5°)	-4.45/-3.33	-2.67/-2.57	-2.8/-2.86	-1.94/-1.5	-1.48/-1.77	-2.23/-2.82	-3.16/-3.41	-3.61/-4.23	-4.98/-6.17	-6.4/-6.43	-6.25/-6.49	-6.46/-6.26	-5.37/-4.31	-4.33/-4.09	-3.09/-2.79	-3.04/-3.19	-3.56/-3.81	-3.63/-3.55	-4.4/-5.47	-6.8/-8.58	-10.4/-12.05	-11.96/-11.13	-9.45/-7.82	-6.45/-5.45
Θ(15°)	-4.85/-4.67	-4.82/-3.5	-3.24/-2.88	-2.24/-1.34	-1.11/-1.54	-2.06/-2.62	-3.18/-3.63	-4.08/-4.66	-5.5/-6.69	-7.46/-7.59	-7.46/-7.16	-6.89/-6.21	-5.14/-3.68	-2.83/-2.2	-1.48/-0.88	-0.66/-0.78	-1.42/-2.16	-2.73/-4.2	-4.25/-5.77	-7.4/-10.09	-13.15/-14.43	-13.43/-11.39	-9.96/-10.25	-10.8/-10.11
Θ(22.5°)	-6.32/-4.77	-3.76/-3.24	-2.6/-2.18	-1.59/-0.93	-0.48/-0.63	-1.32/-1.95	-2.64/-3.46	-4.84/-6.98	-7.92/-9.71	-8.94/-7.68	-7.26/-7.65	-7.86/-7.55	-6.98/-6.32	-5.98/-5.97	-5.05/-3.43	-2.56/-2.7	-3.44/-3.18	-2.11/-2.35	-3.59/-5.27	-6.11/-6.41	-7.44/-9.4	-13.2/-16.44	-16.09/-13.72	-10.8/-8.61
Θ(30°)	-9.35/-10.74	-7.76/-4.3	-3.48/-3.71	-3.47/-2.65	-1.86/-1.74	-2.85/-3.58	-3.08/-2.74	-4.1/-7.97	-17.41/-12.96	-7.82/-7.01	-7.02/-6.82	-6.75/-7.45	-8.36/-8.14	-6.06/-4.11	-3.13/-1.89	-1.57/-2.31	-3.33/-3.82	-3.43/-3.98	-5.67/-5.33	-3.11/-2.19	-3.29/-6.95	-15.29/-17.68	-14.51/-13.29	-9.57/-8
Θ(37.5°)	-3.41/-1.94	-1.26/-1.09	-1.87/-3.35	-3.49/-2.45	-1.38/-1.41	-3.16/-5.42	-4.09/-2.42	-3.45/-7.97	-17.92/-12.93	-9.01/-8.87	-8.36/-6.13	-4.78/-5.2	-6.32/-5.92	-4.12/-2.91	-2.86/-1.76	-0.92/-1.74	-3.02/-3.41	-2.91/-2.8	-5.18/-8.14	-4.6/-3.17	-4.74/-6.53	-15.02/-17.94	-17.84/-18.41	-9.27/-5.01
Θ(45°)	-0.171/-0.9	0.64/-0.33	-1.68/-2.7	-3.11/-2.96	-1.20/-1.2	-0.5/-4.48	-8.78/-5.57	-4.52/-7.17	-8.52/-6.49	-6.11/-9.14	-7.04/-3.28	-3.38/-3.82	-4.23/-3.61	-3.44/-3.18	-1.82/-1.58	-2.72/-4.15	-1.64/-0.19	-2.56/-6.77	-6.03/-5.61	-6.96/-10.08	-12.06/-14.57	-16.21/-10.23	-5.47/-2.45	
Θ(52.5°)	-1.691/-25	-0.739/-0.34	-1.37/-1.33	-0.11/-1.02	-0.081/-35	0.32/-4.11	-10.34/-10.78	-8.38/-7.86	-5.51/-7.74	-4.29/-8.66	-4.76/-1.56	-1.07/-1.01	-1.75/-2.97	-3.52/-3.39	-3.38/-3.82	-2.45/-2.33	-3/-3.32	-2.6/-6.06	-2.01/-4.72	-4.68/-5.69	-7.81/-10.92	-11.02/-9.64	-10.7/-7.04	-8.44/-5.09
Θ(60°)	-0.12/-19	2.592/-79	0.711/-16	0.420/-31	0.291/-37	-0.69/-5.75	-10.34/-13.73	-12.24/-8.91	-6.47/-4.58	-3.89/-5.04	-2.61/-0.45	-0.01/-0.17	-1.71/-2.85	-3.66/-4.4	-4.19/-4.46	-3.64/-4.61	-3.57/-3.2	-4.42/-1.8	-1.15/-1.94	-2.43/-4.3	-6.25/-6.36	-8.94/-8	-9.21/-4.2	-1.98/-2.28
Θ(67.5°)	0.771/-78	2.75/-36	1.36/-2.27	0.477/-54	-0.140/-56	-1.81/-88	-9.06/-12.93	-13.43/-7.43	-6.53/-4.3	-2.73/-3.44	-0.850/-86	1.380/-01	-1.51/-0.87	-2.38/-3.3	-2.19/-2.66	-4.82/-14.9	-5.78/-4.82	-3.42/-0.95	-1.43/-1.86	-2.12/-4.18	-2.98/-5.51	-7.6/-7.19	-8.05/-2.45	-0.92/-0.52
Θ(75°)	-0.05/-0.18	1.6203/-36	-2.60/-0.62	-0.221/-65	-2.16/-0.83	-2.69/-8.92	-7.37/-9.41	-13.76/-6.43	-5.52/-5.04	-2.51/-2.89	-1.631/-55	2.230/-63	-1.010/-44	-1.43/-2.86	-2.11/-2.09	-3.23/-9.01	-11.14/-4.37	-3.33/-0.21						



Radiated Composite Gain Data of 2.4GHz and 5GHz(Full band)

Appendix A

Θ(82.5°)	-4.65/-8.53	-12.89/-15.55	-7.04/-8.67	-9.2/-8.57	-12.4/-6.75	-15.34/-12.89	-15.62/-9.78	-9.01/-16.36	-19.26/-7.17	-8.57/-6.27	-8.77/-11.05	-13.1/-16.81	-18.31/-18.52	-18.26/-10.51	-11.36/-11.8	-15.85/-16.35	-11.07/-8.09	-11.84/-6.21	-6.36/-6.95	-6.25/-6.34	-9.98/-12.16	-15.06/-10.74	-12.48/-12.7	-11.92/-8.57
Θ(90°)	-8.22/-9.44	-12.06/-17.35	-8.31/-8.67	-8.75/-7.97	-12.36/-7.83	-17.57/-18.34	-9.49/-6.88	-7.31/-9.39	-16.73/-8.05	-9.67/-7.38	-9.76/-13.03	-16.08/-16.44	-19.07/-18.45	-17.31/-9.01	-10.72/-15.96	-13.34/-18.56	-15.05/-11.46	-14.86/-18.30	-10.76/-8.45	-5.95/-8.59	-11.45/-8.39	-11.54/-10.85	-13.84/-12.74	-14.05/-7.75
Θ(97.5°)	-16.13/-14.28	-11.93/-16.16	-9.41/-7.66	-7.84/-3.94	-13.64/-9.66	-11.23/-15.35	-6.93/-6.61	-7.66/-7.27	-11.24/-7.51	-17.90/-10	-15.38/-17.36	-18.81/-18.69	-19.42/-17.7	-18.91/-9.31	-12.02/-13.98	-14.93/-16.77	-14.37/-10.19	-15.01/-17.91	-18.62/-18.03	-8.76/-9.68	-13.4/-8.62	-11.72/-17.17	-13.18/-12.78	-13.88/-12.13
Θ(105°)	-15.71/-12.71	-12.78/-17.58	-12.58/-9.93	-10.89/-9.54	-12.36/-14.08	-7.46/-6.36	-5.28/-6.11	-5.31/-7.84	-8.95/-5.63	-11.03/-11.45	-12.68/-14.82	-17.93/-17.93	-17.06/-18.1	-17.71/-13.74	-12.37/-17.52	-17.88/-18.27	-15.34/-12.62	-14.01/-15.5	-19.19/-18.05	-15.23/-11.02	-16.78/-17.34	-10.63/-14.92	-15.11/-16.68	-13.15/-11.27
Θ(112.5°)	-19.25/-14.32	-15.93/-18.24	-11.68/-13.36	-14.68/-11	-18.43/-15.83	-4.47/-7.28	-6.94/-6.89	-6.89/-8.47	-7.73/-8.54	-15.4/-11.45	-17.86/-18.08	-17.71/-17.71	-14.82/-17.72	-16.12/-12.44	-15.53/-16.92	-18.48/-18.33	-14.17/-9.5	-13.87/-11.56	-16.51/-16.6	-16.45/-9.27	-13.42/-8.94	-18.37/-13.93	-18.25/-17.59	-10.2/-16.78
Θ(120°)	-11.21/-17.98	-16.15/-18.92	-12.74/-6.91	-17.14/-18.76	-15.43/-9.45	-6.45/-10.23	-6.74/-8.72	-8.36/-9.04	-9.27/-13.52	-11.2/-9.91	-19.04/-18.23	-18.45/-18.34	-18.15/-18.75	-15.67/-14.7	-16.78/-9.99	-15.08/-15.5	-17.55/-17.37	-17.48/-10.1	-9.45/-9.87	-8.25/-4.86	-6.42/-5.12	-14.42/-18.97	-8.98/-18.34	
Θ(127.5°)	-4.55/-8.79	-18.52/-14.93	-11.62/-17.33	-18.88/-18.17	-16.24/-13.04	-9.03/-18.66	-7.72/-10.88	-8.57/-15.06	-10.98/-6.69	-14.27/-17.98	-19.15/-14.35	-18.22/-11.94	-16.99/-18.89	-11.89/-18.34	-9.59/-13.83	-17.62/-15.2	-14.27/-18.5	-16.21/-10.23	-9.4/-11.4	-9.13/-6.52	-10.22/-9.51	-7.82/-5.09	-7.7/-12.47	-11.73/-7.04
Θ(135°)	-3.32/-12.69	-8.09/-8.15	-16.43/-18.05	-12.48/-14.34	-18.78/-18.19	-18.08/-13.95	-9.03/-14.03	-10.24/-11.91	-10.3/-17.75	-18.44/-14.15	-17.86/-18.72	-13.84/-13.73	-19.16/-17.02	-17.31/-17.64	-18.71/-18.9	-18.47/-16.74	-15.51/-16.85	-16.23/-14.86	-10.93/-18.89	-15.05/-8.48	-7.27/-6.43	-7.69/-11.25	-17.5/-8.78	-17.72/-6.96
Θ(142.5°)	-6.02/-7.89	-13.85/-14.44	-19.18/-17.97	-13.47/-16.45	-18.03/-14.14	-9.78/-9.35	-12.95/-17.95	-10.99/-15.16	-18.64/-17.82	-11.81/-17.42	-18.33/-17.71	-15.45/-18.82	-17.61/-18.45	-17.58/-17.64	-18.21/-18.36	-16.84/-16.05	-14.32/-12.82	-15.13/-13.83	-16.05/-13.43	-17.72/-17.57	-12.83/-15.12	-8.79/-12.37	-12.21/-6.56	-9.45/-16.37
Θ(150°)	-10.64/-16.16	-18.97/-17.21	-19.62/-15.72	-12.67/-14.09	-15.46/-15.99	-16.05/-18.29	-17.98/-11.76	-10.32/-14.92	-13.3/-12.67	-17.38/-18.43	-15.41/-13.28	-12.69/-11.47	-10.84/-13.98	-19.4/-15.99	-11.83/-13.8	-17.37/-16.58	-18.14/-19.08	-14.18/-12.85	-18.08/-12.4	-9.11/-9.3	-13.9/-15.96	-9.26/-8.53	-14.01/-16.22	-8.5/-9.21
Θ(157.5°)	-12.51/-15.15	-18.2/-17.65	-18.41/-15.27	-11.67/-12.46	-15.63/-17.9	-18.94/-17.41	-17.78/-13.4	-12.67/-17.86	-17.9/-15.7	-15.84/-17.7	-16.34/-18.78	-11.95/-11.02	-16.34/-17.63	-15.36/-19.22	-18.06/-18.35	-18.62/-13.96	-12.52/-16.2	-16.21/-10.51	-8.83/-8.58	-16.81/-12.47	-10.18/-7.76	-9.07/-18.16	-13.46/-11.64	
Θ(165°)	-15.08/-17.15	-19.18/-16.14	-18.78/-18.13	-18.08/-19.01	-14.37/-12.07	-12.1/-14.23	-17.06/-16.61	-16.69/-19.31	-18.61/-17.74	-18.12/-18.03	-13.94/-16.45	-11.6/-11.37	-10.36/-10.08	-11.08/-13.26	-16.14/-17.49	-18.25/-18.7	-15.16/-12	-8.82/-8.09	-9.94/-16.65	-18.3/-14.92	-11.37/-10.8	-14.24/-19.02	-15.55/-13.99	
Θ(172.5°)	-14.5/-14.86	-16.8/-14.88	-13.97/-13.02	-13.29/-15.99	-17.43/-19.56	-17.84/-18.79	-16.28/-12.5	-10.39/-10.03	-9.82/-10.48	-9.63/-7.74	-7.71/-9.54	-11.81/-14.32	-17.59/-16.72	-14.36/-14.94	-18.75/-18.71	-16.88/-15.49	-13.65/-13.55	-16.87/-17.75	-18.26/-19.39	-16.7/-11.7	-9.17/-8.71	-8.56/-8.41	-9.36/-12.39	-15.27/-15.63
Θ(180°)	-11.99/-13.27	-15.23/-17.6	-18.95/-17.57	-17.13/-17.97	-18.7/-18.36	-16.57/-15.8	-14.31/-13.33	-12.72/-13.18	-13.16/-14.55	-15.9/-13.96	-12.99/-14.17	-14.24/-14.54	-16.14/-15.64	-15.11/-15.97	-15.08/-15.08	-16.13/-14.24	-13.52/-14.31	-14.98/-15.81	-16.68/-15.12	-15.05/-14.63	-16.57/-18.88	-17.96/-14.86	-15.43/-14.52	-11.76/-11.51
Freq(Hz)	5.785GPol.	ThetaAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-7.32/-6.18	-6.06/-4.58	-5.4/-5.1	-4.17/-3.53	-3.69/-4.22	-5.04/-7.54	-9.93/-7.08	-8.71/-10.92	-12.27/-13.41	-14.98/-15.61	-13.92/-11.7	-9.93/-8.34	-8.14/-6.97	-6.07/-6.53	-6.15/-5.91	-6.19/-5.83	-5.66/-6.2	-6.81/-7.67	-7.2/-8.07	-8.83/-10.12	-10.94/-11.82	-13.62/-14.85	-13.18/-11.62	-9.92/-6.78
Θ(7.5°)	-7.02/-4.44	-4.37/-4.34	-3.95/-3.18	-3.02/-2.85	-2.51/-2.87	-3.78/-4.76	-5.38/-6.54	-9.19/-10.46	-11.24/-12.89	-14.12/-16.11	-10.17/-5.8	-6.65/-5.73	-3.5/-2.36	-1.88/-1.46	-1.27/-1.15	-0.68/-1.03	-2.52/-2.89	-3.87/-5.07	-8.37/-8.07	-10.91/-11.61	-16.09/-18.61	-16.48/-16.49	-12.22/-9.98	-9.3/-8
Θ(15°)	-2/-1.89	-1.7/-2.19	-2.57/-2.31	-2.57/-2.23	-1.67/-1.48	-2.02/-3.2	-4.67/-6.75	-9.93/-14.29	-18.44/-17.27	-18.79/-18.68	-18.98/-18.15	-19.41/-18.42	-18.72/-16.53	-12.48/-8.96	-5.24/-2.88	-2.32/-2.6	-2.55/-2.4	-2.48/-2.63	-2.83/-4.18	-6.83/-12.27	-17.54/-16.56	-9.96/-6.29	-4.27/-3.62	-2.97/-2.14
Θ(22.5°)	-10.66/-10.45	-8.44/-6.15	-4.2/-3.09	-2.52/-3.13	-3.85/-4.45	-5.68/-7.02	-9.38/-11.88	-15.93/-18.03	-13.29/-11.33	-12.91/-12.38	-13.53/-18.54	-19.02/-16.13	-13.08/-17.72	-10.51/-15.12	0.97/-1.42	0.34/-1.57	-2.62/-3.49	-5.44/-7.96	-10.51/-12.44	-10.51/-12.44	-16.98/-11	-8.42/-7.77	-8.71/-9.93	
Θ(30°)	-6.57/-1.78	-9.71/-9.78	-2.75/-2.82	-1.41/-1.81	-2.36/-2.61	-2.46/-2.86	-4.09/-6.84	-15.54/-18.36	-10.85/-8.04	-5.11/-6.11	-8/-7.2	-5.2/-4.55	-4.06/-3.81	-4.87/-5.4	-1.94/-0.08	-0.58/-0.67	-0.38/-2.01	-0.33/-4.63	-8.71/-11.16	-7.96/-10.46	-17.73/-8.9	-5.33/-4.06	-5.02/-6.18	
Θ(37.5°)	-11.57/-11.2	-6.96/-6.83	-7.25/-4.42	-1.29/-0.58	-1.16/-2.54	-3.76/-3.4	-4.09/-6.7	-11.76/-7.67	-5.08/-7.67	-6.63/-2.58	-1.89/-2.35	-2.72/-2.61	-1.71/-0.68	-0.85/-0.86	-1.63/-2.19	-0.04/-1.16	1.410.99	-1.11/-1.99	-1.23/-1.91	-3.62/-5.89	-6.28/-6.83	-8.48/-9.32	-7.69/-4.72	-4.85/-7.2
Θ(45°)	-1.27/-0.23	0.01/-0.63	-1.57/-1.64	-1.26/-1.12	1.58/-0.66	-6.49/-6.88	-5.97/-7.25	-9.25/-8.74	-0.33/-0.54	-9.33/-1.49	1.040.48	0.37/-0.69	-0.98/-0.81	-1.77/-2.08	-0.26/-0.02	-1.2/-0.13	2.52/-1	-0.92/-1.63	-1.77/-3.2	-3.81/-2.99	-4.59/-5.5	-6.72/-6.64	-6.97/-5.06	-5.5/-3.28
Θ(52.5°)	2.1/-47	-1.54/-6.44	-6.3/-1	0.31/-9.3	3.421.79	-3.39/-9.28	-7.57/-8.77	-8.89/-1.22	1.19/-1.61	-3.83/-1.14	1.983.14	2.541.76	1.71/-0.03	-2.68/-3.84	-2.91/-0.89	-0.8/-0.38	-0.232.84	0.75/-3.24	-1.29/-5.14	-6.83/-3	-3.86/-6.02	-6.28/-6.05	2.98/-3.53	-3.67/-0.33
Θ(60°)	2.942.8	-1.98/-3.12	-5.67/-0.57	1.321.78	3.442.72	-2.48/-8.96	-8.68/-12.18	-7.86/-2.04	0.710.88	-0.68/-1.99	2.163.84	2.351.92	2.1/-0.45	-0.7/-0.85	-1.44/-1.63	-0.48/-0.09	-1.961.52	1.69/-1.35	-1.8/-2.66	-7.06/-3.96	-6.59/-5.68	-3.28/-4.31	-2.58/-3.43	-2.480.36
Θ(67.5°)	3.23.45	1.081.71	-1.370.8	2.922.84	3.441.95	-3.59/-8.91	-7.74/-11.53	-3.67/-0.92	0.51/-35	-0.45/-1.33	2.413.34	1.251.8	1.803.32	1.781.45	0.09/-1.14	-0.71/-0.12	-1.62/-0.65	2.821.61	0.66/-2.44	-4.93/-2.04	-4.71/-3.51	-1.22/-2.93	-1.23/-1.84	-1.36/-0.09
Θ(75°)	2.652.89	0.922.78	-1.45/-0.81	4.473.83	2.210.14	-7.12/-9.12	-4.13/-5.67	-3.53/-1.08	0.661/-36	-0.96/-1.6	1.662.72	2.060.34	1.090.46	1.811.28	-0.12/-0.33	-1.24/-0.44	-0.98/-1.4	2.973.42	2.86/-0.75	-3.73/-1.73	-3.91/-2.23	-0.37/-3.03	-1.88/-1.61	0.28/-0.05
Θ(82.5°)	0.591.12	-1.112.05	-0.981.24	5.342.74	0.021.59	-9.81/-8.78	-4.07/-7.34	-5.22/-0.96	-0.14/-0.43	-1.62/-0.42	1.651.65	1.62/-0.48	0.911.41	2.061.15	-0.82/-0.02	-0.27/-0.96	-0.37/-2.08	2.241.15	2.960.33	-2.21/-1.87	-1.840.09	1.221.29	-1.77/-2.95	-0.6/-0.58
Θ(90°)	-2.17/-2.42	-3.281.94	-0.71/-2.78	3.581.3	-3.55/-4.44	-10.94/-10.11	-5.08/-9.74	-2.94/-1.84	-1.15/-1.34	-3.24/-1.01	1.080.09	1.16/-0.74	-0.94/-0.5	1.070.08	-1.68/-0.56	-1.79/-2.04	-0.73/-3.16	0.083.12	2.010.84	-0.97/-0.34	-1.65/-0.14	0.32/-2.58	-2.1/-5.09	-3.39/-1.78
Θ(97.5°)	-3.86/-11.26	-4.35/-1	-0.77/-4.08	0.56/-1.21	-6.65/-5.42	-10.27/-12.17	-8.12/-14.41	-3.85/-3.77	-2.28/-3.2	-2.86/-0.5	0.12/-0.65	0.17/-1.81	-1.34/-0.72	-0.28/-2.09	-2.2/-0.73	-3.17/-3.16	-2.59/-4.25	-2.030.83	0.73/-1.87	-2.55/-0.15	-1.92/-0.97	-2.05/-4.48	-4.69/-4.78	-4.51/-4.23
Θ(105°)	-11.61/-14.92	-4.72/-0.7	-1.93/-3.89	-2.86/-1.18	-3.31/-8.77	-12.68/-12.33	-7.91/-17.85	-4.75/-6.12	-5.23/-6	-3.61/-1.6	-1.14/-0.35	-0.59/-3.34	-3.03/-3.59	-1.02/-0.34	-4.45/-2.06	-2.65/-4.58	-2.87/-4.49	-3.71/-2.17	-0.48/-4.18	-2.66/-0.97	-3.21/-2.45	-4.34/-5.17	-7.31/-4.89	-4.57/-2.98
Θ(112.5°)	-9.95/-7.29	-1.76/-7.25	-10.85/-6.04	-0.630.82	4.02/-11.81	-18.78/-15.09	-12.34/-18	-9.92/-9.34	-6.24/-5.46	-3.77/-3.22	-3.1/-1.77	-3.35/-5.23	-5.47/-0.45	-5.76/-7.27	-5.67/-3.73	-3.75/-6.37	-6.15/-4.6	-3.73/-3.5	-0.32/-6.72	-3.3/-0.64	-4.62/-4.43	-5.35/-3.25	-6.1/-9.38	-5.05/-1.11
Θ(120°)	-8.46/-11.64	-5.49/-12.04	-9.43/-6.75	-1.11/-2.69	-8.97/-18.48	-14.95/-19.15	-9.19/-11.3	-14.76/-8.27	-6.65/-7.9	-6.32/-3.95	-6/-3.89	-3.27/-6.18	-13.76/-6.91	-9.04/-8.93	-6.67/-6.25	-5.51/-4.79	-8.4/-7.12	-4.17/-4.93	-2.35/-8.1	-5.42/-4.59	-12.98/-8.87	-6.44/-7.58	-11.27/-12.1	-5.89/-1.15
Θ(127.5°)	-16.25/-9.7	-6.74/-6.3	-6.2/-12.33	-6.85/-8.62	-1.721.18.08	-10.56/-10.92	-8.42/-16.54	-9.99/-9.14	-13.69/-7.32	-6.1/-5.21	-6.25/-6.6	-4.76/-9.28	-15.68/-13.44	-10.56/-6.42	-4.1/-4.54	-10.78/-16.62	-6.88/-4.29	-5.06/-16.55	-11.63/-6.03	-11.66/-10.26	-19.11/-15.51	-13.62/-17.62	-13.21/-17.17	
Θ(135°)	-18.12/-10.29																							



Radiated Composite Gain Data of 2.4GHz and 5GHz(Full band)

Appendix A

Θ (135°)	-11.75/-9	-10.93/-14.18	-18.67/-18.17	-13.42/-8.22	-9.61/-19	-12.36/-13.42	-6.69/-9.72	-14.45/-11.86	-18.28/-9.96	-9.19/-11.45	-18.07/-8.26	-8.68/-17.28	-9.28/-13.41	-17.91/-10.38	-14.58/-12.11	-9.65/-9.39	-15.89/-13.11	-6.41/-7.11	-7.53/-8.36	-9.94/-9.34	-10.6/-10.2	-7.79/-8.61	-16.46/-17.48	-17.84/-17.63
Θ (142.5°)	-11.33/-9.92	-15.12/-18.15	-18.63/-18.37	-14.5/-11.3	-11.06/-7.78	-8.59/-12.98	-7.84/-9.9	-11.74/-10.1	-15.07/-18	-15.59/-13.55	-16.54/-10.58	-15.6/-13.8	-10.85/-18.22	-9.73/-9.38	-16.32/-16.83	-15.04/-16.63	-14.02/-10.06	-9.79/-12.53	-9.03/-9.55	-15.94/-14.69	-13.36/-15.62	-15.27/-18.61	-18.59/-18.02	-11.91/-12.28
Θ (150°)	-18.72/-18.35	-18.81/-18.16	-17.2/-13.99	-14.29/-18.66	-16.07/-12.4	-16.59/-14.87	-7.57/-7.07	-10.82/-12.66	-12.11/-12.43	-13.1/-13.95	-15.76/-16.15	-14.84/-15.36	-11.26/-15.67	-18.91/-18.08	-17.96/-18.13	-13.62/-10.38	-13.86/-18.44	-12.37/-10.67	-12.96/-16.63	-10.78/-12.16	-12.86/-12.33	-12.96/-14.66	-15.11/-16.06	-14.43/-16.9
Θ (157.5°)	-14.89/-17.35	-18.53/-17.05	-16.34/-16.86	-17.37/-14.33	-12.95/-13.19	-18.09/-16.61	-11.11/-9.99	-12.28/-15.48	-15.17/-15.75	-14.63/-14.64	-15.3/-17.72	-17.28/-18.71	-18.61/-18.44	-17/-17.79	-17.99/-18.53	-17.77/-18.02	-17.39/-15.91	-14.9/-13.25	-11.48/-10.01	-8.87/-9.45	-11.3/-11.52	-11.62/-13.95	-15.2/-15.02	-14.01/-13.95
Θ (165°)	-17.85/-17.88	-18.45/-18.38	-18.71/-15.55	-12.91/-16.56	-9.91/-10.9	-13.94/-17.63	-19.14/-17.19	-18.72/-16.8	-14.24/-14.45	-14.29/-15.58	-17.19/-17.74	-17.7/-18.24	-18.06/-17.7	-17.32/-17.82	-18.6/-18.4	-18.29/-18.3	-15.64/-13.99	-13.09/-13.58	-13.79/-12.42	-11.55/-12.33	-14.63/-16.69	-17.2/-16.8	-18.92/-17.7	-19.13/-18.17
Θ (172.5°)	-17.58/-16.88	-14.87/-14.7	-14.18/-13.36	-16.23/-17.26	-17.88/-18.22	-16.36/-14.83	-14.5/-14.61	-15.17/-15.8	-14.76/-13.26	-11.8/-11.68	-13.03/-13.83	-15.34/-17.1	-18.11/-18.2	-18.16/-18.2	-14.32/-13.29	-12.19/-11.79	-11.5/-10.49	-9.63/-9.35	-9.6/-10.13	-11.13/-12.26	-12.34/-13.52	-16.07/-16.7		
Θ (180°)	-18.92/-17.46	-17.95/-17.74	-19.02/-18.14	-18.14/-18.63	-17.72/-18.47	-18.65/-18.12	-17.77/-18.41	-18.28/-18.63	-18.04/-16.47	-16.23/-15.39	-14.9/-14.68	-14.37/-15.94	-18.98/-19.07	-17.72/-18.82	-18.69/-17.87	-18.52/-15.45	-14.51/-13.49	-12.41/-11.2	-10.25/-9.85	-9.18/-8.21	-8.41/-9.08	-10.19/-11.07	-12.89/-16.59	-18.15/-18.86
Freq(Hz)	5.2GPol.	Theta/Ant. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ (0°)	-6.94/-6.29	-5.92/-4.63	-3.52/-3.04	-3.18/-3.12	-2.99/-3.01	-2.99/-3.52	-4.15/-5.23	-5.79/-6.61	-8.15/-10.41	-14.21/-18.85	-18.34/-17.66	-17.48/-13.69	-11.77/-9.77	-8.21/-6.15	-4.76/-4.46	-4.47/-4.37	-4.1/-3.79	-3.76/-3.94	-4.38/-4.84	-5.87/-7.84	-10.35/-13.28	-16.33/-17.4	-18.77/-15.91	-11.21/-8.53
Θ (7.5°)	-9.73/-7.29	-6.08/-5.31	-4.32/-3.22	-2.9/-3.41	-3.6/-3.6	-3.45/-3.74	-4.5/-5.46	-6.64/-8.13	-11.35/-16.29	-18.81/-14.7	-10.06/-7.8	-6.54/-5.41	-4.87/-4.59	-3.96/-3.33	-3.36/-3.71	-3.91/-4.04	-4.25/-4.76	-5.05/-5.7	-5.98/-6.53	-7.43/-8.27	-9.08/-9.35	-9.3/-9.33	-9.49/-9.45	-10.51/-10.9
Θ (15°)	-5.18/-4.67	-4.29/-3.47	-2.06/-0.66	0.350/-47	0.46/-0.69	-2.4/-4.22	-6.42/-8.02	-9.49/-11.53	-16.96/-18.6	-18.53/-14.43	-10.7/-8.06	-6.43/-5.39	-4.92/-4.46	-4.28/-4.28	-4.72/-5.7	-6.99/-7.33	-7.05/-6.79	-6.92/-7.57	-9.38/-11.59	-14.35/-17.78	-18.77/-15.33	-12.19/-8.6	-6.54/-9.8	-4.89/-5.34
Θ (22.5°)	-8.89/-5.69	-4.53/-4.39	-4.47/-3.85	-2.12/-0.45	0.26/-0.02	-2.08/-3.56	-7.83/-7.58	-7.54/-8.91	-11.91/-15.41	-18.37/-18.13	-15.41/-12.71	-11.05/-9.43	-7.48/-5.45	-3.77/-2.65	-3.03/-5.43	-9.14/-10.9	-9.22/-6.92	-5.88/-6.57	-9.03/-12.56	-11.9/-9.54	-8.6/-9.78	-13.58/-16.7	-12.42/-9.34	-8.54/-7.53
Θ (30°)	-6.49/-6.22	-6.1/-4.7	-2.33/-0.99	-0.97/-1.91	-2.43/-2.35	-3.21/-4.9	-5.11/-5.05	-5.79/-7.08	-7.67/-9.49	-11.91/-13.83	-13.62/-11.05	-8.23/-7.22	-7.14/-6.23	-3.82/-1.53	-0.99/-2.82	-7.53/-9.94	-8.74/-7.6	-5.54/-4.73	-5.3/-7.45	-8.82/-4.31	-2.99/-3.63	-5.9/-9.68	-14.23/-15.47	-11.14/-7.48
Θ (37.5°)	-3.72/-1.6	-1.91/-3.74	-4.43/-2.31	-0.8/-1.26	-2.38/-2.57	-3.06/-4.08	-2.98/-2.93	-5.19/-7.45	-6.86/-8.71	-11.67/-14.71	-4.92/-4.3	-4.88/-5.72	-4.92/-4.32	-2.77/-2.47	-2.41/-4.82	-8.77/-6.54	-6.39/-6.77	-4.91/-3.82	-5.42/-7.99	-5.07/-3.16	-3.81/-5.27	-5.29/-5.58	-6.77/-7.8	-10.72/-7.26
Θ (45°)	-7.25/-3.35	-1.46/-0.95	-1.38/-1.48	-1.82/-2.2	-2.61/-0.81	-1.33/-4.91	-3.38/-2.07	-4.98/-8.24	-5.16/-3.96	-8.92/-3.95	-2.54/-4.04	-4.16/-2.52	-1.51/-1.63	-1.11/-0.82	-1.8/-8.29	-13.08/-4.13	-2.85/-7.06	-8.41/-4.94	-5.31/-7.52	-6.03/-5.67	-9.15/-8.14	-3.77/-3.16	-4.03/-5.8	-9.4/-10.99
Θ (52.5°)	-7.17/-8.42	-5.16/-3.39	-2.06/-1.84	-1.72/-1.34	-2.7/-0.3	0.51/-4.49	-3.89/-2.78	-8.04/-8.81	-3.82/-5.98	-4.71/-1.61	-2.35/-4.4	-3.32/-1.42	-1.05/-2.35	-1.32/-0.27	-1.34/-4.27	-15.19/-6.97	-3.71/-7.42	-0.79/-10.95	-5.94/-8.08	-13.87/-5.72	-3.68/-5.76	-8.11/-7.95	-6.34/-5.01	
Θ (60°)	-3.29/-4.17	-4.17/-3.79	-2.63/-1.18	-3.85/-1.76	-2.39/-0.54	2.3/-3.61	-5.24/-5.48	-12.62/-4.53	-2.79/-4.88	-1.66/-0.79	-1.53/-2.85	-2.05/-1.06	0.01/-1.7	-2.010/-37	-0.71/-3.64	-6.46/-12.13	-8.03/-7.74	-9.87/-10.35	-7.24/-9.93	-5.79/-8.73	-8.79/-4.02	-4.54/-8.75	-8.77/-8.63	-5.53/-3.09
Θ (67.5°)	-3.28/-4.2	-3.9/-2.86	-2.5/-0.79	-4.45/-1.72	-1.31/-3.12	-0.51/-4.99	-4.74/-6.77	-6.96/-2.69	-1.32/-2.16	0.08/-0.44	-1.48/-3.28	-3.12/-8.02	-0.17/-1.11	-1.78/-0.06	-0.82/-3.34	-8.61/-7.91	-7.03/-9.44	-5.31/-10.34	-4.15/-8.6	-7.33/-4.11	-4.96/-5.57	-4.82/-5.57	-4.69/-2.51	
Θ (75°)	-5.63/-6.32	-3.57/-1.91	-3.21/-0.97	-3.78/-2.81	-1.49/-3.9	-1.55/-5.5	-4.87/-6.41	-3.43/-1.71	-0.43/-2.5	-1.16/-1.38	-1.92/-4.76	-4.23/-1.24	-0.15/-0.11	-1.11/-1.32	-0.69/-2.59	-4.77/-6.33	-7.28/-8.87	-4.28/-6.91	-5.22/-9.12	-3.55/-7.48	-5.89/-5	-3.79/-3.98	-4.2/-4.28	-5.63/-4.87
Θ (82.5°)	-7.8/-8.08	-4.05/-2.11	-3.95/-1.46	-2.93/-2.92	-3.2/-5.48	-3.27/-2.43	-4.53/-6.02	-2.91/-2.08	-0.45/-0.02	-1.18/-1.9	-2.89/-4.99	-5.46/-1.79	-1.47/-0.48	-1.51/-4.43	-2.89/-3.31	-4.83/-7.1	-5.85/-5.8	-3.29/-5.89	-4.41/-7.81	-2.56/-1.72	-6.9/-6.14	-3.84/-3.18	-4.57/-3.2	-5.1/-6.04
Θ (90°)	-8.09/-9.47	-4.94/-2.67	-4.39/-3.43	-3.99/-3.51	-4.3/-6	-5.18/-5.22	-4.72/-6.32	-2.89/-3.76	-1.76/-1.57	-3.57/-2.84	-3.84/-6.73	-5.92/-3.15	-3.35/-1.78	-2.41/-6.37	-5.73/-6.15	-6.01/-8.79	-6.63/-9.57	-3.54/-6.7	-4.23/-8.18	-3.55/-7.52	-6.97/-6.75	-3.56/-3.59	-5.28/-3.02	-4.34/-6.92
Θ (97.5°)	-6.91/-8.34	-3.7/-3.16	-5.53/-4.7	-4.84/-5	-5.43/-5.42	-6.56/-6.24	-6.89/-6.7	-4.71/-6.14	-3.62/-4.12	-5.66/-4.89	-6.91/-8.32	-7.45/-4.57	-5.81/-3.98	-6.19/-10.75	-9.74/-11.98	-6.41/-11.37	-5.31/-7.26	-4.25/-9.45	-5.74/-11.29	-8.11/-6.67	-2.88/-4.29	-5.86/-3.96	-4.67/-8.74	
Θ (105°)	-7.44/-6.39	-4.61/-3.58	-7.48/-8.18	-4.88/-6.55	-6.31/-6.57	-7.27/-7.83	-8.49/-7.86	-5.82/-7.41	-6.37/-6.34	-6.83/-6.69	-7.85/-11.5	-9.66/-7.8	-8.42/-11.47	-9.48/-11.62	-12.21/-16.19	-7.98/-11.04	-9.97/-13.87	-8.24/-9.36	-5.68/-10.38	-5.11/-10.77	-8.46/-5.9	-2.58/-4.8	-5.42/-5.53	-5.89/-6.87
Θ (112.5°)	-6.91/-7.04	-7.09/-7.39	-9.23/-6.29	-6.98/-9.73	-5.54/-8.16	-4.84/-9.32	-10.12/-8.77	-9.13/-10.4	-7.79/-9.73	-7.84/-9.54	-7.98/-9.72	-10.57/-7.06	-9.82/-9.48	-9.95/-17.21	-15.19/-8.33	-10.8/-65	-8.2/-13.25	-9.44/-9.88	-5.46/-9.33	-5.58/-15.73	-8.66/-4.96	-3.22/-4.14	-6.25/-6.77	-8.42/-5.89
Θ (120°)	-6.43/-9.61	-5.95/-8.73	-8.87/-9.09	-9.21/-9.9	-9.23/-10.19	-10.77/-12.98	-11.42/-11.64	-10.77/-11.75	-10.86/-11.18	-14.72/-8.8	-9.02/-9.94	-11.39/-7.65	-9.15/-6	-7.62/-15.77	-10.27/-7.04	-6.01/-7.16	-8.61/-11.39	-9.04/-7.98	-7.2/-7.67	-8.72/-14.45	-9.56/-6.05	-6.96/-5.87	-6.88/-7.48	-11.99/-7.54
Θ (127.5°)	-6.61/-7.93	-7.44/-10.15	-10.97/-11.92	-18.32/-4.63	-9/-13.14	-10.38/-14.25	-15.69/-19.18	-14.07/-11.81	-10.47/-17.34	-15.17/-17.71	-14.14/-17.2	-11.1/-16.87	-13.21/-8.01	-10.25/-17.85	-11.84/-10.57	-18.93/-14.76	-13.86/-14.84	-10.52/-12.72	-11.27/-12.77	-14.91/-18.37	-14.54/-8.69	-8.25/-15.51	-12.56/-6.81	-8.4/-6.87
Θ (135°)	-7.37/-9.65	-10.66/-14.77	-12.35/-11.66	-16.36/-14.2	-17.71/-9.45	-9.84/-17.65	-18.81/-18.56	-16.69/-11.71	-11.84/-18.91	-10.39/-8.93	-13.99/-11.54	-10.87/-12.14	-15.1/-18.08	-18.53/-17.78	-18.47/-18.79	-15.83/-17.95	-16.09/-19	-16.78/-18.37	-17.63/-17.84	-17.99/-18.64	-17.62/-13.15	-8.22/-8.28	-8.84/-7.73	-6.5/-6.03
Θ (142.5°)	-8.14/-10.84	-10.28/-8.97	-10.13/-12.58	-11.31/-16.85	-18.83/-14.32	-16.69/-19.09	-18.83/-17.44	-17.06/-10.77	-9.39/-10.46	-11.24/-12.01	-9.99/-11.45	-9.7/-67	-4.9/-10.53	-14.39/-18.58	-18.88/-18.92	-17.74/-18.48	-16.31/-17.46	-18.3/-18.4	-16.4/-16.35	-17.63/-18.46	-18.71/-12.41	-13.12/-11.4	-8.76/-7.79	-7.8/-6.83
Θ (150°)	-11.53/-13.16	-14.29/-14.54	-14.74/-14.53	-18.63/-18.22	-18.69/-17.67	-18.57/-18.93	-18.59/-19.28	-18.12/-18.78	-15.84/-17.06	-15.45/-16.31	-18.88/-17.97	-18.12/-16.58	-18.67/-18.35	-18.48/-17.8	-18.73/-18.27	-17.53/-15.38	-18.14/-18.42	-19.22/-18.06	-18.91/-17.49	-17.56/-14.94	-12.59/-11.89	-11.7/-12.99	-10.62/-9.01	-9.81/-10.93
Θ (157.5°)	-17.27/-15.69	-15.03/-13.59	-12.83/-12.71	-13.48/-15.27	-15.69/-13.9	-11.84/-11.53	-14.62/-18.26	-18.11/-17.48	-18.61/-18.83	-18.49/-17.5	-18.33/-14.58	-13.23/-15.04	-18.05/-18.43	-18.6/-17.54	-18.26/-17	-17.64/-18.5	-17.78/-18.8	-18.51/-18.37	-15.76/-15.69	-18.44/-17.97	-16.54/-14.83	-12.52/-11.65	-12.77/-12.32	-18.23/-17.42
Θ (165°)	-9.64/-11.31	-12.79/-13.03	-12.54/-14.04	-16.3/-15.69	-15.73/-15.88	-15.9/-16.61	-15.89/-14.93	-14.48/-13.72	-13.4/-13.55	-14.55/-18.93	-18.02/-16.87	-18.56/-19.2	-17.83/-17.7	-17.92/-17.75	-16.34/-16.14	-17.31/-16.68	-16.43/-17.62	-17.89/-18.95	-17.72/-16.15	-14.13/-13.35	-13.12/-11.74	-10.72/-10.56	-10.02/-9.33	
Θ (172.5°)	-8.27/-8.69	-8.42/-7.83	-8.09/-6.67	-8.68/-8.4	-8.74/-9.52	-10.37/-11.96	-13.67/-14.49	-14.83/-15.42	-16.66/-16.35	-15.34/-16.18	-16.38/-16.78	-16.25/-14.07	-11.69/-10.42	-9.94/-9.38	-9.21/-9.47	-9.51/-9.65	-10.65/-12.32	-13.85/-16.66	-18.14/-18.52	-17.98/-18.62	-16.87/-14.66	-12.72/-11.41	-10.75/-9.88	-8.14/-7.38
Θ (180°)	-12.45/-12.07	-13.29/-14.67	-14.34/-14.05	-15.62/-18.18	-18.13/-18.96	-18.82/-18.21	-18.82/-18.9	-17.7/-18.89	-18.78/-18.91	-19.22/-18.02	-16.03/-15.97	-15.33/-13.9	-12.78/-12.04	-11.67/-11.89	-12.14/-11.69	-11.17/-11.38	-12.15/-13.11	-						



Radiated Composite Gain Data of 2.4GHz and 5GHz(Full band)

Appendix A

Θ(180°)	-17.1°/19.1	-17.6°/17.95	-18.46°/17.85	-16.72°/15.84	-18.81°/18.47	-17.36°/18.8	-17.85°/16.19	-16.78°/17.04	-18.85°/19.45	-18.18°/17.53	-17.37°/18.46	-18.67°/18.36	-18.17°/19.15	-18.62°/17.81	-17.7°/15.96	-12.27°/10.43	-9.18°/8.02	-7.57°/7.16	-7.22°/6.99	-7.55°/7.6	-7.35°/8.05	-9.59°/11.31	-13.02°/14.61	-17.46°/18.82
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°)	-12.69/-13.46	-13.7/-11.94	-11.4/-11.54	-11.71/-11.84	-11.48/-12.24	-13.8/-14.58	-14.15/-15.01	-16.84/-17.71	-18.01/-18.47	-18.95/-14.89	-13.52/-12.38	-10.75/-9.75	-9.18/-9.34	-9.22/-7.73	-7.49/-8.66	-9.24/-9.48	-10.49/-11.16	-11.32/-12.09	-13.49/-14.2	-15.11/-17.04	-17.85/-17.96	-17.77/-18.97	-18.33/-17.29	-16.47/-14.23
Θ(7.5°)	-6.98/-5.84	-6.19/-5.98	-4.78/-3.77	-3.6/-3.97	-4.02/-4.13	-4.82/-6.01	-7.23/-9.1	-10.43/-12.08	-15.74/-18.1	-16.78/-13.96	-10.74/-9.21	-8.28/-7.11	-6.63/-6.92	-8.45/-8.37	-8.74/-9.71	-12.08/-13.03	-14.48/-15.9	-15.29/-16.08	-16.92/-17.53	-17.6/-17.97	-18.46/-17.69	-14.23/-11.54	-9.14/-7.38	-7.3/-7.57
Θ(15°)	-7/-6.2	-6.04/-6.43	-6.31/-5.53	-4.3/-2.38	-0.8/-0.49	-0.92/-2.3	-4.7/-8.57	-13.31/-17.87	-18.12/-18.57	-14.59/-11.4	-8.83/-6.96	-5.77/-4.56	-4/-4.64	-6.72/-9.66	-10.16/-10.12	-10.11/-9.07	-8.33/-8.29	-8.28/-8.53	-8.66/-7.81	-7.6/-7.68	-9.05/-10.84	-12.55/-14.6	-12.69/-9.78	-8.85/-7.04
Θ(22.5°)	-7.69/-5.74	-4.9/-4.22	-3.14/-1.95	-1.25/-1.35	-1.71/-1.6	-1.34/-2.27	-4.55/-8.62	-15.2/-18.63	-18.61/-18.17	-17.57/-11.92	-8.45/-6.38	-5/-4.23	-3.98/-4.13	-5.51/-8.15	-11.01/-10.22	-8.44/-6.64	-5.07/-4.22	-4.02/-4.45	-4.82/-4.85	-4.38/-4.39	-4.62/-5.93	-8.38/-10.77	-11.92/-12.49	-11.3/-9.41
Θ(30°)	-2.26/-1.05	-0.94/-2.3	-3.48/-1.76	0.83/-1.93	0.91/-1.09	-2.81/-2.9	-3.47/-5.86	-8.12/-10.31	-12.89/-11.47	-7.93/-6.36	-5.77/-5.77	-5.46/-5.5	-6.66/-6.78	-5.19/-4.45	-6.17/-7.41	-4.97/-3.37	-3.66/-3.69	-3.85/-6.18	-7.47/-6.86	-6.48/-7.57	-8.74/-6.53	-8.19/-8.03	-7.26/-6.81	-6.61/-4.69
Θ(37.5°)	-3.83/-1.54	-0.27/-0.19	-0.73/-1.06	0.63/-2.12	1.39/-0.5	-1.26/-1.41	-2.16/-2.81	-3.14/-4.74	-6.65/-7.13	-6.98/-6.98	-5.49/-3.5	-2.69/-3.59	-3.61/-3.54	-3.14/-1.59	-2.61/-1.64	-3.07/-4.07	-4.42/-5.78	-7.24/-7.39	-6.45/-5.39	-4.06/-2.82	-2.61/-3.74	-4.08/-3.94	-5.16/-5.26	
Θ(45°)	-4.81/-4.31	-2.9/-1.39	-0.330/0.03	1/1.66	-0.63/-2.29	0.10/2	-0.24/-1.38	-1.51/-1.99	-3.53/-3.04	-3.24/-3.88	-1.29/-0.61	-1.21/-2.99	-1.91/-0.53	-2.41/-3.79	-2.77/-4.58	-1.93/-1.39	-3.86/-2.42	-2.8/-4.61	-5.74/-5.31	-6.82/-5.72	-3.55/-2.22	-3.17/-6.29	-6.12/-2.51	-1.07/-2.79
Θ(52.5°)	-4.86/-4.32	-1.97/-0.19	0.20/-7.7	0.820/57	-1.22/-2.58	0.28/-0.25	-0.51/-2.65	-2.73/-2.33	-2.61/-0.74	-2.2/-1.99	0.27/-1.09	-2.67/-4.05	-2.250/0.2	0.52/-1.84	-2.4/-3.7	-2.39/-2.12	-5.99/-2.73	-3/-5.37	-5.36/-6.24	-6.94/-7.29	-4.66/-3.49	-5.1/-6.32	-3.95/-1.3	-0.74/-2.7
Θ(60°)	-8.43/-4.1	-1.690/46	1.141/32	0.57/-0.33	-0.67/-1.73	1.02/-2.87	-3.94/-7.52	-7.16/-4.03	-2.560/52	-1.910/33	1.57/-0.57	-1.36/-0.61	-1.1/-1.8	1.180/54	-2.21/-2.07	-5.21/-4.43	-9.15/-5.51	-4.36/-5.33	-5.73/-6.27	-10.18/-7.42	-3.85/-2.71	-4.69/-2.87	-3.93/-7.59	
Θ(67.5°)	-5.03/-1.79	-1.29/-0.7	1.050/69	-0.19/-1.04	-0.17/-1.68	0.82/-5.29	-6.24/-16.98	-5.54/-5.43	-1.370/66	-0.882/33	0.49/-2.16	-0.23/-1.1	0.88/-1.18	0.550/98	-1.97/-0.98	-3.29/-5.51	-8.01/-6.39	-4.36/-5.53	-4.46/-4.69	-9.75/-6.36	-2.72/-2.53	-3.78/-3.94	-3.66/-4.3	-8.61/-11.83
Θ(75°)	-2.16/-0.1	0.03/-1.9	0.63/-0.45	-1.38/-1.94	0.26/-1.41	0.91/-6.4	-6.47/-14.02	-3.59/-4.22	-0.880/61	-0.072/37	-0.25/-2.89	-0.31/-0.7	1.34/-1.18	-0.170/36	-2.94/-0.79	-0.85/-4.79	-5.71/-4.08	-3.2/-3.95	-4.08/-3.83	-7.81/-4.78	-3.24/-3.68	-4.13/-3.59	-2.79/-3.96	-6.77/-7.86
Θ(82.5°)	-2.98/-0.18	-0.16/-3.74	-0.37/-1.34	-2.78/-2.79	-0.42/-2.24	-1.02/-7.67	-6.73/-10.72	-3.2/-4.28	-1.19/-1.06	-0.11/-56	-2.46/-3.82	-0.340/56	0.29/-1.58	-0.49/-1.28	-4.11/-1.41	-0.54/-4.24	-3.7/-3.28	-3.34/-2.07	-4.39/-3.48	-6.13/-3.61	-4.34/-4.42	-2.72/-2.62	-2.9/-3.26	-6.05/-6.26
Θ(90°)	-2.99/-0.33	-1.21/-5.07	-1.56/-2.96	-4.4/-2.71	-2.46/-3.75	-2.15/-7.21	-6.63/-9.96	-3.99/-4.99	-2.93/-3.03	-1.180/09	-3.15/-3.93	-2.27/-2.6	-1.08/-2.52	-2.36/-3.42	-4.8/-4.07	-2.78/-3.26	-4.53/-3.21	-4.08/-3.14	-7.15/-4.16	-5.65/-5	-8.61/-5.12	-6.03/-3.54	-3.49/-3.27	-5.24/-5.27
Θ(97.5°)	-3.74/-0.56	-1.92/-5.99	-2.91/-5	-5.97/-3.5	-3.95/-4.41	-3.89/-8.43	-8.13/-10.23	-5.8/-6.53	-4.7/-6.85	-3.22/-1.91	-4.59/-5	-4.3/-3.55	-2.77/-4.01	-6.7/-7.13	-10.39/-10.43	-5.7/-6.31	-7.87/-5.35	-5.89/-9.57	-10.19/-6.81	-10.49/-7.83	-12.89/-5.06	-5.71/-4.62	-6.31/-7.29	-5.39/-5.5
Θ(105°)	-3.64/-1.74	-0.15/-5.12	-2.98/-7.02	-8.3/-5.46	-5.46/-5.37	-6.04/-6.94	-8.63/-15.06	-9.52/-8.72	-7.48/-13.57	-6.23/-47	-6.75/-7.38	-10.15/-10.71	-5.82/-8.33	-13.71/-1.01	-11.77/-12.55	-8.87/-10.88	-9.07/-9.81	-9.22/-12.84	-9.51/-12.25	-15.6/-7.75	-5.68/-4.06	-4.33/-3.61	-5.02/-4.44	
Θ(112.5°)	-4.65/-2.87	-1.71/-3.82	-4.56/-9.9	-5.85/-8.48	-6.79/-7.84	-5.93/-7.38	-15.18/-18.93	-9.75/-7.36	-9.17/-10.45	-6.04/-8.05	-6.08/-8.14	-11.01/-11.18	-7.61/-9.32	-9.9/-12.96	-11/-10.23	-6.22/-10.78	-7.42/-9	-9.85/-16.05	-11.1/-8.12	-7.46/-10.31	-9.88/-6.06	-4.59/-5.2	-2.41/-4.55	-4.12/-9.76
Θ(120°)	-5.23/-2.65	-2.92/-5.8	-8.45/-8.09	-8.03/-12.05	-5.85/-11.41	-6.56/-5.55	-17.41/-18.48	-11.64/-8.41	-10.36/-10.34	-6.87/-10.1	-4.45/-6.9	-12.68/-11.31	-9.91/-5.22	-6.17/-12.6	-7.08/-5.7	-7.16/-5.34	-6.67/-13.88	-10.3/-10.13	-8.38/-9.66	-6.71/-8.19	-9.35/-9.24	-4.27/-6.08	-4.11/-5.61	-5.03/-7.14
Θ(127.5°)	-7.28/-4.2	-6.08/-6.83	-8.91/-6.97	-8.4/-14.95	-11/-10.27	-7.34/-14.48	-18.96/-17.72	-10.22/-10.67	-1.767/-12.4	-19.08/-12.76	-10.33/-12.28	-17.76/-15.84	-17.22/-8.1	-10.98/-12.29	-10.33/-18.1	-14.18/-13.75	-18.09/-18.4	-11.89/-12.03	-14.18/-13.69	-8.4/-2.86	-4.74/-6.23	-5.25/-5.6	-7.09/-7.82	
Θ(135°)	-5.71/-5.4	-7.06/-9.34	-8.67/-8.92	-10.39/-12.74	-17.81/-12.91	-10.65/-13.96	-18.25/-18.18	-14.99/-13.26	-14.61/-12.19	-15.41/-8.16	-8.06/-10.95	-10.52/-11.67	-13.24/-18.96	-17.04/-18.23	-17.1/-11.25	-16.26/-14.01	-16.97/-15.3	-14.67/-18.34	-14.81/-18.62	-19.04/-14.84	-10.22/-10.02	-9.1/-9.11	-7.46/-8.49	-8.42/-6.76
Θ(142.5°)	-5.36/-5.84	-7.14/-9.92	-11.56/-9.35	-9.16/-13.81	-17.65/-14.71	-13.73/-13.78	-14.93/-13.78	-13.83/-13.47	-12.89/-9.84	-11.61/-12.83	-13.63/-10.22	-10.43/-8.73	-8.96/-13.68	-17.05/-12.27	-14.24/-17.86	-18.15/-11.29	-13.72/-11.99	-15.78/-18.33	-18.31/-18.17	-11.77/-12.7	-10.63/-10.23	-8.27/-14.4	-6.58/-5.5	
Θ(150°)	-7.38/-7.76	-8.63/-10.54	-9.53/-7.36	-8.56/-12.58	-19.37/-18.22	-17.99/-14.13	-15.45/-16.86	-16.1/-16.45	-12.98/-10.3	-11.9/-15.49	-16.69/-18.1	-18.34/-17.85	-18.38/-18.24	-18.04/-15.32	-13.32/-14.5	-19.15/-16.49	-18.7/-18.21	-17.85/-19.12	-18.31/-17.96	-16.48/-11.7	-12.71/-11.87	-13.53/-15.63	-10.39/-7.88	
Θ(157.5°)	-10.84/-13.48	-14/-10.83	-9.31/-10.68	-12.33/-11.93	-11.73/-12.64	-14.28/-14.23	-14.8/-15.98	-18.71/-18.57	-17.11/-16.09	-14.95/-14.32	-12.53/-10.49	-9.52/-10.48	-15.69/-18.26	-17.38/-18.73	-17.65/-17.49	-18.39/-17.71	-18.23/-16.57	-18.4/-19	-16.56/-17.45	-17.69/-14.41	-17.61/-16.69	-13.77/-13.27	-14.13/-12.72	-11.19/-6.63
Θ(165°)	-13.94/-12.73	-11.58/-11.95	-11.92/-11.2	-10.71/-11.01	-12.05/-15.12	-18.2/-17.66	-17.98/-18.45	-16.4/-14.69	-13.72/-12.46	-12/-13.37	-17.17/-18.59	-17.92/-18.16	-17.28/-18.28	-18.24/-18.47	-18.89/-17.69	-17.6/-17.69	-17.63/-17.96	-19.26/-19.1	-19.21/-17.83	-17.43/-13.6	-12.1/-12.98	-13.44/-11.76	-11.34/-11.91	-12.51/-12.85
Θ(172.5°)	-9.56/-8.53	-7.75/-7.48	-7.75/-8.07	-8.26/-8.57	-9.83/-10.46	-10.49/-10.64	-10.98/-11.25	-11.51/-11.78	-11.85/-12.2	-11.98/-12.86	-13.84/-14.52	-13.9/-12.7	-11.14/-9.99	-9.51/-9.4	-9.14/-9.17	-10.45/-12.68	-15.12/-16.97	-18.53/-17.8	-17.01/-16.27	-14.94/-13.68	-11.89/-10.51	-10.07/-9.82	-9.05/-8.65	-9.1/-9.26
Θ(180°)	-8.69/-9.33	-9.31/-9.76	-10.19/-11.12	-12.04/-12.5	-13.24/-15.12	-17.79/-18.71	-18.27/-18.72	-18.4/-18.83	-17.83/-17.88	-15.44/-13.31	-13.69/-14.57	-10.19/-9.94	-9.53/-9.52	-9.76/-9.99	-10.33/-11.06	-14.53/-16.71	-18.41/-16.7	-15.43/-16.61	-17.49/-17.38	-17.86/-15.2	-13.4/-12.56	-11.71/-10	-8.58/-8.04	
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°)	-16.54/-19.17	-17.28/-17.96	-18.69/-17.58	-18.44/-15.5	-15.61/-15.84	-15.58/-14.19	-13.31/-12.69	-12.75/-12.9	-12.28/-10.83	-9.52/-8.82	-9.45/-11.67	-13.43/-12.39	-13.54/-17.5	-19.05/-15.25	-15.34/-17.27	-14.66/-11.2	-9.9/-9.24	-8.78/-8.5	-8.43/-8.41	-8.56/-8.13	-8.2/-9.04	-10.17/-12.56	-14.09/-16.57	-17.97/-15.56
Θ(7.5°)	-8.26/-10.8	-14.07/-18.04	-14.56/-11.94	-10.94/-10.04	-8.54/-8.26	-8/-7.96	-8.12/-8.52	-9.55/-10.68	-11.96/-12.03	-11.93/-11.78	-12.95/-14.85	-14.82/-15.08	-16.31/-17.79	-17.68/-18.66	-18.6/-16.8	-13.72/-11.99	-9.65/-9.05	-7.71/-6.88	-6.16/-5.19	-4.42/-4.1	-4.39/-4.62	-4.88/-5.54	-6.17/-5.68	
Θ(15°)	-5.53/-8.11	-12.33/-15.75	-17.79/-15.45	-10.51/-8.82	-8.25/-8.16	-6.75/-4.9	-3.34/-2.44	-2.38/-3.39	-5.31/-7.27	-8.75/-8	-7.97/-8.14	-18.52/-16.49	-11.88/-9.35	-8.37/-9.81	-14.54/-18.4	-14.84/-10.4	-7.93/-7.97	-8.7/-9.82	-8.93/-7.15	-5.88/-5.12	-5.49/-5.32	-5.3/-5.56	-6.27/-6.53	
Θ(22.5°)	-7.41/-11.07	-18.78/-17.32	-13.28/-12.82	-12.23/-7.26	-4.53/-3.85	-4.89/-4.53	-2.28/-0.98	-1.13/-3.42	-6.14/-7.55	-5.95/-4.93	-5.16/-5.82	-7.51/-10.73	-16.66/-17.5	-16.94/-12.87	-10.48/-8.8	-8.65/-11.06	-18.78/-10.4	-6.26/-5.91	-8.78/-12.93	-9.81/-8.18	-7.81/-9.03	-9.64/-8.38	-6.78/-6.31	-6.66/-6.82
Θ(30°)	-4.44/-5.21	-8.3/-17.07	-16.1/-39	-12.19/-16.48	-7.86/-3.24	-2.82/-3.71	-2.33/-0.98	-0.68/-1.86	-3.53/-4.56	-4.95/-														



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Freq(Hz)	5.2G	5.3G
Ant. 1 Max Gain (dBi)	3.49	3.73
Ant. 2 Max Gain (dBi)	2.69	2.56
Ant. 1 Polarization/Θ(°)/Φ(°)	Phi/52.5/240	Phi/60/240
Ant. 2 Polarization/Θ(°)/Φ(°)	Phi/60/210	Phi/45/292.5
Max Gain (dBi)	3.49	3.73
DG [1SS] (dBi)	5.77	5.82
DG [2SS] (dBi)	3.49	3.73



Radiated Composite Gain Data of 5GHz(Low-band)

Appendix B

DG 1SS Result

Freq(Hz)	52GPol.	PhiL	Phi(30°)Phi(37.5°)	Phi(45°)Phi(52.5°)	Phi(60°)Phi(67.5°)	Phi(75°)Phi(82.5°)	Phi(90°)Phi(97.5°)	Phi(105°)Phi(112.5°)	Phi(120°)Phi(127.5°)	Phi(135°)Phi(142.5°)	Phi(150°)Phi(157.5°)	Phi(165°)Phi(172.5°)	Phi(180°)Phi(187.5°)	Phi(195°)Phi(202.5°)	Phi(210°)Phi(217.5°)	Phi(225°)Phi(232.5°)	Phi(240°)Phi(247.5°)	Phi(255°)Phi(262.5°)	Phi(270°)Phi(277.5°)	Phi(285°)Phi(292.5°)	Phi(300°)Phi(307.5°)	Phi(315°)Phi(322.5°)	Phi(330°)Phi(337.5°)	Phi(345°)Phi(352.5°)
DG(dB)	Phi(0°)Phi(7.5°)	Phi(15°)Phi(22.5°)	Phi(30°)Phi(37.5°)	Phi(45°)Phi(52.5°)	Phi(60°)Phi(67.5°)	Phi(75°)Phi(82.5°)	Phi(90°)Phi(97.5°)	Phi(105°)Phi(112.5°)	Phi(120°)Phi(127.5°)	Phi(135°)Phi(142.5°)	Phi(150°)Phi(157.5°)	Phi(165°)Phi(172.5°)	Phi(180°)Phi(187.5°)	Phi(195°)Phi(202.5°)	Phi(210°)Phi(217.5°)	Phi(225°)Phi(232.5°)	Phi(240°)Phi(247.5°)	Phi(255°)Phi(262.5°)	Phi(270°)Phi(277.5°)	Phi(285°)Phi(292.5°)	Phi(300°)Phi(307.5°)	Phi(315°)Phi(322.5°)	Phi(330°)Phi(337.5°)	Phi(345°)Phi(352.5°)
Theta(°)	-6.36/-6.72	-7.56/-8.36	-8.47/-8.42	-9.37/-10.65	-11.08/-12.26	-11.33/-11.01	-11.22/-10.26	-10.45/-10.3	-8.88/-7.65	-6.68/-6.49	-6.42/-5.7	-5.08/-4.63	-4.53/-4.91	-5.29/-6.79	-6.27/-6.72	-6.65/-8.82	-9.46/-9.96	-10.13/-10.15	-10.25/-9.62	-9.03/-7.94	-6.16/-6.26	-6.16/-6.26	-6.16/-6.26	-6.46/-6.37
Theta(7.5°)	-2.52/-2.89	-3.74/-4.83	-5.68/-6.5	-7.03/-7.42	-7.74/-7.97	-8.02/-8.7	-9.87/-10.41	-10.22/-10.42	-10.68/-11.11	-10.37/-9.6	-8.94/-8.75	-8.75/-8.61	-8.44/-8.83	-8.97/-8.91	-8.85/-8.86	-9.48/-10.49	-11.86/-11.43	-10.86/-10.48	-9.65/-8.17	-7.02/-5.65	-4.82/-4.25	-3.7/-3.06	-2.76/-2.49	-2.19/-2.22
Theta(15°)	-0.91/-1.53	-2.41/-3.21	-3.68/-4.4	-4.72/-4.21	-3.36/-2.62	-2.44/-2.26	-2.49/-3.26	-4.65/-5.84	-6.2/-5.63	-4.88/-3.91	-3.58/-3.31	-2.86/-2.31	-2.02/-2.14	-2.57/-3.01	-3.37/-3.69	-3.53/-3.31	-3.27/-3.21	-2.83/-2.41	-1.77/-0.97	-0.64/-0.71	-0.03/-0.85	-0.42/-0.33	0.29/-0.27	0.16/-0.38
Theta(22.5°)	-0.77/-1.58	-2.06/-2.25	-2.44/-2.81	-2.79/-2.22	-1.31/-0.58	0.16/-0.75	1.16/-0.78	0.07/-0.3	0.042	0.86/-0.53	0.49/-0.48	0.75/-1.34	1.71/-84	1.88/-61	1.22/-83	0.74/-0.92	1.01/-0.72	0.49/-0.28	0.71/-27	1.83/-15	1.86/-1.58	1.59/-1.61	1.51/-1.23	0.59/-0.06
Theta(30°)	0.85/-0.61	0.25/-0.45	-1.44/-2.76	-3.96/-4.14	-3.32/-1.29	0.82/-0.7	2.76/-2.51	2.28/-2.12	2.12/-1.84	1.62/-1.17	0.74/-0.56	0.85/-1.51	1.94/-2.19	2.65/-2.98	3.46/-3.81	3.91/-3.68	3.27/-2.51	1.38/-0.22	-0.02/-0.47	1.17/-2.19	2.67/-2.7	2.59/-2.54	2.55/-2.29	1.72/-1
Theta(37.5°)	2.02/-1.65	1.37/-0.63	-0.83/-2.69	-4.45/-4.36	-2.66/-1.08	1.33/-2.87	3.28/-2.37	3.38/-2.27	2.55/-1.45	1.05/-1.8	2.51/-2.66	2.95/-3.53	3.52/-98	2.65/-3.21	4.31/-4.77	4.71/-4.41	3.95/-3.08	2.12/-0.99	0.21/-0.59	1.54/-2.61	3.07/-3.42	3.27/-3.02	2.82/-2.73	2.37/-2.48
Theta(45°)	2.52/-2.19	1.39/-1.01	0.33/-0.81	-0.94/-0.39	0.49/-1.25	2.23/-1.4	3.58/-3.98	4.41/-3.7	2.33/-1.95	3.27/-3.98	4.28/-4.2	4.54/-4.95	4.98/-4.38	3.87/-4.24	4.84/-4.7	4.75/-13	5.14/-79	4.19/-3.37	2.57/-2.26	2.39/-3.44	4.04/-3.86	3.33/-3	2.83/-15	2.79/-2.6
Theta(52.5°)	2.81/-2.42	1.51/-1.71	1.33/-0.8	1.25/-1.41	2.01/-1.96	1.45/-2.55	3.13/-3.61	3.93/-53	3.25/-3.84	4.68/-4.29	3.67/-4.02	4.38/-4.38	4.48/-4.33	4.49/-5.34	5.65/-5.1	4.85/-05	5.04/-5.09	4.89/-3.29	2.31/-2.7	2.92/-3.62	4.34/-4.18	3.27/-2.76	2.97/-3.48	3.01/-2.81
Theta(60°)	2.52/-2.94	2.12/-2.36	2.16/-1.74	2.01/-1.33	1.73/-1.35	1.98/-3.09	3.22/-3.69	4.07/-3.33	3.07/-3.97	4.39/-4.05	2.91/-3.1	3.59/-3.66	4.19/-4.17	4.31/-5.15	5.77/-5.35	4.22/-4.09	4.07/-4.03	4.15/-2.3	1.42/-1.85	2.19/-3.29	4.3/-48	2.62/-37	1.83/-2.82	2.91/-1.71
Theta(67.5°)	2.11/-3.31	1.75/-1.84	1.83/-1.58	1.99/-0.62	0.75/-1.35	2.15/-2.93	1.98/-2.2	3.06/-3	3.07/-43	3.51/-2.67	1.45/-2.01	2.02/-1.88	3.33/-23	2.96/-3.46	4.63/-4.73	2.91/-2.79	2.81/-2.39	3.93/-1.83	1.65/-2.1	2.15/-2.93	3.73/-2.66	1.66/-1.83	0.63/-2.19	2.44/-1.37
Theta(75°)	0.61/-2.81	1.41/-1.7	1.69/-1.42	1.86/-0.45	-0.25/-0.78	2.22/-6	1.25/-1.49	2.59/-1.88	1.43/-1.36	2.04/-1.93	0.17/-0.68	1.04/-1.03	2.56/-1.99	1.78/-1.82	2.38/-1.15	1.07/-0.92	1.25/-2.49	3.25/-1.54	1.87/-1.78	2.28/-1.82	1.83/-0.06	-1.30/-28	-1.66/-0.19	0.96/-0.08
Theta(82.5°)	-0.81/-1.74	0.54/-1.64	1.80/-85	1.39/-1.28	-0.55/-0.51	1.45/-1.58	-0.44/-0.12	1.52/-0.6	0.09/-0.04	0.73/-0.34	-2.63/-0.96	-1.16/-0.34	0.9/-0.38	-0.52/-1.2	-0.46/-0.08	-1.52/-0.84	0.08/-1.03	1.50/-66	1.29/-30.5	1.15/-1.33	0.41/-1.7	-2.7/-0.33	-2.41/-1.94	0.15/-0.43
Theta(90°)	-2.50/-0.51	-0.44/-0.4	1.23/-0.15	0.79/-1.17	-1.6/-0.84	0.21/-15	-0.95/-1.55	-0.29/-1.65	-2.32/-0.95	-0.75/-1.61	-4.89/-3.8	-3.32/-2.84	-1.02/-2.16	-2.73/-3.01	-3.43/-3.45	-4.82/-2.94	-1.72/-0.52	-1.33/-0.59	-0.81/-2.51	-0.31/-1.5	-4.34/-6.24	-1.57/-3.85	-5.31/-5.62	-2.41/-8.6
Theta(97.5°)	-2.96/-0.83	-0.93/-0.01	1.3/-0.7	0.03/-2.32	-2.59/-1.13	-1.82/-0.07	-2.3/-2.33	-0.54/-3.25	-5.43/-3.86	-1.91/-3.53	-6.62/-4.3	-5/-4.59	-3.39/-4.15	-4.79/-5.06	-5.52/-6.66	-6.01/-5.7	-4.88/-5.13	-6.7/-3.7	-3.91/-5.13	-3.9/-4.42	-5.57/-7.47	-8.1/-5.56	-7.71/-5.54	-3.3/-1.98
Theta(105°)	-3.74/-2.22	-1.83/-0.55	-0.27/-1.47	-1.02/-2.73	-3.57/-1.16	-2.15/-0.25	-2.2/-3.79	-1.71/-3.74	-6.71/-5.4	-6.18/-9.68	-9.02/-4.72	-5.65/-5.85	-4.9/-4.98	-7.91/-8.49	-9.11/-11.84	-10.46/-9.5	-10.13/-9.83	-12.93/-7.39	-9.59/-10.8	-9.63/-9.84	-11.05/-11.03	-8.76/-9.01	-9.36/-5.95	-3.4/-3.13
Theta(112.5°)	-5.56/-4.41	-2.39/-2.3	-2.41/-3.1	-2.23/-3.29	-3.54/-1.93	-3.54/-1.72	-2.71/-3.82	-3.91/-4.77	-7.56/-7.24	-1.54/-1.297	-11.17/-6.4	-5.81/-6.37	-7.21/-7.26	-9.21/-10.53	-13.33/-13.76	-10.88/-11.38	-8.58/-11.83	-12.75/-10.5	-14.88/-12.55	-11.72/-12.02	-9.61/-10.54	-10.41/-10.7	-12.1/-7.45	-7.57/-6.56
Theta(120°)	-5.6/-4	-3.79/-3.33	-4.16/-3.75	-4.02/-3.44	-4.05/-3.71	-4.69/-3.93	-3.62/-3.36	-4.85/-7.99	-8.37/-7.72	-10.03/-13.66	-12.23/-10.2	-9.27/-8.65	-8.21/-7.65	-9.35/-10.65	-14.5/-13.61	-12.71/-13.68	-13.28/-9.04	-9.83/-10.76	-10.66/-11.43	-10.98/-8.85	-7.48/-9	-12.12/-12.31	-12.27/-11.07	-8.51/-8.92
Theta(127.5°)	-5.37/-4.77	-4.9/-5.22	-4.85/-5.58	-7.41/-6.45	-6.09/-7.84	-6.67/-5.39	-6.45/-4.89	-5.71/-8.01	-8.58/-9.75	-11.45/-14.99	-10.91/-11.15	-12.61/-13.43	-9.91/-9.17	-11.33/-10.55	-15.76/-15.69	-13.98/-14.94	-13.82/-13.14	-11.97/-11.12	-8.6/-11.97	-13.81/-14.89	-15.41/-10.97	-12.47/-14.06	-13.69/-13.38	-8.21/-8.38
Theta(135°)	-0.03/-9.84	-0.19/-8.85	-6.8/-7.97	-10.69/-8.95	-8.09/-9.12	-7.93/-7.44	-7.93/-6.94	-6.71/-8.67	-9.59/-8.2	-9.79/-12.57	-9.99/-9.46	-10.88/-9.74	-11.71/-10.64	-12.72/-12.24	-14.4/-15.21	-14.99/-15.54	-13.04/-14.63	-15.15/-15.13	-13.11/-13.52	-15.95/-16.06	-12.75/-12.34	-11.01/-13.68	-12.91/-11.38	-10.85/-10.2
Theta(142.5°)	-10.71/-10.28	-10.9/-11.68	-11.5/-11.07	-12.17/-11.46	-9.26/-9.36	-11.05/-12.76	-13.84/-1.59	-5.47/-7.25	-12.21/-13.71	-10.52/-12.9	-12.65/-10.48	-9.64/-10.98	-9.71/-12.02	-11.06/-11.72	-12.92/-10.76	-11.58/-11.45	-14.92/-13.01	-10.9/-11.98	-11.5/-10.76	-13.22/-14.26	-15.18/-12.45	-10.97/-10.75	-14.87/-11.54	-11.29/-11.54
Theta(150°)	-14.96/-14.11	-15.66/-14.61	-13.86/-12.61	-12.85/-13.87	-15.97/-14.63	-13.07/-13.14	-14.84/-11.46	-7.24/-7.32	-10.31/-14.4	-12.79/-8.94	-11.41/-15.14	-15.46/-13.97	-13.64/-14.46	-13.78/-13.83	-14.6/-14.37	-15.6/-14.94	-13.5/-13.42	-13.32/-13.06	-15.4/-15.45	-15.32/-15.71	-14.88/-13.69	-15.03/-14.64	-12.2/-11.69	-13.03/-15.71
Theta(157.5°)	-15.43/-15.92	-15.45/-15.12	-15.26/-14.61	-12.76/-12.1	-12.57/-13.3	-13.45/-13.23	-13.83/-12.77	-11.31/-10.82	-12.48/-13.71	-12.72/-11.41	-11.67/-14.61	-14.94/-14.92	-15.63/-15.74	-15.49/-14.16	-13.16/-14.62	-14.92/-14.52	-14.77/-15.12	-15.96/-15.81	-14.9/-13.5	-13.72/-14.2	-13.08/-12.53	-14.44/-15.21	-15.16/-13.11	-11.29/-12.12
Theta(165°)	-14.4/-14.83	-15.47/-15.63	-13.15/-12.54	-12.01/-12.06	-11.48/-11.49	-12.62/-11.93	-11.37/-11.05	-12.61/-14.48	-14.99/-13.51	-13.17/-13.14	-14.33/-14.88	-15.11/-15.7	-15.31/-15.76	-15.17/-14.81	-14.24/-14.51	-15.64/-15.27	-15.33/-15.86	-15.19/-14.99	-15.87/-13.06	-11.93/-11.73	-12.99/-13.83	-14.66/-15.22	-15.18/-15.54	-14.87/-15.08
Theta(172.5°)	-13.83/-14.3	-15.01/-14.94	-14.8/-15.97	-15.02/-14.16	-12.17/-10.66	-9.24/-9.36	-9.93/-9.95	-11.48/-12.98	-14.65/-15.34	-15.38/-14.77	-15.24/-14.98	-15.81/-15.27	-15.69/-14.57	-15.22/-15.26	-14.98/-15.63	-14.99/-14.96	-15.01/-15.04	-14.88/-14.91	-15.89/-15.27	-14.87/-14.82	-14.81/-13.4	-12.04/-11.6	-11.44/-11.8	-12.31/-13.11
Theta(180°)	-15.29/-15.04	-14.54/-15.8	-15.41/-15.76	-15.03/-14.79	-14.78/-13.32	-13.56/-13.47	-13.81/-14.64	-15.05/-15.06	-14.92/-13.99	-13.96/-15.25	-14.53/-15.37	-15.06/-15.41	-15.21/-15.99	-15.15/-13.79	-13.48/-13.81	-14.93/-14.82	-13.87/-13.29	-12.83/-12.73	-13.44/-15.27	-15.29/-14.5	-14.1/-13.24	-12.49/-12.58	-12.74/-13.7	-14.35/-15.79
Freq(Hz)	52GPol.	ThetaL	Phi(30°)Phi(37.5°)	Phi(45°)Phi(52.5°)	Phi(60°)Phi(67.5°)	Phi(75°)Phi(82.5°)	Phi(90°)Phi(97.5°)	Phi(105°)Phi(112.5°)	Phi(120°)Phi(127.5°)	Phi(135°)Phi(142.5°)	Phi(150°)Phi(157.5°)	Phi(165°)Phi(172.5°)	Phi(180°)Phi(187.5°)	Phi(195°)Phi(202.5°)	Phi(210°)Phi(217.5°)	Phi(225°)Phi(232.5°)	Phi(240°)Phi(247.5°)	Phi(255°)Phi(262.5°)	Phi(270°)Phi(277.5°)	Phi(285°)Phi(292.5°)	Phi(300°)Phi(307.5°)	Phi(315°)Phi(322.5°)	Phi(330°)Phi(337.5°)	Phi(345°)Phi(352.5°)
Theta(0°)	-12.55/-12.44	-12.18/-11.52	-9.47/-7.88	-7.44/-7.7	-8.25/-8.81	-8.66/-8.31	-8.05/-7.07	-7.07/-8.38	-9.89/-10.66	-10.71/-10.85	-11.93/-12.23	-12.08/-11.34	-12.37/-12.52	-11.75/-10.26	-9.41/-8.83	-8.38/-7.9	-7.22/-6.56	-6.26/-5.84	-5.63/-5.54	-6.36/-7.79	-9.44/-10.34	-10.82/-14.42	-11.82/-11.8	-12.04/-12.42
Theta(7.5°)	-10.43/-10.1	-9.67/-7.84	-6.09/-5.09	-5.34/-5.94	-6.6/-7.46	-8.01/-8.35	-8.43/-6.65	-5.36/-5.58	-7.16/-9.37	-11.01/-9.96	-14.24/-13	-12.48/-13.49	-12.74/-12.71	-12.87/-12.34	-11.11/-10.89	-10.17/-8.72	-7.67/-6.36	-5.39/-4.78	-5.02/-5.43	-6.41/-7.34	-8.31/-10.4	-10.17/-10.11	-10.77/-10.11	-10.28/-10.29
Theta(15°)	-9.88/-9.72	-8.52/-6.79	-5.4/-5.32	-6.36/-7.93	-8.53/-8.2	-7.8/-8.4	-9.52/-8.79	-7.76/-7.37	-7.32/-7.81	-7.58/-6.7	-7.25/-9.41	-12.71/-13.21	-13.37/-13.94	-14.79/-14.51	-12.92/-10.59	-8.8/-8.28	-8.35/-8.37	-8.86/-8.42	-7.15/-6.16	-5.42/-4.76	-9.92/-5.71	-7.13/-8.97	-10.03/-10.17	-9.74/-10.09
Theta(22.5°)	-7.11/-8.02	-8.67/-7.66	-5.98/-5.38	-5.39/-5.68	-6.4/-6.04	-5.07/-5.18	-6.93/-8.33	-8.93/-7.97	-7.11/-6.63	-6.45/-6.08	-6.13/-8.81	-14.42/-12.37	-11/-11.16	-13.87/-15.42	-15.62/-11.61	-8.19/-7.05	-6.99/-7.53	-8.46/-8.57	-7/-5.31	-4.85/-5.38	-6.83/-8.23	-8.85/-9.04	-8.93/-8.99	-7.96/-6.94
Theta(30°)	-6.71/-6.42	-7.08/-8.08	-8.18/-7.06	-5.5/-5.21	-6.23/-6.73	-4.99/-7.35	-4.1/-4.69	-4.92/-5.29	-6.82/-6.49	-4.94/-4.98	-5.48/-7.46	-14.16/-15.25	-11.91/-11.88	-13.84/-12.06	-10.27/-9.67	-10.28/-10.96	-11.59/-11.51	-10.51/-7.86	-5.47/-4.83	-5.83/-8.39	-11.69/-11.58	-10.71/-10.78	-9.11/-7.46	-6



Radiated Composite Gain Data of 5GHz(Low-band)

Appendix B

Gain Result

Freq(Hz)	520°Pol.	PhiAnt. 1	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°)
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°)	-6.35/-6.57	-7.14/-7.76	-8.35/-8.8	-9.89/-10.95	-11.61/-12.56	-13.82/-11.57	-14.49/-10.06	-10.14/-10.01	-8.05/-6.78	-5.02/-11.57	-6.44/-5.68	-5.29/-4.52	-6.11/-6.52	-7.34/-8.29	-8.99/-9.47	-10.15/-9.65	-10.15/-9.65	-9.04/-8.21	-7.78/-7.31	-6.57/-6.5	-7.7	-7.1	-6.51/-6.43			
Θ(7.5°)	-4.82/-4.71	-4.8/-4.98	-5.05/-5.26	-5.91/-6.6	-6.8/-6.94	-7.24/-7.91	-9.44/-10.4	-9.93/-10.28	-10.85/-11.44	-12.07/-12.13	-12.16/-12.04	-12.67/-13.28	-13.35/-13.76	-14.13/-14.56	-14.54/-14.27	-15.31/-16.52	-18/-18.48	-18.23/-17.25	-15.26/-12.63	-10.32/-18.19	-6.96/-6.29	-5.7/-5.06	-4.95/-4.9	-4.57/-4.54		
Θ(15°)	-5.05/-5.53	-5.84/-5.58	-5.04/-4.87	-4.69/-3.77	-2.91/-2.55	-2.92/-3.03	-3.67/-4.77	-5.92/-6.82	-6.88/-6.73	-7.41/-7.95	-9.04/-10.58	-11.06/-10.61	-9.88/-9.25	-8.8/-8.67	-8.69/-8.66	-7.3/-6.05	-5.15/-4.99	-5.37/-5.84	-5.65/-5.06	-4.9/-4.32	-4.3/-3.58	-2.92/-3.02	-2.49/-2.9	-3.44/-4.06		
Θ(22.5°)	-4.4/-5.86	-6.26/-5.5	-4.73/-4.54	-3.93/-2.89	-2.04/-1.74	-1.57/-1.47	-1.06/-1.31	-1.71/-1.13	-0.27/-0.19	-0.71/-2.05	-3.42/-4.53	-4.99/-4.37	-3.58/-2.54	-1.39/-0.55	-0.39/-0.67	-0.82/-0.65	-0.71/-1.55	-2.91/-4.76	-5.31/-5.04	-3.84/-2.36	-1.41/-0.65	0.04/-0.1	-0.34/-0.95	-2.28/-3.18		
Θ(30°)	-3.27/-3.92	-3.99/-3.91	-4.03/-4.97	-6.26/-6.66	-5.67/-3.17	-1.32/-0.27	0.63/-0.49	0.07/-0.57	-0.28/-0.38	0.5/-0.33	-1.69/-2.71	-3.27/-2.52	-1.82/-1.18	0.07/-0.85	1.48/-1.51	1.88/-2	1.99/-0.94	-1.4/-4.29	-5.85/-5.63	-4.33/-2.13	-0.6/-0.04	0.24/-0.38	0.50/-0.56	-0.3/-2.1		
Θ(37.5°)	-2.69/-3.33	-2.55/-1.93	-2.92/-5.49	-9.57/-5.97	-5.35/-2.42	-0.44/-0.52	1.11/-1.33	0.79/-0.18	-0.88/-1.16	-0.71/-0.15	0.34/-0.5	-1.23/-0.34	0.18/-0.14	0.21/-1.14	2.22/-23	1.89/-18	1.57/-0.5	-1.31/-3.95	-5.62/-5.46	-4.19/-2.45	-1.06/-0.1	0.23/-0.14	0.15/-0.72	0.26/-0.86		
Θ(45°)	-2.76/-3.07	-2.95/-2.27	-3.3/-5.51	-5.97/-4.4	-2.16/-0.59	-0.13/-0.02	0.71/-77	1.72/-12	-1.43/-0.99	0.85/-89	2.23/-81	1.63/-89	2.25/-5	1.01/-18	2.83/-239	2.27/-49	2.75/-23	0.85/-0.98	-2.9/-3.34	-3.02/-1.54	-0.44/-0.19	-0.25/-0.35	-0.02/-1.03	0.56/-1.72		
Θ(52.5°)	-1.88/-2.57	-4.21/-3.93	-5.06/-5.07	-2.75/-2.27	-1.32/-1	-2.47/-1.65	-0.31/-0.88	1.08/-0.19	-0.70/-67	2.82/-78	2.24/-53	2.82/-42	2.23/-177	2.15/-0.2	3.21/-13.2	3.04/-3.36	3.49/-3.27	2.15/-0.92	-3.16/-2.6	-1.49/-0.41	0.43/-0.77	0.08/-0.49	0.37/-1.34	0.29/-1.78		
Θ(60°)	-1.76/-1.19	-3.89/-3.69	-4.67/-4.23	-1.78/-3.01	-2.15/-2.58	-1.93/-0.65	-0.65/-0.23	1.36/-52	-0.86/-0.55	2.42/-24	1.03/-15	2.19/-27	2.07/-45	2.27/-92	2.83/-238	3.42/-134	3.01/-2.78	1.87/-1.6	-4.25/-4.12	-2.68/-0.37	0.51/-0.02	-0.42/-0.87	-1.18/-0.47	0.28/-2.88		
Θ(67.5°)	-1.05/-0.61	-3.75/-4.49	-5.46/-4.52	-1.64/-4.32	-3.62/-3.21	-1.84/-0.12	-2.1/-1.31	0.33/-0.55	-1.7/-0.04	1.78/-13	-0.49/-0.27	0.68/-0.16	0.68/-0.59	1.21/-25	1.51/-245	1.92/-162	0.83/-1.46	1.95/-1.58	-3.12/-3.42	-2.24/-0.07	0.8/-0.62	-0.18/-0.94	-2.06/-0.33	-0.69/-2.94		
Θ(75°)	-1.99/-0.84	-3.18/-4.09	-5.06/-4.49	-1.68/-6.7	-5.57/-4.54	-1.19/-0.19	-2.94/-1.84	-0.32/-1.64	-3.19/-2.01	0.35/-0.05	-2.44/-1.59	-0.69/-0.92	-0.44/-1.56	-0.15/-0.11	-0.70/-99	0.29/-0.52	-2.02/-0.09	1.4/-0.65	-1.92/-3.74	-1.73/-0.9	-0.79/-3.44	-4.47/-2.73	-4.6/-4.14	-2.35/-3.08		
Θ(82.5°)	-2.88/-0.03	-4.08/-3.91	-4.45/-4.53	-2.26/-6.19	-7.27/-6.54	-2.16/-0.44	-4.6/-3.34	-1.97/-3.95	-4.37/-2.82	-1.27/-2.39	-1.93/-4.93	-4.3/-5.15	-6.53/-6.23	-8.37/-9.92	-11.45/-12.38	-10.1/-11.92	-12.72/-6.28	-2.46/-1.1	-2.21/-4.81	-5.85/-2.98	-4.6/-6.95	-2.81/-2.23				
Θ(90°)	-4.57/-1.22	-5.19/-6.06	-4.32/-0.04	-2.98/-8.51	-9.67/-9.56	-4.32/-1.19	-5.97/-5.29	-3.92/-6.29	-6.87/-3.47	-3.11/-4.16	-7.17/-4.08	-3.39/-3.61	-3.51/-4.61	-3.45/-5.04	-6.06/-4.99	-5.82/-5.1	-6.45/-3.93	-3.45/-1.7	-4.79/-10.6	-3.71/-3.68	-6.96/-9.92	-11.84/-7.87	-9.82/-15.11	-6.65/-3.32		
Θ(97.5°)	-4.8/-3.62	-6.18/-5.72	-2.67/-5.11	-3.29/-9.74	-13.53/-11.16	-7.78/-3.54	-8.08/-7.16	-3.92/-6.58	-9.31/-6.42	-4.22/-6.01	-10.04/-4.45	-3.82/-5.16	-6.23/-5.84	-5.6/-7.67	-7.95/-7.04	-6.77/-8.66	-8.11/-8.74	-9.43/-4.89	-7.93/-11.22	-6.64/-6.41	-7.3/-10.02	-13.77/-10.99	-13.18/-11.46	-6.86/-3.27		
Θ(105°)	-6.55/-5.23	-6.55/-5.65	-3.85/-5.93	-14.33/-9.3	-10.43/-9.25	-11.88/-8.23	-7.66/-9.95	-7.66/-9.95	-12.71/-8.28	-13.05/-12.81	-12.71/-18.43	-11.37/-6.12	-5.77/-6.09	-6.38/-8.22	-9.11/-10.83	-16.17/-15.8	-10.97/-16.85	-9.78/-16.48	-15.55/-12.44	-18.42/-18.27	-17.51/-17.98	-14.72/-17.98	-19.79/-18.85	-18.83/-9.92	-9.94/-9.06	
Θ(112.5°)	-9.77/-9.23	-8.6/-8.83	-6.41/-7.54	-8.4/-7.25	-12.35/-11.09	-13.04/-13.72	-8.37/-7.75	-9.93/-10.62	-10.55/-11.28	-14.4/-19.28	-15.38/-10.33	-9.36/-8.88	-7.4/-9.85	-9.56/-11.21	-17.05/-15.46	-16.21/-18.47	-19.06/-12.93	-11/-13.47	-18.75/-17.71	-16.63/-12.29	-9.27/-11.36	-18.85/-13.76	-13.19/-11.01	-7.64/-12.72		
Θ(120°)	-10.59/-8.55	-8.19/-7.13	-7.72/-10.13	-13.46/-11.26	-15.04/-18.74	-15.11/-13.23	-10.85/-9.61	-11.77/-11.91	-12.25/-12.72	-16.87/-17.88	-10.79/-11.28	-13.34/-14.5	-11.18/-12.21	-12.87/-11.66	-18.9/-18.55	-18.77/-17.91	-18.62/-18.13	-12.65/-14.21	-14.03/-12.95	-17.94/-17.64	-18.29/-13.66	-17.23/-17	-14.83/-16.17	-10.35/-16.07		
Θ(127.5°)	-14.71/-14.35	-15.27/-14.51	-10.84/-11.95	-15.38/-14.64	-12.73/-14.9	-17.9/-16.07	-11.84/-10.59	-10.58/-12.95	-17.32/-15.1	-16.8/-17.66	-13.61/-8.95	-13.64/-11.4	-11.98/-10.72	-13.78/-13.66	-16.26/-17.95	-18.54/-18.59	-17.83/-18.21	-18.4/-17.45	-14.87/-14.98	-18.53/-17.88	-18.38/-13.29	-11.44/-17.09	-17.2/-17.39	-15.5/-18.42		
Θ(135°)	-18.21/-14.49	-13.36/-14.53	-12.44/-11.93	-15.88/-15.11	-10.28/-10.86	-16.06/-17.51	-17.98/-11.86	-8.98/-10.55	-17.82/-19.2	-15.18/-48	-16.89/-12	-13.14/-84	-16.84/-14.66	-13.16/-14.35	-15.61/-12.52	-14.85/-17.71	-17.76/-18.43	-17.3/-18.47	-17.99/-18.77	-14.33/-11.69	-14.52/-18.17	-16.64/-19.14	-16.58/-16.77	-14.88/-18.88		
Θ(150°)	-18.89/-17.81	-18.58/-17.71	-17.83/-14	-13.92/-16.17	-18.72/-16.93	-14/-14.29	-17.31/-71	-8.06/-84	-12.81/-18.65	-15.19/-1.98	-13.59/-18.94	-19.24/-18.63	-18.27/-17.44	-15.77/-15.34	-18.26/-17.34	-19/-18.48	-18.67/-18.51	-14.89/-16.47	-18.27/-18.98	-18.13/-19	-16.97/-15.58	-17.67/-18.53	-18.25/-18.87	-18.86/-15.62		
Θ(157.5°)	-18.01/-18.98	-18.25/-17.69	-17.21/-16.3	-13.98/-12.74	-13.08/-14.4	-14.48/-13.9	-15.49/-14.22	-11.71/-9.98	-13.29/-17.76	-18.55/-16	-15.84/-18.34	-17.38/-18.18	-18.78/-19.05	-18.7/-18.36	-17.48/-19.13	-17.9/-17.26	-18.03/-19.62	-17.99/-18.87	-17.51/-14.81	-15.26/-16.33	-14.4/-13.6	-16.72/-18.13	-17.61/-13.95	-11.74/-13.12		
Θ(165°)	-17.66/-18.3	-17.3/-19.27	-15.06/-13.63	-13.2/-12.89	-12.27/-11.75	-14.07/-16.68	-17.8/-17.04	-18.25/-18.53	-14.88/-17.67	-17.37/-17.77	-18.35/-17.96	-18.97/-18.55	-18.15/-18.76	-18.67/-18.6	-18.95/-19.18	-18.55/-17.72	-18.16/-18.75	-17.92/-18.45	-18.16/-16.85	-15.48/-14.25	-14.64/-15.41	-17.7/-18.18	-18.51/-18.71	-18.34/-18.19		
Θ(172.5°)	-15.38/-16.5	-17.62/-17.85	-17.62/-19.02	-17.88/-18.62	-17.94/-18.55	-17.4/-17.98	-18.91/-17.67	-18.36/-18.3	-17.62/-18.48	-18.02/-18.15	-17.84/-17.7	-18.37/-18.33	-18.13/-17.48	-18.48/-17.68	-18.2/-18.05	-17.96/-18.48	-17.74/-17.4	-17.72/-18.45	-19.33/-18.42	-17.37/-17.04	-18.05/-18.68	-18.2/-18.17	-18.42/-17	-15.39/-14.6		
Θ(180°)	-17.42/-17.95	-17.26/-18.4	-17.92/-19.33	-17.88/-17.73	-16.82/-16.45	-18.52/-18.86	-18.69/-18.56	-17.8/-17.69	-17/-15.93	-16/-17.61	-17.57/-18.65	-17.87/-18.84	-18.44/-18.8	-19.32/-15.8	-14.85/-15.31	-16.92/-18.6	-18.05/-18.08	-18.61/-18.05	-17.41/-18.45	-18.01/-17.78	-19/-19.04	-18.23/-19.1	-19.27/-19.04	-18.08/-18.8		
Freq(Hz)	520°Pol.	ThetaAnt. 1	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°)
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)		
Θ(0°)	-13.34/-13.24	-13.14/-11.63	-10.2/-9.89	-8.22/-8	-7.99/-8.53	-8.64/-8.77	-8.34/-7.04	-6.8/-8.53	-10.34/-11.22	-10.97/-10.81	-12.19/-12.81	-12.44/-12.13	-12.64/-13.63	-12.46/-10.89	-10.02/-9.53	-8.89/-8.32	-7.69/-13.7	-7.16/-6.71	-6.12/-5.63	-6.44/-7.48	-9.04/-10.04	-10.7/-11.67	-12.07/-12.47	-12.57/-12.88		
Θ(7.5°)	-11.72/-12.08	-12.47/-11.49	-10.15/-8.75	-8.2/-7.72	-7.05/-7.7	-7.09/-7.8	-7.85/-6.67	-5.68/-6.53	-8.94/-12.25	-12.93/-11.91	-14.03/-18.84	-18.12/-15.69	-14.55/-14.64	-13.97/-13.59	-13.9/-13.49	-12.12/-11.43	-9.95/-8.65	-8.62/-8.07	-7.13/-6.3	-6.34/-6.76	-7.83/-8.94	-9.44/-10.1	-10.03/-10.16	-9.95/-10.45		
Θ(15°)	-10.8/-12.31	-13.38/-12.7	-11.21/-9.98	-9.45/-8.26	-7.81/-7.31	-7.45/-8.17	-9.05/-8.62	-8.36/-9.07	-10.1/-13.7	-10.78/-13.1	-9.66/-12.73	-17.69/-16.19	-14.77/-16	-17.34/-15.23	-12.96/-12.56	-11.79/-10.53	-10.41/-10.95	-10.68/-9.62	-8.67/-7.58	-7.95/-9.51	-6.36/-12.31	-11.39/-10.21	-11.39/-10.21	-9.93/-9.54		
Θ(22.5°)	-5.97/-6.96	-8.64/-9.34	-8.5/-8.38	-7.65/-6.44	-5.63/-4.94	-4.68/-5.17	-6.33/-3.38	-8.69/-10.43	-10.54/-9.6	-7.95/-6.67	-6.73/-9.44	-16.01/-13.77	-11.08/-11.7	-15.47/-18.87	-19.09/-18.6	-14.64/-13.5	-13.72/-13.76	-12.92/-11.91	-9.45/-7.43	-6.99/-7.91	-10.53/-13.99	-14.76/-13.87	-11.71/-9.88	-7.45/-5.93		
Θ(30°)	-5.49/-6.44	-6.77/-7.25	-7.2/-7.73	-7.56/-7.6	-7.66/-5.84	-4.37/-3.44	-3.05/-3.19	-3.92/-5.89																		



Radiated Composite Gain Data of 5GHz(Low-band)

Appendix B

Θ(22.5°)	-3.2/-3.48	-4.03/-5.03	-6.24/-7.32	-8.18/-8.43	-7.42/-5.94	-4.36/-3.14	-2.72/-3.27	-4.71/-6.23	-7.03/-5.91	-3.87/-2.94	-1.71/-0.19	-0.19/0.38	0.48/0.02	-0.88/-2.25	-3.45/-4.01	-4.02/-3.81	-3.52/-3.09	-2.14/-1.09	-0.09/0.64	0.86/0.42	-0.89/-2.29	-3.17/-3.22	-2.85/-2.7	-2.57/-2.73
Θ(30°)	-1.18/-1.1	-1.69/-3.03	-4.9/-6.66	-7.75/-7.66	-7.05/-5.61	-3.21/-1.66	-1.22/-1.61	-1.61/-1.23	-1.55/-3.07	-3.8/-3.66	-2.9/-2.19	-1.17/-0.58	-0.38/-0.48	-0.82/-1.02	-0.71/0.02	-0.18/-1.2	-1.91/-2.22	-1.87/-1.51	-0.9/-0.26	0.10/32	-0.09/-0.67	-1.13/-1.41	-1.54/-2.22	-2.41/-1.93
Θ(142.5°)	0.43/0.25	-0.82/-2.86	-4.86/-5.91	-5.77/-5.61	-6/-6.15	-3.12/-0.86	-0.66/-0.97	-0.07/-0.67	-0.06/-1.98	-0.36/-2.86	-1.44/-0.2	0.97/1.31	0.78/-0.2	-0.98/-0.85	0.29/1.27	0.51/-0.97	0.26/-0.38	-0.49/-0.44	-0.67/-0.18	0.59/1.25	1.06/0.8	-0.28/-0.13	-0.55/-1.4	-1.65/-0.22
Θ(45°)	1.28/0.97	-0.46/-1.74	-2.1/-2.4	-2.31/-2.5	-2.89/-3.11	-1.55/0.19	0.43/0.08	1.06/-1.22	0.01/-1.14	-0.38/-0.07	0.19/0.53	1.42/-1.98	1.69/-1.24	0.71/0.61	0.70/0.92	1.43/-1.73	1.38/-1.23	1.51/-1.52	1.47/-1.24	1.25/2.04	2.29/-1.78	0.86/0.31	-0.34/-0.85	-1.07/0.73
Θ(52.5°)	1.21/0.02	0.56/0.72	0.74/-0.07	-0.88/-0.97	-0.69/-1.1	-0.73/0.58	0.53/0.3	0.70/0.84	1.08/0.99	0.58/-0.53	-1.28/-0.83	-0.35/0.17	0.64/0.85	0.76/-1.58	2.03/0.91	0.32/0.48	0.28/0.69	1.61/-1.34	1.21/-1.5	1.12/-1.53	2.15/-1.55	0.44/-0.01	-0.48/-0.5	-0.3/-1.13
Θ(60°)	0.59/0.92	1.3/-1.6	1.79/0.94	-0.29/-0.52	-0.49/-0.82	-0.22/0.76	1/1.1	0.74/0.11	0.91/36	0.19/-0.62	-1.4/-1.11	-1.39/-1.34	0.18/0.85	0.21/-1.3	2.69/-1.28	-1.75/-1.64	-1.45/-1.2	0.35/0.09	0.45/-0.05	1.71/0.88	1.44/0.94	-0.4/-0.42	-1.18/-0.91	-0.49/0.04
Θ(67.5°)	-0.76/-0.03	0.67/-1.22	1.68/0.85	-0.45/-0.81	-1.08/-0.35	0.02/-0.05	-0.07/-0.34	-0.25/0.49	1.52/0.86	-1/-2.11	-2.78/-2.49	-3.05/-2.64	-0.05/-0.16	-1.52/-0.43	1.73/0.92	-2.75/-2.55	-1.37/-1.09	-0.24/-0.79	0.11/0.3	0.33/-0.09	0.64/-0.09	-1.53/-1.43	-2.72/-1.35	-0.45/-0.51
Θ(75°)	-2.84/-1.38	-0.27/0.8	1.29/0.68	-0.65/-1.11	-1.44/-0.4	-0.44/-1.06	-0.73/-1.22	-0.52/-0.65	-0.22/-1.3	-2.52/-2.26	-3.25/-3.13	-3.47/-3.19	-0.47/-0.52	-2.46/-2.42	-0.57/-0.8	-4.96/-4.01	-1.51/-1.17	-1.1/-2.37	-0.42/0.71	0.16/-1.49	-1.59/-2.49	-4.15/-2.73	-4.74/-2.36	-1.76/-2.78
Θ(82.5°)	-4.87/-2.71	-1.12/0.6	1.14/0.21	-1.03/-1.19	-0.97/0.25	-1/-2.54	-2.43/-2.93	-1.04/-1.11	-1.68/-3.12	-3.42/-4.26	-7.26/-6.5	-6.89/-4.78	-2.15/-3.68	-5.58/-4.8	-3.91/-4.5	-1.47/-1.77	-2.59/-3.67	-0.82/-0.12	-1.3/-2.73	-3.01/-4.62	-5.58/-3.72	-5.97/-3.33	-2.91/-4.75	
Θ(90°)	-6.71/-4	-2.01/-0.15	0.18/-1	-1.53/-1.31	-1.44/-0.44	-1.52/-2.59	-2.33/-3.88	-2.73/-3.29	-4.02/-4.47	-4.47/-5.1	-8.69/-10.83	-10.8/-8.88	-4.58/-5.77	-8.86/-7.12	-6.84/-8.24	-10.44/-6.9	-3.3/-3.15	-5.33/-6.03	-2.95/-2.33	-2.95/-5.42	-7.76/-8.62	-8.75/-5.96	-7.04/-4.96	-4.32/-6.77
Θ(97.5°)	-7.32/-4.06	-2.16/-0.97	-0.85/-2.5	-2.68/-2.42	-1.53/-0.31	-2.63/-2.65	-3.21/-3.83	-3.19/-5.96	-7.65/-7.35	-5.69/-7.11	-9.24/-11.6	-16.43/-11	-5.68/-8.72	-10.76/-8.5	-9.15/-14.3	-12.06/-8.76	-7.68/-7.57	-10.9/-0.1	-6.02/-5.87	-7.19/-8.58	-10.09/-10.97	-9.08/-6.68	-8.81/-6.38	-5.79/-7.14
Θ(105°)	-8.15/-5.23	-3.41/-1.87	-2.75/-3.51	-2.88/-3.21	-2.55/-1.02	-2.01/-1.93	-3.5/-4.8	-4.07/-6.62	-8.83/-8.55	-9.73/-12.58	-12.73/-11.9	-17.84/-15.46	-9.56/-10.21	-14.55/-13.43	-12.83/-18.31	-19.06/-13.14	-16.01/-13.33	-14.84/-12.07	-10.95/-14.18	-13.41/-11.02	-13.24/-11.6	-8.53/-8.61	-10.82/-9.23	-7.76/-7.81
Θ(112.5°)	-9.12/-5.47	-3.23/-3.46	-5.23/-5.08	-3.56/-4.44	-2.96/-2.07	-3.27/-2.24	-4.14/-5.12	-6.28/-9.78	-8.65/-8.28	-8.83/-14.07	-18.35/-15.54	-13.57/-14.73	-17.31/-12.97	-17.11/-17.49	-16.52/-17.86	-18.33/-12.45	-13.89/-13.47	-15.98/-14.73	-17.39/-13.5	-12.63/-12.46	-11.21/-10.63	-10.11/-10.5	-12.51/-11.03	-11.28/-10.11
Θ(120°)	-7.58/-2.24	-4.68/-5.87	-8/-6.05	-5.85/-5.71	-3.8/-3.83	-4.42/-3.18	-18.85/-18	-6.19/-11.39	-12.3/-10.21	-11.86/-14.66	-15.11/-17.54	-16.71/-15.76	-18.19/-11.55	-16.53/-17.08	-17.99/-17.96	-15.25/-15.21	-14.19/-11.25	-15.17/-14.08	-10.49/-12.07	-11.97/-11.45	-11.92/-12.72	-12.53/-17.22	-18.03/-18.87	-18.73/-11.21
Θ(127.5°)	-6.62/-7.08	-7.63/-9.48	-8/-7.28	-8.17/-7.97	-5.6/-6.78	-6.36/-5.31	-8.27/-6.48	-6.47/-10.21	-10.98/-12.8	-13.56/-18.12	-18.83/-18.5	-18.73/-18.93	-15.11/-12.15	-16.12/-15.99	-18.65/-18.86	-15.52/-18	-15.34/-11.54	-18.17/-14.06	-9.72/-17.84	-15.82/-18.17	-18.53/-14.31	-14.03/-17.14	-19.1/-16.62	-12.18/-8.37
Θ(135°)	-10/-11.58	-11.53/-9.84	-8.53/-10.1	-12.3/-9.91	-9.73/-10.03	-7.13/-7.06	-10.12/-9.35	-8.94/-10.57	-9.51/-8.53	-10.16/-13.91	-17.56/-18.5	-14.15/-14.73	-18.8/-18.1	-18.26/-17.21	-18.74/-18.49	-17.49/-18.51	-14.58/-17.05	-17.93/-18.9	-17.58/-18.43	-19.42/-18.27	-19.1/-18.06	-17.71/-16.22	-14.81/-12.63	-12.49/-9.97
Θ(142.5°)	-10.78/-12.23	-14.49/-14.86	-16.19/-16.95	-14.54/-13.88	-14.85/-14.19	-12.43/-14.32	-15.85/-9.5	-12.91/-19.14	-13.23/-14.8	-12.27/-13.93	-14.58/-16.32	-12.31/-13.22	-12.6/-15.42	-15.09/-15.13	-15/-15.22	-19/-17.22	-17.07/-18.45	-18.61/-14.11	-11.15/-12.37	-14.7/-16.5	-18.37/-16.44	-17.77/-12.89	-12.96/-11.53	-12.21/-11.67
Θ(150°)	-17.14/-16.49	-18.77/-17.53	-161/-38.6	-18.36/-17.66	-19.24/-18.42	-18.82/-18.52	-18.84/-16.55	-13.21/-22.98	-13.66/-16.33	-16.45/-13.81	-16.31/-17.42	-17.77/-15.6	-15.29/-17.2	-17.95/-17.97	-17.01/-15.69	-18.24/-17.45	-14.79/-14.75	-18.05/-17.75	-18.53/-18.66	-18.91/-17.31	-14.22/-16.85	-12.47/-11.9	-12.91/-11.9	-13.92/-18.92
Θ(157.5°)	-18.89/-18.89	-18.68/-18.59	-19.47/-19.25	-18.04/-18.38	-19.12/-18.75	-19.03/-19.45	-18.44/-17.68	-18.07/-18.1	-18.45/-15.79	-13.6/-13.09	-13.66/-16.96	-18.57/-17.68	-18.5/-18.47	-18.3/-16.13	-15.04/-16.35	-17.96/-17.8	-17.54/-17.32	-18.16/-18.77	-18.32/-18.63	-18.49/-18.18	-18.19/-18.05	-18.25/-18.32	-18.77/-19.02	-17.94/-17.76
Θ(165°)	-17.16/-17.4	-17.88/-18.06	-17.42/-18.03	-17.33/-17.98	-17.49/-18.54	-17.54/-13.5	-11.94/-11.85	-13.61/-16.57	-17.54/-15.51	-14.86/-14.78	-16.44/-17.83	-17.35/-18.88	-18.12/-18.79	-18.51/-17.1	-15.83/-16.12	-18.76/-18.87	-18.53/-19	-18.49/-17.57	-18.96/-15.7	-14.44/-15.25	-17.61/-18.55	-17.64/-18.29	-17.89/-18.04	-17.44/-17.99
Θ(172.5°)	-18.6/-18.21	-18.34/-18.06	-18/-18.94	-18.19/-15.92	-13.09/-10.56	-9.04/-9.99	-9.43/-9.93	-11.83/-14.16	-17.71/-18.22	-18.78/-17.42	-18.68/-18.3	-19.29/-18.24	-18.3/-17.68	-17.99/-18.91	-17.78/-19.28	-18.05/-17.49	-18.32/-18.76	-18.06/-17.43	-18.49/-18.15	-18.43/-18.17	-17.6/-14.61	-12.74/-12.09	-11.74/-13.07	-15.26/-17.96
Θ(180°)	-19.18/-18.16	-17.86/-19.25	-18.95/-18.25	-18.21/-17.87	-18.88/-16.22	-14.98/-14.61	-15.28/-16.82	-18.33/-18.47	-18.98/-18.21	-18.07/-18.96	-17.51/-18.12	-18.28/-18.02	-17.98/-19.2	-17.14/-17.92	-18.52/-18.65	-19.1/-17.13	-15.85/-14.82	-13.75/-13.92	-15.58/-18.12	-18.6/-17.25	-15.56/-14.14	-13.42/-12.91	-13.26/-14.87	-16.71/-18.81
Freq(Hz)	5.20Pcd.	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°)	-18.55/-18.42	-17.89/-18.93	-15.58/-13.32	-13.47/-14.68	-16.57/-17.19	-16.38/-14.94	-15.04/-14.8	-15.41/-15.68	-16.54/-17.1	-17.77/-18.61	-18.98/-18.62	-18.92/-17.33	-19.41/-17.96	-17.89/-16.55	-15.75/-15	-14.92/-14.61	-13.84/-12.98	-12.07/-11.71	-12.21/-12.98	-13.84/-16.23	-18.16/-18.76	-18.76/-18.51	-18.91/-18.02	-18.53/-19.05
Θ(7.5°)	-15.59/-14.27	-12.89/-10.25	-8.17/-7.5	-8.51/-10.39	-13.25/-17.13	-18.39/-17.49	-17.65/-14.27	-12.28/-11.3	-11.6/-12.51	-13.32/-14.18	-15.03/-15.95	-16.46/-16.35	-16.54/-18.88	-17.99/-18.55	-18.44/-17.72	-16.73/-17.36	-18.39/-16.56	-13.39/-10.89	-9.88/-9.54	-10.12/-10.52	-13.72/-12.52	-18.18/-17.63	-18.71/-17.57	
Θ(15°)	-15.64/-13.17	-10.01/-7.63	-6.29/-6.94	-9.34/-14.83	-18.22/-18.46	-16.36/-16.62	-18.43/-16.87	-14.13/-11.92	-10.67/-10.31	-10.41/-10.33	-10.91/-12.09	-14.1/-16.26	-18.36/-18.01	-17.59/-16.82	-14.65/-12.23	-10.81/-10.42	-10.96/-12.32	-13.62/-11.93	-9.67/-8.74	-8.2/-7.96	-7.91/-8	-9.07/-11.66	-15.08/-17.74	-18.37/-19.23
Θ(22.5°)	-18.35/-18.94	-16.39/-12.25	-9.52/-8.4	-9.22/-11.73	-16.27/-17.12	-13.75/-12.85	-16.22/-18.84	-17.21/-15.16	-9.72/-9.69	-11.29/-12.47	-12.48/-15.11	-19.13/-17.35	-18.45/-17.64	-18.56/-18.02	-18.19/-11.9	-8.75/-7.6	-7.41/-8.19	-10.23/-11.26	-10.61/-9.32	-8.82/-8.89	-9.2/-9.16	-9.69/-10.55	-12.17/-14.81	-16.97/-17.67
Θ(30°)	-18.31/-17.02	-15.52/-18.13	-18.81/-13.28	-9.58/-8.89	-11.18/-16.99	-14.34/-12.22	-14.96/-17.62	-15.62/-11.65	-9.72/-9.14	-10.38/-14.08	-14.71/-14.62	-17.73/-17.69	-17.59/-17.93	-16.84/-13.03	-11.2/-10.15	-10.07/-11.23	-14.08/-12.66	-14.08/-13.49	-11.39/-11.38	-12.73/-15.71	-18.45/-18.38	-16.43/-18.34	-17.11/-18.17	-17.39/-18.08
Θ(37.5°)	-17.52/-18.12	-13.79/-12.51	-14.73/-19.29	-15.04/-11.08	-10.8/-16.18	-17.72/-12.71	-16.06/-18.05	-12.53/-9.08	-9.27/-10.48	-10.97/-12.12	-11.42/-10.7	-13.33/-16.8	-18.91/-17.66	-14.61/-10.01	-8.8/-9.31	-10.76/-12.16	-15.35/-17.05	-17.85/-17.71	-16.01/-15.07	-17.5/-18.42	-18.27/-14.46	-16.75/-17.94	-17.73/-18.08	-17.19/-18.14
Θ(45°)	-18.61/-16.71	-19.08/-18.79	-15.47/-12.73	-15.47/-16.59	-12.73/-13.82	-12.08/-9.48	-10.46/-13.67	-10.56/-7.84	-8.19/-9.26	-8.14/-7.02	-8.05/-8.92	-10.48/-13.94	-14.07/-16.89	-18.41/-10.86	-9.24/-9.04	-8.75/-9.68	-14.84/-16.35	-14.9/-17.36	-17.53/-18.98	-18.23/-17.42	-12.86/-11.05	-12.11/-17.51	-18.99/-16.46	-17.56/-19.05
Θ(52.5°)	-17.18/-13.37	-14.89/-16.03	-17.04/-13.93	-11.06/-13.78	-17.75/-18.14	-15.18/-11.89	-10.91/-14.2	-9.73/-14.1	-11.82/-7.42	-8.89/-5.07	-10.68/-12.97	-17.17/-18.74	-16.59/-18.43	-18.62/-14.86	-14.11/-12.05	-8.97/-7.53	-13.44/-17.57	-14.48/-17.33	-17.45/-18.74	-17.76/-16.7	-12.58/-10.65	-12.45/-18.51	-19.02/-14.15	-19.09/-17.35
Θ(60°)	-18.19/-13.6	-11.31/-11.23	-15.93/-18.78	-11.15/-10.73	-13.12/-18.01	-19/-16.42	-13.76/-14.61	-9.23/-7.38	-13.09/-9.73	-5.18/-7.73	-13.05/-17.95	-16.34/-17.86	-17.32/-18.91	-17.86/-16.83	-16.1/-16	-9.96/-9.92	-14.16/-17.71	-13.54/-15.64	-15.61/-17.83	-17.96/-14.96	-18.23/-14.17	-14.37/-18	-17.37/-15.26	-18.03/-17.52
Θ(67.5°)	-18.41/-17.85	-14.57/-13.24	-12.12/-13.6	-12.69/-12.02	-11.43/-16.9	-17.92/-																		



Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5.48	5.28	5.85	4.31
Ant. 2 Max Gain (dBi)	2.82	2.9	2.64	2.43
Ant. 1 Polarization/Θ(°)/Φ(°)	Theta/75/67.5	Theta/52.5/97.5	Theta/52.5/97.5	Theta/52.5/105
Ant. 2 Polarization/Θ(°)/Φ(°)	Theta/75/292.5	Theta/67.5/127.5	Theta/82.5/270	Theta/90/285
Max Gain (dBi)	5.48	5.28	5.85	4.31
DG [1SS] (dBi)	5.58	5.33	5.93	5.02
DG [2SS] (dBi)	5.48	5.28	5.85	4.31

DG 1SS Result

Freq(Hz)	6.175GPol.	PhiL	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°)
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(7.5°)	-1.96-2.51	-2.93-3.24	-3.93-5.09	-5.79-7	-8.06-7.78	-6.45-5.71	-5.56-5.72	-3.3-2.51	-3.06-3.34	-2.61-2.59	-2.46-1.87	-1.52-2.05	-2.7-3.42	-3.91-2.26	-2.02-3.82	-7.96-10.86	-9.47-7.63	-7.56-8.82	-6.69-8.07	-6.81-6.76	-7.21-8.02	-8.65-9.01	-1.09-1.16	-1.46-2
Θ(15°)	-0.54-0.69	-1.47-2.28	-3.01-3.84	-5.19-6.96	-9-11.87	-12.33-12.04	-11.22-8.72	-6.85-4.88	-3.63-3.68	-3.09-2.68	-2.67-2.75	-3.01-3.9	-5.14-6.71	-7.53-7.82	-7.92-7.38	-7.08-7.47	-7.95-7.88	-7.73-7.35	-6.38-6.11	-5.88-4.93	-4.51-3.5	-2.66-1.74	-1.35-1.23	-0.43-0.17
Θ(15°)	-1.97-1.56	-1.91-2.45	-3.34-3.52	-3.93-5.06	-6.25-7.46	-6.94-7.16	-7.13-7.46	-7.59-7.44	-6.3-5.55	-5.47-6.32	-6.92-5.38	-4.33-5.04	-5.86-7.02	-7.6-8.44	-5.05-5.63	-6.31-6.75	-7.41-7.87	-9.35-10.57	-9.06-6.34	-5.36-4.61	-3.91-3.77	-5.42-6.31	-6.39-6.36	-4.4-2.51
Θ(22.5°)	-0.07-5.17	-5.09-7.01	-6.76-5.64	-6.63-10.47	-14.16-15.17	-15.49-13.98	-10.61-8.44	-6.73-4.57	-3.86-4.79	-10.75-6.06	-2.32-1.63	-2.7-4.88	-3.91-2.26	-2.02-3.82	-7.96-10.86	-9.47-7.63	-7.56-8.82	-6.69-8.07	-6.81-6.76	-7.21-8.02	-8.65-9.01	-1.09-1.16	-1.46-2	
Θ(30°)	-14.46-6.09	-6.39-11.37	-7.13-6.03	-8.28-10.18	-10.66-8.46	-7.13-7.88	-9.21-9.61	-10.37-9.3	-8.62-9.68	-13.3-15.5	-13.32-8.36	-2.95-1.32	-1.68-3.83	-3.46-3.38	-3.83-4.88	-5.32-5.99	-6.11-6.31	-8.81-12.37	-11.22-11.48	-14.15-15.3	-11.59-5.95	-4.41-9.53	-15.27-10.86	-10.06-15.14
Θ(37.5°)	-15.24-6.44	-6.42-11.37	-6.59-7.18	-13.57-8.12	-6.61-6.96	-6.05-5.72	-6.3-7.82	-7.83-7.41	-10.21-10.64	-10.17-14.24	-8.06-6.57	-6.36-4.16	-3.31-3.53	-3.84-7.47	-4.54-6.07	-5.43-6.03	-8-7.87	-9.44-15.99	-9.94-5.47	-6.41-8.39	-9.05-7.65	-6.14-7.91	-15.47-8.37	-5.45-8.02
Θ(45°)	-10.11-8.91	-8.37-11.63	-4.81-6.78	-6.89-3.69	-6.24-8.19	-11.71-10.22	-11.71-9.64	-8.04-9.2	-10.75-12.11	-9.06-10.51	-6.6-4.05	-8.64-6.15	-4.45-4.71	-5.96-5.07	-7.35-7.91	-9.28-11.25	-14.43-9.54	-7.36-7.44	-11.16-8.05	-6.07-4.8	-6.71-6.83	-10.28-10.29	-10.54-15	-6.72-4.7
Θ(52.5°)	-8.42-10.43	-11.03-11.96	-4.59-6.31	-4.33-4.87	-7.89-5.82	-11-13.27	-9.84-8.46	-9.76-11.2	-9.22-10.82	-11.36-12.35	-5.07-5.73	-8.19-6.8	-5.55-4.89	-10.01-6.25	-6.3-6.87	-14.74-12.21	-10.62-8.74	-7.35-5.93	-8.73-14.66	-8.23-6.2	-7.19-4.96	-6.97-12.38	-8.72-13.93	-10.9-6.17
Θ(60°)	-8.01-7.98	-9.74-15.81	-10.06-7.69	-7.71-6.25	-6.17-4.26	-6.4-10.39	-7.35-6.74	-12.01-11.44	-12.17-10.54	-8.52-11.31	-7.73-8.27	-7.73-8.82	-11.16-5.75	-9.92-7.37	-7.1-7.87	-12.8-11.71	-12.04-9.32	-6.81-6.49	-8.22-9.48	-10.8-9.79	-10.28-9.88	-5.22-9.22	-14.32-11.11	-15.58-9.56
Θ(67.5°)	-11.69-9.91	-8.03-11.96	-12-8.46	-11.08-6.99	-5.83-5.46	-8.55-10.44	-8.5-7.69	-11.61-11.06	-10.67-11.1	-8.11-9.08	-3.97-6.3	-8.6-7.11	-8.42-6.56	-7.35-7.37	-7.35-10.94	-10.72-11.8	-7.75-12.4	-7.71-6.4	-15.35-7.72	-9.5-7.47	-3.98-7.9	-14.97-10.52	-13.63-9.49	
Θ(75°)	-9.89-9.48	-7.11-10.62	-12.05-10.56	-14.76-7.47	-7.67-8.67	-11.13-8.96	-9.77-9.07	-10.67-10.66	-11.35-10.03	-8.14-6.8	-3.01-6.52	-8.37-6.11	-9.29-9.16	-7.36-7.21	-7.16-10.68	-8.5-15.66	-14.52-11.7	-6.38-11.19	-5.72-6.44	-10.42-9.78	-10.64-6.12	-2.16-7.83	-14.84-16.14	-15.21-9.9
Θ(82.5°)	-8.73-7.22	-5.36-7.34	-11.66-9.46	-14.77-10.74	-11.15-7.17	-14.68-10.18	-12.32-9.52	-9.45-9.37	-10.99-9.82	-9.6-6.81	-4.08-6.8	-5.03-5.71	-7.47-9.53	-7.17-9.05	-9.97-9.19	-8.44-11.95	-11.46-11.51	-5.64-8.83	-5.4-6.4	-9.27-11.38	-11.96-5.89	-2.65-7.73	-13.3-9.22	-10.4-8.94
Θ(90°)	-8.26-6.58	-7.37-7.88	-7.99-10.02	-13.16-11.85	-15.25-12.7	-13.7-12.33	-11.95-6.99	-8.74-11	-13.61-8.65	-10.51-8.88	-5.35-8.08	-4.71-7.87	-6.21-9.73	-8.99-9.51	-9.67-12.54	-9.76-12.65	-12.43-13.79	-6.07-11.73	-5.49-5.78	-12.78-11.74	-12.23-5.23	-4.68-9.77	-12.85-7.12	-11.94-7.72
Θ(97.5°)	-8.91-5.38	-9.35-7.57	-6.35-8.08	-13.68-10.24	-14.7-14.21	-11.53-14.81	-9.66-6.09	-6.75-13.63	-14.65-9.37	-10.68-7.55	-6.23-7.78	-4.91-7.14	-6.63-9.16	-8.23-11.93	-12.17-11.58	-8.24-11.46	-11.47-15.55	-9.07-11.58	-8.91-8.41	-12.43-13.89	-9.27-6.9	-6.47-9.13	-10.95-6.86	-9.89-6.94
Θ(105°)	-6.08-5.55	-7.22-6.62	-6.77-7.02	-11.7-12.42	-13.89-13.85	-9.68-13.86	-9.66-7.13	-9.31-13.1	-12.21-8.83	-11.42-5.12	-5.45-5.44	-5.05-10.2	-10.2-9.06	-9.92-13.41	-14.47-13.69	-8.95-11.62	-14.26-14.54	-9.58-7.97	-14.74-14.92	-10.29-6.16	-10.13-9.48	-9.22-7.68	-9.53-7.89	
Θ(112.5°)	-10.17-10.52	-6.88-7.44	-6.81-7.93	-8.85-12.05	-12.53-15.67	-11.83-8.43	-8.72-10.44	-9.48-9.87	-12.14-11.72	-7.79-5.34	-5.79-5.35	-7.1-12.34	-10.68-8.02	-10.17-14.19	-12.21-11.26	-5.73-11.9	-10.96-14.88	-13.97-14.57	-10.65-6.82	-11.54-13.36	-8.18-6.44	-6.19-11.05	-11.83-6.83	-8.79-9.31
Θ(120°)	-11.19-8.27	-12.23-6.83	-3.95-8.47	-7.35-10.16	-12.82-15.11	-15.26-9.98	-10.41-14.37	-10.59-7.93	-11.26-14.66	-11.6-11.04	-7.41-6.22	-5.59-11.44	-7.15-6.68	-10.41-11.24	-11.75-13.34	-8.97-11.4	-8-10.89	-14.97-11.22	-10.89-11.35	-9.95-15.17	-12.44-7.5	-7.16-10.4	-10.71-9.44	-4.74-5.89
Θ(127.5°)	-8.57-6.63	-10.32-9.58	-10.11-6.53	-7.49-11.75	-12.05-11.25	-10.67-11.55	-15.31-1.59	-10.17-9.29	-12.55-13.59	-14.42-11.59	-9.77-6.69	-8.68-13.01	-9.54-6.15	-11.34-14.51	-9.56-8.35	-5.38-11.97	-9.92-12.24	-13.04-12.14	-12.56-13.29	-13.17-13.6	-14.85-11.45	-8.73-9.58	-10.71-7.98	-6.66-8.73
Θ(135°)	-13.27-10.69	-9.49-9.46	-13.81-8.57	-7.97-8.44	-12.03-15.13	-15.07-11.14	-10.77-13.57	-12.86-12.94	-7.9-13.7	-11.97-15.07	-13.67-9.12	-7.12-9.93	-9.08-5.72	-6.53-9.02	-9.62-7.73	-7.07-11.36	-15.01-12.46	-13.26-13.78	-15.49-11.05	-12.75-10.75	-11.97-8	-8.33-10.47	-9.87-11.31	-10.15-8.8
Θ(142.5°)	-11.33-7.62	-12.93-14.38	-12.16-10.82	-14.11-11.57	-14.44-14.21	-12.32-9.26	-9.65-15.17	-14.6-13.61	-10.47-14.24	-8.07-7.26	-14.03-11.53	-11.61-10.95	-10.75-10.48	-8.1-9.25	-9.46-11.56	-10.73-10.01	-12.94-14.62	-14.1-13.17	-15.96-11.37	-15.96-11.85	-12.14-11.76	-13.19-9.03	-13.44-9.29	-4.52-9.59
Θ(150°)	-8.85-6.93	-10.15-10.65	-9.31-10.4	-14.65-15.27	-15.35-13	-13.93-14.56	-14.96-15.32	-13.28-12.94	-12.18-14.09	-13.66-13.25	-13.76-12.91	-10.32-13.31	-8.16-8.72	-9.5-7.32	-10.57-14.04	-14.44-15.17	-15.32-14.07	-11.85-15.37	-15.64-15.11	-14.91-14.53	-15.14-10.83	-9.86-13.04	-13.04-10.62	-9.75-15.2
Θ(157.5°)	-9.67-6.35	-8.51-10.95	-15.03-13.78	-12.62-12.81	-16.3-15.06	-13.03-9.45	-9.08-11.15	-12.85-14.67	-15.64-14.54	-11.52-9.44	-12.15-11.11	-9.59-8.4	-7.38-6.76	-8.23-9.48	-10.99-15.76	-14.74-12.59	-14.33-15.86	-14.38-14.26	-11.91-11.46	-12.38-14.81	-16.5-13.8	-15.63-15.15	-13.57-11.38	-9.37-11.77
Θ(165°)	-12.78-12.61	-12.9-12.81	-12.71-11.72	-12.14-15	-15.09-15.74	-15.31-15.17	-15.29-15.85	-13.1-10.92	-9.74-10.14	-11.41-12.28	-13.2-14.6	-13.05-12.09	-11.42-9.59	-9.71-10.98	-13.52-15.35	-12.47-13.6	-13.33-11.19	-11.5-12.96	-14.08-13.86	-13.88-14.53	-15.53-10.61	-7.44-7.62	-6.9-9.49	
Θ(172.5°)	-11.82-12.15	-12.28-13.01	-14.62-14.73	-13.32-14.68	-15.79-14.94	-14.86-15.04	-15.61-12.81	-11.16-9.7	-10.24-10.12	-9.26-9.56	-10.67-11.29	-12.85-15.05	-13.44-12.11	-10.37-9.84	-9.99-9.95	-10.26-10.84	-10.56-11.76	-12.47-13.4	-13.78-15.47	-15.73-13.58	-12.54-10.72	-8.18-6.9	-7.21-8.25	-8.64-10.5
Θ(180°)	-14.27-15.12	-15.24-14.78	-14.97-14.49	-14.2-14.32	-15.29-15.8	-15.11-15.1	-14.82-13.55	-13.11-12.83	-12.82-12.22	-10.6-9.28	-9-8.82	-8.66-9.31	-9.09-9.37	-9.58-9.67	-10.04-10.25	-10.25-10.08	-10.35-11.87	-12.92-14.04	-15.23-14.77	-15.28-13.82	-13.71-14.1	-13.27-13.41	-15.27-15.94	-14.67-14.57
Freq(Hz)	6.175GPol.	ThetaL	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°)	-5.19-4.2	-3.14-2.94	-2.43-2.06	-2.12-2.15	-2.11-1.99	-2.28-2.73	-3.14-3.26	-3.84-5.08	-5.46-5.79	-7.51-8.96	-9.09-8.56	-7.39-6.72	-5.68-4.85	-4.04-3.18	-2.61-2.46	-2.18-1.84	-1.63-1.58	-1.85-1.82	-2.36-2.68	-3.17-4.09	-4.82-5.87	-7.1-8.07	-8.24-7.77	-6.97-6.01
Θ(7.5°)	-6.66-5.31	-4.29-3.82	-2.95-2.45	-2.04-1.45	-0.92-0.32	-0.34-0.57	-0.76-1.02	-1.36-2.42	-3.22-3.37	-4.66-5.72	-6.55-7.75	-7.27-6.43	-6-5.55	-4.94-4.94	-5.09-4.9	-5.29-5.99	-5.85-5.57	-5.11-5.02	-4.98-5.25	-4.89-5.03	-4.97-4.34	-4.94-5.63	-6.11-7.67	-8.66-8.03
Θ(15°)	-2.78-2.69	-2.37-2.4	-2.54-2.92	-3.16-2.54	-2.15-2.21	-1.86-1.39	-1.24-1.8	-2.46-2.65	-4.29-6.33	-8.68-7.98	-6.1-6.5	-6.64-7.28	-8.22-9.34	-10.85-10.83	-10.57-9.87	-9.64-10.02	-10.46-8.62	-7.16-6.34	-5.52-5.64	-5.84-5.38	-5.57-5.22	-6.42-5.32	-4.48-4.18	-3.45-3.1
Θ(22.5°)	-1.74-1.2	-1.14-1.68	-2.93-2.75	-0.65-1.02	1.51-1.39	0.68-0.1	-0.9-1.58	-1.81-2.16	-2.37-2.77	-4.08-5.62	-6.14-6.08	-5.26-3.99	-3.75-4.58	-5.65-7.49	-9.26-11.4	-9.78-8.55	-7.37-6.04	-4.55-3.68	-3.4-3.86	-4.14-4.03	-2.9-1.63	-0.5-0.08	-3.4-2.82	
Θ(30°)	-0.39-0.08	-0.48-1.54	-4.3-3.25	-0.99-0.64	-1.48-2.45	-2.44-1.34	0.41-1.2	2.17-0.98	0.2-0.95	-2.23-2.73	-2.31-1.27	-1.54-1.92	-3.84-5.28	-3.85-4.44	-8.87-9.58	-12.21-8.81	-5.84-7.59	-8.35-8.25	-7.48-5.42	-3.				



Radiated Composite Gain Data of 6GHz

Appendix C

Θ(22.5°)	-6.82/-6.93	-6.09/-4.31	-4/-6.05	-8.22/-9.02	-7.54/-7.88	-9.42/-12.23	-14.6/-11.59	-8.96/-8.78	-7.51/-7.3	-8.49/-9.74	-7.88/-7.11	-6.73/-7.79	-4.6/-3.43	-4.57/-6.91	-4.17/-2.77	-3.61/-5.95	-11.79/-15.36	-13.33/-13.51	-13.82/-9.9	-8.38/-9.21	-10.87/-11.71	-11.3/-10.03	-8.21/-6.34	-7.22/-7.01
Θ(30°)	-7.05/-11	-9.57/-6.04	-5.17/-6.37	-8.54/-8.29	-9.38/-9.87	-8.37/-8.25	-11.31/-12.74	-7.71/-5.06	-5.45/-7.3	-7.27/-8.52	-9.46/-8.17	-5.47/-4.97	-6.03/-5.33	-3.55/-2.57	-3.09/-3.45	-5.18/-7.72	-12.01/-15.67	-10.2/-8.42	-11.49/-12.83	-12.82/-12.55	-10.67/-8.63	-11.88/-15.03	-11.14/-9.62	-10.28/-17.7
Θ(37.5°)	-6.04/-11.43	-7.57/-4.22	-5.52/-6.14	-7.33/-10.3	-12.97/-13	-7.74/-5.56	-6.81/-8.44	-10.71/-8.62	-6.48/-6.72	-8.56/-7.93	-7.42/-12.14	-10.31/-7.14	-5.15/-5.95	-3.58/-1.69	-2.77/-6.09	-7.61/-7.83	-9.11/-8.59	-7.37/-8.59	-6.79/-7.52	-11.02/-15.26	-10.67/-6.05	-8.94/-13.97	-11.76/-12.83	-11.53/-6.14
Θ(45°)	-8.2/-12.58	-9.81/-7.3	-7.4/-6.35	-5.79/-5.82	-7.1/-10.33	-10.46/-1.14	-9.13/-8.03	-5.81/-8.29	-14.94/-14.89	-10.27/-9.34	-4.05/-6.64	-8.6/-12.24	-7.92/-7.12	-6.85/-2.52	-3.54/-6.47	-6.85/-8.14	-6.92/-7.8	-10.67/-10.79	-9.15/-7.86	-8.37/-10.17	-11.72/-11.11	-15.74/-15.55	-12.33/-13.45	-15.23/-10.2
Θ(52.5°)	-11.38/-10.49	-9.1/-10.75	-6.96/-9.21	-3.32/-4.61	-5.96/-9.91	-12.17/-8.89	-12.53/-11.41	-3.55/-5.57	-12.35/-12.37	-8.22/-10.68	-5.2/-3.79	-10.16/-15.29	-9.91/-10.02	-9.44/-4.57	-5.03/-7.72	-9.52/-13.04	-9.9/-9.78	-14.16/-7.54	-10.77/-12.59	-10.72/-10.56	-9.59/-12.33	-11.99/-10.96	-14.22/-14.3	-11.42/-10.78
Θ(60°)	-11.18/-11.28	-12.16/-11.51	-5.08/-9.08	-5.84/-7.38	-7.44/-6.47	-12.48/-8.36	-10/-15.05	-3.81/-5.09	-6.22/-8.27	-7.37/-11.14	-8.51/-10.04	-11.36/-10.98	-14.24/-14.87	-11.23/-7.43	-5.37/-6.02	-7.44/-12.07	-13.69/-12.47	-11.42/-9.08	-10.35/-14.17	-11.61/-10.32	-12.63/-13.09	-7.36/-9.48	-13.29/-12.44	-12.22/-12.25
Θ(67.5°)	-13.92/-13.54	-12.72/-10.74	-7.53/-9.94	-12.03/-8.55	-5.76/-7.15	-8.55/-7.27	-6.98/-12.1	-6.42/-4.64	-4.35/-6.05	-8.35/-10.05	-9.5/-9.29	-11.56/-14.05	-13.9/-15.46	-10.56/-7.58	-5.14/-4.33	-7.04/-12.36	-14.83/-12.15	-10.99/-10.45	-10.65/-12.34	-8.84/-11.03	-15.9/-9.75	-5.7/-9.99	-15.1/-13.4	-10.8/-15.63
Θ(75°)	-13.87/-13.24	-13.97/-11.81	-8.35/-9.5	-12.68/-8.64	-8.96/-11.37	-8.42/-8.01	-8.08/-8.69	-8.05/-6.27	-3.97/-7.42	-12.77/-13.98	-10.91/-10.45	-10.36/-8.55	-13.36/-9.85	-10.78/-8.05	-6.48/-3.38	-6.97/-8.09	-14.71/-10.97	-10.53/-11.48	-9.14/-9.71	-10.22/-10.65	-13.73/-7.84	-3.95/-10.57	-11.91/-12.75	-7.85/-13.21
Θ(82.5°)	-9.39/-10.75	-13.7/-12.21	-9.06/-10.47	-12.76/-9.39	-11.69/-12.52	-7.28/-9.21	-12.06/-12.41	-7.24/-8.28	-7.51/-7.6	-15.47/-15.41	-12.24/-10.55	-9.75/-9.69	-10.5/-7.19	-11.41/-8.89	-7.51/-5.74	-8.85/-8.77	-15.36/-11.09	-10.18/-10.91	-9.94/-7.63	-9.84/-12.5	-11.3/-6.9	-4.09/-11.22	-10.71/-12.15	-9.22/-9.08
Θ(90°)	-5.27/-8.86	-13.29/-11.25	9.74/-10.93	-11.07/-11.15	-15.16/-12.66	-10.41/-10.48	-12.63/-12.8	-7.17/-10.01	-11.73/-7.59	-13.77/-15.55	-11.89/-11.67	-7.52/-10.27	-9.13/-6.87	-10.99/-10.66	-9.88/-6.77	-10.42/-9.6	-15.39/-10.62	-13.16/-12.24	-11.35/-9.18	-12.64/-12.74	-11.2/-8.59	-5.22/-13.56	9.6/-10.33	-9.39/-7.85
Θ(97.5°)	-6.22/-7.56	-12.36/-8.1	-9.78/-10.65	-13.63/-12.99	-12.66/-12.05	-11.51/-11.74	-15.65/-11.76	-6.83/-13.16	-12.31/-7.19	-9.81/-12.36	-13.63/-8.79	-7.76/-8.79	-7.59/-6.1	-7.75/-10.69	-10.92/-7.6	-14.12/-8.45	-14.58/-13.28	-15.99/-13.97	-11.86/-11.23	-12.19/-15.52	-11.71/-11.52	-7.79/-14.43	-8.15/-8.15	-8.54/-6.66
Θ(105°)	-7.85/-7.25	-8.18/-5.18	-9.9/-7.96	-15.57/-12.69	-11.23/-10.99	-10.49/-15.14	-15.18/-10.39	-6.88/-13.05	-12.73/-6.72	-14.53/-8.93	-9.11/-9.72	-8.67/-6.68	-8.32/-10.78	-11.77/-7.76	-14.02/-8.19	-11.77/-7.76	-15.51/-11.75	-15.36/-14.97	-10.28/-15.02	-15.85/-11.69	-14.86/-11.29	-10.12/-15.23	-9.71/-8.07	-7.6/-6.74
Θ(112.5°)	-7.61/-8.2	-8.04/-4.63	-8.91/-9.37	-13.76/-13.55	-9.78/-10.89	-8.82/-14.39	-13.31/-8.77	-9.83/-14.44	-12.54/-9.9	-9.95/-9.79	-12.56/-9.83	-9.73/-10.84	-11.8/3.1	-8.12/-10.87	-14.53/-7.99	-15.03/-8.9	-15.39/-11.7	-15.55/-13.93	-9.45/-11.23	-15.38/-13.09	-14.73/-9.58	-7.75/-13.76	-11.4/-7.97	-7.2/-8.39
Θ(120°)	-7.74/-7.99	-6.04/-8.82	-8.29/-8.77	-10.18/-14.17	-14.64/-15.3	-10.45/-15.65	-14.25/-7.11	-13.43/-14.18	-10.3/-9.66	-11.56/-11.52	-8.95/-7.81	-8.42/-11.24	-10.67/-6.71	-7.3/-13.25	-13.23/-8.83	-13.9/-9.41	-12.92/-10.24	-12.17/-13.11	-9.4/-12.6	-13.42/-13.94	-14.12/-15.24	-11.4/-12.56	-11.7/-1.2	-9.23/-7.57
Θ(127.5°)	-9.18/-7.02	-9.94/-10.4	-9.43/-10.7	-9.33/-14.48	-14.75/-14.47	-14.14/-14.12	-12.14/-8.55	-16.31/-10.43	-13.17/-13.47	-12.61/-12.08	-8.16/-8.5	-8.05/-11.31	-8.94/-9.24	-7.2/-12.67	-11.07/-7.99	-10.69/-7	-11.95/-8.41	-13.01/-15.85	-14.64/-15.68	-15.32/-15.83	-12.92/-11.59	-8.17/-8.91	-13.09/-7.75	-9.41/-10.68
Θ(135°)	-10.41/-12.49	-11.53/-11.84	-11.38/-14.25	-11.24/-10.68	-11.15/-15.31	-12.59/-8.53	-12.04/-10.57	-14.47/-10.76	-12.23/-15.34	-11.31/-12.9	-8.08/-8.01	-9.09/-9.86	-8.54/-9.7	-10.07/-10.42	-8.3/-8.81	-13.44/-12.8	-11.22/-7.96	-13.34/-15.83	-15.15/-11.29	-14.23/-11.66	-12.73/-8.7	-13.52/-12.62	-13.06/-7.99	-14.82/-12.3
Θ(142.5°)	-12.24/-15.83	-14.76/-15.57	-11.18/-11.09	-13.08/-12.28	-13.61/-13.53	-7.73/-10.15	-14.6/-10.92	-13.3/-13.31	-12.67/-10.68	-15.36/-15.28	-8.52/-7.72	-12.74/-9.76	-8.4/-8.66	-13.53/-11.26	-9.02/-10.57	-14.54/-11.37	-11.36/-15.17	-14.19/-14.62	-15.37/-13.32	-12.88/-11.43	-12.76/-8.46	-13.44/-13.9	-11.47/-12.6	-11.81/-3.7
Θ(150°)	-12.94/-14.34	-13.67/-13.17	-13.22/-11.87	-15.18/-15.85	-11.96/-13.28	-12.34/-15.22	-15.48/-15.63	-13.43/-15.78	-12.08/-7.58	-11.33/-15.68	-7.34/-9.27	-11.83/-11.75	-8.94/-9.24	-7.2/-12.67	-14.71/-15.93	-15.39/-14.78	-13.09/-14.74	-12.67/-14.17	-13.55/-14.5	-15.23/-14.54	-15.26/-14.3	-11.60/-25.1	-9.62/-11.76	-15.41/-11.3
Θ(157.5°)	-10.75/-12.34	-12.35/-10.71	-14.42/-15.64	-14.96/-15.32	-15.79/-14.04	-12.12/-14.3	-14.85/-13.46	-13.98/-14	-10.87/-10.61	-10.62/-14.93	-12.44/-12.46	-12.95/-12.33	-10.25/-6.14	-6.62/-4.63	-11.35/-11.86	-12.56/-15.32	-16.09/-12.36	-11.8/-15.59	-13.64/-14.64	-13.21/-13.6	-13.66/-13.62	-14.95/-15.11	-15.37/-14.42	-8.19/-8.66
Θ(165°)	-12.94/-12.92	-12.98/-13.04	-13.65/-14.88	-15.15/-14.69	-14.21/-14.42	-15.02/-15.4	-16.03/-14.52	-12.16/-11.74	-13.35/-15.61	-15.83/-11.97	-9.07/-8.47	-8.45/-7.9	-8.11/-10.01	-10.51/-11.29	-11.57/-10.72	-10.62/-13.19	-14.66/-13.28	-14.76/-12.62	-14.23/-15.57	-14.14/-15.28	-12.51/-13.44	-12.79/-11.36	-9.73/-9.11	-9.68/-10.92
Θ(172.5°)	-7.39/-8.14	-7.95/-7.85	-9.45/-9.8	-10.66/-13.03	-13.61/-15.96	-14.79/-14.21	-15.65/-13.99	-12.16/-12.1	-13.68/-14.38	-14.88/-15.29	-14.95/-14.85	-13.9/-12.09	-11.96/-12.13	-11.93/-11.29	-10.15/-9.85	-8.84/-8.11	-8.97/-10.75	-12.69/-12.59	-15.97/-14.32	-15.08/-15.61	-12.27/-11.61	-10.12/-9.84	-11.56/-9.84	-9.27/-8.62
Θ(180°)	-12.89/-10.91	-11.29/-11.07	-11.13/-11.71	-12.12/-11.7	-12.8/-13.87	-15.29/-15.27	-15.39/-15.13	-16.02/-15.93	-14.31/-12.93	-12.04/-10.35	-9.44/-9.45	-2.59/-8.65	-8.44/-8.24	-8.6/-8.65	-8.78/-8.92	-8.5/-9.38	-10.48/-12.45	-14.78/-15.26	-15.8/-15.43	-15.01/-14.91	-13.9/-12.87	-12/-10.44	-9.21/-9.53	-10.06/-11.41
Freq(Hz)	6.695GPol.	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°)	-6.01/-6.06	-5.57/-5.6	-5.59/-4.88	-4.72/-4.66	-3.66/-3.47	-3.37/-2.57	-2.64/-2.99	-3.8/-3.51	-3.81/-4.87	-5.35/-6.13	-7.96/-9.94	-10.83/-11.95	-10.98/-9.25	-8.26/-7.47	-6.24/-5.49	-5.72/-4.72	-3.55/-2.58	-2.2/-2.07	-2.37/-2.41	-2.2/-2.05	-2.63/-3.7	-4.81/-5.89	-5.85/-6.42	-7.6/-6.6
Θ(7.5°)	-12.6/-10.17	-8.2/-6.74	-5.71/-6.49	-4.42/-3.54	-2.86/-2.77	-2.29/-1.81	-1.83/-2	-2.29/-3.28	-2.54/-2.93	-3.45/-4.42	-5.18/-5.3	-4.77/-3.46	-3.85/-3.38	-2.89/-2.82	-2.82/-3.07	-3.41/-3.4	-3.62/-3.9	-3.74/-3.74	-4.26/-4.94	-5.24/-5.09	-5.33/-5.51	-6.76/-7.82	-10.25/-12	-13.06/-13.24
Θ(15°)	-8.62/-7.11	-5/-4.04	-3.23/-3.27	-3.15/-2.9	-2.93/-2.45	-2.06/-2.45	-2.39/-3.95	-5.03/-5.05	-4.69/-5.12	-6.66/-8.59	-8.64/-8.06	-7.12/-5.64	-3.87/-2.75	-2.74/-3.53	-3.95/-3.99	-3.6/-3.2	-3.29/-9.6	-3.93/-3.99	-3.86/-3.14	-3.41/-2.96	-2.18/-2.87	-4.15/-4.91	-7.1/-8.76	
Θ(22.5°)	-4.79/-4.15	-3.68/-3.54	-2.97/-1.92	-0.97/-0.92	-0.41/-0.05	-0.15/-0.72	-1.19/-1.18	-0.76/-1.66	-3.36/-4.75	-6/-5.75	-5.86/-7.36	-7.09/-5.49	-5.27/-5.48	-4.74/-3.6	-3.08/-5	-5.74/-5.61	-6.78/-8.26	-7.33/-5.92	-4.96/-3.08	-2.59/-2.67	-2.33/-2.48	-3.44/-3.66	-3.82/-4.4	
Θ(30°)	-1.82/-1.58	-4.41/-6.62	-3.62/-0.73	-0.47/-0.14	0.790/9.1	0.62/-0.14	-1.26/-2.01	-1.45/-0.5	-0.17/-0.88	-1.38/-2.2	-3.61/-7.93	-9.74/-3.87	-1.8/-1.95	-3.39/-1.87	0.370/1	-0.24/-0.28	0.05/-1.4	-3.16/-3.41	-2.39/-2.14	-3.23/-4.2	-2.51/-1.17	-1.25/-0.97	0.090/43	-0.42/-1.6
Θ(37.5°)	-3.01/-3.54	-4.18/-6.09	-3.39/-1.99	-3.83/-0.29	1.65/1.88	1.75/1.38	0.57/0.14	0.42/1.86	3.24/2.38	0.07/0.05	-1.71/-4.3	-5.18/-3.15	0.240/-4.6	0.050/-2.4	0.791/4.2	1.21/1.17	-0.59/-2.59	-3.98/-4.6	-6.2/-5.15	-2.14/-1.45	-1.160/-25	0.66/-0.07	-0.13/29	1.48/-0.22
Θ(45°)	-3.31/-6.22	-4.44/-7.49	-3.42/-2.26	-5.420/-27	1.913/25	3.680/31	3.123/37	2.242/34	3.783/97	1.771/59	0.77/-1.91	-0.250/0.9	0.110/65	-0.381/-25	1.571/25	1.691/4	0.9/-0.28	-1.73/-4.62	-5.98/-4.35	-0.571/0.8	1.41/82	2.572/74	1.782/19	2.310/58
Θ(52.5°)	-3.87/-5.14	-2.96/-7.73	-1.93/-2.99	-6.01/-1.13	-0.271/-7.8	3.42/53	3.96/9.93	4.84/3.3	4.094/65	2.130/87	0.63/-0.99	2/177	0.65/-52	0.871/0.3	1.130/2	0.632/5	2.71/36	-0.3/-1.25	-2.07/-1.23	0.281/05	0.9/0.6	0.421/92	2.642/13	1.85/-0.71
Θ(60°)	-6.15/-4.96	-4.02/-4.76	-0.83/-1.91	-3.92/-0.07	-0.52/-1.91	2.70/23	1.933/97	2.821/68	3.184/0.2	3.131/72	1.688/-0.21	0.861/54	-0.11/0.3	1.550/-58	0.68/-0.41	0.32/235	2.60/73	0/-1.11	-3.31/-1.46	-0.64/-0.15	1.181/59	2.251/72	2.92/-0.05	-0.61/-3.53
Θ(67.5°)	-6.54/-4.52	-3.97/-3.72	-1.660/85	-1.261/92	0.053/72	3.082/65	3.132/15	1.622/37	3.034/63	3.682/48	2.230/3	0.99/-0.53	0.370/4	1.42/-0.07	-0.36/-0.58	2.13/232	3.232/17	1.81/-0.82	-1.690/84	-0.18/-1.1	1.342/6	2.452/24	3.31/-0.87	-2.61/-6.83
Θ(75°)	-6.2																							

Gain Result

[illegible]



Radiated Composite Gain Data of 6GHz

Appendix C

Θ(22°)	-11.03/-8.63	-4.99/-3.16	-3.25/-5.24	-7.52/-8.28	-8.33/-9.63	-13.03/-17.51	-17.75/-16.08	-15.76/-17.53	-11.31/-8.74	-8.47/-9.22	-7.14/-6.08	-8.03/-17.58	-9.84/-6.43	-8.48/-16.02	-7.96/-3.95	-3.54/-5.01	-12.1/-18.63	-14.87/-15.4	-15.15/-13.52	-11.62/-11.45	-12.54/-13.47	-13.31/-14.37	-12.78/-8.79	-9.22/-10.9
Θ(30°)	-8.67/-14.58	-9.22/-8	-8.23/-8.73	-10.39/-11.4	-14.3/-17.78	-15.79/-12.51	-15.73/-18.55	-12.77/-9.91	-10.84/-14.18	-9.9/-7.77	-8.87/-7.1	-4.54/-7.08	-13.17/-13.48	-9.85/-18.02	-6.41/-4.72	-5.31/-7.01	-11.95/-19.16	-10.01/-7.65	-12.34/-17.92	-13.96/-13.78	-17.83/-14.81	-12.33/-14.77	-18.36/-14.09	-10.14/-14.75
Θ(142.5°)	-5.24/-11.58	-7.16/-4.9	-10.64/-9.42	-10.64/-18.28	-16.67/-18.88	-10.89/-8.9	-10.4/-12.58	-15.12/-18.06	-10.82/-9.94	-16.65/-18.33	-8.74/-12.49	-10.43/-7.57	-13.83/-13.97	-9.15/-17.42	-8.04/-10.04	-14.16/-10.52	-11.22/-19.14	-7.65/-7.8	-12.92/-10.62	-12.92/-18.78	-17.06/-9.77	-11.45/-15.61	-11.96/-18.69	-11.42/-4.78
Θ(45°)	-7.36/-13.19	9.32/-8.9	-12.76/-11.15	-10.51/-7.02	-10.88/-18.44	-17.49/-9.65	-8.81/-9.06	-6.67/-9.11	-18.13/-18.18	-10.53/-14.41	-5.59/-6.96	-7.82/-12.43	-10.15/-14.67	-10.73/-6.55	-11.99/-11.51	-16.36/-10.29	-8.45/-8.5	-11.86/-14.01	-12.76/-12.87	-10.84/-12.14	-19.19/-15.18	-18.45/-18.52	-18.97/-17.64	-18.55/-10.11
Θ(52.5°)	-11.44/-10.33	-9.91/-14.79	-9.79/-15.1	-5.81/-4.46	-11/-18.29	-17.62/-10.94	-17.32/-12.08	-6.17/-10.4	-15.15/-15.44	-7.36/-13.07	-6.88/-11.58	-11.26/-18.84	-13.52/-16.59	-11.87/-10.26	-17.86/-18.85	-18.24/-14.25	-10.72/-9.53	-15.99/-11.75	-14.63/-13.03	-12.36/-15.12	-16.26/-13.14	-12.27/-11.47	-16.9/-17.86	-11.77/-18.84
Θ(60°)	-11.51/-13.3	-13.81/-17.88	-7.51/-14.06	-8.43/-8.28	-9.61/-8.79	-17.57/-11.79	-13.39/-18.79	-7.28/-16.19	-12.13/-11.35	-6.14/-11.87	-13.24/-17.53	-18.43/-17.98	-15.92/-17.12	-13.29/-18.26	-15.33/-15.9	-18.4/-19.37	-18.97/-13.27	-16.63/-11.15	-16.14/-19.11	-12.18/-11.23	-12.52/-14.33	-8.34/-8.95	-14.89/-14.46	-12.89/-13.22
Θ(67.5°)	-16.44/-15.97	-18.99/-19.06	-11.85/-18.85	-18.09/-9.7	-6.59/-7.59	-11.07/-9.76	-8.61/-14.19	-9.98/-10.81	-9.38/-10.16	-8.38/-11.83	-17.7/-18.49	-18.57/-15.92	-15.2/-17.89	-13.17/-18.06	-15.01/-15.24	-17.84/-17.64	-17.7/-13.03	-16.36/-12.68	-16.52/-16.35	-8.46/-11.16	-18.74/-9.22	-6.23/-11.27	-17.88/-14.22	-11.18/-18.76
Θ(75°)	-16.44/-17.39	-19.2/-17.59	-13.53/-17.7	-18.55/-8.92	-8.14/-14.31	-10.56/-12.77	-11.81/-10.31	-10.06/-8.48	-8.64/-13.3	-13.66/-18.35	-14.78/-17.35	-16.8/-9.58	-14.86/-10.38	-11.62/-13.84	-13.74/-10.19	-17.71/-10.7	-19.15/-10.73	-17.67/-13.6	-15.93/-11.44	-10.4/-11.54	-18.05/-6.96	-5.31/-11.18	-12.41/-18.16	-8.2/-14.71
Θ(82.5°)	-10.9/-12.96	-18.47/-17.57	-14.53/-19.08	-14.65/-9.42	-12.13/-16.8	-11.24/-15.67	-18.18/-18.56	-11.35/-7.88	-14.29/-13.32	-16.93/-18.21	-16.73/-15.32	-12.63/-10.88	-14.12/-6.11	-11.64/-11.2	-12.16/-10.34	-16.54/-9.59	-18.22/-11.3	-16.53/-12.99	-17.71/-10.52	-9.96/-15.66	-17.2/-6.21	-5.33/-12.68	-11.74/-16.26	-9.84/-11.25
Θ(90°)	7.53/-8.69	-15.68/-16.28	-15.88/-18.67	-13.08/-11.43	-18.23/-13.44	-16.1/-19.21	-19.32/-19.01	-13.33/-9.75	-18.46/-14.8	-17.13/-18.58	-13.8/-16.24	-9.7/-12.24	-12.67/-5.61	-14.86/-10.63	-14.74/-9.66	-19.11/-9.4	-18.3/-10.73	-18.33/-15.7	-18.87/-18.5	-18.06/-17.62	-11.66/-9.72	-7.64/-15.27	-9.62/-10.14	-9.57/-9.1
Θ(97.5°)	-8.82/-6.59	-14.38/-11.88	-18.09/-16.62	-15.24/-13.85	-14.68/-12.71	-18.41/-19.03	-18.05/-16.5	-13.19/-13.47	-17.73/-12.17	-12.13/-14.19	-18.1/-11.72	-9.32/-10.13	-10.29/-5.22	-11.08/-10.87	-11.41/-7.98	-17.86/-7.51	-14.7/-14.78	-18.41/-18.84	-16.08/-19.15	-17.93/-18.45	-14.96/-11.72	-11.55/-17.11	-7.98/-7.45	-9.38/-8.95
Θ(105°)	-9.9/-6.04	-10.68/-7.09	-16.15/-10.68	-18.5/-14.22	-11.44/-11.11	-14.96/-19.22	-18.07/-15.22	-13.12/-14.62	-19.42/-11.11	-13.41/-11.62	-18.07/-8.99	-10.74/-11.06	-10.06/-6.06	-11.45/-11.97	-16.43/-6.79	-18.23/-11.76	-19.29/-17.08	-12.93/-17.57	-18.52/-17.71	-17.8/-15.39	-12.12/-17.85	-10.25/-7.1	-7.61/-8.57	
Θ(112.5°)	-7.64/-7.09	-10.32/-7.67	-10.81/-10.56	-16.71/-18.98	-13.88/-11.23	-12.07/-17.46	-19.22/-12.52	-15.73/-16.35	-18.54/-14.13	-13.54/-14.28	-14.5/-10.39	-9.34/-11	-13.05/-8.2	-9.67/-11.81	-18.95/-6.98	-18.08/-8.08	-18.69/-12.48	-18.13/-16.18	-13.4/-18.07	-17.71/-17.97	-17.07/-19.08	-9.53/-16.21	-12.18/-7.94	-10.51/-11.56
Θ(120°)	-6.62/-6.55	-7.31/-10.4	-7.59/-10.62	-11.96/-19.11	-18.12/-18.79	-12.73/-19.18	-18.89/-10.93	-18.95/-15.47	-14.3/-13.43	-18.09/-17.51	-13.88/-9.28	-9.98/-11.05	-11.6/-8.16	-6.85/-15.26	-18.89/-9.39	-19.14/-11.57	-13.11/-11.79	-16.12/-16.9	-11.91/-16.61	-17.9/-17.05	-17.1/-18.78	-14.6/-14.04	-12.18/-8.69	-11.05/-8.09
Θ(127.5°)	-10.93/-9.27	-8.66/-14.03	-8.57/-13.61	-8.67/-17.26	-17.18/-17.76	-16.28/-18.26	-16.52/-12.7	-19.31/-13.24	-18.48/-19.39	-17.85/-19.13	-13.17/-17.6	-14.15/-17.22	-11.15/-10.9	-10.62/-17.74	-14.75/-9.02	-15.61/-7.47	-12.62/-9.44	-14.53/-18.87	-18.18/-18.13	-18.55/-18.92	-14.92/-12	-12.04/-16.07	-18.83/-1.16	-9.15/-13.23
Θ(135°)	-12.84/-18.17	-12.33/-16.44	-13.93/-16.99	-12.43/-11.3	-11.31/-18.45	-17.74/-15.37	-15.3/-18.41	-16.65/-14.9	-15.49/-17.91	-15.83/-13.76	-17.4/-15.82	-18.81/-17.89	-11.24/-10.39	-17.69/-15.96	-18.34/-9.91	-17.08/-13.93	-11.87/-12.32	-14.3/-19.12	-18.54/-18.77	-18.98/-18.41	-13.98/-13.84	-15.3/-19.03	-14/-8.94	-17.78/-12.75
Θ(142.5°)	-12.91/-19.21	-17.45/-18.09	-19.88/-12.21	-17.91/-15.95	-18.82/-15.49	-12.37/-18.48	-16.94/-17.73	-18.41/-17.47	-16.46/-16.06	-18.14/-16.94	-11.25/-11.49	-17.33/-17.07	-18.41/-15.26	-14.92/-12.62	-12.23/-18.1	-17.11/-11.75	-16.09/-17.46	-16.09/-17.28	-19.35/-17.64	-17.96/-14.41	-14.11/-17.29	-14.81/-16.79	-13.47/-16.75	-12.43/-6.22
Θ(150°)	-13.93/-16.61	-16.46/-18.84	-19.28/-14.63	-18.26/-18.74	-18.79/-15.15	-12.97/-17.67	-18.13/-18.71	-18.78/-17.41	-18.2/-11.03	-14.18/-18.86	-7.91/-13.68	-18.79/-12.27	-18.13/-16.56	-6.29/-10.46	-18.34/-18.6	-16.55/-17.7	-18.92/-18.47	-16.01/-17.94	-17.84/-18.51	-18.35/-18.44	-18.66/-18.66	-10.75/-12.39	-18.85/-12.09	
Θ(157.5°)	-10.89/-18.44	-18.24/-13.59	-17.67/-18.82	-18.35/-18.33	-18.83/-16.24	-13.13/-16.21	-17.33/-15.63	-15.58/-16.48	-17.82/-17.83	-14.81/-17.44	-16.73/-18.49	-17.25/-18.43	-16.54/-7.93	-6.69/-10.63	-15.45/-12.14	-12.88/-18.73	-19.79/-18.04	-18.65/-18.01	-18.47/-17.58	-17.62/-17.32	-18.83/-15.55	-17.11/-18.16	-18.64/-19.01	-8.84/-8.01
Θ(165°)	-16.4/-17.58	-17.56/-17.34	-18.52/-18.29	-17.36/-19.2	-18.9/-19.42	-18.18/-18.04	-19.07/-17.89	-17.14/-16.94	-18.18/-17.96	-18.31/-18.48	-18.61/-18.88	-16.09/-13.08	-10.75/-9.91	-10.15/-11.2	-12.31/-12.99	-14.59/-18.05	-17.77/-18.18	-17.37/-14.23	-17.67/-18.99	-16.32/-14.97	-13.7/-14.88	-17.7/-18.17	-15.12/-10.71	-9.47/-10.67
Θ(172.5°)	-7.08/-6.76	-9.08/-9.55	-11.37/-12.92	-14.34/-16.87	-17.75/-18.89	-16.89/-16.48	-18.02/-17.18	-16.18/-16.95	-18.19/-16.83	-17.98/-17.43	-17.6/-18.02	-18.22/-13.98	-12.89/-13.15	-10.05/-9.29	-9.22/-9.52	-11.26/-14.09	-17.71/-17.45	-18.76/-18.23	-18.08/-18.13	-17.72/-18.24	-16.11/-14.1	-13.41/-10.74	-9.8/-8.61	
Θ(180°)	-13.57/-10.56	-12.03/-11.49	-11.18/-12.3	-12.38/-12.39	-14.07/-15.22	-17.92/-18.93	-17.85/-17.73	-19.06/-19.66	-16.05/-14.2	-12.22/-10.28	-8.34/-8.14	-7.57/-7.69	-7.85/-7.79	-8.2/-8.36	-8.55/-9.1	-10.36/-13.25	-16.99/-18.49	-19.02/-17.72	-16.07/-16.72	-15.12/-13.69	-12.75/-10.49	-9.09/-8.98	-10.36/-11.77	
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°)	-8.18/-10.15	-11.42/-14.28	-17.43/-18.03	-18.17/-19.27	-16.42/-17.26	-14.09/-10.87	-10.47/-10.82	-10.77/-9.52	-8.87/-8.76	-8.74/-8.49	-8.89/-10.05	-10.99/-12.81	-15.06/-17.28	-18.09/-18.99	-17.95/-17.74	-18.99/-16.68	-13.26/-10.41	-8.51/-7.33	-7.04/-6.89	-5.28/-4.5	-4.71/-5.32	-5.49/-5.52	-4.8/-5.01	-5.96/-6.16
Θ(7.5°)	-13.95/-13.71	-12.68/-11.35	-10.4/-8.59	-8.03/-6.94	-5.56/-4.67	-3.79/-2.77	-2.43/-2.35	-2.29/-2.17	-2.01/-2.34	-2.74/-3.29	-4.28/-2.53	-5.82/-6.69	-7.56/-8.27	-8.45/-8.79	-9/-9.72	-10.11/-9.62	-10.44/-11.09	-11.09/-12.55	-13.25/-14.56	-15.5/-15.14	-13.35/-12.56	-13.69/-14.77	-16.62/-16.94	-14.45/-14.74
Θ(15°)	-12.18/-11.47	-8.72/-7.05	-5.24/-4.13	-3.68/-2.94	-2.39/-2.02	-1.97/-2.74	-3.37/-4.15	-4.97/-6.19	-6.4/-5.47	-4.51/-4.22	-5.52/-7.88	-9.86/-10.32	-11.19/-10.93	-8.5/-7.05	-6.96/-7.92	-9.04/-9.62	-9.25/-8.63	-7.85/-8.33	-9.83/-11.69	-11.02/-10.64	-9.69/-7.73	-6.02/-5.55	-6.27/-7.94	-9.25/-11.25
Θ(22.5°)	-10.67/-10.11	-8.44/-5.61	-2.92/-1.71	-1.78/-2.51	-0.29/-0.86	-0.11/-0.05	-0.17/-0.4	-0.49/-1.33	-2.58/-4.65	-6.54/-7.21	-7.68/-7.85	-7.59/-8.09	-12.27/-11.79	-18.33/-12.62	-8.16/-6.89	-7.56/-9.99	-10.39/-8.86	-11.72/-15.08	-12.73/-11.68	-9.27/-8.67	-7.88/-8.81	-6.22/-7.02	-5.92/-5.16	-9.57/-9.98
Θ(30°)	-2.47/-1.99	-4.91/-7.45	-4.65/-2.05	-2.35/-1.97	-0.51/-0.21	0.04/-0.18	-0.37/-0.3	0.29/-0.59	-0.62/-2.41	-2.69/-2.67	-5.49/-13.24	-18.23/-9.13	-6.93/-7.92	-10.59/-10.49	-4.75/-2.84	-4.8/-6.67	-3.58/-2.94	-4.9/-6.56	-6.09/-6.24	-6.69/-18.17	-13.07/-6.15	-4.39/-3.55	-1.43/-0.36	-1.35/-2.7
Θ(37.5°)	-2.53/-2.8	-5.41/-9.54	-6.54/-4.32	-5.74/-2.13	-1.02/-1.2	0.420/-0.96	0.820/-0.99	1.23/-0.27	-2.43/-2.3	-5.55/-14.25	-13.54/-7.75	-5.19/-4.57	-5.05/-5.42	-6.48/-2.61	-2.28/-3.47	-4.04/-5.04	-5.51/-5.28	-6.12/-6.22	-4.4/-3.43	-4.49/-4	-2.32/-2.4	-1.68/-0.07	-0.82/-2.23	
Θ(45°)	-3.21/-9.87	-7/-8.45	-4.71/-4.73	-9.05/-1.19	-0.721/-37	2.861/-81	1.871/-3	3.210/-3	0.471/-4	0.1/-0.82	-2.64/-8.17	-6.5/-4.3	-6.21/-7.12	-1.83/-3.21	-4.6/-2.09	-4.22/-3.83	-3.34/-3.1	-3.43/-6.19	-10.43/-13.85	-10.04/-5.71	-4.01/-4.51	-2.91/-0.25	-0.270/-1.1	0.7/-0.78
Θ(52.5°)	-4.09/-9.83	-4.23/-6.69	-2.51/-7.27	-10.35/-1.51	-1.221/-48	2.510/-6	3.215/-85	4.851/-84	0.892/-01	0.12/-1.59	-4.34/-5.41	-2.58/-3.33	-6.17/-4.33	-3.59/-3.59	-2.53/-6.57	-5.31/-2.22	-1.4/-2.33	-3.45/-3.22	-4.67/-3.74	-9.43/-7.65	-5.51/-6.23	-4.41/-0.62	0.870/-85	1.44/-1.01
Θ(60°)	-7.04/-6.67	-3.15/-6.39	-1.42/-4.41	-6.05/-0.65	-0.831/-0.2	3.060/-18	1.042/-65	0.64/-0.26	0.430/-92	0.810/-3	-2.68/-8.88	-2.77/-5.21	-6.32/-5.56	-1.86/-4.54	-1.43/-8.1	-3.1/-0.12	-0.63/-2.79	-1.93/-2.77	-5.13/-4.47	-5.92/-6.54	-2.54/-1.42	0.23/-0.66	1.3/-0.91	-0.47/-3.68
Θ(67.5°)	-5.51/-6.68	-5.68/-7.7																						



Radiated Composite Gain Data of 6GHz

Appendix C

Θ(75°)	-17.82/-14.24	-9.97/-17.4	-15.53/-12.55	-17.89/-11.47	-8.85/-13.05	-18.16/-12.66	-15.5/-9.97	-10.65/-13.04	-15.64/-15.35	-10.03/-9.21	-7.57/-13.08	-11.02/-14.72	-14.01/-16.54	-15.15/-11.8	-10.47/-10.79	-10.09/-18.34	-18.65/-15.13	-10.13/-11.25	-5.31/-5.64	-10.42/-9.48	-13.06/-6.87	-2.12/-6.83	-17.44/-19.72	-17.13/-19.22
Θ(82.5°)	-11.51/-12.49	-7.79/-12.84	-14.88/-9.89	-17.51/-18.25	-11.31/-19.37	-18.22/-16.47	-17.23/-9.88	-10.91/-8.54	-8.53/-13.29	-10.16/-18.01	-12.25/-19.15	-15.21/-13.13	-12.53/-9.98	-11.18/-13.39	-17.85/-14.53	-9.35/-9.67	-6.97/-6.14	-8.77/-12.03	-14.91/-5.96	-3.66/-11.54	-14.89/-16.06	-17.9/-13.83		
Θ(90°)	-10.88/-9.55	-7.97/-12.87	-10.98/-9.61	-10.82/-18.35	-19.35/-19.01	-18.81/-18.98	-10.47/-9.04	-9.64/-14.1	-14.87/-17.3	-10.88/-9.39	-12.62/-18.91	-11.13/-8.85	-18.31/-13.97	-16.27/-16.26	-18.75/-17.58	-12.95/-12.52	-6.89/-5.41	-16.19/-12.22	-17.96/-5.44	-6.78/-18.35	-14.57/-12	-10.63/-10.79		
Θ(97.5°)	-10.66/-7.6	-12.93/-12.06	-8.92/-8.32	-16.32/-16.81	-18.72/-19.16	-17.28/-19.35	-15.97/-9.34	-8.72/-16.02	-16.54/-19.14	-10.35/-8.34	-13.47/-13.24	-9.86/-15.93	-12.86/-11.7	-16.92/-17.85	-17.48/-15.42	-14.72/-14.69	-14.3/-18.67	-10.45/-12.34	-10.41/-8.89	-17.42/-16.11	-14.38/-7.89	-13.48/-19.04	-11.27/-13.86	-15.75/-10.14
Θ(105°)	-7.69/-10.64	-11.4/-9.93	-8.86/-9.22	-12.69/-17.55	-16.69/-17.7	-18.31/-18.39	-11.93/-8.07	-11.95/-14.16	-14.71/-16.52	-11.92/-7.85	-9.33/-12.86	-11.83/-14.82	-15.91/-11.74	-18.99/-19.15	-18.17/-18.55	-10.72/-14.55	-14.42/-17.32	-15.75/-16.29	-10.09/-12.74	-17.94/-17.09	-11.77/-7.73	-17.01/-18.34	-11.35/-15.13	-13.88/-12.86
Θ(112.5°)	-9.81/-17.91	-13.93/-10.94	-9.03/-10.47	-10.91/-17.76	-16.71/-18.91	-19.56/-10.53	-9.64/-10.29	-12.12/-10.5	-17.81/-17.38	-13.58/-8.55	-8.94/-19.5	-13.12/-18.36	-15.65/-15.33	-16.66/-16.82	-18.26/-17.37	-10.21/-15.65	-12.07/-16.35	-17.74/-15.79	-11.8/-8.01	-12.03/-17.98	-11.93/-11.01	-12.65/-16.7	-15.5/-16.7	-11.54/-12.23
Θ(120°)	-13.38/-15.29	-15.71/-11.86	-10.5/-14.57	-11.05/-14.03	-14.07/-17.41	-18.69/-13.55	-11.5/-16.01	-13.25/-8.23	-18.05/-17.95	-15.41/-15.59	-8.91/-7.77	-7.36/-18.56	-10.41/-11.21	-18.88/-17.47	-12.31/-18.98	-17.22/-14.29	-9.69/-13.26	-19.11/-11.27	-15.37/-12.45	-9.76/-18.26	-17.45/-16.52	-11.46/-16.14	-18.82/-18.91	-12.01/-13.73
Θ(127.5°)	-13.72/-18.78	-16.55/-14.53	-14.04/-14.52	-12.55/-12.8	-18.05/-17.21	-10.45/-12.02	-17.95/-18.47	-10.15/-11.93	-18.61/-15.02	-18.71/-13.91	-11.27/-8.42	-8.09/-18.4	-10.16/-8.72	-11.33/-17.51	-11.59/-9.44	-11.83/-12.85	-13.51/-13.81	-18.51/-15.44	-15.35/-13.86	-18.01/-17.41	-19.36/-15.66	-11.7/-18.78	-18.77/-13.75	-14.94/-18.1
Θ(135°)	-18.48/-17.78	-11.36/-16.04	-15.72/-13.42	-12.38/-13.72	-19.12/-17.38	-17.09/-14.45	-15.55/-15.86	-13.8/-16.31	-11.99/-14.88	-17.36/-16.93	-15.19/-12.18	-7.68/-10.23	-12.73/-9.51	-10.99/-10.73	-11.32/-14.32	-13.52/-13.63	-19.31/-17.11	-14.25/-15.74	-18.77/-10.85	-14.88/-10.71	-17.02/-12.83	-19.01/-14.94	-16.15/-11.63	-18.45/-19.11
Θ(142.5°)	-18.23/-18.7	-18.91/-17.19	-18.17/-15.77	-15.85/-16.52	-17.37/-19.44	-13.63/-11.48	-13.55/-18.09	-18.77/-15.09	-11.77/-16.14	-14.17/-11.59	-18.45/-18.9	-12.39/-12.46	-17.82/-16.45	-12.1/-12.31	-14.85/-16.73	-12.71/-10.12	-15.77/-18.48	-18.3/-17.59	-12.15/-11.82	-19.34/-14.41	-12.87/-11.95	-18.54/-17.9	-17.7/-16.77	-13.05/-18.01
Θ(150°)	-19.16/-17.87	-18.35/-17.56	-18.12/-18.31	-19.17/-18.09	-18.32/-16.5	-16.32/-18	-18.43/-18.4	-14.85/-13.39	-13.4/-15.8	-15.02/-13.96	-16.74/-17.46	-14/-15.65	-18.72/-16.57	-11.46/-17.79	-12.13/-14.31	-19.14/-18.22	-18.99/-18.56	-15.8/-18.63	-18.96/-19.28	-18.2/-16.59	-17.87/-14.08	-12.91/-18.1	-17.38/-18.47	-18.23/-17.95
Θ(157.5°)	-18.14/-18.26	-13.42/-13.23	-16.81/-18.45	-18.16/-16.02	-19.23/-17.09	-18.26/-13.84	-11.54/-11.54	-15.93/-17.38	-17.69/-16.53	-14.79/-12.69	-14.82/-17.76	-11.31/-8.68	-10.86/-13.03	-12.35/-17.74	-18.36/-19.08	-17.68/-14.83	-16.7/-18.58	-18.46/-17.08	-12.03/-12.39	-15.51/-18.78	-19.82/-15.7	-13.17/-16.4	-14.96/-17.56	-16.2/-19.01
Θ(165°)	-15.98/-16.72	-14.95/-15.42	-18.84/-18.32	-17.42/-18.04	-17.81/-19.05	-18.26/-19.04	-17.9/-19.06	-18.15/-16.63	-12.94/-11.99	-11.97/-13.2	-14.56/-16.74	-15.84/-14.25	-12.99/-12.5	-15.32/-17.53	-19.15/-18.94	-16.04/-14.93	-17.56/-16.55	-15.02/-14.59	-15.26/-18.42	-18.75/-16.1	-15.1/-16.39	-18.99/-14.8	-12.03/-13.99	-11.83/-13.3
Θ(172.5°)	-18.71/-17.56	-17.51/-17.75	-18.14/-18.47	-17.45/-17.9	-18.84/-18.07	-18.17/-17.91	-18.07/-17.7	-18.5/-16.64	-17.45/-16.53	-13.46/-12.4	-12.6/-12.83	-14.28/-18.35	-18.64/-18.76	-17.3/-18.02	-18.61/-17.38	-18.2/-19.56	-17.92/-18.58	-18.09/-17.92	-15.22/-18.15	-18.43/-15.74	-17.14/-15.15	-11.63/-18.08	-13.9/-16.03	-14.57/-18.36
Θ(180°)	-18.08/-17.31	-18.23/-17.24	-16.11/-16.61	-18.34/-18.7	-17.43/-17.22	-17.55/-15.92	-16.43/-18.1	-18.23/-18.67	-18.29/-17.83	-17.51/-18.07	-18.11/-19.26	-18.58/-18.85	-18.99/-18.11	-18.19/-17.38	-16.53/-15.37	-15.3/-17.13	-17.43/-17.49	-17.91/-17.52	-18.98/-15.58	-15.61/-15.46	-14.71/-15	-17.78/-18.89	-17.55/-16.38	
Freq(Hz)	6.175GPdL	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°)	-6.49/-5.22	-3.59/-2.9	-1.09/-1.37	-1.41/-1.49	-1.26/-1.5	-1.65/-2.04	-1.29/-1.341	-4.63/-6.03	-7.53/-9.26	-12.17/-14.8	-11.14/-19.7	-7.77/-5.93	-4.51/-3.5	-2.77/-2.33	-1.79/-1.35	-2.57/-3.07	-3.83/-5.39	-2.70/-3.7	-3.83/-5.39	-6.41/-8.12	-10.40/-11.44	-17.41/-33.59	-10.03/-17.9	
Θ(7.5°)	-13.25/-9.38	-7.05/-6.83	-4.3/-3.79	-3.73/-3.39	-3.18/-2.86	-2.94/-3.09	-3.14/-3.71	-4.39/-5.16	-5.41/-5.89	-8.68/-11.86	-14.9/-17.82	-14.15/-11.37	-9.24/-7.77	-6.36/-5.72	-5.56/-5.02	-4.66/-4.45	-4.52/-4.33	-3.52/-3.9	-4.6/-5.37	-5.54/-6.44	-7.09/-7.16	-8.67/-10.3	-12.08/-16.93	-18.19/-17.83
Θ(15°)	-7.01/-6.79	-5.83/-4.78	-4.22/-4.46	-4.45/-3.83	-3.8/-4.19	-4.24/-4.28	-4.05/-4.29	-5.52/-5.78	-7.12/-8.03	-8.86/-9	-8.81/-10.95	-11.48/-11.72	-13.62/-16.27	-17.76/-18.47	-17.28/-17.87	-18.75/-19.01	-18.83/-16.48	-15.26/-13.98	-11.3/-11.91	-14.32/-14.02	-14.15/-15.73	-12.94/-7.86	-7.44/-7.15	-6.46/-6.8
Θ(22.5°)	-5.08/-4.9	-4.59/-4.56	-5.62/-6.19	-4.59/-3.68	-4.57/-5.68	-5.76/-5.08	-4.39/-4.39	-5.66/-8.28	-8.94/-9.63	-6.12/-6.43	-4.91/-4.62	-4.98/-11.51	-12.87/-14.66	-14.25/-14.03	-15.57/-18.7	-19.11/-18.54	-16.46/-15.62	-12.69/-9.55	-8.02/-6.46	-4.63/-3.29	-2.99/-3.44	-5.05/-5.38		
Θ(30°)	-4.19/-3.4	-3.45/-4.34	-8.15/-6.17	-4.54/-5.13	-5.84/-6.28	-6.1/-4.6	-4.26/-3.29	-2.95/-4.34	-5.34/-7.76	-8.85/-7.53	-5.03/-2.41	-2.1/-2.04	-3.36/-4.77	-4.96/-8.31	-13.47/-8.34	-5.28/-7.19	-15.85/-18.45	-19.06/-18.02	-18.33/-15.73	-12.16/-8	-5.67/-4.82	-4.16/-1.65	0.37/-1.17	0.03/-3.47
Θ(37.5°)	-0.73/-2.55	-4.25/-4.56	-4.16/-1.62	-0.66/-0.59	-1.17/-2.78	-6.29/-9	-8.82/-8.1	-9.37/-8.86	-7.49/-6.52	-6.02/-7.69	-6.23/-9.08	-1.260	-1.17/-2.16	-1.96/-5.8	-0.99/-9.15	-8.72/-7.45	-5.69/-4.82	-4.01/-4.15	-4.36/-3.1	-1.79/-1.73	-0.140/-11	-0.73/-1.59		
Θ(45°)	-0.28/-3.68	-6.26/-2.81	-2.42/-1.39	-0.15/-0.15	-5.2/-4.2	-6.29/-12.35	-14.21/-8.44	-4.63/-5.6	-9.09/-5.72	-2.402/-2.74	-1.89/-3.24	-0.66/-1.4	-4.0/-1.7	-0.4/-2.11	-2.99/-3.49	-5.49/-4.45	-2.94/-1.61	-0.81/-0.45	-2.04/-1.27	0.60/-5.1	-0.36/-0.4	-0.34/-0.97		
Θ(52.5°)	-2.96/-6.68	-6.39/-2.75	-5.89/-6.28	-3.27/-1.49	-1.1/-1.31	-3.88/-7.41	-13.49/-8.97	-5.92/-4.45	-2.71/-3.7	-2.81/-2.96	-2.3/-1.25	0.14/-2.12	1.90/-36	-0.83/-2.12	-3.23/-0.81	-1.39/-1.7	-0.88/-1.81	-2.06/-1.67	-2.13/-1.02	0.771/-3	-0.95/-4.77	-0.920/-2.2	-0.46/-2.59	-4.61/-3
Θ(60°)	-9.7/-6.6	-6.46/-4.88	-11.59/-9.17	-5.32/-2.19	-0.62/-0.42	-0.95/-3.02	-10.77/-18.08	-17.74/-6.68	-1.61/-1.13	-1.7/-2.63	-3.1/-2.67	0.390/-92	0.94/-0.41	-2.59/-2.74	-1.84/-2.58	-2.87/-1.46	-1.31/-2.04	-1.01/-0.93	-1.87/-3.09	-1.240/-21	-1.54/-3.08	-0.78/-2.04	-1.18/-4.75	-5.65/-6.61
Θ(67.5°)	-18.17/-6.31	-5.5/-0.65	-18.87/-8.66	-6.66/-3.39	-1.33/-1.4	-1.04/-5.2	-7.78/-6.9	-5.71/-6.4	-2.46/-1.47	-1.49/-2.45	-2.57/-3.13	0.62/-1.19	-0.84/-2.87	-1.71/-0.27	-1.15/-2.95	-1.230/-4	-0.9/-0.7	0.14/-0.03	0.65/-1.81	-1.230/-91	-0.47/-2.03	-0.46/-0.56	-2.72/-5.51	-10.63/-9.71
Θ(75°)	-17.7/-5.05	-5.1/-4.5	-12/-5.32	-7.57/-4.9	-4.03/-3.32	-2.06/-5.74	-6.62/-4.53	-2.96/-2.38	-1.54/-2.48	-1.95/-2.87	-1.73/-5.37	-1.18/-2.69	-2.98/-3.55	-0.6/-0.25	-0.59/-1.9	-0.460/-9	-1.840/-7.2	-0.21/-1.75	1.470/-83	-0.172/-82	0.35/-4.04	0.85/-2.68	-4.83/-8.43	-17.72/-11.3
Θ(82.5°)	-16.86/-9.35	-6.43/-3.91	-7.21/-9.41	-8.74/-9.2	-6.65/-5.11	-1.63/-8.1	-7.62/-6.58	-2.55/-2.39	-1.67/-2.79	-2.59/-3.44	-3.03/-5.69	-2.11/-5.89	-4.42/-4.33	-0.57/-1.24	-1.3/-3.36	-1.180/-39	-0.662/-0.2	-0.69/-3.74	-0.251/-76	0.432/-38	0.18/-7.82	-1.59/-3.84	-7.74/-9.75	-17.97/-8.59
Θ(90°)	-12.33/-3.18	-6.12/-4.56	-7.22/-4.69	-9.85/-4.71	-6.62/-5.71	-1.07/-10.53	-8.15/-8.67	-3.32/-2.94	-2.4/-2.77	-2.51/-3.6	-3.91/-5.2	-3.39/-7.53	-3.92/-5.23	-2.38/-3.13	-1.97/-4.28	-3.03/-2.36	-1.341/-65	-0.09/-2.32	-4.07/-0.78	0.180/-16	-2.2/-8.16	-4.7/-5.15	-8.75/-8.42	-17.48/-7.62
Θ(97.5°)	-11.68/-3.82	-6.17/-5.5	-8.07/-6.03	-11.34/-6.03	-6.07/-4.8	-1.01/-9.34	-9.47/-10.23	-4.37/-4.39	-2.92/-3.39	-3.26/-3.78	-5.4/-4.86	-6.01/-6.89	-3.32/-3.82	-2.62/-6.01	-4.16/-6.16	-3.59/-4.57	-4.14/-0.88	-1.33/-2.01	-9.44/-5.57	-3.06/-1.75	-8.21/-0.9	-7.27/-5.79	-10.15/-6.67	-17.37/-10.41
Θ(105°)	-13.1/-6.66	-7.69/-6.83	-11.72/-7.42	-13.78/-7.28	-6.21/-3.13	-1.13/-7.81	-11.97/-10.87	-5.63/-6.43	-3.52/-3.66	-3.79/-5.33	-5.54/-8.43	-5.27/-4.06	-2.04/-3.68	-3.82/-4.44	-5.17/-9.73	-7.78/-6.24	-8.6/-5.44	-6.49/-7.39	-13.54/-16.03	-9.88/-4.3	-10.39/-7.4	-6.85/-8.94	-9.47/-11.58	-17.85/-13.8
Θ(112.5°)	-16.05/-9.76	-15.15/-10.52	-11.28/-10.39	-14.06/-9.48	-8.35/-3	-3.59/-9.3	-11.34/-7.54	-9.17/-8.85	-5.68/-4.99	-5.45/-6.5	-8.32/-6.85	-7.05/-4.18	-1.97/-2.88	-3.71/-4.1	-5.11/-9.39	-16.22/-15.98	-13.08/-9.65	-8.38/-10.79	-8.84/-12.31	-15.46/-6.26	-5.76/-10.35	-5.68/-19.01	-17.39/-17.48	-14.13/-17.91
Θ(120°)	-17.11/-11.71	-13.54/-18.24	-9.85/-9.91	-13.75/-12.47	-10.96/-5.3	-7.31/-12.3	-10.6/-9.12	-16.6/-8.98	-8.74/-8.29	-8.55/-7.64	-12.32/-8.42	-10.33/-8.37	-4.12/-4.43	-5.07/-4.9	-8.51/-8.08	-17.88/-13.95	-14.99/-9.66	-7.36/-8.65	-5.47					



Radiated Composite Gain Data of 6GHz

Appendix C

Θ (127.5°)	-13.67/-10.87	-11.47/-12.84	-19.61/-13.03	-18.82/-17.72	-18.38/-17.21	-18.12/-16.28	-13.97/-10.55	-19.33/-14.71	-14.36/-14.3	-13.85/-12.34	-7.67/-7.97	-8.79/-12.15	-12.83/-13.85	-9.82/-14.02	-13.46/-13.58	-12.13/-13.63	-18.16/-14	-17.82/-18.86	-17.16/-19.07	-18.12/-18.77	-17.08/-18.32	-10.4/-9.12	-14.02/-17.03	-17.73/-14.18
Θ (135°)	-14.05/-13.46	-17.51/-13.51	-14.87/-17.54	-16.56/-17.01	-18.43/-18.19	-13.88/-8.89	-14.81/-10.49	-18.4/-12.77	-14.99/-18.81	-13.04/-18.78	-7.47/-9.94	-8.36/-9.71	-11.87/-15.89	-10.09/-11.47	-7.48/-14.28	-15.87/-18.22	-17.49/-9.8	-19.05/-18.56	-17.79/-11.37	-15.79/-12.06	-17.95/-10	-17.97/-13.2	-18.79/-13.72	-17.89/-18.95
Θ (142.5°)	-18.46/-18.48	-18.1/-19.09	-17.16/-16.51	-14.58/-14.67	-14.87/-17.74	-9.37/-9.88	-18.34/-11.29	-17.97/-10.52	-14.96/-18.4	-18.6/-18.2	-11.81/-10.03	-14.42/-15.37	-7.58/-9.14	-18.53/-16.3	-11.84/-10.62	-17.99/-18.17	-16.43/-18.97	-18.48/-18	-17.51/-15.19	-13.82/-11.68	-14.03/-9.28	-19.65/-16.55	-14.62/-18.96	-18.14/-18.55
Θ (150°)	-18.6/-18.16	-16.91/-14.14	-13.98/-15.13	-18.12/-18.99	-12.79/-17.61	-18.65/-18.83	-18.87/-18.57	-18.12/-19.18	-12.81/-10.17	-14.5/-18.52	-13.77/-11.08	-12.13/-18.27	-19.05/-13.77	-18.23/-14.39	-16.16/-19.29	-18.25/-17.88	-13.97/-17.09	-15.37/-18.05	-14.89/-17.11	-19.08/-16.55	-18.2/-16.31	-18.6/-18.23	-15.04/-18.07	-18.5/-17.3
Θ (157.5°)	-18.08/-13.07	-13.2/-13.85	-17.2/-18.48	-17.61/-18.33	-18.77/-17.94	-17.74/-18.56	-18.43/-17.39	-18.67/-17.58	-11.18/-10.8	-12.6/-18.47	-14.61/-13.23	-14.83/-13.07	-10.89/-10.58	-14.12/-12.78	-13.4/-18.87	-19.5/-17.94	-18.47/-13.33	-12.16/-19.23	-19.04/-17.72	-15.01/-15.95	-14.94/-17.86	-18.9/-18.08	-18.12/-16.1	-14.44/-18.11
Θ (165°)	-15.53/-14.55	-14.66/-14.93	-14.49/-17.5	-19.04/-16.43	-15.81/-15.81	-17.89/-18.8	-19.01/-17.18	-13.56/-13	-14.86/-19.33	-19.4/-12.5	-8.39/-7.54	-8.46/-9.18	-11.51/-17.9	-19.11/-19.15	-17.67/-14.53	-12.77/-14.67	-17.58/-18.27	-18.19/-17.31	-16.83/-18.18	-18.06/-17.84	-17.82/-18.36	-14.24/-11.73	-10.87/-13.81	-17.87/-19.21
Θ (172.5°)	-15.84/-14.47	-13.36/-12.4	-13.71/-12.7	-13.04/-15.28	-15.62/-19.05	-18.61/-18.02	-19.36/-16.83	-14.27/-13.61	-15.42/-17.98	-17.81/-19.27	-18.34/-17.31	-15.77/-16.39	-17.72/-17.72	-18.85/-18.68	-18.06/-19.03	-15.63/-13.08	-12.77/-13.45	-14.07/-14.08	-19.2/-17.28	-18.1/-17.92	-13.37/-12.08	-10.92/-11.76	-15.9/-15.64	-16.19/-16.31
Θ (180°)	-19.1/-19.47	-17.27/-17.79	-18.66/-18.08	-19.17/-17.9	-17.98/-18.93	-18.69/-17.67	-18.99/-18.57	-19.01/-18.28	-18.61/-18.12	-19.28/-18.18	-18.13/-18.45	-19.58/-17.69	-18.64/-17.37	-19.08/-18.84	-18.03/-18.1	-16.02/-17.74	-18.44/-18.44	-18.68/-18.05	-18.61/-19.23	-17.97/-19.32	-19.18/-18.82	-18.07/-17.97	-17.16/-18.67	-17.03/-18.26
Freq(Hz)	6.695GPol.	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°)	-9.96/-8.11	-6.44/-5.17	-4.31/-3.34	-3.12/-2.88	-1.85/-1.82	-2.36/-2.31	-2.57/-2.92	-4.1/-4.3	-5.17/-7.26	-7.99/-9.84	-13.71/-17.34	-18.1/-17.83	-12.33/-9.1	-7.5/-6.26	-4.99/-4.12	-4.16/-3.42	-2.82/-2.51	-2.82/-3.3	-3.98/-4.17	-5.15/-5.65	-6.69/-6.37	-11.01/-14.52	-16.75/-18.9	-17.82/-13.21
Θ (7.5°)	-17.67/-12.68	-9.95/-8.4	-7.37/-6.89	-6.87/-6.17	-6.19/-7.06	-7.13/-5.71	-8.19/-8.88	-9.96/-10.57	-11.61/-12.22	-13.09/-15.65	-15.49/-13.14	-10.31/-8.11	-6.21/-4.84	-3.93/-3.63	-3.52/-3.53	-3.84/-4.08	-3.99/-4.1	-3.87/-3.31	-3.76/-4.24	-4.36/-4.26	-5.18/-5.77	-7.08/-9.48	-10.84/-13.43	-18.07/-18.07
Θ (15°)	-11.12/-8.95	-7.35/-7.05	-7.38/-8.81	-9.64/-10.45	-12.03/-11.23	-9.95/-9.44	-8.17/-7.36	-7.17/-7.81	-10.06/-11.77	-12.8/-15.42	-17.91/-18.23	-13.92/-11.89	-9.19/-6.84	-5.52/-4.63	-4.68/-5.35	-5.29/-4.99	-4.59/-4.32	-4.49/-4.12	-3.26/-4.15	-4.07/-3.21	-4.05/-4.51	-4.43/-6.23	-8.15/-8.65	-11.06/-12.33
Θ (22.5°)	-5.68/-4.97	-5.23/-7.6	-10.74/-10.12	-6.94/-5.62	-4.99/-5.73	-7.92/-10.23	-11.96/-11.08	-9.09/-10.15	-13.25/-12.66	-12.48/-10.64	-10.26/-13.94	-13.66/-8.93	-5.55/-4.08	-3.12/-9.38	-4.02/-4.06	-4.84/-6.4	-7.43/-7.54	-8.21/-8.63	-7.44/-6.85	-6.89/-4.77	-3.8/-3.39	-3.18/-4.19	-7.01/-8.51	-7.87/-6.88
Θ (30°)	-0.08/-8.32	-10.98/-12.54	-9.19/-5.84	-4.79/-4.51	-4.36/-5.26	-5.77/-7.7	-11.55/-16.14	-15.8/-11.52	-6.83/-5.67	-6.51/-8.83	-7.93/-9.13	-9.41/-5.09	-3.1/-2.75	-3.58/-1.64	-0.95/-1.8	-1.94/-0.87	-2.39/-6.17	-7.67/-6.29	-4.77/-4.19	-3.78/-2.51	-1.54/-2.58	-4.13/-4.44	-4.71/-5.56	-6.17/-7.06
Θ (37.5°)	-11.94/-13.29	-8.43/-8.68	-6.27/-5.73	-8.09/-5.12	-1.72/-1.07	-3.34/-5.34	-7.73/-9.98	-8.13/-3.98	-0.9/-1.01	-3.48/-3.68	-3.97/-3.5	-4.9/-4.82	-0.88/-0.92	-1.27/-0.74	0.63/-0.67	-1.34/-0.47	-3.19/-6.19	-8.78/-10.8	-14.06/-10.65	-5.98/-5.63	-3.87/-1.67	-2.38/-3.81	-4.9/-3.76	-2.3/-4.36
Θ (45°)	-11.21/-8.63	-7.93/-13.18	-8.6/-5.84	-7.86/-6.44	-1.49/-0.15	-2.25/-1.05	-2.11/-6.46	-8.31/-1.76	1.05/0.5	-2.55/-2.07	-1.85/-2.56	-0.9/-1.73	-0.51/0.69	-1.18/-0.51	0.87/-1.45	-0.34/0.16	-1.04/-3.49	-6.28/-3.97	-7.76/-3.69	0.08/0.69	0.27/1.21	1.48/-0.29	-2.32/-1.86	-2.37/-4.48
Θ (52.5°)	-11.03/-6.75	-8.16/-18.55	-8.33/-4.9	-7.87/-7.94	-5.98/-5.19	-2.41/-1.71	-2.11/-1.53	-2.84/-1.52	1.27/1.25	-2.01/-2.73	-0.79/-2.78	0.32/0.44	0.28/0.65	-0.9/-0.62	-1.27/-0.19	-0.19/0.91	0.65/-1.02	-3.18/-5.44	-5.52/-1.96	1.01/-1.45	0.33/0.23	-1.82/-3.09	-1.82/-3.04	-4.88/-7.68
Θ (60°)	-9.44/-9.49	-14.22/-9.41	-7.22/-5.46	-7.9/-9.77	-7.47/-3.91	-5.91/-7.29	-3.89/-1.15	-1.1/-2.56	-0.09/1.1	-0.62/-3.24	-0.17/0.18	-1.57/1.14	-0.77/0.54	-1.08/-0.73	-3.33/-0.39	-2.3/-1.24	-0.2/-1.79	-4.24/-5.71	-7.7/-4.47	-1.85/-1.24	-1.17/-1.63	-1.87/-1.96	-1.75/-5.92	-8.63/-10.82
Θ (67.5°)	-14.27/-9.89	-8.5/-5.85	-8.13/-3.98	-5.52/-8.52	-4.37/-1.98	-1.17/-3.35	-1.73/-3.88	-3.83/-1.15	-1.12/1.23	-0.39/-4	-0.27/0.04	-1.28/0.81	-1.36/-2.43	-3.21/-0.34	-1.17/-1.16	1.18/-1.38	-2.68/-4.26	-3.05/-2.86	-3.18/-3.5	-2.64/-0.41	-2.28/-0.2	-0.43/-7.67	-11.1/-17.27	
Θ (75°)	-17.64/-7.54	-5.23/-3.68	-7.4/-2.83	-2.12/-2.86	-3.26/-0.14	-3.47/0.61	-0.49/-3	-5.08/-1.55	0.93/-1.4	-0.59/-3.82	-1.15/-0.34	-3.3/-0.16	-1.77/1.16	-2.11/-1.59	-2.71/-0.48	0.33/0.32	1.82/0.57	-1.38/-0.86	1.36/1.14	0.17/0.4	-3.58/-0.93	-3.87/0.19	-0.64/-5.9	-11.02/-17.17
Θ (82.5°)	-18.12/-7.36	-3.68/-1.6	-4.66/-2.24	-2.16/-3.96	-3.23/-1.1	0.1/-1.47	-3.42/-3.82	-3.59/-1.08	1.26/-2.85	-1.85/-3.71	-1.73/-3.47	-3.79/-1.75	-1.73/1.12	-4.08/-2.02	-2.95/-2.37	-0.19/-1.19	0.72/1.33	-1.2/0.8	2.64/-1.48	1.42/0.2	-5.53/-3.06	-7.9/0.09	-2.34/-6.16	-14.21/-18.76
Θ (90°)	-15.2/-8.18	-3.76/-1.1	-4.04/-2.3	-2.25/-4.23	-3.54/-2.18	0.58/-3.66	-3.14/-3.22	-5.36/-0.21	1.08/-4.24	-3.11/-7.31	-3.43/-4.66	-6.8/-4.43	-4.53/-0.85	-7.19/-2.51	-2.34/-3.35	-3.25/-4.6	-0.6/0.9	-1.28/-4.52	-0.08/0.45	0.59/0.84	-7.41/-6.07	-10.67/-0.79	-3.69/-7.39	-15.28/-16.32
Θ (97.5°)	-38.38/-39	-4.68/-1.49	-3.82/-3.2	-3.45/-1.8	-7.19/-2.94	0.18/-3.74	-2.89/-3.15	-8.3/0.25	-0.38/-6.25	-3.92/-3.4	-4.19/-12.13	-8.36/-10.06	-5.13/-2.43	-16.86/-3.96	-3.82/-8.94	-8.15/-7.3	-2.92/-0.55	-2.01/-7.08	-3.5/-2.18	-3.82/-3.34	-9.41/-9.25	-11.08/-2.82	-4.95/-11	-12.1/-16.7
Θ (105°)	-11.09/-7.2	-7.63/-2.73	-3.9/-6.04	-4.41/-4.89	-5.04/-3.89	-0.13/-2.72	-2.02/-6.88	-8.3/-1.1	-0.67/-8.17	-4.56/-4.13	-5.06/-11.3	-9.89/-11.91	-6.79/-4.8	-15.89/-6.96	-6.86/-12.77	-10.43/-7.26	-7.38/-3.47	-4.05/-7.21	-8.53/-7.26	-9.3/-6.25	-7.87/-9.55	-5.74/-5.78	-2.68/-10.98	-14.05/-18.02
Θ (112.5°)	-14.23/-10.23	-10.59/-6.49	-4.89/-9.9	-7.95/-9.19	-7.93/-9.42	-3.63/-2.53	-1.65/-5.57	-7.36/-2.53	-2.74/-7.16	-4.62/-4.58	-5.71/-10.56	-10.27/-8.51	-5.31/-5.65	-10.93/-4.74	-7.97/-19.89	-8.05/-11.78	-18.79/-32	-6.13/-9.49	-8.32/-8.18	-7.03/-6.58	-14.08/-6.98	-9.63/-7.54	-9.04/-11.42	-18.12/-17.41
Θ (120°)	-18.99/-10.06	-12.14/-14.73	-6.37/-13.04	-18.88/-16.94	-9.76/-5.85	-1.87/-2.67	-5.09/-9.44	-18.91/-3.88	-4.65/-7.81	-4.64/-6.55	-6.13/-4.65	-7.65/-8.47	-10.93/-15.3	-7.6/-8.77	-7.03/-8	-7.4/-9.1	-15.48/-8.63	-7.38/-9.12	-10.93/-13.51	-10.43/-6.26	-12.49/-10.56	-18.06/-18.4	-16.85/-18.97	-18.19/-19.62
Θ (127.5°)	-13.65/-11.32	-11.09/-14.61	-17.59/-11.2	-13.56/-11.54	-11.49/-4.98	-3.84/-5.09	-8.42/-11.85	-10.2/-7.6	-8.22/-16.51	-8.55/-7.15	-6.48/-15.81	-10.59/-8.19	-9.83/-8.07	-8.15/-9.17	-10.29/-7.29	-18.05/-7.18	-18.1/-12.92	-10.44/-10.18	-18.26/-17.95	-7.22/-17.81	-18.37/-18.26	-9.48/-18.39	-4.95/-15.3	-9.38/-12.46
Θ (135°)	-18.44/-11.64	-15.18/-14.23	-14.65/-18.02	-12.75/-9.88	-7.47/-0.57	-5.44/-9.64	-12.74/-11.64	-7.66/-6.96	-14.17/-14.34	-9.94/-11.61	-11.81/-18.09	-14.21/-14.27	-14.66/-17.25	-18.85/-19.08	-17.99/-15.41	-11.42/-9.47	-14.89/-11.08	-10.26/-9.38	-7.34/-11.37	-1.12/-16.98	-8.31/-6.16	-13.44/-15.85	-8.62/-9.57	-14.28/-12.4
Θ (142.5°)	-17.99/-18.18	-18.04/-17.97	-17.53/-18.31	-17.14/-12.61	-9.56/-6.85	-5.6/-5.01	-6.77/-8.83	-8.45/-9.44	-12.53/-9.25	-7.62/-8.3	-13.5/-16.36	-12.14/-10.33	-18.4/-18.94	-18.76/-16.39	-14.61/-12.63	-13.89/-18.96	-18.59/-19.08	-18.46/-18.85	-19.09/-17.76	-9.27/-16.54	-12.35/-13.36	-18.05/-11.05	-15.09/-18.54	-18.55/-16.77
Θ (150°)	-17.24/-17.98	-19.13/-18.11	-18.56/-18.73	-18.29/-18.33	-13.9/-10.42	-8.46/-9.99	-10.21/-8.5	-9.58/-12.21	-17.65/-16.79	-12.61/-9.78	-9.1/-15.38	-18.25/-11.97	-17.73/-19.14	-18.76/-18.94	-9.05/-9.19	-11.71/-14.37	-19.01/-18.27	-18.25/-19.22	-18.72/-12.94	-17.35/-17.9	-16.74/-11.15	-13.52/-19.88	-18.51/-17.97	-18.36/-17.44
Θ (157.5°)	-17.52/-18.12	-18.95/-13.76	-11.43/-9.77	-9.52/-12.21	-11.98/-12.05	-11.29/-11.37	-11.78/-12.61	-14.36/-13.43	-17.6/-15.09	-13.11/-12.44	-12.54/-13.55	-14.45/-15.75	-15.73/-12.19	-12.59/-17.78	-18.91/-15.13	-13.89/-16.46	-14.98/-17.78	-18.2/-18.38	-18.01/-19.32	-18/-18.7	-18.07/-18.85	-17.77/-19.09	-18.91/-17.71	-18.89/-17.53
Θ (165°)	-18.94/-16.64	-17.61/-13.65	-14.35/-14.71	-14.98/-15.91	-15.85/-14.56	-13.99/-14.77	-14.23/-12.55	-12.14/-12.96	-16.33/-15.61	-13.98/-13.13	-14.27/-14.42	-13.72/-13.25	-15.03/-14.46	-12.89/-14.84	-19.4/-14.81	-11.21/-10.58	-12.32/-15.31	-16.46/-14.28	-12.74/-14.81	-17.58/-18.38	-14.76/-12.79	-13.36/-14.34	-17.25/-17.94	-16.98/-16.3
Θ (172.5°)	-16.68/-16.57	-17.91/-17.89	-18.03/-18.03	-15.2/-13.12	-13.08/-14.27	-14.14/-13.55	-13.55/-15.42	-17.27/-18.13	-17.23/-13															



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)	2.22	3.14	3.33	3.41	4.5	5.35	4.73	4.59	4.69
Ant. 2 Max Gain (dBi)	1.58								
Ant. 3 Max Gain (dBi)	2.24								
Ant. 4 Max Gain (dBi)	1.8								
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/67.5/90	Theta/52.5/172.5	Theta/52.5/165	Theta/52.5/157.5	Theta/75/172.5	Theta/67.5/112.5	Theta/60/135	Theta/67.5/120	Theta/67.5/120
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/82.5/67.5								
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/60/345								
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/52.5/52.5								

Gain Result

Freq(Hz)	245GPol		Phi/Ant.1																									
	Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)			
Θ(0°)	-12.48/-12.74	-12.56/-12.4	-12.89/-13.1	-13.88/-13.49	-13.25/-13.48	-13.74/-13.11	-12.64/-12.43	-12.37/-12.59	-12.71/-12.94	-13.45/-13.89	-13.68/-13.25	-12.91/-12.27	-11.81/-14	-11.31/-11.57	-12.11/-12.63	-12.97/-13.34	-13.84/-14.37	-14.94/-15.71	-16.34/-16.81	-17.05/-16.68	-15.8/-14.55	-13.68/-13.34	-13.03/-12.49	-12.09/-12.29				
Θ(7.5°)	-13.78/-13	-12.12/-11.41	-10.57/-9.9	-9.16/-8.73	-8.18/-8.17	-8.3/-8.43	-8.79/-8.25	-10.31/-11.07	-11.65/-12.03	-13/-13.61	-13.21/-12.3	-11.65/-11.42	-11.44/-11.88	-13.22/-15.57	-19.14/-18.97	-18.56/-18.29	-18.13/-18.14	-18.33/-18.2	-17.87/-19.06	-18.63/-19.07	-18.97/-17.46	-17.77/-16.26	-15.43/-14.96	-14.75/-14.49				
Θ(15°)	-13.61/-12.34	-11.41/-10.51	-9.44/-8.45	-7.86/-6.96	-6.66/-6.6	-6.32/-6.27	-6.35/-6.77	-7.7/-8.85	-10.13/-11.45	-12.81/-13.29	-12.76/-11.87	-11.21/-13.5	-11.65/-12.32	-14.54/-19.35	-18.34/-18.36	-18.52/-18.5	-18.38/-17.58	-16.65/-16.1	-16.44/-16.96	-17.54/-18.21	-18.1/-18.73	-19.11/-18.1	-19.31/-17.96	-16.56/-15.2				
Θ(22.5°)	-11.39/-10.42	-9.91/-9.45	-8.05/-8.53	-7.91/-7.5	-7.12/-6.78	-6.19/-5.69	-5.58/-5.36	-6.02/-7.34	-9.31/-11.65	-13.15/-12.6	-11.55/-11.02	-11.32/-12.31	-13.01/-13.12	-13.67/-14.31	-14.3/-13.52	-13.66/-14.94	-16.31/-16.92	-15.97/-14.11	-15.71/-14.74	-17.15/-11.77	-12.14/-12.55	-13.21/-14.69	-16.23/-15.69	-14.19/-12.71				
Θ(30°)	-9.38/-8.98	-8.98/-9.58	-10.25/-9.9	-9.49/-9.4	-9.59/-9.54	-8.67/-6.76	-6.12/-5.31	-5.15/-5.9	-7.92/-11.5	-14.45/-12.35	-10.12/-5.97	-10.47/-13	-14.85/-11.9	-9.41/-8.63	-9.28/-10.25	-11.14/-12.66	-15.08/-14.73	-18.5/-16.2	-11.58/-9.1	-7.99/-7.7	-7.65/-7.64	-7.85/-8.7	-10.18/-11.26	-11.05/-10.15				
Θ(37.5°)	-9.23/-9.36	-10.88/-11.92	-12.62/-10.23	-8.73/-8.81	-9.89/-11.48	-12.54/-11.28	-8.56/-6.13	-5.04/-5.1	-6.83/-10.57	-14.84/-11.6	-8.97/-8.76	-10.24/-13.28	-13.42/-8.94	-6.15/-5.74	-7.24/-8.93	-9.95/-11.16	-12.11/-13.06	-18.56/-17.96	-12.13/-8.32	-6.84/-6.5	-6.48/-6.5	-6.52/-6.91	-8.18/-9.98	-10.52/-9.58				
Θ(45°)	-8.17/-8.66	-11.23/-17.27	-15.14/-9	-6.65/-6.33	-7.18/-9.13	-12.18/-15.98	-13.53/-8.83	-5.84/-4.95	-5.8/-8.83	-13.76/-13.15	-10.9/-33	-10.53/-11.89	-11/-8	-5.59/-5.25	-7.26/-8.06	-12.77/-9.84	-14.32/-18.45	-12.86/-8.68	-5.7/-5.61	-8.06/-8.31	-8.31/-8.7	-10.15/-12.24	-11.95/-9.35					
Θ(52.5°)	-5.96/-6.03	-8.14/-14.44	-17.28/-9.68	-6.67/-6.18	-6.87/-7.77	-9.06/-11.7	-17.6/-13.82	-8.35/-6.27	-5.56/-8.99	-13.61/-14.86	-11.36/-10.88	-11.88/-11.34	-9.61/-5.9	-5.87/-5.42	-5.69/-5.96	-6.36/-7.32	-8.91/-17.4	-17.96/-15.21	-8.88/-6.95	-7.13/-8.17	-8.84/-8.72	-8.48/-9	-10.75/-12.07	-10.27/-4.7				
Θ(60°)	-7.18/-6.81	-8.87/-11.69	-13.81/-9.47	-7.79/-8.87	-10.96/-11.5	-10.66/-10.87	-16.05/-18.33	-11.38/-9.87	-7.98/-9.24	-13.87/-18.61	-14.44/-13.38	-15.42/-12.24	-9.51/-7.55	-5.71/-9.3	-4.87/-5.54	-7.18/-9.93	-11.41/-10.53	-10.58/-8.72	-6.38/-6.55	-9.11/-12.54	-13.84/-11.48	-9.18/-8.63	-9.96/-12.06	-11.54/-8.96				
Θ(67.5°)	-9.69/-10.51	-13.53/-14.92	-9.57/-6.13	-6.06/-6.16	-13.96/-16.29	-13.73/-12.31	-17.31/-18.57	-11.23/-9.87	-8.14/-7.92	-11.81/-19.22	-13.82/-16.32	-18.03/-10.19	-7.65/-6.49	-5.57/-1.76	-7.22/-8.06	-10.16/-9.59	-6.53/-5.61	-7.26/-8.23	-7.49/-2.7	-15.45/-17.54	-16.59/-15.8	-12.71/-12.32	-15.07/-18.48	-16.9/-11.56				
Θ(75°)	-8.01/-7.57	-10.8/-18.28	-12.11/-7.13	-7.2/-12.15	-19.03/-18.34	-15.27/-12.44	-14.95/-17.39	-14.06/-14.4	-10.63/-9.74	-11.71/-17.92	-11.42/-11.23	-18.37/-12.48	-7.89/-6.98	-8.87/-10.8	-6.68/-6.05	-8.42/-7.58	-6.05/-5.93	-8.22/-8.96	-7.56/-9.9	-15.5/-12.71	-13.08/-13.26	-10.35/-10.79	-15.95/-18.94	-16.64/-11.01				
Θ(82.5°)	-10.34/-8.26	-9.04/-12.92	-12.55/-9.05	-10.43/-18.15	-16.67/-13.25	-13.11/-10.48	-17.35/-17.72	-9.57/-13.55	-14.41/-10.48	-16.46/-12.8	-6.02/-6.78	-15.62/-18.4	-8.19/-7.6	-9.74/-10.97	-9.58/-9.24	-10.12/-10.01	-6.75/-5.17	-6.71/-8.09	-8.06/-12.54	-14.42/-9.54	-11.48/-19.28	-14.12/-13.06	-17.67/-18.95	-14.43/-12.92				
Θ(90°)	-10.48/-9.55	-28.8/-10.83	-11.54/-10.46	-13.42/-17.83	-16.06/-12.39	-9.2/-8.86	-15.1/-18.13	-11.23/-13.1	-12.39/-9.3	-13.47/-12.01	-5.33/-5.18	-12.11/-15.34	-8.03/-5.55	-9.82/-14.55	-12.17/-12.14	-9.49/-8.83	-5.02/-3.87	-6.95/-10.73	-8.11/-9.99	-11.31/-7.88	-9.19/-16.18	-18.88/-17.74	-16.81/-18.51	-12.01/-10.74				
Θ(97.5°)	-10.97/-10.78	-9.91/-9.23	-9.11/-10.03	-16.24/-17.95	-14.06/-15.81	-10.94/-8.93	-12.71/-16.8	-13.56/-19.71	-12.39/-3.94	-16.13/-11.1	-5.11/-5.74	-14.28/-16.32	-10.27/-9.65	-12.03/-14.76	-9.55/-8.16	-10.05/-9.37	-5.62/-4.71	-8.01/-5.98	-7.29/-11.21	-13.85/-8.29	-9.64/-17.99	-19.16/-19.3	-18.95/-18.65	-12.91/-11.42				
Θ(105°)	-10.07/-11.73	-12.14/-10.18	-8.97/-6.62	-15.28/-17.99	-12.56/-17.99	-16.45/-12.92	-14.68/-14.68	-12.98/-16.69	-15.61/-10.79	-16.2/-14.58	-5.95/-5.09	-10.96/-12.97	-12.58/-9.47	-10.31/-14.72	-10.37/-8.88	-10.25/-10.67	-6.51/-4.7	-7.57/-13.42	-10.2/-12.75	-12.51/-14.2	-10.63/-17.45	-15.8/-12.47	-19.22/-18.37	-13.92/-13.88				
Θ(112.5°)	-16.37/-15.57	-16.65/-11.68	-10.02/-10.72	-11.14/-18.42	-13.59/-14.16	-15.87/-18.51	-17.71/-14.9	-12.65/-17.97	-16.78/-12.75	-18.88/-11.03	-4.69/-4.7	-9.04/-18.7	-12.67/-9.1	-11.09/-12.55	-9.16/-8.51	-11.15/-16.36	-8.42/-6.1	-9.25/-14.1	-10.22/-12.78	-18.23/-14.1	-18.71/-18.9	-12.71/-12.09	-14.99/-12.44	-10.35/-12.85				
Θ(120°)	-12.43/-13.89	-19.07/-18.48	-13.37/-11.62	-10.33/-11.36	-14.46/-19.15	-16.92/-14.16	-16.19/-16.9	-15.44/-14.79	-11.39/-9.98	-15.07/-15.99	-8.42/-7.92	-12.83/-19.02	-9.61/-7.41	-10.1/-15.83	-12.86/-11.57	-15.54/-14.55	-6.65/-4.51	-6.71/-14.1	-18.29/-19.92	-17.9/-18.43	-18.65/-14.54	-11.49/-12.21	-15.57/-12.22	-8.79/-9.74				
Θ(127.5°)	-13.39/-13.71	-17.21/-17.1	-17.71/-15.52	-10.33/-9.27	-10.83/-19.1	-19.75/-16.93	-15.43/-14.73	-15.42/-14.98	-11.34/-9.97	-10.87/-10.31	-8.94/-9.58	-12.77/-13.93	-12.87/-13.23	-11.58/-14.53	-9.21/-7.98	-10.81/-15.94	-9.41/-8.7	-9.42/-18.95	-18.34/-19.25	-17.55/-19.08	-13.54/-10.37	-9.17/-9.97	-13.02/-13.99	-10.61/-11.3				
Θ(135°)	-14/-17.55	-17.87/-19.13	-17.26/-18.88	-14.81/-12.09	-12.68/-13.75	-12.92/-13.56	-9.72/-9.32	-10.26/-12.31	-14.18/-14.67	-13.81/-11.15	-9.31/-9.06	-11.33/-19.1	-11.52/-11.97	-11.45/-10.3	-7.94/-7.4	-10.58/-18.16	-12.51/-8.68	-9.38/-13.47	-18.44/-14.09	-11.08/-9.31	-8.65/-13.3	-10.73/-11.13	-8.89/-10.4					
Θ(142.5°)	-12.05/-17.53	-18.27/-16.54	-18.87/-17.97	-17.94/-16.42	-14.63/-12.55	-10.19/-8.43	-7.63/-7.72	-8.96/-11.04	-13.67/-14.64	-13.06/-10.94	-9.59/-9.77	-11.78/-11.7	-8.75/-8.02	-10.06/-13.99	-15.33/-16.57	-18.58/-13.85	-8.6/24	-5.67/-8.94	-12.77/-13.7	-17.61/-18.34	-14.97/-12.45	-10.92/-10.6	-11.67/-12.65	-11.26/-10.3				
Θ(150°)	-12.77/-15.79	-19.43/-19.15	-18.6/-16.06	-14.74/-13.13	-11.19/-9.01	-7.09/-5.78	-5.16/-5.36	-6.48/-8.73	-12.17/-14.24	-12.03/-9.11	-7.26/-6.41	-6.34/-6.74	-7.23/-8.49	-11.85/-17.92	-18.05/-14.35	-11.56/-9.28	-7.44/-6.68	-7.17/-8.96	-12.03/-16.85	-17.64/-18.57	-18.82/-17	-14.34/-13.04	-13.3/-14.74	-14.42/-12.6				
Θ(157.5°)	-14.6/-16.18	-18.12/-17.02	-17.39/-15.1	-12.42/-10.61	-9.24/-7.65	-6.22/-5.12	-4.58/-4.45	-5.08/-6.55	-8.79/-10.25	-9.75/-8.08	-6.85/-6.45	-6.98/-8.38	-10.48/-13.55	-18.88/-13.89	-10.98/-9	-7.92/-7.7	-8.19/-9.27	-11.06/-13.86	-18.03/-18.4	-17.35/-18.77	-18.27/-19.43	-18.08/-16.41	-15.13/-15.1	-15.09/-14.49				
Θ(165°)	-15.83/-15.97	-16.62/-17.59	-16.73/-14.33	-12.13/-10.61	-9.718.95	-8.18/-7.5	-7.17/-7.17	-7.33/-8	-8.83/-9.17	-8.92/-8.51	-8.45/-9.07	-10.72/-13.68	-18.61/-17.61	-19.15/-15.36	-11.91/-10.11	-9.46/-10.04	-11.62/-13.92	-17.26/-18.41	-19.29/-17.67	-19.11/-18.11	-17.74/-18.19	-18.64/-19.08	-18.05/-16.36	-15.86/-15.81				
Θ(172.5°)	-13.99/-13.53	-13.33/-13.09	-12.49/-11.9	-11.23/-10.61	-10.57/-10.79	-11.19/-11.45	-11.87/-12.31	-12.51/-12.66	-12.65/-12.59	-12.45/-12.52	-13.13/-14.56	-16.71/-18.88	-17.84/-18.34	-18.97/-17.21	-17.77/-15.82	-15.8/-16.79	-19.05/-18.43	-18.63/-18.56	-19.02/-18.78	-18.48/-17.98	-18.28/-18.36	-19.04/-18.67	-17.3/-16.58	-12.69/-14.72				
Θ(180°)	-12.91/-12.37	-13.71/-13.09	-9.34/-13.75	-14.08/-14.26	-14.54/-15.22	-16.54/-17.87	-17.68/-19.37	-19.21/-19.11	-18.97/-19.08	-18.24/-18.2	-19.17/-16.93	-16.57/-17.16	-18.17/-16.93	-18.91/-18.07	-18.41/-18.62	-19.15/-19.26	-17.99/-17.72	-16.62/-16.39	-16.91/-18.37	-18.74/-19.21	-19.28/-16.25	-14.64/-13.95	-13.73/-13.11	-15.65/-12.29				
Freq(Hz)	245GPol		Theta/Ant.1																									
	Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)			
Θ(0°)	-17.44/-17.27	-15.38/-15.37	-17.52/-17.2	-17.02/-16.72	-16.63/-16.97	-17.02/-17.17	-17.36/-17.61	-17.71/-17.35	-16.75/-16.61	-16.72/-16.54	-16.54/-16.57	-16.61/-15.75	-18.35/-18.79	-14.86/-14.06	-19.23/-18.94	-17.85/-18.34	-13.95/-13.68	-17.28/-15.07	-17.73/-17.09	-15.92/-14.97	-14.43/-14.38	-14.67/-14.82	-15.05/-14.31	-16.07/-16.93				
Θ(7.5°)	-14.64/-15.24	-15.75/-17.37	-15.59/-16.63	-18.06/-17.76	-17.61/-18.02	-19.16/-18.93	-16.77/-17.66	-16.22/-15.11	-14.31/-14.13	-16.12/-14.61	-14.54/-14.53	-15.03/-15.65	-16.12/-16.54	-18.86/-16.04	-13.79/-13.95	-14.12/-13.99	-13.61/-13.59	-14.16/-15.64	-16.02/-16.49	-15.89/-14.84	-14.42/-14.06	-14.22/-14.63	-14.83/-14.49	-14.16/-14.71				
Θ(15°)	-10.71/-11.37	-11.88/-12.12	-12.4/-13.14	-14.31/-15.9	-17.7/-19.21	-17.23/-17.42	-16.08/-15.04	-13.77/-12.37	-11.27/-10.85	-11.16/-11.91	-12.56/-13.12	-13.73/-14.2	-14.24/-13.5	-12.13/-11.04	-10.73/-11.05	-11.53/-11.53	-11.41/-11.42	-11.91/-12.79	-13.57/-13.92	-13.47/-12.66	-11.73/-11.05	-10.94/-11.05	-11.08/-10.91	-10.6/-10.48				
Θ(22.5°)	-8.83/-10.23	-11.71/-12.7	-13.37/-13.73	-13.54/-12.71	-11.97/-11.1	-10.6/-10.25	-10.45/-10.99	-11.42/-11.01	-9.8/-8.99	-8.96/-8.58	-10.48/-11.7	-12.95/-13.79	-10.76/-9.47	-9.15/-9.57	-10.11/-10.13	-10.39/-10.48	-10.63/-10.83	-11.01/-10.79	-10.22/-9.56	-8.83/-8.29	-8.06/-8	-7.87/-7.73	-6.71/-6.97					
Θ(30°)	-7.87/-10.62	-14.02/-17.4	-17.71/-17.51	-14/-10.71	-8.36/-6.98	-5.95/-5.21	-5.23/-6.07	-11.58/-11.99	-9.71/-8.62	-7.57/-11	-7.57/-8.87	-10.64/-12.21	-12.61/-11.75	-9.92/-8.16	-7.22/-7													



Radiated Composite Gain Data of Scan Radio and BLE

Appendix D

Θ(22.5°)	-19.07/-19.1	-11.61/-9.28	-9.38/-8.95	-7.69/-6.66	-5.89/-5.37	-4.94/-5.19	-5.59/-5.7	-4.85/-3	-1.65/-1.15	-1.76/-4.04	-7.51/-12.86	-18.51/-17.38	-12.07/-7.49	-4.85/-3.1	-1.8/-1.45	-1.25/-1.27	-1.03/-1.39	-1.74/-2.2	-3.25/-4.68	-6.51/-9.05	-12.58/-16.43	-15.62/-10.61	-8.02/-7.22	-8.37/-10.99
Θ(30°)	-11.61/-8.64	-7.42/-7.34	-9.29/-13.68	-13.84/-10.16	-8.27/-5.79	-4.36/-4.15	-4.81/-5.35	-4.63/-2.79	-1.12/-0.57	-1.19/-3.31	-7.26/-12.86	-16.49/-19.34	-18.62/-14	-6.9/-2.75	-0.88/-0.44	-0.73/-0.88	-0.53/-0.95	-2.4/-4.53	-6.53/-6.01	-9.91/-12.07	-12.42/-10.17	-10.69/-11.66	-12.1/-12.84	-16.18/-15.72
Θ(35°)	-8.35/-6.24	-6.07/-7.95	-12.52/-16.62	-17.85/-15.08	-9.35/-4.5	-2.22/-1.87	-2.62/-3.91	-5.38/-4.4	-2.27/-1.76	-2.87/-5.44	-1.11/-13.78	-10.98/-13.71	-17.42/-16.82	-8.07/-3.29	-1.85/-3.01	-2.68/-2.72	-1.85/-2.61	-3.67/-5.09	-6.66/-6.59	-9.96/-9.66	-11.84/-12.58	-12.76/-12.68	-12.14/-12.89	-18.67/-15.06
Θ(45°)	-13.86/-9.06	-7.99/-10.88	-17.97/-17.87	-18.76/-12.05	-6.26/-2.61	-1.46/-1.9	-2.14/-2.76	-3.96/-4.43	-4.03/-4.09	-4.71/-6.34	-8.85/-9.07	-8.48/-11.51	-17.92/-11.3	-7.74/-3.45	-3.06/-4.05	-3.95/-4.32	-4.38/-4.93	-5.19/-4.7	-4.15/-3.51	-4.32/-5.28	-6.12/-6.79	-8.6/-9.9	-9.96/-9.9	-11.8/-13.3
Θ(52.5°)	-16.52/-8.71	-8.09/-11.05	-13.74/-18.27	-14.26/-7.72	-3.6/-3.1	-4.25/-4.8	-1.39/-1.36	-2.55/-4.08	-5.33/-5.59	-5.48/-6.99	-9.29/-7.7	-8.39/-13.07	-19.18/-8.68	-6.94/-3.17	-2.09/-1.46	-2.93/-4.58	-6.45/-6.71	-6.1/-6.86	-5/-2.9	-3.96/-6.59	-6.46/-8.07	-10.87/-10.84	-10.17/-9.8	-10.48/-15.66
Θ(60°)	-17.11/-11.72	-10.25/-14.02	-13.22/-16.69	-11.18/-5.67	-3.72/-4.85	-5.71/-4.46	-1.14/-0.77	-1.48/-2.8	-4.45/-4.34	-3.51/-4.76	-6.63/-7.25	-8.54/-14.66	-17.65/-7.74	-6.79/-4.53	-0.92/-0.89	-1.82/-3.22	-5.76/-7.81	-6.57/-5.83	-4.41/-3.48	-5.01/-5.95	-5.89/-7.43	-12.4/-14.09	-10.2/-9.08	-10.15/-10.34
Θ(67.5°)	-15.28/-10.48	-14.18/-14.31	-16.67/-13.5	-9.02/-6.16	-5.6/-6.54	-8.55/-6.11	-1.77/-1.29	-1.86/-2.88	-5.83/-4.14	-2.78/-4.88	-8.15/-9.12	-11.53/-18	-13.97/-6.43	-7.21/-5.65	-1.95/-1.18	-2.24/-3.03	-4.54/-6.63	-7.76/-6.44	-4.76/-3.64	-5.81/-5.66	-5.58/-8.89	-16.23/-19.45	-13.8/-13.71	-15.79/-18.51
Θ(75°)	-15.7/-10.5	-17.03/-9.13	-11.42/-10.01	-8.02/-7.45	-7.31/-7.93	-8.74/-6.92	-3.02/-1.97	-2.22/-3.46	-7.86/-5.46	-3.72/-5.9	-9.34/-9.14	-13.83/-17.7	-13.59/-7.3	-5.87/-7.2	-4.32/-3.42	-3.98/-3.28	-4.37/-5.8	-5.57/-5.85	-5.29/-4.6	-6.82/-6.54	-4.21/-9.39	-18.05/-19.24	-17.11/-15.42	-18.97/-19.07
Θ(82.5°)	-17.93/-15.8	-16.06/-6.7	-12.11/-12.06	-8.94/-9.34	-10.16/-10.12	-9.47/-9.06	-5.34/-4.1	-3.74/-4.49	-10.35/-6.53	-5.23/-9.92	-13.6/-13.17	-17.33/-14.19	-13.84/-9.02	-7.33/-9.42	-7.01/-7.23	-6.54/-5.55	-5.6/-5.2	-5.44/-6.16	-7.91/-6.72	-6.52/-13.29	-19.05/-16.89	-17.5/-19.08	-18.23/-18.45	
Θ(90°)	-17.91/-18.32	-14.62/-5.56	-9.41/-11.19	-8.48/-10.27	-14.45/-11.51	-9.13/-12.24	-7.77/-5.38	-5.66/-6.66	-11/-6.92	-6.7/-12.52	-12.29/-12.85	-17.22/-16.37	-15.11/-11.65	-7.68/-8.66	-9.42/-9.62	-6.94/-6.75	-7.93/-6.92	-6.41/-7.79	-9.31/-9.09	-11.43/-9.33	-8.2/-15.33	-19.18/-19.08	-18.18/-18.9	-18.93/-17.8
Θ(97.5°)	-19.28/-16.88	-12.46/-5.53	-10.49/-13.01	-8.06/-10.08	-17.2/-13.48	-10.03/-15.21	-11.12/-7.53	-8.88/-11.93	-11.77/-8.2	-12.15/-14.26	-11.72/-15.73	-18.66/-14.36	-16.55/-14.9	-9.88/-10.5	-15.96/-16.55	-13.04/-11.27	-12.55/-10.87	-10.12/-11.31	-15.77/-13.97	-15.74/-18.75	-17.61/-14.24	-16.79/-17.93	-17.79/-17.78	
Θ(105°)	-17.41/-16.98	-11.24/-5.98	-10.28/-13.74	-9.55/-12.13	-16.73/-17.27	-10.17/-18.32	-13.99/-7.98	-10.46/-16.08	-14.95/-10.29	-18.09/-15.77	-12.61/-17.85	-19.27/-15.72	-14.65/-18.08	-13.31/-11.67	-19.48/-17.87	-16.52/-15.23	-16.59/-15.5	-14.69/-13.82	-17.44/-15.87	-13.17/-14.17	-19.12/-18.92	-17.66/-13.84	-18.65/-18.46	-18.15/-18.58
Θ(112.5°)	-18.74/-17.54	-13.15/-8.64	-15.87/-18.79	-12.86/-11.1	-12.06/-17.96	-11.28/-16.46	-15.09/-11.2	-15.15/-18.78	-11.75/-10.94	-18.85/-14.56	-13.9/-17.92	-18.54/-13.4	-17.79/-19.37	-11.75/-14.86	-17.59/-17.68	-17.64/-13.57	-12.48/-15.19	-14.33/-9.95	-19.03/-18.53	-17.08/-16.68	-17.52/-18.52	-17.98/-15.27	-18.01/-18.77	-19.64/-14.94
Θ(120°)	-15.79/-10.21	-10.7/-11.73	-14.68/-15.22	-15.54/-11.24	-12.48/-18.05	-15.7/-15.31	-13.31/-14.06	-16.02/-18.52	-13.64/-16.12	-12.15/-2.957	-14.67/-18.96	-17.87/-17.16	-17.31/-12.93	-11.88/-11.37	-17.93/-17.63	-17.6/-12.43	-11.48/-10.77	-17.5/-12.69	-18/-16.85	-18.89/-14.02	-12.84/-11.97	-17.66/-17.55	-18.1/-17.9	-15.77/-18.78
Θ(127.5°)	-18.77/-13.18	-10.83/-10.91	-15.84/-18.17	-17.86/-13.44	-11.47/-17.46	-18.69/-11.82	-12.68/-19.17	-17.31/-19.34	-16.94/-18.02	-12.22/-9.87	-16.31/-17.77	-18/-13.17	-18.87/-15.8	-11.44/-14.12	-14.42/-17.81	-18.21/-18.78	-13.62/-16.65	-18.29/-14.11	-18.43/-13.99	-18.58/-17.92	-17.19/-18.98	-19.09/-17.29	-19.06/-17.19	-18.11/-18.98
Θ(135°)	-18.48/-17.58	-16.54/-18.36	-17.81/-18.5	-18.01/-14.47	-13.37/-18.22	-18.14/-14.44	-15.13/-13.98	-16.22/-18.98	-16.76/-18.92	-13.67/-12.13	-19.07/-15.11	-17.73/-18.35	-13.16/-18.66	-14.77/-10.03	-18.32/-17.23	-17.5/-18.61	-12.82/-12.53	-11.81/-18.02	-18.74/-16.92	-17.43/-18.32	-18.45/-18.63	-17.85/-15.68	-17.25/-16.51	-19/-17.52
Θ(142.5°)	-19.33/-17.47	-13.32/-16.1	-17.91/-18.32	-17.13/-18.15	-18.73/-18	-14.37/-18.38	-18.01/-17.51	-18.76/-15.33	-11.72/-16.1	-17.79/-10.05	-10.88/-17.81	-17.28/-16.91	-12.33/-13.57	-18.68/-17.73	-14.14/-18.79	-18.72/-17.64	-17.58/-17.68	-15.21/-18.89	-15.93/-16.68	-17.42/-19.14	-18.34/-18.43	-16.51/-12.02	-11.49/-11.9	
Θ(150°)	-18.99/-14.65	-13.2/-16.2	-18.46/-18.8	-15.89/-14.44	-14.61/-14.78	-17.27/-19.06	-18.98/-18.38	-17.13/-14.14	-12.62/-17.8	-18.76/-17.64	-14.41/-11.36	-12.76/-18.94	-14.71/-11.11	-12.35/-15.75	-15.17/-17.62	-18.14/-18.59	-19.82/-16.02	-14.98/-15.39	-10.98/-12.67	-15.72/-15.69	-19.6/-18.29	-18.05/-18.55	-18.14/-19.03	-16.97/-18.82
Θ(157.5°)	-18.94/-14.48	-15.14/-19.03	-18.22/-15.97	-12.27/-11.68	-15.46/-18.47	-19.16/-14.27	-14.3/-18.85	-17.71/-14.26	-12.29/-14.22	-17.21/-14.45	-10.28/-9.67	-12.19/-16	-17.73/-16.33	-8.69/-7.27	-9.43/-13.75	-18.83/-18.99	-18.58/-18.02	-19.06/-18.47	-14.6/-15.47	-17.72/-17.28	-18.26/-16.21	-16.79/-18.48	-17.22/-16.14	-14.03/-17.56
Θ(165°)	-18.6/-17.2	-17.38/-18.41	-18.61/-18.72	-17.33/-19.11	-17.2/-15.28	-15.4/-15.94	-18.57/-18.77	-16.56/-12.88	-11.37/-12.81	-17.24/-17.08	-13.3/-10.94	-9.83/-10.93	-15.13/-18.14	-15.29/-12.98	-12.76/-13.73	-19.35/-18.45	-18.28/-17.92	-18.75/-18.97	-17.76/-14.53	-14.13/-15.73	-19.37/-18.29	-18.27/-18.23	-17.66/-17.19	-18.63/-18.17
Θ(172.5°)	-18.96/-17.2	-18.94/-17.79	-17.91/-17.69	-18.53/-18.9	-18.85/-19.15	-17.52/-18.89	-18.55/-17.83	-19.48/-18.96	-18.02/-18.38	-19.21/-18.88	-16.73/-16.06	-17.02/-18.85	-18.75/-18.04	-16.15/-14.76	-14.56/-15.58	-18.45/-19.13	-18.36/-18.08	-18.58/-18.73	-18.29/-18.35	-18.77/-18.27	-18.23/-18.74	-18.89/-19.22	-18.77/-17.49	-18.9/-18.12
Θ(180°)	-17.73/-18.46	-18.67/-19.14	-18.76/-19.16	-18.8/-18.92	-18.3/-18.58	-19.01/-17.96	-17.16/-6	-16.18/-16.1	-15.65/-15.61	-15.29/-14.93	-14.29/-14	-13.28/-13.3	-13.81/-15.27	-18.3/-17.4	-18.88/-18.61	-18.31/-17.77	-17.18/-18.13	-17.74/-17.88	-17.93/-15.48	-14.5/-14.04	-14.86/-15.82	-15.5/-15.27	-15.95/-16.9	
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°)	-5.18/-5.5	-5.21/-5.51	-5.59/-6.2	-6.16/-6.39	-7.05/-7.77	-8.15/-10.53	-12.57/-14.33	-17.25/-17.46	-14.47/-12.44	-10.86/-8.98	-7.72/-6.67	-5.76/-5.05	-4.83/-4.77	-5.11/-4.68	-4.58/-4.98	-5.63/-6.42	-7.07/-8.17	-9.37/-11.2	-13.02/-14.5	-14.93/-13.67	-11.33/-9.82	-9.06/-7.72	-6.91/-6.49	-6.14/-5.39
Θ(7.5°)	-4.78/-4.66	-4.17/-4.13	-4.66/-5.0	-5.54/-6	-7.35/-9.13	-10.58/-11.98	-12.38/-12.25	-11.46/-10.41	-8.78/-7.58	-6.65/-6.56	-4.65/-4.14	-3.63/-3.37	-3.5/-3.67	-4.03/-4.41	-4.55/-5.21	-6.57/-7.69	-8.28/-9.84	-11.77/-13.38	-17.24/-17.32	-17.68/-19.28	-16.42/-14.09	-12.77/-10.63	-8.73/-7.35	-6.45/-5.13
Θ(15°)	-3.92/-4.02	-4.81/-5.25	-5.35/-5.59	-6.39/-8.16	-10.94/-14.8	-18.16/-18.27	-17.68/-19	-14.64/-11.39	-8.49/-6.08	-4.17/-2.85	-2.15/-1.35	-0.78/-0.44	-0.71/-1.9	-2.31/-3.68	-5.35/-7.21	-8.58/-9.37	-10.29/-11.46	-14.36/-18.55	-17.58/-15.93	-12.89/-11.24	-11.22/-12.42	-13.59/-13.6	-11.02/-8.29	-5.97/-4.4
Θ(22.5°)	-3.95/-3.85	-6.38/-10.33	-12.67/-13.52	-14.83/-16.52	-19.19/-15.12	-11.03/-9.08	-8.78/-8.83	-5.92/-10.92	-10.93/-7.43	-3.41/-2.21	-1.56/-1.21	-0.96/-0.74	-0.64/-0.7	-2.12/-2.13	-3.64/-5.41	-6.78/-8.34	-11.13/-15	-15.78/-10.36	-17.77/-6.16	-6.04/-7.37	-9.48/-12.41	-14.61/-15.28	-17.57/-18.81	-5.93/-3.67
Θ(30°)	-8.07/-9.19	-13.75/-18.65	-17.19/-14.64	-13.81/-17.74	-14.12/-8.33	-6.57/-7.23	-8.37/-12.2	-8.79/-10.01	-13.57/-14.94	-8.63/-5.11	-3.52/-3.27	-3.54/-3.67	-3.56/-2.74	-1.52/-1.08	-2.09/-3.84	-5.74/-6.23	-8.67/-18.78	-19.07/-11.5	-8.72/-7.51	-7.38/-7.46	-8.14/-10.18	-13.06/-13.28	-11.59/-10.07	-9.56/-8.75
Θ(37.5°)	-13.24/-17.18	-17.24/-19.16	-19.02/-18.62	-16.93/-11.52	-8.38/-6.91	-6.75/-8.2	-10.51/-13.13	-13.73/-13.02	-12.86/-10.95	-7.2/-4.88	-3.27/-2.84	-1.92/-1.82	-3.02/-3.3	-2.08/-2.26	-3.72/-4.21	-3.12/-2.23	-3.76/-7.08	-11.16/-15.27	-15.96/-13.98	-11.36/-8.25	-7.18/-8.99	-16.68/-17.29	-10.39/-9.48	-10.62/-10.82
Θ(45°)	-15.35/-16.11	-16.13/-14.23	-15.35/-10.86	-7.39/-6.42	-4.5/-4.6	-5.4/-6.96	-9.94/-12.2	-10.39/-6.54	-4.53/-3.81	-3.27/-1.89	-0.09/-0.1	1.48/-1.87	-0.08/-0.57	-1.75/-3.11	-5.35/-4	-1.42/-0.05	-0.05/-1.72	-5.07/-9.93	-13.23/-12.14	-8.16/-5.11	-3.6/-3.7	-7.02/-12.89	-13.01/-10.57	-13.63/-17.93
Θ(52.5°)	-10.42/-11.38	-16.38/-13.65	-10.92/-4.43	-2.55/-3.22	-2.12/-3.13	-4.76/-6.71	-9.36/-10.12	-6.87/-2.57	-0.01/-0.13	-1.04/-0.29	1.87/-2.89	3.33/-3.2	1.83/-0.82	-0.44/-0.71	-1.71/-1.27	-1.11/-0.41	0.97/-0.34	-2.81/-6.84	-8.81/-8.4	-5.77/-2.94	-1.28/-0.63	-2.32/-4.58	-7.09/-8.01	-8.98/-10.46
Θ(60°)	-4.11/-5.85	-10.49/-13.85	-9.2/-1.87	-1.02/-2.6	-3.09/-2.98	-2.91/-4.05	-5.38/-5.37	-3.3/-0.32	1.47/-0.96	-1.32/-0.37	1.22/-17	2.35/-2.84	1.72/-135	7.01/-172	1.50/-42	-1.08/-68	1.17/-205	-1.52/-3.68	-4.37/-4.71	-3.35/-1.23	0.05/-0.4	-1.74/-2.57	-3.04/-2.44	-2.92/-3.65
Θ(67.5°)	-4.39/-4.14	-9.01/-13.39	-8.6/-2.02	-1.75/-3.88	-5.07/-2.63	-2.95/-3.27	-2.93/-3.04	-1.89/-0.																



Radiated Composite Gain Data of Scan Radio and BLE

Appendix D

Θ(75°)	-17.3/-15.65	-18.53/-18.95	-15.51/-11.12	-10.41/-11.07	-5.44/-6.26	-8.75/-7.28	-9.53/-9.37	-5.19/-3.94	-3.37/-7.66	-8.73/-13.26	-8.42/-11.04	-17.42/-12.51	-8.39/-6.86	-11.98/-15.64	-5.96/-3.26	-3.99/-7.13	-4.21/-2.66	-3.42/-5.62	-4.88/-4.23	-5.77/-6.84	-11.36/-14.92	-10.18/-4.97	-10.31/-18.43	-12.86/-11.36
Θ(82.5°)	-17.97/-18.06	-17.74/-17.55	-13.06/-9.9	-12.01/-11.13	-4.99/-5.89	-8.25/-6.99	-12.4/-10.4	-5.5/-6.06	-6.67/-8.47	-9.18/-15.02	-9.47/-10.53	-18.13/-11.51	-8.49/-5.75	-10.9/-14.22	-7.76/-5.63	-6.22/-6.94	-5.96/-5.03	-4.5/-6.68	-8.29/-5.66	-6.57/-9.08	-11.36/-14.71	-12.3/-7.36	-12.58/-11.72	-12.89/-12.61
Θ(90°)	-17.44/-18.53	-18.52/-15.82	-11.64/-9.95	-10.59/-10.67	-6.45/-7.32	-8.09/-7.22	-14.79/-11.31	-6.41/-7.63	-9.51/-8.59	-12.77/-18.21	-13.32/-10.65	-18.15/-14.25	-11.24/-8.58	-13.32/-14.22	-11.05/-8.54	-18.18/-9.22	-18.58/-16.39	-7.95/-10.5	-10.05/-7.06	-17.95/-10.6	-14.58/-18.96	-16.75/-	-16.61/-13.3	-17.83/-14.27
Θ(97.5°)	-14.49/-19.1	-17.75/-12.19	-11.66/-9.82	-12.25/-9.66	-6.05/-7.06	-7.49/-8.35	-16.47/-12.07	-8.77/-11.45	-11.88/-9.43	-13.47/-18.66	-14.76/-11.47	-19.05/-15.08	-14.66/-9.79	-12.38/-15.58	-10.6/-9.4	-12.45/-9.67	-12.31/-16.68	-8.69/-8.85	-16.58/-12.14	-13.01/-10.86	-16.74/-17.16	-17.86/-19.07	-12.95/-14.45	-15.4/-16.62
Θ(105°)	-18.21/-18.89	-18.44/-9.06	-9.34/-6.89	-12.83/-11.41	-9.52/-13.38	-9.46/-10.12	-12.73/-11.99	-11.98/-15.29	-11.93/-12.16	-14.88/-18.3	-17.75/-12.7	-17.13/-17.66	-14.53/-13.34	-14.59/-15.42	-10.87/-11.12	-16.58/-10.12	-12.78/-19.1	-12.78/-13.77	-18.09/-17.3	-17.31/-18.98	-18.83/-18.89	-18.61/-16.35	-18.05/-18.01	-18.04/-17.62
Θ(112.5°)	-14.65/-17.19	-18.79/-12.51	-13.36/-13.52	-14.23/-12.63	-15.79/-11.62	-9.74/-13.51	-11.53/-16.35	-18.61/-18.44	-13.37/-17.13	-17.49/-18.17	-18.71/-16.36	-17.68/-18.37	-15.89/-18.9	-17.65/-12.18	-13.86/-18.26	-13.25/-18.39	-17.95/-13.82	-19.07/-15.12	-12.12/-11.19	-17.31/-17.78	-18.48/-18.9	-18.58/-19.33	-18.45/-19.3	
Θ(120°)	-12.28/-10.98	-16.21/-9.7	-14.6/-17.7	-10.41/-9.99	-14.4/-11.51	-13.39/-16.01	-10.04/-16.11	-19.42/-17.75	-18.81/-17.77	-15.17/-17.51	-19.23/-18.53	-14.61/-18.61	-17.91/-18.16	-18.43/-18.48	-14.72/-18.61	-17.72/-14.14	-13.28/-14.45	-18.96/-9.95	-10.35/-17.92	-18.07/-14.99	-15.96/-15.24	-18.61/-18.72	-18.71/-18.14	-16.2/-15.82
Θ(127.5°)	-14.07/-13.42	-10.58/-	-14.75/-17.83	-13.66/-14.32	-19/-18.52	-15.63/-8.88	-11.71/-18.34	-16.93/-19.2	-14.25/-14.68	-16.32/-17.89	-18.3/-18.47	-18.64/-15.31	-14.41/-17.28	-17.82/-18.55	-15.94/-15.67	-18.65/-16.88	-18.48/-18.12	-18.16/-10.3	-17.44/-14.02	-17.66/-16.73	-18.45/-13.42	-15.61/-13.72	-18.53/-14.86	-17.65/-14.59
Θ(135°)	-10.42/-10.55	-14.79/-14.41	-17.6/-16.86	-16.07/-13.76	-14.76/-18.66	-13.99/-11.11	-15.11/-13.54	-15.33/-19.18	-18.99/-12.85	-11.69/-18.27	-14.91/-19.05	-14.95/-17.14	-17.85/-14.34	-13.72/-18.29	-13.64/-18.23	-19.22/-18.94	-17.45/-18.7	-17.96/-14.56	-17.91/-15.16	-18.46/-16.36	-18.95/-15.58	-18.73/-10.21	-17.24/-14.27	-19.31/-12.23
Θ(142.5°)	-9.38/-14.73	-13.01/-17.69	-18.09/-17.82	-19.23/-17.69	-16.71/-17.5	-18.2/-19.29	-16.06/-12.86	-15.25/-18.23	-17.46/-17.46	-19.09/-14.65	-10.99/-12.84	-17.68/-17.47	-19.38/-18.27	-17.61/-18.2	-17.73/-15.7	-18.13/-16.06	-18.04/-18.16	-18.55/-15.81	-12.13/-14.05	-18.37/-18.86	-18.26/-16.11	-14.78/-17.65	-14.9/-10.89	-9.69/-8.63
Θ(150°)	-13.32/-10.54	-11.56/-16.43	-18.93/-17.58	-13.89/-12.87	-13.53/-13.86	-16.47/-18.03	-18.36/-17.61	-18.6/-16.36	-18.23/-17.75	-18.04/-18.89	-11.83/-11.63	-16.03/-17.47	-16.69/-14.22	-19.12/-17.02	-12.29/-18.4	-18.44/-14.63	-15.88/-17.67	-17.74/-16.21	-17.02/-18.12	-16.17/-16.38	-15.7/-12.23	-12.73/-15.98	-17.92/-19.18	-15.13/-12.56
Θ(157.5°)	-18.43/-17.56	-13.94/-14.51	-18.92/-19.22	-16.63/-14.42	-15.59/-18.81	-17.8/-17.55	-18.07/-18.46	-16.69/-13.37	-15.06/-18.2	-18.87/-15.14	-15.82/-12.82	-16.35/-16.27	-14.53/-17.6	-18.43/-12.25	-13.7/-18.05	-18.46/-17.83	-17.84/-17.93	-19.11/-19.03	-17.99/-18.35	-18.3/-13.69	-16.81/-11.91	-15.67/-18.74	-15.2/-11.46	-12.06/-16.6
Θ(165°)	-15.01/-15.65	-14.35/-13.26	-15.08/-18.98	-17.85/-17.67	-16.56/-17.29	-18.31/-18.25	-18.77/-19.27	-15.68/-13.9	-14.28/-16.56	-17.92/-19.29	-17.09/-15.23	-14.85/-14.83	-17.97/-18.05	-17.59/-14.95	-15.45/-18.47	-17.48/-18.08	-17.36/-19.14	-19.32/-18.75	-18.29/-18.02	-17.93/-15.7	-17.07/-17.68	-17.85/-13.97	-11.37/-11.1	-11.26/-14.19
Θ(172.5°)	-14.79/-12.82	-11.32/-11.44	-13.03/-16.41	-18.02/-18.77	-19.04/-17.99	-15.45/-13.77	-11.86/-11.14	-11.51/-11.79	-12.38/-12.44	-13.36/-14.63	-13.51/-14.37	-17.05/-19.49	-17.8/-14.62	-12.42/-13.3	-15.28/-18.66	-18.9/-18.85	-18.82/-19.23	-17.96/-18.54	-18.93/-18.29	-17.95/-15.5	-14.66/-13.28	-12.86/-12.71	-12.67/-14.75	
Θ(180°)	-15.4/-17.25	-17.91/-18.16	-17.95/-17.91	-18.28/-18.26	-18.28/-17.98	-18.44/-16.44	-14.97/-14.7	-15.61/-16.78	-18.62/-18.99	-19.19/-17.92	-16.46/-14.44	-13.01/-12.41	-12.39/-12.99	-17.99/-18.38	-18.64/-18.89	-18.43/-19.28	-16.61/-14.13	-13.42/-12.31	-11.41/-10.59	-11.64/-11.91	-12.02/-13.01	-13/-14.07		
Freq(Hz)	5.785GPol.	Theta/Ant. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-8.69/-4.74	-7.61/-8.38	-8.69/-9.9	-11.15/-12.24	-13.16/-13.05	-12.59/-11.1	-9.17/-9.78	-8.61/-7.77	-6.9/-6.84	-6.18/-5.91	-5.88/-5.89	-6.49/-7.32	-7.17/-8.4	-9.09/-10.36	-11.33/-11.52	-11.44/-11.85	-10.24/-10.58	-9.64/-9.55	-8.14/-7.91	-7.65/-7.45	-6.85/-6.65	-6.98/-6.4	-6.45/-6.73	-6.47/-6.35
Θ(7.5°)	-9.13/-9.94	-9.78/-9.85	-9.66/-9.82	-9.93/-9.95	-10.98/-11.48	-12.62/-14.34	-15.72/-18	-18.33/-13.8	-10.48/-8.37	-6.28/-4.8	-3.55/-2.58	-2.05/-1.77	-1.8/-2.04	-2.49/-3.61	-5.22/-6.89	-9.12/-12.56	-17.34/-18.93	-19.22/-14.94	-12.24/-9.72	-8.05/-6.54	-5.87/-5.69	-5.46/-5.53	-6.21/-6.73	-7.7/-8.18
Θ(15°)	-9.55/-10.72	-10.13/-8.46	-7.56/-7	-6.71/-17.8	-7.73/-8.92	-11.19/-14.17	-16.06/-15.2	-14.0/-12.21	-10.2/-8.06	-5.47/-2.92	-0.62/-0.74	1.58/2.32	2.491/96	0.74/-0.85	-3.09/-5.65	-8.4/-10.95	-13.21/-12.68	-10.75/-8.29	-6.39/-5.32	-6.06/-4.75	-9.41/-11.16	-10.33/-8.57	-7.52/-6.76	-7.61/-8.4
Θ(22.5°)	-8.83/-11.17	-16.16/-10.58	-7.31/-4.81	-3.95/-4.26	-6.54/-11.07	-17.96/-17.29	-11.78/-8.02	-5.08/-5.1	-5.32/-6.28	-6.45/-4.55	-2.17/-0.04	0.831/36	1.741/36	0.18/-1.84	-4.24/-6.17	-6.85/-6.02	-2.12/-1.85	-2.53/-3.92	-6.83/-11.91	-18.97/-18.09	-18.9/-12.51	-10.13/-7.92		
Θ(30°)	-13.43/-16.59	-18.76/-19.5	-13.59/-9.53	-8.13/-10.59	-13.71/-12.48	-11.12/-10.28	-9.09/-7.18	-5.02/-3.93	-3.96/-5.04	-6.6/-7.39	-5.05/-2.97	-2.25/-1.73	-0.99/-0.5	-0.66/-1.75	-3.53/-6.25	-8.35/-7.61	-4.31/-2.46	-1.87/-3.06	-4.75/-6.4	-7.5/-8.22	-9.15/-11	-11.69/-12.05	-14.31/-16.02	-16.6/-14.19
Θ(37.5°)	-8.72/-9.14	-12.4/-18.19	-17/-15.46	-10.66/-8.68	-4.18/-6.37	-5.26/-7.57	-8.5/-9.85	-8.37/-6.49	-3.27/-3.71	-2.6/-1.31	-1.12/-1.27	-5.27/-6.89	-5.47/-2.99	-1.05/-1.14	-3.63/-8.26	-10.6/-8.06	-6.98/-4.59	-4.12/-6.79	-8.85/-9.11	-7.22/-3.77	-6.46/-6.08	-6.22/-6.42	-6.98/-9.4	-12.54/-10.6
Θ(45°)	-6.23/-5.95	-7.34/-11.48	-11.03/-8.22	-5.97/-3.35	-1.11/-1.57	-3.55/-5.51	-5.99/-5.96	-6.4/-1.18	0.91/36	1.57/2.52	2.52/0.9	-0.23/-0.81	2.92/-1.4	0.92/0.14	-1.4/-1.27	-2.12/-2.41	-2.23/-3.45	-6.25/-5.9	-3.79/-2.56	-2.87/-3.32	-2.97/-2.43	-2.91/-3.47	-6.18/-7.54	
Θ(52.5°)	-3.42/-3.77	-3.98/-4.36	-6.65/-8.87	-8.7/-3.22	-1.51/-2.88	-3.77/-13.3	-2.95/-2.69	-1.2/-1.31	2.58/2.61	2.77/3.65	3.32/54	1.441/31	-0.04/-1.7	2.14/0.58	-0.67/-1.65	-0.39/0.18	-0.55/-1.43	-1.14/-3.19	-5.32/-4	-1.55/-1.16	-2.59/-2.2	-1.21/-0.1	0.21/55	-0.95/-1.58
Θ(60°)	-1.82/-1.87	-3.05/-1.71	-3.03/-0.77	-7.57/-1.85	-0.29/-2.67	-3.28/-14.3	-0.44/0.73	1.84/2.87	3.04/-142	1.47/2.43	3.43/2.91	2.89/2.97	2.56/2.82	3.63/-149	0.4/-0.44	1.62/0.03	1.46/-0.5	-1.1/-1.54	-2.84/-2.05	-0.74/-1.52	-3.95/-4.05	-4.28/-2.06	-0.79/2.08	1.18/0.7
Θ(67.5°)	-3.04/-1.83	-2.05/-1	-1.05/-4.58	-5.05/-0.23	1.42/-1.77	-2.92/-1.73	-0.44/-1.72	2.78/2.66	2.09/-1.22	-0.87/-1.05	2.65/2.52	3.66/3.82	3.38/2.97	3.18/0.85	-0.46/-0.06	2.42/2.36	1.36/-1.32	-1.30/-28	-0.68/-2.82	-6.02/-5.01	-7.45/-5.88	-3.42/0.44	-0.14/0.53	
Θ(75°)	-4.07/-3.09	-2.3/-2.84	-1.02/-3.77	-4.73/0.07	-1.83/-2.5	-2.96/-1.7	-0.46/-1.86	3.07/2.2	1.23/-2.99	-3.86/0.24	1.11/1.8	3.06/-4.5	3.52/3.1	2.01/-0.64	-1.13/-1.03	1.62/1.96	0.65/-3.33	-1.93/1.7	0.09/-0.44	0.32/-2.69	-6.38/-4.15	-8.29/-6.43	-3.98/-1.21	-2.36/-3.85
Θ(82.5°)	-6.61/-4.65	-3.04/-4.14	-0.93/-3.25	-5.25/0.48	1.8/-3.09	-2/-0.44	-1.66/0.78	2.2/0.97	0.48/-3.4	-3.89/-0.09	-0.40/-36	2.27/3.55	2.39/0.84	-0.57/-2.11	-2.54/-2.19	1.14/-151	0.05/-5.93	-3.03/-1.85	0.42/-0.69	0.33/-2.75	-5.18/-3.1	-9.92/-10.56	-5.58/-3.52	-5.14/-7.97
Θ(90°)	-8.75/-5.75	-6/-5.76	-2.32/-3.62	-6.19/0.05	0.96/-4.66	-2.54/-0.25	-2.96/-2.43	-0.07/-0.75	-1.06/-4.27	-4.33/-0.89	-2.15/-0.87	1.5/2.03	2.28/-4.07	-2.28/-4.42	-2.95/-6.43	-1.35/-0.08	-0.19/-5.12	-4.05/0.22	-0.97/-3.07	-1.2/-3.41	-6.44/-3.6	-9.13/-11.92	-7.29/-7.18	-10.57/-13.99
Θ(97.5°)	-9.29/-4.72	-7.34/-6.31	-3.43/-4.93	-9.09/-1.75	-0.7/-3.36	-2.14/-0.67	-5.17/-4.58	-1.74/-2.36	-2.21/-5.04	-4.21/-3.08	-5/-2.89	-0.24/-0.12	0.47/-1.3	-4.63/-5.81	-2.82/-5.41	-3.16/-2.47	-1.6/-4.28	-5.99/-4.37	-3.8/-8.08	-6.35/-6.38	-12.31/-12.11	-6.42/-9.2	-13.61/-11.9	
Θ(105°)	-15.71/-6.58	-8.61/-7.54	-7.14/-13.34	-10.66/-14.8	-2.48/-6.01	-2.88/-1.09	-4.77/-4.94	-2.95/-3.28	-3.99/-4.78	-4.51/-5.32	-6.39/-4.78	-2.77/-2.56	-1.54/-3.51	-5.74/-7.8	-3.75/-4.73	-7.37/-5.92	-4.06/-7	-13.1/-12.65	-8.32/-17.18	-14.14/-9.13	-7.37/-7.73	-9.58/-11.76	-8.1/-11.76	-19.31/-16.82
Θ(112.5°)	-19.07/-6.37	-6.9/-7.72	-13.31/-12.45	-4.69/-4.17	-4.94/-6.62	-4.08/-3.87	-6.54/-7.1	-5.2/-3.42	-4.73/-5.12	-5.32/-6.76	-7.55/-4.58	-3.65/-4.22	-3.65/-9.1	-15.97/-17.13	-5.4/-6.3	-10.67/-6.03	-6.5/-10.99	-13.66/-9.97	-5.35/-11.4	-13.15/-10.48	-10.86/-13.21	-13.21/-13.68	-9.27/-10.14	-18.02/-17.36
Θ(120°)	-9.71/-5.1	-6.11/-6.87	-12.95/-10.39	-5.97/-6.38	-9.06/-7.96	-5.8/-9.04	-13.05/-13.24	-9.57/-5.8	-5.8/-5.1	-4.27/-9.36	-1.17/-3.84	-5.24/-5.04	-4.74/-8.72	-14.99/-19.31	-13.01/-7.18	-8.69/-7.79	-8.97/-7.3	-5.67/-8.37	-4.39/-					



Radiated Composite Gain Data of Scan Radio and BLE

Appendix D

Θ(120°)	-13.29/-13.42	-13.33/-7.98	-9.14/-7.98	-11.26/-13.85	-10.01/-13.73	-9.41/-8.54	-10.33/-15.29	-12.42/-15.15	-15.84/-10.25	-9.83/-13.33	-12.41/-15.71	-19.36/-17.24	-14.87/-15.53	-15.03/-9.91	-11.85/-18.67	-18.73/-14.99	-17.94/-19.1	-18.89/-17.48	-18.95/-14.94	-11.6/-13.12	-18.45/-18.01	-17.8/-18.69	-11.15/-11.58	-16.3/-19.26	
Θ(127.5°)	-15.2/-18.61	-18.44/-17.53	-18.2/-13.86	-18.66/-9.8	-10.8/-6.82	-16.22/-18.08	-7.21/-10.41	-17.91/-18.93	-9.74/-10.9	-15.88/-14.77	-12.56/-18.78	-19.06/-15.82	-14.92/-17.42	-18.31/-17.41	-10.98/-16.01	-18.67/-10.02	-11.69/-16.38	-18.08/-11.9	-18.36/-18.5	-14.86/-16.12	-18.05/-18.01	-18.47/-18.39	-17.91/-15.83	-18.66/-11.17	
Θ(135°)	-15.33/-15.74	-11.43/-8.95	-17.13/-13.82	-12.26/-7.76	-13.69/-16.83	-15.12/-7.81	-8.97/-15.87	-11.78/-12.28	-18.49/-13.36	-11.39/-13.73	-17.26/-17.7	-18.63/-18.05	-13.73/-13.64	-14.14/-14.54	-18.39/-17.37	-14.2/-13.36	-17.08/-15.93	-17.34/-15.16	-18.09/-15.35	-14.81/-18.24	-17.97/-19.38	-15.32/-18	-18.94/-11.14		
Θ(142.5°)	-18.53/-13.19	-11.04/-13.12	-18.38/-13.76	-13.96/-13.34	-10.3/-10.33	-17.17/-17.47	-17.92/-15.56	-11.2/-12.95	-16.21/-18.17	-12.26/-18.1	-16.65/-18.76	-13.01/-9.61	-13.71/-18.6	-14.05/-14.97	-17.62/-19.09	-18.44/-13.39	-17.36/-17.7	-14.64/-16.27	-18.71/-13.95	-18.73/-17.79	-18.63/-18.12	-17.24/-13.87	-18.5/-17.65	-16.51/-18.21	
Θ(150°)	-14.16/-12.8	-14.56/-18.54	-18.74/-16.92	-18.47/-19.13	-18.43/-16.22	-11.74/-12.93	-18.09/-17.86	-18.37/-13.66	-11.59/-18.88	-17.06/-18.63	-14.31/-10.3	-18.36/-16.83	-14.35/-13.08	-17.14/-16.92	-15.14/-15.83	-16.14/-16.84	-18.37/-18.16	-17.45/-17.72	-15.07/-17.68	-19.23/-17.63	-17.39/-19.31	-18.14/-18.82	-17.7/-17.72	-15.09/-18.15	
Θ(157.5°)	-10.53/-9.78	-8.29/-10.19	-13.64/-14.39	-12.98/-12.35	-12.36/-12.2	-14.44/-16.67	-14.64/-13.3	-14/-12.5	-11.83/-15.59	-18.05/-17.96	-11.87/-9.53	-14.64/-18.31	-14.16/-10.78	-15.5/-16.82	-17.77/-17.83	-16.88/-18.22	-17.99/-18.76	-18.7/-18.47	-16.62/-18.56	-14.22/-13.68	-17.37/-18.79	-18.17/-18.75	-15.22/-14.13	-14.13/-17.56	
Θ(165°)	-16.61/-11.42	-11.86/-12.97	-13.48/-14.88	-17.76/-18.57	-17.59/-17.98	-18.81/-16.73	-14.97/-16.41	-18.67/-17.03	-14.34/-15.01	-19.1/-17.74	-17.66/-15.22	-13.69/-13.34	-15.84/-18.89	-18.82/-17.95	-17.77/-18.92	-18.62/-19.25	-17.99/-18.03	-17.98/-19.09	-18.81/-17.64	-18.51/-18.86	-17.61/-17.16	-18.37/-16.44	-11.64/-10.16	-12.43/-17.46	
Θ(172.5°)	-17.13/-16.08	-15.52/-15.53	-16.15/-15.98	-15.33/-14.6	-12.85/-12.5	-11.72/-10.69	-10.5/-9.86	-10.51/-11.41	-12.79/-14.33	-16.09/-17.45	-16.69/-16.35	-17.87/-18.96	-18.94/-18.32	-18.7/-18.76	-17.54/-18.32	-17.78/-17.57	-18.72/-17.3	-13.74/-13.03	-12.82/-13.04	-14.33/-13.27	-12.05/-12.04	-11.84/-11.64	-11.87/-12.48	-15.99/-18.27	
Θ(180°)	-16.42/-17.58	-18.86/-18.27	-19.17/-19.05	-18.68/-17.49	-17.04/-17.38	-18.2/-10.56	-17/-15.53	-14.19/-12.89	-12.19/-11.95	-12.96/-13.37	-14.36/-16.34	-14.78/-15.72	-18.12/-18.91	-18.37/-18.73	-19.27/-18.52	-17.67/-15.09	-13.02/-12.4	-13.05/-13.54	-13.9/-13.8	-13.38/-12.16	-11.24/-10.23	-10.42/-10.43	-10.18/-11.68	-12.72/-13.98	
Freq(Hz)	6.475GPol.	Theta/Ant. 1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)	
Θ(0°)	-8.6/-7.76	-7.36/-7.19	-6.98/-7.38	-7.49/-7.63	-7.61/-7.81	-8.39/-8.84	-8.53/-8.92	-8.99/-10.01	-9.94/-10	-10.58/-11.23	-10.91/-10.43	-10.1/-9.39	-8.65/-7.54	-6.172/-6.55	-4.74/-4.52	-4.78/-5.22	-6.03/-6.5	-7.44/-8.44	-9.38/-10.0	-10.91/-11.09	-10.4/-10.07	-9.64/-9.81	-9.69/-9.41		
Θ(7.5°)	-6.98/-5.64	-4.61/-4.23	-4.24/-4.62	-4.83/-5.18	-6.15/-7.83	-8.73/-10.68	-12.49/-13.07	-13.08/-12.35	-11.46/-10.44	-8.59/-7.37	-5.92/-4.95	-4.24/-4.2	-4.41/-4.69	-5.11/-5.37	-6.15/-7.08	-7.8/-8.7	-9.46/-9.81	-10.3/-11.13	-12.49/-14.01	-15.49/-17.86	-18.72/-19.04	-17.63/-19.58	-15.31/-13.71	-10.54/-8.56	
Θ(15°)	-6.32/-6.36	-7.73/-9.54	-12.13/-14.26	-16.18/-19	-18.16/-18.97	-18.34/-18.06	-18.32/-17.9	-17.91/-18.1	-18.1/-19.12	-15.27/-12.68	-10.27/-8.78	-5.63/-4.35	-3.5/-3.06	-2.44/-1.96	-1.73/-1.58	-2/-1.32	-4.05/-6.12	-7.95/-9.7	-12.07/-15.75	-18.95/-17.59	-18.05/-16.3	-15.3/-15.26	-12.7/-10.34	-8.33/-7.04	
Θ(22.5°)	-8.81/-8.1	-8.8/-10.8	-9.82/-7.2	-4.94/-4.56	-6.23/-8.49	-11.08/-10.76	-10.75/-11.8	-13.67/-11.22	-7.58/-5.6	-4.47/-4.37	-3.77/-3.04	-1.95/-1.07	-0.69/-0.17	-0.29/-0.85	-1.16/-1.77	-2.37/-2.32	-3.05/-3.83	-4.42/-4.52	-4.63/-5.66	-7.95/-12.56	-6.07/-7.74	-10.51/-6.93	-6.07/-7.74	-10.95/-19.05	-15.25/-10.1
Θ(30°)	-9.6/-7.75	-6.22/-5.09	-6.52/-12.14	-12.75/-11.47	-12.62/-14.45	-13.57/-9.99	-6.79/-5.15	-4.67/-3.6	-1.140/-4	0.17/-1.3	-2.61/-3.23	-2.31/-1.89	-1.38/-0.52	-0.43/-1.33	-1.85/-2.67	-2.18/-0.67	-1.11/-1.67	-1.67/-1.01	-0.29/-0.36	-1.36/-2.78	-3.87/-4.02	-5.36/-9.07	-12.8/-12.66	-11.38/-10.64	
Θ(37.5°)	-3.02/-3.03	-3.81/-7.4	-6.43/-14.4	-18.81/-10.89	-8.53/-9.55	-9.12/-13.73	-3.46/-2.02	-1.52/-1.7	-1.91/-1.52	-2.27/-3.96	-3.99/-4.42	-5.38/-5.53	-3.22/-1.69	-0.330/-47	0.3/-2.15	-4.39/-4.13	-3.53/-3.19	-3.59/-3	-1.56/-2.11	-4.51/-6.36	-7.15/-9.13	-9.52/-11.23	-11.4/-9.73	-5.8/-3.42	
Θ(45°)	-13.8/-18	-5.1/-6.26	-8.44/-9.2	-10.02/-10.79	-2.77/-5.45	-4.33/-2.84	-2.67/-1.9	-1.35/-2.77	-4.89/-3.89	-1.58/-1.85	-0.69/-0.47	-1.75/-2.94	-1.97/-2.06	-2.87/-2.15	-1.1/-1.2	-1.82/-0.94	-0.13/-0.24	-3.2/-4.8	-2.64/-2.07	-4.62/-3.67	-4.46/-6.89	-6.6/-6.18	-10.19/-12.9	-15.71/-17.82	
Θ(52.5°)	-18.29/-10.24	-4.56/-4.75	-8.7/-10.81	-6.64/-6.13	-2.4/-0.84	-1.83/-1.42	-0.8/-0.63	0.080/0.37	-0.120/0.99	2.58/-1.59	2.192/4.8	0.71/-0.19	1.01/-1	-0.81/-2.35	-1.56/-0.67	-1.14/-0.45	0.35/-0.35	-2.56/-3.61	-2.45/-0.88	-0.36/-1.36	-1.52/-2.59	-1.18/-3.11	-4.97/-9.32	-9.84/-17.6	
Θ(60°)	-8.05/-8.91	-3.11/-1.98	-4.29/-5.68	-3.52/-1.98	0.871/-45	-0.571/-14.2	1.491/-56	1.82/-89	3.15/-51	4.732/-81	2.08/-25	2.08/-83	2.282/-81	1.59/-0.08	0.48/-1.39	-0.58/-0.73	0.94/-1.29	-1.12/-2.54	-0.630/-39	0.42/-0.39	0.03/-0.16	2.040/-32	-1.93/-9.67	-4.04/-8.56	
Θ(67.5°)	-17.47/-4.35	-2.650/-2	-2.71/-17	-3.06/-1.77	1.77/-3.2	1.042/-2.26	2.422/-09	1.634/-05	3.474/-59	5.404/-74	1.471/-86	0.480/-16	1.81/-235	2.15/-6	2.692/-22	0.41/-0.59	2.032/-97	0.62/-2.21	1.510/-7	0.960/-44	2.350/-14	-2.86/-4.58	0.37/-0.02		
Θ(75°)	1.35/-2.37	-2.671/-12	-0.53/-1.23	-2.33/-1.72	1.562/-16	-1.98/-2.11	2.332/-12	1.263/-48	2.54/-167	3.42/-0.63	-0.380/-99	-1.42/-0.97	0.16/-0.03	0.930/-53	2.73/-01	0.61/-0.14	2.56/-4.35	2.07/-1.78	1.723/-26	2.141/-84	0.13/-1.68	0.68/-3.15	-3.46/-2.4	1.962/-11	
Θ(82.5°)	1.1/-1.76	-3.220/-74	-0.05/-2.64	-2/-2.78	0.620/-11	-2.02/-0.96	1.190/-39	1.812/-14	0.13/-0.12	1.63/-1.72	0.51/-0.73	-3.47/-1.27	-0.72/-2.21	-0.48/-2.01	1.810/-87	-0.110/-0.2	2.4/-4	2.57/-2.73	0.732/-22	1.271/-56	-0.73/-3.18	-1.18/-7.65	-5.87/-2.19	1.13/-18	
Θ(90°)	-0.53/-5.55	-4.04/-10.1	-2.95/-3.94	-1.47/-2.44	-1.78/-1.68	-1.92/-2.95	1.11/-92	-3/-2.47	-0.17/-4.32	-0.15/-2.66	-5.32/-2.34	-1.69/-5.82	-2.82/-5.04	-0.46/-0.75	-2.34/-1	-1.172/-17	1.41/-4.94	-1.83/-1.34	-3.13/-4.9	-3.14/-6.9	-17.72/-12.96	-7.73/-3.34	-0.9/-1.23		
Θ(97.5°)	-4.6/-5.93	-4.52/-2.62	-4.35/-6.94	-6.33/-6.7	-3.63/-3.61	-1.55/-3.2	-4.43/-4.8	0.070/-0.1	-4.55/-3.66	-2.96/-5.17	-1.08/-4.49	-6.62/-1.94	-2.21/-10.5	-5.46/-8.06	-3.47/-4.28	-5.55/-3.36	-6.02/-2.93	-3.14/-9.51	-4.06/-6.22	-5.08/-5.84	-7.58/-10.66	-4.68/-12.11	-11.39/-3.53	-2.38/-4.08	
Θ(105°)	-8.49/-5.27	-4.57/-4.9	-8.6/-8.47	-8.81/-8.22	-3.58/-3.26	-4.11/-6.42	-7.71/-5.02	-0.92/-3.67	-5.68/-6.32	-6.29/-5.94	-4.58/-6.89	-8.96/-2.93	-3.59/-11.91	-10.56/-9.25	-5.41/-4.43	-5.65/-4.49	-8.25/-11.97	-9.99/-10.56	-6.67/-7.16	-6.92/-10.97	-8.55/-8.96	-9.17/-11.54	-13.17/-17.4	-2.6/-5.57	
Θ(112.5°)	-7.73/-4.93	-5.57/-6.04	-5.51/-5.24	-8.89/-9.17	3.8/-4.26	-9.83/-5.69	-9.73/-6.67	-0.64/-0.01	-6.64/-5.75	-11.93/-8.29	-13.13/-8.86	-8.32/-4.86	-5.61/-174	-12.34/-13.21	-5.47/-4.64	-6.16/-4.44	-4.71/-10.05	-8.07/-8.95	-8.52/-6.45	-8.07/-6.76	-17.68/-9.23	-11.42/-11.62	-14.95/-6.66	-5.28/-4.89	
Θ(120°)	-8.6/-6.9	-9.58/-8.88	-5.58/-11.15	-17.47/-11.84	-7.13/-10.14	-8.83/-3.04	-7.56/-9.37	-6.45/-8.45	-6.58/-6.55	-8.91/-7.79	-11.67/-15.29	-13.44/-9.14	-9.84/-13.09	-12.1/-13.28	-4.96/-6.55	-9.95/-9.77	-6.38/-8.31	-14.15/-12.85	-11.86/-18.32	-13.78/-7.06	-8.87/-17.01	-18.14/-10.02	-10.83/-9.91	-8.44/-6.45	
Θ(127.5°)	-12.14/-8.53	-8.38/-11.47	-10.55/-19.08	-13.51/-11.94	-11.2/-12.73	-8.02/-9.22	-14.08/-10.73	-8.78/-9.12	-10.38/-9.93	-5.79/-12.37	-13.38/-12.08	-10.99/-8.47	-11.32/-17.83	-16.71/-11.88	-6.39/-5.73	-9.29/-7.4	-10.05/-10.89	-14.68/-12.57	-9.42/-18.28	-19.04/-11.04	-9.52/-19.73	-17.7/-12.71	-14.85/-11.05	-11.62/-15.66	
Θ(135°)	-6.61/-9.02	-15.86/-18.07	-14.99/-19.3	-18.64/-18.64	-19.24/-14.03	-12.5/-15.01	-11.17/-15.73	-11/-12.8	-10.89/-7.1	-8.17/-14.22	-18.69/-17.83	-19.3/-14.05	-18.09/-16.12	-11.49/-8.13	-5.94/-5.77	-10.63/-8.86	-9.51/-9.34	-17.53/-15.4	-8.88/-14.56	-17.43/-15.23	-8.7/-12.91	-18.99/-11.18	-10.88/-13.23	-9.76/-8.54	
Θ(142.5°)	-14.02/-13.68	-18.05/-18.94	-15.66/-12.55	-9.68/-10.25	-14.28/-19.07	-18.03/-12.99	-11.32/-16.78	-17.74/-14.66	-8.28/-7.49	-12.34/-18.95	-17.41/-18.2	-19.19/-18.92	-18.45/-14.06	-10.86/-9.23	-8.84/-10.45	-12.19/-14.16	-10.44/-12.07	-19.08/-17.6	-8.79/-13.19	-17.37/-17.97	-11.75/-18.9	-18.48/-18.46	-13.04/-12.63	-12.41/-13.05	
Θ(150°)	-14.02/-17.66	-17.6/-14.19	-9.73/-8.94	-10.93/-14.24	-18.48/-18.18	-18.25/-18.33	-16.91/-16.17	-18.47/-17.49	-11.12/-17.66	-8.64/-12.19	-17.01/-19.1	-16.45/-15.67	-15.69/-14.55	-13.71/-13.55	-14.22/-13.66	-13.47/-17.11	-15.43/-17.63	-17.72/-17.22	-12.3/-17.02	-17.83/-17.86	-19.07/-18.69	-13.6/-10.12	-14.96/-18.68	-15.38/-14.4	
Θ(157.5°)	-16.59/-19.55	-18.69/-17.8	-13.34/-10.82	-8.71/-7	-7.01/-9.29	-15.36/-17.26	-19.12/-18.59	-17.25/-15.42	-16.81/-16.11	-18.33/-14.5	-15.88/-18.84	-18.08/-17.68	-15.39/-9.78	-8.79/-10.34	-12.12/-13.36	-15.77/-18.59	-18.84/-18.9	-18.4/-18.32	-16.39/-18.22	-18.02/-13.59	-13.92/-15.56	-14.29/-13.1	-12.17/-11.69	-13.97/-17.6	
Θ(165°)	-17.46/-16.15	-12.28/-12.36	-12.82/-11.37	-11.13/-12.95	-15.94/-17.55	-17.84/-18.9	-18.62/-18.19	-16.37/-15.45	-15.77/-18.9	-17.99/-19.1	-15.85/-12.89	-11.3/-12.88	-12.97/-11.82	-10.77/-9.52	-9.55/-11.63	-13.8									



Radiated Composite Gain Data of Scan Radio and BLE

Appendix D

Θ (172.5°)	-10.69/-11.43	-11.47/-10.64	-10.16/-10.65	-11.95/-14.8	-15.68/-17.46	-17.61/-19.07	-18.23/-18.9	-16.95/-16.67	-16.86/-15.76	-16.19/-16.68	-16.53/-16.46	-15.03/-13.77	-13.57/-14.34	-18.5/-18.35	-17.84/-15.22	-14.46/-14.61	-15.67/-16.77	-14.37/-12.5	-12.21/-12.32	-13.64/-15.22	-16.27/-16.78	-16.16/-15.37	-13.99/-13.08	-11.64/-11.17
Θ (180°)	-10.6/-11.51	-13.54/-15.42	-15.89/-17.69	-15.39/-14.13	-11.77/-10.07	-9.76/-9.02	-8.33/-8.11	-7.54/-7.03	-6.64/-6.9	-7.88/-8.67	-10.15/-10.61	-11.42/-11.52	-12.93/-13.81	-16.01/-18.25	-18.97/-18.19	-17.91/-15.69	-13.89/-12.77	-12.63/-12.98	-13.36/-13.48	-12.18/-10.92	-9.39/-8.41	-7.25/-7.07	-7.22/-7.56	-9.18/-9.59
Freq(Hz)	6.995GPol.	ThetalAnt. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-8.43/-7.94	-8/-8.21	-7.92/-8.81	-8.83/-9.36	-10/-10.1	-11.52/-13.85	-14.58/-16.53	-18.63/-17.5	-16.33/-15.35	-13.76/-12.75	-10.91/-10.4	-8.93/-8.41	-8.02/-7.82	-7.95/-7.63	-8.45/-8.29	-9.16/-9.85	-11.62/-13.23	-16.3/-18.14	-18.53/-18.72	-18.28/-17.64	-17/-14.56	-12.7/-11.78	-10.79/-10.27	-8.59/-8.03
Θ (7.5°)	-10.65/-9.66	-9.98/-9.34	-9.11/-9.76	-9.17/-9.96	-9.68/-10.45	-12.42/-14.65	-18.29/-18.95	-16.12/-12.95	-10.16/-10.31	-11.77/-12.38	-12.46/-12.89	-11.62/-12.72	-11.29/-14.16	-9.23/-8.35	-8.34/-8.47	-9.65/-11.23	-14.07/-17.12	-18.9/-18.68	-15.81/-12.88	-9.31/-9.73	-9.98/-10.1	-10.1/-10.15	-	-
Θ (15°)	-6.32/-6.46	-7.05/-8.67	-10.82/-12.13	-13.41/-15.19	-16.63/-17.98	-15.26/-16.02	-17.72/-18.43	-13.68/-8.96	-6.09/-5.05	-4.31/-4.2	-4.58/-5.44	-5.27/-6.67	-7.18/-8.02	-10.87/-12.28	-12.89/-12.2	-11.37/-10.16	-11.36/-12.67	-13.49/-17.97	-17.8/-14.18	-11.41/-10.11	-9.46/-10.11	-11.34/-13.66	-12.85/-9.31	-7.25/-6.9
Θ (22.5°)	-5.74/-4.69	-4.28/-4.76	-7.63/-18.17	-17.1/-12.83	-11.93/-9.41	-9.07/-10.49	-14.4/-13.28	-8.54/-6.35	-6.35/-6.77	-6.59/-6.67	-2.4/-0.61	-0.12/-0.04	-0.63/-1.74	-2.44/-2.12	-2.75/-3.3	-4.33/-5.31	-5.78/-5.53	-6.42/-8.27	-9.69/-10.97	-10.44/-9.61	-10.18/-12.71	-16.27/-18.37	-18.21/-14.18	-9.89/-7.47
Θ (30°)	-11.59/-6.69	-6.44/-6	-8.26/-12.85	-12.83/-11.24	-8.84/-6.64	-5.69/-5.21	-4.68/-4.07	-2.48/-1.47	-2.59/-4.88	-5.94/-3.18	-0.96/-0.17	-0.230/0.1	-0.62/-2.46	-3.73/-3.12	-1.58/-0.09	1.01/1.28	0.97/0.2	-0.69/-1.19	-1.92/-2.88	-3.82/-4.97	-6.4/-10.5	-17.07/-13.41	-11.32/-11.35	-11.75/-13.51
Θ (37.5°)	-17.24/-12.24	-12.68/-14.31	-15.8/-18.09	-17.82/-9.84	-6.98/-8.92	-7.96/-3.17	-1.01/-0.95	-1.37/-0.42	-0.16/-1.72	-3.86/-2.02	-0.31/-0.68	-0.99/-0.87	-2.52/-3.68	-4.54/-2.99	-1.69/-2.22	2.96/-2.43	-1.84/-2.38	-2.15/-1.85	-1.8/-1.72	-2.93/-3.67	-4.28/-5.04	-5.07/-3.37	-6.03/-13.05	-18.95/-18.4
Θ (45°)	-5.65/-8.6	-14.94/-17.74	-12.72/-7.8	-6.48/-8.61	-8.32/-7	-5.85/-3.64	-0.88/-0.77	-3.84/-6.65	-1.14/-3.59	-5.84/-3.5	-2.07/-2.32	-1.83/-1.58	-1.54/-1.78	-1.55/-1.21	1.82/-1.97	-7.28/-4.16	-0.86/-0.28	-0.93/-0.15	0.97/0.11	-0.120/-0.15	-0.55/-1.82	-5.19/-7.28	-7.22/-7.2	-7.3/-3.35
Θ (52.5°)	-4.89/-9.02	-13.12/-11.92	-13.31/-4.86	-4.37/-5.07	-3.68/-1.36	-0.49/-1.04	-0.24/-0.11	-2.85/-2.65	1.39/0.02	-0.22/-0.57	0.46/0.58	-0.02/-1.57	0.17/0.81	2.97/0.56	-2.50/-36	1.18/0.97	-0.10/-0.83	0.81/0.66	-0.13/-0.88	-2.03/-4.23	-3.54/-7.29	-13.27/-12.4	-4.6/-2.22	-
Θ (60°)	-2.57/-5.46	-5.4/-5	-9.53/-6.67	-2.81/-3.01	-2.63/0.82	1.63/0.85	-0.01/-1.35	0.36/0.2	3.82/3.5	3.21/3.33	0.7/0.4	0.94/1.89	1.11/-0.21	-2.03/0.86	2.51/2.57	-0.14/2.3	3.08/1.22	0.17/1.1	0.18/-0.63	-0.84/-3.35	-4.91/-3.37	-1.32/-3.62	-4.09/-3.29	0.74/1.23
Θ (67.5°)	-1.25/-3.44	-2.26/-2.42	-5.31/-5.31	0.24/-2.37	-1.77/0.44	1.9/-1.07	-2.65/0.77	2.74/2.17	4.69/4.78	3.47/3.43	1.01/0.46	1.87/2.51	1.88/0.33	-0.68/0.78	2.66/2.49	0.48/2.95	4.21/-44	-0.41/1.5	1.27/-1.05	-0.26/-3.44	-4.57/-8.05	-1.1/-1.56	-0.24/-1.43	2.06/2.24
Θ (75°)	-2.94/-3.44	-1.79/-0.69	-2.27/-1.67	1.76/-0.77	-1.91/1.55	-0.58/0.07	-1.94/-2.3	2.96/3.23	4.49/3.78	1.86/2.1	0.89/0.57	1.93/2.01	0.43/-1	-1.53/-1.27	1.81/8.3	-0.90/7.9	3.91/5	-3.97/-0.21	2.34/-2.07	-0.61/-3.46	-2.93/0.31	-1.02/0.07	0.82/-2.55	0.91/0.74
Θ (82.5°)	-4.38/-4.16	-2.87/-0.33	-0.51/-1.31	1.8/-0.74	-2.78/1.59	-2.61/-0.52	-0.68/-1.59	3.04/2.2	3.95/0.82	-0.66/0.3	-0.07/0.65	1.99/1.6	-1.74/-2.39	-1.85/-2.05	0.31/0.14	-3.88/-0.72	2.66/0.74	-6.42/-2.63	2.05/-1.89	-1.86/-3.43	-1.63/0.92	-3.34/-0.95	-0.79/-6.21	-0.97/-2.56
Θ (90°)	-4.47/-5.84	-5.27/-1.1	-0.57/-1.72	0.41/-1.75	-4.36/0.43	-3.45/-1.72	-3.64/-3.86	2.44/-0.15	2.45/-3.13	-2.67/-0.92	-1.07/0.01	1.05/0.17	-3.12/-4.17	-2.78/-4.96	-2.16/-2.21	-7.38/-3.58	-1.03/-1.55	-4.66/-0.85	-0.62/-3.1	-4.31/-4	-2.1/0.5	-5/-2.46	-3.03/-10.87	-3/-5.92
Θ (97.5°)	-3.91/-6	-5.59/-0.85	-1.19/-4.82	-0.88/-2.68	-4.02/-0.09	-4.71/-3.87	-7.15/-6.68	0.55/-1.75	0.05/-11.63	-3.48/-3.88	-0.95/-0.38	-0.31/-0.73	-5.74/-5.1	-4.22/-7.76	-5.13/-4.5	-11.8/-8.6	-9.34/-4.96	-6.94/-16.75	-5.34/-7.28	-9.87/-8.71	-7.02/-3.5	-16.01/-2.93	-5.17/-14.52	-5.28/-5.21
Θ (105°)	-6.04/-8.71	-4.74/-1.21	-2.03/-7.35	-1.26/-4.1	-4.26/-2.22	-11.14/-5.59	-10.95/-9.11	-4.57/-2.54	-2.19/-11.16	-2.36/-5.74	-1.93/0.18	-2.77/-5.34	-7.66/-10.66	-7.76/-9.56	-10.35/-8.96	-9.47/-9.36	-13.4/-8.3	-11.28/-14.07	-7.8/-7.89	-16.79/-15.64	-10.01/-7.4	-12.54/-5.9	-6.9/-14.02	-15.07/-5.73
Θ (112.5°)	-10.82/-9.32	-4.52/-2.79	-3.98/-8.7	-3.54/-7.54	-7.67/-5.59	-6.27/-4.29	-10.92/-10.17	-5.27/-2.15	-10.09/-8.65	-2.94/-6.57	-2.34/-0.97	-6.1/-6.47	-10.92/-15.1	-12.51/-15.03	-12.24/-18.64	-15.98/-8.54	-8.38/-11.1	-12.45/-18.52	-3.54/-7.24	-11.47/-11.53	-8.07/-8.74	-8.21/-11.48	-6.17/-15.48	-10.88/-10.78
Θ (120°)	-8.67/-6.73	-5.16/-7.85	-12.11/-11.87	-18.78/-13.92	-10.59/-4.79	-6.16/-6.27	-17.67/-12.54	-5.39/-4.85	-8.24/-6.04	-5.06/-5.73	-11.75/-7.96	-7.96/-18.19	-18.11/-17.4	-11.25/-10.52	-14.51/-18.02	-18.65/-14.27	-9.34/-13.44	-10.98/-6.68	-10.16/-12.97	-5.10/-10.24	-16.64/-13.1	-9.19/-12.35	-	-
Θ (127.5°)	-13.51/-7.31	-5.56/-6.25	-8.47/-13.17	-17.84/-13.64	-10.27/-9.51	-9.88/-7.21	-9.23/-11.97	-7.58/-7.98	-6.87/-6.32	-12.71/-7.3	-5.16/-16.81	-12.97/-8.53	-15.27/-12.34	-18.74/-12.74	-14.96/-18.5	-18.92/-12.32	-17.84/-16.96	-18.35/-11.63	-13.07/-11.65	-18.7/-10.1	-11.23/-4.26	-12.83/-9.12	-9.15/-18.32	-17.66/-12.83
Θ (135°)	-12.04/-14.88	-12.4/-10.84	-17.53/-16.97	-12.7/-16.75	-17.17/-17.82	-8.05/-6.74	-12.99/-12.94	-9.01/-7.97	-9.46/-9.81	-7.41/-10.29	-12.78/-9.1	-10.64/-7.48	-9.54/-10.79	-9.64/-12.99	-11.49/-14.7	-18.57/-16.1	-11.7/-7.01	-18.09/-11.53	-13.62/-14.49	-19.22/-8.81	-7.21/-13.42	-8.66/-12.69	-16.62/-15.54	-15.14/-13.22
Θ (142.5°)	-11.47/-12.44	-11.79/-17.72	-19.77/-17.05	-12.73/-13.16	-18.18/-16.05	-12.66/-17.97	-13.1/-15.12	-19.22/-18.31	-11.89/-10.23	-9.4/-12.63	-15.1/-13.76	-11.01/-13.21	-8.9/-9.73	-9.6/-6.98	-9.97/-18.82	-17.29/-18.48	-16.2/-19.06	-18.11/-16.27	-18.62/-12.95	-17.27/-17.61	-9.79/-13.89	-16.02/-10.62	-8.8/-14.99	-15.34/-15.76
Θ (150°)	-11.99/-12.17	-16.81/-16.58	-10.2/-9.74	-7.22/-8.04	-8.36/-10.15	-14.12/-16.97	-17.29/-18.77	-18.78/-13.52	-9.74/-9.94	-12.34/-14.5	-16.78/-11.9	-8.02/-7.13	-6.91/-6.68	-7.48/-8.18	-10.91/-15.6	-16.82/-12.79	-10.84/-13.13	-12.96/-8.38	-9.07/-16.81	-18.85/-15.27	-14.06/-14.12	-11.71/-12.85	-17.82/-17.48	-17.4/-16.78
Θ (157.5°)	-18.81/-18.68	-17.61/-13.19	-11.25/-10.93	-10.85/-12.96	-16.49/-18.06	-17.54/-17.99	-18.73/-15.88	-14.59/-14.55	-12.63/-9.3	-7.29/-9.2	-14.59/-18.93	-13.32/-10.79	-11.31/-10.73	-9.19/-10.7	-13.6/-13.19	-15.78/-12.51	-10.8/-14.97	-18.09/-16.88	-15.59/-19.19	-13.07/-8.57	-10.7/-18.38	-18.57/-17.27	-15.96/-11.08	-12.09/-16.48
Θ (165°)	-13.06/-16.09	-15.55/-13.1	-10.48/-8.77	-7.61/-7.52	-8.1/-9.81	-11.68/-12.79	-12.43/-15.87	-13.34/-14.29	-16.42/-16.04	-15.53/-16.3	-18.59/-18.27	-17.7/-12.56	-9.94/-10.87	-12.75/-15.09	-17.64/-18.28	-19.24/-17.6	-13.44/-10.62	-8.48/-8.53	-10.29/-12.78	-15.12/-14.16	-17.87/-18.27	-16.71/-17.25	-18.49/-19.08	-14.85/-11.58
Θ (172.5°)	-10.29/-11	-8.54/-8.4	-8/-7.88	-7.94/-8.1	-9.72/-10.5	-11.22/-12.49	-11.69/-12.76	-13.39/-13.97	-17.67/-16.22	-18.83/-18.42	-17.82/-18.87	-13.53/-12.69	-11.87/-11.92	-13.56/-15.62	-17.76/-17.99	-18.47/-18.96	-18.37/-17.71	-18.29/-18.25	-17.18/-18.72	-18.79/-16.82	-14.11/-12.91	-18.63/-17.48	-11.67/-10.92	-
Θ (180°)	-8.54/-8.03	-7.85/-7.45	-7.41/-7.37	-7.39/-7.17	-7.79/-9.12	-9.91/-11.46	-13.49/-14.74	-18.08/-17.92	-18.47/-18.45	-15.6/-13.24	-13.24/-11.99	-11.21/-9.47	-8.07/-10.5	-6.41/-6.32	-6.32/-5.84	-5.87/-6.28	-7.07/-7.73	-9.07/-10.83	-12.02/-14.72	-15.61/-18.29	-18.42/-17.74	-19.12/-18.04	-14.62/-11.98	-10.3/-9.64
Freq(Hz)	2.45GPol.	PhiAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ (0°)	-6.56/-5.2	-4.16/-3.54	-3.2/-2.74	-2.61/-2.47	-2.59/-2.7	-2.9/-3.05	-3.26/-3.58	-4.05/-4.91	-6.53/-9.37	-14.38/-17.91	-19.03/-16.44	-13.09/-9.61	-7.12/-5.32	-4.17/-3.39	-2.82/-2.27	-1.9/-1.68	-1.71/-1.89	-2.27/-2.85	-3.81/-4.98	-6.28/-7.69	-9.18/-10.71	-13.36/-17.71	-18.53/-16.37	-11.84/-8.89
Θ (7.5°)	-7.03/-5.65	-4.71/-4.27	-3.88/-3.72	-3.6/-3.59	-3.68/-3.89	-4.11/-4.34	-4.64/-5.02	-5.53/-6.19	-7.38/-9.38	-11.98/-14.44	-15.07/-13.13	-10.74/-8.54	-6.58/-5.01	-3.97/-3.27	-2.69/-2.09	-1.55/-1.14	-0.87/-0.78	-0.95/-1.47	-2.3/-3.28	-4.45/-5.87	-7.38/-8.82	-10.82/-13.89	-16.85/-17.68	-12.93/-9.45
Θ (15°)	-7.76/-7.35	-6.25/-7.77	-5.69/-8.78	-5.83/-5.95	-6.06/-6.26	-6.26/-6.38	-6.61/-6.8	-6.72/-6.37	-6.31/-6.65	-6.73/-8.36	-9.79/-10.63	-10.39/-9.28	-7.69/-6.26	-5.39/-4.76	-4.08/-3.25	-2.31/-1.58	-1.01/-0.72	-0.75/-1.13	-1.83/-2.79	-4.05/-5.54	-7.11/-8.79	-10.71/-12.86	-15.59/-17.07	-14.72/-11.32
Θ (22.5°)	-13.31/-10.56	-8.71/-7.67	-7.22/-7.36	-7.64/-7.71	-7.77/-7.6	-7.35/-7.05	-6.8/-6																	



Radiated Composite Gain Data of Scan Radio and BLE

Appendix D

Θ(15°)	-9.19/-9.17	-9.08/-9.18	-9.65/-10.3	-11.12/-12.42	-14.32/-16.07	-15.37/-12.58	-10.17/-8.73	-8.05/-7.93	-7.95/-8.02	-8.27/-8.97	-9.78/-10.12	-9.97/-9.68	-9.22/-8.7	-7.96/-7.38	-7.1/-7.06	-7.37/-7.83	-8.55/-9.35	-10.05/-10.59	-10.94/-11.57	-13.34/-17.03	-18.18/-18.5	-18.34/-16.11	-12.88/-10.84	-9.66/-9.18
Θ(22.5°)	-8.08/-8.4	-8.31/-8.19	-8.32/-8.71	-9.34/-10.54	-12.55/-15.96	-17.91/-17.34	-12.53/-10.1	-8.91/-8.46	-7.99/-7.38	-6.91/-6.93	-7.31/-7.54	-7.69/-8.03	-8.32/-8.29	-8.07/-7.93	-7.98/-8.29	-8.81/-9.38	-9.91/-10.32	-10.24/-9.9	-9.48/-9.55	-10.71/-13.45	-19.07/-19	-17.65/-13.9	-10.57/-8.65	-7.74/-7.69
Θ(30°)	-6.23/-7.4	-7.71/-7.41	-7.18/-7.11	-7.19/-7.51	-8.25/-9.8	-12.69/-16.91	-16.61/-12.75	-10.43/-9.74	-9.34/-8.15	-6.55/-5.3	-4.71/-4.68	-5.09/-5.7	-6.61/-7.39	-7.76/-7.84	-8.07/-8.75	-9.83/-10.99	-12.04/-12.33	-11.55/-9.83	-8.13/-7.12	-7.38/-9.07	-12.76/-19.02	-16.21/-10.57	-7.2/-5.39	-4.72/-5.17
Θ(37.5°)	-4.02/-5.74	-6.83/-6.96	-6.8/-6.54	-6.21/-5.86	-5.8/-6.29	-7.55/-9.68	-11.87/-11.84	-10.35/-9.54	-9.41/-8.38	-6.08/-4.02	-2.9/-2.65	-3.1/-4.05	-5.42/-6.92	-7.69/-7.73	-8.13/-9.18	-10.82/-12.36	-13.16/-13.17	-12.21/-10.49	-8.36/-6.77	-6.36/-7.43	-10.41/-15.03	-12.16/-7.16	-4.1/-2.54	-2.09/-2.66
Θ(45°)	-2.51/-4.19	-5.67/-6.33	-6.51/-6.27	-5.59/-4.83	-4.43/-4.45	-4.9/-5.83	-7.03/-6.17	-8.4/-8.05	-8.09/-7.83	-5.93/-3.61	-2.1/-1.5	-1.73/-2.5	-4.02/-5.77	-6.82/-6.97	-7.68/-9.26	-11.22/-12.37	-12.29/-11.67	-10.97/-9.89	-8.45/-7.13	-6.56/-7.28	-9.93/-15.22	-10.63/-6.04	-2.04/-0.68	-0.48/-1.21
Θ(52.5°)	-1.95/-3.6	-4.96/-5.71	-6/-5.72	-4.92/-4.2	-3.91/-3.93	-3.98/-4.24	-4.96/-5.85	-6.44/-6.42	-6.43/-6.37	-5.37/-3.27	-1.67/-0.85	-1.01/-1.95	-3.46/-5	-5.73/-6.37	-7.66/-9.68	-11.81/-12.76	-12.44/-11.55	-10.56/-9.2	-7.42/-6.02	-5.66/-6.63	-9.52/-15.97	-10.73/-4.39	-1.14/-0.28	0.35/-0.54
Θ(60°)	-1.73/-3.57	-4.86/-5.53	-5.94/-5.63	-4.83/-4.49	-4.66/-4.84	-4.85/-4.71	-4.68/-4.85	-4.99/-5.03	-5.4/-5.85	-5.7/-3.97	-1.98/-0.86	-0.79/-1.4	-2.64/-3.87	-4.9/-6.2	-8.06/-10.35	-12.69/-13.82	-13.31/-12	-10.93/-10.01	-8.01/-5.93	-5.11/-5.87	-8.51/-14.39	-11.11/-4.6	-1.07/-0.52	2.24/-0.22
Θ(67.5°)	-1.71/-3.78	-5.1/-5.66	-6.36/-6.38	-5.92/-6.19	-6.72/-6.73	-6.23/-5.63	-5.04/-4.42	-4.11/-4.41	-5.42/-6.49	-6.15/-4.11	-2.03/-0.91	-0.79/-1.37	-2.57/-3.74	-5.05/-6.9	-8.72/-10.65	-12.97/-13.9	-12.6/-10.46	-9.22/-9.13	-8.72/-7.18	-6.08/-6.59	-9.16/-15.27	-10.65/-4.8	-1.03/-0.51	0.72/-0.13
Θ(75°)	-1.77/-3.88	-5.05/-5.1	-5.69/-6.11	-6.33/-7.48	-6.33/-7.71	-7.31/-7.01	-6.03/-4.91	-4.22/-4.48	-5.71/-7.04	-7/-5.1	-2.88/-1.39	-0.9/-1.4	-2.76/-4.05	-5.31/-6.83	-8.49/-10.96	-14.25/-15.43	-14.39/-11.44	-9.43/-8.92	-8.82/-8.41	-7.77/-7.76	-9.36/-14.03	-12.63/-5.36	-1.56/-0.07	0.32/-0.46
Θ(82.5°)	-2.3/-4.62	-5.93/-5.56	-5.71/-5.9	-6.32/-7.88	-8.44/-7.32	-7.17/-7.41	-6.72/-5.39	-4.4/-4.41	-5.7/-7.89	-8.42/-5.9	-3.01/-1.49	-1.4/-2.49	-3.91/-5.08	-6/-7.13	-9.34/-12.42	-13.28/-12.92	-15.6/-18.47	-14.96/-12.18	-10.67/-10.05	-9.83/-9.74	-10.28/-12.63	-12.25/-6.42	-2.58/-0.82	-0.45/-1.12
Θ(90°)	-3.8/-5.93	-7.5/-6.81	-6.75/-6.9	-7.31/-8.91	-9.42/-7.88	-7.83/-8.67	-7.85/-6.05	-4.89/-5.03	-6.9/-10.19	-9.83/-6.23	-3.82/-2.65	-2.7/-3.81	-5.34/-6.61	-6.62/-6.65	-8.68/-10.7	-11.23/-10.7	-11.16/-13.51	-15.86/-14.89	-12.66/-11.28	-11/-11.55	-11.5/-12.11	-11.64/-7.65	-4.25/-2.45	-1.95/-2.65
Θ(97.5°)	-6.48/-9.32	-10.74/-8.87	-7.83/-7.32	-7.23/-8.29	-8.9/-7.76	-7.54/-7.84	-7.22/-5.97	-5.17/-5.52	-7.26/-9.37	-8.75/-6.83	-5.78/-4.75	-4.93/-6.09	-6.69/-6.56	-5.68/-6.16	-8.56/-12	-16.14/-11.75	-9.77/-10.78	-13.36/-15.71	-14/-11.68	-11.32/-13.18	-13.96/-12.72	-10.79/-7.42	-5.05/-3.76	-3.37/-4.28
Θ(105°)	-6.84/-9.8	-12.57/-11.49	-9.85/-8.57	-7.45/-7.45	-7.24/-6.16	-5.88/-6.94	-7.88/-7.34	-6.22/-5.95	-7.3/-10.42	-12.04/-10.45	-8.27/-5.63	-4.9/-5.78	-6.86/-7.21	-6.57/-7.17	-9.48/-13.99	-17.93/-9.32	-6.8/-7.06	-8.37/-10.84	-12.87/-11.15	-9.57/-10.53	-12.33/-12.3	-13.07/-10.48	-7.9/-6.49	-5.25/-5.24
Θ(112.5°)	-9.77/-11.94	-12.82/-10.57	-8.58/-7.31	-6.42/-6.49	-6.82/-6.72	-7.48/-9.9	-11.47/-9.18	-7.04/-6.78	-8.71/-11.55	-11.26/-10.88	-8.61/-6.07	-6.26/-7.58	-7.71/-6.77	-6.61/-7.59	-9.37/-13.73	-18.15/-12.09	-9.21/-8.8	-8.65/-9.99	-13.16/-13.39	-11.19/-10.97	-10.08/-9.74	-7.92/-7.72	-8.87/-9.75	-9.68/-8.86
Θ(120°)	-10.1/-12.09	-14.45/-12.63	-10.25/-8.71	-7.6/-7.17	-7.56/-8.3	-10/-12.4	-11.24/-8.43	-7.08/-7.59	-9.9/-12.32	-14.25/-17.53	-10.23/-6.22	-5.65/-6.34	-6.47/-6.82	-8.05/-9.56	-11.19/-14.97	-18.48/-17.96	-15.12/-22.8	-10.28/-10.44	-12.41/-14.13	-13.13/-13.94	-12.13/-8.7	-7.2/-7	-7.12/-8.19	-9.81/-9.84
Θ(127.5°)	-13.93/-13.67	-13.46/-11.83	-10.42/-9.93	-10.19/-10.95	-12.22/-14.06	-16.43/-17.98	-15.32/-12.75	-11.98/-12.07	-12.05/-12.21	-14.9/-14.23	-8.39/-6.63	-7.44/-8.34	-8.56/-9.44	-10.43/-11.24	-13.41/-17.09	-17.48/-17.59	-18.57/-17.31	-15.41/-15.92	-16.94/-15.07	-13.14/-12.59	-11.81/-9.77	-8.73/-8.42	-8.23/-9.13	-11.96/-14.46
Θ(135°)	-18.35/-17.83	-18.9/-15.31	-12.83/-11.35	-10.78/-11.39	-13.19/-16.08	-17.91/-15.77	-13.01/-11.11	-9.73/-8.69	-8.37/-9.51	-12.92/-18.88	-15.78/-13.01	-11.82/-10.05	-9.09/-9.58	-10.86/-12.47	-14.96/-15.92	-17.01/-18.38	-18.32/-19.38	-18.27/-18.72	-17.68/-17.15	-15.13/-12.04	-10.48/-9.89	-9.18/-8.7	-12.95/-12.95	
Θ(142.5°)	-15.4/-18.43	-18.1/-18.04	-19.38/-17.91	-18.62/-17.48	-18.04/-16.44	-14.48/-15.52	-16.61/-9.59	-8.49/-8.02	-8.55/-10.38	-14.61/-18.62	-18.91/-15.9	-12.57/-11.06	-11.82/-15	-18.67/-19.11	-18.24/-17.91	-15.53/-15.47	-18.69/-19.02	-18.15/-19.19	-18.45/-17.88	-16.21/-14.88	-16.21/-14.88	-13.54/-11.94	-11.39/-12.53	
Θ(150°)	-18/-17.74	-18.84/-16.44	-14.63/-14.08	-14.14/-14	-13.1/-12.32	-11.48/-10.88	-10.56/-10.28	-9.9/-10.02	-11.15/-13.74	-17.87/-18.3	-19.05/-16.72	-15.52/-16.18	-18.22/-18.87	-19.39/-15.79	-15.9/-17.53	-17.79/-16.61	-15/-13.77	-13.32/-13.82	-14.95/-16.81	-18.04/-19.17	-17.9/-19.09	-19.05/-18.77	-18.75/-18.32	-16.32/-16.55
Θ(157.5°)	-18.71/-18.67	-16.99/-15.45	-14.18/-13.46	-13.43/-13.6	-13.47/-13.43	-13.33/-13.88	-14.25/-14.65	-15.09/-16.2	-19.2/-17.74	-18.38/-18.97	-18.06/-18.47	-17.62/-17.52	-15.56/-12.03	-10.28/-10.09	-11.5/-14.54	-18.17/-18.12	-15.2/-15.83	-11.73/-11.98	-14.02/-17.57	-17.57/-18.3	-18.82/-18.96	-18.95/-17.75	-18.44/-17.81	-18.09/-18.35
Θ(165°)	-17.1/-17.05	-16.79/-16.52	-16.31/-16.33	-16.79/-17.47	-18.53/-19.29	-18.44/-18.9	-17.25/-16.03	-15.49/-15.57	-15.87/-15.96	-16.06/-16.58	-16.73/-15.52	-13.39/-11.65	-10.16/-9.16	-8.78/-9.26	-10.64/-13.01	-19.28/-17.26	-15.87/-16.5	-18.89/-18.81	-18.56/-19.26	-18.7/-18.81	-19.28/-16.83	-15.54/-15.5	-16.06/-16.75	
Θ(172.5°)	-17.85/-17.48	-18.93/-18.5	-17.33/-19.21	-17.5/-18.04	-18.95/-17.73	-16.89/-15.61	-14.82/-14.38	-14.41/-14.92	-15.08/-14.67	-14.26/-13.89	-12.99/-12.31	-11.53/-10.96	-10.69/-10.73	-11.18/-11.99	-13.22/-14.98	-17.44/-17.88	-19.66/-18.31	-19.13/-18.96	-18.76/-18.81	-18.18/-18.95	-17.94/-17.23	-16.87/-16.91	-17.39/-18.18	
Θ(180°)	-19/-18.83	-18.44/-17.81	-18.37/-18.94	-19.51/-18.21	-17.01/-16.5	-16.74/-17.26	-17.81/-18.35	-18.83/-18.81	-18.1/-18.94	-19.19/-18.77	-17.59/-18.44	-18.98/-18.85	-18.14/-17.18	-18.88/-18.1	-18.11/-18.69	-18.84/-17.97	-18.21/-19.23	-17.21/-18.12	-18.08/-18.68	-17.53/-17.83	-17.33/-17.94	-18.72/-18.72	-18.95/-18.19	-18.01/-18.51
Freq(Hz)	2.45GPol.	Phi/Ant. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-6.48/-6.12	-5.53/-4.91	-4.19/-3.58	-3.07/-2.59	-2.27/-2.05	-1.89/-1.83	-1.96/-2.25	-2.53/-2.64	-2.78/-3.1	-3.37/-3.48	-3.6/-3.89	-4.31/-4.51	-4.53/-4.33	-4.08/-3.8	-3.48/-3.16	-2.93/-2.66	-2.4/-2.19	-2.06/-1.97	-1.88/-1.79	-1.89/-2.23	-2.72/-3.28	-3.93/-4.65	-5.39/-6.02	-6.51/-6.63
Θ(7.5°)	-7.27/-6.84	-5.71/-4.6	-3.61/-2.96	-2.54/-2.28	-2.25/-2.42	-2.58/-2.87	-3.38/-4.01	-4.5/-4.77	-5.1/-5.44	-5.47/-5.09	-4.69/-4.54	-4.59/-4.64	-4.68/-4.72	-4.86/-5.05	-5.26/-5.26	-5.18/-4.78	-4.18/-3.57	-2.99/-2.38	-1.68/-1.04	-0.72/-0.69	-0.95/-1.48	-2.4/-3.7	-4.82/-6.04	-7.03/-7.4
Θ(15°)	-7.84/-6.9	-5.65/-4.5	-3.83/-3.74	-4.02/-4.49	-5.14/-5.94	-6.78/-7.46	-8.01/-8.28	-8.13/-7.96	-7.7/-7.71	-7.33/-6.59	-5.93/-5.44	-5.32/-5.19	-5.1/-5.13	-5.24/-5.57	-6.19/-7.01	-7.98/-8.62	-8.17/-8.02	-6.86/-5.22	-3.4/-1.95	-0.93/-0.41	-0.35/-0.76	-1.68/-2.95	-4.56/-6.31	-7.9/-8.29
Θ(22.5°)	-6.8/-5.43	-4.36/-4.04	-4.62/-5.83	-7.67/-10.05	-12.87/-16.04	-17.59/-15.88	-12.87/-10.67	-9.47/-8.86	-8.5/-8.46	-8.28/-7.5	-7.01/-6.3	-5.8/-5.5	-5.35/-5.31	-5.36/-5.47	-5.83/-6.54	-7.92/-9.87	-12.59/-14.5	-12.75/-9.28	-6.31/-4.2	-2.79/-1.85	-1.47/-1.62	-2.26/-3.32	-4.86/-6.61	-8.07/-7.88
Θ(30°)	-5.22/-3.92	-3.21/-3.71	-5.51/-5.58	-13.85/-18.83	-17.88/-13.14	-10.94/-9.69	-8.82/-7.97	-7.52/-7.46	-7.88/-8.66	-9.24/-8.96	-7.83/-6.66	-5.85/-4.55	-5.29/-5.21	-5/-4.64	-4.44/-4.75	-5.87/-7.84	-11.28/-16.51	-19.09/-16.43	-12.37/-9.34	-6.99/-5.03	-3.74/-2.98	-2.7/-3.09	-4.14/-5.68	-6.83/-6.4
Θ(37.5°)	-5.35/-4.3	-3.79/-4.68	-7.17/-11.67	-18.35/-13.68	-9.11/-7.07	-6.42/-6.5	-6.91/-7.01	-7.73/-9.87	-7.82/-6.22	-5.52/-5.5	-5.78/-5.8	-5.11/-4.14	-3.59/-3.87	-5.26/-7.72	-11.88/-17.59	-18.86/-18.03	-18.09/-17.85	-13.75/-8.65	-5.58/-3.54	-2.66/-2.73	-3.52/-4.73	-5.92/-6.38		
Θ(45°)	-6.61/-6.15	-5.58/-6.05	-8.49/-13.41	-15.22/-10.01	-6.88/-5.8	-6.08/-6.97	-7.79/-8.43	-8.46/-8.08	-8.09/-9.69	-13.61/-13.75	-9.18/-6.57	-5.77/-6.27	-7.36/-7.38	-5.84/-0.43	-2.99/-3.17	-4.62/-7.5	-12.45/-18.71	-19.15/-17.6	-18.26/-18.67	-17.99/-11.87	-6.6/-3.87	-2.79/-2.9	-3.92/-5.61	
Θ(52.5°)	-8.17/-7.38	-5.54/-5.09	-7.15/-11.24	-11.4/-8.18	-6.4/-6.22	-7.23/-8.52	-9.58/-10.04	-9.28/-7.92	-7.07/-8.07	-12.51/-18.29	-12.03/-8	-7.21/-8.47	-10.03/-8.45	-5.32/-3.26	-2.48/-3.1	-5.11/-8.72	-14.14/-18.41	-18.52/-18.31	-15.07/-17.7	-18.49/-12.59	-7.19/-4.53	-3.63/-4.15	-5.96/-8.11	-8.73/-8.12
Θ(60°)	-7/-6.3	-4.34/-3.73	-5.79/-10.03	-11.05/-8.87	-4.88/-9.85	-11.44/-12.17	-12.58/-11.93	-9.54/-7.46	-6.02/-5.83	-7.71/-13.64	-17.74/-12.83	-10.29/-11.3	-14.11/-10.65	-5.28/-2.82	-2.61/-3.92	-6.45/-10.96	-15.79/-15.36	-17.14/-16.93	-13.62/-11.61	-9.28/-7.29	-6.27/-6.81	-9.56/-12.67	-9.84/-7.3	
Θ(67.5°)	-5.78/-6.35	-5.13/-4.44																						

Total Gain Data

Freq(Hz)	245SPol	TotalAnt.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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(282.5°)	Φ(300°)Ψ(307.5°)	Φ(315°)Ψ(322.5°)	Φ(330°)Ψ(337.5°)	Φ(345°)Ψ(352.5°)
Θ(0°)	-4.57/-4.44	-4.61/-4.41	-4.91/-4.82	-4.68/-4.63	-4.79/-5.10	-5.32/-5.45	-5.58/-5.76	-5.86/-5.97	-6.15/-6.48	-6.75/-6.88	-6.93/-6.82	-6.62/-6.49	-6.46/-6.56	-6.70/-6.61	-6.22/-6.74	-5.34/-5.21	-5.10/-5.09	-5.26/-5.52	-5.82/-6.02	-6.31/-6.60	-6.86/-6.97	-7.02/-6.97	-6.80/-6.49	-5.93/-5.12
Θ(7.5°)	-7.11/-6.49	-6.19/-6.18	-6.37/-6.62	-6.65/-6.78	-7.38/-7.51	-7.35/-7.12	-6.82/-6.58	-6.41/-5.99	-5.54/-5.10	-4.53/-4.13	-4.06/-3.99	-3.77/-3.36	-2.96/-2.74	-2.80/-2.93	-2.99/-2.87	-2.77/-2.66	-2.54/-2.50	-2.66/-2.96	-3.47/-4.14	-4.95/-5.75	-6.47/-6.98	-7.35/-7.73	-8.22/-8.62	-8.56/-7.85
Θ(15°)	-5.60/-5.01	-4.56/-4.40	-4.40/-4.45	-4.72/-5.31	-6.09/-6.71	-7.03/-7.20	-7.15/-6.93	-6.49/-5.66	-4.61/-3.57	-2.58/-1.96	-1.78/-1.69	-1.46/-1.00	-0.93/-0.28	-0.38/-0.69	-1.03/-1.23	-1.20/-1.01	-0.82/-0.53	-0.44/-0.65	-1.15/-1.79	-2.54/-3.24	-3.72/-4.08	-4.43/-5.03	-5.45/-5.76	-6.01/-6.06
Θ(22.5°)	-3.71/-3.65	-3.47/-3.43	-3.53/-3.65	-3.77/-4.01	-4.02/-4.97	-5.54/-6.10	-6.27/-6.07	-5.54/-4.65	-3.50/-2.29	-1.13/-0.39	-0.10/-0.00	0.12/0.32	0.55/0.56	0.30/-0.25	-0.80/-1.08	-1.06/-0.78	-0.32/0.14	0.08/0.49	0.25/0.16	-0.64/-1.04	-1.30/-1.54	-1.85/-2.18	-2.49/-2.68	-3.30/-3.47
Θ(30°)	-2.82/-3.26	-3.40/-3.48	-3.68/-3.81	-3.91/-3.89	-3.98/-4.20	-4.57/-5.15	-5.45/-5.17	-4.59/-3.98	-3.06/-1.89	-0.70/0.25	0.79/1.02	1.02/0.87	0.59/0.26	-0.24/-0.79	-1.33/-1.83	-2.05/-1.89	-1.30/-0.54	0.24/0.69	0.75/0.61	0.47/0.37	0.23/0.04	-0.21/0.50	-0.80/-0.99	-1.38/-1.20
Θ(37.5°)	-3.50/-4.12	-4.03/-3.67	-3.30/-3.14	-3.50/-4.14	-4.48/-4.43	-4.48/-4.98	-5.18/-4.58	-3.81/-3.32	-2.70/-1.73	-0.58/0.51	1.27/1.66	1.80/1.05	0.15/-0.86	-1.62/-2.02	-2.32/-2.61	-2.83/-2.85	-2.41/-1.62	-0.74/-0.10	0.23/0.41	0.58/0.72	0.69/0.49	0.20/0.10	-0.47/-0.87	-1.47/-2.44
Θ(45°)	-6.43/-7.08	-5.97/-4.22	-2.52/-1.60	-2.97/-3.86	-6.21/-6.45	-5.60/-5.58	-6.82/-4.52	-3.06/-2.26	-1.96/-1.58	-0.95/-0.07	0.90/1.51	1.54/0.92	-0.11/-1.12	-1.89/-2.34	-2.62/-2.81	-2.96/-3.07	-2.89/-2.60	-2.16/-1.65	-1.03/-0.42	0.22/0.63	0.68/0.32	0.22/0.98	-1.68/-2.44	-3.39/-4.83
Θ(52.5°)	-8.12/-9.07	-5.95/-3.15	-0.90/0.34	0.04/-2.30	-6.64/-8.27	-6.42/-6.22	-6.23/-4.45	-2.33/-1.17	-0.96/-1.19	-1.21/-0.48	0.54/1.06	0.80/-0.03	-0.88/-1.45	-1.71/-1.94	-2.11/-2.23	-2.48/-2.94	-3.42/-3.76	-3.58/-2.55	-1.32/-0.30	0.48/0.86	1.68/0.15	-0.83/-1.77	-2.49/-3.11	-3.97/-5.56
Θ(60°)	-8.70/-9.84	-5.95/-2.65	-0.39/0.90	0.83/-1.24	-5.21/-6.56	-5.17/-5.80	-6.67/-4.80	-2.34/-0.98	-0.55/-0.87	-1.19/-0.69	0.30/0.76	0.38/-0.60	-1.50/-1.86	-1.98/-2.11	-2.10/-2.00	-2.17/-2.85	-3.78/-4.30	-3.65/-2.22	-1.15/-0.40	0.22/0.56	0.54/0.13	-0.63/-1.55	-2.35/-3.10	-4.09/-5.84
Θ(67.5°)	-10.46/-10.95	-7.21/-9.33	-1.62/-0.25	-0.33/-2.35	-5.32/-5.32	-4.55/-5.98	-6.40/-3.78	-1.72/-0.78	-0.70/-1.22	-1.56/-0.93	0.16/0.46	-0.07/-1.00	-1.54/-1.57	-1.59/-1.73	-1.84/-1.95	-2.38/-3.23	-3.77/-3.75	-3.28/-2.48	-1.67/-0.91	-0.16/0.34	-0.46/-0.00	-0.97/-2.23	-3.68/-5.13	-6.63/-7.94
Θ(75°)	-8.69/-8.27	-7.15/-5.54	-3.49/-1.71	-1.24/-2.75	-4.84/-4.60	-4.66/-7.29	-6.73/-2.95	-0.99/-0.58	-0.97/-1.84	-2.51/-2.20	-1.11/-1.40	-0.60/-1.22	-1.41/-1.12	-1.09/-1.73	-2.52/-2.98	-3.37/-3.61	-3.42/-3.70	-4.07/-3.58	-2.55/-1.53	-0.57/-0.06	-0.26/-0.88	-1.83/-3.09	-4.56/-5.77	-6.39/-7.67
Θ(82.5°)	-9.19/-7.20	-5.05/-4.41	-4.42/-3.73	-2.98/-4.46	-4.51/-3.68	-3.75/-6.87	-6.51/-7.25	-1.21/-1.13	-1.75/-2.65	-3.43/-3.26	-2.05/-1.26	-1.38/-1.78	-1.74/-1.50	-1.82/-2.79	-3.45/-3.30	-3.25/-3.35	-3.71/-4.75	-5.08/-4.37	-3.50/-2.40	-1.27/-0.90	-0.99/-1.18	-1.76/-3.08	-5.01/-6.28	-6.63/-7.97
Θ(90°)	-9.10/-7.72	-4.74/-3.84	-4.37/-3.98	-3.58/-4.17	-5.64/-4.90	-4.25/-6.29	-5.51/-2.34	-1.39/-1.77	-2.36/-3.08	-4.04/-5.41	-3.52/-4.24	-2.34/-2.73	-2.87/-2.50	-2.28/-2.72	-3.11/-3.28	-3.35/-4.94	-5.74/-2.60	-6.05/-5.56	-4.73/-3.38	-2.23/-2.07	-1.93/-1.86	-2.82/-4.93	-6.77/-6.70	-6.46/-7.44
Θ(97.5°)	-9.87/-8.71	-5.14/-3.84	-4.72/-3.62	-2.85/-3.27	-4.37/-5.66	-5.89/-7.49	-5.45/-2.11	-1.34/-2.03	-2.54/-2.65	-3.05/-3.58	-3.38/-3.03	-3.28/-3.64	-3.83/-3.03	-2.83/-3.63	-4.88/-5.85	-6.74/-6.86	-6.29/-5.81	-6.04/-5.89	-5.11/-4.03	-3.37/-3.13	-2.67/-2.74	-4.05/-5.77	-5.93/-6.08	-7.21/-8.94
Θ(105°)	-10.21/-9.72	-6.05/-3.76	-4.67/-3.77	-3.22/-3.00	-3.53/-3.58	-7.53/-9.46	-6.49/-2.61	-1.67/-2.72	-3.79/-3.66	-3.59/-3.79	-3.58/-2.92	-2.86/-2.83	-2.87/-2.36	-2.64/-4.04	-6.15/-7.34	-7.69/-6.78	-5.90/-5.35	-8.46/-7.32	-1.70/-5.90	-4.58/-3.72	-3.31/-3.48	-4.43/-5.24	-5.04/-4.93	-6.80/-9.82
Θ(112.5°)	-9.13/-8.14	-5.71/-3.50	-4.24/-3.93	-3.02/-3.69	-3.89/-4.64	-6.47/-9.61	-7.97/-3.28	-1.93/-2.95	-4.16/-3.88	-5.37/-3.78	-3.74/-3.52	-3.79/-4.25	-4.05/-3.78	-4.56/-4.60	-8.95/-9.05	-8.21/-6.78	-5.49/-6.16	-8.61/-6.93	-10.65/-8.66	-5.84/-4.33	-3.37/-3.82	-4.47/-5.05	-4.81/-5.11	-7.89/-10.94
Θ(120°)	-11.15/-9.01	-5.68/-3.44	-4.18/-5.15	-4.34/-5.56	-6.93/-5.97	-5.40/-5.65	-6.05/-4.51	-3.25/-4.07	-5.31/-4.04	-2.49/-2.09	-2.46/-3.01	-3.56/-3.72	-3.31/-3.24	-4.30/-5.95	-7.17/-7.39	-7.59/-7.00	-6.62/-8.47	-11.53/-11.42	-10.19/-7.26	-5.03/-4.32	-4.86/-5.84	-6.94/-7.46	-6.62/-6.27	-8.53/-13.68
Θ(127.5°)	-14.52/-12.61	-7.49/-4.66	-4.96/-5.80	-4.71/-5.28	-6.15/-7.82	-6.47/-8.12	-4.65/-3.25	-2.53/-3.12	-4.58/-4.48	-3.22/-2.99	-4.01/-5.33	-5.82/-5.31	-4.75/-4.99	-6.20/-8.08	-9.13/-10.08	-10.74/-9.24	-8.94/-10.46	-11.40/-9.14	-8.52/-8.48	-8.16/-8.47	-8.68/-8.72	-8.04/-7.16	-5.93/-5.32	-6.69/-10.69
Θ(135°)	-14.84/-13.29	-9.02/-6.62	-6.39/-7.61	-7.28/-7.16	-8.83/-7.60	-6.00/-5.94	-6.21/-5.43	-4.68/-4.56	-4.54/-3.63	-2.60/-2.41	-3.07/-4.03	-4.70/-5.16	-5.60/-6.91	-8.97/-10.95	-11.03/-9.77	-10.89/-7.54	-8.66/-10.45	-8.87/-7.50	-11.50/-9.95	-8.06/-6.99	-6.88/-7.03	-6.71/-6.45	-7.70/-12.09	-7.70/-12.09
Θ(142.5°)	-15.75/-13.85	-9.77/-9.99	-7.85/-8.91	-12.14/-12.59	-10.48/-7.00	-7.77/-4.23	-6.80/-7.85	-4.47/-4.72	-5.19/-4.36	-4.09/-4.16	-3.94/-4.92	-5.82/-1.96	-8.37/-9.23	-9.10/-8.52	-12.28/-13.72	-11.02/-9.22	-11.49/-9.28	-8.40/-7.77	-11.57/-11.41	-9.90/-4.88	-8.87/-8.80	-9.45/-9.98	-9.59/-2.55	-10.46/-14.33
Θ(150°)	-12.69/-13.50	-11.39/-9.64	-9.18/-10.56	-12.92/-13.20	-11.71/-8.34	-5.94/-4.74	-4.44/-5.71	-5.26/-6.50	-8.47/-9.99	-10.08/-9.34	-8.38/-7.78	-7.73/-8.04	-9.80/-10.16	-11.12/-11.71	-11.72/-11.77	-12.31/-11.03	-9.42/-8.22	-7.38/-7.17	-8.17/-8.71	-10.61/-12.70	-14.21/-14.60	-12.97/-11.74	-10.94/-10.59	-10.67/-11.23
Θ(157.5°)	-10.28/-10.77	-10.33/-9.87	-10.23/-11.74	-13.45/-13.54	-13.53/-11.86	-9.52/-7.91	-6.82/-6.11	-6.61/-5.54	-5.85/-6.33	-6.91/-7.15	-7.04/-7.01	-7.48/-8.52	-9.47/-9.80	-9.41/-8.90	-8.52/-8.24	-7.83/-7.31	-6.95/-7.00	-7.40/-7.93	-8.76/-10.37	-12.87/-15.06	-15.62/-15.45	-12.03/-13.39	-11.99/-11.30	-10.62/-10.28
Θ(165°)	-12.16/-11.84	-11.57/-11.57	-12.62/-14.89	-14.75/-15.45	-15.58/-14.45	-14.10/-11.83	-9.84/-8.00	-6.57/-6.49	-4.74/-4.33	-4.15/-4.17	-4.15/-4.27	-4.63/-5.22	-5.71/-5.77	-5.81/-5.60	-5.52/-5.61	-6.03/-6.83	-8.03/-9.42	-10.41/-10.92	-11.66/-12.84	-14.43/-14.97	-15.00/-15.05	-16.12/-15.57	-14.67/-13.44	-12.67/-12.48
Θ(172.5°)	-15.54/-15.29	-14.90/-15.26	-15.61/-15.16	-14.81/-15.26	-14.61/-14.12	-12.48/-11.11	-8.83/-8.46	-7.10/-6.02	-5.38/-5.09	-5.11/-5.23	-5.27/-5.39	-5.74/-6.24	-6.61/-6.15	-6.28/-6.95	-8.25/-10.21	-12.54/-13.34	-13.16/-12.73	-12.94/-13.20	-13.46/-14.18	-14.83/-15.49	-14.22/-14.78	-14.58/-14.54	-14.73/-15.16	-15.43/-15.18
Θ(180°)	-13.29/-12.99	-13.41/-13.63	-12.43/-11.34	-10.63/-10.09	-9.65/-9.12	-8.58/-8.49	-8.24/-7.97	-7.65/-7.38	-7.31/-7.62	-8.17/-8.74	-9.20/-9.86	-10.67/-10.64	-11.36/-11.25	-11.68/-12.88	-13.68/-15.07	-14.92/-14.02	-13.48/-13.26	-12.78/-13.75	-13.99/-14.48	-14.42/-14.47	-14.28/-14.73	-14.11/-14.16	-15.32/-13.63	
Freq(Hz)	52GPOL	TotalAnt.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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(282.5°)	Φ(300°)Ψ(307.5°)	Φ(315°)Ψ(322.5°)	Φ(330°)Ψ(337.5°)	Φ(345°)Ψ(352.5°)
Θ(0°)	-1.76/-2.30	-2.53/-2.29	-1.93/-2.11	-2.20/-2.51	-2.61/-2.47	-2.72/-2.14	-1.85/-1.74	-1.34/-1.38	-1.55/-1.39	-1.19/-1.09	-0.84/-0.48	-0.56/-0.77	-1.07/-1.20	-1.20/-1.32	-2.10/-2.14	-1.44/-1.56	-1.75/-1.61	-1.70/-1.62	-1.33/-1.39	-1.53/-1.39	-1.36/-1.13	-1.32/-1.37	-1.48/-1.60	-1.73/-1.79
Θ(7.5°)	-2.02/-2.09	-2.11/-2.18	-1.91/-2.09	-2.64/-2.99	-2.68/-2.23	-2.03/-1.66	-1.78/-1.75	-1.45/-1.30	-1.49/-2.11	-2.07/-2.79	-2.83/-2.48	-3.71/-3.71	-3.86/-3.65	-3.71/-3.74	-3.41/-3.30	-2.35/-2.10	-2.10/-1.53	-0.79/-0.34	-0.17/0.02	0.22/0.02	-0.29/-0.34	-0.54/-0.75	-1.25/-1.97	
Θ(15°)	-2.84/-4.15	-4.47/-3.29	-2.43/-1.81	2.16/-2.59	2.55/-2.71	2.01/-1.54	-1.49/-1.25	-1.00/-0.96	-1.39/-2.03	-2.53/-2.68	-3.31/-3.41	-3.11/-2.49	-2.20/-1.88	-1.81/-1.79	-1.50/-1.46	-1.63/-1.56	-1.21/-1.19	-1.24/-1.24	-0.86/-0.70	-0.12/0.01	0.16/-0.25	-0.80/-1.58	-1.76/-1.77	-1.64/-2.02
Θ(22.5°)	-0.94/-2.36	-3.55/-3.30	-2.38/-1.73	-1.81/-1.82	-1.82/-1.82	-2.13/-2.29	-2.65/-2.77	-2.66/-2.57	-3.08/-3.64	-3.58/-3.20	-3.04/-2.77	-2.15/-1.60	-1.56/-1.97	-2.52/-3.21	-3.50/-3.88	-3.36/-2.25	-1.46/-1.25	-0.40/0.20	0.21/-0.12	-0.66/-0.86	-0.39/-0.07	-0.02/-0.25	-0.26/-0.12	-0.45/-0.44
Θ(30°)	-2.54/-3.43	-4.18/-4.26	-3.53/-2.82	-2.93/-3.16	-3.03/-2.87	-3.13/-3.18	-3.00/-2.63	-2.02/-2.34	-3.06/-3.52	-3.00/-2.27	-1.81/-2.07	-2.42/-1.68	-0.93/-1.37	-2.72/-3.30	-3.17/-3.42	-3.61/-3.54	-3.51/-2.51	-0.70/0.29	0.59/0.38	1.04/0.56	1.26/-1.75	1.72/-1.46	1.15/1.03	0.26/-1.07
Θ(37.5°)	-0.16/-1.32	0.02/-0.81	-1.85/-3.79	-4.55/-4.59	-3.09/-2.00	-2.50/-3.78	-5.34/-2.05	-0.84/-0.82	-1.98/-2.58	-2.12/-1.96	2.08/-2.15	-1.28/0.48	-0.81/-2.20	-3.59/-3.20	-2.14/-1.39	-1.44/-2.00	-2.73/-2.80	-1.34/-0.67	-0.91/-0.25	0.49/0.56	0.821/87	1.831/-16	1.241/03	0.11/-1.05
Θ(45°)	1.30/50	1.07/0.80	-2.24/-2.07	-1.34/-1.77	-2.20/-1																			



Antenna Pattern of 2.4GHz and 5GHz

Appendix E

Θ(30°)	-3.77/-5.19	-6.84/-7.55	-5.38/-2.46	-1.30/-1.51	-1.61/-1.39	-1.38/-2.21	-3.12/-4.53	-7.85/-15.39	-9.88/-6.84	-5.20/-4.33	-4.43/-4.24	-5.12/-5.59	-4.57/-3.88	-2.95/-2.73	-3.90/-4.90	-1.50/-0.67	0.73/-1.15	1.67/0.83	1.19/2.11	2.07/0.09	-1.82/-2.70	-2.74/-2.23	-2.12/-2.05	-3.14/-3.96
Θ(37.5°)	-9.73/-10.46	-6.17/-5.51	-6.03/-3.79	-1.12/-0.52	-1.08/-2.32	-2.53/-1.91	-2.71/-4.85	-9.14/-7.29	-4.31/-5.92	-6.23/-2.40	-1.40/-1.60	-1.91/-1.78	-1.03/-0.25	-0.57/-0.61	-1.05/-1.78	0.06/-1.86	2.80/2.39	1.04/-1.34	1.71/-1.97	1.99/-0.77	-2.01/-0.22	-0.51/-1.55	-1.85/-2.29	-2.59/-4.74
Θ(45°)	-1.04/-0.16	0.07/-0.51	-1.46/-1.55	-1.17/-1.17	1.81/-0.02	-4.10/-2.98	-2.73/-5.19	-6.70/-1.31	0.76/-3.33	-1.78/-0.97	0.52/0.95	1.23/0.26	0.21/0.19	-0.72/-0.91	0.50/0.57	-0.98/0.23	3.26/3.10	0.79/0.46	1.46/0.64	-0.33/-0.86	-1.70/-0.31	-0.15/-0.42	-0.85/-1.50	-1.00/-1.50
Θ(52.5°)	2.69/-1.65	-1.46/-5.34	-6.02/-0.77	0.58/-1.97	3.61/2.52	-1.69/-5.32	-3.80/-7.29	-5.44/0.87	2.49/-0.24	-1.95/0.24	2.18/3.64	3.02/-1.89	1.91/0.30	-1.56/-2.09	-1.95/-0.06	-0.32/-2.33	0.71/3.56	1.68/-0.89	1.19/-0.44	-2.72/-1.01	-1.21/-1.66	-1.93/-0.49	0.94/0.85	1.49/-1.83
Θ(60°)	4.27/-0.39	-1.78/-2.84	-5.12/-0.69	1.42/-1.82	3.47/-2.98	-0.86/-6.87	-6.94/-11.10	-4.89/-0.49	1.68/-2.21	1.17/0.20	2.65/-4.36	2.88/-2.06	2.15/0.57	-0.39/-0.01	-0.60/-1.44	0.03/-1.02	-0.97/-2.39	2.37/-0.05	1.73/0.07	-5.00/-1.75	-2.93/-3.47	-1.05/-0.60	1.12/-1.74	1.87/-2.56
Θ(67.5°)	4.74/-3.79	-1.24/-1.82	-1.89/-5.81	2.95/-2.87	3.51/2.17	-1.89/-5.97	-7.33/-9.74	-1.71/-0.45	1.12/-2.69	1.46/0.58	3.08/-0.93	1.72/2.07	1.88/0.37	1.84/-1.70	0.48/-0.82	-0.55/0.22	-0.95/0.62	3.40/-2.56	1.78/0.12	-3.23/-0.10	-2.97/-2.99	-0.57/-0.65	1.23/-1.59	1.61/-2.56
Θ(75°)	4.35/-3.38	1.11/-2.86	-0.10/-0.13	4.56/-3.93	2.37/0.78	-5.03/-5.78	-3.97/-4.38	-1.85/-0.99	0.82/-2.07	0.18/-0.05	2.32/-3.25	2.41/0.54	1.14/0.58	1.85/-1.68	0.26/0.13	-1.13/-0.18	-0.76/-0.39	3.37/-3.94	3.51/0.64	-1.75/-0.10	-3.27/-1.90	-0.17/-2.46	-0.72/-1.22	1.84/-2.31
Θ(82.5°)	1.70/-1.57	-0.83/-2.12	-1.32/-0.52	5.49/-0.05	0.26/-0.43	-8.74/-7.36	-3.78/-5.38	-1.64/-0.84	-0.09/-0.40	-0.82/-1.26	2.03/-1.88	1.76/-0.38	0.96/-1.45	2.10/-1.44	-0.45/-0.26	-2.08/-0.84	-0.02/-1.11	2.41/-4.53	3.44/-1.07	-0.76/-0.54	-1.22/-0.34	1.32/-0.82	-1.42/-1.54	-0.29/-0.55
Θ(90°)	-1.21/-1.63	-2.74/-1.99	-0.01/-1.77	3.83/-1.79	-3.01/-2.80	-10.09/-9.50	-3.74/-5.07	-1.59/-1.14	-1.03/-0.50	-2.35/-0.11	1.42/0.30	1.24/-0.62	-0.87/-1.10	1.13/0.58	-1.17/0.66	-1.50/-1.94	-0.57/-2.56	0.22/-3.31	2.23/-1.32	0.23/0.27	-1.22/-0.47	0.59/-1.98	-1.82/-4.40	-3.03/-0.80
Θ(97.5°)	-3.61/-9.50	-3.65/-1.08	-0.21/-2.50	1.15/-0.53	-5.86/-4.03	-7.71/-10.46	-4.47/-5.94	-2.34/-2.17	-1.74/-1.83	-2.04/-0.04	0.24/-0.56	0.22/-1.72	-1.27/-0.63	-0.22/-1.34	-1.77/-0.53	-2.89/-2.97	-2.31/-3.26	-1.82/0.89	0.78/-1.77	-1.62/0.31	-1.62/-0.41	-1.61/-4.25	-4.16/-4.14	-4.03/-3.58
Θ(105°)	-10.18/-10.67	-4.09/-0.61	-1.57/-2.92	-2.23/-0.59	-2.80/-7.65	-6.32/-6.90	-3.39/-5.83	-2.89/-1.17	-0.85/-0.20	-0.51/-3.19	-2.86/-3.44	-0.93/-2.69	-3.80/-1.94	-2.52/-4.40	-2.63/-3.87	-3.32/-1.97	-0.42/-4.01	-2.43/-0.56	-3.02/-2.31	-3.42/-4.73	-6.64/-4.71	-4.01/-2.38		
Θ(112.5°)	-9.47/-6.50	-7.14/-6.92	-8.23/-4.44	-0.46/-1.10	-3.87/-10.36	-4.31/-6.61	-5.84/-6.57	-5.14/-5.89	-3.91/-3.72	-3.48/-2.61	-2.96/-1.08	-3.19/-4.99	-4.99/-3.87	-5.38/-6.12	-5.24/-3.46	-3.61/-6.10	-5.51/-3.38	-3.30/-2.56	-0.22/-6.30	-4.08/-3.11	-5.14/-2.89	-5.84/-8.77	-3.89/-0.09	
Θ(120°)	-6.61/-10.73	-5.13/-11.23	-7.77/-4.94	-1.00/-2.58	-8.09/-8.93	-5.88/-9.71	-4.78/-6.81	-7.46/-5.63	-4.76/-6.85	-5.10/-2.97	-5.79/-3.73	-3.14/-5.92	-12.41/-6.63	-8.19/-7.91	-6.27/-4.72	-5.06/-4.44	-7.90/-6.73	-3.43/-3.64	-1.19/-6.39	-3.97/-3.46	-6.99/-3.41	-3.42/-3.17	-9.56/-11.29	-4.16/-1.07
Θ(127.5°)	-4.27/-6.21	-5.52/-5.74	-5.10/-11.14	-6.59/-8.16	-13.69/-11.86	-6.72/-10.24	-5.05/-9.86	-6.04/-8.15	-9.12/-4.94	-5.48/-4.99	-6.03/-5.93	-4.57/-7.40	-14.70/-12.35	-8.16/-6.15	-7.89/-5.06	-3.82/-4.18	-9.17/-14.45	-6.40/-3.30	-3.70/-12.24	-7.19/-3.26	-7.87/-6.86	-7.51/-4.71	-6.71/-11.31	-9.40/-0.49
Θ(135°)	-3.18/-8.32	-5.40/-6.75	-10.27/-9.32	-10.58/-11.45	-11.33/-14.87	-10.37/-7.57	-5.69/-12.63	-7.87/-8.06	-9.74/-10.08	-6.77/-6.84	-9.56/-7.39	-6.80/-12.29	-15.50/-12.42	-15.10/-13.84	-13.32/-6.78	-2.55/-6.13	-8.81/-10.83	-7.90/-9.284	-0.22/-8.74	-13.11/-5.43	-4.07/-5.95	-6.03/-10.41	-1.99/-8.34	-9.66/-6.62
Θ(142.5°)	-4.63/-4.13	-9.46/-8.22	-6.92/-8.88	-10.78/-14.10	-11.57/-12.27	-9.10/-8.57	-11.93/-11.82	-8.96/-13.10	-10.89/-7.48	-6.66/-11.65	-15.23/-14.79	-12.95/-15.77	-11.40/-10.77	-8.03/-8.26	-7.87/-5.45	-5.67/-5.31	-6.65/-11.61	-9.19/-5.89	-5.11/-9.91	-13.31/-11.51	-8.75/-10.65	-5.44/-10.50	-9.27/-6.24	-8.09/-14.01
Θ(150°)	-9.62/-12.19	-15.87/-15.15	-15.43/-13.69	-10.91/-11.23	-10.62/-9.88	-10.30/-11.50	-14.31/-11.00	-9.50/-12.55	-9.34/-9.70	-14.83/-15.37	-10.90/-7.80	-7.45/-7.08	-6.68/-9.50	-13.31/-10.12	-6.66/-9.51	-6.67/-6.57	-9.46/-8.08	-11.25/-10.04	-9.41/-8.55	-6.67/-6.83	-11.00/-13.25	-8.55/-8.13	-12.86/-14.28	-8.13/-8.66
Θ(157.5°)	-10.30/-13.20	-13.61/-14.16	-15.01/-11.89	-9.50/-10.80	-14.08/-15.50	-15.62/-14.26	-13.11/-11.20	-14.59/-12.93	-15.50/-13.95	-14.08/-13.26	-12.42/-12.73	-11.02/-10.26	-13.66/-15.29	-14.66/-14.45	-13.70/-14.83	-7.55/-9.33	-10.93/-8.37	-8.02/-8.01	-7.76/-7.93	-9.94/-10.25	-9.20/-7.45	-8.51/-13.96	-12.14/-9.64	
Θ(165°)	-8.83/-12.45	-15.68/-14.34	-15.84/-13.43	-10.44/-9.69	-10.31/-11.23	-11.02/-12.75	-13.78/-14.27	-13.95/-15.74	-14.47/-14.56	-15.52/-14.70	-12.18/-11.14	-10.18/-10.48	-9.74/-9.42	-10.31/-11.30	-14.20/-14.80	-15.35/-15.97	-13.84/-12.03	-11.53/-8.86	-6.91/-7.05	-9.43/-14.59	-15.56/-12.85	-10.61/-9.91	-11.24/-15.74	-13.19/-8.84
Θ(172.5°)	-13.05/-13.15	-14.04/-13.19	-12.74/-11.77	-12.00/-14.22	-14.09/-13.28	-10.87/-11.00	-11.01/-10.54	-9.60/-9.47	-9.21/-9.82	-9.15/-7.38	-7.37/-9.05	-11.03/-12.93	-13.29/-12.34	-11.74/-11.40	-11.90/-11.26	-9.16/-8.00	-8.46/-10.41	-14.79/-14.99	-14.98/-15.72	-12.74/-9.81	-8.47/-2.44	-8.07/-8.05	-8.74/-10.66	-13.67/-13.82
Θ(180°)	-10.15/-9.47	-9.98/-10.87	-11.22/-10.76	-10.78/-11.55	-12.02/-11.94	-11.56/-11.39	-11.18/-10.90	-10.69/-11.56	-12.16/-13.19	-13.87/-12.36	-11.70/-12.56	-12.50/-12.17	-12.87/-12.78	-12.85/-12.17	-11.59/-12.54	-13.33/-12.54	-12.48/-12.91	-13.45/-13.81	-13.95/-13.32	-13.50/-13.13	-13.96/-15.88	-14.94/-13.31	-13.52/-12.03	-10.39/-10.46
Freq(Hz)	2.45GPol.	TotalAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Ψ(7.5°)	Φ(15°)Ψ(22.5°)	Φ(30°)Ψ(37.5°)	Φ(45°)Ψ(52.5°)	Φ(60°)Ψ(67.5°)	Φ(75°)Ψ(82.5°)	Φ(90°)Ψ(97.5°)	Φ(105°)Ψ(112.5°)	Φ(120°)Ψ(127.5°)	Φ(135°)Ψ(142.5°)	Φ(150°)Ψ(157.5°)	Φ(165°)Ψ(172.5°)	Φ(180°)Ψ(187.5°)	Φ(195°)Ψ(202.5°)	Φ(210°)Ψ(217.5°)	Φ(225°)Ψ(232.5°)	Φ(240°)Ψ(247.5°)	Φ(255°)Ψ(262.5°)	Φ(270°)Ψ(277.5°)	Φ(285°)Ψ(292.5°)	Φ(300°)Ψ(307.5°)	Φ(315°)Ψ(322.5°)	Φ(330°)Ψ(337.5°)	Φ(345°)Ψ(352.5°)
Θ(0°)	-4.70/-4.66	-4.61/-4.61	-4.60/-4.50	-4.49/-4.60	-4.69/-4.77	-4.92/-5.03	-5.16/-5.52	-6.15/-6.64	-6.91/-6.97	-6.51/-5.61	-4.65/-4.01	-3.62/-3.48	-3.49/-3.61	-3.85/-4.11	-4.44/-4.80	-5.03/-5.06	-5.11/-5.24	-5.51/-5.77	-5.89/-5.90	-5.89/-5.81	-5.65/-5.32	-4.82/-4.48	-4.35/-4.45	-4.59/-4.73
Θ(7.5°)	-5.70/-5.96	-6.09/-5.96	-5.62/-5.24	-5.03/-4.84	-4.58/-4.38	-4.27/-4.16	-4.24/-4.66	-5.44/-6.08	-6.59/-6.87	-6.80/-6.23	-5.39/-4.69	-4.09/-3.58	-3.28/-3.19	-3.36/-3.67	-4.06/-4.13	-4.13/-4.17	-4.34/-4.70	-5.13/-5.60	-5.96/-6.21	-6.20/-5.98	-5.69/-5.39	-5.12/-4.90	-4.81/-4.84	-5.02/-5.38
Θ(15°)	-5.99/-6.61	-6.09/-6.61	-5.90/-5.15	-4.45/-3.79	-3.27/-2.90	-2.72/-2.90	-3.13/-3.77	-4.82/-5.84	-6.65/-7.24	-7.71/-7.91	-7.66/-6.99	-5.96/-4.30	-4.20/-3.87	-3.90/-4.22	-4.48/-4.39	-4.03/-3.68	-3.58/-3.80	-4.20/-4.68	-5.14/-5.36	-5.62/-4.95	-4.69/-4.55	-4.51/-4.49	-4.50/-4.57	-4.91/-5.52
Θ(22.5°)	-5.01/-5.88	-6.55/-6.59	-5.83/-4.79	-3.77/-2.99	-2.43/-2.12	-2.08/-2.34	-2.84/-3.58	-4.57/-5.43	-6.07/-6.46	-6.80/-7.06	-6.92/-6.35	-5.49/-4.74	-4.28/-4.13	-4.28/-4.71	-5.23/-5.41	-5.03/-4.37	-3.85/-3.73	-3.95/-4.33	-4.73/-4.72	-4.70/-4.24	-3.81/-3.56	-3.55/-3.56	-3.51/-3.55	-3.81/-4.38
Θ(30°)	-4.98/-5.46	-6.60/-6.85	-6.18/-4.92	-3.74/-2.88	-2.48/-2.39	-2.47/-2.59	-2.81/-3.09	-3.62/-4.29	-4.89/-5.28	-5.36/-5.16	-4.73/-4.07	-3.35/-2.85	-2.75/-2.97	-3.46/-4.23	-5.18/-5.92	-5.91/-5.18	-4.37/-3.97	-3.79/-3.97	-4.41/-4.84	-5.29/-4.86	-4.05/-3.47	-3.39/-3.56	-3.58/-3.50	-3.72/-4.24
Θ(37.5°)	-6.29/-6.37	-6.27/-6.13	-6.00/-4.40	-3.17/-2.53	-2.61/-3.15	-3.52/-3.16	-2.63/-4.29	-4.84/-5.63	-5.40/-4.72	-4.03/-3.22	-2.45/-1.88	-1.80/-2.25	-3.11/-4.34	-5.65/-6.36	-6.24/-5.50	-4.76/-4.11	-3.61/-3.39	-3.71/-4.68	-5.90/-6.00	-4.90/-3.99	-3.90/-4.17	-4.35/-4.50	-4.98/-5.65	
Θ(45°)	-5.51/-5.45	-4.90/-4.98	-4.92/-3.94	-2.59/-1.91	-2.46/-4.11	-5.00/-3.54	-1.68/-0.94	-1.58/-3.41	-6.39/-8.20	-7.25/-5.50	-4.42/-3.77	-3.31/-2.94	-2.67/-2.66	-3.40/-4.79	-6.34/-6.99	-4.80/-5.46	-4.56/-4.00	-3.35/-2.74	-2.65/-3.53	-5.56/-6.94	-5.64/-4.15	-3.73/-3.88	-4.44/-5.08	-6.22/-6.97
Θ(52.5°)	-6.04/-6.46	-4.10/-4.40	-4.93/-4.53	-3.13/-2.20	-2.75/-4.90	-5.21/-2.26	-0.33/-1.81	-1.59/-4.61	-9.30/-9.64	-6.70/-5.36	-4.76/-4.29	-4.36/-4.84	-4.77/-4.39	-4.52/-5.67	-6.70/-6.88	-6.38/-5.18	-4.21/-3.64	-3.23/-2.54	-2.03/-2.73	-5.13/-4.79	-5.94/-3.87	-3.02/-3.27	-4.01/-5.14	-6.67/-7.15
Θ(60°)	-6.36/-4.88	-3.98/-4.09	-5.20/-6.01	-4.38/-2.32	-2.10/-3.83	-4.12/-1.47	-0.05/-0.46	-2.73/-6.68	-10.24/-6.64	-4.24/-1.46	-5.33/-5.55	-4.99/-5.95	-1.07/-6.06	-5.31/-5.99	-6.28/-6.05	-4.61/-4.65	-3.29/-2.81	-3.02/-3.03	-2.33/-2.73	-5.21/-7.88	-5.89/-3.51	-2.52/-2.46	-3.19/-4.62	-6.46/-7.26
Θ(67.5°)	-5.87/-4.65	-3.77/-3.84	-5.28/-6.68	-4.27/-1.53	-1.23/-3.37	-4.42/-1.86	-0.69/-1.52	-4.33/-8.00	-7.23/-3.85	-2.44/-3.20	-6.39/-8.31	-7.31/-8.70	-9.90/-7.68	-6.45/-6.69	-6.69/-6.13	-5.11/-4.13	-2.59/-1.62	-2.08/-2.89	-2.60/-2.91	-5.39/-8.23	-6.00/-3.56	-2.37/-1.98	-2.47/-3.91	-5.88/-6.59
Θ(75°)	-5.17/-4.56	-4.02/-3.78	-4.76/-6.11	-4.14/-1.53	-1.52/-3.99	-4.41/-1.86	-1.27/-2.68	-5.66/-8.76	-7.09/-4.21	-2.87/-3.43	-6.23/-9.97	-9.29/-9.74	-10.83/-10.30	-8.01/-7.61	-7.81/-6.28	-4.59/-4.16	-3.06/-1.69	-1.87/-3.24	-3.12/-2.59	-4.43/-3.96	-6.51/-4.13	-2.79/-2.34	-2.68/-3.73	-5.15/-5.72
Θ(82.5°)	-6.68/-4.29	-3.21/-2.76	-3.71/-3.70	-4.40/-1.91	-1.99/-4.18	-3.52/-1.77	-4.91/-4.71	-7.12/-7.30	-6.14/-4.93	-4.59/-5.64	-9.21/-11.75	-8.26												

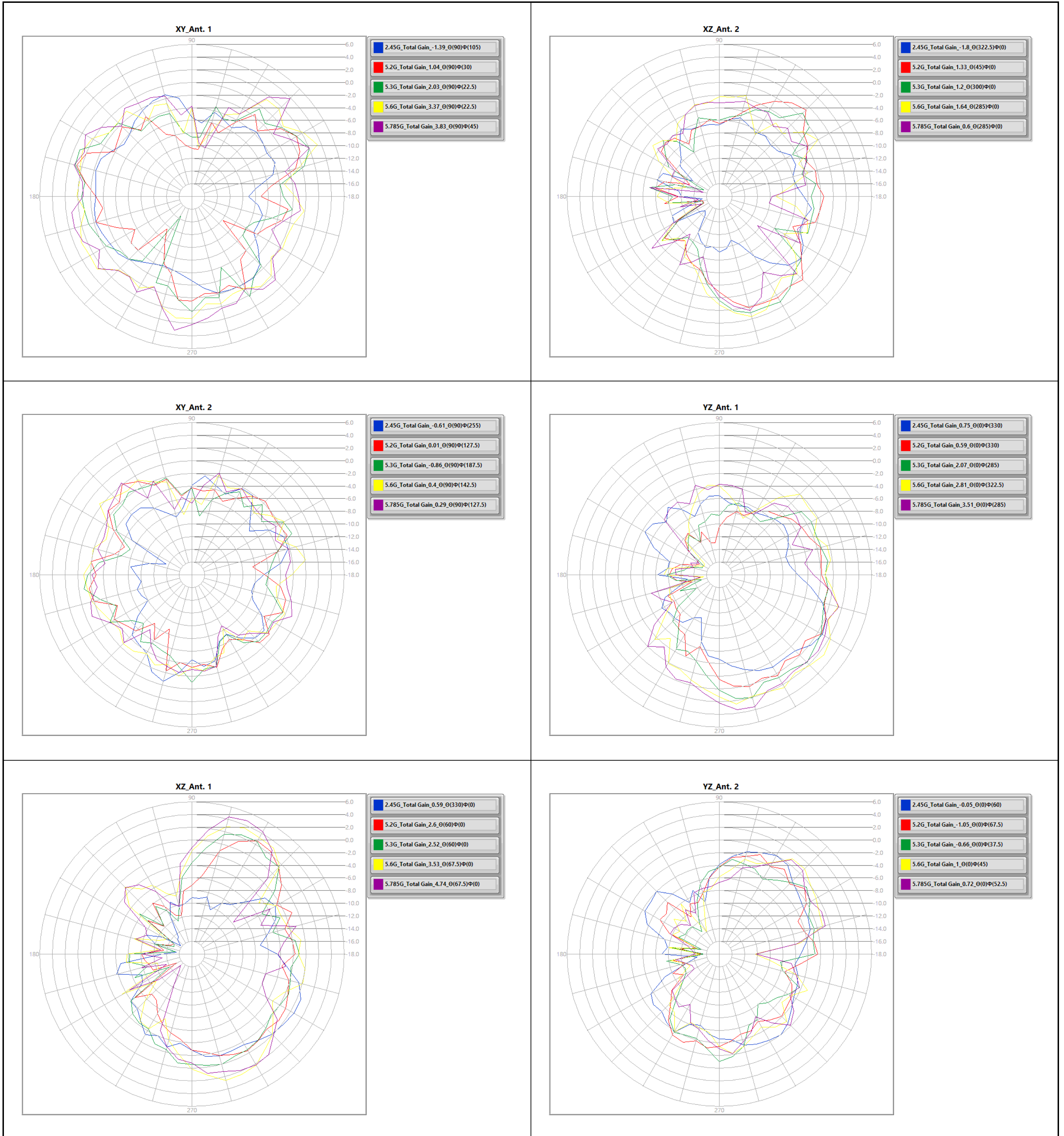


Antenna Pattern of 2.4GHz and 5GHz

Appendix E

Θ(75°)	-1.51/0.38	0.37/-1.49	0.71/-0.14	-1.28/-1.55	0.33/-1.32	1.09/-4.60	-2.54/-9.04	-1.13/-0.64	1.68/-1.47	0.37/2.48	0.66/-0.24	0.44/-1.30	1.64/-0.32	0.24/0.74	-1.54/-0.60	-0.64/-4.19	-5.49/-3.60	-3.05/-3.14	-2.95/-2.44	-6.88/-4.32	-3.06/-3.52	-3.77/-3.30	-2.11/-2.54	-5.53/-6.87
Θ(82.5°)	-2.16/0.21	0.01/-2.78	-0.24/-1.11	-2.66/-2.19	-0.33/-2.14	-0.63/-6.49	-4.68/-8.69	-1.39/-1.23	1.03/-0.03	0.27/1.74	-1.25/-2.44	-0.08/0.77	0.49/-0.29	0.06/-0.87	-2.43/-1.23	-0.47/-3.67	-3.35/-2.29	-3.03/-1.25	-2.15/-1.81	-5.14/-3.25	-4.19/-4.24	-4.26/-2.30	-2.38/-2.15	-4.75/-5.20
Θ(90°)	-2.25/0.04	-0.97/-3.43	-1.22/-2.56	-4.19/-2.44	-2.36/-3.16	-1.67/-6.81	-5.81/-8.42	-2.83/-2.18	-0.73/-1.32	-0.68/0.40	-2.91/-3.39	-1.93/-2.07	-0.94/-1.36	-1.71/-2.67	-3.33/-3.69	-2.65/-2.87	-3.71/-2.67	-3.40/-1.91	-3.46/-2.74	-4.37/-4.70	-8.12/-4.91	-5.53/-3.04	-2.61/-2.16	-4.14/-4.55
Θ(97.5°)	-3.14/-0.78	-1.71/-3.95	-2.33/-4.66	-5.68/-3.12	-3.78/-3.70	-3.51/-7.63	-7.63/-8.43	-4.89/-4.68	-2.74/-3.71	-2.36/-1.05	-4.41/-4.78	-4.05/-3.23	-2.53/-2.50	-3.86/-5.02	-7.74/-9.77	-5.46/-5.58	-5.28/-4.01	-4.56/-3.54	-5.55/-5.18	-8.44/-7.04	-11.90/-4.87	-5.00/-2.97	-2.98/-2.07	-4.69/-5.08
Θ(105°)	-2.99/-1.60	-1.86/-3.42	-2.38/-6.19	-7.88/-5.13	-5.24/-4.38	-5.78/-6.30	-7.94/-10.67	-8.14/-7.08	-5.76/-5.49	-4.29/-2.94	-6.50/-6.96	-9.36/-10.06	-5.21/-5.28	-9.16/-8.38	-9.89/-11.50	-8.35/-10.03	-6.70/-8.11	-8.19/-8.01	-5.90/-6.84	-7.87/-11.15	-13.97/-6.17	-3.45/-3.38	-2.81/-3.29	-4.44/-6.56
Θ(112.5°)	-3.97/-2.73	-1.61/-3.15	-3.49/-8.08	-5.61/-8.06	-6.14/-6.02	-5.62/-6.95	-12.14/-13.40	-8.43/-7.02	-8.13/-8.78	-4.59/-4.78	-5.66/-7.70	-10.15/-10.13	-6.68/-6.48	-7.89/-10.26	-10.20/-8.81	-6.00/-7.72	-5.20/-7.38	-7.76/-7.87	-6.34/-6.01	-6.76/-9.76	-8.90/-5.80	-3.75/-4.47	-2.12/-4.18	-3.40/-8.34
Θ(120°)	-4.79/-2.53	-2.76/-4.29	-6.45/-6.75	-7.67/-11.18	-5.27/-8.63	-5.63/-8.13	-13.95/-15.49	-7.95/-7.81	-9.32/-9.64	-6.58/-8.40	-4.11/-6.64	-11.54/-9.15	-6.96/-5.02	-5.37/-11.55	-6.75/-5.20	-6.00/-2.99	-4.92/-9.19	-6.69/-7.18	-3.81/-7.31	-5.61/-14.90	-8.03/-2.29	-2.97/-6.04	-3.79/-4.91	-4.36/-6.63
Θ(127.5°)	-6.94/-4.03	-5.54/-5.32	-6.23/-5.94	-7.87/-13.37	-10.30/-9.13	-6.52/-10.04	-8.10/-14.72	-12.12/-9.57	-9.82/-10.44	-11.13/-6.77	-8.55/-10.24	-13.62/-10.67	-9.22/-7.71	-9.60/-11.32	-7.85/-10.38	-6.34/-5.58	-10.12/-11.56	-7.59/-7.58	-6.37/-10.37	-7.10/-11.28	-7.56/-1.54	-2.71/-4.12	-3.63/-4.43	-6.44/-7.21
Θ(135°)	-5.46/-5.19	-6.62/-8.05	-6.41/-7.72	-9.33/-10.61	-12.89/-8.45	-8.75/-12.63	-10.65/-15.06	-11.41/-12.24	-9.38/-7.71	-9.90/-4.42	-7.40/-6.59	-6.33/-10.68	-8.78/-13.82	-13.88/-12.63	-13.05/-8.31	-9.14/-11.11	-12.26/-11.15	-9.64/-8.37	-6.77/-7.70	-9.89/-9.48	-8.88/-5.72	-4.11/-4.91	-5.77/-6.86	-7.35/-6.41
Θ(142.5°)	-4.83/-5.48	-6.49/-8.60	-9.26/-8.36	-8.37/-12.65	-12.39/-8.34	-9.36/-8.62	-9.00/-13.37	-11.27/-11.76	-11.71/-9.27	-10.02/-7.99	-7.77/-6.45	-7.58/-8.33	-6.58/-12.44	-9.89/-10.18	-11.57/-14.28	-15.03/-10.49	-12.04/-15.33	-10.33/-9.25	-10.47/-8.58	-8.96/-7.36	-7.49/-7.46	-6.97/-7.28	-7.52/-7.07	-6.30/-5.24
Θ(150°)	-6.99/-7.11	-7.95/-9.25	-8.84/-6.82	-7.19/-7.87	-13.01/-11.63	-12.80/-10.95	-10.80/-12.36	-10.56/-10.40	-10.96/-9.52	-10.70/-12.23	-12.33/-12.53	-13.98/-12.29	-9.65/-14.91	-15.86/-14.72	-14.61/-13.38	-11.37/-12.52	-15.75/-14.62	-10.49/-9.54	-10.61/-8.55	-9.72/-11.49	-11.98/-10.54	-10.94/-10.95	-12.20/-13.84	-9.56/-7.49
Θ(157.5°)	-10.09/-12.34	-12.58/-10.13	-8.29/-8.47	-9.75/-11.08	-10.94/-9.10	-8.38/-8.56	-10.11/-12.35	-13.59/-14.23	-14.89/-14.11	-13.53/-12.78	-10.76/-9.49	-8.99/-9.83	-14.05/-15.34	-14.64/-15.66	-14.72/-13.72	-15.38/-15.22	-15.64/-12.33	-10.29/-11.49	-13.05/-11.70	-11.23/-11.71	-14.24/-15.52	-12.52/-12.02	-12.58/-11.22	-8.98/-8.34
Θ(165°)	-12.55/-11.81	-10.69/-10.47	-10.47/-10.55	-10.02/-10.03	-9.47/-9.83	-11.24/-12.80	-14.42/-15.48	-14.56/-12.52	-10.66/-9.62	-10.13/-11.72	-14.35/-16.06	-14.85/-15.08	-14.08/-14.13	-13.27/-14.86	-15.80/-15.15	-14.47/-13.99	-11.04/-10.18	-9.90/-11.18	-12.47/-11.50	-10.42/-9.09	-8.87/-10.30	-11.56/-10.58	-10.26/-11.11	-11.59/-11.84
Θ(172.5°)	-8.89/-7.76	-6.96/-6.79	-7.07/-7.36	-7.67/-7.87	-8.68/-8.99	-9.16/-9.56	-9.88/-9.93	-10.01/-10.41	-10.54/-10.98	-11.12/-11.90	-12.67/-13.19	-12.32/-11.16	-10.09/-9.36	-9.00/-8.88	-8.61/-8.70	-9.21/-9.76	-10.14/-10.61	-10.32/-10.06	-10.19/-10.69	-9.87/-8.93	-8.49/-8.47	-8.79/-8.98	-8.53/-8.19	-8.56/-8.79
Θ(180°)	-8.18/-8.89	-8.71/-9.15	-9.59/-10.28	-10.77/-10.85	-12.18/-13.47	-14.56/-15.74	-15.04/-14.26	-14.50/-14.83	-15.30/-15.58	-13.59/-11.92	-10.65/-10.03	-9.61/-9.36	-8.97/-9.07	-9.23/-9.33	-9.60/-9.84	-9.07/-8.39	-8.07/-7.47	-7.04/-6.70	-6.93/-6.65	-7.13/-7.17	-6.99/-7.28	-8.08/-8.88	-9.31/-8.71	-8.05/-7.69
Freq(Hz)	5.785GPol.	TotalAnt.2	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(62.5°)	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°)	-9.65/-10.56	-11.18/-11.56	-12.50/-12.28	-11.70/-11.06	-11.74/-12.65	-13.16/-12.82	-12.18/-11.66	-11.73/-11.90	-11.44/-9.93	-8.41/-7.31	-7.51/-8.68	-8.99/-7.69	-7.32/-7.65	-7.53/-6.94	-7.13/-7.85	-7.69/-7.17	-7.23/-7.23	-7.27/-7.76	-7.95/-8.03	-8.18/-7.68	-7.72/-8.58	-9.57/-10.83	-10.84/-11.69	-11.91/-10.50
Θ(7.5°)	-4.31/-3.98	-4.56/-4.83	-4.89/-5.40	-4.86/-4.63	-4.85/-4.96	-4.81/-5.35	-5.64/-6.22	-7.03/-7.76	-9.09/-10.02	-11.14/-11.18	-10.26/-9.52	-9.70/-10.56	-10.08/-9.78	-10.84/-12.90	-12.96/-12.42	-11.55/-10.70	-9.69/-8.91	-7.41/-7.27	-6.55/-6.07	-5.69/-4.87	-4.17/-3.90	-4.15/-4.11	-3.94/-3.98	-4.06/-4.22
Θ(15°)	-4.33/-4.54	-5.00/-4.43	-4.40/-4.28	-3.24/-2.74	-2.33/-2.07	-1.46/-0.93	-0.70/-0.88	-1.52/-2.81	-4.56/-5.72	-6.49/-5.53	-4.85/-3.87	-3.56/-3.66	-3.52/-3.56	-3.52/-4.05	-5.13/-6.94	-8.73/-7.49	-6.52/-5.30	-4.40/-4.94	-5.47/-6.03	-5.97/-5.27	-5.02/-4.59	-5.11/-5.10	-4.91/-4.86	-5.66/-7.49
Θ(22.5°)	-3.11/-2.76	-3.24/-3.93	-4.47/-3.81	-2.25/-1.07	-0.27/-0.26	-0.95/-1.16	-0.55/-0.14	-0.78/-3.19	-5.71/-6.71	-4.91/-3.50	-2.67/-2.23	-2.71/-3.78	-4.67/-5.58	-7.50/-8.78	-7.71/-5.48	-4.92/-5.16	-4.75/-3.19	-1.75/-2.09	-4.36/-6.69	-5.80/-5.37	-5.84/-4.67	-8.34/-6.84	-5.14/-4.51	-4.43/-3.72
Θ(30°)	-2.03/-1.07	-0.91/-1.84	-2.42/-2.33	-1.48/0.05	1.28/1.77	0.74/-1.12	-1.34/-0.47	-0.14/-1.28	-2.80/-3.68	-3.83/-4.46	-3.44/-4.24	-4.60/-3.86	-3.35/-2.73	-2.43/-3.86	-8.23/-7.27	-2.67/-1.35	-3.39/-5.64	-3.04/-2.75	-5.14/-6.64	-5.31/-5.18	-5.20/-4.97	-3.79/-3.89	-4.50/-4.16	-3.59/-2.84
Θ(37.5°)	-3.70/-3.33	-2.09/-1.75	-1.72/-1.28	-0.07/-1.27	1.84/1.51	0.66/-0.06	-1.05/-0.21	1.67/1.77	-0.32/-1.42	-1.63/-1.94	-0.96/-1.77	-4.57/-8.29	-10.43/-8.37	-4.90/-2.45	-3.07/-5.15	-1.91/-0.24	-1.66/-6.06	-5.72/-3.54	-3.21/-4.81	-4.79/-3.60	-2.54/-2.29	-2.84/-3.89	-3.05/-1.72	-1.35/-1.88
Θ(45°)	-2.80/-4.04	-2.77/-0.77	-0.19/-0.52	0.70/1.31	0.91/0.09	0.04/1.67	0.62/-0.05	1.48/2.19	0.45/0.82	0.22/-0.95	0.61/0.33	-0.81/-1.54	-0.78/0.09	-0.88/-2.46	-2.79/-3.01	-1.79/-1.70	-2.77/-3.17	-5.42/-3.80	-2.11/-3.89	-6.43/-4.57	-4.62/-3.95	-3.24/-3.37	-2.80/-1.23	-1.30/-1.87
Θ(52.5°)	-4.01/-2.69	-2.48/-1.22	0.58/0.67	1.66/0.97	0.44/-0.76	-1.31/1.19	0.72/0.17	0.51/1.13	0.16/1.83	-0.66/-0.19	1.31/-1.52	-3.45/-3.58	-2.25/-0.56	0.41/-0.88	-2.35/-3.48	-2.75/-1.49	-4.24/-3.47	-6.05/-6.82	-4.34/-7.26	-8.18/-4.97	-4.82/-2.86	-2.91/-4.20	-4.86/-4.36	-6.02/-5.52
Θ(60°)	-2.76/-1.68	-1.87/-2.54	0.32/0.52	1.04/0.76	-0.79/-0.82	0.35/0.42	-1.45/-1.96	-2.21/-0.55	-0.65/1.17	-0.68/1.50	2.54/-0.27	-2.58/-3.49	-4.16/-5.31	-0.58/0.79	-1.88/-1.47	-6.08/-4.67	-6.22/-4.99	-3.98/-6.09	-6.55/-8.91	-7.30/-4.35	-6.39/-2.69	-4.40/-6.64	-4.63/-3.49	-4.23/-4.87
Θ(67.5°)	-2.90/-1.63	-1.22/-3.20	-0.12/0.32	1.09/0.11	-1.38/-1.36	0.73/-0.93	-3.11/-3.73	-4.25/-1.44	-0.48/1.19	1.32/3.34	1.49/-0.37	0.44/0.61	-0.78/-2.53	0.79/1.73	-1.61/0.18	-3.23/-6.80	-9.51/-6.25	-4.09/-5.62	-4.75/-6.27	-6.76/-5.80	-5.67/-3.28	-6.45/-3.70	-2.08/-1.85	-2.19/-2.94
Θ(75°)	-2.46/-0.86	-1.14/-3.81	-0.99/-0.32	-0.87/-1.57	-1.24/-2.03	0.88/-2.22	-3.96/-3.92	-5.58/-1.77	-1.79/1.06	1.88/0.59	-0.61/-1.22	0.80/1.26	0.60/-1.91	0.17/2.18	-0.60/-0.09	-0.41/-7.49	-7.77/-4.44	-2.83/-2.02	-3.62/-3.82	-4.42/-4.66	-6.59/-3.69	-7.24/-2.43	-1.22/-0.86	-1.16/-2.11
Θ(82.5°)	-3.03/-1.79	-1.62/-3.96	-1.61/-1.37	-2.11/-2.65	-1.88/-3.56	-0.55/-2.94	-6.10/-5.84	-5.95/-1.08	-2.16/0.83	1.08/-0.57	-2.47/-3.42	-0.85/-0.31	-0.53/-1.52	-0.42/-1.54	-1.21/-1.44	-1.71/-4.77	-5.80/-3.37	-1.65/-1.74	-2.19/-2.02	-2.43/-5.85	-7.03/-5.60	-5.74/-1.44	-2.07/-0.47	-1.62/-2.65
Θ(90°)	-3.18/-2.32	-2.22/-3.74	-2.69/-3.58	-3.65/-3.24	-2.27/-3.83	-1.40/-3.78	-6.68/-5.64	-7.28/-1.99	-3.98/0.29	-0.78/-1.35	-2.50/-2.95	-2.64/-4.18	-2.23/-2.97	-1.48/-0.96	-3.01/-4.12	-2.89/-7.14	-5.09/-3.53	-3.02/-2.52	-3.07/-2.71	-3.08/-7.40	-8.70/-6.00	-4.96/-2.87	-3.14/-0.98	-1.78/-2.87
Θ(97.5°)	-2.98/-2.57	-2.07/-4.01	-3.95/-7.00	-3.57/-3.94	-3.93/-4.26	-3.50/-4.62	-7.32/-5.84	-8.01/-4.12	-4.61/-0.77	-3.75/-2.39	-4.33/-6.09	-5.95/-5.95	-4.71/-2.79	-4.29/-3.60	-7.33/-8.16	-6.07/-7.77	-6.61/-3.90	-4.69/-4.91	-4.31/-5.56	-6.06/-9.22	-7.69/-6.76	-4.93/-4.94	-4.01/-2.09	-1.97/-2.40
Θ(105°)	-3.18/-3.03	-2.37/-3.02	-5.13/-7.69	-4.23/-5.12	-4.46/-5.88	-3.05/-5.05	-7.34/-8.52	-7.55/-6.10	-5.86/-2.56	-6.20/-3.67	-5.44/-6.72	-10.03/-14.26	-8.17/-6.86	-9.75/-7.11	-10.31/-12.16	-8.22/-11.94	-7.63/-8.01	-8.73/-7.39	-5.70/-7.92	-7.38/-12.45	-9.58/-7.22	-4.62/-5.10	-4.35/-3.37	-2.98/-4.16
Θ(112.5°)	-4.04/-4.86	-2.81/-6.56	-7.65/-6.42	-4.43/-9.28	-5.71/-7.02	-3.79/-6.75	-7.56/-9.55	-7.70/-10.98	-7.32/-7.84	-7.48/-4.99	-6.23/-8.57	-11.36/-9.13	-6.81/-7.42	-10.20/-7.59	-10.82/-9.37	-5.11/-8.48	-9.32/-8.35	-5.52/-6.50	-6.25/-9.19	-9.33/-12.59	-9.97/-7.85	-5.61/-4.80	-5.53/-4.79	-3.69/-5.70
Θ(120°)	-6.49/-5.68	-5.27/-7.48	-5.56/-7.62	-8.40/-10.31	-7.37/-8.45	-4.63/-7.82	-10.54/-14.76	-12.22/-14.73	-8.12/-9.51	-9.29/-8.65	-4.81/-7.70	-10.39/-8.43	-5.58/-5.14	-5.47/-9.68	-6.52/-9.34	-6.40/-5.40	-5.64/-6.94	-5.35/-6.18	-8.82/-8.53	-7.57/-15.33	-11.11/-5.08	-5.25/-5.45	-3.15/-4.66	-4.70/-6.63
Θ(127.5°)	-5.92/-4.58	-5.52/-5.88	-7.07/-9.80	-10.00/-11.61	-7.98/-10.12	-7.74/-11.																		

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



Total Gain Data

Freq(Hz)	5.2GPol.	TotalAnt.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°)	-5.56/-5.72	-6.17/-6.27	-6.14/-5.88	-5.96/-6.22	-6.42/-7.08	-6.93/-6.94	-6.63/-5.28	-5.15/-6.20	-6.04/-5.45	-4.80/-4.91	-5.42/-4.91	-4.30/-3.83	-3.79/-4.29	-4.53/-4.57	-4.63/-4.76	-5.01/-5.29	-5.32/-5.17	-5.34/-5.03	-4.67/-4.18	-4.54/-4.82	-5.35/-5.45	-5.15/-5.35	-5.82/-5.92	-5.55/-5.54
Θ(7.5°)	-4.01/-3.98	-4.11/-4.10	-3.88/-3.65	-3.90/-4.11	-3.91/-3.83	-4.15/-4.84	-5.56/-5.14	-4.29/-5.04	-6.78/-8.82	-9.47/-9.01	-9.98/-11.22	-11.58/-11.31	-10.90/-11.17	-11.04/-11.04	-11.20/-10.85	-10.42/-10.26	-9.32/-8.22	-8.17/-5.77	-6.51/-5.42	-4.88/-4.41	-4.31/-4.41	-4.17/-3.88	-3.78/-3.77	-3.46/-3.55
Θ(15°)	-4.03/-4.70	-5.14/-4.81	-4.10/-3.70	-3.44/-2.40	-1.69/-1.30	-1.61/-1.87	-2.56/-3.27	-3.96/-4.79	-5.16/-4.55	-5.77/-4.55	-6.33/-5.53	-10.21/-9.55	-8.66/-8.42	-8.15/-7.80	-6.26/-5.12	-4.30/-3.92	-4.19/-4.67	-4.46/-3.76	-3.09/-2.64	-2.74/-2.59	-2.34/-2.54	-1.96/-2.16	-2.45/-2.98	
Θ(22.5°)	-2.10/-3.36	-4.28/-4.00	-3.21/-3.04	-2.38/-2.35	-0.46/-0.04	0.16/-0.07	0.07/-0.35	-0.92/-0.65	0.12/-0.28	0.04/-0.76	-1.76/-3.31	-4.66/-3.90	-1.22/-0.49	-1.82/-0.49	-0.33/-0.60	-0.64/-0.35	-2.50/-3.90	-3.89/-3.06	-2.13/-1.29	-0.91/-0.45	0.18/-0.27	-0.03/-0.43	-1.31/-1.33	
Θ(30°)	-1.23/-1.60	-2.15/-2.26	-2.32/-3.12	-3.85/-4.09	-3.54/-1.29	0.43/-1.44	2.18/-2.04	1.53/-0.55	0.16/-0.77	1.37/-1.09	0.00/-1.51	-3.07/-2.42	-1.49/-0.88	0.19/-0.91	1.56/-1.58	1.90/-2.24	2.03/-1.01	-1.11/-2.99	-3.06/-2.47	-2.14/-1.23	-0.30/-0.31	0.58/-0.70	0.96/-1.35	0.90/-0.56
Θ(37.5°)	-1.70/-1.64	-1.39/-0.94	-2.05/-0.47	-6.92/-7.83	-3.98/-1.13	0.73/-1.60	2.23/-6.1	2.17/-0.98	-0.35/-0.92	-0.16/-0.84	0.81/-0.24	-1.07/-0.25	0.25/-0.20	0.28/-1.27	2.34/-2.45	2.09/-1.91	1.64/-0.56	-1.23/-3.33	-3.21/-2.06	-1.81/-1.32	-0.38/-0.37	0.98/-0.90	0.63/-1.13	0.84/-0.27
Θ(45°)	-2.18/-2.10	-2.41/-1.62	-2.36/-2.87	-3.96/-3.39	-1.48/-1.03	0.49/-0.48	1.31/-2.54	2.69/-3.30	-0.55/-0.72	0.92/-1.93	2.27/-1.85	1.39/-2.16	1.92/-3.16	2.99/-2.66	3.02/-2.46	0.92/-0.87	-1.74/-0.97	-1.13/-0.59	-0.14/-0.70	-0.34/-0.70	0.20/-0.31	0.89/-1.60	0.95/-1.47	
Θ(52.5°)	-1.58/-2.01	-4.06/-3.46	-2.94/-1.45	-0.63/-1.25	-0.69/-0.18	-1.82/-0.82	0.53/-1.73	2.08/-1.20	0.16/-0.94	2.65/-2.86	2.31/-2.57	2.87/-2.50	2.34/-2.13	2.53/-2.24	3.27/-3.33	3.34/-3.66	3.77/-3.45	2.26/-0.84	-2.51/-1.12	-0.49/-0.20	1.08/-1.47	0.46/-0.27	0.86/-1.99	0.83/-1.41
Θ(60°)	-1.31/-1.80	-3.72/-3.40	-3.22/-1.86	-0.12/-2.38	-1.26/-1.88	-1.34/-0.08	-0.02/-0.91	2.08/-0.97	-1.70/-0.61	2.45/-2.50	1.15/-1.21	2.37/-2.43	2.10/-1.74	2.49/-3.07	2.91/-3.47	3.65/-3.36	3.36/-3.06	2.09/-1.45	-3.82/-3.00	-2.09/-2.29	1.30/-0.95	0.07/-0.79	-1.06/-0.78	0.67/-2.25
Θ(67.5°)	-0.73/-0.84	-3.29/-4.34	-4.37/-2.94	-0.68/-3.86	-2.65/-2.80	-1.27/-0.56	-1.63/-2.74	0.97/-0.24	-1.61/-0.01	1.82/-2.21	-0.41/-0.34	1.05/-0.45	0.84/-0.99	1.38/-1.39	1.85/-2.86	2.26/-1.79	1.24/-1.74	1.21/-1.49	-2.63/-2.99	-2.12/-0.40	-0.68/-0.86	-1.94/-0.04	-1.04/-0.94	0.19/-1.89
Θ(75°)	-1.77/-0.98	-2.76/-3.89	-3.70/-3.76	-1.38/-6.39	-4.99/-4.17	-0.45/-0.95	-2.51/-1.42	0.27/-1.26	-2.86/-1.86	0.41/-0.05	-2.30/-1.29	-0.10/-0.52	-0.13/-0.78	0.21/-0.23	-0.04/-1.73	0.88/-0.35	-1.39/-0.46	1.61/-0.56	-1.57/-3.54	-1.52/-0.31	0.87/-1.12	-3.55/-2.63	-4.43/-3.02	-0.71/-1.64
Θ(82.5°)	-2.78/-0.08	-3.71/-3.45	-3.07/-0.58	-2.15/-8.70	-6.43/-5.76	-1.30/-0.18	-3.43/-2.95	-1.40/-3.26	-3.43/-2.64	-1.18/-2.28	-0.08/-1.33	-1.12/-1.63	-1.76/-2.53	-1.44/-2.81	-1.80/-0.39	-1.60/-2.62	-3.98/-1.51	-0.03/-1.05	-2.29/-0.65	-2.29/-0.70	-0.12/-1.90	-4.64/-2.75	-4.71/-1.59	-1.25/-1.50
Θ(90°)	-4.36/-1.08	-4.86/-5.51	-3.28/-5.64	-2.85/-0.84	-8.42/-5.80	-3.47/-0.54	-5.53/-4.87	-3.28/-5.08	-5.15/-3.32	-2.96/-0.43	-6.76/-2.94	-2.30/-3.44	-2.90/-4.18	-3.19/-0.84	-4.33/-2.80	-4.67/-4.85	-6.11/-3.32	-2.76/-1.60	-4.49/-9.97	-3.39/-2.64	-3.51/-6.14	-8.93/-6.77	-9.19/-8.85	-4.42/-2.25
Θ(97.5°)	-4.59/-3.40	-5.78/-5.50	-2.33/-4.71	-3.17/-9.02	-12.42/-10.27	-6.11/-2.44	-6.77/-6.13	-3.20/-5.23	-6.63/-5.98	-4.05/-5.73	-9.38/-3.24	-2.86/-4.59	-5.13/-5.57	-5.39/-6.06	-5.62/-4.58	-5.71/-8.28	-7.72/-8.10	-8.46/-4.73	-7.54/-10.01	-6.17/-5.03	-5.76/-9.45	-12.46/-9.46	-10.75/-6.64	-4.76/-2.61
Θ(105°)	-4.59/-3.40	-6.12/-5.33	-3.47/-5.27	-5.16/-8.81	-12.71/-8.58	-8.51/-3.56	-5.83/-5.72	-4.49/-5.99	-5.82/-7.16	-4.78/-4.93	-8.24/-11.10	-10.00/-1.40	-3.42/-4.65	-5.41/-5.82	-7.83/-7.89	-7.86/-8.65	-11.78/-9.53	-10.39/-11.90	-14.88/-14.86	-12.92/-9.38	-12.16/-11.42	-14.77/-13.58	-15.80/-13.71	-3.96/-4.53
Θ(112.5°)	-7.62/-4.85	-7.90/-6.43	-5.29/-6.77	-6.98/-6.16	-11.38/-8.33	-11.08/-6.57	-6.18/-7.36	-4.69/-4.84	-10.82/-11.94	-11.43/-13.48	-10.52/-5.64	-5.05/-6.68	-5.33/-4.74	-7.59/-9.29	-11.77/-10.72	-8.77/-14.84	-9.19/-13.95	-12.39/-11.41	-14.95/-11.62	-14.96/-11.98	-14.96/-11.98	-15.87/-14.86	-15.80/-8.41	-7.75/-4.46
Θ(120°)	-9.22/-8.66	-9.02/-6.51	-6.08/-6.56	-7.98/-6.76	-11.36/-10.16	-10.77/-9.51	-7.05/-6.40	-7.61/-9.08	-9.67/-10.15	-12.88/-14.67	-12.58/-9.45	-8.45/-8.35	-6.79/-8.25	-7.54/-10.24	-14.50/-11.97	-9.96/-15.66	-16.04/-11.89	-9.85/-12.12	-15.55/-15.23	-14.71/-11.45	-8.68/-9.75	-15.86/-10.57	-10.69/-9.84	-6.83/-10.58
Θ(127.5°)	-9.99/-8.00	-7.39/-6.84	-6.75/-8.94	-12.11/-9.85	-13.34/-13.35	-10.75/-8.84	-9.14/-8.17	-9.22/-10.26	-11.21/-11.59	-14.16/-14.22	-9.08/-9.96	-12.23/-9.32	-9.10/-12.44	-15.78/-15.20	-13.00/-14.83	-14.95/-15.08	-11.45/-12.52	-12.72/-11.89	-15.32/-13.58	-14.33/-12.37	-14.93/-14.33	-9.64/-12.71	-9.83/-13.81	
Θ(135°)	-12.55/-11.21	-12.51/-10.65	-9.57/-10.52	-13.54/-12.92	-11.53/-13.09	-11.05/-10.61	-10.36/-9.94	-9.51/-10.25	-13.95/-13.38	-13.42/-13.05	-8.03/-7.75	-12.19/-10.37	-10.97/-9.92	-12.58/-12.49	-14.17/-14.95	-13.38/-11.96	-14.80/-14.73	-15.84/-15.01	-13.56/-11.72	-15.95/-13.29	-14.00/-12.04	-10.66/-14.86	-11.62/-12.32	-13.76/-15.83
Θ(142.5°)	-13.50/-11.15	-10.71/-12.89	-10.73/-10.83	-14.13/-13.32	-9.58/-10.29	-13.13/-13.50	-14.54/-11.13	-8.57/-9.31	-14.95/-16.03	-11.97/-10.77	-10.79/-13.35	-11.78/-12.63	-11.52/-12.92	-13.40/-11.40	-13.13/-15.16	-13.51/-10.30	-14.63/-15.22	-14.50/-12.39	-12.70/-10.60	-12.85/-14.77	-12.14/-12.29	-14.46/-14.46	-13.12/-15.89	
Θ(150°)	-14.53/-14.00	-13.85/-13.86	-15.20/-12.71	-11.85/-13.49	-15.96/-14.52	-12.82/-12.72	-14.25/-10.92	-7.69/-8.11	-11.43/-15.20	-13.31/-10.29	-11.52/-15.70	-15.54/-15.71	-15.15/-15.24	-13.82/-14.02	-15.39/-15.17	-15.44/-15.13	-13.36/-13.04	-12.75/-14.35	-15.00/-13.20	-13.50/-13.78	-14.86/-14.57	-15.95/-15.73	-15.19/-15.04	
Θ(157.5°)	-12.92/-11.63	-10.95/-10.52	-11.55/-13.47	-12.81/-11.81	-11.86/-12.66	-12.10/-12.03	-13.00/-13.06	-10.74/-10.34	-12.07/-15.19	-15.32/-12.25	-15.22/-13.19	-14.28/-15.04	-14.89/-15.42	-16.86/-15.51	-15.12/-16.13	-15.04/-14.91	-15.05/-15.58	-15.09/-15.82	-13.15/-12.66	-13.64/-13.74	-13.03/-12.77	-14.18/-15.19	-15.22/-11.74	-9.77/-11.08
Θ(165°)	-13.69/-13.55	-13.93/-15.48	-13.26/-12.30	-12.02/-12.02	-10.96/-10.07	-11.77/-14.65	-15.23/-14.88	-15.58/-15.27	-14.38/-14.20	-15.13/-13.66	-12.06/-10.82	-11.49/-13.52	-14.93/-15.72	-15.13/-15.73	-15.55/-15.27	-13.68/-14.03	-15.45/-15.95	-15.17/-14.52	-13.18/-12.71	-13.24/-12.82	-11.13/-13.81	-14.86/-14.98	-15.58/-15.87	-15.52/-15.18
Θ(172.5°)	-13.33/-14.26	-15.04/-15.32	-14.89/-15.58	-14.22/-15.20	-15.33/-15.61	-14.33/-14.91	-15.71/-14.97	-15.67/-15.19	-15.01/-15.54	-14.62/-15.01	-15.12/-15.03	-15.19/-14.77	-15.19/-14.31	-14.80/-14.93	-15.30/-15.36	-15.50/-15.33	-15.16/-14.73	-15.39/-15.68	-16.07/-15.37	-14.89/-14.47	-15.40/-15.27	-14.90/-15.45	-15.25/-14.20	-13.39/-12.84
Θ(180°)	-14.85/-15.09	-14.91/-15.33	-14.75/-15.49	-15.06/-14.90	-14.49/-14.33	-15.71/-15.19	-15.06/-15.19	-15.09/-15.13	-14.70/-13.54	-14.14/-14.69	-14.70/-15.16	-14.83/-15.14	-14.71/-14.35	-14.82/-14.10	-13.07/-13.65	-14.40/-15.38	-15.10/-15.33	-15.15/-15.21	-14.65/-15.17	-15.48/-15.22	-15.50/-15.27	-15.66/-15.39	-15.39/-15.38	-15.46/-15.14
Freq(Hz)	5.3GPol.	TotalAnt.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°)	-4.82/-5.04	-4.93/-2.54	-5.84/-6.13	-5.98/-6.22	-6.15/-5.99	-5.87/-6.50	-6.30/-7.05	-5.77/-5.22	-4.87/-5.16	-4.69/-4.69	-4.85/-5.08	-4.58/-4.68	-4.96/-4.64	-4.34/-2.27	-4.30/-2.27	-4.42/-4.40	-4.26/-4.25	-4.83/-4.87	-4.96/-4.46	-4.64/-4.89	-4.94/-4.34	-4.36/-4.88	-4.77/-4.82	-4.93/-5.01
Θ(7.5°)	-2.98/-3.35	-3.29/-3.39	-3.66/-4.02	-4.07/-4.49	-4.48/-4.89	-5.01/-4.62	-4.19/-4.97	-6.16/-5.68	-4.84/-5.10	-6.30/-4.82	-8.52/-7.98	-8.27/-9.43	-10.66/-10.45	-9.51/-8.63	-8.17/-8.10	-7.83/-7.82	-7.72/-7.22	-7.02/-5.93	-5.19/-4.40	-4.06/-3.71	-3.11/-2.70	-2.63/-2.78	-2.64/-2.89	-2.93/-2.74
Θ(15°)	-3.00/-3.62	-4.05/-4.25	-3.97/-3.54	-3.13/-2.76	-2.59/-2.39	-2.51/-2.19	-1.98/-2.06	-2.38/-3.10	-3.81/-3.44	-4.85/-3.55	-5.88/-6.73	-7.76/-8.01	-7.55/-7.46	-7.88/-8.87	-10.95/-13.1	-10.99/-8.32	-6.95/-6.48	-5.82/-5.32	-5.12/-4.79	-4.31/-3.74	-3.50/-3.59	-3.12/-3.15	-2.88/-2.75	-2.84/-3.02
Θ(22.5°)	-3.39/-3.82	-3.72/-3.43	-3.66/-4.02	-3.75/-3.48	-2.78/-1.94	-1.29/-0.77	-0.38/-0.32	-0.29/-0.22	-0.43/-0.51	-1.00/-1.80	-1.38/-1.73	-3.74/-2.35	-1.32/-1.09	-1.20/-1.52	-1.78/-2.36	-2.48/-2.10	-1.59/-1.76	-2.05/-3.03	-2.91/-2.56	-1.31/-1.26	-0.58/-0.10	0.25/-0.15	-1.21/-2.16	-2.78/-2.98
Θ(30°)	-1.81/-2.58	-2.61/-2.26	-3.22/-4.51	-5.85/-6.16	-4.48/-2.36	-1.12/-0.33	0.28/-0.41	0.91/-0.16	-1.12/-1.26	-1.20/-1.07	-1.45/-2.19	-2.18/-0.63	0.53/-1.04	1.03/-0.72	1.37/-1.41	1.29/-1.52	1.83/-1.91	0.62/-1.68	-2.96/-2.46	-1.52/-0.06	1.25/-1.69	1.40/-0.88	0.39/-0.24	-1.37/-2.18
Θ(37.5°)	-1.60/-2.11	-2.37/-2.11	-3.39/-4.21	-6.67/-4.74	-2.27/-1.24	-0.80/-0.15	1.36/-2.11	1.71/-0.49	-1.33/-2.13	-1.57/-0.53	0.10/-0.18	-0.02/-0.97	1.43/-1.81	1										

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

