



Radiated Composite Gain Data of 6GHz UNII 7 and UNII 8

Appendix C

Freq(Hz)	Theta Ant 3	Phi Ant 3	Phi(0°)Phi(7.5°)	Phi(15°)Phi(22.5°)	Phi(30°)Phi(37.5°)	Phi(45°)Phi(52.5°)	Phi(60°)Phi(67.5°)	Phi(75°)Phi(82.5°)	Phi(90°)Phi(97.5°)	Phi(105°)Phi(112.5°)	Phi(120°)Phi(127.5°)	Phi(135°)Phi(142.5°)	Phi(150°)Phi(157.5°)	Phi(165°)Phi(172.5°)	Phi(180°)Phi(187.5°)	Phi(195°)Phi(202.5°)	Phi(210°)Phi(217.5°)	Phi(225°)Phi(232.5°)	Phi(240°)Phi(247.5°)	Phi(255°)Phi(262.5°)	Phi(270°)Phi(277.5°)	Phi(285°)Phi(292.5°)	Phi(300°)Phi(307.5°)	Phi(315°)Phi(322.5°)	Phi(330°)Phi(337.5°)	Phi(345°)Phi(352.5°)	
6959GPol.	Theta Ant 3	Phi Ant 3																									
Gain	Phi(0°)Phi(7.5°)	Phi(15°)Phi(22.5°)	Phi(30°)Phi(37.5°)	Phi(45°)Phi(52.5°)	Phi(60°)Phi(67.5°)	Phi(75°)Phi(82.5°)	Phi(90°)Phi(97.5°)	Phi(105°)Phi(112.5°)	Phi(120°)Phi(127.5°)	Phi(135°)Phi(142.5°)	Phi(150°)Phi(157.5°)	Phi(165°)Phi(172.5°)	Phi(180°)Phi(187.5°)	Phi(195°)Phi(202.5°)	Phi(210°)Phi(217.5°)	Phi(225°)Phi(232.5°)	Phi(240°)Phi(247.5°)	Phi(255°)Phi(262.5°)	Phi(270°)Phi(277.5°)	Phi(285°)Phi(292.5°)	Phi(300°)Phi(307.5°)	Phi(315°)Phi(322.5°)	Phi(330°)Phi(337.5°)	Phi(345°)Phi(352.5°)			
Theta(°)	-12.03-16.51	-12.22-12.66	-18.18-13.79	-18.17-18.17	-16.67-18.47	-18.72-16.39	-17.86-9.9	-8.51-18.52	-19.33-8.98	-19.01-16.06	-14.83-13.82	-18.55-18.4	-17.93-15.8	-16.55-13.33	-16.42-13.34	-13.31-13.69	-13.08-14.01	-10.45-13.37	-16.02-16.75	-13.87-19.01	-12.33-13.7	-16.94-17.65	-17.47-15.27	-17.37-9.16			
Theta(82.5°)	-11.65-18.82	-11.11-17.83	-15.52-17.73	-18.77-16.91	-12.92-17.48	-19.18-15.8	-17.59-10.29	-10.04-13.77	-16.22-14.28	-16.69-15.7	-17.22-15.08	-14.6-17.02	-17.9-13.05	-16.38-14.74	-18.07-17.42	-8.49-11.37	-17.71-11.31	-16.14-15.14	-18.47-14.26	-16.75-15.41	-12.82-11.85	-12.63-10.41	-18.19-18.56	-15.02-12.28			
Theta(90°)	-9.31-13.92	-19.62-18.01	-11.02-19.13	-18.11-15.51	-16.45-13.52	-18.69-18.07	-17.60-10.07	-12.66-16.45	-18.64-11.4	-11.42-11.21	-18.11-17.08	-12.76-16.51	-12.94-18.26	-15.04-17.68	-18.41-18.95	-13.53-14.75	-16.35-18.28	-12.41-17.17	-18.74-14.26	-16.75-15.41	-12.82-11.85	-10.07-10.52	-17.25-13.02	-19.03-13.48			
Theta(97.5°)	-8.74-14.49	-14.87-19.01	-11.43-14.23	-17.98-16.02	-15.68-9.83	-15.13-14.88	-11.17-11.94	-8-13.74	-18.39-15.94	-16.27-16.15	-18.43-18.38	-19.41-13.05	-18.55-18.38	-13.51-10.07	-18.97-15.11	-14.04-18.29	-16.07-13.42	-18.64-18.15	-15.88-17.95	-13.95-12.16	-18.59-12.24	-9.51-9.36	-15.74-17.69	-10.59-13.6			
Theta(105°)	-13.56-14.68	-18.66-15.62	-10.09-11.61	-16.98-19.77	-17.52-18.64	-14.94-14.51	-14.61-18.31	-16.88-11.94	-19.26-16.3	-18.53-17.87	-10.32-15.62	-19.05-12.15	-19.33-17.98	-13.97-19.14	-9.45-18.93	-18.72-17.42	-16-16.56	-10.69-11.57	-19.15-16.31	-14.43-9.98	-14.52-18.36	-9.91-8.34	-15.82-14.23	-17.81-15.9			
Theta(112.5°)	-11.13-19.1	-18.39-18.85	-7.83-9.87	-18.74-18.66	-18.18-19.81	-14.48-17.04	-12.06-18.29	-17.33-18.29	-15.18-16.15	-12.63-17.9	-13.14-14.08	-18.28-18.44	-17.85-18.74	-15.92-15.08	-10.24-10.09	-11.57-11.5	-11.68-14.7	-18.34-15.38	-12.58-10.98	-15.32-17.16	-14.51-15.1	-17.9-17	-17.88-16.16				
Theta(120°)	-15.26-17.48	-17.98-17.74	-8.71-7.25	-12.36-13.61	-19.67-11.85	-12.58-11.03	-12.31-10.79	-17.85-17.27	-12.23-15.32	-10.64-16.61	-12.45-9.09	-16.51-12.57	-18.53-14.79	-13.5-12.01	-18.01-11.57	-7.69-18.54	-11.89-10.14	-9.16-18.8	-18.94-16.43	-16.69-9.89	-15.57-8.6	-7.72-13.78	-16.52-13.65	-18.87-15.22			
Theta(127.5°)	-12.68-18.03	-15.59-15.63	-11.53-7.5	-14.5-13.87	-17.99-8.78	-13.11-16.58	-13.15-11.73	-18.57-17.95	-13.12-11.08	-8.48-12.99	-17.89-19.07	-11.01-16.57	-14.11-11.69	-18.75-12.21	-18.53-13.26	-11.64-15.41	-13-19.02	-13.57-16.57	-18.01-17.81	-9.69-9.25	-10.29-18.37	-11.78-14.2	-16.89-18.46	-11.58-17.98			
Theta(135°)	-16.37-15.51	-10.32-16.24	-13.88-14.44	-15.8-18.29	-16.08-13.89	-11.05-18.08	-19.15-14.81	-18.8-13.23	-19.08-13.52	-18.53-18.81	-10.09-11.42	-17.18-17.73	-9.68-18.74	-17.57-18.86	-18.22-19.11	-11.89-10.42	-8.97-18.63	-15.35-15.02	-18.25-12.48	-9.88-8.57	-9.58-18.04	-15.57-11.13	-10.69-15.21	-11.18-18.68			
Theta(142.5°)	-15.93-18.12	-18.35-18.12	-14.91-16.85	-16.56-18.53	-14.82-16.39	-18.57-13.59	-16.57-19.29	-12-17.24	-11.91-13.9	-15.64-18.17	-14.57-18.14	-18-17.8	-18.42-18.61	-17.51-17.47	-17.36-18.5	-14.97-18.13	-14.03-17.73	-13.93-11.05	-13.01-19.46	-13.39-12.83	-11.32-18.24	-18.69-15.8	-12.55-10.72	-13.88-14.47			
Theta(150°)	-10.41-18.09	-18.51-18.97	-17.72-17.88	-18.43-15.37	-18.28-16.49	-19.4-17.89	-17.93-17.65	-17.81-11.4	-13.46-18.7	-16.74-18.94	-18.92-19.07	-18.37-19.12	-17.78-18.25	-11.98-13.09	-18.01-18.81	-18.12-18.78	-17.86-17.94	-12.31-7.4	-8.41-10.47	-15.29-16.44	-17.57-9.51	-7.78-9.06	-12.01-16.39	-17.94-12.65			
Theta(157.5°)	-18.48-13.11	-13.53-18.52	-12.84-6.15	-15.04-18.99	-17.81-14.64	-14.1-17.54	-13.41-11.39	-15.81-19.24	-16.8-19.1	-15.78-18.26	-19.19-18.55	-11.76-11.8	-10.16-14.21	-12.02-18.45	-19.22-18.14	-19.07-17.39	-11.76-13.68	-12.16-16.51	-18.83-15.37	-13.63-11.84	-11.43-9.49	-8.13-8.75	-11.34-17.41	-17.17-18.98			
Theta(165°)	-18.48-16.22	-18.37-14.19	-12.55-14.4	-18.83-18.64	-12.03-9.51	-14.26-18.41	-18.58-16.55	-18.73-15.42	-11.57-12.4	-17.67-19.07	-19.33-18.44	-19.42-17.15	-16.81-15.42	-19.28-17.06	-17.77-14.41	-14.53-15.46	-16.58-16.2	-17.05-14.98	-12.57-10.46	-9.19-8.67	-7.43-6.74	5.9-6.97	-7.83-9.64	-17.07-18.58			
Theta(172.5°)	-19.29-18.52	-17.21-17.76	-18.52-17.72	-17.45-16.37	-17.57-19.21	-18.09-16.98	-18.91-17.26	-18.09-13.72	-19.08-17.22	-18.64-16.68	-15.87-18.11	-16.51-17.33	-15.21-13.94	-18.37-18.06	-15.79-13.69	-11.04-10.46	-9.94-11.97	-9.93-9.22	-9.09-8.66	-9.45-9.59	-9.84-10.16	-11.65-12.72	-16.17-17.75	-16.89-19.96			
Theta(180°)	-18.27-18.62	-16.64-14.38	-14.51-18.64	-15.97-14.01	-19.55-18.59	-18.09-18.02	-18.43-15.49	-12.09-10.65	-8.53-8.55	-10.05-13.88	-13.95-13.41	-16.82-17.64	-18.66-18.58	-18.29-18.87	-17.43-18.08	-18.16-16.06	-9.44-14.35	-14.66-11.92	-11.47-11.71	-11.42-18.14	-13.71-13.89	-16.02-18.13	-18.67-17.35	-17.72-19.1			
Freq(Hz)	6959GPol.	Theta Ant 3	Phi Ant 3																								
Gain	Phi(0°)Phi(7.5°)	Phi(15°)Phi(22.5°)	Phi(30°)Phi(37.5°)	Phi(45°)Phi(52.5°)	Phi(60°)Phi(67.5°)	Phi(75°)Phi(82.5°)	Phi(90°)Phi(97.5°)	Phi(105°)Phi(112.5°)	Phi(120°)Phi(127.5°)	Phi(135°)Phi(142.5°)	Phi(150°)Phi(157.5°)	Phi(165°)Phi(172.5°)	Phi(180°)Phi(187.5°)	Phi(195°)Phi(202.5°)	Phi(210°)Phi(217.5°)	Phi(225°)Phi(232.5°)	Phi(240°)Phi(247.5°)	Phi(255°)Phi(262.5°)	Phi(270°)Phi(277.5°)	Phi(285°)Phi(292.5°)	Phi(300°)Phi(307.5°)	Phi(315°)Phi(322.5°)	Phi(330°)Phi(337.5°)	Phi(345°)Phi(352.5°)			
Theta(°)	-13.38-12.16	-11.88-14.01	-11.02-13.15	-13.42-16.54	-17.47-18.63	-18.07-18.53	-18.57-17.75	-17.34-14.59	-12.47-10.87	-11.45-11.21	-12.91-11.32	-9.98-11.44	-12.96-11.09	-12.96-11.09	-11.41-11.23	-12.39-13.82	-12.71-14.22	-15.81-15.33	-16.8-18.38	-17.44-17.66	-17.22-16.71	-16.42-15.86	-17.12-14.44	-14.27-14.44			
Theta(7.5°)	-13.95-11.14	-9.88-11.39	-10.54-9.83	-10.06-10.78	-13.05-17.79	-16.02-17.98	-18.56-18.37	-17.77-19.05	-16.58-13.6	-10.93-10.52	-9.85-10.11	-10.54-9.31	-10.12-10.1	-10.47-10.93	-10.87-11.73	-11.43-12.51	-13.85-17.76	-17.81-18.5	-18.14-18.6	-16.49-13.65	-12.83-13.09	-12.93-13.21	-13.36-14.06	-12.23-13			
Theta(15°)	-6.97-6.76	-6.65-7.8	-11.23-13.92	-16.09-15.79	-18.83-17.13	-16.36-14.78	-14.15-12.08	-11.97-10.06	-8.73-6.7	-6.38-6.63	-8.91-7.11	-7.71-8.62	-9.62-11.17	-10.17-9.3	-7.73-6.6	-6.5-8.28	-10.16-16.91	-14.81-15.23	-15.8-19.09	-17.7-18.6	-15.04-12.82	-14.11-13.58	-11.17-10.52	-9.38-7			
Theta(22.5°)	-5.21-4.87	-5.94-9.15	-8.32-9.95	-10.47-9.27	-6.32-9.92	-8.13-6.85	-8.14-13.43	-18.77-14.17	-9.51-6.35	-6.05-12.23	-10.79-17.15	-15.85-13.73	-10.79-12.09	-8.10-4.2	-10.57-10	-9.43-12.83	-11.94-13.68	-6.91-13.77	-11.05-8.3	-7.48-7	-7.85-10.78	-12.15-10.99	-6.95-5.33				
Theta(30°)	-5.03-5.53	-4.25-4.38	-5.21-6.81	-7.29-4.8	-4.17-6.3	-7.34-5.67	-9.74-13.32	-10.4-3.34	-5.02-7.21	-5.56-6.65	-8.94-8.01	-5.92-7.63	-6.57-7.06	-7.05-8.12	-6.18-8.2	-11.87-8.83	-18.27-9.85	-9.89-13.12	-7.83-9.31	-10.21-8.79	-8.29-7.93	-4.62-2.57	-3.25-4.94	-4.52-4.7			
Theta(37.5°)	-7.92-6.59	-3.99-3.74	-2.08-2.2	-7.02-6.58	-6.4-6.6	-3.46-5.55	-6.45-5.15	-4.31-5.53	-5.45-5.34	-5.97-5.12	-3.54-2.87	-2.42-3.4	-1.88-1.61	-3.56-3.26	-1.8-8.06	-3.07-3.71	-9.55-11.21	-7.37-3.98	-7.45-5.38	-5.64-5.84	-9.09-9.3	-9.84-1.92	-0.86-3.95	-3.78-5.14			
Theta(45°)	-5.47-5.26	-4.76-0.35	-2.45-1.93	-3.22-3.8	-1.5-1.12	-1.76-6.08	-1.250-3.4	-1.48-3.21	-5.45-6.63	-4.97-5.67	-3.39-3.64	-3.61-2.53	-2.83-1.51	-2.79-2.68	-4.82-3.49	-4.73-3.74	-4.15-3.1	-4.04-2.65	-1.95-6.62	-7.24-1.1	-7.99-8.67	-6.39-2.18	-2.85-1.79	-2.85-4.77			
Theta(52.5°)	0.720-3.1	-2.11-1.39	0.55-3.3	-0.99-5.19	0.01-0.22	-4.02-2.34	-1.82-1.23	-2.28-1.34	-2.4-2.78	-4.08-4.59	-4.52-4.08	-2.06-3.42	-6.57-5.8	-2.09-4.05	-6.32-7.5	-6.58-4.53	-3.69-6.38	-1.35-2.63	-3.71-0.73	0.45-2.54	-6.79-4.18	-2.56-3.26	-0.030-4	-0.15-0.7			
Theta(60°)	-0.56-0.17	-0.08-1.04	-1.290-7.1	-0.53-3.97	-2.88-1.5	-3.31-0.06	-1.58-3.87	-0.85-1.54	-2.310-6	-0.9-3.25	-1.61-2.85	-1.250-1.4	-3.73-2.06	-2.92-1.81	0.63-5.34	-15.24-16.86	-5.6-11.83	-3.58-0.77	-4.64-8.03	-0.89-3.01	-3.1-6.2	-2.79-1.97	0.11-2.4	2.19-0.6			
Theta(67.5°)	-6.47-1.55	-1.03-4.02	-0.40-0.33	-3.54-4.04	-2.13-3.75	-1.02-0.4	-1.10-8.9	-3.42-3.66	-2.930-33	-1.152-16	-1.17-8.2	-0.371-8.6	-0.191-73	2.13-1.68	-0.97-3.74	-4.18-6.9	-3.46-5	-10.2-2.32	-2.18-0.57	-3.71-0.73	0.69-4.13	0.10-2.5	-1.05-9.57				
Theta(75°)	-4.60	-4.310-4.6	-4.9																								



Radiated Composite Gain Data of 6GHz UNII 7 and UNII 8

Appendix C

Theta (°)	Phi (°)	Phi(7.5°)	Phi(15°)	Phi(22.5°)	Phi(30°)	Phi(37.5°)	Phi(45°)	Phi(52.5°)	Phi(60°)	Phi(67.5°)	Phi(75°)	Phi(82.5°)	Phi(90°)	Phi(97.5°)	Phi(105°)	Phi(112.5°)	Phi(120°)	Phi(127.5°)	Phi(135°)	Phi(142.5°)	Phi(150°)	Phi(157.5°)	Phi(165°)	Phi(172.5°)	Phi(180°)	Phi(187.5°)	Phi(195°)	Phi(202.5°)	Phi(210°)	Phi(217.5°)	Phi(225°)	Phi(232.5°)	Phi(240°)	Phi(247.5°)	Phi(255°)	Phi(262.5°)	Phi(270°)	Phi(277.5°)	Phi(285°)	Phi(292.5°)	Phi(300°)	Phi(307.5°)	Phi(315°)	Phi(322.5°)	Phi(330°)	Phi(337.5°)	Phi(345°)	Phi(352.5°)																																																																																																																																																																																																			
Theta (127.5°)	-13.64/-11.8	-12.65/-16.19	-13.79/-15.39	-10.41/-18.08	-17.43/-16.42	-17.45/-17.11	-17.91/-13.26	-18.79/-18.17	-13.22/-18.74	-18.71/-15.08	-15.8/-8.2	-14.9/-13.84	-11.18/-18.81	-10.68/-13.26	-9.8/-12.63	-18.77/-14.09	-15.74/-16.14	-18.6/-17.95	-16.67/-18.33	-10.76/-13.28	-15.71/-16.91	-11.52/-13.52	-10.63/-10.15	-12.74/-13.84	Theta (135°)	-10.56/-17.88	-11.51/-12.08	-18.68/-18.99	-18.59/-19.64	-18.43/-19.71	-14.65/-11.54	-16.4/-18.58	-18.09/-17.22	-18.13/-17.45	-15.48/-18.57	-19.27/-18.05	-17.85/-9.78	-11.93/-18.59	-15.02/-16.84	-17.63/-14.2	-14.39/-18.79	-14.93/-17.86	-18.49/-16.95	-19.21/-10.09	-6.93/-7.18	-11.02/-17.42	-10.54/-8.14	-9.78/-15.03	-18.04/-12.74	Theta (142.5°)	-18.61/-17.77	-17.55/-10.04	-18.38/-17.09	-13.4/-18.94	-17.99/-18.68	-12.92/-11.82	-13.06/-19.5	-13.06/-19.5	-18.38/-18.22	-15.74/-18.26	-13.56/-10.1	-18.89/-14.61	-15.71/-11.96	-18.51/-11.35	-11.98/-18.22	-10.91/-14.06	-13.96/-17.86	-18.68/-19.01	-18.62/-14.29	-9.82/-8.74	-9.91/-16.31	-15.47/-12.67	-18.45/-11.7	Theta (150°)	-14.49/-18.46	-18.52/-8.74	-8.93/-8.78	-10.98/-13.14	-10.77/-12.31	-14.16/-18.37	-17.53/-12.69	-8.61/-13.68	-15.61/-12.32	-18.13/-17.34	-18.32/-19.37	-17.99/-18.36	-19.11/-17.6	-14.53/-14.5	-18.18/-18.89	-11.76/-16.08	-18.66/-12.2	-16.58/-18.44	-16.61/-12.41	-12.48/-12.13	-9.99/-10.78	-9.42/-9.43	-8.98/-15.71	-11.63/-15.39	Theta (157.5°)	-13.84/-16.83	-18.61/-16.54	-9.62/-10.79	-8.05/-11.34	-17.47/-13.51	-14.08/-12.98	-11.23/-10.62	-11.88/-16.92	-18.87/-17.78	-13.02/-17	-18.75/-19.33	-15.79/-16.14	-17.39/-13.32	-12.24/-13.7	-16.25/-16.59	-18.48/-19	-17.18/-18.68	-17.87/-13.01	-9.86/-9.1	-8.89/-8.69	-9.25/-8.51	-10.86/-13.16	-15.71/-12.16	Theta (165°)	-15.45/-15.42	-12.45/-17.47	-16.97/-13.86	-11.24/-13.14	-13.51/-11.76	-13.11/-12.8	-12.61/-12.56	-14.26/-18.06	-18.12/-17.76	-17.67/-17.46	-18.23/-15.4	-13.71/-12.23	-13.11/-11.34	-9.48/-10.92	-11.39/-16	-17.57/-17.18	-17.39/-14.88	-14.35/-14.36	-16.45/-13.5	-12.62/-11.7	-14.28/-17.35	-18.41/-17.73	-19.56/-18.84	-18.47/-18.68	Theta (172.5°)	-14.86/-19.3	-18.91/-18.27	-18.52/-13.52	-17.88/-19.2	-18.86/-16.17	-14.18/-13.96	-14.83/-17.34	-18.69/-18.85	-17.22/-17.8	-18.03/-18.92	-18.89/-17.61	-15.27/-14.14	-15.62/-17.92	-15.99/-12.45	-11.18/-10.69	-11.17/-12.64	-17.86/-18.76	-18.76/-19.02	-17.86/-18.81	-16.99/-13.75	-12.31/-8.87	-11.88/-11.88	-15.03/-14.3	-18.51/-17.49	Theta (180°)	-14.66/-16.61	-14.06/-15.37	-18.85/-18.49	-19.15/-18.52	-19.32/-19.07	-19.11/-19.22	-15.38/-14.18	-13.4/-13.72	-12.45/-11.02	-12.15/-10.44	-10.47/-9.31	-9.34/-10.12	-9.77/-11.38	-12.17/-12.94	-14.61/-14.46	-18.96/-18.03	-18.54/-17.43	-17.99/-18.9	-18.01/-16.45	-15.6/-13.4	-11.3/-11.43	-11.23/-10.86	-11.15/-11.29	-13.8/-13.23	Theta (187.5°)	6.695GPol.	Theta (195°)	6.695GPol.	Theta (202.5°)	6.695GPol.	Theta (210°)	6.695GPol.	Theta (217.5°)	6.695GPol.	Theta (225°)	6.695GPol.	Theta (232.5°)	6.695GPol.	Theta (240°)	6.695GPol.	Theta (247.5°)	6.695GPol.	Theta (255°)	6.695GPol.	Theta (262.5°)	6.695GPol.	Theta (270°)	6.695GPol.	Theta (277.5°)	6.695GPol.	Theta (285°)	6.695GPol.	Theta (292.5°)	6.695GPol.	Theta (300°)	6.695GPol.	Theta (307.5°)	6.695GPol.	Theta (315°)	6.695GPol.	Theta (322.5°)	6.695GPol.	Theta (330°)	6.695GPol.	Theta (337.5°)	6.695GPol.	Theta (345°)	6.695GPol.	Theta (352.5°)	6.695GPol.



Antenna Pattern of 2.4GHz and 5GHz UNII 1~3

Appendix D

Theta	Phi	Gain	Phi(15°)	Phi(30°)	Phi(45°)	Phi(60°)	Phi(75°)	Phi(90°)	Phi(105°)	Phi(120°)	Phi(135°)	Phi(150°)	Phi(165°)	Phi(180°)	Phi(195°)	Phi(210°)	Phi(225°)	Phi(240°)	Phi(255°)	Phi(270°)	Phi(285°)	Phi(300°)	Phi(315°)	Phi(330°)	Phi(345°)	
Theta(75°)	Phi(0°)	7.88/7.89	5.66/5.82	4.88/2.43	4.28/0.48	-1.00/2.27	1.23/0.11	0.09/0.22	0.80/0.81	-2.19/1.18	-1.01/0.78	4.41/5.29	8.26/6.03	2.64/2.02	-3.32/1.95	-1.04/0.33	-4.24/0.76	-1.62/1.25	-1.46/0.71	-0.38/0.55	-1.39/1.32	-0.25/2.35	0.73/1.09	-3.88/4.27	-2.67/3.32	
Theta(82.5°)	Phi(0°)	6.11/9.95	7.40/10.66	4.85/2.23	3.47/0.43	-2.15/1.09	1.15/1.33	-0.17/1.41	-0.94/0.11	-1.95/0.72	-3.33/1.67	6.81/11.49	-15.66/8.28	-0.36/3.39	0.33/0.58	-0.74/0.57	-3.22/1.56	0.94/0.92	1.55/1.25	1.95/1.88	0.92/0.93	1.14/0.79	0.70/0.40	-2.92/3.80	-1.21/1.94	
Theta(90°)	Phi(0°)	0.27/4.47	-1.36/6/7.51	-2.40/3/3.68	-3.67/1.17	-5.27/0.88	-2.32/4.52	4.04/4.68	0.40/0.50	-1.77/1.51	-3.73/0.47	-8.64/8.42	-9.27/5.37	-2.66/1.31	2.07/1.31	1.54/2.25	-1.01/2.63	1.54/2.25	0.34/0.00	1.98/2.31	1.98/2.31	0.36/1.25	-0.24/0.14	-3.00/5.04	-3.39/0.41	
Theta(97.5°)	Phi(0°)	0.34/0.53	6.61/4.13	2.37/6.00	-10.72/1.82	8.14/5.12	-5.62/10.91	-12.40/9.67	5.84/2.69	-5.28/2.17	-4.32/2.29	-1.68/10.09	-13.64/2.41	-1.93/1.31	0.77/0.33	0.93/0.72	-1.60/2.65	1.48/1.12	1.45/1.39	2.22/2.35	2.18/1.01	4.48/0.15	0.63/0.57	-2.04/3.16	1.03/0.42	
Theta(105°)	Phi(0°)	3.40/5.10	3.80/4.41	6.50/5.45	-12.78/8.16	-6.52/7.04	-5.32/3.14	-7.44/8.76	-3.11/6.27	-10.87/11.20	-10.46/5.46	5.01/4.77	-6.69/5.28	-3.45/3.75	-0.09/4.32	-2.05/3.00	-2.61/2.13	1.07/0.99	2.17/1.31	1.50/0.11	-0.34/0.17	-2.80/1.16	1.05/2.87	-10.94/4.40	0.60/2.21	
Theta(112.5°)	Phi(0°)	0.40/2.15	-4.22/3.03	-2.22/6.11	-14.96/9.46	-12.02/6.13	-4.76/6.45	-6.50/4.73	-0.66/1.79	-4.67/8.05	-6.49/4.94	-7.71/8.19	-6.19/2.20	-1.75/1.76	0.62/2.34	-4.20/8.23	-5.76/4.20	-0.94/0.97	-1.01/2.63	-1.67/1.93	1.28/0.24	-2.16/3.51	0.65/4.65	-12.33/3.70	-3.39/0.41	
Theta(120°)	Phi(0°)	2.51/2.44	-4.78/1.25	-5.16/6.23	-10.46/4.43	-3.33/12.36	-12.14/9.84	-9.78/9.05	-7.06/3.44	-1.90/1.87	-3.93/6.09	2.04/12.10	-7.22/7.71	-4.35/3.67	-3.56/2.42	-5.58/10.94	-14.96/7.08	-2.34/6.04	-8.09/7.30	-7.70/5.65	-3.75/2.72	-5.00/10.21	-9.05/14.84	-9.70/7.48	-1.07/1.44	
Theta(127.5°)	Phi(0°)	-12.83/1.88	-6.74/11.54	-11.84/11.31	-9.13/7.77	-6.41/4.65	-8.32/4.12	-2.83/6.76	6.87/4.08	-4.83/6.14	-4.90/13.44	-7.05/9.38	-12.44/8.66	-5.64/6.17	-8.00/8.40	-14.07/11.21	-10.90/8.79	-6.35/6.89	-7.27/3.67	-5.25/4.07	-8.77/6.71	-15.34/13.22	-6.60/5.62	-8.83/11.38	0.53/0.79	
Theta(135°)	Phi(0°)	-2.97/5.01	-4.51/3.61	-5.56/12.92	-12.65/7.37	-7.25/11.78	-12.61/12.56	-9.38/9.01	-5.51/7.40	-9.78/11.81	-11.55/12.57	-9.87/12.60	-10.74/15.60	-8.03/7.90	-15.28/13.25	-9.78/6.83	-10.58/6.65	-4.31/6.68	-8.63/10.89	-15.05/9.60	-6.41/5.78	-3.90/6.64	-12.91/15.00	-1.89/1.18	-4.55/8.49	
Theta(142.5°)	Phi(0°)	-1.93/3.89	-3.34/1.37	-2.14/5.71	-7.88/10.03	-10.83/9.15	-9.51/10.56	-15.25/9.72	-6.02/4.51	-6.83/11.62	-10.05/5.21	7.00/11.30	-3.82/4.05	-2.54/2.90	-6.77/8.29	-2.93/3.72	-6.69/8.04	-6.27/3.05	-2.88/4.57	-3.12/2.07	-3.83/7.99	-6.69/6.68	-7.55/6.74	-3.75/5.67	-4.31/1.77	
Theta(150°)	Phi(0°)	-3.61/4.73	-4.06/5.58	-7.71/12.05	-8.31/7.85	-6.46/9.10	-8.57/7.20	-5.94/6.05	-10.36/11.84	-14.27/7.62	-4.06/5.28	-5.85/6.88	-3.10/1.17	-0.10/1.14	-3.71/4.81	-2.89/3.65	-6.84/9.94	-7.74/9.95	-5.41/2.54	-3.42/5.78	-11.31/12.28	-7.65/3.78	-10.99/7.71	-0.89/0.46	0.32/1.26	
Theta(157.5°)	Phi(0°)	-0.93/3.73	-8.09/10.70	-6.59/6.42	-7.01/9.39	-8.70/10.26	-7.95/8.32	-11.81/13.35	-9.93/4.97	-3.55/6.13	-5.07/1.80	-0.44/0.57	0.20/1.12	-0.05/1.03	-2.53/7.08	-10.90/13.69	-13.35/8.13	-4.71/4.45	-5.65/9.79	-14.81/7.72	-6.72/7.34	-3.22/0.03	0.35/0.89	-0.83/0.70		
Theta(165°)	Phi(0°)	-4.84/8.59	-8.14/6.92	-7.28/6.13	-3.78/1.78	-1.69/1.54	-2.13/2.37	-2.10/1.57	-2.55/3.32	-4.77/4.68	-3.12/2.22	-2.13/1.69	-0.70/0.03	-0.26/1.98	-5.43/6.80	-6.50/6.78	-8.56/8.81	-9.27/7.42	-6.31/5.15	-3.47/2.49	-2.37/1.02	-0.75/0.26	1.51/1.56	0.99/0.81	-0.83/2.99	
Theta(172.5°)	Phi(0°)	-0.70/0.55	-0.88/1.55	-0.90/0.21	0.24/0.06	0.09/0.17	0.45/0.51	0.98/1.62	-1.97/1.82	-1.35/0.55	-0.16/0.11	0.66/1.24	1.42/1.24	0.60/0.51	-1.43/1.51	-1.81/1.79	-1.67/2.41	-2.78/2.50	-2.29/2.22	-1.49/0.94	-0.18/0.03	0.94/1.78	2.85/3.13	-1.05/4.39	-4.62/1.96	
Theta(180°)	Phi(0°)	-1.41/0.64	-1.04/0.13	2.36/3.51	4.15/6.61	4.75/4.15	0.043/7.0	3.64/3.57	3.50/3.44	3.22/2.96	3.11/3.11	3.162/2.7	2.77/0.00	1.95/1.64	1.50/1.74	2.01/1.59	1.70/1.73	1.65/2.13	2.03/1.48	0.15/2.01	-4.05/3.71	-2.61/2.01				
Freq(Hz)	TotalAnt	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Gain	Phi(0°)	7.88/7.89	5.66/5.82	4.88/2.43	4.28/0.48	-1.00/2.27	1.23/0.11	0.09/0.22	0.80/0.81	-2.19/1.18	-1.01/0.78	4.41/5.29	8.26/6.03	2.64/2.02	-3.32/1.95	-1.04/0.33	-4.24/0.76	-1.62/1.25	-1.46/0.71	-0.38/0.55	-1.39/1.32	-0.25/2.35	0.73/1.09	-3.88/4.27	-2.67/3.32	
Theta(75°)	Phi(15°)	-13.24/15.27	-15.54/16.24	-15.21/15.40	-15.74/15.23	-14.34/13.59	-12.35/13.17	-13.94/11.87	-12.12/12.24	-13.04/13.38	-15.07/15.61	-14.98/15.15	-15.85/14.83	-14.47/13.72	-13.23/13.56	-13.97/12.64	-12.12/12.24	-12.72/13.31	-12.71/13.54	-14.12/12.70	-13.55/15.00	-12.53/13.93	-13.81/12.83	-13.00/10.55	-11.92/12.80	
Theta(82.5°)	Phi(15°)	-10.86/10.34	-10.24/11.09	-10.02/9.64	-9.53/13.91	-12.93/11.17	-9.75/4.47	8.81/8.22	8.72/9.00	-9.11/8.75	8.03/8.27	8.87/10.32	-12.02/10.28	-12.70/12.37	-12.36/12.00	-10.29/9.39	-10.81/11.82	-11.95/15.09	-15.62/15.54	-14.70/14.11	-13.52/12.46	-12.27/10.87	-9.24/6.93	-5.24/7.57	-10.34/9.99	
Theta(90°)	Phi(15°)	-11.59/10.46	-9.97/10.33	-7.08/8.31	-6.56/4.46	-2.98/3.74	-4.34/4.97	-5.14/6.61	-4.96/6.04	8.76/10.87	-8.95/9.34	-11.49/12.64	-13.56/9.65	-6.74/6.59	-9.67/10.47	-7.46/6.59	-8.22/6.92	-5.31/3.30	-6.39/8.89	-10.64/8.48	-7.11/8.97	-10.26/11.59				
Theta(97.5°)	Phi(15°)	-6.73/6.49	-8.91/7.00	-5.61/4.89	-5.85/4.85	-6.65/8.36	-7.95/7.18	-7.62/8.18	-7.75/5.89	-6.80/6.02	-4.62/5.73	-6.01/4.83	-4.70/4.33	-4.91/4.73	-7.53/8.30	-7.17/9.83	-9.11/9.93	-7.17/6.62	-7.68/8.48	-8.57/6.99	-5.36/3.74	-4.11/4.74	-7.47/7.51	-5.46/6.47	-9.64/9.75	
Theta(105°)	Phi(15°)	-13.34/10.19	-8.79/4.31	4.11/6.00	4.71/3.02	2.87/2.55	3.49/2.58	3.97/4.64	3.94/3.91	5.26/5.78	2.89/4.19	-12.19/5.97	-4.85/5.88	5.14/4.77	9.33/6.35	-7.25/11.06	-10.04/9.12	-13.34/13.96	-9.92/7.92	-10.68/11.70	5.23/4.43	4.50/9.13	-8.22/6.63	-4.55/7.27		
Theta(112.5°)	Phi(15°)	-3.56/5.08	-5.59/4.88	3.83/2.63	-1.91/2.10	2.45/1.45	-1.53/1.83	-1.28/0.50	0.19/0.17	2.51/2.29	-1.82/3.61	2.89/4.19	-5.92/6.24	-4.76/4.31	4.75/3.95	6.43/5.36	-4.73/8.93	6.94/8.24	-7.90/5.11	2.94/5.95	8.99/8.99	4.50/2.56	2.73/13.21	-5.07/6.31	7.20/7.56	
Theta(120°)	Phi(15°)	-4.40/4.43	-5.50/6.75	-5.10/5.54	-7.16/8.36	-7.30/4.75	-3.38/4.04	-4.22/0.55	5.61/3.37	-1.31/3.54	-4.94/4.91	-3.95/4.36	-3.48/7.41	-6.23/9.38	-5.59/6.86	-7.06/5.78	-5.32/4.98	4.30/2.99	-1.70/2.15	-1.64/0.89	-2.90/4.63	-4.57/6.84	-9.02/3.01	-4.28/8.80		
Theta(127.5°)	Phi(15°)	-8.23/8.48	-7.43/7.24	3.15/3.39	-1.98/0.05	-0.21/1.01	-0.78/2.13	-1.54/0.35	0.46/1.65	-4.67/2.35	2.48/1.80	-2.44/6.28	-6.00/9.68	8.07/5.35	5.16/4.79	4.31/6.42	-3.94/3.21	2.76/1.39	2.55/1.24	1.28/1.42	1.53/2.63	2.25/4.32	-2.60/8.17	-1.32/3.41	3.41/6.17	
Theta(135°)	Phi(15°)	-5.26/6.42	-9.64/5.42	-2.78/3.55	-2.57/2.73	-3.75/2.63	-1.02/2.33	-2.99/0.74	-2.78/1.80	-0.28/1.90	2.75/1.35	-4.53/5.06	-5.31/2.80	-3.80/4.10	-1.46/2.37	-4.51/3.79	-1.01/1.57	0.16/0.32	1.63/2.09	1.08/3.92	-2.53/2.69	-2.61/2.92	-2.75/2.39	-4.24/5.10		
Theta(142.5°)	Phi(15°)	-7.72/9.36	-12.22/10.59	-5.85/3.90	-3.35/4.55	-1.00/1.30	0.51/1.00	-0.66/0.24	-1.50/2.80	3.09/1.12	-3.14/4.33	-1.81/7.72	-1.13/2.54	4.94/3.42	-0.21/2.22	-4.51/1.97	-1.93/0.96	0.73/0.86	-2.35/0.97	1.04/1.76	-0.72/1.86	-3.15/0.10	-2.76/2.49	-4.22/4.21	3.12/3.14	
Theta(150°)	Phi(15°)	-6.05/6.36	-8.32/10.77	6.10/4.59	2.76/1.04	-1.05/0.53	0.91/1.12	-1.17/0.16	1.63/0.98	-2.68/1.02	2.38/1.16	6.80/15.10	-13.97/5.75	0.80/1.44	0.35/2.17	-0.32/1.65	-1.48/2.09	2.04/0.64	0.28/0.11	2.14/2.01	2.01/0.50	0.94/1.12	0.63/2.75	-0.71/4.92	-1.89/2.12	
Theta(157.5°)	Phi(15°)	-2.28/8.68	-12.04/5.84	-2.16/4.23	-3.85/1.44	-4.78/1.75	-1.59/4.64	5.55/1.85	2.01/0.28	3.26/2.18	2.20/0.10	0.91/0.77	-7.42/6.76	0.69/2.93	2.30/0.55	0.26/1.53	1.58/1.92	1.67/1.47	1.98/1.72	1.39/1.86	0.82/0.95	2.96/1.03	-2.28/6.74	-2.02/1.74		
Theta(165°)	Phi(15°)	-1.72/1.72	-6.66/1.97	0.74/4.17	5.91/1.05	6.36/4.74	-2.62/7.82	-7.27/4.52	-2.62/2.66	-2.24/1.37	3.18/0.48	3.33/12.79	-8.55/2.03	-1.61/3.73	1.27/1.21	-1.26/1.48	0.16/1.18	0.04/1.47	-0.74/1.04	-1.43/1.58	2.27/2.78	0.28/1.74	1.70/2.41	-3.14/7.23	-0.10/1.00	
Theta(172.5°)	Phi(15°)	-1.93/1.16	-2.44/0.69	-3.29/5.76	-8.99/7.80	-9.47/6.74	-10.51/6.12	-8.91/7.21	-6.79/11.54	-7.85/12.66	-9.40/3.47	-3.70/3.31	-10.42/10.76	-0.30/3.39	-1.94/2.89	-1.76/1.70	-0.46/2.09	0.26/1.88	0.02/1.28	-0.14/1.65	-1.62/1.33	-2.88/0.39	1.04			



Antenna Pattern of 2.4GHz and 5GHz UNII 1~3

Appendix D

θ (120°)	-15.76/-11.70	-11.70/-10.99	-11.35/-8.27	-10.33/-9.59	-7.32/-7.74	-11.95/-10.64	-12.17/-11.27	-14.80/-11.78	-7.10/-5.68	-7.23/-8.26	-11.13/-7.71	-5.07/-6.76	8.91/6.26	5.94/5.53	6.38/-5.16	-6.71/-13.66	-2.87/-5.61	9.91/8.93	-10.09/-3.71	5.69/-8.37	5.39/-3.84	-7.00/-7.59	5.16/-13.10	-13.20/-5.18
θ (127.5°)	-3.86/-1.98	-9.46/-8.13	-11.96/-5.22	-5.53/-14.00	-12.46/-4.89	-9.35/-9.64	-10.83/-8.60	-10.71/-12.91	-13.29/-11.13	-5.68/-5.03	-7.66/-9.57	-11.99/-8.20	-5.59/-8.55	9.05/-9.61	-7.41/-5.98	-8.80/-11.35	-14.62/-6.52	-15.40/-12.75	-7.90/-6.25	-7.44/-10.07	-5.96/-11.78	-10.46/-10.49	-5.75/-3.33	-5.61/-8.48
θ (135°)	-11.26/-8.52	-10.80/-12.83	-10.10/-7.42	-6.25/-14.46	-12.39/-9.38	-5.38/-7.41	-5.43/-7.00	-7.20/-12.12	-8.94/-10.22	-15.08/-8.17	-6.56/-4.17	-5.18/-7.14	-5.71/-5.48	-6.42/-5.44	-5.50/-9.32	-6.31/-15.08	-6.43/-9.22	-6.13/-15.08	-7.76/-3.92	-8.61/-13.08	-8.64/-9.93	-4.39/-7.20	-9.45/-5.47	-7.91/-11.95
θ (142.5°)	-12.67/-7.53	-6.45/-4.56	-7.05/-8.92	-8.62/-14.10	-9.87/-15.24	-7.12/-6.83	-3.90/-6.37	6.11/-4.36	-4.86/-10.57	-8.69/-3.66	-4.55/-4.17	-5.85/-9.13	-8.65/-10.48	-15.92/-13.23	9.16/-6.31	9.16/-4.30	-3.04/-8.92	-9.33/-11.94	-11.12/-3.83	-3.46/-12.65	-8.47/-9.35	-8.71/-8.51	-10.59/-9.19	-7.60/-6.63
θ (150°)	-5.69/-3.86	-6.23/-5.96	-9.39/-10.37	-12.66/-13.04	-9.76/-8.63	-8.03/-8.83	-6.37/-5.31	-6.52/-5.54	-7.50/-10.03	-8.03/-5.07	-4.27/-4.67	-3.52/-3.38	-5.03/-5.04	-4.18/-3.97	-5.15/-6.97	-2.23/-2.27	-6.39/-5.90	-12.30/-7.17	-7.19/-6.12	-5.91/-9.16	-11.10/-10.35	-10.44/-11.84	-15.38/-12.57	-13.09/-11.10
θ (157.5°)	-6.84/-8.29	-11.44/-13.50	-11.32/-9.27	-7.03/-5.35	-5.93/-7.38	-4.66/-3.58	-4.94/-7.08	-10.65/-8.00	-5.59/-4.76	-6.08/-7.41	-9.70/-7.22	-6.33/-6.10	-5.96/-7.26	-2.29/-5.72	-3.76/-2.08	-4.04/-5.86	-10.84/-9.79	-10.61/-9.56	-5.58/-4.12	-6.18/-12.35	-5.94/-5.67	-7.55/-9.07	-9.27/-7.68	
θ (165°)	-13.05/-12.13	-9.66/-6.08	-5.33/-4.45	-5.47/-6.96	-9.19/-9.19	-6.69/-6.46	-7.73/-6.83	-5.47/-5.46	-4.93/-4.44	-3.73/-3.55	-3.85/-4.97	-5.95/-6.77	-7.68/-8.51	-9.28/-8.20	-6.95/-7.23	-9.56/-14.29	-12.20/-9.91	-8.15/-5.71	-4.18/-4.25	-5.65/-6.32	-6.26/-7.65	-10.11/-8.87	-8.58/-10.94	-10.32/-11.09
θ (172.5°)	-10.76/-10.81	-8.97/-9.74	-9.31/-9.41	-13.27/-15.21	-14.79/-11.70	-10.15/-8.32	-6.90/-6.13	-5.91/-6.03	-6.29/-6.61	-6.90/-6.59	-6.78/-6.15	-6.10/-6.65	-7.03/-7.92	-8.45/-8.90	-8.08/-7.53	-8.07/-8.57	-10.23/-11.51	-9.76/-8.96	-9.07/-11.01	-13.90/-13.58	-10.46/-7.39	-6.45/-6.14	-7.62/-7.19	-11.73/-13.46
θ (180°)	-15.09/-15.57	-15.64/-14.95	-15.70/-15.25	-15.20/-15.50	-15.39/-13.56	-13.25/-13.50	-13.63/-14.18	-13.66/-13.01	-13.14/-12.55	-13.49/-13.16	-14.09/-15.42	-15.20/-13.90	-15.42/-13.14	-12.19/-11.51	-10.96/-11.62	-13.25/-13.94	-12.28/-10.76	-10.24/-11.64	-13.46/-12.52	-10.50/-10.17	-9.42/-10.85	-13.62/-13.81		
Freq(Hz)	5.62GPol.	TotalAnt. 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°)	-12.10/-10.51	-10.63/-9.05	-10.24/-10.14	-10.99/-12.44	-10.45/-11.02	-11.37/-9.97	-9.69/-9.41	-10.48/-8.85	-9.96/-10.69	-11.76/-11.69	-10.62/-11.46	-11.71/-12.75	-12.74/-14.26	-14.41/-14.59	-12.14/-12.82	-12.85/-12.67	-13.01/-12.27	-10.49/-10.23	-10.69/-10.90	9.99/-9.94	9.91/-10.26	9.55/-10.26	-11.23/-11.03	
θ (7.5°)	-11.66/-13.38	-12.87/-13.84	-13.86/-13.40	-12.85/-13.53	-13.73/-12.41	-12.02/-9.57	-8.74/-8.93	-9.42/-8.17	-8.61/-8.05	-8.16/-7.95	-7.81/-7.87	-8.61/-8.75	9.05/-8.64	8.31/-9.52	9.83/-12.20	-10.25/-8.32	-13.01/-11.85	9.80/-10.32	-9.76/-9.11	9.89/-9.94	9.50/-11.49	-11.72/-10.29	-11.19/-10.57	-12.48/-12.97
θ (15°)	-11.51/-11.10	-8.40/-6.24	-7.80/-7.49	-9.90/-12.72	-10.89/-8.85	-7.24/-6.48	-7.24/-6.48	-12.16/-14.12	-13.06/-10.88	-9.62/-8.24	-8.78/-8.43	-8.02/-7.38	-7.92/-7.31	-7.87/-8.04	-10.33/-10.53	-10.77/-7.63	6.42/-8.46	-8.05/-6.56	-7.25/-7.58	-8.76/-10.56	-12.78/-13.91	-14.02/-11.13	-11.28/-9.73	-10.78/-12.14
θ (22.5°)	-8.83/-5.90	-8.23/-8.07	-7.10/-5.31	-6.97/-11.88	-12.28/-6.77	-5.29/-6.58	-6.95/-6.01	-5.80/-5.97	-6.13/-8.65	-10.52/-9.53	-8.62/-10.55	-11.83/-11.45	-12.03/-9.45	-7.98/-7.91	-8.28/-9.91	-7.98/-7.63	-8.77/-11.52	9.70/-6.06	-5.50/-7.58	-11.89/-9.75	-7.26/-7.00	-6.09/-5.53	-5.62/-5.49	-3.86/-3.96
θ (30°)	-6.99/-5.60	-4.99/-7.08	-9.67/-5.47	-4.47/-5.27	-6.57/-6.51	-6.10/-6.75	-5.27/-4.70	-9.22/-6.65	-5.05/-5.98	-4.97/-4.72	-8.25/-7.69	-4.57/-3.86	-4.64/-3.92	-3.79/-3.50	-4.55/-8.24	-12.02/-5.43	-6.39/-14.67	4.14/-2.63	-6.67/-8.55	-4.53/-5.23	-12.01/-10.90	-8.59/-7.78	-6.65/-8.07	-9.32/-9.09
θ (37.5°)	-3.16/-3.14	-1.61/-2.58	2.14/-3.54	-1.81/-5.59	-4.08/-3.48	-4.88/-7.49	6.95/-4.14	-3.84/-4.92	-6.42/-5.92	-6.76/-8.61	-4.72/-4.24	-5.06/-7.54	-10.38/-7.02	2.85/-2.88	-4.13/-5.97	-5.77/-6.40	-3.08/-8.88	-4.56/-7.51	9.28/-5.82	5.26/-6.93	-5.26/-2.43	-2.51/-5.38	4.25/-3.28	
θ (45°)	-2.51/-2.22	-0.71/-3.07	-7.13/-4.00	-2.38/-3.44	-4.28/-2.47	-3.90/-7.40	-5.48/-2.86	-4.71/-7.29	-3.82/-4.43	-5.61/-1.92	-4.17/-5.51	-5.82/-5.19	-3.89/-3.58	5.03/-4.14	-2.65/-2.37	-3.68/-2.98	-8.42/-3.71	-8.23/-4.31	-3.92/-5.99	-3.08/-2.27	-0.93/-2.14	-3.93/-7.90	-6.39/-2.21	-1.32/-1.53
θ (52.5°)	-6.74/-8.24	-9.79/-9.21	-6.62/-1.61	-1.30/-3.61	-2.22/-4.30	-5.18/-2.85	4.26/-5.07	-4.53/-3.11	-3.43/-3.42	-1.86/-2.02	-1.13/-2.59	-1.69/-1.07	0.520/0.0	-0.13/-1.31	-1.09/-0.56	-1.95/-6.17	-2.62/-5.25	-2.66/-5.52	-2.13/-2.73	0.25/-4.23	-3.73/-1.80	-0.01/-3.04	-2.96/-10.16	-7.78/-5.86
θ (60°)	3.70/1.73	1.98/2.63	1.55/-3.03	2.30/-5.64	-1.14/-2.33	-4.64/-1.52	-1.89/-5.11	-3.28/-3.03	-3.17/-2.33	-1.49/-1.62	-0.24/-0.34	-2.64/-6.61	1.39/-1.96	1.06/0.60	-1.05/-2.18	-3.62/-2.19	-3.62/-2.19	-3.72/-0.59	-1.15/-1.79	-5.67/-4.69	-1.90/-1.24	-3.05/-9.99	-1.02/0.13	1.69/3.56
θ (67.5°)	0.28/0.47	-2.17/0.41	-2.14/-0.89	-3.20/-4.88	-5.51/-2.33	-5.83/-3.86	-4.80/-3.76	-3.83/-4.20	-2.56/-5.16	-1.70/-1.34	-0.70/-1.44	-1.21/-2.72	-1.62/-1.22	-1.30/0.25	-1.49/-2.35	-2.93/-4.79	-2.32/0.71	-1.49/-1.08	-3.98/-3.50	-2.04/-1.50	0.51/0.57	-0.82/-1.19	-0.36/-2.02	
θ (75°)	-0.21/0.68	-0.57/-1.70	-0.91/-2.11	0.82/-2.50	-2.44/-3.88	-2.51/-4.07	-6.44/-2.36	-1.06/-4.73	-4.31/-4.49	0.61/1.46	-0.56/-1.07	-0.95/-1.31	-1.68/-0.76	-1.13/0.77	-1.61/-2.16	-2.95/-3.03	-3.75/-3.32	0.69/-5.54	-2.48/-1.92	-4.22/-2.54	-1.13/-2.65	-4.34/-4.08	0.19/1.33	1.37/-0.36
θ (82.5°)	-1.25/-0.74	-1.26/-1.17	-3.65/0.60	-2.76/-1.14	-1.47/-3.92	-0.35/-3.14	-4.86/-2.16	-3.83/-3.03	-3.27/-0.29	0.19/2.52	-0.31/0.71	1.60/2.48	0.78/0.25	0.42/1.16	0.00/0.30	-1.02/0.88	0.40/-1.17	-1.26/-2.63	2.06/-1.13	-2.07/-2.48	6.31/-2.02	-6.81/-9.01	-2.21/3.45	-4.29/3.07
θ (90°)	-0.31/-1.45	0.98/0.40	0.67/-1.21	2.76/-1.17	-1.36/-2.69	-3.13/-0.37	-7.48/-2.17	-1.89/-7.53	0.40/-2.78	0.02/1.19	-1.95/-1.30	1.09/3.33	1.88/2.23	1.42/2.16	0.73/0.34	1.70/1.33	5.08/-1.43	-0.22/0.35	0.81/-1.76	0.23/-1.70	-1.78/1.61	0.34/-4.88	2.08/0.90	
θ (97.5°)	-7.39/-7.19	-4.44/-6.13	-5.58/-1.62	-5.52/-6.99	-8.68/-5.97	-4.27/-7.07	-8.59/-3.67	-5.16/-9.70	-2.98/-2.43	0.26/0.63	-2.60/-2.85	-2.13/0.71	-1.93/1.19	-0.81/-2.87	-2.33/-4.94	-5.14/-2.82	-3.04/-2.14	-1.24/-1.55	-0.54/-2.08	0.19/-2.93	-3.95/0.37	-2.15/-8.86	-13.66/-9.21	
θ (105°)	-8.11/6.51	-4.26/-5.77	-1.65/-5.20	-6.91/-9.30	-9.66/-8.09	-9.42/-5.24	-5.96/-4.31	-4.93/-5.43	-3.91/-4.15	0.79/-0.50	-2.25/-1.28	0.09/0.77	-2.25/-1.65	-0.92/0.53	-1.24/-2.26	-5.00/-1.37	-3.48/-1.77	9.34/-4.13	-6.16/-2.34	-0.71/-8.92	-5.06/-4.77	-8.92/-5.55	-8.03/-2.22	-3.66/-8.57
θ (112.5°)	-3.41/-4.20	-2.51/-5.82	-4.19/-4.73	-6.73/-5.00	-4.82/-8.06	-10.16/-7.32	-4.14/-8.65	-6.15/-6.43	-5.02/-3.04	-4.55/-1.88	-4.28/-2.73	-1.20/-0.03	-1.31/-1.35	0.06/0.56	-2.55/-3.27	-2.33/-4.70	-2.85/-5.20	-7.71/-5.39	0.16/-8.67	-4.57/-5.42	-5.61/-9.92	0.62/-1.98	-3.76/-2.35	
θ (120°)	-11.25/-7.72	-6.85/-15.47	-13.29/-13.05	-12.11/-5.91	-8.25/-10.57	-9.60/-11.87	-11.55/-8.18	-9.22/-6.61	-8.49/-7.44	-11.33/-8.52	-6.13/-10.31	-4.92/-7.18	-0.67/0.66	-7.21/-7.48	-7.20/-9.34	-4.63/-5.59	-5.16/-2.31	-5.92/-10.12	-5.28/-5.62	-1.88/-4.27	-1.15/-5.83	-5.15/-9.57	-2.76/-6.82	-7.81/-9.26
θ (127.5°)	-4.40/-3.21	-7.75/-5.37	-8.63/-5.65	-10.23/-8.18	-9.72/-7.50	-9.45/-11.41	-10.25/-10.65	-14.17/-14.12	-11.52/-10.23	-7.81/-14.13	-15.38/-8.65	-11.17/-9.52	-9.55/-12.53	-12.40/-9.36	-6.39/-8.26	-10.69/-7.88	6.74/-6.15	-15.49/-12.79	-5.15/-7.95	-7.15/-10.28	-6.67/-8.97	-8.29/-8.02	-5.21/-5.23	-5.97/-5.75
θ (135°)	-11.18/-13.94	-15.41/-9.40	-7.76/-6.69	-6.80/-14.43	-8.18/-11.40	-5.52/-4.19	4.03/-7.91	-6.57/-12.47	-9.10/-10.95	6.24/-6.14	4.30/-1.55	-9.10/-7.75	-5.61/-6.59	-7.14/-10.69	-6.27/-8.42	-8.11/-9.77	9.49/-10.23	-8.64/-9.77	-8.93/-6.65	-3.80/-8.95	9.73/-11.39	-4.89/-5.34	-9.39/-7.85	-6.95/-12.30
θ (142.5°)	-7.53/-8.24	-11.48/-6.27	-6.88/-4.50	-6.49/-11.79	-13.83/-4.57	-6.28/-6.85	-5.17/-7.79	-5.64/-2.83	-3.27/-7.73	-6.64/-5.51	-4.55/-2.40	-3.47/-5.20	-4.11/-2.77	-5.25/-10.13	-7.24/-5.55	-3.31/-3.51	-10.38/-10.15	-6.65/-10.94	-2.86/-3.09	-15.54/-6.86	-8.55/-10.73	-9.10/-5.63	-7.32/-10.89	
θ (150°)	-5.48/-5.57	-8.53/-7.27	-11.27/-12.15	-9.68/-8.46	-11.73/-7.44	-6.97/-9.99	-4.81/-5.50	-3.80/-4.82	-5.77/-5.84	-4.99/-5.47	-3.90/-2.02	-1.86/-2.69	-2.50/-2.27	-3.13/-3.82	-2.80/-3.01	-3.87/-4.15	-5.53/-10.17	-6.79/-5.32	-7.13/-4.00	-4.30/-7.49	-7.96/-10.16	-12.89/-14.72	-14.05/-12.01	
θ (157.5°)	-7.48/-8.11	-13.33/-12.80	-7.62/-4.96	-5.74/-7.01	-4.09/-3.94	-7.87/-8.03	-3.85/-4.14	6.34/-6.84	-5.60/-3.20	-2.73/-2.97	-4.86/-7.25	8.31/-6.92	6.45/-2.67	-3.33/-4.20	-3.65/-2.82	-5.44/-9.03	-5.82/-4.16	-4.81/-7.70	-14.65/-6.30	-3.32/-4.43	-10.47/-15.18	-11.68/-11.32	-10.57/-7.47	
θ (165°)	-9.25/-9.56	-7.74/-6.14	-5.93/-6.59	-6.92/-4.75	-3.44/-3.61	-5.29/-6.91	-9.09/-8.72	-5.45/-3.20	-2.43/-2.65	-3.08/-4.10	-5.29/-7.25	-9.47/-5.53	-9.55/-9.67	-8.23/-6.74	-0.72/0.60	-6.12/-6.02	-8.17/-7.13	-5.03/-5.39	-8.54/-8.96	-6.42/-4.24	-3.33/-5.74	-7.20/-8.76	-8.00/-8.87	
θ (172.5°)	-10.48/-12.35	-12.68/-13.35	-12.73/-14.11	-11.																				

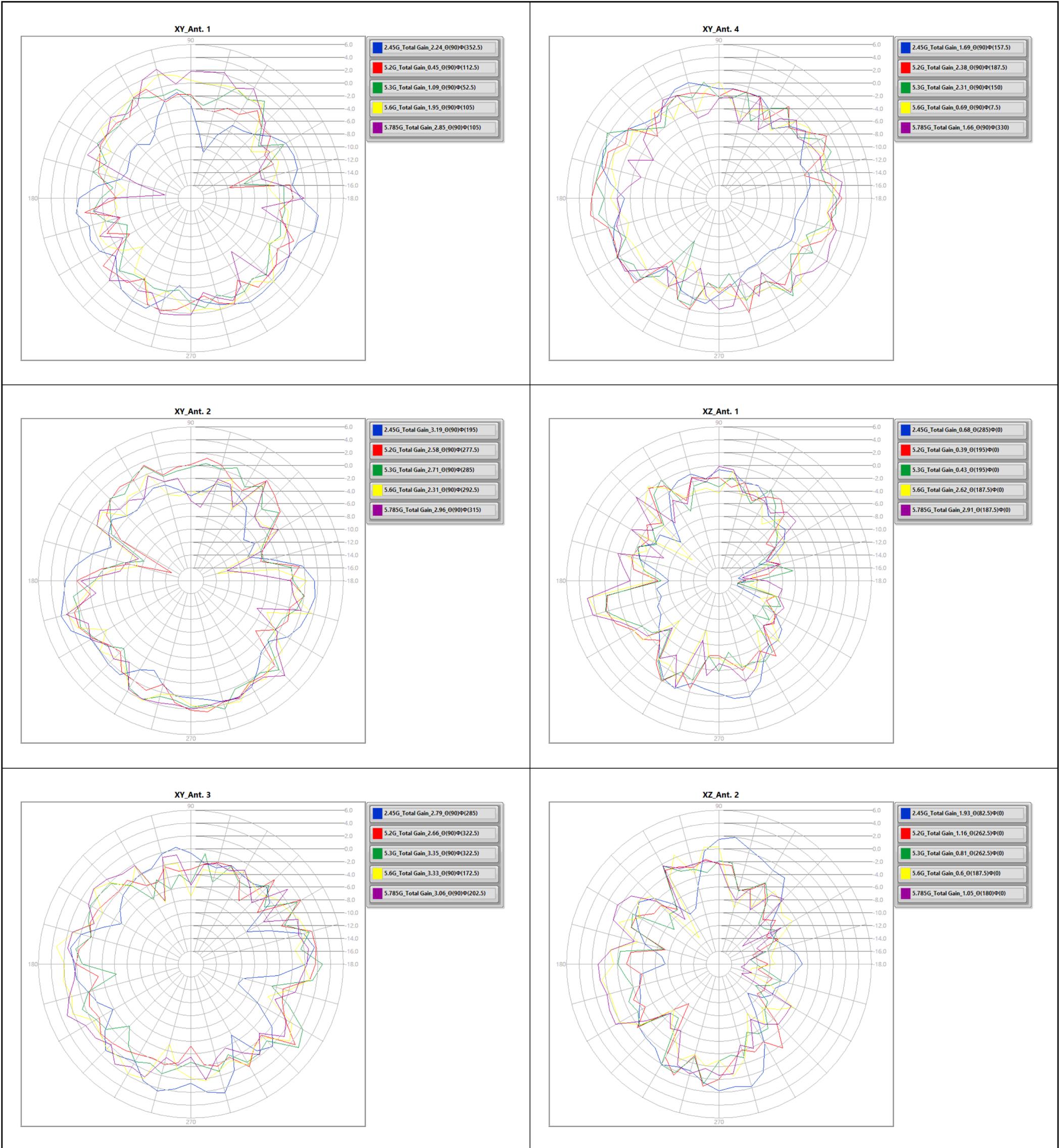


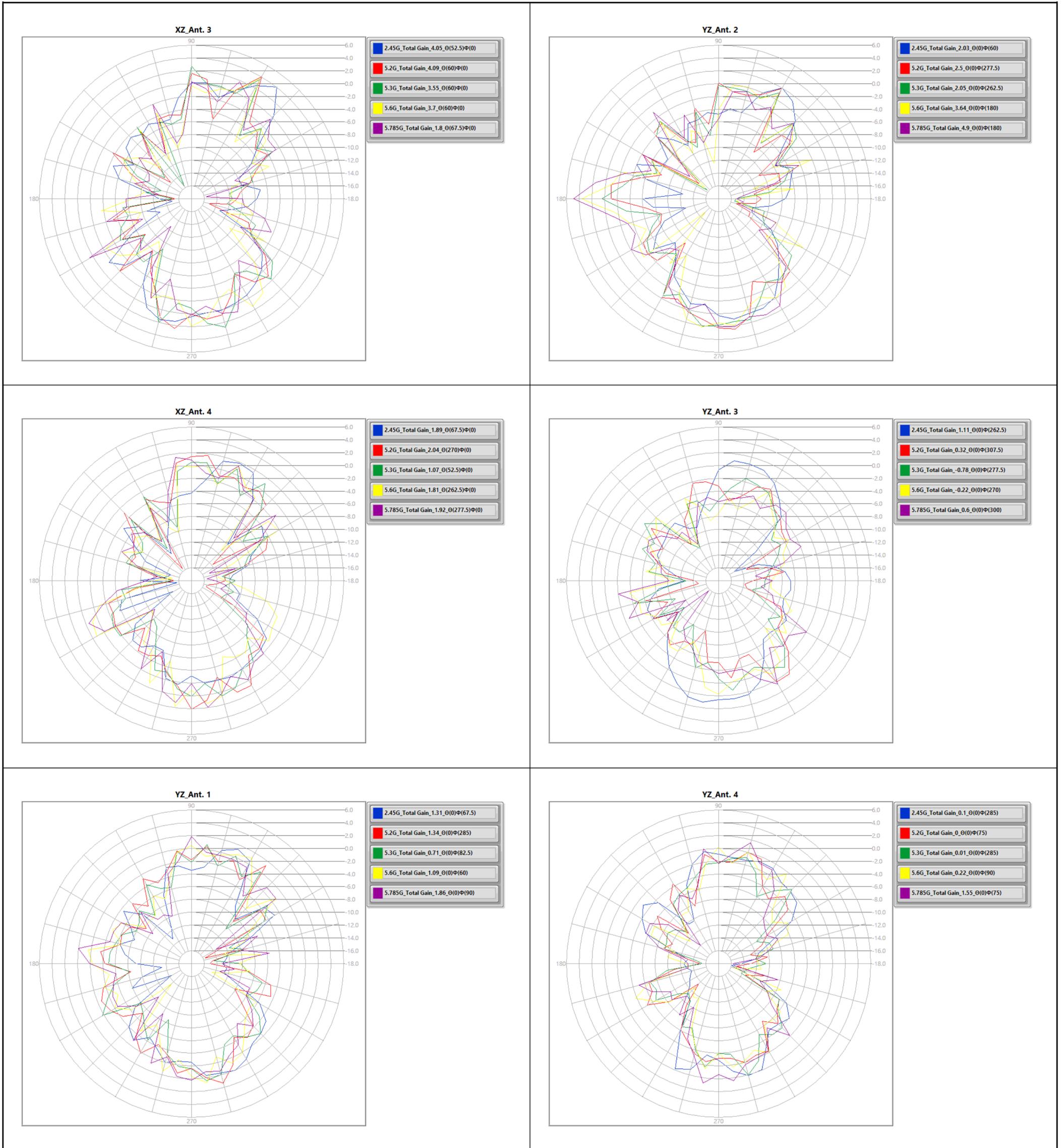
Antenna Pattern of 2.4GHz and 5GHz UNII 1~3

Appendix D

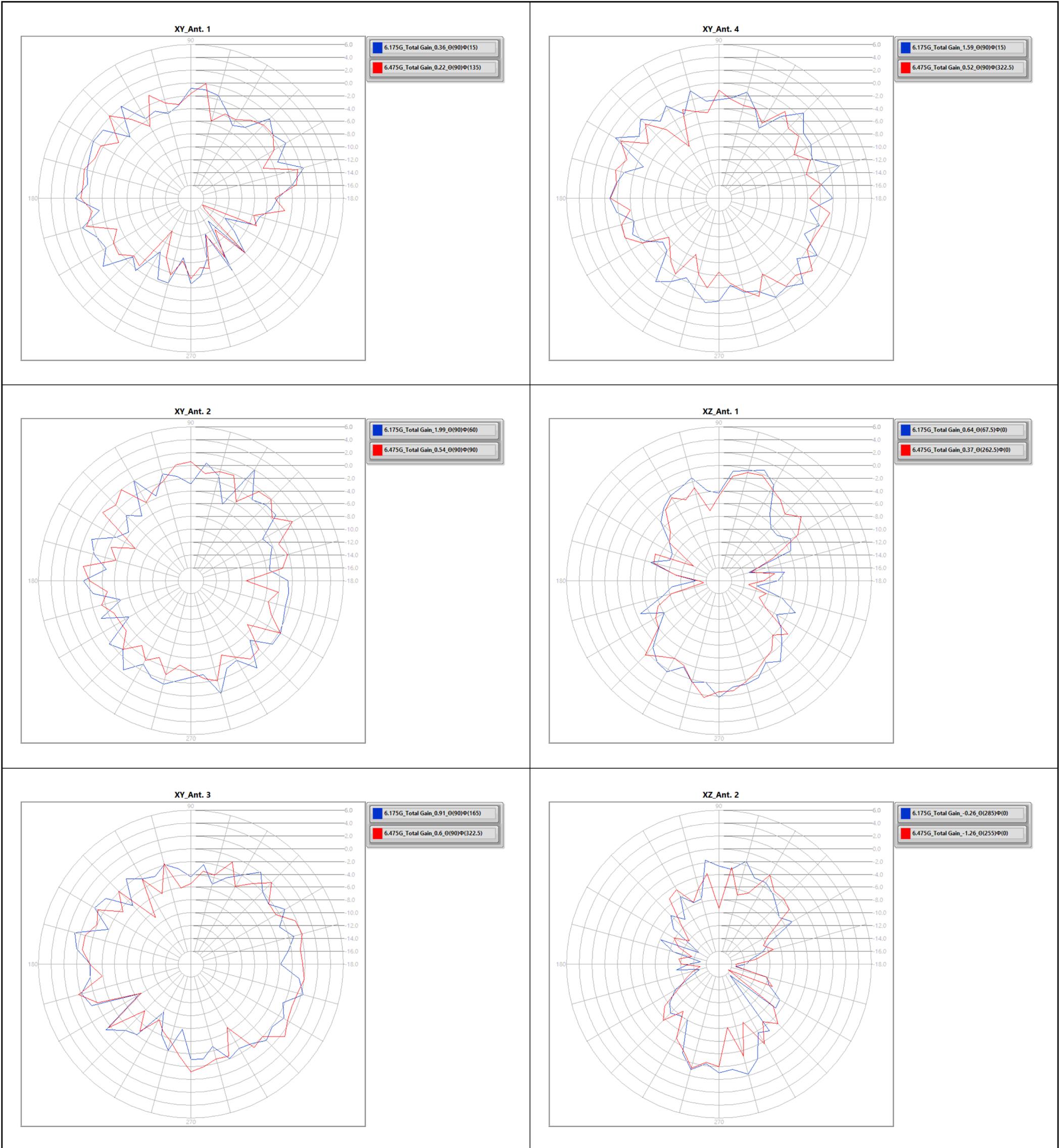
Theta (°)	Phi (°)	Gain	Phi(0°)	Phi(15°)	Phi(30°)	Phi(45°)	Phi(60°)	Phi(75°)	Phi(90°)	Phi(105°)	Phi(120°)	Phi(135°)	Phi(150°)	Phi(165°)	Phi(180°)	Phi(195°)	Phi(210°)	Phi(225°)	Phi(240°)	Phi(255°)	Phi(270°)	Phi(285°)	Phi(300°)	Phi(315°)	Phi(330°)	Phi(345°)
Theta (172.5°)	Phi (0°)	-12.19/-13.12	-12.49/-11.44	-9.78/-9.58	-10.13/-10.81	-12.81/-14.51	-14.98/-14.71	-13.35/-11.01	9.36/8.65	-7.84/6.50	-6.03/5.71	-5.87/6.51	-7.76/8.56	8.98/6.19	-5.82/7.19	-10.47/-13.74	-11.80/-10.34	-11.45/-12.59	-12.68/-10.99	-10.98/-12.87	-15.71/-15.49	-15.29/-10.92	9.58/9.44	-10.11/-11.78	-12.57/-11.89	-12.57/-11.89
Theta (180°)	Phi (0°)	-15.35/-15.76	-15.34/-16.12	-14.97/-14.51	-15.58/-15.33	-15.90/-15.72	-14.89/-15.69	-15.12/-15.53	-14.98/-15.36	-14.87/-15.51	-15.06/-14.70	-14.09/-13.80	-12.74/-12.25	-11.55/-10.77	-12.15/-11.77	-12.58/-12.88	-14.96/-15.51	-15.96/-15.91	-15.21/-13.30	-12.64/-11.91	-14.26/-14.24	-11.34/-11.11	-11.72/-13.19	-15.38/-15.33	-15.12/-15.91	-15.12/-15.91
Theta (172.5°)	Phi (15°)	-13.16/-12.68	-12.23/-10.41	-10.90/-10.66	-9.64/9.52	-9.54/9.12	-9.61/11.03	-12.15/-12.67	-13.32/-12.39	-13.99/-15.71	-12.73/-14.78	-15.90/-13.53	-15.23/-14.02	-12.58/-11.66	-11.93/-11.93	-13.01/-11.61	-9.94/-10.06	-11.05/-12.06	-12.74/-13.07	-12.80/-12.57	-12.75/-12.16	-14.10/-13.42	-13.74/-14.97	-13.48/-14.86	-12.45/-14.84	-12.45/-14.84
Theta (172.5°)	Phi (30°)	-9.39/-10.45	-11.28/-12.87	-13.69/-11.95	-11.61/-10.83	-9.47/9.11	8.87/8.81	-9.07/-10.07	-11.10/-11.15	-10.17/-9.41	-8.25/8.13	-8.27/8.65	-10.15/-10.79	-11.10/9.81	-9.20/-11.76	-10.60/-12.50	-10.35/9.31	-10.42/-12.74	-13.74/-14.13	-13.64/-12.53	-10.36/9.59	-9.49/9.75	8.96/9.60	-9.38/7.66	-7.80/6.96	-7.80/6.96
Theta (172.5°)	Phi (45°)	-8.37/9.36	-9.34/9.19	-11.27/-12.65	-14.52/-15.92	-12.68/8.98	8.30/9.30	-9.37/8.58	-7.56/8.11	-9.27/-11.55	-10.78/9.67	-10.97/11.60	-12.34/-15.00	-12.25/-11.37	-9.64/-12.53	-15.46/-15.28	-11.38/9.91	-10.62/-10.35	-10.41/-13.55	-14.16/-14.43	-11.21/9.08	-10.06/10.96	-9.28/8.92	-6.39/6.21	-7.13/8.41	-7.13/8.41
Theta (172.5°)	Phi (60°)	-4.03/3.45	-4.81/4.42	-4.28/5.46	-5.71/6.75	-12.93/-13.28	-8.47/10.17	-11.16/7.86	-7.78/9.08	-11.69/12.60	-11.90/9.63	-14.44/12.36	-14.55/14.38	-12.60/9.28	-10.48/11.94	-11.08/12.77	-14.86/12.36	-11.59/14.75	-10.14/7.40	-6.98/6.17	-6.21/7.54	-7.33/5.65	-4.65/4.30	-5.17/6.20	-6.91/5.92	-6.91/5.92
Theta (172.5°)	Phi (75°)	-7.82/6.55	-5.02/7.25	6.02/4.90	-6.42/5.18	-5.35/5.27	-6.38/6.35	-6.55/5.64	-7.25/9.56	-11.42/9.09	8.14/8.60	-10.22/10.41	-10.48/10.10	-6.83/5.07	-8.42/7.50	-9.59/8.78	-7.30/7.91	6.07/8.75	-6.28/7.76	-6.23/7.40	-5.98/6.10	-6.81/6.33	-8.08/9.29	-9.24/11.49	-9.05/7.68	-9.05/7.68
Theta (172.5°)	Phi (90°)	-2.58/2.10	-4.06/4.48	-6.33/5.48	-4.85/4.76	-4.58/5.07	-5.33/3.16	-1.61/2.32	-2.96/3.71	-5.56/6.03	-6.26/4.67	-6.84/6.88	-5.30/5.06	-5.72/4.07	-5.67/5.65	-3.96/5.06	-2.67/6.47	-3.34/5.23	-1.82/2.92	-3.82/5.61	-9.28/5.31	-5.17/6.92	-5.53/6.67	-8.69/7.09	-4.91/3.94	-4.91/3.94
Theta (172.5°)	Phi (105°)	1.07/0.93	-0.43/0.36	0.08/0.24	-2.66/1.81	-2.45/4.21	-4.21/5.99	-3.70/1.71	-2.61/1.97	-2.98/3.52	-2.10/3.66	-5.18/3.61	-0.96/1.20	-2.05/1.90	-4.55/6.03	-1.57/2.15	-3.45/5.63	-2.97/2.80	-2.22/5.69	-4.02/4.51	-1.15/1.60	-4.72/1.88	-1.27/0.34	-0.04/0.49	0.24/0.57	0.24/0.57
Theta (172.5°)	Phi (120°)	-2.67/1.25	-1.26/3.48	2.93/1.93	-0.18/1.08	-2.31/3.00	-3.54/4.37	-5.90/2.36	-3.55/2.87	-3.65/3.01	-2.47/3.03	-2.13/2.70	-1.90/2.22	-2.01/2.52	-3.43/3.62	-3.56/2.54	-4.88/3.70	-2.54/3.58	-3.79/2.95	-5.22/4.20	-3.32/2.88	-2.78/3.90	-2.28/1.75	-4.04/3.91	-5.07/2.44	-5.07/2.44
Theta (172.5°)	Phi (135°)	0.86/0.30	-1.33/0.53	-1.49/2.64	-2.33/3.23	-1.68/2.25	-0.04/1.06	-2.62/4.00	-1.12/1.91	-1.02/2.08	-2.33/1.02	0.07/0.27	1.75/1.07	0.12/1.04	-1.77/1.31	-1.80/0.98	-2.47/4.67	-0.79/2.22	-1.56/2.41	-3.18/0.83	-0.58/1.13	-0.73/0.41	0.54/0.92	0.68/0.39	0.68/0.39	
Theta (172.5°)	Phi (150°)	-2.30/1.03	-2.25/2.70	-1.35/1.23	-0.75/1.69	-3.35/0.09	-3.36/1.77	-0.88/1.59	-0.94/0.97	1.22/1.46	-0.36/0.39	-0.33/2.06	-0.03/0.77	0.63/0.49	-0.63/2.52	0.69/1.57	-0.39/3.74	-1.26/1.54	-2.29/0.54	-1.01/0.47	-3.42/1.27	-2.67/3.81	-3.89/0.60	-0.36/4.16	-4.22/2.25	-4.22/2.25
Theta (172.5°)	Phi (165°)	0.61/2.02	0.56/2.18	-1.32/1.07	-0.00/0.18	-1.87/1.41	-5.97/3.32	-1.40/1.97	-6.50/4.88	-1.48/3.33	-1.06/0.41	-0.05/2.08	-0.13/1.98	-1.83/1.31	4.78/3.80	-0.44/4.14	-4.60/2.20	-1.85/1.65	-0.39/2.07	-3.79/4.35	-2.07/2.70	-6.05/1.50	-4.81/2.89	1.06/1.52	1.30/0.16	1.30/0.16
Theta (172.5°)	Phi (180°)	0.50/1.06	-1.45/1.12	0.49/2.36	-2.25/0.31	-1.77/4.95	-0.78/2.25	-2.25/2.08	-1.77/0.60	-1.59/4.02	-2.62/5.02	1.36/1.53	0.06/1.14	0.49/2.12	0.60/1.04	-0.58/2.68	-10.25/0.90	-0.73/4.65	-3.96/6.15	-1.43/2.80	-3.14/1.16	-1.94/3.75	-3.01/3.13	-0.89/0.52	-0.89/0.52	
Theta (172.5°)	Phi (195°)	-0.75/0.13	-0.22/0.91	0.52/0.61	-0.65/0.09	-2.93/3.72	-4.04/1.58	-2.35/3.35	4.41/1.04	0.55/2.11	-1.37/1.63	-2.31/1.66	-2.34/3.04	-1.02/3.37	-0.27/6.34	0.17/1.86	-3.02/13.07	-3.01/10.78	-3.19/2.64	-1.75/2.81	-3.92/1.13	-1.32/1.95	0.04/1.16	-1.19/0.61	-1.19/0.61	
Theta (172.5°)	Phi (210°)	-9.36/9.47	-10.62/3.61	-7.93/4.02	-5.20/3.06	-3.22/5.20	-13.91/4.26	-3.89/5.63	-8.46/9.47	-6.04/6.01	-4.04/3.09	-1.76/1.68	-3.68/6.35	-3.22/3.04	-3.02/5.32	-2.95/4.96	-4.80/5.46	-3.11/2.16	-9.75/6.87	-3.97/4.87	-1.36/1.01	-10.54/2.14	-3.82/7.95	-2.93/4.57	-3.99/5.93	-3.99/5.93
Theta (172.5°)	Phi (225°)	-6.42/5.05	-3.49/5.42	-6.12/4.04	-4.09/4.16	-4.95/7.19	-4.25/6.80	-5.16/6.58	-5.17/6.33	-6.86/5.50	-5.64/3.61	-2.02/0.04	-1.15/1.97	-2.92/1.50	-3.28/1.86	-3.13/0.08	-1.13/7.37	-10.02/5.68	-12.95/5.68	-7.17/6.77	-5.22/6.72	-6.30/4.97	-8.95/8.71	-9.00/11.90	-6.71/6.13	-6.71/6.13
Theta (172.5°)	Phi (240°)	-2.83/9.93	-6.39/5.01	-4.81/2.99	-1.65/4.36	-4.29/8.82	-15.42/8.69	-9.28/7.02	-6.32/7.48	-10.38/6.48	-5.67/5.60	-2.83/3.84	-3.26/4.49	-3.83/5.00	4.07/5.78	8.43/7.88	-9.77/7.17	-10.49/10.28	-13.38/8.79	-10.25/4.99	-8.31/14.56	-13.29/11.14	-10.14/8.12	-6.28/10.13	-14.92/14.75	-14.92/14.75
Theta (172.5°)	Phi (255°)	-11.65/12.63	-10.09/15.34	-12.20/4.53	-5.74/5.95	-12.67/8.12	-15.29/12.13	-6.26/12.33	-7.46/11.27	-12.52/9.71	-7.85/7.43	-7.95/7.27	-7.57/5.00	-8.99/8.32	-9.91/7.36	-10.32/7.28	-4.72/4.63	-8.80/8.62	-9.87/12.22	-10.55/10.63	-7.54/3.12	-9.17/15.38	-6.50/4.08	-14.01/14.14	-10.84/8.42	-10.84/8.42
Theta (172.5°)	Phi (270°)	-4.46/13.22	-5.10/4.75	-11.66/12.09	-11.40/10.08	-8.89/8.36	-7.75/8.81	-11.93/14.99	-10.77/7.04	-5.44/5.47	-6.38/6.63	-7.54/7.49	-7.38/6.56	-5.66/6.39	-7.44/7.19	-5.45/6.40	-9.30/9.18	-8.84/10.65	-12.35/14.47	-15.58/15.24	-15.26/14.46	-16.02/14.62	-15.41/15.73	-15.38/15.54	-14.80/14.95	-14.80/14.95
Theta (172.5°)	Phi (285°)	-8.23/9.01	-5.39/3.40	-1.37/4.61	-4.98/6.55	-4.29/8.82	-15.42/8.69	-9.28/7.02	-6.32/7.48	-10.38/6.48	-5.67/5.60	-2.83/3.84	-3.26/4.49	-3.83/5.00	4.07/5.78	8.43/7.88	-9.77/7.17	-10.49/10.28	-13.38/8.79	-10.25/4.99	-8.31/14.56	-13.29/11.14	-10.14/8.12	-6.28/10.13	-14.92/14.75	-14.92/14.75
Theta (172.5°)	Phi (300°)	-9.11/6.66	-3.23/4.06	-5.60/5.59	-5.37/4.49	-2.88/5.45	-7.42/8.56	-8.63/6.51	-6.69/6.91	-4.95/1.62	-0.31/0.67	-2.53/3.01	-2.71/3.99	-3.72/2.28	-1.89/4.32	-6.43/6.68	-5.77/6.00	-9.34/9.31	-7.69/5.58	-6.59/6.19	-8.54/9.03	-7.78/13.94	-9.19/7.01	-7.18/8.03	-10.70/8.72	-10.70/8.72
Theta (172.5°)	Phi (315°)	-7.75/7.10	-5.70/6.62	-6.34/5.91	-5.21/4.52	-4.42/6.26	-6.00/6.78	-9.17/13.13	-7.67/8.58	-8.51/8.02	-6.62/5.73	-6.67/6.33	-5.71/4.81	-4.37/5.44	-4.15/3.08	-3.78/5.93	-8.61/8.43	-5.62/6.37	-7.71/5.56	-7.35/7.45	-4.48/7.72	-8.45/12.73	-10.46/12.46	-8.83/10.76	-8.83/10.76	
Theta (172.5°)	Phi (330°)	-7.28/7.56	-7.19/9.40	-8.60/7.17	-7.21/9.93	-13.93/14.88	-11.93/9.99	-9.22/8.52	-8.10/8.62	-11.46/12.88	-12.38/12.20	-9.57/7.19	-6.95/6.13	-7.23/7.41	-9.42/9.86	-8.12/7.01	-6.17/6.27	-8.51/11.20	-10.76/7.84	-6.88/7.88	-9.42/10.45	-12.26/15.03	-15.61/11.89	-10.53/8.08	-7.54/7.73	-7.54/7.73
Theta (172.5°)	Phi (345°)	-13.34/13.24	-14.67/13.65	-13.34/13.53	-10.70/15.32	-15.63/14.48	-14.96/14.48	-14.52/13.92	-11.59/9.49	-7.61/6.47	-6.15/5.71	-5.83/6.85	-7.66/8.34	-6.63/6.15	-5.38/5.40	-9.13/9.75	-8.20/8.39	-9.92/10.56	-10.79/10.05	-9.81/12.35	-16.01/13.26	-11.38/9.38	-8.08/9.12	-9.28/10.46	-12.04/11.86	-12.04/11.86
Theta (180°)	Phi (0°)	-14.85/14.99	-15.34/14.18	-14.82/14.12	-13.10/12.58	-12.91/12.73	-13.23/15.24	-15.41/15.24	-13.13/12.85	-13.33/13.28	-13.03/13.40	-14.48/11.46	-9.56/8.58	-8.40/8.82	-11.40/15.60	-15.26/11.60	-10.88/12.44	-15.20/14.92	-14.53/14.84	-13.82/14.16	-13.49/12.02	-10.43/10.04	-11.78/14.22	-13.80/15.87	-13.85/15.77	-13.85/15.77
Theta (180°)	Phi (15°)	-12.67/11.89	-12.68/13.22	-13.81/13.32	-12.41/12.51	-12.20/12.23	-12.83/12.22	-11.72/10.98	-10.78/11.46	-11.08/12.98	-11.79/12.12	-13.28/11.51	-14.24/14.82	-15.13/13.03	-13.16/13.18	-13.47/14.33	-14.76/14.35	-14.48/16.01	-15.07/12.94	-11.73/13.54	-15.53/11.97	-14.50/16.03	-12.52/12.25	-12.36/13.22	-12.12/12.27	-12.12/12.27
Theta (180°)	Phi (30°)	-13.74/12.61	-12.82/15.37	-14.45/14.02	-14.01/14.87	-15.70/15.34	-15.46/14.48	-11.90/9.96	-10.16/9.89	-9.57/4.87	-7.73/8.43	-8.31/7.78	-7.99/7.86	-8.65/10.74	-12.16/10.65	-9.50/10.82	-10.83/9.99	-10.51/11.37	-11.10/11.44	-11.24/11.79	-13.43/12.77	-12.57/13.43	-14.63/14.35	-13.25/13.17	-12.74/11.93	-12.74/11.93
Theta (180°)	Phi (45°)	-14.15/14.14	-11.66/12.09	-11.40/10.08	-8.89/8.																					

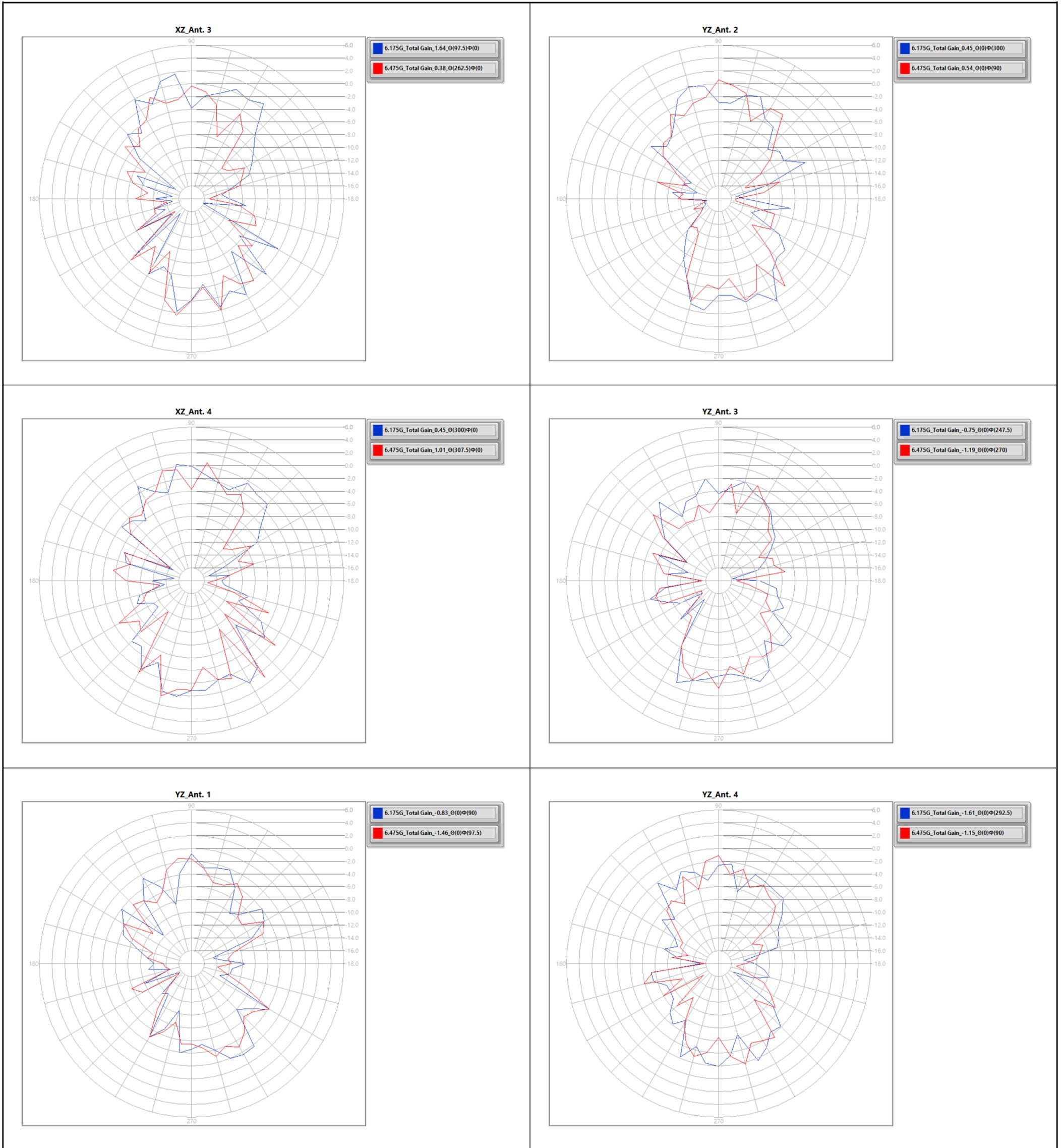
E1(XY plane) – $\Theta(90)\Phi(0-360)$
 E2(XZ plane) – $\Theta(0-180)\Phi(0)$ and $\Theta(0-180)\Phi(180)$
 E3(YZ plane) – $\Theta(0-180)\Phi(90)$ and $\Theta(0-180)\Phi(270)$





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 $\Theta(0-180)\Phi(270)$





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 $\Theta(0-180)\Phi(270)$

