

Total Gain Data

Freq(Hz)	5.0GPol.	TotalAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain	Φ(0°)Ψ(7.5°)	Φ(15°)Ψ(22.5°)	Φ(30°)Ψ(37.5°)	Φ(45°)Ψ(52.5°)	Φ(60°)Ψ(67.5°)	Φ(75°)Ψ(82.5°)	Φ(90°)Ψ(97.5°)	Φ(105°)Ψ(112.5°)	Φ(120°)Ψ(127.5°)	Φ(135°)Ψ(142.5°)	Φ(150°)Ψ(157.5°)	Φ(165°)Ψ(172.5°)	Φ(180°)Ψ(187.5°)	Φ(195°)Ψ(202.5°)	Φ(210°)Ψ(217.5°)	Φ(225°)Ψ(232.5°)	Φ(240°)Ψ(247.5°)	Φ(255°)Ψ(262.5°)	Φ(270°)Ψ(277.5°)	Φ(285°)Ψ(292.5°)	Φ(300°)Ψ(307.5°)	Φ(315°)Ψ(322.5°)	Φ(330°)Ψ(337.5°)	Φ(345°)Ψ(352.5°)
Θ(0°)	-1.49/-14.64	-1.42/-13.26	-1.17/-10.25	-0.95/-10.32	-0.85/-9.11	-0.66/-10.23	-1.08/-10.44	-1.02/-10.74	-1.13/-10.14	-1.06/-11.38	-1.19/-11.92	-1.24/-12.48	-1.29/-12.91	-1.21/-11.88	-1.17/-11.56	-1.18/-12.63	-1.24/-12.53	-1.18/-13.47	-1.47/-14.90	-1.49/-14.55	-1.36/-12.62	-1.23/-11.21	-1.24/-13.05	-1.37/-14.70
Θ(7.5°)	-1.36/-13.02	-1.40/-15.13	-1.46/-15.52	-1.50/-15.02	-1.59/-14.74	-1.42/-15.67	-1.54/-15.01	-1.50/-15.41	-1.53/-15.27	-1.47/-14.82	-1.49/-13.95	-1.27/-11.16	-0.96/-10.03	-0.40/-8.02	-0.73/-6.91	-0.84/-6.95	-1.12/-7.50	-0.78/-7.92	-0.81/-8.28	-0.63/-9.13	-0.28/-9.83	-0.69/-9.88	-0.95/-10.05	-1.32/-11.73
Θ(15°)	-0.64/-10.45	-1.20/-12.96	-1.37/-13.87	-1.45/-13.96	-1.23/-13.17	-1.04/-10.11	-0.74/-10.09	-0.74/-9.95	-0.31/-9.54	-0.06/-9.04	-0.06/-9.04	-1.16/-10.98	-0.97/-8.61	-0.69/-6.93	-0.61/-6.09	-0.59/-6.19	-0.40/-6.65	-0.62/-6.89	-0.72/-7.36	-0.72/-7.82	-0.73/-8.22	-0.58/-9.21	-0.93/-9.42	-0.93/-8.61
Θ(22.5°)	-0.67/-1.68	-0.72/-9.48	-1.02/-14.11	-1.53/-14.67	-1.27/-10.17	-1.03/-12.27	-1.33/-12.55	-1.04/-10.61	-0.65/-8.99	-0.34/-5.28	-0.63/-5.48	-1.13/-9.26	-0.64/-7.25	-0.36/-6.18	-0.79/-4.94	-0.58/-4.59	-0.61/-8.11	-1.09/-12.48	-1.10/-13.92	-1.18/-10.49	-1.04/-10.23	-1.10/-12.22	-1.37/-12.22	-0.33/-8.80
Θ(30°)	-0.87/-7.78	-0.89/-12.35	-1.51/-13.10	-0.81/-5.73	-0.48/-5.73	-0.94/-7.09	-0.29/-9.21	-0.13/-7.82	-0.11/-4.82	-1.17/-4.24	-0.51/-3.48	-0.35/-2.96	-0.09/-3.28	-0.28/-2.10	-1.55/-2.21	-0.32/-3.96	-0.34/-6.71	-0.27/-9.26	-0.49/-8.87	-0.97/-10.06	-0.91/-9.79	-1.06/-13.30	-1.43/-14.92	-1.17/-9.79
Θ(37.5°)	-0.80/-9.08	-0.80/-8.54	-0.76/-6.69	-0.57/-3.25	-0.26/-6.72	-0.32/-3.53	-0.47/-9.51	-0.58/-4.99	-0.44/-5.04	-0.62/-5.14	-0.26/-3.46	-1.84/-0.77	-0.79/-0.16	0.62/-0.31	0.17/-0.03	-0.97/-2.58	-0.47/-4.74	-0.89/-8.59	-0.13/-7.97	-0.49/-7.86	-0.74/-6.36	-0.72/-10.12	-1.26/-11.69	-0.98/-8.76
Θ(45°)	-0.67/-1.35	-0.71/-7.35	-0.70/-8.21	-0.76/-8.02	-0.81/-4.39	-0.47/-3.39	-0.53/-3.54	-0.52/-5.88	-0.18/-5.49	-0.48/-3.04	-0.56/-3.77	-0.58/-5.88	-0.24/-1.15	-0.38/-0.30	-0.29/-0.58	-0.26/-1.03	-0.53/-2.29	-0.58/-4.59	-0.50/-4.63	-0.58/-5.89	-0.49/-6.65	-0.10/-7.86	-0.52/-6.63	
Θ(52.5°)	-1.09/-13.68	-1.11/-7.66	-0.68/-11.62	-1.54/-11.04	-0.83/-3.30	-1.78/-1.17	-1.05/-1.33	-1.78/-2.97	-0.33/-3.47	-1.92/-5.12	-2.50/-3.29	-0.76/-2.24	-1.20/-0.70	0.10/-0.38	0.14/-0.44	0.38/-0.49	0.15/-0.73	-0.24/-4.40	-0.59/-6.57	-0.50/-3.90	-0.24/-2.66	-0.36/-6.17	-0.70/-13.01	-1.07/-10.31
Θ(60°)	-0.70/-4.53	-0.73/-7.06	-0.80/-5.92	-0.30/-4.84	-0.68/-6.90	-0.85/-6.01	-0.25/-2.99	-0.26/-1.80	-1.77/-1.93	-0.50/-5.11	-0.08/-5.14	-0.62/-5.80	-0.46/-3.22	-1.65/-0.19	0.37/-0.63	1.61/-1.15	0.68/-0.59	-1.55/-3.05	-0.50/-5.75	-0.27/-4.77	-0.92/-5.81	-0.20/-9.42	-0.82/-7.48	
Θ(67.5°)	-0.62/-6.00	-0.73/-11.33	-1.57/-9.93	-0.74/-6.65	-0.73/-6.93	-0.99/-6.09	-0.61/-3.29	-0.58/-4.11	-0.30/-1.96	-0.24/-3.66	-0.54/-5.79	-0.46/-5.59	-0.34/-1.30	-0.34/-0.32	0.05/-0.14	-0.19/-0.46	-0.30/-	-0.29/-0.58	-0.26/-1.03	-0.53/-2.29	-0.58/-4.59	-0.49/-6.65	-0.10/-7.86	-0.52/-6.63
Θ(75°)	-0.02/-10.63	-0.61/-11.10	-0.80/-8.97	-0.05/-6.36	-0.60/-6.90	-0.03/-2.91	-2.37/-3.22	-0.34/-3.58	-0.37/-3.58	-2.88/-3.43	-0.34/-6.09	-0.08/-6.11	-0.35/-3.94	-0.38/-3.34	-0.34/-3.32	-0.05/-3.01	-2.32/-2.50	-0.32/-3.88	-0.22/-2.87	-1.51/-0.30	0.09/-1.12	-0.23/-6.29	-0.86/-10.12	-1.82/-10.02
Θ(82.5°)	-0.47/-8.64	-0.73/-10.00	-0.83/-7.52	-0.76/-6.54	-0.51/-6.72	-0.57/-6.43	-0.32/-6.19	-0.26/-6.28	-0.28/-6.13	-1.98/-3.34	-0.66/-6.95	-0.31/-8.59	-0.23/-5.40	-0.44/-8.24	-0.29/-2.55	-0.88/-3.20	-0.54/-5.79	-0.74/-6.25	-2.68/-0.61	-1.27/-2.38	-0.54/-6.51	-1.27/-2.38	-0.54/-6.51	-1.27/-2.38
Θ(90°)	-1.40/-15.42	-1.00/-17.20	-0.65/-7.47	-0.25/-3.01	-0.18/-2.72	-0.23/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92	-0.34/-3.92
Θ(97.5°)	-0.61/-4.97	-0.70/-7.58	-0.03/-7.10	-0.46/-2.31	-1.58/-2.01	-0.36/-3.10	-1.95/-3.06	-0.09/-4.71	-0.43/-2.21	-0.37/-6.05	-0.90/-10.04	-0.50/-7.40	-0.90/-5.38	-0.97/-3.44	-0.36/-5.48	-0.40/-4.83	-1.44/-1.04	-0.04/-2.73	-0.59/-5.64	-0.75/-8.67	-0.77/-7.10	-0.41/-5.81	-0.53/-5.83	-0.32/-5.37
Θ(105°)	-0.96/-2.85	-0.23/-1.44	-0.86/-1.48	-0.09/-1.63	-0.31/-5.96	-0.30/-3.72	-2.32/-2.14	-0.36/-5.78	-0.57/-4.26	-0.47/-5.49	-0.72/-9.86	-0.25/-12.33	-0.11/-12.33	-0.17/-7.72	-0.50/-6.99	-0.66/-7.90	-0.85/-6.20	-0.60/-3.32	-0.34/-1.46	-0.27/-1.27	-0.36/-3.13	-0.28/-2.79	-0.55/-8.73	-0.32/-8.98
Θ(112.5°)	-0.37/-2.04	-0.27/-0.69	-0.56/-6.48	-0.91/-4.55	-0.49/-5.64	-0.95/-3.87	-0.24/-2.92	-0.34/-6.25	-0.57/-5.36	-0.70/-8.50	-1.16/-15.27	-0.15/-12.11	-0.17/-7.72	-0.50/-6.99	-0.66/-7.90	-0.85/-6.20	-0.60/-3.32	-0.34/-1.46	-0.27/-1.27	-0.36/-3.13	-0.28/-2.79	-0.55/-8.73	-0.32/-8.98	-0.32/-8.98
Θ(120°)	-0.32/-4.07	-0.72/-4.62	-0.80/-8.51	-0.68/-4.86	-0.24/-10.77	-15.06/-13.07	-0.72/-6.45	-0.30/-11.30	-13.48/-11.17	-0.92/-8.11	-0.95/-11.13	-15.39/-14.67	-12.25/-9.27	-10.30/-9.33	-0.70/-9.21	-14.31/-4.75	-0.00/-1.11	-0.51/-2.80	-2.48/-3.84	-1.17/-2.65	1.65/-1.28	-0.34/-2.09	0.43/-2.12	0.47/-2.65
Θ(127.5°)	-0.24/-1.74	-1.52/-1.97	-0.50/-6.08	-0.28/-2.44	-0.39/-3.45	-0.68/-6.92	-10.44/-9.28	-0.03/-5.93	-0.45/-7.75	-0.42/-9.32	-1.17/-12.30	-10.22/-12.34	-10.90/-7.87	-0.76/-11.67	-0.73/-14.67	-0.20/-9.98	-0.47/-3.94	-0.15/-6.20	-0.26/-6.37	-0.60/-2.69	0.67/-2.60	-0.94/-1.19	-0.32/-9.22	-0.28/-7.10
Θ(135°)	-0.24/-1.74	-0.29/-1.97	-0.71/-8.74	-1.48/-2.55	-0.44/-5.53	-0.50/-3.73	-0.41/-6.25	-0.94/-11.85	-0.15/-9.04	-0.76/-8.61	-10.14/-11.34	-1.16/-10.44	-10.41/-11.12	-0.86/-7.03	-0.83/-9.17	-0.72/-10.93	-0.44/-7.70	-0.56/-4.20	-0.47/-5.58	-0.74/-2.67	-0.31/-2.65	-0.11/-5.97	-0.13/-8.25	-0.29/-7.16
Θ(142.5°)	-0.04/-6.37	-0.30/-7.46	-0.93/-6.81	-0.63/-6.81	-0.76/-5.85	-0.36/-4.11	-0.32/-4.00	-0.73/-6.14	-0.93/-6.12	-0.82/-8.04	-10.27/-10.78	-10.22/-6.53	-0.16/-3.69	-0.23/-3.95	-0.40/-5.37	-10.71/-8.88	-0.75/-8.52	-0.77/-9.91	-13.60/-14.48	-0.83/-3.47	-0.29/-3.00	-0.68/-3.85	-0.59/-5.22	-0.62/-9.95
Θ(150°)	-1.36/-15.29	-15.41/-14.41	-10.49/-13.39	-13.18/-13.31	-14.28/-10.39	-0.24/-9.84	-0.84/-6.23	-0.54/-7.57	-0.77/-6.33	-0.24/-10.96	-11.03/-8.78	-0.83/-9.44	-0.75/-5.42	-0.36/-9.23	-0.57/-5.86	-0.78/-5.47	-0.43/-6.83	-0.69/-4.81	-0.59/-6.04	-0.57/-4.04	-0.33/-4.28	-0.59/-7.38	-1.31/-3.86	-0.54/-7.49
Θ(157.5°)	-0.59/-0.00	-0.21/-8.44	-0.89/-9.56	-0.81/-8.69	-10.10/-11.61	-0.94/-8.21	-0.41/-6.43	-0.63/-6.25	-0.89/-4.35	-0.95/-10.13	-0.83/-9.08	-11.93/-14.55	-12.31/-10.21	-11.73/-12.29	-0.84/-4.33	-1.96/-0.91	-0.71/-2.24	-0.36/-4.21	-0.40/-3.43	-0.26/-2.26	-1.47/-9.37	-0.24/-2.48		
Θ(165°)	-0.82/-10.93	-0.47/-6.97	-0.70/-8.50	-0.83/-8.87	-0.93/-11.37	-11.02/-11.03	-10.90/-11.00	-10.75/-11.08	-10.30/-10.12	-0.92/-8.50	-0.78/-6.71	-0.13/-6.92	-0.29/-9.33	-10.03/-11.70	-15.29/-15.27	-11.40/-6.87	-0.88/-2.43	-1.92/-2.26	-2.96/-3.81	-0.43/-4.63	-0.22/-3.59	-0.23/-2.23	-1.93/-2.28	-0.30/-5.92
Θ(172.5°)	-1.17/-12.18	-13.46/-14.13	-13.80/-14.01	-15.35/-14.68	-13.63/-13.91	-14.66/-15.19	-14.71/-14.68	-13.86/-13.41	-15.22/-15.77	-15.08/-15.16	-16.46/-14.73	-15.22/-15.44	-15.44/-14.42	-11.62/-8.92	-0.82/-6.52	-0.47/-3.92	-0.35/-4.20	-0.07/-4.28	-1.45/-4.51	-0.62/-4.19	-0.37/-4.34	-0.32/-3.13	-0.87/-5.19	-0.63/-8.56
Θ(180°)	-0.61/-7.58	-0.05/-9.15	-0.45/-8.15	-0.34/-8.79	-0.14/-7.64	-0.75/-9.47	-0.75/-9.47	-0.68/-6.83	-0.58/-5.82	-0.53/-5.50	-0.46/-4.36	-0.38/-2.73	-0.26/-2.31	-0.29/-1.96	-0.31/-1.71	-0.34/-1.58	-0.44/-1.61	-0.51/-1.46	-0.64/-1.77	-0.20/-2.09	-0.26/-3.80	-0.65/-8.49		
Freq(Hz)	5.0GPol.	TotalAnt.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain	Φ(0°)Ψ(7.5°)	Φ(15°)Ψ(22.5°)	Φ(30°)Ψ(37.5°)	Φ(45°)Ψ(52.5°)	Φ(60°)Ψ(67.5°)	Φ(75°)Ψ(82.5°)	Φ(90°)Ψ(97.5°)	Φ(105°)Ψ(112.5°)	Φ(120°)Ψ(127.5°)	Φ(135°)Ψ(142.5°)	Φ(150°)Ψ(157.5°)	Φ(165°)Ψ(172.5°)	Φ(180°)Ψ(187.5°)	Φ(195°)Ψ(202.5°)	Φ(210°)Ψ(217.5°)	Φ(225°)Ψ(232.5°)	Φ(240°)Ψ(247.5°)	Φ(255°)Ψ(262.5°)	Φ(270°)Ψ(277.5°)	Φ(285°)Ψ(292.5°)	Φ(300°)Ψ(307.5°)	Φ(315°)Ψ(322.5°)	Φ(330°)Ψ(337.5°)	Φ(345°)Ψ(352.5°)
Θ(0°)	-0.45/-4.14	-0.38/-9.40	-0.42/-4.03	-0.39/-5.19	-0.39/-9.88	-0.34/-2.50	-0.45/-7.52	-0.48/-5.48	-0.50/-12.97	-0.15/-12.57	-0.53/-5.38	-0.56/-6.33	-0.53/-6.33	-0.51/-5.10	-0.50/-9.17	-0.52/-5.05	-0.49/-5.06	-0.50/-2.04	-0.52/-5.06	-0.46/-6.07	-0.31/-6.06	-0.30/-6.06	-0.30/-6.06	-0.30/-6.06
Θ(7.5°)	-0.75/-7.56	-0.79/-7.22	-0.63/-5.52	-0.51/-5.32	-0.49/-7.49	-0.42/-5.41	-0.57/-5.20	-0.57/-5.73	-0.53/-5.86	-0.47/-5.04	-0.46/-4.56	-0.43/-4.21	-0.39/-3.84	-0.43/-3.27	-0.32/-3.33	-0.34/-3.37	-0.33/-4.05	-0.41/-4.37	-0.42/-4.58	-0.48/-4.81	-0.39/-5.91	-0.51/-6.44	-0.42/-6.67	-0.71/-6.51
Θ(15°)	-0.98/-8.33	-0.06/-7.61	-0.61/-5.12	-0.48/-4.37	-0.41/-8.34	-0.18/-4.34	-0.59/-3.77	-0.53/-5.77	-0.62/-6.65	-0.65/-6.42	-0.41/-3.38	-0.29/-2.57	-0.28/-2.55	-0.24/-2.73	-0.29/-3.15	-0.39/-4.05	-0.42/-4.59	-0.47/-4.69	-0.49/-5.04	-0.51/-5.37	-0.47/-5.48	-0.83/-6.25	-0.66/-6.90	-0.66/-6.90
Θ(22.5°)	-0.90/-8.40	-0.25/-8.01	-0.85/-6.32	-0.65/-7.84	-0.09/-8.24	-0.81/-9.54	-0.38/-11.04	-0.42/-8.10	-0.40/-5.23	-0.43/-4.02	-0.24/-4.81	-1.17/-1.30	-0.20/-2.72	-0.27/-2.72	-0.37/-6.39	-0.39/-4.74	-0.42/-4.21	-0.46/-5.33	-0.61/-6.82	-0.73/-8.29	-0.40/-9.91	-0.97/-9.80	-0.83/-9.25	-0.62/-5.59
Θ(30°)	-0.09/-8.46	-0.84/-9.51	-1.18/-15.38	-1.34/-9.05	-0.14/-7.88	-0.09/-7.63	-0.15/-10.16	-0.15/-8.26	-0.67/-5.34	-0.87/-2.96	-0.21/-5.10	-0.80/-4.44	-0.76/-1.51	-0.21/-2.21	-0.21/-2.92	-0.39/-3.37	-0.27/-2.62	-0.01/-5.99	-0.42/-10.58	-12.70/-13.51	-14.14/-15.37	-14.73/-13.15	-11.49/-10.35	-0.06/-7.80
Θ(37.5°)	-0.23/-7.61	-0.68/-6.95	-0.68/-8.00	-0.74/-9.61	-0.28/-8.29	-0.42/-8.44	-0.63/-6.74	-0.60/-5.14	-0.41/-4.45	-0.35/-4.29	-0.26/-1.16	0.25/-0.81	0.24/-0.07	0.70/-0.05	-0.84/-1.35	-0.16/-4.28	-0.35/-4.72	-0.13/-6.95	-0.73/-6.93	-14.74/-15.63	-12.04/-11.16	-11.65/-10.47	-10.90/-12.88	-12.05/-8.93
Θ(45°)	-0.89/-8.47	-0.71/-7.59	-0.61/-6.97	-0.42/-7.10	-0.59/-5.07	-0.54/-																		



Antenna Pattern of 5GHz UNII 1~UNII 3

Appendix E

Θ (15°)	-5.40/-4.71	-4.48/-5.02	-5.57/-6.04	-5.95/-5.51	-5.26/-5.15	-5.47/-6.23	-7.33/-8.47	-9.65/-10.22	-10.40/-9.61	-9.33/-9.84	-10.51/-9.50	-8.63/-7.89	-7.87/-8.14	-8.50/-9.01	-9.72/-10.29	-9.78/-9.71	-9.59/-9.64	-8.75/-8.06	-7.08/-6.39	-6.17/-5.74	-5.23/-5.46	-5.66/-5.81	-5.93/-5.79	-5.76/-5.34
Θ (22.5°)	-5.71/-7.27	-8.52/-9.10	-8.69/-8.26	-7.77/-8.01	-9.23/-11.04	-13.41/-14.66	-14.70/-13.78	-12.42/-11.57	-10.96/-10.02	-9.85/-10.30	-11.19/-11.24	-9.82/-8.09	-7.27/-6.91	-6.93/-7.03	-6.75/-6.37	-6.06/-5.92	-6.21/-6.20	-5.75/-5.02	-4.14/-3.29	-2.55/-2.11	-1.77/-1.95	-2.15/-3.00	-3.83/-4.63	-4.78/-5.03
Θ (30°)	-5.67/-6.06	-7.27/-8.08	-8.90/-10.84	-10.22/-15.71	-15.08/-15.60	-13.16/-12.29	-10.78/-9.33	-9.22/-10.13	-12.09/-14.30	-15.06/-11.53	-13.60/-13.67	-13.64/-12.41	-10.55/-9.68	-9.49/-9.28	-9.15/-8.93	-8.05/-6.82	-5.78/-4.65	-3.94/-3.79	-3.65/-2.82	-2.91/-3.79	-4.49/-4.64	-3.94/-5.70		
Θ (37.5°)	-4.21/-4.43	-6.12/-7.02	-6.98/-6.60	-6.82/-8.73	-11.49/-12.54	-13.05/-12.02	-10.10/-7.86	-6.41/-5.68	-6.76/-9.62	-14.93/-15.07	-13.86/-14.77	-14.86/-15.18	-11.89/-8.89	-9.12/-10.66	-10.65/-8.34	-6.31/-5.10	-4.41/-3.64	-3.44/-3.71	-3.49/-3.32	-2.64/-2.04	-1.53/-1.30	-1.88/-3.31	-5.51/-6.82	-6.67/-5.53
Θ (45°)	-1.00/-6.02	-0.08/-0.17	-0.37/-1.66	-4.09/-3.74	-9.73/-11.55	-13.50/-15.73	-15.65/-12.12	-8.54/-6.64	-6.40/-6.80	-8.76/-10.22	-11.38/-12.26	-13.68/-13.37	-11.55/-7.95	-7.28/-6.79	-6.00/-4.63	-3.34/-2.13	-1.28/-1.66	-2.32/-2.95	-3.16/-3.66	-3.08/-2.27	-2.00/-2.04	-2.12/-2.55	-3.27/-2.99	-1.99/-1.50
Θ (52.5°)	-1.95/-0.48	-0.18/-0.73	-2.52/-3.29	-4.25/-5.74	-6.58/-8.38	-9.32/-9.47	-9.80/-10.72	-10.06/-8.56	-7.24/-6.08	-4.59/-7.10	-9.79/-11.10	-11.96/-11.48	-11.06/-7.64	-5.42/-4.45	-2.00/-2.60	-1.02/-0.39	-0.39/-0.28	-1.20/-2.50	-2.36/-1.73	-1.100/69	0.07/-1.00	-2.30/-3.56	-4.13/-3.10	
Θ (60°)	2.09/1.63	-0.71/-4.33	-9.29/-8.18	-6.25/-6.10	-6.56/-6.94	-6.77/-7.04	-7.82/-8.56	-9.99/-11.67	-11.87/-9.60	-5.58/-4.69	-4.54/-6.24	-8.08/-7.78	-8.72/-8.14	-5.59/-4.40	-4.28/-3.35	-2.22/-1.54	-1.53/-2.49	-2.78/-3.34	-3.96/-3.51	-2.55/-1.71	-2.04/-2.30	-2.19/-3.05	-5.34/-4.73	-2.140/23
Θ (67.5°)	0.710/7.0	-1.17/-1.81	-0.99/-1.42	-3.45/-0.77	-8.78/-8.16	-8.60/-9.68	-11.07/-11.63	-9.73/-8.83	-9.81/-8.98	-6.44/-6.36	-7.03/-6.67	-9.88/-11.47	-13.98/-11.07	-6.33/-4.10	-3.42/-3.14	-1.94/-2.46	-2.31/-1.32	-3.43/-6.16	-7.25/-5.72	-5.52/-5.13	-4.39/-4.01	-3.18/-2.00	-2.52/-2.26	-2.41/-1.09
Θ (75°)	0.26/-1.12	-2.11/-3.36	-4.72/-4.93	-4.45/-5.07	-5.14/-4.46	-4.77/-5.74	-5.87/-5.95	-6.41/-4.70	-9.17/-8.65	-4.59/-4.49	-6.80/-9.71	-10.29/-10.64	-13.18/-8.68	-7.15/-6.07	-5.37/-2.52	-0.87/-1.02	-0.58/-1.54	-1.97/-1.99	-3.27/-3.47	-2.84/-1.75	-1.31/-1.68	-2.23/-1.68	-2.59/-1.74	-1.49/-1.02
Θ (82.5°)	-3.39/-3.19	-3.71/-3.34	-2.04/-1.70	-2.83/-5.65	-6.40/-6.03	-5.52/-5.38	-5.01/-4.46	-4.96/-5.96	-8.56/-9.31	-4.94/-5.06	-8.40/-8.76	-6.45/-7.90	-14.10/-14.32	-11.62/-8.06	-6.78/-3.02	-1.94/-1.67	-1.39/-0.92	-1.24/-2.34	-4.93/-3.24	-1.63/-2.03	-1.94/-3.33	-4.52/-3.99	-4.17/-2.64	-3.20/-3.61
Θ (90°)	-4.48/-0.47	-4.66/-3.42	-3.05/-3.37	-2.67/-3.92	-3.07/-2.40	-3.30/-3.54	-3.75/-3.28	-2.67/-2.90	-5.40/-7.38	-4.88/-3.37	-5.53/-10.41	-8.13/-8.02	-15.89/-14.56	-15.71/-11.46	-8.38/-5.53	-1.85/-1.99	-1.40/-0.00	-2.27/-2.22	-4.01/-5.66	-3.66/-1.35	-1.23/-0.43	-1.06/-0.35	-0.88/-1.49	-2.94/-4.09
Θ (97.5°)	-6.83/-5.24	-3.39/-2.16	-0.85/-1.46	-1.77/-4.84	-6.11/-4.49	-4.39/-4.78	-4.60/-4.22	-3.02/-2.23	-4.30/-8.10	-7.92/-6.04	-6.57/-9.26	-12.28/-14.97	-12.58/-10.84	-11.06/-6.03	-3.20/-2.36	-0.97/-1.16	0.27/-0.08	-2.35/-2.64	-0.88/-0.34	-1.26/-1.08	-2.19/-3.03	-2.83/-2.11	-3.30/-5.66	
Θ (105°)	-8.95/-4.24	-1.99/-1.75	-1.66/-3.09	-2.83/-5.01	-5.70/-4.50	-4.76/-5.43	-6.45/-5.86	-4.34/-3.40	-5.15/-8.18	-9.65/-4.50	-6.04/-11.76	-7.54/-6.07	-13.02/-12.50	-10.55/-11.68	-11.12/-7.60	-3.80/-4.73	-3.46/-1.74	-2.58/-2.29	-4.21/-5.85	-4.80/-4.27	-3.73/-4.42	-5.25/-6.32	-7.05/-7.90	-10.93/-9.31
Θ (112.5°)	-3.89/-0.69	-0.38/-2.28	-4.46/-5.09	-2.69/-2.76	-4.57/-3.30	-3.41/-5.59	-6.65/-6.47	-5.78/-4.61	-6.83/-8.95	-12.06/-10.37	-6.84/-12.19	-11.12/-8.14	-9.59/-9.71	-7.23/-7.62	-11.91/-11.16	-6.49/-6.53	-6.34/-8.24	-3.96/-2.32	-6.27/-7.27	-4.01/-3.28	-2.45/-3.54	-4.53/-4.06	-3.78/-5.19	-10.52/-7.27
Θ (120°)	-3.51/-2.00	-1.55/-1.11	-0.77/-0.34	-0.76/-2.68	-5.04/-5.06	-3.87/-4.96	-8.06/-10.67	-8.50/-8.32	-10.12/-12.66	-9.70/-9.80	-10.89/-9.25	-7.31/-6.04	-8.57/-7.99	-9.16/-8.29	-10.05/-6.95	-8.92/-9.94	-6.15/-4.75	-7.32/-8.85	-6.10/-4.24	-4.23/-5.79	-8.06/-8.12	-6.28/-6.90	-5.54/-4.81	
Θ (127.5°)	-0.330/58	-0.40/-2.80	-2.98/-1.40	-0.18/-0.55	-1.90/-3.04	-5.29/-7.04	-7.41/-9.07	-9.27/-8.41	-9.84/-14.01	-10.76/-7.78	-6.96/-9.83	-9.58/-11.82	-5.94/-4.91	-6.42/-8.61	-9.72/-8.86	-5.67/-6.36	-9.90/-10.47	-8.34/-8.19	-9.89/-10.36	-8.74/-6.39	-6.51/-7.74	-8.56/-8.71	-11.99/-6.84	-3.89/-1.65
Θ (135°)	-0.90/-0.90	-0.23/-0.66	-0.67/-0.80	-3.23/-4.25	-5.54/-5.05	-3.96/-4.20	-6.30/-4.78	-6.20/-6.12	-6.63/-9.52	-15.73/-11.79	-6.93/-9.38	-9.60/-10.31	-8.07/-8.41	-7.88/-7.99	-9.75/-10.50	-12.84/-15.85	-11.68/-8.53	-8.65/-8.97	-7.85/-10.47	-14.16/-9.00	-7.56/-5.34	-5.09/-6.10	-6.57/-6.91	-3.56/-1.09
Θ (142.5°)	-2.97/-3.24	-2.86/-2.77	-2.95/-2.75	-2.59/-3.74	-4.43/-4.34	-4.74/-10.65	-12.35/-13.98	-14.84/-14.18	-11.15/-11.17	-11.17/-15.90	-12.40/-10.15	-11.79/-15.22	-9.66/-10.19	-11.93/-12.12	-12.64/-15.66	-9.13/-7.93	-9.87/-10.00	-8.58/-8.00	-11.22/-13.67	-11.50/-7.32	-6.77/-6.64	-7.01/-6.92	-4.42/-2.86	
Θ (150°)	-4.23/-4.13	-3.04/-1.95	-2.26/-3.51	-5.35/-6.87	-7.09/-6.05	-5.57/-5.43	-5.46/-5.87	-6.74/-7.82	-8.47/-7.24	-6.79/-8.04	-11.51/-10.50	-7.25/-5.56	-4.97/-5.14	-4.58/-4.22	-4.67/-6.63	-9.75/-11.09	-12.98/-13.19	-10.41/-9.41	-8.63/-9.31	-10.53/-9.64	-7.69/-6.73	-8.18/-11.26	-11.35/-9.36	-7.16/-5.09
Θ (157.5°)	-0.91/-0.14	-0.91/-1.57	-2.87/-4.14	-5.26/-6.60	-6.85/-6.96	-8.63/-8.80	-8.86/-9.11	-9.84/-11.28	-10.86/-9.16	-7.58/-7.61	-8.44/-8.15	-8.24/-8.32	-8.53/-8.92	-9.43/-9.15	-8.48/-9.02	-10.58/-11.48	-10.36/-7.48	-6.37/-6.75	-7.82/-8.38	-8.59/-8.14	-7.21/-7.15	-7.84/-7.53	-5.64/-3.42	-1.96/-1.35
Θ (165°)	-1.75/-2.33	-6.83/-6.28	-7.11/-8.60	-9.97/-11.73	-12.71/-12.03	-11.72/-11.51	-11.07/-10.65	-11.81/-12.75	-11.81/-11.11	-10.39/-9.83	-8.72/-7.54	-6.77/-6.36	-6.15/-6.48	-6.81/-8.02	-9.09/-8.30	-6.85/-6.17	-5.36/-3.49	-3.78/-3.56	-3.90/-4.52	-5.78/-7.21	-0.88/-8.01	-7.26/-5.64	-4.14/-3.24	-2.86/-2.21
Θ (172.5°)	-12.75/-14.69	-15.03/-13.96	-11.16/-9.93	-9.71/-9.53	-9.07/-8.85	-9.35/-10.71	-11.92/-14.04	-15.78/-15.26	-15.37/-15.15	-15.66/-14.50	-14.11/-12.27	-10.60/-9.59	-9.13/-9.41	-9.69/-9.89	-1.78/-7.41	-6.02/-4.93	-4.87/-4.97	-5.34/-5.82	-6.60/-7.99	-8.77/-9.61	-9.98/-9.83	-9.71/-9.45	-9.49/-10.65	-11.81/-12.54
Θ (180°)	-14.55/-15.33	-15.62/-13.77	-12.49/-12.41	-13.11/-14.07	-15.37/-15.45	-14.84/-15.30	-15.09/-15.07	-15.77/-14.84	-14.10/-14.22	-15.24/-15.09	-15.20/-14.26	-12.42/-10.96	-10.59/-10.54	-10.91/-11.35	-12.06/-13.83	-14.24/-14.55	-15.14/-15.36	-14.71/-13.10	-12.08/-11.27	-11.54/-11.63	-12.75/-14.60	-15.58/-14.90	-15.84/-15.63	-15.42/-14.93
Freq(Hz)	5.3GPol	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°)	-8.86/-9.26	-8.59/-8.60	-8.88/-9.16	-7.72/-9.92	-10.81/-10.67	-11.17/-11.60	-11.13/-11.64	-11.49/-11.92	-11.85/-11.86	-12.29/-12.60	-12.05/-10.84	-9.70/-9.46	-9.27/-9.16	-9.21/-9.01	-9.47/-9.83	-10.29/-10.36	-11.03/-10.65	-11.04/-10.83	-10.31/-9.85	-9.48/-9.40	-9.17/-9.05	-9.23/-9.39	-9.81/-10.40	-10.09/-9.26
Θ (7.5°)	-9.30/-9.38	-7.83/-6.78	-6.83/-7.38	-9.47/-8.24	-8.52/-8.10	-8.03/-8.41	-8.73/-9.45	-9.18/-9.21	-8.03/-6.65	-8.84/-8.84	-8.49/-7.90	-6.93/-6.95	-8.39/-8.80	-8.69/-9.22	-9.66/-10.20	-10.61/-10.83	-11.07/-10.92	-10.33/-10.95	-11.26/-11.61	-12.01/-13.80	-11.85/-13.33	-13.75/-13.22	-11.21/-10.16	
Θ (15°)	-8.10/-7.23	-5.60/-5.27	-5.55/-5.52	-5.43/-6.13	-6.69/-7.20	-8.12/-9.28	-9.48/-9.62	-9.67/-9.46	-9.42/-9.63	-8.95/-8.64	-8.40/-7.84	-7.72/-7.64	-8.31/-8.71	-8.78/-8.95	-10.04/-10.57	-10.94/-9.29	-7.88/-6.83	-6.60/-6.67	-6.65/-6.02	-6.02/-5.77	-5.51/-5.21	-4.84/-4.86	-5.53/-5.97	-6.60/-7.86
Θ (22.5°)	-5.08/-5.09	-5.93/-5.39	-4.52/-4.35	-4.83/-6.63	-8.32/-11.54	-15.45/-15.14	-13.02/-11.30	-10.22/-9.65	-9.68/-10.26	-10.49/-8.96	-8.23/-7.47	-6.42/-5.54	-5.25/-5.09	-5.41/-6.27	-7.30/-7.78	-7.08/-6.35	-5.64/-5.58	-5.47/-5.13	-4.12/-2.85	-1.82/-1.21	-0.76/-0.49	-0.09/-0.24	-0.57/-1.56	-2.81/-4.10
Θ (30°)	-5.20/-7.57	-6.75/-5.05	-4.84/-6.35	-9.62/-14.17	-15.44/-14.81	-14.24/-13.11	-11.88/-12.03	-10.93/-11.11	-12.41/-13.03	-13.65/-14.11	-14.74/-13.27	-11.50/-9.34	-6.91/-5.76	-5.50/-5.99	-7.10/-7.01	-5.76/-5.67	-5.34/-5.15	-3.99/-2.99	-1.77/-1.05	-0.310/42	-0.041/29	-0.85/-1.57	-1.70/-1.75	-2.33/-3.29
Θ (37.5°)	-4.68/-4.24	-3.81/-4.27	-5.10/-6.19	-6.92/-8.77	-7.89/-8.20	-8.72/-8.23	-8.17/-7.67	-6.66/-6.80	-8.85/-11.66	-15.86/-15.29	-15.58/-13.07	-13.50/-13.17	-11.28/-9.25	-8.40/-8.23	-6.01/-6.88	-5.55/-4.50	-3.58/-2.49	-2.15/-1.94	-1.46/-0.63	0.151/10	1.380/99	0.031/43	-2.69/-4.28	-5.94/-6.04
Θ (45°)	-0.660/0.1	0.901/1.4	1.040/3.3	-1.74/-4.54	-6.88/-10.01	-13.82/-14.66	-12.58/-9.28	-6.77/-5.92	-5.70/-6.90	-10.17/-14.29	-12.10/-13.41	-12.20/-12.76	-11.41/-10.49	-9.34/-8.76	-8.50/-6.56	-3.82/-2.11	-1.57/-2.19	-2.98/-3.28	-3.01/-2.80	-1.74/-0.76	-0.250/0.8	-0.331/1.76	-3.95/-4.54	-3.08/-1.61
Θ (52.5°)	-0.930/0.0	0.860/5.7	0.04/-1.29	-3.51/-4.88	-5.02/-6.80	-9.65/-11.01	-11.85/-12.12	-10.77/-8.42	-5.99/-4.33	-5.64/-7.27	-8.43/-8.59	-10.45/-12.86	-13.60/-9.24	-8.03/-6.21	-4.12/-2.23	-0.99/-0.98	-1.22/-1.17	-1.79/-2.66	-3.11/-2.49	-2.08/-1.37	-0.400/6.0	1.240/76	-0.51/-2.19	-2.73/-1.74
Θ (60°)	1.111/96	1.32/-1.27	-5.74/-8.63	-6.61/-4.49	-3.86/-4.97	-5.46/-6.01	-6.64/-7.96	-11.25/-13.92	-12.16/-9.04	-5.46/-4.83	-5.27/-6.92	-8.46/-8.08	-9.46/-10.19	-8.00/-6.77	-5.83/-3.31	-1.84/-1.49	-1.35/-2.31	-2.68/-2.73	-1.94/-1.52	-0.610/27	0.520/68	0.30/-0.33	-2.15/-3.71	-3.96/-1.15
Θ (67.5°)	1.752/0.7	0.24/-0.87	-0.63/-0.55	-2.74/-6.74	-7.06/-6.16	-6.17/-6.57	-7.47/-10.28	-11.87/-11.11																



Antenna Pattern of 5GHz UNII 1~UNII 3

Appendix E

Θ(67.5°)	-3.11/2.38	-3.34/4.48	-2.88/2.05	-1.99/-2.72	-3.39/-4.27	-4.36/-4.19	-4.55/-3.64	-2.94/-3.36	-4.98/-6.33	-4.96/-4.10	-3.75/-2.90	-2.90/-2.65	-3.05/-3.99	-5.03/-5.40	-4.84/-5.84	-5.82/-6.56	-7.79/-8.92	-8.80/-7.55	-8.02/-9.76	-10.44/-13.07	-15.21/-13.21	-8.94/-7.63	-9.05/-7.89	-4.89/-2.83
Θ(75°)	-6.18/-6.95	-7.40/-7.88	-6.52/-4.73	-4.85/-5.42	-5.42/-3.49	-3.02/-3.23	-3.95/-4.36	-3.54/-3.30	-4.76/-7.00	-5.44/-3.08	-2.66/-3.68	-3.99/-2.99	-3.64/-3.99	-3.19/-3.22	-3.56/-4.26	-4.52/-5.50	-6.19/-6.51	-6.56/-9.34	-11.94/-14.07	-15.80/-15.21	-13.15/-9.58	-10.01/-8.93	-4.86/-3.21	-4.62/-7.45
Θ(82.5°)	-2.85/-3.06	-4.71/-4.22	-3.52/-2.66	-3.04/-3.61	-2.92/-2.59	-2.56/-3.11	-4.19/-4.92	-4.56/-4.20	-4.73/-6.16	-5.43/-3.15	-3.14/-5.24	-5.52/-3.77	-2.76/-2.46	-3.30/-3.88	-3.95/-5.53	-6.43/-7.71	-7.43/-6.51	-6.53/-6.72	-7.89/-9.99	-12.18/-15.74	-11.76/-6.95	-4.53/-4.58	-5.49/-3.27	
Θ(90°)	-6.02/-5.46	-6.85/-4.87	-4.81/-4.33	-4.14/-4.43	-3.03/-2.25	-1.84/-2.56	-4.23/-4.63	-5.37/-5.10	-5.29/-7.27	-6.72/-3.49	-3.96/-5.07	-7.87/-5.50	-2.42/-4.39	-3.84/-2.21	-4.02/-6.37	-5.52/-6.37	-3.59/-3.35	-4.80/-6.95	-10.14/-8.15	-6.33/-7.94	-9.28/-7.11	-5.64/-6.56	-7.34/-11.02	-7.90/-5.60
Θ(97.5°)	-15.04/-8.70	-8.78/-10.12	-8.01/-7.17	-7.11/-8.35	-5.81/-5.12	-2.73/-2.92	-3.88/-6.59	-6.44/-6.63	-9.58/-10.13	-5.94/-3.52	-4.71/-5.93	-9.98/-7.70	-6.23/-6.77	-3.98/-3.47	-4.65/-4.56	-4.38/-4.12	-3.56/-3.79	-3.83/-4.12	-3.24/-3.86	-4.53/-4.51	-3.56/-3.44	-5.26/-9.32	-13.55/-15.40	-14.13/-15.18
Θ(105°)	-11.83/-8.81	-8.56/-7.76	-9.01/-10.92	-14.06/-13.18	-10.02/-6.04	-3.67/-2.84	-3.53/-5.40	-8.11/-8.84	-9.04/-10.01	-6.38/-4.28	-4.41/-5.55	-9.34/-8.21	-11.51/-11.52	-7.89/-6.60	-5.05/-3.86	-2.89/-2.32	-3.54/-2.91	-4.55/-2.66	-4.49/-2.90	-3.06/-4.59	-3.27/-4.60	-4.64/-8.78	-10.07/-7.70	-10.23/-13.25
Θ(112.5°)	-10.11/-6.02	-6.89/-7.67	-6.65/-8.13	-6.33/-5.74	-6.73/-5.61	-6.67/-6.44	-6.29/-7.25	-8.85/-9.24	-8.65/-9.28	-6.68/-4.96	-3.09/-3.93	-6.53/-7.42	-7.95/-6.76	-6.07/-3.39	-3.58/-5.13	-3.81/-2.88	-1.81/-2.34	-2.83/-2.56	-2.82/-0.02	-1.57/-6.60	-4.55/-2.95	-8.23/-8.20	-8.50/-13.93	-15.15/-10.40
Θ(120°)	-7.19/-11.71	-14.25/-7.51	-5.20/-7.02	-9.01/-15.42	-8.34/-7.13	-8.40/-11.42	-13.99/-12.41	-9.45/-11.78	-14.49/-13.62	-7.04/-7.02	-7.42/-9.39	-7.42/-7.02	-6.75/-6.46	-4.45/-4.33	-2.33/-4.43	-3.33/-2.61	-0.96/-1.53	-0.68/-3.70	-5.86/-1.36	-1.16/-2.71	-3.98/-3.24	-4.95/-7.84	-7.20/-10.93	-8.92/-6.70
Θ(127.5°)	-9.84/-6.62	-10.12/-5.39	-3.13/-3.67	-5.68/-10.57	-10.56/-8.26	-9.87/-12.92	-15.76/-15.32	-15.01/-13.78	-13.84/-12.34	-7.74/-5.73	-8.56/-6.58	-5.06/-5.73	-3.56/-4.76	-2.27/-1.45	-0.14/-2.62	-2.48/-2.28	-1.57/-2.00	-0.36/-2.95	-2.27/-0.02	-0.25/-3.28	-3.62/-3.20	-2.68/-9.18	-10.21/-11.34	-12.74/-12.18
Θ(135°)	-10.59/-5.99	-5.85/-6.07	-6.06/-6.95	-8.67/-10.47	-13.30/-12.38	-12.88/-13.46	-13.13/-12.81	-9.81/-9.52	-11.40/-11.54	-10.38/-9.58	-6.39/-8.02	-8.39/-2.89	-2.62/-2.71	1.12/0.20	-2.33/-3.28	-4.27/-1.76	1.07/2.16	0.56/-0.76	-1.82/0.15	0.79/-1.83	-5.48/-8.72	-2.07/-2.52	-8.22/-10.60	-9.90/-13.42
Θ(142.5°)	-0.93/-0.95	-2.24/-4.10	-3.84/-4.88	-6.16/-6.69	-7.87/-7.93	-8.94/-12.53	-15.71/-14.25	-12.39/-9.99	-9.58/-10.60	-8.77/-6.63	-4.04/-4.68	-5.34/-4.36	-5.37/-8.43	-3.62/-2.33	-3.64/-13.75	-7.67/-6.57	-1.94/-0.18	-3.71/-5.62	-5.43/-3.80	-1.45/-0.59	-1.31/-4.98	-7.20/-4.38	-3.84/-5.48	-4.92/-2.32
Θ(150°)	-1.84/-3.85	-6.89/-9.58	-12.75/-10.54	-8.41/-7.59	-8.93/-11.18	-12.22/-1.95	-11.47/-11.58	-11.12/-11.06	-11.12/-9.93	-8.70/-4.22	-8.55/-7.03	-5.38/-5.31	-7.41/-9.04	-5.95/-6.43	-6.56/-6.84	-8.00/-7.17	-2.98/-2.37	-4.23/-4.63	-5.20/-4.33	-2.74/-1.81	-1.76/-3.09	-5.67/-4.48	-1.47/-1.09	-1.88/-1.63
Θ(157.5°)	-5.60/-9.38	-14.46/-13.56	-11.73/-12.18	-11.63/-10.22	-9.81/-10.45	-11.37/-13.26	-15.39/-16.03	-13.88/-11.92	-11.31/-11.88	-12.50/-11.88	-10.63/-9.14	-9.25/-11.27	-10.60/-7.39	-5.77/-5.05	-5.61/-6.49	-7.01/-6.15	-5.53/-6.11	-7.16/-7.29	-6.48/-5.26	-3.84/-2.82	-2.73/-3.20	-3.26/-2.12	-0.88/-0.68	-1.07/-3.28
Θ(165°)	-8.89/-10.93	-14.87/-14.12	-13.30/-14.52	-14.15/-14.54	-10.80/-10.97	-11.49/-12.65	-11.87/-11.81	-10.35/-8.65	-8.64/-9.22	-10.77/-11.58	-10.37/-8.53	-6.22/-4.27	-2.71/-3.96	-1.40/-1.58	-2.13/-2.91	-4.31/-6.05	-6.86/-6.18	-4.92/-4.17	-4.19/-4.64	-5.11/-5.34	-4.70/-4.09	-3.96/-3.64	-4.37/-7.44	
Θ(172.5°)	-9.23/-9.04	-10.29/-10.99	-9.84/-10.47	-11.29/-11.54	-11.64/-12.37	-12.55/-12.64	-12.64/-10.52	-9.03/-7.79	-7.30/-7.28	-10.71/-8.38	-8.94/-9.84	-8.38/-7.48	-6.18/-4.87	-3.75/-3.18	-3.04/-3.34	-3.98/-4.94	-6.13/-7.05	-7.71/-8.08	-8.42/-8.38	-8.91/-8.95	-8.51/-8.01	-8.51/-8.29	-7.88/-8.08	-8.65/-9.96
Θ(180°)	-10.01/-10.15	-11.11/-10.83	-11.26/-10.66	-9.94/-9.42	-8.58/-7.96	-7.52/-7.32	-7.65/-7.54	-6.96/-6.59	-6.58/-6.90	-7.05/-6.98	-6.88/-7.01	-6.96/-6.92	-6.71/-6.77	-6.47/-6.49	-6.54/-6.81	-6.94/-6.82	-6.62/-6.57	-7.07/-7.81	-8.20/-8.69	-9.28/-8.96	-9.44/-9.65	-9.60/-8.88	-8.48/-8.23	-8.64/-9.54
Freq(Hz)	5.3GPol.	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°)	-5.02/4.87	-5.25/-5.45	-6.20/-6.26	-6.89/-6.69	-6.99/-6.79	-6.37/-5.94	-5.92/-6.20	-6.20/-6.06	-6.02/-5.86	-5.96/-6.13	-5.88/-6.17	-6.46/-6.29	-6.01/-6.23	-6.42/-6.69	-6.69/-6.31	-5.94/-6.32	-6.35/-6.21	-5.74/-5.39	-5.43/-5.68	-6.22/-6.20	-6.11/-5.73	-5.77/-5.64	-5.38/-4.95	-4.37/-4.42
Θ(7.5°)	-5.04/-1.0	-3.93/-3.83	-3.85/-3.88	-4.28/-4.30	-4.81/-5.19	-5.37/-5.41	-5.39/-5.42	-5.63/-5.41	-5.14/-4.94	-5.37/-5.81	-5.82/-6.35	-4.47/-6.06	-5.93/-6.08	-6.71/-6.83	-7.08/-7.51	-7.58/-7.24	-7.29/-7.31	-7.47/-7.22	-6.88/-6.84	-6.65/-6.16	-6.30/-6.10	-5.79/-5.32	-4.93/-4.75	-5.06/-4.67
Θ(15°)	-3.88/-3.69	-6.89/-6.94	-3.83/-3.22	-3.12/-2.33	-2.56/-2.57	-2.99/-3.15	-3.30/-3.66	-3.36/-3.67	-3.47/-4.06	-4.45/-4.80	-4.91/-4.75	-4.41/-2.22	-4.55/-5.19	-5.58/-5.43	-7.17/-8.25	-8.68/-9.33	-8.71/-8.83	-9.58/-10.09	-9.54/-8.88	-8.31/-7.43	-6.73/-6.43	-6.13/-5.64	-4.79/-3.72	-3.86/-3.52
Θ(22.5°)	-3.82/-4.79	-5.23/-5.12	-4.02/-3.07	-3.43/-3.71	-3.86/-3.53	-3.32/-3.08	-2.75/-2.59	-2.73/-2.83	-2.88/-3.11	-3.51/-3.66	-3.49/-2.90	-2.40/-2.45	-2.78/-3.50	-4.76/-6.31	-7.99/-9.53	-10.27/-9.82	-10.53/-12.15	-14.72/-15.23	-12.85/-11.28	-9.76/-8.85	-8.62/-7.51	-6.97/-5.92	-4.69/-3.62	-4.08/-3.49
Θ(30°)	-5.63/-5.03	-5.27/-7.27	-7.54/-6.00	-5.79/-5.84	-6.24/-5.15	-4.05/-3.08	-2.62/-2.71	-2.85/-2.81	-2.53/-2.35	-2.71/-3.13	-3.22/-2.87	-2.06/-2.43	-3.93/-5.82	-7.57/-7.87	-7.38/-7.65	-9.49/-10.58	-10.56/-10.02	-10.97/-13.97	-14.40/-12.84	-6.49/-6.06	-5.92/-6.12	-7.36/-6.72		
Θ(37.5°)	-6.36/-6.29	-5.02/-6.17	-7.01/-6.54	-6.48/-4.99	-5.20/-5.83	-3.74/-3.26	-3.02/-2.64	-2.26/-2.08	-1.90/-1.86	-1.57/-1.76	-2.60/-3.25	-3.40/-4.14	-6.45/-8.17	-7.55/-8.62	-7.03/-7.90	-9.30/-10.59	-10.15/-11.92	-15.26/-13.69	-11.79/-11.56	-11.61/-11.42	-9.91/-9.10	-8.39/-7.44	-6.62/-6.61	
Θ(45°)	-6.04/-5.43	-4.26/-5.76	-7.53/-8.40	-9.41/-8.83	-8.65/-8.72	-8.13/-8.15	-6.62/-4.72	-3.63/-3.12	-2.69/-2.36	-2.24/-1.72	-0.89/-0.44	-1.46/-2.89	-3.29/-4.11	-6.51/-7.70	-7.62/-7.71	-7.09/-6.34	-5.84/-6.18	-8.08/-8.91	-9.57/-12.27	-15.76/-15.17	-10.15/-7.12	-5.91/-7.75	-10.33/-9.88	-7.75/-7.28
Θ(52.5°)	-7.56/-7.49	-5.10/-7.35	-8.68/-6.20	-4.79/-4.00	-4.12/-4.05	-4.24/-6.42	-4.12/-3.39	-3.02/-3.73	-4.37/-3.78	-2.36/-1.68	-1.65/-1.10	-0.60/-0.62	-1.37/-4.24	-7.65/-6.80	-6.34/-5.98	-5.63/-6.38	-6.50/-7.02	-7.65/-9.35	-13.41/-12.42	-12.69/-14.45	-11.89/-10.82	-10.44/-9.99	-4.46/-4.14	-5.86/-6.17
Θ(60°)	-5.57/-4.86	-6.46/-6.10	-5.70/-5.59	-5.26/-5.52	-4.80/-3.57	-2.73/-2.74	-3.28/-3.67	-2.83/-1.87	-1.76/-2.13	-2.56/-1.76	-0.54/-0.15	-0.68/-0.20	-0.50/-3.33	-5.26/-4.58	-4.74/-5.66	-7.99/-8.95	-8.77/-6.82	-8.16/-6.45	-4.75/-4.75	-7.34/-11.22	-13.43/-12.98	-10.41/-9.92	-7.92/-6.88	-6.81/-7.14
Θ(67.5°)	-3.42/-3.02	-4.14/-6.03	-4.02/-2.49	-1.56/-2.17	-2.56/-3.86	-4.89/-5.81	-4.91/-2.46	-1.38/-1.79	-4.12/-5.55	-3.05/-2.48	-3.02/-2.28	-1.26/-0.08	-0.76/-3.39	-5.43/-6.18	-6.27/-7.74	-6.65/-6.69	-7.77/-7.65	-6.55/-4.28	-3.80/-5.16	-8.24/-10.22	-11.58/-13.61	-10.73/-7.23	-7.93/-10.14	-6.65/-3.98
Θ(75°)	-5.76/-7.36	-5.96/-7.80	-6.49/-6.21	-5.32/-6.23	-5.78/-4.15	-3.39/-3.49	-4.31/-3.63	-3.16/-3.12	-3.98/-3.62	-2.99/-2.79	-4.60/-7.27	-5.04/-5.20	-2.91/-5.08	-5.23/-5.38	-5.74/-6.00	-6.19/-7.33	-7.44/-7.10	-6.09/-7.41	-8.27/-9.05	-9.15/-9.72	-12.58/-10.89	-8.05/-8.96	-5.32/-7.11	-2.26/-3.56
Θ(82.5°)	-3.97/-3.59	-6.11/-6.18	-5.17/-4.68	-5.18/-5.02	-4.55/-3.80	-4.26/-5.19	-5.46/-3.38	-2.16/-2.47	-4.54/-5.06	-3.51/-3.04	-4.50/-5.91	-3.77/-1.75	-1.90/-2.99	-3.83/-5.07	-6.78/-8.79	-9.82/-10.70	-11.05/-7.85	-7.22/-6.83	-6.74/-6.71	-7.98/-8.26	-8.37/-9.10	-13.39/-8.52	-5.17/-5.71	-7.83/-4.36
Θ(90°)	-6.86/-6.61	-7.10/-6.22	-5.12/-4.81	-5.48/-5.35	-3.89/-2.47	-2.53/-4.25	-5.76/-5.23	-3.29/-2.76	-4.72/-6.27	-4.69/-2.30	-3.12/-6.37	-7.61/-4.79	-1.75/-3.69	-4.46/-3.27	-5.01/-10.32	-7.59/-7.84	-4.47/-3.74	-5.57/-7.66	-8.00/-4.95	-2.32/-4.36	-7.25/-8.06	-7.33/-6.22	-5.81/-9.65	-11.57/-8.61
Θ(97.5°)	-15.04/-9.18	-10.21/-9.32	-7.10/-7.86	-8.13/-7.10	-5.45/-4.35	-3.76/-3.60	-4.62/-6.64	-6.08/-5.57	-5.72/-6.24	-5.02/-2.96	-4.14/-3.89	-5.11/-3.96	-3.72/-6.57	-4.40/-2.69	-5.52/-5.72	-7.96/-6.49	-4.89/-3.75	-3.91/-4.49	-2.98/-2.13	-1.49/0.06	-3.01/-3.82	-4.76/-6.18	-8.86/-12.44	-11.72/-14.99
Θ(105°)	-11.76/-8.94	-5.28/-5.20	-6.06/-7.84	-10.73/-9.82	-5.95/-4.64	-4.68/-4.91	-5.19/-5.99	-9.39/-8.43	-5.96/-6.73	-5.83/-8.47	-6.01/-5.04	-6.10/-5.94	-6.73/-7.67	-7.02/-7.48	-5.39/-5.17	-4.12/-3.78	-3.78/-3.19	-4.95/-6.64	-5.13/-1.91	-0.54/-1.54	-3.10/-5.64	-4.90/-7.80	-5.64/-3.75	-7.15/-11.28
Θ(112.5°)	-9.33/-5.11	-7.27/-6.98	-6.76/-6.60	-6.82/-5.81	-5.28/-3.88	-4.99/-6.34	-10.73/-10.61	-7.84/-6.04	-6.81/-7.46	-4.80/-3.76	-3.44/-4.29	-5.36/-5.49	-6.86/-5.71	-6.46/-4.04	-3.21/-5.13	-4.91/-4.31	-3.04/-2.13	-2.42/-1.97	-3.08/0.03	-1.16/-5.65	-3.69/-3.37	-9.46/-8.23	-7.01/-9.55	-13.71/-10.94
Θ(120°)	-8.80/-10.22	-12.05/-7.57	-3.96/-5.98	-10.46/-15.42	-9.54/-10.65	-12.20/-15.71	-14.87/-14.08	-10.77/-14.81	-14.87/-10.26	-6.35/-3.38	-9.11/-8.97	-6.49/-5.96	-5.17/-5.82	-4.46/-3.39	-2.07/-3.14	-2								



Antenna Pattern of 5GHz UNII 1~UNII 3

Appendix E

Θ(112.5°)	-10.48/-3.75	-2.84/-4.70	-4.52/-3.49	-3.86/-5.86	-7.47/-11.56	-15.43/-13.99	-10.81/-9.93	-13.89/-11.74	-7.40/-7.67	-7.76/-6.48	-10.39/-8.62	-10.88/-12.26	-5.81/-4.29	-7.67/-11.44	-10.49/-7.99	-4.56/-2.48	-1.37/-0.90	-1.27/0.52	1.37/0.05	-1.33/-2.02	-5.88/-9.62	-11.33/-11.87	-10.83/-9.44	-10.27/-13.45
Θ(120°)	-3.93/-3.83	-5.82/-7.75	-4.84/-4.74	-7.07/-9.38	-9.66/-11.38	-14.45/-14.94	-12.47/-14.40	-15.26/-13.09	-8.88/-8.48	-8.75/-8.48	-6.82/-5.98	-10.90/-11.72	-11.43/-5.13	-2.87/-6.68	-8.99/-6.17	-3.07/-0.89	-1.20/-1.66	-1.52/-0.85	0.87/-0.73	-7.14/-8.99	-5.33/-4.82	-4.09/-6.33	-7.28/-6.45	-4.41/-4.92
Θ(127.5°)	-2.42/-3.27	-5.43/-7.75	-5.79/-6.22	-8.28/-10.08	-9.18/-8.97	-9.38/-13.57	-11.40/-9.20	-11.61/-14.62	-10.63/-5.22	-4.11/-5.95	-3.88/-3.84	-7.68/-7.46	-3.68/-2.31	-2.69/-6.90	-6.52/-5.47	-2.82/-1.34	-0.30/-0.88	-6.02/-6.75	-0.63/0.12	-3.34/-4.20	-2.70/-6.34	-10.53/-6.07	-5.67/-13.95	-11.66/-4.40
Θ(135°)	-3.74/-7.79	-7.12/-3.80	-6.80/-14.44	-11.64/-7.21	-5.85/-5.26	-3.84/-2.46	-2.76/-4.59	-6.73/-7.63	-10.52/-8.38	-5.78/-6.71	-7.55/-3.95	-4.21/-8.35	-4.66/-3.95	-6.35/-11.56	-11.06/-4.47	-2.31/-1.18	0.12/-1.46	-4.05/-4.10	-2.09/-1.07	-1.50/-3.50	-3.39/-1.87	-3.73/-6.74	-6.47/-5.79	-7.28/-4.62
Θ(142.5°)	-4.24/-9.34	-7.05/-9.07	-8.45/-5.22	-4.98/-4.41	-5.55/-10.16	-14.69/-13.11	-9.91/-6.69	-10.77/-11.05	-10.94/-12.36	-9.81/-7.17	-6.09/-5.76	-6.37/-10.13	-6.99/-3.81	-3.93/-6.04	-5.06/-4.36	-3.69/-1.06	0.08/-1.17	-2.87/-3.37	-1.82/-2.14	-5.35/-4.43	-5.65/-4.10	0.46/0.32	-1.79/-1.29	-0.28/-0.84
Θ(150°)	-1.72/-0.84	-1.74/-2.70	-2.74/-3.63	-5.76/-8.37	-11.30/-15.54	-12.11/-11.40	-11.68/-10.21	-7.01/-5.08	-5.25/-6.11	-4.96/-3.87	-4.79/-6.82	-6.58/-3.60	-2.45/-4.28	-7.29/-7.11	-5.15/-3.47	-2.45/-2.34	-4.43/-8.20	-8.70/-6.25	-3.61/-1.53	-1.06/-3.40	-6.81/-8.76	-7.29/-6.54	-5.50/-5.69	-4.56/-2.10
Θ(157.5°)	1.99/-0.03	-2.72/-4.66	-5.21/-6.29	-8.77/-12.42	-15.67/-15.68	-12.20/-9.00	-6.73/-4.74	-3.56/-3.20	-3.71/-4.48	-3.75/-3.60	-3.60/-3.03	-1.88/-0.64	0.11/-0.06	-1.37/-2.87	-3.91/-3.91	-3.88/-3.20	-3.04/-2.95	-3.54/-5.20	-6.33/-6.67	-5.33/-3.86	-2.99/-2.12	-0.99/-0.07	0.72/1.74	2.84/2.47
Θ(165°)	-9.05/-7.77	-5.13/-4.07	-4.22/-5.17	-6.62/-7.51	-8.36/-9.51	-9.55/-8.86	-8.36/-7.32	-6.94/-6.53	-6.41/-6.20	-5.09/-3.62	-1.92/-0.45	0.21/0.17	-0.35/-0.83	-1.27/-1.16	-1.36/-1.00	-0.27/0.43	0.59/1.14	1.36/1.03	1.02/1.11	0.40/0.12	0.41/1.04	1.33/1.22	0.77/-0.43	-3.21/-8.26
Θ(172.5°)	-3.73/-1.71	-0.66/-0.78	-1.36/-1.93	-2.44/-2.90	-3.50/-4.17	-4.26/-3.76	-3.37/-2.77	-2.48/-2.65	-2.58/-2.18	-1.68/-1.38	-0.89/-0.48	-0.19/-0.08	-0.26/-0.15	0.12/0.66	1.05/1.45	1.79/1.85	2.08/2.28	2.90/2.88	3.36/2.62	3.62/2.62	2.73/2.23	1.32/-0.26	-2.85/-6.49	-10.15/-7.25
Θ(180°)	-3.98/-3.83	-4.67/-6.28	-8.29/-6.91	-5.35/-4.89	-4.50/-3.67	-2.82/-2.07	-1.63/-1.30	-0.97/-0.96	-0.82/-0.79	-0.74/-0.65	-0.56/-0.54	-0.69/-0.78	-1.13/-1.42	-1.40/-0.63	-0.47/-0.01	0.41/0.76	0.60/0.78	1.64/1.67	1.60/1.39	1.07/0.22	-0.83/-2.00	-3.16/-4.79	-6.42/-6.21	-5.28/-4.35
Freq(Hz)	5.3GPol.	TotalAnt. 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°)	-3.41/-3.34	-2.99/-2.78	-2.89/-2.59	-2.80/-2.60	-2.34/-2.01	-2.34/-2.34	-2.07/-2.33	-2.77/-3.02	-3.21/-3.14	-3.53/-3.72	-3.79/-3.75	-3.27/-2.02	-1.82/-1.78	-1.74/-2.64	-1.92/-1.44	-1.13/-1.24	-1.39/-1.51	-1.38/-1.28	-1.38/-1.66	-1.63/-1.74	-2.10/-1.80	-2.06/-3.06	-3.54/-3.54	-3.34/-2.84
Θ(7.5°)	-3.97/-3.80	-3.56/-3.53	-3.29/-2.90	-2.47/-2.10	-2.30/-2.31	-2.45/-2.43	-2.23/-2.17	-2.69/-3.38	-4.11/-4.11	-4.10/-3.42	-4.31/-4.00	-3.41/-2.66	-1.95/-1.28	-0.83/0.01	0.06/0.16	0.38/0.56	0.45/-0.08	-0.27/-1.11	-1.52/-1.85	-1.56/-2.12	-2.13/-1.99	-2.30/-3.16	-3.62/-3.67	-3.63/-3.34
Θ(15°)	-2.21/-2.08	-2.28/-2.43	-2.72/-2.66	-2.16/-2.10	-1.93/-2.56	-2.60/-2.44	-2.58/-2.83	-3.26/-4.08	-4.39/-4.62	-5.02/-5.62	-5.53/-4.79	-3.78/-2.60	-1.65/-0.97	-0.39/0.01	0.35/1.27	1.13/0.94	0.64/0.08	-0.64/-1.08	-1.16/-1.23	-1.37/-1.51	-1.04/-2.48	-2.94/-3.24	-2.94/-2.01	
Θ(22.5°)	-0.75/-1.10	-0.82/-0.80	-1.70/-3.43	-4.54/-4.62	-3.65/-3.87	-3.41/-2.78	-2.29/-2.15	-2.35/-3.13	-4.19/-4.62	-5.03/-5.73	-6.21/-5.41	-4.55/-2.89	-2.48/-2.09	-1.47/-0.62	-0.11/0.31	0.65/0.96	1.06/0.96	0.80/0.02	-0.63/-0.45	-0.48/-1.09	-1.47/-1.66	-1.92/-2.07	-2.41/-2.04	-0.85/-0.02
Θ(30°)	-4.02/-3.60	-2.62/-2.78	-3.97/-4.77	-4.89/-4.34	-3.04/-2.39	-1.92/-2.57	-3.35/-3.73	-3.92/-4.14	-3.87/-3.75	-3.69/-4.70	-6.09/-6.48	-5.43/-4.09	-3.80/-4.49	-5.50/-5.39	-4.16/-1.80	-0.87/-0.44	-0.40/-0.32	-0.14/-0.13	0.10/0.37	0.02/-0.58	-1.27/-2.25	-1.90/-1.48	-1.36/-1.64	-2.04/-3.13
Θ(37.5°)	-2.63/-1.07	-0.80/-2.21	-4.33/-4.46	-3.74/-2.79	-2.32/-3.00	-3.58/-4.89	-5.97/-6.64	-7.08/-7.02	-7.00/-6.44	-5.26/-5.02	-5.46/-7.02	-7.46/-5.06	-4.50/-4.87	-5.66/-3.33	-1.81/-1.14	-1.21/-1.65	-1.74/-1.36	-0.60/-0.57	-1.02/-1.70	-1.21/-0.87	-1.31/-1.32	-1.03/-1.29	-1.48/-1.85	-2.58/-2.86
Θ(45°)	-3.60/-2.52	-1.91/-2.94	-5.85/-7.72	-8.27/-8.34	-9.90/-10.87	-10.75/-10.96	-9.75/-7.90	-7.44/-8.36	-9.69/-10.30	-8.55/-8.10	-9.12/-8.89	-7.52/-6.60	-6.30/-7.65	-9.19/-7.82	-5.38/-4.51	-4.87/-4.63	-4.14/-4.31	-3.75/-2.74	-2.59/-2.67	-3.22/-3.05	-2.36/-2.11	-1.37/-0.90	-1.12/-1.75	-1.84/-1.94
Θ(52.5°)	-5.28/-5.57	-5.59/-6.70	-6.81/-9.47	-3.07/-2.59	-3.86/-7.59	-8.17/-8.42	-10.00/-11.13	-10.04/-7.82	-7.65/-9.90	-8.52/-6.16	-5.92/-6.92	-10.19/-7.05	-5.80/-5.65	-7.53/-6.47	-5.34/-5.41	-6.39/-6.85	-7.31/-5.61	-5.28/-5.58	-5.20/-4.51	-2.75/-1.96	-2.71/-5.85	-5.41/-1.76	0.36/-0.09	-2.13/-3.84
Θ(60°)	-2.73/-5.25	-9.58/-8.72	-7.60/-7.45	-7.19/-7.24	-7.52/-7.84	-7.93/-7.29	-8.17/-10.27	-15.65/-15.79	-10.62/-9.91	-9.34/-8.57	-9.57/-5.99	-8.89/-9.21	-7.48/-8.88	-7.78/-7.87	-9.55/-8.63	-6.12/-6.03	-6.34/-6.68	-4.91/-3.46	-3.69/-4.51	-3.97/-3.95	-3.04/-4.27	-5.34/-4.83	-3.39/-2.62	
Θ(67.5°)	-3.75/-3.99	-3.40/-3.85	-5.84/-4.79	-2.98/-3.35	-5.13/-7.41	-7.35/-7.09	-8.25/-8.34	-9.19/-8.67	-8.08/-8.13	-8.60/-9.71	-11.71/-8.94	-9.30/-10.20	-9.99/-11.34	-9.24/-7.32	-5.72/-5.29	-6.71/-6.59	-6.76/-7.27	-7.13/-6.72	-5.50/-3.79	-3.41/-4.82	-7.13/-5.65	-2.12/-2.30	-4.04/-5.71	-6.01/-2.96
Θ(75°)	-8.68/-9.26	-9.95/-5.20	-3.46/-2.98	-3.41/-2.67	-3.45/-4.70	-3.43/-3.05	-3.32/-3.66	-6.39/-4.55	-3.67/-4.49	-6.14/-7.59	-8.92/-12.41	-12.14/-11.03	-14.47/-13.84	-9.46/-8.56	-6.88/-10.06	-9.76/-7.45	-6.82/-4.60	-3.42/-1.90	-1.33/-1.28	-1.29/-2.54	-6.22/-7.08	-6.46/-4.86	-3.95/-3.39	-6.76/-11.53
Θ(82.5°)	-5.37/-5.40	-4.62/-3.19	-3.51/-3.35	-3.80/-3.35	-4.06/-5.84	-6.85/-5.27	-2.65/-2.32	-3.76/-5.64	-5.18/-4.22	-4.60/-5.54	-11.18/-10.85	-8.86/-10.57	-15.35/-10.16	-9.36/-7.22	-6.83/-7.00	-6.80/-4.36	-3.34/-2.81	-0.86/-0.32	-0.05/-0.68	-1.34/-2.05	-3.54/-3.30	-4.40/-5.35	-9.47/-9.17	-9.72/-5.51
Θ(90°)	-8.59/-7.16	-5.82/-3.32	-3.22/-2.19	-2.16/-1.49	-4.13/-11.14	-14.13/-10.74	-9.15/-6.66	-4.65/-4.33	-4.26/-3.54	-4.72/-7.12	-8.22/-8.69	-10.02/-11.25	-13.33/-13.54	-12.35/-8.02	-6.14/-6.30	-5.20/-4.23	-2.39/-1.08	-0.22/-0.16	-0.20/-0.71	-3.81/-5.03	-2.43/-4.47	-6.83/-4.85	-7.98/-9.66	-12.16/-9.93
Θ(97.5°)	-10.01/-4.73	-4.73/-2.74	-5.49/-5.74	-4.56/-4.11	-4.74/-7.52	-10.40/-6.92	-5.53/-6.16	-8.29/-6.49	-5.56/-5.93	-6.43/-6.61	-8.32/-10.48	-9.78/-8.91	-8.85/-12.86	-9.92/-11.20	-8.10/-5.45	-4.62/-2.72	-1.54/-0.06	-0.58/0.43	0.70/-0.74	-0.61/-0.88	-5.46/-4.70	-4.24/-5.33	-5.55/-8.97	-14.51/-11.97
Θ(105°)	-14.19/-7.58	-5.94/-5.53	-7.18/-7.48	-5.21/-4.94	-8.63/-14.97	-15.72/-13.13	-8.89/-8.73	-8.67/-10.52	-9.76/-7.87	-7.80/-6.14	-8.79/-11.15	-8.43/-8.01	-7.27/-7.57	-9.67/-9.86	-8.10/-5.47	-4.27/-3.14	-1.09/-0.70	0.67/0.26	-0.12/-0.45	-3.35/-4.68	-2.37/-2.77	-5.43/-8.71	-11.46/-9.68	-12.78/-15.15
Θ(112.5°)	-14.03/-6.06	-4.48/-6.20	-4.76/-3.35	-3.66/-5.95	-8.71/-13.39	-12.93/-9.26	-8.76/-8.88	-13.98/-11.21	-6.66/-7.40	-7.96/-8.88	-10.32/-7.68	-7.20/-9.44	-6.53/-6.46	-9.38/-12.51	-10.40/-8.10	-6.62/-3.78	-2.29/-0.67	-1.19/0.15	1.49/-1.33	-4.17/-2.66	-5.21/-8.12	-7.55/-11.55	-12.47/-8.11	-8.16/-10.25
Θ(120°)	-5.90/-5.62	-6.63/-8.70	-4.88/-4.12	-4.98/-5.92	-6.73/-8.49	-11.40/-12.50	-9.33/-10.55	-15.09/-14.51	-5.90/-9.13	-8.85/-5.77	-7.59/-6.64	-9.37/-9.80	-9.34/-5.03	-3.32/-2.39	-2.77/-3.44	-2.82/-2.14	0.21/-0.33	-5.90/-10.09	-5.67/-4.01	-3.03/-4.44	-5.79/-6.31	-6.65/-6.00		
Θ(127.5°)	-4.54/-5.61	-6.97/-8.43	-7.00/-7.23	-7.18/-8.17	-9.03/-9.98	-9.94/-11.54	-12.12/-9.31	-9.10/-13.22	-12.37/-8.33	-4.98/-4.71	-2.33/-2.73	-7.62/-8.42	-6.15/-2.00	-2.15/-6.36	-6.66/-6.15	-3.17/-1.34	-1.01/-1.41	-5.96/-6.72	-1.40/-1.17	-4.76/-4.78	-1.90/-4.69	-8.16/-7.76	-7.09/-10.44	-7.83/-11.75
Θ(135°)	-4.15/-6.67	-8.33/-3.55	-5.79/-14.72	-12.42/-8.72	-7.66/-4.70	-5.05/-2.85	-2.44/-4.30	-8.26/-10.12	-10.19/-6.21	-4.31/-4.74	-5.88/-4.53	-5.42/-8.49	-4.05/-4.36	-3.66/-6.71	-8.30/-4.41	-2.83/-1.65	-0.16/-1.74	-6.11/-5.78	-2.14/-1.08	-1.40/-3.41	-2.31/-0.93	-4.91/-9.60	-6.77/-7.52	-8.80/-4.48
Θ(142.5°)	-4.23/-9.53	-9.34/-10.47	-13.84/-8.22	-5.71/-4.02	-4.72/-8.73	-13.86/-12.72	-9.28/-7.27	-7.69/-9.08	-11.81/-14.38	-12.12/-10.25	-7.12/-7.35	-2.81/-5.76	-4.19/-2.63	-4.38/-1.79	-6.47/-6.74	-6.46/-2.36	-0.13/-0.45	-1.56/-1.88	-0.79/-1.29	-3.35/-2.77	-5.68/-4.21	-0.24/-0.94	-3.67/-2.84	-1.66/-1.15
Θ(150°)	-2.05/-1.21	-2.27/-3.35	-3.66/-4.82	-6.58/-8.99	-12.49/-15.27	-13.56/-11.37	-10.91/-10.71	-9.38/-7.17	-5.87/-5.21	-4.51/-4.46	-5.40/-7.03	-6.86/-4.45	-3.74/-5.03	-6.57/-5.69	-4.44/-4.19	-3.63/-2.84	-3.29/-4.66	-5.45/-4.93	-2.70/-0.87	-0.47/-3.99	-9.15/-10.05	-6.93/-4.80	-4.84/-5.40	-3.71/-1.59
Θ(157.5°)	2.22/-0.27	-3.93/-6.34	-6.85/-7.51	-9.18/-11.60	-15.52/-14.95	-11.04/-7.82	-5.86/-3.92	-2.70/-2.27	-2.19/-3.05	-2.59/-3.10	-3.52/-2.90	-1.71/-0.87	-0.88/-1.25	-2.14/-2.92	-3.57/-3.90	-3.63/-6.12	-7.21/-7.39	-6.26/-6.22	-6.08/-4.24	-3.02/-2.29	-1.27/-1.09	0.72/2.28	3.25/-3.04	
Θ(165°)	-9.18/-6.49	-3.57/-2.69	-3.02/-5.28	-6.17/-7.21	-8.65/-9.96	-8.52/-7.38	-6.02/-5.17	-4.55/-4.69	-4.78/-4.72	-4.39/-3.45	-2.04/-0.51	0.37/0.56	0.11/-0.48	-1.44/-1.38	-2.03/-2.01	-1.04/-0.08	0.08/0.20	-0.06/-0.53	-0.1					

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



