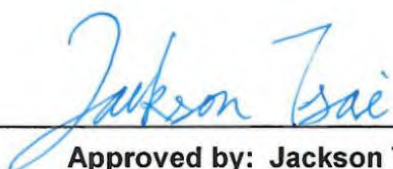


Antenna Composite Gain Test Report

Equipment	Wireless Access Point
Brand Name	ARISTA
Model Name	O-435
Applicant	Arista Networks, Inc. 5453 Great America Parkway, Santa Clara, CA 95054 USA
Manufacturer	Arista Networks, Inc. 5453 Great America Parkway, Santa Clara, CA 95054 USA
Standard	KDB 662911 D03 v01
Sample Received	Oct. 28, 2024
Start Test Date	Nov. 10, 2024
Final Test Date	Nov. 10, 2024

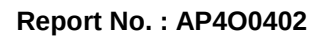
**Approved by: Jackson Tsai****SPORTON INTERNATIONAL INC. Hsinhua Laboratory**

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



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Issued Date : Mar. 18, 2025
Report Version : 01

1. Operation Mode and Antenna Information

Antenna Position	RF Port	Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
2G 5G Ant1	1	WHAYU	C393-510240-A	PIFA	I-Pex	2.4GHz, 5GHz
2G 5G Ant2	2	WHAYU	C393-510240-A	PIFA	I-Pex	2.4GHz, 5GHz
6G Ant1	1	WHAYU	C393-510240-A	PIFA	I-Pex	6GHz
6G Ant2	2	WHAYU	C393-510240-A	PIFA	I-Pex	6GHz
Scan Ant1	1	WHAYU	C393-510240-A	PIFA	I-Pex	2.4GHz, 5GHz, 6GHz
Scan Ant2	2	WHAYU	C393-510240-A	PIFA	I-Pex	2.4GHz, 5GHz, 6GHz
BT	3	WHAYU	C393-510240-A	PIFA	I-Pex	BLE

Note:

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

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

6GHz Operation Mode (2TX/2RX)

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

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

Scanning Ant1~ Scanning Ant2 could transmit/receive simultaneously.

BT Operation Mode (1TX/1RX)

BT could transmit/receive.

2. Test Frequency

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

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



3. Testing Location

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
☒ Wen 33rd.St.	ADD:	No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)		
	TEL: 886-3-318-0787	FAX: 886-3-318-0287		
Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated	05CH03-HY	Vivi Chiang	23.5~24.5°C / 45~55%	10/Nov/2024

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

4. Test Facility and Configuration

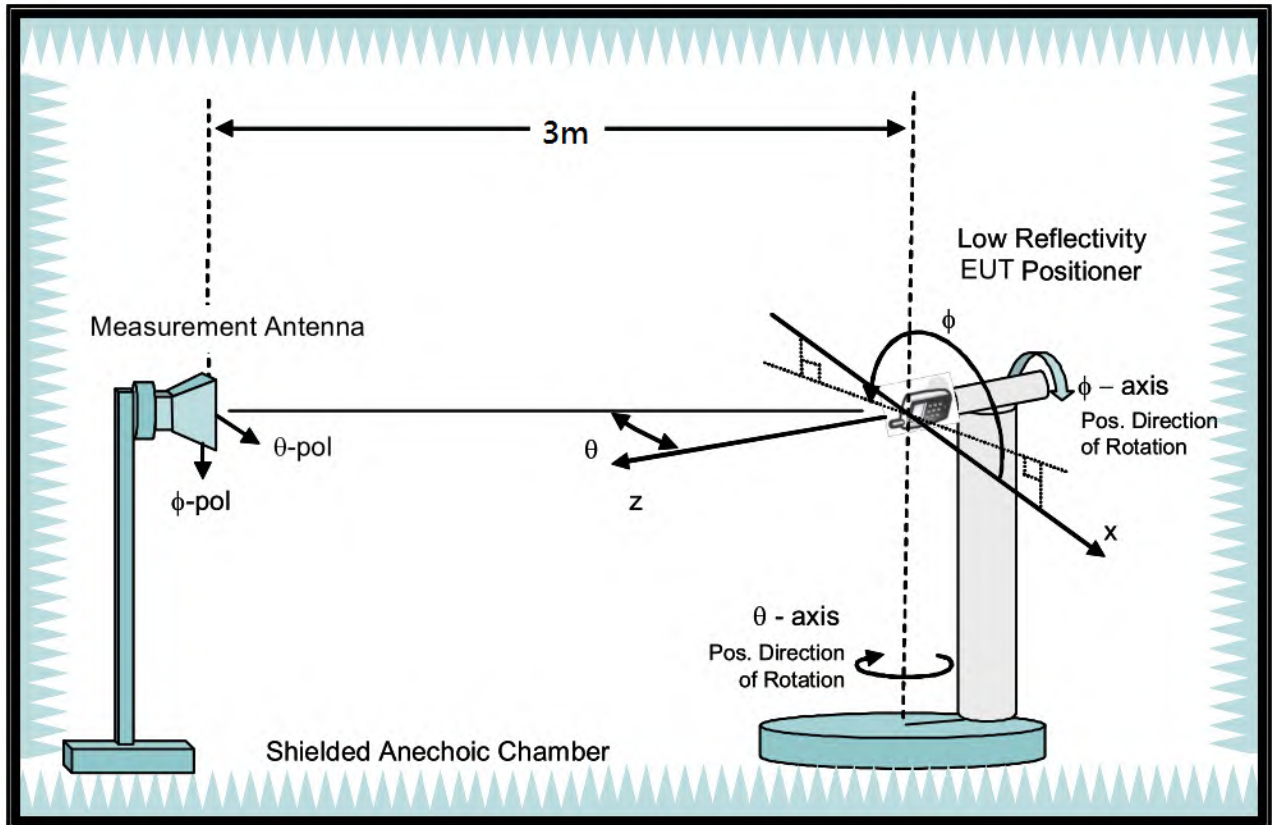
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

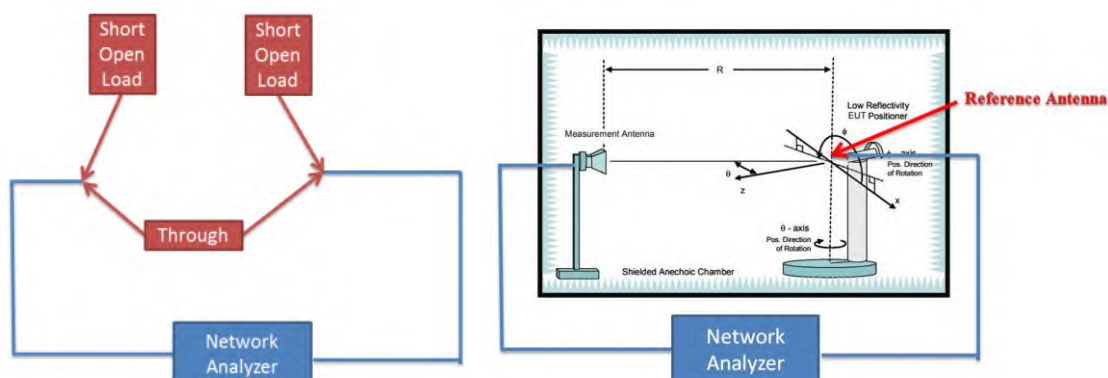
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



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)	2.09	1.52	0.75	1.74	2.8
Ant. 2 (dBi)	0.28	2.99	2.86	3.25	0.74
DG [1SS] (dBi)	4.24	5.3	4.88	5.54	4.84
Polarization	Theta	Theta	Theta	Theta	Theta
$\Theta(^{\circ})$	60	52.5	52.5	67.5	75
$\Phi(^{\circ})$	22.5	82.5	75	202.5	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)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 [$10^{(G/20)}$]	$10^{(2.09/20)}$	$10^{(1.52/20)}$	$10^{(0.75/20)}$	$10^{(1.74/20)}$	$10^{(2.8/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(0.28/20)}$	$10^{(2.99/20)}$	$10^{(2.86/20)}$	$10^{(3.25/20)}$	$10^{(0.74/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.272	1.191	1.09	1.222	1.38
Ant. 2 [$10^{(G/20)}$] value	1.033	1.411	1.39	1.454	1.089
Sum All Antenna [Amax]	2.305	2.602	2.48	2.676	2.469
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	4.24	5.3	4.88	5.54	4.84

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

<6G Ant1, 6G Ant2>

DG_1SS max value position

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	-0.65	2.75	-1.04	4.01
Ant. 2 (dBi)	5.85	4.61	4.29	0.75
DG [1SS] (dBi)	6.2	6.74	5.04	5.54
Polarization	Phi	Phi	Phi	Phi
$\Theta(^{\circ})$	67.5	75	75	82.5
$\Phi(^{\circ})$	45	52.5	60	150

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

DG_1SS max value position calculation

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [$10^{(G/20)}$]	$10^{(-0.65/20)}$	$10^{(2.75/20)}$	$10^{(-1.04/20)}$	$10^{(4.01/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(5.85/20)}$	$10^{(4.61/20)}$	$10^{(4.29/20)}$	$10^{(0.75/20)}$
Ant. 1 [$10^{(G/20)}$] value	0.928	1.372	0.887	1.587
Ant. 2 [$10^{(G/20)}$] value	1.961	1.7	1.639	1.09
Sum All Antenna [Amax]	2.889	3.073	2.526	2.677
DG [$10 \cdot \log(A_{max}^2/N_{ant})$]	6.2	6.74	5.04	5.54

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

<Scanning Ant1, Scanning Ant2>

DG_1SS max value position

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	2.9	2.79	5.52	4.41	2.77
Ant. 2 (dBi)	1.45	4.3	1.3	2.58	1.62
DG [1SS] (dBi)	5.22	6.59	6.67	6.55	5.22
Polarization	Theta	Theta	Theta	Theta	Theta
$\Theta(^{\circ})$	60	60	75	75	75
$\Phi(^{\circ})$	277.5	315	300	292.5	292.5

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

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	2.07	4.04	1.3	1.35
Ant. 2 (dBi)	4.23	2.86	4.7	3.51
DG [1SS] (dBi)	6.23	6.48	6.18	5.51
Polarization	Theta	Theta	Theta	Theta
$\Theta(^{\circ})$	7.5	15	0	75
$\Phi(^{\circ})$	232.5	217.5	60	255

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 ^{^(2.9/20)}	10 ^{^(2.79/20)}	10 ^{^(5.52/20)}	10 ^{^(4.41/20)}	10 ^{^(2.77/20)}
Ant. 2 [10 ^{^(G/20)}]	10 ^{^(1.45/20)}	10 ^{^(4.3/20)}	10 ^{^(1.3/20)}	10 ^{^(2.58/20)}	10 ^{^(1.62/20)}
Ant. 1 [10 ^{^(G/20)}] value	1.396	1.379	1.888	1.661	1.376
Ant. 2 [10 ^{^(G/20)}] value	1.182	1.641	1.161	1.346	1.205
Sum All Antenna [Amax]	2.578	3.019	3.049	3.007	2.581
DG [10*log(Amax ² /Nant)]	5.22	6.59	6.67	6.55	5.22

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [10 ^{^(G/20)}]	10 ^{^(2.07/20)}	10 ^{^(4.04/20)}	10 ^{^(1.3/20)}	10 ^{^(1.35/20)}
Ant. 2 [10 ^{^(G/20)}]	10 ^{^(4.23/20)}	10 ^{^(2.86/20)}	10 ^{^(4.7/20)}	10 ^{^(3.51/20)}
Ant. 1 [10 ^{^(G/20)}] value	1.269	1.592	1.161	1.168
Ant. 2 [10 ^{^(G/20)}] value	1.627	1.39	1.718	1.498
Sum All Antenna [Amax]	2.897	2.982	2.879	2.666
DG [10*log(Amax ² /Nant)]	6.23	6.48	6.18	5.51

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*log(10^{^(G_{ant1}/20)}+10^{^(G_{ant2}/20)}+ +10^{^(G_{ant3}/20)} +10^{^(G_{ant4}/20)}+.....)^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)	2.85	3.69	3.89	4.64	4.83
Ant. 2 Max Gain (dBi)	2.54	3.35	4.34	5.05	3.83
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/60/37.5	Theta/67.5/270	Theta/45/217.5	Theta/45/225	Theta/60/217.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/60/165	Theta/60/135	Theta/60/52.5	Theta/45/60	Theta/75/90
Max Gain (dBi)	2.85	3.69	4.34	5.05	4.83
DG [1SS] (dBi)	4.24	5.3	4.88	5.54	4.84
DG [2SS] (dBi)	2.85	3.69	4.34	5.05	4.83

<6G Ant1, 6G Ant2>

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5.72	5.17	3.67	4.67
Ant. 2 Max Gain (dBi)	5.85	5.09	4.29	3.84
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/67.5/217.5	Phi/75/187.5	Phi/75/157.5	Phi/82.5/157.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/67.5/45	Phi/37.5/67.5	Phi/75/60	Phi/67.5/352.5
Max Gain (dBi)	5.85	5.17	4.29	4.67
DG [1SS] (dBi)	6.2	6.74	5.04	5.54
DG [2SS] (dBi)	5.85	5.17	4.29	4.67

**<Scanning Ant1, Scanning Ant2>**

Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	3.1	5.33	5.97	4.41	3.32
Ant. 2 Max Gain (dBi)	3.26	4.32	4.56	5.26	4.37
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/60/285	Theta/82.5/300	Theta/82.5/300	Theta/75/292.5	Theta/82.5/292.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/22.5/300	Phi/7.5/330	Theta/15/45	Theta/7.5/37.5	Theta/22.5/37.5
Max Gain (dBi)	3.26	5.33	5.97	5.26	4.37
DG [1SS] (dBi)	5.22	6.59	6.67	6.55	5.22
DG [2SS] (dBi)	3.26	5.33	5.97	5.26	4.37

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5	4.13	4.87	3.99
Ant. 2 Max Gain (dBi)	4.41	5.15	4.7	3.73
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/15/202.5	Phi/52.5/300	Theta/15/225	Theta/52.5/270
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/15/37.5	Phi/0/142.5	Theta/0/60	Theta/82.5/247.5
Max Gain (dBi)	5	5.15	4.87	3.99
DG [1SS] (dBi)	6.23	6.48	6.18	5.51
DG [2SS] (dBi)	5	5.15	4.87	3.99

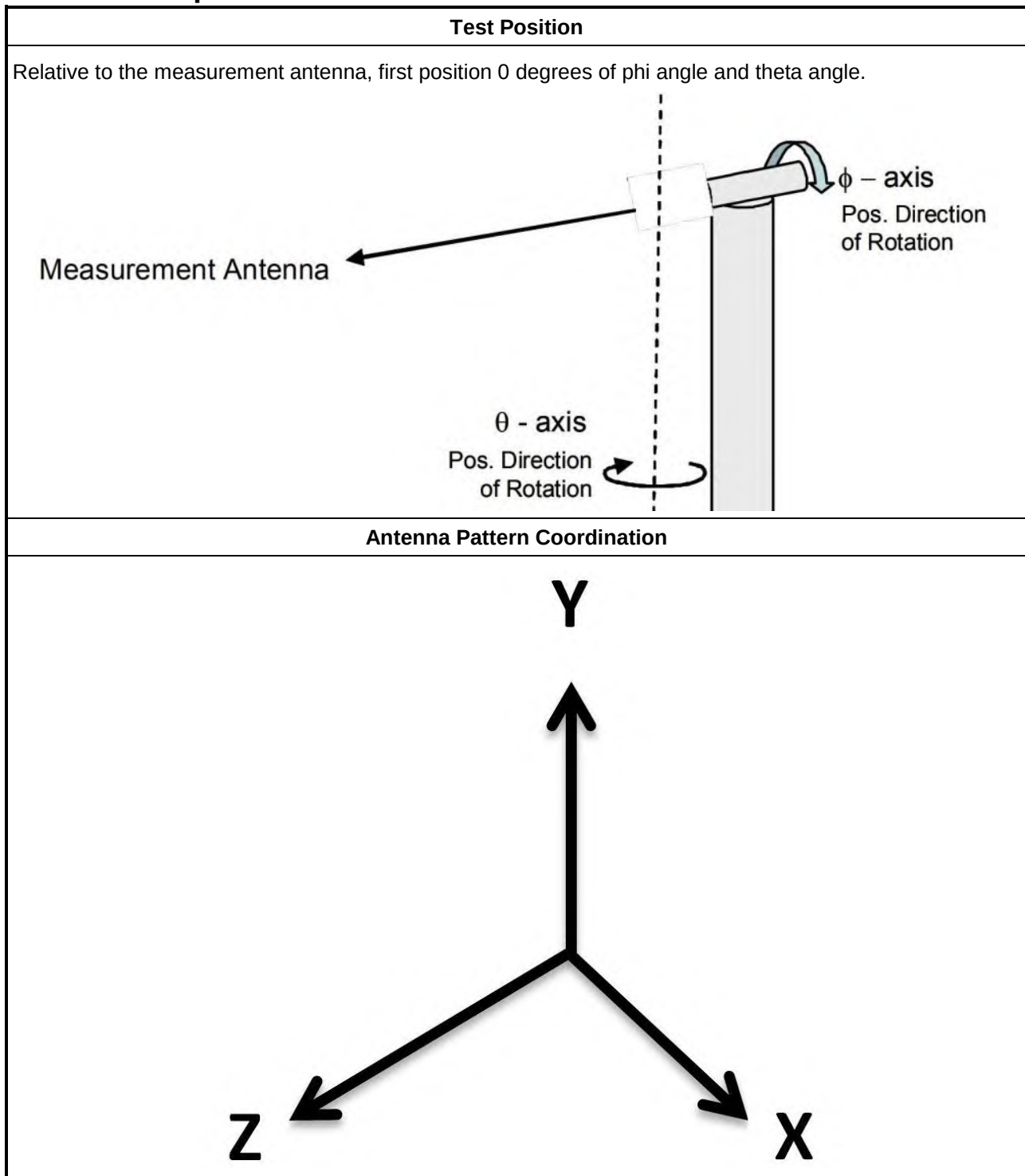
< BT >

Freq(Hz)	2.45G
Ant. 3 Max Gain (dBi)	6.3
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/22.5/300

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.....	Page 18
Appendix B – Radiated Composite Gain of 6GHz.....	Page 27
Appendix C – Radiated Composite of Scan Radio and BLE.....	Page 34
Appendix D – Antenna Pattern of 2.4GHz and 5GHz.....	Page 49
Appendix E – Antenna Pattern of 6GHz.....	Page 53
Appendix F – Antenna Pattern of Scan Radio and BLE.....	Page 56
Appendix G – Test Photos.....	Page 63



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Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.85	3.69	3.89	4.64	4.83
Ant. 2 Max Gain (dBi)	2.54	3.35	4.34	5.05	3.83
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/60/37.5	Theta/67.5/270	Theta/45/217.5	Theta/45/225	Theta/60/217.5
Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/60/165	Theta/60/135	Theta/60/52.5	Theta/45/60	Theta/75/90
Max Gain (dBi)	2.85	3.69	4.34	5.05	4.83
DG [1SS] (dBi)	4.24	5.3	4.88	5.54	4.84
DG [2SS] (dBi)	2.85	3.69	4.34	5.05	4.83



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

DG 1SS Result

Freq(Hz)	2.45G/Pol.	Phi-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	0.78/0.25	-0.79/-2.3	-4.39/-7.23	-11.2/-14.7	-15.48/-11.6	-7.62/-4.86	-2.78/-1.15	0.21/2.1	1.97/2.44	2.7/2.84	2.91/2.91	2.72/2.29	1.52/0.51	-0.82/-2.33	-4.09/-6.24	-8.75/-10.91	-11.1/-9.27	-6.03/-3.64	-2.07/-0.9	-0.03/0.74	1.41/1.88	2.13/2.1	1.85/1.55	1.24/1.02
Θ(7.5°)	0.52/0.14	-1.2/-2.82	-5.24/-8.66	-11.13/-13.84	-11.01/-8.69	-6.21/-4.11	-2.43/-1.01	0.12/0.9	1.85/2.32	2.63/2.85	3.01/3.04	2.88/2.5	1.89/0.96	-0.29/-1.83	-3.64/-5.68	-8.1/-10.9	-11.07/-9.81	-6.63/-3.9	-1.85/-0.3	0.85/1.7	2.35/2.78	2.99/2.93	2.66/2.22	1.65/1.03
Θ(15°)	1.16/0.12	-1.2/-2.58	-4.23/-6.19	-8.22/-9.83	-9.96/-8.41	-7.28/-5.29	-3.44/-1.81	-0.33/0.86	1.72/2.27	2.61/2.88	3.12/3.21	3.19/3.01	2.62/1.93	0.74/-0.96	-3.03/-5.55	-8.65/-10.73	-11.4/-9.54	-7.25/-4.9	-2.67/-0.63	12.18	2.97/3.52	3.79/3.79	3.53/3.18	2.68/1.99
Θ(22.5°)	1.96/0.95	-0.36/-1.79	-3.42/-5.33	-7.36/-9.16	-9.89/-9.27	-8.67/-7.54	-5.03/-2.77	-0.86/0.61	1.63/2.1	2.53/2.76	2.96/3.06	3.08/2.97	2.63/1.87	0.61/-1.27	-4.03/-7.77	-10.68/-11.94	-10.02/-8.39	-6.9/-5.4	-3.86/-1.9	0.06/1.64	2.7/2.39	3.7/3.69	3.51/3.27	2.98/2.56
Θ(30°)	1.63/0.73	-0.79/-2.65	-4.74/-6.76	-8.81/-10.21	-9.82/-9.33	-10.19/-9.67	-7.62/-4.45	-2.16/-0.6	0.45/1.1	1.39/1.54	1.75/2.13	2.48/2.54	2.18/1.47	0.29/-1.5	-4.51/-8.97	-13.5/-11.9	-9.25/-7.61	-6.95/-6.8	-6.61/-5.51	-3.21/-0.86	0.78/1.7	2.11/2.21	2.11/2.02	2.04/1.98
Θ(37.5°)	-0.34/-1.33	-3.11/-5.34	-6.88/-8.85	-10.95/-11.7	-9.35/-8.18	-9.25/-10.99	-9.63/-6.06	-3.81/-2.56	-1.74/-1.12	-0.84/-0.58	0.11/1.08	1.75/1.69	1.04/-0.07	-1.56/-3.59	-6.44/-9.34	-10.15/-8.69	-7.35/-7.16	-6.74/-7.11	-8.53/-10.09	-7.66/-4.6	-2.4/-1.33	-1.19/-1.26	-1.16/-0.8	-0.29/-0.07
Θ(45°)	-3.64/-5.05	-6.16/-8.57	-5.84/-7.41	-10.56/-12	-9.62/-8.21	-8.84/-10.19	-9.68/-7.07	-5.87/-5.58	-5.37/-4.8	-4.65/-4.62	-3.2/-1.36	-0.18/-0.05	-0.88/-2.35	-4.13/-6.03	-8.14/-8.94	-8.31/-6.88	-5.98/-6.55	-7.19/-8.64	-11.33/-13.6	-12.81/-10.13	-6.76/-5.23	-6.06/-7.21	-5.59/-3.42	-2.45/-2.61
Θ(52.5°)	-5.99/-7.55	-6.89/-5.37	-4.95/-6.58	-11.05/-15.32	-13.25/-10.71	-10.1/-10.06	-8.11/-6.67	-7.07/-8.42	-8.99/-7.42	-7.19/-9	-7.11/-4.41	-3.13/-3.32	-4.44/-6	-7.08/-8.18	-9.22/-9.4	-8.63/-6.8	-5.45/-5.28	-5.67/-8.48	-14.85/-12.53	-10.16/-9.51	-7.21/-5.91	-8.03/-11.66	-7.37/-4.21	-3.39/-4.06
Θ(60°)	-8.86/-10.22	-8.36/-6.19	-5.33/-6.6	-10.87/-15.64	-14.23/-11.87	-13.15/-12.37	-10.04/-8.15	-9.49/-11.59	-10.84/-10.86	-9.66/-12.8	-11.54/-7.51	-6.24/-6.21	-6.85/-7.5	-7.97/-7.98	-8.09/-10.5	-5.53/-3.95	-3.74/-6.81	-14.61/-11.03	-7.79/-7.95	-7.27/-6.21	-9.51/-13.46	-7.72/-5.8	-6.14/-7.02	
Θ(67.5°)	-13.09/-14.38	-10.28/-6.71	-5.49/-6.29	-9.54/-15.2	-13.41/-10.55	-11.47/-13.67	-12.31/-6.1	-11.39/-12.88	-14.46/-9.53	-7.86/-10.94	-8.73/-7.03	-7.66/-7.11	-6.23/-7.01	-8.54/-7.99	-8.88/-12.9	-9.55/-6.65	-5.19/-3.54	-3.49/-6.99	-14.65/-8.96	-6.75/-8.05	-7.88/-6.59	-10.05/-10.37	-5.22/-4.5	-7.72/-12.17
Θ(75°)	-12.97/-15.08	-12.27/-6.94	-5.09/-5.57	-7.72/-13.15	-14.8/-10.07	-9.57/-10.89	-10.99/-12.21	-14.35/-12.99	-14.97/-9.23	-6.8/-9.74	-11.31/-7.45	-8.68/-8.36	-6.08/-5.86	-8.84/-7.58	-7.5/-10.3	-8.54/-5.15	-4.29/-2.64	-2.59/-5.9	-13.45/-6.45	-4.55/-6.84	-7.75/-6.09	-9.74/-10.98	-6.14/-5.34	-8.56/-12.8
Θ(82.5°)	-11.52/-14.35	-10.62/-6.07	-4.15/-4.81	-7.63/-14.57	-15.31/-10.68	-10.89/-12.08	-8.7/-8.87	-9.73/-8.29	-11.57/-9.34	-6.34/-7.6	-6.14/-33	-7.2/-9.12	-6.47/-7.13	-10.73/-8.07	-6.6/-9.61	-7.88/-5.03	-5.13/-2.99	-2.75/-6.55	-12.74/-4.29	-3.43/-6.69	-6.59/-5.21	-9.4/-8.67	-5.89/-7.08	-11.77/-11.84
Θ(90°)	-8.94/-12.08	-9.74/-5	-3.02/-3.36	-5.76/-12.14	-15.02/-11.03	-11.53/-13.83	-9.84/-9.62	-9.66/-6.22	-6.6/-7.09	-4.94/-6.06	-6.78/-4.93	-7.43/-9.42	-6.97/-7.01	-11.66/-9.84	-5.99/-7.43	-7.72/-4.65	-7.35/-5.57	-2.65/-4.21	-10.12/-4.9	-4.14/-8.03	-6/-5.07	-9.23/-9.64	-4.43/-6.16	-9.35/-8.97
Θ(97.5°)	-8/-10.07	-10.44/-5.95	-3.78/-3.92	-6.01/-11.48	-13.74/-10.4	-10.81/-12.25	-8.75/-9.44	-9.7/-5.59	-5.6/-6.33	-5.56/-6.29	-6.13/-4.88	-7.74/-8.64	-6.85/-6.4	-10.69/-8.92	-5.37/-8.51	-6.95/-4.53	-7.64/-6.97	2.23/-3.36	-8.35/-5.43	-5.4/-9.89	-7.35/-6.46	-7.77/-5.18	-3.83/-5.43	-8.34/-7.67
Θ(105°)	-7.33/-8.04	-10.41/-7.26	-5.4/-6.27	-8.53/-11.97	-12.35/-9.86	-10.85/-11.5	-8.86/-9.22	-9.36/-4.99	-4.2/-5.26	-4.92/-5.7	-6.84/-7.81	-9.51/-7.15	-4.77/-4.03	-8.06/-11.96	-7.76/-10.77	-7.76/-4.62	-6.89/-10.12	-2.73/-3.22	-8.12/-6.89	-4.31/-9.76	-10.56/-7.74	-8.75/-6.58	-5.05/-6.26	-9.12/-7.77
Θ(112.5°)	-8.68/-8.85	-10.96/-7.52	-5.63/-7.63	-12.5/-11.24	-8.72/-7.73	-10.43/-11.28	-8.52/-8.87	-9.2/-6.26	-6.75/-11	-9.74/-6.05	-5.47/-5.57	-5.79/-6.32	-6.06/-6.31	-11.74/-9.84	-8.23/-11.65	-10.53/-6.88	-8.97/-6.31	-2.76/-4.87	-13.73/-4.03	-2.31/-6.32	-11.44/-10.44	-8.77/-6.49	-5.48/-7.3	-10.45/-9.75
Θ(120°)	-13.78/-10.35	-8.11/-5.3	-3.83/-5.22	-8.13/-8.44	-6.36/-6.35	-8.89/-11.68	-10.65/-11.95	-8.31/-4.54	-4.19/-5.53	-5.12/-3.81	-3.76/-5.56	-7.99/-9.25	-6.61/-6.04	-8.84/-7.34	-7.6/-10.89	-11.48/-7.94	-9.41/-10.82	-5.84/-4.63	-7.69/-4.08	-3.06/-7.26	-15.11/-12.94	-12.79/-9.57	-9.31/-11.63	-11.33/-13.3
Θ(127.5°)	-10.18/-11.16	-10.79/-8	-5.74/-6.32	-8.48/-8.53	-7.48/-8.32	-9.77/-9.05	-8.4/-9.04	-9.92/-7.49	-7.16/-8.33	-8.21/-8.34	-9.34/-12.47	-3.5/-5.34	-4.68/-6.08	-9.3/-9.84	-11.24/-15.97	-10.68/-9.69	-13.74/-12.87	-5.53/-4.95	-7.6/-7.08	-7.64/-9.88	-9.29/-10.02	-9.74/-8.6	-5.05/-6.26	-9.12/-7.77
Θ(135°)	-10.71/-15.09	-14.68/-13.66	-10.13/-8.99	-9.01/-8.28	-7.54/-9.53	-13.04/-11.56	-9.73/-10.03	-11.39/-9.68	-9.15/-12.54	-14.9/-11.08	-8.78/-7.52	-5.62/-4.2	-4.99/-8.4	-11.95/-11.32	-12.6/-14.94	-13.33/-10.09	-10.65/-11.15	-8.37/-8.08	-12.03/-12.59	-8.24/-5.17	-3.54/-3.39	-4.15/-4.79	-6.02/-7.57	-7.6/-8.34
Θ(142.5°)	-12.86/-15.62	-15.41/-15.34	-11.71/-11.16	-11.5/-9.88	-8.41/-9.05	-10.76/-11.56	-11.46/-12.09	-11.31/-9.74	-10.05/-11.76	-12.15/-9.78	-8.67/-7.29	-7.84/-9.25	-8.91/-9.16	-11.24/-11.68	-10.33/-8.63	-9.67/-10.72	-8.17/-6.13	-6.54/-9.14	-9.37/-6.06	-3.98/-3.72	-4.67/-5.65	-7.26/-10.97	-13.49/-12.14	
Θ(150°)	-11.93/-15.71	-11.08/-10.82	-11.39/-11.67	-14.74/-15.42	-15.75/-14.73	-12.86/-10.97	-11.21/-12.05	-12.71/-13.78	-14.71/-11.86	-10.43/-9.21	-8.91/-10.2	-11.83/-13.76	-11.83/-10.08	-9.71/-10.69	-12.62/-13.17	-10.83/-9.17	-9.96/-9.13	-7.71/-7.61	-5.53/-5.06	-6.63/-9.25	-12.06/-13.75	-15.26/-13.1		
Θ(157.5°)	-10.11/-9.53	-9.28/-8.01	-7.49/-8.03	-9.54/-11.83	-13.14/-12.1	-10.37/-9.16	-8.91/-9.32	-9.87/-9.56	-8.37/-6.99	-6.32/-6.67	-8.04/-11.07	-14.62/-14.93	-13.41/-11.77	-11.91/-12.65	-13.63/-13.48	-11.37/-10.01	-9.84/-9	-9.71/-9.1	-8.96/-9.06	-8.05/-6.58	-5.56/-5.66	-6.99/-8.61	-10.1/-10.97	-10.62/-10.76
Θ(165°)	-8.71/-9.25	-9.27/-8.96	-8.92/-8.51	-8.26/-8.34	-8.14/-7.59	-7.07/-6.71	-6.53/-6.5	-6.42/-6.08	-5.61/-5.27	-5.35/-6.02	-7.3/-8.85	-9.29/-10.29	-11.14/-12.14	-13.93/-14.75	-14.98/-13.45	-12.14/-11.75	-11.39/-12.5	-14.52/-12.98	-10.64/-9.01	-7.14/-6.45	-6.16/-6.3	-6.75/-7.09	-8.09/-8.8	-8.79/-8.72
Θ(172.5°)	-9.79/-8.98	-9.46/-10.11	-9.85/-9.46	-9.37/-8.19	-7.2/-6.39	-5.92/-5.62	-6.22/-6.17	-5.98/-6.11	-4.69/-7.34	-7.3/-8.02	-6.18/-6.21	-10.4/-12.52	-15.1/-14.12	-14.56/-14.33	-13.97/-14.31	-15.28/-13.72	-11.49/-7.77	-8.6/-7.63	-7.17/-7.18	-7.33/-7.37	-8.1/-8.75	-9.4/-9.23	-9.41/-9.23	
Θ(180°)	-9/-10.05	-10.95/-11.31	-12.07/-11.35	-10.16/-9.36	-8.55/-7.56	-7.11/-7.02	-7.08/-7.08	-6.91/-6.77	-6.86/-7.26	-7.82/-8.22	-8.47/-8.82	-9.77/-11.36	-12.71/-15.62	-14.71/-15.8	-15.54/-15.09	-14.6/-12.62	-10.27/-8.42	-7.22/-6.91	-7/-7.17	-7.52/-7.92	-8.16/-8.12	-8/-7.63	-7.68/-7.85	-8.36/-8.4
Freq(Hz)	2.45G/Pol.	Theta-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-5.06/-3.94	-2.83/-1.7	-0.74/0.01	0.51/0.78	0.84/0.73	0.39/-0.19	-0.92/-1.7	-2.49/-3.41	-4.65/-6.49	-9.25/-13.08	-14.83/-13.51	-11.46/-7.95	-5.09/-2.87	-1.29/-0.4	0.03/0.19	0.24/0.25	0.15/0.05	-0.1/-0.46	-1.14/-2.13	-3.33/-4.83	-6.75/-9.54	-13.23/-15.43	-14.91/-11.76	-8.21/-6.2
Θ(7.5°)	-2.74/-2.1	-1.63/-1.17	-0.71/-0.36	-0.16/0.02	0.17/0.12	-0.24/-0.98	-1.88/-2.87	-3.98/-5.07	-6.46/-8.15	-10.28/-11.61	-10.68/-8.84	-6.91/-5.08	-3.45/-2.04	-0.88/0.02	0.72/1.18	1.46/1.58	1.56/1.4	1.14/0.79	0.37/0.27	-1.19/-2.47	-4.06/-5.94	-7.97/-9.65	-9.39/-7.26	-5.71/-3.66
Θ(15°)	-1.13/-0.5	-0.07/0.25	0.53/0.7	0.67/0.52	0.42/0.3	0.06/-0.34	-0.77/-1.22	-1.75/-2.35	-3.04/-3.75	-4.42/-4.66	-4.28/-3.44	-2.41/-1.32	-0.28/0.62	1.43/2.05	2.44/2.64	2.73/2.74	2.63/2.47	2.16/1.72	1.33/0.96	0.48/-0.23	-1.21/-2.35	-3.36/-4.1	-4.3/-3.84	-3.01/-2.03
Θ(22.5°)	-1.21/0.4	0.32/0.98	1.62/2.06	2.15/1.92	1.58/1.28	0.97/0.66	-0.44/-0.34	0.22/0.07	-0.18/-0.6	-1.19/-1.6	-1.86/-1.28	-0.63/0.19	1.02/1.82	2.52/2.97	3.17/3.14	2.97/2.71	2.41/2.72	1.97/1.64	1.31/1.11	0.98/0.77	-0.24/-0.44	-1.28/-2.01	-2.42/-2.47	-2.23/-1.8
Θ(30°)	-1.41/-0.85	-0.17/0.65	1.64/2.46	2.89/2.83	2.41/1.87	1.38/1.02	0.76/0.69	0.87/1.23	1.61/1.63	1.19/0.47	-0.14/-0.32	-0.04/0.43	0.91/1.33	1.77/2.05	2.13/2.05	1.83/1.55	1.28/1.22	1.26/1.26	1.24/1.31	1.53/1.69	1.53/0.94	0.04/-0.85	-1.53/-1.8	-1.83/-1.72
Θ(37.5°)	-0.16/-0.28	-0.28/0.26	1.31/2.51	3.22/3.38	2.95/2.2	1.4/0.84	0.51/0.37	0.66/1.46	2.31/2.63	2.21/2.4	0.53/0.42	0.67/0.9	1.01/1.06	1.05/1.02	0.96/0.86	0.63/0.45	0.43/0.69	1.17/1.64	1.92/0.9	2.32/2.39	2.08/1.24	0.09/-0.89	-1.3/-1.08	-0.52/-0.13
Θ(45°)	1.48/																							



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Θ (15°)	-7/17-95	-9/72-1235	-14/81-146	-11/09-825	-7/15-767	-9/11-936	-7/78-646	-6/78-787	-9/08-708	-4/87-313	-2/67-254	-3/02-45	-6/88-1035	-12/84-1033	-8/15-793	-8/54-922	-9/41-909	-8/73-814	-7/25-613	-5/57-479	-4/71-501	-5/27-671	-6/65-672	-6/92-733
Θ (22.5°)	-4.43/-4.87	-6.32/-7.75	-10/06/-11.84	-10/59/-68	-8/72/-8.27	-10/64/-11.48	-5.9/-3.1	-2.67/-3.84	-6/3/-6.27	-3.83/-2.56	-2.22/-3.14	-4.23/-6.14	-9/81/-11.37	-9/32/-9.14	-10/14/-10.34	-11/44/-13.22	-13/66/-9.3	-7/73/-8.46	-8.2/-6.3	-4.16/-3.1	-2.72/-3.55	-5/07/-5.78	-6.36/-6.04	-5.12/-4.88
Θ (35°)	-4.58/-3.47	-5.09/-9.75	-10/08/-7.6	-10/51/-11.2	-11/08/-8.65	-7/31/-8.99	-8.25/-3.65	-1.82/-2.16	-2.98/-1.81	-0.06/-0.28	-1/73-45	-3.29/-3.31	-4.29/-4.6	-9/09-4.5	-6.3/-6.79	-1.98/-5.43	-7/02-10.49	-6.34/-4.91	-2/73-2.25	-2/53-2.4	-1.98/-2.67	-3.45/-4.12	-5.11/-4.3	-4.36/-5.48
Θ (37.5°)	-3/22-2.79	-3/32-5/03	-5/75-8.89	-11/93-11.05	-11/24/-7.17	-6/32-6/69	-6/31-5/02	-4.46/-4.55	-2.40/-4.4	1.37/1	-0.35/-3.17	-3/22-2.18	-1/41-1.92	-3/82-4.46	-6/08-9.7	-7/57-5.58	-5/12-6.32	-9/51-7.2	-2/22-1.08	-1/39-1.55	-2/05-4.29	-2/66-2.46	-3/43-1.58	-1/34-2/94
Θ (45°)	-2/78-4.46	-5.35/-6.84	-5.85/-6.89	-15/15-13.79	-13/69-9.79	-8/58-9.57	-4.6/-4.78	-5.19/-4.5	-2.87/0.38	0.21/0.28	0.69/-1.34	-2/38-1.37	-0.82/-2.62	-5.36/-5.81	-5/28-5.62	-3.81/-4.69	-7/59-6.44	-5/52-9.8	-4.1/-1.82	-3.14/-2.58	-1.65/-3.84	-1.12/-0.82	-2.79/-0.38	-0.45/-1.41
Θ (52.5°)	-0/75-2.91	-5.15/-6.43	-8/57-6.47	-11/23-12.74	-10/62-7.21	-6/43-6.25	-6.6/-1.4	-7.1/-3.08	-3/02-1.22	-2.42/0.27	0.74/-0.64	-2/22-0.88	-1.81/-4.04	-3/79-4.51	-6.76/-6.25	-4.31/-5.43	-8/11-12.24	-4/01-2.71	-3/34-2.48	-3.78/-7.27	-3.15/-3.33	-2.35/-0.19	-1/31-1.08	
Θ (60°)	-1/05-4.06	-4.45/-4.23	-8.54/-11.16	-11/46-9.03	-5/89-8.03	-4/33-6.36	-5/29-5/71	-9.16/-4.05	-4/74-4.36	-3/08-1.48	-1.36/0.07	-1/39-1.89	-1/59-2/43	-4/13-4/73	-7/99-11.14	-8/06-9	-8/36-11/09	-8/74-7/05	-6/35/-3.93	-7/98-5.64	-7/10-0.7	-5/12-7/28	-3/82/-2/03	-2/43-0/98
Θ (67.5°)	-4.35/-7.81	-5/27-5.6	-9/47-12.38	-14/35/-10.31	-5/99-10/08	-5/43-9/26	-6/23-8/05	-10/33-5/63	-4/66-3/49	-4/07-1/47	-3/08-2/81	-2/17-3	-7/57/-10.24	-12/08-13/91	-11/18-12/39	-8/63/-10/39	-11/71-7/3	-5/86/-2.6	-7/19-7/69	-10/54-10/76	-7/32/-0/96	-4/9/-4.39	-3/17/-2.65	
Θ (75°)	-5/54-10.51	-8/28-7/35	-10/61/-11/09	-14/56-12/95	-9/41-10.55	-8/25-12.42	-6/79-8/27	-7/98-6/76	-9/57-9/03	-6/91-6/05	-6/39-3	-6/27-6/91	-3/94/-2.69	-6/59-9/83	-15/31-15/65	-10/57/-15/64	-10/-9.8	-11/5-8/06	-8/74-5/66	-6/31/-12/29	-11/77-8/79	-7/58/-10/67	-5/82/-4.1	-3/76-3/99
Θ (82.5°)	-9/79-13.14	-10/18-13/42	-14/18-11/34	-14/65-14.15	-11/13-13/87	-10/21-14/31	-7/56-8/34	-8/28-7/84	-9/42/-10.13	-10/11-10.4	-5/47-6/06	-9/43-10/48	-5/53-4/64	-7/12-7/8	-15/16-15/39	-13/21-14/26	-10/67-9/49	-11/14-8/64	-8/99-4/86	-6/89-10/16	-9/54-8/92	-7/85/-11/09	-7/12-5/5	-6/05-6/19
Θ (90°)	-8/45-13/42	-12/-13.31	-15/06-9/43	-14/97-13.14	-10/48-10/81	-9/62-12/62	-9/68-9/94	-7/76-8/3	-8/28-8/76	-11/48-11/82	-5/93-5/85	-7/75/-11.94	-11/94-6/28	-7/09-5/66	-15/86-14/72	-10/51-13/89	-9/33-8/35	-11/02-10/74	-10/52-6/78	-6/04/-11.1	-10/39-8/37	-7/83/-7/38	-6/06-5/18	-6/28-8/05
Θ (97.5°)	-10/29-11/91	-10/31-14/81	-13/35-10/23	-12/53-13/76	-9/81-10.64	-11/59-13.3	-9/01/-12.85	-7/54-8/89	-8/85-10.41	-12/53-13/14	-6/48/-5/97	-9/61/9.4	-10/56/-7/42	-8/79-8/09	-15/02/-13/7	-13/77-10/65	-9/34-9/04	-9/74-8/37	-7/59/-11/87	-10/07/-10.43	-8/87/-7/95	-6/52/-5/6	-8/41-9/85	
Θ (105°)	-14/6-9/65	-10/61/-12.41	-15/64-9/75	-11/73-13.1	-7/68-11/49	-10/11-14/86	-9/85/-10/87	-7/96-8/61	-8/8-8/89	-13/41-14/32	-6/98/-7.2	-5/55-9/33	-10/62-8/54	-10/09-8/18	-14/94-13/9	-13/88-15/06	-10/81-13/86	-12/31/-10/48	-9/95/-10.7	-12/22/-12/23	-11/29-10/13	-8/23-8/16	-7/82/-3/66	-7/71-13/12
Θ (112.5°)	-12/89-9/35	-15/59-9/89	-15/23-15/83	-9/18-12.5	-8/54/-12.44	-9/61/-11/99	-9/96/-11.8	-8/93-9/15	-7/62/-10/96	-15/43-9/38	-6/67/-7.3	-7/41-8/67	-11/64/-10/44	-14/33-9/4	-13/94/-11/31	-13/51-10/52	-8/13/-11/21	-9/22-12/03	-8/74-8/66	-9/91/-11/03	-12/33/-7/98	-10/31/-8/7	-7/75-7/64	-8/28-10/75
Θ (120°)	-12/83-9/92	-14/31-9/33	-13/95-15/55	-10/27/-10/69	-7/06/-12/47	-10/22/-10/89	-10/73-12/21	-9/71-8/6	-9/93/-10/61	-12/53-13/14	-9/55-8/65	-9/73-9/84	-13/53/-10/54	-13/21-12/97	-10/17/-12/15	-13/25-10/71	-7/71-9/36	-10/62-11	-13/01/-12/27	-8/69-10/85	-13/31-5/71	-9/49/-7/19	-7/14-6/82	-11/6-8/97
Θ (127.5°)	-13/57/-10/26	-10/47/-12/09	-14/27/-11/02	-8/18-9/36	-12/23/-9/98	-10/61-9/16	-8/88-12/86	-12/71/-11/27	-11/53-9/75	-13/62-9/34	-12/96/-7/84	-12/-13/05	-15/14/-13/76	-13/31-13/47	-12/62/-15/16	-11/87/-15/08	-13/48/-13/22	-13/17/-11/66	-13/51/-11/53	-8/92/-10/62	-10/48-6/36	-9/31-5/92	-6/27/-7/43	-11/32/-11/13
Θ (135°)	-9/01/-10/36	-9/59-12/45	-8/79-7/17	-9/74/-14/84	-15/05-8/37	-11/76/-7/62	-11/44/-12/65	-8/82/-9.2	-8/15-8/83	-5/82/-11/78	-10/13-12/65	-12/68/-15/04	-15/36/-11/05	-11/49/-11/62	-9/24/-8/33	-15/71-14/47	-13/75/-11.5	-11/63/-9/31	-7/77/-10/13	-10/24/-7.4	-11/01/-7/74	-8/07/-9.16	-12/85/-10/23	
Θ (142.5°)	-7/51-13/25	-10/69-12/16	-7/46-10/06	-11/24-15/29	-15/91-12/23	-10/93/-11/24	-10/66/-9/17	-8/83-9/98	-11/54/-7/23	-7/71-7/11	-8/52/-10/08	-10/85-9/07	-10/48-8/53	-11/27/-12/15	-12/72/-10/99	-12/49-15/22	-13/81-15/87	-10/78-14/29	-9/76-7/37	-11/11-9/6	-11/17/-12/43	-13/78-8/89	-16/01-9/46	
Θ (150°)	-9/61-8/78	-9/77/-10.14	-10/75/-10/47	-12/63-14.2	-13/21-11/02	-11/51-12/99	-11/38/-10/82	-10/93-8/35	-7/64-9/25	-10/21-8/16	-5/71-7/89	-13/22/-11/36	-14/99-12/96	-9/91-8/64	-12/74/-15.5	-15/49-14/81	-15/21-12/69	-12/03-13/26	-10/06-12/66	-14/71-11/97	-13/23/-15/45	-14/05/-16.15	-15/34/-11/88	-14/59-11/47
Θ (157.5°)	-11/78-10/63	-9/74/-10/22	-9/74-9/19	-11/32-15.3	-14/23-14/57	-15/05-11/42	-8/05-10.14	-1/41-9/71	-7/74-8/03	-8/18-9/25	-10/44/-12.2	-12/71-11/99	-13/06/-13/75	-11/15/-10/22	-10/36/-11/91	-13/53/-13/12	-11/81-13/66	-15/26-14/68	-13/45/-11/61	-10/82/-12/42	-15/21/-15/03	-13/68/-15/33	-14/57/-12	-11/47/-11/34
Θ (165°)	-7/44-8/43	-10/21-10/35	-11/58/-12/56	-13/15-13/43	-13/85-13/32	-11/99-9/61	-8/88-10/85	-14/48-13/08	-12/57-13/81	-16/04-15/06	-15/31-15/35	-14/94-13/11	-13/07/-10/53	-14/28-15/74	-13/66/-12/72	-13/41-13/04	-12/21-13/16	-14/84-14/91	-12/29-11/31	-11/72-12/24	-13/42/-13/51	-14/28-15/22	-13/53/-10/39	-7/91-7/44
Θ (172.5°)	-8/96-8/71	-8/57/-9/31	-9/73-10/26	-10/51-10/69	-11/15-10/92	-11/25-11/18	-10/85-10/4	-10/89/-11.13	-12/04-12/46	-13/12-13/01	-12/31/-11/55	-10/73-11/39	-10/94-10/59	-10/43/-11/04	-10/62/-11/51	-12/67/-12/57	-15/14-15.4	-14/38-13/61	-13/14-13/42	-13/79-13/93	-14/64/-11/74	-8/81-8/2	-8/21-8/52	
Θ (180°)	-8/86-9/8	-9/88-8/14	-8/72-8/68	-8/97-8/7	-8/51-8/6	-8/79-9/79	-10/21-10/01	-10/49-10/48	-10/75-10/89	-10/76-10/56	-8/88-8/12	-8/63-9/92	-10/62/-10.16	-9/72/-9/76	-10/12/-9.8	-9/41/-10/24	-12/27/-14/27	-14/63-12/98	-12/69-12/58	-13/41-14/63	-13/41-12/9	-12/01/-10.19	-9/08-8/32	-8/18-8/41
Freq(Hz)	5.3GPdPol	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°)	-11/83-10.82	-9/06-8/17	-7/51-6/32	-5/3-5/4	-5/79-5/28	-5/64-6/05	-6/26-7/65	-9/31-10.62	-12/67-13/34	-15/17-15/93	-14/11-12/88	-12/01-10/29	-9/6-8/2	-6/09-5/98	-6/92-6/76	-6/21-6/57	-5/72-6/36	-6/57-6/94	-7/84/-9/29	-9/86/-10/79	-12/27/-13/12	-13/43/-14/54	-15/58-14/54	-12/08-11/95
Θ (7.5°)	-6/58-6/28	-6/06-5/98	-6/05-5/85	-5/98-6/69	-8/4-8/48	-8/14-8/3	-7/69-8/02	-8/94/-9/64	-10/56-10/37	-8/56/-7/19	-8/79-6/11	-5/89-6/03	-5/56/-5/34	-6/35-6/52	-5/89-6/03	-6/84/-8/7	-8/07-8/71	-9/43-9/77	-9/23-9/14	-8/37-8/98	-9/23-9/14	-7/35-8/48		
Θ (15°)	-11/65-11/28	-10/15-8/75	-7/55-6/32	-5/86-5/79	-6/28-6/7	-6/49-6/39	-7/72-8/52	-9/1-8/48	-7/93-8/71	-8/79-10/18	-9/38-8/87	-5/5-7/47	-7/42/-7/65	-7/34/-7/43	-7/37/-7/62	-6/52-4/91	-3/71/-3/09	-2/98-3/32	-3/68/-3/61	-3/85-4/35	-4/59-6/03	-9/07-13/65	-14/99-12/68	-11/31-10/92
Θ (22.5°)	-4/34-4.8	-4/14-4/32	-6/05-7/3	-6/55-5/69	-4/72-5/11	-3/61-2.1	-1/54-2/04	-3/41-3/48	-5/46-7/29	-8/1-6/33	-4/6-3/6	-3/17-3/23	-3/49-3/85	-3/55/-2/91	-2/58-3/32	-4/36-3/92	-3/25-2/83	-1/92/-1/59	-1/61-1/19	-1/66-2/22	-3/63-6/14	-7/69-6/3	-5/46-4/64	-3/96-3/77
Θ (30°)	-4/69-3/26	-2/38-0/94	-0/38-1/35	-1/96-3/27	-2/81-3/08	-2/82-2/83	-2/43-1/66	-2/46-4/27	-4/09-3/02	-2/51-4/13	-5/07-4/48	-3/73-2/85	-1/88-1/93	-1/61-0/92	-0/60-1/5	0/06-1/05	-0/90-42	0/85/0.7	0.41/0.8	0.52/0.11	-1/28-1/94	-1/48-2/02	-4/15-7/24	-6/59-4/72
Θ (37.5°)	0.25/0.6	-0/63-1/74	-2/04/-1/49	-1/62/-2/66	-3/27-2/58	-8/30-3.8	1.21/1.54	0.64/-2/38	-2/58-1/05	-2/48-7/34	-6/44-4/27	-4/33-3/79	-3/31-3/93	-3/07/-1/42	-0/82-0/55	0/08-0/59	0/77/2.35	3.25/3.54	3.39/3.22	2.52/1.69	-0/05-0/07	0/54/-1/62	-8/02-7/6	-2/67-0/93
Θ (45°)	2/64/2.45	1.59/0.86	-0/16-1/4	-1/43/0.45	1.61/2.54	3/2/2	3.49/3.83	3/071.43	0/33-0/82	-2/41-1/29	-0/81-0/2	0.34/0.54	0.83/0.44	0.53/-1.44	2.32/2.1	1.72/1.21	1.57/2/93	3.84/2.49	4/07/5	2/78/1.77	-0/57-0/83	-0/05-1/48	-3/5-1/71	0/47/1.68
Θ (52.5°)	2.31/1.67	1.23/1.67	1/47/0.02	0/61/69	2.38/3.72	3.173.76	3.582/7.7	1.19/-5/4	0.83/-1.79	1.91/1.86	2/58/1.06	0.35/0.69	1/48/1.87	2.17/2.24	2.37/2.61	2.98/3.67	4.09/3.8	2/74/1.52	-0/73-2/64	-1/31-1/22	-1/74-0/92	0/09/1.62		
Θ (60°)	1.84/1.37	2/07/2.81	2/14/1.38	1/66/2.69	3/07/2.81	4/01/3.83	2/71/2.16	2.54/2.36	1.65/0.88	2/78/2.76	0/76/1.67	1/68/1.12	2.22/1.75	2.36/2.04	0.88/0.45	1.22/1.5	1.36/1.17	1.92/0.5	3.18/2.66	0/89/1.19	0/87/-1/57	-2/08-1/19	-1/1/-0/57	0/47/2.04
Θ (67.5°)	1/78/2.21	3/57/3.28	1/81/2/03	3/23/7.4	4.51/3.68	3.27/2.45	2/78/2	1/75/0.83	2.28/0.67	2/75/														



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Θ(52.5°)	-7.63/-6.25	-6.04/-4.92	-5.67/-4.76	-8.76/-15.23	-11.99/-4.79	-5.57/-7.59	-7.81/-8.29	-6.09/-3.42	-1.59/-1.72	-1.63/0.86	-0.81/-0.55	-1.4/-2.7	-5.24/-7.82	-8.38/-11.93	-10.87/-5.71	-5.87/-6.63	-11.23/-7.91	-7.02/-7.82	-1.98/-2.07	-2.99/-1.71	-2.51/-0.97	-2.9/-1.85	-3.57/-4.64	-3.84/-10.78
Θ(60°)	-5.64/-6.36	-9.06/-9.37	-10.85/-10.12	-11.76/-12.46	-12.25/-8.2	-6.44/-5.79	-6.37/-6.47	-6.25/-4.07	-2.1/-2.05	-1.29/-0.77	-2.63/-0.76	-1.56/-3.18	-5.08/-9.27	-9.18/-15.27	-14.47/-12.43	-11.51/-8.46	-12.32/-7.57	-4.89/-7.55	-1.59/-2	-2.83/-4.47	-7.56/-6.01	-5.59/-3.72	-5.79/-5.23	-5.92/-8.07
Θ(67.5°)	-3.3/-4.07	-6.64/-8.25	-13.48/-14.59	-14.05/-9.22	-11.86/-9.38	-5.71/-5.07	-7.11/-9.02	-7.18/-5.89	-4.38/-4.17	-0.84/-2.18	-6.8/-7.49	-7.99/-6.19	-5.07/-4.19	-5.19/-11.52	-13.55/-14.64	-15.29/-10.89	-13.91/-9.47	-4.51/-5.49	-2.52/-3.27	-5.01/-6.45	-12.43/-8.68	-5.49/-5.32	-8.45/-6.55	-6.43/-5.48
Θ(75°)	-5.17/-4.95	-9.41/-10.65	-12.83/-12.03	-14.69/-9.12	-14.45/-11.45	-7.8/-8.59	-7.33/-7.24	-6.45/-9.65	-10.56/-7.11	-3.05/-5.11	-13.06/-15.31	-13.69/-8.29	-4.04/-3.08	-4.05/-10.6	-9.76/-13.11	-10.25/-11.59	-14.51/-14.27	-4.15/-4.96	-5.16/-4.14	-5.61/-5.94	-10.93/-7.46	-7.76/-6.47	-8.21/-7.8	-8.31/-4.44
Θ(82.5°)	-7.75/-8.54	-13.61/-14.64	-14.58/-13.77	-12.63/-9.46	-16.06/-10.08	-12.68/-8.49	-10.22/-9.51	-5.99/-10.96	-13.68/-8.34	-5.79/-9.76	-11.04/-9.33	-14.67/-9.86	-5.3/-3.81	-4.44/-11.84	-9.49/-14.99	-9.05/-11.32	-13.15/-14.69	-4.53/-4.02	-7.37/-4.94	-6.73/-6.57	-8.85/-6.6	-11.34/-8.88	-8.02/-8.54	-5.97/-6.06
Θ(90°)	-8.76/-10.66	-14.85/-13.97	-15.03/-11.22	-14.8/-11.68	-15.01/-12.06	-13.11/-11.42	-14.89/-11.17	-6.8/-10.94	-14.16/-10.34	-9.1/-12.15	-7.28/-4.4	-9.83/-14.81	-6.82/-7.38	-4.23/-9.18	-11.67/-13.43	-9.88/-11.41	-13.65/-14.7	-5.94/-7.03	-10.15/-8.62	-7.24/-6.84	-9.69/-6.34	-13.21/-9.8	-7.56/-7.98	-6.78/-7.74
Θ(97.5°)	-9.5/-14.56	-12.12/-14.44	-15.59/-11.31	-9.84/-11.81	-11.65/-10.81	-13.22/-14.36	-15.08/-11.01	-8.68/-10.93	-11.56/-9.24	-12.1/-11.33	-4.78/-3.88	-6.66/-14.19	-8.02/-7.79	-4.99/-9.22	-13.28/-13.86	-9.18/-9.95	-10/-13.72	-8.78/-7	-9.33/-11.83	-7.75/-8.34	-9.56/-8.37	-11.9/-12.97	-6.78/-7.28	-7.1/-8.1
Θ(105°)	-10.21/-14.44	-11.51/-14.05	-15.46/-12.08	-12.85/-15.28	-10.47/-10.88	-15.02/-12.38	-14.78/-12.72	-8/-12.43	-10.13/-7.25	-11.26/-10.61	-5.94/-3.59	-7.39/-8.42	-10.22/-11.76	-6.82/-6.15	-10.82/-13.67	-9.89/-9.89	-14.04/-11.76	-8.98/-7.46	-12.37/-9.11	-10.42/-11.53	-11.07/-7.13	-11.46/-8.46	-7.63/-8.2	-7.08/-9.31
Θ(112.5°)	-11.92/-15.41	-14.05/-12.95	-12.17/-14.96	-13.29/-14.26	-10.16/-13.65	-13.9/-13.65	-14.65/-11.35	-10.53/-8.14	-10.21/-6.07	-10.37/-11.01	-6.33/-5.65	-6.3/-8.72	-9.07/-11.29	-10.17/-6.67	-9.51/-13.17	-9.56/-9.45	-11.75/-12.41	-12.25/-9.81	-11.03/-9.06	-8.35/-14.93	-12.42/-11.86	-9.1/-10.1	-6.52/-11.4	-5.88/-8.46
Θ(120°)	-13.85/-11.53	-9.72/-9.73	-13.16/-15.24	-14.38/-11.9	-10.29/-15.34	-14.8/-12.53	-13.18/-9.99	-10.26/-8.77	-10.16/-9.08	-8.33/-9.47	-7.82/-8.09	-7.39/-7.88	-11.07/-9.07	-9.72/-12.25	-8.19/-12.84	-10.86/-11.23	-10.55/-13.37	-15.84/-13.69	-12.68/-12.59	-9.39/-11.59	-12.22/-11.98	-12.24/-8.13	-8.17/-5.65	-8.1/-11.31
Θ(127.5°)	-13.72/-12.93	-12.99/-15.66	-14.93/-13.42	-14.88/-9.38	-12.52/-15.62	-14.7/-12.66	-15.54/-10.28	-12.15/-11.73	-9.99/-9.19	-11.05/-10.13	-6.81/-11.57	-9.08/-8.26	-8.03/-11.6	-11.19/-12.87	-10.65/-14.39	-14.58/-9.35	-10.96/-14.05	-14.61/-10.58	-13.45/-13.6	-11.83/-14.66	-10.81/-9.03	-9.45/-5.96	-7/-11.55	-7.79/-7.2
Θ(135°)	-11.66/-8.38	-8/-7.55	-11.55/-12.94	-10.22/-13.98	-15.22/-12.07	-13.7/-14.21	-15.51/-10.73	-12.36/-13.55	-11.61/-11.48	-5.26/-11.23	-8.33/-7.05	-13.83/-13.34	-10.2/-9.41	-15.37/-15.02	-10.41/-7.38	-8.62/-9.62	-10.64/-13.99	-15.46/-13.91	-13.02/-15.22	-11.91/-13.08	-12.37/-11.11	-8.16/-6.36	-7.14/-7.74	-11.97/-12.58
Θ(142.5°)	-7.41/-8.51	-8.98/-10.13	-10.18/-10	-10.41/-14.37	-12.19/-13.78	-13.5/-10.62	-14.38/-10.11	-13.17/-9.54	-7.46/-14.26	-5.3/-5.27	-7.2/-9.19	-9.12/-7.89	-8.51/-7.25	-6.8/-8.77	-11.57/-9.52	-13.02/-11.77	-12.86/-13.64	-10.32/-15.6	-12.23/-15.05	-11.31/-9.06	-6.66/-9.9	-12.15/-8.83	-11.65/-11.42	-13.19/-15.13
Θ(150°)	-15.25/-11.25	-10.48/-11.43	-11.72/-12.29	-14.54/-13.2	-11.73/-15.57	-13.97/-14.03	-14.91/-9.02	-8.82/-10.36	-7.08/-6.56	-6.33/-8.59	-8.65/-10.91	-12.12/-9.58	-6.19/-11.46	-12.84/-13.63	-10.61/-9.78	-11.88/-14.58	-14.34/-11.53	-10.17/-12.02	-12.67/-11.39	-9.02/-13.14	-12.62/-11.76	-14.21/-14.46	-14.51/-11.23	-9.51/-12.75
Θ(157.5°)	-13.52/-13.14	-11.56/-10.2	-10.11/-11.19	-14.47/-15.52	-13.69/-9.43	-14.73/-13	-9.73/-8.45	-7.77/-8.08	-7.95/-8.18	-8.8/-9.71	-11.01/-11.25	-10.08/-8.63	-7.59/-8.85	-11.71/-12.25	-11.61/-11.18	-11.25/-11.43	-10.92/-11.47	-12.5/-10.86	-11.27/-14.69	-13.25/-12.34	-12.06/-12.74	-15.32/-14.15	-11.93/-11.77	
Θ(165°)	-10.45/-9.91	-12.1/-11.57	-10.96/-12.23	-12.48/-10.61	-10.5/-10.14	-9.85/-11.22	-11.33/-9.54	-7.74/-8.59	-12.06/-14.7	-12.99/-11.04	-9.56/-9.9	-11.89/-13.19	-13.83/-13.33	-12.25/-11.33	-9.94/-9.81	-9.88/-12.43	-13.4/-11.7	-10.35/-10.4	-11.49/-12.42	-13.61/-14.47	-13.24/-14.28	-14.44/-12.62	-11.09/-10.08	-11/-10.92
Θ(172.5°)	-6.8/-8.22	-8.6/-8.48	-8.89/-9.96	-9.04/-9.07	-11.2/-13.55	-13.7/-10.67	-8.48/-7.34	-7.58/-8.81	-10.14/-11.48	-12.68/-14.08	-13.43/-13.63	-14.2/-13.25	-13.57/-13.12	-12.24/-12.6	-12.85/-11.72	-13.03/-15.47	-12.51/-10.6	-10.22/-9.58	-10.41/-11.12	-10.81/-10.24	-9.72/-8.51	-7.53/-6.97	-6.3/-6.34	-6.47/-7.7
Θ(180°)	-11.2/-12.35	-13.52/-14.69	-14.91/-13.84	-14.71/-14.72	-14.21/-14.45	-13.51/-12.98	-13.67/-13.31	-13.25/-14.02	-14.15/-15.24	-13.72/-13.37	-12.89/-12.15	-10.1/-8.79	-10.27/-11.82	-13.96/-14.75	-15.43/-14.56	-14.02/-14.53	-14.16/-12.3	-12.52/-12.38	-11.94/-12.44	-10.71/-9.96	-9.54/-9.79	-9.4/-9.38	-9.16/-9.75	-10.4/-10.7
Freq(Hz)	5.785GPol.	Theta/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-6.88/-7.62	-7.98/-9.47	-11.41/-11.84	-11.37/-12.3	-12.15/-11.69	-9.62/-8.03	-7.14/-6.45	-5.91/-5.36	-5.08/-5.44	-5.41/-5.3	-5.51/-5.76	-7.1/-8.97	-9.93/-11.52	-11.91/-12.02	-11.93/-11.38	-9.2/-6.91	-6.56/-6.78	-6/-5.43	-5.04/-4.67	-5.05/-4.92	-4.87/-5.22	-5.32/-5.19	-5.05/-5.23	-5.66/-6.2
Θ(7.5°)	-10.09/-10.72	-10.98/-10.75	-10.55/-9.45	-9.49/-9.95	-9.87/-9.85	-8.63/-7.32	-6.94/-6.22	-5.65/-5.5	-6.15/-6.43	-6.75/-7.21	-8.15/-8.81	-9.42/-10.27	-9.87/-9.31	-9.31/-10.22	-10.58/-10.48	-10.49/-10	-8.55/-7.66	-5.9/-3.88	-3.13/-2.88	-3.37/-3.48	-4.01/-5.22	-5.83/-6.71	-7.33/-8.15	-9.64/-10.29
Θ(15°)	-9.9/-9.57	-9.89/-8.63	-7.9/-7.88	-8/-8.53	-8.21/-7.6	-7.11/-6.5	-5.53/-4.81	-4.38/-4.57	-6.46/-10.11	-11.65/-10.37	-8.32/-1.14	-6.08/-5.74	-5.58/-5.96	-6.2/-5.55	-4.62/-4.33	-4.6/-4.87	-4.7/-5.38	-5.98/-5.18	-3.89/-3.37	-4.28/-6.14	-7.14/-7.48	-6.15/-5.46	-5.35/-5.42	-6.85/-8.77
Θ(22.5°)	-2.98/-3.26	-4.44/-4.55	-3.82/-3.23	-3.61/-5.14	-7.07/-7.93	-8.75/-6.75	-4.09/-3.63	-3.36/-3.78	-6.27/-8	-5.69/-4.95	-5.18/-5.52	-5.85/-5.84	-5.37/-4.66	-3.77/-3.38	-3.05/-2.78	-3.82/-4.83	-4.12/-3.39	-4.15/-4.49	-3.46/-2.64	-3.06/-4.86	-6.26/-5.67	-5.45/-6.13	-6.29/-5.29	-4.51/-3.93
Θ(30°)	-3.19/-3.67	-3.82/-3.74	-3.36/-2.56	-1.81/-1.19	-1.21/-2.53	-3.58/-2.89	-2.58/-2.74	-2.49/-2.87	-4.22/-5.99	-7.61/-8.39	-9.57/-6.73	-4.37/-2.91	-2.28/-1.57	-1.05/-0.83	-0.22/0.1	-0.54/-1.09	-2/-2.6	-4.11/-4.53	-2.65/-1.86	-2.39/-4.2	-5.16/-4.33	-5.91/-12.71	-7.98/-2.94	-1.37/-2.01
Θ(37.5°)	-3.41/-3.59	-1.80/-23	1.94/2.57	2.12/1.49	1.17/-0.03	-0.93/0.71	0.27/-0.18	-0.47/-1.82	-3.05/-4.56	-5.95/-3.61	-0.79/0.6	0.99/1.35	0.49/-0.02	0.78/1.06	0.91/0.35	-0.05/0.6	1.85/1.91	1.17/0.2	-0.73/-2.74	-3.26/-4.25	-9.98/-5.46	-2.27/-0.51	0.07/-1.42	
Θ(45°)	-1.65/-0.29	-1.19/-2.05	-0.94/1.72	2.2/0.98	1.52/2.4	1.49/2.7	3.65/3.26	3.09/1.69	1.35/0.99	-1.10/1.4	1.69/1.18	0.06/0.56	0.01/0.13	1.31/2.2	1.91/2.07	2.55/2.11	2.83/8.1	4.59/3.16	2.65/3.06	1.29/-0.79	-3.14/-3.38	-3.84/-1.64	-0.71/-2.25	-2.93/-2.74
Θ(52.5°)	2.92/4.43	3.13/2.74	1.21/0.81	0.98/1.07	1.56/3.32	2.93/3.34	3.65/2.23	3.83/3.95	3.17/3.25	2.66/1.56	1.76/2.07	3.53/3.31	2.15/1.07	0.73/1.18	2.12/3.06	2.61/2.05	3.05/3.24	4.49/3.55	2.28/2.61	1.42/-0.88	-2.42/-0.99	-1.53/-1.69	-2.73/-2.56	0.06/-0.15
Θ(60°)	2.23/3.4	2.15/3.5	2.83/2.16	0.16/0.48	1.06/3.17	3.52/2.37	2.48/-1.16	0.71/2.17	2.89/4.04	3.73/2.1	1.83/2.06	3.8/2.11	1.36/1	1.31/1.77	2.65/3.9	2.82/-0.77	1.64/2.81	3.31/2.54	0.59/1.43	1.91/0.63	-1.14/-0.27	-0.42/-3.23	-4.77/-0.65	1.18/0.03
Θ(67.5°)	1.71/2.79	2.26/2.89	2.17/1.39	-1.13/-0.48	2.52/3.6	3.23/2.23	2.02/-0.6	-1.66/0.54	2.06/3.14	3.23/2.13	2.09/2.31	2.4/0.52	1.87/1.58	2.71/3.92	4.25/3.22	2.03/0.46	0.74/2.23	2.61/1.63	-0.59/0.53	2.21/0.65	0.33/0.1	-1.25/-4.42	-4.42/-0.19	0.03/-0.5
Θ(75°)	1.41/2.69	2.63/1.6	1.96/1.49	-0.15/0.01	3.65/4.31	3.05/2.44	2.38/1.01	-0.55/0.6	2.26/2.14	2.98/1.42	1.79/1.82	1.72/1.78	2.52/1.54	3.31/3.82	4.84/3.65	-0.05/0.59	1.62/1.81	2.16/3.55	1.39/2.27	2.23/1.2	1.54/0.22	-2.14/-4.58	-1.62/0.45	0.29/0.88
Θ(82.5°)	1.53/2.71	1.15/1.65	0.35/1.35	0.77/0.64	3.65/4.25	2.41/1.74	2.02/1.06	-0.01/0.1	1.45/1.32	2.29/0.72	0.68/1.95	1.82/3.48	2.71/1.64	3.03/1.99	3.97/1.95	-3.09/0.15	1.42/0.74	0.42/3.82	2.29/3.28	1.58/0.49	1.11/-0.7	-4.57/-2.56	-1.63/-0.25	-0.42/1.01
Θ(90°)	0.39/0.61	0.16/0.4	-2.32/-1.42	-0.07/0.33	2.31/2.43	0.82/-0.28	0.69/0.3	0.65/-1.05	0.83/-0.26	0.89/-0.32	0.32/0.89	1.58/2.72	3/0.64	1.73/0.29	2/1.14	-2.99/-3.12	-0.19/-0.03	-1.18/1.8	2.26/1.97	0.26/-0.84	0.11/-1.02	-5.47/-2.4	-2.05/-0.85	-2.35/-0.1
Θ(97.5°)	-1.13/-0.79	-0.24/-0.75	-3.95/-2.99	-1.09/-0.47	0.17/0.83	-0.76/-2.02	-0.5/-0.12	0.1/-1.75	-0.76/-1.36	-0.18/-1.37	-1.58/-0.43	0.4/1.78	1.22/-0.76	0.54/-1.78	-0.61/0.48	-3.03/-6.56	-2.34/-0.29	-3.5/-0.35	-1.59/-2.41	-1.82/-3.26	-2.16/-3.33	-6.91/-5.33	-4.62/-2.37	-3.83/-1.78
Θ(105°)	-3.24/-3.24	-1.96/-2.71	-4.47/-3.1	-3.12/-2																				



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Gain Result

Freq(Hz)	2.45G/Pol.	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°)	-2.9/-3.27	-4.15/-5.03	-7.49/-10.29	-14.88/-17.32	-18.97/-11.86	-8.2/-5.83	-4.28/-3.22	-2.37/-1.57	-0.76/-0.16	0.19/0.32	0.34/0.33	0.21/-0.11	-0.88/-1.76	-3.51/-5.29	-7.32/-9.74	-12.49/-13.36	-11.26/-8.72	-6.65/-5.04	-3.92/-3.36	-2.42/-1.89	-1.44/-1.08	-0.86/-0.9	-1.26/-1.78	-2.33/-2.7		
Θ(7.5°)	4.58/-5.58	-6.96/-9.05	-12.16/-17.11	-17.14/-16.74	-11.47/-8.2	-6.08/-4.56	-3.54/-2.81	-2.29/-1.71	-1.05/-0.51	-0.13/0.08	0.17/0.19	0.09/-0.15	-0.82/-1.47	-2.68/-4.16	-5.76/-7.56	-9.47/-11.11	-11.1/-9.37	7.04/-5.21	-3.72/-2.52	-1.57/-0.91	-0.46/-0.22	-0.17/-0.4	-0.81/-1.42	-2.33/-3.54		
Θ(15°)	4.75/-7.05	-9.5/-11.2	-12.24/-12.88	-12.81/-11.39	-9.4/-7.63	-6.39/-5.27	-4.36/-3.62	-3/-2.44	-1.85/-1.33	-0.97/-0.7	-0.55/-0.47	-0.37/-0.43	-0.7/-1.36	-2.58/-4.15	-5.66/-7.1	-8.65/-10.43	-12.04/-11.62	-9.57/-7.17	-5.12/-3.35	-1.93/-0.86	-0.14/-0.31	0.40/-1.5	-0.28/-0.72	-1.47/-2.89		
Θ(22.5°)	-3.19/-5.13	-7.21/-8.79	-9.83/-10.51	-10.87/-10.62	-9.66/-8.71	-7.84/-6.82	-5.67/-4.59	-3.7/-2.97	-2.4/-2.11	-1.96/-1.8	-1.57/-1.29	-1.09/-1.04	-1.33/-2.19	-3.54/-5.32	-7.42/-9.4	-11.21/-13.14	-15.06/-15	-12.91/-9.96	-7.41/-5.14	-3.25/-1.68	-0.45/0.28	0.42/0.09	-0.39/-0.7	-1.05/-1.87		
Θ(30°)	-2.78/-4.38	-6.95/-9.79	-12.29/-13.32	-13.57/-13.42	-12.5/-11.4	-10.77/-9.63	-8/-6.39	-5.08/-4.15	-3.7/-3.71	-4.05/-4.12	-3.56/-2.5	-1.68/-1.41	-1.79/-2.74	-4.23/-6.2	-9.03/-13.03	-17.1/-18.7	-18.77/-18.5	-18.51/-17.05	-13.95/-10.37	-6.96/-4.08	-2.01/-0.81	-0.53/-0.96	-1.63/-1.96	-1.88/-2.07		
Θ(37.5°)	4.93/-7.04	-11.1/-16.82	-18.1/-18.87	-18.17/-17.49	-13.94/-12.02	-11.63/-11.23	-10.05/-8.6	-7.25/-6.34	-6.11/-6.59	-7.54/-7.37	-5.24/-3.02	-1.87/-1.86	-2.77/-4.41	-6.53/-9.02	-12.1/-14.16	-13.93/-13.63	-14.95/-19.04	-18.5/-17.45	-18.03/-19.1	-11.64/-7.05	-4.29/-2.94	-2.88/-3.66	-4.65/-4.86	-4.32/-4.2		
Θ(45°)	-8.48/-12.46	-16.94/-14.08	-11.87/-12.71	-14.88/-15.42	-13.75/-12.15	-11.34/-10.28	-9.64/-9.84	-10.23/-10.01	-10.05/-10.93	-13.23/-14.41	-9.12/-5.17	-3.48/-3.38	-4.48/-6.49	-9.4/-12.66	-15.05/-12.89	-9.88/-8.82	-10.4/-15.77	-18.53/-17.93	-18.06/-17.33	-15.33/-12.64	-8.86/-6.87	-7.09/-5.58	-8.54/-6.76	-5.81/-6.32		
Θ(52.5°)	-8.91/-12.94	-12.86/-9.68	-8.66/-10.35	-14.2/-18.36	-18.99/-16.17	-12.64/-9.47	-8.11/-8.99	-11.34/-12.44	-11.5/-10.73	-12.36/-17.43	-10.9/-6.61	-5.74/-6.71	-8.03/-9.76	-12.83/-17.84	-18.77/-13.2	-9.25/-7.92	-9.48/-12.83	-12.66/-13.14	-17.91/-13.34	-11.46/-13.78	-11.28/-8.73	-10.06/-12.96	-9.59/-6.53	-5.63/-6.2		
Θ(60°)	-10.46/-13.93	-13/-9.97	-9.21/-11.8	-15.79/-17.16	-18.67/-18.11	-18.69/-13.14	-10.38/-11.4	-16.8/-18.23	-16.53/-11.24	-10.11/-13.56	-11.49/-6.59	-5.89/-8.21	-10.48/-10.38	-12.25/-18.24	-18.03/-15.16	-10.02/-7.21	-7.02/-8.29	-7.86/-8.76	-16.71/-12.79	-8.94/-11.87	-12.96/-10.2	-13.76/-15.91	-9.74/-8.72	-9.42/-9.11		
Θ(67.5°)	-14.34/-17.21	-14.61/-10.25	-9.41/-11.12	-13.82/-19.15	-18.79/-18.65	-19.64/-15.19	-13.04/-16.04	-18.18/-18.41	-19.18/-12.54	-10.69/-17.18	-11.05/-6.46	-6.81/-9.84	-9.85/-8.53	-10.13/-16.76	-18.62/-14.13	-9.44/-5.89	-5.08/-6.37	-6.55/-7.7	-17.23/-12.18	-8.02/-12.21	-14.43/-10.58	-13.97/-10.61	-6.28/-6.84	-12.68/-16.21		
Θ(75°)	-14.43/-17.34	-16.15/-10.02	-8.64/-10.16	-12.01/-14.03	-19.06/-18.54	-17.57/-14.64	-11.1/-13.6	-18.69/-14.04	-17.72/-11.59	-8.14/-12.14	-17.25/-8.87	-8.35/-12.07	-10.75/-7.52	-8.32/-14.16	-16.19/-12.47	-10.16/-5.4	-3.78/-5.41	-6.51/-7.22	-17.69/-10.5	-6.26/-11.06	-16.2/-10.25	-13.94/-10.92	-6.34/-7	-13.33/-17.89		
Θ(82.5°)	-12/-16.46	-13.98/-7.91	-6.37/-7.87	-11.12/-17.01	-18.46/-17.53	-17.81/-16.39	-10.35/-11.84	-13.97/-9.79	-15.16/-13.12	-8.38/-10.47	-14.68/-8.22	-9.16/-14.85	-10.55/-8.56	-11.19/-13.83	-13.63/-11.53	-8.77/-4.61	-3.92/-7.11	-8.48/-8.9	-18.37/-17.49	-5.14/-12.06	-14.93/-9.55	-13.89/-8.23	-5.38/-7.87	-17.82/-14.03		
Θ(90°)	-8.43/-12.49	-11.92/-6.88	-5.19/-5.97	-8.23/-12.95	-19.1/-18.75	-18.78/-18.52	-10.72/-10.54	-8.74/-11.87	-12.42/-8.13	-10.74/-14.07	-8.4/-11.42	-10.23/-18.55	-14.37/-11.11	-12.08/-17.79	-13.45/-9.31	-7.97/-6.13	-6.13/-10.35	-8.3/-6.03	-11.03/-8.92	-6.43/-14.77	-12.55/-9.16	-13.45/-5.7	-3.3/-5.62	-10.2/-8.47		
Θ(97.5°)	-7.01/-11.03	-12.55/-7.56	-5.75/-6.45	-8.31/-11.96	-18.6/-17.92	-16.13/-16.33	-10.53/-10.42	-11.17/-7.03	-9.08/-13.24	-8.64/-12.61	-18.94/-10.43	-12.16/-19.01	-14.2/-10.32	-11.22/-16.94	-10.63/-8.37	-9.47/-8.71	-8.26/-11.81	-6.35/-4.33	-8.87/-9.77	-7.49/-15.62	-15.03/-11.64	-9.78/-3.67	-1.99/-4.19	-7.69/-6.6		
Θ(105°)	-6.55/-10.05	-15.08/-9.25	-7.46/-9.44	-11.7/-12.19	-16.48/-18.22	-17.86/-12.08	-8.21/-8.96	-12.25/-7.8	-8.33/-10.89	-7.29/-8.14	-14.86/-15.64	-16.55/-18.38	-13.87/-9.67	-10.13/-15.29	-12.99/-11.14	-15.99/-10.78	-9.95/-11.3	-5.05/-4.32	-8.45/-12.62	-7.49/-12.85	-19.14/-12.71	-10.88/-5.14	-3.59/-5.66	-9.54/-9.11		
Θ(112.5°)	-8.39/-12.65	-18.6/-9.48	-7.14/-10.53	-18.04/-11.51	-9.82/-12.05	-18.95/-15.44	-8.72/-8.31	-8.74/-6.56	-8.51/-14.3	-10.39/-11.71	-17.48/-17.34	-15.22/-19.02	-18.79/-11.88	-12.65/-17.98	-16.88/-16.09	-15.32/-10.66	-8.64/-8.79	-6.74/-7.29	-15.36/-16.64	-3.87/-7.67	-19.14/-18.91	-10.82/-5.74	-5.38/-9.2	-14.02/-9.7		
Θ(120°)	-17.33/-18.17	-12.23/-5.54	-3.36/-4.28	-7.07/-8.36	-7.89/-8.6	-10.78/-12.58	-12.9/-18.11	-12.32/-7.11	-7.39/-10.19	-9.69/-8.88	-10.68/-14.25	-12.16/-12.32	-13.32/-10.57	-10.17/-12.91	-16.15/-15.87	-12.11/-8.96	-8.95/-15.52	-13.19/-17.79	-6.55/-4.17	-3.86/-8.6	-19.14/-18.32	-18.11/-10.97	-11.92/-19.25	-15.67/-14.12		
Θ(127.5°)	-10.07/-17.27	-16.87/-8.77	-5.71/-6.03	-8.36/-10.02	-10.82/-12.23	-11.09/-8.25	-7.47/-10.89	-18.46/-16.29	-16.56/-16.94	-10.96/-9.37	-13.2/-18.35	-13.59/-14.05	-17.21/-14.89	-14.74/-16.89	-17.67/-19.04	-13.95/-12.82	-18.48/-17.57	-7.9/-5.62	-6.59/-8.46	-12.04/-15.27	-8.34/-6.7	-8.54/-10.22	-11.48/-9.07	-6.18/-6.67		
Θ(135°)	-10.48/-17.76	-17.15/-15.12	-10.81/-9.09	-8.51/-8.32	-9.3/-12.67	-15.76/-11.53	-9.19/-10.32	-13.39/-11.4	-10.19/-13.53	-17.73/-17.53	-17.41/-13.07	-8.8/-8.86	-12.1/-17.28	-18.36/-16.17	-16.63/-17.35	-14.92/-13.73	-15.14/-17.38	-15.03/-13.12	-13.53/-13.39	-10.18/-6.09	-3.28/-2.44	-3.12/-1.48	-5.67/-7.15	-6.93/-7.58		
Θ(142.5°)	-13.73/-19.03	-17.97/-18.86	-14.8/-12.47	-10.71/-9.78	-10.21/-11.84	-14.12/-16.41	-14.83/-10.84	-9.97/-12.05	-16.43/-18.14	-16.83/-11.06	-8.59/-8.67	-10.27/-12.14	-12.56/-12.34	-12.28/-11.96	-11.32/-10.82	-11.58/-13.51	-13.03/-9.99	-8.6/-9	-9.33/-8.84	-4.42/-3.66	-4.47/-5.88	-8.01/-11.88	-10.61/-12.95	-13.27/-11.12		
Θ(150°)	-12.59/-12	-13.05/-15.39	-19.35/-17.76	-19.13/-18.38	-19.1/-17.55	-14.82/-14.35	-16.75/-16.94	-17.73/-17.41	-19.09/-17.4	-16.91/-18.27	-17.07/-16.17	-17.41/-15.1	-14.71/-15.23	-16.01/-16.47	-15.61/-14.15	-12.49/-10.89	-9.46/-8.37	-7.47/-7.22	-8.13/-11.09	-16.32/-12.92	-9.18/-8.29	-9.81/-13.05	-17.32/-18.1	-18.05/-14.51		
Θ(157.5°)	-9.72/-9.25	-9.07/-14.4	-9.43/-10.37	-12.22/-15.34	-18.45/-18.48	-16.98/-15.89	-15.72/-15.69	-13.94/-11.77	-10.71/-10.89	-12.04/-14.21	-17.25/-17.91	-18.75/-18.38	-18.9/-18.02	-17.17/-16.23	-13.05/-10.78	-9.33/-8.78	-9.21/-10.69	-13.61/-17.96	-18.18/-15.02	-12.82/-13.18	-16.21/-18.66	-18.89/-16.71	-13.05/-11.03			
Θ(165°)	-9.5/-8.85	-8.65/-8.47	-8.25/-8.41	-9.05/-10.18	-11.11/-11.61	-11.84/-11.69	-11.15/-10.35	-9.46/-8.66	-7.79/-7.03	-6.67/-6.75	-7.27/-8.07	-9.06/-10.27	-11.71/-13.86	-17.14/-18.65	-16.36/-15.19	-12.77/-11.82	-12.15/-13.59	-16.34/-17.19	-17.54/-18.24	-16.64/-15.55	-15.76/-16.89	-18.72/-17.95	-18.05/-16.16	-13.27/-11.12		
Θ(172.5°)	-13.61/-12.07	-11.03/-10.32	-9.7/-9.18	-8.71/-8.44	-8.22/-8	-7.85/-7.75	-7.55/-7.29	-6.99/-6.62	-6.19/-6.01	-5.97/-6.18	-6.51/-6.98	-7.63/-8.68	-10.4/-13.4	-17.92/-18.7	-17.9/-15.8	-15.35/-16.51	-18.68/-18.06	-15.71/-14.28	-13.91/-13.75	-14.27/-15.74	-17.59/-18.94	-17.8/-17.26	-19.18/-19.23	-19.1/-16.29		
Θ(180°)	-18.28/-18.42	-16.85/-14.32	-12.75/-11.51	-10.19/-8.87	-7.86/-7.2	-6.83/-6.59	-6.49/-6.44	-6.37/-6.24	-6.18/-6.39	-6.86/-7.37	-7.92/-8.59	-9.65/-11.47	-14.35/-18.45	-17.05/-18.67	-19.27/-18.45	-16.44/-14.65	-12.76/-11.22	-10.25/-10.27	-10.86/-11.7	-131/-15.04	-17.08/-18.27	-18.73/-17.46	-17.32/-17.59	-19.26/-18.16		
Freq(Hz)	2.45G/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°)	-6.94/-6.22	-5.48/-4.59	-3.84/-3.26	-2.81/-2.47	-2.25/-2.19	-2.39/-2.87	-3.52/-4.37	-5.4/-6.67	-1.05/-10.08	-11.89/-14.18	-17.05/-17.42	-14.31/-11.46	-9.39/-7.78	-6.41/-5.16	-4.01/-3	-2.34/-2.26	-2.29/-2.38	-2.68/-3.07	-3.51/-4.06	-4.86/-5.92	-7.09/-8.62	-10.69/-13.96	-17.02/-17.99	-17.07/-11.81		
Θ(7.5°)	-5.13/-4.99	-4.94/-4.65	-4.28/-4.14	-4.19/-4.21	-4.19/-4.36	-4.82/-5.63	-6.46/-7.35	-6.81/-10.08	-7.89/-14.18	-17.05/-17.42	-14.31/-11.46	-9.39/-7.78	-6.41/-5.16	-4.01/-3	-2.34/-2.26	-2.29/-2.38	-2.68/-3.07	-3.51/-4.06	-4.86/-5.92	-7.09/-8.62	-10.69/-13.96	-17.02/-17.99	-17.07/-11.81	-9.17/-7.7		
Θ(15°)	-4.28/-4.14	-4.28/-4.35	-4.24/-4.13	-4.25/-4.61	-5.1/-5.69	-6.46/-7.3	-7.82/-7.99	-8.12/-8.38	-8.68/-8.92	-8.9/-8.26	-7.07/-5.68	-4.48/-3.5	-2.68/-2.01	-1.39/-0.88	-0.48/-0.19	0.11/0.35	0.43/0.37	0.11/-0.25	-0.55/-0.9	-1.39/-2.06	-2.93/-3.99	-5.02/-5.82	-6.18/-6.02	-5.51/-4.82		
Θ(22.5°)	-4.45/-3.93	-3.57/-3.18	-2.68/-2.27	-2.2/-2.52	-2.89/-3.49	-4.23/-5.1	-5.64/-6.5	-5.28/-5.02	-4.92/-4.97	-5.18/-5.18	-4.7/-3.83	-2.89/-1.96	-1.17/-0.48	0.09/0.43	0.55/0.55	0.58/0.6	0.57/0.51	0.3/-0.05	-0.42/-0.75	-1.09/-1.52	-2.1/-2.86	-3.69/-4.43	-4.9/-5.06	-5.02/-4.85		
Θ(30°)	-4.25/-3.89	-3.37/-2.73	-1.86/-1.17	-0.89/-1.02	-1.39/-1.76	-2.23/-2.92	-3.62/-3.84	-3.47/-2.84	-2.36/-2.3	-2.8/-3.64	-3.4/-3.429	-3.62/-2.67	-1.89/-1.42	-1.09/-0.95	-0.95/-1.03	-1.05/-0.96	-0.7									



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Θ(22.5°)	-8.54/9.13	-11.22/12.62	-14.61/18.67	-19.05/17.93	-15.4/13.11	-15.4/-17.91	-8.55/4.06	-2.98/4.64	9.35/-10.86	-6.75/4.64	-3.78/4.33	-5.82/-8.14	-12.8/-14.61	-11.98/-10.85	-10.83/-11.91	-13.42/-17.6	-16.59/-10.69	-7.56/-7.59	-7.98/-17.16	-5.64/-4.32	-3.21/2.79	-3.54/-5.52	-9.05/-11.22	-10.1/9.65
Θ(30°)	-19.06/-13.91	-14.28/-18.54	-14.17/-10.08	-9.99/-11.46	-16.17/-15.88	-9.51/-9.23	-10.85/-5.07	-2.66/-2.62	-4.64/-5.1	-3.47/-2.78	-3.24/-5.42	-5.6/-4.58	-5.06/-6.51	-7.52/-1.87	-7.89/-8.96	-6.44/-4.61	-5.76/-14.05	-9.54/-4.99	-3.32/-3.14	-2.85/-5.26	-2.92/-4.07	-4.91/-6.22	-8.78/-6.19	-6.7/-13.95
Θ(142.5°)	-13.12/-9.77	-8.61/-14.7	-12.16/-10.57	-12.12/-12.12	-11.17/-15.15	-10.84/-8.41	-7.08/-6.8	-6.48/-6.69	-3.67/-1.89	-1.41/-1.06	-3.03/-8.24	-5.52/-2.89	-2.82/-4.01	-6.08/-5.43	-6.53/-9.52	-6.32/-4.37	-4.03/-5.23	-9.39/-8.34	-3.86/-2.89	-3.05/-3.36	-5.8/-27	-4.46/-4.82	-7.27/-2.43	-2.83/-9.79
Θ(45°)	-6.98/-11.49	-11.32/-17.43	-15.84/-13.62	-18.54/-17.45	-17.25/-13.59	-16.83/-18.15	-11/-7.51	-7.96/-8.82	-3.73/-1.87	-3.65/-3.12	-3.88/-7.38	-5.41/-3.61	-3.94/-5.43	-6.02/-4.94	-6.51/-9.24	-6.03/-6.1	-6.89/-6.16	-5.72/-9.42	-6.36/-4.48	-5.43/-6.07	-5.93/-7.34	-2.29/-2.32	-4.56/-0.55	-2.12/-4.56
Θ(52.5°)	-3.79/-11.02	-18.57/-17.36	-16.16/-9.49	-15.63/-14.55	-12.27/-13.07	-13.22/-12.96	-9.49/-8.83	-9.7/-6.07	-3.8/-2.82	-6.97/-5.35	-6.73/-6.09	-5.93/-5.62	-5.16/-5.81	-4.72/-3.32	-5.87/-8.12	-5.93/-6.08	-7.52/-13.38	-3.86/-5.82	-4.34/-2.76	-4.46/-4.49	-8.12/-11.94	-3.28/-3.86	-2.05/-0.59	-4.24/-2.94
Θ(60°)	-3.33/-10.14	-15.15/-15.54	-15.31/-12.13	-16.05/-14.24	-8.53/-11.33	-10.21/-12.57	-6.84/-9.16	-12.93/-8.5	-7.3/-6.1	-8.27/-6.45	-7.11/-5.62	-6.45/-6.67	-4.29/-5.48	-7.37/-5.69	-7.39/-12.48	-9.38/-8.12	-7.49/-12.48	-9.2/-5.75	-6/-4.16	-6.98/-10.66	-11.10/-7.6	-4.2/-6.09	-2.52/-3.68	-6.3/-1.8
Θ(67.5°)	-5.38/-10.8	-10.48/-17.31	-19.34/-12.92	-18.07/-12.14	-10.52/-10.69	-8.12/-16.16	-8.6/-19.32	-19.19/-11.57	-11.5/-11.6	-9.9/-6.8	-8.13/-6.99	-8.99/-7.48	-6.68/-10.78	-16.26/-11.27	-13.24/-16.16	-12.11/-13.17	-7.93/-11.26	-12.58/-6.3	-5.3/-3.01	-5.97/-13.13	-17.76/-11.26	-6.26/-8.45	-3.39/-8.87	-8.71/-3.94
Θ(75°)	-6.03/-13.86	-10.51/-13.14	-16.23/-11.11	-18.82/-15.07	-18.14/-12.47	-7.41/-18.66	-9.86/-17.43	-18.27/-13.18	-12.3/-17.81	-16.49/-7.91	-8.75/-8.27	-12.41/-10.98	-8.4/-9.32	-14.51/-11.68	-18.13/-18.71	-13.67/-17.95	-10.38/-9.3	-12.15/-8.34	-9.96/-5.41	-8.27/-18.45	-18.57/-9.82	-8.56/-10.52	-5.41/-10.69	-9.86/-6.47
Θ(82.5°)	-10.71/-17.4	-10.02/-18.62	-18.22/-13.47	-17.98/-18.52	-14.74/-15.79	-9.73/-18.79	-11.94/-16.08	-17.79/-12.85	-11.42/-18.2	-16.89/-10.43	-10.46/-9.33	-14.12/-10.17	-9.74/-13.25	-17.46/-11.75	-18.11/-18.68	-14.54/-17.99	-10.37/-8.9	-14.99/-9.83	-12.35/-5.73	-9.87/-17.8	-12.43/-9.78	-11.95/-13.04	-9.4/-18.74	-17.93/-11.6
Θ(90°)	-9.2/-17.88	-12.45/-18.63	-17.41/-9.27	-17.43/-18.55	-13.96/-11.5	-9.85/-18.8	-13.44/-16.87	-17.54/-9.77	-10.38/-13.43	-17.44/-13.87	-11.8/-9.51	-13.05/-12.41	-11.94/-12.42	-14.89/-12.26	-18.97/-17.44	-13.86/-16.13	-9.58/-7.61	-14.43/-15.08	-18.38/-9.88	-8.75/-17.86	-13.93/-10.6	-12.92/-8.19	-9.8/-17.24	-18.51/-15.19
Θ(97.5°)	-10.55/-12.9	-12.97/-18.41	-14.27/-11.13	-15.29/-19.11	-10.26/-10.64	-14.26/-15.77	-12.73/-16.31	-13.68/-9.5	-10.92/-14.64	-13.5/-16.61	-12.49/-10.2	-13.01/-11.35	-10.22/-11.98	-16.01/-14.78	-18.33/-17.99	-18.89/-12.66	-8.63/-8.37	-11.92/-13.42	-18.6/-15.53	-11.55/-18.1	-14.1/-18.27	-16.78/-9.47	-12.77/-18.93	-18.42/-18.29
Θ(105°)	-17.88/-12.8	-13.32/-13.41	-18.04/-9.34	-16.46/-11.63	-10.05/-10.05	-14.1/-14.01	-13.01/-16.56	-15.57/-14.06	-17.1/-11.23	-18.62/-11.61	-16.91/-10.3	-15.16/-15.71	-18.61/-15.31	-19.26/-14.65	-13.36/-18.54	-14.71/-10.82	-14.55/-18.39	-19.05/-18.13	-18.92/-18.87	-12.71/-12.53	-12.6/-12.45	-12.86/-8.06	-7.3/-11.96	-14.49/-11.03
Θ(112.5°)	-13.72/-10.85	-18.32/-9.76	-17.86/-18.8	-11.01/-15.12	-10.02/-14.85	-13.85/-13.27	-12.18/-13.13	-11.69/-8.82	-10.99/-12.21	-19.39/-13.72	-10.32/-12.28	-13.7/-14.13	-13.35/-14.22	-17.57/-17.85	-18.88/-14.66	-18.5/-10.42	-7.15/-12.33	-11.94/-18.33	-11.85/-11.61	-11.69/-17.34	-13.92/-11.01	-19.14/-13.93	-17/-16.72	-12.58/-12.13
Θ(120°)	-18.12/-12.32	-17.66/-11.21	-17.94/-18.94	-12.49/-10.18	-7.12/-16.67	-16.99/-11.24	-13.29/-13.06	-10.1/-8.15	-12.79/-11.41	-18.01/-11.22	-13.33/-10.78	-14.12/-12.99	-16.1/-14.99	-14.45/-18.74	-14.81/-10.89	-6.97/-10.26	-13.69/-15.77	-18.8/-15.52	-10.13/-13.54	-17.61/-9.57	-7.68/-7.01	-13.72/-13.1	-14.12/-11.11	-14.14/-11.11
Θ(127.5°)	-15.18/-13.14	-18.35/-18.06	-16.46/-11.63	-10.05/-10.05	-14.1/-14.01	-13.01/-16.56	-15.57/-14.06	-17.1/-11.23	-18.62/-11.61	-16.91/-10.3	-15.16/-15.71	-18.61/-15.31	-19.26/-14.65	-13.36/-18.54	-14.71/-10.82	-14.55/-18.39	-19.05/-18.13	-18.92/-18.87	-12.71/-12.53	-12.6/-12.45	-12.86/-8.06	-7.3/-11.96	-14.49/-11.03	
Θ(135°)	-8.32/-11.79	-14.95/-15.66	-10.63/-8.39	-9.26/-17.99	-18.63/-11.48	-17.38/-9.86	-9.86/-18.38	-11.13/-8.86	-10.9/-11.74	-17.04/-8.01	-6.54/-12.71	-14.71/-15.6	-18.15/-17.51	-19.09/-13.86	-12.32/-18.29	-9.11/-11.8	-18.75/-17.81	-14.8/-14.16	-15.24/-13.81	-10.18/-13.48	-12.82/-14.59	-16.39/-11.15	-14.51/-11.1	-18.64/-10.16
Θ(142.5°)	-6.5/-14.57	-11.55/-9.81	-12.49/-14.41	-11.7/-17.58	-18.87/-15.9	-17.98/-17.39	-17.96/-12	-10.71/-10.91	-12.39/-9.43	-10.19/-5.84	-10.31/-10.78	-13.34/-12.84	-15.82/-11.92	-13.38/-10.62	-18.52/-18.15	-13.36/-10.9	-16.31/-18.57	-14.82/-19.18	-15.19/-18.32	-12.92/-11.02	-11.36/-11.97	-15.92/-17.37	-18.5/-10.97	-19.3/-12.7
Θ(150°)	-9.97/-11.76	-13.56/-13.79	-15.42/-13.94	-16.24/-16.04	-15.63/-16.59	-17.69/-18.91	-17/-8.18	-13.95/-8.26	-8.64/-10.03	-10.16/-10.27	-8.31/-10.69	-18.1/-17.11	-18.05/-19.15	-15.56/-12.38	-13.37/-18.49	-18.23/-17.89	-17.57/-13.92	-14.2/-14.83	-13.22/-15.22	-17.04/-15.39	-15.22/-17.91	-16.39/-18.98	-16.1/-12.22	-17.08/-14.14
Θ(157.5°)	-16.41/-12.9	-14.03/-17.82	-19.28/-17.96	-18.2/-18.33	-16.1/-17.13	-17.68/-14.75	-13.06/-18.52	-16.46/-9.52	-8.13/-8.05	-7.32/-8.85	-10.8/-13.14	-17.4/-18.54	-18.77/-16.06	-11.69/-9.87	-10.22/-12.06	-14.59/-14.85	-14.87/-17.59	-18.71/-18.18	-16.09/-11.85	-11/-13.09	-17.7/-18.9	-17.87/-17.92	-17.5/-12.48	-14.66/-18.09
Θ(165°)	-18.06/-17.62	-17.96/-17.49	-19.32/-18.77	-18.79/-16.87	-15.47/-14.14	-12.64/-11.75	-11.63/-13.61	-16.96/-14.44	-13.56/-15.67	-19.16/-18.7	-18.74/-18.77	-17.04/-17.35	-16.69/-17.43	-16.89/-18.91	-17.78/-18.09	-18.08/-16.56	-13.77/-14.86	-17.55/-17.58	-12.82/-11.55	-12.08/-13.39	-16.15/-16.56	-17.61/-17.89	-18.85/-15.86	-14.89/-17.28
Θ(172.5°)	-13.75/-13.81	-11.72/-12.21	-13.2/-14.27	-13.75/-16.86	-12.87/-12.66	-13.65/-14.29	-13.12/-12.56	-13.15/-13.18	-11.62/-13.05	-14.28/-14.41	-13.57/-11.6	-10.8/-13.7	-11.77/-10.6	-10.61/-10.85	-10.77/-11.98	-13.73/-10.37	-13.42/-16.13	-18.21/-17.88	-16.94/-15.5	-14.86/-14.92	-15.62/-15.98	-16.79/-13.88	-11.63/-11.1	-11.37/-12.08
Θ(180°)	-11.99/-12.93	-12.24/-11.82	-10.11/-9.08	-9.09/-8.79	-8.19/-7.87	-8.23/-9.5	-10.66/-9.93	-10.31/-10.66	-11.12/-10.94	-10.69/-10.26	-9.31/-9.57	-11.41/-14.59	-16.8/-16.01	-10.59/-15.55	-17.39/-16.66	-16.6/-14.41	-17.38/-19.3	-16.6/-14.41	-13.73/-13.85	-14.78/-16.76	-17.28/-17.81	-16.6/-13.6	-11.96/-11.23	-11.56/-12.17
Freq(Hz)	5.6GPol	ThetaAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-12.13/-10.75	-8.44/-7.46	-7.36/-6.82	-6.04/-5.64	-5.89/-6.21	-7.07/-7.9	-8.62/-9.67	-11.28/-13.93	-17.43/-18.02	-18.03/-18.65	-16.1/-14.02	-14.33/-11.74	-10.75/-9.5	-7.8/-8.15	-8.87/-8.24	-7.66/-7.05	-6.8/-7.33	-7.59/-8.1	-8.84/-10.08	-10.65/-11.61	-12.99/-14.32	-15.41/-16.53	-18.3/-16.57	-13.29/-12.24
Θ(7.5°)	-8.27/-9.49	-9.86/-8.78	-8.6/-8.96	-9.04/-8.74	-9.33/-9.23	-8.16/-9.52	-9.7/-10.01	-11.18/-14.1	-16.47/-17.89	-18.75/-17.11	-11.58/-8.31	-7.17/-5.9	-4.85/-4.6	-4.23/-3.94	-4.9/-5.94	-6.19/-6.88	-7.69/-8.57	-8.84/-9.55	-10.14/-11.14	-12.25/-12.51	-11.93/-10.91	-10.45/-10.28	-10.26/-9.22	-8.04/-7.62
Θ(15°)	-18.43/-17.98	-18.03/-17.72	-18.15/-16.1	-14.21/-12.89	-13.02/-12.23	-11.58/-11.94	-15.19/-17.99	-17.96/-13.32	-13.68/-14.03	-11.74/-9.24	-7.42/-6.21	-6.22/-3.2	-7.54/-6.7	-4.64/-5.3	-5.24/-3.76	-3/-2.7	-2.8/-3.75	-6.71/-7.86	-8.42/-9.68	-12.05/-15.4	-17.53/-18.39	-16.51/-18.06		
Θ(22.5°)	-10.47/-12.28	-11.1/-11.49	-14.91/-17.97	-17.18/-19.25	-18.7/-18.45	-10.61/-7.79	-7.37/-8.84	-11.97/-13.07	-12.73/-13.53	-11.95/-9.2	-7.09/-4.89	-3.22/-2.33	-2/-2	-1.85/-1.15	-0.73/-1.57	-2.56/-2.3	-1.45/-0.96	-0.7/-0.76	-0.85/-0.78	-1.01/-1.73	-3.38/-5.53	-7.18/-8.06	-8.4/-7.66	-7.05/-8.13
Θ(30°)	-17.14/-18.85	-17.97/-11.85	-10.6/-15.92	-16.73/-15.15	-14.94/-16.51	-13.45/-10.31	-10.03/-11.23	-15.06/-18.54	-19.1/-15.8	-8.68/-6.56	-6.37/-5.92	-4.89/-3.22	-2.11/-2.16	-1.94/-0.83	0.962/34	2.261/05	0.420/78	1.108/6	0.511/15	1.781/55	-0.66/-2.91	-3.51/-4.67	-7.15/-9.11	-8.41/-9.78
Θ(37.5°)	-6.4/-6.23	-8.25/-11.14	-16.06/-18.15	-18.08/-15.75	-13.46/-13.7	-11.76/-7.38	-4.77/-4.73	-7.38/-17.07	-15.61/-10.13	-10.98/-15.56	-7.17/-4.54	-4.58/-3.65	-3.08/-3.53	-2.93/-0.94	0.69/158	2.171/56	0.891/2	1.992/62	2.381/72	1.581/04	-1.68/-2.02	-0.3/-2.27	-9.64/-14.65	-9.72/-7.72
Θ(45°)	-0.14/-1.42	-3.86/-17.11	-11.78/-17.87	-17.25/-9.84	-6.93/-4.51	-3.02/-2.37	-0.88/-0.23	-1.99/-6.43	-6.28/-5.97	-14.61/-8.4	-2.58/-0.95	-0.62/-0.33	-0.25/-0.3	0.391/98	3.63/8.89	3.062/59	1.870/78	1.425/7	0.5/-0.57	-0.29/-3.18	-0.31/-1.85	-0.7/-0.78	-0.55/-0.82	
Θ(52.5°)	0.28/0.61	-1.17/-2.77	-7.53/-17.02	-13.41/-12.86	-8.46/-2.51	0.750/16	-2.44/-1.5	-0.87/-3.52	-4.59/-4.57	-6.38/-2.18	-0.720/16	0.6/0.8	0.95/-0.25	-1.330/-48	2.63/38	2.762/93	2.770/91	1.412/47	2.952/08	-0.39/-1.13	-3.34/-7.7	-4.89/-6.08	-6.62/-3.7	-2.24/-0.65
Θ(60°)	-2.76/-1.06	1.08/0.11	-5.5/-11.27	-12.05/-11.1	-6.25/-2.92	0.20/78	-2.49/-6.58	-3.75/-3.45	-2.76/-3.17	-1.920/54	-0.54/0.06	1.511/83	1.930/93	-0.9/-1.46	0.312/12	2.491/68	2.310/43	1.232/26	3.272/55	-1.23/-0.22	-0.53/-7.18	-11.19/-11.24	-6.02/-3.09	-3.09/-2.84
Θ(67.5°)	-4.15/-0.88	-0.68/-0.85	-5.71/-6.18	-4.53/-3.04	0.350/64	-0.64/-0.29	-0.88/-5.92	-3.64/-3																



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Θ(75°)	-11.65/-8.19	-18.29/-18.17	-14.63/-12.99	-17.14/-10.66	-16.58/-12	-13.02/-9.98	-16.17/-10.62	-12.72/-8.92	-14.59/-7.71	-5.37/-8.72	-18.03/-17.76	-15.63/-9.75	-7/-9.89	-8.08/-13.69	-10.27/-17.77	-18.94/-13.25	-16.83/-16.65	-5.54/-5.96	-3.5/-3.11	-4.08/-6.91	-12.65/-6.51	-7.23/-8.29	-12.4/-10.89	-10/-10.5
Θ(82.5°)	-15.09/-10.42	-17.65/-17.23	-19.71/-15.15	-18.19/-12.44	-19.24/-9.8	-17.37/-7.99	-17.51/-14.55	-12.74/-11.08	-17.35/-12.72	-10.44/-12.74	-14.32/-18.64	-17.56/-14.82	-9.51/-10.53	-8.12/-10.75	-11.81/-18.22	-17.68/-14.28	-17.64/-17.71	-5.82/-5.63	-6.24/-5.33	-6.08/-11.69	-10.22/-5.6	-11.31/-10.22	-11.95/-16.12	-11.85/-13.2
Θ(90°)	-12.97/-10.85	-17.45/-17.03	-18.34/-11.47	-18.99/-13.85	-17.57/-12.41	-15.96/-11.91	-17.43/-14.57	-12.13/-13.16	-15.21/-18.1	-16.76/-17.11	-10.11/-10.99	-10.52/-18.14	-8.48/-14.08	-12.74/-18.15	-15.05/-15.08	-16.08/-17.08	-15.87/-10.98	-9.81/-8.24	-12.81/-11.53	-12.94/-6.92	-14.57/-12.51	-12.57/-12.51	-12.57/-18.01	-12.57/-18.01
Θ(97.5°)	-15.12/-16.33	-12.95/-17.55	-18.32/-11.43	-15.33/-14.56	-11.92/-10.89	-14.18/-16.27	-19.25/-17.13	-17.91/-15.32	-13.36/-16.03	-13.93/-11.56	-8.05/-9.61	-15.87/-17.04	-11.09/-17.89	-10.78/-17.33	-14.77/-17.96	-18.16/-17.81	-14.59/-18.07	-14.68/-10.52	-15.51/-15.62	-12.5/-14.47	-10.66/-9.41	-12.71/-13.73	-15.3/-13.89	-14.78/-16.39
Θ(105°)	-14.75/-19.01	-14.03/-16.61	-18.05/-18.2	-18.27/-18.18	-11.34/-10.66	-17.65/-13.62	-17.01/-19.34	-13.01/-15.68	-10.67/-12.41	-14.84/-12.09	-9.62/-9.45	-18.71/-13.63	-14.33/-17.37	-14.07/-14.04	-18.16/-14.97	-18.99/-17.49	-15.23/-12.89	-15.35/-11.57	-17.63/-13.77	-16.6/-13.63	-12.22/-9.48	-12.7/-10.54	-12.97/-17.71	-19/-14.72
Θ(112.5°)	-12.53/-18.01	-16.01/-13.88	-14.09/-16.92	-16.71/-17.3	-10/-15.5	-16.09/-15.61	-16.87/-13.16	-12.32/-11	-10.01/-10.69	-13.17/-11.12	-15.51/-12.49	-18.17/-14.92	-15.62/-17.15	-15.64/-14.79	-16.11/-14.47	-19.1/-18.4	-13.97/-14.48	-18.31/-11.69	-17.31/-10.51	-10.14/-18.06	-13.19/-14.17	-11.05/-12.64	-18.5/-17.81	-12.79/-13.33
Θ(120°)	-17.1/-12.95	-18.79/-10.67	-15.02/-18.57	-16.6/-12.62	-10.01/-18.28	-17.24/-13.66	-14.27/-15.31	-10.7/-11.4	-10.19/-13.57	-12.72/-14.01	-8.35/-12.46	-16.1/-15.33	-13.4/-11.24	-13.08/-14.11	-16.8/-15.17	-17.59/-18.51	-15.71/-17.82	-18.83/-18.58	-18.4/-13.69	-10.11/-11.65	-12.7/-17.5	-13.64/-12.77	-14.34/-11.5	-11.86/-14.01
Θ(127.5°)	-15.63/-14.27	-17.92/-19.03	-18.61/-14.94	-16.99/-11.79	-13.77/-18.99	-17.52/-13.74	-18.17/-14.08	-12.86/-13.72	-15.48/-13.34	-14.34/-13.69	-11.16/-18.1	-15.29/-11.46	-11.75/-11.83	-18.23/-15.1	-12.67/-18.84	-16.85/-13.81	-14.38/-13.87	-16.74/-12.83	-17.67/-16.6	-13.43/-16.46	-12.23/-13.57	-11.91/-11.6	-11.86/-16.23	-12.03/-8.56
Θ(135°)	-12.42/-11.99	-12.35/-12.27	-11.99/-14.03	-13/-19.07	-17.89/-17.54	-17.1/-15.23	-19.02/-12.95	-18.59/-18.47	-15.59/-18.73	-12.77/-9.5	-19/-18.51	-19.26/-11.75	-17.66/-18.37	-14.16/-15.2	-9.49/-17.99	-14.49/-17.5	-17.94/-16.05	-18.26/-18.67	-15.5/-14.36	-15.51/-13.29	-18.04/-8.21	-7.3/-10.77	-15.48/-13.25	
Θ(142.5°)	-7.92/-11.27	-13.71/-10.87	-11.08/-13.56	-10.98/-16.06	-16/-16.93	-19.38/-17.75	-18.03/-11.37	-15.4/-15.21	-14.91/-17.25	-8.81/-7.39	-11.56/-17.39	-17.47/-12.15	-11.51/-10.76	-12.27/-11.81	-13.48/-16.16	-14.54/-12.22	-17.05/-16.05	-15.74/-18.22	-18.25/-18.66	-18.32/-10.19	-7.99/-9.62	-17.75/-14.12	-14.88/-14.37	-14.22/-18.28
Θ(150°)	-18.82/-11.9	-13.67/-18.06	-17.45/-14.82	-17.06/-16.01	-14.74/-18.36	-18.97/-17.98	-18.69/-16	-12.98/-10.02	-9.32/-10.06	-8.47/-11.42	-18.29/-15.32	-8.85/-11.58	-17.28/-14.99	-13.09/-13.27	-12.12/-16.39	-16.72/-11.88	-9.96/-13.17	-18.34/-11.52	-10.76/-14.28	-14.98/-18.53	-18.33/-19.04	-18.72/-11.98	-8.92/-13.71	
Θ(157.5°)	-18.09/-18.68	-18.3/-18.28	-16.75/-16.12	-13.38/-18.84	-17.73/-14.22	-11.73/-12.1	-17.85/-15.44	-9.24/-8.09	-18.8/-8.69	-7.4/-8.49	-12.93/-12.42	-11.9/-18.04	-10.03/-10.63	-11.19/-12.79	-14.2/-12.63	-11.42/-11.58	-11.08/-13.04	-13.59/-11.31	-11.75/-17.54	-17.14/-17.98	-16.59/-16.69	-18.54/-16.23	-12.82/-13.21	
Θ(165°)	-12.24/-13.46	-18.72/-18.38	-17.01/-18.46	-16.53/-12.13	-10.34/-9.72	-9.53/-11.57	-18.4/-17.24	-11.88/-11.71	-15.71/-18.82	-17.92/-18.59	-18.1/-17.65	-18.2/-15.32	-14.98/-15.55	-12.94/-11.65	-13.55/-15.69	-13.44/-13.6	-14.91/-12.38	-10.59/-10.55	-11.72/-13.34	-15.89/-16.39	-14.67/-16.97	-16.88/-15.81	-16.5/-18.32	-19.09/-14.53
Θ(172.5°)	-14.85/-15.44	-14.52/-14.81	-13.93/-13.42	-12.31/-12.09	-13.41/-14.62	-15.3/-13.56	-12.94/-11.09	-11.07/-11.42	-11.56/-12.72	-14.66/-16.03	-14.49/-15.02	-18.89/-18.48	-17.95/-16.76	-14.47/-14.55	-16.87/-16.64	-17.95/-18.36	-13.82/-18.04	-10.2/-11.19	-14.27/-16.36	-18.67/-18.37	-18.93/-18.18	-18.01/-19.01	-18.57/-19.14	-18.8/-14.88
Θ(180°)	-19.13/-18.96	-18.37/-17.74	-19.23/-16.41	-16.84/-16.79	-16.73/-16.03	-15.27/-14.73	-15.17/-15.26	-15.36/-15.59	-16.2/-18.36	-17.55/-18.92	-18.3/-17.77	-14.66/-15.07	-15.62/-14.7	-17.04/-16.72	-16.09/-17.85	-18.42/-19.19	-18.27/-17.64	-17.88/-18.44	-18.42/-19.19	-17.42/-17.64	-18.26/-19.3	-18.02/-17.93	-17.48/-19.08	
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°)	-11.93/-11.36	-11.53/-12.75	-12.89/-12.19	-13.07/-15.92	-16.2/-16.03	-15.11/-14.33	-12.93/-12.18	-12.31/-11.22	-11.21/-10.76	-11.04/-10.96	-12.54/-14.41	-13.76/-15.13	-12.22/-12	-10.17/-8.78	-8.83/-9.63	-9.97/-9.93	-9.81/-9.9	-11.33/-12.64	-13.11/-12.46	-14.57/-12.57	-12.73/-12.37	-12.73/-12.6		
Θ(7.5°)	-16.2/-15.36	-14.92/-13.62	-10.97/-8.95	-9.09/-9.74	-10.38/-11.29	-12.31/-14.01	-16.1/-16.3	-15.05/-13.19	-13.54/-13.14	-12.8/-12.78	-15.01/-16.3	-15.86/-18.2	-18.9/-18.72	-18.62/-18.69	-16.98/-15.77	-13.49/-10.21	-8.49/-8.08	-6.76/-5.4	-4.67/-4.68	-5.21/-5.43	-5.89/-7.41	-8.44/-9.98	-12.03/-13.81	-16.38/-17
Θ(15°)	-18.94/-15.78	-14.66/-12.97	-12.03/-12.24	-11.57/-11.37	-9.84/-8.36	-8.55/-9.68	-9.47/-9.75	-9.1/-8.84	-11.42/-16.15	-13.92/-10.46	-7.56/-5.91	-4.77/-4.35	-4.27/-4.47	-4.79/-4.96	-5.47/-7.23	-10.1/-13.64	-13.62/-17.29	-10.22/-16.69	-5.94/-4.96	-5.09/-5.23	-6.13/-8.07	-9.4/-10.4	-10.72/-11.34	-13.06/-17.9
Θ(22.5°)	-12.27/-10.52	-18.23/-9.64	-9.2/-10.68	-12.97/-14.72	-18.39/-17.48	-13.91/-11.79	-9.84/-9.12	-13.28/-14.5	-9.34/-8.24	-8.68/-8.46	-6.77/-3.32	-7.11/-5.85	-3.5/-2.19	-11.19/-10.62	-2.21/-4.16	-4.33/-4.09	-5.16/-5.09	-3.38/-2.33	-3.02/-4.24	-6.22/-10.4	-14.26/-18.5	-15.96/-13.82	-14.63/-17.81	
Θ(30°)	-12.62/-9.94	-8.48/-9.26	-9.25/-7.31	-7.52/-9.21	-10.46/-12.06	-12.56/-14	-18.17/-18.67	-17.36/-14	-14.32/-18.1	-18.39/-17.99	-13.79/-5.8	-3.47/-3.31	-2.7/-0.99	0.47/-1.21	1.96/-1.87	1.210.7	-0.25/-1.28	-2.75/-2.8	-0.920.17	-0.32/-2.38	-3.58/-4.97	-8.76/-13.44	-14.92/-10.02	-9.63/-13.14
Θ(37.5°)	-10.55/-10.98	-8.61/-6.71	-4.83/-3.14	-3.41/-3.78	-12.94/-13.14	-14.31/-13.43	-16.22/-17.12	-16.81/-15.96	-10.89/-7.31	-3.2/-1.5	-1.65/-14.3	-1.43/-0.63	1.09/-1.68	1.66/-15.1	1.722.26	2.410.85	-0.73/-1.4	-0.410.44	0.13/-2.15	-1.91/-2.84	-9.73/-9.36	-10.51/-7.82	-5.99/-8.1	
Θ(45°)	-4.82/-8.4	-10.04/-16.77	-12.69/-6.58	-7.19/-13.6	-11.85/-8.22	-6.01/-2.94	-1.88/-4.2	-4.76/-5.38	-3.41/-7.22	-0.46/-0.06	-0.9/-3.09	2.25/-3.45	2.93.25	3.612.34	1.93/-1.96	1.710.05	-0.010.94	0.02/-3.17	-3.63/-2.73	-7.27/-7.74	-4.54/-6.88	-10.38/-7.63		
Θ(52.5°)	0.19/-1.5	-2.31/-4.92	-9.28/-9.4	-10.78/-8.18	-5.55/-2.74	-2.57/-1.36	-0.44/-2.73	-1.83/-0.32	0.15/-0.42	-0.63/-0.28	0.58/-1.59	1.7/-0.09	-1.260.06	1.952.36	2.923.48	2.57/-1.36	1.45/-1.3	1.440.99	-0.300.05	0.23/-3.2	-4.18/-2.73	-6.05/-5.58	-3.61/-5.9	-3.55/-2.76
Θ(60°)	0.07/-1.4	-2.24/-3.18	-6.98/-7.85	-11.12/-9.87	-5.94/-2.9	-4/-2.94	-3.13/-7.55	-5.37/-1.89	0.310.29	-0.570.08	-0.230.5	1.36/-1.99	-2.89/-1.83	0.482.53	4.26/-4.83	2.43/-0.87	1.452.3	2.412.03	0.820.97	1.63/-0.79	-4.53/-3.01	-3.22/-6.07	-8.74/-3.75	-0.53/-1.34
Θ(67.5°)	-2.24/-2.03	-1.39/-1.41	-4.66/-7.39	-11.49/-9.26	-2.530.87	0.41/-3.46	-8.96/-10.05	-10.13/-1.17	-1.510.96	-0.780.22	-0.200.76	1.93/-0.32	-0.53/-1.25	0.342.58	4.524.17	0.94/-2.07	1.082.29	3.082.84	1.46/-1.48	1.91/-0.5	-0.32/-2.49	-3.37/-7.64	-11.07/-2.24	-1.49/-3.69
Θ(75°)	-5.11/-0.67	-1.010.26	-2.85/-4.17	-6.05/-4.57	0.46/-1.36	-1.39/-2.76	-10.3/-6.75	-8.85/-0.46	-1.88/-1.2	-0.61/-0.52	-0.360.49	2.33/-2.1	1.820.02	0.320.34	2.83.1	-1.14/-3.34	-0.61.4	3.04/-1.4	2.71/-1.93	1.880.21	-1.5/-2.77	-3.43/-9.14	-6.32/-1.36	-2.17/-3.54
Θ(82.5°)	-6.13/-0.83	-3.19/-1.61	-5.23/-3.91	-3.13/-3.2	1.1/-1.05	-3.18/-3.36	-10.05/-4.84	-7.08/-0.19	-2/-2	-0.680.94	-1.360.11	1.68/-1.59	2.44/-0.05	0.71/-1.79	2.10.9	-5.43/-6.05	-2.450.05	2.43/-7.2	1.85/-1.73	0.87/-0.61	-1.7/-3.3	-5.78/-6.66	-5.19/-2.89	-3.78/-3.79
Θ(90°)	-7.76/-3.97	-4.58/-3.65	-12.24/-8.58	-3.5/-4.17	-0.19/-0.78	-6.51/-6.4	-8.09/-4.96	-2.38/-3.24	-2.32/-14.5	-1.31/-2.05	0.880.2	2.41/-0.88	-0.34/-1.99	0.53/-0.08	-5.39/-6.61	-8.25/-0.77	-0.24/-1.32	0.460.01	-1.24/-1.3	-2.02/-2.84	-6.61/-7.28	-5.69/-3.56	-8.86/-5.14	
Θ(97.5°)	-9.71/-4.65	-4.04/-4.85	-18/-13.85	-5.44/-4.64	-2.24/-3.25	-4.68/-8.71	-6.64/-3.95	-5.34/-1.13	-3.85/-4.36	-3.26/-2.74	-2.41/-3.3	-0.73/-0.69	1.04/-3.99	-1.53/-3.86	-0.6/-0.46	-4.92/-8.08	-9.31/-1.46	-3.02/-2.51	-4.46/-5.14	-3.29/-3.22	-4.29/-4.3	-7.73/-12.67	-10.78/-6.85	-10.6/-6.78
Θ(105°)	-13.24/-7.84	-4.96/-7.4	-16.87/-10.49	-8.54/-5.83	-4.33/-5.53	-15.45/-10.67	-7.48/-4.75	-6.56/-3.14	-6.42/-5.93	-5.94/-4.68	-4.2/-3.6	-2.68/-2.76	-1.56/-5.32	-5.59/-4.26	-3.13/-3.22	-3.45/-4.75	-7.84/-2.59	-3.86/-5.77	-6.76/-7.85	-3.84/-5.02	-8.74/-5.39	-8/-14.2	-10.29/-8.32	-10.92/-9.35
Θ(112.5°)	-9.66/-5.82	-8.59/-11.7	-13.49/-11.35	-9.1/-5.93	-8.54/-10.6	-13.95/-8.44	-8.88/-7.29	-7.87/-5.04	-8.83/-8.77	-7.87/-6.87	-5.51/-4.79	-4.48/-5.42	-5.03/-13.66	-7.71/-5.43	-5.46/-4.26	-4.28/-9.44	-6.59/-6.82	-4.61/-5.1	-4.64/-11.26	-4.92/-5.18	-6.48/-6.88	-5.91/-10.74	-11.88/-12.42	-13.14/-9.47
Θ(120°)	-7.68/-12.48	-9.94/-12.39	-13.27/-17.43	-8.56/-5.21	-8.77/-14.22	-17.56/-16.83	-10.61/-16.42	-15.83/-10.86	-18.99/-17.64	-12.32/-9.69	-9.32/-6.91	-5.28/-9.08	-7.36/-9.9	-17.62/-7.2	-6/-5.41	-3.56/-9.3								



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Θ(127.5°)	-16.94/-13.65	-13.38/-15.47	-17.43/-17.91	-17.77/-16.8	-14.62/-12.96	-13.1/-12.6	-8.33/-17.48	-11.98/-15.5	-14.44/-15.71	-14.8/-8.89	-13.78/-7.93	-12.13/-10.32	-14.79/-10.66	-11.92/-16.81	-13.75/-18.41	-17.57/-18.2	-18.03/-18.61	-11.62/-11.32	-10.61/-12.83	-9.84/-13.87	-14.22/-8.92	-14.24/-8.96	-15.41/-11.23	-12.37/-17.55
Θ(135°)	-16.37/-18.03	-15.74/-17.68	-18.2/-17.44	-18.28/-18.7	-17.57/-12.25	-12.43/-13.5	-13.1/-16.56	-17/-16.75	-15.52/-11.16	-15.36/-11.66	-11.7/-10.81	-8.55/-8.72	-8.98/-19.23	-15.98/-19.4	-18.34/-14.64	-17.24/-13.81	-16.04/-17.96	-15.59/-14.36	-12.18/-8.47	-12.59/-11.76	-17.48/-8.03	-10.23/-14.71	-15.61/-15.12	-13.51/-17.18
Θ(142.5°)	-18.13/-18.32	-15.69/-11.66	-14.39/-17.78	-17.76/-18.84	-18.18/-18.57	-16.06/-13.27	-13.29/-14.84	-16.06/-12	-16.58/-12.09	-10.58/-9.47	-13.26/-9.03	-12.68/-14.3	-18.9/-14.54	-12.75/-12.85	-16.92/-17.78	-12.77/-17.83	-16.04/-17.96	-17.73/-16.54	-12.54/-9.98	-17.73/-9.26	-11.58/-18.22	-13.76/-18.68	-18.97/-18.54	
Θ(150°)	-18.37/-18.43	-18.22/-15.77	-12.52/-12.93	-16.12/-18.62	-18.6/-17.74	-18.86/-16.54	-12.72/-13.17	-18.34/-18.13	-18.28/-15.79	-16.31/-15.31	-12.37/-17.29	-14.17/-16.28	-17.69/-10.61	-11.73/-15.81	-18.25/-17.49	-19.16/-18	-18.84/-16.91	-13.09/-18.66	-11.97/-9.78	-17.67/-17.28	-15.74/-19.02	-17.82/-18.29	-17.79/-16.46	-17.59/-18.42
Θ(157.5°)	-14.55/-17.66	-17.26/-16.74	-11.81/-10.76	-13.47/-19.11	-18.29/-19.03	-16.25/-12.12	-13.05/-18.31	-19.22/-18.14	-18.15/-16.63	-16.63/-18.3	-17.81/-18.2	-13.64/-12.78	-14.54/-15.29	-15.03/-17.7	-18.5/-17.49	-16.45/-13.49	-12.74/-12.69	-15.12/-17.95	-15.66/-14.02	-17.3/-14.77	-18.21/-17.74	-16.91/-19.03	-18.67/-17.13	-17.92/-13.83
Θ(165°)	-8.29/-10.45	-13.07/-14.29	-14.34/-14.02	-14.22/-15.9	-15.14/-13.68	-18.1/-18.67	-18.3/-15.45	-14.01/-13.78	-15.7/-16.17	-18.52/-17.59	-17.65/-18.21	-19.28/-14.61	-15.07/-18.59	-17.82/-18	-14.22/-13.09	-12.02/-13.35	-16.78/-17.01	-15.85/-15.53	-14.48/-14.14	-15.6/-18.25	-14.24/-12.87	-14.56/-17.41	-18.1/-15.45	-11.5/-8.64
Θ(172.5°)	-10.33/-11.62	-12.75/-14.36	-16.01/-16.51	-15.39/-14.42	-13.89/-13.41	-13.37/-12.54	-11.91/-10.77	-10.58/-12.21	-14.98/-17.27	-18.42/-19.14	-19.22/-18.02	-18.52/-18.43	-18.71/-19.15	-18.49/-17.38	-18.87/-17.65	-18.16/-17.94	-19.42/-14.49	-13.43/-13.65	-14.01/-12.47	-12.42/-13.62	-13.67/-14.41	-16.06/-14.43	-11.61/-10.01	-9.94/-10.32
Θ(180°)	-10.58/-10.67	-11.06/-11.5	-11.88/-12.13	-12.99/-12.6	-11.3/-12.3	-14.42/-13.83	-14.6/-17.04	-19.06/-18.9	-18.25/-18.05	-18.62/-18.45	-18.67/-17.4	-16.37/-13.91	-12.7/-12.23	-12.04/-11.55	-10.04/-9.41	-10.08/-10.95	-11.28/-11.59	-11.55/-11.73	-11.18/-10.37	-10.84/-11.51	-11.25/-11.15	-11.11/-10.98	-10.52/-10.79	-11.21/-11.04
Freq(Hz)	5.2GPol.	ThetaAnt. 2	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-18.46/-18.88	-14.54/-13.14	-14.42/-13.9	-12/-10.35	-10.58/-12.02	-11.29/-10.66	-12.05/-13.62	-15.86/-17.76	-18.88/-18.56	-18.79/-13.83	-17.49/-16.95	-15.57/-13.78	-11.96/-12.07	-12.35/-11.06	-10.07/-9.8	-10.58/-11.58	-11.22/-10.75	-11.09/-12.73	-14.23/-14.53	-14.5/-14.99	-16.05/-17.67	-18.1/-17.69	-18.01/-17.75	-17.53/-18.49
Θ(7.5°)	-14.34/-10.01	-8.94/-8.1	-8.35/-9.33	-10.03/-9.09	-8.64/-9.95	-9.94/-9.59	-10.42/-11	-11.08/-10.72	-10.69/-11.1	-11.08/-13.74	-14.15/-14.48	-15.07/-16.51	-17.98/-18.67	-14.25/-13.62	-17.16/-16.1	-12.07/-12.82	-15.44/-19.28	-17.16/-16	-16.47/-14.04	-13.63/-13.61	-13.73/-13.61	-17.41/-15.45	-13.04/-11.67	
Θ(15°)	-12.69/-10.46	-8.09/-5.79	-4.29/-4.09	-4.98/-6.45	-6.9/-7.27	-8.6/-10.15	-12.12/-13.76	-15.43/-14.77	-13.06/-12.59	-12.66/-14.29	-16.65/-18.59	-18.3/-18.7	-17.97/-14.82	-13.74/-15.65	-18.18/-18.58	-17/-17.34	-13.56/-13.93	-14.43/-13.83	-11.59/-10.36	-9.25/-6.58	-8.48/-9.11	-11.13/-13.95	-15.52/-16.68	-16.84/-15.73
Θ(22.5°)	-7.1/-6.92	-7.66/-7.71	-6.92/-5.73	-4.61/-4.07	-3.6/-3.25	-3.58/-3.94	-4.07/-4.35	-4.95/-6.66	-8/-7.53	-6.89/-7.18	-8.02/-8.48	-9.61/-12.17	-16.59/-19.16	-14.66/-16.4	-17.71/-18.07	-17.99/-17.61	-18.18/-17.72	-17.85/-14.63	-12.6/-11.85	-11.97/-15.9	-19.08/-17.99	-15.61/-11.54	-9.29/-7.75	-7.58/-7.75
Θ(30°)	-7.24/-3.26	-1.02/-0.2	0.090	-0.070/25	0.43/-0.21	-1.58/-2.21	-1.9/-2.34	-3.47/-3.02	-1.62/-1.54	-2.87/-5.76	-7.45/-7.16	-7/-7.5	-9.93/-12.82	-14.73/-16.95	-18.28/-18.06	-14.61/-13.33	-16.3/-9.34	-6.83/-8.2	-7.36/-12.07	-7.44/-8.59	-7.72/-6.17	-7.14/-8.54	-12.19/-13.97	
Θ(37.5°)	-1.85/-0.99	-0.470/12	1.437/78	0.890/07	0.50/74	0.380/26	0.80/82	-0.89/-1.89	-0.240/09	-1.43/-5.69	-8.54/-7.65	-8.22/-10.56	-14.72/-15.45	-13.02/-13.07	-16.93/-18.6	-18.32/-12.99	-8.56/-3.83	-1.64/-2.13	-2.24/-1.7	-2.26/-5.28	-7.82/-6.29	-4.95/-6.97	-14.33/-18.48	-7.44/-3.35
Θ(45°)	-0.86/-0.09	0.20/71	1.772/12	1.5/26	-0.1/62	1.762/52	2.622/43	1.870/29	-0.340/05	1.15/-0.31	-3.73/-2.75	-2.05/-2.13	-2.46/-4.54	-7.17/-9.23	-9.64/-12.02	-10.1/-8.96	-8.74/-0.43	-0.65/-0.55	-1.35/-0.15	0.04/-1.76	-0.04/-3.8	-3.57/-8.51	-10.15/-6.09	-4.32/-2.5
Θ(52.5°)	-1.87/-0.15	0.380/99	1.942/23	2.322/44	2.382/32	2.562/99	2.942/6	2.391/15	-0.150/98	2.280/53	1.2/-1.3	-2.33/-2.04	-1.84/-3.6	-3.06/-6.58	-5.99/-6.39	-9.08/-5.87	-2.39/-1.83	-3.05/-2.83	-0.47/-2.04	-4.88/-4.19	-3.8/-5.4	-3.53/-5.4	-6.32/-4.39	
Θ(60°)	0.240/03	-2.03/-1.32	0.667/85	2.953/23	2.411/98	1.84/166	2.473/14	1.51/-0.07	0.792/01	3.350/86	-1.79/-2.15	-6.74/-5.9	-4.62/-3.48	-0.19/-1.97	-9.11/-12.68	-7.82/-6.01	-9.22/-9.76	-6.4/-4.9	-6.3/-8.27	-5.12/-4.29	-6.69/-3.94	-2.51/-2.49	-2.5/-6.4	-4.81/-0.62
Θ(67.5°)	1.42/-0.56	-2.38/-1.14	0.577/14	2.93/27	1.790/15	-0.090/71	1.262/63	0.340/73	1.291/8	2.69/-1.45	-1.16/-4.5	-5.77/-5.09	-2.870/47	2.330/67	-4.7/-10.42	-8.98/-57	-7.11/-10.18	-7.65/-9.51	-5.22/-6.99	-8.86/-7.7	-6.29/-3.77	-2.49/-1.83	-2.29/-4.42	-1.760/82
Θ(75°)	1.51/-0.22	-0.87/-0.82	-0.2102	-1.43/95	0.08/-1.99	-1.73/-0.88	-0.967/87	-0.87/-3.05	0.750/73	1.13/-2.65	-1.17/-2.21	-1.39/-4.55	-0.97/-1.47	1.830/54	-6.59/-9.42	-3.14/-6.3	-6.52/-9.39	-4.82/-10.69	-7.13/-2.85	-3.72/-2.56	-2.84/-2.57	-1.720/77		
Θ(82.5°)	0.67/-0.36	-0.75/-1.39	-2.05/-1.3	-0.350/08	-2.93/-5.56	-4.34/-2.94	-2.290/9	-2.38/-4.25	-0.87/-0.48	0.17/-4.82	-1.33/-2.18	-0.18/-2.81	0.44/13	-0.32/-1.8	-6.24/-8.09	-8.97/-5.48	-2.65/-4.33	-5.87/-5.42	-1.55/-3.02	-3.39/-11.66	-9.34/-3.72	-4.17/-2.63	-3.52/-3.27	-2.180/09
Θ(90°)	-0.71/-1.96	-1.68/-1.46	-2.21/-1.56	-1.91/-3.7	-3.66/-7.04	-6.89/-4.55	-5.56/-1.68	-2.65/-5.53	-2.65/-1.54	-2.11/-5.94	-2.47/-2.7	-1.81/-5.1	-2.37/-4.02	-2.48/-2.43	-5.88/-5.66	-9.22/-12.15	-3.48/-3.13	-7.26/-5.19	-2.13/-2.12	-5.89/-11.82	-13.81/-5.43	-5.66/-3.48	-4.17/-3.77	-2.58/-1.01
Θ(97.5°)	-2.76/-3.77	-2.81/-1.73	-2.29/-2.96	-3.3/-0.6	-6.44/-7.07	-7.15/-9.93	-6.65/-3.44	-4.75/-6.1	-3.84/-2.71	-2.99/-7.22	-3.56/-5.86	-6.54/-6.69	-4.62/-2.03	-3.55/-3.35	-7.73/-7.6	-7.61/-12.28	-8.65/-5.43	-10.28/-8.16	-4.36/-4.66	-8.98/-18.48	-14.54/-6.92	-6.84/-5.62	-4.44/-4.71	-3.8/-2.42
Θ(105°)	-3.56/-4.3	-4.45/-3.1	-4.42/-5.85	-4.69/-4.07	-9.06/-10.46	-8.7/-6.83	-8.62/-5.33	-5.55/-7.84	-5.21/-3.25	-4.55/-9.14	-5.21/-6.19	-6.08/-8.85	-7.3/-6.89	-4.8/-6.02	-10.68/-15.35	-7.6/-8.41	-11.49/-10.06	-15.09/-13	-8.53/-8.35	-13.39/-16.29	-12.41/-12.17	-10.44/-5.15	-7.27/-6.42	-5.29/-5.53
Θ(112.5°)	-5.97/-7.4	-6.51/-6.08	-5.92/-6.39	-4.5/-3.1	-8.19/-8.82	-11.57/-7.75	-10.69/-7.44	-7.3/-8.63	-8.83/-5.27	-4.37/-15.21	-4.42/-8.96	-5.25/-9.5	-8.45/-4.9	-7.27/-7.98	-14.19/-18.39	-9.56/-9.99	-18.34/-10.52	-14.46/-15.74	-9.61/-9.8	-12.57/-18.51	-9.64/-6.46	-11.2/-5.3	-8.46/-8.74	-7.37/-7.12
Θ(120°)	-7.58/-6.93	-7.66/-7.23	-5.34/-5.3	-5.59/-7.33	-7.53/-8.8	-10.87/-10.48	-12.28/-8.75	-9.75/-10.48	-12.99/-7.29	-5.94/-10.84	-9.6/-10.4	-7.86/-8.83	-8.72/-8.71	-8.59/-9.46	-6.52/-13.54	-17.99/-11.65	-16.24/-11.13	-16.01/-17.64	-8.06/-9.26	-12.21/-19	-11.66/-8.69	-8.83/-8.26	-11.2/-7.53	-9.74/-7.87
Θ(127.5°)	-11.53/-6.08	-7.6/-6.63	-6.27/-5.06	-5.75/-7.24	-9.11/-10.97	-10.08/-10.86	-12.4/-9.59	-10.65/-12.19	-14.59/-7.92	-6.74/-14.95	-16.2/-18.03	-14.03/-17.12	-11.3/-7.55	-14.71/-9.75	-8.16/-17.26	-12.48/-11.17	-11.68/-15.81	-13.71/-12.94	-12.26/-18.53	-17.98/-12.94	-7.57/-8.06	-11.58/-10.93	-14.37/-9.46	-11.46/-9.46
Θ(135°)	-16.69/-10.74	-8.07/-8.06	-6.06/-4.84	-5.48/-7.34	-7.91/-8.02	-9.86/-11.22	-9.96/-11.18	-12.05/-13.32	-14.45/-12.21	-10.58/-11.84	-17.92/-13.6	-15.51/-16.41	-9.4/-8.69	-9.66/-11.38	-10.79/-18.28	-18.47/-18.41	-15.42/-17.48	-18/-18.32	-10.52/-10.54	-9.22/-9.32	-15.86/-12.44	-15.3/-10.27	-10.97/-8.93	-12.68/-15.75
Θ(142.5°)	-9.19/-7.89	-6.01/-6.35	-7.14/-7.57	-7.48/-6.7	-6.96/-8.52	-10.55/-10.93	-10.65/-10.5	-10.05/-9.61	-11.63/-18.51	-9.07/-8.73	-12.09/-18.33	-18.25/-18.39	-14.28/-9.4	-11.94/-10.17	-12.64/-10.43	-17.99/-15.8	-18.04/-18.27	-17.81/-18.33	-18.28/-18	-18.99/-15.52	-17.92/-15.1	-12.09/-11.88	-18.78/-12.22	-12.33/-10.74
Θ(150°)	-8.8/-11.06	-10.48/-9.5	-9.82/-9.43	-9.04/-9.51	-11.94/-13.8	-13.12/-13.98	-15.86/-15.57	-12.85/-9.88	-9.58/-16.96	-18.81/-13.12	-12.36/-13.05	-18.42/-18.72	-15.53/-17.93	-13.57/-13.86	-12.02/-12.52	-18.34/-17.68	-19.05/-17.84	-16.04/-11.66	-8.9/-10.13	-13.62/-14.64	-17.88/-13.62	-11.55/-10.57	-12.3/-10.18	
Θ(157.5°)	-10.49/-10.55	-10.26/-8.64	-7.99/-8.38	-8.74/-8.9	-9.51/-11.54	-13.91/-17.73	-18.16/-18.95	-18.51/-17.3	-14.68/-15.89	-18.03/-17.59	-18.51/-18.21	-18.5/-16.8	-12.29/-12.41	-13.19/-13.75	-16.05/-17.3	-18.98/-18.94	-18.45/-13.67	-13.11/-17.35	-17.86/-16.92	-14.36/-18.08	-16.28/-14.76	-16.57/-14.66	-12.28/-12.47	-12.22/-10.99
Θ(165°)	-15.45/-13.07	-12.06/-11.87	-11.28/-10.27	-9.23/-8.69	-8.8/-8.74	-10.71/-14.19	-13.78/-13.56	-13.8/-14.28	-14.41/-15.18	-16.89/-19.05	-17.37/-16.9	-14.38/-14.74	-16.45/-16.74	-15.78/-14.13	-14.22/-15.62	-16.97/-17.88	-19.08/-19.41	-16.71/-15.52	-16.08/-17.34	-18.52/-16.6	-14.4/-13.23	-12.98/-14.18	-15.51/-16.14	-17.94/-18
Θ(172.5°)	-14.32/-12.26	-12.23/-13.29	-15.4/-15.62	-14.81/-17.32	-18.77/-18.41	-16.52/-16	-16.78/-17.02	-17.05/-18.59	-18.21/-17.78	-17.69/-17.51	-17.15/-16.11	-16.6/-18.51	-18.75/-17.49	-18.71/-17.54	-15.03/-13.68	-13.21/-13.35	-13.53/-1							



Radiated Composite Gain Data of 2.4GHz/5GHz

Appendix A

Θ (180°)	-10.55/-10.57	-11.09/-13.08	-14.48/-14.6	-15.78/-16.57	-17.54/-18.54	-18.79/-17.3	-18.12/-18.52	-18.06/-18.69	-18.71/-16.57	-15/-13.9	-11.38/-8.81	-8.46/-9.17	-10.55/-10.58	-10.55/-11.96	-13.97/-14.19	-15.09/-18.52	-17.86/-19.06	-18.53/-17.71	-15.01/-12.05	-9.93/-9.93	-11.2/-11.61	-10.29/-9.51	-8.76/-8.61	-8.66/-9.67
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	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°)	-7.51/-9.23	-9.28/-9.48	-11.87/-13.44	-13.75/-15.79	-16.5/-17.65	-18.63/-18.64	-18.85/-18.38	-18.03/-16.81	-14.5/-12.92	-11.32/-10.72	-10.26/-9.94	-9.38/-8.81	-8.91/-9.38	-9.44/-10.73	-12.76/-13.6	-16.06/-18.12	-18.75/-17.65	-14.75/-13.99	-12.29/-11.97	-10.63/-8.23	-7.82/-7.57	-6.87/-6.08	-6.23/-6.82	-6.7/-6.8
Θ (7.5°)	-10.51/-10.9	-9.52/-8.4	-9.53/-10.16	-10.81/-13.91	-16.48/-18.25	-18.69/-17.55	-18.9/-18	-18.71/-16.7	-17.99/-17.58	-18.31/-17.39	-17.98/-18.08	-17.63/-18.54	-17.15/-14.58	-12.6/-10.59	-9.13/-8.22	-8.52/-9.37	-9.22/-12.28	-16.06/-13.42	-13.3/-12.39	-13/-11.26	-10.61/-11.18	-11.21/-10.88	-11.31/-12.14	-11.73/-11.8
Θ (15°)	-5.88/-6.4	-7.62/-9.35	-10.74/-12.75	-13.61/-12.5	-12.74/-12.81	-10.69/-9.09	-8.48/-7.22	-6.42/-6.87	-8.64/-10.98	-13.27/-15.22	-15.11/-15.12	-15.48/-15.04	-14.32/-15.21	-16.43/-17.17	-14.46/-10.57	-7.41/-5.26	-4.64/-5.95	-8.48/-9.06	-8.45/-8.26	-7.66/-8.8	-11.19/-17.15	-18.82/-12.92	-9.25/-7.33	-6.48/-6.13
Θ (22.5°)	-3.3/-2.85	-3.19/-2.65	-1.81/-1.8	-2.69/-4.66	-5.72/-6.25	-7.21/-7.18	-5.51/-3.89	-3.13/-4.08	-5.88/-6.49	-7.68/-10.83	-14.43/-14.14	-15.52/-15.94	-13.43/-11.61	-9.89/-9.99	-11.85/-14.25	-13.15/-12.52	-12.96/-10.33	-8.27/-7.91	-9.64/-11.67	-7.9/-7.38	-10.41/-17.31	-11.67/-9.79	-10.46/-9.03	-7.21/-4.75
Θ (30°)	1.56/0.79	-0.67/-2.5	-3.1/-2.55	-1.82/-1.31	-1.56/-1.42	-1.37/-1.64	-1.4/-0.75	-0.24/-1.76	-4.36/-4.68	-4.44/-6.1	-9.4/-13.5	-13.16/-10.01	-10.58/-13.66	-12.95/-15.26	-18.42/-18.25	-12.04/-10.37	-12.63/-18.62	-15.39/-17.63	-17.94/-18.52	-16.47/-10.05	-14.41/-17.88	-9.28/-14.31	-15/-5.27	-0.73/-1.65
Θ (37.5°)	0.72/0.3	-0.25/-0.28	-0.01/-0.5	0.07/2.77	2.98/1.79	1.85/-1.26	0.37/1.53	1.27/-0.39	-1.51/-3.78	-4.91/-4.83	-6.13/-7.09	-6.63/-7.31	-11.35/-7.24	-6.31/-6.61	-5.21/-5.27	-7.61/-12.1	-14.2/-8.51	-5.57/-5.93	-5.2/-4.45	-6.92/-15.61	-18.38/-12.98	-11.79/-14.27	-4.9/-1.5	0.31/-1.08
Θ (45°)	-2.62/-4.88	-5.22/-1.91	1.7/3.43	4.08/4.8	5.05/3.38	1.71/2.35	1.89/2.22	1.6/0.43	-0.99/-3.02	-5.61/-10.28	-9.1/-5.09	-4.25/-5.55	-9.45/-13.41	-13.44/-8.11	-6.21/-7.36	-5.38/-2.63	-0.03/0.62	-1.05/-0.8	-3.25/-9.43	-10.99/-7.33	-7.8/-2.91	-1.48/-2.1	-0.34/-1.13	
Θ (52.5°)	0.63/-0.29	-0.58/-2.4	-1.51/2.42	4.35/3.75	4.06/3.81	2.28/2.12	1.45/-1.89	2.41/5.6	3.87/0.61	-5.3/-1.72	-5.74/-4.12	0.51/1.2	-0.14/-1.52	-2.77/-5.14	-7.12/-7.45	-8.92/-7.89	-3.84/-1.63	1.02/-0.17	-3.41/-2.5	-2.25/-6.45	-4.62/-3.66	-4.49/-0.69	-2.09/-1.85	0.49/0.24
Θ (60°)	0.28/0.33	1.36/1.33	0.89/-1.85	3.51/2.9	2.18/2.67	3.15/2.43	-0.52/-0.06	2.04/-1.82	3.21/5.5	-2.97/-1.31	-4.16/-2.59	-0.02/-0.06	-0.91/-0.07	-7.86/-9.26	-4.33/-4.94	-3.81/-4.98	-2.38/-1.27	-10.69/-6.04	-3.55/-3.65	-3.12/-1.55	-4.29/-1.54	-3.56/-1.66	0.29/-0.33	
Θ (67.5°)	-3.16/-2.88	-1.58/-1.35	2.55/2.38	1.66/1.94	1.94/0.93	1.69/2.5	-0.87/-3.78	1.51/98	1.74/2.44	-1.88/-3.53	-6.03/-1.79	-2.79/-5.54	-2.13/0.63	2.93/3.25	-1.25/-15.06	-5.84/-1.73	-1.27/-4.3	-8.47/-1.62	-6.62/-7.22	-6.37/-1.2	-1.93/-1.92	-4.9/-3.06	-2.84/-2.09	-1.55/-2.85
Θ (75°)	-2.27/-4.12	-6.4/-1.85	1.56/1.84	-0.08/-0.61	1.43/0.61	-1.45/-1.66	1.23/-5.92	-0.1/1.65	0.54/1.73	-1.91/-3.22	-4.05/-1.12	-2.63/-3.2	-2.7/-1.94	2.96/4.73	2.54/-4.75	-16.17/-2.42	-0.04/-2.09	-11.98/-1.23	-1.05/-5.66	-8.52/-0.37	-3.11/-2.69	-5.06/-4.18	-3.64/-3.17	-2.87/-3.83
Θ (82.5°)	-1/-3.92	-7.96/-4.52	0.0/49	-1.43/-3.47	-0.13/0.3	-20.91	1/8.1	-0.95/-1.22	-0.96/0.61	-2.48/-3.58	-3.48/0.26	-0.78/-0.34	-3.37/-1.8	1.56/3.09	0.85/-2.76	-11.26/-2.63	1.28/-1.69	-7.51/-0.12	0.9/-0.48	-6.5/-0.65	-6.63/-4.5	-4.5/-5.25	-4.15/-5.78	-3.07/-3.74
Θ (90°)	-1.84/-4.04	-6.58/-4.89	-1/0.11	-2.95/-6.47	-2.21/-1.05	-3.83/0.06	0.6/-6.05	-4.07/-0.21	-1.5/-1.05	-2.82/-3.46	-4.07/-0.57	-0.86/0.5	-2.36/-3.11	-1.09/-0.43	-2.74/-3.44	-8.01/-6.48	0.32/-1.7	-5.92/-3.71	-10.51/-4.59	-6.07/-9.34	-10.4/-8.71	-4.38/-6.49	-3.41/-4.7	
Θ (97.5°)	-1.9/-5.44	-7.97/-6.84	-2.68/-2.1	-4.14/-7.19	-3.27/-2.84	-6.55/-2.11	-1.1/-6.1	-6.46/-1.15	-1.78/-1.93	-4.22/-4.78	-5.45/-1.88	-4.21/-1.56	-2.66/-2.41	-1.97/-3.02	-4.51/-3.85	-7.33/-12.27	-2.27/-3.2	-7.62/-4.24	-2.56/-6.33	-11.77/-5.03	-10.44/-4.91	-7.63/-10.06	-6.05/-7.76	-4.71/-3.33
Θ (105°)	4.03/-5.63	-7.18/-6.57	-4.08/-3.93	-6.42/-10.07	-5.57/-4.51	-8.54/-3.13	-1.53/-7.75	-6.54/-2.74	-4.23/-3.23	-2.79/-8.07	-13.43/-4.7	-5.73/-4.48	-5.4/-5.37	-3.32/-3.25	-11.29/-8.9	-6.9/-7.75	-7.42/-7.55	-15.41/-6.31	-10.62/-9.66	-17.38/-10.44	-18.53/-7.09	-11/-10.09	-6.04/-10.16	-4.64/-4.59
Θ (112.5°)	-4.57/-6.9	-7.51/-7.38	-8.66/-4.52	-5.72/-8.69	-5.44/-5.11	-6.53/-3.37	-4.21/-8.04	-6.76/-4.09	-5.13/-3.28	-4.38/-10.97	-11.31/-6.64	-12.27/-5.9	-7.92/-14.47	-5.95/-4.31	-8.77/-18.51	-6.65/-7.59	-10.89/-6.05	-18.35/-5.33	-5.79/-15.41	-12.89/-18.17	-11.31/-9.16	-10.71/-11.35	-8.56/-6.08	-7.16/-4.81
Θ (120°)	-5.96/-9.81	-11.23/-9.65	-6.82/-4.32	-7.7/-7.19	-3.38/-4.91	-6.64/-2.95	-4.49/-8.33	-9.08/-7.45	-6.31/-5.96	-4.76/-7.73	-17.86/-10.15	-11.91/-5.81	-7.46/-11.84	-11.57/-7.43	-5.08/-16.81	-16.55/-6.59	-13.49/-7.32	-17.2/-9.02	-5.27/-11.84	-14.33/-18.55	-12.52/-8.5	-17.86/-8.9	-9.11/-5.43	-6.41/-8.52
Θ (127.5°)	-7.79/-10.49	-9.23/-8.75	-6.5/-8.2	-9.11/-4.35	-4.36/-9.06	-6.93/-4.71	-7.33/-9.53	-15.72/-7.28	-4.93/-13.12	-6.73/-5.7	-14.1/-14.77	-15.45/-9.35	-8.67/-10.91	-18.97/-10.72	-12/-18.75	-12/-2.29	-12.03/-15.6	-11.15/-10.2	-9.47/-18.57	-12.68/-9.15	-12.75/-8.86	-8.72/-9.83	-9.49/-8.22	-9.86/-6.79
Θ (135°)	-7.31/-9.12	-9.71/-9.95	-9.97/-8.69	-5.38/-4.71	-7.47/-7.7	-5.09/-6.53	-9.24/-8.17	-14.41/-10.27	-6.54/-15.6	-9.96/-7.98	-10.72/-14.27	-9/-7.85	-8.3/-8.92	-8.3/-6.41	-6.23/-10.86	-15.9/-17.91	-11.76/-18.71	-11.97/-10.62	-7.53/-12.64	-9.48/-12.85	-12.15/-13.6	-8.31/-10.12	-15.73/-7.46	-8.37/-9.69
Θ (142.5°)	-15.81/-11.09	-11.54/-8.81	-6.14/-4.42	-3.81/-4.1	-4.58/-4.8	-6.59/-6.93	-4.95/-5.06	-10.95/-19.3	-11.12/-16.63	-14.64/-10.14	-16.21/-19.24	-14.65/-11.07	-13.42/-15.63	-19.23/-12.75	-11.04/-7.28	-12.31/-14.42	-13.82/-18.41	-16.37/-11.66	-15.4/-18.64	-17.82/-13.42	-16.31/-18.76	-14.74/-12.57	-10.11/-16.86	-17.71/-14.97
Θ (150°)	-8.99/-8.86	-9.08/-8.83	-8.09/-7.58	-6.83/-6.46	-6.49/-6.47	-7.07/-8.2	-9.23/-10.04	-13.04/-13.99	-11.74/-14.52	-18.22/-10.55	-9.05/-15.14	-18.9/-14.86	-9.58/-10.08	-13.72/-13.68	-13.99/-15.44	-17.81/-18.83	-9.64/-8.95	-13.15/-12.94	-9.56/-11.78	-16.32/-12.1	-16.65/-13.15	-11.23/-17.43	-15.29/-12.75	-12.08/-16.69
Θ (157.5°)	-10.79/-9.86	-9.26/-7.87	-6.15/-6.35	-7.62/-8.41	-8.77/-7.52	-6.67/-6.68	-6.51/-7.1	-10.94/-16.01	-12.28/-10.98	-11.05/-12.7	-17.8/-18.37	-18.27/-18.6	-18.73/-17.81	-17.57/-15.49	-12.12/-10.98	-11.82/-14.87	-18.89/-17.84	-18.82/-17.63	-19.33/-13.78	-16.45/-15.84	-18.21/-12.9	-9.99/-12.3	-11.97/-11.45	-11.66/-10.93
Θ (165°)	-15.92/-12.79	-11.61/-10.67	-8.81/-8.31	-7.98/-7.81	-7.81/-8.61	-10.33/-10.72	-10.28/-10.41	-12.42/-18.49	-18.4/-12.67	-10.47/-12.05	-17.26/-18.55	-18.53/-17.21	-17.36/-19.32	-18.5/-17.97	-18.33/-18.02	-13.99/-9.82	-7.7/-6.51	-5.86/-6.03	-7.32/-9.95	-16.05/-18.98	-15.31/-13.72	-15.95/-12.8	-19.3/-15.18	-16.86/-18.73
Θ (172.5°)	-10.45/-10.35	-10.29/-8.33	-6.76/-6.63	-6.4/-6.12	-5.92/-6.06	-4.66/-7.01	-7.96/-9.42	-10.75/-11.7	-12.65/-13.28	-14.92/-16.26	-16.65/-16.24	-16.45/-16.48	-15.34/-14.16	-14.95/-15.97	-16.14/-17.48	-18.23/-18.86	-18.57/-18.47	-19.24/-18.68	-17.3/-16.65	-18.91/-18.87	-18.22/-17.9	-18.19/-17.15	-18.26/-19.02	-13.61/-12.28
Θ (180°)	-17.86/-16.58	-14.17/-13.54	-14.7/-13.93	-13.91/-13.11	-11.36/-11	-10.45/-10.21	-9.96/-10.47	-11.82/-12.92	-14.26/-15.12	-16.35/-18.66	-18.36/-19.26	-17.98/-19.09	-15.4/-12.4	-11.21/-10.94	-10.87/-10.72	-10.07/-8.83	-8.35/-8.83	-8.76/-8.01	-7.91/-8.52	-10.81/-14.64	-18.97/-18.17	-18.12/-17.92	-17.31/-18.4	-17.85/-18.75
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°)	-5.65/-5.03	-5.23/-5.64	-5.05/-4.95	-5.51/-5	-4.88/-6.09	-7.86/-8.07	-7.95/-9.13	-12.29/-15.73	-17.96/-18.37	-15.8/-14.05	-12.26/-10.46	-8.58/-7.54	-6.78/-6.44	-7/-6.17	-4.51/-5.15	-6.76/-6.44	-6.27/-7.83	-8.02/-8.61	-10.3/-11.58	-14.07/-10.3	-18.92/-17.05	-17.16/-14.01	-11.81/-10.08	-8.45/-6.66
Θ (7.5°)	-7.85/-7.6	-6.99/-6.45	-6.03/-5.12	-4.95/-4.85	-5.62/-6.17	-6.87/-7.94	-8.7/-9.02	-9.87/-9.81	-10.09/-9.72	-9.07/-10.04	-10.64/-10.39	-11.32/-12.56	-13.87/-15.9	-16.17/-13.18	-9.75/-9.14	-10.26/-10.1	-8.71/-8.86	-10.68/-12.91	-19.01/-17.59	-16.74/-13.56	-11.36/-9.49	-10.48/-10.79	-11.33/-9.49	
Θ (15°)	-19.18/-18.35	-18.98/-17.51	-15.19/-12.97	-9.91/-8.56	-8.94/-11.38	-14.13/-15.71	-17.7/-18.26	-18.46/-14.39	-11.24/-10.5	-11.61/-10.44	-17.53/-17.67	-19.29/-18.57	-14.36/-10.96	-9.58/-10.13	-9.54/-8.85	-11.67/-15.84	-9.21/-7.44	-6.91/-6.66	-9.39/-15.92	-14.74/-8.62	-6.12/-5.2	-6.08/-8.41	-11.8/-16.19	-17.95/-19.14
Θ (22.5°)	-18.33/-18.73	-18.44/-18.96	-18.53/-18.84	-17.41/-15.12	-13.48/-11.25	-10.07/-9.46	-10.44/-12.62	-16.63/-18.39	-17.25/-14.17	-12.03/-9.86	-7.77/-10.63	-15.52/-15	-15.2/-18.96	-16.47/-13.53	-11.83/-11.46	-12.45/-16.01	-18.71/-18.46	-12.85/-9.68	-9.38/-11.01	-16.52/-9.35	-5.4/-4.54	-7.53/-12.91	-12.49/-11.14	-11.84/-13.71
Θ (30°)	-12.45/-15.33	-17.08/-15.46	-13.19/-13.37	-14.48/-11.93																				



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Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	5.72	5.17	3.67	4.67
Ant. 2 Max Gain (dBi)	5.85	5.09	4.29	3.84
Ant. 1 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Phi/67.5/217.5	Phi/75/187.5	Phi/75/157.5	Phi/82.5/157.5
Ant. 2 Polarization/ $\theta(^{\circ})/\Phi(^{\circ})$	Phi/67.5/45	Phi/37.5/67.5	Phi/75/60	Phi/67.5/352.5
Max Gain (dBi)	5.85	5.17	4.29	4.67
DG [1SS] (dBi)	6.2	6.74	5.04	5.54
DG [2SS] (dBi)	5.85	5.17	4.29	4.67





Radiated Composite Gain Data of 6GHz

Appendix B

Θ(22.5°)	-0.34/-0.16	0.23/0.02	-0.48/-0.38	0.22/0.33	0.23/0.41	0.37/-0.09	-1.13/-2.65	-3.51/-2.7	-1.75/-1.77	-2.44/-3.09	-3.31/-4.61	-5.36/-4.37	-2.61/-1.59	-1.11/-1.57	-2.24/-2.21	-1.64/-1.61	-1.99/-3.05	-4.06/-2.8	-1.01/-0.16	0.2/0.43	0.82/1.45	2.11/2.47	2.49/2	0.8/-0.29
Θ(30°)	-1.67/-1.42	-1.72/-1.67	-1.67/-2.02	-1.96/-0.7	1.4/2.23	1.31/-0.27	-1.35/-1.28	-0.21/-0.34	-1.69/-2.76	-3/-2.53	-1.99/-3.22	-7.04/-6.8	-4.57/-4.06	-5.47/-5.84	-6.42/-7.28	-4.66/-1.74	-0.21/-0.36	-0.73/-0.23	1.33/2.33	2.41/2.17	2.28/1.96	1.63/1.23	0.63/-0.13	-0.77/-0.98
Θ(37.5°)	0.72/0.88	-0.22/-2.4	-3.98/-2.38	-0.43/-0.23	1.32/3.17	2.75/1.14	-0.24/-0.46	0.17/-0.49	-0.61/0.38	0.27/-2.04	-4.46/-3.49	-0.78/-0.06	0.35/0.42	1.58/0.76	-2.57/-6.56	-4.65/-6.04	-5.71/-3.25	0.36/0.7	0.12/1.16	1.75/0.59	0.31/-0.14	-1.32/-1.32	1.32/2.3	1.8/1.44
Θ(45°)	-0.02/-0.03	-1.04/-2.64	-2.4/-3.04	-1.59/-2.56	-4.11/-0.73	1.48/0.83	-1.24/-2.32	-1.88/-0.77	1.74/2.99	1.14/-4.2	-7.01/-3.38	-1.71/0.37	1.47/2.1	1.82/0.82	-1.13/-4.28	-1.63/-1.34	-4.85/-5.09	-1.08/-1.3	-1.49/0.9	1.58/-0.59	-1.63/-0.35	-0.8/-0.52	1.15/2.38	1.75/0.29
Θ(52.5°)	-0.79/-0.43	-1.51/-3.13	-0.83/-1.3	-4.75/-5.08	-8.17/-7.4	-2.65/-2.88	-3.96/-3.4	-2.42/-0.33	0.34/0.38	-0.01/1.75	0.51/-0.59	-2.89/-5.14	-1.02/-1.64	1.74/0.22	-3.54/-5.39	-2.98/-2.75	-5.58/-4.33	-1.44/-3.37	-5.98/-1.02	1.11/-0.37	-2.82/-0.92	-1.45/-0.74	0.99/0.22	1.04/-1.41
Θ(60°)	1.33/2.06	1.45/-0.95	0.78/2.35	-0.51/0.81	0.18/-2.58	-2.88/-4.48	-2.86/-2.19	-0.99/-0.74	-4.55/-2.41	1.39/2.37	-0.75/-2.03	-2.44/-2.33	-3.27/-4.15	-0.15/1.09	-1.17/-6.05	-8.91/-5.72	-5.18/-9.92	-5.88/-7.68	-8.61/-3.7	-0.59/-2.73	-0.94/1.09	-0.22/-1.01	0.44/2.25	2.43/1.09
Θ(67.5°)	1.93/03	2.95/1.12	1.43/3.61	2.55/3.9	3.85/0.61	1.12/-1.42	-0.36/-1.19	0.33/-1.22	-1.56/-0.44	-0.68/-1.44	-1.29/0.43	-0.25/0.35	-3.01/-5.88	-3.7/0.03	0.04/-0.32	-2.85/-3.07	0.37/3.17	-10.11/-13.82	-4.69/-1.54	-0.36/-1.93	2.57/3.69	1.81/1.38	0.45/1.89	3.68/2.95
Θ(75°)	1.9/2.25	2.72/1.64	1.05/0.33	3.45/4.76	5.04/2.36	2/1.3	0.02/0.58	-1.29/0.54	1.61/1.97	3.28/2.72	2.41/3.5	1.83/0.09	0.75/1.77	-1.05/-1.68	0.31/1.29	0.05/-3.58	0.63/0.89	-4.53/-8.05	-3.36/-0.88	0.13/-1.28	3.85/4.31	2.37/2.26	-0.11/1.76	3.83/3.52
Θ(82.5°)	0.15/0.31	0.93/0.1	0.13/1.35	3.01/4.45	3.93/2.35	0.23/-1.06	0.27/-0.17	-3.27/0.41	2.08/2.11	3.77/3.03	1.79/2.16	0.69/-0.02	0.56/2.73	1.32/-0.32	-1.13/1.43	0.42/-2.45	-0.32/1.59	-2.75/-3.23	-3.25/-2.01	-0.83/0.07	2.73/2.66	1.61/1.77	-1.7/2.5	2.86/1.57
Θ(90°)	-1.75/-2.52	-1.5/-1.42	-1.02/-1.48	1.64/3.08	1.93/1.4	-1.35/-0.17	-0.58/-2.66	-4.75/-1.89	1.03/-0.29	1.78/2.12	-0.17/-0.3	-0.81/-1.58	-1.32/0.69	1.2/-0.34	-1.99/-1.29	0.66/-3.86	-4.23/-1.41	-4.9/-3.23	-4.66/-3.6	-3.8/-2.29	1.07/-0.2	-0.28/0.02	-4.07/1.57	1.11/-0.22
Θ(97.5°)	-3.48/-4.69	-3.84/-3.4	-2.08/-2.79	0.68/1.02	-1.05/0.13	-4.64/-0.76	-1.47/-4.57	-4.27/-2.9	-1.21/-1.44	0.37/-0.12	-2.53/-2.43	-3.22/-4.12	-3.24/-1.53	-0.99/-2.1	-4.77/-5.84	-1.02/-4.82	-7.52/-8.36	-9.98/-6.65	-8.8/-6.78	-5.96/-5.53	-2.69/-2.34	-5.01/-0.04	-0.83/-2.2	
Θ(105°)	-5.15/-7.92	-5.88/-5.32	-4.63/-3.1	-0.97/-1.89	-2.83/-0.54	-8.74/-3.08	-2.31/-5.41	-5.16/-5.4	-4.83/-3.34	-2.77/-1.25	-2.01/-3.65	-3.73/-5.52	-4.74/-4.22	-2.23/-2.14	-5.43/-12.03	-7.63/-4.36	-6.32/-12.55	-11.12/-11.48	-11.8/-10.37	-9.19/-7.6	-5/-3.4	-4.32/-2.76	-5.57/-3.74	-2.06/-3.02
Θ(112.5°)	-8.51/-9.87	-7.74/-7.09	-7.09/-4.17	-3.52/-3.69	-2.9/-3.91	-5.82/-4.81	-5.23/-9.39	-6.43/-7.99	-8.42/-3.76	-3.99/-3.58	-4.41/-4.78	-7.14/-8.61	-7.69/-7.05	-3.22/-2.89	-4.47/-9.99	-13.49/-7.83	-5.99/-9.18	-12.38/-11.3	-14.9/-10.87	-11.3/-6.26	-5.17/-4.39	-4.9/-12.3	-7.22/-2.34	-5.57/-6.32
Θ(120°)	-8.56/-8.27	-6.34/-6.26	-8.38/-6.26	-6.47/-4.97	-4.83/-10.44	-5.09/-6.71	-7.55/-9.32	-6.39/-9.32	-7.83/-4.77	-5.38/-7.38	-8.76/-5.42	-9.12/-9.19	-8.2/-4.87	-6.92/-4.97	-10.1/-14.38	-8.12/-0.43	-10.1/-14.09	-13.84/-13.02	-10.39/-9.98	-6.79/-6	-8.78/-5.74	-9.15/-6.84	-7.19/-6.6	
Θ(127.5°)	-12.35/-10.51	-8.29/-12.61	-9.9/-7.16	-9.17/-6.99	-10.96/-8.31	-6.49/-8.66	-9.88/-6.76	-7.8/-11.59	-11.51/-8.16	-6.02/-1.123	-11.77/-8.85	-7.48/-7.36	-10.33/-13.16	-12.24/-8.45	-5.71/-6.04	-9.6/-13.87	-11.75/-8.88	-11.44/-12.21	-8.52/-10.13	-10.99/-9.89	-8.03/-8.63	-5.47/-10.33	-12.05/-5.96	-7.97/-9.44
Θ(135°)	-7.61/-5.83	-9.98/-12.64	-8.88/-9.14	-11.73/-13.7	-7.39/-8.6	-10.5/-9.77	-9.73/-7.66	-9.65/-10.05	-10.82/-10.51	-8.06/-13	-12.56/-13.24	-12.76/-10.97	-10.44/-12.45	-11.9/-14.78	-8.78/-10	-5.15/-7.66	-7.4/-13.8	-14.01/-7.8	-14.32/-8.93	-9.09/-11.41	-9.92/-5.36	-11.83/-11.83	-7.73/-9.31	-10.05/-13.72
Θ(142.5°)	-12.52/-12.59	-15.45/-15.54	-15.41/-11.1	-9.82/-9.59	-8.34/-12.06	-9/-10.87	-10.28/-3.1	-12.53/-11.1	-11.31/-12.38	-10.77/-11.1	-11.57/-10.58	-12.86/-12.67	-11.41/-10.79	-6.86/-12.88	-14.24/-12.28	-9.22/-8.83	-13.75/-14.24	-9.97/-14.34	-11.99/-12.7	-10.41/-14.04	-11.99/-12.2	-9.2/-12.52	-16.11/-14.06	-11.29/-8.13
Θ(150°)	-13.36/-14.57	-13.38/-11.7	-9.53/-9.64	-10.49/-11.86	-10.72/-8.78	-10.47/-11.26	-10.76/-12.24	-14.51/-11.81	-10.34/-11.92	-14.02/-14.29	-14.29/-11.48	-12.3/-15.14	-9.06/-8.47	-6.99/-10.29	-12.35/-13.7	-13.44/-15.72	-14.75/-14.78	-13.71/-14.07	-11.78/-10.69	-8.29/-14.09	-14.76/-13.45	-14.67/-16.09	-12.56/-9.78	-10.57/-11.93
Θ(157.5°)	-14.73/-15.49	-15.13/-13.6	-14.08/-15.13	-11.64/-8.24	-7.79/-8.81	-10.24/-10.06	-13.76/-12.87	-12.4/-13.35	-14.81/-14.92	-12.39/-13	-15.16/-14.01	-12.41/-11.19	-9/-12.43	-10.48/-7.67	-9.84/-12.73	-13.51/-15.37	-14.94/-15.4	-13.21/-8.55	-9.3/-15.32	-14.87/-13.22	-14.17/-13.99	-13.81/-14.11	-13.3/-11.29	-12.4/-15.67
Θ(165°)	-9.46/-9.34	-9.51/-11.2	-14.19/-15.21	-15.55/-14.1	-11.65/-9.27	-8.3/-9.99	-12.61/-14.59	-13.06/-11.55	-11.62/-12.79	-15.45/-15.56	-15.58/-15.75	-15.34/-15.6	-15.71/-15.21	-14.53/-15.46	-15.22/-14.93	-13.71/-12.27	-13.2/-16.08	-15.33/-11.6	-11.15/-13.66	-15.17/-15.07	-15.64/-14.99	-14.92/-14.9	-15.3/-13.92	-11.6/-9.83
Θ(172.5°)	-10.81/-11.29	-12.3/-13.1	-12.3/-11.27	-12.04/-12.39	-12.8/-13.37	-15.88/-15.54	-15.93/-14.19	-13.47/-13.16	-13.1/-11.67	-12.38/-13.3	-14.75/-13.61	-13.11/-13.94	-14.78/-15.34	-14.96/-13.18	-11.96/-10.46	-10.69/-12.32	-14.58/-15.02	-13.65/-13.15	-13.47/-15.61	-15.75/-14.76	-13.44/-11.77	-10.9/-10.55	-10.27/-9.95	-10.46/-11.08
Θ(180°)	-15.62/-15.12	-15.5/-15.8	-14.59/-15.21	-14.01/-13.39	-13.48/-14.13	-13.64/-12.7	-12.53/-12.13	-11.51/-11.74	-12.22/-13.07	-13.53/-12.84	-13.22/-13.22	-13.57/-13.1	-13.24/-12.7	-12.69/-13.05	-13.97/-13.74	-13.05/-12.53	-11.7/-10.57	-10.49/-11.01	-15.17/-13.43	-15.27/-15.2	-15.71/-13.43	-14.34/-15.7	-14.65/-14.89	
Freq(dB)	6.995/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°)	0.62/1.02	1.04/0.92	0.69/0.14	-0.68/-1.39	-1.83/-1.93	-0.81/-4.25	-5.17/-5.28	-5.05/-4.96	-4.74/-3.92	-2.35/-1.36	-0.68/-0.2	0.34/0.67	0.59/0.3	0.23/0.11	-0.34/-1.02	-1.72/-2.83	-4.15/-5.16	-1.61/-7.78	-7.65/-8.03	-6.2/-5.04	-4.1/-2.98	-2.13/-1.25	-0.73/0.04	0.4/0.58
Θ(7.5°)	0.26/0.46	0.5/0.62	0.59/0.38	-0.09/-7.33	-1.29/-0.29	-3.39/-5.31	-7.54/-7.78	-7.05/-6.16	-5.73/-9.43	-4.03/-2.86	-1.75/-0.58	0.16/0.55	0.51/0.24	0.36/0.37	0.14/-0.03	-0.36/-0.88	-1.77/-2.76	-3.81/-4.39	-4.16/-3.42	-2.05/-1.27	-0.9/-0.49	-0.21/0.09	0.37/0.33	0.05/0.07
Θ(15°)	-2.98/-3.21	-3.6/-2.39	-1.31/-1.17	-1.78/-2.34	-2.62/-2.92	-3.67/-5.35	-7.87/-10.66	-10.87/-8.17	-6.13/-8.99	-1.92/0.11	1.27/2.14	2.62/2.63	1.95/1.43	0.98/0.44	-1.73/-1.46	-1.46/-1.46	-1.75/-2.56	-7.33/-8.22	-2.25/-1.21	-0.88/-1.08	-2.27/-1.77	-2.25/-2.33	-2.03/-2.57	-1.77/-2.81
Θ(22.5°)	-1.99/-3.58	-6.61/-4.97	-3.03/-3.21	-4.37/-5.64	-5.31/-4.87	-4.79/-5.63	-8.64/-9.04	-11.17/-10.34	-7.75/-5.88	-3/-0.53	0.44/1.27	2.19/2.7	2.22/1.12	-0.63/-2.3	-2.91/-2.65	-3.71/-5.58	-6.23/-6.39	-7.73/-5.24	-2.51/-1.92	-3.42/-3.95	-2.96/-1.31	-0.85/-1.17	-0.6/-0.48	-0.76/-1.2
Θ(30°)	-4.38/-4.81	-7.36/-10.39	-6.71/-4.62	-4.01/-5.68	-5.93/-3.88	-4.38/-4.24	-4.5/-5.66	-4.77/-4.51	-4.99/-3.47	-2.8/-1.41	-1.13/-0.31	1.79/2.95	2.25/1.38	0.89/0.86	0.13/-0.2	-0.25/-2.08	-5.12/-6.91	-7.53/-5.74	-3.87/-3.93	-5.51/-5.22	-4.68/-3.5	-2.83/-2.63	-2.17/-2.8	-3.85/-4.32
Θ(37.5°)	-3.68/-7.24	-11.03/-13.3	-9.76/-5.34	-3.33/-0.43	-5.45/-3.87	-4.95/-6.23	-3.25/-4.13	-3.46/-4.11	-3.5/-3.27	-1.27/-1.2	-3.1/-3.91	-2.22/-0.53	0.27/-0.34	0.25/-0.13	-2.25/-4.71	-4.34/-2.6	-3.3/-6.66	-7.21/-4.13	-2.95/-3.23	-3.93/-5.09	-7.23/-7.31	-4.36/-2.61	-3.4/-2.39	-2.48/-2.34
Θ(45°)	-4.46/-3.34	-6.98/-9.35	-6.33/-3.55	-4.08/-4.15	-5.22/-3.39	-4.06/-5.76	-4.23/-4.9	-2.66/-4.53	-4.37/-2.24	-2.12/-1.54	-0.84/1.08	1.81/-1.21	-2.53/-1.46	-1.1/-1.81	-1.02/-4.93	-8.91/-8.55	-6.74/-8	-6.58/-2.93	-1.34/-2.02	-4.3/-4.24	-2.72/-3.1	-1.91/-1.5	-2.56/-4.7	-5.24/-3.63
Θ(52.5°)	-3.21/-3.56	-5.5/-5.9	-3.69/-2.6	-3.95/-7.19	-6.3/-2.71	-5.81/-5.33	-4.32/-6.09	-3.04/-1.69	-2.84/-2.84	-3.93/-0.99	0.36/2.17	1.91/-0.76	-1.82/-1.44	-1.08/-3.35	-4.32/-2.28	-5.9/-12.78	-6.8/-8.3	-8.93/-4.23	-2.27/-3.32	-5.97/-2.32	-1.63/-3.43	-4.65/-5.2	-5.29/-4.7	-3.84/-4.02
Θ(60°)	-4.46/-2.86	-5.7/-5.26	-3.95/-3.49	-2.43/-6.8	-5.91/-2.6	-7.33/-6.29	-5.95/-9.8	-4.95/0.13	-4.4/-3.65	-4.4/-2.37	-2.22/0.24	-0.4/-2.99	-6.02/-5.23	-1.33/-2.17	-4.28/-4.32	-3.92/-12.52	-10.41/-11.03	-8.88/-10.86	-5.51/-5.93	-9.1/-2.1	-3.72/-5.29	-5.01/-6.87	-6.1/-3.49	-2.42/-3.68
Θ(67.5°)	-4.46/-3.31	-5.13/-5.91	-9.11/-12.31	-2.85/-6.87	-7.12/-3.35	-14.59/-7.26	-6.28/-15.58	-5.38/-0.96	-8.76/-5.19	-7.42/-4.98	-3/-0.5	-2.06/-4.27	-7.7/-8.77	-4.47/-2.09	-1.25/-6.79	-3.53/-7.63	-8.14/-11.68	-7.49/-11.92	-7.56/-6.85	-13.47/-3.31	-6.1/-5.69	-4.57/-9.38	-6.75/-2.99	-2.96/-4.57
Θ(75°)	-4.35/-4.3	-4.68/-7.21	-5.34/-8.57	-4.5/-3.4	-9.26/-7.16	-9.61/-8.73	-10.51/-14.1	-6.25/-2.76	-10.41/-5.57	-5.77/-10.2	-3.63/-1.67	-0.99/-3.27	-5.82/-7.12	-6.04/-0.47	-1.22/-3.77	-7.15/-3.61	-6.74/-7.16	-7.09/-11						

Gain Result

Freq(Hz)	6.175GPol.	PhiAnt.1	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-10.39/-7.3	-4.56/-3.9	-2.24/-1.1	-1.13/-0.49	0.88/-0.14	1.03/-0.83	0.62/-0.56	0.11/-0.68	-1.98/-3.49	-5.17/-0.8	-9.91/-13.4	-18.97/-17.88	-12.42/-8.27	-5.89/-4.33	-3.27/-2.42	-1.78/-1.09	-0.66/-0.56	-0.43/-0.39	-0.56/-0.47	-0.99/-2.43	-3.16/-4.9	-6.39/-8.64	-12.72/-18.53	-18.46/-15.8
Θ(7.5°)	-12.03/-8.73	-6.17/-5.16	-4.15/-2.97	-2.28/-1.71	-1.19/-1.04	-0.78/-0.51	-0.49/-0.54	-0.61/-0.5	-1.81/-3.13	-4.96/-4.76	-12.39/-19.07	-17.61/-12.19	-7.99/-5.76	-4.15/-2.93	-1.68/-0.58	0.43/-0.3	1.31/-1.42	1.58/-1.51	1.21/-0.78	0.26/-0.77	-1.59/-2.73	-4.85/-6.53	-8.56/-10.92	-14.49/-14.84
Θ(15°)	-14.9/-10	-7.23/-5.6	-5.22/-4.86	-4.93/-6.66	-4.41/-4.23	-4.34/-4.51	-4.31/-4.23	-4.46/-5.32	-7.04/-6.34	-12.16/-10.11	-7.8/-5.99	-3.93/-2.5	-1.35/-1.06	-1.37/-1.47	-1.63/-1.27	-0.75/-0.33	0.11/-0.5	1.12/-0.66	1.81/-1.72	1.27/-0.51	-0.25/-1.37	-3.17/-4.09	-5.26/-5.75	-11.98/-18.1
Θ(22.5°)	-15.63/-10.5	-8.97/-7.48	-7.22/-7.84	-8.43/-8.6	-9.53/-10.3	-12.45/-16.6	-18.41/-17.56	-17.61/-12.9	-9.60/-6.85	-4.70/-4.18	-10.79/-10.5	-5.9/-2.82	-1.32/-0.51	-0.86/-1.24	-0.46/-0.79	2.04/-3.1	4.04/-5.4	4.83/-8.2	4.47/-0.3	3.4/-2.8	-1.59/-0.69	-3.31/-5.81	-6.14/-7.34	-11.33/-18.79
Θ(30°)	-11.12/-17.83	-13.14/-11.97	-14.32/-17.28	-17.66/-14.84	-12.95/-11.22	-8.61/-6.37	-6.93/-10.44	-9.42/-5.09	-4.22/-5.91	-9.04/-13.14	-17.42/-16.98	-10.96/-7.2	-4.07/-3.07	-3.06/-3.06	-2.29/-0.5	0.16/-0.47	1.39/-1.9	4.86/-5.1	4.32/-9.4	1.64/-0.18	-1.08/-4.01	-8.39/-3.38	-3.47/-2.79	-3.75/-6.27
Θ(37.5°)	-4.63/-11.38	-9.87/-8.37	-11.13/-18.28	-13.36/-15.32	-17.96/-13.01	-4.85/-4.29	-7.24/-5.07	-1.64/-1.25	-3.41/-9.48	-18.06/-13.79	-8.35/-4.74	-3.78/-2.02	-0.31/-1.03	-2.69/-5.29	-2.21/-7.8	3.36/-24	-0.09/-0.06	2.68/-13	3.82/-62	1.94/-1.28	1.65/-1.83	-0.38/-5.72	-5.41/-4.23	-2.68/-2.66
Θ(45°)	-6.53/-11.9	-14.61/-10.62	-12.82/-17.28	-7.75/-6.86	-10.72/-8.58	-3.24/-4.13	-12.74/-6.75	-2.14/-1.71	-6.08/-11.59	-11.74/-9.88	-5.28/-2.62	-4.35/-5.1	-1.76/-0.58	-0.51/-1.9	-1.02/-0.44	1.72/-73	1.84/-29	0.10/-93	0.85/-15	2.72/-79	1.73/-27	-1.28/-5.38	-3.54/-6.5	-5.73/-4.68
Θ(52.5°)	-6.34/-6.42	-8.54/-11.88	-16.53/-11.77	-4.71/-4.03	-5.98/-9.26	-6.16/-6.75	-17.83/-11.9	-10.88/-15.13	-18.25/-9.79	-12.31/-13.14	-6.07/-5.68	-7.82/-5.49	-5.43/-7	-3.51/-241	-0.83/-2.04	-7.95/-3.6	-0.21/-1.76	-2.16/-1.88	-0.82/-1.26	1.64/-0.73	-1.86/-1.95	-6.19/-14.04	-6.24/-5.34	-3.72/-8.83
Θ(60°)	-4.54/-4.17	-2.69/-3.35	-6.1/-5.85	-1.73/-2.23	-1.79/-4.68	-8.7/-5.58	-4.48/-7.91	-9.17/-5.55	-6.46/-8.69	-12.61/-10.51	-1.83/-0.15	-0.78/-0.21	-1.61/-2.75	-1.83/-17	1.92/-3.14	-1.75/-2.59	-13.07/-7.39	-2.55/-4.43	-3.14/-1.01	-1.31/-0.71	-1.42/-5.71	-7.71/-5	-0.97/-2.22	-0.91/-2.74
Θ(67.5°)	-6.38/-6.18	-2.54/-2.74	-5.57/-5.39	-0.65/-1.16	-0.11/-2.83	-5.09/-2.13	-1.65/-4.7	-1.33/-3.05	-5.72/-5.7	-6.68/-4.76	-1.64/-0.29	1.43/-2.1	0.92/-24	2.34/-33	0.835/-2	0.04/-3.19	0.67/-0.93	-4.86/-4.31	-3.65/-8.65	-2.44/-0.52	-1.02/-1.01	0.54/-1.36	-7.85/-1.06	0.09/-1.74
Θ(75°)	-7.08/-10.28	-5.45/-4.42	-5.68/-2.62	0.03/-0.67	0.6/-0.63	-3.59/0.54	1.1/-0.95	-1.14/-2.55	-7.23/-7	-1.86/-1.29	-0.34/-1.84	-2.1/0.1	1.72/86	3.89/2.54	0.95/0.02	5.33/2.07	0.57/2.37	-0.49/-1.07	-1.11/-6.96	-1.25/0.51	0.91/0.53	-0.24/-1.5	-2.43/-1.77	-1.79/-1.29
Θ(82.5°)	-7.79/-11.14	-7.47/-8.87	-7.6/-3.01	-0.7/-0.66	0.87/-0.84	-3.11/-1.19	-0.21/-2.3	-0.49/-5.78	-5.82/-2.17	-1.26/-1.29	-3.4/-1.64	-4.19/-1.44	-1.08/-1.03	3.14/2.44	-0.32/2.66	2.31/7.37	-0.04/0.84	0.56/0.24	-1.93/-4.4	-0.94/-0.74	-0.01/-0.69	-2.14/-3.2	-3.85/-5.87	-4.47/-2.54
Θ(90°)	-7.71/-13.09	-8.5/-7.17	-9.86/-5.8	-2.96/-2.45	-0.26/-3.4	-2.74/0.19	-2.71/0.65	-1.98/-13.5	-5.48/-2.37	-1.23/-4.58	-7.58/-7.93	-9.11/-6.94	-1.65/-2.31	0.74/1.91	-0.9/-2.71	-1.15/-0.17	-1.47/-2.51	-1.72/-0.8	-5.74/-3.73	-3.89/-2.44	-1.71/-2.5	-3.3/-6.55	-4.46/-9.22	-5.8/-3.2
Θ(97.5°)	-10.06/-11.53	-7.71/-11.36	-9.68/-3.98	-3.94/-2.73	-1.39/-5.83	2.4/-1.84	-5.52/-0.43	-5.35/-1.78	-4.24/-3.26	-3.73/-10.49	-10.61/-9.61	-11.18/-75	-9.81/-6.5	-3.14/0.29	-1.54/-8.69	-6.42/-3.29	-3.23/-0.6	-5.71/4	-10.46/-5.44	-12.98/-5.68	-5.43/-6.63	-9.75/-5.64	-10.06/-17.6	-6.72/-6.01
Θ(105°)	-12.2/-10.65	-6.91/-8.7	-7.92/-7	-5.59/-4.39	-4.63/-5.39	-3.04/-3.6	-6.02/-1.93	-10.51/-13.72	-3.67/-4.24	-6.03/-19.1	-14.42/-9.58	-10.47/-9.75	-8.9/-3.28	-2.49/-3.26	-10.8/-8.97	-7.15/-7.93	-12.71/-9.27	-17.51/-17.92	-18.48/-11.58	-11.92/-13.29	-6.07/-8.8	-10.21/-11.8	-6.67/-7.85	
Θ(112.5°)	-10.73/-11.2	-9.11/-9.82	-11.35/-9.31	-5.81/-3.78	-7.03/-5.7	-5.71/-8.63	-5.43/-8.6	-17.87/-8.7	-4.75/-6.14	-1.89/-18.33	-18.12/-14.64	-9.23/-7.74	-11.23/-13.2	-13.99/-5.19	-4.83/-2.98	-8.94/-18.57	-7.39/-6.37	-10.48/-12.74	-14.89/-18.45	-17.56/-16.11	-12.4/-6.33	-15.13/-19.14	-10.27/-19.15	-11.73/-10.45
Θ(120°)	-12.55/-11.25	-8.46/-9.1	-15.33/-10.54	-6.21/-7.92	-7.73/-6.19	-9.98/-10.67	-5.47/-9.18	-16.36/-6.16	-6.36/-9.94	-13.88/-19.03	-18.36/-17.98	-12.43/-9.41	-9.5/-12.14	-12.56/-10.75	-9.38/-4.67	-4.86/-12.79	-17.35/-14.35	-9.17/-11.46	-17.08/-12.23	-18.98/-9.15	-8.89/-16.58	-10.85/-9.63	-18.54/-7.44	-11.49/-14.8
Θ(127.5°)	-7.46/-6.66	-10.27/-11.9	-12.99/-9.1	-8.39/-8.1	-9.62/-10.9	-15.28/-10.1	-8.34/-14.6	-15.11/-9.83	-9.24/-15.05	-18.57/-18.25	-18.75/-17.24	-14.6/-11.54	-10.45/-5.57	-10.21/-16.45	-8.82/-15.01	-4.55/-1.77	-8.66/-18.1	-18.95/-15.1	-18.79/-18.27	-15.45/-18.15	-12.62/-10.33	-9.23/-18.05	-14.43/-12.41	-17.96/-14.1
Θ(135°)	-9.96/-12.52	-17.23/-16.24	-18.22/-15.68	-6.81/-7.44	-12.13/-15.4	-15.43/-10.91	-12.34/-18.37	-13.73/-14.48	-16.12/-16.75	-17.87/-18.73	-17.41/-17.63	-13.53/-13.13	-9.55/-9.12	-7.94/-11.06	-13.83/-19.23	-10.27/-6.11	-5.13/-11.39	-18.38/-11.53	-8.93/-18.25	-18.54/-13.22	-9.61/-17.99	-13.03/-18.4	-17.79/-18.29	-17.98/-10.88
Θ(142.5°)	-13.78/-13.8	-8.33/-12.63	-9.5/-9.94	-5.68/-11.3	-17.52/-18.91	-11.71/-8.21	-10.97/-17.25	-15.06/-13.67	-12.25/-12.9	-18.64/-18.26	-17.56/-18.58	-18.93/-16.05	-14.8/-6	-7.55/-11.63	-18.14/-19.03	-13.51/-18.32	-14.07/-8.09	-4.43/-14.98	-11.75/-15.07	-6.45/-13.24	-18.62/-17.65	-18.11/-18.75	-17.75/-10.58	-9.15/-13.27
Θ(150°)	-10.73/-13.68	-17.25/-12.53	-8.77/-9.97	-17.26/-15.32	-11.07/-9.78	-10.73/-16.59	-18.81/-16.68	-9.05/-11.04	-14.66/-13.32	-15.45/-17.55	-19.22/-18.59	-14.42/-15.35	-9.68/-7.83	-10.11/-17	-19.09/-18.3	-19.03/-18.41	-18.61/-18.46	-18.66/-19.12	-11.53/-15.67	-17.59/-16.23	-17.73/-17.65	-18.14/-13.16	-10.75/-14.11	-13.93/-12.5
Θ(157.5°)	-18.41/-19.07	-18.16/-15.48	-12.14/-9	-6.98/-8.26	-15.13/-14.81	-10.86/-15.33	-10.86/-12.47	-11.42/-14.37	-19.1/-31	-15.59/-16.82	-17.11/-12.26	-11.5/-12.61	-13.71/-12.82	-13.41/-18.25	-15.93/-14.82	-13.93/-17.68	-18.03/-15.44	-13.41/-6.37	-18.38/-18.86	-17.86/-17.85	-18.19/-19.26	-18.29/-18.65	-18.84/-18.71	
Θ(165°)	-13.55/-11.88	-11.43/-12.43	-14.01/-16.24	-17.79/-18.83	-18.49/-15.7	-17.77/-16.79	-10.55/-6.84	-6.15/-7.26	-9.96/-14.7	-19.14/-18	-18.51/-16.41	-12.95/-11.1	-9.42/-9.57	-10.33/-11.71	-11.57/-9.74	-9.1/-13.32	-18.39/-17.72	-18.29/-17.55	-18.81/-18.7	-18.61/-19	-17.12/-16.85	-16.85/-18	-18.28/-19.29	-17.64/-15.11
Θ(172.5°)	-10.55/-10.97	-11.94/-11.35	-10.41/-10.26	-10.54/-11.03	-11.25/-11.3	-12.13/-14	-14.53/-15.56	-16.36/-16.74	-18.44/-18.97	-17.89/-18.12	-17.42/-18.51	-16.84/-15.6	-15.55/-12.74	-11.65/-10.16	-8.68/-8.71	-10.53/-13.46	-18.42/-17.66	-18.25/-17.66	-18.38/-17.91	-12.88/-10.44	-10.17/-11.07	-12.68/-12.05	-11.86/-10.71	-11.11/-13.6
Θ(180°)	-11.71/-11.17	-11.64/-11.45	-10.31/-10.07	-8.83/-9.8	-10.07/-9.68	-10.02/-10.38	-9.65/-9.28	-8.78/-8.82	-7.54/-8.07	-7.98/-9.04	-9.41/-9.73	-9.98/-9.94	-10.33/-10.64	-10.53/-11.18	-11.72/-12.52	-15.92/-19.2	-17.67/-16.89	-18.23/-17.58	-18.38/-17.73	-18.88/-13.38	-11.65/-11.25	-10.64/-10.93	-11.25/-11.34	
Freq(Hz)	6.175GPol.	ThetaAnt.1	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	0.08/-0.17	-0.59/-1.27	-1.96/-2.72	-3.56/-5.54	-6.46/-12.23	-19.05/-17.64	-11.74/-8.19	-5.81/-3.76	-2.03/-0.93	-0.66/-0.4	0.12/0.55	0.78/0.8	0.68/0.2	-0.12/-0.85	-1.91/-3.1	-5.66/-6.82	-9.68/-13.87	-18.42/-16.65	-14.31/-9.73	-6.05/-4.71	-3.15/-1.94	-0.97/-1.07	0.18/0.3	0.22/0.38
Θ(7.5°)	-0.71/-1.41	-2.48/-3.65	-4.65/-5.3	-6.47/-8.24	-11.11/-15.99	-17.33/-18.67	-12.48/-8.06	-5.26/-3.33	-1.45/-0.11	0.91/52	1.91/1.88	1.67/1.44	0.96/0.71	0.21/-0.4	-0.99/-1.87	-3.28/-2.54	-8.36/-12.98	-18.38/-17.61	-13.35/-9.05	-5.94/-2.23	-3.08/-2.2	-1.77/-0.88	-0.62/-0.3	-0.39/-0.34
Θ(15°)	-0.8/-0.4	-1.87/-4.67	-7.8/-10.36	-12.46/-15.79	-14.62/-11.91	-8.48/-5.6	-3.48/-1.3	0.71/1.51	2.52/0.3	2.76/2.38	3.4/3	1.94/0.7	0.80/-2.1	-3.4/65	-7.24/-10.37	-13.32/-18.98	-18.91/-17.81	-11.72/-7.78	-4.93/-2.29	-1.16/-0.25	0.26/0.85	1.44/2	1.92/1.54	
Θ(22.5°)	0.88/-0.76	-2.3/-4.69	-9.7/-15.94	-15.04/-13.83	-13.16/-13.97	-14.27/-11.61	-8.33/-5.91	-4.03/-1.8	0.14/1.39	1.052/0.3	3.43/4.55	4.68/4.24	3.65/2.1	0.28/-1.51	-1.71/-2.78	-6.47/-6.56	-8.91/-12.97	-18.92/-17.25	-16.09/-10.3	-6.34/-3.01	-1.26/-0.14	1.37/0.7	0.36/1.42	2.39/2.02
Θ(30°)	-0.28/-0.48	-1.28/-4.3	-9.94/-15.43	-17.74/-10.99	-8.27/-10.01	-15.79/-18.5	-15.21/-12.67	-9.06/-4.71	-1.62/0	0.97/1.89	2.57/4.15	4.43/4.23	3.53/2.44	1.72/1.67	0.86/-1.54	4.51/-6.1	-7.08/-10.03	-14.93/-15.06	-16.1/-17.23	-10.14/-427	-1.72/-2.36	-3.78/-5.4	-4.56/-2.06	-1.28/-0.69
Θ(37.5°)	-0.03/-0.99	-1.17/-2.88	-7.83/-16.16	-14.04/-8.47	-8.4/-8.41	-10.59/-15.86	-18.07/-17.78	-10.3/-7.57	-4.71/-0.1	4.51/7.2	2.76/3.64	3.72/2.53	1.39/-0.62	-1.04/-1.63	-0.91/-1.14	-3.51/-6.04	-6.75/-8.71	-12.28/-16.71	-16.12/-18.77	-8.83/-4.75	-4.26/-5.74	-9.39/-11.44	-10.28/-6.07	-4.44/-2.61
Θ(45°)	-4.																							



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(22.5°)	-12.76/-11.21	-8.52/-7.59	-8.12/-8.02	-7.35/-8.71	-9.46/-7.49	-5.92/-4.98	-5.27/-6.31	-7.1/-7.21	-7.9/-9.15	-10.05/-8.61	-6.23/-5.94	-5.79/-4.83	-3.08/-1.84	-1.26/-1.19	-1.44/-0.81	0.16/0.4	-0.03/-1.22	-2.97/-2.19	-0.31/0.91	1.19/-0.05	-1.47/-1.79	-1.96/-2.01	-3.08/-5.14	-9.01/-12.84
Θ(30°)	-14.87/-11.53	-9.13/-8.88	-10.9/-13.21	-14.28/-17.75	-11.3/-8.41	-6.84/-6.61	-5.07/-2.45	-1.4/-3.09	-6.03/-6.15	-5.03/-3.7	-2.86/-3.81	-5.98/-5.67	-3.33/-2.7	-4.34/-6.79	-7.23/-6.31	-4.07/-0.76	1.68/-1.48	-0.6/-1.71	-0.03/-1.29	1.26/-0.1	-1.39/-2.06	-2.26/-3.49	-5.78/-8.89	-10.47/-11.64
Θ(37.5°)	-3.69/-3.17	-3.28/-3.47	-8.87/-14.3	-12.63/-14.4	-12.48/-6.57	-5.77/-7.41	-6.13/-2.64	-1.42/-2.49	-5.28/-1.65	-1.55/-4.91	-8.29/-7.33	-5.83/-4.81	-1.33/-0.36	-0.31/-2.24	-5.35/-8.14	-5.55/-7.09	-4.25/-2.54	-1.49/-0.84	-0.65/-1.79	-1.52/-9.21	-5.25/-9.21	-3.08/-0.79	-1.18/-2.21	
Θ(45°)	-3.17/-5.66	-7.77/-8.24	-8.54/-13.52	-11.18/-16.53	-18.59/-9.74	-4.78/-5.33	-7.59/-6.97	-4.75/-2.93	-1.68/-1.16	-3.11/-1.29	-18.02/-5.29	-1.28/-2.22	-1.91/-0.75	-1/-3.46	-3.36/-2.57	0.23/-0.86	-6.35/-6.09	-4.49/-6.34	-5.51/-2.35	0.62/0.56	0.01/0.13	-1.37/-3.91	-3.87/-0.91	-0.47/-1.75
Θ(52.5°)	-7.14/-10.88	-18.71/-19.27	-10.31/-10.79	-18.57/-18.99	-16.78/-15.35	-6.23/-6.27	-9.86/-9.28	-4.95/-3.02	-4.96/-8.72	-13.33/-6.88	-7.56/-6.92	-5.12/-6.85	-4.1/-3.57	-2.51/-4.08	-6.16/-6.97	-1.55/-0.8	-7.95/-6.28	-2.38/-7.38	-11.67/-1.92	-0.21/-1.62	-3.19/-3.84	-3.83/-3.73	-2.87/-2.73	-5.68/-1.01
Θ(60°)	-4.9/-3.75	-6.33/-10.02	-5.55/-3.26	-7.07/-6.04	-6.58/-11.61	-6.09/-10.81	-6.87/-6.91	-5.33/-5.92	-12.39/-5.86	-0.48/-0.21	-4.83/-7.8	-5.6/-6.78	-8.17/-14.15	-4.85/-0.08	-2.81/-5.65	-13.21/-5.61	-9.07/-14.62	-8.32/-10.09	-14.48/-5.83	-5.21/-9.95	-8.21/-5.83	-9.04/-7.53	-3.08/-1.93	-2.71/-5.81
Θ(67.5°)	-3.02/-0.54	-0.76/-4.26	-2.6/-0.31	-1.92/-0.76	-1.96/-5.74	-4.78/-11.45	-9.01/-8.93	-6.93/-7.45	-4.88/-0.79	1.5/0.51	-2.04/0.9	1.41/0.67	-1.14/-4.43	-4.61/-0.05	0.27/0.89	-1.57/-3.58	-2.28/-4.85	-15.66/-18.19	-12.83/-6.1	-5.98/-7.82	-2.34/-0.77	-4.53/-2.64	-2.56/-1.79	-0.49/-2.15
Θ(75°)	-3.83/-1.47	-0.15/-2	-1.52/0.3	-1.07/-0.17	-1.04/-2.84	-2.38/-11.04	-5.84/-3.98	-10.7/-4.94	-1.96/-0.03	2.04/0.55	0.73/0.67	3.42/0.8	1.91/52	-1.27/-1.48	0.46/-1.3	1.08/-1.86	-1.25/-1.04	-6.19/-7.19	-10.24/-5.38	-4.43/-6.04	-0.13/0.93	-2.72/-0.59	-3.11/-2.68	-0.47/-1.16
Θ(82.5°)	-7.01/-2.19	-1.51/-3.12	-1.44/-0.45	-0.76/0.84	-2.23/-1.73	-3.85/-9.72	-4.4/-5.63	-14.08/-5.19	-1.53/-0.62	1.05/1.05	1.07/0.28	2.12/0.96	0.99/2.49	1.02/-0.6	-1.41/-67	1.61/-1.02	-0.51/0.06	-3.48/-2.39	-9.68/-8.04	-4.36/-2.49	-0.91/-0.42	-3.14/-0.89	-5.47/-2.13	-2.58/-4.05
Θ(90°)	-9.91/-5.6	-4.31/-4.03	-1.66/-2.16	-1.82/0.02	-4.88/-1.94	-3.64/-6.64	-6.03/-13.31	-14.36/-7.94	-1.82/-3.46	-0.71/0.47	-0.38/-0.44	-1.06/-1.16	-1.74/0.72	1.13/0.75	-4.37/-1.17	0.54/-1.96	-4.58/-3.7	-5.39/-3.6	-7.99/-9.71	7.66/-5.75	-1.02/-3.93	-4.5/-2.53	-10.13/-3.34	-4.79/-6.67
Θ(97.5°)	-13.25/-8.15	-7.51/-4.69	-2.9/-3.16	-2.03/-2.16	-7.45/-2.96	-7.37/-6.5	-7.39/-18.73	-11.59/-8.05	-4.59/-3.74	-1.63/-1.16	-3.66/-4.1	-4.83/-5	-4.61/-1.29	-0.17/-0.7	-8.19/-6.6	-1.81/-3.14	-9.55/-10	-10.93/-6.85	-11.07/-12.5	-9.84/-11.58	-3.94/-6.62	-7.55/-6.93	-12.74/-4.57	-6.97/-8.82
Θ(105°)	-12.79/-11.69	-8.61/-7.3	-4.5/-3.41	-3.39/-5.54	-6.66/-2.75	-13.68/-7.03	-8.12/-18.46	-11.14/-9.14	-8.87/-7.4	-4.16/-3.09	-4.79/-7.15	-7.48/-8.89	-10.85/-5.7	-2.03/-0.99	-7.55/-17.53	-10.34/-1.9	-6.32/-13.82	-17.08/-12.01	-15.79/-12.67	-12.75/-16.67	-8.32/-6.17	-10.03/-6.43	-13.69/-10.18	-7.5/-10.97
Θ(112.5°)	-15.24/-14.82	-12.82/-9.87	-6.04/-4.68	-6.62/-8.68	-5.07/-6.18	-11.42/-9.03	-14.82/-18.05	-12.19/-9.65	-17.98/-4.46	-4.71/-5.44	-8.69/-8.21	-8.83/-15.47	-13.72/-8.55	-3.74/-2.48	-5.29/-11.86	-18.78/-9.06	-5.76/-8.52	-18.2/-11.79	-18.11/-14.78	-15.63/-12.32	-7.62/-9.98	-8.37/-18.77	-18.81/-6.65	-12.19/-16.23
Θ(120°)	-11.75/-10.71	-8.19/-8.64	-7.37/-7.97	-11.29/-7.48	-8.55/-15.48	-7.82/-8.62	-17.63/-9.24	-9.55/-11.63	-15.28/-5.69	-5/-8.4	-12.1/-10.96	-9.03/-10	-11.51/-15.95	-9.21/-5.66	-5.59/-5.04	-9.69/-17.44	-7.36/-3.9	-9.55/-18.44	-11.89/-15.67	-17.56/-12.89	-12.62/-9.84	-13.77/-17.26	-13.75/-10.19	-16.04/-13.92
Θ(127.5°)	-12.94/-12.73	-11.17/-18.98	-10.69/-7.56	-9.12/-10.39	-15.54/-10.26	-6.5/-14.43	-16.37/-9.13	-12.89/-13.85	-18.97/-8.05	-6.29/-11.4	-16.32/-18.07	-11.42/-8.25	-10.42/-18.35	-18.81/-7.85	-4.53/-6.39	-9.43/-17.5	-12.53/-8.98	-12.53/-18.75	-11.79/-14.29	-16.22/-11.86	-13.86/-15.69	-11.17/-17.07	-17.97/-10.97	-16.35/-12.02
Θ(135°)	-8.46/-7.58	-11.12/-13.45	-9.53/-8.52	-16.7/-18.72	-9.74/-13.19	-16.29/-18.23	-9.49/-10.34	-13.35/-11.87	-16.91/-10.63	-8.89/-14	-13.99/-16.2	-18.5/-18.58	-11.91/-14.97	-18.07/-16.85	-7.94/-9.84	-4.9/-9.78	-8.18/-18.12	-18.96/-8.93	-19.05/-17.87	-17.92/-12.23	-15.1/-9.02	-11.9/-18.58	-12.76/-13.44	-12.27/-15.6
Θ(142.5°)	-10.71/-13.86	-18.57/-18.58	-18.81/-13.05	-9.21/-13.4	-10.25/-16.63	-18.75/-18.64	-12.99/-13.1	-16.09/-10.56	-17.88/-14.59	-10.57/-11.54	-12.07/-13.3	-16.73/-15.16	-11.37/-17.79	-9.94/-14.6	-17.44/-12.67	-8.36/-4.89	-15.33/-16.04	-11.23/-17.37	-14.78/-17.93	-10.1/-17.7	-14.12/-17.78	-12.82/-15.52	-19.23/-18.45	-12.14/-10.16
Θ(150°)	-14.94/-10.69	-16.88/-12.83	-9.37/-9.57	-9.81/-14.83	-14.98/-18.87	-12.17/-11.51	-12.99/-16.73	-17.34/-13.45	-13.72/-15.96	-16.83/-17.49	-16.42/-13.84	-13.62/-19.3	-15.78/-16.64	-10.37/-11.35	-15.74/-18.25	-16.22/-16.01	-12.38/-15.97	-14.48/-17.93	-13.55/-18.5	-17.08/-18.21	-19.32/-19.33	-19.32/-19.33	-19.23/-14.23	-12.62/-12.56
Θ(157.5°)	-17.63/-18.44	-18.39/-15.41	-15.76/-18.01	-17.79/-16.73	-18.33/-14.23	-11.66/-12.87	-19.21/-14.55	-12.95/-15.18	-17.36/-18.14	-18.08/-18.18	-17.54/-16.76	-13.59/-12.25	-11.22/-13.58	-11.93/-10.57	-12.01/-13.54	-15.09/-18.69	-18.68/-18.45	-15.79/-11.15	-11.46/-18.82	-18.55/-18.8	-17.52/-18.43	-18.81/-17.53	-14.98/-11.57	-13.36/-18.95
Θ(165°)	-10.71/-11.19	-12.73/-14.78	-16.2/-18.58	-18.5/-17.78	-14.06/-12.19	-12.51/-15.41	-17.58/-18.65	-14.72/-11.81	-12.25/-14.41	-18.18/-18.75	-19.1/-18.31	-18.35/-19.35	-18.54/-19.19	-17.5/-17.86	-18.35/-18.11	-17.92/-17.75	-19.13/-18.79	-17.6/-19.11	-18.18/-18.9	-18.1/-17.58	-19.38/-17.63	-17.62/-18.71	-17.98/-15.67	-13.52/-16.66
Θ(172.5°)	-16.1/-15.81	-15.67/-16.32	-14.7/-12.65	-12.59/-13.04	-13.64/-14.95	-18.52/-18.93	-19.07/-16.78	-15.49/-14.61	-13.94/-11.96	-13.33/-14.73	-18.03/-18.24	-18.46/-18.65	-18.52/-18.46	-17.92/-14.14	-13.19/-14.16	-17.33/-17.89	-17.45/-18.31	-18.54/-19.03	-19.03/-19.04	-17.97/-14.71	-13.1/-12.79	-12.91/-13.26	-14.38/-16.11	
Θ(180°)	-18.48/-17.28	-18.26/-19.39	-17.85/-17.58	-18.02/-18.39	-17.82/-18.23	-18.27/-17.51	-17.89/-19.05	-18.1/-18.72	-18.61/-19.18	-15.38/-16.01	-14.71/-13.8	-14.03/-13.87	-14.13/-14.53	-16.57/-18.42	-18.98/-18.07	-18.05/-18.12	-18.26/-18.29	-18.77/-17.69	-19.31/-17.95	-17.10/-16.28	-17.85/-17.89	-18.96/-19.14	-17.43/-17.65	
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°)	-1.94/-1.59	-1.68/-1.96	-2.14/-2.68	-3.67/-4.73	-5.19/-5.3	-6.47/-8.21	-9.54/-8.62	-7.67/-6.84	-6.28/-5.62	-3.85/-2.57	-2.07/-1.93	-1.81/-1.77	-1.88/-2.21	-2.4/-2.67	-3.13/-4.08	-5.38/-7.05	-8.82/-9.91	-12.45/-15.85	-16.37/-15.28	-10.61/-8.3	-6.83/-5.3	-4.21/-3.42	-3.12/-2.59	-2.27/-1.94
Θ(7.5°)	-3.31/-3.34	-3.47/-3.42	-3.48/-3.91	-4.54/-5.24	-5.59/-6.26	-7.51/-10.51	-14.9/-14.72	-11.43/-9	-7.38/-5.89	-4.37/-3.12	-2.43/-1.68	-1.18/-0.93	-0.96/-1.35	-1.58/-1.8	-2.27/-2.78	-3.61/-4.61	-5.97/-5.72	-9.75/-10.95	-10.59/-9.2	-6.88/-5.52	-5.05/-4.13	-3.66/-2.99	-2.69/-2.96	-3.31/-3.35
Θ(15°)	-6.79/-8.52	-10.87/-8.57	-5.98/-4.81	-4.9/-2.26	-5.51/-5.75	-6.24/-7.99	-11.03/-11.27	-18.25/-10.45	-5.12/-2.28	-0.21/0.78	1.39/1.57	0.91/3.09	-0.35/-0.77	-1.82/-2.9	-3.63/-4.45	-5.53/-7.19	-10.22/-9.87	-7.23/-5.54	-5.17/-5.15	-6.15/-7.43	-7.85/-8	-8.49/-6.06	-5.67/-5.91	
Θ(22.5°)	-4.51/-7.22	-16.41/-12.2	-7.41/-6.8	-6.14/-5.02	-3.93/-3.12	-3.24/-4.01	-5.43/-8.49	-15.66/-14.6	-8.06/-5.08	-2.45/-4.44	0.22/0.91	2.05/2.35	1.53/0.27	-1.29/-2.94	-4.23/-4.03	-4.5/-6.8	-9.25/-11.38	-14.82/-10.29	-5.51/-3.75	-5.54/-10.91	-17.2/-17.54	-17.71/-16.19	-8.03/-4.48	-3.38/-3.43
Θ(30°)	-4.19/-5.93	-10.74/-18.46	-9.06/-6.88	-6.93/-6.65	-4.75/-3.37	-3.06/-3.64	-4.27/-5.4	-6.75/-6.97	-7.6/-6.64	-3.71/-1.51	-1.33/-1.04	1.32/2.7	2.6/0.93	-1.62/-1.86	-2.22/-2.42	-1.72/-2.13	-5.24/-10.28	-12.67/-10.79	-6.91/-7.77	-13.81/-17.77	-16.03/-12.27	-11.65/-8.47	-4.61/-3.59	-2.99/-2.93
Θ(37.5°)	-7.92/-10.79	-14.8/-18.32	-9.46/-5.34	-6.15/-6.35	-4.14/-4.76	-6.24/-7.6	-6.13/-4.6	-4.01/-4.85	-3.36/-0.95	-1.53/-2.21	-1.14/0.18	0.45/-0.56	-1.97/-3.18	-4.21/-6.75	-6.76/-3.48	-3.48/-9.31	-13.06/-7.72	-6.75/-12.04	-18.83/-18.24	-18.73/-16.59	-18.21/-14.45	-17.31/-12.26	-9.33/-7.42	
Θ(45°)	-5/-6.35	-8.05/-11.66	-8.12/-3.01	-3.98/-6.1	-4.62/-3.3	-4.88/-7.51	-6.57/-5.17	-4.98/-5.61	-3.32/-2.6	-2.95/-0.33	0.39/0.8	1.77/-0.51	-0.84/-2.83	-4.1/-5.79	-1.72/-3.29	-8.82/-8.02	-5.46/-8.66	-15.28/-8.23	-4.11/-6.64	-16.07/-18.56	-17.2/-19.01	-11.59/-8.7	-11.31/-19.05	-11.55/-6.71
Θ(52.5°)	-7.62/-9.95	-9.8/-8.51	-6.92/-3.05	-2.72/-6.18	-4.84/-1.44	-4.29/-0.87	-7.57/-9.3	-7.14/-5.61	-4.1/-2.8	-2.2/0.3	0.72/2.4	2.39/0.44	-2.54/-4.27	-3.4/-5.51	-3.43/-2.99	-7.09/-15.98	-9.39/-11.6	-12.63/-10.69	-5.45/-7.36	-14.31/-12.57	-16.19/-18.4	-12.36/-12.06	-17.75/-16.77	-9.53/-1.15
Θ(60°)	-16.73/-13.44	-18.31/-11.06	-9.29/-5.49	-2.57/-5.74	-4.68/-0.87	-6.83/-11.01	-9.85/-13.98	-9.28/-5.29	-9.57/-3.87	-3.05/-2.74	2.30/4.7	0.47/-1.36	-5.24/-9.02	-3.09/-3.57	-6.04/-7.89	-6.67/-13.28	-14.35/-17.75	-12.29/-16.59	-8.18/-14	-15.77/-11.73	-18.68/-19.45	-13.67/-17.85	-16.31/-17.61	-15.75/-16.74
Θ(67.5°)	-16.87/-16.21	-17.74/-14.09	-13.03/-10.15	-4.54/-6.12	-5.91/-2.68	-17.81/-9.31	-12.78/-18.78	-8.72/-6.38	-10.14/-6.15	-6.47/-5.28	-3.44/-2.2	-9.27/-4.46	-9.71/-8.54	-4.64/-3.52	-7.18/-10.77	-8.98/-8.05	-16.58/-16.15	-12.73/-18.02	-10.85/-14.71	-18.47/-18.21	-18.31/-8.53	-11.37/-18.08	-9.94/-11.61	-19.41/-12.39
Θ(75°)	-13.9/-19																							



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(75°)	2.86/2.64	2.46/2.49	2.13/4.1	5.41/4.79	4.55/3.35	1.18/0.58	-0.66/-1.15	-2.39/-0.86	-2.89/-2.51	-4.72/-3.67	-3.03/-5.16	-11.3/-8.1	-5.4/-4.72	-4.18/-5.33	-4.98/-5.72	-4.18/-4.61	-14.47/-11.6	-4.29/-7.93	-8.7/-3.48	-0.63/-1.22	-3.19/-1.36	0.11/-1.93	-1.04/-4.44	1.16/2.52
Θ(82.5°)	0.42/0.62	0.91/0.93	0.33/2.54	3.86/3.75	3.25/0.9	4.47/0.1	-0.09/-2.4	-1.65/-3.4	-2.78/-2.69	-3.63/-2.2	-1.15/-3.7	-6.38/-4.05	-3.58/-4.89	-5.34/-7.08	-6.89/-7.24	-3.84/-4.13	-12.59/-13.3	-4.45/-6.89	-7.78/-5.48	-1.5/-3.01	-4.53/-3.32	-2.07/-2.77	-3.36/-2.93	-0.21/-1
Θ(90°)	-2.07/-1.62	-0.79/-1.77	-2.21/0.9	2.15/1.92	0.61/-1.75	0.25/-1.4	-0.63/-5.64	-2.91/-6.24	-2.47/-2.6	-2.98/-4.14	-1.96/-2.75	-5.61/-4.56	-7.17/-5.78	-10.22/-8.34	-12.94/-11.03	-7.9/-9.15	-12.61/-12.65	-6.71/-7.66	-8.68/-8.29	-4.13/-4.97	-8.6/-5.74	-3.71/-3.95	-5.14/-4.74	-2.5/-0.87
Θ(97.5°)	-5.62/-4.58	-3.29/-5.39	-4.61/-2.33	-0.48/-0.98	-1.19/-5.41	-1.55/-4.26	-3.51/-8.71	-4.04/-8.68	-3.55/-5.71	-8.02/-7	-3.9/-5.37	-8.03/-6.25	-5.32/-10.69	-16.19/-10.36	-14.62/-12.58	-9.99/-7.74	-16.33/-13.98	-10.44/-8.83	-12.85/-12.42	-8.18/-8.2	-12.31/-8.39	-6.59/-6.62	-5.52/-6.1	-4.42/-3.3
Θ(105°)	-7.56/-6.4	-6.3/-8.51	-5.65/-4.3	-1.91/-4.56	-3.69/-5.78	-3.26/-6.55	-6.64/-10.04	-6.58/-10.13	-5.01/-6.24	-9.61/-10.06	-5.96/-5.66	-8.66/-10.13	-6.43/-8.59	-18.27/-12.92	-18.21/-17.02	-13.55/-15.62	-14.51/-17.94	-13.91/-13.1	-18.16/-15.7	-11.52/-11.8	-14.74/-11.88	-6.69/-6.62	-7.89/-9.19	-6.88/-5.17
Θ(112.5°)	-9.11/-7.78	-7.63/-8.08	-7.18/-6.52	-5.05/-6.65	-5.39/-5.14	-7.48/-8.08	-10.54/-8.6	-18.16/-10.38	-8.77/-10.5	-16.55/-9.65	-6.35/-6.76	-9.26/-9.28	-8.36/-8.35	-18.24/-12.9	-15.9/-15.41	-8.58/-15.15	-16.65/-18.55	-11.57/-14.14	-17.82/-16.31	-12.94/-10.46	-17.69/-9.98	-7.8/-12.69	-10.67/-9.16	-8.43/-10.17
Θ(120°)	-10.83/-8.94	-9.13/-8.29	-8.98/-9.36	-9.11/-6.88	-8.02/-6.96	-9.58/-9.35	-16.33/-11.47	-9.44/-10.99	-9.34/-11.06	-18.21/-11.4	-9.45/-8.58	-11.36/-13.02	-15.62/-10.07	-12.07/-17.45	-12.29/-18.89	-15/-15.12	-14.61/-14.9	-16.05/-17.88	-18.8/-12.7	-9.79/-14.34	-16.22/-13.75	-11.67/-8.32	-16.54/-14.5	-10.33/-12.92
Θ(127.5°)	-18.47/-15.03	-10.43/-10.21	-14.07/-11.45	-12.88/-12.87	-7.67/-7.81	-9.04/-8.8	-15.96/-12.79	-12.71/-13.47	-10.01/-14.43	-17.75/-12.59	-9.5/-11.4	-14.6/-14.41	-14.56/-11.35	-10.02/-17.18	-16.51/-18.71	-17.74/-12.9	-17.46/-16.32	-15.48/-18.3	-13.63/-13.76	-14.05/-17.99	-18.26/-10.68	-10.9/-17.99	-15.13/-14.94	-15.07/-15.98
Θ(135°)	-17.11/-12.23	-11.23/-11.83	-8.31/-10.83	-17/-9.66	-11.21/-10.84	-7.76/-11.98	-17.21/-15.71	-15.18/-15.58	-10.1/-12.02	-18.38/-14.37	-13.18/-15.46	-15.51/-17.44	-14.5/-12.81	-10.45/-16.65	-19.09/-17.79	-18.16/-11.88	-17.67/-16.21	-14.31/-17.67	-12.83/-18.15	-13.31/-13.16	-17.71/-18.31	-14.78/-17.45	-16.75/-18.74	-17.84/-17.9
Θ(142.5°)	-17.57/-13.84	-10.78/-9.34	-13.6/-18.86	-10.75/-12.63	-13.33/-11.55	-14.31/-17.9	-11.98/-13.15	-18.06/-16.02	-10.66/-11.99	-18.42/-14.25	-17.75/-19.65	-18.46/-18.05	-18.38/-12.61	-10.73/-16.32	-17.74/-16.37	-18.28/-14.27	-16.28/-18.43	-19.02/-14.52	-18.08/-17.1	-15.65/-18.66	-17.92/-17	-17.89/-18.94	-18.8/-18.6	-19.14/-18.16
Θ(150°)	-15.75/-12.35	-12.07/-15.05	-14.45/-11.61	-11.59/-8.85	-6.59/-9.1	-16.09/-13.38	-15.18/-19.05	-19.2/-17.88	-18.66/-18.13	-15.16/-17.32	-18.54/-12.36	-12.23/-18.1	-15.55/-14.08	-11.31/-18.13	-17.73/-15.47	-17.96/-17.84	-17.98/-18	-19.37/-17.94	-17.8/-18.54	-18.36/-15.67	-14.46/-15.48	-18.02/-19.08	-17.32/-18.25	-18.13/-17.21
Θ(157.5°)	-14.3/-15.79	-17.37/-18.11	-18.99/-15.37	-10.67/-10.22	-12.51/-12.44	-9.939/-37	-14.05/-17.68	-18.39/-18.39	-18.3/-16.24	-18.27/-15.84	-19.26/-16.52	-18.27/-15.84	-14.44/-15.68	-18.99/-17.68	-17.78/-19.27	-17.24/-15.03	-17.28/-14.68	-11.46/-13.94	-16.78/-17.82	-17.03/-18.85	-18.99/-18.9	-18.6/-19.13	-18.05/-15.71	
Θ(165°)	-16.57/-16.15	-16.49/-16.56	-16.52/-17.6	-19.02/-16.53	-13.48/-12.06	-12.53/-16.34	-17.76/-18.8	-15.97/-15.65	-17.19/-18.65	-17.83/-18.64	-17.67/-18.48	-18.58/-18.55	-18.12/-17.82	-16.45/-14.01	-12.32/-14.08	-18.38/-18.58	-14.02/-12.51	-14.2/-18.1	-17.84/-18.02	-16.75/-17.62	-18.43/-18	-18.89/-18.78	-19.33/-18.05	-18.57/-18.17
Θ(172.5°)	-19.14/-18.15	-18.71/-17.88	-18.38/-19.08	-17.48/-10.93	-16.44/-14.86	-15.24/-16.58	-18.39/-17.6	-17.95/-19.07	-17.56/-18.24	-18.24/-17.59	-18.23/-16.73	-15.26/-14.48	-15.82/-17.14	-17.99/-18.51	-17.29/-18.02	-16.8/-14.2	-13.61/-15.14	-19.17/-17.78	-18.63/-17.54	-15.91/-15.93	-16.06/-15.85	-14.92/-14.42	-14.74/-15.5	-17.84/-18.95
Θ(180°)	-18.87/-18.18	-18.56/-17.67	-18.05/-17.89	-18.56/-18.02	-18.04/-17.53	-17.81/-16.42	-14.45/-14	-13.9/-13.18	-12.62/-12.51	-12.69/-13.48	-14.53/-15.5	-17.01/-18.4	-18.78/-19.03	-19.1/-18.86	-18.99/-17.95	-18.62/-17.59	-18.1/-18.47	-18.53/-18.43	-18.73/-17.48	-16.57/-15.98	-16.12/-17.6	-17.85/-17.77	-19.22/-18.69	-18.1/-18.04
Freq(Hz)	6.175GPdL	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°)	-3.13/-3.98	-5.01/-6.48	-7.94/-9.52	-10.39/-11.56	-11.99/-11.62	-10.53/-9.26	-8.52/-9.13	-6.21/-5.19	-4.3/-3.13	-2.14/-1.5	-1.37/-1.34	-1.75/-2.5	-3/-3.97	-4.68/-5.81	-7.86/-11.36	-14.14/-14.35	-13.35/-12.24	-10.02/-6.1	-5.89/-4.24	-3.5/-2.61	-1.68/-1.59	-1.82/-2.11	-2.35/-2.66	
Θ(7.5°)	0.29/0.35	-1.21/-2.14	-3.02/-4.04	-5.31/-6.94	-8.72/-10.44	-11.52/-11.08	-9.76/-8.18	-6.65/-5.41	-4.24/-3.55	-3.2/-3.18	-3.59/-4.54	-5.85/-7.24	-9.22/-10.92	-11.94/-11.53	-12.24/-13.79	-14.9/-16.51	-18.3/-15.23	-10.73/-7.34	-4.82/-3.22	-1.97/-0.72	0.05/0.91	1.21/1.46	1.49/1.45	1.18/0.73
Θ(15°)	-0.73/-0.27	-3.8/-5.15	-6.52/-7.78	-8.55/-10.1	-12.05/-14.58	-17.31/-17.1	-16.58/-15.32	-12.47/-8.24	-4.92/-2.8	-1.61/-1.03	-0.92/-1.17	-1.79/-2.77	-4.53/-7.31	-10.99/-14.51	-17.57/-17.95	-18.47/-18.64	-19.13/-14.84	-10.36/-7.01	-4.68/-2.45	-1.05/0.19	1/1.56	1.83/1.89	1.94/1.83	1.28/0.42
Θ(22.5°)	-4.74/-3.16	-5.57/-7.93	-11.36/-16.57	-18.27/-19.94	-17.84/-12.43	-10.65/-11.37	-14.39/-15.86	-17.79/-16.48	-8.18/-4.58	-2.77/-1.79	-1.61/-1.91	-1.82/-2.16	-3.44/-5.4	-7.44/-6.98	-17.78/-19.27	-17.24/-15.03	-13.28/-13.94	-12.56/-8.07	-4.52/-1.79	1.36/1.95	1.21/1.19	1.27/1.3	1.36/1.37	1.22/0.56
Θ(30°)	-2.62/-4.29	-5.25/-5.58	-7.44/-13.5	-18.67/-18.57	-13.39/-6.48	-3.25/-3.88	-10.47/-17.29	-10.66/-8.66	-7.13/-5.58	-4.46/-4.58	-4.36/-3.86	-2.41/-0.86	-0.66/-1.96	-4.33/-0.84	-8.75/-5.64	-5.45/-7.8	-11.04/-10.48	-8.05/-6.28	-3.48/-0.82	0.3/-0.03	-1.09/-1.45	-1.28/-1	-0.7/-0.66	-1.23/-1.79
Θ(37.5°)	-7.45/-9.28	-10.01/-7.09	-5.18/-5.37	-10.69/-13.83	-13.58/-6.4	-1.89/-2.28	-7.33/-13.44	-8.18/-11.72	-14.23/-11.34	-8.69/-10.96	-10.58/-12.3	-10.33/-8.75	-5.21/-3.15	-2.51/-5.3	-10.98/-12.77	-9.73/-10.54	-11.51/-8.1	-6.39/-5.67	-4.03/-2.62	-2.61/-2.68	-1.73/-0.91	-0.47/-1.22	-2.13/-4.08	-6.47/-1.76
Θ(45°)	-1.74/-1.2	-14.03/-13.83	-7.56/-5.43	-9.61/-14.48	-15.25/-10.5	-2.89/-2.53	-4.34/-7.05	-11.57/-9.05	-8.47/-11.57	-13.12/-18.68	-12.31/-9.73	-10.16/-11.46	-12.51/-15.09	-7.06/-5.84	-15.23/-18.34	-19.23/-17.33	-15.22/-10.06	-8.48/-8.24	-4.98/-4.66	-7.2/-5.65	-2.46/-1.08	-3.81/-1.68	-3.18/-6.42	-9.11/-0.81
Θ(52.5°)	-10.02/-12.79	-12.31/-13.17	-12.92/-10.76	-16.29/-13.9	-10.72/-9.74	-3.27/-4.12	-5.82/-5.82	-10.31/-3.94	-6.78/-14.09	-18.38/-11.39	-6.28/-6.53	-8.3/-11.99	-12.74/-13.91	-11.1/-7.41	-14.77/-17.43	-16.87/-18.93	-18.01/-14.71	-14.93/-10.53	-6.79/-7.68	-11.09/-8.28	-5.38/-4.07	-2.91/-3.03	-3.1/-4.9	-5.5/-7.19
Θ(60°)	-8.36/-13.1	-10.95/-8.49	-10.55/-14.86	-13.03/-15.91	-8.04/-7.72	-3.27/-6.09	-6.87/-7.31	-7.96/-7.34	-10.09/-17.16	-10.35/-8.64	-6.99/-7.17	-9.59/-11.49	-17.49/-16.01	-15.22/-11.59	-11.18/-18.13	-13.71/-16.46	-13.79/-17.89	-13.17/-16.03	-10.3/-12.36	-14.37/-11.21	-9.54/-6.78	-5.77/-6.74	-6.02/-7.58	-5.1/-6.03
Θ(67.5°)	-10.67/-14.9	-10.49/-7.12	-7.3/-16.23	-14.75/-16.15	-7.51/-9.41	-5.04/-8.76	-11.37/-14.6	-8.36/-6.57	-16.18/-13.31	-9.05/-12	-9.43/-11.48	-12.96/-16.45	-14.83/-14.06	-14.46/-18.21	-9.98/-12.98	-15.03/-9.89	-8.73/-17.38	-8.31/-11.6	-6.39/-8.44	-11.96/-13.27	-10.09/-9.16	-18.16/-16.98	-10.91/-5.62	-6.41/-8.43
Θ(75°)	-18.4/-16.95	-13.4/-7.86	-6.83/-15.26	-13.82/-17.55	-8.36/-12.29	-7.85/-12.02	-17.17/-17.88	-13.25/-14.23	-14.38/-13.98	-11.01/-18.93	-14.29/-13.38	-17.9/-13.21	-16.16/-8.58	-8.73/-13.97	-12.78/-9.88	-10.99/-11.86	-5.99/-15.47	-5.59/-8.64	-3/-5.1	-8.28/-13.78	-10.24/-9.82	-16.83/-16.37	-15.27/-11.02	-8.61/-12.8
Θ(82.5°)	-17.9/-18.51	-17.67/-8.92	-6.73/-15.56	-15.68/-18.49	-10.89/-14.94	-10.46/-15.9	-19.15/-18.01	-13.35/-18.9	-12.81/-13.58	-13.57/-19.02	-15.63/-13	-18.58/-17.5	-18.66/-6.21	-10.05/-14.16	-13.4/-10.19	-8.42/-11.61	-6.16/-15.13	-4.83/-8.57	-2.46/-5.19	-5.67/-13.37	-10.86/-14.62	-18.13/-15.2	-16.8/-16.91	-10.94/-15.87
Θ(90°)	-18.92/-18.57	-18.76/-12.93	-9.88/-17.87	-18.31/-17.41	-13.26/-14.41	-12.44/-18.22	-15.43/-14.35	-13.01/-15.98	-14.25/-13.36	-16.34/-18.05	-18.51/-15.43	-17.83/-11.76	-17.06/-11.57	-10.19/-12.46	-14.32/-15.65	-9.93/-12.86	-6.35/-11.48	-6.78/-11.65	-3.53/-7.39	-7.36/-15.16	-16.09/-17.43	-19.22/-15.97	-17.75/-14.16	-12.32/-18.14
Θ(97.5°)	-18.11/-16.76	-19.11/-16.11	-14.02/-17.91	-17.51/-18.83	-14.63/-15.69	-15.72/-18.27	-15.48/-14.79	-11.63/-15.21	-16.95/-13.13	-17.27/-17.39	-18.01/-17.46	-17.84/-13.13	-17.54/-14.02	-10.29/-18.2	-17.54/-17.5	-12.57/-11.54	-10.1/-41	-9.21/-14.16	-6.68/-11.02	-9.85/-14.51	-18.78/-15.94	-13.28/-18.62	-17.97/-18.48	-15.31/-19.29
Θ(105°)	-16.03/-15.99	-18.41/-17.22	-18.13/-17.11	-19.05/-17.67	-17/-16.18	-15.02/-16.87	-17.03/-17.43	-12.29/-16.5	-17.8/-13.14	-17.19/-17.97	-18.61/-17.51	-18.73/-18.13	-14.33/-18.02	-11.05/-15.26	-18.15/-18.21	-15.8/-13.04	-13.25/-14.23	-13.55/-11.84	-14.11/-14.39	-15.44/-17.84	-16.84/-18.53	-14.09/-17.75	-18.1/-18.09	-18.27/-17.93
Θ(112.5°)	-17.91/-19.17	-18.81/-18.17	-14.66/-16.33	-17.84/-15.35	-15.77/-18.24	-15.99/-15.02	-15.22/-17.57	-12.51/-16.35	-18.85/-18.7	-17.9/-15.96	-18.51/-18.56	-18.25/-18.24	-18.77/-18.11	-12.55/-13.04	-18.11/-17.83	-18.23/-12.69	-12.37/-13.49	-13.58/-13.58	-14.89/-14.4	-17.67/-18.45	-17.5/-18.43	-18.82/-18.26	-18.5/-18.49	
Θ(120°)	-18.3/-18.23	-17.83/-18.09	-13.51/-17.96	-18.7																				



Radiated Composite Gain Data of 6GHz

Appendix B

Θ(127.5°)	-18.74/-14.39	-11.44/-13.2	-15.91/-13.92	-16.95/-9.63	-12.64/-12.53	-14.13/-9.58	-10.41/-10.47	-8.81/-15.43	-11.59/-16.08	-13.05/-17.65	-13.48/-8.28	-9.65/-13.18	-18.45/-14.43	-12.73/-17.77	-17.1/-12.89	-17.67/-16.3	-17.76/-16.31	-16.91/-12.72	-11.28/-13.57	-12.24/-14.09	-8.91/-8.89	-6.43/-18.4	-12.9/-7.34	-7.68/-12.91
Θ(135°)	-13.49/-10.32	-15.38/-18.61	-15.13/-18.51	-13.15/-15.08	-11.12/-10.28	-11.4/-9.46	-17.98/-11.02	-12.03/-14.45	-11.56/-17.88	-14/-18.63	-17.51/-16.3	-13.69/-10.99	-15.33/-15.98	-12.6/-18.84	-18.86/-18.06	-13.45/-11.67	-13.42/-15.67	-15.43/-13.21	-15.9/-8.45	-8.65/-17.37	-11.19/-7.76	-19.33/-12.23	-9.1/-11.33	-13.94/-18.04
Θ(142.5°)	-11.85/-17.78	-18.35/-18.53	-18.04/-15.31	-19.15/-11.86	-12.6/-14.54	-8.26/-10.83	-14.12/-9.84	-15.02/-13.26	-11.8/-16.27	-18.94/-17.77	-18.13/-14.08	-14.07/-17.52	-19.15/-11.07	-9.8/-17.4	-17.27/-19.06	-19.38/-17.35	-18.47/-18.66	-15.18/-17.34	-15.26/-11.44	-18.88/-16.22	-15.99/-13.23	-11.66/-15.54	-19.02/-18.5	-17.18/-11.71
Θ(150°)	-18.09/-19.39	-15.92/-17.11	-17.57/-17.46	-13.12/-14.91	-12.63/-7.94	-10.91/-18.35	-16.18/-13.98	-17.68/-16.45	-13.44/-14.01	-15.68/-17.11	-18.28/-15.2	-17.4/-17.14	-8.72/-8.27	-9.64/-15.82	-15/-15.41	-18.2/-18.54	-18.71/-18.31	-18.13/-17.11	-18.35/-10.87	-9.51/-15.9	-18.51/-15.01	-16.64/-18.88	-13.53/-11.56	-14.41/-18.24
Θ(157.5°)	-17.86/-18.56	-17.9/-18	-18.66/-18.28	-12.35/-9.92	-6.83/-9.93	-15.19/-13.27	-14.86/-17.45	-18.86/-17.73	-18.3/-17.73	-13.36/-14.28	-18.84/-17.29	-17.75/-16.72	-12.89/-17.82	-15.39/-10.8	-13.77/-18.7	-18.23/-18.08	-17.27/-18.37	-16.68/-12	-13.25/-17.86	-17.25/-14.25	-16.86/-15.77	-15.21/-16.73	-17.87/-18.31	-18.11/-18.41
Θ(165°)	-14.68/-12.79	-12.31/-13.67	-18.33/-17.87	-18.33/-17.87	-18.63/-16.48	-15.31/-12.38	-10.25/-11.12	-14.02/-16.67	-17.67/-18.62	-17.92/-17.46	-18.74/-18.39	-18.1/-19.23	-18.35/-17.92	-18.9/-19.12	-18.12/-17.77	-15.66/-13.36	-14.03/-19.4	-19.15/-11.66	-11.42/-14.9	-18.26/-18.61	-17.97/-18.39	-18.26/-17.18	-18.65/-18.4	-15.86/-14.2
Θ(172.5°)	-12.02/-13.01	-14.97/-15.91	-15.96/-16.29	-18.5/-18.64	-18.72/-18.1	-19.28/-18.19	-18.81/-17.63	-17.6/-18.08	-19.01/-18.65	-18.15/-18.24	-17.49/-15.25	-14.28/-15.53	-17.11/-18.25	-18.02/-18.09	-18.48/-14.59	-14.24/-16.68	-17.85/-18.18	-15.93/-14.44	-14.82/-18.22	-18.5/-16.67	-15.16/-14.85	-14.81/-14.41	-13.66/-12.67	-12.84/-12.45
Θ(180°)	-18.78/-19.07	-18.77/-18.27	-17.35/-18.92	-16.12/-14.79	-15.33/-16.17	-15.28/-14.22	-13.69/-12.46	-12/-12.03	-12.8/-13.8	-14.91/-15.7	-17.18/-18.2	-18.98/-19.27	-19.24/-18.06	-17.63/-17.93	-17.42/-15.35	-14.11/-13.59	-12.3/-10.62	-10.45/-11.17	-13.18/-15.72	-17.36/-18.47	-19.53/-16.61	-15.68/-14.68	-15.99/-18.3	-17.89/-18.16
Freq(Hz)	6.695GPol.	ThetaAnt. 2	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-2.86/-2.42	-2.28/-2.23	-2.5/-3.06	-3.71/-4.08	-4.51/-4.59	-5.22/-6.41	-7.01/-7.98	-8.46/-9.28	-9.52/-8.47	-7.19/-6.64	-5.68/-4.71	-3.64/-2.96	-3/-3.25	-3.17/-3.14	-3.58/-3.98	-4.13/-4.77	-5.76/-6.72	-7.33/-7.61	-7.25/-8.2	-8.01/-7.8	-7.4/-6.73	-6.19/-5.19	-4.41/-3.37	-2.96/-2.95
Θ(7.5°)	-2.22/-1.83	-1.64/-1.47	-1.47/-1.51	-1.87/-2.47	-3.17/-4.07	-5.41/-6.58	-7.66/-8.32	-8.87/-9.34	-10.36/-10.62	-10.92/-9.92	-7.96/-6.04	-4.92/-4.31	-4.37/-4.47	-3.87/-3.57	-3.52/-3.31	-3.13/-3.22	-3.74/-4.31	-4.61/-4.89	-4.73/-4.34	-3.55/-3.2	-2.9/-2.92	-2.89/-2.85	-2.59/-2.41	-2.63/-2.55
Θ(15°)	-5.25/-4.41	-3.76/-3.09	-2.93/-3.6	-4.68/-5.45	-5.76/-6.11	-7.14/-8.74	-10.73/-11.17	-10.99/-11.97	-16.73/-17.45	-12.47/-6.83	-4.3/-2.9	-2.62/-2.89	-3.61/-4.12	-4.11/-4.85	-6.22/-6.4	-5.39/-4.5	-4.06/-4.2	-4.39/-4.58	-3.66/-3.07	-2.77/-3.14	-3.59/-3.42	-3.27/-3.31	-3.79/-5.12	-6.09/-5.86
Θ(22.5°)	-5.51/-6	-5.86/-5.15	-4.86/-5.68	-8.82/-14.99	-17.62/-19.24	-18.01/-19.2	-18.2/-18.17	-12.91/-12.26	-17.31/-15.82	-12.16/-8.4	-6.72/-5.56	-5.13/-4.18	-3.96/-4.78	-6.87/-8.57	-8.03/-7.66	-9.71/-10.86	-9.23/-7.79	-7.98/-6.6	-5.54/-6.29	-7.43/-4.26	-1.230.7	1.230.68	-0.69/-2.6	-4.18/-5.07
Θ(30°)	-12.51/-10.25	-10.02/-10.22	-10.43/-8.46	-7.12/-11.36	-17.34/-12.89	-16.39/-13.53	-12.73/-13.98	-8.94/-8.11	-8.43/-8.18	-4.81/-6.18	-8.33/-6.42	-4.82/-4.12	-6.3/-5.27	-2.66/-2.45	-3.6/-4.07	-5.14/-9.63	-12.48/-9.58	-8.83/-7.1	-6.86/-7.11	-5.25/-3.79	-3.51/-3.08	-2.39/-3.05	-5.79/-8.81	-14/-16.7
Θ(37.5°)	-5.61/-9.75	-13.34/-14.68	-18.19/-13	-6.53/-7.8	-17.45/-9.69	-10.1/-11.26	-6.39/-10.74	-6.83/-8.19	-10.03/-8	-5.32/-9.48	-16.42/-17.96	-13.23/-8.29	-7.84/-7.49	-3.63/-3.11	-6.45/-8.81	-7.98/-8.45	-10.55/-10.05	-8.09/-6.59	-5.24/-2.79	-2.1/-3.55	-6.03/-6.16	-2.69/-1.33	-1.73/-1.61	-2.84/-3.68
Θ(45°)	-5.43/-7.38	-12.48/-13.12	-10.76/-12.68	-11.99/-8.37	-14.52/-11.64	-10.1/-10.25	-4.09/-11.01	-6.43/-10.02	-15.26/-9.08	-8.06/-13.09	-12.49/-5.92	-3.67/-10.82	-16.5/-6.5	-4.12/-3.95	-8.96/-16.63	-17.51/-16.3	-18.57/-14.23	-6.18/-14.3	-4.6/-3.67	-3.04/-2.5	-0.96/-1.13	-1.19/-1.69	-2.14/-2.96	-5.86/-6.57
Θ(52.5°)	-5.01/-4.14	-7.39/-9.32	-6.48/-9.27	-15.57/-17.9	-19.02/-14.53	-18.87/-8.61	-7.09/-8.91	-5.08/-3.87	-8.04/-10.59	-18.17/-10.57	-9.23/-6.48	-4.85/-7.3	-14.61/-18.42	-11.21/-15.59	-10.25/-11.03	-11.54/-7.8	-5.11/-5.43	-5.71/-4.4	-0.61/-5.99	-4.63/-5.55	-3.88/-3.37	-4.66/-6.91		
Θ(60°)	-3.09/-1.91	-4.26/-6.16	-5.12/-7.64	-9.77/-17.8	-17.53/-16.83	-16.32/-7.83	-8.15/-11.78	-6.81/-1	-5.69/-10.8	-16.59/-9.19	-9.67/-8	-10.6/-16.66	-15.93/-7.53	-5.79/-7.17	-8.76/-6.8	-7.2/-18.57	-12.58/-11.45	-11.51/-11.8	-8.96/-9.82	-9.55/-1.4	-1.88/-3.58	-4.63/-5.79	-5.23/-1.78	-0.85/-2.16
Θ(67.5°)	-3.06/-1.82	-3.7/-5.7	-3.68/-7.29	-7.42/-16.65	-18.66/-12.88	-16.58/-11.42	-6.81/-8.14	-8.07/-20.8	-13.77/-10.9	-17.9/-11.96	-9.67/-5.06	-7.91/-11.48	-11.84/-17.02	-4.77/-8.92	-4.63/-14.35	-7.84/-13.44	-8.73/-12.66	-10.29/-6.77	-14.87/-1.48	-4.75/-4.21	-4.95/-9.8	-5.58/-2.62	-0.97/-2.9	
Θ(75°)	-3.67/-2.47	-4.5/-5.68	-4.29/-8.96	-6.46/-9.68	-17.99/-12.54	-16.26/-14.01	-4.74/-15.73	-9.57/-4.52	-15.79/-8.25	-8.56/-17.31	-14.98/-7.06	-4.88/-19.3	-9.87/-2.41	-14.15/-12.45	-4.81/-8.13	-5.58/-7.31	-12.79/-12.73	-8.05/-5.38	-17.29/-4.23	-6.12/-6.73	-6.86/-14.43	-1.72/-2.61	-2.75/-8.4	
Θ(82.5°)	-5.86/-4.16	-6.6/-7.51	-5.91/-11.89	-6.08/-7.66	-14.35/-15.02	-14.03/-8.88	-5.87/-11.49	-12.54/-11.01	-10.58/-6.4	-6.14/-15.08	-12.05/-8.42	-5.19/-7.59	-5.57/-0.75	-10.26/-17.7	-7.65/-9.29	-8.67/-4.01	-3.85/-6.75	-8.04/-12.66	-6.3/-5.41	-13.48/-8.68	-8.27/-9.82	-9.76/-13.97	-19.36/-6.13	-4.98/-11.56
Θ(90°)	-8.08/-6.56	-8.63/-6.65	-8.6/-13.35	-7.41/-7.24	-13.83/-15.56	-14.73/-11.4	-7.55/-13.14	-19/-17.61	-13.01/-7.29	-5.24/-14.64	-12.02/-9.77	-8.06/-7.06	-8.58/-1.24	-7.31/-9.22	-18.07/-8.72	-15.63/-3.88	-4.65/-7.4	-12.17/-13.04	-7.71/-4.9	-14.38/-9.64	-13.06/-18.02	-16.31/-7.39	-6.94/-14.4	
Θ(97.5°)	-11.06/-8.16	-9.45/-8.55	-7.95/-14.08	-7.35/-5.97	-12.54/-17.72	-13.91/-11.65	-8.29/-16.65	-18.42/-15.93	-14.73/-8.74	-7.01/-14.02	-12.93/-9.89	-8.9/-6.99	-8.56/-2.49	-10.13/-8.51	-17.93/-8.85	-15.56/-5.76	-7.53/-14.41	-12.42/-14.03	-9.41/-7.67	-16.84/-9.44	-18.8/-11.4	-18.56/-13.04	-16.61/-11	-13.08/-18.36
Θ(105°)	-11.71/-9.34	-9.62/-9.69	-9.35/-17.95	-7.63/-8.14	-11.52/-16.62	-14.87/-10.95	-8.61/-13.89	-16.08/-18.08	-14.88/-14.05	-11.24/-16.55	-15.97/-11.32	-9.38/-6.73	-14.61/-6	-10.51/-12.08	-17.82/-9.77	-10.42/-14.12	-6.9/-19.22	-16.65/-16.94	-13.93/-15.63	-13.29/-18.19	-16.26/-18.63	-10.61/-16.18	-18.2/-9.2	-12.01/-18.59
Θ(112.5°)	-11.44/-10.54	-14.82/-12.86	-15.93/-12.22	-7.24/-14.29	-11.17/-17.9	-14.47/-12.61	-13.88/-14.93	-18.75/-15.41	-12.17/-12.18	-13.61/-15.42	-18.28/-11.23	-12.36/-9.91	-16.68/-7.78	-10.78/-13.31	-18.17/-11.65	-9.36/-12.27	-7.93/-17.25	-17.54/-17.68	-17.97/-15.38	-18.18/-12.7	-18.47/-12.2	-18.02/-16.61	-17.96/-9.2	-13.66/-17.39
Θ(120°)	-12.47/-11.33	-12.11/-12.95	-18.13/-10.86	-14.12/-18.28	-16.66/-16.56	-14.42/-12.57	-17.88/-15.58	-17.53/-14.29	-18.23/-15.34	-12.36/-13.21	-17.84/-13.64	-12.65/-12.9	-15.5/-14.7	-17.66/-17.09	-10.32/-13.53	-9.99/-6.22	-13.98/-17.67	-11.83/-15.54	-17.96/-17.81	-17.97/-18.31	-17.27/-19.18	-19.03/-15.21	-17.25/-9.56	-14.25/-13.91
Θ(127.5°)	-11.1/-12.72	-15.32/-18.25	-18.48/-14.87	-17.59/-17.95	-18.01/-15.07	-13.45/-10.89	-18.09/-16.26	-18.24/-16.55	-13.85/-17.76	-12.11/-11.09	-17.51/-18.11	-12.74/-13.74	-16.76/-11.09	-14.96/-15.17	-19.17/-12.59	-16.35/-12.22	-18.47/-18.03	-13.33/-11.08	-18.67/-16.73	-18.71/-11.6	-19.86/-14.84	-19.18/-18.78	-12.33/-12.94	-18.62/-18.91
Θ(135°)	-15.23/-14.24	-8.57/-13.94	-15.77/-17.95	-18.44/-17.81	-18.47/-18.91	-11.96/-13.48	-16.78/-12.84	-15.2/-18.05	-14.53/-18.74	-18.04/-10	-12.18/-17.77	-17.92/-13.36	-9.51/-8.57	-13.73/-14.11	-18.72/-13.7	-18.17/-14.78	-10.96/-12.2	-18.68/-11.51	-16.58/-15.22	-17.16/-15.05	-13.68/-18.87	-14.94/-13.45	-15.56/-13.51	
Θ(142.5°)	-17.38/-12.66	-13.28/-11.01	-15.48/-18.31	-15.32/-14.13	-17.97/-16.65	-12.01/-14.44	-17.91/-13.1	-15.65/-18.84	-13.83/-17.61	-17.08/-12.44	-13.61/-18.25	-13.57/-15.07	-19.1/-17.42	-11.23/-16.11	-18.52/-16.65	-18.62/-16.71	-18.49/-17.61	-11.34/-16.66	-14.97/-17.68	-15.17/-19.08	-14.28/-18.97	-18.95/-16.91	-14.27/-17.85	-17.86/-18.07
Θ(150°)	-16.8/-18.81	-17.85/-18.61	-18.53/-18.61	-16.33/-19.04	-14.15/-12.3	-15.42/-18.69	-16.58/-12.71	-15.47/-18.19	-11.18/-14.67	-19.15/-13	-12.55/-17.48	-18.39/-14.65	-16.66/-9.68	-14.56/-15.92	-18.35/-18.03	-17.35/-18.63	-18.72/-17.89	-12.93/-12.96	-19.01/-18.28	-14.46/-18.26	-17.91/-18.55	-15.28/-17.92	-18.75/-18.5	-17.71/-14.94
Θ(157.5°)	-15.06/-14.4	-14.62/-15.33	-17.76/-18.32	-18.07/-17.63	-13.66/-12.39	-13.45/-13.44	-13.55/-16.13	-17.96/-17.46	-14.65/-15.52	-18.89/-18.31	-16.87/-15.28	-17.76/-18.85	-17.51/-17.45	-16.12/-18.73	-18.67/-15.82	-19.35/-18.32	-18.76/-18.48	-18.35/-18.19	-17.01/-18.85	-18.25/-18.13	-17.87/-18.12	-18.92/-14.51	-12.92/-14.84	-18.74/-18.71
Θ(165°)	-17.45/-18.51	-17.55/-18.71	-18.68/-17.87	-17.12/-18.71	-18.3/-16.74	-14.8/-13.24	-16.16/-18.91	-18.27/-17.39	-18.3/-17.69	-18.51/-18.72	-18.99/-17.64	-18.02/-18.79	-15.52/-15.45	-15.83/-15.34	-17.55/-17.26	-18.9/-18.64	-17.63/-17.83	-19.08/-17.92	-18.14/-18.78	-18.08/-18.32	-19.27/-15.29	-15.95/-16.12	-15.89/-17.75	



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Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	3.1	5.33	5.97	4.41	3.32	5	4.13	4.87	3.99
Ant. 2 Max Gain (dBi)	3.26	4.32	4.56	5.26	4.37	4.41	5.15	4.7	3.73
Ant. 1 Polarization/Θ(°)/Φ(°)	Theta/60/285	Theta/82.5/300	Theta/82.5/300	Theta/75/292.5	Theta/82.5/292.5	Theta/15/202.5	Phi/52.5/300	Theta/15/225	Theta/52.5/270
Ant. 2 Polarization/Θ(°)/Φ(°)	Theta/22.5/300	Phi/7.5/330	Theta/15/45	Theta/7.5/37.5	Theta/22.5/37.5	Theta/15/37.5	Phi/0/142.5	Theta/0/60	Theta/82.5/247.5
Max Gain (dBi)	3.26	5.33	5.97	5.26	4.37	5	5.15	4.87	3.99
DG [1SS] (dBi)	5.22	6.59	6.67	6.55	5.22	6.23	6.48	6.18	5.51
DG [2SS] (dBi)	3.26	5.33	5.97	5.26	4.37	5	5.15	4.87	3.99

Freq(Hz)	2.45G
Ant. 3 Max Gain (dBi)	6.3
Ant. 3 Polarization/Θ(°)/Φ(°)	Phi/22.5/300



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

DG 1SS Result

Freq(Hz)	2.45G/Pol.	Phi-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	4.234.16	4.194.32	4.484.66	4.844.98	5.034.94	4.774.37	3.993.7	3.543.39	3.473.81	4.134.32	4.344.25	4.174.14	4.134.16	4.274.45	4.559.68	4.724.76	4.754.65	4.434.16	4.163.95	4.184.47	4.684.82	4.884.85	4.724.55	4.44.32
Θ(7.5°)	4.514.15	3.763.53	3.413.42	3.553.7	3.823.84	3.763.83	3.873.77	3.853.91	3.964.12	4.204.26	4.193.99	4.164.56	4.993.34	5.564.64	5.645.68	5.425.18	4.824.4	3.913.61	3.733.97	4.484.93	5.235.37	5.375.24	5.014.77	
Θ(15°)	5.294.55	3.552.61	2.12.06	2.22/2.4	2.51/2.57	2.853.31	3.73.94	4.14.2	4.314.41	4.514.59	4.624.53	4.394.37	4.58/5.03	5.56/6.02	6.36.39	6.336.11	5.76/5.34	4.87/4.43	3.89/3.59	3.73/4.09	4.56/5.06	5.88/6.14	6.35/6.39	6.21/5.83
Θ(22.5°)	5.84.75	3.33/1.62	0.46/0.64	0.95/1.2	1.24/1.35	1.96/2.66	3.2/3.53	3.68/3.76	3.84/3.93	4.08/4.23	4.434.57	4.68/4.79	4.93/5.21	5.6/5.96	6.196.24	6.08/5.75	5.22/4.64	4.12/3.83	3.83/3.9	4.14/4.47	4.82/5.23	5.726.32	6.85/7.03	6.95/5.53
Θ(30°)	5.57/4.33	2.7/0.81	-0.87/-0.72	-0.36/-0.2	-0.25/-0.16	0.73/1.67	2.31/2.58	2.59/2.57	2.62/5.75	2.93	3.17/5.54	4.06/4.54	4.75/4.76	4.77/4.83	4.93/4.98	4.85/4.5	3.88/3.25	2.69/2.59	3.35/3.91	4.19/4.33	4.57/4.96	5.49/6.08	6.63/6.88	6.87/6.43
Θ(37.5°)	4.62/3.42	1.91/0.32	-1.03/-1.31	-1.26/-1.31	-1.48/-1.37	-0.23/0.78	1.35/1.39	1.22/1.22	1.49/1.87	2.07/1.94	1.73/1.9	2.63/3.46	3.84/3.77	3.46/3.12	2.97/3.04	2.98/2.59	2.26/1.87	1.51/1.79	2.77/3.18	3.19/3.22	3.71/4.32	4.93/5.47	5.87/6.05	5.96/5.48
Θ(45°)	3.03/2.08	0.84/-0.37	-1.1/-1.46	-1.82/-2.36	-2.85/-2.33	-1.69/-0.96	-0.56/-0.71	-0.79/-0.23	0.59/1.22	1.38/1.17	0.85/0.69	0.92/1.46	1.98/2.14	1.75/0.92	0.01	0.62/0.88	0.64/0.3	0.16/1.24	2.33/2.75	2.58/2.1	2.49/3.09	3.68/4.21	4.63/4.77	4.53/3.85
Θ(52.5°)	1.80.81	-0.35/-1.41	-1.77/-2.03	-2.77/-4.09	-4.08/-3.4	-2.92/-2.68	-2.59/-2.85	-2.32/0.94	0.2/0.6	0.37/0.05	0.08/0.29	0.52/0.6	0.81/0.97	0.48/-0.88	-2.71/-1.33	-1.11/-0.54	-0.77/-1.33	-1.29/0.76	2.01/2.63	2.53/1.97	1.79/1.99	2.38/2.83	3.27/3.53	3.38/2.71
Θ(60°)	0.87/-0.16	-1.7/-2.92	-3.26/-3.6	-4.58/-5.85	-5.18/-3.88	-3.58/-3.64	-3.77/-3.88	-2.69/-1.12	-0.28/-0.32	-1.12/-1.77	-1.52/-0.83	-0.35/-0.4	-0.55/-0.18	-0.56/-2.22	-4.58/-4.13	-2.06/-0.87	-0.73/-1.36	-2.59/-1.05	0.55/1.51	1.68/1.47	1.19/1.02	1.22/1.63	2.06/2.22	2.06/1.44
Θ(67.5°)	-0.4/-1.32	-2.98/-4.03	-3.85/-3.67	-4.84/-6.14	-4.52/-3.79	-3.28/-4.39	-3.8/-3.32	-1.72/-0.83	-0.55/-1.18	-2.54/-3.4	-2.81/-1.67	-1.05/-1.46	-1.94/-1.94	-2.92/-4.98	-5.63/-4.34	-3.07/-1.56	-1.28/-2.08	-3.42/-2.22	-0.46/0.39	0.34/-0.01	-0.63/-0.8	-0.52/0.03	0.67/0.67	0.09/-0.25
Θ(75°)	-1.49/-2.44	4.54/-4.92	-3.54/-2.93	-4.16/-5.95	-4.62/-4.12	-3.43/-3.13	-3.54/-3.77	-2.81/-1.95	-1.74/-2.64	-4.78/-5.77	-5.96/-4.01	-2.82/-3.17	-4.03/-3.88	-4.25/-5.32	-5.15/-4.78	-4.74/-4.07	-2.99/-3.32	-4.31/-3.54	-1.78/-0.62	0.1/-0.91	-2.55/-2.96	-3.13/-2.93	-2.03/-1.99	-2.52/-1.82
Θ(82.5°)	-2.51/-3.54	6.09/-5.95	-3.9/-3.35	-4.98/-6	-4.2/-4.38	-3.85/-3.6	-4.51/-5.2	-4.59/-3.8	-3.55/-2.67	-6.85/-7.44	-7.39/-6.29	-5.03/-5.48	-5.11/-3.72	-3.79/-5.61	-6.47/-5.55	-4.47/-4.33	-3.31/-3.5	-3.37/-1.82	-0.45/-1.19	-3.03/-3.52	-4.23/-4.15	-3.6/-3.93	-4.39/-2.98	
Θ(90°)	-4.14/-5.35	-7.29/-4.62	-4.01/-3.61	-5.39/-6.3	-4.99/-5.09	-3.95/-3.58	-4.73/-5.84	-6.47/-5.91	-4.98/-6.02	-7.22/-7.16	-8.27/-7.11	-5.6/-6.52	-6.88/-5.67	-5.73/-6.9	-6.35/-4.92	-3.45/-4.79	-5.35/-6.01	-4.97/-2.9	-3.15/-2.89	-1.74/-2.8	-4.41/-4.73	-6.5/-5.82	-4.68/-5.37	-5.58/-4.06
Θ(97.5°)	-4.53/-5.82	-7.39/-6.67	-4.04/-3.72	6.5/-7.6	-5.49/-5.28	-3.8/-4.13	-6.84/-7.7	-7.98/-7.46	-6.69/-6.82	-7.12/-7.25	-8.99/-7.46	-7.25/-8.87	-7.97/-6.36	-5.81/-7.12	-7.61/-5.75	-4.82/-5.7	-5.08/-5.83	-6.54/-4.43	-4.9/-3.8	-2.6/-3.6	-4.71/-5.09	-6.91/-6.62	-4.98/-5.61	-5.95/-4.29
Θ(105°)	-4.79/-6.89	-9.17/-7.54	-4.71/-4.37	-6.86/-7.34	-5.84/-6.21	-5.58/-6.08	-8.77/-8.42	-7.75/-8.46	-6.35/-7.19	-7.93/-8.72	-9.9/-9.06	-8.74/-10.36	-9.7/-7.06	-6.43/-7.84	-7.72/-5.27	-5.38/-7.29	-5.69/-5.59	-6.01/-5.49	-4.31/-4.98	-6.28/-6.7	-7.47/-7.71	-6.75/-7.79	-7.59/-4.86	
Θ(112.5°)	-4.49/-6.38	-9.74/-7.24	-4.66/-4.49	-6.21/-6.87	-6.48/-8.23	-7.51/-6.67	-8.79/-9.02	-8.81/-7.96	-7.77/-7.45	-7.09/-7.47	-10.03/-9.4	-9.11/-9.58	-7.4/-5.9	-5.98/-7.93	-8.11/-7.96	-8.74/-9.68	-6.08/-3.76	-3.56/-4.85	-8.31/-8.99	-6.7/-5.47	-4.99/-6.67	-8.1/-8.84	-6.68/-10.23	-9.12/-5.37
Θ(120°)	-6.24/-6.01	-8.63/-7.57	-5.69/-6.84	-9.75/-8.89	-7.93/-8.64	-7.72/-7.54	-10.84/-11.31	-9.21/-9.31	-12.9/-11.42	-8.79/-8.67	-11.77/-10.89	-11.55/-13.48	-11.28/-8.87	-8.51/-10.74	-10.83/-8.68	-7.73/-7.73	-6.1/-8.5	-4.68/-5.29	-5.66/-5.91	-8.01/-7.86	-7.16/-7.91	-10.15/-11.54	-11.08/-10.11	-11.73/-10.06
Θ(127.5°)	-8.46/-7.17	-9.66/-9.32	-6.57/-6.18	-7.19/-8.17	-8.43/-10.22	-9.58/-10.46	-13.3/-13.05	-9.64/-9.36	-10.74/-9.19	-7.45/-8.55	-9.88/-8.68	-9.32/-11.4	-13.44/-13.07	-10.71/-10.48	-10.71/-10.34	-9.14/-7.9	-6.75/-5.77	-6.97/-7.13	-5/-3.85	-5.78/-8.22	-7.91/-8.06	-11.23/-13.77	-11.82/-8.94	-7.9/-8.65
Θ(135°)	-8.33/-8.76	-11.13/-9.74	-6.07/-4.69	-5.27/-7.4	-9.45/-11.27	-11.32/-12.74	-13.46/-11.49	-9/-7.86	-7.43/-6.88	-6.71/-7.6	-9.01/-9.17	-8.63/-9.16	-9.99/-10.54	-10.81/-10.74	-13.09/-11.9	-9.88/-6.53	-3.78/-3.47	-5.29/-7.98	-8/-7.02	-9.83/-9.88	-7.53/-7.1	-9.32/-11.98	-11.95/-8.72	-7.16/-7.78
Θ(142.5°)	-9.83/-9.88	-9.38/-6.68	-4.74/-4.18	-5.27/-8.13	-12.27/-13.15	-13.9/-13.4	-13.62/-10.69	-8.13/-1.76	-7.3/-7.64	-8.1/-8.19	-10.19/-10.36	-9.54/-7.48	-6.98/-7.66	-8.78/-6.96	-10.2/-8.81	-6.8/-5.02	-3.87/-4.11	-6.29/-8.87	-8.31/-7.77	-9.14/-9.58	-8.29/-7.92	-9.89/-12.81	-11.96/-10.18	-9.9/-9.12
Θ(15°)	-7.89/-7.43	-6.79/-6.55	-4.65/-4.62	-6.08/-8.85	-11.05/-12.89	-11.55/-11.6	-12.41/-12.23	-11.5/-9.61	-9.02/-8.9	-8.91/-9.81	-10.51/-10.38	-9.64/-8.84	-8.33/-8.4	-9.17/-9.79	-9.92/-8.44	-7.21/-5.97	-5.11/-5.37	-7.2/-9.1	-8.31/-7.83	-7.84/-7.92	-6.28/-6.7	-4.93/-4.98	-11.08/-9.43	-8.6/-8.25
Θ(157.5°)	-7.67/-6.99	-6.42/-6.18	-5.84/-6.25	-6.88/-7.73	-8.43/-9.19	-9.52/-9.55	-9.92/-11.03	-11.62/-11.05	-9.89/-9.25	-9.74/-10.66	-11.16/-11.93	-11.85/-10.74	-9.95/-9.94	-11.34/-11.92	-10.81/-8.65	-6.75/-5.57	-5.28/-5.98	-7.69/-9.73	-10.38/-9.65	-9.39/-8.47	-8.02/-8.58	-9.05/-9.29	-9.24/-8.59	-8.23/-7.62
Θ(165°)	-8.15/-7.61	-7.45/-7.44	-7.6/-7.59	-7.25/-7.56	-8.32/-9.32	-10.23/-10.32	-10.92/-11.02	-10.94/-10.23	-9.57/-9.33	-9.59/-10.5	-10.76/-10.15	-10.21/-9.93	-10.37/-12.1	-10.33/-13.9	-10.8/-8.1	-6.4/-5.57	-5.37/-6.06	-7.38/-8.9	-11.52/-13.05	-12.02/-11.02	-9.9/-9.34	-8.74/-8.84	-8.83/-8.98	-8.75/-8.7
Θ(172.5°)	-2.55/-8.65	-8.11/-7.88	-7.67/-7.36	-6.93/-7.34	-8.33/-9.19	-9.9/-9.8	-10.66/-9.92	-9.36/-8.88	-8.78/-9.54	-9.43/-9.36	-10.27/-10.77	-13.42/-13.43	-12.71/-10.06	-8.26/-7	-2.51/-7.2	-5.9/-6.23	-3.7/-3.88	-9.4/-10.37	-11.58/-11.37	-10.81/-10.84	-10.78/-10.66	-11.32/-11	-10.96/-10.08	
Θ(180°)	-8.88/-8.65	-7.97/-7.72	-7.22/-6.93	-6.82/-6.96	-7.85/-8.29	-7.98/-7.68	-7.54/-7.35	-7.52/-7.98	-8.77/-9.59	-10.43/-10.51	-10.6/-10.82	-11.49/-11.62	-11.79/-10.63	-9.08/-7.7	-6.87/-6.36	-6.26/-6.28	-6.46/-7.02	-7.25/-7.93	-8.37/-8.42	-8.47/-8.47	-8.64/-9.07	-9.82/-10.32	-10.56/-10.99	-10.32/-9.46
Freq(Hz)	2.45G/Pol.	Theta-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	2.62/2.51	2.38/2.44	2.43/2.43	2.46/2.49	2.59/2.68	2.72/2.71	2.66/2.63	2.72/3	3.36/3.62	3.73/3.7	3.53/3.25	2.89/2.43	2.13/1.93	1.84/1.8	1.89/2.25	2.73/0.4	3.23/3.24	3.14/2.93	2.65/2.39	2.28/2.39	2.64/2.86	2.96/2.94	2.84/2.73	2.62/2.63
Θ(7.5°)	2.27/2.47	2.83/3.13	3.35/3.47	3.51/3.5	3.44/3.31	3.12/2.86	2.62/3.28	2.37/2.62	3.01/3.39	3.72/3.88	3.86/3.78	3.57/3.25	2.91/2.51	2.06/1.56	1.15/1.24	1.88/2.5	2.92/3.15	3.26/3.3	3.25/3.09	2.96/2.92	2.97/3.03	3.05/2.99	2.85/2.67	2.48/2.32
Θ(15°)	2.93/3.13	3.42/3.68	3.87/4.02	4.11/4.15	4.13/92	3.63/2.21	2.71/2.24	2.04/2.18	2.56/2.96	3.29/3.49	3.5/3.4	3.2/2.95	2.72/4.1	2.02/1.62	1.38/1.54	2.06/2.7	3.24/3.55	3.67/3.67	3.39/3.47	3.33/3.28	3.33/3.41	3.52/3.57	3.49/3.29	3.07/2.9
Θ(22.5°)	3.23/45	3.71/3.92	4.06/4.19	4.35/4.47	4.47/4.26	3.89/3.33	2.65/2.06	1.76/1.85	2.24/2.64	2.93/0.7	32.74	2.26/1.64	1.16/0.84	0.69/0.76	1.14/1.8	2.57/3.24	3.79/4.08	4.11/4.01	3.93/75	3.61/3.5	3.46/3.47	3.55/3.59	3.52/3.34	3.14/3.08
Θ(30°)	3.09/3.41	3.73/3.88	3.97/4.1	4.31/4.48	4.51/3	3.87/3.2	2.42/1.83	1.55/1.59	1.87/2.2	2.47/2.64	2.68/2.56	2.27/1.83	1.38/1.06	0.88/0.81	1/1.68	2.63/43	4.11/4.46	4.54/4.53	4.53/4.49	4.35/4.07	3.71/3.35	3.06/2.94	2.88/2.82	2.79/2.88
Θ(37.5°)	3.34/3.62	3.84/3.89	3.83/3.89	4.06/1.48	4.19/4.02	3.57/2.89	2.21/82	1.72/1.78	1.83/1.94	2.1/2.24	2.21/21	2.06/2.1	2.22/1.9	2.1/64	1.32/1.55	2.35/3.32	4.11/4.48	4.55/4.59	4.64/4.59	4.3/3.77	3.14/3.53	2.13/2.02	2.13/2.42	2.72/3.01
Θ(45°)	3.42/3.69	3.91/3.88	3.68/3.64	3.73/66	3.54/3.37	3.01/2.37	1.72/1.43	1.46/1.51	1.38/1.27	1.41/1.66	1.61/2	0.91/1.1	1.67/2.01	2.06/1.8	1.35/1.02	1.46/2.58	3.57/3.99	4.06/4.1						



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

Θ(22.5°)	3.513/12	1.94/-0.3	-3.57/-6.62	-5.16/-2.72	-1.57/-0.51	0.72/1.47	2.34/3.75	4.87/5.25	4.96/4.38	4.04/4.04	4.36/4.77	5.02/4.64	3.53/1.63	-1.13/-3.96	-4.8/-2.77	-1.24/0.07	0.95/1.35	1.63/2.09	2.73/0.99	3.35/3.86	4.35/4.64	4.55/4.05	3.45/3.2	3.32/0.6
Θ(30°)	2.89/2.61	1.6/-0.42	-2.37/-2.54	-2.51/-1.98	-2.11/-1.79	0.46/2.37	3.64/4.38	4.76/4.47	3.64/2.9	2.94/3.38	3.32/3.58	4.28/4.17	3.01/0.73	-3.11/-6.33	-7.03/-6.88	-3.71/-0.36	2.26/3.19	3.07/3.21	3.78/3.55	3.33/3.71	4.09/3.55	2.53/2.39	3.35/3.67	2.44/2.04
Θ(35°)	0.150/65	-0.07/-3.05	-2.16/-1.78	-2.21/-0.74	-0.47/-0.9	0.71/2.98	3.63/3.09	2.8/2.5	1.88/2.19	2.21/68	1.59/1.84	3.27/4.01	2.82/-0.79	-6.73/-7.27	-1.09/-6.97	-4.21/-3.36	1.37/2.06	1.73/1.93	2.57/2.22	1.82/1.2	2.30/0.89	0.39/1.34	2.78/3.6	3.06/1.3
Θ(45°)	0.17/0.25	0.39/-1.92	-3.97/-3.9	-6.57/-3.53	-0.93/-0.26	-0.55/-1.2	1.79/1.25	1.86/2.73	2.58/2.7	2.01/0.76	1.72/2.13	0.84/1.23	0.9/-1.42	-5.85/-6.51	-6.71/-6.91	-6.99/-2.96	-1/-0.27	0.92/0.95	1.77/1.63	0.47/0.67	-0.07/-1.1	-0.56/-0.22	0.23/1.4	2.19/1.44
Θ(52.5°)	-1.23/-2.18	-2.91/-2.83	-2.81/-3.25	-6.4/-4.87	-2.74/-2.25	-1.01/-0.16	-0.6/-0.62	0.29/1.18	1.31/2.05	1.48/0.84	1.93/1.62	0.3/-0.96	-0.96/-1.55	-4.97/-13.69	-5.94/-5	-6.01/-2.27	-1.96/-3.03	-1.71/-1.26	-1.04/-0.33	-1.05/-1.4	-2.08/-1.57	-0.87/-1.94	-4.94/-2.77	-1.4/-0.7
Θ(60°)	-1.58/-0.47	-2.68/-4.05	-5.71/-4.03	-6.25/-3.85	-5.93/-4.6	-1.02/-2.11	-4.26/-3.14	-0.29/1.16	0.56/0.64	-0.23/-0.22	-0.78/-1.5	-0.26/1.0	-0.31/-1.5	-2.74/-6.91	-0.88/-5.67	-4.55/-2.74	-1.8/-3.46	-3.56/-2.74	-2.95/-1.18	-3.04/-5.94	-6.83/-4.11	-2.38/-3.39	-3.78/-3.42	-5.47/-0.2
Θ(67.5°)	-1.44/-0.8	-2.03/-5.49	-5.8/-4.29	-5.25/-1.94	-6.05/-4.49	-1.72/-3.31	-3.97/-4.16	-0.57/0.34	-0.15/-1.01	-2.16/-0.04	0.25/0.55	1.1/0.65	-1.26/-3.56	-3.55/-6.81	-11.45/-5.65	-1.16/-1.27	-1.3/-2.25	-3.99/-3.1	-4.88/-1.79	-2.17/-5.03	-6.42/-5.62	-2.43/-2.47	-2.31/-3.05	-4.85/-4.1
Θ(75°)	-3.22/-1.67	-2.95/-6.29	-7.35/-4.29	-5.49/-2.64	-5.01/-3.74	-3.42/-5.39	-6.42/-4.33	-0.98/-0.89	-1.32/-1.56	-2.93/-0.54	0.35/-1.49	1.49/-1.4	-2.36/-2.51	-5.31/-5.84	-8.19/-7.46	-1.16/-1.38	-2.35/-2.33	-6.12/-3.64	-5.78/-3.35	-2.64/-2.8	-3.79/-5.32	-3.28/-2.3	-1.37/-4.36	-7.33/-5.37
Θ(82.5°)	-5.05/-5.2	-4.82/-7.86	-7.95/-4.99	-6.42/-3.43	-5/-4.6	-4.72/-4.68	-7.98/-6.58	-2.62/-3.04	-2.35/-3.72	-5.72/-3.33	-0.84/0.33	-0.39/-6	-7.07/-4.14	-6.72/-7.02	-8/-6.85	-1.09/-1.51	-3.33/-2.59	-8.64/-4.92	-3.59/-3.46	-4.59/-2.08	-3.56/-5.04	-4.21/-2.03	-2.57/-6.31	-12.17/-6.7
Θ(90°)	-5.71/-8.51	-7.75/-10.93	-9.6/-6.39	-8.35/-5.53	-4.52/-7.44	-6.71/-7.88	-7.71/-8.44	-5.44/-5.7	-3.44/-3.12	-5.64/-6.69	-3.36/-2.39	-2.06/-5.24	-10.33/-5.86	-7.74/-9.47	-12.59/-7.51	-2.94/-3.39	-6.4/-5.96	-11.8/-6.68	-4.32/-3.7	-7.56/-2.88	-3.4/-5.99	-7.05/-2.8	-3.93/-8.17	-12.36/-7.55
Θ(97.5°)	-11.17/-9.92	-8.69/-10.92	-11.75/-5.89	-7.63/-7	-5.98/-9.93	-8.26/-12.16	-9.86/-7.98	-5.87/-7.76	-3.8/-4.1	-7.35/-9.18	-3.97/-5.65	-5.89/-6.19	-10.04/-5	-9.3/-13.22	-14.62/-9.22	-6.31/-4.55	-7.43/-9.24	-12.36/-9.27	-3.04/-4.98	-8.5/-4.83	-5.3/-6.53	-9.53/-3.8	-4/-7.09	-8.64/-11.15
Θ(105°)	-15.77/-11.78	-11.38/-10.23	-9.41/-8.34	-8.71/-6.7	-6.41/-10.85	-9.78/-12.48	-11.91/-10.23	-7.16/-8.04	-5.47/-4.96	-7.04/-12.76	-5.4/-6.04	-9.94/-7.18	-13.15/-13.99	-12.71/-14.68	-13.05/-10.48	-10.19/-7.88	-9.56/-9.5	-10.42/-8.79	-5.22/-7.36	-9.28/-10.68	-7.69/-6.7	-7.56/-5.36	-5.32/-9.14	-8.8/-12.14
Θ(112.5°)	-12.61/9.37	-8.22/-8.47	-13.06/-6.61	-10.01/-10.08	-9.96/-12.52	-11.67/-14.31	-11.21/-10.28	-11.39/-9.21	-11.31/-7.44	-7.56/-8.67	-6.31/-8.88	-12.62/-9.69	-9.87/-8.93	-15.66/-14	-10.48/-9.3	-12.72/-11.39	-8.6/-10.18	-9.18/-10.13	-4.54/-5.7	-12.12/-11.34	-6.49/-6.71	-4.6/-6.84	-7.93/-6.03	-7.19/-9.91
Θ(120°)	-12.28/-10.21	-8.58/-7.31	-11.39/-8.19	-11.35/-8.74	-11.5/-12.73	-12.82/-12.47	-10.01/-7.55	-9.2/-9.67	-12.01/-9.98	-5.04/-6.35	-6.92/-8.83	-9.13/-13.7	-9.97/-15.65	-8.18/-11.82	-11.3/-8.91	-9.56/-14.31	-12.24/-12.72	-10.46/-12.01	-8.87/-4.49	-9.12/-10.21	-5.61/-7.37	-5.84/-7.87	-10.84/-5.98	-7.49/-5.21
Θ(127.5°)	-11.48/-10.84	-10.49/-9.17	-14.56/-9.03	-15.38/-9.96	-10.59/-11.13	-11.35/-12.03	-12.46/-12.35	-9.32/-10.37	-12.49/-11.64	-6.19/-6.77	-8.86/-11.79	-9.62/-8.11	-12.38/-12.95	-16.06/-11.38	-6.88/-6.7	-8.46/-10.42	-15.83/-13.72	-9.02/-9.41	-10.25/-5.2	-8.5/-7.45	-6.74/-7.76	-6.74/-6.86	-9.48/-10.46	-7.53/-9.6
Θ(135°)	-10.28/-12.12	-12.56/-11.31	-10.49/-7.84	-12.97/-15.23	-13.52/-13.57	-10.53/-15.14	-8.53/-12.63	-11.31/-10.02	-9.03/-8.52	-8.15/-6.14	-6.44/-6.6	-8.39/-6.66	-8.69/-12.98	-14.12/-14.9	-7.76/-13.18	-8.25/-9.33	-15.28/-11.2	-7.73/-6.64	-5.9/-3.56	-6.68/-8.86	-7.57/-8.27	-7.98/-9.25	-5.4/-6.2	-8.62/-11.55
Θ(142.5°)	-6.88/-12.82	-7.53/-10.31	-10.73/-9.41	-12.15/-12.74	-11.79/-10.29	-7.92/-9.1	-9.71/-11.3	-11.88/-11.1	-10.31/-10.5	-12.72/-10.88	-6.7/-8.25	-10.3/-12.9	-11.92/-10.94	-14.05/-13.68	-12.89/-10.78	-10.58/-12.95	-11.49/-11.08	-7.71/-5.36	-5.42/-5.65	-6.58/-6.82	-9.46/-7.76	-11.14/-8.08	-5.9/-6.13	-6.78/-5.12
Θ(150°)	-11.61/-15.77	-9.38/-8.32	-9.5/-10.76	-13.3/-13.09	-11.55/-10.03	-10.88/-11.34	-11.39/-12.01	-11.42/-9.88	-8.81/-10.84	-13.78/-12.66	-12.09/-11.57	-12.05/-14.06	-13.45/-12.43	-12.01/-14.85	-11.49/-9.25	-7.47/-8.85	-9.62/-9.43	-8.22/-6.59	-6.11/-8.03	-8.78/-7.68	-8.27/-11.97	-9.71/-10.99	-12.01/-11.07	-8.95/-7.89
Θ(157.5°)	-10/-8	-6.33/-6.58	-8.04/-8.94	-9.61/-10.51	-11.98/-12.53	-10.89/-9.62	-9.14/-10.93	-12.77/-11.05	-10.3/-11.54	-13.09/-12.84	-11.97/-10.85	-11.32/-12.54	-12.64/-12.64	-13.93/-15.74	-15.91/-11.4	-9.77/-9.81	-9.4/-10.08	-11.44/-10.71	-9.73/-9.73	-9.48/-8.46	-8.76/-9.86	-10.68/-10.98	-11.35/-12.5	-10.83/-9.7
Θ(165°)	-13.21/-13.75	-15.13/-13.69	-9.98/-7.95	-7.53/-7.22	-7.18/-7.88	-9.09/-10.66	-12.05/-12.69	-11.9/-10.34	-9.75/-11.13	-11.56/-11.5	-9.81/-11.64	-12.84/-11.93	-9.86/-9.24	-9.92/-12.1	-14.75/-15.23	-15.33/-14.72	-12.75/-12.58	-14.06/-14.13	-14.13/-15.42	-15.28/-14.1	-11.85/-10.34	-9.79/-9.7	-7.58/-7.93	-10.71/-7.74
Θ(172.5°)	-9.29/-12.18	-13.02/-10.64	-7.11/-8.54	-5.55/-5.58	-6.32/-7.85	-10.13/-11.83	-12.77/-14.82	-11.79/-9.11	-8.14/-8.38	-10.14/-10.79	-10.95/-11.95	-10.15/-8.26	-7.23/-6.65	-6.53/-6.98	-7.94/-8.95	-10.42/-11.5	-10.79/-11.16	-11.34/-12.19	-13.56/-14.14	-13.58/-11.41	-9.56/-6.53	-4.88/-4.76	-4.53/-4.27	-5.76/-7.88
Θ(180°)	-11.53/-10.86	-10.37/-10.04	-9.63/-9.48	-9.22/-8.38	-8.18/-8.14	-8.26/-9.41	-11.46/-13.28	-14.38/-15.26	-14.29/-13.59	-12.36/-10.8	-10.14/-9.74	-9.49/-10.53	-11.29/-11.9	-12.35/-13.21	-14.96/-14.32	-13.27/-12.34	-11.6/-11.09	-10.58/-10.9	-10.9/-10.47	-9.58/-9.16	-9.4/-9.69	-9.92/-10.13	-10.64/-12	-12.67/-12.42
Freq(Hz)	5.3GPol	Theta-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	0.24/1.78	3.03/3.68	4.25/4.66	4.74/4.72	4.52/2.43	3.82/3.26	2.57/1.49	0.1/-1.72	-3.71/-5.83	-7.91/-7.91	-5.87/-3.78	-2.18/-0.02	1.78/2.79	3.39/3.85	4.34/4.83	5.03/4.97	4.82/4.59	3.96/3.15	2.31/1.6	-0.24/-1.79	-4.07/-6.56	-7.83/-8.08	-5.94/-3.86	-2.44/-0.92
Θ(7.5°)	2.51/3.68	4.74/5.14	5.25/1.4	4.99/4.75	4.34/3.9	3.43/2.89	2.31/1.58	0.47/-1.11	-3.01/-4.82	-7.35/-7.81	-4.52/-2.83	-0.89/0.76	2.18/3.05	3.45/4.54	3.45/3.52	3.26/4.29	2.96/2.63	1.91/1.04	0.09/-1.23	-2.84/-4.58	-10.70/-9.95	-12.68/-9.2	-4.65/-1.41	0.17/1.44
Θ(15°)	1.87/3.02	4.06/4.81	5.13/5.29	5.36/5.07	4.31/3.37	2.62/3.03	1.89/1.6	0.72/0.57	-2.55/-4.73	-6.03/-6.77	-6.58/-4.96	-2.34/-0.27	1.41/2.7	3.31/3.27	2.92/2.69	2.35/1.73	1.23/1.19	0.96/0.36	-0.51/-1.58	-3.61/-5.82	-7.67/-6.94	-6.6/-5.12	-2.71/-1.35	-0.21/-0.02
Θ(22.5°)	0.98/1.92	2.45/2.8	2.54/2.42	2.85/3.47	3.69/3.19	2.56/2.07	2.15/1.71	0.35/-2.22	-6.15/-8.19	-9.96/-9.52	-8.26/-8.52	-3.44/-1.33	0.63/2.17	2.77/2.19	1.11/1.28	1.31/1.2	1.02/1.19	1.45/1.16	0.21/-0.4	-5.54/-8.25	-9.34/-7.67	-4.92/-2.6	-1.34/-1.04	-1.12/-0.25
Θ(30°)	-0.1/1.61	2.42/2.07	1.71/0.55	0.22/1.09	1.41/1.26	0.63/0.4	0.14/-0.55	-2.24/-4.73	-5.81/-6.47	-9.92/-14.29	-14.66/-14.52	-10.46/-10.46	-4.98/-1.8	-0.15/0.44	0.22/1.97	1.69/0.17	0.24/-0.63	0.16/-1.04	-6.96/-5.85	-3.67/-2.91	-5.32/-8.09	-6.34/-4.11	-2.26/-0.93	
Θ(37.5°)	-4.34/-2.15	-0.37/-0.86	-1.44/-1.73	0.51/0.28	-1/-2.11	-1.77/-0.91	-1.87/-4.15	-6.53/-7.81	-7.35/-9.08	-12.07/-11.66	-7.9/-6.76	-71/6.88	-7.36/-4.39	-3.76/-2.59	-1.06/-0.84	-0.45/0.7	-0.02/-2.16	-1.72/0.4	-0.21/-1.73	-2.02/-0.68	0.73/0.48	-1.39/-3.66	-6.7/-6.82	-5.08/-4.04
Θ(45°)	-7/-4.72	-1.59/-1.77	-3.25/-2.75	1.4/0.49	-1.08/-2.47	-2.54/-0.07	-4.61/-8.6	-7.61/-0.71	-6.37/-1.0	-6.37/-1.0	-9.28/-6.18	-3.39/-3.17	-3.24/-4.05	-7.48/-8.1	-4.56/-1.72	-1.86/-1.3	-1.17/-0.25	0.34/0.94	1.26/0.64	0.22/1.02	1.92/2.87	3.53/2.75	-0.57/-2.43	-5.38/-6.84
Θ(52.5°)	-4.14/-4.48	-2.29/-2.83	-3.92/-3.94	0.91/0.73	-0.58/-2.59	-2.18/0.21	0.62/-0.97	-4.26/-3.14	-3.28/-3.49	-2.56/-3.95	-8.85/-13.2	-4.71/-4.13	-3.07/-1.4	-6.69/-11.78	-4.27/-1.32	-0.47/-0.65	-0.32/0.52	0.45/0.14	0.71/1.21	1.48/1.86	3.52/5.5	2.64/2.55	0.6/-0.85	-0.17/-1.96
Θ(60°)	-1.62/-2.74	-3.45/-3.76	-3.45/-5.99	-0.30/2.8	-1.05/-1.35	-2.57/-1.36	-0.03/-0.56	-1.78/-1.04	-1.24/-1.19	-0.95/-0.1	-0.85/-2.79	-4.05/-5.92	-3.85/-2.65	-3.56/-8.29	-4.64/-0.75	-1.19/-0.7	0.93/2.08	1.87/0.18	0.46/1.91	2.47/2.8	4.81/6.18	5.74/3.77	1.17/0.14	0.83/0.2
Θ(67.5°)	0.15/-0.84	-3.27/-4.69	-3.33/-3.82	0.43/-0.62	1.19/1.19	-1.28/0.17	0.85/0.24	-0.02/-0.22	0.96/1.43	0.47/0.83	-0.45/-2.51	-4.34/-8.17	-3.75/-6.48	-3.23/-0.45	-2.08/-0.48	2.27/2.59	2.39/-0.07	1.52/3.7	3.45/4.21	6.46/6.21	5.4/6.26	2.79/3.13	0.29/-0.16	
Θ(75°)	0.75/-0.16	-3.09/-4.66	-1.92/-2.92	0.87/-2.14	1.74/2.27	-0.55/1.7	1.88/0.98	0.18/0.16	1.41/1.95	1.36/0.98	-1.12/-3.69	-5.04/-6.9	-6.04/-6.25	-4.28/-3.39	-4.34/-1.66	-2.06/-1.79	2.19/2.54	3.01/1.33	1.99/3.09	4.24/7.9	6.67/5.46</			



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

Θ(67.5°)	0.390/79	-3.17/-4.04	-5.63/-15.06	-3.58/-4.19	-3.65/-1.38	0.02/-0.8	-1.12/-0.57	-1.38/-1.2	-0.04/-1.44	-1/-2.77	-4.07/-2.22	-1.66/-1.5	1.94/-1.78	-6.83/-11.76	-7.06/-4.15	-5.51/-0.5	-0.28/-3.83	-0.85/0.51	-1.93/-2.9	-1.23/-1.98	-3.34/0.67	1.75/-0.47	-0.12/0.07	-0.54/-0.6
Θ(75°)	0.360/66	-5.73/-7.7	-8.42/-13.71	-3.79/-4.16	-4.86/-1.84	-0.88/-2.4	-2.8/-2.75	-2.04/-0.28	0.05/-1.0	-0.91/-0.09	-1.53/-0.87	-0.69/-0.3	0.9/-1.7	-6.88/-10.57	-16.05/-3.4	-3.46/-1.82	0.6/-5.1	-0.74/-0.17	-1.54/-4.42	-1.28/-1.99	-0.58/-1.67	1.5/-1.49	-0.39/-1.29	-1.9/-0.7
Θ(82.5°)	-1.07/-1.27	-7.77/-15.21	-10.78/-14.33	-4.58/-4.92	-7.76/-3.67	-3.38/-4.51	-4.68/-5.04	-2.16/-0.75	-0.18/-0.75	-1.22/0.01	-2.19/-1.18	-0.99/-4.09	-1.58/-4.18	-7.77/-11.7	-15.12/-3.08	-3.16/-2.37	-1.08/-6.86	-1.71/-1.41	-1.48/-3.81	-2.57/-1.92	0.08/1.35	0.92/-1.95	-2.13/-3.88	-5.18/-2.39
Θ(90°)	-2.23/-4.61	-11.15/-15.84	-15.63/-13.7	-5.76/-5.7	-8.99/-5.11	-5.45/-7.59	-6.23/-7.78	-4.15/-3.75	-1.94/-1.85	-2.58/-1.59	-1.97/-3.55	-1.99/-6.44	-3.5/-7.33	-9.85/-10.54	-10.26/-8.58	-2.08/-3.63	-4.41/-7.46	-6.31/-4.5	-1.72/-2.62	-6.61/-2.53	-0.28/-0.48	-2.57/-2.9	-3.8/-5.82	-7.8/-4.05
Θ(97.5°)	-4.93/-7.13	-11.92/-15.81	-13.87/-11.78	-6.47/-8.44	-8.71/-6.69	-6.05/-9.98	-8.63/-10.2	-7.05/-5.97	-3.35/-2.5	-4.11/-3.18	-4.7/-6.68	-4.94/-8.45	-5.27/-10.21	-11.75/-8.9	-10.65/-10.16	-3.45/-7	-8.85/-8.29	-9.59/-8.74	-3.72/-2.96	-9/-5.43	-2.93/-3.07	-7.53/-4.13	-5/-6.45	-8.04/-6.52
Θ(105°)	-7.86/-8.5	-9.72/-15.11	-13.32/-11.06	-7.47/-10.32	-9.86/-6.65	-6.39/-13.78	-9.28/-9.4	-7.26/-7.76	-6.28/-4.16	-4.88/-5.58	-4.6/-7.06	-7.19/-7.86	-8.36/-10.09	-14.08/-10.07	-11.51/-11.75	-4.42/-7.43	-10.65/-12.75	-11.35/-11.35	-6.14/-5.76	-10.12/-12.54	-7.68/-5.29	-9.61/-6.32	-6.42/-5.66	-7.03/-8.44
Θ(112.5°)	-10.75/-10.88	-13.04/-15.51	-10.43/-9.09	-7.76/-10.57	-10.06/-12.02	-11.08/-10.67	-10.73/-8.98	-7.29/-7.12	-8.24/-6.35	-5.53/-7.55	-8.38/-9.21	-13.89/-7.59	-12.37/-11.77	-13.38/-10.41	-10.47/-9.45	-6.83/-9.83	-8.66/-10.32	-11.24/-8.56	-4.9/-5.01	-12.28/-13.23	-8.27/-7.47	-7.03/-8.21	-5.02/-7.36	-8.57/-12
Θ(120°)	-15.28/-11.31	-11.05/-12.46	-9.44/-9.11	-10.02/-11.3	-9.61/-15.18	-13.91/-10.55	-11.77/-9.39	-11.55/-11.05	-11.08/-8.88	-6.49/-5.79	-7.98/-5.55	-11.72/-10.14	-9.04/-15.78	-12.92/-10.78	-14.99/-11.17	-15.5/-9.24	-9.58/-6.52	-13.81/-8.6	-6.72/-4.18	-8.19/-12.54	-9.15/-9.11	-7.48/-7.02	-7.54/-7.35	-6.88/-10.66
Θ(127.5°)	-16.03/-13.1	-8.66/-11.04	-7.06/-13.55	-7.33/-9.14	-9.67/-10.92	-13.07/-8.59	-12.31/-8.73	-13.24/-9.67	-11.26/-7.04	-6.27/-6.08	-8.26/-10.15	-10.23/-9.61	-12.85/-12.06	-10.93/-13.42	-10.98/-6.36	-12.56/-13.12	-15.38/-9.97	-8.97/-7.92	-11.09/-6.45	-8.34/-11.12	-14.26/-11.11	-8.18/-6.09	-10.53/-11.07	-9.29/-11.65
Θ(135°)	-13.84/-9.08	-9.27/-9.48	-10.85/-11.71	-8.17/-11.19	-10.28/-13.99	-14.98/-9.64	-11.49/-9.84	-11.58/-10.27	-9.7/-8.48	-4.09/-6.62	-5.17/-9.73	-10.02/-7.61	-11.29/-14.53	-10.73/-10.59	-10.71/-7.06	-9.42/-10.87	-15.52/-15.05	-12.72/-8.85	-11.29/-7.8	-8.21/-13.55	-11.35/-8.64	-7.34/-9.12	-6.19/-7.3	-7.36/-9.46
Θ(142.5°)	-10.52/-12.18	-11.97/-10.71	-10.2/-15.45	-15.57/-9.84	-10.68/-8.62	-10.6/-8.76	-9.38/-9.25	-9.34/-11.31	-7.5/-7.37	-10.34/-7.06	-12.71/-10.52	-9.34/-9.01	-14.95/-13.86	-10.7/-10.28	-11.07/-11.77	-13.94/-13.42	-11.06/-7.39	-6.93/-6.55	-8.44/-11.43	-11.02/-9.81	-11.55/-10.39	-8.73/-6.79	-9.1/-7.37	
Θ(150°)	-13.86/-14.01	-9.1/-10.06	-9.95/-11.61	-12.01/-11	-10.78/-10.21	-8.9/-9.38	-10.35/-11.04	-8.99/-10.07	-12.12/-12.37	-10.79/-10.27	-9.55/-10.44	-12.03/-13.63	-16.74/-14.4	-11.33/-8.85	-13.02/-12.41	-13.61/-11.17	-15.33/-12.59	-8.86/-8.25	-10.62/-10.16	-9.95/-9.08	-8.96/-9.37	-13.73/-11.46	-12.01/-12.13	-11.03/-12.04
Θ(157.5°)	-11.61/-10.81	-11.22/-11.08	-11.86/-11.2	-11.28/-10.44	-8.57/-8.81	-9.68/-8.97	-7.33/-6.66	-7.51/-8.95	-9.89/-11.28	-14.06/-13.67	-12.31/-9.67	-7.36/-9.06	-13.52/-13.56	-11.38/-11.37	-10.85/-11.72	-10.24/-9.94	-10.5/-8.38	-7.25/-8.58	-8.93/-7.53	-6.17/-7.7	-9.6/-10.43	-10.55/-10.74	-11.04/-11.39	-13.06/-14.35
Θ(165°)	-15.8/-14.82	-10.65/-8.25	-6.45/-4.52	-5.29/-5.73	-6.68/-8.52	-8.94/-9.08	-8.55/-10.43	-14.41/-15.37	-15.48/-13.11	-10.87/-9.97	-9.85/-11.06	-12.03/-14.69	-15.88/-15.16	-11.75/-11.37	-13.45/-13.79	-12.12/-12.56	-11.63/-11.24	-10.87/-10.25	-10.73/-13.71	-12.69/-13.62	-14.15/-10.29	-10.45/-10.08	-9.99/-15.13	
Θ(172.5°)	-10.05/-12.23	-12.72/-12.89	-12.51/-11.69	-11.96/-11.84	-10.49/-10.11	-8.96/-8.66	-9.57/-11.16	-12.41/-13.44	-13.19/-13.17	-13.73/-14.43	-13.74/-10.42	-11.9/-13.22	-13.32/-11.5	-10.42/-10.09	-9.99/-10.69	-11.18/-11.37	-12.16/-13.02	-14.73/-15.5	-15.47/-15.63	-10.64/-13.32	-10.64/-9.08	-8.07/-8.4	-9.76/-9.73	
Θ(180°)	-10.09/-12.78	-14.84/-15.38	-15.78/-14.46	-13.54/-13.18	-12.14/-12.33	-13.14/-13.34	-12.51/-11.46	-12.64/-14	-14.16/-12.55	-11.89/-11.86	-11.55/-10.77	-10.56/-11.7	-13.03/-13.2	-13.04/-11.58	-10.28/-10.17	-11.73/-14.27	-14.88/-14.72	-14.67/-13.01	-11.5/-10.01	-9.36/-8.8	-8.52/-7.88	-7.52/-7.94	-8.18/-8.47	-9.1/-9.81
Freq(Pol)	5.785GPol	ThetaL	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(Θ)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	2.4/3	3.86/4.1	4.024/27	4.4/4.24	3.97/3.56	3.122/3.38	1.65/0.87	-0.371/-1.85	-3.09/-3.62	-3.25/-2.26	-1.049	1.512/65	3.62/4.07	4.25/4.28	4.45/4.57	4.45/4.07	3.56/2.85	2.13/1.16	0/-1.22	-2.32/-3.37	-4.07/-4.37	-4.03/-3.17	-1.56/-0.03	0.85/1.3
Θ(7.5°)	2.74/3.41	3.6/4.04	3.99/3.96	4.23/4.16	3.89/3.66	3.26/2.34	1.31/0	-1.98/-4.55	-7.33/-9.33	-8.63/-6.14	-4.69/-3.1	-1.49/-0.34	0.91/8.4	2.75/3.46	3.92/4.57	4.94/9.4	4.72/4.28	3.78/2.96	1.92/0.54	-1.13/-3	-3.17/-2.88	-2.23/-1.02	0.17/0.1	1.99/2.38
Θ(15°)	1.88/3.1	4.1/4.64	4.63/4.22	4.06/3.7	3.46/3.83	2.86/2.54	-1.41/-2.62	-3.48/-4.58	-5.87/-6.47	-5.51/-3.45	-1.32/0.21	1.56/2.47	2.69/2.33	1.58/2.09	2.54/2.85	2.71/2.48	1.86/1.9	0.52/0.1	-0.39/-1.3	-2.52/-2.97	-3.73/-3.13	-2.16/-1.04	0.29/1.09	
Θ(22.5°)	0.42/0.91	2.45/3.85	4.44/9.4	5.1/4.24	3.28/2.95	2.42/1.83	0.21/-1.57	-3.36/-4.95	-6.44/-6.75	-7.69/-9.68	-9.55/-7.92	-5.57/-2.47	0.18/2.3	3.33/3.27	2.29/1.17	0.31/0.52	0.57/0.05	-0.41/0.01	-0.54/-1.27	-1.37/-1.57	-1.51/-1.55	-1.3/-0.9	-0.73/-1.27	-1.44/0.06
Θ(30°)	0.25/-1.3	1.26/-1.9	1.4/3.2	3.82/8.9	1.61/6.3	2.37/1.84	0.57/-1.2	-0.51/-12.95	-15.39/-10.26	-8.69/-7.13	-5.48/-3.84	-2.56/-2.05	-2.91/-1.08	-0.05/0.35	1.15/0.41	-1.72/-1.68	-0.52/-0.56	-1.23/-2.25	-3.79/-3.46	-3.65/-3.4	-7.53/-6.77	-4.95/-2.42	-1.08/-1.06	-0.71/0.09
Θ(37.5°)	1.78/2.95	2.31/0.93	0.23/1.36	1.82/1.3	-0.03/0.23	1.47/0.56	-1.55/4.03	-5.26/-6.19	-1.07/-0.71	-8.06/-7.04	-5.06/-2.82	-1.07/-0.51	-1.37/-3.4	-6.31/-4.23	-1.56/-1.66	-3.59/-3.1	-1.58/-2.03	-3.11/-2.43	-2.23/-2.57	-3.08/-4.43	-5.6/-5.05	-7.5/-3.21	-1.51/0.08	
Θ(45°)	0.55/2.2	2.18/1.68	1.88/2.48	1.53/1.08	-0.68/-0.14	0.2/-1.68	-5.94/-9.55	-11.8/-10.04	-9.4/-9.62	-11.13/-7.84	-6.56/-7.92	-5.24/-3.22	-1.48/-2.34	-5.3/-5.98	-4.15/-3.45	-6.12/-3.21	-0.82/-1.72	-2.16/-0.08	-0.03/0.96	1.69/2.09	0.36/-3.9	-2.88/-1.15	-3.48/-5.57	-3.53/-0.75
Θ(52.5°)	-1.17/0.4	1.09/1.74	2.28/3.57	1.89/-0.25	-0.47/0.7	0.45/-1.4	-3.94/-3.24	-5.58/-5.44	-4.74/-4.96	-7.32/-8.89	-10.75/-13.6	-5.15/-2.02	-1.17/-2.29	-2.95/-2.75	-2.94/-3.29	-6.77/-3.23	-2/-2.46	-0.36/-1.9	1.28/1.9	2.59/3.39	2.6/2.1	2.48/0.98	-2.14/-4.96	-3.29/-1.3
Θ(60°)	0.23/-2.18	-0.31/-1.27	0.48/2.14	-0.35/-1.9	-0.84/-0.12	-0.75/-0.14	-0.35/-1.9	-0.75/-0.14	-0.75/-0.14	-0.35/-1.9	-0.75/-0.14	-0.35/-1.9	-0.75/-0.14	-0.35/-1.9	-0.75/-0.14	-0.35/-1.9	-0.75/-0.14	-0.35/-1.9	-0.75/-0.14	-0.35/-1.9	-0.75/-0.14	-0.35/-1.9	-0.75/-0.14	-0.35/-1.9
Θ(67.5°)	0.62/-0.79	-0.82/-1.27	-0.83/0.52	-2.86/-1.33	-2.35/-3.58	0.13/0.39	0.24/-1.46	2.51/-1.93	2.12/0.04	-2.15/-5.51	-7.21/-6.41	-5.38/-5.21	-5.99/-3.37	-0.47/-1.71	-2.43/-3.67	-0.50/-77	-0.44/0.63	1.06/3.52	3.07/3.24	3.45/4.45	3.81/3.87	3.18/1.54	0.11/-1.18	0.35/-1.42
Θ(75°)	1.1/0.57	-0.74/0.85	-2.04/-0.93	-5.5/-2.88	-1.28/-2.53	1.75/0.81	0.31/-4.8	3.43/2.98	3.16/3.04	0.59/-1.85	-4.98/-5.21	-3.58/-3.1	-4.68/-6.5	0.02/-1.31	-1/-3.58	-2/-1.26	-0.05/0.41	1.49/4.13	3.68/4.06	4.155/2.2	4.17/3.41	2.82/0.6	0.7/-1.5	-0.33/-0.14
Θ(82.5°)	1.55/0.71	-0.65/0.7	-2.14/-1.54	-4.09/-2.15	-2.06/-2.15	1.85/0.42	-0.35/0.67	2.84/2.32	3.08/2.03	-0.01/-2.08	-4.95/-4.5	-3.72/-3.42	-3.81/-7.76	-0.23/-2.37	-1.77/-3.7	-1.83/0.58	-1.07/0.24	0.52/3.35	3.46/4.16	4.06/5.17	3.88/2.23	2.22/0.08	-0.57/-3.19	-0.23/-1.1
Θ(90°)	0.59/-0.43	-1.23/-0.8	-3.49/-2.89	-2.89/-2.61	-3.63/-1.89	-0.96/-0.42	-1.95/-1.03	0.80/0.6	2.13/-1.31	-1.19/-3.15	-4.32/-4.71	-4.54/-4.8	-3.14/-5.78	-2.33/-2	-3.63/-3.16	-4.04/-0.79	-2.79/-1.87	-0.54/0.98	2.21/2.52	2.17/3.27	2.58/0.69	0.84/-0.9	-1.81/-2.96	-0.26/1
Θ(97.5°)	-1.38/-2.74	-2.79/-2.66	-4.05/-3.57	-3.45/-4.31	-6.16/-2.44	0.14/-1.4	-3.28/-2.79	-0.82/-0.62	0.33/-0.56	-2.81/-4.86	-5.69/-6.27	-6.94/-4.5	-3.1/-6.61	-3.28/-4.61	-4.29/-4.54	-4.86/-2.9	-5.18/-3.99	-3.5/-2.8	-0.93/-1.24	-0.97/0.18	-0.43/-0.84	-1.36/-3.32	-3.26/-3.18	-1.28/-0.3
Θ(105°)	-4.24/-5.1	-3.27/-4.46	-3.67/-4.19	-5.51/-4.72	-10.54/-4.56	-1.71/-2.98	-5.89/-7.06	-4.87/-4.45	-2.25/-3.1	-4.5/-8.27	-7.79/-6.08	-7.09/-5.3	-3.22/-5.78	-5.28/-5.49	-7.71/-7.86	-5.4/0.9	-5.64/-6.51	-4.49/-6.81	-4.52/-4.01	-4.66/-3.48	-5.99/-2.65	-2.71/-5.2	-2.57/-3.9	-3.31/-2.51
Θ(112.5°)	-4.46/-3.49	-4.13/-4.34	-6.07/-4.8	-5.61/-8.59	-11.95/-8.96	-4.68/-5.66	-6.58/-6.23	-6.61/-6.98	-4.25/-4.9	-4.94/-6.76	-7.43/-7.95	-9.67/-3.33	-4.76/-6.94	-6.27/-9.28	-7.17/-6.31	-8.85/-6.39	-6.2/-6.35	-5.6/-5.05	-5.68/-5.01	-3.33/-2.71	-7.13/-4.41	-3.38/-3.88	-4.1/-6.01	-6.94/-5.71
Θ(120°)	-5.25/-3.96	-5.92/-5.86	-8.82/-6.85	-5.52/-13.44	-11.09/-9.49	-7.03/-5.46	-5.87/-3.97	-5.57/-5.07	-5.27/-2.1	-3.92/-4.75	-8.86/-12.31	-10.68/-6.52	-6.64/-5.4	-9.12/-6.69	-8.73/-7.34	-9.24/-10.62	-10.12/-9.07	-10.16/-7.21	-7.49/-2.63	-4.01/-3.59	-4.0			



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

Θ(120°)	-15.55/-9.23	-11.17/-15.01	-8.13/-12.19	-11.57/-9.19	-11.83/-15.27	-10.52/-9.62	-12.16/-10.54	-8.85/-9.43	-7.92/-6.11	-6.71/-8.41	-10.41/-5.33	-11.27/-10.7	-11.14/-8.15	-8.24/-10.02	-9.56/-10.63	-10.79/-14.9	-9.39/-9.53	-13.19/-12.2	-6.34/-4.33	-9.2/-14.67	-9.39/-10.15	-6/-9	-5.9/-8.05	-11.94/-15.2
Θ(127.5°)	-11.45/-13.12	-13.87/-11.01	-8.67/-7	-9.92/-10.45	-14.82/-14.61	-14.37/-11.25	-11.22/-8.16	-10.84/-9.16	-9.11/-8.43	-9.37/-10.02	-10.83/-6.21	-11.94/-11.45	-7.88/-11.92	-13.27/-9.15	-12.81/-7.29	-10.46/-6.95	-8.23/-9.61	-14.88/-11.78	-6.28/-5.9	-12.94/-13.61	-12.21/-14.86	-6.55/-8.09	-7.5/-9.6	-11.03/-15.35
Θ(135°)	-9.28/-15.22	-13.68/-13.5	-8.02/-6.95	-10.29/-12.65	-13.32/-11.95	-12.44/-8	-9.98/-8.33	-11.51/-10.66	-10.01/-12.62	-11.09/-6.72	-5.95/-9.7	-11.61/-12.97	-9.61/-12.94	-12.45/-9.64	-6.51/-7.09	-9.4/-11.81	-11.67/-9.37	-7.78/-5.88	-6.62/-15.48	-10.07/-10.06	-6.02/-0.12	-8.2/-9.54	-10.98/-15.3	
Θ(142.5°)	-8.87/-12.7	-12.99/-8.35	-11.19/-11.3	-9.39/-11.27	-11.45/-13.06	-9.21/-9.7	-10.97/-12.5	-14.93/-14.98	-15.84/-14.46	-10.83/-12.06	-11.51/-7.33	-14.89/-13.67	-11.19/-11.13	-10.95/-15.37	-10/-6.51	-11.24/-12.53	-15.11/-14.73	-10.49/-9.4	-7.73/-11.74	-13.25/-14.41	-9.87/-9.45	-11.72/-12.64	-10.52/-11.07	-8.04/-14.28
Θ(150°)	-9.9/-8.07	-13/-10.58	-12.18/-11.1	-9.53/-8.07	-6.57/-8.01	-11.06/-12.33	-11.54/-10	-10.06/-11.93	-12.4/-10.07	-11.57/-13.65	-10.86/-12.71	-11.53/-14.7	-11.36/-15.08	-7.39/-8.5	-11.13/-11.17	-8.96/-11.52	-13.77/-13.67	-9.8/-9.5	-8.64/-4.87	-6.21/-8.94	-12.64/-12.72	-15.24/-15.73	-15.49/-10.35	-6.46/-8.82
Θ(157.5°)	-14.19/-15.97	-15.3/-15.15	-15.18/-13.69	-14.28/-14.43	-10.62/-10	-10.72/-12.39	-11.48/-12.07	-11.51/-10.66	-11.74/-15.04	-15.28/-12.01	-15.24/-14.51	-14.28/-8.51	-9.03/-14.05	-12.7/-13.83	-13.78/-11.25	-13.13/-13.63	-11.92/-8.68	-10.06/-14.1	-10.96/-10.82	-12.33/-10.79	-12.42/-13.29	-12.26/-11.44	-12.19/-14.52	-13.9/-13.61
Θ(165°)	-10.22/-9.73	-9.6/-11.49	-15.19/-15.39	-11.96/-10.95	-11.29/-11.68	-12.12/-13.77	-15.5/-15.42	-15.01/-15.01	-14.3/-15.02	-14.92/-14.87	-15.99/-15.44	-14.91/-13.43	-12.59/-15	-12.25/-9.2	-7.55/-8.18	-9.48/-11.78	-15.67/-15.55	-15.29/-13.75	-12.39/-14.18	-15.83/-13.1	-10.56/-10.8	-10.97/-9.58	-9.74/-11.92	-16.21/-13.86
Θ(172.5°)	-7.44/-9.74	-11.38/-11.34	-9.99/-9.24	-8.89/-9.24	-11.17/-13.71	-13.97/-12.78	-13.12/-12.88	-14.04/-14.47	-15.39/-15.67	-14.7/-13.43	-13.64/-11.62	-13.9/-9.12	-11.35/-11.68	-12.32/-13.62	-12.23/-10.82	-10.57/-10.94	-11.19/-10.95	-10.28/-9.44	-9.75/-10.82	-10.88/-10.15	-10.39/-13.19	-13.94/-14.25	-13.27/-10.17	-9.58/-8.41
Θ(180°)	-10.45/-11.96	-12.08/-12.14	-10.82/-10.64	-11.2/-11.22	-11.48/-11.45	-11.41/-11.22	-10.33/-9.89	-11.29/-13.11	-13.41/-14.47	-12.48/-11.89	-13.3/-13.98	-14.08/-11.27	-14.05/-15.97	-15.43/-16.1	-15.11/-14.77	-13.61/-13.26	-12.52/-11.45	-10.69/-10.62	-9.87/-8.98	-8.42/-8.57	-8.24/-9	-8.83/-8.12	-8.57/-8.97	-10.36/-11.34
Freq(Hz)	6.475GPol.	Theta-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
DG(dB)	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	1.6/2.7	3.54/4.26	4.86/5.05	5.15/5.22	5.16/5	4.54/4.01	3.26/2.32	0.91/0.67	2.38/-4.58	-6.11/-6.28	-5.28/-3.73	-1.54/2.52	3.53/4.3	5.28/5.3	4.78/4.86	4.67/4.56	4.18/3.61	2.82/1.74	0.47/-0.83	1.95/-3.58	0.71/-0.83	0.33/1.95	-1.08/0.53	
Θ(7.5°)	1.79/2.38	3.57/4.73	5.25/5.25	5.29/5.18	4.94/3.45	3.85/3.23	2.56/1.74	0.72/0.37	-2.23/-4.92	-7.08/-7.28	-5.47/-3.58	-0.62/1.52	2.54/3.61	4.48/5.13	5.38/5.39	5.14/4.83	4.62/4.28	3.85/3.1	1.95/0.46	-1.57/-3.29	-4.96/-5.54	-5/-4.76	-3.12/-1.57	-0.46/0.91
Θ(15°)	0.47/0.7	0.98/1.65	3.42/4.72	5.54/5.76	5.75/5.26	4.38/3.01	1.47/0.16	-1.28/-3.55	-7.13/-8.97	-12.1/-9.18	-7.81/-4.94	-3.41/-2.17	0.03/0.08	3.89/5.19	6.23/6.48	6.11/5.23	4.22/3.19	2.33/1.83	1.24/0.25	-1.28/-3.49	-6.69/-8.33	-6.88/-4.4	-2.31/-1.39	0.07/0.22
Θ(22.5°)	1.69/2.23	2.61/2.98	3.67/4.56	4.88/4.84	4.92/4.61	3.43/1.55	-1.15/-3.31	-2.39/-1.6	-1.59/-1.83	-0.98/-0.99	-1.86/-1.8	-1.46/-2.31	-2.31/-1.32	1.08/3.12	4.38/4.9	4.62/3.11	1.24/0.6	0.12/-1.06	-1.3/-1.14	-2.27/-4.27	-6.01/-6.53	-4.05/-1.23	0.3/1.4	
Θ(30°)	-0.17/0.81	1.41/2.31	2.61/2.09	3.21/3.28	3.08/2.45	1.1/-1.12	-2.8/-2.13	-2.55/-3.18	-3.73/-4.41	-4.71/-4.22	-3.37/-3.12	-2.95/-2.13	-1.57/-0.93	0.03/0.8	1.73/2.55	2.41/0.95	-0.08/0.04	-0.65/-0.51	-0.29/-1.31	-4.49/-8.56	-6.82/-4.57	-2.85/-2.02	-2.35/-3.68	-1.51/-0.47
Θ(37.5°)	-2.24/-9.74	2.03/2.94	2.1/-1.63	0.51/1.3	2.18/1.94	0.17/0.39	0.88/0.22	-2.27/-6.76	-8.36/-6.23	-3.94/-2.22	-2.21/-4.21	-0.57/-3.5	-3.65/-4.01	-0.14/-1.04	0.01/0	0.35/0.85	1.58/1.63	0.38/0.94	0.38/-0.96	-3.95/-7.7	-4.35/-3.36	-2.54/-4.03	1/0.65	-1.13/-2.18
Θ(45°)	-2.31/-2.37	-0.88/2.06	2.31/-1.35	0.36/0.95	1.17/1.52	-0.23/0.11	-0.81/-0.93	-3.45/-5.4	-8.19/-9.16	-6.67/-3.52	-4.16/-5.68	-6.19/-5.19	-5.06/-5.24	-3.85/-1.71	-2.56/-4.02	0.28/0.67	2.57/2.61	1.51/55	1.02/0.64	-0.71/-1.27	-2.93/-4.1	-5.78/-2.18	-10.6/0.35	-0.79/-2.06
Θ(52.5°)	-0.06/1.38	0.75/1.16	2.75/0.97	1.94/1.95	0.11/1.01	0.50/0.81	1.36/0.25	-1.87/-3.28	-5.47/-9.71	-9.27/-4.19	-4.86/-7.18	-6.58/-4.43	-2.36/-2.68	-3.22/-1.17	-2.78/-0.4	-0.48/-0.96	1.96/2.32	2.03/1.99	2.25/2.59	1.49/1.55	-0.77/-3.06	-2.95/-3.75	-1.2/-0.89	-1.76/-1.17
Θ(60°)	0.55/2.14	1.8/0.3	1.92/0.98	2.4/0.7	-0.55/-1.52	0.55/0.12	0.88/-0.49	-1.39/-1.21	-3.11/-9.14	-11.74/-8.08	-4.68/-8.03	-5.79/-5.2	-0.97/-0.21	-5.6/-1.1	-3.07/-0.94	-0.88/-1.7	1.22/2.62	2.18/1.2	2.05/2.92	1.85/0.97	-0.87/-0.94	-1.09/-0.89	1.04/-0.43	-1.38/0.02
Θ(67.5°)	2.15/1.14	2.51/1.16	0.6/-0.75	2.17/0.61	-0.56/-2.53	1.43/-0.55	-1.14/0.65	-1.58/-0.87	-5.28/-5.93	-11.48/-7.65	-11.48/-7.65	-5.28/-5.93	-11.48/-7.65	-5.28/-5.93	-11.48/-7.65	-1.84/0.3	1.77/0.4	6.33/2.45	2.58/4.06	3.21/1.12	1.01/-1.16	-0.22/0.07	0.15/-4.98	-1.78/-1.61
Θ(75°)	2.41/0.22	1.73/1.44	0.6/-1.68	1.72/-2.33	-1.34/-0.69	0.43/0.32	2.29/1.04	1.16/0.83	-0.58/-2.91	-6.76/-9.27	-4.59/-6.64	-6.07/-5.56	-4.88/-3.86	-2.88/-3.77	-2.47/-1.28	-2.07/-0.7	1.42/4.12	4.98/3.63	3.12/4.93	5.37/3.2	3.01/0.2	-0.82/2.26	-0.7/-5.6	-1.26/-1.72
Θ(82.5°)	1.06/1.01	0.74/1.05	-0.17/-1.47	0.88/-2.48	-0.93/-0.55	-0.13/-1.54	1.14/1.02	2.52/1.15	0.38/-2.08	-4.84/-9.41	-4.32/-6.54	-5.24/-1.1	-3.9/-6.37	-2.63/-1.28	-1.97/-0.61	0.3/0.39	5.52/3.66	4.01/5.15	5.67/3.89	2.78/-0.94	-0.22/1.77	-2.94/-3.8	-0.97/-0.39	
Θ(90°)	-0.93/-2.66	-0.45/0.09	-0.83/-2.04	-0.78/-3.73	-1.73/-2.39	-0.80/-1.8	-2.41/-1.85	1.75/1.62	-0.32/-1.84	-4.78/-5.38	-6.17/-8.03	-6.69/-8.16	-6.99/-5.9	-4.11/-6.78	-5.51/-6.5	-2.85/-3.21	-1.06/1.43	4.14/1.89	2.58/3.46	4.16/3.54	-1.21/-2.45	-0.50/1.66	-4.7/-3.41	-2.71/-2.51
Θ(97.5°)	-3.36/-4.34	-0.49/-0.96	-2.47/-3.14	-2.44/-5.15	-2.42/-4.19	-2.05/-2.38	-3.86/-4.19	0.47/0.72	-2.51/-4.63	-5.96/-6.67	-8.56/-7.82	-5.69/-8.74	-7.25/-5.89	-3.88/-9.3	-9.18/-6.27	-4.51/-5.32	-2.36/-1.56	0.94/-1.91	-0.47/-0.74	-0.05/-1.42	-2.44/-4.09	-2.78/-2.47	-6.51/-4.51	-4.01/-4.62
Θ(105°)	-5.62/-4.72	-1.96/-1.51	-3.8/-3.83	-3.64/-6.48	-3.86/-5.81	-4.61/-2.45	-3.92/-3.99	-2.51/-5.7	-5.2/-5.87	-6.31/-7.21	-10.01/-9.37	-7.31/-9.94	-6.16/-6	-11.15/-8.41	-4.71/-6.89	-4.12/-4.91	-2.29/-5.63	-5.17/-5.91	-3.97/-2.36	-3.66/-5.55	-6.84/-1.4	-7.2/-7.27	-5.72/-6.65	
Θ(112.5°)	-5.21/-5.11	-2.01/-2.86	-4.33/-4.47	-4.45/-6.88	-6.16/-10.41	-6.16/-10.41	-7.56/-3.22	-6.42/-3.42	-5.24/-6.02	-8.81/-9.72	-9.83/-12.67	-9.69/-10	-6.25/-6.62	-11.73/-7.75	-9.95/-6.77	-6.26/-6.27	-1.44/-4.7	-3.71/-2.67	-1.65/-3.26	-4.63/-6.5	-5.88/-7.09	-9.31/-8.3	-6.15/-5.2	
Θ(120°)	-4.12/-5.42	-3.53/-6.39	-5.55/-5.27	-6.96/-13.54	-9.65/-12.39	-7.59/-8.51	-9/-8.6	-5.57/-4.16	-5.42/-7.96	-11.78/-11.06	-13.92/-9.19	-10.7/-12.1	-7.98/-6.28	-12.62/-7.43	-9.4/-10.05	-6.74/-8.48	-5.21/-7.35	-5.46/-10.27	-8.38/-3.41	-4.33/-4.8	-4.16/-6.66	-5.68/-9.31	-9.04/-7.09	-5.62/-5.34
Θ(127.5°)	-6.46/-6.79	-7.91/-5.81	-7.42/-7.26	-7.96/-8.73	-9.72/-12.04	-11.02/-7.68	-6.36/-6.29	-7.79/-6.48	-7.51/-8.92	-9.48/-13.16	-10.63/-12.53	-11.84/-9.83	-8.06/-9.69	-9.75/-8.66	-9.17/-8.7	-6.11/-10.13	-7.4/-7.68	-5.89/-14.06	-14.33/-5.64	-5.47/-8.76	-7.91/-5.15	-5.18/-12.48	-8.77/-8.7	-7.64/-8.27
Θ(135°)	-9.72/-9.51	-8.71/-8.2	-8.08/-10.22	-8.98/-9.44	-10.39/-11.09	-8.67/-10.9	-13.29/-10.02	-9.43/-6.66	-6.88/-9.35	-9.03/-12.15	-9.32/-10.89	-12.34/-9.88	-8.63/-8.71	-10.19/-10.18	-9.31/-9.67	-6.8/-9.64	-6.25/-11.25	-13.44/-5.83	-4.46/-5.37	-1.86/-9.11	-3.53/-11.78	-11.78/-6.54	-11.09/-6.75	
Θ(142.5°)	-8.59/-11.05	-7.14/-5.53	-7.97/-10.59	-8.61/-12.32	-11.19/-11.58	-8.46/-8.31	-8.36/-8.18	-8.85/-10.3	-10.13/-12.46	-14.3/-13.2	-12.88/-13.01	-9.74/-8.41	-8.51/-11.33	-10.36/-15.17	-9.06/-8.69	-10.1/-12	-9.02/-6.63	-8.48/-12.35	-13.04/-9.75	-9.14/-6.06	-1.66/-10.66	-12.35/-12.41	-7.18/-7.35	-12.07/-8.08
Θ(150°)	-7.35/-9.46	-11.32/-10.44	-9.02/-11.12	-10.13/-14.91	-12.14/-9.15	-11.02/-12.06	-11.63/-11.14	-9.98/-8.56	-10.21/-9.17	-10.22/-15.94	-14.44/-13.38	-11.51/-9.46	-10.52/-11.81	-14.91/-10.43	-13.7/-7.74	-9.18/-12.39	-10.68/-9.49	-9.35/-12.98	-16/-14.99	-12.92/-10.86	-11.99/-13.96	-15.09/-15.31	-8.52/-7.91	-12.57/-8.61
Θ(157.5°)	-11.83/-9.71	-12.41/-12	-10.56/-13.03	-11.98/-14.46	-13.16/-13.05	-12.77/-12.88	-11.58/-9.93	-9.46/-11.23	-12.74/-14.43	-10.78/-11.32	-12.39/-12.43	-12.51/-9.17	-12.52/-11.92	-11.79/-15.14	-15.03/-15.51	-12.68/-11.25	-12.83/-12.19	-12.22/-12.25	-11.18/-11.15	-12.41/-15.91	-15.5/-14.16	-13.54/-14.28	-13.11/-8.22	-8.45/-11.22
Θ(165°)	-10.58/-11.97	-13.21/-12.97	-11.74/-11.35	-11.82/-10.92	-12.56/-13.2	-13.48/-14.84	-14.23/-13.71	-10.15/-15.27	-13.81/-12.83	-12.67/-12.8	-11.52/-12.2	-13.9/-13	-11.62/-12.49	-12.79/-11.41	-11.37/-12.17	-12.83/-14.68	-15.24/-15.5	-15.33/-15.01	-14.82/-14.26	-15.49/-14.93	-13.62/-13.26	-13.24/-12.66	-10.9/-10.12	
Θ(172.5°)	-10.72/-10.15	-10.11/-10.67	-11.25/-11.61	-11.6/-10.93	-10.16/-11.15	-11.73/-11.41	-12.42/-13.36	-13.34/-13.65	-13.1/-11.7															



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

Θ(157.5°)	-14.53/-13.21	-12.8/-12.52	-11.54/-12.5	-10.77/-9.6	-12.4/-15.5	-11.47/-10.98	-15.2/-14.57	-11.74/-12.65	-13.49/-14.44	-15.2/-14.54	-13.56/-13.86	-14.32/-11.27	-12.55/-9.83	-12.14/-15.1	-9.2/-8.84	-12.56/-14.95	-14.66/-13.77	-15.69/-12.48	-11.64/-11.05	-10.01/-13.94	-11.3/-11.71	-14.3/-10.32	-11/-14.18	-12.53/-11.81
Θ(165°)	-8.92/-9.99	-10.8/-12.44	-11.88/-9.29	-7.32/-7.03	-9.38/-9.1	-7.99/-9	-11.42/-12.54	-13.88/-15.5	-15.17/-15.42	-15.15/-14.72	-13.25/-15.22	-15.3/-13.37	-13.39/-12.8	-12.17/-12.17	-12.57/-11.61	-11.62/-13.14	-15.75/-15.97	-14.92/-15.58	-15.59/-15	-15.39/-14.33	-15.35/-15.71	-9.05/-7.99	-9.17/-12.02	-11.66/-10.44
Θ(172.5°)	-16.19/-12.84	-11.36/-12.91	-13.13/-13.56	-12.35/-11.33	-10.21/-11.83	-12.21/-14.33	-15.56/-14.67	-15.6/-15.43	-15.04/-14.06	-14.61/-12.9	-12.33/-11.95	-13.77/-15.35	-13.89/-14.82	-14.85/-15.5	-15.14/-14.58	-15.8/-15.42	-14.42/-14.99	-15.77/-15.11	-15.65/-15.61	-14.74/-11.6	-9.4/-9.01	-9.14/-9.14	-9.25/-11.04	-13.23/-14.21
Θ(180°)	-12.49/-13.18	-10.85/-10.07	-10.75/-10.51	-10.34/-11.31	-12.22/-12.42	-12.99/-13.9	-14.31/-14.19	-14.44/-13.02	-12.06/-11.42	-11.05/-11.62	-13.46/-12.79	-11.57/-11.39	-12.91/-13.63	-13.39/-15.09	-15.58/-15.52	-15.8/-14.83	-14.87/-13.91	-12.61/-13.19	-12.43/-11.73	-11.97/-12.31	-12.94/-14.03	-12.9/-14.26	-14.92/-15.1	-15.81/-14.48
Freq(Hz)	6.995GPol.	Theta/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
DG(dB)	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-0.85/0.79	2.15/2.95	3.59/3.83	3.95/4.37	4.38/4.13	3.7/3.27	2.72/1.97	1.02/-0.44	-2.34/-4.73	-6.13/-6.86	-6.49/-4.49	-2.46/-1.3	0.16/1.19	1.57/2.22	2.94/3.48	3.81/3.87	3.76/3.46	3.07/2.75	2.35/1.6	0.61/-0.84	-2.47/-4.62	-6.88/-10.28	-8.43/-6.76	-3.29/-2.17
Θ(7.5°)	0.18/1.31	2.3/3.13	3.7/4.03	4.24/4.26	4.17/3.92	3.41/2.95	2.06/1.02	-0.55/-2.63	-4.53/-5.82	-6.69/-6.77	-7.61/-6.39	-4.1/-1.81	-0.19/1.17	2.25/3.26	4.05/4.39	4.45/4.31	3.84/3.24	2.61/69	0.87/0.12	-0.83/-2.01	-3.22/-4.16	-4.94/-5.89	-5.46/-3.67	-2.3/-0.98
Θ(15°)	-0.26/0.37	1.8/2.69	3.03/3.39	3.79/3.93	3.4/2.21	0.53/-0.97	-2.22/-2.68	-1.79/-0.96	-0.19/-0.06	-1.02/-2.17	-3.52/-5.16	-4.28/-1.73	-1.07/-1.33	-2.37/-0.8	1.41/3.11	4.09/4.44	4.47/4.2	3.86/3.12	2.23/1.39	0.24/-1.37	-3.55/-6.44	-7.45/-6.46	-5.33/-4.1	-2.72/-1.3
Θ(22.5°)	0.37/1.15	1.71/1.59	1.65/2.26	2.95/3.3	2.91/1.25	-1.51/-1.17	-0.31/-0.11	0.08/0.06	-0.16/-0.93	-3.23/-5.18	-3.53/-2.78	-2.87/-1.19	0.44/0.57	-1.1/-2.21	-0.63/1.47	2.38/2.27	1.92/1.46	1.27/0.42	-1.43/-3.28	-4.79/-7.27	-10.11/-7.41	-4.48/-3.29	-2.1/-0.95	-0.77/-0.5
Θ(30°)	0.49/1.75	2.3/0.99	1.97/3.65	3.97/3.01	0.66/-2.05	-1.06/0.44	1.62/1.71	0.38/0.02	0.1/-1.2	-2.55/-2.5	-1.75/-0.69	-0.22/-0.28	-0.36/-0.3	0.47/1.27	1.33/0.54	-0.01/-0.77	-1.01/-2.01	-0.88/-0.32	-2.02/-7.18	-6.47/-4.18	-2.85/-1.26	-0.7/-1.54	-0.13/-1.15	0.5/-0.31
Θ(37.5°)	0.62/2.44	3.41/1.21	1.16/3.84	3.61/1.46	-1.14/-3.24	-0.47/1.86	2.22/2.56	2.02/1.88	0.97/-1.53	-3.69/-3.02	-0.57/-0.14	-0.42/-1.49	-2.01/-2.81	-2.08/0.12	2.42/1.18	-1.37/1.17	1.54/0.49	2.03/2.76	1.7/-1.98	-1.91/-3.55	-3.33/-1.02	1.1/1.34	-0.87/-3.37	-2.54/-0.13
Θ(45°)	-1.52/0.76	2.54/2.18	-1.43/3.14	1.44/0.03	0.05/-2.01	-3.47/0.66	0.77/1.12	-0.1/-1.72	-2.81/-3.08	-2.45/-0.63	0.3/-0.96	-3.97/-2.83	-3.21/-1.41	0.08/-2.7	2.12/1.39	0.49/3.45	2.61/0.85	3.37/3	2.05/-1	-0.71/-1.25	-0.32/0.06	0.02/1.63	1.07/0.14	-1.52/-3.68
Θ(52.5°)	-1.47/1.9	1.9/2.14	-1.4/2.48	0.82/-0.19	1.18/-0.75	-3.63/1.63	2.57/1.88	-1.22/-3.01	-3.6/-5.82	-1.19/0.66	0.21/-1.07	-4.12/-4.85	-4.09/-2	0.01/-1.26	3.34/0.86	1.08/3.27	2.19/1.24	4.13/4.05	3.59/2.21	2.26/2.65	0.13/-3.18	-1.86/-0.81	-0.76/-1.13	-1.99/-3.82
Θ(60°)	-1.24/1.9	2.13/-0.08	1.22/1.4	0.73/1.1	1.59/-1.13	-1.54/2.46	4.22/3.37	1.23/0.81	-1.75/-3.51	-2.4/0.91	-0.04/0.34	-3.18/-4.48	-3.72/-2.6	-1.02/-0.83	0.81/0.57	0.36/1.62	0.9/0.89	3.64/3.86	3.01/3.08	1.97/2.86	0.49/-0.43	1.07/-0.23	1.06/1.17	-2.46/-1.97
Θ(67.5°)	0.65/1.52	3.03/-1.61	1.16/0.08	-0.32/1.29	1.09/-2.38	-0.04/2.82	2.84/1.2	0.67/1.34	-3.04/-1.71	-3.68/-0.12	-0.15/-0.77	-2.57/-1.33	-2.99/-2.88	-1.61/-1.54	-1.86/-1.3	1.73/2.04	1.53/3.6	4.23/4.25	2.48/3.23	1.86/1.5	-1.44/-0.44	0.27/1.05	1.72/2	-0.6/0.11
Θ(75°)	1.52/2.02	3.65/0.27	0.11/-0.61	-1.25/0.42	0.28/-1.65	-1.29/0.84	1.79/-0.55	-0.75/1.91	-0.75/-0.93	-4.04/-3.56	-3.18/-2.39	-2.23/-0.95	-2.51/-3.68	-2.48/-3.01	-5.28/-1.08	1.06/3.08	2.26/4.54	5.51/4.51	2.12/3.51	3.23/3.01	1.38/0.94	1.07/2.34	0.6/-0.09	0.15/0.67
Θ(82.5°)	0.82/1.64	2.24/0.41	-0.78/-1.6	-2.64/-0.74	-3.33/-2.03	-2.29/1.33	1.79/0.71	-0.72/1.03	0.95/-0.99	-2.12/-3.18	-4.7/-5.42	-1.3/-0.64	-5.16/-4.69	-3.33/-6.47	-7.5/-0.15	0.98/3.23	1.85/4.13	5.28/4.01	1.49/3.31	3.73/4.21	2.99/1.9	0.89/1.71	-0.23/-2.32	-0.6/-0.03
Θ(90°)	-1.79/1.13	-0.4/-0.52	-2.34/-2.46	-4.19/-2.09	-3.92/-5.37	-2.01/0.54	0.78/-1.18	-0.65/-0.97	1.17/-2.37	-3.43/-2.77	-4.34/-4.91	-5.09/-1.24	-4.86/-5.49	-4.49/-7.87	-6.73/-1.69	-2.47/2.25	-0.4/1.31	3.62/1.92	0.07/1.58	2.65/3.88	2.16/0.46	0.04/-0.51	-1.6/-4.96	-1.75/-1.62
Θ(97.5°)	-3.68/0.71	-2.93/-1.84	-4.26/-3.33	-4.8/-3.74	-3.02/-8.57	-2.77/-1.71	-0.94/-3.93	-1.92/-2.04	0.55/-4.89	-5.54/-4.64	-4.45/-5.33	-5.55/-3.35	-6.79/-6.24	-7.07/-9.81	-6.02/-5.32	-4.76/-1.07	-3.31/-3.39	-0.18/-1.82	-3.67/-1.83	0.51/1.19	0.4/-2.41	-1.92/-2.22	-3.77/-6.62	-4.64/-2.26
Θ(105°)	-4.07/-1.72	-3.56/-5.81	-4.03/-6.46	-7.61/-5.73	-5.83/-6.45	-6.74/-3.64	-2.47/-5.36	-3.58/-3.51	-1.64/-6.09	-8.32/-6.65	-6.11/-5.7	-5.65/-2.63	-8.27/-9.32	-7.56/-9.38	-7.78/-10.53	-7.26/-3.82	-6.57/-5.78	-1.89/-5.02	-7.39/-7.48	-3.8/-4.16	-2.24/-6.34	-4.6/-4.76	-5.92/-6.07	-7.91/-5.35
Θ(112.5°)	-4.67/-3.51	-4.79/-7.09	-6.68/-7.91	-10.57/-8.65	-9.47/-7.89	-6.23/-7.13	-5.13/-7.12	-5.81/-5.64	-2.78/-7.55	-4.36/-5.01	-8.57/-8.83	-7.32/-4.67	-10.02/-8.1	-7.36/-9.97	-12.11/-9.66	-7.8/-5.08	-5.64/-4.19	-1.52/-6.78	-5.03/-3.86	-2.94/-3.49	-4.5/-6.31	-3.52/-6.22	-7.02/-11.26	-5.67/-10.09
Θ(120°)	-3.68/-5.71	-5.31/-6.76	-8.92/-8.65	-9.88/-7.03	-7.49/-12.67	-7.94/-8.78	-7.06/-9.53	-7.3/-5	-4.18/-7.29	-9.32/-7.23	-12.1/-13.59	-9.06/-6.99	-11.93/-7.21	-8.42/-13.67	-14.15/-12.21	-9.2/-7.88	-5.98/-5.47	-6.34/-11.44	-6.63/-6.24	-5.37/-6.43	-4.41/-8.07	-6.41/-6.51	-13.64/-11.7	-6.86/-6.05
Θ(127.5°)	-5.97/-6	-6.84/-7.93	-8.48/-12.35	-9.57/-9.9	-10.44/-7.73	-8.98/-9.89	-8.98/-8.67	-9.02/-6.06	-6.76/-5.89	-9.01/-12.72	-14.89/-13.92	-8.06/-7.41	-10.99/-9.6	-10.12/-12.45	-12.39/-10.53	-8.35/-5.72	-8.06/-5.83	-6.29/-14.29	-8.03/-9.06	-4.05/-5.34	-7.05/-6.01	-11.05/-11.53	-8.8/-12.81	-10.93/-8.23
Θ(135°)	-8.57/-5.65	-9.47/-7.57	-13.57/-11.5	-10.14/-11.34	-10.64/-9.26	-9.21/-10.15	-6.9/-9.44	-7.92/-7.75	-5.41/-7.8	-11.79/-12.58	-14.87/-14.17	-14.39/-11.04	-7.4/-9.68	-7.45/-14.4	-15.58/-8.92	-9.95/-8.01	-7.34/-4.99	-5.44/-12.85	-7.29/-6.94	-3.32/-6.22	-11.81/-5.93	-3.4/-11.33	-13.33/-12.47	-10.22/-6.46
Θ(142.5°)	-10.05/-7.94	-8/-8.93	-9.44/-10.33	-14.71/-10.43	-8.99/-8.17	-12.43/-11.26	-7.04/-7.95	-8.01/-7.42	-9.17/-11.26	-8.69/-12.61	-15.5/-15.11	-9.48/-10.09	-9.47/-10.35	-10.56/-15.49	-11.99/-9.78	-11.5/-10.67	-10.5/-8.12	-15.39/-14.02	-12.5/-13.96	-12.72/-7.01	-11.56/-12.28	-9.54/-12.35	-14.12/-11.42	-12.61/-8.81
Θ(150°)	-8.27/-11.19	-9.63/-8.31	-12.62/-10.98	-11.36/-10.8	-12.37/-12.49	-9.27/-10	-10.07/-10.05	-12.72/-7.87	-6.06/-7.18	-8.66/-14.06	-13.25/-15.75	-14.06/-11	-15.52/-7.67	-11.47/-14.57	-11.21/-11.42	-13.35/-12.95	-11.32/-9	-11.83/-14.58	-13.07/-11.09	-10.76/-8.65	-11.68/-13.24	-16.23/-14.12	-10.12/-11.28	-12.25/-6.62
Θ(157.5°)	-13.79/-14.17	-9.6/-10.99	-11.37/-10.72	-12.18/-9.37	-11.43/-13.67	-11.41/-10.98	-13.09/-12.54	-11.8/-11.81	-13.56/-12.45	-12.86/-12.73	-13.21/-11.54	-11.07/-10.12	-9.58/-11.58	-14.26/-12.96	-14.65/-15.17	-15.94/-15.06	-16.03/-15.1	-14.05/-12.12	-13.45/-12.36	-13.02/-13.27	-14.18/-15.35	-15.57/-15.41	-15.04/-11.86	-14.03/-14
Θ(165°)	-11.53/-13.26	-15.71/-15.61	-15.37/-13.66	-13.44/-14.65	-15.56/-14.59	-15.55/-11.47	-10.49/-11.16	-13.98/-14.63	-13.42/-13.38	-13.57/-12.14	-10.9/-9.33	-9.85/-13.17	-15.07/-11.71	-11.23/-10.85	-12.03/-13.03	-11.91/-13	-15.23/-15.5	-15.25/-14.68	-14.7/-15.48	-15.93/-15.42	-15.34/-11.94	-8.87/-8.83	-11.51/-12.48	-10.35/-10.15
Θ(172.5°)	-11.66/-11.22	-11.12/-10.68	-11.69/-14.67	-15.49/-14.22	-12.63/-11.05	-10.27/-9.86	-9.47/-10.05	-11.38/-12.65	-13.59/-12.75	-12.72/-12.79	-12.58/-12.24	-11.65/-10.79	-12.09/-12.7	-14.82/-15.03	-14.92/-12.93	-12.01/-11.52	-12.05/-11.65	-12.54/-12.9	-11.9/-10.48	-10.6/-10.93	-13.19/-15.52	-14.48/-13.48	-14.06/-14.87	-12.58/-11.89
Θ(180°)	-11.29/-11.16	-12.66/-12.77	-13.26/-12.76	-13.63/-14.45	-14.1/-14.46	-14.54/-14.92	-14.62/-13.12	-11.17/-11.58	-11.77/-12.22	-12.73/-11.28	-10.72/-11.51	-11.22/-11.28	-12.14/-12.12	-12.22/-12.24	-12/-13.01	-14.97/-16.01	-15.39/-15.91	-13.68/-13.52	-12.76/-11.86	-12.9/-12.46	-12.34/-12.67	-12.39/-11.46	-10.61/-11.28	-10.49/-10.86



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

Gain Result

Freq(Hz)	2.45GPol.	PhiAnt.1	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-2.16/-1.96	-2.11/-2.55	-3.19/-3.97	-4.75/-5.77	-7.13/-9.02	-11.46/-14.56	-18.21/-18.95	-14.34/-10.44	-7.55/-5.63	-4.38/-3.55	-3.05/-2.73	-2.36/-1.95	-1.62/-1.41	-1.37/-1.55	-2.06/-2.93	-1.71/-5.71	-7.71/-10.09	-13.74/-18.59	-12.73/-9.01	-6.43/-4.86	-4.08/-3.9	-3.92/-3.74	-3.32/-2.61	
Θ(7.5°)	-1.35/-1.1	-1.26/-1.88	-2.96/-4.27	-5.69/-7.5	-9.81/-13.06	-17.84/-18.13	-17.53/-17.97	-14.17/-10.86	-8.06/-6	-4.52/-3.49	-2.92/-2.86	-2.84/-2.68	-2.38/-2.06	-1.9/-2.01	-2.39/-3.07	-4.04/-5.34	-6.9/-8.72	-11.12/-14.85	-18.66/-16.69	-11.82/-8.21	-5.74/-4.02	-2.95/-2.39	-2.16/-2.03	-1.95/-1.71
Θ(15°)	-0.43/-0.31	-0.45/-0.96	-1.95/-3.29	-4.91/-7.14	-10.27/-14.72	-15.94/-12.97	-10.84/-9.67	-8.82/-7.9	-6.71/-5.3	-3.9/-2.6	-1.72/-1.43	-1.47/-1.59	-1.61/-1.43	-1.3/-1.34	-1.68/-2.31	-3.23/-4.39	-5.73/-7.13	-9.81/-10.28	-11.51/-11.1	-10.08/-8.23	-6.5/-4.9	-3.46/-2.31	-1.4/-0.79	-0.54/-0.52
Θ(22.5°)	-0.35/-0.47	-0.59/-0.93	-1.59/-2.63	-4.09/-6.33	-9.82/-14.13	-12.87/-9.35	-10.64/-6.61	-6.15/-6.07	-5.67/-4.75	-3.38/-1.97	-0.95/-0.55	-0.44/-0.59	-0.87/-1.08	-1.22/-1.52	-2.05/-2.81	-3.85/-5.11	-7.91/-8.14	-12.88/-8.27	-8.08/-7.59	-6.81/-5.4	-4.83/-1.2	-1.58/-0.84	-0.25/-0.2	-0.25/-0.2
Θ(30°)	-1.35/-1.76	-2.06/-2.1	-2.21/-2.76	-4.04/-6.42	-10.43/-15.68	-12.42/-8.19	-6.5/-23	-5.38/-5.74	-5.79/-4.97	-3.66/-2.46	-1.61/-1.11	-0.68/-0.48	-0.83/-1.52	-2.37/-3.26	-4.27/-5.63	-6.85/-8.68	-10.31/-10.14	-8.87/-7.71	-7.13/-6.9	-6.68/-6.45	-6.21/-5.82	-5.12/-4.18	-3.11/-2.16	-1.38/-1.15
Θ(37.5°)	-4.23/-4.37	-4.47/-4.09	-3.49/-3.66	-4.91/-7.62	-12.49/-19.41	-13.58/-8.81	-6.-6/-6.07	-6.57/-7.24	-6.99/-5.36	-3.72/-4.51	-2.72/-2.7	-2.1/-1.6	-1.93/-1.32	-4.83/-6.97	-9.22/-10.93	-13.62/-19.57	-17.59/-13.72	-9.71/-8.12	-7.71/-6	-7.24/-7.07	-7.21/-7.09	-6.45/-5.61	-4.9/-4.6	-4.37/-4.29
Θ(45°)	-10.46/-9.34	-8.41/-7.29	-5.85/-5.76	-7.10/-10.37	-17.43/-18.95	-15.61/-11.02	-9.28/-9.64	-10.27/-11.4	-10.37/-7.46	-5.37/-5.81	-4.75/-5.26	-4.8/-3.97	-3.81/-4.61	-6.48/-9.56	-15.23/-18.49	-15.63/-14.57	-14.63/-12.43	-9.88/-9.22	-9.71/-9.12	-14.71/-6.63	-7.01/-5.79	-7.34/-6.42	-5.69/-5.96	-7.46/-9.9
Θ(52.5°)	-17.59/-16.29	-13.08/-11.81	-10.34/-9.91	-11.44/-17.34	-19.03/-16.94	-13.92/-12.71	-12.43/-13.13	-14.76/-15.95	-13.28/-9.75	-7.55/-6.83	-7.17/-7.74	-7.26/-6.43	-6.03/-6.46	-7.95/-11.54	-19.27/-16.62	-10.48/-9.37	-10.34/-9.97	-8.99/-9.62	-11/-8.49	-5.83/-5.4	-6.61/-8.09	-8.28/-7.19	-6.08/-6.08	-8.01/-12.93
Θ(60°)	-17.02/-15.51	-14.98/-16.77	-17.47/-17.57	-17.96/-17.87	-13.5/-10	-10.11/-11.86	-12.73/-15.25	-13.43/-15.29	-14.57/-11.89	-10.12/-9.35	-9.51/-8.99	-9.22/-8.04	-7.43/-7.49	-8.68/-12.22	-18.71/-13.47	-8.37/-7.56	-8.56/-8.66	-8.21/-8.54	-11.6/-8.13	-5.41/-6.63	-8.13/-11.06	-11.34/-9.38	-7.8/-8.09	-10.68/-17.35
Θ(67.5°)	-15.62/-13.54	-15.34/-18.05	-18.77/-17.72	-18.69/-17.3	-10.36/-8.14	-11.26/-12.61	-11.72/-10.95	-12.43/-15.56	-12.42/-12.88	-11.44/-10.98	-11.35/-10.93	-9.88/-8.16	-11.87/-16.67	-11.92/-10.92	-7.62/-7.25	-8.59/-9.75	-9.55/-10.66	-12.52/-10.67	-4.67	-4.67	-11.88/-15.5	-14.95/-11.83	-9.9/-9.94	-15.68/-19.07
Θ(75°)	-10.81/-12.48	-16.85/-16.91	-15.56/-14.97	-14.99/-12.82	-8.93/-7.85	-10.68/-14.81	-11.96/-11.49	-14.96/-13.72	-18.26/-15.3	-14/-14.38	-15.04/-13.74	-10.79/-9.58	-11.48/-15.29	-14.09/-12.02	-13.14/-13.29	-9.45/-8.14	-9.59/-11.13	-9.39/-9.43	-12.49/-9.98	-7.16/-9.32	-15.63/-13.93	-14.3/-14.09	-10/-10.54	-15.37/-12.75
Θ(82.5°)	-9.54/-10.53	-14.96/-15.78	-13.85/-13.01	-12.21/-9.91	-7.47/-4.46	-11.74/-17.11	-12.46/-12.78	-16.06/-18.69	-17.9/-18.69	-17.17/-19.05	-17.27/-17.5	-13.14/-12.67	-15.66/-14.32	-10.88/-10.3	-16.75/-15.42	-8.71/-6.9	-8.49/-10.37	-8.92/-9.61	-14.81/-10.11	-17.47/-10.14	-18.68/-14.38	-15.52/-13.65	-10.6/-12.91	-19.19/-12
Θ(90°)	-10.34/-11.44	-13.86/-13.85	-12.38/-12.38	-12.28/-9.64	-7/-7.42	-11.79/-17.25	-11.49/-11.69	-15.59/-18.55	-15.73/-18.11	-16.87/-18.49	-15.81/-16.78	-15.67/-16.89	-16.4/-15.23	-16.94/-12.03	-8.27/-6.3	-8.48/-11.71	-9.57/-9.75	-15.82/-10.94	-8.44/-14.34	-17.48/-11.74	-19.16/-14.46	-9.98/-14.2	-18.59/-11.11	
Θ(97.5°)	-11.08/-13.56	-14.88/-14.79	-12.6/-11.95	-12.17/-9.82	-6.67/-6.81	-12.69/-18.01	-13.94/-16.54	-18.59/-15.87	-18.87/-17.47	-17.94/-18.3	-17.83/-19.17	-19.64/-18.47	-17.91/-18.53	-14.66/-12.73	-17.17/-12.98	-7.55/-6.7	-8.76/-11.59	-10.3/-12	-19.15/-9.25	-7.92/-14.8	-14.16/-10.37	-17.62/-15.85	-10.08/-14.41	-18.9/-10.74
Θ(105°)	-10.22/-15.39	-17.01/-14.4	-12.17/-10.72	-11.02/-11.24	-8.69/-7.93	-11.67/-17.99	-17.16/-16.92	-13.78/-12.13	-15.77/-18.13	-16.56/-16.18	-16.95/-18.1	-19.25/-18.7	-19.13/-19.24	-19.03/-17.9	-18.47/-10.58	-7.35/-7.27	-10.58/-16.07	-11.3/-11.31	-14.05/-8.87	-8.25/-16.34	-16/-11.1	-16.57/-18.23	-12.54/-16.22	-18.37/-9.68
Θ(112.5°)	-7.60/-10.75	-17.65/-15.42	-12.2/-10.39	-9.71/-8.56	-9.14/-10.14	-11.74/-17.99	-15.15/-16.36	-15.28/-13.84	-18.17/-17.42	-16.03/-16.53	-19.01/-17.68	-17.34/-17.95	-17.41/-19.55	-15.04/-13.85	-13.1/-11	-11.81/-9.14	-7.08/-9.23	-19.14/-12.93	-11.73/-18.95	-12.48/-10.18	-14.57/-17.79	-14.31/-16.97	-18.89/-19	
Θ(120°)	-10.73/-10.16	-13.38/-12.38	-10.18/-10.47	-12.04/-11.23	-9.04/-8.96	-13.24/-17.25	-18.31/-18.78	-15.71/-13.06	-15.04/-17.88	-19.1/-18.03	-18.81/-17.61	-18.1/-18.53	-17.48/-18.99	-17.04/-17.34	-15.91/-10.33	-6.97/-6.61	-8.72/-9.21	-8.92/-13.72	-18.33/-8.67	-7.61/-12.14	-14.08/-11.53	-14.12/-17.81	-13.29/-11.32	-15.9/-18.21
Θ(127.5°)	-17.18/-10.47	-15.18/-11.97	-8.21/-7.6	-10.54/-15.39	-13.68/-11.53	-13.33/-19.53	-18.71/-18.11	-16.47/-15.2	-17.02/-18.58	-17.64/-16.88	-18.55/-19.78	-18.83/-17.5	-18.12/-18.78	-16.14/-15.1	-12.53/-10.64	-10.09/-13.34	-18.96/-19.17	-10.84/-16.76	-13.08/-7.28	-7.02/-11.29	-15.18/-12.54	-14.34/-17.61	-14.31/-8.42	-7.99/-13.27
Θ(135°)	-11.09/-12.01	-13.38/-12.62	-8.93/-6.84	-9.39/-14	-17.75/-15.85	-15.37/-17.4	-18.22/-18.63	-16.46/-17.39	-18.34/-18.53	-18.17/-17.93	-17.49/-18.91	-18.88/-19.42	-18.76/-18.14	-19.27/-18.79	-19.86/-15.17	-13.33/-9.92	-8.61/-13.85	-18.06/-10.23	-9.86/-13.12	-13.96/-12.28	-14.26/-18.26	-14.94/-16.92	-6.94/-8.61	
Θ(142.5°)	-10.42/-10.82	-10.9/-9.07	-6.78/-6.17	-7.91/-12.62	-17.07/-18.17	-18.42/-17.58	-17.33/-16.97	-15.96/-15.68	-18.04/-18.53	-18.51/-18.46	-18.9/-18.61	-17.9/-14.06	-13.29/-15.49	-18.13/-15.46	-12.57/-11.73	-11.79/-11.44	-10.17/-9.71	-11.68/-10.82	-19.06/-13.99	-13.37/-13.74	-12.12/-11.64	-14.44/-19.33	-14.67/-10.48	-8.88/-9.44
Θ(150°)	-14.12/-12.75	-10.42/-7.45	-5.23/-4.6	-5.32/-8.01	-12.67/-18.93	-18.27/-17.5	-16.38/-16.61	-13.33/-18.64	-18.96/-16.14	-12.53/-11.38	-11.43/-12.36	-13.43/-14.15	-15.04/-16.14	-15.94/-14.37	-13.25/-13.58	-14.39/-14.05	-12.81/-12.62	-14.28/-17.96	-17.44/-17.98	-16.74/-13.39	-11.51/-14.8	-13.66/-17.01	-16.19/-14.16	-13.5/-14.05
Θ(157.5°)	-17.54/-12.92	-8.62/-7.23	-5.56/-4.8	-5.08/-6.53	-8.95/-12	-13.92/-14.07	-13.94/-15.01	-16.31/-16.51	-14.46/-12.07	-12.82/-13.58	-18.86/-18.05	-17.13/-13.72	-13.94/-14.19	-15.75/-14.65	-12.36/-10.71	-9.97/-10.14	-11.74/-16.91	-17.47/-18.31	-16.74/-18.31	-12.69/-12.69	-14.1/-16.24	-19.17/-18.56	-18.19/-13.74	
Θ(165°)	-13.58/-10.75	-8.96/-7.8	-6.95/-6.39	-6.3/-6.77	-7.86/-9.35	-10.84/-11.87	-12.76/-13.51	-13.47/-12.96	-12.49/-12.62	-13.59/-16.68	-18.49/-17.56	-17.46/-14.49	-13.5/-14.45	-17.54/-18.83	-14.7/-11.3	-8.3/-8.32	-8.1/-8.5	-9.63/-11.76	-15.27/-18.78	-17.92/-17.43	-15.31/-14.52	-14.69/-15.6	-16.94/-18.3	-19/-16.68
Θ(172.5°)	-11.28/-9.68	-8.88/-8.38	-7.99/-7.69	-7.51/-7.59	-8.11/-8.98	-9.97/-10.48	-11.39/-11.36	-11.06/-11.03	-12/-13.88	-17.53/-18.4	-18.66/-16.88	-15.5/-16.06	-19.05/-18.1	-17.81/-13.38	-10.77/-9.37	-8.69/-8.53	-8.66/-9.13	-10.01/-11.39	-13.17/-15.25	-16.37/-16.12	-15.51/-15.13	-15.32/-16.47	-18.19/-18.14	-15.85/-13.22
Θ(180°)	-11.71/-10.01	-9.31/-8.82	-8.32/-7.83	-7.61/-7.63	-8.08/-8.71	-9.33/-9.68	-9.75/-9.84	-10.05/-10.6	-11.9/-13.93	-16.8/-18.71	-18.85/-18.78	-19.1/-18.41	-18.16/-17.23	-13.32/-11.37	-10.55/-10.44	-10.6/-10.6	-10.43/-10.48	-10.86/-11.42	-12.14/-12.76	-13.45/-14.09	-14.62/-15.5	-17.08/-17.76	-17.8/-18.37	-15.4/-12.67
Freq(Hz)	2.45GPol.	ThetaAnt.1	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-18.56/-18.17	-16.4/-11.77	-9.16/-7.53	-6.52/-7.61	-5.04/-3.35	-3.76/-3.4	-3.16/-2.98	-2.83/-2.77	-2.29/-2.31	-2.91/-3.43	-3.92/-4.95	-5.92/-7.59	-8.28/-18.57	-10.21/-14.95	-12.92/-18.57	-15.17/-11.82	-2.51/-2.38	-2.92/-2.38	-2.15/-2.12	-2.55/-2.72	-2.99/-3.64	-4.85/-6.9	-9.92/-13.56	-16.99/-17.59
Θ(7.5°)	-17.83/-16.61	-12.61/-9.62	-7.75/-6.73	-6.15/-5.59	-5.07/-4.62	-4.3/-4.13	-3.93/-3.82	-3.81/-3.99	-4.28/-4.66	-5.13/-5.71	-6.46/-7.25	-8.52/-10.24	-11.58/-11.94	-11.42/-10.32	-8.71/-6.96	-5.28/-3.95	-2.93/-2.3	-1.95/-1.75	-1.68/-1.71	-1.8/-1.95	-2.23/-2.69	-3.45/-4.62	-6.39/-8.68	-11.55/-15
Θ(15°)	-10.99/-10.8	-7.28/-6.68	-5.55/-5.82	-5.21/-4.53	-3.93/-4.37	-3.21/-3.16	-3.34/-3.66	-3.92/-4.05	-4.12/-4.21	-5.4/-5.05	-6.07/-7.32	-8.41/-9.18	-9.45/-9.41	-9.16/-8.62	-7.49/-6.12	-4.81/-3.74	-3.01/-2.73	-2.75/-2.93	-3.09/-3.2	-3.3/-3.39	-3.49/-3.72	-4.56/-5.75	-7.42/-9.6	
Θ(22.5°)	-7.83/-7.8	-7.25/-6.42	-5.54/-5.82	-3.31/-2.23	-1.48/-1.04	-0.88/-1.07	-1.98/-1.92	-1.88/-2.11	-2.58/-3.28	-4.44/-5.77	-7.1/-8.23	-8.48/-8.06	-7.5/-6.88	-5.84/-4.6	-3.24/-2.52	-2.22/-2.38	-2.87/-3.26	-3.55/-3.66	-3.75/-3.78	-3.58/-3.53	-3.81/-4.6	-5.79/-7.01		
Θ(30°)	-5.08/-5.02	-5.07/-5.06	-4.58/-3.23	-1.61/-0.32	0.39/0.68	0.61/0.21	-0.3/-0.5	-0.37/-0.12	-0.11/-0.52	-1.33/-2.38	-3.41/-4.11	-4.37/-4.37	-4.31/-4.26	-4.26/-4.18	-3.83/-2.76	-1.61/-0.83	-0.54/-0.75	-1.2/-1.41	-1.16/-0.8	-0.61/-0.71	-1.01/-1.4	-1.78/-2.18	-2.69/-3.46	-4.29/-4.84
Θ(37.5°)	-2.26/-2.07	-2.37/-3.06	-3.89/-2.37	-0.82/0.3	0.75/0.8	0.45/0.14	-0.7/-0.79	-0.46/0.04	0.07/0.31	-1.19/-2.38	-3.28/-3.													



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

Θ(22.5°)	-0.44/-0.85	-1.55/-3.67	-6.83/-7.03	-5.06/-3.88	-3.95/-3.73	-3.24/-2.46	-0.99/-7.08	2.06/-2.39	2.28/-1.64	0.77/-0.05	-0.18/-0.49	1.26/-1.1	-0.24/-2.83	-7.14/-14.3	-19.83/-12.07	-7.89/-5.02	-3.66/-3.32	-2.65/-1.22	-0.15/-0.02	-0.51/-0.6	-0.42/0	0.44/-0.43	-0.14/-0.45	-0.62/-0.32
Θ(30°)	-1.63/-1.52	-2.36/-4.44	-5.86/-3.84	-2.36/-1.5	-2.72/-3.82	-2.05/-0.08	1.09/-1.36	1.01/-0.01	-1/-1.81	-1.82/-1.7	-3.19/-2.85	-0.71/-0.34	-1.19/-3.57	-8.99/-15.25	-15.8/-18.5	-9.62/-3.99	-1.7/-1.42	-1.14/-0.02	0.64/-0.32	0.51/-1.58	2.05/-1.39	0.57/-0.72	1.54/-1.25	-1.8/-3.79
Θ(37.5°)	-5.87/-4.72	-6.38/-13.62	-6.6/-4.64	-6.73/-1.01	-1.13/-2.65	-1.02/-1.56	-1.70/-1.7	-1.51/-3.36	-5.68/-5.12	-4.11/-9.2	-6.76/-7.13	-2.36/-1.06	-3.68/-8.65	-15.97/-11.31	-15.66/-18.5	-8.73/-4	-1.39/-1.92	-2.49/-2.36	-1.64/-1	0.02/-1.46	1.56/-0.08	-0.38/-0.8	1.93/-3.32	-1.17/-1.32
Θ(45°)	-3.27/-4.76	-4.33/-9.78	-10.71/-6.22	-9.49/-3.77	-1.05/-1.58	-2.35/-0.37	-1.09/-2.5	-2.94/-3.58	-4.03/-3.93	-4.53/-4.76	-4.67/-8.71	-13.37/-7.23	-6.35/-9.23	-17.72/-13.93	-17.32/-18.4	-17.47/-6.52	-3.32/-5.02	-3.74/-5	-2.33/-0.25	-0.30/0.3	-0.03/-0.46	-0.17/-0.63	-0.47/-0.68	1.68/-0.32
Θ(52.5°)	-3.25/-8.79	-12.35/-11.42	-9.29/-5.82	-9.13/-5.98	-3.43/-5.92	-4.72/-2.88	-6.71/-57	-5.03/-3.89	-3.01/-3.42	-4.13/-2.43	-1.66/-5.87	-10.1/-15.36	-9.65/-10.53	-14.14/-18.6	-15.82/-14.96	-12.23/-4.4	-3.74/-6.05	-4.81/-6.2	-4.21/-1.44	-0.89/-0.43	-0.56/-0.11	-0.09/-2.82	-5.24/-3.44	-1.99/-1.64
Θ(60°)	-2.23/-2.7	-8.85/-8.78	-9.77/-5.18	-9.69/-4.34	-9.28/-11.5	-5.98/-2.78	-1.53/-8.06	-7.85/-5.53	-5.27/-5.15	-4.93/-2.88	-1.48/-3.23	-5.15/-5.41	-9.22/-13.57	-14.01/-13.47	-11.87/-17.36	-4.67/-5.92	-2.33/-5.18	-4.67/-5.92	-4.66/-2.04	-3.06/-4.69	-5.47/-2.46	-1.77/-4.81	-4.81/-3.34	-1.77/-4.81
Θ(67.5°)	-1.6/-0.91	-4.61/-7.34	-6.65/-5.13	-9.85/-4.42	-12.31/-11.84	-6.41/-7.36	-10.87/-7.69	-9.49/-9.56	-9.65/-6.85	-6.75/-4.65	-2.35/-2.32	-3.63/-5.96	-10.64/-14.23	-12.82/-13.7	-18.31/-14.09	-6.82/-3.88	-2.03/-4.96	-4.39/-4.58	-4.13/-1.5	-2.43/-3.39	-5.19/-3.9	-2.8/-3.64	-4.17/-4.13	-4.49/-5.74
Θ(75°)	-4.93/-2.89	-5.8/-7.72	-7.18/-4.53	-9.09/-5.69	-12.63/-10.35	-8.12/-7.28	-13.87/-9.59	-11.26/-14.86	-13.52/-6.92	-7.66/-7.64	-3.85/-5.23	-3.23/-6.77	-8.91/-10.08	-18.1/-15.28	-19.04/-18.09	-6.97/-5.58	-3.59/-5.09	-5.28/-2.91	-4.87/-2.1	-3.59/-1.26	-2.23/-3.68	-3.85/-4.98	-5.16/-6.32	-6.34/-6.59
Θ(82.5°)	-7.33/-7	-8.52/-9.62	-7.01/-4.47	-9.44/-7.63	-10.42/-11.23	-10.49/-7.85	-16.56/-10.78	-12.72/-15.84	-13.71/-8.31	-11.04/-12.77	-4.79/-3.69	-5.73/-10.07	-16.29/-10.41	-13.56/-15	-17.61/-18.52	-7.08/-5.87	-6.13/-5.47	-8.15/-3.32	-4.73/-4.45	-8.05/-1.27	-1.63/-3.86	-6.23/-6.62	-9.54/-11.06	-12.34/-8.9
Θ(90°)	-10.04/-13.95	-10.88/-11.52	-9.27/-5.82	-9.66/-9.54	-9.41/-14.64	-11.65/-11.42	-18.86/-16.08	-16.61/-16.21	-13.8/-8.15	-10.69/-13.48	-6.23/-4.59	-6.14/-9.53	-13.29/-12	-13.68/-18.67	-15.92/-17.4	-10.29/-6.45	-9.06/-7.57	-11.77/-5.31	-6.29/-5.75	-11.27/-2.81	-2.75/-5.81	-14.52/-8.18	-14.64/-17.24	-18.35/-10.66
Θ(97.5°)	-18.55/-16.12	-13.27/-11.37	-11.9/-5.48	-9.84/-10.29	-9.01/-16.09	-17.92/-18.04	-18.1/-13.77	-13.54/-14.84	-15.93/-11.28	-13/-14.52	-10.27/-10.62	-8.99/-9.41	-10.47/-15.31	-16.2/-18.07	-19.15/-18.8	-17.33/-17.95	-12.67/-12.94	-15.75/-16.63	-10.94/-5.36	-14.06/-13.71	-7.88/-14.5	-11.54/-14.17	-17.33/-10.04	-18.92/-8.92
Θ(105°)	-18.65/-12.79	-13.27/-9.94	-9.06/-7.6	-9.56/-10.25	-11.31/-17.42	-17.63/-18.33	-18.75/-18.57	-15.49/-11.68	-12.81/-10.59	-17.01/-15.56	-6.72/-7.79	-12.13/-12.81	-13.82/-15.08	-15.73/-16.36	-15.03/-17.42	-18.05/-7.05	-8.87/-8.76	-16.68/-12	-8.54/-13.64	-13.3/-19.13	-7.18/-7.72	-15.65/-11.42	-12.2/-17.97	-13.87/-18.7
Θ(112.5°)	-13.44/-12.06	-11.75/-7.57	-13.93/-5.96	-12.43/-9.89	-14.07/-17.67	-17.61/-17.7	-16.6/-14.28	-14.94/-10.31	-18.13/-13.47	-18.08/-12.36	-7.69/-8.46	-13.43/-13.19	-13.6/-10.61	-18.14/-17.95	-16.58/-18.97	-19.2/-2.68	-7.7/-10.02	-13.95/-13.29	-6.23/-9.78	-18.96/-15.19	-6.63/-8.79	-8.02/-8.6	-15.37/-10.29	-18.9/-12.67
Θ(120°)	-18.55/-16.12	-13.9/-3.99	-12.01/-7.67	-16.89/-9.64	-17.92/-18.04	-18.1/-13.77	-13.54/-14.84	-15.93/-11.28	-13/-14.52	-10.27/-10.62	-8.99/-9.41	-10.47/-15.31	-16.2/-18.07	-19.15/-18.8	-17.33/-17.95	-12.67/-12.94	-15.75/-16.63	-10.94/-5.36	-14.06/-13.71	-7.88/-14.5	-11.54/-14.17	-17.33/-10.04	-18.92/-8.92	
Θ(127.5°)	-13.04/-10.85	-12.06/-8.38	-16.62/-9	-15.89/-10.74	-18.4/-18.49	-17.7/-15.87	-13.74/-18.1	-14.53/-15.89	-14.49/-13.65	-8.19/-10.41	-12.42/-12.38	-13.86/-18.86	-18.4/-12.2	-10.83/-17.6	-12.62/-11.9	-19.94/-17.5	-13.53/-17.37	-18.24/-8.16	-18.45/-10.59	-17.81/-17.76	-13.61/-12.97	-17.37/-14.92	-11.97/-14.06	
Θ(135°)	-9.86/-17.79	-13.95/-14.51	-12.47/-7.27	-17.16/-17.76	-16.9/-18.58	-11.6/-18.19	-10.22/-16.28	-13.73/-11.9	-10.37/-11.07	-8.81/-7.65	-13.82/-9.64	-9.77/-10.42	-11.45/-18.12	-16.51/-17.41	-10.53/-19.12	-11.91/-13.87	-17.64/-18	-18.23/-17.99	-17.18/-8.32	-18.61/-19.03	-18.3/-13.89	-15.04/-18.33	-10.9/-13.72	-13.91/-18.67
Θ(142.5°)	-8.62/-13.99	-10.87/-15.62	-17.1/-10.86	-12.5/-14.34	-14.53/-14.29	-10.57/-9.21	-9.31/-11	-12.4/-11.64	-10.02/-10.39	-13.36/-14.12	-11.72/-10.35	-9.96/-19.17	-8.78/-13.34	-18.97/-14.52	-13.66/-13.81	-18.92/-19.36	-11.95/-16.25	-19.87/-18.36	-18.41/-13.01	-15.04/-16.68	-16.94/-12.75	-17.79/-15.08	-11.69/-12.36	-14.93/-9.26
Θ(150°)	-12.18/-18.38	-9.86/-10.97	-13.16/-14.48	-16.32/-14.73	-12.25/-10.92	-11.29/-11.28	-11.38/-13.96	-11.87/-10.53	-10.82/-11.84	-15.16/-14.15	-13.17/-12.5	-17.72/-13.75	-15.1/-17.44	-11.77/-12.39	-12.59/-16.47	-18.27/-18.47	-18.76/-13.51	-13.06/-13.72	-19.1/-17.69	-18.76/-18.4	-19.06/-18.77	-19.04/-17.88	-10.96/-7.28	
Θ(157.5°)	-13.31/-11.39	-9.62/-10.88	-13.51/-14.23	-14.24/-13.88	-14.18/-16.23	-15.6/-14.88	-13.14/-14.72	-17.56/-18.5	-17.69/-17.16	-14.34/-13.81	-13.15/-11.38	-11.77/-13.11	-15.87/-18.43	-18/-18.11	-17.17/-13.03	-12.2/-15.68	-18.04/-18.39	-18.48/-17.39	-18.55/-17.84	-18.68/-18.34	-18.37/-17.93	-18.52/-18.77	-18.39/-19.13	-14.63/-11.93
Θ(165°)	-14.27/-15.83	-17.74/-18.48	-13.5/-11.85	-10.88/-9.71	-10.36/-12.4	-14.07/-15.9	-16.33/-14.45	-13.17/-12.65	-11.97/-11.57	-11.94/-12.77	-11.71/-15.13	-17.56/-14.53	-12.43/-12.03	-12.19/-14.42	-18.01/-18.91	-18.82/-17.32	-14.57/-14.72	-15.76/-16.1	-16.98/-18.2	-18.87/-18.85	-17.99/-17.96	-18.68/-18.92	-18.06/-16.65	-17.89/-15.65
Θ(172.5°)	-16.3/-18.69	-16.32/-13.57	-10.22/-9.91	-10.58/-10.43	-11.46/-14.1	-17.5/-18.83	-17.94/-18.22	-14.69/-12.24	-11.17/-10.82	-12.61/-12.84	-14/-18.07	-14.43/-11.6	-11.31/-11.71	-12.69/-14.5	-17.74/-18.59	-18.3/-19.02	-18.18/-18.31	-19.22/-18.74	-18.59/-18.3	-16.66/-11.9	-9.73/-10.86	-10.86/-9.84	-11.81/-15.9	
Θ(180°)	-12.94/-12.58	-12.16/-12.47	-12.41/-12.68	-13.41/-13.19	-13.19/-12.66	-12.64/-14.18	-15.88/-16.44	-16.61/-17.74	-18.18/-19.03	-19.36/-18.79	-18.47/-17.44	-15.59/-17.2	-18.18/-18.57	-18.14/-18.05	-18.3/-16.76	-14.31/-12.83	-11.9/-11.02	-11.11/-12.95	-15.6/-16.59	-16.05/-15.59	-16.88/-18.45	-18.67/-17.45	-16.02/-16.51	-16.02/-14.04
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°)	-3.23/-2	-1.02/-0.37	0.30/63	0.84/0.88	0.74/0.55	0.2/-0.44	-1.27/-2.56	-4.59/-7.45	-10.09/-12.47	-15.9/-13.97	-9.15/-6.28	-0.50/-2.89	-1.25/-0.44	-0.16/-0.09	0.57/1.02	1.10/87	0.58/0.21	-0.66/-1.65	-2.65/-4.08	-5.76/-7.69	-10.32/-11.68	-11.25/-10.9	-8.34/-6.28	-5.38/-4.32
Θ(7.5°)	-2.39/-1.2	-0.54/-0.31	-0.41/-1.08	-1.1/-1.54	-2.01/-2.22	-2.58/-2.26	-3.55/-5.08	-1.07/-8.54	-12.24/-14.27	-11.48/-7.23	-4.56/-8.29	-1.42/-0.34	0.16/0.54	0.70/81	0.72/0.25	-0.41/-1.09	-2.21/-3.13	-4.08/-5.59	-6.79/-7.46	-9.29/-13.28	-17.88/-16.23	-11.78/-2.73	-5.18/-3.83	
Θ(15°)	-2.01/-2.02	-1.71/-1.09	-0.84/-0.67	-0.62/-0.85	-1.57/-2.2	-1.85/-1.28	-0.49/-0.24	-0.85/-2.08	-4.38/-9.07	-8.68/-6.74	-3.64/-1.54	-0.90/-0.82	0.69/0.15	-0.40/-0.9	-1.77/-3.44	-5.67/-6.3	-6.4/-9.64	-8.48/-10.42	-14.58/-17.93	-16.21/-9.2	-6.99/-5.3	-3.54/-3.22	-2.62/-1.55	
Θ(22.5°)	-0.63/-0.21	-0.49/-0.53	-0.94/-1.48	-1.62/-1.39	-1.19/-1.4	-1.46/-1.32	-0.76/-0.9	-1.58/-2.89	-5.16/-7.31	-9.74/-12.31	-13.24/-9.55	-5.87/-2.98	-1.08/0.28	0.5/-0.99	-3.26/-4.03	-4.29/-5	-5.67/-6.05	-5.84/-5.75	-6.58/-8.84	-14.76/-17.14	-11.8/-6.89	-4.39/-2.12	-1.17/-1.58	-2.21/-1.52
Θ(30°)	-0.78/0.49	1.10/37	-0.17/-2.47	-3.23/-1.96	-1.97/-2.84	-4.37/-4.6	-4.49/-4.77	-5.41/-6.76	-9.47/-12.54	-18.47/-19.02	-18.18/-17.9	-18.77/-12.27	-5.77/-3.3	-2.41/-2	-3.45/-6.76	-7.19/-4.76	-5.86/-8.75	-10.94/-15.73	-18.23/-17.64	-14.32/-7.94	-3.65/-1.82	-3.99/-7.09	-4.86/-2.41	-0.80/-0.37
Θ(37.5°)	-3.05/-0.88	1.08/0.36	-2.09/-4.77	-1.28/-0.89	-2.94/-5.06	-3.66/-2.35	-3.57/-6.83	-9.38/-9.57	-9.19/-12.36	-18.79/-16.86	-9.59/-6.72	-6.14/-8.73	-15.09/-10.22	-8.45/-6.43	-6.89/-9.86	-12.37/-9.01	-10.85/-16.39	-19.2/-10.74	-10.34/-8.53	-5.81/-3.36	-1.71/-1.91	-3.61/-5.66	-7.75/-6.96	-4.94/-3.31
Θ(45°)	-5.75/-3.55	0.16/0.18	-3.03/-4.37	1.75/0.99	-1.41/-3.15	-1.33/0.53	0.61/-2.07	-6.61/-7.78	-9.28/-8.46	-9.27/-11.57	-12.06/-5.74	-4.71/-5.92	-9.02/-13.75	-18.52/-17.08	-18.28/-17.86	-18.22/-12.91	-18.13/-9.97	-7.18/-6.12	-3.72/-2.54	-2.31/-1.92	-1.00/8	0.24/-0.59	-2.68/-4.9	-5.75/-6.94
Θ(52.5°)	-4.63/-6.4	-2.64/-2.92	-4.61/-3.22	2.84/-2.66	0.72/-2.21	-0.21/-59	1.76/-0.92	-4.34/-3.84	-4.96/-4.78	-3.72/-4.07	-9.25/-18.38	-18.53/-8.82	-5.72/-5.17	-10.01/-18.81	-10.68/-4.43	-7.03/-8.43	-10.16/-4.61	-5.4/-6.71	-5.05/-3.42	-2.11/-1.97	0.132/81	2.81/0.23	-4.02/-4.38	-0.64/-3.01
Θ(60°)	-5.32/-8.97	-8.21/-5.36	-4.4/-4.52	1.93/2.28	0.79/0.21	-0.77/0.14	0.36/-1.38	-2.28/-1.67	-3.11/-0.31	-1.4/-0.39	-1.25/-3.99	-6.87/-8.38	-4.59/-4.85	-5.46/-7.97	-7.76/-4.64	-4.78/-5.44	-6.29/-2.17	-2.32/-6.61	-4.72/-3.29	-1.5/-1.44	1.81/0.59	1.89/-1.23	-3.44/-3.89	-1.82/-3.14
Θ(67.5°)	-3.95/-5.43	-8.38/-6.52	-3.37/-3.59	1.2/-0.65	0.94/1.11	-1.86/-0.98	-0.32/-0.94	-1.1/-1.03	-1.59/-2.38	-0.68/0.09	-0.12/-2.38	-4.43/-8.77	-7.52/-6.15	-5.43/-5.92	-4.45/-2.07	-0.95/-5.66	-2.48/-2.3	0.47/1.25	4.29/3.83	1.04/0.19	-2.01/-5.29	-4.09/-5.6		



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

Θ(67.5°)	-0.58/-0.28	-7.57/-7.51	-5.64/-18.11	-3.44/-8.67	-8.37/-7.43	-3.49/-14.74	-9.42/-5.93	-5.22/-3.01	-5.87/-6.18	-4.16/-5.68	-6.94/-7.76	-8.93/-5.31	-3.71/-7.74	-15.34/-17.81	-18.44/-12.48	-14.26/-3.56	-1.98/-4.22	-3.05/-1.31	-2.49/-3.31	-0.75/-1.91	-3.75/-1.38	-0.36/-3.72	-5.93/-6.96	-4.61/-2.07
Θ(75°)	-0.94/-0.9	-11.1/-18.88	-7.78/-16.06	-3.36/-7.4	-11.33/-9.09	-4.93/-9.46	-14.93/-12.74	-8.84/-6	-7.92/-5.55	-4.18/-3.68	-7.11/-8.41	-9.21/-9.11	-5.73/-9.06	-18.66/-18.65	-19.03/-8.05	-8.7/-4.71	-2.33/-4.26	-1.45/-0.25	-0.64/-3.64	-1.25/-0.45	-0.27/-0.6	-1.05/-4.72	-5.31/-8.59	-6.15/-2.32
Θ(82.5°)	-2.87/-4	-14.3/-18.24	-11.1/-16.01	-4.54/-8.9	-14.57/-8.66	-6.54/-11.66	-17.8/-15.44	-9.63/-8.11	-9.82/-5.07	-4.09/-3.2	-8.1/-9.66	-8.06/-14.38	-7.89/-13.92	-17.89/-7.29	-4.24/-6.81	-4.44/-5.65	-2.56/-0.65	-0.01/-3.12	-3.88/-0.4	0.48/-0.68	-1.69/-4.78	-8.65/-13.31	-9.25/-0.42	
Θ(90°)	-4.89/-8.17	-17.9/-19.11	-18.47/-15.19	-5.82/-9.92	-17.04/-9.17	-7.67/-14.36	-18.3/-18.91	-11.8/-12.03	-13.49/-6.58	-5.3/-4.11	-7.97/-8.97	-6.91/-16.27	-8.33/-13.5	-18.55/-14.64	-12.53/-12.08	-4.98/-8.26	-7.28/-6.44	-7.29/-3.68	-1.05/-3.12	-10.67/-1.74	0.35/-1.66	-7.06/-6.4	-12.08/-15.85	-12.97/-6.67
Θ(97.5°)	-7.98/-15.15	-18.38/-18.51	-17.74/-11.96	-7.75/-12.07	-12.37/-9.97	-8.37/-14.98	-18.96/-18.91	-13/-13.22	-12.54/-7.12	-6.66/-5.93	-9.07/-9.55	-9.26/-19.46	-10.13/-15.42	-18.62/-19.99	-12.33/-13.02	-6.29/-10.26	-9.05/-7.72	-10.57/-8.35	-4.31/-4.01	-14.13/-5.63	-2.86/-4.34	-18.52/-7.94	-14.47/-15	-13.76/-8.95
Θ(105°)	-13.73/-18.09	-11.43/-18.86	-18.29/-11.42	-7.87/-15.87	-13.11/-12.94	-10.58/-18.33	-19.24/-18.15	-12.2/-11.65	-13.22/-10.67	-7.85/-8.31	-8.8/-8.65	-11.78/-18.91	-12.06/-14.01	-17.18/-12.89	-12.1/-17.77	-5.78/-8.49	-11.17/-14.29	-11.49/-12.33	-8.75/-7.75	-15.06/-18.97	-8.96/-6.75	-15.39/-11.32	-17.65/-11.87	-11.58/-10.99
Θ(112.5°)	-16.09/-18.64	-19.01/-18.59	-14.48/-10.11	-9.87/-16.31	-11.26/-15.59	-15.9/-12.7	-15.7/-16.91	-9.85/-10.2	-14.95/-13.35	-10.22/-9.99	-9.99/-9.59	-18.37/-15	-13.15/-15.47	-16.86/-12.37	-10.43/-19.09	-9.85/-9.84	-8.31/-13.18	-12.96/-8.65	-7.87/-6.92	-18.07/-15.02	-9.93/-9.23	-9.62/-16.75	-11.61/-16.84	-16.02/-17.51
Θ(120°)	-18.05/-16.3	-18.58/-14.78	-11.62/-10.9	-12/-15.1	-11.38/-18.6	-18.41/-12.56	-13.17/-11.36	-12.91/-13.67	-16.74/-14.23	-10.24/-9.37	-7.21/-9.28	-18.47/-12.99	-14.22/-18.56	-17.86/-13.24	-17.5/-19.03	-18.27/-8.8	-10.5/-6.64	-17.7/-13.37	-8.63/-4.61	-10.18/-14.04	-8.43/-10.6	-8.35/-12.98	-15.69/-11.94	-15.94/-16.56
Θ(127.5°)	-19.19/-14.64	-12.56/-13.06	-9.41/-18.15	-9.13/-13.13	-11.31/-18.74	-19.23/-11.69	-16.79/-11.74	-14.68/-12.4	-18.64/-9.88	-11.85/-9.3	-8.59/-10.14	-14.01/-18.75	-18.88/-17.98	-14.11/-17.98	-14.68/-15.56	-18.66/-16.07	-17.89/-9.93	-11.8/-14.77	-13.63/-8.36	-11.86/-11.61	-18.68/-18.63	-14.01/-10.59	-18.65/-14.56	-15.19/-18.71
Θ(135°)	-15.85/-12.17	-15.19/-17.73	-11.14/-18.82	-10.06/-17.95	-18.72/-18.61	-17.55/-11.15	-14.46/-18.08	-16.31/-10.44	-11.64/-11.73	-8.06/-11.32	-9.25/-12.92	-13.78/-9.97	-13.75/-18.99	-18.13/-14.6	-16.55/-13.9	-18.71/-18.1	-17.98/-19.11	-18.97/-19.28	-16.58/-11.05	-10.54/-18.03	-18.98/-15.71	-18.18/-15.02	-9.32/-13.56	-13.81/-13.72
Θ(142.5°)	-13.28/-12.62	-16.54/-18.16	-14.11/-18.99	-19.11/-16.74	-17.88/-12.62	-12.58/-11.02	-11.64/-10.19	-8.91/-9.36	-9.59/-11.68	-10.05/-9.85	-17.17/-15.54	-13.79/-12.74	-18.69/-17.96	-18.39/-16.3	-10.89/-15.68	-18.53/-18.69	-16.23/-10.35	-18.63/-18.16	-14.57/-10.85	-15.89/-18.22	-16.06/-13.66	-18.8/-17.32	-14.42/-14.24	-13.79/-18.36
Θ(150°)	-18.95/-15.65	-14.17/-19.11	-18.39/-18.8	-15.93/-15.24	-13.89/-11.78	-10.61/-10.87	-10.01/-11.23	-11.6/-13.12	-16.16/-14.96	-10.53/-9.8	-8.84/-12.58	-15.21/-14.48	-13.1/-12.64	-17.66/-14.45	-17.15/-14.26	-18.88/-18.75	-18.21/-17.69	-19.1/-18.71	-14.01/-18.38	-17.41/-17.71	-19.1/-17.59	-18.33/-13.92	-10.71/-13.58	
Θ(157.5°)	-14.89/-16.1	-19.07/-17.64	-17.55/-16.18	-16.95/-14.66	-10.25/-9.65	-10.64/-12.78	-12.68/-11.81	-12.02/-11.12	-11.65/-14.36	-16.81/-14.74	-13.01/-10.53	-9.84/-12.03	-15.08/-18.78	-15.48/-13.7	-15.11/-18.5	-14.59/-13.33	-17.46/-18.05	-16.64/-19.4	-18.91/-17.75	-13.85/-15.77	-18.29/-19.09	-17.48/-16	-17.76/-18.32	-17.62/-17.28
Θ(165°)	-19.15/-18.04	-12.7/-12.2	-12.24/-11.6	-11.94/-12.04	-12.09/-14.34	-14.28/-12.36	-11.86/-13.32	-17.4/-18.62	-18.67/-17.99	-15.78/-14.3	-12.87/-11.95	-12.31/-17.07	-14.24/-18.03	-19.03/-18.8	-14.26/-16.03	-13.54/-12.96	-14.97/-16.89	-18.76/-18.15	-18.66/-17.84	-18.05/-14.72	-12.58/-13.21	-14.42/-14.24	-13.79/-18.36	
Θ(172.5°)	-16.25/-14.86	-13.61/-14.42	-13.83/-14.42	-12.18/-18.98	-17.85/-16.89	-13.13/-10.98	-10.63/-11.15	-13.44/-15.17	-14.73/-15.19	-16.29/-16.22	-14.92/-15.22	-15.4/-12.58	-13.63/-17.84	-17.99/-13.71	-12.65/-12.73	-13.58/-15.09	-17.55/-18.37	-18.95/-18.12	-18.75/-18.47	-18.33/-19.26	-18.24/-19.18	-16.25/-14.92	-14.38/-16.04	-18.42/-17.79
Θ(180°)	-13.56/-13.79	-17.6/-18.72	-19.1/-17.47	-17.91/-18.62	-16.87/-17.41	-18.96/-15.67	-13.65/-12.75	-14.81/-16.33	-15.83/-14.01	-13.87/-13.75	-13.67/-13.67	-13.78/-16.51	-18.72/-18.5	-18.48/-16.74	-14.42/-13.14	-13.9/-15.65	-17.84/-18.04	-16.75/-14.35	-13.07/-12.27	-11.74/-11.22	-11.13/-10.71	-10.62/-12.43	-13.84/-13.06	-13.98/-15.11
Freq(Hz)	5.785GPol.	Theta(Ant.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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°)	-1.86/-0.56	-0.080-2	0.461/-1.7	1.511/-3.8	1.150/-8.3	0.4/-0.24	-1.21/-2.23	4.06/-6.42	-9.27/-10.28	-9.11/-7.36	-5.17/-2.71	-1.6/-0.46	0.470/-8.3	1.171/-21	1.241/-38	1.220/-82	0.19/-0.64	-1.34/-2.31	-3.47/-4.55	-5.25/-6.09	-7.05/-8.57	-8.97/-9.17	-8/-5.53	-4.16/-3.67
Θ(7.5°)	-1/-0.34	-0.6/-0.61	-1.01/-1.22	-0.77/-0.67	-0.66/-4.99	-0.56/-1.23	-1.96/-3.13	-5.04/-2.98	-12.5/-12.77	-14.18/-8.77	-6.48/-4.19	-1.94/-0.4	0.591/-22	2.012/-46	2.552/-65	2.562/-18	1.460/-38	-0.87/-2.53	-4.61/-7.06	-10.23/-14.4	-11.61/-8.88	-6.53/-4.17	-2.84/-2.02	-0.83/-0.84
Θ(15°)	-3.44/-1.6	-0.320/-22	-0.02/-0.84	-1.22/-1.36	-1.07/-0.04	0.520/-39	-0.26/-1.56	-3.34/-2.45	-4.74/-5.97	-7.27/-4.7	-1.21/-0.01	1.612/-35	2.21/-95	0.71/-0.37	1.03/-1.7	-3.07/-5	-0.87/-15.29	-17.34/-12.76	-9.53/-9.02	-9.24/-10.79	-12.42/-12.32	-10.97/-8.74	-6.12/-6.47	
Θ(22.5°)	-4.03/-5.39	-4.16/-2.76	-2.6/-1.49	-0.140/-17	0.1/-0.38	0.350/-63	-0.37/-1.99	-4.05/-5.36	-7.83/-10.92	-16.1/-19.05	-12.13/-9.58	-7.38/-3.66	-0.481/-95	2.882/-41	0.91/-1.71	4.73/-5.95	-6.41/-8.04	-10.77/-9.63	-10.07/-8.84	-6.16/-6.05	-7.01/-7.93	-7.11/-5.27	-3.75/-4.35	-4.99/-3.31
Θ(30°)	-1.96/-3.17	-6.12/-6.99	-5.46/-1.16	0.23/-0.25	-1.15/-0.57	1.031/-27	-0.63/-8.98	-12.36/-17.98	-17.64/-18.5	-10.31/-9.34	-6.6/-5.32	-4.67/-5.6	-10.18/-6.3	-3.57/-2.03	-1.09/-2.61	-6.26/-6.51	-6.92/-8.7	-9.5/-9.72	-12.55/-10.2	-7.57/-9.19	-11.13/-8.31	-5.62/-2.42	-0.92/-1.18	-1.18/-2.09
Θ(37.5°)	1.41/-96	-1.44/-1.74	-5.91/-1.48	0.79/-1.75	-2.61/-5.8	-0.01/-2.72	-3.46/-10.72	-18.53/-11.59	-11.4/-9.11	-13.73/-9.99	-6.39/-5.07	-4.35/-5.2	-9.01/-11.95	-16.52/-10.66	-18.94/-7.01	-5.38/-9.35	-18.51/-11.36	-12.24/-9.32	-9.45/-9.2	-5.56/-4.24	-6.54/-7.91	-6.47/-2.01	-0.130/-6.8	
Θ(45°)	0.282/-5.1	1.25/-2.89	-3.150/-12	-1.54/-2.67	-3.33/-0.64	-0.6/-2.27	-8.2/-16.48	-18.14/-11.09	-11.19/-13.75	-14.84/-8.65	-9.27/-14.55	-15.4/-14.51	-12.04/-13.16	-18.09/-18.02	-9.44/-5.63	-10.18/-10.32	-5.59/-10.68	-11.53/-2.96	-1.97/-1.26	-2.51/-3.2	-3.52/-5.15	-2.54/-1.01	-2.35/-4.38	-4.3/-1.47
Θ(52.5°)	-2.96/-0.74	0.571/-1.22	-2.310/-22	-1.99/-4.92	-1.580/-7.1	-0.21/-3.35	-6.1/-6.15	-7.89/-4.81	-4.49/-5.36	-6.9/-8.66	-10.9/-14.7	-16.46/-19.37	-17.79/-11.7	-13.14/-13.04	-9.86/-5.53	-6.88/-14.07	-6.28/-1.62	-0.61/-0.23	-1.62/-0.92	-0.70/-0.6	2.651/-33	-2.01/-3.94	-3.82/-2.19	
Θ(60°)	-1.9/-7.3	-3.1/-2.38	-3.971/-1.54	-3.85/-6.27	-0.35/-0.66	-0.17/-1.15	-0.62/-1.58	-2.81/-1.77	-2.60/-9.5	-4.46/-15.43	-17.78/-17.65	-13.09/-12.54	-5.42/-7.09	-7.1/-7.37	-3.52/-4.98	-5.13/-6.83	-5.89/-14.7	-1.71/-1.33	-2.02/-1.04	-1.780/-91	2.032/-0.32	-4.89/-2.84	-0.05/-0.43	
Θ(67.5°)	-2.26/-5.64	-6.49/-2.73	-5.05/-3.53	-4.71/-0.55	-0.79/-3.75	0.420/-5.2	1.04/-0.44	0.01/-0.16	-1.060/-38	-2.51/-8.38	-15.07/-14.54	-16.18/-10.68	-12.01/-8.73	-2.88/-5.61	-3.89/-1.82	-1.7/-2.06	-2.991/-0.3	-0.74/-0.59	-1.550/-74	-1.01/-5.6	0.79/-2.47	-4.27/-2.94	-0.72/-1.45	
Θ(75°)	-1.59/-2.33	-4.09/-1.8	-5.94/-4.55	-10.06/-1.12	-2.07/-6.85	0.210/-69	0.021/-64	-0.02/-0.31	-0.790/-73	-0.75/-4.29	-10.36/-11.58	-8.54/-6.04	-8.78/-10.71	-3.2/-3.89	-2.67/-2	-1.420/-0.84	-3.02/-2.85	-0.862/-69	0.340/-35	-0.862/-77	2.031/-44	-0.6/-3	-4.47/-3.92	-2.41/-3
Θ(82.5°)	-1.41/-1.27	-3.17/-1.38	-6.95/-4.74	-9.04/-3.05	-6.43/-7.98	-0.87/-0.64	-2.18/-2.42	-0.96/-1.47	-0.69/-0.19	-2.24/-4.64	-10.23/-10.4	-7.48/-5.97	-7.02/-8.75	-2.38/-2.23	-1.32/-1.49	-3.68/-2.21	-0.72/-61	0.070/-81	-0.953/-32	3.020/-5	-1.61/-4.59	-6.82/-6.01	-3.2/-2.67	
Θ(90°)	-2.34/-1.99	-4.71/-3.33	-8.82/-9.4	-9.38/-4.69	-9.02/-7.65	-2.42/-2.18	-4.81/-4.1	-2.77/-2.77	-4.42/-0.92	-4.2/-5.74	-7.77/-9.22	-6.67/-5.9	-4.22/-9.08	-4.23/-4.15	-2.34/-2.59	-3.97/-4.2	-1.06/-0.08	-0.71/-0.85	-3.561/-11	2.43/-1.22	-3.21/-8.56	-10.06/-4.99	-0.42/-2.15	
Θ(97.5°)	-6.01/-5.45	-7/-5.9	-10.1/-11.43	-9.18/-6	-14.56/-7.62	-3.71/-3.24	-6.46/-5.18	-4.21/-4.07	-2.83/-2.34	-5.48/-6.86	-7.18/-14.7	-8.07/-4.36	-3.84/-8.93	-5.18/-6.06	-4.28/-2.44	-3.22/-4.27	-5.42/-5.55	-3.46/-4.47	-4.08/-8.42	-6.87/-2.73	-0.82/-2.8	-6.77/-14.8	-1.82/-5.62	-5.46/-4.07
Θ(105°)	-10.46/-8.27	-6.95/-7.87	-8.25/-12.6	-12.44/-6.14	-18.96/-8.97	-5.5/-3.52	-9.28/-9.06	-7.01/-7.81	-5.31/-5.19	-4.82/-7.5	-7.78/-6.35	-7.53/-6.03	-8.78/-9.5	-5.44/-7.3	-6.88/-6.9	-4.63/-7.37	-4.319/-11	-4.03/-7.77	-6.84/-7.63	-11.72/-8.31	-9.71/-5.38	-6.86/-17.41	-8.73/-9.5	-7.54/-8.08
Θ(112.5°)	-7.31/-6.62	-7/-6.99	-12.38/-10.47	-8.37/-10.3	-16.44/-10.71	-6.9/-6.22	-15.66/-9.18	-7.58/-8.23	-6.51/-6.42	-5.18/-7.09	-9.27/-10.03	-10.32/-3.02	-5.75/-8.35	-5.38/-9.4	-7.15/-5.19	-8.92/-9.08	-5.01/-18.14	-7.11/-5.59	-7.95/-9.57	-8.75/-6.72	-9.93/-7.4	-8.61/-14.18	-10.47/-9.35	-12.73/-13.43
Θ(120°)	-7.8/-8.78	-11.56/-13.8	-18.35/-13.64	-9.98/-15.97	-13.55/-10.58</																			



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

Θ (112.5°)	-13.68/-13.26	-14.29/-18.51	-18.09/-16.37	-16.73/-12.19	-14.29/-14.54	-17.88/-17.46	-11.39/-10.72	-7.41/-14.34	-12.89/-14.03	-8.38/-10.31	-9.7/-7.5	-10.97/-11.32	-14.59/-14.73	-13.9/-11.76	-8.31/-12.6	-10.61/-7.62	-14.56/-19.01	-14.57/-10.72	-7.07/-5.89	-18.93/-13.74	-8.97/-6.71	-14.25/-11.03	-16.68/-11.9	-19.29/-12.62
Θ (120°)	-18.83/-9.89	-16.56/-18.57	-14.6/-18.83	-12.22/-10.46	-13.48/-18.59	-18.38/-9.45	-14.05/-12.73	-8.95/-18.95	-12.73/-16.52	-9.59/-18.94	-11.49/-6.36	-11.36/-17.82	-14.13/-18.55	-16.72/-11.64	-11.78/-10.44	-13.33/-8.36	-11.27/-9.81	-15.77/-18.45	-10.3/-8.23	-11.59/-16.84	-12.36/-14.78	-8.81/-14.44	-10.44/-11.44	-12.78/-17.47
Θ (127.5°)	-12.14/-15.66	-16.38/-18.69	-15.85/-12.12	-11.71/-13.35	-17.88/-16.27	-16.14/-12.63	-15.88/-12.57	-10.88/-13.24	-11.04/-12.35	-13.86/-13.84	-10.44/-7.34	-12.59/-19.09	-17.62/-17.83	-15.03/-15.77	-13.62/-12.6	-18.13/-10.75	-7.63/-11.59	-18.16/-18.11	-10.51/-8.87	-18.16/-15.08	-12.62/-17.28	-10.94/-12.45	-13.44/-13.89	-14.79/-17.96
Θ (135°)	-9.54/-17.48	-16.23/-14.65	-14.07/-9.18	-14.28/-17.49	-18.99/-12.2	-13.19/-7.96	-11.03/-9.52	-11.86/-11.04	-13.41/-18.45	-18.9/-11.52	-7.51/-12.53	-12.02/-17.39	-17.78/-17.88	-15.95/-9.97	-15.11/-18.46	-18.51/-9.5	-9.8/-15.65	-13.64/-12.1	-13.73/-10.18	-9.21/-19.25	-12.01/-19.21	-19.07/-9.51	-12.79/-14.49	-16.65/-18.82
Θ (142.5°)	-12.67/-16.01	-14.38/-11.19	-14.19/-18.16	-18.05/-16.82	-18.72/-14.57	-12.96/-11.41	-13.1/-13.49	-17.95/-18.19	-19.42/-16.72	-11.49/-13.93	-11.92/-9.51	-18.02/-16.26	-19.13/-12.55	-13.77/-18.3	-9.53/-9.02	-14.65/-14.1	-17.3/-18.74	-12.75/-13.25	-12.82/-17.06	-16.1/-16.39	-18.04/-15.9	-16.42/-17.77	-13.5/-18.22	-10.73/-16.87
Θ (150°)	-10.21/-3.78	-15.96/-15.32	-13.88/-15.88	-18.08/-18.04	-14.53/-13.61	-17.67/-13.57	-13.48/-16.09	-13.38/-14.75	-14.93/-11.12	-13.14/-15.5	-13.85/-19.08	-17.23/-17.99	-17.89/-17.72	-19.09/-14.89	-13.26/-11.64	-8.25/-12.72	-15.56/-14.69	-17.71/-14.81	-10.15/-17.32	-18.18/-10.17	-10.15/-17.32	-17.61/-18.39	-18.37/-11.24	-7.29/-9.96
Θ (157.5°)	-16.98/-18.76	-17.74/-19.26	-18.12/-16.54	-16.86/-16.49	-13.24/-10.71	-10.94/-14.25	-13.26/-13.47	-17.91/-18.81	-17.61/-17.46	-18.39/-17.93	-18.2/-19.24	-18.97/-16.63	-18.44/-18.59	-14.18/-15.09	-15.98/-11.74	-15.92/-16.01	-12.88/-9.54	-13.47/-18.98	-17.78/-18.04	-18.98/-17.54	-18.05/-17.31	-18.07/-15.8	-15.15/-17.09	-15.64/-15.12
Θ (165°)	-11.7/-12.42	-13.35/-14.42	-18.7/-19.34	-18.14/-19.26	-18.29/-17.81	-17.97/-18.05	-18.83/-19.02	-17.24/-18.15	-18.42/-18.95	-17.87/-17.77	-18.63/-18.94	-17.58/-16.23	-16.75/-18.17	-17.97/-17.16	-14.77/-18.26	-18.78/-18.3	-18.65/-18.02	-18.09/-15.69	-13.14/-16.24	-18.88/-16.39	-13.68/-13.59	-12.83/-11.15	-11.46/-13.94	-19.09/-16.73
Θ (172.5°)	-10.53/-14.31	-13.84/-11.81	-11.07/-11.31	-11.25/-11.96	-13.89/-16.82	-17.39/-15.16	-14.02/-14.45	-16.38/-16.95	-17.91/-19.32	-17.86/-18.55	-17.8/-16.42	-12.99/-11.21	-11.67/-12.43	-14.66/-16.38	-15.4/-15.45	-15.43/-15.85	-16.12/-15.76	-14.22/-12.44	-13.11/-14.18	-14.45/-12.76	-12.52/-17.96	-19.24/-18.73	-15.37/-11.04	-11.73/-11.32
Θ (180°)	-14.97/-15.72	-13/-13.28	-10.9/-10.95	-11.66/-11.81	-12.14/-11.94	-11.37/-10.76	-12.49/-14.68	-15.01/-15.57	-17.48/-17.15	-17.98/-18.63	-18.02/-19.04	-18.79/-18.65	-18.75/-19.85	-17.94/-17.49	-18.06/-18.16	-17.64/-18.47	-18.66/-19.35	-17.9/-18.22	-17.97/-15.29	-15.1/-16.14	-14.47/-17	-15.08/-14.01	-15.68/-15.6	-16.67/-18.91
Freq(Hz)	6.475GPol.	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°)	-1.75/-0.85	-0.180/5.1	0.980/5.7	0.590/5.5	0.31/-0.15	-0.9/-1.58	-2.86/-4.39	-6.45/-8.68	-11.28/-14.56	-14.07/-11.34	-9.2/-7.39	-5.13/-3.31	-2.71/-2.17	-1.09/-0.29	-0.06/-0.07	-0.19/-0.25	-0.37/-0.53	-1.08/-1.77	-2.72/-3.71	-5.12/-6.42	-7.01/-8.62	-8.2/-7.66	-6.71/-4.14	-3.71/-2.35
Θ (7.5°)	-1.42/-1.24	0.32/-8.1	2.42/28	2.57/23.6	2.04/-14.4	-0.37/-1.3	1.150/-44	-2.52/-3.69	-5.76/-8.62	-11.11/-11.17	-3.76/-1.98	-1.22/-0.33	0.190/4	-0.370/-34	-0.08/-0.45	-0.71/-1.04	-1.49/-2.01	-3.26/-5.51	-8.9/-10.29	-13.77/-11.93	-8.08/-6.98	-5.35/-3.73	-3.36/-2.06	
Θ (15°)	-3.54/-2.45	-5.48/-5.02	-1.020/9.7	2.19/2.53	2.79/2.72	2.16/0.68	-1.71/-4.54	-7.84/-12.6	-18.98/-17.33	-14.51/-9.75	-8.19/-7.13	-5.9/-5.22	-2.75/-0.65	1.4/3.18	4.06/4.04	3.32/0.3	0.38/-1.15	-3.85/-5.17	-7.63/-13.94	-17.76/-18.46	-11.88/-7.5	-5.49/-5.1	-2.92/-3.07	
Θ (22.5°)	-4.42/-3.31	-2.52/-2.07	-1.21/-0.29	-0.030/0.4	1.05/1.74	1.11/-1.43	-7.06/-14.33	-10.52/-7.12	-5.2/-4.11	-2.52/-1.84	-1.360/0.8	0.13/-1.79	-3.49/-3.81	-1.21/3.1	2.432/4.9	1.64/-1.1	4.7/-5.51	-6.47/-11.51	-14.26/-12.12	-12.89/-16.13	-13.41/-10.88	-10.36/-12.4	-9.9/-6.36	-4.51/-3.84
Θ (30°)	-7.84/-5.17	-3.54/-1.38	-1.99/-15.2	-1.64/-6.03	-0.69/-1.2	-3.79/-10.56	-16.13/-8.13	-6.02/-5.05	-4.26/-4.37	-4.36/-4.24	-4.49/-3.42	-1.39/-2.04	0.57/-0.98	-2.9/-2.82	-1.33/-0.26	-0.44/-1.45	-7.2/-3.52	-6.31/-5.83	-8.82/-9.5	-8.96/-16.09	-6.3/-3.63	-2.37/-3.49	-7.18/-16.44	-10.41/-8.41
Θ (37.5°)	-10.76/-5.47	-0.96/-1.38	-0.27/-14.22	-1.68/-1.59	-0.98/-3.16	-9.4/-6.89	-4.69/-4.2	-6.59/-9.1	-8.88/-9.05	-6.24/-4.69	-4.66/-5.2	-3.63/-2.51	-1.84/-0.71	-2.85/-3.02	-1.33/-4.62	-3.33/-4.81	-5.51/-4.25	-6.75/-5.79	-5.40/-5.22	-7.94/-6.54	-3.35/-2.65	-2.57/-1.74	-0.98/-2.13	-6.26/-10.59
Θ (45°)	-5.66/-6.62	-3.01/0.84	0.51/-11.76	-4.77/-2.56	-2.7/-2.93	-5.82/-3.69	-2.87/-4.27	-6.6/-7.36	-8.78/-14.08	-15.42/-15.07	-15.53/-12.08	-7.87/-6.63	-6.7/-8.83	-15.2/-6.92	-4.31/-5.55	-2.26/-2.75	-3.59/-2.7	-3.1/-2.58	-2.14/-1.24	-2.5/-1.98	-3.07/-6.42	-7.75/-4.31	-3.02/-2.35	-3.12/-5.42
Θ (52.5°)	-1.14/-0.36	-0.93/-2.03	-0.44/-6.17	-1.39/-18.9	-6.03/-14.2	-2.59/-4.18	-4.33/-4.81	-5.59/-4.38	-6.35/-15.28	-19.56/-11.86	-13.43/-16.58	-11.83/-11.52	-8.03/-7.75	-11.31/-6.43	-6.64/-6.72	-1.38/-3.65	-3.59/-2.74	-1.2/-0.55	1/2.23	0.09/-0.51	-4.13/-9.92	-8.19/-7.73	-3.86/-4.11	-4.19/-1.96
Θ (60°)	-2.43/-0.81	-0.66/-4.4	-3.54/-6.1	-5.51/-2.82	-4.18/-1.18	-1.24/-5.71	-5.24/-7.4	-5.63/-2.29	-3.76/-10.8	-18.03/-12.83	-9.21/-8.29	-6.28/-3.57	-16.8/-2.4	-4.58/-5.06	-2.41/-3.83	-4.74/-2.66	-2.03/-1.56	-0.35/-1.15	-1.52/-4.45	-0.78/-3.69	-4.66/-2.35	-0.78/-3.49	-4.32/-2	
Θ (67.5°)	-0.94/-3.12	-1.51/-2.47	-5.72/-6.7	0.85/-3.75	-1.62/-1.42	-0.22/-7.16	-3.6/-5.66	-8.18/-2.23	-4.53/-6.39	-18.76/-13.23	-7.44/-4.98	-6.31/-13.01	-5.02/-2.78	-6.06/-1.97	-3.88/-4.44	-1.74/-2.64	-4.780/2.4	-0.88/-0.19	-1.06/1.4	-0.43/-4.75	-6.18/-5.07	-4.410/6.3	-2.12/-11.86	-5.82/-0.36
Θ (75°)	0.25/-3.53	-2.69/-1.01	-4.34/-8.56	0.5/-4.77	-2.13/-4.01	-2.69/-5.3	-1.25/-5.94	-5.89/-2.64	-4.31/-5.5	-15.28/-14.03	-4.93/-1.78	-6.4/-9.28	-5.24/-6.43	-4.2/-3.48	-2.9/-3.4	-2.71/-2.62	-4.250/4.8	0.43/1.5	-0.54/-2.7	2.66/0.53	-1.25/-3.27	-2.25/1.1	-3.19/-13.44	-4.44/-2.06
Θ (82.5°)	-0.81/-5.95	-3.28/-1.65	-4.85/-8.42	-0.98/-5.16	-2.49/-1.42	-4.5/-1.84	-1.66/-4.87	-3.26/-4.57	-5.29/-6.08	-12.93/-9.35	-4.2/-8.16	-7.31/-10.23	-5.68/-4.48	-4.59/-6.59	-3.95/-2.94	-2.4/-3.76	-5.440/4.8	1.85/1.64	1.322/7.9	3.24/2.5	0.15/-3.49	-0.90/-5.1	-4.63/-7.58	-4.12/-3.42
Θ (90°)	-2.99/-6.96	-4.46/-3.51	-5.64/-10.27	-3.22/-6.44	-3.73/-4.28	-4.65/-3.14	-5.13/-6.79	-4.4/-7.6	-4.62/-6.6	-10.78/-12.05	-5.57/-8.27	-5.44/-7.32	-9.2/-8.05	-4.57/-7.1	-7.95/-4.02	-3.62/-5.73	-5.25/-2.05	0.540/2.1	0.790/9.4	1.64/2.61	-0.37/-5.1	-0.74/-3.11	-6.2/-7.57	-8.7/-48
Θ (97.5°)	-5.29/-6.84	-4.74/-5.66	-8.04/-10.9	-4.59/-7.24	-4.39/-7.09	-5.26/-6.04	-7.42/-8.67	-4.94/-5.79	-7.8/-9.26	-10.17/-11.5	-7.88/-7.29	-5.72/-9.43	-9.64/-7.18	-5.81/-10.52	-9.03/-6.08	-5.03/-6.79	-5.77/-4.4	-2.7/-3.57	-1.56/-3.83	-2.75/0.6	-3.85/-7.65	-3.64/-6.12	-8.11/-10.5	-10.71/-12.36
Θ (105°)	-8.57/-11.16	-8/-6.9	-11.35/-10.15	-5.52/-9.09	-6.59/-8.46	-7.7/-6.85	-8.59/-7.99	-6.98/-6.47	-10.93/-9.45	-11.01/-11.96	-10.65/-8.4	-6.99/-11.3	-8.1/-7.01	-7.44/-11.02	-11.3/-7.83	-5.36/-9.74	-6.98/-9.15	-8.12/-7.61	-7.47/-11.53	-9.78/-3.4	-5.83/-12.4	-10.69/-6.3	-9.52/-17.25	-14.85/-9.99
Θ (112.5°)	-9.72/-12.12	-6.95/-9.78	-11.31/-10.39	-6.06/-12.03	-7.22/-10.19	-9.99/-11.95	-12.71/-10.99	-10.85/-10.28	-11.03/-11.63	-13.76/-13.13	-9.81/-7.63	-9.36/-10.83	-6.74/-6.26	-12.08/-9.58	-9.67/-7.29	-4.83/-14.2	-7.76/-12.98	-6.75/-9.7	-7.54/-5.3	-5.11/-4.29	-6.69/-8	-3.88/-7.25	-12.96/-16.21	-14.97/-8.88
Θ (120°)	-7.27/-12	-8.77/-17.25	-9.73/-8.35	-10.95/-15.99	-10.51/-12.78	-8.58/-10.85	-11.61/-11.89	-8.25/-9.76	-10.02/-11.14	-14.77/-16.42	-14.87/-9.72	-10.65/-12.51	-6.88/-6.43	-13.48/-6.36	-9.24/-9.49	-7.55/-17.58	-7.46/-15.13	-14.24/-10.69	-11.45/-4.98	-8.96/-6.11	-3.85/-9.76	-9.34/-10.22	-11.83/-10.12	-13.69/-9.07
Θ (127.5°)	-9.34/-18.51	-19.35/-13.62	-11.51/-13.19	-13.94/-9.98	-10.82/-13.25	-12.04/-10.08	-9.47/-8.49	-9.22/-11.77	-13.78/-13.26	-16.21/-15.42	-15.28/-15.32	-16.32/-9.41	-7.19/-7.08	-8.87/-14.17	-8.58/-17.51	-9.47/-15.09	-18.74/-15.35	-18.67/-8.74	-7.49/-9.19	-8.03/-7.68	-8.23/-15.66	-11.05/-10.47	-15.89/-14.39	
Θ (135°)	-9.62/-16.16	-17.51/-16.53	-18.34/-18.62	-13.88/-10.5	-10.05/-11.66	-10.02/-12.46	-10.68/-12.17	-11.02/-9.38	-12.98/-18.1	-12.02/-15.7	-14.33/-14.6	-13.76/-9.38	-7.83/-8.3	-10.04/-9.99	-9.31/-9.58	-9.42/-14.6	-10.59/-18.25	-19.42/-12.44	-18.27/-10.93	-12.56/-9.24	-5.54/-13.74	-17.39/-9.84	-16.18/-16.69	
Θ (142.5°)	-13.71/-14.39	-13.03/-8.31	-11.69/-18.9	-10.51/-15.85	-15.1/-14.19	-11.2/-11.99	-12.27/-11.09	-10.1/-14.76	-15.28/-17.45	-18.33/-17.71	-18.54/-18.69	-15.26/-10.73	-8.62/-11.58	-12.87/-17.65	-9.06/-15.51	-11.24/-12.32	-15.92/-12.48	-18.29/-13.81	-14.92/-14.23	-12.69/-6.17	-11.79/-12.57	-18.05/-12.95	-8.8/-11.79	-17.67/-12.35
Θ (150°)	-11.51/-15.27	-19.1/-17.62	-12.86/-14.06	-10.65/-18.54	-12.61/-10.12	-12.36/-12.76	-15.71/-17.8	-14.54/-11.07	-13.65/-17.29	-16.98/-18.12	-15.78/-18.96	-11.62/-10.33	-10.13/-12.87	-18.94/-10.29	-18.01/-11.61	-12.68/-11.34	-19.37/-18.62	-19/-17.14	-19.18/-18.7	-14.86/-11.49	-12.54/-15.37	-18.25/-15.66	-11.89/-11.03	-18.83/-12.6
Θ (157.5°)	-16.51/-11.87	-17.26/-19.25	-18.18/-17.73	-18.34/-17.04	-14.58/-14.06	-15.53/-14.54	-13.46/-13.77	-13.76/-15.21	-16.51/-18.48	-17.21/-17.77	-15.72/-14.47	-13.81/-12.64	-14.67/-15.97	-13.1/-										



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

Θ(165°)	-9.03/-10.84	-13.4/-19.51	-17.7/-13.11	-10.78/-11.36	-16.49/-15.36	-12.27/-12.05	-12.45/-13.51	-15.79/-19.05	-18.39/-18.27	-17.87/-17.62	-16.3/-18.72	-18.53/-17.7	-19.1/-15.5	-13.09/-15.31	-19.12/-18.48	-15.82/-14.89	-18.99/-18.96	-18.4/-18.69	-18.63/-18.75	-18.81/-16.24	-18.92/-19.54	-10.71/-9.58	-13.39/-19.21	-12.18/-10.14
Θ(172.5°)	-19.35/-14.1	-11.65/-13.56	-14.89/-15.32	-14.87/-16	-14.49/-18.43	-18.41/-19.18	-18.49/-17.85	-18.72/-18.55	-19.09/-17.84	-18.81/-18.49	-18.68/-18.35	-18.42/-18.99	-16.53/-16.98	-17.85/-17.94	-19.04/-18.79	-19.34/-19.31	-16.64/-16.62	-18.6/-18.66	-18.44/-18.24	-18.72/-17.47	-14.88/-14.02	-13.35/-13.97	-14.08/-14.1	-14.27/-16.37
Θ(180°)	-15.01/-15.8	-12.84/-13.6	-16.07/-15.83	-15.61/-17.28	-18.74/-18.25	-17.78/-18.12	-19.69/-18.49	-19.29/-18.54	-18.31/-17.97	-17.48/-18.45	-17.04/-14.8	-12.89/-12.71	-13.8/-15.2	-14.59/-17.26	-18.87/-18.53	-18.72/-17.51	-17.99/-17.13	-16.12/-18.5	-18.97/-19.38	-17.61/-18.64	-17.85/-19.06	-18.62/-16.4		
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°)	-3.81/-2.3	-1.18/-0.58	0.31/0.9	0.89/1.5	0.94/0.53	0/0.54	-0.92/-1.69	-3.03/-5.21	-7.65/-10.28	-12.27/-13.91	-12.48/-9.16	-6.88/-5.73	-3.79/-2.54	-2.8/-2.16	-1.07/-0.27	0.02/0.06	-0.02/-0.08	-0.44/-0.34	-0.8/-1.34	-1.95/-3.29	-4.79/-6.47	-12.49/-12.1	-7.2/-5.94	
Θ(7.5°)	-3.81/-1.8	-0.83/-0.2	1.03/1.43	1.5/1.41	1.03/0.68	-0.15/-0.83	-2.28/-4.16	-7.81/-12.77	-18.81/-18.82	-14.35/-10.57	-9.11/-7.1	-5.36/-3.41	-2.1/-1.05	0.09/1.09	1.69/1.78	1.61/0.98	0.19/-0.9	-2.2/-3.97	-5.48/-6.41	-7.4/-9.04	-10.96/-11.97	-13.85/-15.97	-14.52/-11.84	-8.58/-6.19
Θ(15°)	-8.43/-6.33	-3.23/-1.21	-0.08/0.9	1.57/1.72	0.85/-0.98	-3.87/-1.15	-10.01/-9.74	-6.02/-3.44	-1.55/-1.05	-1.89/-2.56	-2.97/-3.5	-2.52/-2.05	-3.13/-4.8	-7.94/-5.12	-1.22/-1.1	2.33/2.54	2.5/1.98	1.17/-0.13	-1.21/-1.62	-2.73/-4.79	-8/-13.94	-18.01/-18.34	-17.67/-17.89	-18.89/-12.17
Θ(22.5°)	-5.84/-4.2	-4.15/-5.15	-5.04/-2.49	-0.41/0.13	-0.82/-4.22	-11.58/-7.35	-3.64/-2.47	-2.45/-2.85	-2.98/-2.62	-2.83/-3.73	-3.42/-3.49	-3.74/-1.2	0.56/0.17	-3.16/-6.83	-5.28/-1.99	-0.75/-0.75	-0.93/-2.19	-3.05/-4.42	-5.48/-5.75	-6.99/-10.1	-18.61/-18.55	-12.34/-9.17	-7.31/-6.98	-8.68/-8.49
Θ(30°)	-6.71/-3.94	-3.05/-7.74	-5.21/-1.21	-0.58/-1.68	-4.79/-9.67	-5.46/-1.32	0.26/0.3	-2.33/-2.59	-2.53/-3.74	-4.64/-4.28	-3.47/-2.98	-2.58/-3.13	-2.64/-1.07	0.13/-1.02	-4.56/-5.85	-3.82/-3.53	-4.07/-7.58	-6.9/-4.31	-3.57/-7.06	-7.37/-6.15	-6.57/-6.8	-7.58/-7.98	-2.83/-0.58	-3.05/-5.73
Θ(37.5°)	-4.13/-1.27	0/-5.48	-5.25/0.51	-0.83/-9.57	-8.07/-9.25	-4.49/-2	-2.6/-2.86	-3.95/-3.01	-3.33/-5.14	-6.98/-7.13	-5.93/-6.87	-4.86/-5.35	-5.41/-6.99	-4.33/-4.73	-2.57/-3.04	-8.18/-2.07	-2.35/-6.41	-2.02/0.22	0.37/-1.27	-1.31/-3.27	-2.9/-0.55	0.99/0.38	-3.05/-8.51	-6.23/-4.33
Θ(45°)	-7.11/-3.54	-2.22/-2.05	-10.59/1.11	-4.27/-7.96	-4.68/-7.22	-8.73/-5.14	-10.15/-12.61	-6.39/-3.54	-10.15/-12.61	-6.53/-3.31	-2.87/-5.33	-10.11/-4.74	-6.63/-3.15	-1.68/-6.83	-2.55/-1.3	-5.9/-0.06	-1.19/-3.83	-0.08/0.91	1.22/-0.95	0.05/-1.12	0.31/0.64	1.17/1.18	-6.2/-11.35	
Θ(52.5°)	-8.31/-0.51	-3.59/-1.21	-7.12/-0.42	-4.91/-5.7	-1.85/-5.68	-7.97/-2.93	-4.54/-6.87	-11.3/-17.65	-18.73/-18.98	-6.17/-2.78	-3.23/-5.81	-7.41/-4.3	-7.64/-5.55	-2.87/-7.16	-0.51/-1.32	-3.89/0.48	-0.52/-1.95	1.67/3.11	3.99/3.47	3.08/2.17	-0.04/-3.98	-1.43/-1.27	-0.78/-0.17	-3.43/-9.56
Θ(60°)	-9.08/-2.17	-3.29/-5.88	-3.4/-1.51	-3.57/-1.3	0.32/-3.68	-3.97/-0.47	-1.22/-6.67	-4.32/-3.75	-11.59/-13.01	-7.28/-2.31	-3.79/-3.19	-6.53/-5.17	-8.2/-6.63	-4.01/-5.88	-3.74/-2.88	-3.4/-1.4	-1.19/-5.44	-0.21/1.18	2.85/3.33	2.07/1	-0.3/-0.46	0.81/0.65	1.14/0.87	4.04/-6
Θ(67.5°)	-5.14/-4.44	-1.41/-3.09	-3.64/-1.89	-4.09/-0.8	1/2.7	-0.42/0.96	-0.29/-2.41	-3.04/-2.25	-5.66/-4.97	-4.95/-3.53	-3.71/-1.79	-3.89/-3.38	-7.05/-4.95	-3.21/-3.54	-7.46/-6.79	-1.98/-1.76	-4.06/-2.08	0.04/1.19	1.51/2.49	1.63/-2.83	-6.45/-1.59	-2.68/-2.34	1.09/0.44	-1.69/-2.35
Θ(75°)	-3.02/-2.57	-0.42/-6.67	-3.74/-2.34	-5.61/-1.26	-0.12/-0.73	-0.21/-0.29	-0.26/-4.7	-4.49/-2.51	-1.28/-1.75	-2.62/-5.44	-8.42/-1.74	-5.09/-2.74	-4.78/-4.25	-3.03/-3.71	-7.22/-6.98	-2.87/0.35	-4.77/-1.31	1.35/2.23	0.432/83	3.49/-0.13	-1.12/-0.41	-1.67/1.93	-0.21/-1.91	-1.25/-1.25
Θ(82.5°)	-3.89/-4.19	-1.81/-5.26	-4.14/-1.21	-7.48/-2.91	-3.88/-0.71	-1.28/0.63	-0.06/-3.65	-3.06/-4.09	-0.36/-1.99	-2.9/-9.61	-8.76/-5.16	-6.63/-2.3	-6.24/-6.93	-4.14/-5.53	-10.1/-5.52	-3.05/0.58	-8.3/-2.63	2.12/2.63	-0.09/0.09	3.94/2.3	1.44/0.7	-1.55/0.46	-1.55/-6.19	-1.48/-2.19
Θ(90°)	-7.26/-4.24	-5.86/-5.35	-4.38/-2.94	-1.14/-2.31	-4.46/-4.88	-0.71/-0.63	-3.06/-3.43	-3.06/-3.43	-5.25/-9.14	-10.11/-6.7	-11.13/-3.17	-6.69/-4.74	-7.73/-6.97	-8.61/-6.26	-8.14/0.23	-10.72/-7.64	0.61/8.2	-0.71/1.6	2.98/2.79	0.85/-0.06	-1.38/-3.05	-2.47/-10.55	-2.57/-5.53	
Θ(97.5°)	-9.99/-2.74	-8.45/-6.63	-5.91/-3.73	-10.5/-5.46	-3.85/-8.72	-1.33/-3.15	-4.04/-9.56	-5.17/-4.02	-3.75/-6.21	-8.37/-11.48	-6.2/-9.17	-9.69/-5.1	-6.92/-6.1	-10.2/-9.41	-7.94/-7.73	-7.35/-3.22	-9.62/-15.71	-2.9/-2.2	-3.45/-2.59	0.48/0.3	-1.33/-4.96	-3.64/-4.83	-4.73/-11.19	-6.34/-7.9
Θ(105°)	-8.73/-6.48	-8.14/-14.01	-7.2/-7.49	-14.1/-6.54	-6.51/-5.35	-5.56/-5.23	-4.85/-1.23	-5.57/-6.37	-4.86/-6.97	-10.88/-16.68	-9.16/-16.72	-10.28/-5.2	-11.22/-8.5	-13.78/-8.63	-10.32/-15.32	-11.48/-6.48	-11.85/-16.76	-7.04/-6.76	-9/-13.1	-4.66/-5.81	-5.97/-9.28	-7.51/-5.92	-7.53/-10.55	-13.47/-10.75
Θ(112.5°)	-10.16/-7.11	-9.71/-16.21	-10.72/-9.05	-17.46/-8.92	-8.85/-7.77	-5.24/-9.73	-9.71/-16.1	-12.92/-6.54	-9.65/-9.04	-10.89/-16.58	-9.34/-9.68	-12.77/-9.94	-8.28/-11.5	-13.61/-10.45	-13.61/-10.45	-12.27/-14.57	-5.92/-8.88	-6.66/-5.87	-3.65/-3.97	-7.39/-4.68	-8.58/-6.83	-8.85/-17.55	-10.79/-18.7	
Θ(120°)	-8.41/-8.51	-11.87/-16.53	-13.97/-11.63	-12.22/-7.82	-7.33/-13.26	-7.07/-8.17	-9.39/-13.27	-7.61/-5.23	-8.77/-8	-12.55/-11.86	-17.97/-14.42	-11.55/-9.15	-12.58/-6.37	-8.53/-14.8	-16.59/-18.64	-13.75/-14.31	-10.49/-9.62	-12.72/-12.02	-8.75/-7.6	-9.31/-8	-5.02/-11.15	-8.71/-7.42	-14.64/-13.53	-14.16/-10.01
Θ(127.5°)	-11.87/-10.98	-17.83/-18.2	-13.39/-14.93	-12.04/-9.6	-10.41/-7.09	-8.41/-12.26	-11.83/-14.16	-12.58/-7.97	-8.06/-7.68	-11.26/-18.18	-17.14/-15.1	-14.95/-10.18	-12.66/-13.6	-17.74/-16.2	-16.14/-14.75	-18.76/-10.18	-10.57/-18.62	-15.94/-11.44	-6.51/-7.42	-8.39/-8.9	-11.18/-11.56	-11.59/-15.87	-17.83/-13.22	
Θ(135°)	-16.24/-10.54	-14.26/-14.26	-18.3/-11.94	-13.02/-1.12	-10.9/-8.94	-8.42/-9.9	-8.37/-14.8	-8.62/-8.88	-5.7/-9.45	-18.7/-18.2	-17.71/-18.74	-18.52/-13.28	-9.51/-9.08	-9.51/-19.2	-17.92/-10.83	-15.87/-9.68	-15.21/-16.06	-9.83/-13.62	-10.54/-11.47	-5.06/-4.74	-11.92/-9.91	-18.73/-18.22	-16.73/-13.25	-18.08/-9.3
Θ(142.5°)	-12.49/-12.02	-12.4/-13.87	-17.66/-12.91	-16.94/-10.29	-9.42/-9.3	-13.74/-11.82	-10.32/-12.92	-11.61/-10.24	-12.52/-11.76	-10.55/-13.08	-18.56/-18.9	-15.74/-19.17	-13.33/-10.46	-13.65/-18.11	-17.7/-12.52	-16.84/-12.89	-16.46/-17.87	-19.09/-15.88	-15.1/-18.94	-16.1/-5.63	-12.66/-16.2	-16.25/-13.13	-16.45/-12.16	-17.06/-15.23
Θ(150°)	-12.27/-18.61	-17.83/-13.4	-17.63/-11.62	-14.53/-10.3	-12.91/-14.64	-10.31/-11.54	-10.62/-17.97	-15.32/-10.12	-8.58/-9.95	-14.24/-18.42	-17.09/-19.12	-18.62/-18	-19.01/-11.54	-13.32/-17.87	-17.45/-17.81	-17.91/-18.03	-18.84/-17.2	-18.53/-17.02	-16.36/-16.78	-12.14/-9.94	-12.43/-18.66	-19.68/-15.93	-9.97/-12.22	-18.9/-10.13
Θ(157.5°)	-16.92/-16.14	-11.47/-14.69	-15.91/-12.92	-13.33/-10.41	-11.32/-14.99	-13.51/-12.91	-16.27/-15.36	-13.68/-12.75	-15.09/-13.24	-13.29/-15.22	-18.61/-17.65	-18.19/-14.72	-12.22/-12.65	-16.03/-17.87	-18.39/-18.5	-18.87/-18.79	-19.27/-16.78	-17.09/-13.05	-17.77/-18.77	-18.48/-17.48	-16.28/-18.37	-18.53/-18.12	-17.4/-12.88	-17.21/-19.1
Θ(165°)	-16.29/-19.23	-18.85/-18.99	-17.54/-15.48	-15.52/-17.35	-18.64/-17.32	-18.56/-14.06	-13.46/-14.54	-16.1/-18.58	-15.4/-15.53	-14.59/-13.33	-12.85/-14.83	-18.07/-19.46	-19.23/-17.98	-18.8/-14.13	-13.42/-18.91	-17.94/-17.8	-18.07/-19.1	-17.87/-18.63	-18.03/-17.97	-19.07/-18.73	-18.25/-12.73	-9.68/-10	-15.85/-19.01	-13.74/-13.82
Θ(172.5°)	-19.08/-17.26	-17.78/-15.68	-14.39/-17.16	-18.77/-16.34	-13.22/-11.16	-10.5/-10.39	-10.54/-11.57	-14.11/-17.3	-19.86/-18.63	-18.33/-17.68	-18.85/-19.24	-17.51/-16.18	-18.15/-16.67	-16.68/-17.78	-18.46/-17.69	-17.14/-17.02	-18.59/-17.5	-18.49/-18.71	-18.47/-16.47	-17.78/-17.39	-18.54/-18.38	-17.06/-15.33	-15.79/-17.98	-17.92/-18.43
Θ(180°)	-17.19/-17.44	-19.15/-18.06	-19.13/-18.16	-18.58/-18.2	-18.44/-18.43	-18.27/-17.93	-18.59/-16.19	-13.89/-14.94	-15.05/-15.93	-18.41/-17.69	-17.67/-19.03	-18.64/-18.35	-18.3/-19.37	-18.61/-19.31	-18.1/-19.02	-19.05/-18.72	-18.69/-18.74	-15.68/-14.64	-13.95/-12.85	-13.44/-13.91	-13.98/-14.97	-16.17/-15.19	-14.87/-17.09	-17.08/-18.41
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°)	1.47/1.75	1.96/2.11	2.11/93	1.66/1.31	0.9/0.28	-0.63/-1.79	-3.22/-4.92	-7.52/-10.92	-12.52/-10.05	-7.18/-5.02	-3.58/-2.48	-1.44/-0.44	0.38/1.02	1.5/1.77	1.75/1.47	1.08/0.73	0.3/-0.34	-1.25/-2.26	-3.27/-4.23	-4.99/-5.43	-5.38/-4.76	-3.67/-2.31	-1.17/-0.28	0.46/1.07
Θ(7.5°)	1.37/1.62	1.71/65	1.40/97	0.52/0.08	0.29/-0.78	-1.38/-2.22	-3.07/3.96	-5/-5.89	-6.04/-5.4	-4.41/-3.29	-2.39/-1.73	-1.03/-0.16	0.68/1.44	1.99/2.26	2.27/2.05	1.73/1.32	0.65/-0.25	-1.44/-2.86	-4.54/-6.39	-8.23/-9.23	-8.59/-6.83	-4.85/-3.12	-1.7/-0.64	0.20/88
Θ(15°)	1.62/1.49	1.1/0.57	-0.14/-0.92	-1.54/-2.01	-2.31/-2.52	-2.8/-3.17	-3.51/-3.73	-3.89/-3.85	-3.4															



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

Θ(7.5°)	0.82/1.72	2.11/2.6	3.13/3.4	3.36/3.1	2.78/2.56	2.14/1.46	0.59/0.32	-1.68/-3.06	-4.74/-7.2	-9.11/-8.92	-7.36/-5.04	-2.82/-1.05	-0.07/0.45	1.04/1.68	2/1.98	0.93/1.26	0.91/0.57	0.19/-0.47	-1.39/-2.62	-4.09/-6.3	-8.65/-12.5	-14.99/-10.56	-7.68/-4.78	-2.24/-0.4
Θ(15°)	1.44/2.62	3.24/3.81	4.07/3.78	3.08/2.48	1.81/1.32	0.76/-0.04	-0.9/-1.94	-3.45/-5.18	-6.98/-8.46	-8.27/-1.35	-6.51/-5.98	-4.93/-3.3	-1.86/-0.94	0.02/0.67	1.38/-1.46	0.94/0.57	0.5/0.8	0.73/-0.2	-1.38/-2.56	-3.59/-5.07	-7.23/-9.23	-10.85/-10.5	-9.24/-6.27	-2.65/-0.17
Θ(22.5°)	-4.19/-2.18	-1.12/0.44	1.77/1.98	1.49/1.1	1.32/1.4	0.98/0.55	-0.40/-0.76	-2.85/-6.78	-13.47/-17.92	-14.49/-3.31	-7.16/-5.92	-4.63/-3.36	-2.1/-1.25	-0.81/-0.4	0.39/0.63	0.12/0.36	-0.12/0.8	1.25/1.03	-0.11/-1.75	-3.69/-6.11	-9.16/-14.36	-15.25/-13.75	-15.16/-14.42	-0.25/-6.73
Θ(30°)	-5.98/-5.67	-5.75/-3.78	-1.33/-0.69	-1.19/-1.18	-0.33/-0.11	-0.99/-1.69	-1.88/-2.6	-5.25/-8.85	-9.23/-7.85	-9.89/-18.86	-15.89/-11.35	-9.43/-7.05	-5.14/-3.92	-3.87/-4.36	-3.03/-0.38	1.25/-1.63	1.19/0.65	-0.16/-0.26	-0.37/-1.6	-4.51/-9.42	-13.12/-18.07	-18.37/-16.19	-16.92/-15.86	-11.96/-7.99
Θ(37.5°)	-11.17/-11.61	-13.34/-7.33	-3.59/-2.9	-4.7/-5.68	-4.86/-5.86	-8.32/-9.71	-10.27/-12.13	-13.61/-17.7	-18.01/-16.43	-13.75/-14.53	-19.14/-17.82	-10.8/-6.84	-4.74/-4.74	-6.21/-6.13	1.79/1.6	1.17/0.67	-0.08/0.82	0.71/-1.27	-3.29/-3.45	-2.65/-3.11	-5.13/-7.48	-11.91/-16.83	-18.41/-17.51	
Θ(45°)	-12.61/-15.97	-17.97/-14.33	-7.26/-0.07	-12.95/-12.11	-11.49/-17.07	-16.84/-13.93	-13.81/-11.76	-19.14/-17.08	-12.79/-11.14	-13.44/-16.37	-12.26/-17.89	-10.71/-11.96	-6.85/-5.13	-8.27/-9.95	-4.99/-0.72	1.11/1.42	1.56/1.47	0.06/-0.51	-0.59/-1.53	-2.58/-0.46	1.41/-1.5	0.63/-0.72	-4.9/-10	-12.44/-12.97
Θ(52.5°)	-12.24/-18.81	-19.26/-13.71	-11.44/-14.18	-17.19/-16.76	-16.54/-18.56	-16.74/-14.38	-10.64/-8.53	-14.21/-9.61	-9.45/-11.62	-12.13/-15.26	-18.4/-16.86	-11.05/-14.16	-8.43/-7.15	-10.73/-16.73	-7.15/-1.95	-0.29/0.49	0.87/0.49	-0.42/0.19	0.02/-0.34	-0.39/0.37	1.82/4.1	3.25/2.46	1.384/4.78	-7.83/-10.41
Θ(60°)	-7.25/-8.59	-9.31/-11.78	-15.31/-13.01	-11.47/-15.01	-13.68/-12.6	-16.2/-11.21	-8.08/-9.43	-15.75/-8.58	-5.21/-5.77	-8.46/-7.25	-11.01/-16.07	-12.17/-15.51	-17.95/-11.07	-13.06/-17.98	-10.82/-3.41	-2.1/-1.15	0.79/1.29	0.1/0.6	-0.12/-0.28	0.18/0.76	2.31/3.39	4.33/3.32	0.34/-2.05	-4.08/-5.9
Θ(67.5°)	-7.11/-4.7	-9.23/-17.02	-16.16/-9.09	-6.86/-7.58	-6.8/-8.25	-8.83/-4.57	-7.15/-7.25	-9.9/-6.19	-1.75/-1.89	-6.7/-3.6	-15.1/-18.01	-17.59/-18.71	-19.13/-18.75	-16.47/-17.99	-8.73/-4.39	-2.26/-2.15	0.99/1.58	-0.17/0.36	-0.09/0.36	0.24/0.96	2.53/3.34	3.65/2.31	0.21/-1.55	-2.76/-4.17
Θ(75°)	-2.71/-2.68	-9.29/-17.63	-12/-6.95	-3.88/-5.79	-5.35/-4.03	-4.22/-2.2	-5.6/-5.15	-6.87/-4.96	-2.84/-1.15	-4.73/-6.39	-9.82/-16.07	-16.09/-18.83	-15.27/-13.58	-18.87/-18.9	-11.43/-8.63	-2.56/-3.52	0.05/1.49	-0.55/0.53	0.3/0.24	0.39/0.47	1.16/1.91	1.84/1.84	0.64/-1.15	-1.65/-3.09
Θ(82.5°)	-2.99/-2.74	-13.3/-11.96	-9.71/-5.09	-2.6/-7.23	-6.13/-3.05	-3.43/-1.4	-4.9/-4.51	-7.99/-5.5	-5.48/-2.81	-5.37/-5.31	-8.96/-16.11	-17.38/-18.19	-11.65/-9.62	-18.29/-17.37	-11.12/-10.01	-2.06/-4.24	-0.06/0.44	-1.4/0.13	-0.2/-0.04	-0.59/0.39	0.05/0.83	0.79/1.57	1.3/-1.49	-1.23/-3.12
Θ(90°)	-3.79/-3.47	-13.93/-8.54	-10.11/-6.21	-2.56/-7.65	-5.58/-3.06	-4.31/-2.97	-7.06/-5.11	-9.57/-8.3	-6.69/-5.02	-5.72/-8.01	-9.88/-15.96	-17.52/-17.74	-14.32/-8.55	-18.29/-13.78	-12.2/-18.2	-2.56/-4.5	-1.62/-0.62	-2.87/-2.1	-1.92/-1.36	-0.65/-0.09	-0.97/-1.55	-0.76/0.25	0.59/-1.66	-1.41/-4.02
Θ(97.5°)	-5.04/-4	-14.03/-8.55	-8.26/-4.99	-4.02/-10.81	-7.24/-4.97	-6.71/-5.43	-9.43/-7.2	-13.76/-9.03	-8.38/-6.5	-8.29/-10.23	-16.62/-9.62	-17.53/-16.78	-9.25/-15.74	-12.9/-12.39	-10.75/-14.74	-4.29/-6.68	-3.59/-2.65	-5.9/-6.19	-5.06/-3.01	-2.01/-1.59	-2.62/-2.78	-0.97/-0.35	-0.27/-2.27	-1.47/-4.26
Θ(105°)	-5.93/-5.12	-12.15/-9.29	-9.07/-5.53	-5.68/-13.13	-8.11/-6.66	-8.99/-7.46	-10.73/-9.1	-15.1/-10.79	-8.94/-7.25	-9.6/-9.08	-16.46/-17.84	-10.85/-13.56	-13.29/-15.08	-17.98/-15.6	-12.94/-12	-7.4/-9.41	-7.62/-5.33	-8.87/-15.91	-10.38/-6.25	-3.58/-3.74	-3.92/-4.01	-1.67/-1.2	-2.14/-2.37	-2.24/-5.06
Θ(112.5°)	-9.04/-6.84	-14.11/-11.99	-8.54/-7.18	-6.99/-11.05	-9.88/-9.32	-8.1/-7.08	-8.65/-8.36	-12.06/-10.15	-9.8/-9.5	-8.82/-11.88	-11.28/-10.7	-17.86/-18.52	-9.98/-19.4	-11.87/-18.27	-12.95/-10.55	-9.32/-13.03	-9.08/-8.09	-10.89/-18.7	-10.87/-6.85	-5.15/-3.94	-5.73/-4.23	-3.49/-4.03	-3.43/-3.32	-2.54/-6.2
Θ(120°)	-6.73/-9.59	-12.4/-17.69	-11.4/-9.02	-8.87/-13.83	-12.93/-13.55	-10.86/-8.54	-11.51/-9.85	-9.69/-11.72	-10.58/-14.56	-11.82/-10.32	-12.54/-17.63	-19.51/-18.26	-18.37/-14.75	-19.07/-18.18	-18.07/-12.43	-10.59/-18.04	-7.94/-7.21	-10.57/-8.71	-5.42/-4.61	-4.55/-4.18	-5.76/-4.36	-2.86/-6.33	-8.14/-5.56	-5.21/-5.88
Θ(127.5°)	-6.99/-7.72	-9.6/-13.25	-13.9/-12.25	-13.06/-17.29	-19.35/-13.38	-7.32/-9.58	-15.75/-18.2	-17.96/-18.25	-18.45/-16.08	-14.5/-10.16	-12.06/-10.81	-18.08/-19.09	-16.85/-15.08	-19.72/-12.85	-13.58/-13.64	-11.89/-18.09	-9.15/-8.7	-13.89/-17.8	-6.59/-3.74	-5.53/-5.71	-10.84/-3.82	-2.56/-2.55	-1.86/-7.1	-8.25/-9.67
Θ(135°)	-7.66/-6.11	-14.35/-19.06	-18.28/-18.89	-17.72/-18.66	-12.65/-12.91	-12.01/-11.52	-14.9/-12.42	-13.99/-18	-16.8/-12.64	-18.71/-19.31	-18.29/-18.82	-18.06/-18.64	-17.56/-13.97	-10.66/-9.85	-9.77/-9.58	-15.44/-14.12	-9.43/-4.97	-6.22/-10.82	-15.16/-5.29	-18.4/-5.9	-16.29/-10.93	-8.96/-10.83		
Θ(142.5°)	-6.57/-5.25	-7.64/-13.53	-15.49/-17.4	-18.42/-18.96	-19.14/-16.16	-12.47/-13.61	-13.21/-12.45	-14.52/-17.47	-17.85/-16.42	-15.26/-17.12	-17.3/-12.88	-12.92/-18.28	-14/-13.82	-18.04/-14.48	-11.13/-18.98	-18.67/-8.31	-7.19/-8.37	-13.46/-9.83	-6.99/-5.79	-6.76/-14.51	-12.27/-13.47	-9.6/-13.24	-18.11/-14.49	-8.69/-6.79
Θ(150°)	-8.78/-6.92	-5.49/-8	-13.77/-12.79	-10.43/-10.48	-12.53/-14.12	-16.38/-18.43	-16.88/-13.22	-12.11/-13.77	-14.61/-12.99	-12.94/-15.26	-16.01/-13.59	-18.94/-19.4	-19.01/-19.23	-16.03/-12.88	-17.21/-17.93	-18.05/-14.73	-13.71/-13.35	-15.83/-14.91	-12.85/-13.06	-14.31/-18.34	-15.92/-16.23	-18.26/-16.08	-19.05/-18.83	-12.38/-6.64
Θ(157.5°)	-11.46/-11.43	-13.56/-16.17	-18.06/-18.33	-17.85/-19	-17.28/-16.5	-14.92/-13.83	-12.97/-11.48	-12.61/-16.63	-18.04/-18.09	-15.64/-17.73	-16.46/-17.33	-14.93/-12.96	-14.4/-17.46	-18.38/-17.55	-18.27/-17.13	-19.07/-18.81	-18.98/-18.87	-18.11/-18.15	-18.33/-19.16	-19.39/-18.33	-19.21/-18.78	-19.27/-18.06	-18.47/-15.53	
Θ(165°)	-10.22/-10.06	-11.08/-13.84	-17.36/-17.42	-18.63/-15.56	-13.59/-13.38	-13.35/-15.27	-19.41/-17.9	-17.98/-18.15	-17.53/-17.18	-13.53/-11.83	-11.99/-14.86	-18.96/-18.15	-18.59/-18.09	-17.98/-15.6	-12.94/-12	-12.94/-17.17	-17.77/-17.42	-16.04/-13.87	-12.64/-14	-16.48/-18.19	-18.11/-16.59	-14.33/-10.8		
Θ(172.5°)	-11.46/-11.77	-12.42/-12.9	-15.24/-19.35	-19.04/-18.94	-14.79/-11.98	-10.73/-10.53	-11.22/-12.05	-12.57/-13.43	-16.37/-18.78	-17.42/-17.38	-19.25/-18.69	-18.23/-18.23	-18.49/-18.86	-18.64/-17.82	-17.97/-18.17	-17.76/-13.9	-11.06/-10.46	-9.92/-9.58	-9.42/-8.78	-8.77/-9.54	-10.21/-12.01	-13.69/-16.91	-17.77/-19.02	-16.29/-12.64
Θ(180°)	-12.3/-12.48	-12.54/-14.48	-15.72/-18.17	-19.02/-18.54	-18.52/-18.36	-18.76/-18.23	-18.82/-18.94	-19.07/-17.87	-19.17/-18.93	-18.36/-19.16	-18.3/-18.45	-18.64/-16.15	-14.84/-15.48	-16.22/-15.86	-14.47/-12.94	-12.81/-12.99	-12.98/-12.6	-13.27/-14.17	-15.11/-17.13	-17.8/-18.64	-19.23/-17.98	-17.93/-18.13	-14.8/-13.45	-14.35/-12.93
Freq(Hz)	5.3GPol	PhiAnt.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Θ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	0.05/-0.27	-1.2/-2.52	-0.53/-5.59	-6.96/-7	-5.58/-387	-2.73/-1.63	-0.65/0.06	0.75/1.4	1.78/2.12	2.21/2.12	1.76/1.47	1.24/0.74	-0.07/-1.18	-3.12/-5.29	-8.02/-10.48	-11.93/-9.45	-5.98/-3.4	-1.43/0.05	1.15/2.15	2.87/3.41	3.75/3.88	3.77/3.49	3.23/2.99	2.41/-3.38
Θ(7.5°)	1.08/0.11	-1.36/-3.28	-5.93/-10.34	-13.73/-9.56	-6.51/-4.12	-2.3/-1.02	0.24/1.1	1.95/2.53	2.71/2.82	2.94/2.84	2.39/1.69	1.13/0.62	0.03/-1.48	-2.4/-3.07	-3.02/-3.42	-6.63/-5.32	-4.85/-3.55	-2.41/-1.14	0.18/1.15	2.05/2.67	3.18/3.58	3.71/3.64	3.24/3.17	3.03/2.15
Θ(15°)	0.14/-0.7	-2.32/-4.86	-9.41/-14.54	-8.89/-4.87	-2.78/-1.47	-0.55/0.08	0.52/0.97	1.78/2.3	2.49/2.4	2.59/2.78	2.95/2.92	2.71/0.44	0.88/-0.55	-1.95/-2.05	-1.16/-0.53	-0.62/-1.09	-2.02/-2.47	-2.33/-1.85	-0.93/0.1	1.07/1.78	2.36/2.79	2.85/2.53	2.02/1.67	1.22/0.9
Θ(22.5°)	1.34/0.97	-0.62/-2.96	-6.34/-13.35	-13.05/-8.09	-5.26/-3.32	-1.43/-0.7	-0.36/0.69	1.66/2.08	1.63/1.1	1.29/1.99	2.65/2.87	2.72/12	1.21/-0.14	-1.91/-3.05	-2.95/-2.17	-1.71/-1.27	-0.71/-0.26	-0.28/-0.64	-0.42/0.18	1.11/2.09	2.81/3	2.51/1.61	0.99/0.78	1.15/-1.41
Θ(30°)	1.16/0.6	-0.55/-2.53	-4.93/-7.69	-10.55/-10.22	-4.86/-5.91	-3.09/-1.24	-0.14/0.38	2.43/2.72	2.13/1.1	1.39/2.04	2.83/0.2	2.88/2.44	1.04/-1.16	-3.96/-5.85	-6.61/-5.65	-4.55/-2.79	0.11/1.53	1.12/0.42	0.91/0.76	0.13/-0.28	-0.01/-0.41	-1.67/-2.2	-1.06/0.03	0.51/1.5
Θ(37.5°)	-0.63/-0.5	-0.69/-2.08	-3.95/-4.94	-5.73/-6.79	-6.71/-5.39	-3.8/-1.98	-0.69/-0.02	0.92/1.63	1.84/2.04	1.58/1.2	1.86/2.33	2.27/2.66	2.29/-0.71	-6.15/-9.36	-6.96/-5.76	-5.94/-5.46	-1.9/-0.08	-0.21/0.04	0.61/-0.59	-2.64/-4.11	-4.6/-5.07	-5.66/-5.14	-3.11/-1.6	-1.24/-0.79
Θ(45°)	-2.44/-1.14	-1.19/-1.83	-4.38/-7.66	-9.67/-10.64	-8.3/-5.37	-4.96/-3.55	-1.35/-1.08	0.34/2.11	2.11/2.24	1.5/-0.31	1.13/3.17	2.55/-1.54	0.72/-1.36	-4.57/-9.64	-6.73/-5.71	-6.04/-5.46	-4.77/-1.83	-0.7/0.13	-0.27/-2.67	-5.58/-5.61	-7.84/-10.51	-9.24/-6.97	-5.95/-4.74	-4.34/-3.99
Θ(52.5°)	-5.36/-2.65	-2.26/-2.53	-3.35/-6.72	-9.69/-10.32	-8.93/-4.65	-3.38/-3.47	-1.34/-2.04	-0.89/-0.17	-0.56/0.95	0.47/-2.31	-0.54/-1.55	1.23/0.79	-0.56/-1.05	-4.41/-15.15	-5.16/-4.2	-6.68/-6.25	-6.41/-6.04	-4.63/-2.69	-3.9/-5.77	-9.09/-10.81	-15.11/-14.31	-17.78/-7.77	-11.9/-8.99	-7.78/-4.44
Θ(60°)	-7.85/-4.34	-3.38/-5.63	-7.78/-9.4	-8.85/-8.74	-6.62/-5.1	-3.0																		



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

Θ(52°)	-7.32/2.65	-0.97/-0.17	-0.59/-2.94	-3.94/-5.78	-10.42/-8.35	-5.94/-5.8	-7.47/-6.43	-8.55/-9.61	-4.48/-4.95	-11.92/-19.87	-14.28/-12.62	-2.75/0.48	1.79/-0.62	-4.48/-2.77	-1.86/-3.04	-3.91/-3.77	-2.41/-2.77	-3.08/-3.42	-3.16/-0.73	0.18/1.5	1.3/-0.53	0.53/0.68	-2.5/-7.1	-7.8/-7.69
Θ(60°)	-3.66/-1.27	-1.18/-0.61	-2.56/-4.38	-8.66/-16.21	-18.69/-14.75	-9.31/-7.55	-10.25/-5.88	-4.99/-5.54	-2.85/-2.49	-9.3/-7.88	-11.24/-6.73	-4.83/-4.1	-1.78/-0.99	-4.43/-3.75	-1.98/-5.59	-7.12/-3.39	-1.81/-2.12	-1.96/-0.51	-0.16/0.3	1.46/2.72	2.66/-0.76	-0.26/0.69	0.41/-2.73	-3.78/-3.93
Θ(67.5°)	-2.92/-1.26	-2.05/-2.33	-6.89/-8.43	-12.76/-11.72	-13.5/-17.52	-10.39/-18.17	-11.74/-5.21	-2.45/-2.23	-0.84/-1.23	-4.05/-4.63	-9.72/-6.13	-6.03/-10.47	-10.75/-4.52	-3.83/-5.01	-2.16/-3.84	-15.1/-3.1	0.49/-0.48	-0.37/0.87	1.45/1.42	1.36/2.77	-0.20/-0.51	0.41/1.67	1.59/-1.14	-2.14/-1.67
Θ(75°)	-3.03/-1.73	-3.26/-5.18	-10.9/-9.02	-18.11/-7.95	-4.99/-6.38	-4.56/-6.69	-6.26/-4.56	-1.57/-1.78	-0.08/0.17	-0.71/-7.49	-6.97/-7.32	-5.95/-7.52	-9.75/-13.56	-2.22/-6.49	-3.96/-3.58	-8.83/-4.53	0.7/0.42	-0.09/0.75	1.78/1.12	1.01/2.58	2.01/-0.15	0.69/1.8	1.47/-1.41	-1.86/-1.13
Θ(82.5°)	-3.19/-3.54	-5.59/-8.39	-9.14/-5.28	-11.12/-7.66	-3/-3.48	-1.58/-3.72	-4.66/-4.76	-2.5/-2.38	0.55/-0.42	-1.26/-4.69	-5.39/-4.9	-4.61/-5.77	-8.32/-15.88	-2.57/-6.7	-8.13/-4.55	-11.04/-4.2	-1.16/0.86	1.65/1.24	0.79/2.2	0.93/-1.07	-0.96/-1.02	0.61/-2.78	-1.36/-1.99	
Θ(90°)	-4.71/-6.15	-6.17/-3.74	-6.53/-3.78	-7.65/-8.09	-3.68/-3.93	-1.27/-2.43	-4.42/-6.94	-4.73/-3.72	-0.43/-1.08	-1.49/-3.76	-4.26/-6.29	-6.28/-5.15	-6.29/-8.1	-5.44/-4.24	-11.61/-9.47	-7.6/-8.81	-2.75/-3.41	-3.18/-0.59	1.19/-0.03	-0.98/0.89	-0.71/-1.91	-2.27/-0.16	0.06/-4.03	-1.35/-3.35
Θ(97.5°)	-3.97/-6.63	-5.76/-7.8	-5.79/-3.79	-9.14/-8.97	-5.54/-5.56	-3.32/-4.41	-5.81/-8.58	-6.41/-5.38	-2.48/-4.24	-3.23/-5.33	-7.87/-13.9	-8.9/-6.61	-4.93/-11.44	-7.34/-7.98	-15.3/-14.67	-10.89/-12.43	-3.84/-6.62	-7.4/-3.44	-1.69/-2.47	-3.07/-1	-3.05/-3.72	-3.17/-0.74	-0.91/-5.35	-1.63/-4.43
Θ(105°)	-4.96/-6.67	-5.07/-5.71	-6.2/-6.81	-10.76/-9	-8.85/-10.79	-5.58/-3.94	-5.3/-7.56	-9.65/-7.02	-5.63/-9.75	-7.18/-8.04	-6.6/-7.8	-13.65/-10.8	-6.16/-11.01	-17.11/-14.14	-18.48/-16.67	-13.6/-17.6	-7.37/-6.51	-7.31/-7.89	-5.93/-6.01	-6.3/-3.82	-4.99/-5.83	-3.62/-2.55	-2.37/-4.5	-2.59/-4.57
Θ(112.5°)	-7.45/-5.21	-3.93/-7.06	-9.34/-8.19	-8.47/-13.31	-17.31/-12.33	-9.11/-5.95	-7.52/-9.44	-17.76/-18.05	-9.48/-9.85	-6.14/-7.33	-8.15/-10.04	-13.71/-15.86	-12.02/-12.66	-18.61/-15.98	-17.63/-12.28	-13.49/-12.98	-3.8/-5.8	-6.7/-1.9	-6.34/-6.22	-4.29/-4.35	-6.12/-9.21	-5.21/-1.98	-3.88/-3.94	-4.24/-6.54
Θ(120°)	-8.61/-5.09	-5.35/-8.41	-9.71/-10.44	-8.06/-15.37	-18.54/-19.65	-10.63/-6.95	-6.79/-6.51	-12.21/-14	-7.84/-6.06	-7.29/-11.53	-13.27/-18.89	-18.68/-14.09	-14.77/-9.41	-13.63/-14.27	-14.53/-12.07	-17.37/-12.29	-9.83/-8.37	-10.52/-15.12	-8.11/-4.69	-4.2/-5.56	-5.23/-6.37	-5.32/-3.36	-4.9/-3.71	-5.87/-7.11
Θ(127.5°)	-5.69/-6.19	-5.51/-12.33	-10.51/-8.87	-11.18/-14.71	-18.18/-9	-18.87/-17.16	-13.77/-10.24	-11.16/-18.2	-3.4/-7.81	-10.78/-8.39	-6.02/-10.1	-16.21/-11.29	-10.25/-18.81	-17.94/-16.24	-12.58/-18.49	-19.06/-17.24	-7.52/-12.53	-16.25/-7.95	-6.31/-4.58	-7.61/-9.26	-8.2/-5.88	-1.57/-3.58	-10.77/-15.84	-9.13/-11.54
Θ(135°)	-7.39/-6.59	-8.21/-9.57	-15.57/-12.3	-12.9/-14.4	-14.73/-15.22	-13.5/-13.25	-14.98/-17.04	-18.16/-18.72	-18.36/-12.26	-15.58/-6.61	-3.84/-7.48	-12.45/-17.86	-17.5/-17.84	-18.23/-16.67	-7.09/-19.05	-13.1/-10.69	-8.34/-7.41	-12.58/-13.26	-7.8/-4.19	-5.59/-6.61	-6.12/-9.21	-16.93/-2.64	-16.93/-9.38	-12.8/-15.82
Θ(142.5°)	-8.21/-3.97	-7.56/-11.3	-11.56/-14.73	-14.96/-12.98	-14.01/-11.42	-8.66/-9.3	-10.76/-10.63	-14.55/-17.39	-19.31/-13.39	-13.91/-16.39	-16.53/-17.91	-14.63/-15.24	-18.81/-19.01	-15.58/-13.14	-11.24/-12.58	-12/-7.19	-7.82/-7.19	-14.15/-15.82	-9.07/-4.34	-4.63/-7.64	-10.16/-7.06	-4.28/-7.66	-15.28/-11.42	-13.39/-14.99
Θ(150°)	-9.01/-6.17	-5.73/-7.69	-10.01/-13.06	-15.89/-16.78	-14.74/-12.92	-11.7/-10.01	-9.43/-10.2	-13.86/-17.29	-13.66/-11.84	-10.53/-16.24	-18.49/-15.96	-12.2/-14.61	-13.83/-11.93	-12.73/-13.1	-18.43/-18.44	-18.65/-16.93	-9.58/-9.64	-17.28/-11.04	-8.32/-6.69	-7.35/-12.08	-10.13/-8.64	-10.67/-19.23	-14.79/-13.07	-16.61/-11.29
Θ(157.5°)	-10.6/-8.23	-5.94/-5.33	-6.95/-8.67	-8.8/-11.71	-13.34/-13.82	-15.61/-17.34	-12.57/-10.78	-12.31/-16.5	-15.32/-14.5	-18.43/-18.4	-15.31/-13.13	-14.94/-16.7	-19.13/-18.02	-18.35/-18.04	-18.17/-18.81	-18.91/-17.78	-16.68/-17.49	-12.64/-7.98	-7.44/-10.42	-15.08/-17.75	-14.39/-12.85	-11.39/-13.34	-17.43/-14.92	
Θ(165°)	-11/-8.49	-8.18/-9.38	-8.68/-9.33	-12.52/-14.82	-18.87/-17.99	-18.39/-18.37	-15.3/-14.32	-15.04/-16.86	-19.77/-18.56	-18.43/-15.65	-14.16/-14.97	-19.96/-18.6	-17.54/-17.7	-15.3/-13.08	-11.96/-11.43	-12.82/-15.29	-16.53/-17.51	-18.14/-17.73	-17.16/-19.22	-18.34/-18.14	-12.84/-10.11	-10.67/-13.15	-15.15/-18.87	-18.27/-15.36
Θ(172.5°)	-11.6/-15.04	-10.69/-9.73	-10.48/-12.47	-12.97/-14.4	-13.59/-11.52	-8.81/-8.04	-8.7/-9.9	-11.66/-13.39	-14.49/-15.06	-16.1/-18.73	-18.08/-18.49	-18.04/-17.78	-17.18/-18.97	-17.65/-15.9	-13.65/-13.75	-13.39/-12.98	-13.17/-12.52	-12.21/-11.25	-11.32/-10.68	-9.79/-8.57	-7.83/-8.33	-9.59/-11.29	-14.48/-18.3	-17.73/-14.4
Θ(180°)	-15.21/-14.14	-12.72/-12.16	-11.85/-12.23	-12.77/-13.49	-13.32/-14.09	-14.33/-14.88	-13.81/-12.35	-10.96/-10.58	-10.93/-11.9	-14.22/-16.45	-18.48/-18.28	-17.52/-17.88	-16.85/-16.32	-15.7/-15.2	-14.26/-12.69	-10.94/-9.75	-8.43/-7.63	-7.49/-7.47	-7.77/-8.5	-8.89/-9.43	-10.48/-12.85	-14.8/-16.1	-17.66/-18.29	-19.36/-17.64
Freq(Hz)	5.785GPol.	PhiAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-2.814-1.3	-5.13/-5.8	-6.55/-6.82	-6.52/-7.3	-4.79/-3.75	-2.97/-2.06	0.42/0.9	1.35/1.54	1.69/1.34	0.48/-0.34	1.69/1.34	0.48/-0.34	1.69/1.34	0.48/-0.34	1.69/1.34	0.48/-0.34	1.69/1.34	0.48/-0.34	1.69/1.34	0.48/-0.34	1.69/1.34	0.48/-0.34	1.69/1.34	0.48/-0.34
Θ(7.5°)	-2.15/-3.43	-5.06/-6.97	-7.78/-6.77	-4.61/-2.73	-1.41/-0.5	0.28/0.84	1.26/1.72	1.85/1.66	1.57/1.37	0.86/0.28	-0.05/-0.29	-0.98/-1.45	-1.62/-1.74	-1.63/-2.25	-3.93/-4.51	-4.78/-4.76	-4.06/-3.06	-1.96/-0.85	0.24/1.03	1.73/2.19	2.29/2.38	2.14/1.69	1.32/0.51	-0.53/-1.01
Θ(15°)	0.32/0.34	-0.38/-2.77	-6.08/-9.41	-7.93/-5.41	-2/-0.53	0.98/2.29	2.95/3.15	2.78/2.41	2.36/2.41	2.26/2.1	1.81/2.4	0.13/-1.38	-1.98/-2	-2.55/-4.2	-5.23/-8.29	-10.51/-9.4	-6.43/-2.72	-0.21/-1.6	2.52/2.85	2.92/2.88	2.75/2.43	1.84/1.27	0.85/0.52	
Θ(22.5°)	0.86/0.33	0.01/-1.23	-4.39/-9.97	-13.41/-7.89	-4.31/-2.09	-0.15/-1.3	1.77/1.87	1.51/1.24	1.59/1.99	2.38/2.6	2.61/2.48	-0.86/-2.19	-2.59/-3.05	-4.31/-4.87	-6.26/-7.98	-8.25/-7.06	-5.08/-12.8	-0.05/1.03	0.97/0.34	-0.26/-1.04	0.62/1.09	1.37/1.42	1.24/1.07	
Θ(30°)	0.65/0.93	-0.59/-3.95	-8.11/-12.42	-19.72/-16.26	-9.26/-4.98	-2.25/-0.5	0.46/1.22	1.68/1.77	1.53/1.07	0.91/4.7	2.35/2.66	2.27/1.03	-1.08/-3.44	-4.74/-5.31	-6/-6.22	-4.74/-2.47	-1.89/-2.71	-2.7/-1.81	-1.21/-0.78	-0.39/-0.84	-1.63/-1.8	-1.26/-0.46	0.04/-0.56	-0.86/-0.06
Θ(37.5°)	-2.61/-1.17	-1.87/-4.93	-8.04/-10.08	-9.98/-3.85	-6.26/-4.4	-2.15/-0.21	0.94/1.81	1.98/1.17	0.91/1.2	1.66/2.32	2.44/1.77	1.09/0.25	-3.64/-12.51	-7.59/-1.48	-3.66/-4.1	-5.39/-2.48	-1.31/-2.34	-1.53/-1.07	-1.46/-0.41	0.02/-1.21	-2.98/-0.47	-3.84/-1.29	0.61/0.33	-1.6/-3.2
Θ(45°)	-1.62/-3.32	-7.77/-4.29	-5.34/-7.98	-8.04/-8.84	-8.27/-5.05	-2.89/-0.57	1/1.41	1.72/1.69	2.54/2.41	1.42/1.75	2.86/2.7	1.51/98	0.37/-7.74	-12.46/-2.64	-0.99/-1.4	-1.93/-4.99	-3.21/-3.55	-2.55/-2.28	-2.28/-3.6	-1.41/-4.41	-4.69/-2.87	-0.85/-0.21	-1.25/-2.03	
Θ(52.5°)	-3.87/-2.77	-3.92/-4.49	-7.63/-13.6	-12.99/-11.25	-7.63/-4.63	-3.5/-1.26	-0.52/-0.42	-0.04/0.3	2.11/1.73	0.18/0.79	2.72/2.71	1.11/-0.49	-4.13/-8.89	-11.3/-2.32	-1.19/-4.41	-3.43/-6.57	-5.71/-3.88	-3.61/-2.83	-5.11/-4.6	-4.87/-4.61	-4.65/-4.69	-4.36/-3.14	-0.48/-0.33	-2.22/-4.74
Θ(60°)	-5.41/-4.42	-3.13/-4.06	-9.8/-18.15	-13.91/-11.03	-6.19/-3.23	-3.75/-2.09	-1.09/-1.31	-2.48/-1.04	0.25/-0.26	-1.44/-2.74	-2.83/-1.28	-1.18/-1.67	-2.73/-6.21	-8.85/-8.03	-3.09/-3.95	-5.05/-4.27	-5.92/-7.84	-5.61/-4.32	-7.08/-7.96	-8.68/-6.78	-7.35/-5.16	-1.17/-4.8	-1.14/-0.15	-0.98/-4.3
Θ(67.5°)	-5.3/-4.71	-4.98/-6.02	-13.25/-18.03	-11.59/-7.22	-5.23/-2.14	-2.51/-1.41	-0.86/-1.74	-3.63/-0.76	-0.92/-3.01	-3.86/-5.88	-7.22/-3.27	-1.83/-1.2	0.95/-2.6	-6.5/-12.52	-5.89/-3.88	-5.09/-3.47	-4.84/-10.6	-4.78/-3.88	-8.37/-9.63	-10.19/-9.81	-10.08/-3.43	-2.77/-4.04	-1.01/-0.2	-2.61/-4.9
Θ(75°)	-4.79/-4.09	-6.89/-13.04	-12.85/-17.44	-12.59/-6.94	-5.41/-2.02	-2.96/-2.66	-1.46/-1.94	-2.42/-0.36	-1.87/-2.72	-3.67/-2.82	-2.56/-0.92	-0.35/0.12	0.44/-1.83	-5.62/-10.4	-19.09/-5.03	-4.69/-4.95	-2.49/-18.41	-6.97/-6.3	-11.84/-14.29	-9.02/-15.15	-9.04/-2.16	-1.29/-4.28	-1.84/-1.44	-3.83/-5.37
Θ(82.5°)	-5.49/-4.56	-8.29/-18.2	-17.93/-18.91	-12.34/-7.06	-8.14/-5.07	-6.24/-4.73	-3.15/-4.12	-2.24/-0.88	0.52/-2.62	-4.37/-2.8	-3.03/-0.86	-1.25/-3.2	-2.21/-3.45	-6.91/-13.7	-18.38/-5.04	-5.22/-4.16	-3.76/-14.83	-7.61/-11.25	-14.23/-13.4	-7.71/-14.95	-8.64/-2.76	-2.5/-5.15	-2.65/-3.24	-7.24/-7.04
Θ(90°)	-5.6/-7.1	-11.56/-18.59	-18.81/-15.95	-13.26/-7.65	-8.83/-7.18	-9.33/-7.99	-4.9/-6.67	-4.15/-3.5	-2.73/-4.2	-5.9/-5.11	-2.76/-4.68	-3.43/-5.68	-5/-8.03	-9.45/-12.59	-14.08/-11.3	-5.21/-5.28	-7.57/-18.21	-11.97/-14.52	-11.26/-9.17	-8.68/-12.47	-9.66/-5.8	-4.32/-5.44	-3.56/-5	-9.08/-7.46
Θ(97.5°)	-7.9/-9.98	-12.47/-19.19	-16.09/-19.01	-11.64/-10.88	-11.11/-7.6	-9.81/-11.38	-7.72/-10.14	-7.87/-6.15	-7.78/-4.15	-7.6/-6.46	-6.53/-9.83	-6.81/-7.37	-6.75/-11.46	-12.1/-12.94	-15.24/-13.32	-6.64/-9.23	-16.05/-17.5	-15.26/-17.4	-10.1/-8.5	-10.31/-12.62	-11.29/-8.27	-6.45/-6.4	-4.35/-6.1	-8.99/-10.15
Θ(105°)	-8.72/-7.81	-14.25/-17.44	-14.73/-17.89	-14.22/-11.36	-12.64/-10.55	-11.87/-15.49	-8.48/-9.88	-8.71/-9.98	-6.6/-4.68	-7.93/-8.49	-6.56/-11.77	-8.85/-6.77	-10											



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

Θ(105°)	-4.01/-4.2	-3.31/-3.12	-3.31/-3.32	-4.98/-5.44	-8.55/-9.88	-5.74/-4.53	-4.43/-4.65	-3.71/-3.9	-2.78/-5.6	-7.1/-11.23	-19.16/-18.77	-14.6/-8.98	-17.53/-11.1	-18.38/-12.12	-17.91/-18.98	-17.58/-8.15	-9.06/-10.13	-7.14/-12.16	-9.5/-5.08	-3.24/-4.83	-7.3/-4.41	-5.05/-10.47	-13.36/-9.49	-3.48/-5.37	
Θ(112.5°)	-5.52/-5.55	-4.89/-4.41	-3.66/-4.08	-6.36/-9.42	-11.82/-9.51	-6.59/-8.49	-9.26/-8.76	-5.27/-4.86	-4.7/-9.1	-13.37/-15.8	-17.58/-19.04	-18.72/-12.3	-18.11/-14.97	-14.91/-12.04	-19.15/-17.9	-14.31/-8.09	-9.2/-8.25	-8.66/-13.73	-10.26/-7.98	-3.57/-6.43	-10.37/-6.02	-5.68/-13.44	-17.27/-9.04	-4.21/-5.5	
Θ(120°)	-6.69/-6.7	-6.4/-4.55	-4.76/-4.8	-10.16/-11.65	-16.57/-12.83	-7.61/-7.23	-6.63/-9.01	-7.85/-7.25	-6.2/-8.62	-10.14/-18.1	-14.73/-18.79	-18.54/-18.39	-17.89/-11.95	-19.52/-16.61	-18.83/-17.96	-10.77/-7.78	-8.24/-6.39	-17.74/-19.27	-18.23/-7.21	-4.88/-6.76	-12.99/-12.17	-9.39/-11.95	-11.64/-9.85	-5.79/-6.98	
Θ(127.5°)	-11.33/-7.89	-7.3/-4.68	-5.77/-7.15	-10.6/-10.17	-15.32/-17.83	-16.84/-10.33	-7.98/-9.94	-10.66/-7.48	-6.64/-7.26	-5.81/-12.35	-18.78/-17.98	-19.48/-19.17	-12.62/-17.31	-14.73/-18.6	-18.43/-17.64	-9.76/-12.02	-14.89/-7.93	-8.04/-18.74	-15.63/-7.43	-8.63/-12.5	-12.84/-12.13	-5.29/-8.12	-17.02/-7.72	-12.09/-6.68	
Θ(135°)	-9.81/-14.79	-7.01/-9.77	-7.12/-8.62	-10.35/-9.55	-11.44/-14.88	-16.01/-9.28	-8.76/-12.55	-16.57/-13.55	-10.68/-12.68	-11.53/-17.72	-14.74/-13.64	-16.42/-18.46	-16.71/-18.23	-13.59/-16.28	-17.97/-11.15	-16.17/-18.87	-13.2/-6.08	-5.41/-17.45	-17.97/-8.94	-10.43/-8.58	-18.16/-12.28	-6.99/-8.81	-14.89/-7.86	-12.28/-9.27	
Θ(142.5°)	-6.61/-7.87	-7.03/-6.58	-8.85/-9.05	-9.66/-12.01	-11.62/-13.79	-12.04/-9.81	-10.61/-13.1	-10.13/-10.2	-14.09/-18.06	-15.41/-18.89	-17.85/-13.36	-12.13/-17.51	-18.01/-18.65	-12.51/-15.7	-14.71/-9.74	-18.11/-18.22	-9.48/-8.18	-11.29/-17.61	-18.04/-12.94	-12.21/-11.78	-19.09/-11.77	-12.34/-15.02	-17.89/-6.66	-8.85/-8.1	
Θ(150°)	-10.23/-9.16	-10.67/-9.37	-9.22/-13.52	-18.29/-13.93	-12.16/-13.73	-16.58/-17.3	-17.03/-15.3	-11.81/-10.16	-10.49/-8.59	-10.88/-12.56	-18.66/-15.2	-15.62/-15.33	-18.14/-16.69	-14.3/-17.26	-15.51/-12.92	-17.29/-18.94	-13.85/-15.42	-16.53/-19.15	-18.99/-18.74	-16.88/-14.65	-13.11/-19.34	-15.04/-19.22	-12.9/-10.88	-12.59/-13.12	
Θ(157.5°)	-14.24/-10.64	-7.97/-8.85	-11.31/-12.81	-12.78/-14.93	-19.02/-14.59	-12.98/-12.97	-14.81/-17.7	-18.48/-18.75	-18.81/-17.53	-11.96/-13.97	-12.94/-16.6	-18.3/-15.74	-15.02/-15.31	-16.85/-14.29	-15.49/-19.22	-19.41/-13.74	-13.93/-16.22	-17.14/-16.73	-15.15/-13.5	-12.5/-13.5	-17.12/-17.73	-17.33/-16.14	-15.23/-11.85	-12.62/-15.05	
Θ(165°)	-16.62/-15.28	-12.28/-12.74	-12.74/-12.8	-13.69/-17.52	-18.18/-18.06	-18.6/-18.16	-18.61/-16.52	-18.28/-18.81	-17.72/-17.92	-17.83/-19.27	-18.27/-18.16	-17.99/-18.69	-17.74/-17.92	-14.43/-12.86	-15.06/-17.76	-18.89/-18.86	-19.13/-18.07	-18.75/-17.64	-19.31/-17.57	-17.32/-15.61	-18.98/-18.83	-18.56/-18.8	-18.12/-18.6	-16.53/-15.9	
Θ(172.5°)	-9.5/-9.06	-9.39/-10.09	-10.83/-13.17	-14.54/-15.7	-16.77/-16.89	-16.35/-18.26	-19.2/-18.02	-16.81/-15.38	-13.99/-14.7	-15.29/-16.14	-15.87/-15.94	-14.02/-12.7	-13.14/-15.73	-17.94/-17.49	-18.32/-18.82	-19.05/-18.02	-18.64/-19.4	-19.19/-19.09	-18.94/-17.48	-19.27/-18.27	-18.05/-15.23	-14.73/-14.27	-12.9/-11.91	-11.66/-11.02	
Θ(180°)	-12.68/-11.91	-11.55/-10.88	-10.88/-10.24	-11.01/-13.42	-15.88/-15.65	-15.95/-16.44	-16.42/-18.76	-18.14/-18.31	-18.53/-18.42	-17.07/-14.72	-13.24/-12.99	-12.66/-12.43	-12.4/-12.9	-13.15/-12.56	-12.37/-11.54	-11.91/-12.3	-13.16/-14.98	-16.06/-16.63	-17.93/-18.94	-17.73/-17.6	-18.62/-18.79	-18.08/-16.13	-15.29/-14.74	-13.19/-12.83	
Freq(Hz)	6.475GPol.	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°)	2.682/-6	0.98/-0.32	-1.85/-3.52	-5.23/-6.09	-5.89/-4.28	-2.84/-1.08	0.451/83	2.723/25	3.864/44	4.975/15	4.94/58	4.383/88	3.392/41	1.530/48	-1.13/-3.11	-5.15/-5.73	-5.4/-4.46	-2.79/-0.89	0.451/6	2.4/3	3.513/81	4.074/01	3.533/-16	3.172/93	
Θ(7.5°)	1.30/59	-0.62/-1.72	-3.45/-5.21	-6.22/-5.58	-4.94/-3.8	-2.81/-8.99	-1.14/-0.2	0.721/3	2.072/87	3.714/29	4.524/53	3.436/91	3.722/95	1.780/47	-1.39/-3.34	-5.16/-5.78	-5.24/-3.63	-1.68/-0.26	1.131/99	2.683/2	3.653/98	4.026/86	3.442/85	2.481/84	
Θ(15°)	-1.46/-3.22	-6.29/-8.48	-9.14/-8.83	-7.76/-5.11	-2.88/-1.03	-0.65/-0.59	-0.45/-0.21	0.090/59	1.051/48	1.751/88	1.821/06	0.80/76	1.331/44	0.940/23	-0.64/-1.6	-2.33/-2.56	-2.69/-1.78	-0.320/7.1	1.351/8	2.53/31	3.94/31	4.374/36	3.922/76	1.40/51	
Θ(22.5°)	-0.72/-2.84	-4.81/-6.79	-8.59/-9.08	-8.14/-5.74	-2.99/-1.04	0.211/-1.2	1.871/83	1.561/-0.2	0.717/107	1.722/-0.2	1.90/61	-0.15/-1.59	-0.75/-0.17	0.090/11	-0.69/-2.27	-3.71/-4.38	-5/-3.63	-1.10/23	0.831/5	2.533/4	3.94/36	4.8/5	4.54/34	1.660/-56	
Θ(30°)	-2.99/-4.87	-5.6/-6.55	-7.75/-10.09	-16.14/-12.39	-8.15/-11.59	-3.71/-3.22	-1.440/84	2.963/44	2.922/83	3.173/23	3.222/49	1.491/44	2.04/-3.22	-4.11/-1.53	-2.15/-0.58	-5.02/-6.18	-9.43/-12.8	-8.07/-4.51	-1.50/-29	0.711/39	1.441/27	0.830/25	0.520/9	1.231/38	0.741/-121
Θ(37.5°)	-1.79/-3.5	-4.5/-6.02	-8.3/-14.44	-17.48/-18.55	-12.94/-6.11	-1.510/73	1.812/42	2.522/69	2.061/24	1.161/44	1.82/92	2.25/-0.35	-0.720/54	-2.99/-15.5	-18.08/-12.46	-7.91/-9.01	-6.72/-3.14	0.35/1	1.21/13	-0.21/-0.02	-1.28/-3.87	-4.91/-4.35	-1.430/87	1.540/6	
Θ(45°)	-0.01/-3.62	-9.09/-10.57	-8.95/-10.8	-17.29/-12.82	-14.47/-9.68	-2.35/-0.66	1.313/31	2.580/06	-1.91/-1.23	0.942/09	2.793/04	1.77/-0.5	-3.02/-3.98	-4.13/-6.97	-10.69/-11.7	-4.71/-5.54	-7.65/-4.54	-1.39/-1.03	-0.79/-1.55	-2.35/-2.71	-4.5/-3.89	-2.7/-2.08	-1.130/-49	1.341/-25	
Θ(52.5°)	0.72/-6.28	-7.38/-13.88	-16.14/-12.39	-17.14/-14.28	-10.47/-11.37	-4.64/-0.5	-2.155/4	0.021/04	-1.170/36	-0.131/77	2.593/2	3.461/81	-1.15/-4.9	-5.88/-4.62	-8.12/-6.18	-4.05/-3.48	-7.18/-4.94	-2.24/-2.84	-3.08/-4.58	-4.68/-6	-4.0/-4.8	-0.19/-1.03	-1.4/-0.23	1.91/76	
Θ(60°)	-0.560/38	-2.82/-7.34	-17.1/-13.8	-14.55/-11	-10.2/-8.92	-6.64/-7.57	-6.07/-2.68	-3.66/-1.4	0.231/1	1.732/85	2.411/51	1.74/-2.48	-5.67/-5.88	-7.36/-4.71	-9.05/-4.77	-3.12/-2.82	-6.66/-2.59	-3.51/-4.16	-5.7/-6.95	-5.63/-4.46	-1.430/-0.6	0.58/-0.12	-2.68/-3.68	-0.98/-0.35	
Θ(67.5°)	-3.68/-1.02	-2.43/-4.69	-16.72/-14.23	-8.3/-8.49	-5.88/-2.45	-3.79/-6.87	-7.38/-4.77	-1.24/-4.82	-0.59/-2.92	-3.07/-1.81	-1.16/-2.78	-6.92/-4.37	-0.66/-0.53	-12.05/-0.59	-6.95/-9.95	-1.92/-2.29	-6.29/-3	-3.35/-0.52	-0.70/-1.42	-7.87/-2.59	-0.720/-98	-5.45/-3.25	-6.46/-8.55	-3.72/-4.25	
Θ(75°)	-4.75/-1.9	-3.71/-8.94	-19.41/-11.31	-9.18/-8.61	-5.89/-1.82	-0.563/-3.61	-4.68/-4.38	-5.49/-4.38	-0.91/-2.59	-5.67/-9.03	-3.9/-4.4	-3.360/59	1.812/25	-5.46/-8.26	-8.43/-11.96	-3.54/-1.81	-4.96/-3.88	-3.49/-7.09	-8.34/-6.1	-8.85/-2.79	-2.97/-3.68	-4.65/-9.9	-5.27/-8.95	-6.41/-8.25	
Θ(82.5°)	-6.89/-3.07	-4.63/-15.43	-18.87/-13.81	-9.81/-7.51	-6.99/-2.38	-1.68/-4.66	-4.72/-4.89	-3.82/-1.78	1.261/-1.37	-2.39/-3.72	-2.95/-4.98	-1.21/-7.5	1.120/6	-9.93/-11.43	-17.77/-11.44	-4.3/-4.49	-6.59/-4.57	-6.11/-12	-8.36/-4.84	-5.51/-3.26	-5.55/-5.67	-6.25/-8.43	-6.13/-9.71	-7.03/-9.55	
Θ(90°)	-10.9/-6.76	-5.77/-17.88	-17.24/-15.62	-13.86/-9.62	-7.5/-3.68	-4.23/-8.34	-6.07/-6.24	-5.75/-3.26	0.38/-2.42	-2.64/-2.56	-3.59/-5.12	-3.720/03	-1.2/-0.58	-9.9/-15	-14.85/-18.37	-6.98/-4.04	-12.49/-7.91	-8.33/-9.75	-9.32/-8.34	-5.74/-4.46	-9.87/-6.09	-8.41/-9.91	-7.32/-10.02	-7.85/-14.28	
Θ(97.5°)	-15.66/-8.6	-8.28/-15.47	-14.31/-18.29	-17.19/-15.09	-9.78/-4.29	-7.31/-6.57	-6.35/-3.14	-0.08/-3.1	-5.08/-3.96	-7.6/-99	-5.09/-2.82	-3.44/-4.12	-11.17/-16.54	-13.88/-17.65	-9.12/-10.27	-15.56/-12.48	-15.25/-11.63	-12.98/-10.39	-7.23/-6.35	-11.99/-7.09	-9.9/-11.05	-8.75/-8.49	-10.86/-17.06		
Θ(105°)	-18.55/-13.09	-11.14/-14.66	-14.15/-18.91	-19/-17.33	-15.19/-16.74	-5.92/-10.62	-7.82/-6.72	-8.99/-6.66	-2.26/-5.09	-9.95/-8.23	-8.82/-15.1	-6.79/-5.7	-5.44/-7.39	-10.53/-16.67	-15.35/-16.43	-12.87/-10.84	-12.42/-15.09	-14.54/-16.65	-10.95/-9.82	-9.24/-8.07	-13.76/-8.26	-11.71/-10.4	-11.69/-8.62	-13.54/-19.24	
Θ(112.5°)	-18.41/-13.37	-14.23/-18.8	-12.84/-17.85	-19.08/-15.58	-17.5/-12.37	-7.76/-11.6	-10.97/-9.98	-12.2/-7.79	-4.41/-5.16	-12.55/-9.62	-11.49/-18.43	-9.7/-7.78	-13.09/-9.8	-15.71/-13.25	-13.45/-15.3	-9.09/-11.87	-12.93/-12.56	-15.18/-18.1	-10.7/-47	-8.81/-9.51	-14.65/-11.63	-15.16/-14.9	-9.28/-12.03	-12.37/-19.09	
Θ(120°)	-18.29/-15.48	-12.32/-17.7	-8.88/-12.65	-17.82/-14.37	-16.46/-17.98	-10.43/-17.7	-16.46/-14.46	-16.27/-8.76	-8.44/-5.18	-9.86/-10.2	-15.9/-10.31	-18.71/-10.93	-14.17/-7.22	-7.92/-14.69	-13.45/-18.77	-10.6/-13.34	-13.7/-16.54	-16.66/-12.86	-8.5/-8.54	-12.87/-18.6	-12.45/-11.8	-9.21/-8.35	-7.61/-10.69	-17.85/-19.03	
Θ(127.5°)	-17.64/-16.63	-17.41/-11	-8.87/-8.31	-15.13/-13.98	-17.78/-19.23	-18.07/-16.27	-15.46/-13.13	-18.39/-11.22	-13.35/-10.62	-11.11/-12.22	-19.51/-11.62	-18.38/-11.45	-7.14/-12.76	-17.75/-9.62	-18.78/-8.49	-10.46/-9.23	-17.53/-13.79	-17.34/-12.4	-8.22/-8.95	-14.19/-18.5	-18.95/-18.51	-8.37/-9.93	-8.33/-11.5	-13.35/-18.78	
Θ(135°)	-16.33/-19.05	-17.18/-18.87	-8.78/-10.81	-14.32/-13.84	-14.3/-19.04	-18.5/-15.74	-15.54/-13.64	-18.39/-17.45	-12.66/-13.5	-11.02/-8.25	-10.71/-12.9	-18.33/-14.77	-9.4/-14.37	-12.83/-13.14	-15.82/-9.07	-5.21/-0.75	-16.15/-14.07	-16.32/-12.66	-8.6/-7.77	-10.07/-17.8	-14.39/-9.51	-8.19/-6.94	-9.88/-10.97	-11.96/-17.82	
Θ(142.5°)	-11.16/-15.42	-17.99/-11.53	-14.21/-11.65	-9.01/-12.31	-11.62/-17.89	-11.54/-14.23	-14.97/-18.16	-17.94/-17.79	-18.31/-18.29	-17.08/-17.41	-18.26/-12.51	-17.79/-17.12	-11.08/-16.1	-14.16/-18.46	-18.91/-10.06	-13.87/-17.28	-19.03/-16.84	-14.33/-11.65	-9.07/-12.92	-16.43/-18.6	-9.67/-10.01	-13.31/-13.95	-13.56/-11.29	-11.38/-17.71	
Θ(150°)	-16.84/-17.65	-16.07/-12.15	-16.73/-12.65	-9.18/-7.27	-4.45/-9.03	-11.53/-17.57	-15.76/-10.74	-12.77/-15.13	-15.91/-15.61	-16.31/-18.01	-13.89/-13.3	-12.49/-17.44	-11.87/-18.41	-6.15/-9.08	-15.12/-17.78	-18.6/-16.81	-18.19/-19.26	-9.7/-10.7	-7.96/-0.67	-8.38/-8.65	-13.88/-13.6	-18			



Radiated Composite Gain Data of Scan Radio and BLE

Appendix C

Θ (150°)	-8.73/-12.09	-8.3/-9.95	-9.98/-12.38	-13.52/-19.45	-19.13/-19.19	-18.02/-13.86	-10.29/-8.81	-9.4/-8.99	-9.01/-8.56	-9.12/-17.27	-17.79/-14.78	-18.02/-16.23	-18.62/-16.09	-14.49/-13.13	-10.32/-11.02	-12.06/-10.25	-9.4/-5.73	-6.5/-14.46	-17.82/-13.25	-12.32/-13.91	-15.96/-14.49	-12.27/-11.22	-9.83/-13.37	-11.39/-7.9
Θ (157.5°)	-13.27/-11.45	-11.13/-9.98	-8.59/-8.76	-11.45/-13.05	-13.87/-16.14	-18.21/-18.97	-18.52/-18.28	-12.9/-11.82	-15.85/-16.5	-16.19/-13.75	-19.11/-16.78	-19.04/-19.36	-19.11/-18.4	-18.84/-18.48	-19.09/-17.26	-13.08/-14.02	-19.25/-18.72	-13.9/-11.85	-15.29/-11.11	-11.26/-16.58	-18.77/-18.31	-13.31/-16.28	-17.81/-18.08	-18.12/-17.47
Θ (165°)	-13.61/-13.91	-12.37/-12.7	-15.11/-15.62	-12.75/-11.85	-11.62/-12.64	-13.11/-16.21	-18.05/-16.64	-17.32/-17.35	-16.82/-17.86	-17.68/-18.26	-16.63/-15.5	-18.49/-14.02	-11.86/-12.08	-11.82/-12.08	-11.85/-14.93	-15.89/-15.09	-15.96/-16.03	-14.9/-11.82	-10.23/-11.03	-14.47/-18.56	-18.08/-18.81	-19.14/-99	-14.86/-15.57	-13.22/-12.54
Θ (172.5°)	-14.85/-12.88	-11.96/-11.58	-10.76/-11.15	-11.59/-12.03	-12.4/-11.4	-10.39/-9.93	-9.65/-10.73	-11.73/-12.77	-14/-15.54	-17.36/-17.64	-18.75/-17.64	-18.62/-18.41	-17.69/-17.78	-18.42/-18.87	-18.41/-18.01	-18.16/-16.99	-16.74/-18.15	-19.19/-17.36	-19.31/-19.01	-18.77/-18.26	-18.45/-17.61	-18.79/-18.54	-18.62/-18.15	-16.95/-15.73
Θ (180°)	-16.41/-15.02	-15.08/-15.07	-14.06/-11.71	-10.64/-11.09	-11.21/-10.94	-13.21/-13.34	-13.81/-12.92	-12.73/-13.07	-14.72/-17.16	-17.97/-18.85	-17.54/-18.55	-16/-14.63	-14.41/-16.29	-15.82/-14.36	-12.46/-13.16	-14.07/-14.63	-13.44/-12.9	-13.27/-13.98	-13.85/-13.18	-13.08/-13.86	-14.46/-14.46	-13.22/-15.14	-16.21/-16.13	-14.68/-17.26
Freq(Hz)	6.9950Pol.	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°)	1.09/0.23	-0.63/-1.82	-3.64/-5.95	-8.65/-10.67	-10.93/-8.55	-6.22/-3.8	-2.2/-3.1	-0.4/-0.42	1.27/2.18	2.49/2.48	2.01/-1.75	1.69/1.27	0.48/-0.42	-1.35/-2.7	-4.79/-5.22	-5.21/-9.41	-4.61/-3.77	-2.65/-1.47	-0.62/0.34	0.88/1.37	1.88/2.3	2.52/5.1	2.28/1.96	1.51/-1.45
Θ (7.5°)	-0.76/-2.22	-3.35/-4.08	-5.65/-7.69	-9.1/-10.53	-9.43/-7.4	-5.87/-4.88	-3.75/-2.79	-1.68/-0.63	0.42/1.51	2.16/2.3	2.23/2.29	2.42/06	1.42/0.66	-0.24/-1.76	-3.35/-4.21	-4.88/-5.23	-5.41/-4.82	-3.71/-2.45	-1.13/-0.01	1.03/1.83	2.42/2.71	2.89/2.68	1.91/4	10.32
Θ (15°)	-2.85/-5.13	-8.28/-8.26	-9.14/-10.52	-10.18/-7.3	-6.09/-5.99	-7.04/-7.75	-5.96/-4.84	-4.13/-3.17	-1.77/-0.24	0.79/-1.49	1.88/2.43	3.04/3.29	2.52/1.53	0.44/-0.98	-2.1/-2.88	-3.61/-3.86	-3.99/-4.77	-5.16/-3.66	-1.44/0.13	0.86/1.1	1.34/-1.53	1.20/92	-0.06/-1.04	-1.33/-1.82
Θ (22.5°)	-3.18/-6.8	-11.46/-14.31	-17.87/-17.87	-17.11/-9.73	-6.27/-4.89	-5.31/-5.35	-4.67/-3.89	-3.96/-4.2	-3.7/-2.41	-1.18/-1.05	-2.43/-2.86	-0.85/-0.3	1.0/58	0.4/-0.34	-1.8/-2.94	-3.67/-3.65	-2.18/-1.95	-2.39/-1.62	-0.13/0.33	0.05/-0.39	-1.44/-3.66	-5.5/-4.97	-3.11/-2.19	-1.5/-1.54
Θ (30°)	-3.41/-7.54	-13.21/-13.88	-12.09/-13.75	-17.13/-15.31	-11.41/-8.48	-8.17/-6.7	-4.36/-2.95	-2.53/-3.33	-3.1/-5.2	-0.17/0.74	-0.98/-5.36	-6.95/-2.9	-1.75/-1.85	-0.33/0.67	-1.4/-4.47	-4.94/-5.69	-4.46/-4.05	-6.7/-0.5	-2.38/-3.54	-3.07/-3.66	-6.1/-4.75	-2.93/-2.35	-2.57/-2.05	-1.1/-1.17
Θ (37.5°)	-2.02/-4.64	-7.92/-11.39	-18.92/-18.01	-19.16/-18.76	-15.9/-14.73	-18.5/-7.9	-5.63/-4.24	-1.8/-1.61	-0.80/-1.7	-0.07/-1.04	-3.45/-4.93	-4.44/-6.84	-4.57/-2.53	-3.8/-3.67	-5.97/-13.28	-14.69/-9.46	-5.87/-3.14	-5.05/-3.56	-4.62/-4.14	-5.65/-7.86	-4.72/-1.46	-0.58/-1.1	-1.4/-0.73	-0.21/-0.15
Θ (45°)	-3.66/-5.64	-5.15/-7.66	-11.92/-19.2	-17.15/-18.38	-18.38/-18.67	-18.71/-6.72	-5.3/-3.45	-1.87/-3.93	-4.8/-1.81	1.27/0.59	-0.4/-0.84	-1.89/-3.77	-2.34/-3.09	-5.96/-10.64	-11.04/-11.12	-11.11/-16.5	-9.93/-4.49	-5.53/-4.16	-6.23/-4.44	-8.32/-0.63	-2.97/-1.96	-2.57/-3.11	-2.33/-2.04	-2.53/-2.04
Θ (52.5°)	-5.73/-5.49	-5.66/-7.46	-12.16/-17.71	-18.55/-18.35	-19.05/-10.24	-13.34/-7.15	-9.3/-5.47	-3.12/-5.94	-7.38/-3.76	-1.75/-3.06	-1.47/0.59	-0.39/-3.48	-4.46/-8.02	-7.89/-10.47	-9.64/-7.53	-5.71/-18.32	-14.03/-5.55	-3.62/-5.53	-7.73/-7.78	-7.25/-3.96	-4.72/-3.74	-4.89/-5.08	-4.46/-6.66	-6.84/-4.73
Θ (60°)	-8.89/-6.2	-7.93/-13.67	-18.77/-13.02	-18.55/-12.29	-15.79/-10.69	-11.78/-8.16	-7.16/-5.99	-3.69/-6.18	-2.8/-0.86	0.18/-1.45	0.85/-0.92	0.65/-3.43	-8.34/-7.47	-4.86/-6.9	-7.67/-6.06	-6.66/-11.52	-7.55/-5.51	-3.69/-5.15	-10.11/-10.59	-4.96/-5.55	-8.77/-4.76	-6.68/-6	-4.81/-8.13	-9.89/-6.61
Θ (67.5°)	-17.7/-10.92	-11.27/-18.24	-18.32/-9.16	-10.83/-14.75	-12.1/-6.67	-4.91/-8.44	-8.73/-10.83	-7.43/-6.1	-6.1/-3.41	-3.26/-6.58	-5.89/-17.22	-9.38/-6.63	-6.14/-8.4	-8.25/-5	-7.4/-5.16	-4.48/-3.26	-3.5/-2.95	-6.16/-6.42	-4.5/-4.7	-9.12/-6.42	-4.01/-1.81	-3.6/-3.67	-9.55/-8.92	
Θ (75°)	-11.07/-13.9	-9.59/-16.65	-16.92/-7.11	-9.55/-14.55	-11.9/-8.63	-5.18/-6.7	-9.26/-7.99	-7.03/-6.84	-18.08/-8.49	-12.71/-14.74	-8.56/-7.11	-4.1/-6.69	-14.51/-17.69	-9.03/-7.7	-6.63/-7.49	-3.72/-1.36	-3.91/-10.9	-5.36/-3.98	-3.94/-9.08	-10.55/-4.51	-2.48/-0.47	-1.29/-6.04	-1.37/-6.37	
Θ (82.5°)	-8.84/-16.61	-7.59/-12.08	-15.07/-8.19	-8/-12.55	-10.93/-11.93	-4.74/-3.91	-7.94/-6.46	-7.27/-6.88	-5.46/-6.01	-6.22/-8.61	-3.78/-6.3	-8.3/-6.53	-3.06/-4.38	-13.04/-18.77	-13.87/-15.17	-7.21/-9.7	-4.17/-1.47	-5.57/-5.23	-5.66/-2.87	-3.76/-12.82	-11.76/-4.2	-2.1/-0.81	-1.96/-8.08	-12.54/-6.42
Θ (90°)	-10/-18.97	-7.91/-15.08	-18.81/-7.21	-8.88/-12.28	-13.79/-16.05	-5.28/-5.29	-8.67/-4.53	-6.29/-9.76	-2.21/-6.88	-5.62/-8.54	-4.79/-7.4	-7.4/-2.86	-10.39/-15.95	-18.17/-15.96	-11.84/-11.63	-7.64/-5.43	-7.82/-9.08	-7.94/-4.54	-5.19/-14.98	-12.95/-8.32	-3.32/-2.42	-3.37/-8.93	-13.27/-8.95	
Θ (97.5°)	-9.46/-18.42	-9.97/-9.06	-17.46/-7.57	-9.56/-9.69	-14.02/-18.88	-9.84/-7.45	-10.78/-8.81	-8.71/-13.78	-4.84/-5.12	-8.75/-35.7	-12.43/-14.82	-13.49/-15.18	-15.39/-17.5	-9.94/-11.24	-13.56/-14.44	-12.35/-8.85	-8.04/-19.33	-8.54/-3.89	-4.96/-5.53	-5.5/-11.12	-13.34/-10.91			
Θ (105°)	-14.89/-17.79	-9.16/-11.09	-14.13/-11.08	-11.81/-10.64	-15.93/-13.75	-12.27/-8.93	-11.2/-9.92	-8.99/-17.72	-5.51/-9.66	-10.24/-7.53	-7.33/-13.42	-6.81/-10.26	-9.66/-12.48	-9.64/-19.15	-11.4/-13.76	-18.83/-18.36	-9.75/-15.18	-18.87/-17.88	-12.05/-9.3	-9.42/-18.25	-8.22/-4.54	-6.58/-6.83	-7.98/-12.48	-14.17/-12.05
Θ (112.5°)	-18.44/-18.03	-8.4/-12.34	-12.43/-13.94	-17.1/-8.93	-12.49/-12.06	-9.58/-13.55	-18.38/-16	-10.33/-16.76	-7.39/-13.45	-12.59/-9	-9.69/-13.58	-8.9/-13.6	-17.2/-9.89	-11.26/-14.78	-13.28/-10.3	-10.82/-14.79	-14.32/-9.53	-19.14/-15.67	-8.96/-17.8	-10.92/-18.79	-10.07/-4.57	-10.29/-9.67	-9.53/-15.62	-11.64/-15.65
Θ (120°)	-14.81/-14.8	-11.07/-11.8	-10.56/-19.44	-17.45/-11.27	-15.62/-17.47	-13.76/-8.86	-11.59/-18.56	-10.81/-6.51	-10.41/-18.13	-12.11/-12.57	-11.52/-11.05	-18.05/-14.18	-12.63/-7.5	-10.84/-17.15	-14.53/-12.89	-17.95/-9.8	-15.74/-16.78	-17.86/-13.14	-8.56/-10.02	-16.4/-18.57	-8.08/-6.17	-13.53/-15.36	-8.23/-17.43	-10.14/-18.04
Θ (127.5°)	-17.17/-18.49	-13.77/-11.87	-12.96/-18.05	-19.39/-17.98	-12.35/-15.22	-18.16/-17.59	-12.34/-17.33	-8.69/-18.98	-18.84/-12.57	-17.91/-11.97	-16.54/-16.01	-14.37/-14.48	-6.3/-16.54	-18.13/-9.03	-14.32/-14.96	-9.48/-7.11	-14.3/-15.87	-17.33/-11.33	-7.07/-6.96	-19.45/-16.88	-9.15/-12.12	-15.46/-13.48	-10.05/-12.75	-15.97/-17.84
Θ (135°)	-17.69/-12.94	-18.29/-13.67	-12.98/-12.51	-14.38/-14.64	-18.03/-13.03	-17.88/-11.72	-18.19/-16.6	-12.46/-18.56	-14.9/-17.21	-11.49/-16.45	-15.21/-19.38	-17.03/-14.43	-17.36/-16.82	-13.65/-15.11	-5.51/-10.46	-10.07/-18.69	-15.46/-10.46	-9.19/-13.14	-13.08/-18.63	-14.64/-13.29	-12.5/-10.84	-6.94/-11.36	-17.77/-19.01	
Θ (142.5°)	-17.24/-15.74	-14.53/-15.25	-11/-12.48	-18.67/-12.18	-17.13/-13.8	-15.99/-12.47	-17.19/-13.68	-19.47/-17.94	-18.95/-18.56	-16.46/-9.76	-15.17/-18.63	-18.21/-18.55	-14.31/-12.56	-18.27/-18.76	-18.16/-13.88	-16.06/-19.09	-18.17/-16.47	-17.21/-19.65	-13.04/-14.42	-14.54/-10.43	-7.58/-8.86	-12.16/-18.5		
Θ (150°)	-15.28/-14.03	-15.51/-11.61	-10.08/-9.84	-9.35/-13.51	-11.73/-9.57	-14.84/-12.41	-17.27/-15.22	-15.49/-18.22	-18.83/-16.29	-14.2/-18.2	-16.45/-17.41	-14.16/-13.28	-11.58/-9.92	-6.97/-18.26	-18.44/-18.16	-17.68/-18.63	-19.08/-16.89	-16.06/-11.56	-12.15/-10.93	-11.36/-17.15	-13.71/-18.37	-12.97/-11.67	-14.12/-12.78	-12.16/-18.75
Θ (157.5°)	-18.14/-18.13	-17.13/-15.14	-12.17/-13.32	-14.19/-13.33	-15.98/-18.97	-12.79/-12.44	-17.79/-16.45	-12.02/-14.86	-17.64/-18.17	-18.08/-18.38	-18.17/-1.17	-16.73/-12.37	-13.12/-16.16	-17.5/-18.53	-15.21/-11.92	-13.93/-18.13	-16.95/-14.86	-19.05/-13.3	-11.52/-10.97	-9.83/-15.49	-13.56/-12.76	-17.13/-15.97	-14.41/-15.53	-15.78/-17.36
Θ (165°)	-16.32/-15.88	-14.25/-12.68	-12.77/-11.56	-9.91/-8.89	-8.62/-9.75	-9.9/-11.98	-16.99/-18.23	-18.16/-18	-17.98/-18.6	-18.47/-17.84	-16.22/-17.77	-15.1/-15.74	-14.34/-16.14	-17.93/-15.06	-13.08/-11.96	-13.58/-17.63	-18.54/-19.01	-17.49/-18.5	-18.58/-17.32	-18/-18.61	-17.83/-17.97	-13.65/-12.99	-11.11/-12.22	-18.19/-18.86
Θ (172.5°)	-19.05/-18.05	-18.36/-19.18	-17.61/-18.02	-15.88/-12.95	-12.12/-12.31	-12.9/-15.82	-18.66/-17.52	-18.5/-18.33	-17.12/-16.37	-16.87/-17.92	-12.94/-12.53	-15.4/-17.77	-17.29/-18.78	-17.87/-19.13	-17.35/-16.54	-18.31/-17.45	-18.3/-19.65	-16.96/-17.61	-18.88/-19.01	-16.87/-12.64	-10.49/-10.39	-11.1/-11.14	-10.76/-14	-18.18/-18.17
Θ (180°)	-16.03/-16.59	-15.02/-12.69	-11.94/-11.69	-11.56/-12.11	-12.74/-13.3	-14.52/-15.85	-15.85/-16.07	-15.94/-14.08	-12.72/-11.93	-11.61/-13.12	-15.93/-16.94	-16.68/-16.5	-18.72/-18.37	-18.69/-19.02	-18.32/-18.53	-18.91/-18.51	-17.78/-16.72	-15.14/-14.39	-12.94/-11.73	-12.68/-13.23	-14.56/-15.69	-14.32/-15.78	-17.31/-19.11	-19.03/-18.73
Freq(Hz)	6.9950Pol.	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°)				