



Radiated Composite Gain Data

Appendix A

Θ (15°)	-6.27/6.49	-6.75/7.03	-7.46/8.21	-8.96/9.57	-9.85/10.16	-10.91/12.55	-13.97/15.88	-17.31/17.32	-16.25/14.5	-12.56/10.75	-9.09/8.05	-7.81/7.91	-7.72/6.48	-5.41/5.05	-5.45/-6.45	-7.57/8.74	-9.31/10.69	-12.95/16.64	-17.69/18.33	-18.71/18.12	-16.61/14.43	-12.57/11.46	-10.72/9.64	-8.65/8.17
Θ (22.5°)	-4.99/-5.16	-5.35/-5.67	-6.4/-7.21	-9.83/11.91	-12.35/-11.46	-11.06/-11.23	-13.11/16.72	-17.88/-17.79	-14.04/-10.5	-8.21/-6.6	-5.13/-4	-3.87/-4.45	-5.2/-5.59	-5.25/-6.42	-4.63/-5.25	-6.23/-7.24	-8.55/-10.21	-12.72/15.98	-16.1/-14.7	-13.6/-14.12	-14.54/-14.16	-12.84/-11.59	-10.39/-9.06	-7.99/-7.68
Θ (30°)	-5.01/-4.74	-4.77/-4.85	-5.14/-4.38	-9.71/14.56	-17.56/-13.48	-11.78/12.46	-17.76/17.99	-12.75/-7.9	-4.96/-3.65	-3.28/-3.41	-3.39/-3.34	-3.76/-4.48	-5.17/-5.45	-5.44/-4.67	-4.12/-3.77	-3.74/-4.19	-5.53/-7.5	-10.12/-12.19	-11.6/-10.25	-9.6/-9.55	-10.06/-11.43	-12.68/-12.67	-11.67/-10.14	-8.92/-8.25
Θ (37.5°)	-5.87/5.47	-6/-6.7	-7.33/8.29	-11.01/16.22	-14.93/11.61	-10.81/11.64	-12.09/9.1	-5.38/-2.86	-1.77/1.93	-2.92/3.62	-2.84/-2.48	-3.08/-3.89	-4.56/5.25	-5.94/-5.9	-5.05/-3.86	-3/3.06	-4.34/6.35	-8.49/8.76	-8.02/-7.69	-7.27/6.73	-6.79/7.94	-9.93/11.69	-11.92/11.52	-10.74/9.45
Θ (45°)	-4.63/-4.41	-5.74/-8.23	-10.81/11.47	-10.84/-9.96	-8.79/-8.47	-9.13/9.29	-7.43/-4.65	-2.38/-1.08	-0.95/-2.04	-3.43/-3.12	-2.12/-1.92	-2.3/-2.48	-2.42/-2.63	-3.01/-3.39	-3.75/-3.5	-2.77/-2.45	-1.31/-4.7	-6.43/-5.65	-5.06/-5.85	-5.89/-4.1	-4.5/-4.9	-5.98/-7.33	-8.06/-8.6	-8.43/-7.11
Θ (52.5°)	-4.21/-3.99	-5.53/-8.19	-8.78/7.3	-6.4/-6.12	-5.85/-6.67	-8.31/-8.02	-4.77/-2.31	-1.17/-0.95	-1.72/-3.75	-4.71/-2.28	-0.30/5	1.47/6.1	2.912/7.3	1.450/8.4	0.470/0.9	-0.16/-0.3	-3.2/-2.64	-4.01/-3.35	-3.29/-3.55	-4.11/-5.06	-5.56/-5.48	-5.34/-4		
Θ (60°)	-3.2/-2.94	-4.13/-5.15	-4.07/3.09	-3.59/-5.21	-5.83/-5.85	-6.08/-5.19	-2.66/-1.24	-1.86/-3	-3.85/-5.87	-6.7/3.79	-1.88/-1.08	0.47/2.02	2.15/1.1	-0.16/-0.26	0.61/15	1.010/0.8	0.80/7.3	-0.29/0.34	-0.12/-0.95	-1.41/-1.67	-2.54/-3.33	-3.72/-4.57	-4.88/-3.92	-3.09/-2.29
Θ (67.5°)	-2.26/-1.95	-2.45/-2.96	-2.47/-2.14	-2.91/-6.1	-4.95/-3.62	-2.57/-2.4	-1.86/-2.05	-4.6/-5.22	-4.69/-6.81	-7.71/-6.72	-6.85/-6.4	-4.44/-3.51	-4.08/-5.87	-8.47/-8.03	-4.06/-1.88	-1.69/-1.91	-0.69/0.5	0.25/-0.16	-0.020/37	0.21/-0.87	-2.4/-4.34	-4.8/-4.76	-5.15/-3.96	-2.48/-1.74
Θ (75°)	-2.85/-2.56	-2.36/-2.86	-3.59/-3.3	-2.14/-1.9	-2.48/-1.8	-0.67/-1.24	-2.44/-3.13	-3.83/-2.66	-3.2/-6.84	-7.69/-6.24	-5.24/-3.75	-3.53/-4.13	-4.49/-4.68	-5.65/-9.18	-18.73/-12.35	-10.44/-10.6	-7.07/-3.11	-1.4/-1.55	-2.35/-0.46	0.26/-1.12	-2.55/-5.93	-6.71/-4.19	-4.79/-4.29	-2.46/-1.9
Θ (82.5°)	-2.89/-3	-2.5/-2.85	-4.21/3.69	-1.13/0.23	-1.98/-2.2	-0.19/-0.49	-1.88/-1.64	-0.95/-0.93	-3.22/-3.79	-1.82/-1.83	-2.26/-3.41	-4.05/-2.85	-1.93/-1.64	-1.43/-2.58	-5.67/-7.8	-8.36/-10.13	-11.93/-9.29	-4.68/-3.29	-5.95/-3.81	-2.1/-3.01	-3.26/-6.9	-7.83/-3.96	-4.77/-4.75	-2.43/-1.67
Θ (90°)	-2.68/-3.47	-3.26/-3.25	-4.85/-6.02	-3.09/-1.31	-3.41/-2.32	0.6/-0.11	-2.09/-0.42	0.82/0.34	-3.72/-1.8	0.15/-0.74	-1.23/-1.81	-2.76/-0.78	0.23/-0.07	0.09/0.71	-2.06/-2.66	-3.51/-4.69	-6.83/-8.96	-9.51/-5.7	-7.68/-11.15	-8.77/-8.23	-5.44/-6.91	-8.74/-5.2	-5.5/-6.05	-3.66/-2.24
Θ (97.5°)	-4.23/6.35	-7/-7.11	-9.38/13.01	-5.6/-2.58	-4.66/-2.86	-0.1/1.34	-2.23/0.33	0.91/4.7	-5.3/-1.55	-0.68/-2.86	-3.9/-8.48	-17.48/-8.24	-13.73/-2.26	-2.36/-2.76	-2.76/-2.56	-4.32/7.1	-7.71/-8.56	-9.86/-6.48	-6.77/-10.44	-13.91/19.12	-10.47/-8.38	-7.9/-5.63	-4.55/-4.15	-2.94/-2.22
Θ (105°)	-2.67/4.86	-7.77/-11.68	-18.34/-17.11	-7.51/4.92	-8.02/-5.03	-1.14/-1.73	-2.69/-1.52	-1.84/-4.53	-8.21/4.58	-3.21/-5.21	-5.99/-5.71	-11.49/-14.64	-7.75/-7.63	-8.1/-10.18	-6.82/-5.46	-7.91/-13	-14.26/-12.46	-12.39/-9.35	-7.89/-8.65	-8.91/-11.15	-16.3/-14.81	-12.51/-9.11	-5.08/-2.49	-1.15/-1.02
Θ (112.5°)	-6.41/-7.7	-9.47/-13.38	-18.73/-14.42	-9.58/-9.25	-10.95/-4.6	-1.67/-3.1	-6.05/-4.79	-8.58/-10	-11.11/-7.83	-5.81/-7.09	-7.04/-10.91	-15.89/-15.74	-12.44/-12.15	-12.83/-12.39	-15.69/-17.65	-18.98/-19.11	-19.1/-14.19	-10.07/-8.52	-8.21/-9.15	-13.48/-18.43	-18.17/-18.16	-14.17/-8.32	-6.11/-5.89	
Θ (120°)	-12.95/-10.86	-11.11/-13.81	-18.78/-12.52	-8.31/-7.64	-8.11/-6.61	-6.64/-10.09	-16.81/-18.21	-19.37/-18.66	-17.42/-11.09	-6.81/-6.22	-9.74/-6.66	-9.53/-12.04	-12.37/-8.12	-5.52/-5.02	-6.95/-9.4	-11.28/-10.09	-10.27/-11.41	-11.69/-16.91	-18.88/-10.34	-7.57/-7.05	-14.78/-12.52	-13.93/-18.32	-19.03/-14.61	
Θ (127.5°)	-6.54/-10.78	-17.31/-19.43	-17.26/-10.68	-6.93/-6.89	-10.44/-16.09	-17.93/-19.17	-18.69/-13.9	-10.42/-9.73	-8.87/-7.84	-7.42/-10.31	-16.88/-8.08	-4.58/-3.13	-1.84/-0.37	0.25/-0.33	-2.07/-4.71	-7.86/-10.7	-10.69/-7.59	-6.56/-9.27	-18.32/-16.43	-11.15/-8.4	-7.33/-7.1	-6.36/-5.67	-5.33/-5	-4.42/-2.27
Θ (135°)	-2.1/-4.85	-8.11/9.43	-10.69/-11.78	-11.93/-14.58	-17.46/-12.19	-10.81/-10.78	-10.81/-9.12	-7.71/-6.95	-5.44/-2.4	-4.8/-8.48	-14.7/-6.07	-1.470/-69	1.77/2.39	2.10/9.7	-0.63/-2.57	-10.41/-7.24	-6.68/-8.9	-10.19/-8.21	-7.57/-7.66	-6.97/-5.99	-4.73/-4.38	-2.47/-1.48	-0.73/-0.85	
Θ (142.5°)	-5.31/-7.4	-8.79/-8.5	-9.71/-11.29	-9.69/-6.9	-5.09/-4.77	-6.08/-8.48	-10.15/-11.09	-10.73/-7.7	-4.38/-2.75	-2.96/-5.59	-8.69/-5.74	-2.54/-1.03	-0.81/-1.26	-2.23/-3.67	-5.04/-5.89	-6.67/-13.47	-7.24/-6.91	-8.29/-11.6	-10.57/-6.57	-6.54/-3.98	-3.57/-3.43	-4.87/-4.62	-4.85/-4.02	-3.03/-2.98
Θ (150°)	-11.2/-8.66	-5.8/-4.28	-3.8/-3.69	-3.38/-3.23	-3.76/-5.58	-8.78/-18.09	-18.05/-12.97	-10.04/-7.29	-5.11/-4.01	-4.01/-5.15	-7.55/-7.52	-4.81/-3.84	-4.74/-6.79	-9.2/-11.55	-11.65/-9.85	-7.64/-6.2	-5.58/-6.17	-8.06/-11.58	-15.39/-11.39	-7.38/-5.19	-3.82/-2.97	-2.83/-3.4	-4.62/-6.14	-7.34/-7.87
Θ (157.5°)	-8.51/-8.17	-6.76/-6.11	-6.38/-7.02	-7.51/-8.32	-10.43/-15.42	-17.86/-15.35	-11.08/-9.52	-8.94/-8.56	-8.68/-9.5	-10.37/-10.74	-11.16/-11.62	-11.79/-12.6	-14.18/-13.57	-11.82/-10.82	-10.08/-9.1	-7.89/-7.06	-7.11/-8.07	-9.86/-11.66	-13.23/-14.44	-14.19/-12.52	-11.29/-9.5	-8.02/-6.96	-6.47/-6.85	-7.91/-6.83
Θ (165°)	-13.53/-15.72	-17.94/-17.8	-18.27/-17.78	-15.84/-15.33	-15.3/-14.44	-13.1/-1.9	-11.41/-11.74	-12.75/-13.93	-15.38/-17.42	-18.66/-19.06	-17.73/-18.48	-19.02/-18.4	-19.25/-17.95	-19.06/-17.8	-18.77/-18.13	-18.41/-18.95	-15.79/-14.76	-13.65/-12.25	-9.36/-9.87	-10.19/-11.47	-13.12/-14.94	-16.35/-15.63	-13.97/-12.54	
Θ (172.5°)	-5.93/-5.92	-6.04/-6.23	-6.67/-1.3	-7.92/-8.91	-10.08/-11.37	-12.7/-13.68	-14.3/-14.67	-14.88/-15.04	-14.57/-14.09	-13.27/-13.88	-13.1/-9.81	-9.31/-9.29	-9.46/-9.69	-9.96/-10.57	-11.32/-12.82	-13.95/-14.66	-15.11/-14.64	-14.41/-12.1	-10.5/-9.05	-7.88/-7.08	-6.49/-6.2	-6.32/-6.64	-7.03/-7.02	-6.66/-6.42
Θ (180°)	-5.52/-4.2	-5.71/-6.3	-7.26/-8.48	-10.11/-12.29	-14.96/-18.76	-18.95/-18.62	-16.77/-14.61	-13.26/-12.17	-11.02/-9.72	-8.27/-12.2	-7.04/-7.44	-7.66/-7.32	-6.77/-6.15	-6.22/-6.56	-7.29/-8.32	-9.91/-11.43	-13.87/-17.44	-19.54/-17.3	-14.52/-12.48	-10.95/-9.89	-9.98/-8.16	-7.48/-6.87	-6.27/-5.8	-5.29/-4.72
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°)	-17.88/-15.1	-17.06/-17.3	-16.97/-14.52	-12.78/-15.7	-11.6/-11.73	-13/-13.74	-14.17/-14.19	-14.51/-15.73	-15.84/-19.1	-14.81/-14.74	-18.74/-18.85	-15.85/-18.79	-18.05/-17.76	-18.85/-18.65	-18.55/-15.69	-14.8/-14.87	-14.24/-12.51	-11.99/-13.12	-11.31/-11	-11.84/-13.02	-13.75/-14.87	-18.2/-18.49	-17.86/-16.26	-18.67/-18.53
Θ (7.5°)	-18.26/-17.36	-18.37/-17.87	-18.88/-19.06	-15.73/-13.78	-12.36/-12.14	-12.44/-11.19	-10.74/-10.9	-12.04/-13.02	-13.72/-14.64	-13.13/-14.69	-18.94/-18.94	-17.73/-17.76	-18.64/-18.27	-18.82/-18.88	-18.95/-15.97	-14.21/-15.68	-12.84/-12.99	-13.69/-13.81	-12.84/-13.7	-17.99/-19.14	-17.95/-17.93	-18.67/-18.93		
Θ (15°)	-18.8/-18.2	-19.11/-18.62	-18.97/-18.93	-17.24/-13.17	-12.74/-11.73	-10.66/-10.18	-11.21/-12.52	-13.97/-14.11	-15.55/-15.63	-17.56/-17.56	-18.72/-16.56	-18.84/-18.86	-18.27/-18.1	-19.21/-18.23	-18.41/-19.17	-18.66/-18.38	-16.49/-19.19	-17.42/-17.65	-12.36/-10.91	-11.29/-12.17	-15.81/-17.49	-18.64/-19.41	-19.14/-17.75	-18.99/-18.95
Θ (22.5°)	-17.77/-18.63	-19.11/-17.53	-17.99/-17.36	-18.97/-16.91	-18.8/-18.9	-12.95/-17.5	-14.56/-14.67	-16.35/-12.96	-13.04/-16.23	-18.93/-18.26	-18.36/-18.15	-18.89/-18.62	-17.98/-18.22	-18.87/-17.88	-18.69/-18.92	-18.01/-18.47	-17.49/-18.56	-17.83/-18.45	-15.16/-13.53	-15.4/-13.83	-18.64/-17.24	-16.48/-16.73	-18.75/-18.68	-18.25/-18.8
Θ (30°)	-17.73/-18.21	-17.45/-14.24	-18.52/-18.66	-15.38/-17.43	-18.07/-18.4	-17.42/-16.22	-15.8/-16.68	-18.81/-18.43	-18.37/-17.88	-19.1/-18.25	-18.3/-18.97	-18.92/-17.58	-18.53/-19.32	-18.5/-19.21	-18.26/-17.95	-19.17/-18.29	-17.45/-17.7	-18.73/-18.14	-18.03/-17.86	-19.33/-18.98	-13.88/-12.77	-13.18/-15.76	-18.83/-18.08	-19.1/-17.52
Θ (37.5°)	-18.01/-18.71	-17.88/-18.38	-15.79/-19.28	-18.31/-18.84	-18.4/-19.04	-18.02/-18.84	-18.22/-18.53	-18.52/-19.03	-18.1/-18.3	-18.23/-17.81	-18.24/-15.13	-19.15/-18.3	-17.84/-18.23	-19.23/-18.75	-19.29/-18.41	-18.09/-17.56	-17.87/-17.03	-19.2/-17.79	-18.76/-18	-18.11/-17.36	-16.34/-17.52	-18.62/-18.17	-18.92/-18.61	-18.73/-19.22
Θ (45°)	-19.24/-18.48	-13.3/-17.95	-18.07/-19.1	-18.75/-16.83	-18.91/-18.34	-17.56/-15.67	-14.48/-13.44	-16.43/-14.81	-14.38/-19.23	-19.12/-18.04	-16.19/-14.11	-18.45/-19.02	-19.38/-19.52	-15.99/-14.33	-19.05/-12.44	-12.23/-19.94	-18.45/-18.7	-18.41/-17.56	-19.05/-17.04	-19.24/-17.8	-18.36/-19.24	-17.31/-17.09	-18.66/-17.27	-18.71/-7.52
Θ (52.5°)	-18.75/-17.42	-13.92/-17.5	-18.36/-18.56	-18.08/-15.77	-18.41/-14.56	-13.08/-17.7	-11.09/-10.12	-18.95/-19.04	-10.63/-8.42	-14.48/-13.38	-17.55/-17.7	-17.82/-18.93	-17.21/-18.52	-18.58/-15.36	-18.04/-12.52	-13.1/-18.23	-19.33/-18.4	-18.54/-13.97	-14.59/-19.26	-18.21/-17.8	-17.34/-16.34	-17.16/-17.89	-18.77/-18.09	-18.21/-18.93
Θ (60°)	-18.48/-17.38	-14.06/-19.31	-17.42/-15.52	-18.98/-17.36	-18.89/-11.27	-19.1/-13.77	-13.17/-18.83	-13.2/-13.66	-12.12/-14.09	-13.47/-9.56	-14.36/-18.39	-15.85/-17.05	-12.55/-13.89	-15.6/-17.04	-18.41/-18.94	-16.58/-14.7	-18.18/-38	-13.97/-17.4	-17.89/-16.39	-18.54/-19.34				



Radiated Composite Gain Data

Appendix A

Θ(60°)	-3.33/2.99	-2.56/5.9	-4.71/4.25	-4.49/4.12	-0.79/5.91	-3.2/5.3	-5.74/5.6	-1.91/-6.49	-4.43/3.73	-2.06/2.13	-2.91/1.35	1.43/1.93	3.04/2.5	0.11/0.45	0.43/-1.24	-0.71/5.24	-6.15/5.64	-6.19/2.42	-3.56/-6.17	-4.72/5.97	-7.61/2.83	-4.75/-3.76	-4.63/5.27	-4.98/-3.79	
Θ(67.5°)	-3.6/-2.6	-4.87/-8.25	-7.41/-3.84	-2.94/-1.17	-2.99/-4.89	-4.53/-6.32	-4.36/-6.76	-4.97/-3.87	-2.66/-2.02	-0.32/-3.09	-1.66/-2.8	-1.3/-3.7	-6.07/-5.26	-4.07/-5.47	-3.9/-5.32	-6.33/-6.59	-6.16/-15.69	-7.61/-8.69	-3.51/-6.07	-3.12/-4.81	-5.75/-4.71	-5.17/-2.07	-2.15/-3.26	-4.8/-4.31	
Θ(75°)	-1.75/0.03	-2.29/-3.7	-1.09/-0.8	0.95/-2.21	-3.83/-3.34	-5.01/-3.45	-4.35/-6.12	-1.97/-4.39	-6.08/-2.1	-5.12/-2.45	-4.27/-6.51	-1.27/-1.88	-0.56/-3.13	-0.95/-3.29	-3.24/-3.52	-6.61/-4.58	-7.47/-6.21	-6.92/-5.36	-4.98/-5.31	-5.03/-4.33	-4.93/-2.73	-2.29/-2.15	-1.99/-1.69	-1.68/-1.78	
Θ(82.5°)	0.430/87	1.22/-1.27	1.37/0.19	1.54/-5.74	3.4/-3.12	-1.45/-4.84	-3/0.76	-8.15/-2.34	2.64/0.84	-1.52/1.1	-1.98/-1.88	2.29/0.17	-0.48/-0.11	-1.43/-1.54	-8.9/-2.04	-4.1/-3.63	-1.9/-6.62	-2.52/-4.25	-3.75/-2.4	-6.46/-6	-3.44/-1.11	-1.90/5.6	0.1/-2.02	-0.96/-0.42	
Θ(90°)	0.74/-1.5	-1.34/-1.37	0.15/-6.08	-1.96/-5.81	-4.19/-6.37	-1.43/-8.45	-2.87/-2.6	-6.74/-2.89	3.11/-2.22	-1.41/0.09	0.29/-1.94	-4.23/-2.59	-2.04/-2.58	-7.2/-3.02	3.33/-2.07	-3.01/-5.67	-2.05/-4.53	-3.49/-3.04	-9.99/-2.69	-4.26/-1.71	-2.69/0.04	-0.45/-3.42	-4.77/-0.03		
Θ(97.5°)	1.39/-1.31	-0.88/-1.69	0.43/-5.43	-1.73/-3.57	-5.67/-5.57	-3.55/-4.89	-6.57/-5.73	-2.14/-6.68	-4/-6.63	-12.49/-4.08	-8.52/-12.07	-5.96/-7.2	-5.91/-3.53	-2.51/-6.12	-12.3/-8.23	-6.75/-5.98	-6.97/-9	-6.21/-5.16	-5.56/-5.87	-6.24/0.18	-0.48/0.79	-0.69/-4.15	-4.39/-0.09		
Θ(105°)	1.66/-1.04	-1.22/-1.3	2.08/-0.93	-0.82/-8.13	-2.95/-5.25	-3.55/-4.37	-4.31/-4.95	-3.6/-5.46	-6.91/-16.83	-5.84/-1.62	-4.11/-4.82	-4.53/-9.09	-4.1/-4.86	-7.07/-7.07	-11.8/-8.15	-3.04/-8.95	-17.86/-11.09	-6.98/-6.55	-6.46/-6.35	-7.83/-6.3	-5.85/-3.28	0.07/1.1	-1.22/-5.57	-0.61/-1.24	
Θ(112.5°)	-2.43/-5.75	-2.28/-4.12	-0.55/-1.25	-2.79/-7	-6.9/-5.34	-4.74/-3.7	-6.75/-6.3	-4.58/-8.57	-6.18/-4.58	-5.31/-2.22	-4.6/-4.6	-5.15/-6.55	-3.63/-6.35	-6.67/-6	-9.29/-12.32	-4.92/-12.92	-11.15/-8.87	-7.02/-5.41	-9.67/-6.36	-9.79/-8.37	-5.03/-5.93	-3.55/-3.88	-3.66/-4.08	-0.99/-1.35	
Θ(120°)	-6.36/-6.78	-10.82/-8.35	-3.5/-1.2	-8.1/-11.7	-13.84/-6.38	-10.61/-10.7	-8.58/-9.28	-8.36/-8.28	-7.09/-6.75	-8.27/-7.58	-8.75/-7.38	-8.24/-14.48	-16.81/-12.93	-12.96/-11.6	-9.67/-8.88	-4.23/-13.25	-14.55/-6.97	-10.38/-11.75	-13.54/-13.64	-14.38/-7.63	-4.95/-8.7	-9.68/-7	-7.32/-10.11	-8.33/-4.93	
Θ(127.5°)	-7.03/-8.74	-10.36/-12.01	-16.1/-10.88	-8.97/-7.62	-12.3/-14.31	-14.76/-11.23	-16.5/-13.77	-12.46/-18.09	-14.83/-11.96	-17.72/-12.04	-9.56/-5.2	-4.85/-5.83	-5.11/-6.53	-6.6/-9.57	-17.3/-8.72	-18.84/-10.25	-17.94/-12.82	-10.56/-12.41	-18.61/-14	-18.2/-8.27	-5.18/-10.48	-14.87/-7.97	-10.49/-6.81	-8.14/-9.78	
Θ(135°)	-11.92/-13.35	-13.09/-10.39	-7.68/-8.81	-5.36/-6.03	-10.33/-11.74	-12.94/-13.95	-12.77/-11.94	-8.24/-11.1	-17.91/-9.41	-11.08/-14.36	-12.84/-13.83	-11.35/-12.05	-13.93/-12.94	-17.75/-14.39	-12.13/-11.8	-11.97/-18.17	-15.23/-19.29	-13.17/-7.13	-11.77/-18.18	-11.39/-14.07	-10.94/-12.69	-4.83/-4.67	-7.26/-13.39	-13.28/-14.91	
Θ(142.5°)	-2.63/-3.21	-4.55/-5.4	-7.2/-10.3	-13.1/-12.16	-18.7/-9.26	-17.59/-13.72	-10.5/-3.65	-4.44/-10.89	-13.95/-11.37	-11.93/-10	-18.56/-19.37	-19.35/-18	-17.73/-18.42	-17.74/-19.13	-16.74/-16.52	-18.26/-18.83	-16.72/-12.67	-18.29/-16.44	-13.06/-9.02	-7.61/-10.42	-12.81/-15.38	-14.63/-7.31	-7.88/-5.34	-4.97/-5.79	-3.92/-3.69
Θ(150°)	-7.11/-8.06	-6.47/-5.82	-5.27/-6.2	-9.18/-7.51	-7.42/-9.49	-7.44/-6.35	-7.99/-9.47	-9.95/-7.27	-7.16/-13.81	-15.14/-17.23	-18.53/-18.02	-18.99/-18.72	-16/-15.89	-17.15/-18.15	-13.88/-18.57	-19.06/-18.77	-11.57/-6.43	-5.69/-6.6	-9.62/-13.83	-12.29/-14.96	-18.18/-12.02	-9.72/-7.73	-4.32/-4.37	-5.57/-5.59	
Θ(157.5°)	-9.46/-7.73	-9.35/-9.75	-5.27/-5.52	-5.16/-6.57	-12.25/-10.3	-8.4/-14.19	-11.94/-6.39	-4.66/-5.03	-6.8/-13.09	-18.96/-19.27	-7.22/-8.27	-9.64/-8.49	-8.53/-9.25	-12.78/-15.03	-13.69/-12.79	-12.92/-15.15	-7.09/-7.23	-8.7/-11.8	-12.61/-14.18	-18.55/-16.39	-10.56/-9.05	-8.77/-13.39	-9.07/-11.72		
Θ(165°)	-7.18/-8.21	-8.26/-9.16	-10.2/-10.8	-11.54/-9.21	-6.9/-8.02	-9.09/-7.97	-6.29/-7.04	-9.36/-13.28	-18.41/-14.99	-14.31/-9.67	-8.28/-9.03	-9.97/-11.09	-11.76/-10.73	-9.34/-8.06	-8.16/-10.89	-15.37/-14.78	-12.23/-12.99	-12.41/-13.96	-14.85/-14.57	-11.42/-12.6	-12.75/-9.43	-6.9/-6.72	-6.17/-5.75		
Θ(172.5°)	-9.62/-9.01	-8.09/-7.48	-7.51/-7.99	-8.39/-10.37	-15.24/-18.18	-12.18/-9.23	-8.69/-9.61	-12.46/-16.12	-19.37/-18.28	-14.14/-11.3	-11.18/-12.76	-12.75/-14.07	-11.78/-9.02	-8.61/-8.33	-8.27/-10.31	-12.3/-13.99	-15.98/-17.44	-19.2/-18.41	-16.78/-13.56	-10.44/-9	-9.04/-8.96	-9.12/-10.6	-10.93/-10.51	-10.73/-11.47	
Θ(180°)	-17.45/-19.05	-17.97/-18.23	-18.13/-18.94	-19.35/-15.53	-12.53/-10.94	-10.91/-11.45	-13.05/-15.23	-15.03/-12.78	-12.73/-14.99	-18.49/-18.42	-17.16/-18.96	-19.06/-18.86	-18.06/-17.79	-17.66/-18.95	-18.6/-17.06	-16.69/-18.83	-19.04/-18.12	-17.92/-15.67	-14.46/-13.9	-12.6/-11.36	-11.77/-12.95	-12.97/-13.83	-15.04/-16.54	-16.22/-15.23	
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°)	-17.83/-18.42	-17.43/-18.54	-19/-19.19	-18.58/-18.35	-17.93/-17.49	-18.92/-16.57	-15.21/-19.3	-14.12/-14.74	-17.72/-17.89	-17.48/-17.29	-18.39/-17.92	-17.82/-18.33	-18.59/-18.44	-18.66/-18.71	-18.98/-17.84	-17.88/-17.44	-16.64/-16.34	-18.57/-18.51	-18.06/-18.52	-19.4/-18.36	-18.58/-18.07	-18.51/-18.06	-19.3/-18.08	-18.96/-18.97	
Θ(7.5°)	-18.96/-18.76	-19.17/-17.8	-19.47/-17.69	-18.83/-17.15	-18.87/-15.15	-14.54/-18.36	-18.34/-19.03	-16.76/-15.65	-17.99/-18.19	-18.56/-19.09	-19.35/-18	-17.73/-18.42	-17.74/-19.13	-16.74/-16.52	-18.26/-18.83	-16.72/-17.99	-18.81/-18.23	-16.48/-15.18	-14.29/-12.93	-12.82/-13.62	-14.63/-14.75	-14.71/-13.91	-14.89/-17.17	-18.67/-18.01	
Θ(15°)	-18.9/-18.3	-18.28/-18.74	-19.36/-18.15	-15.18/-12.06	-14.06/-15.43	-14.94/-18.54	-18.25/-14.68	-11.94/-12.99	-15.93/-17.8	-16.01/-13.33	-15.34/-18.49	-17.36/-17.62	-18.19/-18.21	-18.22/-18.15	-17.59/-18.06	-18.3/-18.72	-13.58/-12.96	-11.78/-10.92	-12.45/-15.21	-19.37/-18.63	-17.75/-16.9	-17.4/-18.17	-17.94/-17.49	-18.16/-17.96	
Θ(22.5°)	-18.72/-19.14	-16.53/-17.77	-17.29/-11.91	-15.34/-13.71	-11.22/-11.31	-13.33/-17.47	-15.84/-11.14	-11.04/-19.95	-18.18/-17.98	-16.88/-17.46	-17.74/-17.71	-18.42/-18.43	-18.92/-15.98	-17.03/-19.35	-16.36/-19.18	-12.88/-9.96	-11.75/-19.09	-12.89/-16.29	-11.79/-15.97	-13.87/-14.21	-16.89/-18.42	-17.61/-17.92	-18.84/-18.74	-18.81/-11.72	
Θ(30°)	-17.19/-18.31	-18.4/-18.54	-17.95/-16.71	-15.58/-18.3	-17.21/-12.5	-14.22/-18.57	-13.2/-11.73	-10.27/-18.12	-14.18/-14.97	-16.39/-16.17	-12.1/-11.63	-15.57/-19.27	-18.38/-18.09	-17.19/-15.91	-14.63/-16.08	-16.51/-15.26	-18.9/-13.66	-12.47/-16.55	-12.57/-10.64	-11.89/-17.97	-18.83/-17.53	-17.56/-17.87	-18.68/-18.01		
Θ(37.5°)	-18.83/-16.35	-14.37/-14.08	-19.17/-18.35	-17.69/-17.84	-18.59/-12.87	-17.87/-15.01	-12.3/-17.61	-18.92/-18.4	-17.24/-16.93	-18.17/-17.29	-16.73/-19.2	-17.53/-18.89	-18.4/-18.16	-17.52/-18.7	-12.71/-14.88	-17.17/-17.95	-18.73/-19	-17.6/-18.35	-17.99/-17.65	-11.33/-12.23	-18.08/-17.91	-13.23/-12.57	-18.87/-17.66	-18.77/-17.52	
Θ(45°)	-19.37/-18.83	-18.12/-13.32	-12.43/-18.68	-14.87/-16.76	-10.94/-13.81	-13.86/-18.08	-17.17/-19.04	-17.85/-19.1	-17.46/-19.21	-19.44/-17.14	-17.51/-18.5	-18.89/-18	-17.95/-18.87	-18.2/-18.75	-13.85/-17.82	-16.17/-14.88	-18.73/-17.06	-18.99/-17.8	-18.62/-18.29	-17.7/-19.11	-17.17/-15.25	-17.29/-18.5	-17.96/-17.99	-18.18/-16.71	
Θ(52.5°)	-18.4/-18.47	-18.77/-18.99	-14.37/-18.51	-18.93/-18.03	-12.78/-19.34	-10.66/-16.14	-14.33/-18.94	-17.26/-17.12	-17.23/-18.37	-18.19/-18.09	-18.09/-13.27	-17.98/-18.2	-16.45/-17.88	-17.17/-18.49	-12.7/-14.16	-18.66/-18.3	-18.84/-18.64	-17.52/-17.61	-18.46/-18.69	-18.79/-18.08	-18.22/-18.42	-17.79/-18.88	-18.83/-19.44	-17.66/-18.77	
Θ(60°)	-13.74/-15.29	-18.27/-17.53	-15.82/-17.22	-18.96/-16.98	-12.7/-17.99	-9.19/-18.23	-18.86/-11.17	-13.53/-18.32	-16.61/-8.69	-11.8/-10.35	-11.03/-10.34	-12.31/-19.01	-16.75/-14.77	-16.29/-15.66	-17.94/-15.53	-18.16/-18.09	-17.82/-18.84	-14.5/-16.79	-12.47/-11.3	-18.02/-13.81	-18.08/-18.82	-17.72/-12.92	-14.92/-19.04	-17.75/-17.15	
Θ(67.5°)	-18.9/-19.07	-19.06/-18.96	-18.71/-7.5	-18.91/-18.38	-19.38/-12.09	-12.73/-14.6	-10.87/-12.34	-10.3/-8.95	-10.91/-9.44	-16.35/-11.33	-11.59/-11.97	-11.91/-14.67	-16.51/-15.66	-18.19/-18.66	-13.51/-17.59	-11.58/-18.28	-18.34/-18.19	-18.63/-18.12	-13.67/-10.68	-17.86/-17.62	-18.93/-19.63	-15.1/-12.03	-13.05/-16.28	-17.71/-19.4	
Θ(75°)	-18.1/-16.82	-14.95/-18.29	-15.18/-15.77	-14.47/-13.92	-16.48/-18.82	-15.27/-18.61	-18.15/-15.13	-14.11/-16.88	-18.58/-18.16	-18.83/-17.38	-18.79/-16.68	-16.7/-15.8	-16.78/-16.27	-13.24/-18.79	-16.35/-17.9	-15.18/-16.36	-18.92/-19.36	-17.49/-17.55	-14.4/-12.73	-18.15/-15.61	-16.15/-15.56	-15.59/-16.01	-19.12/-15.61	-17.09/-16.81	
Θ(82.5°)	-18.31/-15.31	-17.47/-18.67	-13.52/-19.23	-18.46/-17.52	-17.95/-19.28	-12.6/-16.62	-15.25/-17.85	-11.17/-12.02	-12.16/-18.91	-14.66/-13.15	-13.27/-12.08	-9.95/-17.75	-18.7/-17.35	-10.13/-15.97	-17.91/-17.73	-17.69/-18.21	-18.31/-17.52	-16.29/-18.22	-16.15/-14.33	-12.82/-14.39	-16.83/-19.04	-17.67/-19.17	-17.9/-17.97	-18.47/-18.45	
Θ(90°)	-18.58/-15.12	-16.01/-18.04	-16.06/-17.59	-18.75/-17.94	-18.35/-19.32	-18.37/-15.72	-11.91/-16.86	-9.52/-12.63	-18.85/-18.52	-13.71/-12.78	-10.91/-19.4	-17.88/-18.65	-19.4/-17.98	-12.94/-14.88	-14.41/-11.46	-11.99/-18.49	-19.43/-15.2	-17.45/-12.27	-12.58/-11.17	-19.24/-17.55	-18.34/-14.7	-13.55/-14.83	-18.17/-17.84	-18.23/-18.18	
Θ(97.5°)	-19.05/-16.01	-16.11/-18.87	-14.75/-19.04	-12.38/-17.46	-18.96/-16.46	-16.17/-18.42	-15.28/-11.64	-6.84/-9.15	-16.9/-18.29	-16.45/-8.19	-7.89/-8.96	-12.2/-10.49	-15.09/-18.91	-16.72/-17.7	-14.6/-16.89	-11.55/-17.17	-16.45/-13.55	-19.06/-10.06	-14.27/-12.97	-18.77/-19.15	-18.78/-18.1	-11.8/-17.5	-13.54/-16.46	-19.51/-18.48	
Θ(105°)	-17.88/-15.32	-17.32/-17.98																							



Radiated Composite Gain Data

Appendix A

Θ (112.5°)	-2.82/-2.8	-2.92/-1.65	-1.13/-3.1	-5.38/-6.39	-2.29/-1.84	-7.47/-5.21	-3.39/-1.92	-0.59/-15.64	-10.65/-6.59	-3.62/-2.56	-2.11/-6.49	-9.33/-10.48	-7.18/-4.22	-4.02/-5.47	-7.57/-12.74	-9.86/-10.2	-19.31/-11.2	-9.53/-7.45	-8.45/-17.36	-9.79/-5.14	-3.93/-4.28	-1/2-25	-3.04/-3.41	-1.92/-0.55
Θ (120°)	-7.05/-6.11	-3.99/-4.68	-5.07/-5.31	-12.23/-4.59	-8.72/-3.99	-8.83/-3.74	-7.58/-6.06	-3.03/-15.68	-6.02/-4.39	-3.35/-7.17	-5.55/-18.31	-8.69/-17.48	-16.29/-17.65	-8.67/-15.67	-11.54/-14.72	-5.89/-15.99	-16.02/-8.87	-17.93/-10.01	-10.55/-17.35	-18.32/-5.68	-13.16/-6.91	-3.43/-6.19	-8.73/-11.96	-5.67/-4.5
Θ (125°)	-18.56/-18.68	-18.11/-9.41	-10.42/-13.53	-10.01/-15.85	-12.88/-8.24	-10.98/-13.31	-11.62/-16.66	-6.67/-18.5	-15.13/-6.33	-8.35/-10.62	-19.15/-10.86	-2.92/-3.77	-2.08/-3.95	-6.83/-11	-18.92/-9.73	-19.05/-10.83	-9.75/-14.85	-12.66/-14.02	-16.16/-15.03	-10.93/-13.99	-16.95/-17.56	-16.96/-13.67	-18.18/-16.05	
Θ (135°)	-7.88/-6.77	-11.49/-18.83	-9.57/-9.63	-13.27/-15.27	-17.67/-15.44	-9.98/-14.38	-18.35/-18.86	-17.7/-9.55	-7.16/-15.17	-9.96/-6.62	-8.68/-16.21	-14.3/-10.59	-11.48/-15.82	-18.34/-17.05	-15.64/-9.81	-12/-15.25	-16.1/-17.12	-16.44/-15.68	-18.79/-18.45	-18.52/-19.25	-6.11/-4.16	-6.41/-10.92	-12.85/-9.12	-10.88/-6.73
Θ (142.5°)	-8.36/-7.55	-6.79/-6.54	-7.48/-9.23	-11.11/-7.7	-8.84/-12.68	-7.37/-8.3	-9.61/-17.03	-12.54/-7.47	-4.25/-5.26	-14.48/-12.11	-12.7/-10.5	-8.38/-10.25	-18.26/-15.2	-10.69/-8.46	-7.66/-16.7	-18.35/-15.88	-10.48/-9.54	-9.18/-10.89	-17.82/-17.45	-12.36/-12.7	-14.66/-5.56	-2.63/-4.58	-7.58/-12.34	-14.6/-12.19
Θ (150°)	-3.37/-2.46	-2.62/-2.56	-4.05/-5.06	-5.4/-5.56	-5.88/-3.16	-2.56/-7.8	-14.03/-8.69	-5.42/-5.71	-5.42/-5.05	-10.94/-13.25	-12.2/-11.74	-12.12/-15.9	-13.32/-12.15	-14.95/-14.68	-11.78/-10.17	-12.18/-13.1	-9.58/-8.73	-8.06/-10.01	-14.16/-15.34	-18.22/-10.83	-6.46/-5.45	-5.44/-5.37	-6.95/-6.39	-6.65/-6.76
Θ (157.5°)	-5.47/-6.93	-5.53/-3.59	-2.56/-2.23	-3.43/-4.19	-4.98/-8.44	-11.26/-7.47	-4.61/-5.61	-10.02/-11.01	-6.96/-6.17	-6.5/-8.24	-9.3/-10.67	-11.68/-16.8	-19.02/-14.76	-11.58/-6.79	-6.93/-9.12	-10.08/-8.21	-6.85/-5.98	-5.83/-9.86	-11.74/-10.73	-13.49/-11.99	-6.72/-5.11	-3.53/-1.61	-1.29/-1.64	-2.09/-3.09
Θ (165°)	-7.92/-7.91	-6.64/-6.35	-7.53/-10.33	-12.56/-5.55	-3.82/-3.28	-5.72/-11.35	-16.29/-11.66	-8.47/-6.75	-5.37/-6.76	-6.1/-9.32	-12.74/-12.03	-13.62/-16.57	-16.31/-16.68	-11.75/-8.86	-8.82/-8.96	-10.92/-8.36	-6.74/-6.51	-8.13/-12.52	-12/-11.3	-12.55/-10.57	-6.79/-4.1	-4.34/-4.99	-5.03/-5.95	-6.76/-7.33
Θ (172.5°)	-3.14/-3.88	-4.91/-4.89	-4.53/-3.85	-3.34/-4.39	-6.31/-9.75	-13.91/-12.01	-11/-11.65	-16.79/-12.25	-13.1/-15.06	-18.21/-19.14	-18.23/-14.06	-15.22/-18.11	-16.66/-19	-18.07/-18.39	-19.23/-18.91	-14.7/-13.06	-12.87/-11.67	-12.24/-14.39	-14.31/-14.31	-14.79/-13.43	-11.46/-8.76	-6.8/-5.42	-4.65/-3.53	-2.93/-2.82
Θ (180°)	-7.12/-5.94	-5.05/-4.7	-5.37/-5.74	-7.39/-11.84	-17.69/-16.45	-12.66/-13.65	-19.22/-18.09	-19.01/-18.93	-16.47/-17.05	-18.89/-18.86	-17.96/-11.67	-9.13/-8.14	-8.36/-9.83	-9.99/-10.48	-10.41/-10.16	-10.66/-11.62	-13.36/-13.82	-15.37/-17.87	-19.23/-18.74	-18.74/-18.48	-18.74/-18.72	-15/-13.16	-11.34/-10.73	-11.12/-11.27
Freq(Hz)	2.45G/Pol.	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°)	-13.57/-15.18	-16.77/-14.97	-12.37/-11.16	-10.98/-11.23	-11.71/-12.03	-12.26/-12.56	-12.68/-13.01	-14.45/-17.82	-18.32/-17.64	-17.47/-17.89	-17.78/-16.18	-15.66/-14.86	-13.59/-12.8	-12.25/-11.96	-12.1/-12.61	-13.24/-13.96	-14.2/-13.98	-13.77/-14.28	-15.53/-16.84	-18.57/-17.36	-17.09/-18.82	-15.44/-14.74	-16.37/-17.54	-15.01/-13.46
Θ (7.5°)	-10.86/-11.26	-12.3/-11.51	-9.82/-9.2	-9.67/-10.4	-11.81/-12.73	-13.79/-14.84	-15.44/-15.47	-16.06/-18.1	-18.54/-17.87	-18.26/-18.24	-15.87/-15.02	-15.72/-16.45	-16.4/-16.16	-15.61/-15.1	-15.3/-16.13	-16.98/-16.74	-15.42/-13.98	-12.83/-12.84	-12.83/-13.16	-13.67/-15.35	-18.98/-16.68	-18.01/-15.94	-16.96/-17.9	-14.53/-11.87
Θ (15°)	-11.23/-11.18	-11.87/-10.72	-8.99/-8.67	-9.64/-11.38	-13.1/-14.39	-15.61/-17.07	-17.48/-16.55	-15.88/-16.25	-17.28/-19.2	-18.1/-18.83	-18.98/-18.97	-18.85/-17.96	-16.15/-14.78	-14.5/-15.06	-15.59/-15.23	-14.04/-12.62	-11.46/-10.77	-10.45/-10.28	-10.16/-10.5	-11.72/-13.88	-16.27/-17.1	-19.29/-18.06	-18.42/-12.99	
Θ (22.5°)	-14.99/-13.94	-14.35/-12.49	-10.29/-9.8	-10.89/-13.07	-15.15/-16.46	-17.97/-19.25	-18.02/-18.73	-18.03/-16.49	-16.83/-18.93	-18.36/-18.36	-19.14/-18.74	-19.05/-18.13	-17.92/-16.45	-15.34/-14.62	-14.83/-15.52	-15.86/-15.21	-13.91/-12.41	-10.99/-9.9	-8.96/-8.22	-7.69/-7.61	-8.18/-9.36	-11.01/-12.41	-14.65/-19.59	-18.38/-18.73
Θ (30°)	-18.49/-18.76	-17.16/-14.39	-12.73/-14.23	-13.36/-15.17	-16.92/-19.18	-18.37/-18.59	-18.16/-18.23	-17.64/-19.83	-18.13/-18.79	-17.93/-18.75	-17.71/-18.69	-17.72/-17.68	-17.77/-17.08	-17.24/-17.72	-18.13/-18.78	-19.05/-18.83	-17.55/-16.14	-12.71/-11.86	-9.71/-8.78	-8.17/-9.75	-8.13/-8.76	-9.93/-11.38	-13.71/-17.48	-18.29/-18.8
Θ (37.5°)	-18.32/-18.68	-19.21/-14.3	-12.92/-13.92	-16.79/-19.04	-17.6/-18.87	-17.59/-16.01	-14.07/-14.62	-16.62/-19.33	-18.43/-18.4	-18.74/-18.21	-18.59/-17.74	-18.05/-17.16	-15.03/-14.97	-17.07/-18.24	-18.04/-18.19	-18.24/-18.35	-18.39/-16.85	-13.76/-11.09	-11.23/-10.89	-10.75/-10.89	-11.29/-11.63	-11.92/-11.51	-14.72/-17.66	-18.98/-18.02
Θ (45°)	-19.39/-18.63	-18.68/-13.12	-10.78/-11.14	-13.85/-19.05	-18.03/-18.22	-17.26/-16.61	-14.24/-12.85	-12.1/-13.75	-18.63/-18.25	-18.13/-18.63	-18.51/-17.84	-18.96/-15.03	-11.12/-10.47	-13.07/-18.78	-18.25/-16.88	-18.2/-17.66	-18.43/-16.37	-12.88/-11.25	-10.89/-11.04	-11.59/-12.83	-14.52/-15.87	-17.31/-18.77	-18.1/-18.37	-19.04/-18.91
Θ (52.5°)	-14.76/-14.49	-13.56/-11.56	-12.51/-18.85	-12.51/-18.85	-11.94/-17.86	-12.94/-19.23	-12.43/-10.08	-15.35/-17.48	-18.36/-18.11	-15.51/-14.78	-13.25/-14.17	-15.88/-17.48	-11.86/-9.84	-11.94/-16.65	-13.72/-13.14	-16.76/-17.74	-17.51/-14.02	-11.17/-10.61	-10.27/-9.84	-10.78/-13.6	-17.73/-18.74	-17.62/-18.61	-18/-16.5	-15.07/-14.38
Θ (60°)	-11.28/-11.07	-12.16/-13.46	-13.12/-12.67	-15.34/-17.7	-15.11/-11.53	-12.91/-13.68	-10.95/-10.68	-10.5/-19	-14.56/-10.95	-9.59/-8.42	-7.27/-7.51	-10/-17.51	-18.65/-13.91	-13.22/-18.56	-11.66/-10.46	-13/-13.87	-13.47/-13.97	-9.01/-9.28	-9.09/-8.09	-9.32/-12.73	-18.55/-19.07	-15.93/-18.56	-17.92/-14.97	-13.29/-11.85
Θ (67.5°)	-11.51/-11.47	-14.56/-17.94	-18.51/-15.91	-18.1/-19.16	-11.14/-10.12	-13.41/-14.16	-11.05/-11.21	-14.65/-12.54	-10.51/-10.39	-10.86/-10.85	-8.68/-7.65	-9.41/-15.88	-18.76/-13.49	-14.68/-18.6	-13.75/-12.28	-12.43/-10.77	-16.7/-15.26	-9.62/-10.02	-8.05/-6.37	-7.44/-10.09	-14.49/-19.09	-18.99/-17.97	-19.04/-18.61	-16.56/-13.59
Θ (75°)	-11.56/-11.16	-15.05/-18.24	-17.19/-13.31	-13.46/-16.62	-12.89/-13.05	-15.76/-12.12	-9.91/-10.21	-12.37/-16.14	-13.31/-17.62	-14.12/-15.24	-18.91/-14.41	-13.84/-16.93	-15.66/-15.1	-12.26/-18.91	-18.52/-17.89	-17.11/-11.05	-14.72/-16.31	-11.44/-14.71	-7.08/-7.92	-9.97/-16.61	-18.07/-19.04	-18.45/-18.51	-18.18/-19.5	
Θ (82.5°)	-9.97/-9.33	-12.54/-18.02	-18.36/-12.04	-12.46/-18.29	-14.11/-14.47	-17.08/-14.01	-13.21/-12.3	-10.51/-9.62	-13.82/-15.35	-12.01/-12.2	-18.18/-18.55	-18.37/-17.27	-14.47/-12.41	-16.86/-18.98	-13.02/-15.52	-18.23/-13.49	-15.82/-13.43	-11.54/-17.15	-11.68/-8.97	-8.86/-8.98	-10.63/-17.47	-13.13/-14.43	-15.32/-16.11	-15.36/-13.38
Θ (90°)	-15.89/-11.88	-12.14/-14.09	-17.36/-12.7	-12.6/-18.1	-13.74/-14.58	-19.2/-18	-16.42/-13.07	-10.98/-11.62	-17.69/-16.34	-9.33/-9.03	-12.8/-18.49	-18.28/-18.59	-14.93/-12.25	-13.51/-18	-12.22/-13.23	-18.99/-12.11	-19.08/-14.81	-13.19/-14.31	-9.28/-8.54	-10.09/-11.71	-13.37/-16.59	-18.4/-18.85	-18.38/-17.24	-18.54/-17.09
Θ (97.5°)	-18.16/-13.86	-11.42/-12.13	-14.63/-11.6	-12.03/-19.24	-12.62/-12.67	-15.56/-17.9	-18.23/-17.14	-14.03/-14.39	-19.29/-15.06	-10.27/-11.13	-15.14/-18.62	-19.19/-18.54	-17.03/-13.03	-13.17/-14.5	-9.66/-11.3	-14.44/-12.81	-14.83/-13.76	-7.75/-7.48	-8.98/-13.07	-16.02/-16.38	-18.71/-18.74	-18.8/-18.82	-17.16/-18.72	
Θ (105°)	-11.78/-11.61	-10.62/-12.89	-15.91/-12.14	-12.2/-10.63	-10.52/-10.23	-16.62/-18.17	-18.95/-17.11	-17.5/-14.86	-18.46/-18.1	-14.71/-18.6	-17.77/-18.82	-17.53/-16.53	-15.42/-17.56	-10.54/-9.74	-17.02/-15.89	-18.28/-11.37	-9.6/-11.19	-8.73/-7.67	-11.04/-15.49	-18.1/-17.33	-13.86/-13.5	-15.68/-17.97	-17.88/-18.84	
Θ (112.5°)	-18.87/-15.64	-17.73/-18.2	-12.96/-8.88	-9.29/-13.89	-12.29/-12.14	-18.45/-16.44	-12.22/-13.6	-18.27/-18.97	-18.49/-19.22	-18.76/-18.42	-19.16/-19.4	-18.09/-17.35	-18.23/-14.66	-12.57/-18.05	-18.04/-18.57	-15.29/-11.27	-18.52/-15.42	-10.83/-8.34	-5.08/-4.83	-7.19/-10.96	-17.29/-18.76	-13.05/-12.51	-16.15/-19.11	-19.09/-17.36
Θ (120°)	-10.58/-13.08	-15.33/-14.29	-10.74/-6.66	-9.87/-18.11	-16.32/-13.19	-18.37/-18.79	-11.64/-12.6	-18.09/-17.64	-18.89/-10.93	-18.38/-19.14	-17.77/-13.74	-16.72/-15.75	-19.06/-17.39	-14.13/-15.45	-15.88/-17.37	-15.24/-11.44	-14.5/-16.54	-17.76/-16.35	-8.48/-6.48	-7.1/-8.16	-9.9/-14.6	-15.66/-12.97	-10.53/-9.62	
Θ (127.5°)	-11.13/-13.75	-14.74/-15.71	-15.28/-13.58	-15.1/-19.18	-12.08/-9.87	-12.69/-18.27	-19.11/-19	-17.71/-13.74	-12.53/-12.66	-10.68/-12.15	-14.04/-16.63	-18.35/-18.88	-18.37/-18.97	-18.76/-18.6	-18/-17.74	-13.66/-9.49	-9.22/-12.66	-14.13/-13.47	-15.45/-15.6	-14.36/-15.09	-14.33/-12.49	-11.61/-11.03	-10.01/-9.66	
Θ (135°)	-18.28/-18.05	-18.08/-17.62	-19.35/-13.58	-12.5/-13.2	-11.36/-9.99	-11.61/-17.37	-18.84/-18.57	-17.88/-16.51	-14.64/-14.26	-13.35/-11.99	-11.54/-12.34	-13.97/-15.22	-14.77/-13.03	-10.99/-10.16	-11.01/-13.6	-16.73/-18.81	-18.17/-10.78	-8.52/-8.63	-9.3/-10.38	-12.94/-17.68	-19.02/-18.36	-18.21/-15.61	-14.57/-15.24	-16.33/-17.92
Θ (142.5°)	-18.74/-18.11	-17.82/-15.56	-12.46/-11.08	-12.33/-15.43	-13.93/-12.06	-13.32/-18.45	-17.69/-17.47	-19.03/-18.55	-18.57/-18.19	-16.64/-13.17	-10.78/-9.95	-10.22/-11.08	-11.89/-10.76	-8.92/-8.42	-8.64/-9.61	-11.72/-16.53	-18.05/-15.12	-11.75/-10.94	-11.3/-12.28	-13.89/-15.94	-16.34/-15.41	-14.24/-12.82	-12.26/-13.59	-16.25/-18.6
Θ (150°)	-16.15/-16.69	-16.11/-14.32	-13.27/-14.56	-17.91/-14.7	-13.78/-12.26	-14.12/-18.51	-18.81/-17.2	-14.39/-13.45	-12.77/-12.05	-10.85/-9.96	-9.48/-9.35	-9.71/-18.04	-13.29/-14											



Radiated Composite Gain Data

Appendix A

Θ (150°)	-11.63/8.82	-7.74/5.64	-5.24/6.68	-7.29/10.35	-18.49/-12.28	-11.98/-15.2	-18.4/-16.84	-9.76/-13.16	-18.75/-16.78	-11.31/-7.95	-9.87/-10.87	-16.86/-16.31	-14.55/9.88	-8.72/-7.49	-7.49/-9.62	-16.69/-13.9	-9.27/-9.01	-12.4/-12.61	-13.24/-12.1	-12.61/-15.27	-12.78/-8.74	-7.41/-6	-6.22/-6.76	-8.84/-11.24
Θ (157.5°)	-6.29/-7.03	-8.43/-11	-12.37/-8.03	-6.98/-7.94	-17.5/-16.04	-9.17/-6.3	-7.55/-13.12	-19.06/-14.05	-7.79/-6.9	-9.26/-10.09	-15.99/-14.87	-18.89/-16.58	-18.47/-13.48	-8.48/-7.71	-8.69/-12.74	-15.15/-14.53	-12.58/-9.52	-8.97/-10.1	-17.23/-15.03	-12.47/-9.59	-8.47/-8.69	-8.53/-8.58	-8.92/-8.25	-8.64/-6.69
Θ (165°)	-7.71/-7.53	-7.1/-5.66	-6.18/-3.4	-13.32/-19.2	-17.79/-12.52	-9.03/-8.13	-10.15/-14.56	-16.61/-19.02	-12.39/-13.89	-17.93/-16.16	-17.95/-17.66	-18.7/-18.57	-18.25/-13.48	-16/-11.92	-9.28/-9.46	-11.38/-17.34	-18.79/-12.95	-10.39/-9.28	-8.99/-9.41	-8.66/-9.5	-6.76/-7.23	-6.16/-6.25	-5.78/-6.31	
Θ (172.5°)	-8.23/-7.7	-8.54/-11.22	-16.55/-19.36	-17.46/-18.95	-18.52/-17.22	-13.08/-13.08	-15.9/-18.19	-17.62/-18.34	-18.32/-18.5	-18.15/-18.32	-17.73/-17.9	-19.56/-18.59	-18.58/-17.94	-17.35/-16.2	-15.38/-16.14	-16.17/-17.53	-17.79/-18.3	-18.12/-17.36	-19.22/-18.27	-17.91/-16.86	-15.09/-13.74	-12.5/-9.81	-9.35/-10.42	-9.92/-8.48
Θ (180°)	-17.49/-18.32	-18.87/-18.47	-16.3/-14.13	-14.57/-18.08	-17.51/-18.66	-17.64/-18.35	-18.66/-14.08	-13/-15.37	-17.87/-18.13	-18.51/-18.56	-16.78/-17.99	-19.04/-18.81	-18.49/-17.26	-18.75/-18.57	-18.42/-17.67	-16/-14.92	-15.68/-15.69	-14.73/-15.05	-15.36/-16.12	-18.14/-18.94	-18.14/-18.06	-18.86/-19.13	-17.66/-18.06	-18.77/-17.93
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°)	-17.98/-17.83	-17.98/-19.14	-18.66/-17.77	-18.08/-17.96	-15.81/-16.22	-17.4/-18.62	-18.57/-17.62	-14.48/-15.1	-17.51/-14.55	-17.37/-16.98	-17.48/-19.67	-19.21/-18.26	-18.93/-17.6	-17.8/-18.41	-18.59/-19.42	-18.1/-17.57	-17.99/-17.46	-17.4/-16.66	-18.81/-17.14	-16.33/-16.04	-19.7/-19.36	-16.22/-17.93	-18.27/-18.02	-18.18/-17.65
Θ (7.5°)	-15.49/-18.65	-18.73/-18.94	-17.51/-19.01	-18.53/-18.45	-18.52/-18.49	-19.24/-19.6	-17.79/-17.57	-15.77/-15.71	-17.99/-18.68	-18.02/-18.79	-18.15/-18.44	-18.06/-18.64	-18.59/-18.12	-18.77/-17.68	-18.31/-18.68	-18.87/-17.72	-16.96/-15.98	-15.63/-16.02	-18.76/-17.77	-18.74/-17.57	-18.22/-19.08	-18.85/-17.28	-18.73/-17.03	-18.42/-18.25
Θ (15°)	-18.23/-17.47	-18.95/-18.48	-18.32/-18.07	-19.25/-19.09	-18.37/-18.28	-16.73/-17.43	-17.36/-16.01	-18.6/-18.79	-18.07/-18.03	-18.76/-18.58	-17.94/-17.49	-17.45/-18.75	-18.7/-17.95	-18.28/-17.96	-18.53/-18.25	-18/-18.98	-18.71/-18.17	-14.63/-13.22	-12.3/-14.29	-16.52/-17.39	-17.5/-16.81	-17.86/-18.19	-18.93/-19.28	-18.45/-18.14
Θ (22.5°)	-19.12/-18.9	-17.85/-18.29	-17.72/-18.31	-14.13/-15.72	-16.64/-18.78	-16.91/-15.08	-18.98/-18.07	-18.05/-16.3	-13.02/-19.26	-18.09/-19.15	-18.46/-18.12	-18.6/-17.86	-17.4/-18.51	-17.99/-17.19	-19.32/-17.83	-18.32/-17.42	-18.13/-18.94	-17.68/-14.14	-13.15/-16.94	-17.97/-18.13	-19.51/-17.87	-17.96/-17.54	-17.75/-19.4	-18.82/-18.49
Θ (30°)	-17.97/-19.02	-18.87/-18.32	-18.84/-18.33	-18.84/-16.53	-17.7/-18.72	-18.77/-15.09	-19.01/-16.13	-14.16/-13.23	-13.27/-12.8	-17.33/-18.41	-17.01/-18.24	-19.5/-19.3	-19.04/-19.11	-18.98/-19.06	-19.46/-19.09	-18.68/-17.47	-17.24/-17.81	-18.72/-14.97	-14.32/-18.24	-18.74/-15.93	-18.46/-17.55	-18.15/-18.28	-18.54/-16.57	-18.01/-18.87
Θ (37.5°)	-18.68/-17.92	-17.74/-18.6	-18.27/-18.34	-18.79/-15.54	-19.16/-17.23	-16.09/-17.91	-18.36/-18.88	-18.19/-16.07	-13.96/-17.9	-19.16/-17.78	-17.91/-19.05	-19.09/-18.61	-18.65/-17.71	-18.84/-18.42	-18.86/-18.92	-19.22/-17.65	-17.51/-18.67	-18.74/-17.22	-18.91/-17.94	-15.72/-14.66	-18.61/-19.36	-18.39/-17.55	-17.61/-16.68	-13.33/-16.11
Θ (45°)	-17.9/-17.43	-18.38/-19.26	-17.85/-17.34	-16.82/-13.02	-18.73/-18.67	-18.57/-17.9	-16.85/-18.96	-19.2/-17.96	-13.76/-15.77	-18.68/-18.65	-17.91/-15.01	-17.79/-18.31	-18.71/-14.24	-18.85/-18.4	-15.56/-13.75	-18.09/-18.89	-17.96/-18.2	-19.18/-19.37	-15.62/-17.92	-17.86/-18.98	-19.12/-18.1	-17.93/-17.76	-17.09/-15.33	-15.5/-18
Θ (52.5°)	-18.54/-18.58	-17.59/-17.31	-17.85/-17.38	-13.7/-16.94	-18.32/-18.39	-19.93/-18.29	-18.49/-18.05	-15.1/-16.37	-11.88/-11.36	-14.94/-15.06	-15.17/-18.06	-18.81/-17.23	-17.77/-16.39	-14.25/-11.34	-14.88/-18.96	-18.27/-15.16	-16.15/-17.79	-18.88/-15.01	-15.79/-18.54	-17.94/-18.41	-18.45/-18.81	-18.85/-18.77	-18.35/-17.96	-17.34/-18.91
Θ (60°)	-16.8/-16.49	-18.63/-18.86	-18.24/-15.12	-19.21/-16.92	-18.16/-17.23	-18.41/-19.21	-16.29/-16.08	-19.05/-15.63	-15.42/-15.57	-14.07/-18.83	-17/-16.4	-18.73/-17.21	-18.04/-15.07	-18.58/-18.79	-18.03/-14.45	-14.08/-16.86	-18.54/-18.85	-19.07/-12.84	-13.41/-14.99	-17.43/-18.88	-14.15/-14.86	-16.48/-16.83	-18.28/-18.31	-17.88/-18.61
Θ (67.5°)	-19.37/-18.83	-14.81/-13.57	-16.48/-13.12	-14.94/-14.05	-14.98/-19.31	-18.63/-18.34	-17.59/-18.02	-19.12/-13.55	-15.84/-16.68	-17.99/-18.76	-18.66/-17.9	-16.92/-16.48	-18.82/-13.5	-12.5/-18.72	-18.73/-17.64	-18.31/-16.76	-18.47/-17.8	-18.43/-17.39	-19.08/-19.18	-17.57/-18.33	-18.95/-18.1	-18.65/-14.01	-16.56/-15.63	-15.33/-16.83
Θ (75°)	-16.02/-14.65	-11.74/-14.23	-14.14/-14.6	-12.22/-10.54	-12.88/-18.42	-17.86/-17.71	-18.62/-16.89	-11.93/-18.81	-17.08/-16.52	-18.15/-18.49	-18.96/-17.61	-17.9/-15.25	-15.09/-16.83	-16.38/-18.56	-17.17/-15.44	-17.72/-14.13	-13.92/-19.21	-16.19/-12.03	-18.43/-18.93	-15.95/-17.06	-16.87/-19.05	-18.42/-17.05	-17.95/-17.92	-17.74/-17.16
Θ (82.5°)	-18.48/-19.05	-18.11/-18.72	-19.07/-15.93	-13.88/-17.69	-17.79/-17.75	-14.1/-18.64	-19.22/-14.74	-18.57/-13.47	-16.91/-18.12	-19.2/-15.51	-12.81/-17.82	-18.48/-13.29	-17.93/-16.18	-17.72/-15.62	-15.37/-15.67	-18.03/-12.24	-15.44/-17.99	-19.29/-14.12	-16.63/-18.12	-15.37/-15.35	-14.8/-17.05	-17.04/-18.04	-13.88/-18.52	-14.58/-18.14
Θ (90°)	-13.76/-16.94	-18.38/-12.97	-18.32/-15.58	-13.12/-12.82	-11.26/-18.97	-19.23/-18.94	-18.79/-13.6	-17.86/-17.35	-18.03/-15.58	-13.58/-13.12	-15.22/-18.88	-17.79/-13.53	-18.55/-18.88	-17.89/-15.73	-15.17/-16.63	-18.77/-15.36	-18.77/-18.84	-19.34/-18.73	-17.99/-18.23	-18.62/-16.21	-19.01/-18.4	-13.11/-13.02	-9.75/-16.42	-17.22/-13.25
Θ (97.5°)	-17.27/-17.67	-13.75/-14.67	-11.89/-10.5	-11.89/-18.15	-13.35/-15.99	-17.86/-17.59	-17.13/-18.21	-18.77/-18.41	-18.14/-18.99	-17.93/-19.64	-17.37/-17.26	-17.14/-18.99	-18.77/-14.97	-11.6/-14.15	-18.97/-10.92	-14.23/-15.56	-19.22/-18.31	-18.87/-19.26	-17.99/-15.43	-18.61/-18.36	-17.99/-18.81	-14.07/-17.69	-17.32/-15.1	
Θ (105°)	-18.78/-15.48	-17.11/-17.87	-18.99/-18.41	-17.7/-18.68	-12.25/-18.46	-17.84/-18.85	-17.65/-12.8	-9.93/-18.84	-17.44/-18.58	-18.54/-18.02	-15.07/-14.38	-18.02/-19.16	-13.97/-18.32	-15.04/-18.22	-18.62/-18.5	-18.99/-16.01	-16.69/-15.15	-18.16/-16.97	-15.62/-18.57	-15.2/-17.93	-15.34/-14.4	-12.41/-15.3	-9.84/-19.44	-17.98/-14.65
Θ (112.5°)	-15.54/-18.27	-18.72/-12.59	-18.71/-16.63	-15.24/-17.35	-17.39/-18.36	-19.17/-14.93	-17.39/-18.66	-18.44/-17.94	-18.59/-14.41	-15.35/-17.48	-19.09/-18.77	-17.7/-18.44	-18.05/-16.65	-18.4/-15.25	-14.78/-18.08	-11.52/-15.27	-18.32/-18.05	-18.43/-18.68	-17.43/-18.07	-17.32/-18.36	-18.09/-18.59	-14.75/-17.7	-16.16/-16.19	
Θ (120°)	-17.47/-18.61	-18.34/-16.08	-12.57/-13.99	-18.84/-13.81	-18.72/-18.31	-18.34/-18.24	-17.56/-16.55	-13.12/-10.98	-18.78/-17.17	-19.22/-12.53	-14.73/-16.48	-19.08/-18.79	-16.53/-19.1	-17.16/-16.99	-18.83/-18.33	-17.72/-18.24	-18.13/-16.21	-18.93/-18.05	-18.06/-18.24	-12.19/-15.39	-14.68/-18.46	-17.76/-13.85	-15.34/-14.66	
Θ (127.5°)	-15.15/-17.63	-18.93/-15.28	-15.26/-19.27	-15.55/-18.72	-19.02/-17.62	-19.23/-17.31	-19.14/-17.28	-17.1/-18.91	-11.58/-10.81	-14.23/-17.78	-12.7/-15.48	-14.07/-11.71	-18.84/-16.12	-13.98/-12.32	-17.98/-13.6	-16.88/-19.63	-14.92/-11.83	-18.13/-13.69	-15.78/-17.73	-13.87/-19.3	-12.06/-14.65	-9.17/-14.21	-18.68/-17.56	-14.13/-10.97
Θ (135°)	-15.3/-15.65	-15.4/-18.12	-15.75/-18.31	-15.12/-13.69	-18.8/-15.08	-14.41/-19.36	-19.14/-17.2	-13.7/-11.48	-10.61/-12.97	-13.59/-18.78	-12.03/-17.18	-12.23/-11.4	-14.77/-17.7	-12.33/-13.13	-18.1/-18.13	-14.55/-16.13	-16/-19.33	-13.27/-15.65	-19.16/-14.79	-14.01/-14.8	-17.95/-11.88	-12.16/-16.61	-15.49/-18.51	
Θ (142.5°)	-16.91/-16.75	-13.36/-18.14	-18.53/-18.44	-11.56/-12.88	-19.04/-12.91	-14.4/-17.77	-18.67/-16.84	-19.22/-10.2	-11.42/-16.28	-19.05/-15.11	-13.11/-10.18	-18.17/-14.24	-13.83/-18.86	-15.95/-15.14	-13.27/-11.32	-18.23/-18.41	-13.23/-12.9	-12.39/-14.86	-14.68/-17.4	-19.68/-18.53	-18.51/-15.66	-15.21/-16.08	-19.2/-19.05	-17.65/-18.41
Θ (150°)	-17.49/-15.94	-13.33/-13.37	-13.9/-14.89	-12.65/-14.56	-17.55/-17.54	-18.67/-17.47	-19/-15.33	-13.84/-15.95	-17.05/-14.63	-13.07/-14.09	-13.62/-16.44	-17.91/-13.69	-14.81/-16.59	-16.98/-17.03	-12.15/-10.79	-17.47/-18.9	-18.49/-17.94	-18.65/-19.47	-13.25/-12.76	-18.9/-18.1	-16.52/-16.39	-16.72/-18.89	-18.75/-15.07	-17.94/-18.26
Θ (157.5°)	-12.31/-10.71	-10.01/-12.26	-18.66/-18.43	-15.54/-12.65	-12.72/-14.21	-17.98/-18.9	-19.21/-17.65	-19.16/-13.86	-13.66/-10.83	-16.5/-9.86	-6.93/-8.11	-10.86/-14.2	-13.82/-12.07	-12.95/-14.16	-13.6/-13.76	-16.43/-17.49	-18.45/-18.95	-18.52/-15.35	-13.25/-11.02	-12.45/-14.66	-12.82/-11.16	-10.96/-10.22	-11.11/-13.03	-13.1/-12.74
Θ (165°)	-18.98/-17.7	-17.58/-16.56	-11.79/-10.65	-9.93/-10.03	-11.37/-14.06	-17.42/-17.59	-14.9/-14.44	-14.73/-11.35	-11.78/-18.56	-18.68/-17.51	-15.06/-19.47	-14.95/-19.03	-17.57/-17.7	-18.82/-16.99	-17.52/-17.84	-17.39/-18.03	-17.47/-18.22	-16.1/-14.46	-11.23/-10.02	-10.25/-10.29	-12.26/-14.02	-15.46/-17.37	-15.43/-18.23	-17.28/-18.73
Θ (172.5°)	-16.92/-18.55	-18.54/-15.85	-14.76/-14.14	-15.04/-16.76	-16.59/-16.03	-16.74/-17.15	-16.25/-15.42	-17.29/-17.73	-15.16/-16.15	-17.63/-15.83	-18.27/-19.03	-17.95/-17.29	-16.94/-16.78	-13.92/-12.97	-13.02/-14.52	-16.42/-14.59	-11.68/-10.55	-9.09/-8.48	-8.72/-9.26	-10.26/-11.35	-11.43/-12.6	-13.45/-13.21	-12.86/-15.84	
Θ (180°)	-19.6/-18.43	-18.78/-17.92	-17.7/-18.55	-18.34/-18.48	-18.78/-18.92	-18.33/-15.92	-13.24/-14.04	-9.16/-9.67	-9.55/-10.46	-11.19/-12.43	-11.97/-11.69	-12.1/-11.29	-11.75/-14.71	-11.73/-12.78	-13.74/-15.4	-17.08/-17.09	-19.22/-19.28	-18.77/-19.1	-18.34/-18.41	-17.84/-18.76	-16.74/-14.27	-16.97/-18.33	-18.5/-18.12	-18



Radiated Composite Gain Data

Appendix A

																					(300°)Φ(307.5°)			
Θ(0°)	-17.61/-18.78	-17.41/-18.42	-18.61/-17.07	-17.84/-18.48	-18.35/-17.9	-19.08/-19.27	-18.81/-18.9	-18.31/-17.39	-18.35/-19.21	-17.47/-18.43	-19.52/-18.18	-18.45/-18.61	-19.08/-18.85	-18.63/-18.8	-18.02/-18.77	-17.43/-17.2	-19.2/-18.78	-18.96/-19.22	-19.33/-18.58	-17.48/-17.97	-18.88/-18.53	-19.47/-18.16	-18.15/-19.32	-17.13/-17.13
Θ(7.5°)	-19.08/-18.32	-18.47/-18.8	-18.76/-18.86	-18.39/-19.26	-18.03/-16.94	-17.81/-18.57	-17.5/-18.31	-19.26/-17.89	-19.07/-18.27	-18.54/-19.27	-18.07/-18.99	-17.8/-18	-18.81/-19.04	-18.21/-18.46	-18.02/-17.43	-18.86/-17.78	-18.22/-17.84	-18.86/-19.36	-18.68/-18.06	-18.42/-19.09	-18.52/-17.65	-18.18/-18.79	-18.29/-18.86	-19.32/-17.63
Θ(15°)	-19.26/-17.78	-18.09/-18.42	-18.77/-18.49	-18.64/-18.59	-18.55/-18.91	-19.07/-17.77	-17.55/-18.79	-18.9/-17.66	-15.83/-14.3	-14.91/-13.99	-15.65/-18.61	-18.54/-18.65	-18.36/-18.66	-17.57/-17.93	-19.07/-18.99	-19.05/-17.9	-17.57/-18.08	-18.12/-18.48	-18.38/-18.15	-16.02/-18.85	-19.1/-17.63	-18.32/-18.98	-18.63/-17.93	-18.47/-18.36
Θ(22.5°)	-18.41/-17.76	-19.14/-18.7	-18.74/-17.77	-15.79/-17.87	-18.26/-18.83	-17.82/-16.62	-16.89/-17.08	-15.1/-14.61	-15.59/-17.88	-18.62/-17.81	-18.9/-15.86	-18.93/-17.2	-18.19/-17.72	-18.81/-15.7	-18.19/-19.02	-17.64/-18	-18.25/-18.85	-18.83/-17.84	-18.27/-18.46	-17.36/-18.96	-18.72/-18.13	-19.3/-17.09	-18.44/-18.9	-18.22/-17.32
Θ(30°)	-17.63/-18.78	-18.36/-17.84	-18.74/-17.53	-18.34/-18.74	-18.16/-18.99	-17.48/-15.5	-16.49/-16.58	-14.51/-18.8	-17.53/-15.55	-14.85/-14.83	-17.82/-19.02	-18.73/-17.04	-17.83/-18.43	-18/-13.06	-16.2/-15.79	-18.36/-18.49	-18.72/-17.59	-18.8/-19.1	-18.83/-17.93	-18.57/-18.68	-19.01/-18.44	-17.56/-17.99	-18.31/-18.48	
Θ(37.5°)	-18.33/-18.76	-19.06/-18.13	-19.17/-19.96	-17.85/-17.67	-18.29/-18.93	-18.79/-18.07	-19.39/-17.75	-18.72/-18.14	-13.9/-10.78	-12.51/-10.68	-11.19/-16.78	-18.5/-17.67	-17.71/-19.16	-17.8/-19.1	-18.48/-19.33	-18.7/-17.56	-15.35/-16.58	-18.87/-19.63	-18.32/-18.36	-19.24/-17.8	-18.06/-17.29	-18.47/-17.84	-18.46/-19.44	-18.89/-18.41
Θ(45°)	-19.1/-18.09	-19.07/-13.84	-13.97/-17.48	-18.56/-17.97	-19.08/-18.59	-18.83/-18.27	-15.92/-16.82	-17.12/-15.72	-11.71/-16.7	-16.07/-13.62	-16.87/-15.79	-19.21/-19.06	-19.15/-18.25	-18.68/-17.54	-17.66/-18.8	-15.81/-10.44	-13.01/-13.87	-18.33/-17.61	-16.36/-17.51	-17.53/-18.66	-13/-12.51	-12.82/-18.8	-17.42/-17.71	-18.46/-17.68
Θ(52.5°)	-17.23/-15.38	-15.17/-18.12	-18.63/-18.46	-18.61/-18.6	-14.3/-16.85	-18.07/-18.29	-18.5/-19.25	-18.22/-16.07	-13.16/-13.75	-16.36/-18.99	-17.34/-19.01	-18.71/-17.88	-18.93/-13.76	-18.31/-17.76	-18.42/-12.48	-15.44/-16.93	-18.72/-17.86	-18.99/-17.87	-18.62/-18.53	-16.81/-19.06	-14.85/-14.41	-12.39/-14.19	-15.51/-16.94	-16/-18.17
Θ(60°)	-18.47/-18.15	-18.07/-17.27	-15.91/-14.98	-12.4/-16.26	-17.5/-18.39	-17.32/-17.54	-18.14/-17.54	-13.9/-17.7	-19.33/-17.19	-12.86/-12.15	-13.23/-11.17	-15.33/-19.26	-17.78/-17.26	-19/-18.89	-16.04/-13.18	-18.44/-18.26	-15.57/-18.54	-18.88/-18.77	-18.22/-18.43	-17.72/-17	-19.38/-18.1	-17.8/-17.28	-15.42/-15.76	-18.9/-18.93
Θ(67.5°)	-17.67/-15.61	-14.12/-17.48	-15.55/-17	-18.85/-18	-18.92/-19.19	-17.32/-18.68	-19.03/-19.05	-19.05/-19.37	-16.83/-13.77	-10.79/-8.57	-14.38/-16.63	-13.43/-12.14	-17.92/-18.39	-17.67/-14.6	-18.81/-14.06	-17.54/-14.6	-18.88/-19.02	-19.29/-18.23	-18.86/-18.66	-17.28/-16.39	-18.03/-17.99	-18.51/-16.07	-18.44/-18.06	-19.1/-17.59
Θ(75°)	-18.34/-17.8	-18.22/-17.96	-19.03/-18.84	-17.91/-15.85	-16.26/-19.5	-13.65/-17.71	-13.2/-17.4	-17.44/-17.24	-17.61/-14.45	-17.08/-17.71	-17.68/-18.13	-18.21/-15.39	-19.01/-17.52	-17.34/-16.49	-18.16/-14.12	-18.36/-18.22	-17.78/-17.91	-15.3/-16.25	-17.58/-18.11	-19.23/-18.57	-18.53/-14.43	-13.16/-14.71	-12.3/-16.43	-17.89/-15.06
Θ(82.5°)	-19.01/-16.36	-19.43/-18	-18.57/-15.12	-13.04/-9.82	-14.33/-12.72	-13.35/-18.39	-13.92/-19.23	-11.12/-18.04	-18.07/-15	-17.8/-17.57	-13.63/-17.95	-17.97/-19.11	-15.27/-18.09	-18.12/-14.25	-12.09/-9.82	-18.25/-15.18	-16.86/-19.04	-17.3/-10.94	-15.91/-15.57	-19.19/-15.74	-18.06/-18.37	-13.87/-18.58	-14.02/-18.92	-13.11/-12.05
Θ(90°)	-16.39/-17.92	-16.88/-16.34	-14.42/-19.27	-16.49/-12.47	-18.6/-18.5	-12.76/-17.82	-11.25/-14.99	-10.61/-18	-18.96/-16.81	-16.41/-11.07	-9.92/-12.68	-18.7/-11.52	-17.79/-17.83	-16.85/-17.13	-13.68/-16.86	-16.27/-18.12	-17.51/-17.85	-16.92/-12.03	-16.66/-18.45	-18.24/-18.5	-18.56/-17.02	-18.19/-12.66	-12.86/-18.73	-18.13/-17.52
Θ(97.5°)	-17.72/-18.89	-17.17/-17.68	-19.01/-18.82	-17.03/-12.04	-16.55/-11.56	-8.81/-18.34	-14.8/-18.25	-17.09/-15.61	-18.56/-17.26	-17.14/-18.88	-16.68/-18.19	-17.95/-15.86	-18.34/-15.67	-10.56/-11.62	-18.94/-10.56	-17.67/-17.04	-17.53/-16.19	-17.26/-17.04	-17.68/-17.99	-17.78/-18.26	-18.04/-18.58	-13.63/-15.22	-18.01/-15.18	
Θ(105°)	-19.2/-16.57	-17.15/-19.2	-17.14/-16.2	-17.83/-10.79	-17.99/-13.05	-18.27/-19.06	-18.64/-17.22	-10.87/-15.72	-18/-17.87	-15.02/-16.21	-15.03/-15.41	-17.58/-18.67	-14.18/-17.91	-18.29/-18.43	-19.11/-18.88	-17.35/-14.36	-17.5/-16.91	-18.44/-13.92	-18.96/-14.52	-14.63/-16.74	-18.96/-17.87	-18.03/-18.51	-18.73/-15.05	-15.28/-18.69
Θ(112.5°)	-17.47/-18.22	-14.32/-12.36	-18.44/-16.58	-11.89/-16.49	-16.13/-13.86	-12.22/-17.41	-17.28/-18.47	-15.88/-19.22	-19.09/-17.48	-18.92/-19.58	-13.88/-16.14	-14.06/-18.79	-18.03/-17.75	-14.91/-15.32	-17.23/-15.09	-10.47/-12.46	-16.89/-14.51	-17.56/-18.95	-19.18/-16.9	-18.12/-18.48	-13.49/-14.03	-17.61/-17.95	-16.03/-11.97	-16.87/-19.33
Θ(120°)	-14.78/-18.37	-17.56/-12.59	-17.28/-15.81	-14.65/-19.29	-18.85/-17.45	-18.02/-17.61	-17.41/-18.94	-17.58/-14.87	-17.79/-14.26	-18.67/-14.25	-12.31/-15.58	-13.37/-18.07	-15.6/-19.56	-18.2/-18.78	-18.37/-15.42	-14.47/-9.39	-11.83/-17.61	-18.8/-17.64	-18.43/-18.16	-17.86/-18.34	-14.61/-13.56	-12.79/-11.51	-13.89/-13.56	-17.96/-15.64
Θ(127.5°)	-15.78/-16.81	-17.97/-15.21	-11.87/-17.4	-17.49/-12.63	-14.85/-18.48	-15.98/-15.8	-18.26/-18.3	-16.36/-14.4	-15.01/-9.42	-8.6/-12.72	-18.91/-14.61	-11.54/-18.75	-18.23/-18.71	-18.22/-13.74	-14.35/-13.37	-13.56/-10.64	-14.04/-18.61	-18.93/-17.96	-15.38/-18.17	-15.57/-18.48	-17.6/-15.01	-18.12/-17.56	-18.6/-18.2	-17.51/-13.74
Θ(135°)	-18.42/-18.55	-19.07/-17.32	-18.51/-11.86	-14.5/-18.87	-10.19/-11.9	-13.18/-9.98	-12.18/-14.39	-18.12/-10.61	-10.3/-14.71	-10.03/-10.07	-18.77/-17.47	-16.05/-18.79	-17.09/-18.41	-18.89/-13.76	-10.97/-10.78	-14.07/-19.01	-18.21/-18.49	-17.94/-18.23	-16.5/-15.24	-17.78/-17.51	-17.5/-9.68	-7.33/-8.41	-14.28/-18.85	-18.6/-17.6
Θ(142.5°)	-18.34/-18.97	-17.92/-18.15	-19.26/-18.58	-16.19/-11.78	-10.29/-18.5	-13.11/-13.62	-18.14/-18.16	-17.81/-11.7	-9.76/-13.93	-18.54/-16.66	-14.21/-13	-18.22/-11.84	-13.66/-17.49	-15.23/-9.95	-10.35/-14.98	-10.86/-13	-13.64/-18.55	-18.5/-17.92	-18.82/-14.91	-10.64/-10.1	-15.39/-14.58	-11.11/-9.46	-13.87/-15.57	-15.82/-15.3
Θ(150°)	-18.24/-18.81	-18.11/-18.45	-19.26/-16.69	-17.12/-18.36	-18.9/-17.34	-17.23/-18.28	-18.21/-16.6	-18.02/-18	-14.89/-17.84	-18.8/-16.38	-15.06/-17.79	-18.72/-18.46	-18.74/-17.43	-18.29/-16.38	-14.45/-13.04	-18.18/-17.06	-17.22/-14.3	-12.74/-14.58	-17.87/-19.1	-15.44/-12.73	-8.41/-6.5	-9.41/-10.98	-11.75/-12.47	-16.27/-18.71
Θ(157.5°)	-13.9/-18.32	-18.29/-18.56	-14.8/-12.52	-11.56/-14.15	-13.8/-12.45	-14.42/-17.26	-19.23/-18.65	-18.27/-18.82	-12.29/-10.87	-18.5/-17.83	-17.4/-18.33	-18.31/-18.68	-18.6/-17.86	-19.25/-13.9	-9.22/-9.16	-10.84/-13.08	-13.66/-15.14	-12.3/-9.28	-11.94/-16.13	-12.98/-11.76	-10.16/-9.5	-11.18/-16.08	-16.79/-18.96	-19.25/-17.95
Θ(165°)	-8.89/-9.75	-10.77/-11.55	-9.17/-9.81	-12.5/-16.59	-18.42/-17.39	-18.08/-18.28	-17.82/-18.6	-18.78/-19	-19.71/-19.2	-12.28/-10.59	-9.81/-9.52	-11.51/-12.1	-16.35/-16.21	-17.47/-14.87	-14.36/-18.22	-18.31/-15.55	-13.6/-11.68	-11.28/-11.1	-14.01/-16.31	-14.08/-11.18	-8.8/-7.93	-7.21/-6.21	-6.7/-6.7	-8.98/-8.31
Θ(172.5°)	-16.64/-18.21	-17.6/-18.16	-16.33/-14.9	-15.85/-17.31	-19.5/-18.97	-17.09/-18.5	-19.16/-18.33	-18.35/-18.62	-19.02/-13.84	-13.18/-13.08	-12.27/-13.2	-13.62/-15.68	-17.84/-18.14	-18.34/-17.93	-18.16/-17.56	-16.85/-12.83	-11.61/-10.75	-10.26/-11.25	-12.81/-16.71	-12.97/-11.04	-10.36/-10.9	-10.1/-10.28	-13.75/-17.19	-16.88/-17.01
Θ(180°)	-13.08/-12.92	-17.29/-18.15	-18.73/-18.82	-18.1/-19.27	-18.02/-17.57	-16.76/-15.01	-11.41/-10.24	-10.15/-8.67	-8.63/-11.79	-11.11/-13.13	-14.23/-14.77	-16.85/-16.19	-19.18/-19.24	-17.32/-16.18	-14.03/-12.56	-10.77/-9.19	-8.63/-8.07	-8.05/-7.59	-8.28/-7.96	-8.05/-8.59	-9.16/-9.57	-9.21/-10.8	-8.98/-10.23	-11.73/-13.51
Freq(Hz)	5.785GHz	Theta/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°)	-18.12/-19.17	-17.82/-17.74	-18.22/-18.49	-18.87/-19.06	-18.57/-19.09	-18.43/-18.53	-19/-18.5	-18.17/-17.85	-18.09/-17.37	-17.14/-18.68	-17.61/-18.77	-18.52/-18.08	-18.45/-18.58	-17.38/-17.59	-19.15/-17.91	-18.55/-19.34	-18.16/-18.32	-18.87/-18.65	-18.73/-17.97	-17.69/-18.1	-17.16/-18.95	-18.27/-19.09	-18.97/-17.24	-19.22/-19.27
Θ(7.5°)	-17.8/-18.03	-18.66/-18.39	-17.96/-18.58	-18.41/-18.84	-15.91/-18.84	-17.88/-18.16	-18.25/-18.21	-17.94/-18.9	-19.37/-17.85	-17.56/-16.39	-16.79/-18.68	-18.63/-18.65	-18.25/-18.82	-16.63/-14.91	-16.71/-18.36	-18.26/-18.7	-18.73/-18.36	-18.63/-14.91	-16.71/-18.36	-18.26/-18.7	-18.95/-19.03	-18.95/-17.85	-18.14/-17.06	-17.01/-17.74
Θ(15°)	-18.52/-16.36	-18.35/-18.62	-18.62/-18.56	-17.88/-18.63	-18.9/-18.47	-17.81/-19.01	-18.63/-17.21	-19.08/-18.19	-18.08/-16.45	-14.08/-11.87	-11.25/-10.91	-12.78/-13.33	-13.54/-12.76	-12.26/-11.08	-10.08/-10.74	-11.35/-14.07	-16.99/-17.79	-17.51/-17.29	-16.06/-15.84	-16.85/-18.39	-18.44/-18.76	-18.83/-18.64	-18.47/-17.77	-16.33/-18.69
Θ(22.5°)	-11.52/-11.42	-12.28/-13.28	-12.68/-12.97	-14.81/-17.13	-16.56/-18.1	-17.68/-18.53	-17.91/-19.05	-13.72/-13.25	-14.83/-14.78	-14.13/-13.89	-13.45/-14.55	-13.98/-14.97	-13.44/-12.69	-11.58/-11.87	-10.53/-9.23	-9.83/-11.1	-12.96/-14.66	-13.02/-11.08	-12.53/-15.67	-16.18/-16.43	-14.24/-12.37	-11.6/-11.82	-11.57/-11.78	-10/-10.96
Θ(30°)	-9.9/-15.29	-18.72/-18.75	-10.56/-12.27	-10.4/-9.16	-8.48/-5.99	-7.35/-7.43	-8.23/-10.45	-11.02/-9.64	-6.1/-5.53	-7.13/-7.6	-8.31/-8.56	-8.82/-6.9												



Antenna Pattern

Appendix B

Total Gain Data

Freq(Hz)	2.45GPol.	TotalAnt. 1	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-15.59-16.01	-15.02-15.27	-15.02-15.27	-15.23-15.39	-15.54-15.53	-15.94-15.35	-14.89-15.46	-14.64-15.08	-15.38-15.94	-15.33-15.32	-15.50-14.50	-14.77-14.57	-15.08-15.17	-14.61-15.38	-15.23-15.31	-15.52-15.11	-15.14-15.72	-15.53-15.70	-15.72-15.78	-15.53-15.70	-15.04-15.69	-15.28-15.17	-15.08-14.78	-14.95-15.96
Θ(7.5°)	-15.89-14.57	-15.80-15.32	-16.18-15.35	-15.05-15.24	-15.14-14.46	-14.39-14.57	-15.12-15.39	-14.47-15.20	-15.14-15.07	-15.58-15.81	-14.50-15.45	-15.28-15.78	-15.31-15.49	-15.67-15.60	-15.07-15.22	-15.15-16.25	-15.28-14.67	-15.25-14.64	-15.10-15.34	-15.31-15.83	-15.34-15.42	-15.27-14.56	-15.68-15.81	-15.48-15.49
Θ(15°)	-11.46-11.61	-12.04-12.90	-12.75-12.34	-11.74-11.04	-10.80-10.23	-10.07-19.95	-10.86-11.02	-10.83-11.95	-15.01-14.78	-13.69-13.31	-15.83-14.83	-13.61-13.49	-15.21-14.72	-15.16-15.45	-15.56-15.52	-14.81-14.12	-13.20-13.97	-15.34-16.08	-12.72-11.70	-11.34-12.60	-11.91-11.49	-12.23-11.92	-11.17-11.20	-11.68-11.88
Θ(22.5°)	-7.54-7.81	-7.86-8.99	-8.69-9.53	-9.92-9.85	-9.48-8.45	-8.20-8.66	-9.28-9.60	-9.85-10.70	-12.53-13.19	-14.23-14.37	-14.66-15.41	-13.27-13.18	-14.89-15.75	-15.49-14.91	-13.46-13.07	-13.38-14.94	-15.72-15.18	-12.48-9.69	-7.81-7.00	-7.06-7.57	-7.17-6.91	-7.52-8.09	-8.01-7.80	-7.63-7.56
Θ(30°)	-5.78-5.66	-5.44-5.30	-5.82-7.34	-8.96-10.35	-8.99-7.02	-6.81-7.55	-8.50-8.78	-8.00-6.94	-6.49-6.98	-8.67-10.42	-10.70-11.02	-13.42-14.22	-12.63-11.30	-11.37-12.06	-11.29-11.48	-11.74-10.78	-9.61-8.38	-6.62-5.50	-5.22-5.40	-5.69-6.09	-5.64-5.28	-5.72-6.06	-5.91-5.32	-4.83-5.05
Θ(37.5°)	-4.52-6.03	-5.01-3.53	-2.60-4.10	-7.58-9.55	-7.16-5.31	-5.19-9.53	-6.46-6.11	-5.20-4.44	-4.50-5.41	-6.88-8.88	-8.51-7.36	-7.86-8.98	-8.39-7.25	-7.26-8.13	-8.98-8.40	-6.88-6.19	-6.84-7.80	-7.82-7.59	-8.07-9.24	-11.35-14.59	-15.26-13.31	-10.80-9.05	-7.77-6.13	-4.46-3.84
Θ(45°)	-4.29-7.13	-6.78-3.74	-2.28-3.18	-4.90-6.91	-4.75-3.50	-4.06-4.75	-5.68-4.70	-3.80-3.76	-4.36-5.22	-6.26-8.73	-8.43-5.21	-4.34-6.29	-6.71-4.52	-3.44-4.35	-6.28-7.00	-6.51-7.77	-11.31-15.43	-15.74-14.19	-9.93-7.84	-6.71-5.54	-5.98-7.38	-7.78-6.73	-6.21-6.66	-5.83-4.59
Θ(52.5°)	-6.14-7.76	-8.14-5.09	-3.14-2.11	-2.63-3.82	-3.18-2.57	-3.64-5.12	-5.44-4.32	-3.75-4.31	-5.13-5.10	-4.95-6.41	-6.93-3.59	-2.22-4.23	-5.02-2.04	-1.12-2.89	-6.96-8.45	-8.16-10.17	-10.01-7.57	-5.29-3.56	-2.98-1.26	-0.82-0.58	-1.13-2.51	-3.93-4.85	-5.36-6.22	-6.58-6.39
Θ(60°)	-7.30-9.88	-8.53-6.26	-4.31-2.03	-1.24-2.15	-2.29-2.13	-2.97-3.62	-3.74-3.32	-3.73-4.79	-5.14-4.40	-3.71-4.83	-5.30-2.19	-0.95-1.98	-2.30-1.64	-1.98-3.86	-7.21-4.68	-2.57-3.23	-3.05-1.94	-1.10-4.08	1.00-0.91	1.75-1.75	0.81-0.85	-2.11-2.75	-3.21-4.42	-5.08-5.05
Θ(67.5°)	-2.45-6.12	-10.02-6.89	-5.29-2.75	-1.22-1.85	-1.97-0.74	-0.91-1.79	-1.88-2.17	-3.64-4.52	-4.95-4.14	-4.01-4.66	-4.14-0.71	-0.14-0.10	-0.48-4.23	-3.36-2.41	-3.49-0.97	-0.79-2.12	-0.62-0.06	-0.06-0.69	0.97-1.09	1.47-1.53	0.98-0.47	-2.11-1.95	-1.21-1.68	-2.45-1.66
Θ(75°)	-0.47-1.50	-5.09-6.55	-6.08-3.80	-1.91-1.70	-1.71-0.21	0.06-0.24	-0.18-0.74	-2.74-4.65	-5.00-4.58	-3.74-2.96	-2.28-0.90	-0.22-0.11	-1.61-5.37	-1.02-0.74	-2.47-0.67	-1.95-3.37	-0.77-1.29	-1.16-0.56	0.79-0.73	1.30-1.53	1.33-0.84	-0.40-1.54	-0.90-0.67	-1.63-1.32
Θ(82.5°)	-0.39-6.12	-2.01-3.18	-4.79-4.81	-3.41-2.58	-1.85-0.11	0.44-0.03	-0.10-0.67	-3.23-5.22	-5.83-4.13	-2.14-2.83	-3.71-1.42	0.04-0.72	-1.38-2.66	-0.10-1.12	-2.06-2.00	-5.35-3.57	-3.04-6.16	-4.33-2.66	-3.20-2.58	-0.41-0.02	-0.79-1.15	-1.51-2.40	-2.15-1.51	-1.82-1.52
Θ(90°)	-1.04-0.94	-1.92-2.13	-2.74-2.35	-3.21-4.74	-3.84-0.58	0.21-0.15	-0.80-1.93	-5.53-5.73	-4.83-2.16	-2.65-4.62	-2.49-0.27	1.18-0.24	-1.12-2.76	0.59-0.37	-3.06-5.24	-4.78-3.98	-7.78-5.29	-2.68-3.25	-6.04-6.78	-6.24-5.67	-5.13-4.25	-3.98-3.45		
Θ(97.5°)	-2.72-1.96	-2.27-2.45	-3.06-2.25	-1.73-3.78	-4.81-2.50	-1.57-1.57	-1.60-1.60	-1.87-1.74	-1.33-1.31	-2.12-2.03	-0.90-0.00	2.16-1.57	-2.54-0.62	0.27-2.02	-5.35-4.65	-3.50-4.67	-4.59-1.97	-0.27-1.27	-2.82-2.50	-2.15-3.86	-6.80-7.18	-6.50-5.50	-4.28-4.46	-5.19-4.58
Θ(105°)	-3.47-2.82	-3.47-3.30	-4.33-2.78	-2.22-3.01	-3.78-1.96	-0.81-0.88	0.05-0.25	-0.65-1.60	-2.28-1.89	-0.93-1.27	-2.01-0.23	-1.57-0.95	-2.73-0.69	-1.27-2.43	-8.03-3.28	-1.91-2.32	-2.02-2.14	-1.20-1.43	-2.73-0.33	-2.61-2.85	-3.43-3.78	-4.30-4.75	-3.18-3.22	-5.47-5.31
Θ(112.5°)	-4.15-3.85	-3.78-4.17	-6.26-4.54	-2.94-4.15	-2.54-2.40	-1.55-1.09	-0.36-0.46	-1.93-3.12	-3.10-1.85	-1.98-4.62	-5.26-2.25	-2.47-3.79	-2.63-3.36	-5.93-8.27	-4.87-1.10	-1.66-4.18	-6.38-7.35	-4.63-3.49	-4.43-4.32	-3.31-3.37	-3.95-3.56	-4.32-3.93	-5.97-5.97	
Θ(120°)	-5.65-7.27	-5.96-4.75	-6.85-6.37	-5.57-8.40	-8.12-5.38	-4.09-4.23	-4.18-4.13	-5.06-5.46	-6.29-6.13	-7.70-9.44	-6.69-5.43	-7.19-6.69	-6.12-8.35	-7.44-6.32	-4.82-3.77	-6.20-10.24	-12.62-12.13	-8.42-7.45	-11.08-13.17	-7.94-6.28	-6.42-5.98	-6.19-8.31	-8.55-8.76	-9.39-6.14
Θ(127.5°)	-9.83-13.61	-8.84-6.37	-8.09-6.65	-7.61-6.52	-9.18-8.00	-7.78-9.37	-10.35-9.71	-8.21-7.43	-8.32-10.80	-15.76-14.20	-10.67-10.01	-7.45-5.84	-7.01-7.34	-6.77-8.08	-7.92-8.41	-10.21-12.50	-13.64-11.67	-8.29-7.72	-9.51-11.79	-10.24-10.36	-11.45-10.59	-9.62-10.33	-10.76-12.27	-14.17-10.23
Θ(135°)	-11.73-13.58	-15.40-13.04	-12.35-11.67	-12.14-13.97	-14.25-13.01	-10.31-8.41	-7.42-6.24	-5.83-5.83	-5.63-6.01	-4.94-4.77	-5.83-7.17	-6.96-8.20	-9.92-7.52	-6.39-7.15	-7.92-9.37	-11.38-12.51	-12.61-8.67	-6.75-6.36	-6.15-6.01	-6.73-6.73	-12.64-14.94	-14.66-13.31	-11.73-10.28	-10.71-11.64
Θ(142.5°)	-8.78-8.53	-12.56-13.06	-15.97-15.07	-15.51-14.86	-15.31-14.77	-11.36-8.78	-7.45-5.56	-5.08-5.75	-6.68-6.23	-6.32-8.82	-12.20-9.24	-6.22-5.84	-5.49-5.34	-6.31-8.18	-9.68-11.16	-10.80-10.15	-9.36-7.80	-7.00-7.12	-6.69-5.93	-6.11-7.57	-10.86-13.72	-13.63-13.76	-14.33-12.53	-11.23-10.09
Θ(150°)	-10.95-8.80	-7.87-7.61	-6.82-6.72	-7.23-8.87	-11.49-10.80	-7.28-7.54	-5.91-6.51	-7.18-7.99	-8.56-7.41	-7.05-8.23	-7.25-6.66	-3.84-5.35	-8.05-9.38	-9.04-8.84	-9.37-9.69	-9.18-8.64	-8.86-9.67	-10.36-10.55	-10.61-10.72	-11.65-13.86	-14.68-13.35	-12.00-12.77	-14.21-14.31	-13.83-13.09
Θ(157.5°)	-12.81-10.99	-8.95-7.40	-6.16-5.39	-4.88-4.72	-5.42-6.12	-5.61-5.29	-5.56-6.24	-6.91-6.16	-4.87-4.53	-5.52-6.77	-6.17-6.14	-8.33-13.07	-14.19-9.91	-7.78-7.21	-7.83-8.69	-9.54-9.92	-10.43-11.70	-12.97-10.29	-11.57-12.19	-13.88-15.12	-13.86-11.39	-11.31-13.02	-15.45-15.28	-14.33-13.44
Θ(165°)	-13.12-13.23	-12.89-11.83	-11.05-9.98	-8.77-7.66	-7.23-7.40	-7.38-7.06	-6.78-6.60	-7.10-7.11	-7.36-7.87	-8.77-9.59	-10.84-12.99	-13.47-13.05	-10.73-13.88	-7.15-7.42	-8.46-10.16	-12.77-13.41	-14.96-14.30	-12.45-11.58	-11.27-11.55	-11.87-12.16	-11.43-10.66	-11.11-11.73	-12.25-12.18	-11.84-11.98
Θ(172.5°)	-13.54-13.57	-14.21-14.25	-14.61-14.44	-14.67-15.06	-15.34-14.56	-15.51-15.78	-14.67-13.88	-13.05-13.91	-14.74-13.49	-13.17-13.47	-13.78-12.39	-11.43-10.34	-10.11-9.70	-9.71-9.90	-10.86-11.91	-13.50-13.91	-13.82-12.92	-11.63-10.57	-10.27-10.65	-11.29-11.43	-10.48-10.50	-11.07-11.06	-11.12-11.28	-11.85-12.34
Θ(180°)	-14.15-15.08	-14.90-15.26	-14.26-12.77	-12.41-12.63	-13.24-13.86	-13.66-12.91	-12.26-12.26	-13.19-12.86	-13.37-13.03	-12.37-11.01	-10.99-10.99	-10.93-10.87	-10.61-10.27	-10.20-10.53	-11.64-13.04	-13.87-14.29	-14.47-13.72	-12.44-11.53	-11.74-13.63	-16.04-14.97	-14.27-15.40	-14.92-13.70	-12.50-12.97	-13.43-14.17
Freq(Hz)	5.2GPol.	TotalAnt. 1	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)
Θ(0°)	-12.01-13.17	-13.24-13.24	-13.16-13.24	-12.44-11.86	-11.74-11.66	-11.53-12.03	-12.64-12.65	-12.72-12.28	-12.14-12.40	-11.91-12.86	-12.20-12.12	-13.29-11.68	-12.43-13.09	-13.53-12.89	-12.24-12.35	-14.61-13.14	-11.54-11.63	-14.09-12.51	-13.94-13.35	-12.52-13.03	-11.56-12.26	-11.85-12.89	-12.78-11.91	-12.44-11.73
Θ(7.5°)	-13.07-12.24	-11.40-10.70	-9.98-10.28	-9.78-9.77	-10.75-10.99	-10.81-12.17	-12.81-13.13	-13.26-12.23	-13.67-13.79	-14.98-14.36	-15.93-13.83	-14.23-14.82	-12.39-13.35	-13.99-13.14	-12.72-13.54	-15.42-15.56	-15.88-11.62	-14.70-15.54	-14.71-15.75	-14.84-14.96	-15.24-14.93	-15.39-14.28	-15.46-14.26	-15.48-14.48
Θ(15°)	-11.39-12.69	-10.77-9.95	-7.92-8.62	-9.25-10.88	-13.34-13.47	-12.58-11.76	-14.98-13.97	-13.85-15.60	-13.53-14.37	-13.56-12.79	-13.47-14.14	-12.77-15.83	-14.09-13.20	-13.93-14.97	-15.95-13.98	-13.14-12.88	-13.84-13.96	-14.00-12.14	-13.09-11.67	-12.36-14.28	-12.71-14.60	-14.71-14.90	-14.49-13.81	-11.29-9.81
Θ(22.5°)	-13.12-12.75	-12.27-10.73	-9.27-11.11	-11.88-12.89	-10.96-10.85	-10.90-13.50	-15.45-15.19	-14.99-15.11	-15.85-14.99	-15.83-15.10	-15.66-15.48	-15.17-14.48	-15.09-15.47	-15.49-15.54	-11.14-10.09	-10.30-11.37	-9.22-8.14	-8.56-9.59	-10.63-10.00	-12.28-11.61	-10.79-11.32	-15.45-15.28	-14.33-13.44	
Θ(30°)	-11.68-11.29	-12.01-11.25	-9.44-12.09	-11.53-13.23	-9.67-8.70	-11.26-15.35	-14.55-13.86	-15.36-15.17	-14.39-13.90	-13.09-13.84	-13.03-14.70	-15.86-15.15	-16.08-13.87	-14.91-12.13	-11									



Antenna Pattern

Appendix B

Θ (15°)	-11.39/-10.21	-8.63/-9.12	-9.41/-9.98	-9.53/-8.44	-9.71/-9.70	-9.49/-8.95	-8.88/-8.62	-8.85/-10.63	-9.99/-11.46	-11.87/-11.14	-13.07/-13.18	-13.15/-12.31	-12.60/-15.98	-14.65/-11.93	-10.11/-9.46	-8.56/-9.58	-8.98/-9.38	-10.48/-10.83	-11.41/-11.72	-11.73/-12.83	-12.89/-12.56	-11.55/-10.15	-10.36/-10.04	-9.91/-11.07	
Θ (22.5°)	-9.62/-8.05	-6.83/-6.74	-7.35/-7.99	-6.06/-5.97	-7.27/-7.53	-5.67/-4.36	-5.53/-5.53	-5.58/-7.32	-7.79/-8.23	-9.27/-11.66	-11.80/-13.06	-10.57/-8.02	-8.31/-14.09	-10.89/-10.10	-11.62/-11.06	-11.68/-14.87	-15.60/-15.81	-15.77/-15.53	-13.63/-12.65	-11.19/-12.66	-10.15/-11.76	-10.64/-10.79	-10.04/-9.38	-10.55/-9.46	
Θ (30°)	-6.91/-6.50	-5.69/-6.68	-5.99/-6.93	-5.09/-6.19	-4.94/-3.89	-4.22/-4.30	-3.58/-3.48	-4.29/-5.40	-5.26/-6.38	-7.74/-8.49	-7.66/-9.05	-7.83/-5.85	-6.77/-9.95	-6.21/-11.84	-8.72/-6.53	-5.97/-6.80	-6.64/-6.19	-6.42/-6.44	-5.24/-5.17	-5.02/-3.82	-5.39/-3.78	-5.83/-4.25	-5.33/-8.15	-7.42/-8.07	
Θ (37.5°)	-7.29/-7.52	-5.48/-5.56	-7.41/-6.29	-8.03/-5.60	-4.60/-4.06	-4.28/-4.44	-3.89/-3.80	-3.78/-4.17	-5.00/-6.21	-8.25/-8.09	-8.10/-5.90	-5.83/-4.68	-8.57/-5.56	-8.02/-3.66	-2.82/-4.32	-3.34/-2.44	-0.85/-1.07	-0.68/-1.56	-1.94/-1.30	-1.08/-0.79	-3.18/-3.53	-5.04/-3.59	-4.08/-3.72	-7.60/-6.73	
Θ (45°)	-4.31/-5.57	-5.69/-5.34	-6.48/-7.40	-8.69/-4.15	-6.21/-6.91	-3.90/-6.68	-7.96/-6.33	-7.23/-7.70	-7.92/-7.45	-6.56/-5.59	-7.35/-5.24	-5.06/-9.88	-4.91/-8.05	-3.14/-6.50	-6.25/-7.97	-7.15/-5.03	-8.77/-5.86	-7.88/-9.79	-10.85/-9.53	-7.80/-4.97	-3.98/-5.89	-6.84/-9.41	-6.05/-6.77	-6.89/-5.43	
Θ (52.5°)	-8.40/-7.79	-3.46/-3.16	-4.17/-3.87	-5.94/-4.37	-3.57/-5.22	-7.36/-6.45	-9.60/-7.01	-6.87/-5.18	-3.64/-4.74	-3.26/-5.76	-5.84/-5.51	-6.76/-3.63	-6.31/-5.29	-3.45/-5.31	-5.54/-3.69	-4.29/-4.24	-6.36/-3.69	-2.26/-1.96	-1.63/-2.05	-1.69/-1.87	-3.08/-4.41	-3.63/-2.95	-3.39/-3.09	-5.45/-4.90	
Θ (60°)	-3.70/-3.36	-8.06/-5.07	-3.28/-2.03	-5.11/-2.64	-2.02/-1.15	-1.42/-3.29	-3.61/-1.87	-1.02/-0.91	-0.34/-1.13	-1.92/-4.59	-2.23/-3.33	-1.89/-5.76	-0.48/-3.14	-0.37/-3.53	-1.70/-0.98	-0.62/-0.59	-1.21/-0.74	0.38/-0.18	-0.84/-0.84	-1.68/-2.81	-3.42/-3.76	-4.53/-3.94	-6.23/-4.03	-2.54/-2.32	
Θ (67.5°)	-3.64/-3.29	-3.70/-7.48	-5.29/-4.98	-4.23/-2.66	-4.85/-0.95	0.52/-1.64	-0.32/-0.13	0.04/-0.79	-0.50/-2.19	-3.70/-3.29	-3.25/-2.96	-4.33/-2.71	-4.98/-2.74	-3.26/-2.68	-2.43/-1.40	-2.86/-1.33	0.01/-0.68	0.15/-1.57	-1.23/-1.19	-0.19/-0.56	-0.07/-1.89	-3.46/-4.54	-5.18/-6.64	-6.17/-4.94	
Θ (75°)	-6.62/-4.40	-3.85/-4.66	-3.29/-3.07	-2.70/-2.92	-2.14/-5.20	-2.38/-1.92	-0.93/-1.04	-0.39/-3.24	-1.39/-3.42	-3.01/-4.28	-1.88/-2.61	-1.81/-3.76	-1.04/-3.95	-2.58/-0.97	-1.33/-2.17	-1.56/-3.62	-1.02/-0.29	-3.82/-5.82	-5.20/-1.46	-3.05/-9.48	-8.31/-3.00	-3.65/-3.33	-4.13/-5.82	-3.35/-2.30	-4.52/-5.86
Θ (82.5°)	-5.24/-3.13	-4.56/-6.92	-3.50/-2.17	-0.57/-0.83	-0.41/-1.86	-2.19/-2.98	-4.57/-3.71	-1.05/-0.68	-0.09/-0.48	0.97/-0.91	-3.30/-0.93	0.03/-3.50	-2.37/-1.96	-1.72/-2.28	0.94/-0.19	-0.39/-0.70	0.46/-1.27	-0.42/-0.33	-0.91/-1.20	-2.91/-1.01	-1.70/-7.89	-4.30/-3.38	-4.87/-4.57	-1.44/-5.09	
Θ (90°)	-7.83/-7.34	-7.40/-4.81	-5.24/-4.86	-3.71/-3.24	-2.13/-2.15	-2.26/-0.10	-0.63/-0.36	-0.49/-0.14	-1.05/-1.31	-3.34/-2.15	-4.53/-3.06	-2.79/-5.83	-7.77/-2.21	-1.88/-4.54	-2.51/-3.90	-7.73/-2.05	-4.09/-1.19	-6.11/-2.30	0.03/-0.29	-0.24/-1.82	-1.34/-6.91	-6.17/-7.00	-7.98/-9.04	-4.19/-7.87	
Θ (97.5°)	-4.50/-7.14	-6.64/-4.92	-5.43/-3.45	-3.48/-2.30	-2.61/-3.50	-4.91/-1.24	0.48/-0.05	-2.08/-1.69	-1.43/-1.48	-3.32/-1.88	-4.50/-7.01	-0.58/-4.61	-2.33/-1.05	-5.18/-5.44	-2.48/-2.43	-1.52/-0.35	-2.79/-6.72	-12.83/-3.67	-1.56/-2.73	-5.61/-1.64	-2.89/-9.09	-11.35/-10.23	-8.32/-9.84	-6.83/-7.66	
Θ (105°)	-8.55/-6.24	-5.05/-11.03	-11.39/-4.85	-1.70/-0.53	-2.48/-3.37	-3.32/-3.06	-2.81/-3.99	-3.11/-1.38	-3.42/-0.56	-3.77/-1.06	-5.86/-9.53	-1.40/-4.28	-7.41/-5.34	-4.32/-9.29	-4.70/-3.59	-7.64/-6.16	-8.59/-6.20	-7.37/-7.36	-8.47/-6.89	-5.81/-15.15	-7.79/-12.54	-14.52/-8.97	-8.96/-10.62	-10.20/-8.87	
Θ (112.5°)	-13.28/-15.32	-8.62/-12.22	-11.69/-8.38	-5.73/-6.45	-4.89/-7.44	-4.57/-1.95	-2.26/-5.18	-6.86/-1.96	-7.31/-6.05	-9.67/-9.39	-7.27/-8.80	-10.21/-11.47	-6.79/-4.77	-7.23/-12.38	-10.35/-13.43	-8.13/-6.79	-7.05/-10.14	-15.36/-13.42	-6.72/-12.77	-15.08/-11.69	-13.12/-12.45	-13.09/-12.56	-13.60/-15.05	-14.12/-14.56	
Θ (120°)	-10.26/-11.52	-15.78/-13.91	-8.56/-5.92	-2.86/-4.03	-4.15/-4.39	-4.93/-8.03	-6.74/-6.06	-7.24/-8.65	-3.15/-4.17	-3.73/-0.07	-5.41/-11.38	-8.11/-6.44	-4.92/-5.32	-8.21/-7.90	-6.61/-6.16	-4.17/-5.50	-6.80/-6.66	-2.80/-1.84	-3.64/-7.75	-12.92/-14.92	-12.29/-7.61	-10.56/-10.27	-16.07/-14.26	-10.64/-13.23	
Θ (127.5°)	-7.00/-5.82	-9.95/-8.45	-14.64/-6.87	-3.52/-2.91	-2.92/-3.05	-3.23/-2.92	-3.00/-5.80	-5.66/-5.69	-5.45/-3.90	-4.10/-5.56	-7.96/-7.46	-6.67/-5.44	-10.85/-9.83	-11.29/-11.53	-6.97/-7.50	-5.43/-7.07	-6.33/-5.30	-6.32/-13.01	-12.80/-9.26	-9.05/-9.72	-13.00/-14.59	-12.53/-14.34	-12.36/-15.76	-14.11/-9.70	
Θ (135°)	-12.38/-7.14	-5.72/-8.40	-10.91/-10.50	-13.02/-8.85	-6.95/-6.44	-8.00/-8.46	-7.88/-9.76	-7.92/-10.07	-10.59/-9.06	-8.39/-9.44	-10.63/-9.68	-10.44/-14.25	-14.54/-15.44	-10.81/-12.18	-12.48/-10.50	-6.69/-8.39	-8.55/-11.45	-14.42/-13.48	-7.81/-11.45	-11.15/-10.93	-15.53/-15.70	-12.68/-12.69	-11.78/-14.52	-10.57/-12.32	
Θ (142.5°)	-11.88/-10.94	-13.84/-12.89	-13.81/-10.11	-8.24/-5.78	-4.51/-6.46	-9.18/-13.47	-13.55/-12.03	-9.91/-14.04	-10.67/-9.80	-7.92/-9.49	-9.61/-15.71	-14.78/-10.20	-11.11/-12.34	-7.77/-6.74	-6.18/-8.06	-9.76/-13.68	-10.98/-9.59	-7.46/-11.64	-15.43/-14.17	-16.64/-15.39	-11.22/-10.12	-12.13/-12.66	-14.06/-9.99		
Θ (150°)	-4.30/-4.54	-7.60/-10.00	-14.60/-7.84	-7.07/-8.14	-4.58/-3.36	-3.83/-5.44	-7.53/-6.94	-5.25/-5.10	-4.64/-4.85	-4.09/-4.66	-7.41/-7.62	-8.62/-8.40	-9.09/-10.53	-5.44/-2.97	-4.95/-5.72	-5.81/-8.66	-8.87/-8.55	-6.90/-8.10	-6.90/-7.63	-11.96/-13.24	-12.43/-10.30	-7.52/-7.77	-9.32/-9.63	-6.96/-5.84	
Θ (157.5°)	-3.08/-2.65	-3.88/-6.07	-7.71/-6.98	-5.64/-3.16	-2.92/-4.26	-5.79/-4.91	-4.44/-4.33	-5.41/-4.77	-4.52/-4.25	-3.80/-4.59	-5.33/-7.83	-6.01/-5.56	-6.20/-3.40	-2.67/-5.93	-9.67/-5.36	-4.97/-5.83	-7.13/-7.73	-7.99/-9.94	-14.11/-14.43	-12.84/-8.35	-7.52/-5.25	-6.98/-5.89	-7.47/-5.60	-5.07/-4.78	
Θ (165°)	-4.67/-3.69	-3.66/-3.35	-3.83/-5.00	-5.22/-5.79	-4.72/-4.38	-4.21/-5.08	-4.87/-5.23	-4.63/-4.71	-4.85/-5.18	-6.12/-5.77	-5.16/-5.69	-7.21/-6.31	-4.51/-6.09	-9.41/-8.09	-6.51/-7.28	-8.38/-8.00	-8.10/-10.05	-13.80/-14.12	-9.37/-6.98	-5.67/-6.21	-7.56/-8.01	-8.77/-7.17	-5.92/-5.50	-5.17/-4.60	
Θ (172.5°)	-5.18/-4.54	-4.84/-4.66	-4.46/-4.26	-4.28/-4.64	-4.91/-4.16	-3.90/-3.21	-3.16/-3.52	-4.04/-4.13	-4.48/-4.72	-5.33/-5.84	-7.50/-5.88	-8.06/-6.72	-7.87/-9.11	-9.07/-10.76	-13.63/-14.52	-12.02/-10.62	-10.52/-14.43	-12.22/-12.30	-9.04/-7.75	-9.63/-10.66	-9.31/-8.94	-7.48/-7.46	-6.24/-6.16	-10.51/-5.23	
Θ (180°)	-7.20/-7.34	-7.71/-7.14	-6.97/-6.55	-7.05/-7.54	-7.15/-7.64	-8.22/-8.98	-9.02/-9.26	-7.99/-7.87	-8.25/-8.63	-8.26/-8.55	-7.30/-6.18	-6.92/-7.96	-12.11/-15.10	-14.49/-12.22	-11.92/-8.93	-7.80/-7.69	-8.76/-13.59	-9.15/-7.23	-7.91/-9.06	-9.02/-8.21	-8.13/-8.43	-9.03/-8.26	-8.61/-8.48	-8.05/-7.79	
Freq(Hz)	2.45GPol.	TotalAnt. 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)Φ(7.5°)	Φ(15°)Φ(22.5°)	Φ(30°)Φ(37.5°)	Φ(45°)Φ(52.5°)	Φ(60°)Φ(67.5°)	Φ(75°)Φ(82.5°)	Φ(90°)Φ(97.5°)	Φ(105°)Φ(112.5°)	Φ(120°)Φ(127.5°)	Φ(135°)Φ(142.5°)	Φ(150°)Φ(157.5°)	Φ(165°)Φ(172.5°)	Φ(180°)Φ(187.5°)	Φ(195°)Φ(202.5°)	Φ(210°)Φ(217.5°)	Φ(225°)Φ(232.5°)	Φ(240°)Φ(247.5°)	Φ(255°)Φ(262.5°)	Φ(270°)Φ(277.5°)	Φ(285°)Φ(292.5°)	Φ(300°)Φ(307.5°)	Φ(315°)Φ(322.5°)	Φ(330°)Φ(337.5°)	Φ(345°)Φ(352.5°)	
Θ (0°)	-9.43/-9.29	-8.89/-8.42	-8.25/-8.50	-9.06/-6.76	-8.33/-8.10	-8.60/-9.72	-10.87/-9.40	-7.57/-7.45	-9.06/-10.06	-8.55/-7.11	-6.80/-7.10	-7.64/-8.31	-8.54/-8.76	-9.10/-9.42	-9.10/-6.88	-7.91/-7.30	-7.67/-7.69	-7.87/-7.50	-7.20/-7.47	-7.48/-7.29	-6.88/-6.36	-6.06/-5.92	-5.85/-6.23	-6.71/-7.36	
Θ (7.5°)	-9.25/-9.30	-9.73/-9.86	-9.49/-9.17	-9.19/-9.24	-8.92/-8.32	-7.70/-7.66	-8.52/-8.54	-7.47/-7.27	-8.89/-10.89	-9.66/-7.49	-6.59/-5.34	-5.14/-5.26	-5.29/-5.24	-5.22/-5.14	-5.17/-5.19	-5.15/-5.24	-5.05/-5.41	-5.79/-5.69	-5.32/-5.11	-5.46/-6.05	-6.39/-6.05	-5.39/-5.08	-5.31/-6.13	-6.86/-7.19	
Θ (15°)	-7.39/-7.48	-8.10/-8.57	-8.22/-7.65	-7.35/-7.15	-6.79/-6.29	-5.81/-5.64	-5.94/-5.78	-5.18/-5.08	-5.94/-7.46	-8.05/-6.90	-5.69/-5.39	-5.84/-6.40	-6.64/-6.43	-5.79/-4.38	-3.76/-3.44	-3.53/-3.77	-4.03/-4.45	-4.99/-5.48	-5.32/-4.69	-4.44/-4.72	-5.25/-5.39	-4.89/-4.30	-4.20/-4.74	-5.53/-6.04	
Θ (22.5°)	-5.68/-6.41	-6.61/-7.01	-7.32/-7.69	-8.16/-8.08	-7.11/-5.91	-5.03/-4.82	-5.26/-5.13	-4.63/-4.43	-4.90/-5.41	-5.23/-4.33	-3.35/-2.80	-2.94/-3.36	-3.69/-3.59	-3.33/-2.78	-2.36/-2.30	-2.66/-3.14	-3.75/-4.40	-5.18/-6.14	-6.19/-5.45	-4.73/-5.44	-4.97/-5.48	-5.53/-4.99	-4.44/-4.49	-5.08/-5.79	
Θ (30°)	-6.81/-6.53	-6.22/-6.58	-7.61/-9.62	-11.92/-11.96	-8.78/-6.02	-4.29/-3.84	-4.51/-5.41	-6.06/-6.41	-7.48/-8.66	-8.24/-5.76	-4.14/-3.63	-4.08/-5.07	-5.89/-5.85	-4.75/-3.04	-2.31/-2.12	-2.43/-2.91	-3.48/-3.77	-3.95/-4.10	-3.76/-3.34	-3.03/-2.92	-3.17/-3.57	-4.08/-4.29	-3.89/-3.63	-4.08/-5.28	
Θ (37.5°)	-5.26/-6.05	-6.72/-7.50	-8.32/-10.05	-11.84/-11.27	-7.50/-5.45	-4.40/-4.18	-4.49/-4.96	-5.61/-5.92	-7.57/-11.09	-14.12/-8.82	-5.67/-4.86	-5.26/-5.20	-4.83/-4.94	-4.42/-3.10	-2.43/-2.88	-4.29/-6.18	-7.51/-7.26	-6.28/-5.41	-4.56/-3.98	-3.61/-3.04	-2.32/-1.63	-1.59/-2.19	-2.74/-2.94	-3.13/-3.70	
Θ (45°)	-4.36/-5.42	-7.55/-8.40	-7.51/-8.44	-12.60/-12.77	-7.71/-5.81	-5.24/-6.66	-3.74/-3.00	-3.38/-4.61	-6.94/-10.12	-12.51/-10.94	-7.56/-6.85	-7.27/-4.97	-3.29/-4.13	-5.74/-4.29	-2.89/-3.14	-4.34/-4.82	-4.20/-3.00	-2.10/-1.71	-1.46/-1.52	-2.23/-2.78	-1.91/-0.52	0.17/-0.07	-0.74/-1.45	-2.29/-3.02	
Θ (52.5°)	-4.41/-5.65	-7.83/-7.24	-5.31/-6.07	-10.22/-10.49	-7.19/-6.45	-5.48/-3.79	-2.30/-1.57	-2.28/-4.94	-10.13/-9.24	-6.96/-6.37	-5.07/-3.63	-3.41/-2.55	-1.41/-2.36	-4.85/-3.16	-0.92/-0.21	-0.140/0.08	0.76/-1.47	1.85/-1.88	1.92/-1.72	0.69/-1.27	-2.76/-2.42	-1.33/-0.50	-0.05/-0.27	-1.62/-2.79	
Θ (60°)	-2.93/-3.76	-5.47/-5.39	-4.15/-5.07	-6.85/-5.59	-4.63/-5.13	-4.18/-1.90	-0.78/-0.84	-2.17/-5.18	-11.03/-8.04	-4.28/-3.87	-3.65/-2.04	-1.89/-2.56	-1.99/-1.93	-2.90/-2.45	-1.05/-0.50	-0.30/-0.32	-1.08/-0.34	0.71/-0.75	0.90/-1.10	0.57/-0.84	-2.32/-3.78	-4.87/-3.69	-1.78/-0.79	-1.16/-1.99	
Θ (67.5°)	-1.40/-1.24	-2.13/-3.53	-3.95/-4.50	-3.61/-2.41	-2.81/-3.53	-2.16/-0.50	-0.12/-0.61	-1.70/-4.06	-9.00/-7.54	-3.30/-2.92	-2.72/-0.54														



Antenna Pattern

Appendix B

Θ(52.5°)	-4.53/-4.46	-3.98/-5.23	-4.43/-2.54	-3.05/-6.00	-3.28/-4.54	-3.68/-3.40	-4.66/-4.74	-4.33/-2.46	-3.64/-3.79	-4.02/-5.55	-4.70/-6.26	-4.83/-5.26	-6.89/-4.44	-4.11/-5.23	-4.18/-5.40	-5.86/-4.17	-5.56/-6.97	-5.40/-5.01	-4.55/-2.59	-6.62/-5.48	-6.73/-4.55	-5.13/-1.76	-3.20/-3.82	-3.56/-3.78
Θ(60°)	-6.37/-2.74	-4.68/-2.01	-3.90/-2.60	-0.10/-4.08	-1.40/-2.92	-2.37/-4.62	-5.44/-2.85	-6.64/-2.56	-2.11/-2.67	-2.92/-2.63	-8.16/-4.36	-3.70/-4.65	-4.46/-2.77	-3.12/-4.71	-2.68/-3.49	-0.17/-0.15	1.603/-1.2	2.75/-2.75	2.42/-2.09	1.54/-1.00	0.10/-1.04	-1.94/-4.58	-5.12/-1.28	-4.75/-3.39
Θ(67.5°)	-0.76/-3.72	-1.48/-4.62	-2.94/-3.85	-0.24/-2.28	-1.53/-1.58	-1.27/-0.93	-0.59/-0.06	-3.68/-2.42	-2.61/-1.71	-1.77/-4.11	-5.11/-4.47	-5.84/-2.69	-3.10/-4.53	-5.80/-3.33	-3.30/-3.59	-2.80/-4.75	-3.00/-5.24	-3.37/-2.03	-1.63/-3.27	-3.63/-3.05	-3.36/-2.55	-3.36/-3.64	-3.07/-8.91	-4.83/-8.94
Θ(75°)	-4.40/-5.19	-1.85/-2.36	-2.43/-2.85	-2.61/-0.73	-1.00/-1.95	-2.37/-1.21	-1.04/-0.90	-3.31/-3.88	-5.31/-0.88	-3.73/-3.68	-3.41/-3.16	-7.67/-3.09	-5.13/-7.59	-2.85/-2.54	-3.18/-1.09	-1.52/-0.55	-1.06/-1.75	-2.09/-3.13	-1.10/-0.10	-2.12/-3.44	-1.81/-3.88	-2.25/-4.43	-4.19/-5.12	-4.76/-4.72
Θ(82.5°)	-4.25/-0.74	-2.88/-0.72	-2.43/-0.39	-2.39/-0.89	-0.53/-0.61	-0.28/-1.38	-2.04/-1.52	-1.56/-1.08	-2.78/-0.28	0.93/-1.06	-3.78/-2.19	-7.82/-4.26	-3.92/-3.14	0.71/-4.16	-6.56/-3.39	-2.90/-0.06	-3.20/-0.98	-3.10/-1.43	-1.87/-9.11	-2.84/-5.14	-0.44/-4.04	-1.82/-6.03	-3.23/-3.00	-1.65/-2.53
Θ(90°)	-2.01/-4.31	-0.47/-0.05	-1.12/-3.05	-1.81/-1.92	0.30/-1.51	0.57/-1.69	-1.60/-1.72	-1.30/-0.72	1.24/-1.36	0.82/-1.67	-2.48/-2.63	-5.11/-4.38	-1.72/-2.17	-3.30/-4.69	-0.19/-1.37	-4.88/-7.16	-1.70/-2.79	-2.72/-1.69	-7.83/-1.54	-2.55/-4.43	-2.00/-6.59	-4.82/-5.01	-5.28/-1.66	
Θ(97.5°)	-4.93/-3.33	-2.12/-1.08	-3.72/-2.08	-4.56/-1.95	-4.41/-0.89	-0.46/-4.38	-5.07/-1.84	0.85/-3.01	-1.64/-0.64	-0.96/-0.91	-6.25/-2.33	-6.86/-2.71	-1.77/-8.24	-4.37/-5.54	-10.02/-7.47	-3.89/-2.85	-12.02/-6.55	-3.96/-1.16	-2.26/-3.98	-4.79/-7.82	-4.77/-9.88	-8.15/-11.76	-6.08/-5.94	-2.75/-6.07
Θ(105°)	-8.82/-2.54	-3.05/-0.88	-3.90/-3.14	-3.82/-1.88	-3.86/-0.87	-0.91/-1.40	0.11/-0.03	-4.84/-2.25	1.10/-2.11	-3.39/-4.39	-6.45/-6.35	-3.49/-11.39	-9.36/-9.22	-4.14/-16.69	-5.35/-13.06	-15.32/-4.97	-5.00/-3.82	-10.17/-2.58	-6.92/-5.23	-9.39/-9.06	-11.28/-7.40	-7.58/-7.89	-0.12/-3.99	
Θ(112.5°)	-7.58/-3.44	-5.96/-3.04	-5.27/-2.56	-4.51/-1.78	-0.75/-0.21	-1.81/-2.89	-1.84/-2.50	-0.38/-1.86	-2.39/-1.40	-0.14/-1.37	-5.31/-3.90	-10.23/-5.57	-12.48/-10.31	-9.66/-5.39	-2.86/-3.05	-7.04/-4.44	-6.50/-7.30	-12.72/-9.22	-6.02/-3.04	-6.09/-8.32	-9.08/-10.11	-7.30/-7.65	-4.00/-2.97	
Θ(120°)	-9.44/-14.09	7.32/-8.51	7.97/-10.22	-6.51/-11.08	-4.42/-4.11	-5.38/-8.51	-6.50/-6.00	-4.47/-6.22	-3.69/-4.98	-3.80/-6.10	-5.88/-6.92	-9.89/-14.55	-9.10/-14.98	-7.48/-7.37	-5.57/-6.61	-6.06/-8.11	-3.86/-8.30	-9.41/-6.84	-5.21/-9.72	-8.74/-6.19	-3.66/-9.58	-13.38/-6.37	-9.50/-8.98	-6.96/-8.09
Θ(127.5°)	-8.85/-14.57	-14.82/-10.86	-14.85/-11.23	-14.50/-10.89	-9.63/-9.51	-10.12/-11.39	-10.67/-10.70	-9.76/-7.53	-8.53/-12.10	-13.49/-10.36	-12.34/-10.58	-11.57/-15.05	-11.71/-11.18	-11.01/-4.38	-7.70/-10.43	-10.27/-6.26	-6.86/-3.81	-16.04/-9.90	-4.57/-6.55	-12.33/-7.69	-7.52/-9.42	-9.28/-8.74	-13.51/-7.23	-6.51/-9.82
Θ(135°)	-8.19/-13.50	-10.16/-10.59	-12.97/-9.87	-11.58/-12.18	-7.33/-8.43	-9.74/-11.80	-8.20/-7.32	-9.73/-8.43	-11.31/-11.16	-10.93/-10.84	-11.10/-11.20	-14.77/-8.27	-13.39/-11.00	-7.76/-6.69	-11.77/-11.75	-8.89/-14.21	-10.99/-8.62	-9.25/-13.66	-11.49/-9.77	-7.71/-12.88	-10.49/-13.47	-10.49/-9.41	-6.57/-11.41	
Θ(142.5°)	-5.00/-7.37	-9.66/-9.16	-8.56/-6.52	-6.67/-9.80	-7.71/-6.30	-7.58/-9.05	-13.06/-15.24	-11.90/-7.14	-4.42/-4.38	-5.84/-9.93	-12.49/-8.87	-12.98/-14.00	-6.43/-3.45	-4.95/-9.42	-11.39/-14.60	-11.53/-11.02	-13.84/-13.56	-9.48/-6.42	-4.94/-5.91	-7.30/-6.75	-7.76/-7.59	-8.20/-5.08	-4.51/-9.12	-10.65/-5.94
Θ(150°)	-5.48/-5.53	-6.35/-4.48	-5.37/-8.01	-6.21/-6.61	-4.34/-3.45	-3.69/-6.35	-3.17/-3.25	-2.61/-2.51	-2.19/-4.21	-6.64/-8.07	-6.50/-10.35	-8.39/-6.16	-8.14/-7.66	-6.79/-7.19	-8.18/-10.26	-11.61/-13.12	-10.07/-10.47	-13.41/-15.59	-13.26/-11.00	-8.31/-6.22	-5.67/-6.75	-3.73/-8.17	-2.79/-7.33	-8.66/-6.81
Θ(157.5°)	-1.83/-1.67	-4.95/-10.17	-5.70/-2.23	-1.96/-2.09	-3.79/-5.95	-6.79/-8.34	-7.66/-6.79	-5.89/-5.34	-5.14/-4.35	-5.20/-6.02	-5.06/-4.54	-4.79/-7.67	-8.85/-8.20	-6.83/-7.12	-7.57/-8.16	-7.88/-8.78	-8.86/-8.16	-9.07/-8.54	-7.95/-8.29	-8.29/-8.13	-6.42/-5.80	-5.31/-5.56	-11.40/-13.77	-6.74/-3.84
Θ(165°)	-2.72/-1.76	-2.35/-4.20	-5.97/-5.38	-4.66/-5.40	-5.14/-3.84	-3.89/-3.81	-2.75/-3.47	-3.06/-3.70	-4.15/-4.90	-4.29/-3.97	-5.33/-6.66	-6.66/-6.13	-6.21/-8.59	-7.97/-7.27	-7.84/-11.14	-13.25/-11.81	-10.03/-10.96	-8.78/-7.05	-6.66/-6.42	-7.85/-8.97	-9.45/-8.45	-8.40/-10.54	-11.68/-10.92	-9.78/-6.16
Θ(172.5°)	-10.71/-9.14	-7.65/-7.55	-6.79/-8.87	-5.45/-6.67	-5.88/-6.08	-6.12/-5.27	-5.60/-5.80	-5.38/-5.23	-3.71/-8.23	-4.02/-6.19	-7.91/-6.82	-7.10/-8.42	-11.05/-15.93	-13.26/-11.82	-13.65/-14.37	-11.24/-7.39	-6.71/-7.43	-9.76/-10.29	-12.06/-14.23	-15.33/-15.52	-15.79/-14.47	-14.92/-14.85	-12.79/-12.78	-14.47/-14.41
Θ(180°)	-12.38/-11.58	-12.84/-13.11	-13.09/-13.94	-13.79/-12.72	-12.56/-11.77	-10.15/-9.64	-9.81/-7.94	-8.01/-7.92	-8.49/-11.27	-14.46/-13.62	-9.57/-8.87	-11.52/-13.89	-15.14/-15.47	-13.01/-12.15	-11.77/-13.54	-14.59/-12.59	-11.58/-12.90	-13.98/-14.45	-15.55/-15.01	-14.71/-15.01	-13.88/-13.69	-14.55/-15.16	-15.34/-15.92	-16.12/-14.27
Freq(Hz)	5.785GPol.	TotalAnt.	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Ψ(7.5°)	Φ(15°)Ψ(22.5°)	Φ(30°)Ψ(37.5°)	Φ(45°)Ψ(52.5°)	Φ(60°)Ψ(67.5°)	Φ(75°)Ψ(82.5°)	Φ(90°)Ψ(97.5°)	Φ(105°)Ψ(112.5°)	Φ(120°)Ψ(127.5°)	Φ(135°)Ψ(142.5°)	Φ(150°)Ψ(157.5°)	Φ(165°)Ψ(172.5°)	Φ(180°)Ψ(187.5°)	Φ(195°)Ψ(202.5°)	Φ(210°)Ψ(217.5°)	Φ(225°)Ψ(232.5°)	Φ(240°)Ψ(247.5°)	Φ(255°)Ψ(262.5°)	Φ(270°)Ψ(277.5°)	Φ(285°)Ψ(292.5°)	Φ(300°)Ψ(307.5°)	Φ(315°)Ψ(322.5°)	Φ(330°)Ψ(337.5°)	Φ(345°)Ψ(352.5°)
Θ(0°)	-14.45/-16.06	-15.26/-15.15	-15.20/-15.76	-14.80/-14.91	-15.37/-14.72	-15.29/-16.11	-15.06/-11.40	-15.12/-15.39	-15.42/-15.27	-15.30/-15.32	-15.35/-15.15	-15.59/-14.96	-15.57/-15.17	-14.87/-15.35	-15.79/-15.18	-15.30/-15.61	-15.63/-15.31	-15.37/-15.34	-15.20/-15.42	-15.38/-15.60	-16.07/-15.75			
Θ(7.5°)	-11.92/-11.88	-12.86/-12.66	-12.74/-13.85	-12.99/-12.97	-13.79/-12.60	-11.57/-11.69	-10.82/-10.43	-10.95/-10.85	-12.24/-12.83	-13.57/-14.85	-15.51/-14.64	-14.08/-13.37	-13.82/-14.18	-14.75/-13.94	-13.92/-12.97	-12.53/-14.29	-14.85/-14.51	-14.76/-14.84	-15.65/-15.28	-15.32/-15.48	-15.53/-15.26	-13.33/-13.35	-12.90/-13.78	-15.53/-14.38
Θ(15°)	-14.10/-3.23	-7.76/-7.52	-8.46/-10.68	-12.58/-11.66	-10.89/-12.72	-12.39/-12.79	-11.97/-11.49	-12.60/-12.98	-14.04/-12.91	-10.86/-10.25	-10.35/-10.95	-12.97/-12.40	-13.75/-12.91	-12.71/-11.43	-10.61/-9.37	-8.39/-9.34	-8.23/-8.29	-9.82/-10.85	-11.69/-13.00	-13.07/-15.80	-15.12/-15.23	-10.21/-10.36	-12.71/-10.68	-13.31/-15.41
Θ(22.5°)	-9.14/-13.21	-8.96/-6.56	-7.25/-9.64	-12.24/-8.77	-6.24/-9.48	-4.38/-6.31	-8.12/-7.93	-7.06/-5.65	-6.28/-7.00	-4.86/-3.17	-4.63/-6.33	-8.02/-11.44	-12.44/-10.87	-8.07/-6.53	-7.11/-10.88	-13.89/-11.41	-9.01/-8.17	-6.98/-5.95	-5.34/-3.90	-3.68/-4.24	-4.16/-5.08	-8.55/-9.26	-7.21/-6.36	-7.32/-6.85
Θ(30°)	-2.80/-4.41	-1.37/-8.94	-4.83/-6.86	-10.01/-6.73	-6.07/-7.08	-8.24/-9.30	-7.13/-6.57	-9.34/-7.15	-5.92/-5.02	-5.04/-5.26	-8.36/-4.74	-3.37/-5.77	-4.75/-9.25	-7.49/-6.85	-6.85/-4.80	-7.71/-3.68	-3.45/-5.48	-5.69/-4.54	-5.26/-5.45	-5.94/-5.18	-6.06/-6.38	-7.06/-8.74	-7.09/-5.84	-5.22/-5.53
Θ(37.5°)	-7.15/-4.76	-2.24/-6.42	-8.39/-7.32	-7.15/-6.49	-4.49/-4.98	-5.18/-2.79	-1.84/-4.04	-6.36/-3.84	-6.61/-4.09	-2.84/-3.97	-7.75/-8.38	-7.93/-4.52	-3.35/-8.29	-7.95/-8.34	-1.78/-4.34	-3.10/-1.54	-1.95/-2.25	-2.07/-2.72	-3.50/-4.16	-3.96/-4.45	-3.87/-7.23	-3.55/-4.45	-4.55/-7.77	-5.62/-6.64
Θ(45°)	-7.06/-5.24	-6.80/-4.38	-8.48/-8.53	-8.80/-7.54	-7.86/-7.56	-7.00/-7.74	-7.03/-7.91	-6.39/-6.85	-4.78/-3.02	-2.51/-4.52	-4.57/-5.75	-3.83/-5.89	-6.53/-7.25	-3.48/-5.23	-5.15/-5.43	-3.66/-3.84	-3.47/-3.48	-1.89/-1.61	-3.84/-4.75	-4.50/-3.85	-4.19/-4.97	-4.75/-5.50	-5.14/-5.29	-5.53/-7.20
Θ(52.5°)	-4.47/-5.96	-4.22/-4.40	-6.74/-4.33	-8.12/-1.56	-7.17/-6.33	-8.35/-4.57	-6.28/-3.38	-8.14/-6.32	-3.34/-2.40	-4.22/-6.62	-5.96/-7.14	-4.22/-4.60	-5.17/-7.54	-3.88/-5.14	-3.36/-3.51	-6.62/-5.62	-9.49/-7.97	-10.50/-11.33	-5.26/-4.43	-4.68/-6.60	-5.99/-5.23	-6.48/-4.87	-6.25/-3.12	-3.63/-3.77
Θ(60°)	-2.01/-6.00	-1.68/-4.49	-5.73/-1.01	-8.90/-4.05	-2.47/-2.26	-4.21/-1.28	0.92/-0.89	-1.05/-2.73	-1.94/-2.00	-1.13/-1.61	-4.62/-6.09	-1.29/-5.04	-3.27/-2.65	-1.86/-3.10	-4.52/-4.23	-2.57/-6.09	1.04/-2.09	2.42/-4.46	0.32/-1.25	1.79/-0.99	-1.16/-1.81	-1.33/-1.71	-2.01/-2.45	-5.33/-4.00
Θ(67.5°)	-5.41/-0.79	-4.56/-1.04	-4.85/-2.65	-5.58/-1.34	-0.19/-1.42	-2.80/-2.00	0.10/-1.42	-0.89/-2.09	0.50/-2.68	-1.53/-2.63	-6.49/-1.04	-3.00/-3.33	-2.47/-2.00	-3.07/-6.66	-3.90/-3.22	-5.00/-2.29	-1.43/-3.10	-3.48/-2.87	-1.60/-1.90	-1.44/-2.39	-2.08/-1.66	-2.24/-4.03	-9.08/-2.22	-2.53/-3.30
Θ(75°)	-4.45/-3.60	-1.22/-3.51	-2.25/-2.96	-0.96/-1.49	-1.46/-0.40	-1.32/-1.53	-1.11/-1.02	-0.86/-0.52	-2.78/-2.33	0.13/-4.48	-4.25/-2.48	-3.27/-5.31	-1.05/-7.00	-4.82/-4.21	-4.15/-6.63	-1.05/-0.01	0.28/-0.51	-0.31/-1.22	-0.76/-0.28	-2.45/-1.52	-3.68/-1.34	-1.02/-8.15	-3.52/-4.74	-5.35/-1.86
Θ(82.5°)	-3.28/-2.42	-1.26/-2.13	-0.82/-0.53	-0.76/-1.23	0.84/-0.68	-1.71/-0.08	0.31/-2.16	-0.68/-2.04	-1.72/-1.21	-2.65/-2.23	-2.60/-1.89	-3.70/-3.53	-3.94/-3.38	-1.84/-2.61	-5.86/-3.58	-3.89/-3.02	-4.59/-3.13	-2.90/-6.57	-4.97/-3.35	-3.01/-6.80	-3.66/-6.20	-4.00/-5.16	-1.17/-2.91	-3.66/-3.68
Θ(90°)	-3.86/-0.22	-4.30/-1.36	-1.38/-0.78	-2.51/-0.17	-0.58/-0.72	0.12/-1.61	0.69/-2.55	1.72/-0.93	-2.35/-2.40	-0.09/-0.85	-6.50/-3.76	-3.51/-0.84	-3.42/-6.86	-4.14/-0.04	-1.47/-3.13	-5.92/-1.85	-1.95/-3.80	-4.96/-1.86	-2.53/-3.05	-1.74/-2.51	-2.91/-2.77	-6.00/-5.74	-2.29/-1.03	
Θ(97.5°)	-1.52/-5.87	-5.11/-4.14	-1.82/-5.66	-3.84/-6.37	-0.94/-0.59	-0.74/-0.51	-1.09/-0.61	-0.19/-0.47	-3.10/-0.72	-1.73/-3.20	-0.57/-8.20	-3.56/-4.63	-1.35/-8.81	-7.58/-4.45	-8.00/-11.06	-8.15/-3.40	-12.55/-2.94	-6.38/-2.30	-3.08/-5.51	-4.83/-3.90	-7.39/-10.03	-9.69/-6.78	-3.44/-6.45	
Θ(105°)	-7.22/-3.88	-5.62/-1.37	-3.41/-2.42	-3.85/-2.52	-1.36/-1.04	-0.43/-2.85	-3.22/-0.69	-2.98/-1.75	-2.12/-1.79	-4.20/-3.31														



Antenna Pattern

Appendix B

Θ (105°)	1.71/-0.96	-1.13/-1.23	2.12/-0.58	-0.73/-6.84	-2.79/-5.04	-3.43/-4.01	-4.12/-4.24	-3.10/-5.27	-6.46/-12.04	-5.59/-1.35	-3.15/-4.25	-3.74/-7.34	-3.84/-4.61	-6.79/-6.77	-9.87/-7.06	-2.91/-8.57	-14.79/-10.29	-6.68/-6.32	-6.01/-6.01	-6.89/-6.05	-5.62/-3.11	0.12/1.14	-1.12/-5.31	-0.55/-1.28
Θ (112.5°)	-2.32/-5.52	-2.11/-3.83	-0.49/-1.08	-2.68/-6.34	-6.04/-5.15	-4.43/-3.55	-6.47/-3.97	-3.58/-7.37	-7.50/-4.41	-5.11/-1.84	-3.50/-3.35	-4.21/-6.09	-3.49/-6.14	-6.28/-5.77	-7.84/-11.36	-4.72/-9.23	-9.81/-8.50	-6.68/-5.19	-8.77/-6.09	-8.89/-7.78	-4.80/-5.64	-3.40/-3.63	-3.53/-3.94	-0.93/-1.26
Θ (120°)	-6.05/-6.48	-9.33/-6.00	-3.08/-2.44	-6.75/-4.61	-1.25/-5.92	-6.99/-9.34	-7.99/-7.78	-7.97/-1.80	-6.70/-6.49	-8.98/-7.28	-6.94/-4.55	-4.79/-8.68	-11.85/-11.97	-11.85/-10.08	-9.22/-8.30	-4.04/-10.50	-12.56/-6.20	-9.84/-10.55	-11.28/-12.56	-12.41/-6.90	-4.74/-7.78	-9.07/-6.65	-6.95/-9.55	-7.62/-7.75
Θ (127.5°)	-6.73/-7.92	-8.65/-9.53	-14.01/-10.27	-7.38/-7.19	-11.30/-13.13	-9.96/-10.50	-14.49/-10.70	-10.48/-15.50	-11.92/-8.81	-13.67/-11.17	-8.59/-9.31	-3.72/-5.56	-4.94/-6.26	-6.32/-9.02	-15.08/-8.14	-15.10/-8.96	-15.39/-11.82	-9.31/-11.37	-15.52/-12.06	-14.06/-7.83	-4.50/-8.45	-11.68/-7.56	-9.78/-6.56	-7.73/-9.18
Θ (135°)	-11.06/-12.31	-11.77/-9.64	-7.38/-8.37	-5.17/-6.79	-9.45/-11.05	-11.82/-12.35	-11.57/-9.03	-6.71/-10.37	-11.72/-6.00	-8.19/-12.35	-10.10/-13.13	-8.65/-10.37	-12.67/-11.96	-15.03/-12.93	-9.01/-8.27	-11.00/-12.11	-13.23/-16.27	-11.87/-6.74	-8.80/-10.04	-8.66/-11.91	-10.10/-11.71	-4.54/-4.46	-6.93/-12.17	-12.05/-12.58
Θ (142.5°)	-2.47/-2.99	-4.12/-5.10	-6.80/-9.72	-7.27/-8.64	-7.20/-12.36	-8.27/-2.47	-3.71/-10.29	-12.61/-9.50	-5.94/-8.58	-12.82/-14.15	-8.39/-9.46	-12.48/-14.76	-15.05/-8.67	-5.94/-9.30	-12.21/-11.40	-15.76/-12.44	-12.01/-8.52	-7.15/-9.54	-13.31/-11.50	-7.14/-7.00	-7.49/-5.12	-4.76/-5.57	-3.79/-3.28	
Θ (150°)	-6.15/-7.36	-5.96/-5.51	-4.97/-5.77	-8.66/-7.21	-7.11/-8.98	-7.15/-6.04	-7.83/-8.72	-9.18/-6.33	-6.37/-12.55	-9.29/-8.88	-11.33/-13.45	-12.09/-13.41	-13.99/-13.95	-14.12/-13.90	-11.74/-14.24	-13.42/-15.68	-10.76/-6.22	-5.47/-6.30	-9.11/-12.62	-10.57/-11.16	-12.93/-10.20	-8.46/-6.99	-4.03/-4.04	-5.04/-4.79
Θ (157.5°)	-8.87/-7.43	-8.73/-9.24	-8.73/-7.21	-4.92/-6.24	-11.24/-9.54	-7.95/-11.58	-9.20/-4.97	-3.46/-3.60	-5.52/-12.15	-16.12/-8.55	-6.88/-7.80	-9.13/-8.02	-8.07/-8.53	-10.40/-10.69	-11.60/-11.76	-11.70/-13.44	-10.67/-7.41	-5.73/-6.30	-8.07/-9.86	-9.68/-10.45	-12.29/-11.41	-8.24/-7.54	-9.48/-8.91	-8.55/-10.92
Θ (165°)	-6.11/-6.74	-7.50/-8.34	-9.37/-9.53	-10.27/-8.69	-6.36/-7.07	-7.67/-6.95	-5.70/-6.59	-8.73/-12.04	-14.10/-12.94	-9.95/-7.27	-6.85/-8.06	-9.20/-14.02	-10.24/-9.43	-8.57/-7.59	-7.73/-10.29	-13.72/-13.28	-11.55/-10.96	-10.54/-11.25	-10.88/-10.53	-9.43/-9.20	-9.60/-9.77	-8.77/-6.53	-5.01/-5.20	-5.22/-4.71
Θ (172.5°)	-8.89/-8.49	-7.70/-7.16	-7.10/-7.65	-7.58/-8.72	-10.83/-11.21	-8.86/-7.24	-7.07/-7.54	-8.30/-8.68	-9.59/-9.67	-8.62/-7.40	-7.47/-8.57	-8.54/-9.59	-9.32/-7.85	-8.06/-7.95	-7.92/-9.70	-11.34/-12.70	-13.65/-14.71	-13.81/-11.80	-10.25/-9.47	-8.47/-7.86	-8.13/-8.11	-8.23/-8.67	-9.11/-9.25	-9.08/-9.74
Θ (180°)	-15.11/-15.87	-15.44/-15.32	-15.03/-13.81	-12.77/-12.86	-11.39/-9.87	-10.09/-10.70	-11.96/-13.20	-12.57/-11.25	-11.74/-13.44	-15.14/-15.31	-14.43/-14.96	-13.91/-13.64	-12.58/-12.89	-12.80/-12.09	-13.08/-12.87	-12.33/-13.51	-13.95/-12.76	-11.64/-9.61	-9.03/-8.94	-8.60/-8.47	-9.17/-10.61	-11.44/-12.64	-13.62/-14.06	-14.18/-13.30
Freq(Hz)	5.66GPol.	TotalAnt. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)/Ψ(7.5°)	Φ(15°)/Ψ(22.5°)	Φ(30°)/Ψ(37.5°)	Φ(45°)/Ψ(52.5°)	Φ(60°)/Ψ(67.5°)	Φ(75°)/Ψ(82.5°)	Φ(90°)/Ψ(97.5°)	Φ(105°)/Ψ(112.5°)	Φ(120°)/Ψ(127.5°)	Φ(135°)/Ψ(142.5°)	Φ(150°)/Ψ(157.5°)	Φ(165°)/Ψ(172.5°)	Φ(180°)/Ψ(187.5°)	Φ(195°)/Ψ(202.5°)	Φ(210°)/Ψ(217.5°)	Φ(225°)/Ψ(232.5°)	Φ(240°)/Ψ(247.5°)	Φ(255°)/Ψ(262.5°)	Φ(270°)/Ψ(277.5°)	Φ(285°)/Ψ(292.5°)	Φ(300°)/Ψ(307.5°)	Φ(315°)/Ψ(322.5°)	Φ(330°)/Ψ(337.5°)	Φ(345°)/Ψ(352.5°)
Θ (0°)	-15.53/-15.37	-15.13/-15.82	-15.96/-15.73	-15.60/-15.18	-15.32/-14.53	-15.59/-14.14	-13.53/-12.72	-12.97/-13.65	-15.22/-15.28	-14.56/-14.92	-13.90/-13.65	-13.42/-13.34	-14.31/-13.28	-13.49/-15.75	-15.61/-15.39	-15.57/-15.05	-14.29/-14.10	-15.82/-15.64	-15.00/-15.79	-15.59/-15.47	-15.81/-15.56	-15.78/-15.31	-16.26/-15.90	-15.66/-15.94
Θ (7.5°)	-9.96/-10.01	-11.08/-11.09	-11.88/-12.79	-11.40/-11.43	-13.44/-12.48	-12.77/-13.69	-15.01/-16.11	-14.19/-13.81	-15.19/-15.06	-15.44/-15.04	-16.06/-14.97	-13.72/-13.63	-12.34/-13.13	-14.61/-12.86	-14.22/-15.89	-14.31/-15.42	-15.67/-15.13	-14.25/-13.65	-11.26/-11.63	-11.26/-11.86	-11.06/-11.00	-9.76/-8.91	-9.74/-10.36	-9.63/-10.02
Θ (15°)	-10.80/-10.34	-10.65/-9.95	-8.12/-8.12	-7.28/-6.32	-8.26/-11.11	-9.93/-9.39	-9.67/-10.34	-9.83/-9.08	-7.90/-7.16	-6.88/-7.92	-10.31/-11.80	-10.67/-10.91	-10.26/-9.78	-10.50/-9.70	-9.35/-11.05	-10.77/-10.74	-9.60/-9.49	-9.43/-9.26	-10.32/-10.56	-12.31/-12.03	-11.12/-10.26	-8.40/-8.35	-9.84/-10.74	-10.77/-11.20
Θ (22.5°)	-6.29/-5.03	-4.54/-6.86	-8.68/-8.48	-5.83/-4.71	-5.27/-7.21	-8.69/-10.81	-9.78/-5.33	-4.06/-4.50	-8.29/-8.54	-8.12/-7.29	-7.76/-7.94	-11.38/-9.80	-8.98/-8.43	-7.87/-7.50	-9.56/-10.81	-8.01/-6.62	-6.55/-7.14	-8.69/-9.33	-8.74/-8.38	-8.16/-5.76	-8.78/-10.16	-9.81/-9.16	-8.62/-7.70	
Θ (30°)	-6.79/-7.13	-5.07/-6.02	-5.52/-7.20	-4.59/-6.38	-6.69/-5.74	-7.86/-4.37	-6.26/-7.95	-6.33/-5.41	-5.96/-7.42	-6.03/-5.81	-6.26/-7.72	-10.09/-8.05	-6.90/-6.98	-5.75/-8.22	-7.17/-9.43	-7.82/-6.94	-7.76/-8.92	-8.06/-8.25	-7.13/-9.74	-5.70/-4.07	-4.49/-4.43	-5.97/-5.44	-9.20/-7.94	
Θ (37.5°)	-10.44/-8.65	-6.85/-6.43	-7.13/-4.69	-1.61/-4.79	-9.90/-3.36	-5.99/-6.22	-6.49/-6.42	-6.98/-6.79	-11.11/-6.56	-5.22/-3.72	-4.41/-2.44	-1.42/-0.67	-0.96/-2.52	-2.80/-3.54	-3.61/-3.03	-4.72/-7.08	-7.79/-6.65	-6.46/-10.40	-5.95/-8.54	-6.18/-7.57	-8.01/-8.06	-5.38/-4.50	-5.51/-5.51	-5.98/-7.12
Θ (45°)	-6.43/-5.26	-4.62/-4.93	-5.58/-6.05	-4.32/-5.65	-3.65/-6.33	-6.65/-6.53	-5.59/-7.38	-8.21/-3.45	-3.18/-5.03	-4.29/-3.68	-3.80/-3.04	-6.12/-7.98	-4.23/-2.57	-3.96/-6.02	-4.81/-5.61	-4.01/-4.38	-4.68/-6.50	-5.25/-4.79	-10.56/-5.16	-8.85/-6.10	-3.26/-6.60	-3.87/-5.76	-3.52/-2.26	-3.89/-6.47
Θ (52.5°)	-3.57/-2.52	-3.61/-4.05	-4.04/-4.86	-5.39/-3.59	-2.59/-4.63	-2.31/-3.15	-5.82/-3.11	-1.91/-4.60	-4.76/-2.96	-5.44/-11.43	-6.55/-8.24	-5.67/-4.91	-7.18/-6.74	-7.98/-9.38	-4.43/-4.01	-5.97/-4.37	-6.74/-6.27	-6.75/-5.33	-7.57/-6.76	-5.06/-4.88	-4.43/-4.94	-3.60/-3.68	-2.69/-2.27	-5.63/-5.02
Θ (60°)	-2.63/-1.31	-1.80/-3.68	-1.12/-3.46	-1.82/-3.00	-4.49/-0.28	-3.10/-2.40	-3.34/-3.11	-5.89/-2.40	-2.40/-0.65	-0.55/-0.82	-1.58/-0.32	0.94/1.36	1.87/2.45	1.83/0.56	0.21/0.73	-1.65/-6.25	-3.06/-6.56	-4.43/-4.67	-6.01/-4.32	-6.11/-5.52	-5.33/-5.23	-1.82/-1.65	-2.10/-1.02	-2.64/-1.37
Θ (67.5°)	-0.67/-1.67	-0.53/-2.06	-0.30/-3.69	-0.84/-5.99	-1.65/0.03	-4.58/-1.58	-6.11/-2.79	-1.88/-3.25	-1.70/-1.71	-1.31/-2.68	-0.48/-3.25	-2.15/-1.81	-3.14/-6.38	-4.80/-3.32	-2.96/-7.77	-7.65/-5.45	-7.95/-8.01	-5.62/-3.49	-3.25/-2.91	-6.31/-4.44	-7.92/-9.42	-1.77/-0.66	-1.62/-2.20	-5.47/-1.19
Θ (75°)	-1.14/-1.80	-1.87/-2.47	-2.37/-2.80	-0.20/-6.57	-1.20/-4.71	-2.45/-8.20	-4.36/-1.71	-6.61/-5.09	-3.24/-2.97	0.06/-4.21	-0.97/-2.08	1.03/-1.08	-1.35/-0.91	2.42/-0.35	-1.72/-4.55	-10.4/-5.19	-9.23/-5.37	-8.94/-4.66	-5.22/-4.05	-3.56/-2.89	-6.34/-2.24	-2.76/-0.67	-0.33/-0.47	-3.62/-0.82
Θ (82.5°)	-0.37/-1.04	-1.89/-1.29	-1.62/0.78	-0.70/-0.30	-2.33/-1.28	-2.90/-1.88	-3.89/-2.94	-2.30/-5.95	-1.12/-3.21	-2.23/-0.86	-4.08/-6.31	-3.30/-4.10	-0.96/-2.90	-0.56/-8.89	-2.75/-0.64	-5.53/-1.47	-6.85/-1.59	-4.10/-2.70	-3.06/-4.41	-2.79/-2.47	-5.00/-1.34	0.02/1.21	-0.35/0.80	-1.00/0.15
Θ (90°)	0.67/-0.28	-2.00/-1.44	-0.97/-5.2	-1.99/-0.18	-2.01/-6.4	-4.54/0.04	-8.39/-0.58	-2.10/-5.35	0.02/-1.45	-0.05/-4.01	-1.04/0.23	0.93/-1.43	-3.81/-3.14	-1.82/-7.14	-6.97/-9.21	-1.06/-3.11	-4.97/-3.04	-3.17/-0.22	-2.23/-5.78	-3.57/-4.46	-4.76/-3.22	-0.90/-1.79	-0.31/-1.18	0.66/0.11
Θ (97.5°)	-1.75/-1.52	-1.63/-1.00	-4.11/-0.65	-5.11/-3.25	-1.27/-0.82	-4.03/-4.74	-5.63/-4.25	-1.35/-3.66	-4.40/-1.90	-4.90/-0.51	-1.80/-4.01	-1.56/-5.06	-5.08/-3.07	-6.22/-6.46	-6.34/-6.17	-5.94/-6.17	-6.22/-3.46	-7.81/-3.32	-4.02/-9.87	-5.99/-4.65	-2.53/-2.85	-1.73/-2.46	-2.22/-3.21	-1.50/-0.47
Θ (105°)	-2.59/-2.44	-3.56/0.80	-2.31/-1.41	-2.40/-1.87	-6.06/0.08	-7.24/-3.78	-8.36/-4.56	0.03/-7.89	-7.21/-6.79	-13.23/-6.14	-4.32/-6.01	-3.11/-8.18	-11.02/-4.99	-6.35/-8.08	-6.69/-7.74	-5.45/-11.02	-12.58/-10.49	-13.20/-7.98	-3.05/-10.34	-9.81/-4.35	-3.09/-2.40	1.13/0.02	-0.51/-2.29	-1.02/-3.36
Θ (112.5°)	0.02/-3.47	0.14/-0.49	-1.25/-5.57	-3.03/-1.28	-4.35/-1.47	-5.22/-1.35	-9.11/-2.84	-2.07/-3.58	-6.85/-9.09	-3.70/-4.13	-5.03/-5.35	-4.52/-6.94	-6.94/-6.57	-3.29/-4.80	-5.26/-14.29	-7.48/-15.13	-10.72/-6.42	-10.34/-3.62	-6.12/-11.69	-7.52/-5.14	-3.99/-4.84	-0.46/-1.77	-1.61/-5.41	-0.35/-1.46
Θ (120°)	-5.75/-10.55	-6.51/-4.82	-5.00/-5.70	-8.22/-7.61	-7.28/-8.41	-4.35/-7.15	-9.14/-6.68	-9.99/-5.62	-5.05/-8.14	-4.56/-9.11	-7.96/-7.32	-4.72/-7.47	-11.55/-13.01	-11.22/-10.46	-11.09/-9.77	-6.95/-9.83	-11.15/-6.42	-12.49/-7.75	-10.57/-12.12	-11.22/-6.28	-6.86/-10.04	-6.31/-8.36	-7.39/-8.25	-5.10/-4.73
Θ (127.5°)	-8.83/-8.23	-10.59/-13.29	-8.65/-8.34	-15.40/-11.00	-11.11/-12.24	-10.87/-14.84	-13.05/-9.87	-6.91/-10.26	-15.08/-12.71	-10.69/-11.98	-9.02/-4.60	-2.01/-3.19	-3.32/-5.43	-6.98/-8.43	-15.56/-7.71	-15.30/-13.32	-8.54/-9.46	-12.52/-13.90	-15.11/-13.06	-10.41/-8.81	-12.96/-12.12	-11.78/-8.78	-8.70/-9.37	-12.98/-9.86
Θ (135°)	-8.76/-9.53	-7.87/-8.28	-10.00/-9.33	-10.57/-8.12	-10.43/-8.02	-10.57/-11.78	-9.77/-9.31	-6.88/-6.57	-13.88/-11.58	-5.70/-10.90	-12.17/-10.06	-6.76/-6.35	-11.40/-13.79	-12.81/-10.09	-9.15/-8.58	-10.17/-10.93	-13.29/-14.25	-13.04/-9.20	-13.46/-13.78	-14.98/-12.50	-11.60/-5.21	-7.22/-7.00	-14.30/-9.70	-11.95/-11.16
Θ (142.5°)	-10.95/-10.43	-8.95/-7.39	-7.20/-6.67	-7.09/-6.50	-7.75/-9.37	-11.12/-8.20	-3.97/-5.41	-7.08/-13.15	-7.87/-7.25	-8.52/-9.19	-6.72/-8.51	-13.03/-14.99	-9.52/-4.31	-3.88/-8.48	-14.15/-10.35	-12.44/-12.01	-9.76/-7.16	-8.00/-15.81	-15.28/-12.12	-8.80/-7.54	-4.61/-2.93	-3.85/-5.00	-6.54/-8.17	
Θ (150°)	-5.16/-5.48	-5.54/-5.70	-6.30/-4.29	-5.32/-6.91	-5.25/-5.78	-8.37/-10.99	-6.80/-5.73	-2.51/-4.52	-4.39/-6.38	-15.80/-10.11	-11.14/-14.14	-14.26/-15.06	-12.86/-11.18	-13.48/-15.01	-15.49/-14.49	-11.90/-12.14	-11.22/-8.70	-6.68/-6.98	-7.36/-8.32	-8.83/-11.18	-8.83/-6.62	-4.76/-3.89	-4.01/-4.88	-5.74/-5.98



Antenna Pattern

Appendix B

Θ (150°)	-10.84/-8.32	-6.57/-4.73	-4.55/-5.74	-6.14/-9.79	-15.12/-10.24	-9.54/-11.73	-13.42/-11.87	-8.62/-11.92	-15.30/-11.84	-9.07/-6.87	-8.61/-10.08	-14.40/-13.36	-13.15/-9.29	-8.27/-7.17	-6.22/-7.43	-14.58/-12.67	-8.64/-9.59	-11.59/-11.66	-11.07/-9.43	-10.66/-13.21	-11.00/-8.30	-7.06/-6.36	-5.95/-6.32	-8.36/-10.42
Θ (157.5°)	-5.68/-6.21	-6.82/-8.91	-11.38/-7.55	-5.70/-7.15	-10.29/-12.15	-8.76/-6.01	-7.25/-11.96	-15.59/-11.40	-7.26/-6.39	-7.89/-6.59	-7.86/-7.84	-11.10/-11.66	-13.01/-11.37	-7.46/-7.09	-7.85/-11.02	-12.97/-12.82	-11.66/-9.02	-8.51/-9.40	-13.42/-11.04	-9.87/-8.43	-7.80/-7.95	-7.68/-7.57	-7.96/-6.88	-7.39/-6.22
Θ (165°)	-7.37/-7.19	-6.73/-5.04	-5.10/-6.55	-8.65/-9.94	-10.90/-11.13	-8.45/-7.75	-9.40/-12.67	-12.98/-12.99	-9.88/-12.32	-13.98/-13.98	-13.32/-11.68	-12.92/-12.04	-13.84/-14.79	-13.49/-11.05	-8.80/-8.95	-10.79/-14.45	-15.30/-11.91	-9.86/-8.76	-7.84/-7.78	-6.99/-7.44	-7.89/-6.65	-6.35/-6.81	-5.85/-6.03	-5.56/-5.98
Θ (172.5°)	-7.86/-7.28	-8.07/-10.09	-13.08/-14.28	-13.40/-13.20	-13.09/-14.52	-11.78/-12.09	-14.08/-15.19	-15.04/-15.27	-15.38/-15.59	-13.88/-15.84	-15.10/-15.07	-15.96/-15.99	-15.28/-13.44	-13.79/-11.61	-10.76/-11.23	-12.09/-13.55	-13.89/-13.91	-13.51/-13.22	-13.77/-13.51	-13.21/-12.52	-11.80/-11.20	-10.31/-8.64	-8.55/-9.45	-9.02/-8.11
Θ (180°)	-15.09/-15.09	-15.72/-15.47	-14.30/-12.64	-12.61/-14.38	-14.37/-16.00	-15.22/-15.23	-15.83/-11.34	-9.79/-10.84	-11.32/-10.49	-12.48/-13.17	-12.18/-13.71	-12.03/-12.86	-12.13/-11.49	-12.79/-12.05	-11.64/-12.08	-11.86/-12.18	-13.35/-13.78	-13.17/-13.60	-13.36/-14.24	-15.09/-15.40	-14.00/-13.79	-13.15/-13.96	-14.08/-13.81	-15.17/-14.84
Freq(Hz)	5.36/Pol.	Total/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°)	-13.17/-13.96	-14.49/-14.79	-15.21/-14.35	-14.57/-15.38	-13.95/-14.29	-15.08/-15.18	-15.96/-14.79	-12.97/-13.20	-15.11/-12.66	-14.52/-14.96	-14.75/-16.28	-15.87/-15.11	-14.38/-14.05	-14.01/-14.70	-14.04/-13.48	-13.14/-13.25	-14.76/-14.74	-15.00/-14.38	-14.96/-14.42	-14.39/-13.87	-16.24/-15.87	-14.06/-14.70	-14.84/-14.63	-13.27/-14.21
Θ (7.5°)	-13.90/-15.23	-14.76/-15.87	-14.81/-13.34	-13.87/-15.11	-15.57/-15.71	-15.82/-16.21	-15.39/-15.00	-13.61/-13.99	-15.20/-15.29	-14.95/-15.75	-15.52/-15.02	-15.29/-15.25	-15.26/-14.57	-13.92/-15.13	-14.83/-13.74	-14.20/-14.59	-14.77/-13.63	-13.88/-14.01	-15.64/-15.14	-15.70/-14.97	-15.34/-15.86	-15.99/-15.04	-15.31/-14.93	-14.84/-15.60
Θ (15°)	-14.75/-14.96	-13.08/-12.54	-13.50/-12.18	-13.55/-15.08	-15.39/-15.40	-14.53/-14.42	-12.74/-10.93	-11.03/-12.55	-14.87/-14.77	-15.82/-15.64	-15.13/-13.78	-13.36/-13.60	-13.81/-12.80	-12.42/-12.03	-10.54/-10.23	-12.40/-15.68	-15.08/-14.05	-11.43/-10.85	-10.84/-12.63	-14.52/-15.28	-14.78/-14.24	-15.13/-14.16	-13.94/-15.13	-13.03/-14.51
Θ (22.5°)	-15.17/-15.72	-14.10/-11.76	-12.33/-11.78	-11.60/-13.94	-13.06/-11.15	-10.17/-9.52	-12.15/-13.57	-15.37/-13.51	-10.98/-13.00	-12.00/-10.87	-10.67/-9.84	-9.99/-9.61	-9.40/-10.68	-10.38/-11.14	-13.55/-13.30	-12.43/-11.96	-14.71/-14.48	-10.90/-9.15	-8.76/-11.02	-11.75/-11.75	-13.98/-14.99	-15.43/-14.36	-14.72/-16.31	-14.97/-15.54
Θ (30°)	-10.96/-12.44	-13.79/-15.42	-13.07/-12.90	-13.01/-14.07	-12.23/-10.17	-12.52/-14.54	-12.66/-10.87	-10.43/-12.22	-9.93/-7.45	-6.64/-6.48	-6.20/-6.16	-7.58/-7.76	-5.88/-6.66	-7.44/-7.05	-7.72/-7.11	-9.26/-6.63	-8.01/-8.59	-7.05/-9.04	-10.45/-10.92	-10.94/-13.00	-12.37/-14.22	-14.76/-10.83	-8.62/-10.04	
Θ (37.5°)	-8.73/-10.34	-6.79/-7.32	-8.69/-10.96	-9.95/-11.14	-12.59/-11.78	-11.59/-11.07	-10.62/-7.19	-9.80/-9.99	-7.13/-6.60	-6.38/-6.94	-9.00/-12.01	-11.45/-10.11	-8.42/-7.44	-9.40/-8.49	-6.48/-7.98	-4.62/-5.33	-10.89/-8.05	-6.88/-9.12	-7.84/-8.26	-7.57/-7.09	-5.84/-6.77	-9.39/-7.50	-6.45/-6.51	-6.74/-8.09
Θ (45°)	-8.14/-6.38	-5.41/-4.51	-4.86/-8.03	-6.41/-5.79	-10.70/-8.17	-6.83/-7.56	-7.51/-10.56	-14.08/-13.05	-12.12/-11.96	-8.17/-9.23	-11.64/-6.57	-5.72/-5.87	-5.87/-6.43	-7.59/-8.55	-7.10/-5.16	-6.24/-5.13	-7.39/-7.38	-5.61/-3.77	-7.20/-7.14	-6.88/-7.53	-4.75/-5.07	-6.19/-5.73	-5.54/-5.48	-8.49/-10.06
Θ (52.5°)	-5.65/-5.71	-5.62/-5.01	-6.10/-7.20	-5.06/-5.67	-8.02/-7.49	-6.29/-6.31	-8.88/-7.03	-3.45/-3.85	-2.89/-3.93	-4.43/-4.26	-1.92/-0.34	-0.78/-2.67	-2.16/-3.13	-1.64/-0.75	-0.74/-3.95	-4.38/-5.23	-6.71/-7.86	-3.89/-5.09	-4.99/-7.43	-3.90/-5.50	-3.19/-6.00	-6.54/-5.32	-4.34/-5.76	-6.95/-7.10
Θ (60°)	-5.52/-5.96	-12.08/-5.84	-6.13/-5.06	-9.87/-6.87	-6.04/-6.39	-5.77/-4.26	-7.22/-5.47	-4.20/-8.72	-8.35/-8.09	-4.43/-5.87	-5.58/-7.21	-5.67/-3.46	-5.69/-3.54	-4.11/-3.67	-2.66/-2.67	-2.47/-3.94	-4.08/-7.76	-6.98/-5.12	-3.56/-3.46	-4.85/-8.04	-2.74/-2.53	-2.73/-3.83	-3.88/-5.56	-8.37/-5.89
Θ (67.5°)	-4.82/-2.00	-3.87/-3.98	-4.01/-4.63	-6.02/-6.10	-2.95/-3.06	-5.74/-4.42	-5.58/-4.96	-8.88/-4.52	-4.20/-3.67	-2.44/-2.06	-1.01/-0.86	0.79/-0.74	-3.71/-1.68	-2.54/-2.76	-5.62/-8.01	-7.06/-6.38	-4.11/-2.62	-6.88/-4.75	-3.35/-4.22	-3.60/-3.41	-3.48/-3.69	-4.30/-4.11	-2.53/-1.66	-5.39/-4.52
Θ (75°)	-0.23/-0.91	-1.55/-1.62	-2.92/-2.28	-0.66/-3.99	-1.98/-2.77	-7.04/-3.73	-5.81/-0.95	-1.91/-3.31	-2.40/-5.79	-2.94/-3.47	-5.34/-7.53	-5.99/-5.49	-0.84/-3.14	-3.91/-5.18	-4.64/-6.04	-3.07/-3.33	-5.41/-4.39	-4.71/-2.98	-2.20/-6.76	-3.68/-1.24	-2.84/-2.76	-4.98/-3.28	-0.92/-0.34	-1.85/-0.96
Θ (82.5°)	-0.58/-3.51	-5.02/-1.64	-3.49/-1.69	-2.82/-7.11	-3.99/-5.57	-4.50/-3.52	-3.79/-5.99	-2.34/-5.70	-5.56/-4.81	-2.14/-1.06	0.16/-1.24	-0.83/-0.67	-0.89/-1.19	-6.32/-0.82	-5.60/-2.77	-5.07/-3.70	-4.88/-4.98	-6.07/-3.09	-3.08/-7.90	-3.66/-5.92	-4.22/-1.91	-3.44/-2.74	-2.59/-3.49	-2.89/-1.54
Θ (90°)	-2.77/-0.01	-2.80/-1.99	-1.79/-4.03	-2.18/-3.31	-3.81/-3.94	-4.89/-3.93	-3.40/-5.36	-4.06/-2.21	-3.52/-4.55	-2.58/-0.53	-1.46/-0.76	-0.62/-1.09	-2.43/-4.76	-6.10/-4.10	-1.47/-3.65	-2.05/-5.92	-3.67/-6.09	-3.33/-0.93	-5.39/-9.70	-1.84/-5.04	-5.35/-2.73	-0.63/-1.35	-0.46/-1.09	-2.52/-3.76
Θ (97.5°)	-0.91/-0.43	-2.04/-2.18	-2.49/-0.31	-1.14/-1.06	-5.91/-5.43	-4.68/-6.46	-1.04/-2.75	-3.60/-1.99	-3.70/-4.28	-6.28/-1.27	-6.15/-2.39	-5.38/-7.50	-2.78/-3.87	-7.05/-2.31	-2.10/-1.35	-2.64/-2.69	-1.66/-9.28	-4.57/-3.63	-5.38/-11.56	-4.98/-10.77	-5.22/-3.57	-5.34/-1.88	-0.66/-1.12	-1.23/-2.55
Θ (105°)	-1.91/-4.79	-4.28/-4.46	-3.71/-1.42	-5.73/-5.89	-6.62/-7.40	-8.50/-6.65	-2.66/-4.98	-5.86/-5.42	-10.01/-6.71	-10.39/-4.85	-8.10/-6.56	-8.06/-10.25	-7.39/-12.14	-11.21/-7.10	-4.70/-6.79	-6.95/-9.46	-2.33/-8.38	-7.24/-7.99	-11.50/-12.11	-6.59/-14.63	-11.46/-4.90	-5.44/-6.23	-4.29/-4.65	-3.73/-4.97
Θ (112.5°)	-4.40/-3.93	-5.81/-5.19	-9.08/-4.57	-4.23/-5.33	-3.84/-5.16	-1.11/-6.45	-1.11/-6.45	-8.17/-7.74	-1.07/-8.80	-13.75/-4.89	-7.32/-5.57	-10.96/-5.82	-3.71/-3.61	-7.75/-6.37	-4.15/-6.70	-4.36/-12.24	-3.51/-7.55	-14.97/-11.30	-4.08/-11.75	-5.64/-7.96	-5.75/-1.52	-3.93/-5.27	-3.72/-2.97	
Θ (120°)	-7.60/-5.39	-5.54/-6.54	-4.84/-2.54	-6.05/-3.41	-9.41/-12.52	-10.08/-7.49	-6.84/-10.03	-12.07/-5.99	-7.23/-7.33	-10.81/-6.70	-13.21/-5.51	-10.72/-9.32	-4.49/-8.00	-9.87/-9.86	-5.24/-14.44	-13.59/-6.93	-6.20/-13.56	-8.29/-8.67	-11.31/-15.29	-12.71/-8.88	-7.98/-8.82	-4.77/-6.68	-5.85/-7.00	-5.19/-3.07
Θ (127.5°)	-4.60/-7.99	-11.27/-6.40	-7.93/-9.05	-7.54/-7.30	-15.57/-8.41	-12.17/-12.28	-7.12/-7.02	-14.19/-5.76	-7.04/-8.25	-12.54/-7.81	-8.27/-10.36	-5.07/-10.69	-8.39/-11.97	-6.14/-10.66	-11.11/-7.63	-14.91/-8.45	-10.15/-9.99	-15.15/-10.81	-13.89/-15.23	-12.60/-12.61	-8.95/-8.65	-6.08/-3.93	-7.03/-13.17	-11.22/-4.38
Θ (135°)	-13.75/-10.93	-7.84/-6.83	-12.17/-10.54	-9.12/-10.98	-16.03/-12.37	-10.39/-8.31	-16.09/-13.48	-10.56/-8.11	-10.07/-9.90	-8.87/-7.09	-8.01/-5.46	-6.59/-6.87	-5.98/-8.16	-9.18/-10.55	-10.53/-8.42	-6.73/-8.09	-11.24/-9.38	-8.41/-13.71	-12.30/-11.68	-10.51/-10.42	-14.93/-11.06	-11.25/-13.97	-11.41/-13.77	
Θ (142.5°)	-12.19/-14.44	-8.75/-4.72	-4.59/-9.34	-9.29/-2.46	-2.47/-6.11	-10.01/-8.39	-7.38/-7.07	-9.56/-9.27	-8.54/-7.16	-9.42/-11.06	-4.99/-4.66	-2.84/-0.67	-4.58/-5.35	-5.87/-10.99	-10.59/-6.90	-8.52/-15.68	-6.02/-8.31	-8.91/-8.83	-8.52/-10.27	-15.48/-11.44	-9.11/-6.99	-14.83/-9.47	-11.77/-14.52	-10.99/-10.64
Θ (150°)	-12.98/-9.15	-5.46/-4.64	-4.08/-4.66	-4.93/-5.77	-11.59/-13.91	-8.72/-10.98	-16.07/-13.89	-9.16/-9.47	-14.67/-13.09	-9.01/-7.36	-7.13/-9.62	-12.22/-11.98	-8.65/-6.96	-7.63/-7.90	-5.94/-7.01	-14.01/-12.48	-9.03/-10.34	-12.39/-13.35	-11.58/-7.46	-9.31/-14.83	-10.81/-7.92	-6.18/-4.27	-4.12/-4.36	-5.16/-7.95
Θ (157.5°)	-7.32/-3.09	-4.16/-7.24	-12.61/-8.18	-5.52/-5.05	-7.58/-12.37	-1.45/-5.81	-6.38/-7.57	-12.97/-12.57	-9.39/-8.51	-8.02/-8.57	-6.35/-5.74	-8.90/-11.64	-9.14/-7.35	-5.67/-4.35	-5.72/-8.39	-11.64/-12.42	-12.53/-10.64	-9.77/-10.16	-11.81/-9.51	-8.15/-7.89	-6.88/-6.20	-5.21/-4.61	-4.52/-6.01	-6.13/-5.27
Θ (165°)	-6.37/-7.39	-6.60/-5.09	-4.05/-4.20	-6.13/-8.60	-10.11/-9.58	-6.86/-5.74	-5.72/-7.67	-11.48/-10.27	-9.38/-12.77	-14.31/-15.11	-13.41/-13.27	-13.39/-15.78	-15.32/-12.53	-8.46/-6.67	-5.83/-7.07	-11.14/-15.25	-13.66/-10.55	-8.72/-8.01	-7.17/-6.92	-7.08/-6.64	-5.89/-5.36	-5.19/-5.35	-5.82/-5.10	-5.00/-5.86
Θ (172.5°)	-7.27/-7.03	-7.08/-9.48	-12.75/-12.92	-12.64/-12.71	-14.17/-14.16	-12.33/-11.26	-12.44/-13.65	-14.96/-14.32	-12.42/-14.35	-15.14/-13.97	-15.52/-15.85	-15.08/-14.67	-14.49/-11.81	-10.10/-10.31	-10.88/-12.91	-12.92/-12.57	-12.56/-12.07	-10.57/-9.57	-6.36/-7.80	-7.76/-7.80	-7.73/-6.69	-5.59/-5.13	-5.50/-5.82	-6.21/-6.67
Θ (180°)	-13.67/-14.92	-15.37/-15.31	-12.51/-11.65	-10.53/-11.89	-14.69/-15.95	-15.11/-14.10	-11.78/-9.45	-8.13/-8.59	-8.69/-9.78	-10.50/-11.18	-11.17/-10.81	-11.25/-10.53	-10.45/-9.91	-9.42/-10.41	-11.16/-11.72	-12.47/-13.04	-14.17/-14.04	-15.12/-15.56	-15.18/-15.23	-14.98/-15.39	-14.44/-12.91	-14.14/-15.02	-15.43/-15.29	-15.40/-13.75
Freq(Hz)	5.65/Pol.	Total/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°						

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



