



Antenna Composite Gain Test Report

FCC ID	2BXL5-CODA6021U
Equipment	DOCSIS ULTRA 3.1 WiFi7 Gateway, DOCSIS 4.0 WiFi7 Gateway
Brand Name	Hitron
Model Name	CODA6021U, CODA6021
Applicant	Hitron Technologies Americas, Inc. 9000 E Nichols Ave, Suite 103 Centennial, CO 80112 USA
Manufacturer	Hitron Technologies Inc. No. 1-8, Li-Hsin 1st Rd. Hsinchu Science Park, Hsinchu 30078, Taiwan
Standard	KDB662911 D03 v02
Sample Received	Jun. 03, 2026
Start Test Date	Jul. 17, 2026
Final Test Date	Jul. 18, 2026

Approved by: Sam Chen

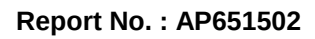
Sporton International Inc. Hsinchu Laboratory

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1. Operation Mode and Antenna Information

Antenna Position	RF Port			Brand Name	Model Name	Ant. Type	Connector	Modes of Operation
	WLAN 2.4GHz	WLAN 5GHz	WLAN 6GHz					
2G5G Ant1	1	1	-	INPAQ Technology Co., Ltd.	RFPCA3018 16IMLB401	Dipole	I-PEX	2.4GHz 5GHz
2G5G Ant2	2	2	-	INPAQ Technology Co., Ltd.	RFPCA3018 15IMLB401	Dipole	I-PEX	2.4GHz 5GHz
2G5G Ant3	3	3	-	INPAQ Technology Co., Ltd.	RFPCA3018 12IMLB401	Dipole	I-PEX	2.4GHz 5GHz
2G5G Ant4	4	4	-	INPAQ Technology Co., Ltd.	RFPCA3018 09IMLB402	Dipole	I-PEX	2.4GHz 5GHz
6GAnt1	-	-	1	INPAQ Technology Co., Ltd.	RFPCA1608 08IM6B401	Dipole	I-PEX	6GHz
6GAnt2	-	-	2	INPAQ Technology Co., Ltd.	RFPCA1608 07IM6B401	Dipole	I-PEX	6GHz
6GAnt3	-	-	3	INPAQ Technology Co., Ltd.	RFPCA2323 07IM6B401	Alford-loop	I-PEX	6GHz
6GAnt4	-	-	4	INPAQ Technology Co., Ltd.	RFPCA2323 07IM6B402	Alford-loop	I-PEX	6GHz
5G (Scan)	-	1	-	INPAQ Technology Co., Ltd.	RFPCA1811 17IM5B401	Dipole	I-PEX	5GHz (RX only)

Note:

2.4GHz and 5GHz Operation Mode (4TX/4RX)

2G5GAnt1~4 can be used as transmitting/receiving antenna.

2G5GAnt1~4 could transmit/receive simultaneously.

6GHz Operation Mode (4TX/4RX)

6GAnt1~4 can be used as transmitting/receiving antenna.

6GAnt1~4 could transmit/receive simultaneously.

5GHz Operation Mode (1RX)

ScanAnt can be used as receiving antenna only.

2. Table for Multiple Listing

EUT	Equipment Name	Model name	DOCSIS Chip (Location: U800)	DOCSIS 4.0 Component (Location: SW1200, U801, T801)
1	DOCSIS ULTRA 3.1 WiFi7 Gateway	CODA6021U	Brand name: MxL Model name: MXL28310	Not Supported
2	DOCSIS 4.0 WiFi7 Gateway	CODA6021	Brand name: MxL Model name: MXL28400	Supported

3. Test Frequency

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

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

4. Testing Location

Testing Location		
Sporton International Inc. Hsinhua Laboratory		
☒	HWA YA	ADD : No.13-1 & 14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333, Taiwan R.O.C.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated	05CH03-HY	Rofy Chen	23.5-24.5 / 45-55	Jul. 17, 2026~Jul. 18, 2026

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m*6m*6m

Characteristic: Fully Anechoic Chamber

5. Test Facility and Configuration

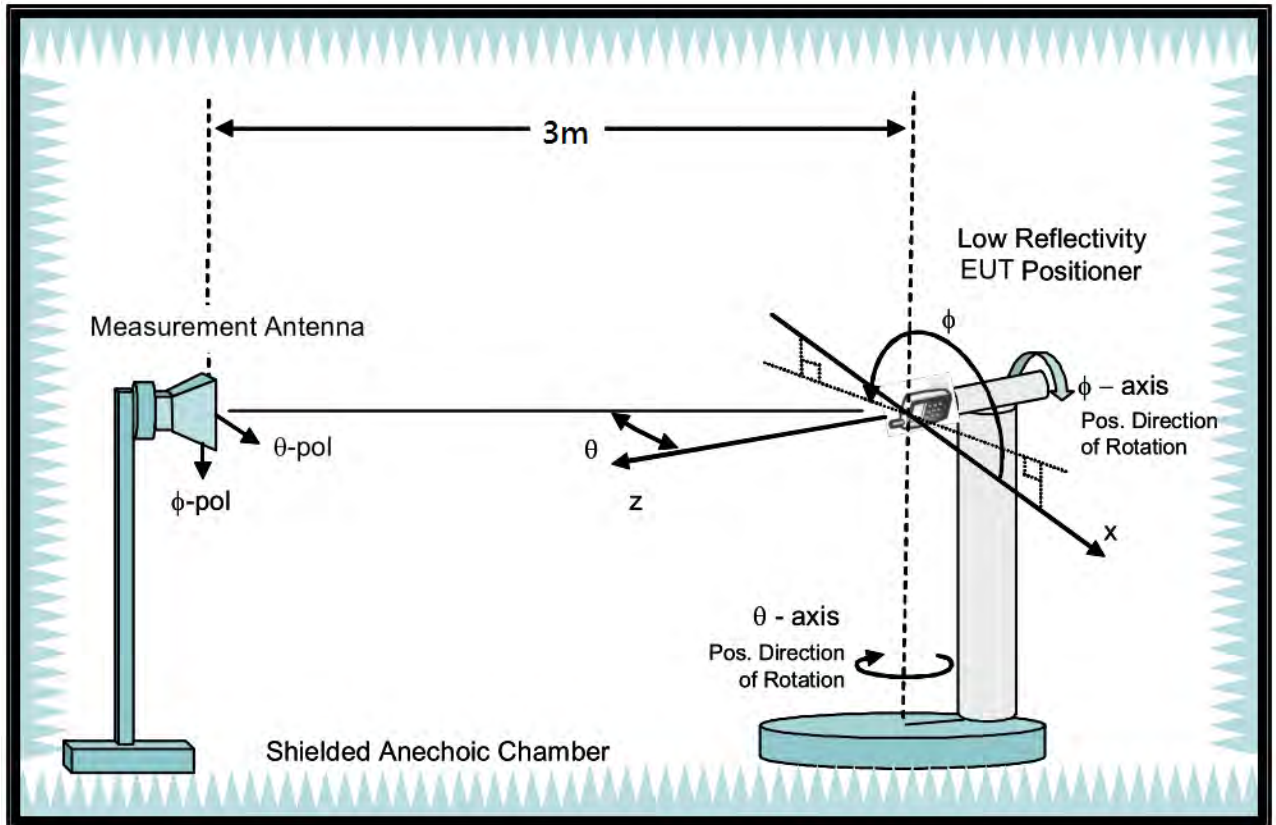
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Dual Polarization Horn antenna

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

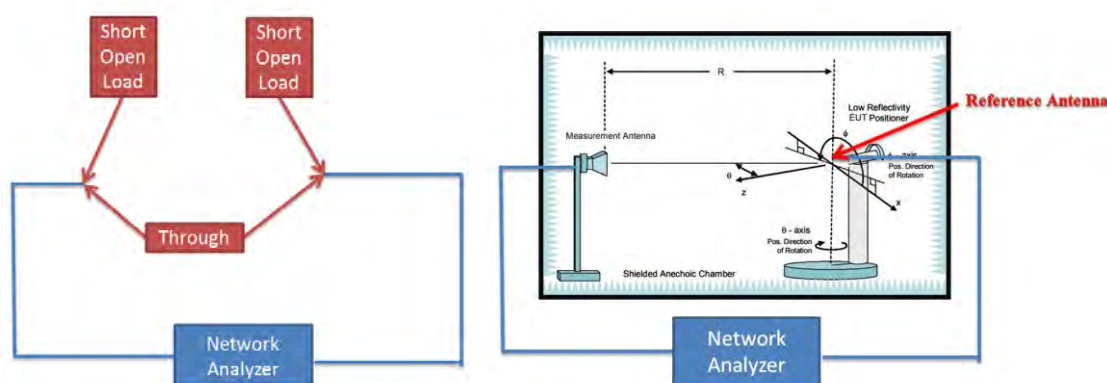
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



6. Reference Calibration

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

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



Frequency (MHz)	2400	2450	2500	5150	5200	5300	5600	5750	5800	5900	6000	6500	7000	7200
G(theta) reading (dB)	-32.12	-32.48	-32.45	-34.55	-34.56	-34.78	-34.94	-34.89	-34.99	-35.16	-35.32	-35.68	-35.88	-35.97
G(phi) reading (dB)	-32.35	-32.11	-32.43	-34.12	-33.95	-34.23	-34.56	-34.68	-34.78	-35.32	-35.45	-35.67	-35.86	-36.11
Reference gain (dBi)	10.2	10.2	10.2	11	11.3	11.6	12	11.6	11.4	11.3	11.4	11.1	11	10.3
Factor(theta) (dB)	42.32	42.68	42.65	45.55	45.86	46.38	46.94	46.49	46.39	46.46	46.72	46.78	46.88	46.27
Factor(phi) (dB)	42.55	42.31	42.63	45.12	45.25	45.83	46.56	46.28	46.18	46.62	46.85	46.77	46.86	46.41

Note:

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

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

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

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

7. Test Method

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

DG steps:

1. Each Phi and Theta polarization antenna gain are measured for all test angles.
2. Composite Phi and Theta antenna gain are computed, using formula in KDB662911 D01 d) (i) and e) (ii), for all angles.
3. Composite antenna gain are examined for all angles to determine max gain and Phi/Theta position. Max gain and phi/theta position are listed in section 8 tables.

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

8. Measured Values and Calculation of Maximum Gain Positions

DG_1SS max value position

2G5GAnt1~4

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 (dBi)	4.03	3.3	1.86	4.68	3.3
Ant. 2 (dBi)	2.14	-2.37	-3.48	-4.28	-3.62
Ant. 3 (dBi)	4.16	0.65	2.82	-0.18	0.17
Ant. 4 (dBi)	-13.88	-0.71	0.72	1.28	0.03
DG [1SS] (dBi)	7.4	6.49	6.81	6.97	6.33
Polarization	Theta	Theta	Theta	Theta	Theta
$\Theta(^{\circ})$	112.5	112.5	105	112.5	112.5
$\Phi(^{\circ})$	75	247.5	240	240	240

6GAnt1~4

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 (dBi)	3.41	-2.55	-4.91	2.61
Ant. 2 (dBi)	4.69	3.15	1.84	2.23
Ant. 3 (dBi)	-2.99	3.38	0.11	1
Ant. 4 (dBi)	-1.66	2.26	1.8	1.43
DG [1SS] (dBi)	7.48	7.88	6.12	7.86
Polarization	Phi	Phi	Phi	Phi
$\Theta(^{\circ})$	37.5	112.5	112.5	120
$\Phi(^{\circ})$	262.5	307.5	307.5	270

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

DG_1SS max value position calculation
2G5GAnt1~4

Frequency (Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 [$10^{(G/20)}$]	$10^{(4.03/20)}$	$10^{(3.3/20)}$	$10^{(1.86/20)}$	$10^{(4.68/20)}$	$10^{(3.3/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(2.14/20)}$	$10^{(-2.37/20)}$	$10^{(-3.48/20)}$	$10^{(-4.28/20)}$	$10^{(-3.62/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(4.16/20)}$	$10^{(0.65/20)}$	$10^{(2.82/20)}$	$10^{(-0.18/20)}$	$10^{(0.17/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(-13.88/20)}$	$10^{(-0.71/20)}$	$10^{(0.72/20)}$	$10^{(1.28/20)}$	$10^{(0.03/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.59	1.462	1.239	1.714	1.462
Ant. 2 [$10^{(G/20)}$] value	1.279	0.761	0.67	0.611	0.659
Ant. 3 [$10^{(G/20)}$] value	1.614	1.078	1.384	0.979	1.02
Ant. 4 [$10^{(G/20)}$] value	0.202	0.922	1.086	1.159	1.003
Sum All Antenna [Amax]	4.686	4.223	4.379	4.463	4.145
DG [$10 \cdot \log(A_{\max}^2/N_{\text{ant}})$]	7.4	6.49	6.81	6.97	6.33

6GAnt1~4

Frequency (Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 [$10^{(G/20)}$]	$10^{(3.41/20)}$	$10^{(-2.55/20)}$	$10^{(-4.91/20)}$	$10^{(2.61/20)}$
Ant. 2 [$10^{(G/20)}$]	$10^{(4.69/20)}$	$10^{(3.15/20)}$	$10^{(1.84/20)}$	$10^{(2.23/20)}$
Ant. 3 [$10^{(G/20)}$]	$10^{(-2.99/20)}$	$10^{(3.38/20)}$	$10^{(0.11/20)}$	$10^{(1/20)}$
Ant. 4 [$10^{(G/20)}$]	$10^{(-1.66/20)}$	$10^{(2.26/20)}$	$10^{(1.8/20)}$	$10^{(1.43/20)}$
Ant. 1 [$10^{(G/20)}$] value	1.481	0.746	0.568	1.351
Ant. 2 [$10^{(G/20)}$] value	1.716	1.437	1.236	1.293
Ant. 3 [$10^{(G/20)}$] value	0.709	1.476	1.013	1.122
Ant. 4 [$10^{(G/20)}$] value	0.826	1.297	1.23	1.179
Sum All Antenna [Amax]	4.732	4.956	4.047	4.944
DG [$10 \cdot \log(A_{\max}^2/N_{\text{ant}})$]	7.48	7.88	6.12	7.86

Note:

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

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

9. Summary of Test Result

2G5GAnt1~4

Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	4.03	3.77	3.87	4.69	3.58
Ant. 2 Max Gain (dBi)	3.7	3.91	4.11	3.67	3.78
Ant. 3 Max Gain (dBi)	5.02	3.1	2.82	3.97	2.92
Ant. 4 Max Gain (dBi)	3.8	4.42	4.09	4.9	4.28
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/112.5/75	Theta/112.5/262.5	Theta/120/292.5	Theta/120/240	Theta/120/240
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/135/142.5	Theta/30/7.5	Theta/30/0	Theta/82.5/315	Theta/82.5/352.5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/127.5/90	Theta/60/135	Theta/105/240	Theta/90/165	Theta/82.5/165
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/52.5/172.5	Theta/52.5/157.5	Theta/60/165	Theta/67.5/172.5	Theta/67.5/165
Max Gain (dBi)	5.02	4.42	4.11	4.9	4.28
DG [1SS] (dBi)	7.4	6.49	6.81	6.97	6.33
DG [2SS] (dBi)	5.02	4.42	4.11	4.9	4.28
DG [4SS] (dBi)	5.02	4.42	4.11	4.9	4.28

6GAnt1~4

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	4.67	4.94	4.85	4.92
Ant. 2 Max Gain (dBi)	4.9	4.62	3.85	4.18
Ant. 3 Max Gain (dBi)	4.76	3.7	3.8	4.37
Ant. 4 Max Gain (dBi)	4.42	4.27	3.12	4.38
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/30/0	Theta/30/352.5	Theta/22.5/337.5	Phi/15/270
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/37.5/270	Phi/127.5/277.5	Phi/127.5/277.5	Theta/30/157.5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/75/105	Phi/37.5/195	Phi/97.5/15	Phi/75/127.5
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/97.5/45	Phi/112.5/187.5	Phi/97.5/202.5	Phi/97.5/187.5
Max Gain (dBi)	4.9	4.94	4.85	4.92
DG [1SS] (dBi)	7.48	7.88	6.12	7.86
DG [2SS] (dBi)	4.9	4.94	4.85	4.92
DG [4SS] (dBi)	4.9	4.94	4.85	4.92



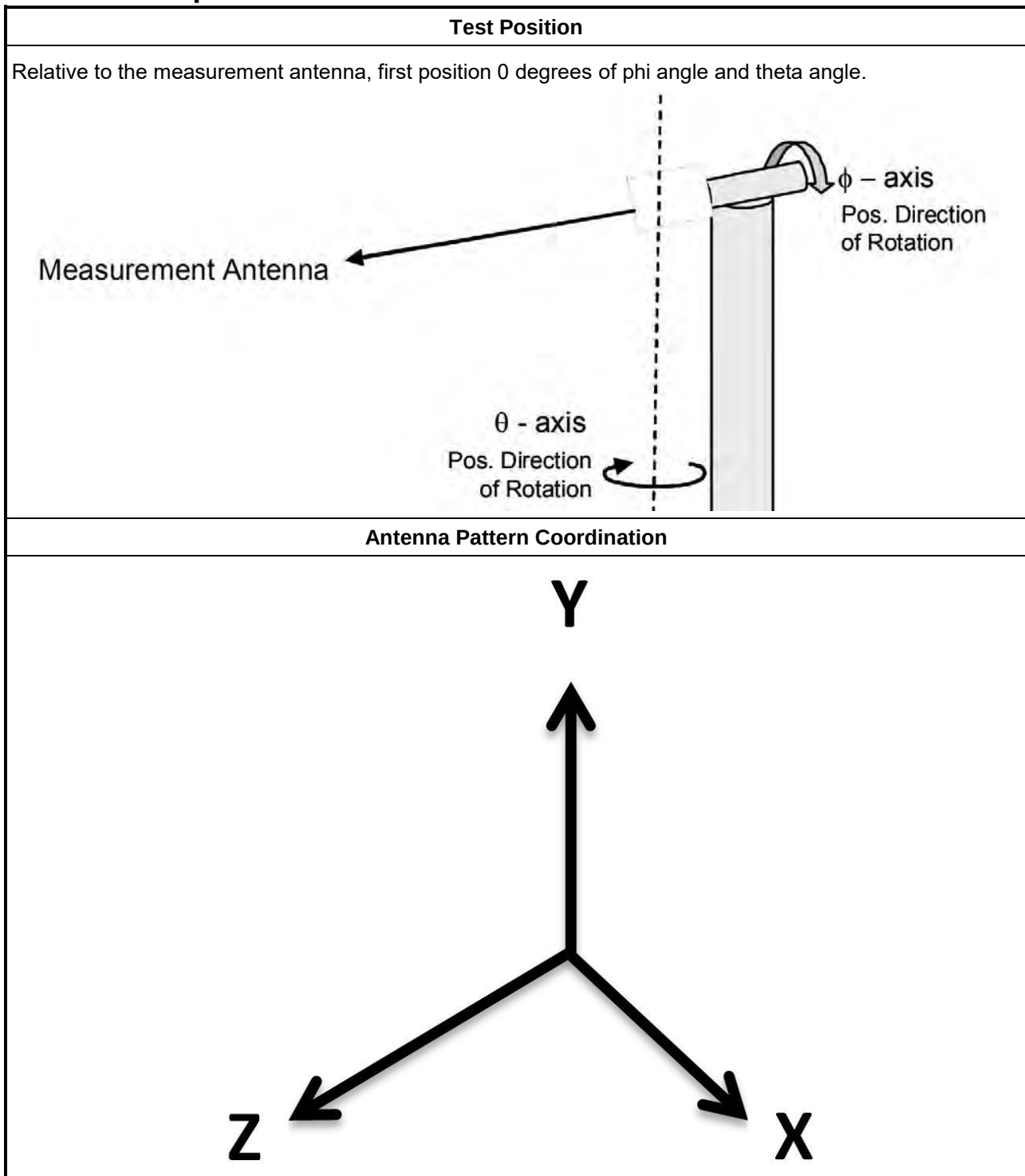
ScanAnt

Freq(Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	4.82	4.79	4.23	4.09
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/165/180	Theta/157.5/142.5	Theta/172.5/172.5	Theta/172.5/172.5

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. If directional gain is less than max gain, use max gain as directional gain. Refer to KDB662911D01 (F) (2) (e) (ii).
4. Directional Gain (2SS) = Directional Gain (1SS) – 3dB.
5. Directional Gain (4SS) = Directional Gain (1SS) – 6dB.

10. Test Setup



Note:

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

**11. Test Equipment and Calibration Data**

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1531	1GHz~18GHz	Dec. 19, 2025	Dec. 18, 2026
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	Aug. 06, 2025	Aug. 05, 2026
VNA Calibration Kit	TS RF	TS85033E-F	-	DC~9GHz	N.C.R.	N.C.R.
Multi-axis positioner	Sporton	MAPS01	MAPS01-001	Theta / Phi axis	N.C.R.	N.C.R.
Test Software	SPORTON	SENSE-RDG	V1.0.8	-	N.C.R.	N.C.R.

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

NCR means Non-Calibration required.



12. Test Results

Please refer to the appendix.

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Appendix F – Antenna Pattern of 5GHz Scan.....	Page 57
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Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	4.03	3.77	3.87	4.69	3.58
Ant. 2 Max Gain (dBi)	3.7	3.91	4.11	3.67	3.78
Ant. 3 Max Gain (dBi)	5.02	3.1	2.82	3.97	2.92
Ant. 4 Max Gain (dBi)	3.8	4.42	4.09	4.9	4.28
Ant. 1 Polarization/Θ(°)/Φ(°)	Theta/112.5/75	Theta/112.5/262.5	Theta/120/292.5	Theta/120/240	Theta/120/240
Ant. 2 Polarization/Θ(°)/Φ(°)	Theta/135/142.5	Theta/30/7.5	Theta/30/0	Theta/82.5/315	Theta/82.5/352.5
Ant. 3 Polarization/Θ(°)/Φ(°)	Theta/127.5/90	Theta/60/135	Theta/105/240	Theta/90/165	Theta/82.5/165
Ant. 4 Polarization/Θ(°)/Φ(°)	Theta/52.5/172.5	Theta/52.5/157.5	Theta/60/165	Theta/67.5/172.5	Theta/67.5/165
Max Gain (dBi)	5.02	4.42	4.11	4.9	4.28
DG [1SS] (dBi)	7.4	6.49	6.81	6.97	6.33
DG [2SS] (dBi)	5.02	4.42	4.11	4.9	4.28
DG [4SS] (dBi)	5.02	4.42	4.11	4.9	4.28



Radiated Composite Gain Data 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°)	-5.27/-4.19	-3.34/-2.57	-1.62/-0.6	0.31/-1.6	1.96/-2.62	3.17/3.53	3.79/3.86	3.89/3.6	3.09/2.45	1.63/0.61	-0.54/-1.77	-3.27/-4.37	-4.4/-3.78	-3.17/-2.33	-1.64/-1.07	-0.62/0.07	0.81/55	2.14/-2.67	2.96/-3.14	3.25/3.19	2.98/2.49	1.77/0.73	-0.66/-2.31	-3.97/-4.51	
Θ(7.5°)	-5.82/-4.52	-3.34/-2.34	-1.4/-0.65	0.12/0.93	1.78/2.52	3.09/3.44	3.82/3.69	3.68/3.81	3.53/2.97	2.24/1.37	0.34/-0.8	-1.76/-2.05	-1.9/-1.48	-0.97/-0.56	-0.25/-0.28	0.01/0.51	1.14/-1.77	2.39/2.89	3.15/3.33	3.35/3.21	2.86/2.28	1.46/0.43	-0.91/-2.59	-4.72/-5.57	
Θ(15°)	-6.57/-5.66	-4.22/-2.98	-2.05/-1.22	-0.45/0.38	1.25/2.05	2.67/3.04	3.29/3.42	3.46/3.35	3.03/2.54	1.92/1.19	0.38/-0.46	-1.17/-1.71	-1.87/-1.53	-1.16/-0.64	-0.28/-0.15	0.21/0.84	1.45/2.03	2.63/3.09	3.3/3.36	3.25/2.94	2.44/1.8	1.03/0.13	-0.99/-2.4	-3.86/-5.77	
Θ(22.5°)	-5.4/-5.74	-5.4/-5.74	-3.28/-2.06	-0.97/0.11	1.14/2.05	2.71/3.08	3.32/3.43	3.44/3.23	3.19/2.73	2.21/1.57	0.88/-0.04	-1.2/-2.32	-2.64/-2.36	-1.85/-1.31	-0.83/-0.02	0.71/1.33	1.84/2.35	2.94/3.47	3.68/3.69	3.49/3.05	2.38/1.61	0.8/-0.03	-0.99/-2.1	-3.33/-4.38	
Θ(30°)	-4.43/-4.68	-4.76/-4.15	-3.16/-2.04	-1.0/0	1.02/2.01	2.81/3.32	3.59/3.65	3.49/3.18	2.65/1.98	1.41/0.85	0.21/-0.78	-2.06/-3.43	-4.91/-5.4	-4.81/-4.01	-2.65/-0.74	0.61/-4.2	1.99/2.58	3.33/3.98	4.36/4.45	4.25/3.76	2.99/2.04	0.95/-0.17	-1.35/-2.51	-3.25/-3.97	
Θ(37.5°)	-3.53/-2.77	-1.98/-1.47	-1.02/-0.51	-0.05/0.55	1.39/2.36	3.24/3.78	4.13/4.21	3.93/3.18	2.62/2.02	1.61/1.17	0.45/-0.7	-2.38/-4.58	-6.7/-8.31	-7.97/-6.16	-3.11/-1.29	0.29/1.42	2.11/2.48	3.09/3.93	4.35/4.47	4.25/3.7	2.87/1.78	0.43/-0.62	-1.84/-2.9	-3.66/-4.13	
Θ(45°)	-2.89/-1.85	-0.86/-0.27	0.46/1.06	1.42/1.74	2.14/2.81	3.64/2.6	4.72/4.92	4.75/4.18	3.34/2.65	2.17/1.79	1.25/0.32	-1.11/-3.22	-5.76/-7.5	-7.62/-6.72	-4.63/-1.75	0.34/1.9	2.84/3.21	2.95/2.86	3.32/3.43	3.23/2.79	2.01/1.13	0.72/0.35	-0.36/-1.4	-2.84/-3.71	
Θ(52.5°)	-4.38/-3.9	-2.94/-1.74	-0.76/-0.02	0.47/0.81	1.25/1.84	2.56/3.27	3.92/4.39	4.52/4.23	3.74/3.2	2.72/2.36	1.7/0.58	-1.15/-3.3	-5.3/-6.46	-6.48/-5.85	-4.15/-1.69	0.37/1.91	2.99/3.57	3.57/2.91	2.27/2.09	1.82/1.28	1.03/1.25	1.20/0.86	0.33/-0.45	-1.77/-3.62	
Θ(60°)	-5.73/-5.63	-4.06/-2.22	-1.15/-0.54	-0.13/0.26	0.81/3.1	1.84/2.29	2.62/2.88	3.03/2.8	2.21/1.49	1.19/1.19	0.8/-0.19	-1.93/-4.29	-6.3/-6.78	-6.48/-5.92	-4.35/-2.1	-0.21/3.6	2.64/3.6	4.01/3.65	2.63/1.43	0.58/0.13	0.61/1.09	1.19/0.97	-0.42/-0.47	-1.85/-3.82	
Θ(67.5°)	-7.92/-6.94	-4.91/-3.33	-2.41/-1.76	-0.91/0.08	0.72/1.19	1.81/2.5	3.05/3.31	3.12/2.5	1.06/0.33	0.43/0.63	0.24/-0.87	-2.88/-5.55	-7.8/-8.43	-6.64/-4.58	-2.55/-1.21	-0.32/0.4	1.17/1.8	2.05/1.82	1.38/1.05	0.58/0.26	0.38/0.73	0.87/0.54	-0.36/-2.03	-4.28/-6.84	
Θ(75°)	-8.78/-8.16	-6.21/-4.42	-2.98/-2.09	-1.57/-0.82	0.22/1.13	1.64/1.78	2.02/2.25	2.47/2.44	2.06/1.76	1.71/1.26	0.35/-0.9	-2.6/-4.88	-7.27/-8.81	-7.51/-5.08	-3.27/-2.37	-1.89/-1	-0.14/0.15	-0.14/-0.66	-1.19/-1.35	-1.32/-1.11	-0.97/-0.4	-0.07/0.07	-0.5/-2.09	-4.56/-7.72	
Θ(82.5°)	-6.1/-4.69	-3.47/-2.65	-2.25/-2.28	-2.35/-1.37	0.31/2.08	3.52/4.26	4.18/3.57	2.83/2.27	1.52/0.77	0.12/-0.49	-1.16/-2	-3.24/-4.74	-6.14/-7.24	-7.05/-5.4	-3.99/-2.88	-1.7/-0.84	-0.37/0.08	0.56/0.53	-0.6/-2.3	-2.63/-1.62	-0.42/0.18	-0.11/-0.7	-1.67/-3.12	-5.25/-6.68	
Θ(90°)	-8.47/-6.28	-3.83/-2.23	-1.32/-1.07	-1.45/-1.89	-0.51/0.2	1.89/2.61	3.12/2.98	2.42/1.89	1.29/0.46	-0.13/-0.54	-0.94/-1.66	-2.69/-4.14	-5.68/-7.19	-8.53/-8.45	-7.17/-4.17	-1.65/-0.51	-0.25/-0.36	-0.49/-0.76	-1.68/-2.63	-1.7/-0.44	0.28/0.07	-0.49/-1.48	-2.8/-4.5	-6.48/-9.77	
Θ(97.5°)	-6.6/-5.01	-3.19/-2.25	-2.34/-3.62	-5.38/-3.86	-0.49/1.6	2.16/1.75	1.39/1.19	0.93/0.73	0.39/-0.41	-1.39/-1.81	-2.05/-2.49	-3.02/-3.68	-4.54/-5.91	-7.79/-8.92	-6.87/-3.47	-1.7/-0.84	-0.67/-0.51	-0.39/-0.57	-1.4/-1.5	-0.27/0.53	0.91/0.67	-0.03/-1.09	-2.67/-4.96	-6.84/-7.53	
Θ(105°)	-4.22/-3.94	-3.41/-2.65	-2.43/-2.61	-2.53/-1.9	-1.21/-0.43	-0.08/0.17	0.21/0.06	-0.08/-0.22	-0.43/-0.78	-1.21/-2.04	-3.04/-3.92	-3.86/-3.97	-4.22/-4.81	-5.84/-7.85	-9.76/-8.46	-6.22/-3.81	-1.72/0.16	1.17/1.26	0.63/0.19	0.41/1.45	2.26/2.11	1/-0.83	-2.78/-4.85	-5.63/-6.44	
Θ(112.5°)	-3.41/-3.2	-3.52/-3.01	-1.61/-0.68	-0.20/2.8	0.7/0.59	-0.15/-0.97	0.02/0.91	1.35/1.64	1.89/1.89	1.5/0.52	-1.07/-2.53	-3.17/-3.49	-4.11/-5.02	-6.36/-7.13	-7.47/-6.77	-5.21/-3.7	-1.98/-0.99	-0.6/-0.82	-1.23/-1.32	-0.99/-0.19	0.55/0.5	-0.59/-2.51	-3.79/-4.84	-5.05/-4.34	
Θ(120°)	-4.51/-4.43	-4.38/-3.24	-1.05/9	0.74/1	1.82/1.97	1.11/-0.37	-1.21/-1.33	-1.21/-1.25	-0.65/-0.4	-0.63/-1.28	-1.94/-2.44	-2.67/-3.06	-3.7/-3.94	-3.57/-3.38	-3.62/-4.34	-4.71/-4.37	-3.56/-3.43	-3.32/-2.56	-2.54/-3.22	-2.94/-1.27	-0.15/-0.07	-0.83/-2.17	-3.75/-4.58	-4.5/-4.53	
Θ(127.5°)	-2.22/-3.18	-4.41/-3.54	-0.58/1.51	2.09/1.65	0.67/-0.56	-1.56/-2.95	-3.84/-2.95	-1.85/-0.36	0.44/0.26	-0.19/-0.01	0.43/0.28	-3.1/-3.03	-1.5/-1.37	-1.21/-1.61	-2.31/-3.09	-4.38/-7.13	-7.74/-5.42	-4.99/-6.64	-5.12/-2.58	-1.17/-0.97	-1.38/-1.94	-2.24/-2.05	-1.73/-1.73		
Θ(135°)	-6.21/-6.78	-6.86/-5.82	-2.25/0.1	1.03/0.9	-0.02/-1.39	-3.55/-5.57	-5.54/-4	-2.71/-1.38	-0.53/-0.48	-1.36/-2.67	-2.99/-2.68	-2.66/-2.61	-2.09/-1.89	-2.33/-3.08	-3.68/-3.56	-3.04/-3.43	-4.71/-5.89	-5.89/-4.08	-3.38/-4.34	-4.56/-3.65	-2.58/-2.81	-3.79/-4.73	-5.4/-5.86	-6.03/-6.05	
Θ(142.5°)	-6.53/-6.09	-4.88/-4.33	-3.99/-3.15	-1.97/-1.33	-1.75/-3.01	-4.42/-5.25	-5.99/-6.21	-7.06/-5.57	-3.32/-2.2	-2.3/-3.37	-4.18/-4.13	-3.09/-1.86	-1.06/-0.63	-0.48/-0.58	-0.94/-1.57	-2.64/-4.24	-5.62/-5.51	-4.27/-3.06	-2.38/-2.82	-3.51/-4.07	-4.25/-4.72	-6.18/-7.34	-9.15/-10.6	-11.41/-11.12	
Θ(150°)	-11.07/-8.64	-6.64/-5.32	-7.13/-7.24	-5.73/-4.37	-3.72/-3.64	-1.12/0.31	-0.88/-1.56	-1.8/-2.06	-1.97/-1.84	-1.44/-0.84	-0.35/0.09	0.53/0.93	1.44/1.85	2.16/2.32	2.39/2.22	1.82/1.41	0.86/-0.01	-1.07/-2.46	-3.94/-4.12	-3.35/-2.2	-0.97/0.23	1.27/1.2	2.77/3.33	3.78/4.08	4.24/4.18
Θ(157.5°)	-8.86/-8.84	-8.94/-9.46	-9.94/-9.43	-8.45/-6.57	-5.55/-5.44	-6.25/-7.64	-8.73/-7.54	-5.27/-3.51	-2.36/-1.79	-1.87/-2.35	-2.92/-3.26	-3.05/-2.43	-1.82/-1.33	-0.9/-0.57	-0.3/-0.21	-0.35/-0.62	-1/-1.5	-2.19/-3.03	-4.61/-6.39	-7.65/-7.59	-7.12/-6.46	-5.87/-5.24	-5.05/-5.48	-6.61/-7.88	
Θ(165°)	-5.06/-5.88	-6.58/-6.71	-6.34/-6.16	-5.93/-5.62	-5.56/-5.23	-7.59/-8.49	-8.56/-7.2	-6.06/-5.07	-3.96/-3.17	-2.89/-3.05	-3.44/-4.32	-4.79/-4.87	-4.78/-4.22	-4.31/-2.45	-1.59/-1.13	-1.02/-1.19	-1.8/-2.72	-4.01/-5.95	-7.57/-7.5	-5.36/-3.32	-2.15/-1.53	-1.24/-1.26	-1.53/-2.17	-3.06/-4.14	
Θ(172.5°)	-4.51/-5.21	-5.85/-6.97	-6.55/-6.97	-6.94/-6.68	-6.57/-6.99	-7.35/-7.96	-8.2/-8.49	-8.34/-7.64	-6.72/-5.57	-4.89/-4.66	-4.95/-4.3	-6.12/-6.48	-6.97/-7.17	-6.72/-6.21	-5.56/-5.22	-5.24/-5.66	-6.61/-7.92	-6.18/-7.35	-5.2/-3.27	-1.91/-1.06	-0.28/0.51	-1/-1.77	-2.75/-3.7		
Θ(180°)	-3.86/-4.39	-5.16/-6.3	-7.66/-8.78	-9.23/-9.01	-8.35/-8.17	-8/-7.76	-7.54/-7.37	-7.27/-7.14	-6.93/-6.48	-6.04/-5.71	-5.6/-5.6	-5.69/-5.76	-5.93/-6.1	-6.52/-7.26	-8.25/-9.35	-10.35/-9.76	-9.03/-7.7	-6.28/-4.65	-3.38/-2.43	-1.88/-1.66	-1.68/-1.86	-2.11/-2.48	-2.95/-3.08	-3.19/-3.62	
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°)	2.8/2.4	1.92/1.55	1.31/1.06	0.76/0.32	-0.46/-1.69	-3.51/5.38	-6.04/-4.93	-3.52/-2.09	-0.72/0.46	1.4/2.25	2.89/3.32	3.69/3.91	3.98/3.97	3.87/3.65	3.21/2.82	2.34/1.67	0.77/0.48	-1.74/-3.34	-3.56/-3.31	-2.73/-1.96	-1.14/-0.27	0.69/1.62	2.37/2.93	3.14/3.17	
Θ(7.5°)	3.81/3.34	2.8/2.39	2.22/0.6	1.89/1.52	0.86/-0.17	-1.74/-2.97	-3.16/-3.03	-2.51/-2.01	-1.66/-0.92	0.02/0.94	1.76/2.38	2.86/3.15	3.32/3.39	3.32/3.13	2.84/2.39	1.68/0.79	-0.33/-1.86	-3.55/-5.01	-4.49/-3.53	-2.33/-1.1	0.09/1.12	2/2.8	3.42/3.85	4.06/4.01	
Θ(15°)	3.97/3.59	3.11/2.61	2.23/2.02	1.85/1.62	1.12/0.31	-0.81/-1.56	-1.8/-2.06	-1.97/-1.84	-1.44/-0.84	-0.35/0.09	0.53/0.93	1.44/1.85	2.16/2.32	2.39/2.22	1.82/1.41	0.86/-0.01	-1.07/-2.46	-3.94/-4.12	-3.35/-2.2	-0.97/0.23	1.27/1.2	2.77/3.33	3.78/4.08	4.24/4.18	
Θ(22.5°)	3.43/3.02	2.53/1.99	1.48/1.15	1.07/1.08	0.87/0.41	-0.19/-0.27	-0.03/0.14	0.22/0.28	0.44/0.7	0.92/0.91	1.04/0.95	0.97/0.97	0.94/0.87	0.65/0.24	-0.3/-0.49	-1.01/-1.58	-2.16/-2.51	-2.61/-2.51	-1.95/-1.12	0/1.03	1.89/2.54	3/3.36	3.61/3.79	3.86/3.75	
Θ(30°)	3.05/2.69	2.19/1.5	0.72/0.02	-0.24/-0.23	-0.17/-0.14	-0.11/0.46	0.98/1.47	1.76/1.87	1.83/1.77	1.71/1.63	1.51/1.49	1.38/1.23	1.14/0.91	0.5/-0.43	-1.79/-2.99	-3.73/-4.42	-3.74/-6.24	-1.8/-1.11	-0.62/-0.21	0.47/1	1.69/2.22	2.64/2.95	3.13/3.29	3.36/3.31	
Θ(37.5°)	3.43/3.2	2.75/2.14	1.32/0.44	-0.12/-0.29	-0.02/0.34	0.92/1.64	2.39/3.04	3.48/3.56	3.45/3.22	3.01/2.83	2.71/2.68	2.54/2.42	2.16/1.7	1.15/0.35	-0.45/-1.35	-2.53/-3.65	-3.55/-2.22	0.71/1.17	1.48/1.59	1.69/1.88	2.18/2.44	2.72/3.06	3.33/3.5		
Θ(45°)	3.83/3.83	3.55/3.05	2.36/1.53	0.75/0.28	0.54/1.26	1.92/2.46	2.94/3.3	3.59/3.7	3.51/3.14	2.95/3.02	3.16/3.29	3.51/3.71	3.81/3.67	3.32/3.74	1.88/0.71	-0.47/-1.71	-2.17/-1.97	-0.92/0.48	1						



Radiated Composite Gain Data 2.4GHz/5GHz

Appendix A

Θ(22.5°)	1.81/1.12	0.77/1.36	2.11/2.42	2.36/2.22	2.08/2.04	1.73/1.21	0.53/1.14	1.57/1.85	1.84/1.35	0.36/-0.74	-1.85/-2.42	-2.96/-2.68	-1.71/-0.32	1/1.94	2.54/2.96	3.32/3.58	3.86/3.96	3.71/3.22	2.72/2.67	3.1/3.22	3.24/3.41	3.42/3.17	2.65/2.07	1.36/1.45
Θ(30°)	1.05/0.84	1.14/1.36	1.56/1.98	2.32/2.66	2.64/2.45	2.16/1.85	1.71/1.75	1.59/1.33	1.41/1.26	0.79/0.35	-0.26/-1.54	-3.07/-4.16	-3.21/-1.99	-0.66/0.41	1.87/2.71	3.14/3.3	3.1/2.61	2.38/2.32	1.99/1.42	1.48/2	2.22/2.39	2.73/3.1	3.47/3.47	2.59/1.69
Θ(37.5°)	-0.86/-0.21	0.38/-0.2	0.44/-1.39	1.28/0.18	-1.12/-0.8	0.04/0.14	-0.22/0.24	1.07/1.48	1.57/2.01	1.62/0.56	-0.17/-1.23	-0.20/-2.33	-0.28/0.45	0.94/1.62	2.57/3.07	3.21/3.15	2.63/2.01	1.42/0.29	-0.25/0.5	0.87/0.69	0.94/0.95	1.68/2.25	2.32/3.33	0.19/-0.53
Θ(45°)	-4.14/-4.48	-4.53/-5.09	-4.41/-2.71	-1.67/-1.7	-1.22/-1.15	-1.32/-0.83	-0.18/-0	0.54/1.41	1.58/1.16	0.85/0.62	-0.12/-1.26	-2.31/-2.44	-1.59/-1.17	-0.66/-0.07	1.46/2.47	3.29/3.57	3.11/2.51	1.83/1.23	0.89/-0.15	-0.69/0.06	0.15/0.78	1.26/0.82	0.3/-0.91	-3.67/-4.29
Θ(52.5°)	-4.68/-3.85	-4.31/-3.58	-3.06/-3.2	-4.15/-4.98	-4.69/-3.12	-2.36/-1.73	-0.98/-0.27	0.54/-1.59	2.02/1.71	0.76/0.18	0.08/-0.12	-0.93/-2.05	-1.36/-0.69	-0.46/-0.18	0.51/1.87	3.26/4.21	3.63/1.43	0.86/1.85	1.56/0.25	-0.46/-0.2	0.81/0.81	0.15/-1.22	-2.45/-2.69	-3.56/-4.29
Θ(60°)	-6.67/-4.87	-4.22/-5.53	-4.24/-1.55	-0.71/-1.92	-3.99/-3.56	-2.77/-2.55	-2.25/-1.28	-0.91/-0.14	0.65/0.37	-0.4/-0.95	-1.23/-1.24	-3.25/-3.49	-1.98/-0.98	0.04/1.1	1.52/0.58	0.69/2.47	2.67/1.25	1.19/0.64	0.36/-0.4	-0.31/-1.62	-2.26/-1.74	-1.17/-1.64	-3.33/-6.47	
Θ(67.5°)	-3.84/-3.63	-3.93/-3.6	-3.53/-2.08	-1.35/-1.68	-3.04/-3.72	-3.51/-4.58	-4.25/-1.98	-1.22/-1.24	-0.54/-0.56	-1.54/-2.06	-1.04/-1.46	-3.17/-3.12	-2.17/-1.05	-0.03/0.62	1.2/0.39	-0.5/0.97	1.44/0.19	-0.07/0.38	0.39/-0.67	-0.82/-2.27	-2.68/-3.26	-2.46/-1.67	-2.81/-4.49	-4.54/-4.31
Θ(75°)	-6.98/-6.52	-4.55/-3.63	-3.14/-1.93	-1.81/-4.06	-3.59/-2.57	-3.88/-5.18	-4.75/-4.43	-3.99/-2.87	-2.7/-2.72	-1.74/-2.96	-3.49/-4.45	-4.22/-3.13	-1.75/-0.94	-0.52/-0.64	0.16/0.35	-1.07/-0.93	-0.38/-1.48	-3.49/-0.7	0.76/-0.88	-0.93/-2.54	-5.91/-4.76	-4.91/-3.74	-3.55/-3.94	-4.36/-6.68
Θ(82.5°)	-7.48/-7.56	-5.3/-4.11	-2.62/-2.22	-2.96/-3.06	-3.35/-4.56	-4.09/-4.6	-7.39/-5.4	-5.77/-3.77	-2.58/-4.09	-6.07/-5.47	-5.89/-5.62	-4.02/-3.64	-3.71/-2.2	-1.78/-3.41	-3.28/-1.61	-1.54/-2.08	-1.38/-1.7	-2.55/-1.96	-1.26/-1.84	-3.06/-4.77	-6.25/-5.18	-4.37/-5.36	-4.98/-4.26	-4.84/-6.34
Θ(90°)	-5.71/-7.6	-4.74/-3.66	-5.94/-5.14	-3.79/-3.65	-4.08/-2.44	-2.79/-2.78	-3.26/-6.94	-4.25/-3.99	-4.77/-4.99	-6.93/-5.94	-4.41/-3.8	-1.89/-1.38	-0.98/-2.36	-4/-3.76	-2.46/-3.3	-3.37/-1.55	-1.18/-1.49	-1.83/-5.35	-2.7/-3.31	-3.41/-4.38	-6.05/-6.06	-4.9/-4.08	-4/-4.58	-5.93/-5.24
Θ(97.5°)	-7.23/-7.56	-5.99/-6.29	-7.31/-6.13	-3.72/-2.6	-2.31/-3.1	-3.12/-3.75	-4.2/-3.2	-2.71/-3.92	-6.76/-8.73	-4.92/-4.3	-3.2/-2.61	-1.06/0.82	-0.18/-3.14	-5.55/-4.1	-3.18/-3.63	-3.4/-2.53	-1.9/-3.16	-4.15/-3.32	-3.63/-2.46	-3.36/-4.99	-4.29/-6.22	-6.21/-4.11	-6.03/-7.62	-9.9/-8.25
Θ(105°)	-8.54/-8.5	-9.41/-9.19	-7.89/-6.05	-4.13/-3.33	-3.41/-4.63	-2.28/-2.11	-1.29/-0.8	-2.02/-3.05	-5.27/-4.51	-1.34/-1.87	-3.66/-3.32	-1.28/-0.8	-1.9/-4.79	-6.18/-6.78	-4.67/-3.91	-2.79/-2.26	-2.88/-3.69	-4.34/-6.41	-5.07/-4.07	-2.71/-1.72	-3.38/-5.3	-3.84/-5.56	-8.5/-11.13	-11.17/-8.57
Θ(112.5°)	-6.98/-7.12	-7.49/-5.52	-5.1/-6	-5.15/-7.45	-4.74/-2.04	-3.78/-2.89	-1.37/-1.58	-1.55/-2.78	-2.28/-2.05	-0.56/-2.29	-2.66/-3.46	-2.25/-2.09	-3.07/-1.25	-2.15/-1.68	-1.3/-2.21	-2.95/-1.73	-3.05/-5.05	-4.36/-4.04	-3.78/-3.45	-0.62/-0.7	-2.87/-4.06	-4.13/-5.15	-4.58/-4.28	-6.57/-7.9
Θ(120°)	-4.72/-6.58	-5.28/-4.51	-4.18/-5.85	-6.68/-4.14	-1.34/-0.82	-1.85/-2.52	-1.71/-1.6	-1.6/-0.41	0.68/0.18	-2.19/-4.61	-4.38/-4.2	-2.69/-3.32	-3.91/-1.15	-3.22/-4.54	-2.21/0.46	0.04/-3.39	-2.68/-4.75	-6.24/-3.04	-2.55/-3.79	-6.45/-4.46	-2.04/-3.07	-4.96/-5.99	-7.21/-5.72	-6.27/-5.75
Θ(127.5°)	-7.15/-7.62	-8.38/-5.47	-4.92/-3.49	-5.47/-6.37	-1.65/-1.73	-2.75/-3.51	-2.11/-1.81	-1.39/-1.71	0.87/-1.86	-3.08/-4.61	-3.58/-2.14	-0.92/-2.61	-3.99/-1.59	-1.24/-0.65	-0.27/-1.83	0.55/-1.25	-1.99/-5.06	-4.1/-2.1	-0.72/-3.4	-5.95/-3.56	-2.32/-2.76	-4.49/-2.88	-6.98/-7.9	-4.15/-5.03
Θ(135°)	-7.54/-7.3	-3.16/-1.69	-4.01/-5.1	-5.16/-3.3	-5.76/-7.75	-4.3/-3.46	-2.99/-2.43	-2.63/-0.39	-0.46/-3.57	-7.41/-7.7	-4.62/-3.46	-2.12/-2.59	-4.92/-2.94	-2.53/-0.94	-0.17/0.78	-1.32/-0.43	-3.99/-4.77	-1.64/-1	-4.38/-5.82	-5.3/-5.73	-4.93/-2.04	-2.14/-2.96	-4.15/-7.09	-7.19/-5.71
Θ(142.5°)	-6.27/-5.89	-6.08/-4.73	-2.77/-2.96	-4.45/-3.65	-3.1/-2.63	-4.45/-4.35	-2.87/-0.65	-1.09/-3.72	-6.67/-8.73	-7.36/-7.4	-8.42/-4.89	-2.82/-4.58	-7.13/-3.7	-0.94/-0.4	-0.99/-1.42	-0.8/-1.7	-2.78/-2.85	-3.86/-3.6	-4.95/-2.97	-1.78/-5.65	-9.49/-4.94	-2.09/-4.18	-3.06/-3.08	-4.14/-5.7
Θ(150°)	-3.88/-4.82	-5.06/-4.17	-3.21/-3.24	-2.87/-3.17	-2.45/-1.55	-1.91/-0.3	-4.81/-2.8	-4.21/-3.92	-4.64/-7.87	-8.97/-6.6	-3.18/-1.78	-2.63/-4.74	-3.97/-2.85	-4.26/-5.69	-1.92/-1.42	-3.72/-96	-2.81/-1.79	-1.49/-4.52	-4.61/-4.56	-4.64/-4.96	-4.47/-4.09	-2.49/-2.8	-5.22/-3.61	-2.07/-2.18
Θ(157.5°)	-5.63/-4.17	-2.29/-1.45	-0.52/-0.42	-0.71/-4.24	-2.72/-1.4	-1.87/-4.01	-3.99/-4.02	-5.27/-6.62	-6.87/-6.27	-6.88/-6.59	-6.88/-7.14	-7.44/-5.99	-3.64/-2.88	-4.12/-4.14	-3.99/-2.67	-0.49/-0.14	-2.31/-4.15	-4.08/-5.96	-7.14/-4.51	-3.61/-3.8	-4.77/-4.92	-5.62/-7.05	-6.54/-5.53	-4.88/-5.61
Θ(165°)	-7.94/-639	-4.66/-3.69	-2.8/-2.02	-2.48/-3.54	-2.95/-1.81	-1.12/-1.25	-1.49/-2.1	-4.31/-5.79	-5.73/-5.21	-5.59/-6.24	-7.42/-8.81	-8.82/-7.81	-6.78/-6.77	-6.81/-6.05	-4.68/-4.09	-4.79/-6.01	-6.01/-5.7	-6.71/-9.44	-7.57/-6.36	-4.85/-5.88	-8.19/-11.11	-12.96/-12.06	-7.97/-6.89	-6.48/-6.24
Θ(172.5°)	1.12/-0.24	-1.31/-2.16	-2.61/-3.1	-2.71/-5	-0.6/-0.41	-0.94/-2.32	-3.36/-3.64	-3.88/-4.13	-4.59/-4.97	-5.27/-4.9	-4.62/-3.73	-2.81/-2.14	-1.89/-1.82	-1.96/-2.05	-0.28/-2.18	-2/-1.8	-1.91/-2.8	-4.01/-5.11	-6.13/-7	-7.41/-7.03	-5.88/-4.91	-3.64/-2.39	-1.19/-0.05	0.99/1.62
Θ(180°)	-1.58/-1.29	-1.19/-1.63	-1.84/-1.82	-1.97/-2.47	-3.56/-4.45	-5.06/-5.73	-5.94/-6.09	-5.86/-5.74	-5.26/-4.44	-3.47/-2.7	-2.39/-2.12	-1.59/-0.87	-0.34/-0.01	0.01/0.06	0.08/0.22	0.01/-0.62	-1.48/-2.51	-3.97/-5.34	-6.28/-7.53	-7.68/-6.54	-4.59/-3.05	-2.35/-2.19	-2.14/-1.87	-7.41/-4.5
Freq(Hz)	5.36GPol.	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°)	2.32/2.48	2.82/2.98	3.08/3.12	3.15/3	2.56/1.92	1.17/0.27	-0.01/-0.16	-0.23/0.18	0.71/2.25	1.56/1.77	2.15/2.43	2.23/1.62	1.79/2.11	2.64/3.09	3.43/3.57	3.43/3.22	2.85/2.43	1.7/0.83	0.45/0.41	0.84/1.53	2.13/2.58	2.99/3.11	2.87/2.71	3.52/2.51
Θ(7.5°)	2.04/2.14	2.53/2.92	3.03/3.11	3.26/3.22	3.07/2.65	1.90/69	0.64/0.08	0.41/0.98	1.88/2.31	2.4/2.58	2.75/2.89	2.84/2.43	2.26/2.5	2.61/2.79	3.05/3.1	2.72/2.3	1.86/1.23	0.54/0.29	0.1/0.08	-0.11/0.26	0.98/1.65	2.1/2.26	2.3/2.26	2.24/2
Θ(15°)	1.99/2.52	3.04/3.26	3.32/3.62	4.06/4.06	4.02/3.84	3.41/2.48	1.29/1.76	2.44/2.55	2.38/2.1	1.85/1.77	1.81/1.68	1.76/2.04	2.12/1.88	2.05/5.8	2.68/2.24	1.63/0.87	0.08/-0.33	0.03/0.33	0.24/0.17	0.58/1.31	2.01/2.12	1.78/1.83	1.79/1.78	
Θ(22.5°)	3.41/4.14	4.48/4.72	4.74/24	3.89/3.51	3.42/3.59	3.26/2.27	0.83/0.31	0.971/49	1.96/2.27	2.51/2.7	2.74/2.77	2.82/2.67	2.49/2.39	2.12/1.6	0.98/0.55	0.38/0.57	0.73/0.3	-0.7/-1.65	-1.41/-0.86	-0.8/-0.91	-0.05/0.93	1.97/2.56	2.52/2.36	2.38/2.81
Θ(30°)	4.21/4.93	5.44/5.54	5.39/5.27	4.87/4.11	3.53/3.3	2.72/2.21	1.67/1.18	1.16/1.45	1.89/2.48	2.97/3.18	3.29/3.44	3.62/3.63	3.64/3.67	3.68/3.46	2.92/3.03	0.91/0.14	-0.54/-0.81	-1.07/-0.48	-0.27/-0.33	-1.07/-0.56	0.23/0.72	1.44/1.91	2.17/2.02	2.47/3.36
Θ(37.5°)	4.21/5.16	5.5/2	4.84/4.89	4.73/3.95	3.14/3.67	3.69/2.97	1.66/0.52	0.29/0.37	0.45/1.11	1.71/2.71	3.68/4.04	4.17/4.59	5.06/5.22	4.12/2.72	1.04/-0.17	-1.18/-2.23	-3.37/-4.2	-4.31/-3.48	-2.89/-2.89	-1.3/0.65	1.38/0.91	0.75/1.42	2.45/3.36	
Θ(45°)	3.56/4.22	4.45/4.39	4.21/4.35	4.73/4.49	3.77/3.65	3.74/3.32	2.34/1.2	0.51/-0.02	0.48/1.16	1.9/2.95	3.99/4.45	4.51/4.4	4.32/4.22	4.56/3.97	3.28/2.36	1.4/0.19	-0.86/-1.94	-3.61/-3.73	-2.94/-2.25	-2.56/-1.91	-1.3/0.54	0.17/1.2	2.33/2.99	3.32/3.18
Θ(52.5°)	4.28/4.21	4.75/4.8	4.48/4.03	3.48/3.33	2.93/3.61	4.32/3.66	2.14/0.96	-1.34/-0.58	0.36/0.64	1.39/2.99	4.17/4.59	4.63/4.7	4.67/4.6	4.41/4.17	3.69/2.86	1.15/0.11	0.25/-1.69	-2.05/-1.5	-1.5/-1.45	-0.75/-0.58	-1.37/-1.03	0.75/2.33	3.03/3.7	4.24/4.5
Θ(60°)	4.05/3.85	4.08/4.18	3.83/2.78	2.54/3.42	3.56/3.37	3.42/3.26	2.59/1.15	0.79/0.04	0.49/0.81	2.4/3.52	3.76/4.28	5.11/5.36	5.22/5.12	5.02/4.81	4.26/2.81	1.82/3.7	2.15/1.67	1.21/0.75	1.48/1.38	1.63/0.92	0.66/1.44	2.4/2.47	2.83/2.1	3.42/3.84
Θ(67.5°)	3.81/63	3.23/3.28	2.87/2.1	2.35/3	2.98/2.01	1.89/1.56	1.46/0.9	1.64/2.97	2.74/3.63	4.3/3.94	4.68/4.98	5.14/5.15	5.24/5.29	4.36/2.63	1.83/3.55	3.79/2.67	1.94/2.22	3.29/2.54	2.32/2.62	2.75/5.12	3.64/3.85	3.62/3.51		
Θ(75°)	3.43/2.95	2.11/1.08	1.08/1.47	1.58/3.05	3.11/2.92	2.79/1.81	0.62/-0.17	1.4/2.05	3.78/4.18	4.46/4.48	4.67/4.13	4.44/4.47	4.58/4.36	3.97/3.63	3.66/3.22	1.64/3.09	4.36/3.44	2.36/2.32	1.35/1.52	1.75/1.81	1.97/2.77	3.12/5.32	4.18/4.47	3.75/3.68
Θ(82.5°)	3.36/2.39	1.71/73	0.77/0.85	2.52/3.05	2.76/2.17	2.28/2.44	1.36/0.78	0.58/1.84	3.42/4.56	4.16/3.75	3.92/2.88	3.57/4.47	4.82/4.64	4.25/2.83	2.32/2.75	2.57/3.49	5.06/4.53	3						



Radiated Composite Gain Data_2.4GHz/5GHz

Appendix A

Θ(75°)	-6.38/-5.24	-3.2/-1.78	-0.6/-0.2	-0.77/-1.24	-3.35/-6.16	-7.24/-6.79	-6.21/-4.08	-2.92/-2.96	-4.85/-3.12	-1.54/-4.9	-6.62/-4.17	-4.17/-3.81	-4.13/-3.36	-1.95/-2.31	-2.83/-2.81	-0.50/-7	-1.32/-1.63	-1.47/-2.25	-2.36/-1.79	-0.34/-1.64	-2.73/-2.92	-3.66/-2.73	-4.03/-5.12	-4.23/-5.74
Θ(82.5°)	-4.61/-4.92	-4.5/-4.92	-1.97/-0.41	-1.24/-1.59	-2.54/-3.74	-5/-4.62	-5.24/-3.18	-3.29/-5.21	-5.43/-2.63	-3.82/-7.08	-8.24/-6.64	-8.08/-6.59	-7.15/-5.7	-2.44/-1.61	-2.46/-2.77	-1.85/-0.28	-0.75/-0.23	-2.38/-3.92	-1.54/-1.65	-4.27/-3.54	-5.28/-6.22	-7.44/-5.7	-4.67/-2.72	-1.74/-4.47
Θ(90°)	-7.77/-6.5	-7.25/-8.33	-4.51/-1.81	-3.78/-3.04	-1.84/-3.61	-4.29/-3.85	-6.41/-5.4	-2.74/-4.19	-3.2/-5.18	-6.74/-6.03	-6.35/-6.68	-6.19/-3.72	-2.97/-2.56	-1.29/-0.98	-1.76/-2.4	-1.93/-2.31	-2.31/-0.64	-4.08/-2.85	-3.38/-4.27	-4.51/-4.62	-4.11/-4.93	-5.05/-8.4	-6.23/-3.66	-3.4/-4.71
Θ(97.5°)	-6.39/-8.11	-7.45/-6.35	-4.84/-2.96	-3.54/-3.81	-3.31/-2.71	-2.99/-2.8	-2.57/-2.08	-2.98/-3.86	-4.15/-5.86	-6.24/-7.31	-8.09/-5.57	-5.58/-2.75	-3.77/-4.7	-3.87/-3.13	-2.67/-3.46	-2.69/-2.91	-1.49/-0.69	-3.59/-3.28	-2.07/-3.2	-2.97/-1.44	-3.48/-4.52	-4.08/-5.44	-5.5/-3.64	-3.16/-4.12
Θ(105°)	-2.89/-4.48	-4.2/-4.46	-5.47/-6.59	-8.69/-8.44	-6.66/-2.8	-0.78/-0.55	-3.6/-3.5	-1/-0.09	-3.45/-5.76	-5.23/-4.16	-5.33/-3.9	-5.18/-4.01	-4.1/-3.55	-4.23/-4.72	-2.11/-2.36	-3.98/-2.08	-0.78/-0.34	-4.8/-4.13	-4.6/-2.05	-2.19/-2.37	-2.98/-4.31	-4.59/-4.97	-6.5/-8.09	-5.44/-3.03
Θ(112.5°)	-2.36/-1.44	-1.15/-5.12	-9.24/-8.02	-6.08/-5.58	-4.39/-5.91	-2.46/-2.39	-4.11/-1.62	-0.49/-0.65	-3.06/-4.55	-2.32/-2.82	-2.29/-2.15	-3.01/-3.67	-5.06/-6.34	-7.31/-7.24	-4.53/-4.18	-6.22/-4.61	-2.26/-2.91	-3.38/-3.49	-3.78/-2.73	-3.32/-3.79	-4.82/-4.3	-4.25/-8.51	-8.16/-8.03	-5.83/-3.08
Θ(120°)	-3.71/-3.25	-5.77/-5.97	-6.14/-5.07	-4.4/-5.4	-6.45/-9.25	-7.56/-4.32	-2.62/-3.24	-1.53/-1.85	-0.39/-0.03	-1.81/-2.04	-2.8/-4.53	-3.15/-2.5	-2.62/-0.33	-1.71/-2.51	-1.61/-0.15	-3.7/-4.18	-1.76/-1.08	-1.47/-2.74	-3.17/-0.47	-1.68/-4.37	-4.19/-4.61	-5.34/-4.47	-8.41/-5.29	-3.42/-2.97
Θ(127.5°)	-5.44/-3.35	-2.95/-3.89	-4.62/-6.33	-5.7/-4.81	-5.2/-7.27	-4.15/-4.48	-2.97/-4.37	-3.23/-3.07	0.39/-0.82	-1.1/-1.7	-5.12/-2.97	-2.96/-1.86	-2.55/-1.53	-4.78/-3.19	-2.07/-0.73	-0.02/-2.72	-2.97/-2.36	-4.94/-5.42	-3.71/-3.01	-3.1/-5.75	-7.17/-8.73	-6.3/-7.06	-7.86/-5.86	-4.59/-6.91
Θ(135°)	-2.25/-3.66	-2.33/-2.19	-4.17/-3.58	-5.41/-6.14	-2.4/-4.13	-5.3/-5.07	-4.11/-1.72	-0.5/-0.63	-0.19/-1.74	-4.18/-5.65	-4.83/-2.61	-1.06/-0.1	-1.16/-0.2	-1.12/-0.28	1.14/-0.42	-1.64/-4.2	-3.3/-2.52	-4.48/-7.41	-8.58/-7.85	-5.93/-6.36	-6.24/-6.74	-6.57/-4.39	-3.61/-5.18	-2.41/-0.88
Θ(142.5°)	-4.28/-4.57	-5.99/-3.62	-1.69/-2.78	-2.46/-1.12	-2.63/-4.4	-1.57/-1.22	-3.41/-2.04	-3.53/-2.83	-2.85/-4.97	-5.79/-6.38	-4.69/-1.55	1.25/-1.14	-4.86/-2.39	0.86/-1.78	0.77/-1.63	-0.14/-1.61	-5.23/-4.6	-0.83/-0.98	-6.55/-4.27	-3.7/-3	-4.06/-4.73	-2.23/-5.36	-3.09/-3.43	-6.59/-5.88
Θ(150°)	-5.51/-3.44	-3.19/-2.52	-3.74/-6.2	-1.08/-1.06	-0.55/-4.28	-2.65/-1.61	-3.54/-1.16	-1.21/-2.92	-3.59/-5.64	-6.56/-7.28	-7.52/-4.32	-3.41/-4.39	-2.57/-0.44	0.45/-1.24	-0.17/-0.16	0.49/-1.24	-1.97/-2.76	-2.38/-4.75	-6.54/-5.77	-4.61/-5.12	-5.63/-3.95	-2.59/-2.67	-2.83/-0.27	-1/-4.83
Θ(157.5°)	-4.94/-4.76	-3.04/-1.87	-1.17/-1.5	-1.15/-1.03	-3.56/-7.81	-6.04/-3.88	-2.1/-1.18	-1.58/-2.17	-2.76/-3.79	-8.38/-11.38	-8.18/-4.35	-2.08/-2.19	-2.94/-1.93	0.25/-3.93	-4.2/-2.3	-0.56/-0.32	-1.15/-2.2	-4.21/-7.44	-9.35/-9.37	-5.48/-3.4	-3.81/-4.74	-6.1/-6.45	-3.92/-2.85	-2.59/-2.94
Θ(165°)	-8.09/-6.42	-4.45/-5.21	-5.59/-6.22	-5.03/-2.64	-1/-1.06	-2.22/-2.89	-2.51/-2.45	-3.19/-4.44	-4.8/-3.79	-3.9/-4.23	-4.35/-5.02	-5.48/-4.92	-5.02/-5.64	-4.72/-2.97	-1.58/-0.97	-0.99/-1.1	-1.59/-2.45	-3.07/-3.15	-3.39/-3.92	-5.15/-4.47	-3.98/-4.77	-5.79/-5.65	-5.32/-5.94	-7.97/-8.25
Θ(172.5°)	-0.63/-2.06	-3.28/-3.44	-3/-2.41	-1.17/-0.72	-0.84/-1.51	-1.68/-1.17	-0.91/-0.88	-1.52/-2.82	-4.49/-5.04	-5.01/-3.82	-2.76/-1.6	-1.37/-1.85	-2.82/-3.51	-3.01/-2.02	-1.14/-0.94	-1.38/-2.14	-2.62/-3.12	-3.18/-3.09	-2.85/-2.93	-3.58/-3.61	-2.84/-2.35	-1.77/-1.09	-0.02/-0.99	1.41/-0.8
Θ(180°)	1.01/-1.15	1.01/-0.71	0.7/-0.2	0.99/-0.6	0.38/-0.24	-0.01/-0.85	-2.12/-3.26	-3.25/-1.98	-0.97/-0.06	0.29/-0.26	0.22/-0.06	-0.16/-0.13	0.17/-0.54	0.88/-0.6	0.10/-0.3	-0.08/-0.79	-1.63/-2.01	-2.61/-3.11	-4.69/-5.93	-5.44/-3.66	-2.45/-1.58	-0.68/-0.13	0.72/-0.71	0.28/-0.4
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°)	1.51/58	2.22/28	2.38/2.42	2.29/2.18	1.88/-1.31	0.44/-0.63	-1.28/-1.64	-1.12/-0.39	0.34/-0.87	0.93/-1.05	1.36/-1.26	1.02/-0.71	0.68/-0.91	1.31/-4.7	1.73/-2.07	2.17/-2.06	1.76/-1.22	0.39/-0.49	-1.19/-1.33	-0.84/-0.28	0.12/-0.72	1.44/-2.01	2.1/-2.01	1.99/-2.02
Θ(7.5°)	0.17/-0.13	0.63/-1.16	1.21/-2.1	1.12/-1.28	0.82/-0.34	-0.57/-1.53	-2.34/-2.33	-2.36/-1.67	-0.19/-0.51	0.56/-0.86	1.54/-1.47	1.21/-1.13	1.46/-1.55	1.69/-2.11	2.37/-2.35	2.14/-2.17	1.99/-1.53	1.07/-0.22	-0.78/-1.12	-0.93/-0.01	0.55/-1.17	1.67/-1.94	1.92/-1.82	1.44/-0.86
Θ(15°)	1.03/-1.22	1.76/-2.08	2.45/-2.34	1.91/-1.4	0.84/-0.04	-0.59/-1.32	-2.37/-2.93	-2.92/-2.16	-1.05/-0.05	0.65/-0.99	0.99/-1.4	1.29/-1.43	1.56/-1.53	2.07/-2.24	2.27/-2.43	2.43/-2.25	1.89/-1.6	0.98/-0.24	-0.34/-0.53	0.34/-0.91	1.17/-1.42	1.65/-1.74	1.64/-1.66	1.45/-0.98
Θ(22.5°)	1.28/-1.57	2.17/-2.12	2.19/-2.4	2.21/-89	0.92/-0.16	-0.99/-1.22	-2.29/-2.92	-3.02/-2.26	-0.88/-0.08	0.18/-0.91	1.82/-2.36	2.37/-2.35	2.35/-2.3	1.73/-1.11	0.57/-0.48	0.58/-0.32	0.03/-0.16	0.16/-0.46	-0.88/-0.18	1.05/-1.56	1.44/-1.79	2.2/-4.3	2.49/-2.08	1.54/-1.25
Θ(30°)	1.19/-1.1	1.6/-2.18	21/-59	1.73/-1.98	2.01/-1.51	0.67/-0.77	-1.78/-2.45	-3.2/-3.41	-2.64/-0.87	0.46/-1.4	2.26/-2.58	2.97/-3.17	3.24/-3.02	2.51/-1.5	0.97/-0.12	-1.04/-1.2	-0.77/-0.52	-1.61/-2.56	-1.34/-1.08	-0.65/-0.66	2.19/-2.55	3.04/-3.31	3.25/-2.73	2.15/-1.59
Θ(37.5°)	2.95/-2.63	3.39/-3.76	3.35/-2.36	0.52/-0.35	0.23/-0.61	0.76/-0.42	-0.87/-2.23	-2.95/-5.27	-3.83/-0.16	1.19/-1.99	2.53/-3.73	4.13/-4.17	4.15/-4.19	3.93/-06	1.92/-0.28	-1.21/-1.74	-1.68/-1.78	-2.59/-3.52	-4.27/-2.75	-1.38/-1.55	-0.13/-1.76	2.85/-3.3	3.47/-3.12	2.94/-3.08
Θ(45°)	3.53/-2.65	3.18/-3.4	2.95/-1.69	0.99/-1.2	1.95/-2.4	1.81/-1.29	0.33/-1.44	-2.49/-2.78	-0.67/-0.76	1.76/-3.02	3.33/-3.91	4.71/-4.93	4.94/-4.92	4.92/-4.35	3.72/-2.52	0.61/-0.76	-1.72/-0.58	-1.37/-4.22	-3.71/-3.26	-1.39/-0.05	1.29/-2.25	2.23/-2.43	3.18/-3.87	4.14/-4.02
Θ(52.5°)	3.08/-3.76	3.33/-2.9	2.2/-1.7	1.37/-0.75	1.67/-2.18	2.59/-1.64	0.52/-0.86	-3.45/-2.23	-1.58/-0.84	2.58/-3.65	4.09/-4.9	4.83/-4.71	4.44/-3.93	3.83/-7.3	3.59/-3.16	1.86/-0.76	-1.15/-1.78	-0.98/-1.51	-3.22/-2.88	-3.04/-1.96	-0.47/-0.54	1.32/-2.33	3.14/-3.44	3.11/-2.48
Θ(60°)	3/-56	3.85/-3.21	2.31/-43	1.59/-2.08	2.83/-2.69	1.36/-1.86	1.81/-0.84	-1.92/-2.51	-2.3/-0.9	3.59/-4.16	4.63/-5.3	4.47/-4.63	4.21/-3.89	3.77/-3.59	3.87/-3.71	2.62/-1.25	0.42/-0.45	-0.06/-0.91	-1.44/-0.5	0.37/-0.05	0.06/-0.1	0.91/-2.06	2.87/-3.1	3.76/-3.67
Θ(67.5°)	3.51/-2.73	3.46/-3.7	2.98/-1.44	1.75/-1.77	2.13/-2.71	1.72/-1.87	1.18/-0.25	-1.12/-1.98	-2.15/-1.66	2.77/-4.56	4.72/-5.34	6.14/-6.22	5.34/-4.5	5.05/-5.74	4.24/-2.63	3.47/-3.05	2.57/-2.23	0.71/-0.37	-0.85/-0.57	0.19/-0.41	-0.02/-1.16	1.64/-1.68	2.14/-2.77	3.28/-3.86
Θ(75°)	2.36/-2.18	3.13/-3.3	2.74/-1.74	1.74/-3.04	3.35/-2.64	1.91/-1.89	1.94/-0.06	-1.77/-0.4	0.21/-1.38	3.43/-3.78	4.63/-4.52	4.35/-5.06	4.92/-4.23	4.35/-4.92	4.22/-1.95	2.18/-2.56	3.55/-2.03	0.5/-1.28	-0.88/-0.98	1.54/-0.8	-0.06/-0.77	1.33/-1.33	1.66/-2.47	3.57/-3.07
Θ(82.5°)	2.98/-2.32	3.13/-4.1	2.89/-0.74	1.09/-2.43	2.21/-2.53	1.62/-2.17	1.45/-0.31	-1.5/-0.79	-0.05/-2.52	3.07/-3.41	4.34/-3.39	4.41/-4.78	4.99/-4.46	3.78/-4.11	3.07/-2.59	2.43/-2.29	3.91/-4.2	1.37/-0.52	-0.76/-0.01	1.16/-0.97	-0.49/-0.85	1.47/-1.67	2.73/-1.7	4.04/-2.22
Θ(90°)	1.92/-1.66	2.1/-3	2.23/-1.16	3.51/-3.52	4.08/-4.42	3.03/-3	2.18/-2.52	-0.08/-0.87	0.98/-2.69	2.75/-2.7	4.37/-3.97	3.36/-3.89	4.25/-3.52	3.41/-2.91	2.38/-1.47	1.22/-3.41	4.76/-3.82	1.57/-0.32	-0.64/-0.66	1.84/-1.08	0.73/-0.61	1.83/-1.84	1.56/-2.5	3.61/-3.94
Θ(97.5°)	2.06/-1.29	1.89/-2.16	1.25/-0.69	2.49/-3.06	2.62/-2.95	2.24/-4.22	2.94/-2.86	0.1/-0.2	-0.85/-1.96	3.35/-1.68	3.04/-1.87	3.36/-5.04	3.81/-1.17	1.43/-1.29	1.83/-2.94	4.29/-3.55	5.02/-5.22	3.54/-1.92	0.46/-0.86	2.11/-1.34	0.71/-1.76	2.96/-3.38	2.72/-55	3.97/-4.32
Θ(105°)	1.67/-2.38	1.07/-0.14	0.6/-2.9	2.69/-3.63	3.32/-4.37	1.29/-3.1	0.49/-2.88	1.34/-2.19	0.37/-0.15	2.31/-2.11	3.02/-2.38	3.95/-4.9	4.77/-2.3	0.7/-0.2	1.13/-3.23	3.51/-3.83	5.93/-5.32	4.43/-45	1.83/-2.78	3.45/-2.5	2.32/-1.54	1.93/-17	1.92/-3.09	4.45/-3.23
Θ(112.5°)	0.62/-1.84	0.98/-0.68	-0.57/-2.45	2.49/-1.58	2.17/-3.03	2.46/-3.3	-0.92/-81	0.32/-0.46	-2.22/-0.29	2.08/-1.56	2.76/-2.85	3.26/-4.11	3.35/-0.25	1.51/-0.54	2.03/-3.44	4.24/-38	6.33/-5.89	4.72/-3.88	2.49/-3.82	3.72/-53	2.60/-36	0.71/-1.82	2.28/-1.57	2.34/-2.27
Θ(120°)	3.01/-2.61	-1.07/-0.93	0.46/-1.76	0.65/-1.27	3.1/-3.76	1.62/-3.39	0.79/-2.47	-0.41/-1.54	-0.96/-0.57	1.55/-1.09	-0.34/-1.5	2.31/-1.59	0.49/-0	0.4/-0.88	0.85/-2.06	2.13/-33	4.31/-4.68	4.26/-4.39	4.05/-3.07	4.17/-1.22	1.53/-0.89	2.07/-2.79	0.28/-1.65	2.16/-1.85
Θ(127.5°)	0.87/-4.01	2.33/-0.41	0.97/-2.68	0.63/-0.05	0.34/-0.7	2.07/-2.17	0.97/-0.53	0.47/-0.45	-1.09/-0.37	-0.49/-1.1	2.65/-1.08	0.79/-1.61	2.29/-1.47	0.69/-1.27	0.44/-0.25	-0.53/-0.21	3.26/-3.09	0.94/-2.92	2.47/-2.41	2.16/-0.34	-0.72/-1.16	-1.37/-0.37	0.48/-1.35	0.33/-0.52
Θ(135°)	-1.29/-0.71	-0.43/-3.24	-1.55/-1.12	1.36/-0.36	-0.57/-1.37	0.81/-0.17	-2.45/-0.91	0.96/-0.48	1.11/-2.02	0.11/-0.19	2.23/-2.86	2.25/-3.72	3.51/-57	0.58/-0										

Gain Result

[illegible]



Radiated Composite Gain Data 2.4GHz/5GHz

Appendix A

Θ(15°)	-3.27/-3.51	-4.7/-4.39	-3.76/-4.32	-6.22/-8.82	-11.17/-14.1	-16.05/-17.67	-19.92/-19.4	-15.15/-9.32	-6.4/-5.32	-5.86/-7.23	-8.1/-8.79	-8.9/-9.96	-10.75/-10.26	-9.32/-9.53	-10.4/-9.97	-8.56/-6.91	-6.38/-6.63	-7.06/-9.01	-11.79/-13.18	-12.56/-11.36	-9.75/-8.06	-7.17/-6.66	-6.26/-5.95	-5.22/-4.73
Θ(22.5°)	-0.56/-0.98	-2.29/-3.26	-3.48/-3.87	-4.58/-5.21	-6.24/-8.18	-10.84/-13.17	-17.26/-15.77	-12.67/-9.62	-8.17/-8.61	-11.44/-16.54	-18.99/-17.18	-18.44/-16.59	-12.11/-9.8	-8.28/-7.05	-6.04/-5.25	-4.72/-4.59	-4.42/-4.82	-5.9/-7.12	-8.24/-9.19	-9.88/-10.98	-11.08/-9.48	-7.21/-4.98	-3.25/-2.58	-2.25/-1.54
Θ(35°)	-0.22/-0.81	-1.09/-2.05	-3.35/-4.4	-5.07/-8.51	-5.94/-6.63	-6.4/-8.06	-10.88/-11.53	-10.29/-12	-9.19/-11.04	-13.33/-13.33	-13.82/-16.42	-18.41/-19.17	-17.48/-12.59	-8.86/-6.42	-4.99/-4.17	-4.18/-4.64	-5.01/-5.53	-6.25/-7.66	-10.38/-12.61	-13.65/-13.66	-12.01/-6.04	-4.84/-2.68	-1.04/-0.59	-0.54/-0.07
Θ(37.5°)	-5.98/-4.66	-4.39/-4.71	-3.59/-3.28	-5.53/-10.64	-16.8/-13.8	-9.89/-9.61	-9.97/-8.93	-7.57/-8.15	-9.86/-10.07	-11.42/-19.16	-19.11/-13.69	-12.24/-12.17	-11.15/-9.45	-8.02/-6.45	-5.34/-4.77	-4.84/-5.21	-4.97/-4.78	-6.55/-10.15	-13.18/-16.02	-19.52/-15.83	-12.16/-9.97	-6.67/-4.26	-2.81/-3.46	-4.93/-5.53
Θ(45°)	-4.78/-5.36	-7.93/-12.4	-11.17/-9.13	-12.64/-18.39	-11.28/-8.61	-7.25/-7.06	-7.99/-8.47	-7.84/-5.73	-7.93/-10.3	-17.18/-19.81	-19.7/-19.2	-14.35/-12.61	-14.4/-16.1	-13.05/-9.07	-6.08/-3.73	-2.51/-3.02	-5.18/-7.47	-8.16/-8.77	-9.58/-11.7	-15.3/-11.64	-7.4/-5.83	-5.43/-5.83	-4.92/-4.09	-5.41/-5.09
Θ(52.5°)	-5.51/-5.86	-7.98/-6.97	-6.52/-7.42	-9.64/-14.21	-19.82/-12.32	-11.22/-11.93	-12.55/-9.32	-7.14/-5.71	-4.75/-7.2	-9.15/-11.14	-11.29/-9.43	-8.14/-9.02	-6.68/-8.2	-9.67/-9.94	-6.8/-3.19	-1.22/-1.32	-3.47/-5.31	-5.01/-6.48	-9.78/-13.92	-15.66/-9.38	-6.05/-5.98	-6.72/-8.73	-9.39/-6.47	-6.31/-5.84
Θ(60°)	-7.31/-8.98	-9.54/-13.42	-20.04/-10.25	-6.04/-7.93	-17.02/-16.72	-12.07/-12.01	-11.36/-9.24	-10.16/-9.36	-8.1/-9.74	-11.55/-10.2	-8.8/-7.74	-10.36/-8.89	-7.08/-6.08	-3.76/-2.79	-4.28/-8.5	-6.44/-3.1	-4.6/-9.76	-12.81/-10.68	-12.9/-18.14	-19.3/-13.76	-8.81/-9.57	-17.11/-16.06	-11.35/-8	-6.33/-6.63
Θ(67.5°)	-6/-8.1	-10/-12.1	-20.02/-16.34	-14.94/-14.76	-15.8/-11.5	-8.94/-10.99	-13.54/-12.44	-10.5/-9.3	-9.48/-11.4	-14.17/-13.77	-8.04/-7.43	-9.6/-11.41	-11.3/-9.15	-6.58/-4.73	-5.17/-10.56	-11.43/-6.71	-7.35/-10.57	-13.39/-9.92	-11.75/-17.66	-16.49/-18.78	-14.97/-13.47	-15.84/-19.02	-17/-17.71	-12.97/-9.66
Θ(75°)	-14.9/-20.22	-17.93/-19.02	-18.59/-20.26	-16.25/-20.34	-20.18/-15.83	-14.66/-14.44	-15.66/-13.11	-15.4/-20.21	-15.77/-11.64	-11.67/-12.39	-13/-14.17	-12.98/-12.98	-10.77/-8.42	-7.89/-7.45	-6.23/-7.13	-14.08/-10.57	-5.06/-7.81	-10.21/-6	-5.35/-6.41	-10.35/-19.6	-15.01/-17.46	-19.74/-12.89	-12.24/-15	-18.67/-15.86
Θ(82.5°)	-15.6/-17.3	-16.83/-16.31	-16.11/-18.3	-19.83/-14.4	-16.5/-17.67	-10.42/-12.56	-19.17/-11.37	-13.44/-12.58	-6.79/-8.97	-19.5/-19.77	-19.43/-20.02	-17.47/-16.95	-12.71/-9.51	-9.89/-14.65	-17.07/-10.87	-15.68/-14.01	-7.72/-7.18	-8.78/-5.2	-5.18/-10.6	-16.38/-20.07	-18.36/-19.5	-17.9/-14.07	-14.71/-18.4	-17.77/-13.8
Θ(90°)	-11.45/-19.6	-14.11/-13.54	-20.19/-15.45	-15.15/-14.64	-13.37/-11	-13.28/-15.83	-12.11/-12.31	-19.22/-19.62	-17.89/-17.39	-14.17/-16.13	-19.22/-16.62	-12.06/-8.32	-6.09/-7.47	-9.26/-9.41	-8.9/-14.4	-11.05/-10.29	-8.5/-7.8	-6.86/-14.51	-9.22/-9.59	-11.71/-18.65	-19.1/-19.97	-13.77/-12.39	-15.44/-19.77	-20.03/-12.14
Θ(97.5°)	-20.35/-18.44	-18.23/-19.55	-18.61/-15.77	-12.39/-12.83	-19.2/-15.41	-12.16/-9.6	-10.3/-12.37	-9.25/-14.07	-12.78/-14.43	-8.85/-6.45	-9.89/-9.45	-4.53/-3.18	-4.4/-9.14	-10.64/-7.22	-10.81/-18.37	-18.48/-17.99	-11.04/-9.45	-10.99/-9.5	-8.45/-7.29	-13.94/-19.6	-19.14/-16.92	-16.62/-13.38	-17.28/-16.29	-17.51/-19.18
Θ(105°)	-18.8/-19.25	-17.04/-19.5	-19.82/-19.4	-13.07/-8.41	-10.54/-18.15	-7.33/-8.94	-8.76/-8.51	-7.31/-9.5	-12.05/-15.03	-7.35/-8.35	-20.01/-10.41	-4.2/-3.52	-5.35/-9.09	-10.78/-12.3	-13.56/-16.29	-19.36/-15.16	-17.19/-16.14	-17.28/-20.06	-12.47/-13.19	-12.99/-16.83	-19.86/-15.71	-14.08/-14.08	-15.47/-18.8	-19.7/-14.54
Θ(112.5°)	-12.17/-20.22	-16.78/-19.47	-14.15/-17.33	-19.58/-19.69	-16.26/-10.58	-16.03/-14.26	-11/-10.36	-16.13/-16.01	-9.1/-15.97	-6.64/-10.44	-12.06/-8.32	-6.28/-4.59	-7.59/-7.68	-6.34/-5.31	-5.99/-11.22	-18.29/-13.65	-10.55/-19.85	-17.02/-16.2	-11.2/-7.29	-6.21/-11.21	-18.83/-19.92	-12.01/-10.62	-6.12/-3.79	-7.87/-14.56
Θ(120°)	-5.81/-8.78	-13.5/-13.48	-9.68/-8.73	-10.36/-9.57	-8.32/-8.68	-12.02/-19.16	-11.09/-10.64	-15.26/-9.74	-6.55/-10.97	-10.7/-17.73	-8.1/-5.23	-3.25/-3.58	-8.46/-5.44	-9.79/-9.84	-5.86/-3.05	-3.83/-9.99	-10.43/-14.96	-19.28/-13.85	-18.36/-20	-18.97/-17.54	-15.14/-16.58	-11.69/-9.96	-10.1/-8.46	-7.44/-7.11
Θ(127.5°)	-9.73/-7.65	-13.16/-10.86	-8.01/-6.35	-14.63/-14.34	-6.35/-8.11	-12.28/-11.85	-9.02/-8.97	-12.36/-6.35	-11.6/-19.55	-10.21/-8.95	-5.64/-7.82	-4.57/-5.43	-9.61/-1.69	-3.09/-3.89	-2.99/-5.04	-6.85/-9.84	-7.83/-6.89	-9.36/-11.91	-8.68/-9.7	-13.17/-9.72	-6.47/-6.54	-9.17/-8.53	-7.56/-7.64	-5.21/-5.62
Θ(135°)	-14.1/-13.49	-4.57/-3.75	-9.92/-10.2	-17.74/-8.28	-9.57/-14.09	-13.32/-11.6	-10.81/-10.99	-12.68/-9.21	-9.73/-10.46	-15.94/-9.47	-9.36/-4.06	0.02/-3.1	-7.63/-6.18	-8.41/-0.53	-0.68/-1.51	-1.56/-3.35	-6.41/-8.83	-5.14/-5.41	-8.21/-9	-9.68/-9.82	-8.03/-6.94	-3.85/-1.88	-2.2/-5.87	-10.49/-9.57
Θ(142.5°)	-5.66/-0.47	-6.92/-9.54	-8.49/-9.46	-9.25/-10.33	-16.35/-15.5	-19.58/-19.6	-16.2/-19.91	-18.63/-19.2	-16.52/-15.72	-14.19/-13.76	-19.54/-11.7	-8.61/-10.32	-7.14/-1.25	1.06/-2.11	-6.32/-8.5	-0.8/-2.1	-6.58/-8.05	-7.45/-9.85	-16.32/-12.84	-7.12/-8.2	-14.39/-13.98	-10.61/-5.89	-1.59/0	-1.68/-4.97
Θ(150°)	-3.15/-3.83	-5.94/-8.63	-10.72/-7.18	-6.46/-7.85	-18.5/-11.69	-7.71/-9	-18.61/-19.53	-20/-17.91	-14.38/-15.18	-16.28/-10.58	-4.04/-0.83	-1.51/-5.97	-5.85/-2.26	-4.53/-9.35	-3.13/-2.9	-3.99/-3.83	-3.92/-3.16	-3.27/-6.86	-12.36/-10.85	-5.98/-4.5	-7.65/-18.85	-13.07/-6.12	-3.73/-3.02	-2.64/-2.39
Θ(157.5°)	-6.14/-2.73	-0.99/-1.03	-1.62/-3.03	-5.7/-7.91	-6.12/-6.38	-10.75/-19	-13.61/-13.58	-19.2/-20.07	-16.87/-11.79	-8.51/-6.55	-5.85/-7.47	-12.41/-11.13	-6.85/-7.45	-13.28/-12.06	-9.37/-6.61	-1.87/-0.92	-1.95/-3.63	-5.76/-6.62	-11.62/-8.66	-8.04/-8.52	-9.03/-9.61	-8.45/-6.36	-4.1/-3.25	-4.67/-7.27
Θ(165°)	-9.41/-8.15	-8.54/-11.66	-11.8/-9.7	-10.03/-12.38	-15.66/-13.11	-7.88/-5.62	-5.26/-7.75	-15.14/-16.1	-8.42/-5.73	-4.89/-5.15	-6.97/-11.31	-13.47/-11.74	-9.85/-9.27	-8.44/-7.46	-5.73/-4.48	-4.37/-5.76	-8.09/-10.59	-12.19/-18.91	-14.71/-11.53	-12.21/-15.73	-19.54/-19.9	-19.2/-18.61	-15.31/-9.89	-8.03/-9.5
Θ(172.5°)	1.74/0.97	-0.81/-2.39	-2.92/-3.13	-3.38/-3.77	-4.46/-4.83	-5.15/-6.52	-8.82/-11.21	-11.73/-11.09	-11.73/-15.1	-16.96/-11.58	-8.82/-6.53	-4.87/-4.68	-5.44/-5.99	-4.75/-5.98	-5.24/-9.6	-6.88/-4.46	-4.75/-5.98	-7.61/-10.02	-13.18/-16.13	-17.14/-16.53	-13.92/-10.63	-6.78/-3.66	-1.35/-0.18	-0.91/-3.2
Θ(180°)	-1.37/-1.35	-2.56/-4.6	-5.52/-5.67	-6.56/-8.87	-13.78/-18.53	-18.49/-19.9	-16.98/-14.58	-12.18/-10.42	-9.06/-8.46	-8.02/-7.31	-6.39/-5.14	-3.82/-2.7	-2.02/-1.67	-1.25/-1.1	-0.95/-1.06	-1.45/-1.89	-2.04/-2.42	-3.6/-5.13	-7.88/-12.25	-16.96/-17.51	-12.49/-8.47	-5.94/-4.33	-3.09/-2.61	-2.68/-2
Freq(Hz)	5.3GPol	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°)	-10.69/-10.04	-9.81/-9.64	-9.96/-10.04	-9.59/-9.13	-8.92/-8.73	-8.27/-8.02	-7.1/-6.91	-6.99/-7.39	-7.86/-8.9	-9.91/-11.37	-11.82/-12.75	-14.89/-19.5	-19.27/-21.23	-15.69/-13.38	-11.9/-10.42	-9.15/-8.27	-7.56/-6.69	-6.11/-5.4	-4.53/-4.36	-4.15/-3.95	-4.19/-5.04	-5.95/-6.77	-8.3/-9.61	-9.47/-9.72
Θ(7.5°)	-19.23/-19.51	-17.54/-15.67	-14/-11.15	-8.53/-7.05	-6.51/-4.63	-5.61/-5.12	-5.08/-5.66	-5.55/-5.4	-5.35/-5.66	-6.48/-6.89	-7.54/-7.64	-9.83/-8.7	-8.6/-8.8	-9.96/-8.83	-8.89/-9.17	-9.58/-9.36	-8.4/-6.78	-6.08/-6.04	-6.05/-6.08	-6.36/-8.84	-6.12/-9.97	-12.87/-15.63	-16.12/-19.09	
Θ(15°)	-16.73/-12.48	-17.71/-7.21	-6.96/-6.44	-4.64/-3.51	-3.12/-2.78	-2.2/-2.64	-3.38/-3.52	-2.93/-2.46	-3.01/-4.05	-6.46/-7.42	-8.92/-9.41	-9.46/-8.72	-9.91/-9.74	-9.19/-8.41	-7.89/-7.75	-7.61/-7.29	-7.25/-8.12	-8.71/-7.27	-6.3/-6.08	-4.46/-7.51	-8.5/-8.44	-8.85/-12.05	-19.38/-20.25	-17.63/-18
Θ(22.5°)	-8.89/-7.1	-5.63/-4.11	-3.95/-4.89	-5.61/-5.36	-4.44/-2.55	-2.04/-2.81	-2.98/-2.54	-2.98/-4.52	-6.18/-7.1	-8.99/-10.13	-10.27/-9.46	-8.66/-8.37	-7.5/-6.88	-6.97/-8.44	-10.75/-13.85	-16.13/-12.59	-8.81/-7.4	-7.72/-7.6	-7.31/-7.22	-7.43/-6.62	-10.41/-10.2	-10.63/-12.38	-16.61/-19.63	-15.65/-11.37
Θ(30°)	-9.08/-6.14	-3.91/-2.94	2.74/-2.53	-3.31/-5.2	-6.44/-5.37	-4.94/-4.62	-3.66/-3.61	-4.5/-6.51	-7.75/-8.86	-11.21/-15.42	-17.2/-14.32	-10.81/-8.23	-6.77/-5.61	-4.55/-4.02	-4.57/-6.34	-8.6/-10.58	-11.72/-10.92	-8.01/-5.03	-3.78/-4.72	-5.95/-5.14	-5.11/-6.8	-8.6/-11.3	-15.38/-20.26	-19.3/-14.54
Θ(37.5°)	-10.66/-6.67	-4.88/-4.75	-4/-1.82	-1.67/-4.74	-9.58/-4.83	-2.54/-2.77	-3.5/-3.84	-6.19/-11.34	-11.84/-10.5	-14.17/-16.13	-9.72/-7.62	-6.24/-4.59	-3.34/-2.35	-1.64/-1.35	-2.09/-4.49	-8.37/-10.73	-10.76/-10.74	-10.86/-9.41	-6.02/-4.82	-5.5/-5.69	-4.45/-4.77	-6.78/-10.9	-14.67/-20.22	-18.38/-14.66
Θ(45°)	-7.79/-5.59	-4.37/-3.99	-3.63/-1.56	-0.37/-1.72	-4.76/-4.25	-2.1/-2.16	-1.85/-1.84	-4.76/-3.79	-17.25/-11.51	-14.3/-18.09	-11.71/-8.04	-8.13/-8.39	-7.01/-4.67	-3.06/-2.83	-2.88/-2.38	-2.88/-5.26	-7.38/-8.24	-8.47/-5.68	-4.06/-4.17	-4.11/-4.47	-5.48/-4.33	-4.27/-5.15	-5.56/-6.14	-6.76/-8.12
Θ(52.5°)	-3.34/-3.96	-3.51/-4.49	-3.55/-1.1	-0.94/-3.25	-7.01/-4.08	-0.99/-2.33	-4.29/-4.47	-12.03/-15.77	-10.17/-13.9	-19.14/-19.46	-15.29/-13.59	-11.32/-7.39	-5.61/-5.06	-4.02/-2.57	-1.63/-1.76	-3.47/-4.51	-2.89/-3.35	-5.25/-3.5	-3.76/-5.22	-5.1/-3.56	-4.09/-5.05	-3.77/-2.9	-2.45/-2.13	-2.04/-2.24
Θ(60°)	-1.78/-1.9	-3.16/-3.66	-3.93/-4.6	-3.67/-3.37	-2.85/-4.81	-2.84/-3.25	-3.03/-3.62	-8.47/-20.17	-19.02/-15.59	-11.4/-10.42	-1.33/-10.04	-5.79/-2.01	-1.17/-2.16	-3.18/-2.27	-1.45/-1.72	-1.14/-1.4	-2.16/-1.64	-2.64/-2.78	-1.57/-2.23	-1.39/-2.17	-3.03/-2.28	-1.19/-1.22	-1.39/-2.17	-2.81/-2.77
Θ(67.5°)																								



Radiated Composite Gain Data 2.4GHz/5GHz

Appendix A

Θ(67.5°)	-2.4/-2.42	-4.16/-3.96	-5/-8.81	-14.09/-13.42	-8.07/-9.9	-17.17/-10.89	-8.65/-8.2	-8.24/-16.21	-13.72/-14.52	-16.66/-10.24	-8.79/-9.78	-13.59/-12.82	-8.3/-6.72	-5.74/-5.79	-6.91/-11.75	-8.45/-4.17	-7.55/-9.81	-5.32/-4.91	-6.99/-13.06	-20.03/-19.66	-19.93/-19.69	-16.11/-12.54	-9.26/-12.14	-12.5/-6.18	
Θ(75°)	-14.99/-10.78	-8.67/-9.12	-8.02/-9.79	-11.79/-12.85	-19.01/-17.27	-16.11/-12.82	-15.76/-19.86	-17.75/-15.3	-12.68/-6.95	-7.04/-10.81	-12.03/-13.08	-12.32/-9.96	-13.73/-12.7	-9.37/-9.37	-12.6/-19.7	-13.18/-7.0	-11.32/-9.1	-7.55/-9.81	-5.32/-4.91	-6.99/-13.06	-20.03/-19.66	-19.93/-19.69	-16.11/-12.54	-9.26/-12.14	-12.5/-6.18
Θ(82.5°)	-14.36/-17.34	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12	-10.56/-9.12
Θ(90°)	-18.55/-18.85	-19.4/-18.84	-15.9/-10.43	-12.71/-8.19	-7.11/-11.11	-13.64/-7.9	-12.13/-16.88	-13.97/-11.91	-8.44/-10.99	-11.95/-6.34	-10.49/-14.76	-7.27/-5.77	-7.26/-10.21	-5.28/-4.31	-7.16/-19.56	-17.18/-15.22	-18.84/-9.26	-14.11/-6.33	-7.88/-13.04	-14.28/-15.73	-19.41/-14.44	-15.5/-10.3	-7.77/-8.36	-14.75/-15.89	
Θ(97.5°)	-13.12/-19.62	-18.05/-13.78	-13.09/-11.29	-12.16/-15.92	-11.58/-13.07	-19.93/-12.66	-10.1/-16.64	-9.84/-9.95	-11.23/-11.71	-11.61/-12.54	-19.83/-8.02	-5.33/-5.49	-13.44/-17.62	-9.75/-9.57	-11.15/-17.68	-16.48/-13.64	-11.58/-8	-12.33/-8.58	-5.96/-7.21	-11.88/-13.89	-13.48/-16	-15.84/-11.33	-8.96/-6.68	-6.39/-8.64	
Θ(105°)	-6.66/-8.15	-6.67/-6.52	-8.92/-11.05	-18.97/-19.94	-14.84/-15.85	-15.6/-11.65	-13.58/-11.9	-8.53/-7.38	-13.25/-11.93	-15.55/-7.87	-19.16/-7.97	-5.99/-6.4	-8.63/-4.71	-9.14/-8.49	-5.56/-6.16	-14.28/-10.68	-10.98/-6.4	-12.62/-12.38	-8.17/-7.07	-13.15/-13.71	-14.09/-20.7	-19.92/-17.03	-12.6/-11.81	-7.26/-5.64	
Θ(112.5°)	-4.31/-3.6	-1.9/-9.66	-16.74/-19.14	-16.4/-18.4	-10.54/-17.09	-6/-5.71	-11.05/-9.51	-6.53/-11.17	-17.96/-19.63	-11.39/-13.17	-6.74/-2.57	-4.31/-6.84	-15.07/-17.8	-20.1/-12.92	-7.35/-8.97	-15.49/-18.52	-14.58/-19.96	-20.05/-13.08	-12.31/-11.08	-9.48/-15.01	-19.99/-19.77	-18.62/-19.49	-9.77/-9.06	-8.6/-3.72	
Θ(120°)	-5.46/-4.67	-11.89/-18.76	-11.54/-19.31	-15.3/-15.65	-13.45/-20.09	-14.62/-9.7	-11.97/-10.95	-7.05/-19.91	-8.89/-8.35	-14.14/-5.94	-6.77/-5.49	-3.58/-3.54	-3.87/-0.66	-1.2/-4.13	-1.45/-1.47	-9.59/-9.83	-5.78/-5.99	-9.47/-11.95	-19.43/-7.74	-11.14/-19.94	-19.07/-16.3	-15.21/-8.66	-8.34/-5.59	-3.39/-9.54	
Θ(125°)	-7.95/-4.28	-4.24/-4.69	-5.82/-11.77	-12.31/-12.48	-16.25/-12.62	-14.89/-14.23	-12.03/-9.29	-11.98/-10.98	-5.7/-19.74	-4.01/-3.25	-8.08/-3.75	-3.14/-1.61	-2.01/-2.44	-5.54/-4.17	-2.9/-2.12	-0.82/-3.06	-7.87/-8.45	-11.54/-19.81	-19.3/-18.96	-10.07/-13.11	-19.19/-17.47	-11.74/-14.19	-12.05/-6.13	-4.26/-9.67	
Θ(135°)	-2.69/-2.51	-1.48/-2.24	-5.5/-2.7	-6.55/-12.99	-4.59/-5.37	-9.92/-14	-19.15/-6.19	-8.24/-12.81	-9.8/-18.98	-11.6/-11.57	-12.9/-9.65	-3.02/-1.23	-1.130/47	-3.210/55	0.34/-3.55	-3.51/-6.21	-11.6/-9.94	-6.86/-10.44	-18.94/-19.62	-15.29/-14.58	-15.41/-12.23	-10.77/-4.39	-4.16/-3.08	-1.92/-0.3	
Θ(142.5°)	-2.65/-3.62	-10.79/-7.39	-3.65/-3.28	-2.89/-3.2	-6.22/-7.55	-5.63/-8.21	-18.53/-16.12	-18.53/-16.12	-13.66/-13.37	-12.77/-19.53	-9.22/-12.01	-5.970/17	-4.75/-3.24	1.84/-1.69	-3.12/-0.67	0.84/-4.16	-13.15/-11.38	-5.98/-6.69	-10.91/-19.71	-18.97/-8.53	-6.84/-12.53	-9.32/-5.17	-1.17/-2.82	-6.69/-5.96	
Θ(150°)	-4.97/-2.04	-2.64/-4.69	-11.34/-15.88	-2.980/-42	-1.62/-10.13	-12.93/-11.05	-13.18/-7.99	-11.42/-16.77	-19.38/-19.88	-14.39/-16.6	-20.19/-7.3	-3.04/-6.15	-8.92/-0.83	-0.07/-6.68	-5.45/-4.36	-0.650/08	-5.98/-5.23	-3.53/-8.8	-19.96/-13.44	-6.75/-9.67	-9.46/-7.63	-7.61/-3.86	-0.92/-1.4	-0.54/-5.27	
Θ(157.5°)	-1.87/-1.55	0.170/84	1.26/-1.5	1.04/-1.42	-7.87/-13.9	-12.61/-19.02	-12.67/-9.65	-9.78/-8.88	-8.38/-7.87	-10.33/-17.76	-11.82/-6.45	-4.39/-4.46	-4.6/-4.88	-8.01/-17.18	-11.2/-3.62	1.021/74	0.27/-1.79	-4.82/-8.71	-11.3/-14.31	-7.99/-5.68	-7.7/-11.23	-11.64/-8.23	-4.19/-1.71	-0.06/-0.37	
Θ(165°)	-15.44/-14.42	-10.01/-11.75	-11.3/-11.86	-13.14/-13.53	-12.1/-14.24	-15.85/-9.98	-6.63/-6.95	-9.9/-17.84	-16.74/-9.84	-7.92/-7.27	-7.53/-10.44	-13.01/-7.75	-4.85/-4.28	-3.29/-2.44	-1.160/15	0.5/-0.36	-6.78/-8.34	-4.31/-14.04	-9.81/-8.77	-7.83/-6.14	-6.4/-8	-9.04/-9.19	-0.05/-8.4	-0.94/-9.19	
Θ(172.5°)	0/-0.53	-2.37/-4.28	-5.58/-7.36	-8.43/-9.45	-9.76/-9.29	-7.95/-7.47	-7.84/-9.25	-11.36/-13.46	-16.07/-14.85	-10.21/-6.64	-5.34/-6.62	-4.89/-5.71	-7.24/-8.66	-8.1/-6.67	-6.84/-8.55	-12.09/-19.06	-19.1/-15.95	-11.58/-10.44	-9.03/-8.99	-9.98/-9.34	-3.79/-2.18	0.06/-8.4	2.020/82		
Θ(180°)	1.93/-1.44	0.76/-0.02	-0.52/-0.62	-1.31/-2.64	-4.06/-5.53	-6.9/-8.51	-11.35/-16.91	-15.96/-10.2	-6.92/-4.4	-2.78/-2.16	-1.73/-1.62	-1.42/-0.67	-0.1/-0.14	-0.07/-0.67	-1.34/-2.27	-3.82/-5.95	-8.27/-9.77	-12.34/-13.62	-17.3/-14.94	-11.45/-8.02	-4.94/-3.02	-1.360/14	1.4/-1.68	0.94/-1.25	
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°)	-11.24/-12.4	-11.59/-11.77	-11.58/-10.88	-10.5/-8.93	-7.02/-6.4	-6.39/-6.43	-5.39/-4.82	-4.67/-5.06	-5.42/-5.87	-6.7/-8.08	-9.12/-10.67	-11.73/-13.73	-15.03/-13.81	-12.36/-11.86	-10.64/-8.92	-6.09/-8.44	-8.11/-7.72	-8.2/-8.54	-9.26/-8.68	-8.1/-7.81	-9.02/-10.18	-9.89/-9.07	-9.36/-9.79	-10.72/-10.95	
Θ(7.5°)	-12.96/-14.4	-13.16/-11.7	-10.95/-10.09	-10.40/-9.13	-10.02/-9.58	-10.4/-9.58	-9.86/-8.29	-8.56/-9.21	-9.08/-10.1	-10.68/-11.02	-11.03/-13	-15.47/-15.67	-15.69/-16.44	-15.89/-13.43	-11.46/-9.92	-9.14/-8.34	-7.01/-6.01	-5.35/-5.3	-5.14/-5.11	-5.21/-4.88	-5.19/-5.43	-6.27/-7	-7.77/-8.34	-9.69/-11.05	
Θ(15°)	-19.77/-18.94	-19.75/-15.08	-18.94/-9.84	-9.95/-9.02	-9.28/-10.98	-11.44/-12.67	-13.05/-11.95	-12.51/-14.38	-15.57/-16.7	-13.99/-13.21	-11.89/-11.28	-11.41/-11.59	-10.16/-9.16	-8.99/-8.08	-7.01/-6.4	-5.98/-5.23	-4.53/-3.94	-3.41/-3.02	-2.95/-3.11	-3.84/-4.93	-5.39/-5.99	-7.87/-9.29	-11.79/-16.48		
Θ(22.5°)	-17.72/-19.79	-14.18/-9.91	-8.45/-8.62	-8.65/-7.75	-9.22/-10.57	-9.84/-9	-9.16/-9.52	-11.63/-15.81	-19.29/-18.34	-16.11/-11.72	-8.55/-7.04	-6.47/-7.23	-8.37/-10.41	-14.06/-16.09	-15.49/-12.06	-9.08/-7.75	-6.12/-4.22	-3.17/-2.52	-2.18/-1.91	-1.46/-1.56	-3.28/-4.84	-5.59/-5.93	-7.16/-8.77	-12.8/-14.5	
Θ(30°)	-13.34/-19.33	-16.48/-10.63	-9.41/-9.01	-7.85/-8.38	-5.38/-5.39	-5.54/-7.23	-9.4/-13.4	-19.26/-20.88	-20.24/-13.74	-10.37/-8.88	-6.95/-6.34	-5.89/-7.26	-10.58/-14.15	-15.36/-15.16	-13.24/-9.01	-5.99/-4.4	-3.88/-3.06	-2.68/-3.59	-4.27/-3.68	-2.97/-3.96	-4.37/-1.93	-3.7/-4.49	-5.71/-8.14		
Θ(37.5°)	-13.37/-20.38	-10.33/-4.66	-4.41/-6.18	-6.63/-6.79	-6.27/-10.02	-7.91/-5.01	-6.58/-10.43	-12.1/-19.23	-16.78/-12.12	-14.29/-11.72	-9.38/-7.43	-6.93/-8.28	-10.09/-9.46	-7.19/-7.07	-9.27/-14	-12.74/-9.72	-8.42/-6.73	-6.42/-7.07	-5.25/-3.7	-4.43/-6.89	-5.44/-4.03	-4.73/-1.54	-1.29/-3.79	-7.58/-10.94	
Θ(45°)	-9.37/-18.27	-10.18/-7.15	-5.71/-5.74	-5.38/-5.75	-6.52/-7.04	-6.71/-4.82	-6.45/-14.94	-18.15/-15.42	-10.16/-12.26	-18.54/-13.49	-11.82/-10.34	-7.96/-8.47	-6.32/-7.31	-5.17/-5.17	-3.52/-5.77	-7.59/-12.72	-12.9/-4.81	-3.81/-5.29	-5.41/-3.62	-1.77/-1.88	-1.62/-1.36	-2.54/-4.29	-5.08/-4.7	-4.58/-5.32	
Θ(52.5°)	-6.05/-4.39	-4.87/-4.77	-6.99/-8.55	-3.73/-4.94	-4.54/-1.82	-6.46/-2.74	-7.13/-11.91	-11.49/-10.45	-12.42/-15.45	-9.84/-9.76	-8.22/-7.41	-9.55/-10.5	-10.89/-15.41	-13.63/-8.94	-5.11/-3.59	-5.27/-9.5	-10.06/-6.58	-3.76/-3.06	-2.99/-2.4	-3.75/-3.6	-4.1/-3.99	-4.23/-3.99	-4.1/-4.15	-5.78/-5.25	
Θ(60°)	-3.61/-2.99	-3.38/-4.59	-5.11/-4.97	-3.44/-1.4	-2.13/-6.35	-10.61/-5.3	-4.2/-7.92	-9.6/-11.23	-14.87/-13.9	-6.91/-5.34	-4.29/-3.54	-7.29/-4.19	-5.61/-9.1	-10.15/-7.36	-4.16/-2.27	-2.45/-2.48	-4.18/-8.04	-6.33/-5.75	-4.5/-2.41	-1.74/-2.34	-1.89/-2.42	-4.1/-3.51	-2.27/-2.47	-2.05/-2.67	
Θ(67.5°)	-1.54/-2.48	-2.17/-1.59	-3.36/-7.22	-2.98/-2.65	-4.21/-5.22	-8.42/-5.79	-5.38/-8.05	-6.03/-9.67	-6.37/-5.24	-3.57/-5.82	-4.19/-0.84	-1.79/-3.77	-1.540/12	-3.38/-4.97	-0.77/-0.55	-1.82/-4.68	-4.62/-4	-5.48/-3.67	-6.11/-6.73	-3.57/-2.47	-1.01/-1.81	-3.11/-2.74			
Θ(75°)	-3.68/-2.01	-1.69/-2.88	-5.37/-5.63	-4.14/-1.02	-1.44/-3.86	-5.69/-3.84	-3.11/-5.93	-6.26/-5.5	-9.71/-4.4	-0.75/-1.87	-2.64/-6.2	-9.46/-4.73	-2.45/-3.04	-2.610/05	-1.57/-7.06	-3.53/-2.49	-1.29/-4.57	-5.32/-6.69	-7.68/-5	-5.72/-7.86	-5.55/-5.3	-5.35/-1.89	-1.64/-2.32	-1.94/-2.99	
Θ(82.5°)	-2.81/-1.66	-0.3/-2.32	-4.11/-6.99	-4.2/-3.6	-3.23/-4.47	-5.36/-0.47	-4.97/-4.43	-4.76/-6.34	-7.51/-2.69	-1.76/-3.06	-2.75/-11.27	-9.42/-3.91	-1.56/-2.71	-4.95/-2.42	-1.81/-3.21	-3.93/-2.4	-0.05/-1.45	-4.13/-6.25	-6.5/-6.39	-5.26/-11.51	-6.87/-6.67	-3.65/-2.5	-0.59/-0.48	-0.12/-0.66	
Θ(90°)	-3.71/-1.64	-1.43/-1.57	-5.34/-8.26	-1.250/66	-1.02/-2.75	-2.59/-1.76	-2.38/-2.42	-6.1/-3.26	-4.88/-0.61	-2.46/-8.14	-3.78/-6.72	-15.73/-5.82	-1.16/-3.03	-4.38/-2.99	-2.47/-3.86	-4.03/-2.79	0.44/-0.61	-4.35/-5.68	-7.29/-4.56	-3.32/-7.48	-7.07/-9.97	-6.96/-3.37	-1.10/-2.2	-1.68/-3.44	
Θ(97.5°)	-4.61/-3.01	-2.68/-2.09	-4.45/-7.92	-1.34/-0.7	-2.84/-1.24	-2.69/-1.9	-2.5/-2.19	-6.02/-1.54	-6.56/-0.79	-0.06/-12.94	-6.52/-18.75	-9.220/17	-2.66/-9.64	-8.24/-5.19	-3.3/-0.44	-0.04/-0.63	1.990/75	-0.84/-2.11	-5.34/-6.46	-6.44/-4.47	-7.48/-7.43	-4.03/-1.92	-0.50/-0.5	-2.14/-4.58	
Θ(105°)	-4.8/-2.38	-5.21/-6.88	-3.34/-1.91	-0.7/-0.32	-2.63/-2.48	-5.96/-1.46	-6.35/-2.84	-5.830/46	-4.16/-10.01	-3.96/-11.2	-7.59/-19.69	-7.76/-0.24	-1.76/-7.01	-11.45/-10.19	-2.81/8	-0.21/-0.94	2.772/35	0.06/-0.13	-1.540/32	-0.13/-0.44	0.17/-3.49	-5.52/-2.35	-0.55/-0.64	-1.87/-6.16	
Θ(112.5°)	-6.29/-6.67	-4.84/-5.69	-5.58/-5.74	-4.19/-5.85	-6.75/-1.05	-3.86/-0.91	-5.97/-3.23	-14.94/-3.46	-11.67/-9.69	-4.99/-13.7	-5.88/-5.79	-8.42/-3.07	-6.96/-19.22	-13.94/-4.15	-1.51/-1.99	1.091/85	3.31/39	0.272/57	-0.92/-7.2	-0.99/-2.01	-6.35/-5.74	0.50/66	-0.94/-2		
Θ(120°)	-3.7/-7.56	-8.87/-4.62	-5.76/-7	-2.62/-5.61	-1.96/-1.3	-5.38/-1.41	-8.26/-3.37	-5.8/-3.69	-																



Radiated Composite Gain Data 2.4GHz/5GHz

Appendix A

Θ(120°)	-14.63/-10.82	-8.72/-8.01	-6.38/-6.16	-7.38/-6.49	-3.03/-1.06	-1.36/-3.37	-5.04/-4.17	-2.96/-3.34	-3.2/-3.1	-3.2/-4.41	-11.31/-14.75	-17.8/-12.77	-15.01/-5.77	-5.73/-11.83	-13.57/-9.15	-8.4/-15.97	-13.8/-10.56	-12.7/-14.14	-9.84/-8.95	-7.99/-8.56	-13.41/-12.25	-20.17/-14.27	-19.18/-18.72	-17.55/-16.37
Θ(127.5°)	-19.46/-17.57	-12.44/-7.41	-5.52/-5.35	-7.49/-6.05	-3.29/-3.34	-3.48/-3.7	-5.3/-6.53	-4.49/-1.15	-0.58/-2.94	-5.19/-8.51	-16.02/-13.75	-14.06/-17.25	-11.49/-8.63	-11.11/-11.21	-11.99/-10.5	-9.62/-19.38	-20.34/-19.51	-14.04/-10.79	-6.87/-8.36	-6.14/-6.59	-7/-10.07	-8.24/-16.3	-18/-20.34	-19.23/-19.19
Θ(135°)	-17.4/-11.39	-7.23/-4.96	-4.19/-4.7	-4.52/-4.83	-7.32/-0.61	-5.17/-2.63	-3.14/-4.49	-3.68/-2.55	-4.01/-5.61	-9.66/-16.51	-14.4/-10.06	-9.96/-10.02	-19.11/-17.14	-15.83/-19.56	-14.44/-11.37	-19.34/-16.13	-18.72/-15.41	-10.82/-7.28	-13.1/-7.36	-10.92/-8.32	-10.86/-10.67	-15.12/-15.69	-19.33/-20.51	-17.51/-19.19
Θ(142.5°)	-14.49/-18.06	-11.71/-7.77	-7.05/-6.42	-4.6/-3.94	-4.48/-4.6	-4.38/-3.7	-1.57/-0.39	-1.33/-3.53	-6.51/-13.94	-18.59/-13.8	-11.61/-10.27	-7.27/-9.26	-19.32/-18.8	-19.06/-17.23	-11.51/-7.44	-10.71/-10.26	-14.26/-10.46	-12.2/-5.76	-6.68/-10.82	-5.9/-9.26	-15.23/-14.03	-6.81/-9.38	-16.39/-17.68	-12.88/-13.11
Θ(150°)	-17.51/-16.83	-17.34/-13.75	-9.42/-7.59	-6.37/-4.15	-1.79/-0.52	0.25/0.5	-0.6/-2.9	-4.73/-7.07	-14.71/-17.19	-12.46/-10.94	-12.86/-16.28	-14.1/-17.55	-20.36/-19.52	-19.91/-18.39	-12.51/-8.75	-8.83/-10.1	-18.9/-10.48	-9.6/-19.28	-9.75/-11.4	-19.43/-19.02	-14.62/-10.3	-8.72/-9.72	-14.86/-19.34	-18.57/-18.87
Θ(157.5°)	-16.83/-18.67	-14.13/-9.79	-8.25/-6.03	-3.32/-1.45	-0.82/-0.87	-0.93/-1.18	-1.52/-2.33	-5.01/-9.27	-8.85/-7.28	-7.94/-10.25	-13.96/-16.55	-18.51/-20.73	-13.14/-12.33	-16.62/-18.94	-11.79/-11.71	-9.69/-10.28	-12.77/-11.49	-15.34/-12.84	-15/-14.24	-17.5/-19.61	-19.4/-18.14	-17.27/-20.31	-19.13/-19.14	-19.64/-19.8
Θ(165°)	-14.25/-17.89	-13.93/-9.96	-7.32/-5.71	-4.57/-3.27	-2.23/-1.59	-1.44/-1.84	-2.58/-3.77	-5.37/-6.93	-8.54/-10.79	-13.07/-15.13	-16.42/-19.34	-18.81/-20.15	-18.95/-18.84	-19.79/-16.11	-12.44/-10.74	-12.21/-17.53	-19.81/-14.21	-12.75/-12.78	-12.02/-10.91	-10.82/-11.35	-11.84/-13.43	-14.66/-15.57	-13.73/-10.93	-9.96/-10.8
Θ(172.5°)	-7.67/-7.62	-8.71/-9.24	-8.84/-7.39	-5.53/-3.97	-3.14/-2.96	-3.19/-4.02	-5.53/-7.41	-10.43/-15.48	-19.79/-20.05	-19.72/-19.54	-17.47/-15.38	-14.87/-16.98	-18.43/-19.39	-19.2/-19.02	-19.99/-19.44	-14.22/-10.86	-8.85/-8.11	-8.06/-7.97	-7.42/-7.02	-7/-7.876	-9.05/-8.6	-8.67/-9.27	-10.22/-9.33	-8.3/-8.02
Θ(180°)	-12.54/-14.6	-14.91/-14.28	-14.72/-12.87	-11.08/-9.37	-8.45/-8.88	-9.99/-11.87	-15.09/-18.44	-20.41/-17.44	-15.33/-14.01	-13.1/-11.97	-10.72/-9.98	-10.61/-12.43	-13.8/-12.75	-10.78/-9.48	-8.62/-8.09	-7.3/-6.52	-6.58/-7.54	-8.46/-8.63	-7.98/-7.38	-7.62/-8.02	-8.11/-7.86	-7.2/-6.84	-7.51/-8.54	-9.13/-10.3
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°)	-1.41/-1.15	-0.95/-0.9	-1.2/-1.96	-3.23/-4.9	-6.91/-9.53	-12.75/-19.06	-19.96/-14.39	-9.21/-5.98	-1.11/-2.83	-1.77/-0.74	-0.14/-0.19	0.35/0.45	1.14/-1.42	0.97/0.28	-0.79/-1.86	-5.93/-7.87	-10.57/-15.31	-19.2/-16.68	-10.84/-7.86	-6.04/-4.54	-3.42/-2.75	-1.98/-1.28	-1.2/-1.07	-
Θ(7.5°)	0.980/76	0.70/62	0.42/-0.02	-1.27/-3.21	-5.25/-7.26	-9.6/-12.84	-19.4/-19.77	-13.78/-9.6	-6.73/-4.58	-3.56/-3.01	-2.62/-2.16	-1.72/-1.27	-0.49/-0.24	-0.69/-1.27	-2.19/-3.18	-4.18/-5.16	-6.67/-9.17	-13.51/-19.98	-20.23/-12.72	-8.09/-5.35	-3.51/-2.12	-1.1/-0.54	0.320/92	1.25/-1.22
Θ(15°)	1.160/95	1.24/108	0.27/-0.47	-1/-2.05	-3.78/-5.92	-8.09/-10.46	-14.59/-18.91	-19.29/-15.25	-12.02/-9.98	-8.02/-5.88	-3.85/-2.35	-1.51/-1.59	-2/-2.37	-2.55/-2.62	-3.17/-4.26	-5.76/-7.04	-8.06/-9.47	-12.9/-19.26	-19.41/-14.79	-7.1/-4.5	-2.61/-1.37	-0.79/-0.29	0.39/1.05	1.48/1.48
Θ(22.5°)	2.62/82	3.08/87	1.960/82	0.07/-0.61	-1.63/-2.75	-4.22/-6.54	-9.83/-13.84	-16.29/-15.51	-13.17/-9.02	-6.18/-4.54	-3.56/-2.73	-2.16/-1.56	-0.79/-0.22	-0.32/-1.2	-2.65/-3.95	-5.05/-6.6	-8.87/-11.69	-14.53/-19.38	-19.24/-12.74	-7.41/-4.43	-2.66/-1.68	-0.70/-47	1.39/2.38	2.64/-2.6
Θ(30°)	3.82/91	3.74/94	3.07/81	1.980/87	-0.3/-1.13	-2.45/-4.82	-8.82/-14.38	-19.02/-19.45	-14.6/-8.61	-5.84/-4.64	-3.41/-2.18	-1.83/-2.62	-2.53/-2.02	-0.98/-1.24	-1.19/-2.35	-4.52/-6.71	-9.63/-12.02	-13.68/-17.68	-19.81/-10.35	-6.66/-5.45	-3.67/-1.59	0.051/69	2.89/3.62	3.81/3.8
Θ(37.5°)	3.05/77	2.73/63	2.752/87	2.140/83	-0.36/-0.58	-1.43/-4.02	-9.17/-15.97	-19.61/-19.82	-20.16/-13.93	-11.21/-7.83	-4.48/-2.63	-1.75/-0.92	-0.78/-1.29	-1.73/-1.94	-2.28/-3.05	-4.94/-8.33	-12.37/-15.2	-16.37/-20.1	-19.69/-17.66	-10.92/-6.96	-6.79/-417	-0.61/-1.32	2.66/3.35	3.6/3.4
Θ(45°)	2.231/79	1.481/03	1.386/17	2.210/97	-0.120/-0.31	-0.14/-3.01	-9.26/-12.9	-9.84/-15.07	-12.35/-12.54	-10.21/-7.7	-6.27/-4.94	-3.31/-3.42	-3.19/-3.37	-2.37/-3.45	-4.67/-7.23	-11.05/-13.25	-15.34/-19.57	-19.11/-17.76	-19.11/-12.17	-7.15/-3.77	-4.37/-2.26	-0.351/38	2.46/3.34	3.61/3.05
Θ(52.5°)	2.111/23	0.510/35	0.871/47	1.61/05	0.32/-0.84	-2.31/-5.37	-10.33/-8.17	-6.6/-9.12	-13.65/-12.58	-8.51/-5.99	-4.79/-3.55	-3.09/-4.15	-5.26/-4.46	-3.86/-4.69	-7.21/-12.14	-18.08/-19.61	-17.55/-18.41	-18.75/-19.42	-12.45/-9.2	-6.06/-3.22	-3.11/-1.04	0.351/52	2.753/66	3.8/3.13
Θ(60°)	2.791/91	1.141/11	1.381/45	1.090/99	0.67/-0.58	-2.56/-6.1	-9.18/-5.46	-6.27/-10.01	-15.45/-14.52	-14.51/-13.36	-12.11/-9.66	-8.11/-10.8	-9.05/-7.97	-6.4/-6.79	-8.12/-16.1	-12.09/-6.39	-6.9/-10.28	-16.02/-19.76	-10.1/-5.93	-3.63/-1.8	-0.65/-0.27	0.47/26	3.11/3.7	3.78/3.35
Θ(67.5°)	2.581/83	1.111/24	1.741/47	0.740/7	0.1/-2.5	-3.85/-9.13	-5.01/-5.8	-6.18/7.9	-9.12/-10.96	-13.51/-11.55	-9.52/-9.89	-12.81/-10.97	-10.6/-9.05	-7.98/-6.41	-7.26/-13.28	-8.45/-3.18	-2.87/-1.6	-13.91/-29	-11.97/-6.67	-1.92/-6.7	-0.390/89	0.731/2	2.63/0.99	3.31/0.7
Θ(75°)	1.680/71	-0.18/-0.46	-0.01/-0.05	-0.310/52	0/-2.76	-3.55/-3.06	-5.05/-5.39	-6.1/-10.43	-8.18/-8.12	-8.78/-8.8	-7.73/-9.13	-12.42/-11.63	-10.92/-10.72	-13/-16.33	-10.14/-8.52	-6.86/-3.4	-2.74/-5.88	-14.11/-20.02	-12.78/-5.56	-2.78/-0.35	0.571/35	1.381/77	1.952/49	2.612/44
Θ(82.5°)	2.161/34	-0.27/-1.32	-0.720/71	0.63/-0.85	-1.86/-2.19	-2.7/-3.6	-4.1/-3.7	-3.42/-5	-5.65/-8.91	-12/9.03	-8.73/-14.71	-16.39/-15.97	-13.73/-13.42	-19.37/-19.21	-9.23/-4.85	-5.07/-4.92	-2.3/-5.66	-14.71/-19.13	-11.68/-5.09	-2.28/-0.6	0.931/48	2.251/78	2.31/2.45	2.71/57
Θ(90°)	0.81/-0.35	-1.87/-2.74	-2.38/-1.71	-2.61/-7.9	-3.84/-3.17	-3.63/-2.37	-3.15/-2.87	-3.11/-5.85	-7.29/-11.66	-3.08/-2.98	-3.75/-4.92	-8.95/-11.02	-7.64/-13.6	-16.35/-15.21	-9.04/-3.67	-2.7/-6.09	-4.01/-3.7	-12.32/-18.15	-10.97/-4.76	-1.35/-1.62	0.650/95	1.921/24	0.620/66	1.02/0.6
Θ(97.5°)	-0.53/-0.81	-2.14/-3.12	-2.8/-2.01	-2.26/-1.1	-0.58/-2.77	-4.36/-3.13	-3.29/-2.09	-1.58/-5.83	-8.01/-5.95	-3.04/-5.8	-8.03/-10.23	-8.22/-5.66	-6.2/-7.24	-7.96/-10.8	-8.08/-4.97	-1.86/-2.95	-4.94/-4.43	-11.91/-18.64	-8.18/-5.4	-1.34/-0.41	0.031/32	1.240/75	-0.58/-1.12	-0.18/-0.28
Θ(105°)	-0.220/09	-1.79/-3.18	-4.03/-2.92	-2.41/-1.89	-1.21/-1.51	-1.33/-1.59	-3.82/-1.52	-2.96/-6.58	-5.58/-7.08	-5.35/-7.74	-6.78/-3.43	-4.06/4	-4.78/-6.86	-6.43/-9.12	-8.35/-6.41	-1.9/-4.22	-4.82/-9.3	-10.53/-18.42	-7.55/-5.45	-2.22/-1.92	-0.79/-0.45	-0.03/-0.33	-1.9/-1.69	-0.75/-0.06
Θ(112.5°)	-0.94/-0.75	-2.89/-5.76	-7.28/-5.66	-3.39/-2.68	-2.84/-2.91	-1.83/-2.04	-3.68/-3.06	-2.65/-2.27	-3.13/-5.29	-5.16/-3.22	-5.13/-6.2	-4.12/-4.23	-6.2/-6.33	-6.04/-7.73	-6.31/-6.31	-3.31/-4.06	-4.19/-2.37	-11.18/-19.45	-6.76/-5.91	-4.04/-2.72	-2.1/-1.6	-2.46/-3.53	-3.52/-3.59	-1.98/-1.06
Θ(120°)	-1.23/-1.55	-2.36/-4.66	-5.13/-4.86	-2.71/-2.71	-3.72/-3.47	-2.02/-1.95	-3.75/-3.9	-1.15/-1.24	-3.94/-5.21	-5.25/-2.58	-3.47/-2.65	-4.69/-5.39	-5.12/-5.11	-3.11/-7.62	-8.96/-14.37	-4.57/-3.42	-10.74/-5.72	-7.76/-19.62	-9.2/-4.58	-9.54/-2.62	-4.64/-3.37	-4.36/-4.87	-4.67/-5.14	-0.52/-0.82
Θ(127.5°)	-1.7/-1.6	-1.69/-3.01	-3.62/-4.44	-5.08/-4.53	-4.81/-5.61	-5.93/-6.87	-5.38/-1.58	-0.01/-2.54	-7.62/-6.26	-2.63/-1.5	-4.17/-6.33	-3.03/-3.57	-5.68/-10.5	-11.14/-11.73	-12.01/-12.38	-10.18/-6.6	-10.1/-9.55	-10.91/-17.18	-11.22/-6.11	-10.06/-8.28	-7.02/-7.55	-5.9/-5.52	-10.46/-6.66	-4.51/-2.57
Θ(135°)	-5.15/-4.08	-5.25/-7.22	-8.91/-9.25	-8.81/-8.15	-7.05/-6.5	-5.85/-6.23	-5.09/-1.5	-0.45/-2.86	-6.92/-6.1	-5.97/-4.21	-2.17/-0.36	-0.18/-1.12	-2.93/-6.02	-5.75/-9.05	-10.46/-19.33	-12.98/-7.77	-6.62/-15.58	-9.9/-11.09	-15.4/-12.77	-3.9/-19.2	-10.63/-12.39	-6.98/-7.6	-9.92/-12.41	-6.5/-6.16
Θ(142.5°)	-9.6/-8.75	-7.04/-8.16	-1.08/-13.39	-12.35/-10.16	-8.27/-5.73	-3.53/-2.66	-2.2/-2.45	-4.1/-6.18	-6.92/-7.05	-6.13/-6.55	-5.1/-3.9	-1.47/-2.56	-2.99/-0.79	-4.15/-4.8	-11.45/-10.67	-7.76/-19.66	-11.85/-8.33	-9.6/-19.29	-11.48/-13.73	-18.82/-15.13	-18.89/-10.92	-13.73/-13.27	-10.53/-8.81	-
Θ(150°)	-7.94/-7.48	-8.52/-12.27	-14.37/-14.55	-16.18/-17.05	-14.96/-11.6	-9.01/-8.17	-9.83/-12.41	-11.41/-12.05	-15.64/-8.15	-4.11/-2.34	-3.02/-7.62	-5.92/-1.24	-2.15/-3.1	-2.96/-4.41	-14.53/-10.23	-13.35/-15.28	-9.01/-13.43	-17.88/-10.68	-7.72/-11.31	-18.38/-15.2	-19.06/-11.13	-8.83/-7.56	-8.97/-11.86	-9.71/-8.33
Θ(157.5°)	-14.22/-15.13	-14.89/-13.84	-13.46/-14.23	-14.4/-13.33	-12.8/-12.49	-13.29/-16.2	-17.73/-13.41	-11.02/-9.57	-6.94/-93	-4.86/-6.52	-12.48/-15.33	-5.57/-3.71	-5.64/-10.59	-14.55/-19.45	-14.1/-9.95	-13.65/-18.51	-15.8/-17.5	-18.56/-19.65	-20.06/-19.09	-18.18/-16.89	-18.77/-19.9	-20.14/-18.09	-18.71/-19.15	-20.07/-16.83
Θ(165°)	-7.44/-7.73	-7.83/-7.85	-8.83/-10.43	-13.35/-15.98	-16.25/-16.83	-16.16/-12.63	-9.75/-8.28	-7.76/-7.98	-9.11/-10.91	-13.56/-16.97	-17.71/-13.43	-11.10/-8.2	-12.42/-15.02	-17.71/-17.39	-19.77/-19.71	-19.77/-13.58	-11.84/-14.52	-19.16/-18.92	-19.25/-15.93	-11.96/-9.53	-8.37/-7.95	-7.84/-8.88	-12.02/-17.02	-14.74/-10.09
Θ(172.5°)	-6.19/-6.17	-6.16/-6.43	-7.25/-7.58	-7.78/-8.54	-10.09/-12.57	-14.38/-13.24	-12/-12.79	-16.55/-18.43	-1															



Radiated Composite Gain Data 2.4GHz/5GHz

Appendix A

Θ(172.5°)	-17.4/-19.73	-20.19/-15.19	-12.65/-10.58	-8.01/-6.47	-5.6/-5.11	-4.81/-5.06	-5.95/-7.44	-10.41/-15.6	-20.08/-19.85	-18.75/-16.45	-15.03/-13.99	-15.76/-19.26	-19.72/-17.77	-19.31/-18.55	-15.45/-11.55	-9.2/-8.28	-8.57/-9.7	-10.61/-10.73	-10.99/-12.44	-11.67/-9.97	-9.76/-10.28	-10.41/-10.95	-9.63/-8.61	-9.02/-11.52
Θ(180°)	-14.13/-14.35	-13.97/-12.94	-11.08/-8.68	-6.88/-6.52	-7.21/-7.85	-8.33/-8.81	-9.66/-10.77	-12.21/-12.99	-13.68/-13.53	-12.5/-11.76	-12.09/-13.42	-17.15/-16.11	-12.54/-11.71	-14.35/-18.97	-17.4/-14.84	-14.44/-14.75	-15.28/-13.1	-10.2/-8.59	-8.27/-8.44	-8.27/-7.04	-6.49/-6.58	-6.41/-6.3	-6.53/-7.43	-9.26/-12.52
Freq(Hz)	5.66/Pol	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°)	2.12/17	1.91/33	0.53/-0.01	-0.63/-1.58	-2.94/-4.78	-7/9.54	-11.43/-10.07	-7.91/-6.03	-4.32/-2.35	-1.11/-0.13	0.55/-1.32	1.69/-1.7	1.89/-1.8	1.68/-1.53	1.06/-0.35	-0.77/-1.72	-3.12/-4.95	-7.15/-9.39	-11.32/-19.77	-8.46/-6.05	-4.13/-2.55	-1.11/0	0.71/-1.29	1.84/-2.7
Θ(7.5°)	1.64/-1.23	1.23/-0.99	0.24/-0.64	-1.21/-1.86	-2.95/-4.76	-7.51/-10.41	-12.45/-11.88	-9.31/-6.95	-5.13/-3.02	-1.71/-0.27	1.15/-1.72	1.83/-1.89	2.16/-2.23	1.95/-1.42	0.76/0	-1.16/-2.38	-4.07/-6	-8.04/-9.62	-10.3/-9.32	-7.42/-5.28	-4.07/-2.82	-1.2/-0.2	0.45/-0.94	1.38/-1.76
Θ(15°)	1.55/-1.18	0.83/-0.84	0.54/-0.1	-0.91/-1.71	-2.43/-3.66	-5.34/-7.44	-10.03/-12.13	-12.27/-9.93	-7.5/-5.19	-3.58/-2.11	-0.93/-0.15	0.66/-1.2	1.33/-1.7	1.15/-0.85	0.19/-0.93	-2.6/-4.55	-7.07/-10.09	-13.33/-13.95	-12.77/-10.8	-8.72/-6.63	-4.83/-3.38	-1.91/-0.64	0.39/-0.73	1.11/-1.46
Θ(22.5°)	2.55/-2.4	2.16/2	0.93/-0.53	-0.22/-1.11	-2.47/-3.57	-4.71/-6.28	-9.46/-12.51	-16.49/-15.54	-11.01/-7.76	-6.19/-5.31	-5.11/-4.12	-2.74/-1.54	-1.04/-1.12	-1.36/-1.57	-1.84/-2.79	-4.53/-6.62	-8.84/-12.31	-20.63/-19.92	-12.59/-9.56	-8.13/-5.86	-3.74/-2.15	-0.73/-0.24	1.12/-1.52	2.03/-2.36
Θ(30°)	2.79/-2.37	1.84/-1.34	0.63/-0.04	-1.16/-3.08	-5.63/-7.5	-8.66/-9.83	-12.32/-13.11	-11.24/-9.3	-8.51/-8.37	-7.6/-5.43	-3.16/-2.51	-2.64/-2.76	-2.5/-3.62	-4.7/-6.35	-7.36/-7.89	-10.08/-14.56	-20.2/-19.11	-19.6/-12.13	-8.42/-6.23	-3.51/-0.95	1.12/-2.39	3.05/-2.93	3.17/-2.9	
Θ(37.5°)	3.44/-3.32	2.61/7	1.48/-2.04	-1.06/-1.97	-3.22/-4.81	-6.13/-7.74	-10.31/-11.71	-11.41/-10.96	-13.59/-13.38	-8.2/-4.1	-2.12/-1.12	-0.75/-0.89	-1.62/-2.76	-4.29/-5.68	-7.01/-8.53	-10.12/-10.56	-11.81/-16.69	-17/-17.84	-12.6/-6.55	-4.72/-1.8	0.82/-37	3.26/-53	3.63/-53	
Θ(45°)	2.88/-2.59	2.04/-1.55	1.29/-1.3	1.41/-1.59	1.08/-0.58	-3.77/-5.72	-6.7/-9.3	-13.64/-14.6	-12.09/-11.25	-14.41/-11.59	-5.55/-2.5	-1.54/-0.13	-0.87/-1.91	-2.13/-3.03	-3.06/-3.62	-5.52/-8.4	-9.79/-9.81	-11.57/-16.07	-16.13/-19.98	-15.03/-16.51	-5.21/-1.4	0.74/-1.82	2.46/-3.8	2.63/-2.89
Θ(52.5°)	2.97/-2.26	1.43/-0.61	0.33/-0.57	1.51/-1.69	0.68/-1.8	-3.43/-3.59	-6.65/-19.91	-12.64/-11	-18.26/-19.8	-15.51/-11.26	-5.07/-2.66	-1.15/-0.7	-1.54/-1.8	-3.73/-5.63	-8.96/-11.54	-12.8/-14.33	-15.36/-13.58	-14.08/-8.73	-10.6/-7.84	-5.73/-1.34	0.99/-1.65	1.99/-2.47	3.18/-3.4	
Θ(60°)	2.81/-1.77	0.93/-1.22	1.37/-0.89	1.31/-1.91	0.53/-1.74	-2.02/-2.63	-6.14/-13.64	-9.01/-6.52	-11.41/-19.14	-18.42/-11.14	-5.98/-4.18	-3.15/-3.36	-4.61/-5.17	-3.92/-3.93	-4.99/-7.07	-8.79/-14.5	-18.43/-14.89	-16.79/-19.7	-10.93/-7.16	-4.58/-4.51	-2/-0.87	0.62/-1.71	1.37/-1.65	2.39/-2.95
Θ(67.5°)	3.05/-1.84	0.36/-0.07	0.67/-1.25	1.38/-1.25	0.44/-0.6	-1.65/-3.44	-7.52/-11.22	-7.75/-7.5	-15.19/-19.87	-18.89/-18.7	-13.79/-9.9	-7.41/-8.5	-8.55/-8.02	-6.37/-5.48	-6.02/-8.49	-8.96/-8.6	-9.56/-9.46	-11.95/-18.48	-8.84/-7.4	-1.98/-1.36	0.16/-1.41	2.32/-2.23	1.91/-1.59	2.61/-3.06
Θ(75°)	2.93/-1.86	0.83/-0.1	1.58/-1.08	0.50/-0.69	0.16/-1.04	-1.53/-2.54	-5.42/-6.94	-6.44/-7.71	-19.75/-12.09	-10.62/-9.44	-11.86/-11.5	-10.91/-11.3	-12.83/-13.04	-10.34/-9.19	-9.21/-9.29	-7.59/-6.88	-5.61/-7.54	-10.46/-19.26	-9.78/-4.99	-2.04/-0.65	0.88/-2.19	2.64/-2.83	1.55/-1.78	2.73/-2.9
Θ(82.5°)	2.22/-0.26	-0.94/-1.05	0.11/-0.44	-0.42/-0.69	-0.42/-1.33	-2.63/-3.36	-4.13/-3.83	-5.16/-7.56	-9.32/-8.11	-10.63/-8.63	-9.16/-13.5	-18.98/-18.85	-14.91/-14.14	-12.13/-15.56	-12.59/-8.3	-8/-5.35	-4.71/-8.31	-9.73/-17.7	-9.27/-3.94	-2.12/-0.6	1.53/-0.33	3.67/-2.86	1.35/-0.88	2.26/-2.42
Θ(90°)	2.94/-1.32	0.35/-0.94	1.31/-0.21	-0.74/-0.1	-0.55/-1.96	-2.83/-1.47	-3.22/-3.35	-5.35/-4.57	-6.11/-6.97	-12.59/-7.36	-7.93/-12.33	-19.37/-14.28	-19.13/-19.72	-16.79/-16.41	-14.78/-11.54	-5.97/-5.17	-4.39/-5.59	-12.11/-18.11	-12.18/-14.3	-1.41/-0.46	1.83/-27	3.18/-27	0.89/-1.08	2.87/-3.36
Θ(97.5°)	2.01/-0.34	-1.92/-1.82	-1.36/-2.68	-4.4/-2.32	-1.22/-3.38	-2.94/-0.56	-1.87/-4.9	-2.03/-4.2	-4.08/-8.93	-6.88/-8.33	-6.96/-15.26	-7.4/-9.04	-9.68/-19.42	-14.23/-16.81	-17.55/-11.64	-3.83/-0.46	-3.43/-3.12	-7.91/-18.63	-15.6/-4.2	-1.31/-0.05	2.24/-1.16	2.82/-43	0.14/-0.38	2.75/-2.9
Θ(105°)	1.48/-0.57	-2.64/-2.97	-1.52/-1.13	-2.06/-2.17	-1.62/-2.4	-1.49/-0.02	-1.51/-1.73	0.03/-1	-7.21/-7.08	-5.91/-4.34	-4.52/-7.5	-3.6/-3.64	-6.24/-10.43	-13.03/-17.66	-13.69/-11.85	-4.39/-3.58	-2.74/-2.03	-5.92/-18.81	-11.8/-5.65	-0.67/-0.67	1.26/-0.84	1.21/-47	-1.22/-0.37	1.42/-2.06
Θ(112.5°)	0.89/-1.38	-2.92/-2.87	-3.15/-5	-5.65/-2.12	-1.57/-2.38	-0.53/-0.95	-1.64/-0.77	-2.61/-3.39	-3.45/-3.64	-3.29/-2.51	-2.23/-2.49	-2.81/-3.19	-5.62/-8.21	-6.89/-9.47	-8.87/-11.73	-4.6/-4.25	-4.28/-2.94	-9.75/-14.14	-10.38/-6.6	-1.83/-0.8	-0.43/-1.61	-1.2/-0.83	-2.94/-1.88	1.34/-2.16
Θ(120°)	0.16/-0.63	-4.5/-8.86	-7.86/-5.59	-5.29/-4.48	-1.97/-1.18	-2.27/-1.98	-0.34/-1.23	-1.67/-2.08	-1.35/-4.53	-3.29/-3.03	-4.62/-6.53	-2.36/-5.53	-0.92/-8.61	-4.62/-6.48	-11.83/-17.96	-4.29/-4.6	-9.08/-3.46	-1.53/-18.2	-11.91/-10.32	-3.62/-5.46	-3.45/-6.77	-3.18/-3.25	-1.48/-1.35	0.30/-3.35
Θ(127.5°)	-1.3/-1.7	-3.53/-4.71	-3.55/-3.63	-2.53/-3.14	-2.8/-2.18	-1.16/-2.15	-3.7/-2.09	0.82/-1.46	-1.37/-7.53	-4.68/-1.68	-0.86/-2.92	-3.29/-2.67	-5.98/-6.68	-7.33/-9.49	-12.99/-17.08	-10.68/-5.78	-9.21/-9.79	-14.55/-18.93	-12.64/-12.91	-7.1/-4.9	-9.45/-7.18	-7/-7.77	-5.92/-4.22	-2/-0.65
Θ(135°)	-1.29/-2.62	-2.69/-2.85	-4.32/-5.46	-5.97/-5.36	-5.64/-6.27	-6.6/-4.69	-2.55/-1.19	-1.06/-0.01	-3.61/-4.84	-5.28/-2.98	-1.61/-1.04	0.47/-0.63	-5.18/-7.47	-7.61/-8.16	-9.85/-15.56	-13.3/-8.13	-6.52/-17.79	-11.18/-9.98	-13.03/-0.88	-1.56/-6.72	-12.94/-6.64	-5.06/-5.78	-12.36/-3.36	-2.25/-1.87
Θ(142.5°)	-3.18/-2.02	-0.64/-0.68	-5.38/-4.69	-4.89/-5.4	-7.12/-8.13	-6.69/-5.68	-3.96/-1.63	-2.54/-5.1	-6.88/-5.82	-6.24/-4.94	-3.87/-4.67	-0.81/-0.53	-4.12/-6.8	-5.95/-13.88	-14.45/-10.96	-10.28/-18.97	-12.56/-5.66	-9.66/-6.15	-6.43/-9.79	-17.57/-10.7	-5.97/-8.92	-9.71/-7.3	-3.3/-3.99	
Θ(150°)	-5.75/-6.46	-4.88/-4.81	-5.52/-6.23	-6.84/-7.32	-6.74/-6.96	-9.44/-8.14	-4.51/-3.99	-7.78/-9.45	-7.89/-11.59	-6.64/-3.16	-1.52/-2.25	-5.35/-3.11	-1.72/-3.26	-5.31/-4.76	-10.98/-14.89	-13/-10.67	-8.84/-19.96	-18.66/-8.47	-6.94/-10.57	-6.19/-9.23	-18.02/-13.55	-12.55/-10.82	-12/-8.49	-5.53/-4.63
Θ(157.5°)	-7.05/-7.02	-7.18/-8.01	-8.41/-10.39	-16.04/-18.76	-19.62/-13.81	-9.66/-8.03	-8.84/-12.62	-10.93/-9.93	-8.06/-7.29	-5.83/-5.8	-7.26/-12.37	-14.66/-4.87	-4.25/-9.34	-14.59/-12.93	-13.72/-15.03	-13.53/-15.05	-12.15/-16.55	-19.31/-16.21	-14.07/-15.95	-14.92/-14.34	-17.24/-13.84	-10.81/-12.48	-13.07/-9.22	-7.19/-7.07
Θ(165°)	-13.46/-14.98	-13.44/-12.1	-12.26/-12.64	-11.21/-11.1	-13.4/-13.15	-16.57/-14.2	-11.4/-9.03	-13.28/-16.75	-15.3/-11.44	-10.72/-11.87	-15.56/-17.73	-17.28/-14.95	-12.79/-15.06	-10.28/-12.22	-15.99/-19.41	-17.53/-16.19	-17.48/-17.59	-15.24/-14.91	-19.22/-19.89	-18.55/-18.02	-14.33/-12.53			
Θ(172.5°)	-10.64/-9.73	-9.55/-9.37	-9.5/-9.66	-10.41/-10.81	-10.17/-9.45	-9.24/-8.77	-8.39/-8.66	-10.3/-13.78	-19.5/-18.98	-16.59/-12.22	-9.57/-7.83	-6.84/-6.91	-7.73/-7.49	-6.78/-6.37	-6.93/-7.87	-9.29/-12.2	-15.34/-15.25	-13.42/-12.98	-14.89/-15.3	-13.84/-12.14	-9.94/-8	-8.01/-10.5	-13.5/-14.23	-13.69/-12.17
Θ(180°)	-5.85/-5.67	-5.14/-5.67	-6.5/-7.32	-8.18/-9.35	-10.16/-12.43	-17.89/-19.81	-19.93/-18.94	-19.13/-18.72	-18.82/-18.31	-19.86/-19.18	-19.8/-18.84	-19.53/-19.56	-19.18/-14.11	-12.06/-11.32	-10.32/-9.61	-9.2/-8.82	-8.39/-8.19	-8.44/-9.7	-12.16/-14.93	-17.12/-18.89	-18.02/-13.43	-9.87/-8.45	-7.52/-6.21	-5.11/-5.19
Freq(Hz)	5.7856/Pol	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°)	-11.02/-13.01	-11.71/-8.66	-5.35/-2.97	-2.06/-1.5	-0.59/-0.62	1.66/-2.17	2.31/-2.37	2.16/-1.92	1.59/-1.24	0.27/-0.75	-2.83/-5.26	-7.28/-8.95	-12.39/-20.08	-13.44/-8.44	-7.02/-6.19	-4.5/-2.4	-1.04/-0.37	0.33/-0.12	1.22/-1.52	1.64/-1.68	1.29/-0.71	-0.12/-0.88	-1.9/-3.51	-5.51/-7.92
Θ(7.5°)	-12.74/-15.74	-16.98/-13.19	-8.89/-5.65	-4.62/-4.29	-3.19/-4.19	0.06/-0.57	0.24/-0.3	0.82/-0.8	0.59/-0.47	-0.22/-1.04	-2.44/-6.66	-6.81/-8.51	-10.29/-12.77	-10.82/-7.08	-4.75/-3.31	-1.59/-0.42	0.62/-1.24	1.83/-23	2.46/-2.62	2.48/-2.06	1.23/-0.77	0.15/-0.66	-1.71/-3.8	-6.13/-8.81
Θ(15°)	-18.01/-20.01	-15.82/-9.29	-6.28/-5.02	-3.93/-2.8	-1.8/-1.13	-0.30/-32	0.85/-1.21	1.14/-0.91	0.43/-0.19	-0.82/-2.12	-3.39/-5.11	-7.75/-11.73	-14.99/-11.95	-9.07/-6.45	-3.81/-1.85	-0.52/-0.41	1.02/-1.39	1.84/-2.18	2.33/-2.28	1.94/-1.39	0.93/-0.39	-0.34/-1.07	-2.33/-4.21	-6.44/-9.66
Θ(22.5°)	-18.62/-19.43	-12.3/-7.57	-5.54/-4.45	-3.45/-2.2	-1.6/-1.51	-1.24/-0.45	0.53/-0.61	0.36/0	-0.19/-0.36	-1.77/-3.07	-4.55/-6.31	-9.44/-13.83	-15.48/-12.34	-9.54/-6.84	-4.14/-2.15	-0.69/-0.42	1.21/-1.62	1.75/-1.65	1.37/-1.43	1.25/-1.1	0.63/-0.38	-1.39/-2.97	-4.27/-5.8	-7.86/-11.36
Θ(30°)	-16.27/-18.83	-1																						



Radiated Composite Gain Data 2.4GHz/5GHz

Appendix A

Θ(22.5°)	-2.3/-1.86	-1.56/-1.42	-1.37/-1.31	-1.28/-1.28	-1.55/-2.07	-2.89/-3.87	-5.06/-6.32	-7.6/-8.94	-10.05/-11.44	-11.91/-12.5	-12.65/-13.44	-12.78/-11.9	-11.07/-10.1	-9.4/-9.16	-8.9/-7.74	-7.03/-6.31	-6/-5.9	-6.12/-6.14	-5.46/-5.22	-4.89/-4.55	-4.16/-4	-4.01/-3.97	-3.86/-3.57	-3.09/-2.58
Θ(30°)	-3.28/-2.56	-1.97/-1.69	-1.67/-1.88	-2.06/-2.21	-2.42/-2.65	-3.12/-4	-5.53/-6.93	-8.39/-9.48	-10.09/-10.6	-10.8/-11.8	-11.69/-12.61	-13.77/-15.57	-15.58/-14.89	-15.07/-16	-17.91/-17	-14.44/-12.11	-10.24/-8.67	-7.36/-6.1	-5.1/-4.51	-4.19/-4.01	-4.02/-4.27	-4.55/-4.83	-4.99/-4.86	-4.44/-3.72
Θ(37.5°)	-3.36/-2.8	-2.05/-1.45	-1.11/-1.04	-0.81/-0.76	-0.69/-0.96	-1.48/-2.31	-3.45/-4.31	-4.65/-4.59	-4.14/-4.04	-4.31/-4.88	-5.76/-6.65	-9.02/-10.7	-13.9/-17.2	-19.4/-20.38	-15.97/-12.27	-10.10/-10.5	-9.83/-8.51	-7.09/-4.64	-4.61/-4.26	-4.21/-4.43	-5.24/-5.24	-5.56/-5.71	-5.64/-5.62	-4.83/-3.89
Θ(45°)	-4.66/-3.99	-3.35/-2.68	-2.1/-1.41	-0.85/-0.05	0.52/0.61	0.27/-0.55	-1.96/-3.27	-3.77/-3.2	-2.31/-1.78	-1.72/-2.04	-2.55/-3.28	-4/-4.68	-5.19/-5.58	-5.78/-5.67	-5.51/-5.66	-6.25/-7.61	-9.1/-9.24	-7.87/-5.66	-4.18/-3.49	-3.28/-3.71	-4.81/-5.91	-7.08/-8.01	-8.13/-7.62	-6.7/-5.5
Θ(52.5°)	-9.51/-7.75	-6.68/-6.15	-5.89/-5.13	-3.47/-1.66	-0.22/0.61	0.6/-0.29	-1.97/-3.65	-3.94/-2.56	-1.14/-0.54	-0.45/-0.7	-0.98/-1.21	-1.12/-0.98	-0.82/-0.88	-1.37/-2.31	-3.67/-4.86	-5.98/-6.39	-3.18/-5.51	-4.59/-3.38	-2.42/-1.91	-2.02/-2.78	-3.91/-5.45	-7.34/-9.66	-12.11/-13.97	-14.13/-12
Θ(60°)	-19.6/-16.79	-13.48/-11.79	-12.01/-11.3	-12.29/-1.735	-3.83/-1.64	-0.41/-0.18	-0.82/-2.08	-3.4/-3.69	-2.91/-2.14	-1.77/-1.52	-1.2/-0.68	-0.09/0.32	-0.46/0.16	-0.73/-1.63	-2.81/-2.99	-2.81/-2.7	-2.95/-3.49	-4.09/-4.07	-5.51/-3.43	-3.92/-4.1	-4.51/-6.22	-7.16/-6.82	-10.81/-13.79	-17.72/-18.55
Θ(67.5°)	-15.92/-19.75	-19.95/-12.18	-8.21/-7.03	-8.14/-10.69	-9.57/-6.26	-3.76/-2.63	-2.67/-2.94	-2.88/-1.9	-1.04/-0.47	-0.32/-0.46	-0.41/0	0.590/99	1.030/72	0.26/-0.19	-0.38/-0.9	-1.68/-2.75	-3.8/-4.22	-3.81/-2.95	-2.43/-2.44	-2.62/-2.75	-2.69/-2.82	-3.62/-5.29	-7.51/-9.89	-11.75/-13.02
Θ(75°)	-10.98/-12.13	-13.34/-11.89	-8.3/-5.89	-4.82/-9.4	-4.68/-3.56	-2.48/-2.02	-2.71/-4.08	-4.79/-3.65	-1.7/-0.25	0.54/0.98	1.442/0.1	2.422/68	2.552/08	1.41/06	0.70/16	-0.22/-0.38	-0.49/-0.69	-0.98/-1.47	-1.96/-2.08	-1.85/-1.27	-0.62/-0.33	-0.81/-2.13	-4.21/-6.48	-8.67/-9.91
Θ(82.5°)	-14.85/-19.35	-18.35/-9.85	-4.69/-2.99	-2.62/-2.4	-1.95/-1.21	-0.21/0.23	-0.31/-1.95	-3.76/-4.02	-1.9/-0.13	1.172/-11	3.053/84	4.214/13	3.632/96	2.472/13	1.511/47	1.230/61	-0.18/-0.64	-1/-1.14	-0.72/-0.48	-0.30/07	0.22/-0.3	-1.56/-3.71	-6.94/-10.14	-11.86/-12.72
Θ(90°)	-4.26/-5.31	-9.01/-12.83	-5.68/-2.16	-1.22/-0.58	0.48/1.32	1.892/26	2.060/87	-1.45/-4.09	-3.95/-1.71	0.28/1.8	2.923/67	3.973/75	3.312/94	2.412/06	1.151/51	1.491/29	0.80/17	-0.64/-0.67	-0.61/-0.72	-0.05/0.88	1.220/71	-0.52/-1.65	-2.34/-2.8	-3.53/-4.06
Θ(97.5°)	-3.59/-3.81	-4.91/-5.92	-3.81/-1.5	-0.85/-0.55	0.67/1.86	2.743/34	3.482/97	-1.23/-4.7	-4.76/-5.45	-2.89/-3.09	1.312/28	2.652/69	2.572/13	1.30/65	0.751/52	2.111/78	0.39/-1.29	-1.46/-0.32	0.14/0.45	1.1/1.51	1.30/55	-0.42/-0.92	-1/-1.33	-2.35/-3.37
Θ(105°)	-8.07/-6.66	-5.53/-3.86	-2.0/-71	-0.14/0.44	1.642/75	2.992/89	2.742/7	2.451/74	0.4/-1.1	-0.63/-0.62	0.77/1.67	1.73/-48	1.070/49	0.21/1.13	1.922/69	2.871/54	-1.23/-3.42	-2.37/-0.61	0.02/0.24	0.51/0.64	0.34/-0.33	-1.14/-9.3	-2.69/-4.2	-6.81/-9.28
Θ(112.5°)	-14.82/-19.33	-20.57/-9.72	-5.63/-4.6	-4.45/-2.08	1.043/21	4.164/28	3.762/89	2.171/51	0.730/09	-0.130/15	0.730/96	0.850/75	0.730/79	1.061/27	1.251/28	-0.1/-3.49	-5.23/-3.08	-1.23/-0.66	-1.23/-2.35	-2.92/-2.8	-3.07/-4.15	-5.23/-4.99	-4.11/-4.1	-5.54/-8.94
Θ(120°)	-13.7/-14.69	-20.70/-10.27	-4.2/-2.59	-4.11/-3.6	-2.8/0.8	2.783/55	3.583/07	2.371/91	1.6/-25	0.7/-0.38	-1.57/-2.34	-2.27/-1.56	-0.83/-1	-1/-1.2	-3.12/-5.91	-6.49/-6.66	-6.15/-5.76	-5.83/-4.86	-3.57/-3.22	-4.05/-0.08	-4/-2.73	-1.82/-2.36	-4.63/-6.16	
Θ(127.5°)	-11.19/-12.51	-16.71/-15	-7.21/-4.51	-4.81/-4.84	-1.31/-99	3.974/87	5.024/-49	3.351/88	0.4/-0.62	-0.88/-0.71	-0.58/-0.54	-0.73/-1.45	-2.84/-4.82	-6.06/-6.08	-5.96/-7.39	-10.69/-11.94	-10.87/-8.35	-5.62/-4.33	-4.32/-4.31	-4.48/-4.56	-4.21/-3.21	-1.86/-0.79	-0.25/-0.95	-3.08/-7.04
Θ(135°)	-12.32/-11.2	-13.23/-14.83	-9.75/-7.38	-7.83/-10.8	-6.82/-1.82	1.3/3	3.894/05	3.622/61	1.2/-0.29	-1.3/-1.74	-1.74/-1.95	-2.67/-4.1	-5.73/-6.43	-6.04/-5.84	-7.07/-9.52	-10.88/-12.47	-15.98/-12.2	-7.23/-5.11	-4.33/-3.76	-3.66/-3.63	-3.67/-3.9	-4.19/-4.56	-5.33/-7.3	-10.89/-15.02
Θ(142.5°)	-8.93/-8.51	-7.07/-5.8	-4.09/-3.31	-3.73/-5.17	-5.58/-3.49	-1.13/0.51	1.471/-76	1.56/0.82	-0.52/-2.2	-3.7/-4.6	-4.68/-4.84	-5.39/-6.37	-7.18/-7.85	-8.35/-9.39	-11.21/-12.12	-13.89/-18.95	-16.43/-9.49	-6.08/-4.74	-4.66/-4.97	-5.83/-6.9	-7.98/-9.44	-12.6/-10.83	-20.08/-10.65	-11.85/-9.79
Θ(150°)	-10.38/-8.95	-10.87/-5.52	-4.47/-3.92	-3.82/-3.99	-4/-3.58	-2.96/-2.36	-1.84/-1.67	-1.82/-2.16	-2.88/-3.9	-5.24/-0.5	-6.09/-5.87	-5.66/-5.99	-6.77/-8.1	-8.59/-8.79	-9.66/-8.16	-9.47/-9.55	-8.49/-6.53	-5.19/-5	-7.16/-6.14	-6.63/-7	-7.16/-7.56	-8.69/-10.7	-12.75/-13.53	-13.41/-12.14
Θ(157.5°)	-10.65/-10.68	-10.56/-10.61	-10.95/-11.08	-10.92/-10.64	-10.25/-9.32	-8.43/-7.44	-6.58/-6.23	-6.27/-6.96	-8.26/-10.55	-12.59/-10.75	-7.4/-4.91	-3.76/-4.34	-3.79/-6.7	-5.75/-6.15	-5.94/-6.64	-6.44/-3.73	-3.07/-2.92	-3.24/-4.2	-5.69/-6.51	-7.03/-7.27	-7.39/-7.37	-3.77/-3.7	-7.88/-8.69	-9.74/-10.43
Θ(165°)	-6.43/-6.88	-7.8/-9.33	-1.58/-14.89	-19.04/-19.36	-16.3/-13.77	-12.33/-14.7	-10.87/-10.49	-1.05/-12.47	-15.11/-16.31	-12.49/-8.17	-5.09/-2.91	-1.64/-1.15	-1.38/-2	-2.83/-7.39	-4.15/-4.52	-4.78/-5.06	-5.64/-6.76	-8.28/-10.73	-12.86/-13.19	-12.71/-11.58	-9.97/-8.5	-7.55/-6.9	-4.46/-6.24	-6.23/-6.28
Θ(172.5°)	-6.54/-6.64	-6.94/-7.3	-7.74/-8.3	-8.93/-9.34	-9.66/-9.91	-10.22/-10.64	-11.07/-11.53	-12.02/-12.35	-12.11/-10.75	-9.46/-8.03	-6.72/-5.86	-5.17/-4.96	-5.28/-5.66	-6.09/-6.62	-7.84/-9.42	-11.92/-15.27	-20.46/-18.95	-19.09/-18.95	-17.07/-17	-17.35/-17.81	-17.66/-16.42	-14.16/-11.6	-9.66/-8.13	-7.21/-6.72
Θ(180°)	-11.64/-11.24	-10.75/-10.06	-9.33/-8.78	-8.45/-8.22	-8.25/-8.53	-9.16/-10.15	-10.36/-11.81	-12.67/-13.74	-14.35/-14.44	-14.6/-15.09	-15.71/-15.88	-15.83/-14.63	-13.56/-12.78	-11.76/-11.59	-12.42/-14.84	-14.69/-13.69	-12.78/-12.41	-12.29/-12.52	-13.53/-14.51	-15.77/-17.31	-19.46/-19.51	-19.52/-19.38	-19.16/-16.25	-13.67/-12.29
Freq(Hz)	5.2GPol.	PhiAnt.3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	1.531/68	1.054/61	0.02/-0.65	-1.73/-3.17	-4.94/-6.59	-8.27/-10.17	-11.87/-11.21	-8.05/-5.05	-2.81/-1.08	-0.12/0.38	0.81/1.24	1.42/1.24	1.03/1.21	1.330/84	-0.54/-2.33	-4/-5.29	-6.87/-9.61	-13.6/-18.18	-14.48/-8.72	-5.56/-3.4	-2.01/-1.06	-0.26/0.39	1.02/1.4	1.62/1.7
Θ(7.5°)	1.531/23	0.930/-1	-0.72/-1.67	-3.4/-5.29	-7.73/-10.55	-14.33/-16.93	-13.92/-9.9	-6.85/-4.35	-2.27/-0.46	0.61/1.1	1.28/1.43	1.71/8.1	1.56/1.11	0.950/9	0.54/-0.62	-1.71/-4.48	-6.23/-8.34	-10.67/-12.84	-11.67/-8.83	-6.37/-8.1	-3.03/-1.63	-0.79/-0.15	0.57/1.14	1.682/-09
Θ(15°)	1.111/27	0.55/-18	-0.96/-1.55	-3.18/-4.86	-6.83/-9.67	-14.15/-19.14	-19.07/-12.16	-7.73/-5	-3.02/-1.34	-0.24/0.63	0.97/0.94	0.89/1.1	1.481/34	0.660/05	-0.08/-0.44	-2.72/-3.55	-5.23/-6.95	-9.12/-13	-16.74/-15.08	-11.34/-7.81	-5.31/-3.56	-2.16/-0.84	0.34/0.99	0.23/0.37
Θ(22.5°)	-0.05/0.56	0.37/-0.69	-1.56/-2.58	-4.35/-7.08	-9.12/-10.7	-12.95/-18.37	-19.55/-14.66	-8.78/-6.06	-3.91/-2.63	-1.71/-0.81	-0.34/-0.24	-0.47/-0.69	-0.58/-0.49	-1.13/-1.59	-1.46/-1.31	-2.25/-3.9	-5.55/-7.32	-9.64/-12.36	-17.46/-18.8	-13.02/-7.35	-4.78/-3.71	-3.32/-2.2	-0.51/-1.32	1.790/89
Θ(30°)	0.7/-0.76	-1.6/-2.18	-2.54/-2.76	-2.93/-4.88	-8.54/-11.64	-11.05/-12.02	-20.52/-19.57	-12.78/-9.41	-7.34/-5.68	-4.77/-3.76	-2.72/-2.19	-2.02/-2.4	-3.43/-4.34	-3.93/-4.66	-1.89/-1.31	-1.57/-2.63	-3.92/-5.64	-7.85/-12.09	-17.34/-18.01	-11.42/-9.97	-5.96/-4.39	-2.79/-1.4	-0.82/-0.77	-0.17/0.86
Θ(37.5°)	-2.6/-2.38	-2.86/-4.49	-7.47/-7.51	-5.86/-4.67	-5.1/-7.39	-10.48/-14.31	-19.39/-19.08	-14.8/-11.65	-10.12/-8.78	-7.52/-5.56	-3.47/-1.73	-0.61/-0.75	-1.81/-2.07	-1.25/-1.29	-1.51/-1	-0.69/-1.55	-3.88/-7.65	-12.26/-13.5	-16.27/-15.78	-9.57/-9.67	-5.92/-4.69	-3.75/-3.78	-3.74/-2.84	-1.46/-2.06
Θ(45°)	-6.56/-6.88	-12.48/-15.19	-16.87/-16.99	-11.47/-8.6	-7.03/-7.19	-8.21/-12.09	-19.03/-18.81	-18.45/-15.01	-10.59/-7.87	-5.29/-3.09	-1.41/-0.14	0.66/0.83	0.42/-0.56	-0.95/-2.24	-2.69/-1.96	-1.56/-2.59	-4.35/-7.69	-12.44/-16.82	-19.41/-18.58	-18.15/-15.73	-11.18/-6.73	-3.75/-2.51	-2.27/-2.66	-5.93/-8.24
Θ(52.5°)	-11.89/-8.9	-5.92/-6.59	-7.28/-11.98	-19.88/-15.87	-13.88/-17.02	-12.93/-9.35	-8.67/-9.35	-11.24/-12.24	-9.06/-9.67	-6.22/-4.51	-2.38/-1.42	-1.57/-1.17	-0.96/-1.01	-0.47/-0.61	-1.99/-3.1	-3.13/-2.93	-5.59/-10.7	-14.31/-18.76	-15.22/-12.06	-12.75/-19.24	-19.61/-15.1	-12.3/-9.15	-6.3/-5.96	-6.42/-9.29
Θ(60°)	-9.82/-10.4	-6.18/-4.87	-5.96/-3.7	-7.73/-13.02	-10.73/-10.11	-11.24/-9.76	-8.35/-9.37	-8.88/-12.68	-9.59/-6.83	-5.63/-5.24	-4.8/-4.02	-2.4/-1.44	-1.8/-1.92	-2.43/-1.69	-2.01/-3.61	-4.09/-3.84	-7.48/-14.03	-11.38/-12.97	-18.1/-19.02	-19.34/-18.82	-18.85/-14.61	-10.31/-8.64	-10.8/-13.39	-13.43/-11.05
Θ(67.5°)	-9.05/-4.7	-3.55/-5.04	-5.6/-5.3	-6.45/-7.03	-7.92/-9.25	-10.01/-10.47	-13.74/-12.72	-10.83/-9.45	-6.83/-4.93	-4.88/-5.6	-6.62/-6.77	-5.47/-4.23	-3.54/-3.69	-3.71/-2.73	-2.93/-4.51	-3.99/-3.57	-7.15/-64	-19.86/-20.24	-15.95/-18.34	-13.71/-17.57	-15.69/-16.06	-12.52/-11.38	-15.51/-19.08	-11.94/-9.69
Θ(75°)	-8/-6.16	-6.27/-5.91	-6.02/-5.95	-3.58/-4.18	-5.94/-7.74	-8.86/-10.7	-14.75/-19.27	-14.78/-9.38	-6.84/-6.38	-6.26/-5.69	-6.09/-5.36	-4.69/-4.19	-4.48/-6.09	-5.52/-5.16	-5.81/-6.33	-5.83/-6.24	-9.91/-11.76	-19.13/-12.74	-9.26/-11.28	-13.21/-19.6	-19.22/-18.76	-9.93/-4.95	-13.94/-11.67	-6.86/-7.5



Radiated Composite Gain Data 2.4GHz/5GHz

Appendix A

Θ(75°)	-5.45/-6.21	-7.59/-5.85	-4.03/-4.29	-6.28/-4.73	-4.53/-4.46	-1.97/-2.23	-0.15/0.23	0.49/1.64	0.61/0.27	0.92/1.45	1.84/1.83	1.15/-0.26	-0.74/-0.65	0.15/0.18	-1.38/-1.96	-6.94/-4.53	-1.69/-1.7	-0.76/-0.18	-0.8/-0.35	-1.22/-3.98	-5.27/-5.61	-8.14/-11.27	-8.57/-7.25	-6.66/-5.07
Θ(82.5°)	-4.81/-4.92	-5.87/-4.53	-5.23/-5.28	-5.79/-5.26	-4.27/-5.41	-3.7/-3.48	-2.02/0.09	0.56/0.57	-0.13/-1.34	1.6/-1.4	1.09/0.97	0.27/0.23	0.36/-1.16	0.01/-0.42	-1.7/-2.93	-3.55/-4.09	0.04/-0.5	0.89/0.26	-0.3/-1.77	-4.79/-8.12	-8.94/-12.24	-12.57/-8.19	-5.97/-8.13	-6.24/-4.09
Θ(90°)	-2.12/-5.43	-4.65/-2.55	-4.45/-5.81	-6.14/-3.42	-3.59/-5.42	-3.06/-5.11	-2.48/-2.44	-0.35/-1.15	0.12/0.27	1.12/1.26	1.87/1.15	-0.02/-0.4	-0.9/-0.54	0.18/-1.98	-2.01/-1.48	-2.9/-2.05	1.4/0.46	0.44/-0.15	-1.22/-1.22	-2.24/-5	-3.87/-7.26	-11.62/-12.38	-12.2/-18.95	-8.39/-1.41
Θ(97.5°)	-2.72/-9.42	-4.39/-3.69	-6.76/-4.59	-3.54/-3.4	-2.48/-6.86	-4.94/-6.46	-5.71/-3.28	-1.42/-0.88	-0.36/-1.68	1.43/1.1	1.32/0.96	-0.5/-0.81	-2.16/-1.66	-0.56/-2.29	-2.06/-0.43	-1.34/-0.3	2.24/2.18	0.52/1.86	1.48/-1.15	-5.09/-5.72	-7.45/-12.48	-8.48/-5.54	-13.03/-11.13	-3.98/-1.96
Θ(105°)	-3.93/-17.87	-3.44/-6.89	-5.34/-4.07	-1.11/-3.12	-2.54/-3.5	-3.95/-5.82	-7.01/-6.62	-4.55/-1.07	-2.11/-0.71	0.88/0.33	0.29/0.29	-1.05/-1.82	-2.83/-3.73	-1.89/-3.19	-3.01/-0.99	-2.54/0.47	2.82/-1.99	1.4/2.71	1.37/-1.39	-4.89/-9.63	-12.85/-12.94	-11.29/-3.6	-6.74/-10.55	-2.73/-1.01
Θ(120°)	-7.59/-8.28	-3.26/-7.04	-7.03/-1.97	-0.12/-3.92	-1.33/-3.63	-2.79/-3.74	-4.76/-4.1	-4.97/-3.8	-3.63/-0.78	0.08/-1.67	-1.31/-1.01	-3.04/-2.09	-5.54/-3.29	-4.52/-5.34	-1.82/-1.83	-2.81/-0.83	0.53/1.26	1.67/1.76	10.07	-2.63/-6.29	-12.85/-19.19	-18.06/-9.45	-9.45/-12.39	-5.29/-4
Θ(120°)	-7.2/-5.72	-2.57/-9.35	-5.87/-2.42	-1.35/-6.15	-1.79/-3.38	-4.18/-2.56	-2.79/-3.85	-5.82/-2.01	-1.47/-1.04	-0.73/-1.37	-1.3/-3.09	-3.24/-2.38	-3.5/-2.37	-3.63/-6.04	-2.89/-2.02	-2.23/-3.34	-1.6/-2.21	0.97/2.01	-1.41/-1.33	-4.92/-11.09	-14.43/-16.63	-9.72/-5.91	-16/-10.11	-11.37/-7.89
Θ(127.5°)	-16.09/-5.33	-4.04/-9.26	-6.22/-1.46	-1.97/-3.42	-3.36/-4.67	-4.77/-2.06	-1.68/-1.25	-2.71/-4.07	-0.50/-45	0.17/0.68	-1.04/-2.95	-1.44/-2.2	-1.5/-1.67	-3.61/-3.42	-1.5/-3.12	-2.09/-2.96	-4.26/-1.92	0.53/-3.05	-1.39/-2.52	-12.73/-14.73	-11.02/-8.52	-18.03/-15.66	-15.01/-14.7	-11.65/-12.94
Θ(135°)	-15.12/-16.83	-11.88/-14.22	-12.65/-7.05	-3.84/-3.45	-3.79/-4.41	-4.57/-3.16	-1.81/-1.97	-1.31/-1.12	-4.43/-5.06	-1.97/-0.86	-1.12/-1.66	-3.5/-3.88	-3.9/-2.71	-1.38/-5.13	-10.57/-0.67	-0.91/-4.72	-19.03/-2.43	-11/-12.6	-2.36/-2.53	-8.59/-13.7	-18.28/-8.55	-19.37/-10.11	-19.3/-14.24	-10.15/-7.23
Θ(142.5°)	-16.13/-16.16	-7.19/-6.33	-8.14/-5.77	-4.78/-5.26	-4.47/-2.31	-1.51/-1.89	-1.12/-0.54	-0.51/0.16	-0.11/-2.37	-5.21/-6.28	-6.49/-6.87	-4.4/-4.24	-5.57/-3.28	-4.73/-12.6	-1.92/0.04	-0.36/-4.64	-8.05/-9.78	-4.94/-2.06	-4.87/-3.69	-9.71/-15.89	-7.77/-3.19	-8.92/-20.15	-16.78/-8.08	-11.44/-14.48
Θ(150°)	-10.07/-8.99	-7.3/-7.01	-9.78/-6.34	-2.52/-1.48	-2.28/-2.82	-1.99/-2.26	-2.56/-1.77	-1.44/-2.18	-2.99/-3.31	-4.8/-6.32	-5.64/-4.51	-6.11/-8.25	-5.87/-5.05	-7.82/-8.87	-6.32/-6	-9.17/-18.61	-11.25/-5.53	-1.92/-6.26	-3.72/-5.54	-15.4/-13.5	-12.17/-15.17	-11.89/-6.69	-10.74/-20.22	-17.15/-18.27
Θ(157.5°)	-18.74/-10.15	-8.27/-1.88	-8.22/-6.38	-4.21/-2.99	-3.31/-3.81	-1.93/-0.76	-1.21/-2.17	-2.37/-3.26	-3.94/-4.06	-6.76/-3.69	-4.49/-2.71	-12.5/-10.31	-5.54/-4.1	-5.62/-9.25	-14.37/-12.87	-9.59/-8.3	-8.36/-7.74	-8.21/-9.67	-9.03/-9.53	-9.24/-89	-10.57/-16.35	-12.22/-16.65		
Θ(165°)	-7.94/-8.8	-11.43/-19.42	-14.18/-7.47	-5.34/-4.54	-4.46/-4.98	-5.13/-4.19	-3.87/-4.19	-4.95/-5.32	-5.93/-7	-8.6/-11.19	-14.22/-13.57	-9.56/-7.08	-6.08/-6.18	-6.92/-8.09	-10.2/-13.93	-19.76/-19.85	-15.09/-10.84	-9.22/-8.36	-7.96/-8.81	-9.64/-9.42	-8.72/-9.73	-12.21/-16	-18.85/-13.03	-8.3/-7.28
Θ(172.5°)	-11.89/-9.2	-1.81/-8	-7.39/-6.78	-7.14/-9.3	-11.72/-13.68	-16.14/-16.74	-15.57/-15.45	-15.72/-15.84	-15.88/-16.4	-17.04/-18.38	-19.94/-18.95	-19.08/-20.42	-16.45/-14.81	-13.7/-13.19	-13.53/-14.56	-13.65/-12.86	-13.02/-13.28	-13.71/-14.68	-17.3/-19.99	-18.24/-12.92	-11.12/-11.71	-14.4/-14.38	-11.72/-11.34	-11.12/-12.09
Θ(180°)	-13.56/-10.75	-9.69/-7.92	-6.15/-5.2	-4.98/-4.61	-4.52/-4.81	-4.95/-5.86	-6.76/-6.46	-6.17/-6.1	-7.14/-8.08	-8.89/-9.22	-10.1/-11.91	-13.77/-15.02	-16.37/-18.19	-19.13/-18.23	-16.24/-11.53	-9.16/-8.01	-7.15/-7.6	-8.74/-10.25	-10.68/-10.7	-10.74/-11.74	-12.27/-12.07	-11.99/-12.46	-13.68/-19.37	-19.87/-19.13
Freq(Hz)	5.6GPol.	PhiAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	0.26/-0.17	-0.57/-0.71	-1.04/-1.76	-2.45/-3.35	-4.65/-5.55	-9.35/-14	-18.43/-9.73	-13.69/-10.1	-6.54/-4.18	-3.29/-2.67	-1.86/-1.08	-0.36/0.13	0.0/-0.43	-0.88/-1	-1.35/-1.88	-2.78/-4.11	-5.6/-7.82	-11.22/-17.84	-20.85/-12.38	-7.84/-5.9	-4.92/-4.23	-2.28/-0.58	-0.24/-0.9	-0.73/-0.39
Θ(7.5°)	0.04/-0.08	-0.9/-1.69	-2.29/-3	-3.84/-4.92	-6.83/-9.02	-11.97/-16.77	-14.59/-12.39	-9.21/-6.99	-4.31/-2.79	-1.69/-0.74	-0.37/-1.03	-0.75/0.29	0.6/-0.17	-1.25/-1.02	-0.7/-0.93	-2.45/-3.71	-5.08/-6.6	-8.81/-13.05	-20.1/-17.23	-10.68/-7.81	-6.35/-5.41	-3.39/-1.39	-0.53/-0.8	-0.94/-0.15
Θ(15°)	1.52/1.58	1.54/0.81	-0.65/-2.56	-3.67/-4.76	-7.21/-10.03	-12.78/-15.38	-13.37/-10.15	-7.68/-6.58	-4.1/-3.01	-2.58/-1.9	-1.06/-0.66	-0.82/-1.24	-1.43/-1.31	-1.81/-2.59	-2.86/-2.75	-3.11/-3.72	-4.38/-5.06	-6.2/-8.01	-12.28/-20.8	-16.82/-10.32	-6.06/-3.71	-2.5/-5.83	0.87/1.45	0.97/1.04
Θ(22.5°)	0.66/0.66	0.41/-0.59	-1.46/-2.08	-4.53/-5.99	-7.66/-9.83	-13.54/-17.55	-10.18/-12.13	-6.45/-9.96	-4.14/-3.1	-2.64/-1.95	-1.15/-0.59	-0.25/-0.29	-0.47/-1.79	-2.64/-3.54	-4.42/-5.47	-5.45/-7.48	-4.92/-5.47	-5.05/-6.63	-9.75/-12.59	-12.95/-3.22	-4.92/-2.24	-1.09/-0.47	0.49/1.6	1.38/0.95
Θ(30°)	-0.09/0.12	0.1/-0.33	-0.9/-2.08	-3.63/-4.37	-5.28/-6.83	-10.43/-14.8	-18.68/-13.97	-8.42/-5.52	-4.19/-3.01	-1.6/-0.2	0.66/0.99	0.99/0.8	0.48/-0.36	-1.6/-3.5	-4.51/-5.38	-5.21/-4.42	-4.07/-3.81	-4.97/-7.26	-9.56/-10.29	-9.64/-6.16	-3.63/-3.01	-2.81/-2.25	-1.13/0.16	0.4/-0.16
Θ(37.5°)	-2.29/-3.52	-3.68/-4.5	-4.86/-7.1	-4.83/-4.5	-4.52/-5.66	-9.44/-15.99	-19.18/-14.98	-10.72/-5.56	-4.86/-2.49	-1.14/0.09	0.82/1.64	2.28/-8.3	2.71/-99	0.9/-0.57	-2.82/-4.91	-4.99/-5.16	-6.87/-9.96	-9.03/-13.36	-13.95/-14.37	-10.78/-4.2	-6.22/-5.47	-3.34/-1.42	-0.93/-0.73	0.31/-0.64
Θ(45°)	-3.51/-3.44	-6.85/-10.34	-10.49/-6.97	-7.67/-6.9	-6.14/-5.68	-7.44/-12.42	-18.33/-14.67	-9.77/-7.68	-5.44/-2.97	-1.62/-0.66	0.34/1.24	1.96/2.13	1.66/0.36	-0.06/-1.61	-3.24/-4.45	-5.5/-8.37	-9.03/-7.3	-8.03/-10.22	-13.29/-13.4	-12.06/-11.58	-14.11/-7.86	-3.09/-1.4	-0.98/-1.41	-3.17/-3.82
Θ(52.5°)	-7.42/-8.29	-8.08/-10.12	-13/-16.65	-16.63/-16.2	-11.89/-10.59	-11.79/-13.52	-13.93/-11.39	-12.32/-13.19	-7.67/-4.48	-0.43/-2.35	-0.34/-1.13	1.89/2.23	2.181/85	0.82/-1.09	-2.01/-1.79	-3.62/-5.65	-6.8/-8.39	-9.05/-11.79	-11.56/-17.81	-8.82/-8.39	-10.21/-13.1	-8.26/-6.67	-5.06/-4.02	-4.96/-6.41
Θ(60°)	-9.29/-6.62	-5.26/-5.19	-7.3/-10.62	-14.67/-14.36	-18.04/-20.53	-11.24/-9.7	-10.24/-16.19	-15.68/-12.64	-8.36/-5.27	-4.58/-4.06	-2.44/-0.84	-0.14/0.22	0.82/1.08	0.61/-1.09	-2.84/-8.08	-4.62/-5.34	-6.47/-10.08	-10.08/-13.75	-9.25/-7.64	-8.05/-6.79	-11.06/-16.55	-16.44/-19.02	-11.92/-8.67	-7.66/-8.78
Θ(67.5°)	-14.08/-9.33	-5.09/-5.58	-5.35/-4.96	-6.38/-9.36	-11.25/-14.03	-16.39/-15.88	-17.24/-16.34	-16.35/-8.57	-6.77/-9.67	-6.49/-5.6	-4.35/-3.03	-1.87/-0.44	-0.02/-0.1	-0.44/-0.46	-1.84/-4.27	-4.24/-5.06	-9.46/-7.51	-7.84/-12.22	-12.38/-10.77	-9/-9.03	-13.55/-15.44	-19.43/-10.46	-10.77/-12.99	-15.73/-16.21
Θ(75°)	-9.99/-4.59	-3.54/-4.89	-4.16/-2.31	-3.26/-4.19	-5.02/-10.23	-16.57/-14.05	-17.39/-18.27	-14.75/-9.96	-6.7/-87	-8.96/-7.8	-7.77/-7.81	-6.42/-4.6	-2.01/-1.04	-1.58/-2.4	-3.04/-3.45	-6.67/-1.67	-6.92/-8.53	-11.42/-17.21	-11.47/-10.8	-10.08/-14.24	-16.99/-19.59	-17.76/-14.76	-15.44/-14.59	-14.55/-12
Θ(82.5°)	-11.38/-7.56	-6.95/-8.14	-6.79/-4.02	-4.19/-5.16	-7.14/-12.18	-18.02/-17.32	-14.19/-11.84	-10.77/-9.99	-9.6/-7.95	-7.46/-7.9	-10.76/-11	-8.34/-5.4	-2.95/-2.77	-2.79/-3.75	-4.67/-4.48	-5.07/-6.16	-7.86/-8.66	-13.26/-16.05	-9.67/-12.84	-14.97/-18.5	-19.09/-18.24	-9.88/-11.29	-13.81/-11.87	-10.32/-11.12
Θ(90°)	-14.01/-8.34	-7.35/-12.23	-12.12/-4.71	-3.71/-5.14	-5.59/-8.74	-14.67/-14.81	-13.61/-14.14	-12.85/-16.94	-19.95/-14.87	-10.06/-8.07	-8.02/-7.12	-6.83/-5.05	-4.6/-3.56	-3.78/-5.75	-6.44/-5.26	-4.77/-7	-6.77/-11.52	-19.31/-17.6	-11.4/-14.3	-19.48/-15.85	-19.93/-13.48	-7.9/-8.33	-14.6/-15.1	-7.24/-8.77
Θ(97.5°)	-15.26/-14.98	-14.88/-19.9	-16.23/-9.93	-8.81/-9.44	-9.88/-12.27	-11.65/-17.6	-17.2/-18.41	-19.9/-18.52	-20.02/-16.8	-12.42/-10.25	-10.76/-11.78	-8.96/-5.92	-3.59/-3.22	-4.83/-8.1	-7.15/-6.31	-6.31/-6.23	-5.44/-12.24	-15.11/-14.96	-12.4/-15.91	-14.18/-10.43	-6.43/-6.57	-8/-7.61	-11.19/-13.57	-10.31/-9.24
Θ(105°)	-13.61/-19.17	-18.93/-17.25	-19.67/-10.36	-10.94/-11.11	-8.92/-10.63	-8.15/-14.09	-14.68/-16.63	-19.05/-17.7	-18.75/-20.25	-16.87/-10.65	-7.54/-6.82	-7.1/-17.19	-6.31/-5.61	-7.34/-8.27	-7.81/-5.84	-6.22/-4.42	-5.24/-11.03	-20.4/-15.12	-13.09/-16.83	-9.84/-5.18	-5.13/-4.51	-4.45/-7.42	-11.7/-17.92	-13.36/-10.87
Θ(112.5°)	-11.02/-11.51	-11.65/-12.31	-18.6/-18.33	-19.2/-10.68	-9.94/-11.7	-8.1/-9.34	-8.18/-10.7	-15.36/-14.5	-14.67/-19.32	-15.46/-9.14	-5.77/-3.43	-4.23/-3.45	-5.68/-6.4	-8.1/-8.28	-7.08/-8.71	-7.92/-68	-7.35/-14.77	-17.04/-15.58	-19.67/-18.13	-9.91/-7.26	-5.96/-6.22	-4.25/-4.71	-7.09/-15.8	-19.81/-15.07
Θ(120°)	-9.64/-18.62	-17.61/-12.07	-19.84/-14.97	-12.57/-13.89	-12.06/-12.87	-11.26/-9.29	-6.68/-9.34	-1.74/-16.66	-16.85/-14.59	-19.32/-14.08	-10.95/-11.44	-8.15/-7.44	-6.43/-6.2	-1.13/-12.27	-13.07/-13.66	-7.74/-8.44	-9.15/-10.5	-9.86/-13.2	-19.09/-19.02	-13.5/-8.46	-4.89/-7.23	-5/-5.74	-9.72/-10.32	-8.88/-6.47
Θ(127.5°)	-14.72/-15.66	-11.69/-9.77	-11.18/-18.51	-16.78/-19.16	-11.37/-11.63	-10.69/-8.32	-9.32/-10.18	-7.29/-7.98	-14.5/-19.06	-13.27/-7.8														



Radiated Composite Gain Data 2.4GHz/5GHz

Appendix A

Θ(127.5°)	-12.72/-4.06	-6.29/-6.13	-4.84/-0.76	-1.06/-1.72	-2/-2.92	-1.98/-2.96	-3.37/-2.54	-2.5/-4.75	-3.25/-1.09	-2.38/-2.31	-1.3/-2.75	-3.83/-5.33	-5.89/-6.64	-9.46/-7.29	-6.85/-5.11	-4.07/-5.2	-6.15/-6.65	-3.59/-1.88	-8.44/-6.35	-7.72/-18.12	-19.24/-12.36	-13.67/-19.54	-12.63/-10.22	-10.67/-12.18
Θ(135°)	-18.97/-12.87	-8.43/-11.47	-5.94/-1.45	-1.06/-2.08	-1.88/-2.38	-3.57/-2.4	-3.49/-2.22	-2.45/-4.94	-4.07/-1.56	-1.21/-0.69	-0.24/-0.04	-1.09/-2.05	-2.62/-6.3	-6.63/-7.91	-7.33/-4.39	-3.04/-5.04	-5.82/-11.65	-7.78/-7.12	-5.77/-6.15	-7.38/-13.18	-16.34/-7.07	-18.95/-8.04	-19.11/-14.73	-8.22/-12.35
Θ(142.5°)	-19.05/-6.55	-3.1/-9.51	-9.02/-0.57	-3.57/-3.86	-2.02/-1.79	-3.92/-3.2	-2.22/-2.22	-1.35/-2.72	-4.82/-3.68	-3.09/-1.62	-0.17/-0.11	-0.03/-9.23	-3.11/-3.66	-3.03/-7.2	-6.19/-9.16	-1.08/-2.73	-12.78/-4.83	-6.34/-4.8	-4.24/-7.73	-11.08/-12.24	-18.06/-7.09	-7.94/-11.37	-3.14/-7.43	-13.1/-14.89
Θ(150°)	-7.16/-5.3	-5.56/-9.81	-10.14/-6.14	-3.67/-3.75	-4.51/-2.25	-2.25/-3.82	-3.92/-2.86	-2.95/-2.82	-2.97/-3	-2.97/-3.21	-4.09/-3.8	-2.3/-2.58	-5.13/-4.19	-3.56/-5.57	-3.79/-1.52	-1.43/-5.22	-14.8/-12.83	-4.29/-1.81	-3/-5.29	-10.15/-13.89	-10.61/-9.52	-19.7/-14.78	-18.91/-11.79	-11.67/-10.77
Θ(157.5°)	-10.6/-9.08	-10.99/-9.64	-7.31/-5.66	-3.85/-3.58	-4.09/-3.09	-1.99/-2.78	-3.5/-1.66	-0.56/-1.45	-2.14/-2.21	-3.62/-3.75	-3.58/-3.26	-4.74/-7.42	-7.73/-6.65	-8.18/-13.07	-17.35/-12.5	-10.14/-10.25	-16.87/-15.77	-9/-9.21	-13/-18.46	-19.61/-19.82	-19.2/-12.44	-13.3/-14.64	-15.75/-17.92	-18.94/-17.22
Θ(165°)	-13.78/-15.82	-18.34/-11.52	-8.66/-6.76	-5.46/-5.22	-5.95/-5.78	-4.29/-3.72	-4.59/-5.77	-5.39/-4.04	-3.49/-3.66	-8.81/-4.56	-5.54/-6.92	-8.56/-9.08	-5.55/-7.24	-9.08/-10.01	-12.03/-17.9	-18.97/-13.08	-9.6/-9.05	-9.45/-9.55	-9.76/-10.03	-10.21/-11.04	-13.95/-14.82	-18.95/-13.79	-12.57/-13.39	
Θ(172.5°)	-15/-13.94	-13.06/-11.61	-10.78/-11.67	-12.4/-14.37	-15.7/-15.98	-13.33/-10.93	-8.81/-8.45	-8.41/-8.87	-8.99/-8.24	-8.78/-8.47	-7.74/-6.88	-6.09/-5.41	-5.46/-6.26	-7.9/-9.71	-12.62/-16.31	-17.49/-14.68	-12.14/-10.76	-10.33/-11.59	-13.54/-16.72	-18.95/-20.03	-19.26/-17.93	-15.45/-14.26	-14.29/-17.67	-19.38/-17.6
Θ(180°)	-12.04/-13.82	-15.28/-14.12	-11.68/-10.38	-10.3/-9.86	-9.48/-9.63	-9.15/-8.58	-8.21/-8.55	-9.33/-9.64	-9.95/-9.43	-9.22/-9.68	-11.18/-12.21	-12.33/-12.75	-13.25/-13.32	-13.59/-13.65	-14.35/-15.75	-18.39/-19.43	-18.97/-19.69	-16.47/-14.75	-14.47/-13.63	-11.58/-10.18	-9.25/-8.42	-7.12/-6.92	-8.1/-8.63	-8.29/-9.64
Freq(Hz)	2.45GPol.	Phi/Ant. 4		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-10.93/-8.19	-6.06/-4.54	-3.42/-2.42	-1.63/-0.93	-0.37/-0.06	0.31/-0.39	0.37/-0.25	-0.03/-0.48	-1.17/-2.09	-3.33/-5.01	-7.25/-10.36	-15.1/-19.04	-14.85/-9.71	-6.24/-3.87	-2.22/-1.11	-0.39/-0.12	0.49/0.81	1.03/1.18	1.12/0.86	0.4/-0.26	-1.08/-2.18	-3.59/-5.64	-8.64/-13.31	-18.67/-15.77
Θ(7.5°)	-16.8/-11.07	-7.55/-5.28	-3.68/-2.53	-1.82/-1.09	-0.32/-0.15	0.4/0.4	0.28/0.09	-0.29/-0.88	-1.73/-2.92	-4.51/-6.6	-9.26/-12.37	-14.37/-12.56	-9.5/-6.7	-4.6/-2.96	-1.73/-0.84	-0.26/-0.16	0.45/0.69	0.91/1.04	1.03/0.93	0.66/0.19	-0.55/-1.5	-2.83/-4.55	-6.92/-10.41	-16.3/-18.93
Θ(15°)	-19.74/-14.93	-9.46/-6.35	-4.37/-2.87	-1.84/-1.05	-0.39/0.09	0.32/0.17	-0.15/-0.47	-0.89/-1.5	-2.41/-3.62	-5.06/-6.85	-8.97/-10.47	-11.3/-10.97	-9.55/-7.4	-5.44/-3.91	-2.55/-1.42	-0.88/-0.25	0.1/0.45	0.75/1	1.16/1.1	0.94/0.53	-0.12/-0.88	-1.81/-2.84	-4.16/-6.08	-8.89/-13.48
Θ(22.5°)	-11.06/-11.46	-9.16/-6.72	-4.63/-2.99	-1.71/-0.67	0.06/0.61	0.78/0.54	-0.02/-0.61	-1.28/-2.06	-3.04/-4.15	-5.31/-6.61	-7.34/-8.35	-9.57/-10.83	-11.16/-10.25	-8.35/-6.53	-5.08/-3.45	-2.34/-1.44	-0.71/-0.07	0.55/1.09	1.47/1.59	1.37/0.87	0.22/-0.42	-1.04/-1.68	-2.57/-3.87	-5.74/-8.15
Θ(30°)	-7.43/-7.07	-6.29/-5.34	-4.22/-2.98	-1.79/-0.67	0.25/0.97	1.31/1.22	-0.79/0.21	-0.56/-1.66	-2.76/-3.98	-4.52/-4.9	-6.35/-6.18	-7.84/-9.8	-13.35/-17.21	-16.46/-12.3	-9.05/-6.47	-4.4/-2.77	-1.41/-0.22	0.72/1.36	1.75/1.68	1.17/0.46	-0.24/-0.77	-1.19/-1.72	-2.51/-3.79	-5.34/-6.79
Θ(37.5°)	-6.56/-4.73	-3.31/-2.42	-1.9/-1.58	-1.29/-0.75	-0.01/0.77	1.35/1.53	1.46/1.15	0.29/-1.01	-2.5/-3.38	-3.7/-3.69	-4.04/-5.13	-7.11/-9.94	-13.78/-19.68	-19.89/-15.69	-10.7/-7.3	-4.81/-2.82	-1.23/-0.03	0.72/1.03	0.88/0.32	-0.55/-1.23	-1.4/-1.26	-1.29/-1.79	-2.89/-4.8	-7.09/-8.01
Θ(45°)	-9.29/-6.54	-3.3/-1.9	-1.02/-0.43	-0.08/0.19	0.08/0.75	1.19/1.52	1.77/1.84	1.35/0.22	-1.17/-2.15	-2.52/-2.65	-3.14/-4.3	-6.22/-9.22	-13.22/-17.46	-16.79/-13.22	-9.92/-7.27	-5.13/-3.41	-2.01/-1	-0.5/-0.44	-0.88/-1.6	-2.17/-1.96	-1.16/-0.57	-0.59/-1.43	-3.14/-6.13	-11.04/-14.33
Θ(52.5°)	-18.94/-12.53	-8.19/-5.68	-3.84/-2.26	-1.11/-0.34	0.36/0.2	0.31/0.46	0.69/0.88	0.64/-0.05	-0.84/-1.18	-1.37/-1.74	-2.6/-4.09	-6.39/-9.04	-10.58/-9.82	-8.57/-8.77	-7.18/-6.44	-5.54/-4.63	-3.61/-2.56	-1.81/-1.5	-1.61/-1.88	-1.82/-1.23	-0.56/-0.38	-0.92/-2.18	-4.03/-6.55	-10.44/-18.15
Θ(60°)	-17.1/-15.88	-9.52/-6.19	-4.25/-2.94	-1.93/-1.17	-0.7/-0.45	-0.27/-0.14	-0.25/-0.72	-1.81/-3.13	-3.33/-2.55	-1.88/-1.87	-2.59/-4.17	-6.57/-9.29	-10.5/-9.65	-8.77/-8.48	-7.87/-6.84	-5.88/-4.69	-3.06/-1.4	-0.34/-0.16	-0.78/-1.83	-2.47/-2.18	-1.66/-1.58	-1.88/-2.48	-3.38/-4.72	-6.79/-10.56
Θ(67.5°)	-18.7/-13.45	-8.81/-6.46	-5.21/-4.48	-3.8/-3.22	-3.12/-3.24	-2.81/-1.38	0.05/0.68	0.02/-0.25	-4.51/-4.68	-3.77/-3.61	-4.41/-6.24	-9.33/-13.36	-15.43/-14.14	-12.06/-9.44	-6.66/-4.65	-3.39/-2.37	-1.34/-0.64	-0.68/-1.43	-2.88/-4.17	-4/-2.84	-1.74/-1.06	-0.97/-1.63	-3.01/-5.33	-8.78/-14.93
Θ(75°)	-19.75/-14.22	-10.73/-9.03	-7.62/-5.73	-3.59/-1.57	-0.47/-0.51	-1.64/-3.1	-3.2/-2.19	-1.55/-2.11	-3.77/-4.93	-4.54/-3.69	-5.15/-6.98	-10.29/-16.26	-18.38/-18.57	-13.32/-8.51	-5.87/-4.37	-3.56/-3.21	-3.42/-4.23	-5.22/-5.2	-4.96/-4.88	-4.32/-2.69	-0.93/-0.11	-0.11/-1.15	-3.02/-6	-10.67/-20.15
Θ(82.5°)	-15.57/-12.02	-9.51/-8.24	-7.45/-6.33	-4.94/-3.71	-3.17/-2.96	-2.67/-2.47	-2.59/-2.99	-3.58/-4.22	-5.33/-6.68	-7.98/-9.01	-10.8/-13.88	-18.34/-20.15	-17.44/-13.94	-10.88/-8.32	-6.39/-4.98	-4.13/-4.08	-4.73/-4.98	-4.04/-3.24	-3.94/-5.64	-5.03/-2.08	-0.18/0.21	-0.6/-2.33	-4.71/-7.64	-11.49/-16.26
Θ(90°)	-17.26/-14.36	-10.74/-9.15	-8.85/-8.43	-6.79/-4.73	-3.97/-4.09	-8.42/-9.47	-17.1/-6.27	-7.04/-8.45	-9.66/-10.36	-10.02/-9.83	-10.61/-12.5	-15.13/-17.5	-17.61/-17.36	-16.89/-13.86	-9.7/-6.34	-4.49/-3.99	-4.04/-3.63	-2.7/-2.57	-4.1/-5.85	-3.38/-0.33	1.12/0.96	-0.04/-0.23	-4.5/-7.27	-10.55/-15.1
Θ(97.5°)	-13.33/-10.88	-9.37/-9.52	-11.32/-15.86	-19.03/-11.24	-5.77/-4.15	-5.33/-8.28	-7.61/-5.59	-5.52/-6.83	-8.54/-11.32	-16.68/-19.96	-18.71/-16.04	-12.7/-10.46	-9.85/-8.26	-8.08/-7.83	-6.91/-5.56	-4.52/-3.82	-3.34/-2.88	-2.56/-3.13	-5.16/-2.6	-1.29/0.4	2.352/0.91	0.51/-1.94	-5.26/-9.46	-13.87/-15
Θ(105°)	-11.45/-10.83	-10.13/-10.24	-11.53/-13.17	-13.53/-11.21	-8.14/-6.83	-7.07/-7.35	-6.02/-4.98	-5.38/-7.49	-11.11/-14.84	-17.34/-19.42	-20.1/-18.87	-14.44/-12.03	-10.97/-10.95	-11.13/-10.59	-9.69/-8.13	-6.52/-5.06	-4.04/-3.63	-3.27/-3.39	-3.74/-2.44	0.09/1.57	1.65/0.53	-1.66/-4.71	-7.99/-10.51	-11.37/-11.48
Θ(112.5°)	-14.25/-14.31	-13.23/-11.53	-10.52/-10.31	-9.64/-7.1	-6.16/-6.3	-9.26/-16.17	-11.01/-6.71	-5.5/-8.88	-6.64/-7.34	-8.23/-9.95	-12.41/-13.12	-11.48/-10.4	-10.33/-10.54	-10.29/-9.35	-7.48/-6.49	-3.92/-2.94	-2.55/-2.8	-3.32/-3.91	-4.24/-3.75	-2.28/-1.41	-1.53/-2.44	-3.97/-5.79	-7.89/-10.18	-12.09/-13.34
Θ(120°)	-11.14/-11.82	-13.7/-15.02	-13.63/-13.59	-20.16/-16.75	-8.45/-5.59	-5.61/-8.35	-16.97/-17.95	-10.25/-8.34	-8.29/-8.59	-9.8/-9.97	-11.32/-11.05	-11.23/-11.03	-10.67/-10.43	-13.26/-11.67	-10.89/-11.98	-11.43/-7.97	-6.14/-5.67	-4.62/-3.23	-2.45/-2.68	-4.07/-6.8	-11.13/-13.91	-12.3/-12.7		
Θ(127.5°)	-8.14/-8.67	-9.41/-8.32	-5.63/-3.77	-3.93/-4.62	-12.09/-20.16	-19.96/-20.02	-14.54/-9.36	-6.78/-5.97	-6.56/-8.41	-9.93/-10.38	-10.14/-10.11	-10.46/-11.32	-11.57/-10.44	-9.67/-10.43	-12.87/-14.38	-13.59/-13.41	-14.49/-12.9	-8.94/-7.03	-7.62/-9.2	-6.69/-3.5	-2.03/-2.14	-3.57/-6.03	-8.36/-8.65	-17.78/-7.48
Θ(135°)	-16.67/-20	-18.8/-14.57	-8.59/-5.79	-5.02/-6.01	-8.64/-12.58	-15.51/-13.88	-10.95/-9.05	-8.53/-8.92	-10.06/-11.42	-12.94/-14.69	-15.04/-13.89	-13.87/-15.25	-18.09/-19.22	-18.65/-16.99	-15.47/-13.7	-12.92/-12.7	-10.86/-7.77	-5.84/-5.54	-6.14/-5.31	-2.76/-1.01	-0.57/-1.43	-3.46/-6.5	-10.36/-13.99	-15.75/-16.09
Θ(142.5°)	-17.06/-14.22	-12.39/-12.91	-17.8/-14.94	-12.93/-8.33	-6.83/-7.37	-9.66/-13.07	-14.46/-14.71	-17.3/-18.86	-19.45/-17.38	-15.79/-19	-18.86/-19.4	-16.11/-14.5	-13.83/-12.91	-10.16/-8.57	-7.92/-7.92	-6.25/-7.82	-6.09/-4.3	-3.39/-3.35	-3.51/-3.01	-2/-1.43	-1.8/-3.34	-6.35/-11.18	-17.69/-18.95	-17.19/-17.77
Θ(150°)	-14.42/-12.53	-11.05/-11.42	-13.57/-12.73	-8.39/-8.28	-6.01/-4.28	-6.01/-9.25	-14.99/-18.78	-16.85/-11.99	-9.85/-9.43	-10.67/-13.64	-19.67/-18.11	-18.68/-16.81	-13.79/-11.3	-9.63/-8.67	-8.13/-7.39	-6.11/-4.46	-2.91/-1.87	-1.44/-1.53	-1.97/-2.59	-3.29/-4.18	-5.62/-8.18	-12.79/-20.35	-17.89/-14.34	-13.73/-14.77
Θ(157.5°)	-17.06/-14.98	-14.29/-14.79	-14.65/-11.33	-8.27/-6.4	-5.87/-6.66	-9.03/-13.59	-19.96/-15.83	-11.26/-8.65	-7.44/-7.72	-9.5/-13.35	-18.07/-20.08	-16.04/-11.88	-9.26/-7.54	-6.08/-4.92	-3.54/-2.21	-1.17/-0.42	-0.09/-0.23	-0.87/-2.08	-3.9/-4.66	-9.96/-14.25	-18.62/-18.86	-20.04/-18.32	-16.89/-17.02	-18.3/-18.31
Θ(165°)	-17.46/-16.61	-15.91/-14.58	-12.23/-9.88	-8.53/-7.99	-8.62/-10.76	-15.28/-18.32	-17.91/-13.25	-9.91/-8.13	-7.03/-6.83	-7.76/-9.86	-13.49/-10.95	-19.67/-15.37	-11.34/-8.67	-6.81/-5.16	-3.85/-2.95	-2.48/-2.46	3.01/-4.16	-6.08/-9.23	-14.62/-19.05	-19.94/-14.37	-12.02/-10.94	-10.53/-10.98	-12.21/-14	-16.1/-16.92
Θ(172.5°)	-18.4/-15.39	-13.25/-11.43	-9.98/-8.9	-8.62/-9.02	-10.19/-12.39	-14.88/-15.73	-14.33/-13.09	-12.76/-12.41	-11.56/-10.83	-10.84/-11.72	-13.06/-14.56	-15.22/-14.59	-13.31/-12.2	-9.87/-9.01	-8.65/-8.77	-9.47/-11.14	-14.23/-19.91	-18.91/-17.64	-12.83/-10.31	-9.08/-8.61	-9.85/-9.76	-9.25/-10.28	-12.28/-15.24	-18.97/-20.39
Θ(180°)	-17.13/-15.31	-13.63/-12.3	-11.18/-10.6	-1																				



Radiated Composite Gain Data 2.4GHz/5GHz

Appendix A

Θ(172.5°)	-19.05/-17.7	-12.98/-11.05	-10.06/-9.01	-8.34/-9.22	-12.95/-19.74	-19.74/-17.06	-15.58/-20.25	-19.2/-13.82	-10.84/-8.36	-5.97/-4.11	-3.42/-3.46	-3.92/-5.24	-7.64/-11.3	-14.8/-17.17	-19.93/-19.32	-19.69/-19.81	-19.81/-19.4	-18.7/-20.15	-19.66/-20.44	-19.22/-17.83	-13.3/-13.37	-13.75/-12.68	-13.51/-15.36	-16.89/-19.56
Θ(180°)	-4.7/-4.26	-5.05/-6.61	-8.28/-8.99	-9.98/-12.3	-16.39/-19.27	-18.65/-13.89	-11.17/-10.21	-9.16/-7.8	-7.25/-7.23	-7.99/-8.54	-9.11/-9.1	-9.12/-9.57	-10.63/-11.16	-12/-13.39	-14.96/-16.65	-17.94/-19.03	-19.85/-18.92	-18.74/-20.06	-16.63/-14.36	-11.04/-8.19	-6.59/-5.76	-5.23/-4.87	-4.74/-5.58	-7.13/-6.48
Freq(Hz)	5.3GPol.	PhiAnt.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-15.4/-15.5	-10.71/-9.77	-5.73/-4.09	-2.92/-1.74	-0.78/-0.08	0.51/-1.9	1.61/1.3	1.371/0.4	0.860/-48	-0.23/-0.92	-1.69/-3.2	-5.86/-9.54	-14.33/-19.74	-18.87/-11.3	-8.08/-5.07	-2.67/-1.21	0.10/95	1.43/-147	1.63/-145	0.59/-0.36	-1.46/-2.64	-4.26/-6.74	-10.19/-14.29	
Θ(7.5°)	-13.68/-20.09	-18.68/-10.75	-7.82/-5.7	-4.55/-3.4	-2.05/-1.05	-0.32/-0.2	1.03/-1.09	0.970/-49	0.04/-0.7	-1.51/-2.58	-4.25/-6.4	-9.27/-15.13	-10.61/-7.43	-4.59/-3.24	-2.48/-1.38	0.130/-98	1.31/-149	1.71/-95	2.09/-1.89	0.30/-0.49	-1.79/-3.91	-6.88/-10.8		
Θ(15°)	-20.07/-19.21	-16.22/-10.39	-6.67/-4.53	-3.14/-2.21	-0.98/-0.26	-0.02/-0.11	-0.04/-0.4	0.690/-19	-0.92/-2.01	-2.92/-4.33	-6.84/-9.86	-12.73/-18.25	-19.42/-13.26	-9.51/-7.81	-5.1/-2.49	-1.33/-0.91	-0.190/-81	1.67/-2.08	2/-1.93	1.87/-1.77	1.44/-0.84	-0.16/-1.54	-3.67/-6.79	-10.26/-17
Θ(22.5°)	-12.6/-17.96	-16.81/-10.8	-6.06/-4.32	-3.29/-2.86	-2.26/-1.27	-0.34/-0.3	0.04/-0.1	0.070/-05	-0.47/-1.66	-2.75/-3.67	-5.61/-8.57	-12.44/-18.47	-17.23/-10.37	-6.34/-4.29	-2.87/-1.51	-0.65/-0.24	0.290/-81	1.27/-1.17	0.98/-1.02	1.51/-63	1.480/-73	-0.66/-2.63	-4.64/-6.43	-8.05/-10.14
Θ(30°)	-14.11/-18.64	-15.24/-9.91	-6.64/-3.82	-1.96/-0.61	-0.3/-0.41	-0.85/-0.19	1.11/-1.47	0.5/-0.2	0.01/-0.28	-1.38/-3.09	-5.45/-9.15	-13.62/-20.06	-13.7/-8.3	-4.95/-2.69	-1.35/-0.67	0.050/-44	0.60/-42	0.480/-44	0.08/-0.27	0.260/-59	0.48/-0.49	-1.6/-2.11	-2.72/-3.79	-6.25/-10.18
Θ(37.5°)	-15.58/-12.47	-9.2/-6.5	-5.06/-6.46	-4.95/-6.57	-5.99/-5.04	-4.04/-3.62	-3.8/-1.94	-0.49/-0.48	-0.98/-0.65	-1.9/-4.56	-8.32/-14.71	-19.93/-13.14	-8.21/-4.85	-2.48/-1.16	-0.76/-0.5	-0.1/-0.16	-1.29/-2.05	-1.45/-1.53	-1.48/-0.85	-0.42/-0.83	-1.84/-2.39	-3.56/-3.15	-2.39/-2.98	-5.38/-9.31
Θ(45°)	-17.75/-17.77	-17.07/-15.76	-14.03/-11.22	-8.45/-7.51	-7.7/-8.28	-7.42/-4.73	-2.68/-3.07	-4.5/-3.19	-2.15/-2.85	-3.68/-4.59	-8.69/-12.57	-19.17/-19.56	-12.5/-8.2	-5.59/-4.42	-3.82/-2.47	-0.81/-0.1	-0.23/-0.09	0.40/-3	-0.75/-1.92	-1.13/-0.67	-1.64/-3.03	-2.84/-2.64	-3.86/-7.37	-14.44/-19.8
Θ(52.5°)	-15.76/-14.92	-12.54/-11.13	-10.02/-10.04	-10.83/-9.31	-9.24/-4.43	-8.08/-4.86	-3.01/-3.35	-1.73/-3.74	-7.61/-8.7	-4.68/-8.3	-10.74/-13.47	-20.13/-14.71	-10.88/-9.33	-8.99/-8.81	-7.92/-7.51	-7.57/-7.13	-7.37/-9.4	-9.17/-5.12	-5.26/-11.23	-6.71/-5.63	-1.74/-2.06	-3.31/-4.65	-6.71/-10.84	-13.85/-15.13
Θ(60°)	-18.9/-15.31	-18.72/-19.84	-10.41/-6.43	-6.17/-6.4	-6.78/-7.01	-7.37/-7.09	-6.25/-4.27	-4.21/-3.86	-4/-7.22	-8.8/-9.91	-13.08/-11.89	-15.94/-20.19	-14.59/-10.25	-8.13/-7.32	-5.98/-5.03	-4.07/-2.15	-1.36/-2.04	-3.27/-2.94	-4.55/-4.08	-1.31/-2.49	-5.43/-4.21	-2.1/-2.59	-4.79/-7.87	-11.5/-16.1
Θ(67.5°)	-14.31/-17.79	-18.78/-11.6	-7.35/-4.94	-4.59/-7.1	-7.7/-9.65	-11.14/-11.22	-10.22/-6.89	-4.86/-4.65	-6.86/-9.36	-9.56/-9.63	-10.54/-13.51	-18.85/-17.95	-10.21/-7.51	-6.15/-5.97	-5.69/-5.99	-5.77/-3.8	-2.74/-2.2	-1.78/-1.57	-3.64/-5.13	-3.88/-4.15	-5.07/-5.41	-7.76/-3.83	-5.03/-6.95	-8.39/-10.34
Θ(75°)	-20.33/-18.64	-16.85/-15.52	-9.53/-5.64	-5.77/-1.82	-5.59/-5.43	-9.56/-10.74	-7.61/-8.7	-6.84/-4.32	-8.52/-17.69	-10.82/-17.3	-16.06/-16.1	-20.13/-14.71	-10.88/-9.33	-8.99/-8.81	-7.92/-7.51	-7.57/-7.13	-7.37/-9.4	-9.17/-5.12	-5.26/-11.23	-6.71/-5.63	-1.84/-2.06	-3.31/-4.65	-6.71/-10.84	-10.34/-18.62
Θ(82.5°)	-20.29/-19.53	-19.12/-20.47	-10/-6.23	-5.54/-3.8	-3.75/-7.37	-12.23/-14.74	-17.89/-10.85	-7.52/-7.72	-14.96/-19.38	-15.94/-13.9	-20.06/-15.47	-11.72/-15.12	-18.69/-18.63	-13.49/-12.77	-12.53/-11.26	-8.13/-6.28	-6.3/-7.5	-11.19/-9.31	-7.43/-7.01	-6.67/-9.18	-11.51/-8.6	-8.9/-10.05	-8.21/-8.28	-10.97/-19.31
Θ(90°)	-18.2/-19.84	-18.63/-19.46	-17.21/-12.59	-6.47/-5.01	-7.48/-4	-5.37/-10.64	-8.89/-10.94	-8.74/-10.54	-11.6/-10.72	-10.5/-13.43	-18.55/-20.12	-17.69/-19.62	-15.9/-15.04	-19.53/-19.88	-19.34/-18.74	-16.08/-8.46	-5.6/-7.5	-14.83/-10.63	-8.6/-6.58	-6.25/-6.89	-9.43/-12.34	-19.86/-9.16	-5.69/-6.4	-9.82/-15.79
Θ(97.5°)	-13.27/-18.45	-18.4/-19.74	-11.75/-9.83	-9.06/-7.59	-4.82/-5.08	-8.51/-11.72	-1.99/-6.79	-8.48/-9.65	-12.02/-12.72	-13.16/-23	-13.66/-14.18	-12.89/-11.5	-17.93/-15.07	-20.04/-17.58	-18.78/-14.31	-13.37/-7.55	-6.34/-7.75	-7.49/-7.65	-7.09/-7.45	-4.73/-7.46	-8.42/-10.28	-19.96/-9.21	-7.06/-11.75	-20.21/-18.54
Θ(105°)	-12.63/-12.28	-19.61/-20.01	-17.34/-18.85	-14.84/-9.6	-9.72/-10.29	-8.6/-11.69	-7.66/-6.11	-7.25/-5.58	-8.37/-8.73	-8.45/-11.91	-17.82/-18.55	-13.15/-11.96	-14.79/-15.27	-20.08/-16.9	-12.13/-11.56	-6.2/-4.7	-6.09/-4.58	-4.93/-8.56	-10.56/-7.01	-5.64/-4.45	-8.17/-13.79	-13.29/-12.94	-11.25/-12.79	-19.58/-20.16
Θ(112.5°)	-10.26/-9.14	-14.41/-13.23	-16.81/-19.38	-14.07/-15.18	-10.83/-7.64	-8.63/-7.95	-4.04/-4.54	-4.05/-2.91	-2.8/-3.6	-7.29/-10.38	-11.92/-15.66	-13.98/-13.42	-11.89/-6.22	-4.4/-5.99	-6.64/-2.45	-5.15/-6.14	-2.65/-2.98	-5.3/-8.01	-5.06/-4.9	-5.97/-11.61	-17.57/-11.13	-9.37/-9.52	-11.3/-12.33	
Θ(120°)	-12.36/-14	-11.71/-11.29	-12.44/-12.47	-17.73/-9.81	-7.27/-9.95	-10.54/-5.34	-5.34/-9.8	-5.44/-9.39	-2.41/-2.98	-7.84/-10.53	-14.78/-15.55	-17.14/-18.42	-12.98/-10.01	-11.15/-8.87	-7.48/-6.22	-6.47/-5.34	-3.29/-3.92	-3.97/-1.42	-1.18/-3.95	-13.37/-7.49	-11.49/-6.28	-11.69/-19.02	-15.4/-14.59	-18.89/-16.89
Θ(127.5°)	-19.8/-19.76	-17/-18.68	-19.79/-10.66	-9.71/-14.95	-10.81/-12.54	-9.68/-10.1	-8.37/-6.53	-4.71/-1.98	-3.19/-5.48	-9.6/-17.81	-10.87/-8.04	-8.82/-9.33	-9.99/-17.51	-13.45/-10.47	-6.32/-7.24	-2.12/-1.79	-1.71/-7.17	-4.73/-9.59	-1.21/-7.63	-19.61/-8.43	-8.83/-9.47	-11.15/-15.87	-19.12/-18.41	-17.71/-19.15
Θ(135°)	-10.69/-10.42	-11.29/-11.63	-15.29/-19.84	-10.78/-8.83	-10.39/-17.47	-13.73/-16.38	-16.14/-3.87	-6.9/-4.76	-4.6/-6.55	-15.04/-9.67	-10.03/-15.51	-19.98/-13.13	-9.28/-8.24	-5.69/-5.38	-7.46/-6.84	-8.77/-2.47	-4.52/-4.67	-2.39/-2.67	-1.34/-1.92	-13.46/-18.02	-10.68/-4.59	-6.52/-11.86	-18.85/-17.49	-19.84/-15.85
Θ(142.5°)	-19.66/-17.37	-10.76/-7.59	-6.91/-10.39	-19.32/-7.62	-4.1/-6.58	-12.86/-9.73	-9.59/-5.52	-19.62/-15.64	-4.86/-6.66	-16.82/-19.24	-14.82/-11.4	-11.89/-11.35	-12.36/-19.38	-6.33/-5.19	-6.63/-18.65	-17.21/-10.4	-4.97/-11.02	-9.55/-2.64	-3.92/-10.54	-13.85/-10.91	-13.07/-15.32	-15.02/-18.43	-19.39/-18.92	
Θ(150°)	-12.41/-19.86	-12.08/-6.37	-4/-6.39	-20.33/-10.13	-5.22/-6.52	-16.17/-6.7	-4.62/-8	-8.36/-5.7	-6.1/-8.59	-13.79/-13.96	-10.28/-9.5	-10.56/-9.62	-8.64/-10.34	-13.24/-13.33	-10.98/-9.04	-13.99/-16.96	-11.1/-11.44	-7.71/-6.22	-6.46/-8.23	-13.95/-18.88	-14.29/-10.31	-8.84/-10.72	-12.67/-9.52	-6.99/-7.36
Θ(157.5°)	-19.05/-17.38	-10.08/-6.64	-4.92/-5.24	-8.17/-15.93	-15.37/-10.88	-12.54/-18.77	-18.35/-18.76	-18.87/-16.02	-14.56/-16.4	-19.25/-20.07	-18.7/-19.73	-19.04/-17.01	-13.77/-9.55	-6.78/-6.39	-9/-10.19	-6.83/-5.82	-7.88/-10.52	-9.25/-10.35	-13.36/-8.99	-6.62/-6.05	-7.39/-10.42	-12.74/-10.73	-19.85/-19	-14.71/-16.04
Θ(165°)	-15.35/-9.37	-7.64/-8.87	-4.14/-4.7	-6.55/-8.35	-6.67/-16.05	-7.95/-10.72	-5.9/-7.37	-8.5/-12.13	-20.26/-19.79	-19.84/-17.3	-16.13/-19.46	-16.46/-17.08	-18.99/-19.97	-18.36/-12.75	-12.04/-13.23	-15.54/-17.28	-14.23/-11.17	-10.88/-12.14	-12.88/-11.84	-10.47/-11.17	-15.14/-19.61	-19.35/-17.81	-13.43/-14.98	-19.6/-19.12
Θ(172.5°)	-8.04/-7.5	-6.8/-8.36	-10.18/-13.42	-11.53/-7.14	-4.89/-4.64	-6.36/-9.66	-10.89/-8.93	-7.84/-7.32	-6.62/-6.19	-7.14/-9.96	-14.08/-14.72	-12.64/-10	-13.78/-9.41	-8.85/-9.14	-9.29/-9.41	-10.24/-11.25	-11.47/-11.19	-11.46/-12.65	-15.53/-15.69	-12.27/-9.54	-8.11/-7.92	-10.06/-10.84	-11.26/-8.39	-6.64/-6.98
Θ(180°)	-14.37/-10.81	-9.26/-8.73	-8.01/-1.77	-6.23/-6.06	-4.68/-4.74	-5.24/-5.8	-5.95/-6.19	-7.48/-9.47	-11.33/-11.29	-10.04/-10.02	-10.27/-10.46	-10.21/-10.1	-9.79/-8.95	-8.9/-9.36	-10.01/-10.63	-11.35/-13.27	-15.07/-15.58	-15.61/-15.92	-15.9/-14.22	-12.78/-11.22	-11.06/-12.17	-14.6/-18.62	-19.68/-19.5	-20.19/-18.32
Freq(Hz)	5.3GPol.	ThetaAnt.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	0.950/-82	0.8/0	0.930/-61	0.11/-0.55	-1.29/-2.08	-3.4/-5.38	-8.04/-11.77	-16.29/-16.43	-11.85/-8.15	-5.95/-4.55	-3.08/-1.76	-1/-0.18	0.66/-1	0.780/-55	0.380/-36	0.04/-0.38	-1.37/-3.18	-5.59/-8.63	-12.94/-19.48	-16.64/-12.78	-8.59/-6.22	-1.47/-2.87	-1.88/-0.71	0.310/-93
Θ(7.5°)	1.080/-92	0.770/-72	0.380/-06	-0.53/-1.32	-2.09/-2.88	-4.59/-7.53	-10.17/-17.53	-19.28/-15.24	-9.3/-6.17	-2.01/-1.17	-2.08/-1.22	-0.480/-05	0.651/-03	0.830/-58	0.530/-39	-0.12/-0.7	-1.38/-2.7	-4.69/-7.34	-10.16/-14.18	-19.24/-16.64	-11.23/-8.08	-5.8/-4.04	-2.35/-0.53	0.49/-102
Θ(15°)	-0.12/-0.29	-0.24/-0.73	-1.53/-1.91	-2.09/-2.5	-3.05/-4.03	-5.77/-7.99	-12.35/-18.33	-16.31/-9.41	-5.9/-3.48	-0.11/-1.15	-0.77/-0.53	-0.29/-0.12	0.380/-91	0.850/-14	-0.30	-0.1/-1.1	-2.33/-3.37	-4.33/-6.1	-8.6/-12.15	-16.19/-16.35	-11.71/-8.08	-5.53/-3.83	-4.21/-1.09	-0.67/-0.36
Θ(22.5°)	-0.28/-0.24	-0.57/-0.98	-1.5/-2.82	-4.21/-5.88	-6.24/-7.13	-9.48/-12.4	-19.88/-19.77	-10.7/-6.04	-3.18/-1.64	0.130/-34	0.97/-1.44	1.83/-2	1.70/-94	0										



Radiated Composite Gain Data_2.4GHz/5GHz

Appendix A

Θ(15°)	-20.07/-19.59	-14.9/-11.81	-9/-6.75	-4.94/-4.09	-3.91/-3.32	-2.59/-1.77	-0.95/-0.5	-0.5/-0.95	-1.86/-3.16	-5.05/-6.93	-8.8/-12.71	-18.93/-19.62	-16.44/-11.68	-8.15/-6.54	-4.36/-2.39	-1.56/-1.32	-0.7/-0.5	-0.55/-0.55	-0.48/-0.98	-1.62/-2.79	-3.8/-4.08	-4.53/-5.03	-6.03/-7.09	-9.36/-12.1
Θ(22.5°)	-18.67/-19.85	-16.39/-13.81	-9.79/-7.2	-5.58/-4.09	-3.16/-2.46	-1.61/-0.77	0.01/-0.23	-0.31/-1.37	-2.23/-4.11	-6.62/-7.88	-8.99/-12.12	-19.8/-18.07	-12/-8.43	-6.32/-5.09	-3.72/-1.97	-1.05/-0.83	-0.83/-1.13	-1.19/-1.05	-1.33/-1.66	-1.74/-2.37	-2.23/-2.63	-3.73/-5.9	-7.78/-8.87	-11.1/-14.39
Θ(30°)	-14.42/-17.95	-15.01/-9.86	-6.16/-3.64	-2.4/-1.53	-1/-1.38	-1.98/-1.86	-1.1/-0.53	-0.96/-1.15	-2.25/-3.25	-3.67/-4.63	-5.98/-8.34	-11.3/-13.26	-11.32/-8.36	-6.07/-4.64	-3.2/-2.55	-1.29/-0.77	-0.94/-1.35	-1.88/-2.07	-1.6/-1.25	-2.05/-2.37	-3.2/-4.69	-5.98/-6.32	-7.6/-8.9	-9.02/-10.96
Θ(37.5°)	-18.16/-18.06	-14.09/-11.24	-8.52/-6.93	-6.37/-6.98	-6.68/-5.97	-5.48/-4.66	-2.34/-1.3	-0.93/-1.25	-1.52/-0.95	-2.95/-4.66	-6.47/-7.41	-11.38/-20.1	-12.58/-8.12	-6.64/-5.41	-3.93/-3.26	-2.68/-0.86	0.03/-0.63	-1.64/-1.74	-1.61/-0.95	-0.98/-2.18	-3.29/-5.26	-7.08/-7.82	-7.64/-8.19	-10.81/-14.97
Θ(45°)	-11.01/-12.51	-11.27/-8.14	-5.45/-4.9	-4.99/-4.06	-3.34/-3.67	-5.26/-5.5	-5.18/-4.53	-3.66/-2.22	-2.72/-3.83	-3.66/-4.54	-5.96/-7.51	-10.38/-16.9	-14.8/-10.99	-8.32/-4.88	-2.7/-2.96	-2.97/-1.38	-0.47/-0.11	-0.5/-0.64	0.46/-0.55	-3.79/-3.75	-4.47/-5.98	-5.28/-4.37	-4.71/-7.18	-16.02/-14.92
Θ(52.5°)	-18.49/-16.65	-12.86/-14.09	-11.88/-9.18	-6.78/-6.39	-8.92/-11.48	-11.32/-11.8	-10.65/-6.1	-5.18/-5.41	-3.08/-2.05	-3.97/-4.84	-7.44/-10.89	-14.97/-20.26	-10.52/-7.08	-6.44/-5.86	-4.86/-2.82	-1.55/-1.21	0.36/-0.8	-2.07/-0.98	-0.47/-1.37	-2.64/-2.98	-4.92/-4.24	-4.36/-6.68	-9.47/-14.03	
Θ(60°)	-18.28/-18.8	-18.9/-12.76	-9.37/-6.37	-4.83/-4.57	-5.35/-8.23	-15.63/-19.24	-15.13/-9.04	-7.18/-8.64	-7.28/-6.8	-7.78/-9.47	-10.74/-14.2	-14.67/-17.54	-19.97/-15.87	-11.04/-7.36	-4.77/-2.82	-1.79/-0.48	-1.02/-0.19	-1.43/-3.93	-4.12/-2.37	-2.52/-2.72	-3.76/-5.51	-4.46/-5.47	-5.93/-6.95	-11.68/-20.17
Θ(67.5°)	-20.03/-16.06	-14.59/-11.19	-7.4/-5.62	-3.94/-3.16	-4.83/-9.9	-12.27/-19.98	-17.45/-18.15	-11.57/-8.06	-11.97/-9.79	-13.9/-12.36	-16.31/-17.68	-16.43/-19.15	-18.85/-19.02	-13.28/-10.26	-9.79/-6.73	-4.31/-5.23	-4.44/-3.02	-4.98/-8.86	-5.06/-5.53	-7.13/-4.22	-4.5/-7.34	-5.42/-4.53	-6.14/-8.65	-9.94/-13.63
Θ(75°)	-15.33/-18.64	-14.67/-10.31	-6/-3.18	-2.29/-2.74	-5.56/-9.55	-18.36/-17.44	-19.82/-17.2	-12.93/-8.91	-11.9/-16.14	-11.82/-14.19	-17.77/-15.57	-15.09/-15.81	-12.42/-15.03	-15.34/-19.7	-18.33/-13.46	-8.08/-6.33	-6.53/-6.55	-6.93/-9.79	-8.44/-9.25	-5.04/-4.47	-6.59/-7.61	-6.94/-6.43	-10.17/-15.6	-11/-10.73
Θ(82.5°)	-12.24/-13.48	-15.86/-18.02	-8.13/-4.41	-3.69/-3.3	-3.19/-3.93	-8.01/-8.73	-15.58/-13.36	-14.57/-20.1	-16.48/-14.81	-18.46/-16.46	-19.48/-18.69	-18.39/-15.5	-19.22/-17.6	-18.44/-19.52	-17.94/-14.26	-8.63/-7.48	-10.67/-6.78	-8.52/-13.81	-7.76/-10.34	-18.74/-6.11	-7.95/-11.35	-11.97/-11.39	-9.78/-11.05	-12.3/-15.04
Θ(90°)	-19.09/-18.69	-20.02/-15.74	-8.81/-7.1	-10.8/-10.66	-5.81/-5.01	-9.58/-10.26	-17.71/-15.95	-11.3/-14.8	-13.29/-17.13	-19.44/-19.27	-14.54/-16.01	-20.17/-14.15	-14.74/-14.45	-13.76/-13.57	-17.01/-10.9	-9.88/-10.23	-8.92/-6.75	-10.95/-8.71	-5.38/-7.83	-8/-4.98	-4.08/-9.16	-9.4/-18.81	-12.17/-9.6	-9.62/-13.99
Θ(97.5°)	-14.63/-17.23	-12.66/-12.08	-11.68/-10.52	-10.61/-8.73	-8.27/-6.11	-8.46/-9.73	-10.05/-6.48	-8.14/-10.5	-10.81/-12.38	-14.07/-20.02	-17.59/-17.15	-17.44/-16.67	-19.43/-19.33	-19.24/-19.25	-16.34/-13.16	-8.52/-10.54	-9.28/-7.12	-13.98/-8.08	-8.34/-6.92	-4.65/-1.42	-5.98/-12.22	-9.56/-11.44	-8/-7.72	-12.16/-19.83
Θ(105°)	-17.39/-19.87	-18.78/-18.67	-19.46/-18.98	-18.35/-18.34	-14.55/-8.75	-6.82/-4.62	-7.35/-4.98	-4.38/-4.13	-7.83/-11.31	-11.14/-15.13	-13.69/-13.27	-16.85/-19.2	-16.2/-13.04	-16.54/-14.54	-10.69/-8.53	-8.32/-8.37	-8.43/-11.24	-18.05/-10.04	-7.86/-6.89	-3.67/-5.55	-8.34/-11.36	-16.02/-10.36	-9.62/-10.77	-12.51/-14.86
Θ(112.5°)	-18.45/-16.29	-15.04/-15.67	-16.48/-15.05	-14.45/-11.16	-14.34/-20.25	-17.34/-12.35	-9.99/-6.63	-5.6/-3.72	-4.25/-5.95	-6.27/-11.8	-19.86/-20.44	-19.58/-19.02	-10.24/-12.46	-10.78/-10.8	-11.48/-10.34	-14.65/-6.77	-6.94/-7.98	-8.11/-9.58	-6.5/-5.04	-6.79/-7.02	-12.01/-6.49	-7.47/-18.7	-18.44/-18.54	-14.62/-14.55
Θ(120°)	-15.84/-18.48	-19.27/-17.88	-12.37/-9.12	-11.2/-10.75	-13.8/-19.64	-18.7/-12.04	-6.92/-5.02	-4.64/-2.93	-3.3/-3.11	-4.43/-8.57	-9.18/-12.54	-15.93/-15.6	-16.01/-14.44	-14.58/-10.76	-12.47/-7.14	-9.1/-7.35	-4.93/-4.38	-6.18/-10.8	-4.28/-2.15	-1.57/-4.99	-7.51/-8.01	-5.49/-6.6	-18.79/-13.4	-18.72/-15.79
Θ(127.5°)	-14.12/-15.38	-19.42/-19.26	-13.8/-9.25	-13.83/-9.32	-8.34/-11.61	-7.59/-18.03	-6.59/-7.87	-7.25/-9.15	-4.36/-3.29	-6.19/-9.3	-15.02/-14.69	-19.94/-11.99	-18.46/-9.17	-8.71/-9.45	-10.32/-15.09	-12.17/-6.96	-2.33/-0.98	-4.18/-14.62	-7.11/-4.07	-5.85/-7.54	-10.39/-19.64	-10.77/-14.69	-18.92/-14.36	-14.59/-19.79
Θ(135°)	-12.44/-10.56	-12.9/-13.62	-14.71/-19.19	-15.15/-13.11	-15.57/-19.71	-11.63/-9.19	-5.03/-6.08	-3.3/-2.61	-3.95/-3.17	-5.47/-8.92	-9.34/-9.82	-10.27/-10.78	-10.55/-12.82	-12.03/-10.37	-5.32/-6.07	-9.88/-7.11	-0.92/-0.79	-8.22/-13.65	-18.04/-14.06	-17.06/-12.44	-10.15/-19.13	-13.16/-17.17	-14.33/-16.79	-19.14/-18.9
Θ(142.5°)	-14.39/-14.46	-10.38/-9.79	-12.57/-19.83	-9.57/-3.79	-5.02/-9.49	-5.47/-5.66	-10.34/-9.76	-19.21/-8.22	-6.98/-11.11	-19.46/-16.19	-15.36/-12.99	-14.69/-20.38	-11.39/-14.19	-7.59/-3.54	-4.1/-6.01	-12.29/-13.74	-8.43/-4.37	-2.51/-5.38	-14.28/-8.32	-3.21/-4.55	-7.15/-5.84	-5.11/-12.52	-15.72/-11.24	-12.37/-14.38
Θ(150°)	-12.99/-12.28	-15.11/-6.79	-5.42/-10.99	-6.39/-1.43	-1.9/-8.91	-5.55/-3.88	-10.05/-6.62	-3.61/-4.31	-7.17/-13.59	-11.03/-7.57	-6.98/-8.72	-11.55/-11.23	-8.77/-7.36	-7.13/-5.85	-4.93/-5.33	-4.6/-4.8	-9.23/-17.83	-8.64/-4.79	-5.64/-8.02	-11.32/-10.14	-11.15/-13.66	-9.49/-10.63	-12.58/-8.94	-7.19/-10.55
Θ(157.5°)	-20.24/-18.94	-16.13/-11.69	-10.87/-17.88	-13.17/-6.99	-6.64/-13.24	-15.06/-8.7	-9.19/-6.88	-4.97/-6.21	-7.79/-9.33	-16.84/-19.09	-13.84/-9.27	-8.27/-9.09	-9.56/-8.44	-7.72/-8.22	-10.44/-12.49	-14.37/-11.48	-6.74/-5.61	-7.91/-15.09	-19.27/-18.89	-13.64/-7.45	-5.86/-7.77	-13.4/-18.88	-15.6/-12.76	-11.44/-12.14
Θ(165°)	-8.82/-5.6	-4.61/-5.95	-8.68/-10.9	-7.38/-3.64	-2.27/-3.43	-7.78/-15.12	-15.84/-15.5	-14.42/-11.26	-9.02/-6.9	-6.77/-7.14	-7.98/-7.96	-7.82/-8.87	-13.99/-19.87	-14.83/-10.28	-7.92/-7.48	-8.49/-10.18	-11.92/-11.82	-9.81/-8.51	-8.84/-9.98	-11.21/-9.37	-9.88/-13.88	-19.67/-19.02	-18.34/-17	-18.8/-15.97
Θ(172.5°)	-8.24/-11.24	-12.07/-9.42	-6.29/-3.45	-1.61/-3.78	-5.5/-4.41	-3.19/-2.32	-2/-2.77	-3.73/-4.76	-6.65/-6.25	-5.48/-4.57	-4.72/-5.63	-7.07/-8.53	-9.16/-9.33	-8.57/-7.63	-7.21/-6.51	-5.75/-5.3	-5.45/-5.88	-7.33/-9.98	-15.12/-16.21	-11.65/-9.24	-8.54/-8.83	-9.08/-7.85	-6.78/-6.69	
Θ(180°)	-8.93/-6.81	-6.54/-5.67	-6/-4.6	-5.26/-4.09	-3.13/-2.5	-2.16/-2.11	-2.25/-2.48	-2.35/-1.91	-1.5/-1.12	-1.92/-3.19	-4.56/-5.92	-7.44/-8.46	-7.99/-6.46	-5.09/-4.55	-4.03/-2.78	-1.87/-2.02	-2.61/-3.19	-4.37/-5.63	-8.62/-14.7	-19.95/-16.88	-18.25/-19.4	-18.11/-16.71	-14.77/-12.95	-11.86/-10.94
Freq(Hz)	5.785GPol.	Theta(Ant. 4																						
Gain	Φ(15°)/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°)	-0.46/-0.2	-0.17/-0.81	-1.21/-1.63	-2.42/-3.5	-5.04/-7.23	-10.16/-15.01	-19.74/-20.03	-15.32/-10.95	-8.41/-6.84	-5.86/-4.98	-3.82/-3.23	-2.83/-2.11	-1.24/-1.22	-1.83/-2.39	-2.75/-3.24	-3.88/-4.58	-6.31/-9.29	-13/-17.08	-19.12/-20.12	-14.81/-11.28	-8.07/-5.57	-3.91/-2.66	-1.98/-1.68	-1.12/-0.24
Θ(7.5°)	-2.64/-2.24	-2.07/-2.52	-3.48/-4.1	-4.85/-5.72	-6.86/-8.97	-11.77/-16.71	-19.96/-19.55	-15.82/-11.73	-8.01/-5.76	-4.7/-3.55	-2.06/-1.34	-0.96/-0.85	-0.47/-0.31	-0.6/-0.83	-1.22/-2.07	-2.87/-3.64	-4.87/-7.01	-10.43/-14.67	-19.46/-19.24	-16.9/-11.91	-9.11/-5.8	-5.14/-3.94	-3.04/-2.83	-2.84/-2.27
Θ(15°)	-0.73/-0.95	-0.78/-1.42	-2.47/-3.73	-4.95/-6.91	-9.53/-12.05	-13.88/-15.41	-20.05/-19.37	-15.44/-10.78	-7.44/-5.3	-4.26/-3.69	-3.26/-2.36	-1.43/-1.14	-0.58/-0.76	-0.71/-1.27	-1.79/-2.02	-2.74/-3.82	-5.3/-6.95	-10.22/-15.31	-18.91/-18.2	-11.85/-9.04	-7.3/-6.03	-5.4/-4.78	-3.63/-2.78	-1.8/-1.18
Θ(22.5°)	-1.51/-1.59	-1.79/-2.97	-3.52/-3.66	-4.28/-5.35	-7.74/-12.32	-19.44/-18.69	-19.22/-18.92	-14.57/-9.58	-6.13/-4.51	-4.05/-3.24	-1.72/-0.36	0.571/2	1.22/0.91	0.24/-0.57	-1.5/-2.29	-2.99/-4.22	-6.15/-7.58	-9.4/-16.14	-19.64/-12.89	-9.83/-9.64	-9.71/-7.86	-6.02/-4.18	-2.63/-2.04	-1.77/-1.71
Θ(30°)	-2.2/-1.81	-1.33/-1.47	-3.1/-5.31	-6.04/-6.16	-7.25/-9.32	-12/-15.34	-17.17/-16.72	-15.19/-11.59	-7.93/-5.82	-3.97/-2.21	-0.39/0.7	1.451/6	1.641/72	1.71/0.7	-0.2/-1.39	-2.39/-4.14	-5.27/-6.75	-11.58/-20.25	-17.72/-17.79	-14.31/-13.1	-10.15/-9.35	-5.84/-3.83	-2.93/-2.72	-3/-2.63
Θ(37.5°)	-0.44/-0.35	-0.46/-1.47	-3.24/-6.33	-10.43/-14.5	-14.19/-10.22	-8.36/-8.05	-12.4/-19.25	-18.33/-18.61	-11.51/-4.7	-1.93/-0.66	-0.02/1.46	2.152/86	3.263/21	2.82/21	1.06/-0.26	-1.64/-3.15	-5.61/-8.26	-9.58/-10.75	-16.01/-17.02	-15.75/-18.48	-16.37/-8.67	-6.11/-5.17	-4.06/-1.93	-1.15/-0.89
Θ(45°)	0.17/-0.62	-1.44/-2.32	-4.66/-8.8	-12.56/-11.53	-7.95/-6.56	-6.65/-7.67	-15.02/-19.83	-15.45/-11.38	-6.24/-3.1	-0.58/1.35	1.91/1.88	2.252/87	3.33/3.71	3.6/2.9	2.330/97	-0.89/-1.78	-3.4/-5.34	-7.75/-13.49	-19.28/-19.42	-19.79/-14.78	-10.68/-9.19	-7.89/-4.39	-2.02/-1.2	-0.51/0.01
Θ(52.5°)	-2.27/-2.08	-2.98/-5.01	-6.17/-8.7	-10.94/-8.55	-6.92/-6.22	-4.77/-7.21	-9.68/-12	-17.2/-10.17	-7.09/-1.53	0.121/82	2.462/49	2.222/68	3.493/88	3.2/2.39	1.38/-0.24	-0.96/-1.74	-1.9/-5	-7.04/-6.68	-15.7/-19.1	-15.9/-18.87	-19.07/-12.69	-7.97/-5.75	-3.55/-2.07	-2.1/-2.44
Θ(60°)	-2.92/-2.46	-2.47/-4.15	-7.65/-10.48	-10.16/-10.22	-7.56/-5.02	-5.46/-6.68	-6.66/-11.81	-13.81/-12.86	-8.47/-2.98	0.61/1.49	2.192/69	2.092/11	2.993/4	3.09/1.8	1.01/0.18	-0.24/-0.52	-1.4/-2.1	-2.55/-5.78	-9.61/-14.58	-12.33/-13.98	-16/-19.53	-12.02/-6.19	-4.78/-4.06	-3.12/-2.98
Θ(67.5°)	-4.28/-5.17	-6.23/-6.69	-9.33/-14.36	-14.67/-9																				



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Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	4.67	4.94	4.85	4.92
Ant. 2 Max Gain (dBi)	4.9	4.62	3.85	4.18
Ant. 3 Max Gain (dBi)	4.76	3.7	3.8	4.37
Ant. 4 Max Gain (dBi)	4.42	4.27	3.12	4.38
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/30/0	Theta/30/352.5	Theta/22.5/337.5	Phi/15/270
Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/37.5/270	Phi/127.5/277.5	Phi/127.5/277.5	Theta/30/157.5
Ant. 3 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/75/105	Phi/37.5/195	Phi/97.5/15	Phi/75/127.5
Ant. 4 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Phi/97.5/45	Phi/112.5/187.5	Phi/97.5/202.5	Phi/97.5/187.5
Max Gain (dBi)	4.9	4.94	4.85	4.92
DG [1SS] (dBi)	7.48	7.88	6.12	7.86
DG [2SS] (dBi)	4.9	4.94	4.85	4.92
DG [4SS] (dBi)	4.9	4.94	4.85	4.92



Radiated Composite Gain Data_6GHz

Appendix B

Θ(22.5°)	-3.11/-2.13	-0.680.8	1.34/1.47	1.34/0.96	0.91/1.18	1.58/2.19	2.68/2.8	2.66/2.36	1.62/1.31	1.42/0.69	-0.4/-1.49	-2.12/-3.39	-3.81/-3.82	-3.33/-2.1	-0.4/1.13	2.28/2.98	3.52/4.02	4.48/4.81	5.03/4.9	4.76/4.55	4.05/3.39	2.74/2.05	0.96/-0.57	-1.95/-3.22	
Θ(30°)	-1.27/0.73	1.89/1.83	1.54/0.43	-1.05/-1.44	-1.09/0.18	1.35/2.19	2.29/1.92	2.02/1.69	2.28/2.48	1.61/0.59	-0.11/-0.33	-0.2/-0.51	-1.78/-2.38	-2.46/-1.91	-1.24/-0.25	1.19/2.6	3.83/4.8	5.13/5.01	5.01/5.26	5.26/4.79	4.26/3.82	3.11/1.97	0.96/0.34	-0.59/-1.84	
Θ(37.5°)	-0.37/0.61	1.45/1.4	1.21/0.71	-0.24/-0.33	-0.26/0.14	1.27/2.07	1.79/1.05	0.21/0.37	0.85/0.66	0.94/0.33	0.15/0.43	1.06/1.36	1.01/0.98	0.95/1.42	1.72/1.68	1.69/2.2	3.23/4.1	4.43/4.37	4.43/4.08	5.53/3.18	3.36/3.85	3.13/2.4	0.53/0.3		
Θ(45°)	1.43/1.17	1.46/1.29	1.17/1.8	2.24/2.18	1.08/-0.06	-0.05/1.03	1.49/1.18	0.97/0.92	1.08/0.9	0.71/0.95	1.28/1.02	0.52/0.47	0.76/1.35	2.5/2.62	2.59/2.3	2.28/1.88	2.69/3.74	3.66/3.64	4.07/4.26	4.25/3.76	4.23/4.79	4.64/4.69	4.15/3.51	2.96/2.17	
Θ(52.5°)	1.94/1.81	1.93/2.03	2.15/2.26	2.21/1.75	0.97/0.53	0.88/1.85	2.53/2.07	3.59/3.58	2.80/9	0.83/0.01	-1.3/-2.16	-1.4/-0.35	0.99/2.2	3.31/3.91	3.71/3.14	2.68/3.03	4.24/2.08	1.7/2.86	2.8/2.55	3.15/4.13	4.47/4.13	3.97/3.94	3.19/2.16		
Θ(60°)	2.23/0.4	3.09/2.98	1.86/0.88	0.36/1.64	2.06/2.06	2.64/2.79	1.86/1.01	1.73/1.88	1.32/1.65	1.25/-0.03	-1.3/-1.15	-0.77/-0.83	-0.57/-0.68	-0.76/0.22	2.22/3.55	3.79/3.86	4.19/4.26	3.87/2.48	2.4/3.74	3.94/2.59	1.47/2.87	3.31/3.27	3.78/3.98	3.85/2.98	
Θ(67.5°)	3.11/2.31	2.09/0.72	0.28/0.21	1.84/3.1	3.7/2.37	0.96/1.4	0.98/1.25	2.32/2.78	3.55/3.08	2.01/-0.3	0.06/1.15	1.29/0.65	-0.18/0.39	0.3/0.55	1.53/3.23	4.21/3.58	2.87/3.95	4.11/2.84	3.48/4.12	4.88/3.79	2.57/1.38	2.82/3.07	4.15/4.74	4.33/3.55	
Θ(75°)	2.02/2.06	2.42/2.35	1.37/1.31	2.9/3.41	3.35/2.9	1.79/1.46	0.86/1.04	1.17/1.5	3.14/3.84	1.81/0.9	1.16/1.39	2.55/2.32	2.38/3.03	2.4/1.01	1.51/2.53	4.02/3.35	3.23/3.3	3.14/2.12	2.84/3.24	4.57/4.17	1.71/1.3	2.26/3.62	4.64/5.17	3.49/2.18	
Θ(82.5°)	2.18/3.56	4.82/4.85	2.93/1.2	2.73/3.84	4.02/3.43	3.29/2.41	1.34/1.62	3.02/3.44	4.05/3.5	1.92/1.15	0.78/1.15	0.88/2.38	3.39/3.92	2.18/0.96	0.07/0.61	2.53/1.78	1.99/1.55	0.84/1.45	2.25/1.75	2.91/1.88	1.71/1.95	2.58/3.05	4.19/4.62	3.5/2.82	
Θ(90°)	1.81/3.51	4.44/4.97	3.16/2.03	3.68/4.31	2.62/-0.71	-1.92/0.22	0.98/0.64	2.06/2.62	2.7/3.61	2.20/97	-0.24/1.26	2.79/3.33	3.44/14	3.48/2.82	0.42/1.65	1.05/0.92	1.89/0.87	-0.19/-0.45	1.49/1.93	1.88/1.94	2.86/1.58	1.83/0.3	3.42/3.69	3.5/2.42	
Θ(97.5°)	2.84/3.98	4.71/4.45	2.12/1.54	2.97/3.11	2.13/0.27	0.25/0.11	1.48/2.07	4.24/2.74	2.8/3.43	3.31/0.87	0.46/2.52	1.78/2.7	2.53/2.55	3.43/3.02	1.16/1.31	3.11/3.01	1.0/43	0.62/0.78	0.2/0.49	1.2/1.67	3.28/2.69	0.55/2.1	2.63/2.97	4.13/3.28	
Θ(105°)	3.21/3.54	4.53/4.08	1.08/0.4	2.04/1.63	0.64/0.1	-1.04/-0.4	0.56/1.08	1.11/-0.58	0.58/1.61	1.82/0.48	-0.11/1.56	0.78/2.15	1.91/1.69	3.72/3.03	1.74/2.58	3.79/3.22	4.11/1.96	2.97/4.89	3.15/2.79	3.76/4.57	3.35/4.44	2.86/1.27	1.04/1.94	3.13/4.14	
Θ(112.5°)	1.72/1.4	3.99/3.7	0.22/-0.19	2.14/0.51	0.5/1.37	1.43/-0.81	-0.72/1.32	-0.29/0.49	2.2/2.25	3.28/2.81	0.38/-0.88	0.4/0.15	0.23/0.63	2.09/0.95	1.59/2.36	2.8/4.47	5.31/5.72	4.09/5.48	4.32/4.61	5.11/4.41	5.72/6.12	4/0.36	-0.34/0.71	1.58/1.65	
Θ(120°)	-6.3/-4.01	-0.92/-0.07	-2.69/-0.98	-1.13/-0.67	0.52/0	1.06/0.46	0.87/0.87	0.75/0.03	0.37/-0.35	-0.57/-1.51	-3.22/-3.81	-0.32/-1.81	-1.72/1.61	3.41/1.72	2.71/2.41	0.54/3.89	3.94/4.75	2.93/6.3	3.84/4.75	5.3/3.57	2.93/6.3	2.31/-1.18	-1.55/-1.71	-2.46/-3.94	
Θ(127.5°)	-6.98/-5.16	-3.22/-3.09	-3.83/-2.03	0.23/-0.59	-0.13/2.34	1.74/-0.17	-1.67/-0.52	-0.28/-1.47	-0.25/0.53	0.68/-2.24	-2.99/-2.47	-3.07/-3.4	-2.15/-1.67	-2.08/-4.23	-5.03/-5.03	-3.95/-1.6	0.41/-2.28	-1.11/1.25	3.97/6.63	4.32/0.89	1.59/3.68	-0.67/3.51	-4.42/-5.39	-5.57/-6.56	
Θ(135°)	-7/-8.68	-6.24/2.53	-3.04/-0.52	1.35/1.39	0.94/0.48	0.63/-0.91	-1.54/-1.06	-2.44/-0.44	0.96/1.67	-0.24/-4.52	-4.82/-4.34	-3.78/-5.68	-5.65/-1.97	0.47/-1.25	-5.58/-7.28	-2.76/-3.1	-0.56/-2.18	-4.92/-0.58	2.69/2.53	2.46/0.98	-1.4/-1.44	-1.44/-3.27	-4.52/-4.99	-2.86/-1.49	
Θ(142.5°)	-2.83/-5.55	-3.36/-1.66	-1.46/-0.89	0.18/0.78	0.91/1.9	1.27/0.3	-0.76/1	0.91/22	2.37/0.18	-2.56/-3.27	-4.25/-2.57	-6.57/-6.74	-6.57/-2.87	-3.4/-6.27	-4.25/-8.54	-5.54/-2.73	-3.28/-2.4	-6.09/-3.81	0.73/-0.86	-4.27/-3.18	-1.24/-1.7	-2.79/-7.05	-9.2/-6.07	-2.08/-1.09	
Θ(150°)	-5.67/-3.97	-2.81/-2.35	-2.15/-2.48	-3.5/-1.8	-0.89/-1.34	1.42/0.02	0.74/-1.78	-3.5/-2.06	-0.18/-0.07	-0.37/-1.18	-2.83/-4.88	-5.23/-5.34	-6.36/-2.73	-2.58/-4.66	-4.9/-3.6	-3.19/-3.42	-0.17/-0.14	-4.34/-0.08	-1.53/-1.84	-9.44/-9.27	-5.46/-3.97	-5.61/6.98	-7.68/-4.53	-5.81/-7.57	
Θ(157.5°)	-2.38/-3.42	-4.48/-5.52	-5.94/-4.65	-3.35/-3.89	-4.39/-2.47	-0.29/0.22	-0.31/-0.96	-0.42/0.66	0.63/-0.39	-1.14/-2.71	-3.41/-3.29	-3.32/-3.04	-5.17/-9.25	-6.77/-2.44	-1.85/-3.79	-6.17/-6.08	-3.94/-3.29	-0.95/1.28	2.06/0.81	-1.23/-2.78	-2.48/-1.94	-2.9/-3.74	-2.46/-2.46		
Θ(165°)	-3.82/-3.41	-3.79/-3.98	-4.72/-5.84	-5.66/-3.32	-1.23/-0.68	-0.75/-1.2	-1.28/0.33	2.13/12	2.34/0.02	-2.79/-3.31	-3.74/-4.57	-5.31/-5.29	-5.49/-5.62	-7.75/-8.05	-6.48/-5.03	-5.26/-6.18	-4.22/-3.89	-2.34/-2.7	-4.32/-3.59	-2.51/-3.36	-5.85/-4.8	-6.45/-5.12	-6.05/-7.62	-6.9/-5.17	
Θ(172.5°)	-8.03/-7.49	-7.63/-8.13	-8.49/-8.31	-7.66/-8.38	-8.81/-8.93	-6.94/-3.41	-0.99/-0.08	-0.1/-0.86	-2.37/-4.3	-5.72/-6.87	-7.51/-7.79	-7.4/-6.71	-6.6/-6.66	-6.63/-6.83	-7.58/-7.95	-7.88/-6.09	-3.77/-2.7	-2.82/-3.17	-3.32/-2.92	-2.84/-3.21	-3.68/-3.91	-4.64/-5.6	-6.59/-6.54	-7.02/-8.3	
Θ(180°)	-9.16/-9.27	-8.26/-7.28	-7.28/-7.84	-7.24/-5.47	-4.03/-3.38	-3.09/-0.35	-3.22/-3.41	-8.75/-9	-3.66/-4	-4.85/-5.69	-6.77/-7.78	-8.75/-9	-8.8/-7.45	-6.79/-6.32	-6.31/-5.82	-5.04/-4.46	-4.27/-4.39	-4.55/-4.86	-4.92/-4.42	-4.04/-3.3	-3.02/-3.33	-3.73/-4.21	-4.51/-4.58	-5.28/-6.35	-8.26/-9.57
Freq(Hz)	6.695GPol.	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°)	2.74/2.65	2.68/2.91	2.95/2.86	2.63/2.09	1.5/0.51	-0.83/-1.91	-4/-5.6	-6.71/-7.43	-6.07/-3.94	-2.58/-1.26	-0.02/0.74	1.53/2.43	3.24/3.59	3.88/4.12	4.06/3.75	3.22/2.75	2.08/1.14	-0.58/-2.3	-4.33/-5.78	-5.94/-4.55	-3.37/-1.85	-0.6/0.47	1.12/1.76	2.16/2.29	
Θ(7.5°)	3.2/3.45	3.69/3.71	3.73/6.4	3.2/3.95	2.31/1.24	-0.04/-1.89	-3.23/-4.78	-5.99/-5.39	-4.35/-2.41	-0.81/0.11	0.71/1.47	2.43/2.7	2.98/3.1	3.32/3.45	3.51/3.35	2.95/2.57	1.87/0.51	-0.92/-2.65	-4.7/-6.15	-6.59/-5.56	-4.03/-2.53	-1.23/-0.13	0.86/1.98	2.48/2.91	
Θ(15°)	4.47/4.33	3.97/3.22	2.55/1.81	0.85/0.52	-0.09/-0.85	-1.65/-2.71	-4.72/-5.85	-6.11/-5.3	-3.81/-1.78	1.78/2.37	2.62/66	2.74/2.74	3/2.93	2.54/2.42	2.26/1.82	1.22/0.15	-1.11/2.56	-4.3/-5.6	-5.19/-3.1	-1.18/0.25	1.51/2.53	3.35/3.96	4.28/4.45		
Θ(22.5°)	4.91/4.31	3.34/2.31	1.48/0.78	0.43/0.32	-0.2/-1.09	-3.28/-5.16	-6.57/-6.26	-5.23/-3.6	-2.8/-1.6	0.12/1.2	1.26/1.67	2.54/3.19	3.74/1.6	4.09/3.67	3.04/2.38	1.61/1.16	0.7/-0.42	-2.31/-4.71	-5.18/-2.7	-1.31/-0.32	0.71/1.99	3.24/4.24	4.59/4.98		
Θ(30°)	3.89/2.8	1.52/0.29	-0.99/-1.28	-0.55/-0.29	-1.07/-2.57	-3.84/-5.28	-6.46/-6.95	-4.84/-3.71	-2.63/-1.73	-0.82/-0.15	0.02/0.09	0.75/1.9	2.76/3.08	2.48/1.69	0.90/6.02	0.3/0.18	0.21/-0.06	-1.58/-4.71	-7.16/-7.8	-3.87/-1.64	-0.26/0.64	1.28/1.73	2.45/3.37		
Θ(37.5°)	4.59/3.27	1.38/-0.01	0.13/0.66	0.37/0.09	-1.19/-3.2	-4.63/-5.54	-6.77/-5.38	-4.91/-4.96	-3.25/-2.12	-0.32/0.48	0.48/-0.12	0.51/2.3	2.97/2.76	2.18/1.21	-0.02/-0.74	-0.98/-1.02	-1.43/-2.03	-2.57/-4.42	-6.79/-6.26	-4.66/-3.22	-1.68/-0.82	0.08/0.87	1.85/2.89	3.97/4.58	
Θ(45°)	1.42/0.89	1.57/1.2	0.94/1.34	0.98/-0.22	-2.13/-4.67	-6.06/-6.16	-6.3/-5.3	-3.79/-3.29	-4.15/-4.83	-1.77/0.05	0.21/0.18	0.54/1.41	1.94/1.96	1.54/1.23	0.15/-1.01	-0.82/-1.28	-2.61/-3.47	-3.24/-5.63	-8.61/-6.89	-4.12/-3.19	-2.96/-3	-2.78/-1.85	-0.32/2.07	3.16/2.7	
Θ(52.5°)	-0.37/0.03	0.63/0.15	-0.01/0.23	-0.32/-1.83	-3.25/-4.75	-5.73/-5.45	-6.15/-7.06	-6.11/-4.4	-2.5/-1.65	-1.68/-2.54	-2.01/-1.4	-0.75/-0.16	-0.26/0.12	0.22/-0.11	-1.95/-2.79	-2.59/-1.83	-2.76/-5.3	-6.59/-6.32	-6.78/-2.78	-1.8/-1.41	-1.96/-2.19	-0.95/0.55	1.08/0.11		
Θ(60°)	-0.01/0.16	-0.15/-0.19	-0.88/-1.11	-3.4/-6.2	-7.65/-4.21	-4.12/-6.35	-9.29/-8.74	-8.95/-5.13	-4.19/-5.2	-4.46/-4.7	-3.92/-1.37	0.05/0.34	-1.13/-2.4	-2.65/-3.38	-3.9/-4.54	-4.88/-5.29	-4.35/-4	-6.44/-5.7	-3.14/-5.61	-5.09/-2.75	-3.58/-4.44	-4.28/-2.68	-1.48/-1.88	-2.85/-0.83	
Θ(67.5°)	-1.51/-1.69	-1.89/-1.4	-1.09/-0.36	-1.99/-0.89	-2.31/-3.2	-3.98/-5.28	-7.55/-5.75	-6.82/-6.55	-4.28/-4.58	-6.39/-6.93	-4.26/-0.43	1.23/1.61	-0.22/-2.19	-2.56/-2.96	-4.75/-5.89	-6.22/-6.85	-4.58/-4.09	-5.85/-4.51	-4.17/-7.96	-8.1/-5.01	-5.26/-6.81	-4.91/-3.98	-2.85/-2.85	-2.51/-1.77	
Θ(75°)	-1.64/-1.74	-1.83/-1.37	-2.24/-4.83	-4.64/-2.94	-3.56/-3.74	-4.89/-6.57	-8.66/-9.35	-7.41/-7.33	-6.98/-3.37	-2.84/-7.72	-7.93/-2.49	1.06/0.51	-1.16/-2.54	-3.15/-4.66	-5.82/-4.78	-6.24/-7.01	-10.61/-7.99	-9.72/-5.12	-3.73/-6.9	-9.79/-7.24	-6.86/-8.79	-8.29/-4.8	-4.42/-4.82	-2.45/-1.4	
Θ(82.5°)	-3.97/-5.28	-6.53/-5.84	-4.01/-3.46	-2.75/-1.47	-4.38/-8.12	-8.02/-9.35	-8.75/-4.72	-6.8/-8.93	-5.94/-4.34	-2/-5.38	-4.85/-3.82	-2.11/-1.03	-2.14/-2.12	-1.68/-4.95	-8.16/-7.57	-7.69/-7.66	-8.14/-7.44	-8.							

[illegible]



Radiated Composite Gain Data 6GHz

Appendix B

Θ(22.5°)	-12.28/-9.07	-6.49/-4.56	-3.55/-3.05	-2.52/-2.13	-1.96/-1.82	-1.82/-1.83	-1.47/-1.38	-2.12/-2.83	-4.22/-5.52	-6.3/-7.32	-8.22/-10.53	-13.38/-18.99	-18.7/-15.09	-10.65/-6.59	-3.61/-1.33	0.21/0.1	1.26/1.33	1.55/1.88	2.14/2.03	1.88/1.76	1.29/0.45	-0.22/-1.26	-2.75/-4.91	-8.66/-12.95				
Θ(30°)	-12.27/-7.79	-5.65/-4.53	-4.25/-3.49	-4.45/-3.72	-2.42/-1.18	-1.12/-1.21	-2.02/-3.57	-4.65/-6.03	-6.81/-7.43	-8.58/-9.17	-10.93/-12.04	-12.45/-13.41	-18.01/-15.97	-19.01/-15.36	-11.58/-7.1	-3.69/-1.36	0.51/1.72	2.15/2.07	1.84/2.16	2.67/2.33	1.96/1.38	0.05/-1.85	-4.4/-6.73	-10.48/-14.54				
Θ(37.5°)	-20.46/-15.04	-8.28/-5.98	-4.48/-4.36	-5/-4.75	-4.34/-4.27	-4.47/-5.19	-5.84/-5.61	-6.35/-1.62	-8.79/-10.65	-12.12/-13.87	-12.81/-14.14	-14.22/-15.52	-15.84/-15.11	-13.46/-10.46	-8/-5.96	-5.23/-4.52	-3.22/-1.91	-1.15/-0.05	0.97/1.13	0.79/0.61	-0.43/-0.13	-1.21/-2.24	-3.95/-6.51	-9.77/-13.31				
Θ(45°)	-15.96/-12.67	-8.71/-7.09	-7/-5.52	-4.79/-5.22	-7.07/-9.41	-7.61/-4.77	-3.47/-3.14	-3.03/-3.73	-5.41/-8.38	-9.46/-6.51	-7.98/-9.03	-8.69/-9.74	-13.38/-16.09	-15.38/-16.92	-13.83/-8.33	-3.82/-1.91	-0.8/-0.19	0.69/1.04	1.04/1.51	2.73/2.63	2.11/0.83	-1.55/-3.83	-6.68/-7.02	-8.74/-14.33				
Θ(52.5°)	-12.18/-8.89	-6.04/-4.81	-4.81/-6.97	-12.11/-13.04	-11.98/-10.81	-8.03/-4.44	-1.77/0.08	1.39/0.99	-2.14/-6.8	-5.46/-5.65	-7.17/-8.35	-7.95/-9.17	-16.32/-17.66	-18.33/-19.52	-13.98/-7.54	-5.98/-2.5	-1.66/-1.15	-2.72/-3.32	-2.38/-0.8	-1.05/-0.76	-0.71/-1.45	-3.03/-5.34	-6.46/-7.46	-8.77/-12.17				
Θ(60°)	-7.91/-6.19	-5.41/-4.52	-5.72/-8.22	-12.42/-10.67	-5.98/-2.61	-1.89/-2.26	-2.33/-1.51	-0.56/-0.82	-2.91/-3.52	-3.56/-5.91	-8.87/-7.26	-7.26/-11.7	-13.86/-13.07	-11.23/-7.8	-4.69/-4.62	-4.31/-2.66	-0.57/-0.22	-0.22/-1.29	-0.98/1.03	0.22/-1	-1.83/-1.32	-4.42/-7.27	-7.33/-5.21	-5.69/-6.8				
Θ(67.5°)	-8.1/-9.59	-8.84/-9.05	-11.85/-13.37	-7.94/-4.48	-3.01/-3.29	-2.75/-3.33	-7.13/-5.93	-3.96/-3.16	-1.14/-2.39	-5.02/-11.53	-9.87/-6.62	-8.15/-13.06	-19.77/-18.68	-19.75/-12.54	-6.16/-3.1	-1.7/-3.65	-4.21/-1.56	-0.44/-2.7	-1.61/-1.28	-1.08/-2.43	-2.97/-7.79	-6.45/-6.12	-4.96/-4.59	-4.42/-5.94				
Θ(75°)	-13.53/-10.94	-9.38/-7.45	-9.2/-9.97	-4.56/-3.92	-3.37/-3.46	-4.47/-5.37	-7.89/-7.42	-6.66/-5.35	-0.87/-0.23	-2.75/-4.24	-4.97/-5.13	-6.8/-8.89	-10.3/-9.01	-8.49/-7.36	-4.24/-3.69	-1.03/-3.4	-5.05/-4.14	-3.33/-2.85	-1.94/-1.84	-0.9/-2.01	-4.05/-9.19	-8/-5.33	-4.5/-3.29	-4.77/-8.02				
Θ(82.5°)	-8.69/-4.83	-1.73/-1.11	-3.89/-6.85	-2.75/-1.21	-1.62/-0.87	-1.06/-4.09	-5.68/-6.2	-5.36/-5.58	-0.03/0.04	-1.95/-3.56	-5.43/-8.22	-7.52/-6.83	-11.03/-9.15	-5.79/-4.26	-2.21/-4.12	-5.47/-5.59	-2.76/-1.16	-1.91/-2.74	-0.59/-3.6	-4.23/-5.35	-10.4/-8.03	-3.83/-2.22	-3.53/-5.33					
Θ(90°)	-13.59/-5.91	-1.94/-2.23	-5.16/-7.61	-2.39/0.23	-0.79/-4.47	-4.06/-5.69	-10.05/-12.84	-5.01/-3.03	0.55/0.84	-1.08/-4.07	-7.51/-7.97	-7.29/-5.25	-4.1/-3.44	-4.99/-5.25	-8.2/-6.5	-8.53/-3.7	-3.95/-5.92	-4.32/-2.29	-1.82/-0.59	0.69/-1.07	-5.51/-4.04	-7.71/-8.36	-6.02/-5.73	-6.16/-15.65				
Θ(97.5°)	-15.18/-6.23	-1.69/-1.2	-3.21/-4.1	-1.21/-3.9	1.81/-2.28	-2.64/-3.15	-3.24/-0.78	0.46/-1.28	-1.08/-1.86	-1.96/-6.21	-8.56/-8.49	-15.66/-10.67	-5.66/-5.51	-9.21/-15.18	-16.24/-10.95	-6.31/-4.09	-4.43/-1.84	-1.12/-0.59	-1.48/-0.55	-1.94/-3.69	-6.76/-5.26	-6.37/-8.44	-7.01/-5.92	-7.88/-14.74				
Θ(105°)	-10.76/-4.73	-2.46/-3.51	-4.8/-4.14	-2.69/0.08	0.77/-2.76	-7.34/-2.87	-1.85/-0.77	-2.95/-3.69	-4.1/-4.4	-6.58/-9.01	-7.74/-7.86	-13.99/-10.82	-1.85/-0.23	-13.74/-20.03	-18.25/-19.55	-9.82/-6.14	-3.25/-2.54	-0.05/0.59	-0.02/-1.12	-7.83/-10.77	-12.21/-10.07	-9.3/-5.74	-7.58/-16.02					
Θ(112.5°)	-14.6/-9.57	-4.78/-4.62	-5.09/-1.99	-0.42/0.18	-1.43/-0.17	-0.12/0.27	1.36/1.21	-1.68/-1.02	-2.97/-0.88	-0.21/-1.36	-3.53/-6.61	-11.78/-19.81	-19.52/-20.11	-14.06/-11.13	-12.31/-18.6	-19.32/-11.6	-3.38/-0.58	-1.34/-0.02	1.09/-0.87	0.05/-2.19	-5.3/-4.91	-6.99/-11.06	-14.38/-10.41	-10.31/-18.48				
Θ(120°)	-13.83/-16.23	-8.17/-7.07	-5.98/-4.51	-2.9/-1.24	0.89/0.47	0.81/2.8	1.56/0.64	-0.45/-1.12	-1.81/-1.04	-0.05/-2.18	-6.29/-9.23	-6.74/-10.03	-13.6/-15.67	-19.19/-12.1	-9.5/-9.23	-11.57/-17.92	-19.52/-12.93	-6.2/-4.98	-9.98/-4.84	-2.77/-2.16	-0.66/-3.04	-8.5/-8.21	-9.41/-13.77	-12.76/-10.93	-12.11/-14.7			
Θ(127.5°)	-18.71/-17.46	-12.99/-8.83	-6.78/-5.15	-1.18/-0.58	1/1.69	1.32/0.44	-1.47/-1.51	-2.05/-3.91	-4.34/-7.05	-9.73/-6.76	-6.55/-9.99	-15.05/-19.04	-19.97/-20.23	-20.32/-19.56	-18.16/-18.89	-16.84/-8.7	-10.6/-14.54	-10.93/-10.73	-7.51/-3.41	-3.68/-9.28	-10.21/-43.7	-13.8/-19.37	-10.78/-18.92	-19.59/-19.15				
Θ(135°)	-15.63/-13.92	-15.74/-14.96	-10.84/-6.54	-3.41/-0.8	-0.95/-1.41	-2.89/-5.09	-4.07/-3.84	-6.16/-2.15	-0.17/-0.08	-2.13/-5.74	-7.63/-11.46	-14.82/-20.16	-19.63/-13.57	-20.15/-15.42	-8.15/-7.38	-8.01/-19.79	-11.46/-7.22	-7.92/-4.42	-5.08/-6.44	-4.95/-7.69	-10.52/-12.13	-7.44/-13.12	-9.92/-12.05	-19.12/-14.09				
Θ(142.5°)	-10.15/-19.88	-14.08/-6.88	-9.01/-6.82	-2.76/-2.21	-1.35/-1.28	-1.05/-4.07	0.81/2.8	0.45/-1.12	-1.81/-1.04	-0.05/-2.18	-6.29/-9.23	-6.74/-10.03	-13.6/-15.67	-19.19/-12.1	-9.5/-9.23	-11.57/-17.92	-19.52/-12.93	-6.2/-4.98	-9.98/-4.84	-2.77/-2.16	-0.66/-3.04	-8.5/-8.21	-9.41/-13.77	-12.76/-10.93	-12.11/-14.7			
Θ(150°)	-19.94/-19.84	-12.2/-9.29	-7.88/-6.4	-5.76/-4.37	-3.63/-3.09	-10.59	-0.49/-1.3	-2.52/-1.79	-2.23/-3.66	-5.01/-6.78	-10.94/-17.95	-19.23/-15.92	-11.08/-8.71	-10.03/-11.8	-7.52/-3.72	-6.93/-9.48	-9.09/-7.18	-16.18/-19.19	-18.71/-18.32	-11.78/-14.32	-9.47/-13.71	-15.05/-10.65	-9.62/-13.99					
Θ(157.5°)	-15.76/-19.55	-11.6/-9.5	-6.94/-9.05	-12.07/-16.2	-12.17/-6.07	-3.27/-2.67	-1.56/0.5	1.17/0.24	-1.53/-3.07	-4.11/-5.47	-7.3/-8.16	-12.7/-10.42	-13.86/-18.81	-14/-6.99	-4.33/-4.42	-7.28/-11.03	-10.05/-9.51	-5.9/-3.96	-8.36/-20.05	-15.16/-13.99	-15.11/-13.61	-11.71/-18.93	-18.25/-12.94	-19.21/-15.36				
Θ(165°)	-11.39/-9.82	-8.95/-6.96	-5.28/-5.35	-6.44/-7.43	-7.24/-5.49	-2.9/-1.16	0.36/1.37	1.96/2.32	1.67/0.28	-2.19/-4.36	-6.79/-10.19	-14.58/-14.35	-13.68/-15.95	-19.22/-18.99	-16.61/-10.49	-6.61/-5.94	-10.41/-14.98	-6.4/-6.21	-14.17/-12.28	-6.12/-5.78	-9.67/-19.33	-11.62/-8.2	-9.32/-12.97	-17.6/-14.67				
Θ(172.5°)	-19.36/-18.73	-19.19/-17.7	-18.05/-16.45	-16.29/-15.48	-12.89/-9.55	-6.7/-3.94	-1.88/-1.02	-0.99/-1.74	-3.3/-5.1	-6.49/-7.53	-8.79/-10.6	-12.16/-12.41	-13.71/-15.15	-15.64/-15.01	-15.14/-82	-10.05/-7.47	-7.46/-10.96	-18.79/-14.48	-10.91/-8.88	-7.46/-6.89	-7.99/-11.53	-15.38/-16.71	-18.56/-19.47					
Θ(180°)	-12.85/-13.59	-12.62/-11.86	-11.54/-11.05	-10.06/-8.87	-8.07/-7.58	-6.77/-6.29	-4.74/-4.93	-4.26/-4.07	-4.77/-6.01	-8.34/-10.15	-12.78/-16.27	-19.29/-18.7	-19.36/-19.12	-18.94/-16.04	-12.89/-11.65	-11.04/-9.34	-8.09/-7.52	-7.24/-7.75	-8.18/-8.19	-8.56/-10.88	-14.77/-18.85	-19.6/-16.84	-17.42/-17.54	-15.25/-13.69				
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°)	1.35/-1.07	0.71/0.95	0.63/0.43	-0.09/-0.86	-1.85/-3.18	-4.96/-7.25	-10.67/-13.78	-14.21/-11.21	-7.16/-4.68	-3.24/-1.8	-0.84/-0.42	0.03/0.74	0.91/0.95	0.89/0.95	0.91/0.67	0.09/-0.49	-1.34/-2.68	-4.77/-3.72	-11.65/-17.05	-18.88/-12.96	-6.82/-5.28	-3.21/-1.73	-0.76/0.07	0.55/0.78				
Θ(7.5°)	1.62/-1.38	1.39/1.03	0.78/0.36	-0.31/-1.4	-2.45/-4.18	-6.25/-8.74	-18.7/-13.6	-9.17/-6.3	-3.94/-2.47	-1.76/-2.72	0.53/0.86	1.21/-2.8	1.28/-1.49	1.41/-1.5	0.6/0.05	-0.74/-2.18	-4.42/-7.78	-12.19/-14.73	-12.07/-7.27	-4.31/-2.38	-0.92/0.04	0.75/1.19	1.21/-1.44					
Θ(15°)	2.65/-2.09	1.62/0.5	-0.44/-1.69	-3.82/-5.62	-7.59/-9.76	-12.31/-15.27	-19.28/-19.96	-20.27/-18.11	-9.72/-8.02	-5.99/-4.04	-2.66/-1.67	-0.96/-0.57	-0.66/0.18	0.61/0.47	-0.24/-0.88	-1.77/-2.7	-3.81/-5.06	-6.58/-8.33	-9.58/-8.76	-6.48/-3.72	-1.27/0.22	1.69/2.66	3.05/3.16	3.24/0.33				
Θ(22.5°)	4.22/3.3	2.04/0.98	-0.38/-2.12	-3.46/-4.51	-5.71/-7.33	-9.98/-13.31	-19.34/-19.76	-16.65/-12.57	-9.68/-7.19	-4.75/-3.51	-3.32/-2.55	-1.73/-1.16	-0.66/-0.02	0.24/0.08	-0.39/-0.88	-1.88/-3.62	-6.28/-11.1	-19.12/-18.35	-11.69/-7.66	-4.52/-2.15	-0.70/7.8	2.39/3.48	4.38/4.85	4.83/4.74				
Θ(30°)	4.05/-2.85	1.54/0.18	-1.72/-2.25	-2.12/-2.8	-3.78/-5.71	-7.49/-10.52	-15.16/-17.44	-15.52/-13.54	-11.32/-9.36	-7.62/-6.46	-7.68/-6.97	-5.34/-3.88	-3.29/-2.67	-2.93/-1.77	-2.93/-2.02	-1.43/-2.22	-3.52/-5.85	-8.82/-19.46	-13.95/-7.61	-4.22/-7.18	-0.22/1.14	1.82/2.69	3.57/4.29	4.63/4.54				
Θ(37.5°)	3.42/2.64	1.67/0.55	-1.18/-2.31	-2.5/-2.83	-3.7/-5.41	-7.83/-10.8	-12.89/-14.73	-16.18/-16.51	-12.91/-9.58	-7.23/-7.03	-6.94/-6.57	-5.9/-3.97	-3.62/-4.12	-4.64/-4.25	-3.41/-2.73	-2.35/-2.11	-2.54/-5.49	-8.28/-12.88	-14.91/-9.61	-6.17/-3.95	-2.99/-1.36	0.52/0.4	3.06/3.86	4.07/3.81				
Θ(45°)	1.65/1.4	0.98/0.84	0.33/-0.08	-0.8/-2.65	-4.7/-6.94	-9.21/-11.78	-15.21/-15.85	-14.98/-14.37	-16.38/-20.1	-12.91/-8.92	-9.23/-11.35	-9.84/-6.63	-5.14/-5.39	-5.86/-4.01	-2.6/-1.83	-1.75/-2.68	-4.37/-6.86	-8.78/-13.37	-19.61/-14.58	-7.01/-5.09	-5.22/-6.47	-3.42/-1.12	0.35/1.98	2.58/2.21				
Θ(52.5°)	1.06/0.34	0.07/-0.65	-1.25/-1.95	-1.98/-2.35	-2.79/-5	-9.39/-13.27	-13.97/-19.09	-15.06/-14.14	-8.62/-10.74	-16.65/-15.21	-12.72/-15.04	-13.68/-6.38	-8.51/-8.72	-9.1/-5.92	-3.76/-2.84	-3.1/-4.2	-8.02/-11.04	-13.9/-16.99	-18.25/-19.2	-13.98/-10.42	-8.88/-6.87	-5.52/-2.87	-0.99/0.55	1.17/0.98				
Θ(60°)	-0.4/0.2	-0.97/-1.61	-2.14/-2.14	-5.08/-8.5	-8.29/-5.91	-8.52/-16.15	-19.45/-18.51	-19.81/-11.53	-9.59/-12.49	-20.45/-19.68	-14.24/-11.76	-8.78/-5.98	-6.48/-10.43	-13.45/-12.18	-8.4/-7.75	-6.87/-8.05	-9.49/-10.76	-16.62/-20.09	-20.01/-20.02	-11.93/-6.38	-4.98/-4.46	-5.59/-4.59	-2.31/-1.07	-0.83/0.2				
Θ(67.5°)	-1.06/-1.65	-2.87/-5.06	-5.31/-6.35	-7.41/-5.5	-4.64/-4.73	-7.81/-11.8	-11.61/-13.04	-16.28/-10.08	-10.86/-15.58	-15.52/-19.16	-12.95/-7.88	-4.52/-2.89	-5.2/-10.83	-10.88/-8.77	-8.54/-13.39	-17.79/-15.15	-13/-16.46	-16.09/-20.12	-16.38/-19	-12.8								



Radiated Composite Gain Data 6GHz

Appendix B

Θ(75°)	-11.08/-10.42	-9.14/-6.24	-5.74/-4.05	-3.85/-4.98	-6.56/-6.75	-4.03/-4.37	-6.09/-6.42	-3.88/-6.11	-10.88/-8.15	-4.77/-4.89	-9.36/-13.91	-18.51/-10.92	-10.25/-10.53	-8.62/-6.59	-5.85/-5.58	-3.18/-0.46	0.06/0.97	-1.36/-2.99	-4.36/-3.54	-5.07/-6.62	-1.14/0.56	1.05/+0.43	-4.05/-6.99	-10.28/-13.57
Θ(82.5°)	-10.96/-9.78	-8.34/-4.14	-4.86/-4.67	-5.43/-3.87	-4.07/-8.03	-9.48/-5.08	-4.49/-3.82	-4.16/-5.14	-5.98/-6.93	-3.62/-3.6	-5.25/-6.68	-6.27/-4.5	-5.79/-4.22	-3.09/-2.87	-2.59/-3.49	-2.13/-1	0.85/0.09	-1.1/-1.21	0.25/-3.1	-5.78/-3.27	-1.65/-2.43	-3.3/-1.95	-4.59/-9.3	-9.5/-8.94
Θ(90°)	-19.33/-16.46	-8.48/-6.82	-8.47/-14.44	-6.57/-7.57	-6.57/-7.05	-6.54/-5.78	-2.9/-3.31	-3.03/-1.07	-3.38/-6.74	-5.86/-6.24	-8/-12.5	-9.92/-8.1	-8.66/-10.29	-9.31/-5.54	-5.78/-4.23	-2.68/-1.3	1.94/2.43	-1.36/-0.3	-0.64/-0.92	-0.81/-1.71	-0.2/-0.72	-2.04/-1.77	-5.94/-12.19	-7.97/-6.77
Θ(97.5°)	-11.3/-12.68	-11.06/-9.52	-11.49/-9.99	-9.69/-11.64	-3.94/-5.97	-11.9/-9.74	-6.63/-6.59	-4.75/-2.43	-3.32/-3.96	-4.53/-7.23	-12.89/-18.5	-13.76/-9.85	-9.32/-6.66	-5.69/-10.61	-7.79/-2.17	-4.03/-2.71	1.35/0.58	2.06/2.1	0.85/0.23	1.28/1.94	0.95/-2.78	-5.22/-4.95	-4.62/-9.97	-5.18/-3.05
Θ(105°)	-11.11/-14.66	-19.56/-18.41	-19.75/-14.8	-13.7/-19.1	-5.12/-17.98	-9.91/-8.34	-12.27/-20	-16.7/-5.14	-5/-5.3	-6.37/-12.73	-18.28/-18.79	-11.14/-13.74	-15.02/-8.97	-8.53/-11.22	-6.74/-2.99	-5.52/-1.96	0.7/-0.33	-0.61/-35	0.87/1.36	1.28/1.39	-0.24/-1.09	-0.2/-4.03	-6.81/-12.47	-8.09/-4.12
Θ(112.5°)	-20.04/-14.67	-14.8/-8.4	-14.46/-10.31	-7.16/-16.47	-16.91/-8.07	-10.61/-14.92	-12.28/-12	-7.68/-6.42	-6.37/-9.72	-18.51/-13.54	-16.32/-10.16	-9.44/-11.62	-9.75/-15.07	-16.77/-10.39	-4.23/-3.87	-2.8/-1.6	-0.51/0.68	2.29/2.35	1.09/1.26	0.94/0.99	-0.91/-4.2	-8.57/-11.85	-10.46/-11.7	
Θ(120°)	-18.05/-15.77	-19.43/-10.1	-8.22/-9.24	-5.14/-3.42	-8.04/-11.38	-11.52/-14.42	-10.87/-10.18	-7.56/-6.94	-9.94/-6.06	-7.46/-10.88	-19.18/-9.11	-6.88/-5.18	-11.02/-5.22	-6.38/-12.4	-12.69/-8.83	-2.19/0.79	1.33/-0.39	-0.03/1.73	2.74/1.96	2.01/0.5	1.36/0.73	-3.57/-7.81	-13.63/-10.06	-6.33/-9.33
Θ(127.5°)	-14.01/-12.57	-8.07/-11.73	-11.46/-13.92	-11.67/-8.23	-11.39/-9.91	-7.8/-7.9	-12.67/-10.73	-7.24/-9.48	-8.06/-9.01	-17.13/-15.03	-15.18/-14.07	-17.6/-19.42	-11.88/-4.29	-5.76/-12.86	-8.22/-5.23	-0.24/-1.38	-1.15/-3.49	-2.13/0.39	2.72/2.49	1.04/-0.74	-0.4/-0.41	-3.29/-7.4	-13.56/-10.75	-10.88/-10.09
Θ(135°)	-7.38/-5.85	-5.69/-10.94	-19.32/-6.57	-2.9/-0.34	-2.09/-14.11	-10.79/-10.28	-5.96/-10.25	-14.3/-8.43	-4.26/-7.02	-11.6/-12.7	-9.28/-11.61	-12.8/-13.8	-15.23/-8.21	-3.98/-5.58	-19.66/-10.76	-18.78/-3.79	-2.79/-1.15	-6.02/-5.07	1.56/-0.67	-2.17/-3.68	-5.04/-4.41	-5.25/-18.92	-10.37/-8.81	-4.64/-5.92
Θ(142.5°)	-15.41/-13.64	-7.42/-4.29	-2.77/-4.11	-9.51/-11.29	-20.02/-20.2	-16.3/-17	-12.04/-8.21	-13.92/-12.52	-9.08/-8.6	-9.18/-9.18	-11.45/-12.13	-17.95/-17.8	-20.12/-13.62	-13.48/-9.3	-17.02/-5.13	-0.55/-3.14	0.78/1.18	-5.15/-6.67	-0.57/-4.47	-17.08/-11.1	-0.61/-2.37	-3.76/-3.63	-13.54/-19.24	-17.94/-15.55
Θ(150°)	-11.52/-8.91	-4.95/-3.82	-4.3/-8.42	-10.21/-9.88	-13.98/-8.9	-4.68/-5.46	-7.74/-9.54	-19.26/-13.75	-6.36/-3.57	-4.23/-6.74	-10.8/-10.48	-14.87/-18.72	-19.22/-19.41	-8.99/-8.43	-13.8/-9.4	-17.53/-5.67	-0.63/-2.24	-3.21/0.8	3.03/1.72	-5.17/-2.95	-9.01/-19.18	-17.8/-17.32	-20.14/-15	-12.06/-11.37
Θ(157.5°)	-6.59/-9.95	-11.65/-7.89	-4.28/-1.91	-3.06/-8.71	-20.4/-11.7	-10.55/-14.31	-12.83/-20.12	-12.27/-3.4	-8.66/-8.26	-10.4/-12.53	-13.24/-10.09	-11.86/-19.5	-12.25/-10.19	-10.15/-14.4	-19.6/-15.32	-10.74/-8.76	-5.74/-1.26	0.33/-2.28	-7.67/-9.27	-6.44/-4.83	-7.51/-13.04	-8.78/-6.91	-4.94/-10.68	
Θ(165°)	-5.12/-5.29	-6.5/-7.52	-9.87/-14.48	-18.79/-12.33	-10.28/-12.55	-19.42/-19.89	-17.48/-10.44	-5.78/-3.8	-5.13/-8.65	-10.76/-7.83	-7.59/-9.48	-11.18/-11.4	-11.29/-14.28	-20.12/-12.62	-8.3/-7.88	-9.26/-10.86	-9.65/-7.74	-6.88/-6.91	-7.98/-10.35	-9.74/-8.41	-7.26/-5.87	-6.16/-7.38	-7.04/-5.68	-5.3/-5.76
Θ(172.5°)	-10.61/-10.99	-14.17/-19.32	-13.9/-8.8	-8.15/-9.81	-13.99/-19.85	-19.1/-20.29	-16.42/-14.3	-12.75/-11.81	-12.29/-14.22	-19.26/-18.72	-20.11/-17.61	-16.31/-14.58	-12.37/-9.56	-8.36/-8.14	-8.65/-9.62	-11.35/-12.87	-12.26/-10.93	-8.71/-6.95	-4.61/-2.89	-2.38/-3.63	-5.4/-7.91	-13.49/-20.2	-20.14/-15	-12.06/-11.37
Θ(180°)	-17.17/-16.02	-17.64/-16.3	-14.8/-14.71	-13.75/-10.97	-8.45/-7.14	-6.98/-8.29	-10.08/-11.45	-13.34/-14.98	-17.91/-19.69	-19.93/-19.89	-19.55/-19.99	-17.51/-14.32	-13.06/-11.02	-10.36/-10.47	-9.19/-7.7	-7.05/-6.63	-6.12/-5.7	-5.23/-4.44	-3.37/-2.04	-2.28/-4.03	-6.18/-6.68	-11.28/-13.25	-13.16/-12.94	-14.52/-15.74
Freq(Hz)	6.175GPol.	ThetaAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	2.83/3.45	3.5/3.24	2.82/2.52	1.74/0.93	-0.06/-1.17	-2.67/-4.42	-7.23/-8.83	-8.98/-7.78	-5.53/-3.95	-3.24/-2.05	-0.83/0.56	1.19/1.66	2.1/2.06	1.91/1.79	1.49/0.93	0.37/-0.43	-1.32/-2.71	-4.41/-6.06	-7.87/-8.28	-7.4/-7.58	-4.22/-2.76	-1.27/-0.15	0.91/8.6	2.36/3.06
Θ(7.5°)	1.922/0.9	1.931/7.1	1.37/1	0.23/-1.2	-2.65/-4.06	-5.02/-6.77	-9.21/-10.05	-9.49/-7.4	-4.63/-2.92	-2.21/-0.96	0.81/1.71	2.7/3.23	3.54/3.55	3.41/3.17	2.92/2.5	1.81/1.02	0.1/1.6	-2.56/-4.63	-6.78/-8.05	-8.3/-6.79	-5.01/-3.23	-1.9/-10.3	0.03/0.94	1.47/1.91
Θ(15°)	2.03/1.78	1.71/1.41	0.79/0.18	-1.09/-2.6	-4.05/-5.2	-6.03/-8.3	-9.95/-10.91	-9.92/-7.23	-4.91/-2.32	-1.29/-0.2	0.86/1.94	3.42/3.58	3.98/4.65	4.65/4.18	3.43/2.65	1.96/1.17	0.34/-0.77	-1.99/-3.63	-5.82/-6.57	-9.31/-7.48	-5.54/-3.97	-2.87/-1.82	-0.39/0.74	1.44/1.85
Θ(22.5°)	1.09/0.55	-0.62/-2.26	-4.03/-6.03	-7.84/-10.88	-15.26/-14.7	-15.08/-15.23	-12.24/-8.23	-4.77/-2.4	-0.74/-0.45	-0.60/-2.28	1.88/2.98	4.11/4.56	4.61/4.41	3.92/3.24	2.37/1.3	0.53/0.07	-0.25/-0.71	-1.9/-4.07	-7.22/-11.76	-15.47/-13.08	-11.1/-10.13	-9.32/-6.8	-3.23/-0.5	0.89/1.26
Θ(30°)	0.28/-0.73	-3.08/-6.18	-7.46/-6.13	-5.08/-5.47	-8.08/-11.93	-12.97/-11.62	-10.66/-7.68	-4.95/-2.12	-0.92/-0.6	-0.20/-3.7	1.13/2.38	3.53/4.06	4.15/3.89	4.09/3.22	2.72/1.52	0.76/-0.07	-0.34/-0.93	-2.54/-5.37	-8.81/-13.46	-16.72/-18.13	-18.77/-19.03	-15.25/-9.51	-4.69/-2.08	-0.55/0.03
Θ(37.5°)	-4.5/-6.48	-7.17/-4.77	-3.43/-2.43	-1.94/-2.73	-6.23/-10.43	-9.68/-9.23	-11.67/-7.69	-2.22/-0.68	-1.5/-2.55	-3.05/-1.88	-0.54/1.69	3.9/3.75	4.11/4.23	4.31/4.44	4.17/2.77	1.05/-0.15	-1.06/-1.73	-2.53/-4.52	-8.89/-14.4	-15.43/-14.58	-13.61/-7.88	-3.35/-1.04	-1.39/-3.02	-1.39/-3.02
Θ(45°)	-5.74/-4.8	-3.27/-1.93	-1.48/-0.24	-2.8/-4.09	-7.43/-10.64	-9.66/-7.79	-8.63/-9.85	-5.72/-2.69	-2.31/-5.05	-7.48/-4.86	-0.98/1.26	2.13/2.76	3.57/4.14	4.67/3.94	2.71/6.4	0.15/-0.98	-1.69/-2.57	-5.13/-9.24	-11.79/-15.36	-14.03/-17.95	-11.71/-14.76	-20.17/-10.53	-5.88/-3.97	-4.96/-6.05
Θ(52.5°)	-1.98/-1.42	-1.82/-3.59	-5.37/-6.49	-5.82/-6.48	-10.01/-12.54	-13.74/-17.05	-12.55/-17.4	-3.19/-2.58	-3.46/-3.13	-3.93/-4.13	-1.55/-1.7	3.35/4.5	4.55/4.03	3.23/2.24	1.74/1.27	0.4/-0.24	-2.08/-4.72	-6.87/-11.17	-19.99/-17.81	-19.35/-14.3	-18.7/-15.54	-11.17/-14.74	-6.88/-6.44	-5.57/-3.43
Θ(60°)	-2.48/-2.71	-3.4/-4.2	-6.56/-7.97	-6.54/-6.96	-8.71/-9.68	-15.38/-12.14	-20.92/-13.34	-11.64/-7.37	-5.71/-7.64	-8.44/-5.42	-2.02/-0.47	1.53/1.37	3.38/2.21	1.57/1.48	1.55/0.15	-2.17/-3.24	-6.54/-10.24	-9.47/-7.52	-5.9/-7.31	-11.81/-12.62	-11.82/-8.78	-8.82/-11.41	-16.06/-9.96	-5.68/-3.45
Θ(67.5°)	-3.12/-4.65	-7.97/-11.44	-10.33/-9.69	-12.48/-15.7	-16.33/-15.95	-19.18/-14.67	-9.61/-9.65	-8.53/-5.83	-6.05/-5.6	-7.46/-5.18	-3.74/-0.7	2.03/3.24	2.71/1.01	0.07/0.54	-1.72/-2.59	-2.57/-4.19	-5.87/-8.75	-14.64/-10.84	-4.73/-3.73	-7.1/-6.46	-5.48/-10.72	-17.88/-19.11	-13.46/-7.21	-4.26/-2.24
Θ(75°)	-11.58/-19.52	-18.58/-19.09	-14.88/-12.69	-11.79/-11.94	-9.6/-8.53	-13.15/-12.51	-8.07/-7.52	-11.61/-14.5	-8.71/-9.58	-15.58/-8.24	-4.64/-3.52	-0.42/0.93	-0.37/-1.28	-1.81/-3.41	-4.61/-4.86	-4.84/-4.02	-5.32/-7.59	-14.19/-16.21	-8.37/-7.14	-9.23/-4.45	-4.34/-8.25	-20.4/-13.12	-8.25/-6.71	-6.17/-7.15
Θ(82.5°)	-14.17/-19.55	-15.61/-8.69	-7.42/-6.12	-6.14/-10.02	-8.61/-6.12	-9.88/-19.19	-8.79/-15.49	-12.27/-14.66	-10.22/-13.26	-19.91/-6.41	-5.38/-6.98	-8.07/0.55	-0.96/-2.8	-5.92/-8.09	-6.73/-8.59	-8.05/-10.15	-17.21/-10.51	-5.86/-6.52	-9.41/-9.92	-6.67/-9.98	-11.94/-9.24	-7.44/-5.87	-6.77/-10.74	
Θ(90°)	-18.03/-13.57	-9.22/-6.89	-6.22/-5.78	-5.14/-8.62	-16.53/-11.69	-7.57/-11.43	-11.88/-7.19	-8.38/-12.33	-8.92/-10.9	-12.06/-9.02	-5.68/-6.55	-5.3/-2.96	-3.04/-5.12	-9.31/-12.75	-16.55/-19.99	-7.76/-4.81	-6.11/-8.02	-10.56/-9.56	-4.45/-3.8	-4.35/-3.51	-4.1/-10.28	-13.42/-7.83	-11.31/-13.3	-20.30/-20.21
Θ(97.5°)	-14.47/-18.09	-16.05/-15.11	-7.61/-6.37	-4.48/-20.17	-10.15/-4.7	-6.58/-19.83	-15.16/-6.28	-12.95/-16.14	-10.94/-12.2	-12.37/-20.1	-8.78/-2.57	-3.88/-4.4	-5.85/-12.05	-12.31/-12.25	-19.44/-14.01	-6.98/-6.25	-5.81/-7.96	-5.89/-5.93	-4.94/-6.67	-8.68/-9.52	-5.7/-5.57	-12.01/-12.94	-15.34/-17.97	-18.66/-12.66
Θ(105°)	-7.36/-6.27	-3.96/-5.5	-5.46/-5.79	-7.82/-11.1	-18.7/-13.99	-14.22/-12.83	-11.75/-7.81	-5.41/-13.42	-10.54/-7.67	-14.18/-10.73	-19.34/-10.88	-10.88/-10.06	-7.9/-9.4	-6.98/-7.91	-9.27/-12.06	-4.92/-4.77	-4.13/-12.3	-12.15/-8.87	-3.98/-4.22	-2.07/-6.69	-6.12/-8.9	-7.94/-10.93	-10.37/-10.67	-8.47/-8.15
Θ(112.5°)	-3.9/-6.74	-10.97/-7.92	-10.68/-13.93	-6.12/-10.32	-13.11/-18.92	-6.03/-9.63	-13.66/-11.89	-7.35/-12.75	-16.98/-8.71	-8.74/-6.6	-9/-11.02	-8.37/-9.35	-8.14/-4.87	-4.72/-6.58	-7.91/-11.16	-7.27/-11.21	-6.25/-4.71	-7.47/-14.09	-11.3/-13.2	-8.35/-6.95	-7.83/-9.34	-4.97/-10.96	-9.68/-8.86	-8.86/-6.75
Θ(120°)	-3.33/-0.54	-8.36/-6	-6.5/-19.1	-10.81/-8.07	-14.54/-18.31	-6.17/-8.07	-12.02/-14.94	-5.26/-7.37	-13.77/-12.86	-9.99/-13.81	-7.56/-8.74	-10.76/-7.82	-7.16/-8.94	-11.61/-14.88	-11.78/-11.18	-9.12/-9.18	-13.77/-12.02	-11.21/-16.78	-4.37/-4.58	-3.23/-5.44	-10.66/-11.76	-7.03/-4.72	-5.82/-5.18	-6.84/-4.79
Θ(127.5°)	-7.15/-12.49	-20.1/-7.88	-10.22/-18.92	-11.17/-19.65	-19.35/-15.68	-4.55/-6.65	-15.02/-20.61	-5																



Radiated Composite Gain Data 6GHz

Appendix B

Θ(120°)	-19.36/14.64	-14.46/-9.91	-9.36/-6.56	-11.22/-13.38	-19.66/-13.61	-11.74/-18.23	-18.53/-16.42	-17.63/-12.1	-10.96/-15.82	-10.13/-13.78	-18.82/-15.92	-8.63/-6.77	-6/-2.31	-3.48/-4.71	-4.14/-1.42	-4.16/-6.19	-2.76/-2.51	-2.9/-0.49	-2.71/-1.55	-0.69/-2.56	-0.25/-1.47	1.54/-2.43	-6.03/-11.67	-11.78/-9.53
Θ(127.5°)	-14.28/-17.29	-14.51/-17.09	-16.03/-19.35	-8.34/-14.4	-19.02/-9.87	-13.59/-19.09	-19.56/-11.12	-8.79/-9.82	-8.64/-4.68	-4.42/-20.06	-13.33/-9.76	-16.71/-8.78	-5.49/-4.95	-9.48/-9.08	-8.17/-10.72	-9.77/-7.75	-4.1/-6.78	-2.9/-1.3	-2.393.85	2.06/-2.44	0.360/67	-1.87/-7.59	-8.32/-7.09	-7.73/-9.37
Θ(135°)	-13.46/-19.62	-16.02/-10.52	-12.02/-19.04	-5.42/-16.62	-7.98/-6.67	-7.74/-11.73	-17.51/-9.52	-121/-34	-5.58/-8.98	-11.63/-19.66	-11.42/-9.03	-7.87/-9.55	-13.42/-6.36	-2.74/-4.98	-9.2/-20.35	-4.16/-4.2	-4.5/-11.81	-13.66/-12.24	0.61/-24	1.09/-0.09	-2.61/-1.72	-5.13/-9.59	-19.31/-11.61	-6.51/-5.05
Θ(142.5°)	-12.44/-18.24	-13.75/-13.8	-9.38/-5.61	-5.02/-5.83	-11.6/-15.7	-11.43/-18.27	-12.39/-4.79	-7.07/-8.02	-5.21/-10.64	-11.32/-13.88	-17.45/-17.77	-19.1/-15.41	-19.66/-10.07	-12.49/-19.47	-8/-16.73	-7.26/-7.79	-9.75/-4.08	-15.63/-12.44	0.3/-0.74	-5.8/-7.33	-1.23/-3.34	-3.04/-7.63	-19.18/-19.87	-18.05/-12.46
Θ(150°)	-14.11/-14.03	-9.76/-8.23	-5.68/-8.06	-18.9/-11.24	-9.43/-19.16	-5.87/-3.85	-8.71/-14.45	-18.5/-9.67	-5.12/-4.97	-4.32/-5.72	-10.94/-20	-15.38/-14.92	-15.96/-6.53	-6.11/-7.9	-11.93/-7.62	-6.17/-11.56	-2.88/-3.69	-13.26/-8.84	-3.45/-5.37	-17.08/-15.54	-4.95/-3.58	-8.95/-10.91	-14.43/-9.36	-16.69/-19.24
Θ(157.5°)	-6.38/-10.06	-15.75/-16.35	-13.4/-10.33	-10.07/-11.49	-16.9/-13.34	-6.81/-6.47	-9.1/-16.38	-17.41/-6.97	-4.53/-4.71	-7.3/-5.46	-9.3/-14	-10.06/-10.26	-11.42/-9.6	-12.24/-18.65	-19.89/-11.79	-6.07/-4.85	-3.360/-42	2.560/-62	-1.57/-3.92	-2.02/-6.5	-5.59/-8.07	-6.03/-7.88	-6.29/-8.48	
Θ(165°)	-6.67/-7.28	-8.76/-10.5	-14.75/-18.94	-13.48/-7.17	-5.57/-7.16	-10.74/-12.73	-13.75/-10.09	-5.36/-3.26	-4.12/-7.85	-11.81/-10.37	-10.39/-11.46	-12.11/-11.16	-10.02/-10.8	-15.97/-16.24	-11.54/-10.09	-10.65/-10.67	-9.23/-7.39	-6.1/-4.66	-3.87/-3.69	-4.14/-4.82	-6.32/-7.93	-9.83/-11.74	-13.4/-13.08	-9.61/-7.31
Θ(172.5°)	-9.79/-9.5	-11.04/-13.73	-15.39/-14.36	-12.1/-13.49	-16.28/-18.35	-19.43/-16.5	-13.83/-12.87	-12.17/-12.31	-12.53/-12.97	-13.24/-13.42	-14.28/-14.69	-14.01/-12.65	-10.83/-9.17	-8.1/-7.78	-8.35/-9.2	-10.09/-9.54	-8.5/-7.06	-5.75/-4.4	-3.21/-2.89	-3.16/-3.97	-5.11/-5.98	-7.6/-9.59	-11.83/-11.64	-11.29/-11.46
Θ(180°)	-19.05/-19.59	-15.56/-12.27	-12.42/-14.63	-15.33/-12.78	-10.9/-10.28	-11.13/-12.6	-15.34/-17.68	-18.36/-17.81	-18.43/-20.6	-18.92/-18.56	-19.59/-18.55	-16.05/-13.51	-13.15/-12.22	-11.16/-11.32	-10.41/-9.99	-8.46/-8.52	-8.48/-7.53	-6.07/-4.71	-3.57/-2.61	-2.48/-3.18	-4.07/-5.34	-6.94/-8.74	-10.56/-12.21	-16.33/-19.66
Freq(Hz)	6.895GPdL	ThetaAnt. 2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	0.970/55	0.810/54	0.740/54	0.44/-0.13	-0.88/-2.01	-3.55/-5.68	-8.51/-11.2	-14.71/-19.36	-13.71/-8.88	-5.16/-3.04	-1.31/-0.4	-0.350/93	1.87/-0.03	2.17/-2.37	2.13/-1.65	1.030/-27	-0.68/-2.13	-4.33/-6.41	-9.22/-12.53	-12.76/-9.64	-6.86/-5.46	-2.58/-1.18	-0.330/-36	0.81/-1
Θ(7.5°)	0.831/24	1.451/37	1.31/-14	1.050/86	0.35/-0.66	-2.24/-4.77	-7.46/-10.36	-11.21/-10.23	-8.18/-5.09	-2.37/-0.93	-0.440/-34	1.371/73	2.1/-1.95	2.04/-1.81	1.63/-1.18	0.39/-0.39	-1.38/-2.78	-4.3/-6.12	-9.07/-12.55	-14.84/-14.57	-11.28/-7.21	-4.92/-3.12	-1.68/-0.34	0.190/5
Θ(15°)	2.865/01	2.641/98	1.230/02	-1.22/-1.59	-2.18/-3.39	-4.82/-5.37	-6.98/-8.06	-8.89/-8.47	-6.33/-3.32	-1.350/-24	1/-1.37	1.49/-1.1	1.94/-15	1.89/-185	1.420/93	0.21/-0.74	-1.75/-3.27	-5.34/-7.39	-10.97/-15.07	-15.6/-10.55	-6.75/-3.86	-2.18/-0.45	0.91/-49	1.982/-46
Θ(22.5°)	2.542/15	1.041/39	-1.3/-2.71	-4.3/-4.26	-6.79/-8.39	-11.35/-10.74	-8.94/-7.81	-7.48/-6.5	-5.36/-2.99	-0.580/-71	0.9/-31	2.47/-8.1	3.48/-57	3.22/-54	1.660/-47	-0.62/-1.72	-2.93/-4.86	-7.39/-11.9	-19.49/-15.82	-12.11/-9.49	-4.8/-2.69	-0.990/-39	1.32/-18	
Θ(30°)	-0.57/-1.85	-3.61/-5	-6.69/-8.68	-8.17/-8.75	-10.41/-16.14	-19.28/-14.32	-10.86/-9.78	-7.54/-6.34	-4.55/-2.67	-1.38/-0.14	0.62/-1.35	2.22/93	3.33/-0.7	1.980/74	-0.94/-1.95	-2.98/-3.44	-4.19/-5.27	-8.43/-13.5	-19.54/-18.79	-9.52/-6.56	-5.03/-3.9	-3.03/-3.3	-3.03/-2.13	-0.64/-0.15
Θ(37.5°)	-0.49/-3.7	-7.39/-7.5	-3.82/-2.22	-3.16/-5.02	-8.51/-15.98	-20.05/-14.18	-10.41/-7.27	-6.27/-5.51	-3.01/-1.62	-0.47/-0.19	0.67/-1.28	2.563.92	3.27/-2.23	0.87/-1.07	-2.87/-4.05	-3.77/-3.66	-5.19/-8.04	-11.27/-12.97	-11.44/-13.02	-7.91/-5.54	-4.85/-6.5	-5.29/-4.7	-3.57/-2.04	-0.520/-1
Θ(45°)	-10.55/-10.95	-3.23/-2.05	-3.18/-2.9	-3.45/-5.48	-8.10/-86	-16.75/-15.2	-8.96/-6.4	-5.35/-3.99	-2.55/-1.45	-0.310/-55	1.03/-22	3.63/92	2.492/-34	1.230/-04	-2.08/-4.42	-5.34/-4.92	-4.73/-4.42	-6.07/-10.67	-16.93/-14.09	-8.25/-6.23	-5.55/-5.96	-7.65/-6.16	-3.78/-1.95	-1.880/-4.5
Θ(52.5°)	-11.59/-8.06	-3.86/-2.87	-5/-6.57	-8.83/-11.25	-14.02/-19.85	-19.56/-12.69	-9.82/-6.96	-5.76/-4.69	-3.39/-2.6	-2.07/-2.31	-0.64/-1.32	2.01/-155	1.12/-142	1.460/-37	-2.91/-5.65	-5.79/-5.47	-4.86/-5.41	-7.55/-9.84	-10.21/-10.7	-8.5/-6.63	-4.55/-3.48	-4.77/-5.36	-4.81/-3.86	-4.65/-9.58
Θ(60°)	-5.85/-4.64	-2.8/-2.89	-5.97/-11.22	-18.94/-19.58	-14.08/-8.05	-8.23/-11.69	-10.86/-7.9	-8.38/-5.84	-3.93/-5	-3.85/-4.05	-3.6/-0.4	2.032/67	0.56/-1.42	-0.94/-1.15	-3.55/-5.81	-7.14/-10.4	-9.73/-8.57	-5.5/-4.3	-4.78/-8.17	-8.98/-7.34	-12.4/-15.49	-11.3/-6.96	-4.78/-6.35	-10.94/-9.57
Θ(67.5°)	-7.79/-5.86	-6.83/-5.34	-5.79/-12.81	-8.62/-6.11	-7.88/-6.42	-9.49/-12.72	-9.49/-7.42	-6.34/-6.02	-5.72/-6.51	-8.52/-10.3	-4.87/-8.2	0.99/-195	0.94/-0.45	-0.51/-1.88	-5.69/-8.41	-5.57/-4.54	-5.65/-4.55	-5.98/-8.84	-12.6/-13.82	-13.62/-11.99	-9.71/-9.09	-8.02/-8.47	-10.15/-9.78	
Θ(75°)	-7.34/-8.93	-8.9/-7.75	-10.45/-19.5	-11.74/-9.78	-9.79/-9.57	-10.97/-12.45	-11.22/-11.46	-8.62/-7.15	-6.4/-7.27	-9.05/-14.67	-12.47/-4.34	-0.490/-51	-0.29/-0.98	-2.77/-5.95	-12.09/-8.09	-9.17/-8.09	-13.57/-8.37	-7.22/-5.65	-4.02/-6.36	-11.87/-19.18	-13.15/-15.28	-13.07/-9.16	-12.73/-20.09	-14.06/-9.13
Θ(82.5°)	-19.92/-18.4	-20.3/-17.47	-19.3/-12.83	-5.76/-18.8	-10.85/-11.27	-6.69/-14.11	-15.74/-8.05	-9.85/-11.68	-6.68/-9.82	-8.58/-14.18	-9.63/-5.4	-2.96/-0.6	-1.1/-2.45	-3.7/-10.45	-17.74/-13.22	-10.31/-7.77	-7.67/-7.3	-9.17/-10.09	-8.11/-17.66	-17.56/-19.22	-16.86/-17.65	-18.11/-10.01	-14.78/-9.28	-12.93/-19.55
Θ(90°)	-14.65/-12.78	-19.46/-19.89	-17.69/-11.3	-6.6/-6.88	-9.97/-14.91	-15.93/-13.22	-15.67/-8.42	-12.02/-8.77	-11.01/-10.15	-9.65/-9.6	-3.98/-2.84	-3.93/-5.46	-9.49/-19.53	-18.48/-22	-8.38/-12.14	-9.91/-10.31	-10.72/-12	-7.10/-10.82	-9.02/-10.65	-7.43/-9.04	-10.41/-14.89	-17.09/-14.97	-17.87/-17.13	
Θ(97.5°)	-8.5/-8.26	-11.98/-13.54	-10.06/-12.5	-7.98/-5.42	-18.54/-19.11	-12.08/-7.76	-8.55/-7.46	-7.82/-5.2	-16.74/-11.73	-6.37/-13.79	-15.15/-10.25	-6.63/-6.14	-8.82/-9.6	-14.05/-19.64	-12.6/-11.86	-6.9/-4.05	-4.61/-16.21	-16.23/-12.01	-8.73/-4.39	-2.18/-5.96	-7.49/-6.6	-11.74/-12.43	-10.57/-11.01	-20.29/-14.5
Θ(105°)	-4.26/-29	-10.49/-9.42	-18.48/-16.03	-7.4/-6.95	-13.57/-13.73	-11.01/-13.83	-6.79/-15.17	-19.81/-16.64	-16.88/-17.36	-16.61/-9.72	-11.23/-15.98	-10.91/-8.76	-10.31/-19.95	-10.6/-8.73	-7.66/-5.61	-5.97/-5.12	-7.51/-12.03	-8.2/-3.42	-3.56/-4.94	-3.71/-3.94	-7.21/-5.2	-10.73/-14.81	-14.15/-12.48	-14.16/-5.27
Θ(112.5°)	-3.09/-7.22	-10.59/-9.94	-17.96/-16.2	-9.04/-19.13	-9.44/-15.12	-8.75/-13.87	-8.52/-10.12	-11.06/-11.25	-14.28/-9.82	-8.24/-8.27	-12.66/-7.57	-14.03/-6.05	-9.05/-8.58	-6.99/-49	-3.29/-1.94	-7.86/-15.26	-7.73/-9.93	-7.22/-1.2	0.35/-4.26	-8.53/-5.72	-8.78/-19.72	-18.46/-12.51	-14.87/-8.62	
Θ(120°)	-1.96/-4.24	-8.58/-9.02	-14.81/-14.66	-8.17/-8.6	-18.06/-20.11	-8.37/-10.94	-6.52/-9.86	-6.82/-9.2	-6.65/-7.81	-5.65/-4.64	-8.18/-7.43	-12.63/-9.93	-12.21/-4.74	-3.61/-8.37	-17.89/-13.91	-7.02/-10.04	-6.16/-8.08	-4.94/-4.78	-17.42/-19.29	-11.11/-8.86	-10.31/-8.89	-13.39/-19.29	-9.09/-11.69	-14.05/-5.66
Θ(127.5°)	-4.03/-6.44	-8.62/-6.18	-8.85/-10.7	-10.58/-9.19	-18.18/-16.86	-8.42/-12.47	-8.23/-6.96	-11.08/-10.62	-9.75/-19.15	-8.46/-5.09	-5.07/-6.69	-6.08/-11.08	-13.91/-13	-10.95/-9.97	-14.21/-18.13	-16.89/-11.74	-5.99/-9.06	-7.22/-13.76	-8.6/-15.08	-4.58/-12.5	-14.42/-5.07	-4.19/-7	-6.67/-13.5	-16.8/-8.62
Θ(135°)	-5.12/-6.11	-9.13/-12.86	-11.54/-7.85	-2.59/-1.83	-7.13/-20.49	-8.23/-5.4	-12.14/-19.77	-13.73/-11.94	-5.75/-7.8	-19.34/-11.39	-9.36/-11.97	-15.12/-10.22	-10.44/-14.37	-12.64/-19.13	-16.33/-11.61	-18.37/-3.79	-17.5/-13.02	-7.68/-7.06	-4.71/-7.99	-15.88/-15.63	-18.95/-8.48	-7.53/-4.76	-9.24/-15.49	-18.4/-9.63
Θ(142.5°)	0.370/-49	-2.04/-2.94	-1.26/-2.13	-4.89/-7.47	-3.74/-6.4	-15.47/-19.53	-19.37/-17.76	-12.13/-13.76	-19.39/-10.14	-7.86/-9.04	-15.38/-19.04	-18.29/-16.5	-15.06/-18.87	-10.31/-9.28	-14.81/-7.83	-7.36/-18	-12.19/-7.46	-0.92/-2.67	-8.13/-6.11	-9.03/-10.04	-8.87/-8.83	-12.98/-20.72	-13.91/-19.72	-10.05/-2.97
Θ(150°)	-8.16/-3.81	-4.82/-8.07	-4.04/-1.51	-2.21/-7.25	-17.39/-8.88	-9.21/-15.16	-9.21/-11.31	-19.82/-19.05	-11.8/-5.99	-6.06/-5.34	-4.17/-5.42	-10.67/-12.98	-7.84/-4.14	-4.91/-9.33	-9.95/-7.71	-9.69/-4.79	-6.99/-10.89	-2.13/-2.68	-11.02/-12.77	-8.91/-13.52	-9.79/-6.4	-7.78/-7.14	-5.3/-5.88	-7.15/-19.52
Θ(157.5°)	-13.15/-8.16	-5.04/-4.71	-5.04/-3.49	-3.23/-5.12	-6.98/-8.7	-12.9/-12.58	-10.55/-11.36	-16.6/-18.64	-18.17/-13.15	-7.24/-3.88	-2.94/-5.85	-9.42/-7.24	-3.86/-2.39	-2.78/-4.55	-5.08/-5.62	-8.01/-15.14	-16.36/-7.8	-6.96/-10.12	-13.69/-10.72	-11.02/-15.4	-13.22/-7.69	-5.61/-6.68	-8.47/-8.28	-12.77/-16.39
Θ(165°)	-4.54/-3.74	-4.28/-6.27	-10.96/-15.44	-12.03/-7.86	-6.95/-7.85	-10.87/-15.02	-14.43/-14.31	-19.63/-19.15	-13.51/-13.09	-16.92/-14.72	-9.65/-7.89	-8.11/-7.9	-7.62/-7.34	-6.11/-4.43	-3.48/-4.88	-9.81/-18.72	-11.97/-9.2	-9.46/-13.07	-17.44/-13.32	-8.93/-8.29	-9.49/-12.51	-17.53/-18.96	-18.51/-10.38	-7.55/-6.02
Θ(172.5°)	-19.84/-20.48	-19.74/-18.75	-19.1/-17.14	-10.84/-9.7	-8.23/-7.02	-7.46/-9.22	-12.44/-18.35	-19																



Radiated Composite Gain Data 6GHz

Appendix B

Θ(172.5°)	-19.7/15.18	-13.87/14.46	-14.69/-14.05	-13.43/-12.96	-12.54/-11.91	-9.42/-6.96	-5.43/-5.04	-5.35/-6.67	-9.42/-12.41	-16.74/-19.27	-19.76/-19.66	-17.59/-15.03	-13.92/-13.52	-13.58/-13.76	-15.18/-19.32	-19.72/-16.22	-14.26/-13.56	-12.92/-13.02	-13.78/-15.24	-15.7/14	-13.86/-16.9	-19.48/-19.48	-20.43/-18.43	-17.61/-19.12
Θ(180°)	-14.49/-17.69	-19.54/-17.19	-15.81/-14.16	-12.08/-10.09	-8.74/-7.52	-6.84/-7.42	-8.18/-8.61	-9.41/-10.13	-11.54/-12.08	-15.14/-17.9	-20.11/-17.7	-14.29/-11.38	-9.55/-8.51	-7.33/-6.68	-6.56/-6.93	-7.6/-8.81	-10.17/-12.62	-15.29/-16.69	-16.08/-14.79	-14.22/-11.84	-10.17/-8.43	-7.18/-6.64	-7.48/-8.9	-11.25/-13.38
Freq(Hz)	6.175GPol.	ThetaAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-13.42/-14.22	-13.81/-14.76	-14.56/-13.63	-12.12/-11.16	-12.16/-12.42	-13.23/-14.05	-13.96/-14.47	-14.45/-14.87	-16.23/-17.77	-17.62/-18.77	-19.17/-18.38	-18.34/-19.71	-18.33/-18.76	-19.95/-18.9	-16.99/-14.14	-11.71/-10.69	-10.39/-10.38	-10.61/-10.55	-10.74/-10.38	-9.96/-10.37	-10.88/-12.25	-12.87/-12.71	-12.76/-12.79	-13.87/-13.51
Θ(7.5°)	-19.66/-19.37	-19.91/-18.61	-19.06/-19.68	-15.82/-13.76	-13.58/-13.04	-11.02/-10.79	-10.64/-10.87	-11.34/-11.09	-12.37/-12.89	-12.38/-11.86	-11.63/-12.61	-13.43/-14.13	-14.86/-14.73	-14.04/-13	-11.88/-11.15	-10.29/-10.88	-11.05/-10.83	-11.34/-11.74	-12.62/-14.78	-15.96/-16.15	-17.22/-18.03	-17.55/-19.71	-19.57/-20.31	-19.71/-20.31
Θ(15°)	-19.46/-20.16	-16.22/-14.07	-14.23/-16.51	-19.95/-18.17	-18.62/-19.12	-16.86/-15.05	-15.44/-17.35	-17.91/-14.55	-13.2/-12.21	-13.3/-14.55	-14.43/-13.43	-12.94/-11.96	-11.04/-9.94	-9.34/-10.34	-11.27/-11.76	-11.82/-11.76	-11.6/-11.22	-10.34/-10.28	-12.96/-17.82	-20.12/-19.58	-15.38/-12.06	-11.08/-10.15	-11.43/-14.99	-19.62/-19.29
Θ(22.5°)	-15.34/-14.52	-14.77/-15.27	-19.88/-19.97	-19.62/-20.16	-18.7/-16.78	-15.07/-17.4	-19.58/-17.54	-14.31/-12.61	-11.59/-12.77	-15.48/-18.55	-18.27/-15.18	-11.98/-9.63	-8.85/-8.24	-8.45/-8.23	-8.06/-7.58	-7.4/-7.88	-8.33/-9.25	-9.17/-8.7	-10.15/-12.2	-14.53/-13.02	-10.57/-9.81	-10.19/-12.86	-14.12/-14.89	-15.59/-17.11
Θ(30°)	-11.91/-12.29	-10.53/-9.88	-12.84/-19.82	-15.43/-13	-13.58/-18.67	-19.04/-19.8	-18.7/-18.52	-19.22/-18.3	-17.53/-15.17	-12.34/-12.51	-13.52/-13.6	-12.57/-12.25	-13.06/-11.61	-9.82/-9.11	-8.87/-9.1	-9.03/-9.49	-9.96/-9.12	-7.79/-6.5	-6.77/-8.45	-9.79/-11.58	-13.36/-16.15	-17.2/-12.03	-19.05/-18.27	-15.31/-13.76
Θ(37.5°)	-11.81/-12.06	-13.35/-11.21	-9.33/-13.35	-17.15/-13.18	-12.22/-14.37	-20.01/-20.09	-19.4/-18.61	-17.75/-19.12	-16.47/-10.82	-8.43/-8	-10.49/-13.53	-13.9/-11.72	-8.67/-8.97	-12.31/-18.6	-19.33/-15.91	-17.34/-20.04	-20.23/-18.62	-16.02/-13.65	-11.85/-10.35	-10.33/-15.47	-19.33/-19.27	-19.31/-18.77	-20.55/-14.11	-13.53/-12.55
Θ(45°)	-7.49/-10.23	-11.04/-11.09	-11.05/-11.21	-13.45/-12.29	-13.52/-12.29	-13.9/-18.36	-19.5/-16.29	-15.1/-19.9	-20.15/-14.7	-9.74/-9.67	-13.32/-19.23	-19.86/-13.74	-11.51/-10.71	-9.46/-8.93	-11.49/-14.87	-12.85/-11.97	-13.65/-16.18	-19.25/-15.75	-8.72/-6.76	-8.69/-14.27	-15.1/-15.37	-16.46/-18.87	-17.17/-13.75	-11.69/-8.74
Θ(52.5°)	-8.91/-8.8	-9.68/-13.31	-18.4/-9.93	-7.72/-9.11	-13.96/-15.42	-12.49/-11.53	-13.98/-15.42	-10.07/-9.89	-10.49/-9	-12.93/-18.44	-20/-18.35	-19.32/-18.12	-9.26/-8.04	-6.92/-7.69	-9.45/-8.82	-7.58/-6.7	-7.57/-8.19	-12.93/-20.18	-11.26/-11.47	-14.39/-15.11	-15.59/-17.11	-19.92/-12.82	-13.49/-10.72	-9.96/-11.05
Θ(60°)	-19.48/-12.97	-12.41/-11.86	-19.34/-12.97	-7.58/-7.76	-13.65/-18.76	-12.6/-15.6	-17.67/-15.64	-15.68/-7.36	-5.66/-6.03	-7.65/-11.37	-11.85/-11.21	-10.85/-13.5	-15.48/-16.36	-13.27/-10.35	-11.35/-14.83	-13.05/-11.09	-13.42/-13.35	-14.39/-18.81	-16.15/-15.06	-16.9/-18.59	-15.53/-12.78	-13.88/-14.61	-14.45/-13.8	-11.68/-14.05
Θ(67.5°)	-18.67/-15.72	-14.52/-13.77	-14.41/-13.89	-7.77/-7.38	-13.38/-19.6	-11.76/-10.91	-19.44/-20.11	-12.3/-6.02	-4.34/-3.56	-5.44/-9.21	-15.23/-19.2	-18.62/-16.69	-15.03/-17.05	-13.59/-14.24	-15.88/-15.84	-11.05/-10.21	-14.58/-14.89	-14.48/-18.73	-18.74/-16.95	-18.99/-20.2	-20.18/-19.22	-18.74/-18.65	-16.06/-17.82	-19.32/-19.48
Θ(75°)	-16.08/-15.75	-19.7/-14.65	-12.49/-15.75	-12.49/-11.53	-18.85/-15.53	-10.07/-9.36	-19.97/-15.9	-10.72/-4.84	-3.41/-5.86	-13.71/-18.71	-14.8/-12.59	-12.66/-12.11	-15.04/-15.35	-13.89/-15.09	-18.88/-18.94	-17.03/-10.76	-10.94/-19.89	-19.39/-19.13	-19.61/-19.65	-17.46/-19.37	-19.79/-15.95	-15.54/-19.89	-19.24/-17.41	-16.54/-20.29
Θ(82.5°)	-10.33/-9.06	-7.27/-7.83	-10.04/-19.99	-16.31/-14.17	-15.41/-11.43	-16.01/-12.74	-13.27/-16.21	-8.3/-4.35	-5.02/-7.8	-16.49/-15.1	-10.76/-9.28	-11.5/-10.43	-11.88/-11.67	-19.07/-18.69	-19.27/-19.93	-16.32/-14.22	-13.32/-19.72	-13.11/-19.15	-12.62/-16.41	-20.04/-18.65	-18.45/-16.69	-19.29/-18.41	-14.52/-12.29	-15.1/-15.8
Θ(90°)	-8.79/-9.13	-8.9/-8.82	-9.18/-15.3	-20.05/-17.47	-5.62/-5.15	-11.15/-10.64	-14.55/-13.5	-9.14/-7.4	-8.61/-8.37	-10.95/-20.02	-16.74/-11.37	-10.6/-11.43	-20.33/-13.2	-12.75/-15.14	-11.67/-15.61	-17.26/-11.81	-11.34/-18.57	-12.42/-12.67	-18.59/-16.46	-19.14/-12.18	-17.75/-14.59	-13.12/-12.77	-14.31/-10.49	-19.71/-12.77
Θ(97.5°)	-8.84/-8.59	-6.47/-7.33	-10.15/-16.4	-17.11/-19.17	-6.51/-4.88	-11.87/-14.44	-9.07/-6.6	-9.34/-8.48	-7.81/-13.33	-10.98/-11.34	-18.91/-17.42	-11.92/-15.42	-19.72/-14.22	-10.74/-9.67	-11.54/-11.28	-17.06/-19.95	-18.7/-12.97	-7.26/-13.63	-9.74/-16.08	-19.68/-18.94	-20.26/-10.3	-19.16/-9.01	-8.13/-11.6	-12.02/-11.26
Θ(105°)	-8.16/-7.4	-9.44/-9.19	-14.08/-19.42	-19.97/-11.26	-7.13/-9.77	-17.3/-12.62	-10.3/-8.5	-12.46/-13.26	-17.62/-19.83	-14.95/-11.31	-11.83/-14.26	-19.64/-20.25	-12.65/-10.25	-11.52/-14.3	-15.13/-10.38	-11.77/-14.22	-10.08/-7.53	-7.07/-17.82	-10.42/-12.85	-18.97/-8.68	-17.07/-16.01	-14.06/-13.53	-11.05/-12.66	-15.01/-8.18
Θ(112.5°)	-9.43/-16.84	-11.77/-11.82	-9.55/-13.44	-20.59/-14.53	-14/-17.31	-17.81/-13.79	-9.07/-7.72	-12.96/-20.17	-17.2/-17.82	-13.32/-10.74	-9.24/-15.89	-17.08/-8.52	-8.47/-8.34	-8.38/-10.62	-9.6/-9.84	-8.11/-12.81	-12.16/-7.66	-4.58/-10.18	-8.55/-15.61	-20.31/-19.13	-14.88/-12.53	-9.15/-18.84	-9.5/-9.23	-10.7/-11.44
Θ(120°)	-19.31/-14.81	-12.63/-13.95	-15.06/-16.31	-13.21/-11.26	-6.99/-11.27	-13.18/-14.3	-16.68/-17.47	-11.6/-16.16	-15.95/-16.9	-17.93/-14.48	-9.57/-9.1	-7.4/-8.18	-12.57/-16.49	-19.6/-19.41	-8.82/-15.88	-17.24/-8.06	-16.44/-18.66	-14.21/-15.15	-19.83/-19.67	-9.56/-11.59	-7.58/-13.21	-17.69/-19.94	-14.88/-10.62	-19.71/-12.77
Θ(127.5°)	-19.51/-15.96	-13.42/-8.91	-11.32/-12.46	-8.28/-4.11	-5.39/-10.06	-13.54/-18.52	-19.39/-14.87	-12.25/-10.1	-6.08/-4.57	-7.89/-12.04	-12.78/-13.19	-13.92/-18.78	-11.68/-10.65	-8.58/-16.71	-20.06/-12.77	-6.88/-9.56	-14.88/-15.52	-10.25/-13.4	-10.02/-19.9	-19.17/-19.41	-9.79/-9.97	-10.45/-10.11	-11.15/-19.54	-14.12/-20.26
Θ(135°)	-17.87/-19.39	-20.01/-19.69	-19.61/-15.31	-8.5/-26	-4.87/-2.59	-7.75/-8.07	-5.72/-9.79	-19.87/-17.08	-14.79/-11.1	-11.16/-10.93	-12.6/-12.56	-13.45/-15.52	-14.65/-15.88	-15.78/-16	-14.14/-10.31	-12.97/-13.12	-10.38/-29.3	-11.05/-13.54	-15.01/-13.16	-7.51/-8.59	-12.83/-10.98	-10.28/-14.08	-16.54/-10.33	-11.99/-9.37
Θ(142.5°)	-19.3/-12.1	-10.61/-8.8	-10.46/-13.37	-9.46/-5.57	-7.35/-12.15	-12.77/-10.07	-10.08/-16.39	-19.41/-18.89	-18.98/-13.79	-16.73/-19.35	-14.34/-11.72	-14.15/-18.12	-20.05/-13.68	-12.87/-11.88	-9.9/-8.39	-7.71/-12.97	-19.6/-13.61	-12.07/-7.61	-6.98/-9.36	-14.97/-15.16	-18.95/-5.15	-14.11/-7.83	-18.07/-19.78	-15.53/-12.55
Θ(150°)	-17.84/-14.6	-9.15/-6.2	-4.95/-6.54	-9.98/-12.24	-11.17/-11.74	-19.31/-11.64	-7.15/-7.89	-16.1/-13.24	-10.35/-11.66	-19.5/-19.39	-19.58/-13.6	-13.54/-14.62	-20/-20.64	-16.51/-17.26	-14.6/-11.99	-9.49/-10.55	-17.11/-19.64	-12.62/-15.14	-5.58/-12.1	-13.05/-6.8	-10.49/-19.51	-10.94/-5.35	-8.89/-11.63	-9.16/-12.39
Θ(157.5°)	-11.97/-11.21	-14.28/-13.1	-8.77/-7.83	-6.81/-10.67	-17.5/-18.96	-7.91/-4.01	-2.83/-4.09	-7.02/-9.83	-9.03/-7.41	-7.36/-7.11	-7.63/-8.78	-7.06/-5.97	-7.41/-14.32	-13.5/-8.99	-12.57/-17.31	-17.71/-9.71	-6.3/-7.65	-11.32/-11.15	-11.87/-14.64	-15.77/-19.15	-17.52/-15.95	-16.55/-11.87	-10.28/-10.13	-13.18/-19.07
Θ(165°)	-12.53/-13.95	-19.09/-19.54	-18.36/-19.14	-18.59/-19.23	-13.32/-7.93	-6.19/-6.42	-8.72/-11.51	-11.44/-8.35	-9.18/-7.91	-9.95/-11.95	-14.41/-15.33	-16.05/-15.13	-17.21/-14.92	-14.51/-13.89	-14.72/-14.84	-18.05/-18.87	-11.99/-9.2	-10.3/-16.76	-17.86/-12.39	-13.2/-19.46	-15.94/-6.67	-6.33/-6.89	-10.67/-16.19	-15.04/-12.4
Θ(172.5°)	-17.27/-19.08	-18.95/-19.75	-20.28/-19	-15.13/-13.15	-10.54/-8.62	-8.77/-11.18	-17.18/-17.4	-14.79/-10.51	-8.29/-9.78	-12.53/-14.82	-15.15/-14.52	-13.13/-13.06	-15.58/-19.91	-18.85/-20.26	-15.48/-13.98	-14.25/-18	-19.03/-15.51	-10.49/-7.77	-6.33/-5.47	-5.6/-7	-10.3/-16.2	-17.25/-15.78	-15.36/-15.74	-16.24/-16.06
Θ(180°)	-16.68/-11.52	-11.33/-9.85	-11.47/-19.94	-14.66/-13.88	-14.71/-15.83	-16.6/-15.25	-13.86/-11.38	-9.65/-8.57	-8.61/-7.9	-8.37/-8.75	-8.86/-8.99	-9.51/-10.29	-11.47/-12.83	-14.61/-15.99	-16.05/-15.18	-12.51/-10.46	-8.4/-6.84	-6.2/-6.74	-8.29/-8.88	-11.47/-14.43	-17.91/-19.38	-19.2/-19.08	-18.64/-16.8	-13.22/-10.87
Freq(Hz)	6.475GPol.	PhiAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-10.61/-12.46	-13.15/-14.78	-19.54/-18.59	-19.92/-19.2	-14.52/-11.84	-9.89/-8.07	-7.36/-7.13	-6.97/-6.15	-6.32/-6.62	-7.48/-8.23	-9.29/-19.09	-12.01/-13	-13.81/-14.28	-15.3/-16.25	-17.72/-19.68	-19.22/-19.09	-20.31/-17.64	-15.34/-13.96	-12.9/-12.44	-11.4/-10.35	-10.24/-9.7	-9.69/-9.98	-9.18/-9.01	-10.32/-10.45
Θ(7.5°)	-14.48/-16.23	-16.59/-19.49	-19.22/-19.39	-19.98/-18.93	-19.01/-19.67	-19.44/-18.14	-15.74/-14.22	-12.83/-11.81	-10.42/-10.66	-10.20/-10.14	-10.58/-10.37	-10.09/-10.45	-10.94/-11.68	-13.23/-14.8	-16.91/-19.08	-20.57/-17.56	-16.15/-13.36	-6.2/-5.01</						



Radiated Composite Gain Data 6GHz

Appendix B

Θ(22.5°)	-20.34/-19.08	-19.2/-18.61	-11.86/-8.85	-7.69/-7.56	-8.96/-11.3	-15.89/-19.91	-18.07/-18.22	-19.4/-18.38	-17.83/-17.98	-17.77/-15.08	-13.89/-13.16	-11.72/-10.03	-8.3/-6.77	-6.21/-5.82	-6.19/-7.37	-8.47/-7.24	-5.93/-5.24	-5.3/-6.73	-9.42/-14.01	-19.98/-17.29	-15.16/-15.35	-18.23/-18.95	-19.91/-17.84	-18.29/-18.46
Θ(30°)	-18.57/-20.05	-19.85/-16.62	-12.43/-10.09	-8.64/-7.95	-10.45/-10.07	-16.33/-18.56	-16.55/-14.26	-12.08/-10.68	-9.03/-9.73	-11.11/-11.83	-13.28/-16.05	-17.3/-14.29	-10.94/-8.77	-7.57/-6.48	-5.85/-6.85	-8.9/-10.33	-8.71/-6.69	-5.51/-5.73	-8.44/-15.1	-12.84/-11.62	-13.75/-19.68	-19.9/-19.46	-17.15/-14.31	-15.18/-16.51
Θ(37.5°)	-8.16/-10.6	-13.05/-20.23	-19.5/-15.31	-12.31/-10.01	-10.06/-13.65	-14.89/-13.02	-13.96/-15.09	-14.72/-11.39	-9.73/-11.18	-12.53/-12.22	-14.6/-20.07	-19.66/-13.22	-8.88/-7.03	-6.05/-5.5	-6.22/-9.23	-15.55/-18.68	-16.62/-12.94	-7.85/-7.65	-12.07/-13.94	-15.3/-18.86	-19.14/-19.36	-18.9/-19.46	-18.77/-14.04	-9.36/-7.84
Θ(45°)	-7.66/-10.24	-14.28/-20.16	-16.97/-14.54	-13.28/-10.71	-11.28/-17.41	-14.48/-11.14	-11.1/-12.09	-12.29/-12.78	-14.87/-20.51	-19.97/-14.02	-11.89/-12.42	-13.61/-10.14	-7.58/-6.28	-6.14/-7.56	-9.93/-12.52	-14.73/-18.12	-19.08/-19.54	-13.38/-8.58	-10.47/-13.27	-13.15/-14.63	-18.01/-19.44	-12.93/-16.87	-18.18/-11.51	-7.91/-6.81
Θ(52.5°)	-12.51/-13.06	-15.32/-19.48	-13.1/-9.79	-9/-9.23	-9.41/-11.82	-9.09/-7.31	-9.11/-12.98	-16.3/-18.61	-12.46/-7.15	-8.15/-12.57	-12.92/-14.82	-13.86/-11.21	-10.41/-13.31	-11.53/-13.8	-17.73/-19.77	-17.17/-15.69	-14.93/-19.29	-17.27/-8.14	-8.74/-8.82	-18.16/-11.08	-12.53/-11.19	-8.48/-13.92	-13.42/-10.78	-11.67/-11.94
Θ(60°)	-20.38/-12.17	-14.46/-18.18	-18.53/-12.71	-11.26/-13.67	-16.88/-15.56	-18.78/-20.08	-15.24/-10.97	-18.35/-15.68	-18.77/-17.18	-11.03/-12.02	-18.38/-14.85	-19.13/-18.92	-16.16/-15.68	-14.52/-17.27	-17.17/-15.56	-16.34/-14.62	-12.87/-12.15	-16.53/-13.15	-8.36/-12.15	-11.83/-11.75	-11.04/-10.64	-10.19/-9.96	-12.73/-17.49	-15.6/-10.89
Θ(67.5°)	-13.65/-15.91	-16.47/-15.71	-18.9/-17	-8.31/-8.05	-12.31/-14.1	-14.2/-12.53	-17.77/-11.26	-14.84/-19.11	-13.33/-13.2	-14.71/-16.88	-19.14/-18.26	-14.88/-16.4	-14.06/-13.26	-16.51/-19.07	-18.08/-14.28	-11.78/-12.12	-15.76/-16.12	-16.91/-12.69	-13.98/-19.2	-18.83/-13.32	-16.2/-14.21	-14.61/-13.09	-13.96/-19.64	-13.81/-11.67
Θ(75°)	-9.18/-9.48	-9.57/-8.59	-11.92/-19.83	-15.87/-10.74	-17.87/-13.82	-9.56/-11.74	-20.7/-20.34	-18.02/-17.06	-17.82/-11.05	-8.64/-9.06	-13.22/-13.57	-11.4/-10.9	-12.71/-13.59	-14.73/-19.3	-18.1/-13.51	-10.7/-11.42	-18.86/-20.25	-17.33/-14.14	-19.81/-19.99	-19.7/-14.5	-17.09/-18.44	-14.76/-12.6	-19.32/-20.02	-11.89/-8.8
Θ(82.5°)	-10/-14.59	-10.83/-9.17	-11.84/-15.63	-16.97/-8.48	-12.28/-19.01	-18.21/-15.46	-13.7/-12.8	-19.76/-14.22	-11.29/-10.96	-6.75/-7.15	-11.31/-10.94	-7.75/-7.86	-11.64/-14.25	-15.52/-14.76	-15.24/-19.76	-19.45/-16.11	-20.16/-17.07	-19.7/-14.69	-19.21/-15.52	-19.53/-18.57	-20.66/-18.67	-18.88/-19.43	-15.3/-20.22	-13.34/-9.82
Θ(90°)	-9.99/-9.51	-7.85/-5.6	-6.2/-10.5	-19.17/-15.09	-19.78/-16.56	-16.43/-19.92	-11.53/-14.25	-19.76/-19.13	-14.05/-11.77	-10.25/-12.18	-13.97/-12.6	-7.9/-9.18	-12.25/-17.27	-16/-17.03	-19.96/-19.08	-19.13/-19.95	-17.97/-17.12	-15.65/-16.09	-18.69/-12.16	-18.71/-19.78	-19.85/-19.76	-18.83/-19.78	-19.34/-19.81	-13.68/-9.72
Θ(97.5°)	-11.8/-10.35	-10.76/-10.7	-10.62/-10.27	-15.87/-10.74	-11/-11.77	-15.55/-13.13	-14.53/-16.15	-8.08/-10.92	-16.6/-11.87	-7.74/-11.02	-12.28/-12	-12.06/-15.07	-20.29/-15.1	-15.77/-19.03	-18.73/-18.32	-18.74/-20.08	-17.63/-12.74	-19.52/-19.98	-15.53/-8.41	-16.52/-19.67	-19.77/-12.56	-11.1/-20.26	-18.95/-16.1	-11.71/-9.57
Θ(105°)	-10.26/-9.45	-8.97/-7.24	-8.36/-15.78	-14.17/-11.41	-13.58/-11.69	-8.16/-7.58	-11.14/-13.84	-16.03/-14.8	-12.11/-16.92	-11.23/-8.95	-11.7/-19.59	-18.24/-18.08	-19.24/-19.18	-17.97/-18.83	-19.07/-20.26	-18.88/-19.87	-13.01/-10.81	-18.93/-9.87	-10.08/-11.61	-19.82/-12.33	-19.68/-14.18	-15.66/-13.9	-19.35/-15.91	-12.56/-12.92
Θ(112.5°)	-14.8/-8.41	-10.89/-15.27	-19.85/-20.36	-13.96/-11.74	-10.52/-8.46	-11.1/-14.7	-18.24/-18.88	-19.6/-9.97	-9.06/-10.75	-13.81/-18.51	-18.02/-19.73	-19.24/-18.8	-19.06/-11.67	-17.31/-17.45	-19.93/-14.72	-18.33/-19.21	-10.1/-9.83	-16.73/-12.36	-15.71/-9.88	-12.61/-12.39	-18.91/-18	-13.96/-12.95	-18.75/-19.32	-20.02/-14.59
Θ(120°)	-8.21/-10.5	-8.43/-13.64	-19.08/-19.2	-10.24/-16.65	-14.03/-13.85	-19.77/-18.35	-17.8/-14.23	-11.38/-14.08	-12.17/-13.19	-15.66/-17.65	-18.42/-19.12	-19.89/-19.01	-16.44/-12.88	-19.34/-19.81	-13.93/-16.97	-18.09/-16.54	-8.26/-13.73	-13.15/-9.36	-19.77/-9.27	-17.68/-19.97	-16.38/-15.44	-18.33/-18.16	-11.88/-10.96	-15.2/-9.29
Θ(127.5°)	-11.24/-14.12	-12.24/-15.11	-14.85/-14.43	-12.88/-10.63	-14.97/-16.4	-15.43/-12.89	-16.99/-13.42	-9.04/-10.01	-9.21/-13.97	-15.95/-17.36	-18.8/-18.7	-12.39/-17.32	-12.85/-19.64	-20.07/-14.93	-15.65/-12.37	-12.47/-9.7	-16.85/-17.93	-18.25/-10.89	-18.32/-20.16	-18.23/-18.42	-15.47/-13.53	-16.26/-13.19	-20.17/-14.58	
Θ(135°)	-9.99/-10.32	-16.34/-12.38	-13.46/-8.99	-9.86/-13.29	-19.83/-13.48	-9.82/-8.29	-17.24/-20.79	-14.64/-12.25	-15.22/-18.64	-19.59/-17.07	-16.3/-20.24	-16.99/-14.02	-15.13/-11.08	-14.86/-19.53	-18.25/-18.73	-18.7/-14.89	-13.19/-11.17	-20.21/-10.37	-10.98/-9.5	-10.35/-19.67	-18.91/-10.98	-13.94/-11.7	-15.62/-19.45	-10.18/-10.51
Θ(142.5°)	-12.03/-14.5	-18.62/-19.08	-19.39/-19.03	-15.2/-13.57	-11.6/-9.75	-8.48/-7.63	-10.8/-18.9	-19.43/-21.1	-15.97/-14.86	-12.21/-16.93	-19.88/-13.32	-12.12/-14.55	-15.57/-19.18	-17.77/-16.68	-13.63/-11.49	-19.49/-18.4	-5.73/-9.06	-11.11/-5.8	-10.41/-10.62	-9.38/-13.85	-19.17/-18.78	-7.4/-14.73	-14.76/-13.24	-20.21/-9.53
Θ(150°)	-12.21/-15.79	-19.18/-13.11	-9.65/-10.7	-12.95/-15.59	-17.22/-19.72	-17.79/-15	-9.51/-8.87	-14.96/-11.88	-8.05/-12.94	-19.73/-19.83	-17.42/-10.31	-9.57/-10.35	-15.02/-20.47	-19.21/-19.81	-12.76/-7.85	-9.54/-7.36	-9.32/-12.86	-10.27/-6.02	-7.22/-15.33	-13.56/-10.34	-13.75/-18.04	-11.23/-8.04	-14.77/-18.92	-19.79/-14.64
Θ(157.5°)	-19.08/-16.68	-13.38/-13.71	-16.43/-17.49	-17.45/-15.85	-14.05/-15.26	-18.07/-10.95	-5.63/-5.27	-6.55/-6.98	-9.02/-10.95	-9.8/-8.5	-7.64/-8.72	-10.11/-10.08	-10.74/-18.44	-17.09/-11.75	-12.44/-10.7	-13.77/-20.01	-17.22/-19.55	-14.75/-11.01	-13.31/-16.65	-13.49/-19.79	-19.21/-12.86	-9.75/-7.08	-6.32/-7.47	-10.24/-14.5
Θ(165°)	-11.49/-10.59	-10.04/-9.53	-11.41/-16.8	-19.38/-17.3	-15.2/-11.26	-9.06/-8.19	-9.95/-14.93	-12.44/-8.03	-7.87/-10.01	-13.64/-16.86	-18.34/-16.92	-14.1/-14.24	-18.69/-13.42	-20.04/-19.79	-18.3/-19.02	-17.74/-15.07	-9.79/-8.73	-10.05/-17.05	-19.38/-17.36	-20.02/-15.49	-7.24/-19	-4.73/-7.07	-10.96/-16.66	-20.26/-14.59
Θ(172.5°)	-18.13/-18.09	-19.62/-17.87	-13.84/-13.49	-16.23/-19.84	-17.47/-12.15	-10.4/-12.25	-17.94/-17.04	-9.82/-6.99	-6.24/-7.21	-8.91/-12.07	-16.13/-17.97	-17.32/-14.78	-15.06/-17.47	-19.18/-18.18	-18.55/-15.79	-13.85/-13.8	-13.38/-11.39	-8.72/-7.6	-7.21/-8.15	-9.53/-12.37	-15.05/-14.43	-13.99/-18.08	-19.71/-19.83	-18.43/-17.81
Θ(180°)	-13.74/-14.95	-18.74/-15.94	-18.35/-18.54	-19.17/-16.72	-15.54/-16.41	-16.98/-16.49	-17.38/-17.08	-15.62/-13.59	-11.58/-9.54	-8.83/-9	-9.51/-9.46	-10.86/-10.68	-10.98/-11	-11.48/-11.42	-11.52/-12.51	-12.51/-10.45	-7.78/-6.34	-5.62/-6.45	-8.71/-11.72	-15.28/-14.33	-13.28/-12.03	-10.91/-11.12	-13.39/-13.23	-12.26/-11.64
Freq(Hz)	6.995GPol.	PhiAnt. 3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-18.86/-19.85	-19.88/-19.22	-19.05/-19.6	-19.44/-19.51	-17.8/-14.84	-14.93/-12.92	-11.83/-12.19	-12.48/-13.67	-14.13/-14.17	-14.1/-13.95	-13.63/-13.37	-11.25/-11.08	-10.97/-10.57	-10.79/-11.52	-12.24/-13.59	-13.76/-14.08	-15.22/-16.68	-16.29/-15.58	-14.96/-14.74	-14.89/-14.73	-14.7/-14.02	-13.22/-13.79	-13.85/-15.84	-17.17/-132
Θ(7.5°)	-9.9/-9.98	-6.03/-12.5	-13.97/-15.58	-15.49/-16.68	-16.69/-17.28	-17.31/-16.08	-16.04/-15.1	-13.78/-14.31	-12.94/-12.74	-12.59/-14.97	-16.92/-18.95	-18.4/-19.49	-19.69/-18.91	-19.49/-19.31	-19.51/-19.71	-19.76/-19.79	-19.52/-16.38	-14.43/-12.2	-10.76/-9.62	-9.82/-9.75	-9.51/-9.3	-9.54/-10.1	-10.36/-9.34	-9.37/-9.73
Θ(15°)	-8.17/-8.7	-9.2/-9.69	-10.91/-13.63	-15.18/-13.34	-18.98/-18.84	-18.71/-19.81	-19.04/-19.64	-18.51/-19.51	-10.14/-18.56	-18.38/-19.86	-19.97/-16.54	-12.06/-11.87	-12.57/-14.92	-17.49/-19.26	-19.97/-19.94	-16.43/-12.63	-15.15/-9.56	-8.72/-8.39	-8.84/-9.17	-8.72/-8.26	-8.1/-8.11	-8.57/-8.74		
Θ(22.5°)	-9.63/-9.7	-8.18/-7.7	-8.59/-10.57	-13.38/-18.23	-20.04/-19.71	-18.13/-19.37	-20.35/-19.07	-19.73/-20.71	-20.19/-19.97	-17.96/-15.15	-13.86/-12.83	-11.16/-9.81	-9.44/-10.11	-11.23/-11.86	-11.83/-11.29	-11.44/-12.32	-12.69/-12.41	-6.05/-5.3	-4.97/-5.73	-6.28/-5.68	-7.07/-8.61	-9.17/-10.03	-10.40/-10.04	
Θ(30°)	-4.16/-3.95	-3.93/-3.55	-3.22/-4.2	-6.49/-9.58	-11.92/-12.94	-11.88/-10.55	-10.12/-10.05	-9.63/-9.43	-9.53/-10.16	-10.89/-11.76	-10.8/-23	-7.27/-7.25	-6.45/-5.07	-4.38/-3.36	-2.35/-2.08	-2.13/-3.73	-5.44/-7.18	-7.84/-7.17	-5.47/-4.61	-4.15/-4.22	-4.61/-4.79	-3.97/-3.94	-4.13/-4.81	-4.85/-5.14
Θ(37.5°)	-3.94/-2.58	-2.24/-2.5	-2.39/-2.7	-3.54/-4.82	-5.52/-6.28	-6.69/-6.61	-6.41/-6.08	-5.81/-5.88	-6.48/-8.23	-7.16/-4.71	-2.8/-1.98	-1.85/-1.92	-2/-0.73	0.11/0.07	-0.26/-0.9	-1.11/-1.29	-2.49/-5.32	-7.38/-6.97	-5.08/-4.27	-3.87/-3.64	-3.14/-3.22	-4.04/-4.47	-4.29/-4.5	-4.14/-7
Θ(45°)	-1.51/-1.47	-1.54/-2.87	-4.5/-6.24	-5.17/-3.74	-3.88/-4.59	-5.25/-6.47	-7.02/-6.39	-5.38/-3.66	-2.94/-2.8	-2.34/-2.16	-1.49/-1.87	-1.51/-0.13	1.312/31	2.762/83	2.61/06	-0.73/-2.09	-1.61/-1.28	-3.32/-10.6	-11.65/-8.89	-4.18/-2.19	-1.16/-1.46	-2.26/-3.26	-3.88/-2.81	
Θ(52.5°)	1.51/-1.75	1.47/0.32	-1.92/-4.22	-5.61/-4.63	-2.9/-2.51	-3.06/-3.24	-3.37/-3.52	-2.82/-0.98	0.36/-0.2	-0.51/-0.2	0.14/-0.58	-0.95/-0.02	0.01/0.13	1.48/1.94	2.17/0.99	-1.01/-1.62	-8.17/-4.84	-6.45/-9.02	-13.99/-14.23	-8.99/-4.45	-1.59/-1.09	-2.12/-2.65	-2.65/-2.51	-1.02/0.27
Θ(60°)	1.29/1.53	0.810/78	-0.36/-1.79	-2.99/-1.18	-0.45/-0.75	-2.65/-4.39	-3.86/-4.06	-3.49/-0.38	1.152/0.2	1.89/1.38	-0.91/-0.5	0.84/1.25	-0.7/-3.99	-8.02/-10.24	4.52/-1.39	-3.2/-3.49	-5.51/-10.18	-8.97/-5.71	-5.45/-5.82	-4.03/-2.67	-3.62/-3.74	-4.5		



Radiated Composite Gain Data_6GHz

Appendix B

Θ(112.5°)	-12.99/-18.48	-17.45/-10.67	-12.79/-16.03	-14.33/-13.37	-8.57/-12.46	-19.17/-10.01	-8.76/-13.74	-17.32/-12.93	-18.07/-12.85	-14.03/-19.56	-17.11/-19.49	-19.05/-19.54	-14.74/-9.24	-10.97/-11.12	-16.2/-19.53	-15.66/-14.97	-19.19/-17.91	-12.99/-9.42	-13.3/-14.86	-15.25/-18.79	-17.81/-12.82	-12.59/-18.99	-19.79/-16.5	-19.35/-15.23
Θ(120°)	-10.67/-19.91	-17.52/-11.36	-12.67/-15.69	-16.48/-14.86	-8.64/-13.15	-15.84/-10	-9.14/-19.75	-16.49/-11.31	-19.57/-19.61	-17.92/-11.94	-12.22/-11.16	-18.97/-20.16	-14.55/-12.41	-14.37/-13.79	-14.06/-17.27	-18.27/-18.77	-12.5/-11.87	-14.46/-14.11	-9.94/-20.07	-15.04/-19.58	-18.61/-15.46	-18.82/-19.59	-19.73/-20.27	-18.89/-11.44
Θ(127.5°)	-15.64/-19.71	-16.34/-16.66	-14.2/-15.53	-17.81/-12.71	-7.66/-11.1	-14.46/-6.68	-5.05/-19.29	-13.31/-7.96	-9.42/-20.11	-18.29/-9.62	-9.2/-10.83	-12.84/-9.72	-7.65/-8.16	-9.88/-14.45	-16.45/-15.39	-19.24/-10.19	-9.07/-17.22	-12.74/-13.73	-17.3/-13.45	-8.56/-12.53	-14.06/-11.59	-12.16/-16.72	-16.69/-13.62	-12.39/-13.56
Θ(135°)	-15.43/-13.71	-14.98/-14.04	-18.99/-18.91	-15.65/-9.33	-9.49/-18.87	-11.15/-5.08	-6.13/-19.54	-9.31/-7.3	-12.73/-19.84	-13.69/-11.03	-11.59/-12.62	-17.09/-18.68	-12.77/-7.77	-10.72/-19.96	-19.42/-18.85	-20.27/-8.21	-10.39/-9.87	-11.31/-16.78	-8.43/-12.31	-13.58/-19.48	-19.58/-12.96	-17.39/-19.12	-19.74/-18.78	-18.71/-20.52
Θ(142.5°)	-7.44/-11.56	-14.42/-12.78	-15.69/-13.87	-12.07/-13.97	-12.75/-15.24	-8.85/-7.03	-12.96/-11.63	-9.9/-9.41	-17.27/-16.53	-12.14/-13.36	-15.59/-19.36	-13.08/-11.65	-11.64/-12.46	-18.72/-13.49	-18.72/-13.24	-18.69/-19.23	-10.73/-18.06	-11.56/-7.03	-7.62/-17.51	-15.23/-19.73	-18.87/-19.77	-14.69/-9.91	-18.61/-16.32	-18.88/-10.86
Θ(150°)	-12.38/-13.91	-13.94/-19.7	-19.63/-19.59	-9.67/-7.17	-8.5/-15.42	-9.79/-8.1	-9.72/-10.18	-17.26/-19.59	-18.52/-20.01	-12.58/-11.94	-19.15/-18.56	-12.35/-10.7	-12.24/-14.91	-14.85/-15.8	-15.01/-19.82	-15.13/-19.06	-12.02/-17.96	-19.37/-10.01	-8.74/-16.93	-17.47/-19.84	-10.26/-10.57	-16.1/-10.16	-9.42/-12.26	-12.4/-12.42
Θ(157.5°)	-13.57/-17.6	-19/-17	-12.55/-12.69	-12.85/-13.59	-18.03/-12.83	-13.16/-19.71	-9.95/-11.97	-16.98/-11.59	-13.88/-18.5	-19.86/-18.97	-13.3/-12.61	-14.65/-7.38	-4.62/-6.1	-12.66/-19.63	-15.77/-12.03	-14.2/-15.54	-10.34/-11.46	-15.54/-18.76	-19.4/-19.65	-19.16/-12.92	-10.74/-11.81	-15.14/-19.74	-14.74/-19.54	-17.43/-13.76
Θ(165°)	-19.39/-19.01	-18.33/-19.14	-19.16/-19.12	-19.08/-19.52	-14.48/-12.15	-9.7/-7.52	-6.38/-8.35	-16.31/-20.06	-13.33/-13.1	-14.14/-15.82	-17.76/-19.93	-20.32/-19.12	-19.31/-19.19	-17.1/-13.52	-11.43/-13.13	-17.77/-19.36	-19.34/-16.27	-13.46/-12.06	-14.09/-15.95	-17.6/-16.29	-18.14/-19.78	-17.9/-18.47	-19.08/-19.36	-19.01/-19.38
Θ(172.5°)	-14.55/-12.56	-13.37/-14.71	-17.14/-18.69	-20.36/-17.26	-14.37/-14.75	-16.79/-19.98	-16.54/-13.74	-12.12/-11.12	-10.8/-13.05	-19.84/-19.01	-18.9/-19.81	-18.74/-17.41	-15.21/-13.82	-13.92/-14.15	-14.16/-14.66	-14.69/-14.35	-15.46/-16.17	-14.74/-12.67	-11.59/-9.76	-8.51/-8.96	-10.87/-13.19	-16.41/-17.35	-17.68/-16.83	-14.53/-15.52
Θ(180°)	-17.48/-15.1	-13.08/-12.39	-11.39/-10.59	-10.08/-9.81	-9.33/-8.91	-9.77/-9.78	-11.99/-13.12	-12.57/-10.15	-8.66/-7.99	-8.23/-8.51	-8.85/-9.01	-9.74/-10.24	-10.72/-11.53	-13.46/-15.26	-15.29/-13.91	-11.97/-10.83	-9.08/-7.38	-6.52/-7.04	-8.28/-8.39	-9.84/-11.77	-12.53/-13.43	-16.48/-19.28	-19.13/-19.73	-19.32/-18.83
Freq(Hz)	6.995GPol.	PhiAnt. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Φ(7.5°)	Φ(15°)/Φ(22.5°)	Φ(30°)/Φ(37.5°)	Φ(45°)/Φ(52.5°)	Φ(60°)/Φ(67.5°)	Φ(75°)/Φ(82.5°)	Φ(90°)/Φ(97.5°)	Φ(105°)/Φ(112.5°)	Φ(120°)/Φ(127.5°)	Φ(135°)/Φ(142.5°)	Φ(150°)/Φ(157.5°)	Φ(165°)/Φ(172.5°)	Φ(180°)/Φ(187.5°)	Φ(195°)/Φ(202.5°)	Φ(210°)/Φ(217.5°)	Φ(225°)/Φ(232.5°)	Φ(240°)/Φ(247.5°)	Φ(255°)/Φ(262.5°)	Φ(270°)/Φ(277.5°)	Φ(285°)/Φ(292.5°)	Φ(300°)/Φ(307.5°)	Φ(315°)/Φ(322.5°)	Φ(330°)/Φ(337.5°)	Φ(345°)/Φ(352.5°)
Θ(0°)	-9.94/-9.97	-11.16/-12.84	-14.54/-15.76	-18/-19.55	-20.18/-20.03	-19.4/-19.57	-20/-19.32	-17.75/-15.33	-13.38/-11.5	-10.66/-9.86	-9.88/-9.38	-8.91/-8.25	-8.66/-9.35	-10.43/-12.24	-14.21/-16.31	-19.61/-18.57	-19.97/-20.29	-19.54/-20.43	-18.66/-19.46	-19.68/-18.76	-19.11/-18.25	-15.41/-13.89	-13.02/-11.87	-11.53/-10.48
Θ(7.5°)	-8.72/-9.32	-9.09/-9.79	-12.54/-13.97	-16.59/-19.68	-19.25/-20.21	-18.73/-19.84	-19.24/-15.92	-13.51/-14.38	-14.57/-13.83	-12.42/-12.14	-12.34/-11.4	-10.86/-10.9	-11.49/-12.85	-13.44/-13.69	-15.85/-16.38	-16.73/-16.68	-17.47/-17.64	-17.36/-17.54	-18.95/-18.62	-15.79/-14.67	-13.51/-12.24	-11.8/-10.29	-8.89/-8.39	-8.82/-7.89
Θ(15°)	-7.9/-8.79	-9.59/-9.35	-8.77/-8.74	-9.62/-10.32	-11.3/-11.94	-11.8/-10.99	-10.44/-8.77	-7.35/-6.71	-6.61/-6.68	-5.25/-4.86	-5.61/-5.82	-6.3/-7.41	-7.31/-7.48	-7.88/-8.87	-10.75/-13.17	-15.86/-16.58	-16.6/-18.65	-18.74/-19.45	-17.19/-11.68	-7.65/-5.73	-4.19/-3.57	-3.15/-2.91	-3.57/-4.49	-5.9/-6.83
Θ(22.5°)	-7.18/-7.09	-6.26/-6.06	-5.45/-5.31	-5.96/-6.59	-6.79/-7.75	-8.94/-8.58	-7.37/-6.64	-5.49/-4.18	-3.17/-2.53	-2.17/-2.28	-3.03/-3.43	-4.06/-5.19	-6.76/-8.58	-10.52/-11.37	-13.18/-15.24	-15.61/-14.22	-13.32/-12.95	-12.02/-10.66	-8.13/-5.26	-3.58/-2.75	-2.34/-2.44	-3.51/-4.32	-5.1/-6.4	-7.42/-7.82
Θ(30°)	-3.93/-3.04	-2.69/-2.62	-3.14/-3.28	-4.46/-5.82	-6.82/-7.16	-6.89/-6.49	-5.75/-5.55	-4.5/-4.02	-3.12/-2.83	-2.87/-2.51	-1.27/-1.03	0.260/-29	-0.56/-1.86	-3.31/-3.89	-4.37/-5.44	-7.23/-9.1	-10.24/-8.27	-6.05/-4.62	-3.5/-2.86	-2.12/-1.62	-1.7/-2.34	-2.77/-3.46	-4.24/-4.4	-4.47/-4.57
Θ(37.5°)	-0.9/-0.02	-0.09/-0.1	-0.75/-2.21	-3.84/-5.18	-5.68/-5.79	-5.59/-4.97	-5.36/-5.96	-5.93/-4.37	-3.73/-4.4	-3.42/-1.9	-1.21/-1.54	-1.81/-2.93	-4.61/-5.53	-4.57/-3.24	-2.17/-2	-2.79/-4.13	-5.59/-5.55	-4.68/-4.14	-3.24/-2.67	-2.69/-3.6	-4.08/-3.87	-2.52/-1.15	-1.15/-1.46	-1.55/-1.64
Θ(45°)	0.440/22	0.750/27	-1.37/-3.91	-5.38/-4.73	-4.32/-4.66	-5.04/-6.81	-9.49/-11.37	-10.11/-9.93	-13.5/-12.01	-8.78/-7.87	-6.49/-5.49	-6.21/-8.22	-9.7/-9.16	-7.59/-5.67	-3.31/-1.54	-1.1/-1.91	-3.05/-2.42	-0.99/-0.68	-0.9/-1.14	-1.72/-3.48	-5.44/-3.6	-1.18/-0.33	-0.080/14	0.680/98
Θ(52.5°)	-2.31/-3.25	-3.02/-2.01	-3.03/-5.25	-17.7/-6.33	-3.85/-1.87	-3.27/-9.24	-13.93/-10.82	-11.1/-17.31	-18.43/-12.61	-8.37/-8.82	-8.95/-8.08	-6.97/-5.85	-4.74/-5.22	-5.34/-3.51	-0.720/-5	-1.87/-1.65	-0.6/-0.35	-1.01/-1.18	-1.05/-2.79	-3.14/-0.5	1.06/1.16	0.480/25	-0.12/-1.26	
Θ(60°)	-1.31/-2.21	-3.99/-4.41	-4.06/-3.4	-3.48/-4.37	-4.88/-4.79	-4.95/-11.76	-17.71/-9.72	-6.42/-8.66	-13.63/-7.61	-6.9/-9.79	-8.21/-8.12	-6.19/-2.88	-0.86/-0.47	-1.78/-2.6	-1.55/-0.1	0.54/-0.31	-0.76/-1.49	-0.7/-2.12	-2.72/-3.26	-5.27/-5.86	-2.09/-0.35	0.480/67	0.872/3	2.240/32
Θ(67.5°)	0.72/-0.01	-1.96/-3.5	-4.43/-4.85	-4.71/-3.72	-3.93/-6.78	-8.24/-5.56	-5.25/-7.65	-7.77/-6.37	-7.08/-6.67	-5.59/-8.14	-8.72/-6.5	-2.780/69	2.763/28	2.21/-0.22	-0.960/28	1.51/-1.42	0.730/36	0.03/-0.22	-1.71/-2.99	-4.65/-1.5	1.86/1.24	0.86/1.16	1.68/2.54	2.96/1.97
Θ(75°)	2.160/6	-1.22/-5.75	-1.14/-5.14	-3.69/-3.09	-1.01/-2.57	-6.92/-3.96	-3.96/-6.41	-6.2/-6.41	-6.04/-3.73	-4.64/-6.05	-4.64/-2.77	-1.560/39	2.83/351	2.680/86	0.170/61	0.180/44	-0.190/-41	-0.19/-0.11	-0.26/-1.3	-1.16/-0.99	1.04/1.46	2.262/56	2.93/3.41	3.59/2.89
Θ(82.5°)	2.761/81	-0.41/-3.47	-4.06/-3.4	-1.65/-3.57	-0.98/-2.59	-5.8/-2.1	-1.76/-1.47	-2.23/-4.26	-2.21/-3.74	-4.87/-4.5	-4/-2.22	-1.590/94	3.28/106	3.561/91	0.95/-0.15	0.650/49	-0.09/-0.67	0.07/-2.91	-3.29/-3.04	-2.370/53	0.28/-0.12	0.71/-0.07	0.943/08	3.68/3.27
Θ(90°)	2.3/2.1	0.46/-4.62	-5.53/-0.9	0.83/-4.4	-3.22/-3.14	-5.79/-2.95	-2.28/-1.32	-0.87/-2.64	-2.26/-1.22	-1.18/-2.42	-2.93/-1.2	-1.84/-0.94	1.553/71	3.65/196	-1.26/-3.2	-1.66/-1.1	-2.42/-8.24	-2.73/-2.81	-0.73/-1.85	-4.34/-3.61	-3.31/-3.31	-0.440/67	1.39/2.29	2.74/2.83
Θ(97.5°)	3.63/44	-0.04/-7.33	-6.59/-1.6	-0.54/-7.86	-3.32/-4.62	-11.04/-2.62	-1.72/-0.74	-0.89/-3.11	-1.47/1.01	1.3/-1.75	-4.01/-0.36	2.29/2.62	3.34/38	3.23/1.33	-5.36/-6.96	-2.950/48	-4.53/-3.83	-2.83/-4.83	-2.07/-4.88	-2.78/-2.47	-2.78/-2.17	-0.76/-1.31	-2.12/-1.34	3.3/3.34
Θ(105°)	2.88/2.74	-1.01/-11.99	-10.4/-2.01	-1.95/-7.99	-7.16/-5.74	-14.16/-9.22	-2.88/-1.11	-0.53/-1.23	-3.090/78	0.76/-1.9	-4.69/-1.74	0.38/1.31	2.720/64	3.06/-5.27	-2.98/-0.41	-1.77/-5.2	-7.14/-13	-7.43/-2.34	-1.29/1.87	2.060/45	-0.28/-0.02	2.263/53		
Θ(112.5°)	1.18/-1.35	-1.13/-7.29	-12.42/-2.05	-3.67/-18.89	-13.27/-15.17	-11.32/-13.36	-1.96/-0.66	-1.85/-4.54	-2.65/-0.29	-1.99/-4.37	-14.94/-4.75	-1.79/1.55	0.12/1.01	1/-0.99	-2.71/-1.42	-0.540/25	-2.27/-8.16	-4.89/-1.39	-3.99/-4.39	-1.01/-0.69	0.532/79	2.24/-1.77	-3.44/-4.71	-3.990/2
Θ(120°)	-4.99/-8.7	-8.96/-9.27	-13.96/-6.34	-3.53/-14.42	-9.05/-9.31	-13.25/-9.33	-3.86/-4.88	-3.07/-6.31	-1.93/-2.45	-5.65/-9.11	-6.75/-5.21	-5.51/-9.05	-5.4/-2.39	-3.56/-6.4	-6.46/-5.76	-2.6/-1	-0.63/-1.24	-2.91/1.41	1.430/28	1.73/1.21	1.61/1.59	0.37/-1.51	-7.53/-13.88	-10.24/-5.64
Θ(127.5°)	-6.77/-3.3	-6.62/-11.28	-10.21/-7.98	-14.97/-14.13	-12.76/-7.25	-11.26/-10.03	-4.2/-5.86	-10.34/-4.88	-4.93/-8.97	-4.84/-10.15	-10.61/-15.84	-9.27/-11.87	-9.78/-6.28	-4.9/-6.2	-5.36/-4.8	-6.23/-6.17	-0.79/1.2	-3.44/-4.42	-4.18/-0.72	-2.28/-1.94	-1.220/36	-4.3/-7.64	-13.25/-15.83	-14.08/-14.23
Θ(135°)	-14.57/-14.39	-19.57/-14.49	-14.23/-17.01	-9.88/-5.58	-12.3/-19.42	-10.68/-7.76	-6.57/-7.22	-7.76/-6.43	-7.32/-9.62	-10.58/-12.44	-11.48/-11.42	-14.81/-12.13	-4.86/-1.57	-2.47/-5.7	-12.47/-11.97	-12.26/-5.62	-3.81/-3.68	-7.46/-8.35	-2.18/-0.99	-3.86/-4.67	-2.75/-4.34	-7.41/-7.97	-13.01/-15.45	-6.49/-4.1
Θ(142.5°)	-5.96/-9.47	-6.6/-4.58	-9.3/-19.63	-14.13/-15.62	-13.37/-11.82	-12.08/-9.76	-14.85/-18.19	-13.45/-5.4	-4.46/-9.16	-19.1/-16.63	-8.82/-4.93	-3.74/-2.78	-1.84/-1.05	-3.21/-8.15	-12.01/-18.8	-11.78/-11.09	-3.07/-3.37	-6.82/-8.18	-4.03/-3.54	-8.81/-10.23	-6.03/-5.89	-4.09/-5.6	-13.41/-19.37	-12.09/-5.99
Θ(150°)	-5.82/-3.5	-5.75/-10.47	-15.77/-11.08	-10.19/-11.99	-13.63/-17.15	-12.54/-17.14	-18.78/-14.19	-10.61/-6.23	-3.38/-4.28	-6.6/-8.61	-7.78/-6.07	-4.54/-4.84	-5.29/-6.24	-9.35/-9.71	-5.86/-5.64	-6.66/-4.56	-2.61/-3.87	-12.79/-15.63	-8.37/-3.1	-11.55/-17.28	-11.23/-3.69	-5.62/-8.94	-11.51/-18.81	-16.15/-12.54
Θ(157.5°)	-10.61/-10.08	-11.27/-11.28	-11.21/-14.78	-17.75/-19.84	-15.31/-9.78	-10.34/-11.63	-9.21/-10.32	-12.71/-17.83	-19.17/-14.82	-13.32/-10.51	-6.91/-5.8	-5.59/-5.45	-6.49/-10.4	-19.3/-11.19	-8.27/-8.14	-9.54/-7.48	-5.88/-8.07	-11.12/-7.81	-3.01/-1.54	-14.96/-12.87	-4.88/-6.34	-6		



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Freq(Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	4.82	4.79	4.23	4.09
Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$	Theta/165/180	Theta/157.5/142.5	Theta/172.5/172.5	Theta/172.5/172.5



Radiated Composite Gain Data 5GHz Scan

Appendix C

Gain Result

Freq(Hz)	5.2GPol.	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°)	-10.6/-9.43	-8.18/-4.62	-5.02/-3.97	-3.36/-2.79	-2.53/-2.17	-1.89/-1.54	-1.83/-2.32	-3.29/-4.43	-6.20/-7.57	-9.45/-11.7	-16.39/-19.09	-18.79/-12.77	-9.86/-5.54	-7.54/-6.47	-5.59/-4.44	-3.42/-2.66	-2.48/-2.53	-2.87/-3.7	-4.03/-5.25	-6.38/-6.71	-6.81/-7.27	-9.29/-11.51	-14/-16.85	-16.35/-11.99
Θ(7.5°)	-10.32/-8.3	-7.03/-6.03	-4.99/-4.1	-3.42/-3.02	-2.97/-3.23	-3.77/-4.18	-3.92/-4.03	-4.08/-4.5	-5.24/-6.79	-8.89/-10.62	-12.68/-15.24	-15.13/-11.64	-9.13/-8.02	-7.32/-6.16	-4.72/-3.46	-2.61/-1.99	-1.55/-1.2	-0.89/-1.1	-2/-2.97	-3.79/-4.54	-5.56/-7.26	-9.65/-11.6	-13.4/-15.96	-17.55/-13.8
Θ(15°)	-9.68/-7.62	-5.78/-5.26	-5.02/-4.62	-4.04/-3.79	-3.78/-3.83	-3.82/-3.67	-3.85/-3.47	-3.42/-3.71	-4.17/-4.77	-6.3/-8.37	-10.67/-12.11	-12/-10.42	-8.9/-12	-7.64/-6.66	-5.2/-3.83	-2.89/-2.21	-1.28/-0.94	-0.74/-1	-1.75/-2.72	-3.69/-4.36	-5.32/-6.71	-8.84/-12.14	-14.25/-14.11	-13.76/-12.15
Θ(22.5°)	-4.48/-4.73	-4.67/-4.62	-5.22/-5.84	-5.96/-5.76	-5.37/-4.63	-4.14/-3.74	-3.82/-4.03	-3.89/-3.55	-3.15/-3.32	-3.74/-4.21	-4.79/-5.49	-6.03/-6.66	-7.46/-7.93	-6.93/-5.71	-4.64/-3.95	-3.51/-2.62	-1.64/-1.31	-1.7/-2.64	-3.23/-3.4	-3.2/-3.13	-3.88/-4.34	-4.02/-4.16	-5.1/-4.7	-4.08/-4.35
Θ(30°)	-3.8/-4.19	-4.3/-3.65	-3.66/-4.26	-5.4/-6.41	-5.95/-4.65	-3.48/-3.07	-3/-3.16	-3.2/-3.36	-3.51/-3.57	-3.17/-3.05	-3.43/-4.5	-5.8/-6.91	-7.81/-7.99	-7.41/-7.6	-8.03/-8.74	-7.63/-5.56	-3.6/-2.57	-1.89/-1.56	-1.3/-1.29	-1.99/-3.45	-4.82/-5.23	-5.14/-4.17	-3.95/-4.76	-5.11/-4.72
Θ(37.5°)	-6.7/-5.35	-3.91/-3.46	-3/-4.43	-6.39/-6.81	-6.59/-5.67	-4.3/-3.65	-4.28/-4.13	-4.17/-3.43	-2.36/-2.28	-2.36/-2.92	-3.73/-4.61	-5.99/-7.59	-7.68/-6.43	-5.5/-6.01	-4.45/-4.64	-5.34/-8.3	-3.49/-2.32	-1.45/-0.68	-0.13/-0.9	-2.79/-4.65	-3.84/-2.44	-1.83/-2.52	-3.85/-5.19	-6.75/-7.85
Θ(45°)	-8.55/-6.99	-5.38/-3.83	-2.49/-2.23	-3.31/-4.1	-4.45/-5.64	-5.81/-3.02	-1.03/-0.61	-0.64/-0.03	0.430/-2.4	-0.51/-6.6	-2.87/-4.19	-5.58/-6.84	-7.06/-6.64	-6.56/-6.36	-6.18/-6.18	-6.52/-8.06	-6.02/-4.25	-4.51/-3.32	-1.6/-1.35	-2.68/-3.63	-3.69/-4.1	-5.14/-5.14	-5.7/-8.1	-12.65/-11.92
Θ(52.5°)	-12.62/-6.23	-4.68/-5.05	-4.38/-3.3	-3.2/-3.34	-3.86/-5.26	-7.15/-4.4	-2.98/-3.28	-2.48/-1.62	-1.1/-1.66	-2.59/-3.68	-5.09/-6.63	-8.11/-9.11	-10.29/-10.97	-13.33/-11.86	-8.88/-8.23	-8.58/-7.32	-2.72/-0.52	0.14/-0.19	-0.94/-2.9	-3.64/-2.44	-3.07/-4.73	-6.09/-8.34	-8.89/-10.6	-15.64/-20.15
Θ(60°)	-11.82/-7.98	-4.02/-3.03	-3.43/-2.87	-1.47/-1.61	-3.35/-6.43	-12.72/-8.03	-5.61/-5.72	-4.35/-2.66	-2.16/-2.75	-3.98/-5.28	-6.74/-8.21	-9.03/-9.68	-12.25/-14.85	-15.29/-14.52	-19.57/-16.54	-8.67/-3.3	-0.20/-4.8	-0.120/-5.3	0.5/-1.11	-1.15/-0.59	-1.84/-4.98	-5.26/-5.23	-8.41/-16.32	-20.26/-13.94
Θ(67.5°)	-14.36/-9.47	-4.6/-4.35	-3.35/-2.4	-2.25/-2.4	-5.34/-13.38	-11.9/-5.83	-4.49/-4.05	-3.71/-4.09	-3.13/-2.84	-3.47/-4.92	-7.64/-11.67	-14.96/-13.62	-12.29/-9.95	-8.84/-9.82	-11.88/-6.94	-4.53/-3.05	-1.21/-2.13	-4.07/-4.65	-4.73/-3.51	-3.03/-4.77	-6.56/-6.32	-6.3/-7.9	-11.45/-19.57	-19.29/-16.46
Θ(75°)	-12.1/-7.3	-3.96/-2.95	-4.41/-3.1	-1.8/-3.45	-5.68/-6.81	-4.23/-0.49	-1.19/-1.7	-1.3/-2.27	-3.53/-3.71	-2.85/-3.01	-5.41/-7.74	-8.71/-10.61	-13.19/-16.59	-18.26/-19.94	-18.4/-9.54	-5.39/-2.48	-0.78/-0.18	-2.8/-7.33	-8.84/-8.85	-9.03/-6.87	-7.4/-12.38	-15.01/-13.34	-19.41/-17.27	-12.3/-13.49
Θ(82.5°)	-12.66/-6.49	-3.84/-2.99	-5.12/-5.09	-5.41/-10.09	-9.43/-4.88	-0.750/-7	0.95/-59	-0.51/-1.26	-1.49/-1.89	-2.58/-4.22	-6.08/-8.32	-11.67/-18.99	-19.5/-14.18	-12.78/-19.49	-16.32/-19.47	-4.2/-1.4	0.51/-1.3	-0.22/-3.63	-5.13/-4.74	-5.96/-6.36	-7.27/-7.05	-9.72/-16.26	-19.08/-10.03	-10.78/-10.44
Θ(90°)	-14.06/-10.34	-5.09/-3.45	-4.56/-4.71	-3.04/-3.74	-2.45/-0.75	0.45/-1.71	1.41/-1.56	1.05/-1.51	-4.58/-5.49	-4.68/-4.72	-6.12/-10.18	-15.37/-20.17	-18.58/-17.75	-13.93/-10.36	-9.94/-7.39	-4.08/-2.47	-3.06/-1.7	-2.46/-5.15	-6.26/-4.38	-6.12/-3.64	-2.26/-7.53	-16.25/-20	-17.72/-10.05	-7.92/-8.15
Θ(97.5°)	-8.04/-12.68	-7.45/-5.89	-6.37/-3.9	-4/-9.64	-3.14/-2.04	-0.710/-98	1.171/-26	0.06/-1.49	-2.65/-2.86	-2.76/-2.99	-5.69/-10.15	-14.19/-14.53	-14.57/-16.51	-15.49/-13.3	-9.6/-7.52	-5.75/-6.2	-5.02/-0.79	-0.46/-0.58	-2.82/-5.65	-6.79/-5.1	-4.42/-6.36	-11.07/-11.39	-19.01/-12.16	-6.38/-5.3
Θ(105°)	-10.99/-15.7	-5.96/-3.96	-3.74/-2.58	-2.95/-4.8	-1.140/-33	-0.91/-28	1.710/-92	0.03/-0.82	-1.34/-1.83	-2.54/-3.33	-7.5/-12.65	-13.61/-18.66	-16.96/-6.69	-5.39/-5.92	-6.5/-7.12	-6.61/-7.37	-2.6/-3.7	-3.89/-6.76	-5.89/-4.6	-8.81/-15.63	-10.84/-17.2	-19.9/-12.33	-5.72/-5.6	
Θ(112.5°)	-12.17/-9.82	-4/-1.96	-2.15/-2.74	-1.38/-1.75	-1.96/-1	-1.880/-23	0.631/-09	1.111/-103	-1.29/-2.55	-3.25/-3.38	-3.99/-4.88	-5.4/-6.68	-9.41/-17.18	-17.11/-16.71	-9.78/-5.76	-4.77/-3.56	-5.71/-7.37	-11.75/-15.28	-10.28/-16.86	-18.37/-9.38	-9.86/-18.94	-12.51/-9.52	-20.18/-10.3	-9.09/-8.31
Θ(120°)	-8.27/-6.81	-4.42/-3.88	-3.63/-3.77	-4.2/-2.3	-0.12/-0.05	-1.38/-1.99	-1.07/-1.22	-0.85/-0.34	-0.27/-0.04	-0.43/-1.58	-2.79/-3.66	-5.26/-7.1	-10.92/-16.12	-13.62/-11.31	-7.95/-6.07	-5.53/-7.63	-3.48/-3.87	-6.89/-9.52	-7.78/-10.06	-16.89/-11.32	-10.39/-11.48	-11.2/-14.02	-19.85/-16.49	-20.32/-10.12
Θ(127.5°)	-10.24/-9.46	-6.21/-4	-3.41/-4.22	-3.3/-2.2	-3.07/-4.29	-5.04/-3.75	-3.1/-2.57	-2.15/-2.33	-1.24/-0.59	-0.77/-0.14	-0.87/-3.3	-4.84/-10.23	-16.26/-15.41	-18.26/-14.71	-8.16/-5.87	-7.62/-6.55	-2.950/-3	-0.59/-5.63	-17.5/-18.88	-14.96/-14.64	-16.35/-11.52	-10.79/-11.29	-1.81/-18.68	-15.27/-12.06
Θ(135°)	-10.14/-9.39	-8.16/-6.44	-5.24/-5.6	-6.1/-2.45	-0.47/-0.97	-1.57/-1.26	-0.50/-26	1.01/-1.22	0.16/-0.95	-1.6/-2.65	-4.12/-3.76	-4.35/-4.92	-4.8/-7.7	-9.74/-6.98	-4.81/-5.72	-10.87/-14.9	-8.78/-4.78	-3.53/-4.1	-8.02/-17.24	-19.67/-9.01	-9.96/-11.88	-6.61/-4.27	-16.62/-19.8	-20.23/-14.43
Θ(142.5°)	-7.42/-7.89	-10.12/-10.11	-7.79/-4.52	-3.67/-2.31	-2.61/-3.3	-3.01/-1.51	-0.38006	0.250/-82	2.052/-26	0.87/-0.23	-0.85/-2.8	-4.5/-10.07	-16.26/-17.49	-11.65/-15.34	-10.61/-7.76	-6.8/-3.86	-2.22/-0.78	-2.49/-5.03	-16.99/-7.06	-2.64/-2.04	-6.67/-11.69	-9.64/-2.57	-4.33/-16.09	-19.98/-12.62
Θ(150°)	-8.72/-8.33	-6.44/-4.85	-5.68/-7.3	-6.3/-3.26	-1.32/-0.66	-0.190/-34	0.931/-24	1.31/-13	0.51/-0.19	-1.13/-2.43	-4.34/-5.8	-6.38/-12	-13.54/-19.58	-19.69/-17.89	-12.56/-10.42	-9.25/-6.37	-3.4/-1.33	0.330/-71	0.890/-26	-3.57/-9.1	-9.41/-5.37	-6.55/-9.3	-8.56/-11.68	-13.78/-12.19
Θ(157.5°)	-19.01/-15.25	-8.58/-6.51	-5.72/-4.52	-2.85/-1.5	-0.080/-86	1.722/-44	2.862/-91	2.31/-41	-0.06/-1.4	-3.2/-5.39	-8.05/-11.2	-13.94/-14.63	-12.69/-10.55	-7.72/-4.45	-1.66/-0.37	-0.5/-0.61	-0.010	-1.41/-3.1	-5.18/-8.9	-14.34/-20.09	-19.87/-16.53	-20.3/-9.89	-6.46/-8.06	-10.84/-13.2
Θ(165°)	-19.18/-14.28	-11.16/-9.72	-8.33/-6.88	-7.88/-2.19	-0.181/-14	0.971/-25	1.961/-21	0.01/-1.44	-0.281/-3.68	-4.31/-4.81	-5.36/-6.57	-10.05/-17.33	-12.46/-15.5	-3.29/-1.92	-1.16/-1.03	-0.32/-0.54	-1.85/-5.21	-9.17/-9.57	-7.41/-5.77	-5.53/-6.26	-17.32/-10.13	-16.79/-13.76	-9.93/-10.23	-12.78/-19.44
Θ(172.5°)	-19.63/-19.29	-19.73/-19.63	-20.16/-19.05	-19.07/-14.36	-10.53/-8.17	-6.54/-4.98	-3.71/-7.8	-2.23/-2.04	-2.45/-1.82	-2.03/-2.75	-4.31/-6.71	-10.93/-20.1	-15.24/-8.21	-5.05/-3.42	-2.65/-2.4	-2.29/-2.87	-3.86/-4.66	-4.3/-4.06	-3.96/-4.15	-4.96/-6.67	-8.89/-10.93	-12.03/-12.45	-12.78/-15.56	-18.25/-19.63
Θ(180°)	-19.12/-16.29	-13.47/-10.95	-8.58/-6.89	-5.84/-4.93	-3.89/-3.02	-2.36/-2.16	-1.86/-1.49	-1.28/-1.48	-2.12/-2.97	-4.25/-5.79	-7.69/-10.42	-14.52/-19.86	-19.83/-14.02	-9.04/-5.7	-3.34/-1.68	-0.64/-0.46	-0.89/-1.86	-3.46/-5.68	-7.27/-6.82	-4.61/-2.72	-1.45/-1.03	-1.64/-2.75	-4.83/-8.87	-14.44/-19.78
Freq(Hz)	5.2GPol.	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°)	-4.09/-3.95	-3.75/-4.15	-4.97/-6.42	-8.4/-10.63	-12.52/-15.18	-18.67/-20.06	-15.71/-12.2	-8.77/-6.76	-5.51/-4.62	-3.96/-2.96	-2.3/-2.14	-2.41/-2.73	-3.12/-3.87	-4.47/-5.35	-6.28/-7.3	-8.6/-10.4	-13.77/-17.21	-17.27/-14.47	-11.58/-10.23	-9.32/-8.38	-6.93/-5.7	-4.62/-3.95	-3.47/-3.29	-3.93/-3.91
Θ(7.5°)	-3.95/-3.86	-4.05/-4.64	-5.87/-8	-9.44/-11.55	-13.22/-15.29	-18.27/-17	-13.5/-10.98	-9.34/-8.38	-7.09/-5.92	-4.83/-4.18	-2.06/-1.92	-2.44/-3.25	-3.84/-4.04	-4.32/-4.57	-5.05/-6.12	-7.85/-10.23	-13.05/-15.6	-16.43/-15.06	-12.17/-10.27	-9.12/-7.82	-6.24/-5.73	-3.55/-3.08	-2.62/-2.41	-2.91/-3.37
Θ(15°)	-3.11/-3.58	-4.49/-8.52	-7.06/-9.55	-10.51/-14.86	-19.11/-19.38	-15.85/-12.39	-11.02/-10.66	-10.14/-8.85	-7.6/-6.53	-4.95/-3.15	-2.12/-2.17	-2.95/-3.51	-2.96/-2.35	-2.59/-3.74	-5.08/-6.7	-8.88/-11.36	-14.46/-16.44	-18.57/-17.4	-13.81/-11.31	-9.37/-7.26	-5.25/-6.68	-2.87/-2.58	-2.12/-1.34	-1.33/-1.66
Θ(22.5°)	-2.11/-3.25	-2.98/-3.5	-5.03/-7.12	-9.68/-11.92	-15.71/-19.3	-17.46/-12.22	-10.48/-9.61	-9.31/-5.95	-8.03/-7.84	-6.81/-5.21	-4.17/-3.63	-3.31/-2.49	-1.69/-1.35	-1.91/-2.95	-4.42/-6.32	-9.17/-11.43	-15.72/-19.21	-16.24/-14.71	-14.02/-12.42	-9.68/-7.17	-4.57/-2.26	-0.62/-0.16	-0.15/-0.4	-1.02/-1.23
Θ(30°)	0.990/-49	-0.52/-1.93	-3.81/-6.29	-8.89/-9.62	-9.53/-10.75	-12.4/-12.04	-13.110/-17	-11.72/-12.43	-11.45/-10.5	-10.34/-10.46	-9.91/-8.48	-6.92/-5.56	-4.77/-4.63	-4.15/-4.29	-5.28/-7.46	-8.61/-9.31	-11.95/-18.54	-19.06/-19.14	-18.13/-14.28	-8.95/-5.38	-3.71/-2.27	-1.65/-1.32	-0.850/-2.4	0.91/-41
Θ(37.5°)	1.071/-04	0.32/-1.48	-3.89/-6.49	-5.6/-6.44	-6.7/-6.82	-6.95/-6.21	-6.48/-6.03	-6.36/-6.51	-8.92/-12.2	-14.99/-16.2	-18.11/-20.04	-19.45/-14.12	-8.22/-5.05	-4.28/-5.03	-7.27/-10.23	-13.15/-12.82	-11.06/-11.55	-14.05/-16.94	-13.21/-8.96	-7.16/-6.41	-5.28/-5.68	-5.91/-4.5	-3.03/-1.5	-0



Radiated Composite Gain Data 5GHz Scan

Appendix C

Θ(22.5°)	-2.9/-2.69	-2.18/-1.45	-1.48/-2.44	-3.53/-4.44	-4.06/-3.11	-2.25/-1.43	-1.14/-2.68	-3.02/-3.37	-3.14/-3.79	-5.07/-6.12	-6.65/-7.27	-8.12/-9.78	-11.87/-13.68	-14.77/-14.06	-10.67/-8.22	-6.16/-4.7	-3.56/-2.53	-1.87/-2.24	-3.52/-5.23	-8.27/-12.94	-19.68/-20.04	-17.35/-13.18	-10.65/-7.46	-5/-3.83
Θ(30°)	-2.5/-2.67	-2.66/-2.22	-2.3/-2.92	-3.18/-3.28	-3.24/-2.97	-1.91/-0.46	0.13/-0.19	-0.88/-1.27	-1.52/-1.83	-2.52/-3.32	-3.93/-4.76	-6.09/-8	-9.72/-9.34	-7.88/-7.5	-7.47/-6.83	-5.73/-6.14	-6.68/-5.97	-5.03/-5.48	-8.77/-12.58	-11.75/-11.8	-9.33/-7.75	-7.35/-7.15	-6.97/-6.26	-5.16/-3.76
Θ(37.5°)	-11.38/-8.69	-6.18/-4.33	-3.68/-4.62	-5.55/-5.47	-5.09/-4.09	-2.92/-1.81	-0.62/-0.08	0.77/-0.18	-0.47/-1.26	-2.42/-3.54	-4.81/-6.31	-9.88/-16.42	-18.96/-13.83	-9.67/-7.91	-7.1/-4.06	-1.75/-1.09	-0.08/-1.22	2.24/-2.18	1.53/-0.63	-1.27/-3.85	-8.05/-10.39	-9.6/-8.63	-9.51/-11.03	-12.26/-12.63
Θ(45°)	-19.09/-14.75	-10.2/-6.4	-4.23/-3.77	-4.06/-4.6	-5.63/-4.12	-2.43/-1.57	-0.85/-0.4	-0.84/-1.94	-2.31/-2.21	-2.81/-3.52	-3.82/-4.36	-5.8/-7.95	-8.37/-8.67	-10.85/-12.64	-13.27/-10.98	-8.14/-5.25	-4.45/-3.13	-4.02/-3.07	-0.34/-0.64	-0.41/-1.77	-1.86/-2.5	-5.42/-12.22	-18.65/-19.73	-15.22/-15.99
Θ(52.5°)	-19.95/-14.8	-10.95/-10.2	-8.61/-9.18	-9.15/-7.55	-8.61/-6.81	-4.4/-4.89	-4.91/-4.53	-3.87/-3.45	-3.83/-3.09	-2.7/-2.41	-3.29/-4.89	-7.85/-11.11	-15.16/-19.21	-12.35/-8.34	-7.3/-9.15	-8.85/-4.34	-3.36/-2.93	-1.19/-1.83	-2.31/-1.35	-1.09/-0.31	-0.79/-3.58	-7.75/-10.06	-12.56/-18.69	-19.94/-18.46
Θ(60°)	-15.44/-12.02	-13.82/-11.44	-10.44/-13.16	-14.11/-11.34	-10.64/-7.1	-4.19/-3.06	-1.24/-0.92	-2.68/-4.08	-5.31/-8.07	-9.49/-6.15	-5.45/-6.76	-8.83/-11.31	-14.48/-16.74	-19.63/-14.35	-11.13/-10.52	-19.05/-12.38	-5.71/-0.6	2.21/-0.6	2.03/-0.3	-4.51/-3.6	-2.82/-5.3	-7.65/-10.99	-10.62/-11.45	-16.01/-14.11
Θ(67.5°)	-15.86/-13.13	-9.77/-10.34	-8.59/-8.03	-12.9/-19.21	-10.77/-3.1	-0.13/-0.45	1.18/-0.33	-3.03/-5.29	-8.55/-10.37	-7.98/-5.12	-4.25/-4.89	-6.36/-8.61	-11.38/-10.17	-11.38/-14.84	-12.23/-10.61	-18.93/-12.76	-4.26/-0.48	-0.08/-1.26	0.35/-0.88	-3.77/-2.49	-2.89/-5.56	-7.9/-6.56	-8.9/-12.73	-14.44/-19.92
Θ(75°)	-13.23/-11.48	-10.02/-11.87	-17.36/-12.71	-16.88/-12.98	-8.17/-1.56	1.15/-1.33	1.7/-0.3	-4.2/-7.09	-11.27/-14.03	-10.76/-7.38	-5.98/-6.45	-7.65/-12.16	-14.4/-15.1	-18.28/-17.07	-12.56/-11.65	-15.01/-11.19	-3.5/-1.75	-1.23/-3.2	-4.42/-5.83	-7.49/-7.79	-6.58/-8.05	-9.58/-11.19	-10.28/-6.88	-9.82/-11.96
Θ(82.5°)	-16.66/-12.64	-9.96/-15.11	-12.44/-8.74	-11.05/-6.72	-2.63/-1.09	0.41/-0.65	0.61/-0.23	-2.48/-4.79	-9.78/-11.49	-7.31/-5.15	-3.96/-4.34	-5.57/-10.53	-11.73/-10.71	-10.75/-13.97	-12.73/-12.3	-11.06/-9.19	-5.66/-2.79	-1.54/-3.62	-5.65/-7.01	-10.48/-5.83	-6.16/-12.65	-14.17/-14.72	-11.88/-11.1	-9.21/-12.29
Θ(90°)	-18.72/-7.73	-5.16/-7.56	-14.46/-9.64	-15.99/-9.68	4.44/-0.48	2.82/-2.89	2.21/-0.44	-2.42/-3.13	-3.94/-5.68	-7.22/-5.65	-3.76/-4.15	-7.48/-17.53	-14.81/-10.99	-14.1/-17.06	-16.97/-9.6	-10.28/-8.81	-6.41/-1.29	0.46/-1.56	-4.77/-9.86	-10.38/-9.84	-12.5/-9.05	-12.35/-12.03	-10.51/-6.34	-5.67/-8.37
Θ(97.5°)	-19.7/-7.18	-5.68/-9.61	-7.94/-6.97	-6.37/-0.66	-0.84/-0.25	0.82/-2.22	1.87/-1.03	-0.4/-2.19	-4/-4.44	-4.01/-3.66	-2.64/-3.14	-5.56/-10.95	-18.9/-19.49	-19.04/-17.73	-7.83/-6.7	-8.25/-8.1	-2.39/-0.02	-0.34/-5.45	-10.44/-8.98	-15.55/-13.76	-9.07/-9.49	-15.52/-17.18	-18.13/-11.25	-8.67/-10.87
Θ(105°)	-9.47/-4.03	-3.91/-6.88	-4.47/-2.95	-7.18/-3.19	-0.91/-1.59	-0.84/-1.01	-0.11/-0.73	-0.4/-3.15	-9.02/-15.5	-5.53/-9.99	-4.06/-5.65	-7.25/-11.18	-14.88/-12.06	-15.95/-18.46	-9.71/-7.4	-9.79/-12.29	-4.1/-0.22	-0.25/-2.32	-7.44/-6.43	-8.38/-19.39	-9.03/-11.72	-16.13/-17.39	-18.82/-11.34	-9.68/-19.22
Θ(112.5°)	-8.05/-5.83	-5.3/-6.95	-7.89/-5.53	-5.74/-4.83	-1.66/-2.43	-2.54/-0.03	1.68/-1.22	0.02/-1.79	-3.58/-3.18	-1.18/-1.31	-4.24/-9.71	-15.93/-17.58	-10.23/-11	-19.04/-16.91	-14.06/-14.02	-14.77/-6.88	-1.76/-0.21	-0.41/-4.31	-6.2/-2.9	-3.34/-9.65	-8.96/-8.92	-14.74/-9.64	-17.77/-16.27	-10.68/-8.86
Θ(120°)	-3.51/-5.6	-5.36/-2.87	-0.66/-1.68	-3.02/-3.06	-2.99/-2.58	-2.16/-0.39	0.16/-1.31	-3.6/-4.89	-4.39/-4.07	-3.95/-4	-5.47/-7.54	-11.29/-12.72	-14.42/-14.4	-7.31/-14.47	-7.83/-9.4	-17.6/-10.05	-5.85/-0.37	0.56/-0.71	-2.63/-1.06	-4.28/-10.92	-8.92/-12.68	-18.9/-20.2	-12.61/-19.88	-11.14/-4.67
Θ(127.5°)	-5.85/-5.89	-4.87/-3.81	-3.62/-3.7	-3.27/-3.13	-2.29/-2.05	-2.07/-2.66	-2.48/-1.63	-0.52/-0.35	-0.55/-1.02	-3.77/-4.85	-11.42/-11.14	-9.15/-8.28	-13.38/-18.3	-8.44/-11.67	-16.38/-8.42	-6.23/-8.92	-13.14/-3.23	0.2/-1.11	-3.68/-3.31	-2.55/-5.51	-11.23/-18.11	-10.97/-6.08	-12.22/-15.9	-15.66/-6.74
Θ(135°)	-11.12/-8.95	-8.5/-7.16	-4.37/-4.46	-4.16/-2.95	-1.98/-1.06	0.02/-1.59	-5.88/-5.26	-5.07/-4.47	-2.53/-1.31	-1.79/-1.32	-2.6/-4.95	-7.6/-14.94	-10.65/-7.02	-7.57/-8.28	-10.78/-9.21	-7.73/-9.12	-9.19/-14.8	-11.23/-4.24	-4.46/-19.22	-14/-20.16	-19.65/-9.58	-6.81/-14.15	-18.43/-20.63	-19.62/-20.11
Θ(142.5°)	-9.98/-12.55	-8.63/-10.49	-7.05/-3.72	-2.63/-1.55	-2.09/-3.87	-6.69/-5.9	-4.83/-3.71	-1.44/-0.35	-0.39/-0.45	-0.68/-2.72	-4.08/-5	-9.57/-17.91	-19.29/-12.78	-11.85/-4.77	-5.55/-6.12	-7.57/-1.69	1.51/-1.82	-0.18/-4.6	-8.67/-7.31	-1.72/-0.33	-2.6/-5.7	-8.25/-5.26	-8.86/-17.8	-16.57/-12.66
Θ(150°)	-20.09/-17.52	-11.9/-16.55	-10.83/-4.72	-2.69/-2.45	-2.62/-2.4	-2.42/-5.55	-3.86/-1.34	-0.09/-0.2	-0.58/-2.51	-5.02/-6.63	-5.38/-6.83	-10.8/-19.67	-19.8/-13.95	-9.78/-8.36	-7.25/-3.02	-3.78/-8.39	-10.3/-8.97	-5.63/-3.89	-3.42/-1.66	-3.49/-7.8	-9.28/-6.59	-9.45/-9.64	-8.74/-7.72	-8.4/-11.59
Θ(157.5°)	-12.81/-10.92	-9.75/-10.13	-8.35/-4.23	-1.15/-0.05	-0.58/-0.28	0.35/-0.28	-1.05/-2.19	-2.48/-2.83	-2.15/-2.28	-3.51/-4.65	-5.99/-6.42	-7.14/-8.05	-9.82/-13.23	-16.01/-10.82	-6.51/-3.31	-1.92/-1.67	-0.7/-0.15	-1.17/-4.27	-5.68/-8.28	-15.05/-18.64	-19.98/-20.09	-17.81/-8.27	-6.27/-7.04	-8.07/-11.31
Θ(165°)	-14.34/-13.25	-13.15/-12.83	-7.85/-3.53	-0.89/-0.76	1.36/-1.45	1.38/-1.27	0.83/-0.01	-1.39/-2.61	-3.86/-4.65	-5.65/-6.57	-8.16/-10.55	-14.28/-18.74	-13.67/-7.28	-2.58/-0.51	0.69/-1.43	1.69/-1.35	0.57/-1.56	-5.82/-10.15	-8.38/-6.84	-7.52/-9.9	-10.37/-10.69	-13.61/-19.12	-20.27/-18.91	-19.35/-16.84
Θ(172.5°)	-14.34/-14.14	-11.67/-8.51	-5.79/-3.73	-2.25/-1.56	-1.93/-1.83	-1.83/-1.81	-1.64/-1.5	-1.96/-2.92	-3.66/-3.36	-4.3/-5.82	-8.8/-14.57	-18.7/-13.76	-9.18/-6.04	-3.91/-2.69	-2.4/-2.8	-2.67/-2.75	-3.12/-2.98	-1.86/-1.38	-1.96/-3.14	-5.13/-7.04	-7.35/-6.94	-8.09/-9.88	-11.55/-13.95	-15.95/-15.48
Θ(180°)	-15.84/-14.41	-13.91/-14.02	-11.65/-8.43	-6.6/-5.21	-3.96/-3.3	-2.85/-2.87	-2.63/-2.26	-1.9/-1.87	-2.25/-2.51	-3.44/-5.1	-6.73/-9.7	-10.33/-10.48	-12.7/-15.55	-10.56/-7.28	-4.97/-3.05	-1.69/-1.57	-1.82/-2.39	-3.51/-6.32	-12.08/-14.6	-6.77/-2.37	-0.51/-0.04	-0.5/-1.71	-3.81/-7.34	-11.88/-16.43
Freq(Pol)	5.66Pol	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°)	-0.47/-0.32	-0.58/-0.67	-1.15/-1.83	-2.79/-4.35	-6.69/-9.38	-13.19/-17.51	-14.96/-10.9	-7.72/-5.44	-3.57/-2.07	-1.17/-0.51	-0.31/-0.41	-0.04/-0.58	-1.17/-1.93	-2.48/-3.36	-4.06/-4.72	-5.1/-5.29	-5.49/-6.11	-7.77/-10.3	-11.6/-10.99	-10.38/-9.86	-8.66/-3.71	-5.99/-4.33	-3.19/-2.62	-1.82/-1.36
Θ(7.5°)	-2.31/-2.96	-3.36/-3.46	-3.52/-4.16	-5.03/-6.28	-7.92/-8.54	-9.15/-10.14	-11.07/-12.55	-11.37/-9.25	-7.79/-7.06	-6.09/-4.58	-3.57/-3.39	-3.44/-3.09	-2.44/-2.08	-2.35/-3.03	-4.38/-4.68	-6.02/-6.56	-7.78/-9.84	-12.32/-13.65	-10.77/-8.13	-6.39/-5.1	-4.23/-4	-3.36/-2.5	-2.13/-1.82	-1.58/-1.97
Θ(15°)	-4.97/-5.8	-7.55/-8.66	-8.95/-9.58	-8.26/-6.79	-5.94/-5.67	-6.32/-7.84	-10.95/-12.66	-16.99/-18.47	-19.02/-18.05	-14.31/-15.57	-9.41/-7.36	-5.23/-3.79	-3.11/-2.56	-1.95/-1.74	-1.97/-2.49	-2.88/-3.53	-5.77/-9.13	-14.73/-13.26	-8.53/-5.9	-4.66/-3.54	-2.83/-2.42	-2.81/-3.3	-4.36/-4.85	-4.55/-5.02
Θ(22.5°)	-1.37/-2.05	-4.13/-6.69	-9.14/-9.54	-8.23/-5.91	-4.35/-4.12	-4.83/-5.99	-7.81/-10.05	-11.81/-11.75	-10.92/-9.77	-11.05/-13.07	-17.22/-18.24	-12.07/-8.55	-6.62/-5.61	-4.49/-3.33	-2.52/-2.42	-2.72/-3.68	-5.36/-8.05	-11.82/-13.79	-9.1/-5.87	-4.35/-3.7	-3.52/-3.06	-2.42/-1.39	-0.7/-1.16	-0.77/-1.39
Θ(30°)	0.43/-1.15	-2.65/-4.12	-6.42/-6.25	-5.48/-4.38	-3.44/-3.03	-3.6/-4.49	-5.29/-5.37	-4.91/-4.93	-5.84/-7.57	-9.22/-11.35	-13.44/-15.96	-18.98/-17.41	-16.09/-13.83	-10.14/-7.26	-5.95/-5.04	-4.57/-5.51	-6.5/-7.96	-10.08/-10.18	-7.12/-5.88	-6.54/-5.18	-1.78/-0.59	1.71/-1.91	2.44/-0.25	1.91/-0.9
Θ(37.5°)	0.79/-0.77	-0.76/-3.35	-4.72/-3.65	-2.88/-3.04	-3.84/-4.25	-4.2/-4.54	-4.87/-4.91	-4.31/-3.78	-4.85/-6.88	-9.05/-11.95	-14.77/-18.16	-19.24/-19.28	-19.37/-9.84	-4.98/-2.8	-2.01/-2.31	-3.5/-3.13	-6.93/-6.65	-10.46/-8.31	-6.62/-7.29	-6.3/-3.32	-1.11/-0.27	0.71/-0.35	0.01/-0.34	-0.67/-0.14
Θ(45°)	0.44/-0.11	-0.2/-0.99	-3.02/-2.74	-1.44/-1.39	-0.86/-1.01	-3.64/-4.19	-3.16/-2.29	-2.35/-3.1	-3.46/-3.71	-4.53/-6.24	-7.49/-4.65	-3.84/-4	-5.33/-6.24	-8.18/-8.89	-10.48/-16.15	-14.76/-10.3	-9.38/-15.89	-11.97/-8.61	-8.99/-10.62	-7.35/-4.9	-2.61/-2.41	-2.37/-4.17	-5.8/-3.71	-2.57/-4.18
Θ(52.5°)	-0.05/-1.87	1.49/-0.18	-2.56/-3.08	-0.61/-0.99	-0.44/-1.69	-3.12/-2.75	-1.91/-2.88	-4.86/-5.96	-4.18/-2.75	-3.89/-6.48	-9.48/-12.72	-19.73/-19.86	-19.97/-14.42	-8.88/-6.83	-7.2/-7.11	-8.51/-7.48	-7.8/-9.02	-8.01/-8.22	-12.03/-9.06	-4.05/-2.83	-2.74/-1.61	-0.71/-0.67	-2.12/-3.51	-3.48/-2.85
Θ(60°)	0.36/-1.55	1.49/-0.06	-2.47/-2.72	-0.53/-0.27	-1.28/-2.21	-4.34/-1.97	-0.32/-1.68	-4/-5.16	-6.44/-9.48	-2.99/-3.48	-5.6/-8.05	-8.66/-7.99	-7.43/-10.8	-19.93/-18.8	-18.71/-17.85	-19.43/-12.05	-13.18/-11.57	-9.1/-9.17	-6.87/-4.26	-4.06/-2.75	-1.68/-1.59	-2.13/-2.79	-3.43/-3.61	-3.84/-1.81
Θ(67.5°)	-1.29/-0.69	-0.29/-2.67	-4.8/-1.76	-0.68/-1.82	-3.64/-4.19	-3.16/-2.29	-2.95/-3.1	-3.46/-3.71	-6.32/-8.71	-7.49/-4.65	-3.84/-4	-5.33/-6.24	-8.18/-8.89	-10.48/-16.15	-14.76/-10.3	-9.38/-15.89	-11.97/-8.61	-8.99/-10.62	-7.35/-4.9	-2.61/-2.41	-2.37/-4.17	-5.8/-3.71	-2.57/-4.18	-6.05/-4.55
Θ(75°)	0.75/-1.09	-0.02/-3.97	-4.93/-4.1	-3.06/-2.68	-1.14/-1.37	-2.9/-2.29	-0.19/-0.03	-0.67/-1.26	-4.88/-6.68	-9.46/-9.3	-7.08/-3.99													