



Radiated Composite Gain of 2.4GHz and 5GHz UNII 1~3

Appendix A

Freq(Hz)	2.45G	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	2.87	3.7	3.88	4	2.78
Ant. 2 Max Gain (dBi)	3.24	2.67	2.84	2.05	2.18
Ant. 3 Max Gain (dBi)	2.93	2.76	3.15	2.08	2.38
Ant. 4 Max Gain (dBi)	4.12	3.53	3.97	4.25	4.33
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/97.5/255	Theta/135/225	Theta/135/232.5	Theta/127.5/232.5	Theta/112.5/232.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/37.5/172.5	Phi/105/262.5	Phi/105/262.5	Phi/30/210	Phi/30/202.5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/45/75	Phi/52.5/277.5	Phi/45/277.5	Phi/45/270	Phi/82.5/270
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/112.5/337.5	Theta/97.5/307.5	Theta/120/307.5	Theta/120/307.5	Theta/120/330
Max Gain (dBi)	4.12	3.7	3.97	4.25	4.33
DG [1SS] (dBi)	4.86	3.85	4.11	4.39	4.64
DG [2SS] (dBi)	4.12	3.7	3.97	4.25	4.33
DG [4SS] (dBi)	4.12	3.7	3.97	4.25	4.33



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φ(80°)	2.99±2.61	-2.66±4.41	-5.84±6.04	-2.89±2.61	-1.33±2.64	-4.78±1.81	0.220±1.7	-1.48±2.08	-2.41±4.04	-3.73±1.9	-3.83±2.53	-0.82±1.42	-2.89±3.38	-1.770±1.7	0±1.04	-4.70±7	-0.49±3.55	-1.20±0.2	0.465±29	-0.980±17	-0.78±1.88	-1.13±1.52	-4.28±3.74	-2.84±4.38
φ(87.5°)	-1.67±3.2	-2.36±3.32	-3.69±2.35	-1.39±2.5	-2.07±1.89	-2.74±1.82	0.39±0.93	-3.06±2.61	-2.17±3.34	6.11±4.49	-2.46±1.97	-2.16±2.39	-2.61±0.85	0.230±91	0.48±0.87	0.09±0.27	-0.73±1.61	-0.63±0.58	0.586±59	-0.470±38	-0.91±1.73	-2.11±3.24	-2.93±1.37	-3.35±3.38
φ(90°)	0.32±1.74	-3±3.43	-3.53±1.89	-0.61±1.34	-2.48±0.38	-0.46±1.04	-0.94±1.15	-2.69±2.14	-6.98±7.75	-6.29±6.32	-0.4±0.51	-2.91±5.63	-6.55±3.66	-3.99±0.31	1.950±73	-1.57±0.64	-0.69±1.8	-1.44±0.78	0.661±06	-0.191±17	-0.7±2.36	-1.92±2.32	-2.76±1.97	-0.64±0.22
φ(82.5°)	0.52±0.94	-2.61±1.34	-2.29±1.35	-1.31±2.22	-2.21±0.36	-2.34±2.28	-0.75±1.94	-2.19±0.54	-1.83±7	8.67±2.27	1.220±52	-0.81±1.33	0.91±1.91	-2.67±4.94	-1.85±37	-0.77±2.22	0.19±1.25	-0.291±59	1.111±65	-0.56±0.78	-1.59±1.5	-1.88±0.8	-1.12±1.94	-1.46±0.12
φ(80°)	0.31±0.99	-1.28±1.75	-2.17±3.55	-2.48±2.45	-1.3±0.16	-1.66±4.15	-3.64±5.1	-4.23±2.64	-2.44±6.09	8.87±2.27	1.030±9	-3.38±3.4	-2.92±0.7	-1±3.33	-4.66±0.41	0.84±0.17	1.01±0.36	-1.090±39	0.10±37	-0.96±0.61	-1.11±1.32	-1.44±0.91	0.38±1.46	-1.65±1.65
φ(87.5°)	0.69±0.25	-0.99±2.08	-3.50±3.07	-3.96±3.36	-2.98±1.04	-3.35±1.81	-1.36±1.82	-1.79±0.83	-2.22±4.93	-7.13±4.5	-2.02±3.86	-2.96±0.43	-0.45±1.12	-2.39±1.38	-3.760±57	2.55±42	0.85±28	-0.361±02	0.70±06	0.01±0.11	-1.96±2.01	-0.41±1.37	-1.19±2.02	-3.06±1.97
φ(105°)	-1.88±2.77	-3.07±3.25	-1.1±3.4	-2.9±3.44	-1.61±4.6	-5.64±3.35	-2.01±3.54	-1.88±1.52	0.04±1.71	6.42±5.9	-1.12±5.46	-5.43±0.53	0.66±0.42	-0.88±0.93	-2.98±1.76	1.460±06	0.48±0.52	0.550±48	1.90±06	0.44±0.6	-0.12±3.27	-1.07±0.58	-1.56±2.89	-3.48±2.24
φ(112.5°)	-1.91±2.08	-2.1±2.23	-2.15±3.3	-3.14±2.22	-1.57±4.33	-5.21±5.9	-2.92±2.96	-1.78±2.53	-2.58±2.87	6.25±6.69	-3.86±7.84	-7.910±24	1.35±0.33	-2.25±2.23	-3.57±0.97	0.730±71	-0.69±0.02	-1.221±72	-0.120±51	0.46±0.3	0.56±1.43	-5.16±2.29	-1.88±2.82	-8.37±4.66
φ(120°)	-7.28±4.67	-3.48±2.29	-2.44±1.56	-3.67±3.52	-6.96±2.22	-2.91±4.01	-3.3±3.77	-3.23±2.76	-3.26±5.31	-3.59±6.96	-3.75±5.99	-5.36±5.8	-1.30±86	-2.77±6.71	-1.88±2.84	-1.18±0.9	-3.32±4.16	-2.28±0.6	-0.61±0.01	-1.48±3.03	-2.94±2.33	-4.63±3	-2.01±4.47	-7.18±6.77
φ(127.5°)	4.95±5.37	-3.99±2.98	-4.44±4.28	-2.66±1.71	-4.63±2.09	0.72±2.34	-4.84±3.81	-1.65±2.73	-3.74±3.33	-6.03±4.02	-3.69±3.92	-8.16±4.45	-3.37±4.25	-6.64±4.25	-4.63±79	-4.22±1.67	-3.62±5.25	-2.72±2.86	-3.39±2.09	-5.26±7.07	-4.38±1.71	-0.69±2	-4.99±2.87	-4.68±1.96
φ(135°)	3.03±5.46	-5.67±6.32	-4.63±2.92	-1.81±1.07	-4.76±4.27	-2.42±0.15	0.58±2.34	-4.63±4.16	-4.36±3.52	-3.17±7.42	-5.65±1.52	-5.01±5.72	-2.33±3.1	-4.14±85	-1.78±2.14	-1.91±1.88	-4.57±3.8	-4.57±2.48	-5.171±78	-5.65±2.71	-3.1±2.32	-2.91±1.86	-4.66±4.65	-7.22±3.05
φ(142.5°)	-6.69±5	-3.19±2.36	-6.03±4.85	-4.71±2.57	0.071±65	0.36±1.13	2.01±3.36	-3.36±4.39	-3.68±2.21	0.02±3.62	-5.36±0.33	-2.07±2.1	-2.52±4.52	-7.14±6.49	-8.92±1.91	-0.72±3	-4.63±3.3	-3.68±2.89	-1.86±2.06	-1.59±4.1	-6.91±2.19	-1.99±2.25	-1.26±3.3	-4.26±3.3
φ(150°)	3.88±3.28	-3.09±2.41	-2.09±4	-4.12±4.74	-3.53±3.56	-4.48±15	-1.99±2.96	-3.38±3.8	-3.63±3.57	-5.29±7.5	-8.18±7.84	-5.16±2.25	0.21±0.51	-4.47±22	-6.96±3.28	-5.21±9.56	-6.41±2.85	-2.55±2.8	1.571±02	-1.98±4.66	-8.63±7.85	-6.22±2.1	-1.72±1.44	-0.97±3.36
φ(157.5°)	3.65±3.48	-3.71±4.2	-4.18±5.81	-6.39±4.31	-3.07±1.6	0.37±37	-0.51±157	-2.86±5.03	-4.24±0.07	-5.97±7.05	-6.7±61	-3.13±0.76	-0.88±1.83	-2.63±3.51	-4.68±0.05	-5.57±5.11	-4.26±3.97	-6.26±7.38	-7.23±7.17	-6.94±7.13	-6.63±7.93	-7.81±6.17	-4.67±6.17	-6.96±0.09
φ(165°)	6.53±6.62	-6.86±7.04	-4.77±3.46	-2.72±1.72	0.86±1.04	-1.83±05	-4.74±6.04	-6.11±7.91	-8.47±6.77	-5.25±6.78	-6.57±7.26	-8.13±4.69	-6.57±4.45	-3.81±3.23	-3.26±3.37	-3.79±42	-5.34±22	-7.03±5.85	-4.33±3.58	-3.84±7.77	-4.8±4.71	-4.91±5.52	-5.01±5.85	-6.57±7.85
φ(172.5°)	4.78±5.91	-5.27±3.07	-2.63±2.96	-3.27±3.41	-4.16±4.66	-5.26±5.83	-5.74±5.52	-6.59±5.21	-4.88±41	-4.26±4.53	-3.87±4.33	-4.21±3.23	-2.97±2.23	-1.38±0.72	-0.15±0.09	-0.49±1.05	-1.96±2.06	-2.01±1.73	-1.31±12	-1.96±2.55	-2.32±1.67	-1.77±2.19	-2.28±2.74	-3.36±3.72
φ(180°)	-2.92±1.98	-2.06±2.04	-3.13±3.88	-6.05±7.16	-7.416±08	-6.22±4.53	-3.28±2.14	-2.22±2.58	-1.97±1.7	-2.31±2.91	-3.05±3.12	-3.78±3.64	-3.48±3.72	-3.65±3.16	-2.62±2.21	-1.27±1.04	-0.52±0.2	0.010±27	-0.16±0.92	-1.17±0.69	-1.26±2.28	-2.37±2.65	-3.21±2.37	-1.68±3.35
Freq(Hz)	5.7855GHz	Thetas	±	±	±	±	±	±	±	±	±	±	±	±	±	±	±	±	±	±	±	±	±	±
Q(sdB)	φ(0°)/φ(0.5°)	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°)
φ(0°)	0.47±0.24	0.69±1.14	-1.48±2.14	-2.79±3.62	-4.67±5.35	-6.26±6.02	-4.57±3.55	-2.38±1.99	-1.59±0.94	-0.540±31	-0.080±11	0.590±44	0.21±0.29	-0.69±1.27	-1.52±2.06	-2.99±3.77	-4.49±5.21	-5.06±4.24	-3.45±2.71	-1.71±0.83	-0.72±0.14	0.24±0.72	0.128±0.16	0.52±0.58
φ(17.5°)	0.23±0.52	0.32±0.58	-1.35±0.86	-1.52±2.05	-2.44±3.46	-4.64±4.44	-3.43±2.68	-1.56±1.47	0.74±0.18	0.216±78	0.540±55	0.750±22	0.18±0.35	-1.01±1.63	-2.04±2.64	-3.56±4.51	-4.91±5.79	-6.28±5.6	-4.19±3.31	-2.64±2.33	-1.71±0.89	-0.36±0.38	0.53±0.29	0.24±0.39
φ(35°)	0.92±0.66	-0.81±0.68	-0.62±0.85	-1.43±2.1	-2.49±2.82	-2.74±3.01	-2.98±3.3	-3.14±2.7	3.04±2.77	2.11±1.44	-0.99±0.21	-0.16±0.41	-0.96±1.89	-2.74±3.62	-4.42±4.16	-3.86±3.52	-3.51±3.94	-4.06±4.57	-3.82±3.28	-2.83±2.15	-1.72±0.84	-0.010±4	-0.17±0.87	-0.53±1.01
φ(52.5°)	0.97±0.09	-0.34±0.23	-0.06±0.05	-0.46±1.21	-1.63±1.52	-0.91±1.04	-1.27±1.45	-2.1±2.25	-1.45±0.62	-0.166±58	1.270±77	0.11±1.07	-1.98±3.11	-3.92±3.95	-4±2.4	-3.96±4.45	-4.81±3.94	-2.52±2.73	-2.16±1.82	-2.32±2.24	-1.06±0.76	0.99±0.76	0.39±0.51	-1.08±1.28
φ(70°)	1.07±1.85	1.25±1.73	0.74±0.07	-1.36±2.33	-1.72±1.09	0.98±0.66	-1.96±2.94	-1.61±1.01	6.92±1.27	2.1±0.89	-0.070±07	0.21±0.06	6.11±1.51	-3.26±3.82	-3.64±3.48	-3.76±2.97	-1.43±1.01	-1.57±2.6	4.1±2.79	-0.71±0.42	-0.110±2	0.2±0.29	0.83±1.17	
φ(87.5°)	0.82±1.5	1.87±5.4	0.3±0.28	-1.5±2.98	-1.31±0.87	-3.01±2.53	-4.84±4.93	-2.68±1.79	-1.89±2.73	3.2±2.77	-6.94±0.22	-1.16±2.49	-1.79±0.85	-1.62±2.49	-2.89±2.59	-3.44±2.71	-1.41±2.76	-2.89±1.16	-6.74±1.99	-3.11±4.26	-1.46±1.21	-1.14±0.75	-0.34±0.81	1.77±2.8
φ(105°)	2.94±1.62	1.76±2.5	-1.35±1.43	-0.9±1.66	-0.03±1.06	-2.4±2.15	-4.84±3.77	-9±5.16	-10±92	0.26±0.83	-1.26±0.87	-0.610±06	1.66±2.15	0.54±1.59	-3.37±4.18	-2.18±1.73	-0.99±0.68	-1.39±0.94	-1.03±0.68	-1.32±1.19	-0.29±0.49	-0.771±04	2.12±1.98	
φ(122.5°)	1.14±0.99	1.39±1.9	0.73±0.47	6.65±1.77	1.83±1.83	-2.02±1.93	-4.23±3.71	-2.36±0.88	-2.24±0.05	-0.25±0.58	0.616±35	0.611±32	1.11±2.06	0.75±0.94	0.448±36	-2.61±1.94	-0.93±2.27	-6.66±3.94	-5.51±0.03	-1.07±1.35	1.44±0.44	0.110±3	0.27±0.32	-1.29±0.99
φ(140°)	2.731±7.1	0.78±4.24	-0.17±0.27	-1.2±1.35	1.21±0.95	-2.96±3.76	-3.71±0.82	-10±15	0.020±91	0.59±2.5	-2.96±2.77	1.6±0.36	0.34±0.28	-0.051±39	0.771±2.04	0.46±0.4	1.230±52	0.391±28	0.610±39	-0.731±01	1.576±47	0.761±33	1.381±76	
φ(157.5°)	1.762±37	2.22±6	-0.98±1.05	1.42±1.22	1.77±1.24	2.86±1.29	-0.073±02	-2.76±1.15	-1.03±1.21	0.120±24	1.862±27	2.381±95	0.34±0.28	0.751±11	0.280±21	0.88±0.94	0.07±0.01	0.951±61	0.491±19	0.640±63	-0.21±0.01	1.236±42	0.072±0.15	2.812±6
φ(175°)	2.45±1.4	1.61±1.63	1.11±0.31	2.43±1.76	0.95±2.99	-3.05±11	-1.96±3.88	-3.66±3.49	-2.61±86	-3.53±3.83	0.96±06	1.42±1.56	-0.86±0.7	0.50±86	-0.35±0.26	1.691±27	0.160±83	0.662±01	0.51±53	2.08±24	1.9±76	1.961±96	0.250±31	1.761±85
φ(192.5°)	3.373±12	1.22±02	2.032±23	1.350±47	-0.78±1.82	-1.07±1.47	-3.41±3.43	-2.71±4.69	-2.83±3.32	-4.3±3.65	0.59±0.06	-0.130±29	2.151±19	-0.42±1.44	-1.131±68	1.490±02	-0.380±26	1.352±04	2.433±63	3.363±02	2.883±27	3.423±74	3.423±74	1.412±86
φ(210°)	4.64±35	0.64±0.71	0.86±1	0.99±0.48	-3.31±51	-0.21±39	-2.99±2.28	-1.55±2.65	-3.99±2.63	-0.63±0.99	0.050±16	-0.041±19	3.132±01	0.05±0.03	0.022±64	1.110±41	-0.512±14	1.3±0.65	1.852±5	2.372±59	3.172±53	3.533±54	3.052±33	2.211±69
φ(227.5°)	2.233±03	0.02±1.39	0.070±29	0.94±0.64	-4.27±0.21	-1.39±0.48	-1.20±02	-1.74±2.51	-4.83±7.38	-2.91±54	-0.59±2.93	-0.362±96	3.772±99	2.170±02	0.551±46	2.310±28	1.612±64	1.841±78	0.240±1	1.21±32	1.790±39	2.071±55	2.210±62	-0.63±1.35
φ(245°)	-1.24±0.48	-1.09±0.01	-2.07±0.02	-1.46±0.71	-1.82±0.02	-1.73±21	-2.86±0.86	-3.29±3.96	-5.77±6.63	-2.97±1.55	-2.19±1.89	-3.45±1.3	3.63±16	0.59±1.25	0.653±61	2.753±26	2.465±67	3.612±1	1.632±48	1.360±06	1.740±53	-0.89±0.83	-0.68±1.58	-0.22±0.19
φ(262.5°)	2.01±1.38	-0.47±0.53	0.64±1.1	1.17±0.73	0.810±29	0.67±0.57	-1.36±2.75	-5.89±4.38	-5.53±5	-0.94±1.94	-1.23±3.16	-5.320±45	2.24±0.82	0.43±0.11	-0.12±23	1.172±82	2.141±02	1.172±17	3.092±19	1.591±09	1.450±27	-0.162±38	0.52±0.82	1.261±81
φ(280°)	0.341±56	1.61±0.13	0.43±0.23	-1.07±1.26	-0.23±0.12	-2.96±1.51	-1.49±0.87	-6.32±3.11	-6.31±5.67	-2.2±0.03	-1.62±0.82	-5.110±39	1.48±0.5	1.1±78	-0.831±57	1.621±83	-0.260±1	0.552±25	2.422±52	1.21±27	2.290±49	0.86±0.78	3.48±0.39	0.261±56
φ(29																								



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Radiated Composite Gain of 2.4GHz and 5GHz UNII 1~3

Appendix A

(H25T)	-18.80-18.85	-16.30-18.95	-10.00-15.42	-18.29-12.95	-15.35-17.3	-17.51-10.12	-14.64-11.41	-14.09-17.34	-17.70-17.32	-12.61-11.33	-10.20-11.22	-10.39-9.17	9.90-10.86	-10.07-10.38	-9.51-9.39	-9.29-9.89	-8.60-8.48	-8.60-8.58	8.55-9.23	-10.64-13.55	-15.14-18.29	-17.57-18.4	-14.25-13.28	-16.81-17.99
(H30T)	-17.30-18.12	-16.30-19.51	-10.21-11.56	-13.41-16.18	-18.34-17.88	-16.54-18.78	-18.90-18.32	-18.01-18.36	-17.50-14.79	9.49-9.79	9.95-13.85	-14.70-18.17	-18.70-19.38	-18.59-18.18	-14.93-12.54	-9.91-9.26	8.74-9.3	-10.09-8.82	7.84-11.04	-13.49-14.26	-18.42-15.35	-18.02-11.23	-14.97-18.16	-17.94-17.38
(H35T)	-18.02-15.46	-16.69-18.82	-13.77-14.97	-15.00-18.26	-18.25-18.74	-17.70-18.81	-18.90-18.14	-18.02-17.67	-12.99-10.77	-11.62-16.73	-17.61-15.05	-13.33-10.32	-11.17-10.54	-11.34-12.15	-16.75-19.26	-17.10-13.43	-10.37-9.76	-14.79-10.84	8.65-15.83	-13.41-12.04	-14.10-10.47	8.78-9.12	-12.17-15.53	-19.01-17.97
(H40T)	-13.90-18.54	-13.70-11.83	-12.18-17.09	-17.63-17.15	-15.23-13.03	-17.41-19.02	-17.10-17.92	-12.90-13.87	9.79-8.57	-11.60-13.25	-10.83-8.5	-13.17-13.97	-12.39-10.72	-11.08-11.61	-13.03-12.41	-18.51-17.88	-15.00-11.47	-12.31-13.42	8.87-13.1	-16.44-14.1	-11.41-9.26	-12.36-16.03	-17.02-17	-12.42-11.08
(H45T)	-13.09-17.47	-13.70-11.83	9.71-11.81	-15.14-18.01	5.68-8.9	-17.61-18.13	-13.22-11.03	-12.90-13.87	-12.90-13.87	-11.60-13.25	-10.83-8.5	-13.17-13.97	-12.39-10.72	-11.08-11.61	-13.03-12.41	-18.51-17.88	-15.00-11.47	-12.31-13.42	8.87-13.1	-16.44-14.1	-11.41-9.26	-12.36-16.03	-17.02-17	-12.42-11.08
(H50T)	-17.89-10.48	-16.50-14.34	-14.71-18.01	-14.44-19.24	-11.88-9.64	-8.88-17.01	-15.92-7.14	8.51-12.41	-13.23-13.65	-17.59-8.22	-6.91-8.68	-10.30-13.26	-12.33-13.26	-12.74-12.02	-9.83-9.16	-12.15-14.84	-15.52-12.76	-14.90-12.81	-12.42-17.99	-18.59-17.99	-18.70-19.09	-18.04-12.79	-10.39-15.16	-16.97-8.43
(H55T)	9.43-8.24	-12.63-18.14	-19.19-18.97	-14.17-12.77	-19.25-9.15	-7.33-12.17	-14.21-21.72	8.31-15.29	-11.26-18.98	-15.26-9.66	-11.49-16.84	-13.53-12.1	-19.35-18.77	-13.36-13.08	-10.80-9.86	-18.32-13.06	-12.74-11.19	-13.54-15.99	9.59-18.66	-17.57-19.08	-16.30-12.19	-10.94-9.53	-18.74-18.95	-13.52-12.63
(H57T)	5.89-9.25	-17.51-15.21	9.91-8.58	-14.21-17.79	-17.14-8.65	6.60-17.91	-12.07-5.83	5.40-18.11	-8.07-11.86	-14.65-12.06	-14.30-14.34	-9.39-8.77	8.69-8.25	-10.43-16.74	-15.81-9.85	-7.37-12.72	-12.73-10.06	-12.62-17.31	8.74-15.51	-15.22-19	-18.63-19.33	-18.71-14.51	-16.81-18	-11.52-61.63
(H62T)	4.27-15.1	-17.58-18.85	-18.18-1	6.67-8.84	-13.59-13.27	6.60-17.91	-11.87-6.77	-12.07-15.47	8.84-18.97	-10.21-12.68	-13.50-5.81	8.87-7.67	7.31-14.06	-8.58-10.5	-11.99-11.18	-7.86-17.19	-18.78-9.53	-11.29-18.69	8.22-18.19	-15.96-15.24	-18.92-12.14	8.79-8.98	-17.81-8.9	6.18-4.48
(H67T)	2.38-2.46	-7.58-18.67	-13.01-16.76	-16.83-18.85	-16.79-12.37	-8.87-12.26	-16.95-9.84	11.08-15.05	-14.07-17.75	-12.97-11.55	-15.54-12.02	4.83-6.58	7.11-7.38	8.87-11	-7.53-12.06	-15.46-14	-11.49	8.88-15.21	-10.31-13.88	-18.97-15.87	-15.89-12.7	-9.23-53	-7.52-12.32	8.23-2.59
(H70T)	2.07-2.74	3.03-2.71	-11.60-16.86	-11.01-13.84	-13.59-16.82	8.46-18.97	-12.22-8.42	-12.12-12.13	-17.71-18.1	-12.94-10.41	6.03-6.79	6.91-7.03	5.69-4.86	-7.22-6.42	-10.61-9.26	7.42-11.9	5.20-11.34	-16.72-11.58	-15.16-14.34	-14.32-13.36	5.16-7.35	8.70-7.24	5.58-2.46	
(H75T)	8.00-6.41	2.72-6.42	-11.59-18.14	7.90-13.73	-18.18-16.57	-12.78-18.03	-13.91-10.75	12.29-14.33	13.82-19.92	12.75-8.1	-18.61-12.49	5.34-6.17	6.29-6.64	6.12-4.76	9.26-6.17	4.76-15.28	12.23-10.35	-15.76-13.63	-18.90-17.35	-18.71-15.97	-11.07-10.35	8.01-11.87	-13.23-11.1	
(H112T)	8.88-15.47	-18.39-15.95	-17.80-17.59	-19.31-12.84	-18.27-11.01	-14.59-13.13	9.21-6.08	-10.47-12.3	-18.17-17.5	8.47-10.22	-16.14-10.58	5.33-6.45	7.29-6.43	4.13-5.64	-4.46-5.13	-7.59-7.26	7.89-15.48	-17.44-12.88	-11.84-13.63	-13.92-12.26	-17.89-13.31	8.69-10.99	-11.77-8.14	-10.78-17.14
(H117T)	8.28-17.87	-17.77-16.82	5.98-7.05	-18.47-14.54	-18.87-12.57	-12.90-13.13	8.91-7.25	-17.89-15.73	-18.67-17.85	-17.18-17.88	-12.54-16.75	7.92-8.02	-11.87-11.75	-16.34-16.5	-4.95-5.1	-4.86-15.55	-16.86-15.55	-10.03-13.96	-17.79-15.98	-10.07-12.43	-10.40-7.78	-14.37-15.91	-18.52-10.45	-18.20-14.87
(H127T)	8.21-15.85	-18.20-17.43	-15.27-13.43	-19.24-17.17	8.02-17.97	-14.51-10.58	8.23-13.82	-12.81-12.83	-13.21-14.85	-11.37-15.93	-6.86-19.24	-12.79-19.16	4.97-7.96	7.37-6.34	-6.58-11.92	-9.3-9.24	-12.82-12.85	-17.81-12.68	-12.74-16.42	-13.54-12.48	-7.73-12.41	-18.02-8.21	7.35-18.8	-18.23-10.3
(H137T)	8.81-7.55	8.89-17.72	-18.83-18.23	-15.50-7.89	7.62-15.8	-14.41-12.5	-12.48-17.19	-15.83-13.39	-13.58-17.55	-8.75-8.77	-7.21-11.16	-11.79-8.35	8.17-6.04	5.23-5.36	-10.26-10.88	-16.41-10.33	-16.32-14.82	-8.01-8.04	-14.02-13.87	-13.98-15.55	-10.41-10.92	-12.56-11.9	-17.63-16.5	-11.70-6.65
(H142T)	9.54-13.42	-14.30-16.81	-7.20-15.67	-17.19-17.54	-16.09-13.04	8.93-11.41	-12.59-10.91	-10.58-5	-12.69-12.74	4.04-6.06	-4.23-9.74	-7.53-11.98	-9.94-6.83	5.26-6.13	4.08-7.02	-11.43-17.33	-18.59-11.51	-16.71-13.83	-8.68-6.31	-4.97-17.54	-15.99-13.47	-17.47-13.14	-11.03-11.28	-18.74-14.83
(H152T)	-16.86-15.17	-11.30-14.81	-18.01-17.81	-18.14-18.17	-15.91-12.53	-16.09-11.66	-14.19-14.11	-16.88-18.66	-14.19-14.11	-8.56-10.24	5.30-5.96	-1.89-2.84	1.62-0.51	-1.48-0.87	-7.56-8.23	-14.34-17.86	-12.07-11.35	-19.14-12.62	-10.12-10.58	-12.29-17.65	-18.45-17.79	-18.00-11.57	7.67-17.7	-12.04-14.87
(H157T)	-16.19-12.34	-13.26-11.58	-10.70-13.81	-15.00-16.95	-19.29-17.87	-17.84-18.75	-14.27-18.22	-11.80-13.53	-12.46-10.18	4.35-4.35	5.27-5.46	2.37-2.34	3.27-3.46	6.72-8.13	-14.84-17.82	-17.35-14.18	-15.44-10.78	-10.3-13.3	-12.71-8.48	-10.57-13.93	-16.85-13.55	-12.63-11.92	-12.04-14.81	-11.07-18.17
(H160T)	-16.34-10.26	-12.40-14.56	-18.06-19	-17.44-13.15	-11.95-17.33	-17.73-18.48	-14.27-16.42	-13.68-11.49	-12.52-15.87	-13.53-13.69	4.56-4.49	5.69-7.72	6.16-6.55	6.59-7.72	-7.46-6.16	-12.34-12.11	-16.06-7.78	9.41-13.13	-10.80-11.44	-11.74-12.33	-15.88-18.46	-18.05-19.14	-17.79-17.69	-15.53-11.26
(H172T)	-12.77-19.86	-8.07-18.3	-10.51-19.11	-10.57-14.86	-16.49-18.15	-19.08-17.78	-14.77-14.88	-18.07-15.05	-13.81-14.19	-10.57-18.13	-18.16-18.4	-17.51-18.33	-18.33-15.26	-11.41-18.51	-11.54-12.71	-13.46-13.89	-13.78-14.15	-12.02-12.02	-12.92-13.22	-14.31-13.55	-12.46-11.12	-10.50-12.99	-12.46-11.12	-10.50-12.99
(H180T)	-10.21-10.17	-8.07-10.17	-11.74-13.92	-14.63-18.76	-13.93-18.51	-17.49-18.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11	-17.48-13.11
FreeQid	5.30-5.94	Thetairt	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gen	007*007*01	015*022*21	030*19037*51	045*01902*51	060*01907*51	075*01908*51	090*1907*51	105*19102*51	120*19127*51	135*19142*51	150*19157*51	165*19172*51	180*19187*51	195*19202*51	210*19217*51	225*19232*51	240*19247*51	255*19262*51	270*19277*51	285*19292*51	300*19307*51	315*19322*51	330*19337*51	345*19352*51
(H1T)	9.32-8.27	-7.47-8.17	-7.54-8.87	7.88-7.39	-7.77-8.49	-16.68-11.3	-10.12-12.86	-15.04-18.45	-16.52-18.81	-19.01-18.28	-14.90-12.9	-12.66-10.36	-16.99-10.33	8.82-8.46	8.18-8.27	8.91-8.61	11.11-12.14	-12.47-14.05	-15.25-15.86	-17.38-17.86	-17.03-17.37	-12.86-11.83	-17.03-19.59	8.29-8.14
(H2T)	-10.19-12.46	-11.01-12.36	-12.07-18.89	-18.90-11.13	-16.89-11.08	-11.61-9.28	-16.90-12.03	-18.01-19.23	-18.41-14.43	-14.26-12.77	-11.10-10.27	-11.10-11.27	8.62-8.47	8.40-8.1	8.46-8.27	7.91-10.06	5.26-10.93	-16.99-8.37	-15.87-10.23	-17.99-19.14	-17.66-17.17	-13.63-14.07	-13.69-11.91	-11.97-12.13
(H3T)	9.15-9.24	8.19-8.94	7.52-8.74	8.53-8.98	10.57-11.58	14.11-15.14	15.35-16.27	18.07-17.07	18.36-15.1	17.19-18.11	16.18-16.27	14.11-14.83	9.53-9.42	8.98-9.88	8.89-12.2	16.57-18.98	16.58-18.11	15.17-14.1	-11.82-12.04	-11.13-10.86	8.18-7.34	7.25-7.14	7.13-7.3	8.24-8
(H4T)	4.01-4.71	5.89-6.07	8.00-8.94	8.57-9.75	8.60-7.44	9.94-12.42	-13.53-13.27	-14.90-17.13	-15.91-15.31	-15.14-16.48	-18.70-18.98	-17.73-19.59	-17.22-19.31	9.3-9.27	5.59-6.85	10.16-10.16	-13.48-13.16	-17.78-18.14	-13.63-17.01	-7.24-5.61	-4.22-4.22	4.74-4.69	5.84-6.3	5.26-5.04
(H5T)	5.24-4.98	4.23-24.25	5.68-8.73	10.27-12.82	-10.06-17.91	11.91-12.41	-13.39-12.76	-18.98-18.84	11.46-17.37	15.17-12.97	-10.41-14.78	-17.98-19.46	-18.30-19.95	-13.37-17.88	-16.30-18.77	-10.41-12.32	-7.42-6.27	-11.25-14.04	-12.81-10.67	-2.59-1.93	3.95-3.25	3.95-3.47	8.51-8.07	6.67-6.33
(H6T)	5.94-5.43	5.16-17.12	7.37-7.58	8.45-15.15	-14.21-12.9	9.95-14.1	-11.91-10.41	-16.3-9.65	5.01-4.51	6.05-16.97	14.35-15.67	14.77-10.46	-16.56-10.21	5.47-6.95	14.93-10.02	-12.52-11.68	-12.44-13.72	-12.70-12.28	-10.46-18.67	8.8-8.05	-15-12.36	8.76-7.47	8.87-8.78	-14.67-8.6
(H7T)	7.26-7.77	5.43-6.46	8.31-8.92	-14.11-18.14	-15.08-13.44	-15.08-13.44	-10.78-10.43	-12.16-7.85	4.54-4.92	-1.97-10.57	5.79-12.12	-10.12-12.56	-13.07-15.42	-13.93-17.19	-13.93-17.19	4.81-14.98	-18.72-13.59	9.24-6.46	6.38-16.45	-11.22-6.26	-18.68-18.86	-12.42-7.56	-17.73-7.11	-18.78-7.63
(H8T)	8.42-8.04	-14.59-13.74	-8.87-10.18	-10.02-14.34	-14.63-7.88	-11.16-13.12	-12.10-9.8	9.24-12.12	4.84-7.14	4.13-4.73	3.58-4.4	5.21-6.97	5.67-6.3	8.17-10.14	-10.06-11.41	-17.71-13.65	5.18-14.84	-13.37-12.08	11.51-11.81	-13.26-11.71	-15.93-15.53	-15.72-17.12	-17.48-18.98	-17.79-17.15
(H9T)	-10.03-7.17	-8.98-10.02	-18.73-19.02	-10.89-13.21	-10.24-15	-7.16-8.77	-7.79-13.69	-6.73-8.53	-14.61-12.61	5.14-5.17	-16.16-17.6	2.33-3.65	-2.78-1.81	2.08-1.36	-10.00-10.41	-17.71-13.65	-2.45-8.48	8.8						



Radiated Composite Gain of 2.4GHz and 5GHz UNII 1~3

Appendix A

(H17)	2.29833	-13.46119	-18.48116	-10.68186	-14.42774	-9.98107	-9.99632	-14.481121	-10.031653	-18.481154	-8.82817	-10.99183	-10.091334	4.12183	4.30948	-11.75048	4.09111	-10.991239	-18.19186	-18.250185	-17.79184	-15.791323	-18.1701737	-18.19111
(H82)	4.991747	-12.531381	-17.421841	9.591144	-15.74168	-18.321331	6.441108	-18.741010	-10.331674	-18.191448	-4.991702	-12.891135	-11.421110	8.49116	4.11447	-9.191726	4.231111	-8.761423	-18.531994	-17.821216	-19.191507	-15.24169	7.3211675	-12.09139
(H92)	2.741305	-5.86138	-12.531691	-18.491346	-13.461404	-10.931886	-12.741248	-13.261102	-4.231459	-10.411033	-4.271706	-17.021891	-8.831492	-7.731471	-6.861433	-14.211616	-14.641205	-17.191102	-10.661908	4.30111	-2.911765	-11.461683		
(H97)	5.551269	-9.14103	-10.33116	-13.061199	-18.19189	-16.111516	-10.911735	-13.131116	-18.211835	-5.961585	-8.91594	-5.161935	-10.241202	-13.131862	-11.791829	-8.43185	-14.631101	-15.181132	-13.111321	-12.131102	3.931423	2.85157	-11.761108	
(H102)	3.881937	-14.411783	-8.861189	-8.761124	-12.791154	-11.581151	-6.661179	-10.281133	-15.241138	-8.241678	-7.651367	-3.851535	-5.631195	-4.10119	7.251972	-18.011759	-13.8911725	-10.911548	-10.841185	-13.011407	-8.831424	-6.671178	-7.731611	
(H112)	4.051586	-15.041401	-10.331709	-14.431164	-8.821411	-13.771191	-10.031339	-13.261129	-18.431119	-14.591137	-6.88144	-8.49149	-2.641195	-3.16147	-10.03179	7.341467	-14.091136	-15.331194	-14.941125	-18.411164	-8.44143	8.991455	-6.411198	-18.71149
(H122)	-19.181183	-5.271971	-18.711149	-16.791124	-7.281143	-13.281145	-11.551132	-19.111232	-12.981128	-15.601101	-10.671197	-7.551496	-17.191107	-14.94117	-10.34144	-15.881106	-18.6111921	-11.371138	-18.931101	9.391135	8.231535	-7.361119	-10.481173	
(H127)	6.711748	8.53154	-10.671141	-13.771977	-12.651185	-17.891108	-18.521127	-13.991167	-15.91189	-15.23197	-12.491162	-10.27142	-17.31123	8.031174	5.99114	-14.281149	-10.961176	-14.99119	-17.961132	8.73198	5.64135	8.011194	-12.21159	
(H132)	4.911844	-11.371175	-18.151192	-12.531723	-10.921157	-18.821135	-12.921142	-16.731164	-14.191132	-10.121163	-8.461198	-9.19179	-4.67174	-12.411238	-14.82148	-3.96149	-10.691154	-17.8311051	-16.8711057	-15.211132	-14.231615	-9.751727	-11.35179	-14.08152
(H142)	-17.1711731	-11.52163	8.941336	-18.93135	-18.961125	-15.861123	-10.161401	-12.131171	-7.89148	6.481166	-17.771169	-12.51106	-8.471157	-16.971122	-13.921159	-8.521886	-18.841159	-15.891169	-17.481169	-18.481169	-15.16143	-17.8211171	-13.121039	8.781987
(H152)	12.621931	-19.841172	-17.021179	16.291199	-16.621167	-17.341169	-16.951199	-14.891109	8.411455	8.321337	8.27127	6.09194	-10.951142	-15.531142	-15.821179	-10.19129	-18.941181	-16.7411821	-15.191133	-15.191133	-15.6911125	3.99152	2.62172	-11.411167
(H157)	17.461125	-14.941159	-15.071915	-17.071149	-18.691143	-10.971178	-10.381199	-12.831191	-11.44144	6.531741	-12.391135	-13.51145	-12.991106	-12.291134	-11.91193	-13.121186	-14.891173	-17.691189	-18.641193	-17.751141	18.941135	-19.861177	-16.711142	
(H162)	9.221102	-12.791728	-17.891136	-17.791134	-16.73122	9.28181	-11.51171	-9.11139	-18.91177	-10.331116	-13.991192	-18.111732	-16.481175	-13.641129	-14.221146	-18.931127	-17.981174	-17.411721	-17.981162	-16.941166	-14.821187	-18.211185	-14.171159	
(H172)	9.331477	-2.29142	-10.861159	-18.6111916	-18.511537	-14.141147	-11.851236	-8.99149	9.26148	9.331485	-9.571937	-8.9511026	-12.531158	-18.91188	-16.7711924	-17.91181	-18.931145	-14.991136	-17.791129	-16.791136	-13.941115	-11.81151	-13.441113	-15.99193
(H182)	5.721614	-8.981458	-11.931129	-11.681155	-18.341182	-17.891158	-13.811182	-6.79143	8.551795	7.711746	-7.44175	-8.091484	6.29142	8.971101	-11.681173	-12.321153	-13.8911273	-13.13116	-18.981148	-19.331155	-17.231183	-14.0411348	-12.63147	-5.63141
FreeRx	5.765Rx	Thxat1	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Gen	607°(967.5)	615°(9622.5)	630°(9637.5)	645°(9652.5)	660°(9667.5)	675°(9682.5)	690°(9697.5)	705°(9712.5)	720°(9727.5)	735°(9742.5)	750°(9757.5)	765°(9772.5)	780°(9787.5)	795°(9802.5)	810°(9817.5)	825°(9832.5)	840°(9847.5)	855°(9862.5)	870°(9877.5)	885°(9892.5)	900°(9907.5)	915°(9922.5)	930°(9937.5)	945°(9952.5)
(H1)	-17.711138	-13.501171	-17.971193	-18.561177	-17.161154	-15.021335	-12.531182	-11.191892	-10.571109	-11.491152	-12.211236	-10.891184	-12.131115	-14.151138	-15.191139	-18.7611749	-15.261151	-13.11169	-12.7311715	-15.3611529	-11.511522	-11.11116	-11.2711339	-10.991107
(H2)	8.7511017	-16.291159	-13.8611435	-17.011432	-13.311442	-15.121324	-11.211518	-11.221167	-11.541179	-12.121347	-10.571102	-10.391190	-9.981182	-10.691178	-13.291511	-15.931187	-12.561138	-12.941123	-10.6711079	-12.161116	-11.11116	4.55165	-10.891168	
(H3)	4.340174	-11.411148	-11.861141	-13.861167	-15.461148	-12.631132	-11.451157	-13.591144	-13.041191	-10.861174	-14.011173	-12.811147	-11.831127	-12.951149	-10.651155	-15.891162	-16.111629	-13.181138	-13.121122	-11.111136	4.24187	4.19181		
(H4)	17.6711127	-5.9611079	-13.161189	-7.601175	9.741162	-13.271129	-10.961193	-17.711141	-13.33199	-12.94184	-9.961198	-13.841151	-18.711119	-18.021179	-15.971146	-15.181123	-17.041174	-12.611129	-10.941151	-13.921116	-13.09175	5.421759	5.841162	
(H5)	2.731125	-2.981171	-2.231527	-10.391105	5.101147	-13.331142	-18.861191	8.141642	4.371141	-15.151128	-16.741158	-11.991132	-11.021119	-10.211159	-13.971122	-13.291134	-13.121177	-13.3811183	-14.0411378	-12.691134	-3.5611474	-3.5411478	-1.541378	
(H6)	7.141648	4.41538	-3.531426	-10.261181	7.87184	-12.91143	-18.11101	5.271135	5.311104	-10.131742	4.021842	8.311125	-13.541132	-12.921118	-10.951124	-13.101163	-10.371162	-18.2711232	4.591102	-17.121132	8.461176	4.71181	-10.22174	-5.261748
(H7)	5.47168	-5.68178	-8.981121	8.771175	4.941748	-15.121142	-16.74145	3.97125	4.651495	-3.481472	4.901491	3.911133	1.411848	4.941138	-6.2911679	-12.9711512	8.97181	-11.1611828	-10.491827	-14.9311527	-11.9711173	-11.121173	-12.491638	-3.851424
(H8)	8.0511319	-14.43174	6.391811	-14.0911918	-11.01164	-11.531166	-10.54161	3.721183	4.541234	-4.231274	-1.441114	0.911149	2.971378	4.31479	-3.571188	-16.151182	-13.9611515	4.0211709	-10.74112	-14.161186	-14.911404	8.87192	-15.1512	-18.4611108
(H9)	6.131497	-14.431764	-13.871175	-16.891166	-11.01164	-11.871161	-11.01164	4.54132	5.671307	-4.031173	4.591307	4.54132	3.591822	5.4137	-4.031175	9.3013	-12.61186	-14.7164	-17.971154	-15.11181	-10.961187	-11.261187		
(H10)	-17.881778	-11.511181	-10.101153	-15.941152	4.63115	4.65145	-1.39155	4.59148	2.841143	9.13166	-0.71157	3.04133	3.771629	3.15141	4.111419	-1.341739	-3.81170	-3.981229	-17.47121	-2.77135	-5.33165	4.511022	-13.64171	-16.16134
(H11)	-11.5211167	-16.891145	-18.12115	6.35165	6.391144	8.791679	4.861111	6.261945	3.12029	2.771284	8.8114	4.751191	-1.39137	2.94148	5.29138	-1.14109	-1.84151	-3.98127	2.25105	1.71014	-2.461119	-1.3917	4.9417	6.03138
(H12)	3.23151	-15.041117	-4.991497	-11.081161	5.67184	6.99142	8.191923	5.261121	2.711188	4.79132	-2.93139	-2.031192	2.291138	2.221347	-3.891151	-0.49119	-1.091165	-0.28108	1.44123	2.93101	-0.41104	0.421	2.261103	-13.65125
(H13)	0.641008	4.921021	-10.26147	4.241657	-12.71179	-6.95149	-14.091102	6.64152	4.05149	6.49128	-2.971168	-1.130191	2.761126	4.21161	-1.06017	0.41141	-1.50019	0.67148	1.21109	0.741171	1.24107	-1.14147	-4.91147	-8.91147
(H14)	3.33145	-7.151186	-10.461125	4.71117	18.35147	-7.39162	-12.651191	-7.16157	3.69158	5.15113	-2.981156	-1.49165	0.95137	1.76112	1.07149	0.04212	0.511143	-1.47117	-0.65157	1.64105	0.52175	0.161121	0.64175	-14.18113
(H15)	-10.0711078	-17.991166	-14.951173	-18.671152	7.87152	-11.731792	-12.161183	-7.771143	-4.991179	-13.771182	3.711188	2.161128	0.99127	1.98114	1.67145	-1.881182	-1.601182	-1.42108	-0.43196	-1.061169	3.24153	3.78195	-5.89176	-3.63142
(H16)	2.78121	-17.721197	-8.72139	-6.19167	4.251143	5.111137	-10.381139	9.511131	-12.491628	-14.611258	-5.351495	-4.82107	-5.10166	2.871105	0.32102	0.13219	0.57157	3.811131	0.91124	-0.21151	0.56157	-1.171183	5.23154	-1.461105
(H17)	0.91107	-3.991143	-11.661197	-11.891166	-7.441501	-12.291125	-10.91176	-12.29125	3.251749	-4.53156	-5.991168	2.261104	0.89157	1.581143	0.591157	4.141191	1.28019	0.5139	3.99162	2.91123	2.91123	2.91123	2.91123	-7.98131
(H18)	4.24115	8.151185	-18.521182	-12.51156	-13.871169	-17.81121	-6.491149	-8.86108	8.891572	4.96103	4.91302	-1.96183	-3.161127	3.571131	2.14134	-1.92151	0.76126	4.89132	1.45013	-1.961112	-8.491141	5.55148	-4.29134	
(H19)	5.84135	-16.74181	8.981165	-14.23187	8.421125	-13.291121	-13.041161	-10.961184	7.85175	5.22157	4.931491	5.811182	-1.091137	3.116197	8.21152	1.43192	1.43192	3.24165	-11.93122	-17.01179	-1.981141	4.021167	-14.55148	-17.71181
(H20)	7.591124	-14.491158	8.981103	-16.17117	-14.491125	-11.51128	-11.981131	-13.371187	-18.84169	9.8118	-7.64154	-2.18125	5.19173	3.11195	5.161249	-3.491188	-6.65165	4.79178	6.41123	-4.73144	7.851147	7.19185	4.93149	8.54148
(H21)	13.591181	-17.671191	-16.791121	-14.091129	-12.911153	-13.111131	-16.971157	-18.191182	-12.921155	-11.371176	-16.19187	6.47153	3.49113	2.961155	-4.921178	3.341133	3.31615	-1.771181	7.72144	3.31129	-17.			



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Radiated Composite Gain of 2.4GHz and 5GHz UNII 1~3

Appendix A

Freq(Hz)	2.412-2.425	2.425-2.438	2.438-2.451	2.451-2.464	2.464-2.477	2.477-2.490	2.490-2.503	2.503-2.516	2.516-2.529	2.529-2.542	2.542-2.555	2.555-2.568	2.568-2.581	2.581-2.594	2.594-2.607	2.607-2.620	2.620-2.633	2.633-2.646	2.646-2.659	2.659-2.672	2.672-2.685	2.685-2.698	2.698-2.711	2.711-2.724	2.724-2.737	2.737-2.750	2.750-2.763	2.763-2.776	2.776-2.789	2.789-2.802	2.802-2.815	2.815-2.828	2.828-2.841	2.841-2.854	2.854-2.867	2.867-2.880	2.880-2.893	2.893-2.906	2.906-2.919	2.919-2.932	2.932-2.945	2.945-2.958	2.958-2.971	2.971-2.984	2.984-2.997	2.997-3.010	3.010-3.023	3.023-3.036	3.036-3.049	3.049-3.062	3.062-3.075	3.075-3.088	3.088-3.101	3.101-3.114	3.114-3.127	3.127-3.140	3.140-3.153	3.153-3.166	3.166-3.179	3.179-3.192	3.192-3.205	3.205-3.218	3.218-3.231	3.231-3.244	3.244-3.257	3.257-3.270	3.270-3.283	3.283-3.296	3.296-3.309	3.309-3.322	3.322-3.335	3.335-3.348	3.348-3.361	3.361-3.374	3.374-3.387	3.387-3.400	3.400-3.413	3.413-3.426	3.426-3.439	3.439-3.452	3.452-3.465	3.465-3.478	3.478-3.491	3.491-3.504	3.504-3.517	3.517-3.530	3.530-3.543	3.543-3.556	3.556-3.569	3.569-3.582	3.582-3.595	3.595-3.608	3.608-3.621	3.621-3.634	3.634-3.647	3.647-3.660	3.660-3.673	3.673-3.686	3.686-3.699	3.699-3.712	3.712-3.725	3.725-3.738	3.738-3.751	3.751-3.764	3.764-3.777	3.777-3.790	3.790-3.803	3.803-3.816	3.816-3.829	3.829-3.842	3.842-3.855	3.855-3.868	3.868-3.881	3.881-3.894	3.894-3.907	3.907-3.920	3.920-3.933	3.933-3.946	3.946-3.959	3.959-3.972	3.972-3.985	3.985-3.998	3.998-4.011	4.011-4.024	4.024-4.037	4.037-4.050	4.050-4.063	4.063-4.076	4.076-4.089	4.089-4.102	4.102-4.115	4.115-4.128	4.128-4.141	4.141-4.154	4.154-4.167	4.167-4.180	4.180-4.193	4.193-4.206	4.206-4.219	4.219-4.232	4.232-4.245	4.245-4.258	4.258-4.271	4.271-4.284	4.284-4.297	4.297-4.310	4.310-4.323	4.323-4.336	4.336-4.349	4.349-4.362	4.362-4.375	4.375-4.388	4.388-4.401	4.401-4.414	4.414-4.427	4.427-4.440	4.440-4.453	4.453-4.466	4.466-4.479	4.479-4.492	4.492-4.505	4.505-4.518	4.518-4.531	4.531-4.544	4.544-4.557	4.557-4.570	4.570-4.583	4.583-4.596	4.596-4.609	4.609-4.622	4.622-4.635	4.635-4.648	4.648-4.661	4.661-4.674	4.674-4.687	4.687-4.700	4.700-4.713	4.713-4.726	4.726-4.739	4.739-4.752	4.752-4.765	4.765-4.778	4.778-4.791	4.791-4.804	4.804-4.817	4.817-4.830	4.830-4.843	4.843-4.856	4.856-4.869	4.869-4.882	4.882-4.895	4.895-4.908	4.908-4.921	4.921-4.934	4.934-4.947	4.947-4.960	4.960-4.973	4.973-4.986	4.986-5.000	5.000-5.013	5.013-5.026	5.026-5.039	5.039-5.052	5.052-5.065	5.065-5.078	5.078-5.091	5.091-5.104	5.104-5.117	5.117-5.130	5.130-5.143	5.143-5.156	5.156-5.169	5.169-5.182	5.182-5.195	5.195-5.208	5.208-5.221	5.221-5.234	5.234-5.247	5.247-5.260	5.260-5.273	5.273-5.286	5.286-5.299	5.299-5.312	5.312-5.325	5.325-5.338	5.338-5.351	5.351-5.364	5.364-5.377	5.377-5.390	5.390-5.403	5.403-5.416	5.416-5.429	5.429-5.442	5.442-5.455	5.455-5.468	5.468-5.481	5.481-5.494	5.494-5.507	5.507-5.520	5.520-5.533	5.533-5.546	5.546-5.559	5.559-5.572	5.572-5.585	5.585-5.598	5.598-5.611	5.611-5.624	5.624-5.637	5.637-5.650	5.650-5.663	5.663-5.676	5.676-5.689	5.689-5.702	5.702-5.715	5.715-5.728	5.728-5.741	5.741-5.754	5.754-5.767	5.767-5.780	5.780-5.793	5.793-5.806	5.806-5.819	5.819-5.832	5.832-5.845	5.845-5.858	5.858-5.871	5.871-5.884	5.884-5.897	5.897-5.910	5.910-5.923	5.923-5.936	5.936-5.949	5.949-5.962	5.962-5.975	5.975-5.988	5.988-6.001	6.001-6.014	6.014-6.027	6.027-6.040	6.040-6.053	6.053-6.066	6.066-6.079	6.079-6.092	6.092-6.105	6.105-6.118	6.118-6.131	6.131-6.144	6.144-6.157	6.157-6.170	6.170-6.183	6.183-6.196	6.196-6.209	6.209-6.222	6.222-6.235	6.235-6.248	6.248-6.261	6.261-6.274	6.274-6.287	6.287-6.300	6.300-6.313	6.313-6.326	6.326-6.339	6.339-6.352	6.352-6.365	6.365-6.378	6.378-6.391	6.391-6.404	6.404-6.417	6.417-6.430	6.430-6.443	6.443-6.456	6.456-6.469	6.469-6.482	6.482-6.495	6.495-6.508	6.508-6.521	6.521-6.534	6.534-6.547	6.547-6.560	6.560-6.573	6.573-6.586	6.586-6.599	6.599-6.612	6.612-6.625	6.625-6.638	6.638-6.651	6.651-6.664	6.664-6.677	6.677-6.690	6.690-6.703	6.703-6.716	6.716-6.729	6.729-6.742	6.742-6.755	6.755-6.768	6.768-6.781	6.781-6.794	6.794-6.807	6.807-6.820	6.820-6.833	6.833-6.846	6.846-6.859	6.859-6.872	6.872-6.885	6.885-6.898	6.898-6.911	6.911-6.924	6.924-6.937	6.937-6.950	6.950-6.963	6.963-6.976	6.976-6.989	6.989-7.002	7.002-7.015	7.015-7.028	7.028-7.041	7.041-7.054	7.054-7.067	7.067-7.080	7.080-7.093	7.093-7.106	7.106-7.119	7.119-7.132	7.132-7.145	7.145-7.158	7.158-7.171	7.171-7.184	7.184-7.197	7.197-7.210	7.210-7.223	7.223-7.236	7.236-7.249	7.249-7.262	7.262-7.275	7.275-7.288	7.288-7.301	7.301-7.314	7.314-7.327	7.327-7.340	7.340-7.353	7.353-7.366	7.366-7.379	7.379-7.392	7.392-7.405	7.405-7.418	7.418-7.431	7.431-7.444	7.444-7.457	7.457-7.470	7.470-7.483	7.483-7.496	7.496-7.509	7.509-7.522	7.522-7.535	7.535-7.548	7.548-7.561	7.561-7.574	7.574-7.587	7.587-7.600	7.600-7.613	7.613-7.626	7.626-7.639	7.639-7.652	7.652-7.665	7.665-7.678	7.678-7.691	7.691-7.704	7.704-7.717	7.717-7.730	7.730-7.743	7.743-7.756	7.756-7.769	7.769-7.782	7.782-7.795	7.795-7.808	7.808-7.821	7.821-7.834	7.834-7.847	7.847-7.860	7.860-7.873	7.873-7.886	7.886-7.899	7.899-7.912	7.912-7.925	7.925-7.938	7.938-7.951	7.951-7.964	7.964-7.977	7.977-7.990	7.990-8.003	8.003-8.016	8.016-8.029	8.029-8.042	8.042-8.055	8.055-8.068	8.068-8.081	8.081-8.094	8.094-8.107	8.107-8.120	8.120-8.133	8.133-8.146	8.146-8.159	8.159-8.172	8.172-8.185	8.185-8.198	8.198-8.211	8.211-8.224	8.224-8.237	8.237-8.250	8.250-8.263	8.263-8.276	8.276-8.289	8.289-8.302	8.302-8.315	8.315-8.328	8.328-8.341	8.341-8.354	8.354-8.367	8.367-8.380	8.380-8.393	8.393-8.406	8.406-8.419	8.419-8.432	8.432-8.445	8.445-8.458	8.458-8.471	8.471-8.484	8.484-8.497	8.497-8.510	8.510-8.523	8.523-8.536	8.536-8.549	8.549-8.562	8.562-8.575	8.575-8.588	8.588-8.601	8.601-8.614	8.614-8.627	8.627-8.640	8.640-8.653	8.653-8.666	8.666-8.679	8.679-8.692	8.692-8.705	8.705-8.718	8.718-8.731	8.731-8.744	8.744-8.757	8.757-8.770	8.770-8.783	8.783-8.796	8.796-8.809	8.809-8.822	8.822-8.835	8.835-8.848	8.848-8.861	8.861-8.874	8.874-8.887	8.887-8.900	8.900-8.913	8.913-8.926	8.926-8.939	8.939-8.952	8.952-8.965	8.965-8.978	8.978-8.991	8.991-9.004	9.004-9.017	9.017-9.030	9.030-9.043	9.043-9.056	9.056-9.069	9.069-9.082	9.082-9.095	9.095-9.108	9.108-9.121	9.121-9.134	9.134-9.147	9.147-9.160	9.160-9.173	9.173-9.186	9.186-9.199	9.199-9.212	9.212-9.225	9.225-9.238	9.238-9.251	9.251-9.264	9.264-9.277	9.277-9.290	9.290-9.303	9.303-9.316	9.316-9.329	9.329-9.342	9.342-9.355	9.355-9.368	9.368-9.381	9.381-9.394	9.394-9.407	9.407-9.420	9.420-9.433	9.433-9.446	9.446-9.459	9.459-9.472	9.472-9.485	9.485-9.498	9.498-9.511	9.511-9.524	9.524-9.537	9.537-9.550	9.550-9.563	9.563-9.576	9.576-9.589	9.589-9.602	9.602-9.615	9.615-9.628	9.628-9.641	9.641-9.654	9.654-9.667	9.667-9.680	9.680-9.693	9.693-9.706	9.706-9.719	9.719-9.732	9.732-9.745	9.745-9.758	9.758-9.771	9.771-9.784	9.784-9.797	9.797-9.810	9.810-9.823	9.823-9.836	9.836-9.849	9.849-9.862	9.862-9.875	9.875-9.888	9.888-9.901	9.901-9.914	9.914-9.927	9.927-9.940	9.940-9.953	9.953-9.966	9.966-9.979	9.979-9.992	9.992-10.005	10.005-10.018	10.018-10.031	10.031-10.044	10.044-10.057	10.057-10.070	10.070-10.083	10.083-10.096	10.096-10.109	10.109-10.122	10.122-10.135	10.135-10.148	10.148-10.161	10.161-10.174	10.174-10.187	10.187-10.200	10.200-10.213	10.213-10.226	10.226-10.239	10.239-10.252	10.252-10.265	10.265-10.278	10.278-10.291	10.291-10.304	10.304-10.317	10.317-10.330	10.330-10.343	10.343-10.356	10.356-10.369	10.369-10.382	10.382-10.395	10.395-10.408	10.408-10.421	10.421-10.434	10.434-10.447	10.447-10.460	10.460-10.473	10.473-10.486	10.486-10.499	10.499-10.512	10.512-10.525	10.525-10.538	10.538-10.551	10.551-10.564	10.564-10.577	10.577-10.590	10.590-10.603	10.603-10.616	10.616-10.629	10.629-10.642	10.642-10.655	10.655-10.668	10.668-10.681	10.681-10.694	10.694-10.707	10.707-10.720	10.720-10.733	10.733-10.746	10.746-10.759	10.759-10.772	10.772-10.785	10.785-10.798	10.798-10.811	10.811-10.824	10.824-10.837	10.837-10.850	10.850-10.863	10.863-10.876	10.876-10.889	10.889-10.902	10.902-10.915	10.915-10.928	10.928-10.941	10.941-10.954	10.954-10.967	10.967-10.980	10.980-10.993	10.993-11.006	11.006-11.019	11.019-11.032	11.032-11.045	11.045-11.058	11.058-11.071	11.071-11.084	11.084-11.097	11.097-11.110	11.110-11.123	11.123-11.136	11.136-11.149	11.149-11.162	11.162-11.175	11.175-11.188	11.188-11.201	11.201-11.214	11.214-11.227	11.227-11.240	11.240-11.253	11.253-11.266	11.266-11.279	11.279-11.292	11.292-11.305	11.305-11.318	11.318-11.331	11.331-11.344	11.344-11.357	11.357-11.370	11.370-11.383	11.383-11.396	11.396-11.409	11.409-11.422	11.422-11.435	11.435-11.448	11.448-11.461	11.461-11.474	11.474-11.487	11.487-11.500	11.500-11.513	11.513-11.526	11.526-11.539	11.539-11.552	11.552-11.565	11.565-11.578	11.578-11.591	11.591-11.604	11.604-11.617	11.617-11.630	11.630-11.643	11.643-11.656	11.656-11.669	11.669-11.682	11.682-11.695	11.695-11.708	11.708-11.721	11.721-11.734	11.734-11.747	11.747-11.760	11.760-11.773	11.773-11.786	11.786-11.799	11.799-11.812	11.812-11.825	11.825-11.838	11.838-11.851	11.851-11.864	11.864-11.877	11.877-11.890	11.890-11.903	11.903-11.916	11.916-11.929	11.929-11.942	11.942-11.955	11.955-11.968	11.968-11.981	11.981-11.994	11.994-12.007	12.007-12.020	12.020-12.033	12.033-12.046	12.046-12.059	12.059-12.072	12.072-12.
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Radiated Composite Gain of 2.4GHz and 5GHz UNII 1~3

Appendix A

(H15°)	0.470-0.7	0.820-3.4	-0.63-1.84	-2.43-3.2	4.14-5.58	-7.92-11.79	-19.4-17.88	-14.19-9.93	6.47-43.3	2.84-1.86	-1.13-0.74	-0.19-0.78	1.69-2.22	2.25-1.85	1.08-0.1	-1.36-2.87	-4.51-6.16	8.17-11.24	-16.71-19.22	-15.9-10.24	-8.84-4.45	-2.92-2.14	-1.3-1.79	-1.32-0.35
(H22.5°)	-0.37-0.41	0.60-0.7	-1.02-0.25	-2.96-3.54	-4.33-5.8	-8.32-10.59	-18.33-18.1	-12.3-9.07	4.87-5.1	3.6-2.41	-1.83-1.25	-0.79-0.14	1.11-1.82	2.08-1	1.24-0.7	-1.33-0.36	-4.84-5.33	8.46-11.12	-15.7-18.1	-15.21-9.87	-6.67-3.43	-2.66-1.74	-1.41-1.13	-1.61-1.16
(H30°)	-1.53-0.66	-0.16-0.41	-1.31-1.23	-3.09-3.66	-4.48-6.06	-8.79-13.36	-19.49-16.28	-12.40-10.57	8.94-7.11	5.26-4.33	-1.97-1.19	-0.83-0.34	0.3-1	1.57-1.58	1.12-0.7	-1.29-3.1	-5.13-7.02	-8.8-10.99	-14.8-19.84	-14.86-9.97	-7.03-4.98	-3.35-2.51	-1.97-1.87	-2.01-0.27
(H37.5°)	-2.22-1.67	-1.01-0.79	-1.14-1.95	-2.95-3.7	-5.22-7.18	-10.23-14.33	-16.99-19.27	-14.51-13.8	-15.96-7.35	-9.4-9.9	-1.33-0.48	-0.26-0.14	0.09-0.47	0.79-0.7	0.3-0.57	-1.89-3.84	-5.83-7.94	-8.61-11.57	-15.65-19.19	-14.77-8.85	-7.29-5.68	-4.59-3.87	-3.3-2.85	-2.48-2.44
(H45°)	-2.33-1.7	-1.48-0.86	-0.93-1.83	-3.14-4.84	-6.47-10.6	-12.04-14.28	-15.91-17.76	-17.9-14.24	8.24-0.57	-4.47-1.76	-2.04-1.46	-1.07-0.72	-0.51-0.37	-0.22-0.34	-0.63-1.41	-2.82-4.32	-6.86-9.27	-11.21-12.8	-17.1-17.8	-15.68-10.22	-7.79-6.5	-5.74-5.16	-4.53-3.7	-2.86-2.43
(H52.5°)	-2.74-2.87	-2.22-1.51	-1.57-2.55	-3.89-5.48	-7.97-12	-15.11-15.27	-17.25-19.38	-18.55-10.56	6.19-3.87	-3.19-1.53	-4.16-4.08	-3.45-2.63	-2.11-1.8	-1.59-1.33	-1.85-2.46	-4.01-6.86	-6.53-11.52	-13.51-14.96	-19.2-18.23	-13.82-8.63	-7.79-6.87	-6.16-5.72	-5.24-3.7	-3.29-2.68
(H60°)	-4.9-5.23	-4.22-3.11	-2.96-3.65	-5.13-7.26	-11.17-15.88	-14.94-13.13	-16.72-19	-14.84-8.42	6.19-4.56	-4.16-3.14	-4.89-3.61	-3.83-2.49	-4.19-3.5	-3.12-3.44	-4.59-6.65	-9.65-13.65	-15.69-15.61	-18.11-19.07	-13.87-10.31	-9.94-8.07	-7.6-5.5	-6.15-5.22	-4.35-2.4	-3.45-2.24
(H67.5°)	-8.22-10.72	-5.59-4.48	-4.91-6.53	-8.02-10.5	-15.22-15.55	-11.52-11.92	-18.94-10.82	-11.28-9.71	5.82-4.89	-5.95-6.65	-8.98-5.87	-3.83-2.66	-2.83-2.2	-4.59-6.38	-5.53-9.45	-9.63-15.66	-17.08-14.84	-17.41-18.37	-18.18-14.17	-13.25-11.75	-9.96-8.22	-7.13-6.41	-6.23-2.28	-4.99-2.88
(H75°)	-10.2-8.81	-7.52-6.12	-6.99-9.09	-8.9-9.1	-17.22-17.27	-12.46-10.73	-10.7-10.25	-8.47-7.64	8.99-7.26	-8.93-6.79	-4.57-3.32	-3.53-2.62	-4.66-6.46	-5.64-8.66	-6.44-8.66	-8.93-13.68	-16.71-13.91	-17.35-18.41	-16.47-17.65	-15.85-13.75	-11.04-9.21	-8.48-6.74	-6.82-5.96	-4.92-3.98
(H82.5°)	-13.15-12.03	-11.56-10.26	-9.7-9.9	-8.61-12.02	-16.28-14.34	-10.11-11.16	-18.16-18.87	-12.25-12.25	-12.98-11.3	-12.69-10.33	-8.4-8.53	-4.82-5.15	-5.51-5.78	-6.19-6.57	-6.88-7.05	-7.42-8.37	-10.88-10.27	-14.49-11.16	-12.13-17.84	-18.22-17.73	-17.96-15.07	-12.89-11.94	-11.46-10.18	-12.54-10.37
(H90°)	-13.97-13.22	-12.86-12.69	-12.11-12.1	-12.96-16.51	-18.51-13.72	-10.87-12.12	-18.27-13.78	-12.89-14	-12.94-13.2	-12.42-13.96	-10.79-9.25	-7.67-7.33	-6.91-6.7	-7.64-7.99	-11.03-9.99	-8.2-8.38	-11.19-18.18	-11.07-14.21	-16.39-17	-16.39-14.74	-13.51-12.13	-11.46-12.88	-13.82-10.49	-12.82-10.49
(H97.5°)	-16.29-16.94	-17.97-19.09	-16.99-14.57	-15.16-19.77	-18.32-15.58	-13.64-16.04	-18.44-17.77	-15.13-18.57	-18.58-13.5	-12.13-14.94	-16.69-13.94	-12.14-11.65	-10.66-9.65	-10.71-14.16	-16.99-13.24	-11.52-9.17	-11.91-14.22	-14.85-16.77	-16.99-13.74	-13.62-14.02	-11.72-11.98	-10.19-12.98	-15.19-13.68	-12.92-10.49
(H105°)	-18.68-18.46	-19.15-19.31	-18.93-17.28	-19.06-17.82	-18.34-14.63	-14.29-16.03	-18.44-15.74	-14.83-17.57	-18.75-11.82	-10.48-13.99	-17.39-15.27	-16.03-17.96	-12.11-13.72	-11.91-15.13	-18.74-13.7	-17.11-26	-12.09-17.18	-13.10-17.02	-13.34-16.98	-17.33-19.57	-17.7-19.18	-18.17-17.7	-15.13-13.82	-13.61-12.7
(H112.5°)	-24.72-19.19	-18.4-19.01	-18.4-17.34	-18.82-17.06	-17.79-17.87	-17.59-17.73	-14.37-10.13	-14.37-10.13	-17.54-12.22	-12.18-18.7	-18.21-18.63	-16.94-14.02	-14.01-18.65	-18.17-12.52	-18.17-12.52	-18.17-12.52	-18.17-12.52	-18.17-12.52	-18.17-12.52	-18.17-12.52	-18.17-12.52	-18.17-12.52	-18.17-12.52	-18.17-12.52
(H120°)	-26.87-17.84	-24.13-13.93	-16.71-18.5	-17.93-18.97	-18.62-18.39	-17.21-18.06	-17.28-14.21	-14.36-17.35	-17.37-12.87	-12.68-15.54	-14.19-16.76	-19.4-19.13	-18.53-18.18	-17.33-18.23	-14.75-19.18	-8.27-8.51	-11.72-19.87	-11.74-8.07	-10.24-15.98	-18.62-17.78	-19.13-18.94	-18.89-18.18	-18.82-18.18	-18.36-17.77
(H127.5°)	-28.91-10.33	-11.98-13.88	-15.36-16.86	-17.96-19.17	-18.83-17.27	-17.76-18.13	-18.03-14.84	-14.43-15.02	-13.92-18	-13.51-8.14	-9.53-10.49	-14.01-18.7	-18.42-17.86	-18.12-14.61	-11.55-9.67	-8.79-9.36	-12.02-14.2	-10.78-8.68	-10.21-15.24	-19.16-18.83	-18.34-18.63	-18.34-18.63	-18.34-18.63	-18.34-18.63
(H135°)	-30.24-11.87	-10.81-13.87	-8.84-12.12	-15.37-16.48	-14.88-14.54	-16.95-16.88	-19.23-18.87	-14.54-13.47	-13.02-14.48	-11.74-14.26	-10.41-8.6	-8.29-8.58	-9.18-10.2	-11.17-12.21	-12.59-12.68	-12.62-13.73	-13.97-12.32	-10.63-14.02	-12.37-17.65	-17.99-16.85	-18.26-17.87	-17.99-15.84	-17.99-15.84	-17.99-15.84
(H142.5°)	-32.52-11.49	-8.69-17.28	-10.22-14.18	-13.65-11.29	-10.42-11.01	-12.51-11.72	-19.23-18.17	-15.22-15.85	-10.55-17.7	-18.97-15.66	-14.13-15.45	-8.40-7.93	-8.26-10.06	-12.36-12.49	-14.55-15.33	-13.71-15.98	-16.71-13.5	-14.04-12.49	-15.11-17.85	-18.96-18.02	-16.02-14.37	-11.64-9.59	-11.64-9.59	-11.64-9.59
(H150°)	-34.71-18.58	-9.31-16.16	-8.99-16.86	-6.4-17	7.15-8.84	-11.26-14.67	-19.18-18.29	-18.39-17.93	-18.53-18.28	-15.26-13.61	-14.75-16.35	-15.11-14.07	-15.18-18.1	-17.45-18.14	-18.19-17.01	-15.12-13.33	-12.99-14.14	-12.39-18.08	-19.06-16.71	-14.22-12.59	-10.96-9.77	-6.42-8.51	-6.42-8.51	-6.42-8.51
(H157.5°)	-37.77-13.74	-6.16-14.81	-3.87-13.75	-4.46-5.95	-7.91-10.21	-12.82-10.72	-18.91-10.33	-19.37-17.88	-17.25-17.82	-12.21-12.13	-13.13-14.6	-15.82-17.42	-16.78-16.72	-17.73-19.98	-15.66-18.63	-14.47-12.54	-12.34-13.44	-16.89-18.6	-16.77-19.91	-15.96-18.83	-11.65-13.74	-6.42-10.26	-6.42-10.26	-6.42-10.26
(H165°)	-42-6.52	-4.16-13.78	-4.05-9.47	-6.47-8.46	-13.31-11.92	-13.18-14.48	-16.22-16.18	-19.27-18.72	-18.89-18.25	-13.31-12.48	-11.79-11.77	-12.06-12.34	-12.67-13.54	-15.32-17.93	-16.06-18.21	-16.23-14.83	-16.23-14.83	-16.23-14.83	-16.23-14.83	-16.23-14.83	-16.23-14.83	-16.23-14.83	-16.23-14.83	-16.23-14.83
(H172.5°)	-42.35-13.58	-5.16-15.77	-4.76-17.88	-8.92-9.86	-10.64-11.5	-12.85-14.07	-19.88-18.18	-18.72-18.18	-17.82-18.92	-17.88-16.16	-14.09-13.68	-14.74-16.88	-18.81-18.66	-16.36-17.71	-19.16-17.91	-15.96-15.79	-15.96-15.79	-15.96-15.79	-15.96-15.79	-15.96-15.79	-15.96-15.79	-15.96-15.79	-15.96-15.79	-15.96-15.79
(H180°)	-10.67-9.67	-10.01-10.82	-11.47-11.44	-11.16-11.05	-11.36-13.25	-13.93-15.56	-18.22-18.65	-17.88-17.96	-18.21-18.73	-18.03-18.38	-17.96-17.87	-18.87-18.71	-15.21-13.11	-11.68-11	-10.86-11.1	-11.51-12.2	-13.15-14.5	-16.31-18.52	-18.48-17.78	-18.06-17.58	-17.36-18.13	-15.36-14.77	-11.89-12.32	-11.46-10.69
Frequency	5.25GHz	Phased 3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)	(H15°/H67.5°)
(H157.5°)	-17.42-13.17	-12.42-9.49	-7.26-9.74	-4.95-9.34	-2.93-2.07	-1.77-1.22	-0.43-0.69	-1.11-1.54	-2.25-3.36	-4.64-6.06	-8.16-10.47	-12.81-16.63	-18.19-19.97	-23.97-27.72	-29.72-33.47	-35.47-39.22	-41.17-44.92	-46.87-50.62	-52.57-56.32	-58.27-62.02	-63.97-67.72	-69.67-73.42	-75.37-79.12	-81.07-84.82
(H187.5°)	-19.36-19.95	-7.78-12.42	-6.15-8.49	-3.27-1.98	-1.91-1.85	-1.58-1.84	-2.35-1.89	-1.42-1.72	-2.06-2.31	-3.83-3.75	-4.89-4.24	-5.95-5.30	-6.97-6.32	-7.94-7.29	-8.91-8.26	-9.88-9.23	-10.85-10.20	-11.82-11.17	-12.79-12.14	-13.76-13.11	-14.73-14.08	-15.70-15.05	-16.67-16.02	-17.64-16.99
(H195°)	-10.10-11.41	9.3-6.5	5.18-7.47	3.13-2.18	2.43-2.25	2.40-2.35	2.91-2.73	2.78-2.84	3.05-3.26	3.78-3.62	3.34-3.57	10.93-14.38	12.54-13.87	11.03-12.4	9.54-11.2	2.91-1.25	0.41-0.15	0.07-0.48	0.01-0.4	0.01-0.4	0.01-0.4	0.01-0.4	0.01-0.4	0.01-0.4
(H202.5°)	7.95-7.34	2.96-2.29	5.57-4.78	4.05-4.62	3.98-2.37	2.34-2.44	2.88-2.34	2.58-2.74	3.23-2.74	3.23-2.74	3.23-2.74	3.23-2.74	3.23-2.74	3.23-2.74	3.23-2.74	3.23-2.74	3.23-2.74	3.23-2.74	3.23-2.74	3.23-2.74	3.23-2.74	3.23-2.74	3.23-2.74	3.23-2.74
(H210°)	-16.90-10.42	-7.07-8.7	-5.89-5.44	-6.89-5.61	4.13-3.95	-1.54-0.64	6.79-6.49	8.73-11.44	12.19-9.62	7.98-7.64	-5.84-6.09	7.06-6.41	8.36-7.83	9.64-11.8	5.37-6.88	4.27-6.46	4.3-3.12	1.86-1.19	8.62-9.27	9.28-9.71	-1.41-1.81	-2.93-3.48	-5.83-6.34	-17.15-18.7
(H217.5°)	-10.21-14.43	-12.82-10.65	-7.63-6.96	-6.21-4.36	-3.64-3.36	2.28-1.81	1.17-0.46	-5.10-1.3	8.07-6.74	9.47-7.22	3.27-2.19	8.10-12.02	14.30-17.38	11.17-12.95	8.53-7.48	2.53-2.4	2.26-2.21	0.46-0.82	1.624	2.019-1.79	-0.13-1.28	-2.48-2.61	-3.85-4.71	-12.42-13.24
(H225°)	7.94-9.97	-13.43-13.08	-10.54-7.36	-6.41-6.51	-2.08-1.45	2.96-2.74	3.19-4.56	-3.98-3.36	3.93-4.02	-3.54-3.35	-7.51-6.08	-11.47-10.73	-15.64-10.87	-16.07-11.82	-15.63-13.1	2.41-1.12	-1.16-0.87	-0.110-36	1.752-3	2.37-1.41	0.76-0.83	-1.88-2.56	-3.67-5.06	-6.49-7.19
(H232.5°)	-16.97-11.81	-16.33-16.32	-9.53-4.69	-3.62-6.2	2.98-0.07	0.94-1.25	-1.61-2.16	1.62-1.62	-1.38-1.47	-1.27-1.65	-10.77-10.67	-15.04-14.24	-15.29-15.46	-15.60-14.29	-13.94-12.4	-0.42-0.26	-0.510-45	1.52-1.76	2.27-1.1	0.27-1.33	2.02-1.48	-7.53-9.03	-6.49-7.19	-12.42-13.24
(H240°)	-12.67-14.71	-14.17-17.35	-8.71-14.74	5.13-13.16	4.09-7.69	0.65-0.27	-1.3-0.83	-2.89-1.17	-0.16-1.21	-0.59-														



Radiated Composite Gain of 2.4GHz and 5GHz UNII 1~3

Appendix A

φ(θ)Σ	5.24±2.7	4.6±3.4	-5.86±3.78	-5.65±3.62	8.13±10.96	-8.82±17.59	-19.13±10.51	-13.49±9.95	-10.09±11.89	4.03±6.35	-3.11±0.75	-0.01±2.2	-3.73±4.18	4.26±3.8	-5.48±4.2	4.2±4.95	-8.97±8.3	8.73±6.16	-10.34±8.38	-11.49±16.92	-11.22±7.79	-7.53±3.09	2.78±2.97	-2.93±4.67
φ(θ)Σ	5.96±7.2	-7.16±7.2	-7.71±9.4	-7.99±8.2	-12.67±17.2	-11.16±18.88	-16.59±12	-11.93±11.89	-14.64±7.58	4.36±9.38	-4.97±4.96	-4.06±4.41	-4.07±2.7	5.81±5.84	-6.48±11.78	-7.37±5.46	8.89±12.89	4.9±8.08	-10.49±8.88	-10.96±14.4	-12.76±9.4	8.87±7.21	4.21±3.7	-3.9±4.8
φ(θ)Σ	-1.13±10.02	-8.17±5.1	-8.95±17.81	-10.32±10.2	-18.39±9.86	-13.27±7.55	-10.86±4.4	-10.41±14.46	-10.43±10.66	-12.09±7.96	-4.86±5.52	-3.93±1.24	-6.0±2.78	-5.27±0.89	6.02±14.52	-10.51±12.03	-10.03±12.99	-7.53±9.72	-11.19±7.72	-13.02±15.96	-13.01±15.3	-16.58±11.58	-11.42±11.9	-8.71±9.28
φ(θ)Σ	7.22±8.07	-9.85±12.8	-14.49±14.81	-17.28±16.76	-15.09±9.91	-14.19±3.1	-7.82±8.28	-19.56±14.34	9.39±12.58	-14.47±5.55	-3.73±5.56	-4.16±9.04	0.34±1.39	5.1±7.86	-8.72±11.49	-16.22±13.14	-10.45±14.39	8.88±12.35	8.92±7.68	-11.38±9.11	-17.12±8.5	-18.24±16.96	-12.22±15.98	-13.91±9.28
φ(θ)Σ	-11.61±10.23	-12.82±16.18	-18.46±13.37	-14.13±13.54	8.27±8.27	-13.66±11.31	8.28±9.52	-11.48±17.88	-12.01±12.58	-10.37±8.67	7.85±14.52	-11.58±3.49	-1.84±2.54	-7.28±15.68	-11.31±13	-19.01±18.13	-12.3±16.95	-8.85±15.29	8.22±7.19	-8.84±7.66	-18.14±14.37	-15.63±12.94	-15.21±18.01	-16.67±10.57
φ(θ)Σ	-12.81±15	-17.75±16.58	-10.88±8.28	-11.91±8.85	5.74±9.63	-7.91±18.3	-7.91±12.5	-14.3±13.92	-10.71±10.37	-10.84±14.65	-10.59±8.62	-15.23±10.18	-1.46±5.07	8.17±11.31	-10.24±12.91	-18.21±17.36	-18.32±18.49	8.52±10.06	8.86±10.98	-8.82±9.9	9.71±8.81	-11.85±7.91	8.62±18.71	-14.53±12.83
φ(θ)Σ	-15.23±16.78	-17.49±8.92	8.22±9.77	8.55±9.64	6.29±9.77	6.38±13.5	8.89±13.68	-10.11±12.66	-15.45±14.57	-18.82±14.14	-12.57±15.14	-14.65±15.43	-15.96±14.75	-17.91±17.87	-15.18±16.07	-10.39±15.34	-11.21±12.81	-10.21±1.1	9.19±9.89	8.61±10.13	-7.26±10.13	-15.31±13.24	-15.91±10.68	
φ(θ)Σ	-11.23±12.28	-11.33±3.1	9.38±11	8.76±5.43	5.57±13.28	6.49±10.16	6.72±11.58	-18.65±18.11	-11.27±12.25	-8.07±8.49	-15.36±16.23	-17.31±18.01	-17.33±18.35	-14.59±12.26	-12.34±12.36	-11.71±16.43	-18.02±17.07	-14.51±10.05	-12.19±14.5	-15.40±17.7	-16.17±16.8	5.24±9.83	-14.71±12.33	-10.88±11.76
φ(θ)Σ	-16.91±11.2	-10.33±6.1	4.86±12.54	-15.01±11.42	-11.21±10.31	-10.88±9.52	4.64±17.83	-15.51±17.48	-18.14±14.12	-18.71±14.52	-10.20±14.67	-10.26±16.8	-10.25±11.85	-11.24±14.46	-10.55±11.7	-14.38±15.1	-18.3±19.38	-12.14±12.31	-16.41±10.2	-15.45±17.7	-16.71±16.8	5.24±9.83	-14.71±12.33	-10.88±11.76
φ(θ)Σ	4.68±6.44	8.53±7.94	-7.86±5.94	8.96±11.81	-14.28±10.08	-10.09±10.44	-8.98±9.78	-12.95±15.13	-11.31±9.57	-15.69±17.35	-11.71±17.6	-14.28±16.8	-10.50±14.78	-12.26±7.25	-11.3±14.8	-18.69±14.8	-16.47±15.94	-13.08±17.05	-15.88±19.07	-12.15±16.84	8.22±14.54	6.52±17.85	8.43±14.34	-11.84±7.98
φ(θ)Σ	7.58±7.54	-11.16±12.08	-11.16±10.78	17.73±10.95	-18.89±10.65	-16.24±12.45	-14.67±17.18	-16.50±15.24	-5.36±17.51	-17.56±14.97	-18.42±18.79	-11.02±12.19	-10.74±15.53	-4.67±7.32	-4.59±10.2	4.68±7.39	-11.33±9	5.86±11.17	-11.37±12.95	-11.86±16.5	-17.46±14.23	-16.59±9.57	4.26±14.8	-5.29±7.57
φ(θ)Σ	3.79±7.29	-4.73±7.27	13.21±15.96	9.82±9.83	-10.92±16.22	-14.39±13.08	-12.92±10.3	-10.76±15.5	-3.91±17.21	-12.34±14.96	-16.98±16.96	6.46±5.26	4.86±8.91	-4.69±16.6	7.91±12.13	-11.75±16.8	-18.11±17.97	-10.75±14.8	-12.12±12.93	-16.11±17.97	-12.92±16.18	-12.72±10.2	4.26±14.8	-5.29±7.57
φ(θ)Σ	15.14±10.81	4.81±9.57	9.12±15.34	-16.22±10.13	9.26±13.96	-15.21±14.69	-17.81±18.67	-18.03±19.52	-19.95±14.98	-14.11±19.1	-11.44±13.13	-14.64±14.4	3.46±4.1	5.11±10.55	5.75±14.11	-19.37±17.14	-12.33±15.1	8.62±12.97	-14.47±17.17	-18.49±16.53	-15.57±15.92	17.38±13.45	8.84±10.3	8.22±10.33
φ(θ)Σ	-12.98±12.51	-11.59±10.02	7.96±12.92	3.99±5.51	9.76±11.22	-16.66±11.39	3.94±4.4	-8.48±11.1	-1.94±10.77	-15.33±10.32	9.32±10.48	-11.93±10.86	-8.47±7.22	6.38±6.25	8.76±10.49	-6.47±9.78	-11.25±11.87	-16.55±16.69	-16.55±11.05	-7.26±7.14	2.82±3.38	2.82±3.38	-4.87±7.59	-4.87±7.59
φ(θ)Σ	6.01±10.6	-2.36±1.85	4.75±9.69	9.88±14.62	-15.76±13.85	-11.86±10.87	-11.22±12.22	-12.56±13.19	11.49±8.16	-5.59±4.51	3.77±3.1	3.31±3.3	-3.28±3.91	4.41±4.2	-8.52±7.3	-6.24±2	-6.26±7.48	8.68±11.47	-12.36±13.87	-12.34±12.97	-8.27±7.43	5.68±5.39	5.36±5.31	-1.08±28
φ(θ)Σ	3.41±4.05	4.33±7.44	7.39±7.77	4.89±5.48	5.67±7.17	-10.09±13.7	-18.44±18.86	-18.14±18.08	-14.77±12.15	-5.76±7.79	4.65±4.99	3.51±3.45	-2.58±2.69	2.26±1.98	-3.48±3.43	4.4±5.2	-6.26±7.54	8.68±11.47	-12.15±12.21	-10.91±7.1	4.54±4.25	-2.93±2.48	-1.45±3.85	-0.82±1.98
φ(θ)Σ	5.65±9.4	Phuket 3																						
Gen	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ	φ(θ)φ(θ)Σ
φ(θ)Σ	-1.81±0.5	6.15±8.85	-6.48±8.8	3.66±3.36	3.41±3.11	2.15±1.31	-1.55±1.88	2.13±2.23	2.94±3.44	4.99±5.69	-10.02±10.44	-10.73±10.94	9.77±7.68	8.91±3.71	2.41±4.7	-1.19±0.87	-0.43±0.13	0.02±0.1	0.16±0.74	-1.14±1.38	-1.51±1.99	-3.37±3.62	4.87±4.67	-7.96±10.63
φ(θ)Σ	-1.53±0.98	4.35±0.8	-3.9±2.89	-1.50±2.13	-1.88±1.25	0.66±0.64	0.56±0.36	0.2±0.57	-1.26±2.27	-3.37±3.81	-5.16±7.87	-3.97±10.93	-12.71±13.77	-11.57±13.69	3.96±7.42	-3.79±2.85	2.14±1.43	0.09±1.4	-1.07±1.03	-0.28±0.86	-4.3±4.9	6.89±9.8	-10.22±13.17	-17.48±10.27
φ(θ)Σ	-1.26±1.68	6.13±4.76	-3.58±3.21	3.51±4.43	3.46±2.04	-1.67±1.59	-1.35±1.19	-1.24±1.42	2.03±2.77	4.41±5.02	6.81±7.7	8.91±11.43	-13.12±14.63	-14.63±12.77	-11.34±10.9	6.69±5.22	-3.67±1.18	0.46±0.24	0.19±0.44	-0.96±1.34	-1.75±2.4	3.74±5.27	8.4±11.11	-10.99±15.2
φ(θ)Σ	-1.72±1.183	-8.26±4.9	6.02±6.49	-4.41±4.04	-3.37±2.71	-2.28±1.71	-2.28±1.71	-4.19±5.66	5.69±13.4	-4.86±12.63	-5.83±8.99	8.62±13.34	-14.71±15.68	-14.62±12.63	-5.83±8.99	8.62±13.34	-1.26±0.66	1.156±0.319	0.62±0.23	5.72±7.42	-17.82±10.8	-17.35±18.1	-17.35±18.1	-17.35±18.1
φ(θ)Σ	-1.63±0.81	-4.9±1.5	-6.46±9.77	-4.8±3.9	2.84±2.3	-2.76±2.81	-3.79±4.29	-5.97±10.6	5.48±5.89	-7.37±7.29	-7.84±8.29	8.66±10.13	-13.15±15.85	-19.22±13.34	-9.64±7.3	-7.73±5.46	-4.36±3.81	3.71±1.62	-1.26±1.82	-1.82±1.83	-2.74±3.63	-4.77±7.71	8.87±11.23	-18.51±8.18
φ(θ)Σ	-1.538±7.2	-1.731±7.2	-6.94±6.71	5.24±7.33	3.85±4.22	-3.79±4.25	-7.57±7.71	-10.04±10.95	-9.74±10.27	-9.59±19.19	-10.22±10.2	9.9±19.26	-11.37±15.81	-7.36±7.1	-7.84±7.8	-7.36±7.1	-6.43±3.85	2.87±1.37	-0.86±1.59	-1.83±1.67	-5.91±4.36	3.25±5.85	4.88±10.1	-13.78±15.88
φ(θ)Σ	-15.18±12.98	-15.91±14.91	-12.34±11.67	-7.13±4.34	3.13±3.15	3.68±2.61	2.76±4.18	-3.47±3.31	4.87±5.26	-11.75±14.17	-16.42±12.52	-10.9±4.67	-17.11±15.62	-14.06±13.1	-7.83±4.36	2.12±4.2	-1.91±1.95	0.88±0.45	2.85±0.89	5.16±1.64	-4.07±4.05	6.07±0.88	9.99±14.62	-16.69±18
φ(θ)Σ	-16.29±16	-16.14±16.84	-17.59±9.54	6.73±43	4.84±1.98	-4.66±2.45	-3.30±4.9	-4.64±9.51	4.54±7.81	7.8±8.6	-16.54±12.75	-8.35±4.67	-17.87±10.47	-17.87±10.47	-17.87±10.47	-17.87±10.47	-17.87±10.47	-17.87±10.47	-17.87±10.47	-17.87±10.47	-17.87±10.47	-17.87±10.47	-17.87±10.47	-17.87±10.47
φ(θ)Σ	-1.48±10.46	-1.58±17.9	-1.68±19.2	6.79±3.45	4.20±2.45	4.76±1.52	4.21±0.98	6.27±0.58	4.67±0.48	4.34±0.58	-16.99±10.2	4.34±0.58	6.08±11.69	4.31±7.91	5.46±7.84	-1.52±1.67	0.51±0.49	0.91±0.15	-1.28±0.44	4.81±2.4	3.78±5.54	-1.53±10.69	-1.53±10.69	-1.53±10.69
φ(θ)Σ	1.63±14.16	-11.39±11.1	-10.92±15.7	8.97±3.34	1.62±10.33	2.71±1.2	2.54±1.75	6.42±7.15	4.64±7.62	5.89±1.76	8.87±10.18	18.88±13.73	17.49±12.92	5.94±1.28	4.15±1.33	1.54±0.23	2.01±0.67	-1.83±0.24	-1.83±0.24	-1.83±0.24	-1.83±0.24	-1.83±0.24	-1.83±0.24	-1.83±0.24
φ(θ)Σ	16.96±10.75	-14.31±14.12	-11.76±15.1	6.89±5.99	1.92±12.34	2.64±7.08	4.24±8.04	-10.71±7.49	4.89±7.35	7.24±9.52	5.76±4.77	11.22±12.66	16.88±19.45	14.60±13.32	5.99±1.98	4.11±3.4	6.26±1.42	6.09±1.25	5.81±0.76	-1.19±1.46	2.79±3.69	4.29±1.52	10.17±10.4	8.91±10.68
φ(θ)Σ	-14.99±18.19	-19.08±10.43	9.77±12.91	-7.04±8.51	3.1±8.8	3.89±2.94	5.01±8.91	4.35±4.44	4.57±5.41	3.67±0.45	-4.59±5.6	-10.69±9.8	-10.69±9.8	9.06±14.39	-7.69±5.99	-1.02±1.21	0.57±0.37	0.45±0.67	1.11±0.66	0.57±1.42	3.25±0.48	5.94±8.85	9.16±18.99	7.57±13.7
φ(θ)Σ	-15.97±17.98	-15.91±19.02	-13.36±16.15	8.43±10.43	4.89±4.07	-4.92±1	4.03±7.88	6.96±1.98	1.25±2.26	0.33±0.48	-11.06±7.37	-12.49±8.96	-12.49±8.96	8.72±6.28	-7.69±7.05	0.12±0.13	0.46±0.17	1.51±0.68	-1.05±0.98	-3.24±4.09	-4.68±7.75	0.50±2.72	2.74±1.37	2.74±1.37
φ(θ)Σ	-14.71±15.05	-15.81±17.61	8.18±11.34	4.53±1.81	4.26±4.51	3.51±0.88	4.09±8.67	4.26±12.41	4.21±4.65	-7.76±4.32	-10.59±15.33	-10.74±3.83	-8.89±8.88	7.13±4.54	6.91±2.9	1.35±2.49	1.03±0.15	0.84±0.38	7.64±0.7	-0.28±0.23	4.47±5.6	3.41±1	6.97±6.38	-7.32±11.41
φ(θ)Σ	-16.91±16.55	-14.1±11.3	9.14±7.83	-9.39±2.69	-1.65±10.42	2.38±8.49	-2.69±5.45	-3.61±2	3.17±1.52	-12.6±6.1	-8.26±12.52	-13.74±10.42	-9.22±17.13	-12.71±13.91	-12.69±16.98	4.69±1.34	0.36±1.05	-0.20±0.15	-1.13±0.49	0.91±1.35	-0.22±0.33	2.96±3.64	4.52±1.48	-1.72±1.92
φ(θ)Σ	-13.34±18.65	-14.76±11.41	-15.64±5.65	6.25±5.42	-2.61±8.68	3.19±13.44	-3.46±7.1	-4.02±8.48	4.36±17.15	-13.88±10.15	-12.26±11.1	-16.16±7.2	-11.64±6.16	-11.53±6.42	-14.74±3.35	-1.53±1.8	-0.52±0.53	-0.79±0.25	-1.16±1.45	-1.11±1.85	4.01±5.99	-5.02±6.26	7.55±12.44	-15.91±10.84
φ(θ)Σ	-12.64±16.45	-11.76±11.04	9.71±8.7	5.14±13	3.21±5.5	3.57±13.42	4.15±7.6																	



Radiated Composite Gain of 2.4GHz and 5GHz UNII 1~3

Appendix A

(H1121)	-18.64-18.07	-19.13-17.94	-10.93-7.56	6.45-9.79	9.02-6.85	-15.71-8.47	-8.01-8.33	-11.47-15.05	-14.46-11.87	8.02-15.19	-11.26-14.25	-12.61-8.35	6.03-16.57	-17.18-11.09	-7.42-14.15	-8.72-9.86	4.09-9.46	-15.15-7.03	-10.77-10.51	-7.19-16.11	-11.51-13.83	-18.06-13.93	-18.84-15.04	-17.56-17.51
(H1201)	-12.64-16.97	-19.11-11.17	8.21-7.93	9.19-10.97	-10.04-12.1	-18.36-17.28	-10.66-17.2	-17.31-15.27	-18.84-9.76	-11.31-14.18	9.74-12.89	-16.19-16.22	8.66-17.72	-17.21-14.3	-16.96-19.27	-11.61-8.66	8.63-7.98	17.92-7.11	-18.87-8.93	-18.47-13.82	-14.61-16.29	8.24-11.44	6.44-12.14	-12.01-8.31
(H1202)	-17.41-15.11	-12.64-14.35	-7.77-6.07	4.19-13.4	-10.91-10.11	-18.60-19.29	-18.41-13.2	-14.95-17.73	-18.75-17.23	-18.45-6.66	-7.33-23.27	-7.46-6.37	6.22-11.26	-14.35-16.99	-7.34-7.27	-17.72-9.91	-17.72-9.91	-17.72-9.91	-17.72-9.91	-17.72-9.91	-17.72-9.91	-17.72-9.91	-17.72-9.91	-17.72-9.91
(H1301)	9.52-17.74	7.38-7.96	-7.67-8.73	-14.99-17.8	-18.18-19.05	-15.71-47.87	-18.19-10.92	-19.17-15.2	-10.08-19.96	-17.88-12.54	-18.04-18.99	-17.46-53.4	7.36-13.23	8.99-6.16	9.52-17.7	7.4-6.92	-14.27-12.29	-19.14-9.2	-13.22-14.2	-17.85-14.63	-12.94-7.63	6.98-8.82	-11.37-16.74	-12.27-10.13
(H1421)	7.82-12.01	6.81-6.06	-10.61-11.84	-17.76-13.33	-13.81-13.07	-18.68-16.09	-18.48-12.33	8.38-11.39	-18.71-19.38	-12.63-13.85	-18.24-16.75	6.43-4.87	5.84-6.51	-17.06-13.1	-11.09-8.3	6.83-6.51	-14.78-14.93	-19.1-31.1	8.32-12.14	-13.85-16.27	-18.17-7.3	-7.53-6.57	-14.81-17.94	-14.81-17.94
(H1501)	3.33-4.53	8.71-12.3	-11.12-15.14	-10.51-12.64	-13.52-15.04	-14.34-12.78	-16.18-16.48	-12.4-6.37	5.03-7.5	-11.94-7.51	-11.62-17.87	7.6-7.76	-7.49-6.34	-7.83-6.95	4.28-4.24	8.32-7.89	-7.21-6.68	-7.62-6.06	-7.91-7.07	-11.55-11.69	-14.53-13.42	-14.54-8.17	-13.41-3.36	8.21-6.5
(H1571)	7.69-4.34	-3.74-4.4	-7.66-14.17	-18.42-16.75	-13.2-13.05	-14.51-17.26	-17.52-17.81	-12.7-12.02	-17.62-11.02	-11.91-17.43	-13.44-14.01	-13.34-14.01	-1.11-1.43	-1.87-17.52	6.07-11.01	8.47-11.5	-1.31-10.58	-11.52-14.69	-18.27-17.17	-18.17-13.47	-11.91-6.72	-1.61-2.87	-6.08-6.67	
(H1601)	-1.83-17.84	-1.83-17.84	-10.65-10.71	5.58-5.93	-7.95-10.93	-15.12-16.42	-13.81-11.6	-11.49-13.15	-14.92-18.45	-10.02-9.15	5.58-4.4	5.13-4.63	4.69-5.77	5.91-7.57	-11.32-10.58	8.09-8.41	-10.11-8.1	-12.39-11.27	-11.46-12.72	-17.14-17.89	-19.41-11.73	-7.99-7.29	5.13-4.07	4.15-6.35
(H1721)	4.37-2.84	2.56-2.22	4.54-7.7	9.52-11.71	-11.03-10.92	-12.57-14.19	-14.16-13.05	-11.58-19.56	8.23-7.8	5.71-18	2.56-1.83	-1.39-1.29	1.63-1.8	2.39-4	6.38-7.88	8.46-8.22	8.79-10.71	-11.96-14.86	-18.58-16.66	-17.52-16.54	-17.15-15.17	-15.22-12.05	8.46-15.49	8.19-5.17
(H1801)	9.11-15	-1.69-1.2	-3.81-2.44	4.35-3.56	3.79-5.14	-7.04-6.02	-10.85-10.77	8.61-6.58	9.19-7.81	-7.48-7.86	-5.72-4.07	-3.56-2.89	2.13-2.11	-3.05-3.48	3.68-4	4.32-4.54	4.81-5.82	-7.16-6.06	-7.89-7.87	-7.22-6.15	4.4-2.81	-1.88-6.87	5.21-44	2.081-32
Phenol A	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94	2.65-2.94
Gen	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	(H1701-7021)	
(H1701)	-10.02-4.52	7.81-8.44	-10.01-13.36	-17.09-15.83	-17.51-19.27	-18.06-18.27	-18.54-17.81	-18.26-17.34	-16.29-12.52	-10.93-10.57	-18.00-19.28	-10.89-10.54	3.76-16.13	-12.06-12.37	-14.21-16.19	-18.09-18	-18.06-17.38	-18.62-18.59	-17.81-18.81	-16.96-15.18	-14.03-11.84	-10.39-16.69	5.76-16.76	-12.21-13.14
(H1702)	-11.68-9.74	8.04-10.66	-12.87-16.54	-17.19-18.68	-18.68-18.58	-18.7-17.37	-17.49-18.31	-18.95-18.51	-16.19-13.54	-11.29-10.73	-11.26-12	-11.59-10.84	-10.37-10.39	-18.02-11.48	-12.79-14.32	-15.74-15.83	-17.89-19.06	-17.41-17.89	-17.81-17.89	-16.91-16.09	-15.17-11.46	-13.11-10.99	-11.11-11.22	-14.08-13.85
(H1703)	-17.13-14.1	-12.27-11.65	-12.41-14.86	-18.45-19.12	-17.68-19.16	-18.73-17.82	-17.41-16.26	-16.27-13.73	-18.13-16.08	-13.08-12.22	-12.41-14.23	-15.89-15.25	-13.57-12.37	-12.17-12.12	-13.46-14.27	-14.71-14.81	-15.70-18	-18.24-17.71	-16.68-17.83	-15.57-15.73	-15.34-14.84	-13.86-13.14	-13.1-13.56	-10.57-17.57
(H221)	-13.18-14.34	-12.83-10.97	-10.58-12.08	-15.06-18.19	-17.62-16.48	-18.41-16.5	-15.33-14.38	-14.19-14.66	-15.53-16.16	-16.06-157	-16.56-18.99	-18.52-18.09	-17.48-18.75	-17.48-17.22	-16.85-15.82	-14.91-14.5	-15.01-17.03	-18.31-19.01	-18.26-18.17	-16.57-16.7	-18.17-18.69	-16.84-16.96	-14.39-13.24	-11.65-12.13
(H301)	-10.78-11.26	-11.96-11.67	-11.21-11.91	-14.11-17.65	-18.11-17.79	-17.96-18.58	-14.96-13.12	-12.78-12.33	-15.63-16.49	-19.41-18	-18.52-18.09	-18.53-18.65	-18.86-18.34	-17.44-18.71	-17.88-17.83	-15.86-14.98	-15.22-16.83	-18.72-17.19	-17.88-18.19	-18.81-18.5	-18.77-15.13	-13.12-12.17	-10.97-10.63	
(H371)	-11.12-10.05	-10.64-11.93	-13.53-14.54	-15.62-17.67	-14.80-18.04	-18.63-16.37	-14.57-13.58	-14.16-16.54	-19.26-19.16	-17.91-17.96	-18.83-17.3	-14.92-19.05	-18.21-17.7	-18.57-18.64	-19.11-18.92	-15.26-14.41	-14.74-16.59	-18.11-19.23	-17.85-19.28	-18.26-18.26	-16.58-13.86	-11.62-12.85	-13.31-13.32	
(H401)	-12.18-11.12	-10.63-11.11	-12.16-14.19	-11.89-18.55	-17.67-18.97	-16.56-14.79	-15.76-16.15	-19.09-19.29	-19.15-18.21	-17.06-15.83	-16.63-16.13	-17.82-16.62	-16.26-17.65	-16.21-17.67	-14.27-13.66	-14.34-15.15	-14.34-18.96	-17.18-18.25	-18.16-18.25	-17.64-19.24	-17.76-16.68	-16.31-14.52	-11.86-10.73	
(H421)	-10.61-11.26	-11.51-14.2	-14.31-14.45	-16.51-18.42	-17.11-18.18	-17.61-18.18	-16.39-13.29	-12.4-12.92	-13.11-13.18	-15.11-13.18	-17.11-18.37	-18.11-19.26	-18.44-18.56	-17.17-17.27	-16.11-17.62	-16.44-16.51	-16.99-17.57	-17.95-19.17	-17.25-13.18	-18.18-18	-19.16-18.21	-17.76-18	-16.58-17.59	-15.60-13.93
(H451)	-10.57-13.13	-13.19-13.58	-16.29-14.04	-13.51-15.93	-17.74-18.3	-18.07-17.94	-16.51-13.86	-13.87-15.07	-16.16-15.96	-14.81-18.54	-16.21-19.29	-15.69-14.01	-12.94-12.58	-13.34-13.25	-18.18-18.25	-18.03-18.04	-18.41-18.5	-18.22-18.21	-18.78-18.13	-18.67-14.14	-18.02-18.13	-18.31-18.69	-17.85-19.18	-18.19-18.14
(H481)	-18.60-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29	-18.69-17.29
(H501)	-10.86-19.13	-15.28-19.29	-19.31-17.13	-18.55-19.29	-17.84-18.4	-18.34-19.2	-15.42-16.35	-17.94-18.36	-18.45-17.03	-16.33-18.18	-17.53-17.77	-16.97-17.52	-18.77-19.29	-17.79-19.28	-18.99-19.18	-18.57-19.28	-18.57-19.28	-17.54-18.25	-17.93-18.85	-18.73-19.51	-18.4-17.87	-17.73-17.63	-18.25-18.96	-18.57-18.96
(H521)	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71	-18.95-16.71
(H571)	-15.29-14.26	-14.75-13.73	-16.31-17.78	-18.17-17.59	-18.63-13.92	-13.99-16.84	-19.13-17.17	-18.36-17.94	-18.13-19.44	-18.62-18.57	-18.57-18.21	-17.96-15.86	-17.24-18.37	-18.11-17.38	-18.90-17.59	-17.82-15.85	-18.18-18.81	-17.33-18.28	-18.09-17.32	-18.17-18.25	-18.18-18.35	-18.99-18.77	-19.04-17.39	-16.41-15.51
(H601)	-13.66-13.54	-13.36-14.39	-15.39-16.37	-18.16-16.34	-14.46-13.04	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27	-18.07-14.27
(H621)	-14.29-15.46	-14.71-13.21	-14.54-14.51	-16.86-17.27	-16.86-14.35	-14.54-14.51	-17.37-17.29	-16.86-16.38	3.58-13.21	-14.54-14.51	-17.37-17.29	-16.86-16.38	3.58-13.21	-14.54-14.51	-17.37-17.29	-16.86-16.38	3.58-13.21	-14.54-14.51	-17.37-17.29	-16.86-16.38	3.58-13.21	-14.54-14.51	-17.37-17.29	-16.86-16.38
(H1121)	-14.36-14.29	-14.01-14.13	-14.96-15.13	-14.96-15.97	-15.74-15.32	-11.14-12.29	-14.96-15.14	-15.32-15.16	-11.14-12.29	-14.96-15.16	-15.32-15.16	-11.14-12.29	-14.96-15.16	-15.32-15.16	-11.14-12.29	-14.96-15.16	-15.32-15.16	-11.14-12.29	-14.96-15.16	-15.32-15.16	-11.14-12.29	-14.96-15.16	-15.32-15.16	-11.14-12.29
(H1201)	-17.12-14.99	-16.46-19.17	-18.26-15.17	-12.07-11.69	-15.74-12.47	-13.14-12.47	-17.16-18.21	-16.23-16.85	16.46-17.14	-10.97-17.24	-18.37-18.21	-15.85-16.21	-16.29-16.95	-16.95-16.38	-16.95-16.38	-16.95-16.38	-16.95-16.38	-16.95-16.38	-16.95-16.38	-16.95-16.38	-16.95-16.38	-16.95-16.38	-16.95-16.38	-16.95-16.38
(H1202)	-15.26-16.58	-15.14-14.86	-14.44-13.17	-12.43-12.45	-13.45-15.19	-16.76-18.17	-17.93-18.89	-16.06-16.51	-17.49-19.06	-17.81-16.53	-16.76-16.53	-16.76-16.53	-16.76-16.53	-16.76-16.53	-16.76-16.53	-16.76-16.53	-16.76-16.53	-16.76-16.53	-16.76-16.53	-16.76-16.53	-16.76-16.53	-16.76-16.53	-16.76-16.53	-16.76-16.53
(H1301)	-19.26-16.35	-14.24-13.89	-17.05-16.38	-18.27-18.89	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22	-16.78-15.22
(H1421)	-14.81-14.89	-13.69-13.1	-18.77-18	-16.98-16.26	-15.07-14.73	-15.76-16.19	-18.02-18.51	-17.33-18.74	-16.12-15.05	-15.49-16.45	-16.84-16.04	-15.47-15.11	-17.47-17.83	-16.07-17.85	-17.08-16.67	-17.85-16.37	-17.42-18.17	-17.99-13.38	-18.21-17.49	-18.41-17.72	-18.15-19.89	-18.02-18.67	-14.54-14.23	



Radiated Composite Gain of 2.4GHz and 5GHz UNII 1~3

Appendix A

(H162)	-1.4110-10.08	-8.947-8.85	-7.19-9.43	-10.94-15.56	-15.25-16.08	-8.451-6.06	-8.73-12.04	-10.89-17.48	-17.21-17.08	-13.54-13.88	-13.861-13.32	-10.71-13.29	-14.01-18.84	-18.83-19.04	-14.79-8.63	-7.34-7.17	-8.54-8.42	-8.55-4.86	-5.17-1.34	-9.85-10.88	-10.22-9.57	-10.17-12.38	-14.55-13.14	-13.14-12.75
(H172)	7.252-7.82	-8.09-8.83	-11.49-13.45	-14.13-12.85	-10.02-8.7	-8.81-11	-10.26-11.29	-11.49-9.45	-8.78-15	-11.63-13.38	-17.36-18.2	-18.09-19.14	-17.71-19.33	-18.19-18.25	-17.26-14.25	-11.34-9.22	-7.89-6.43	-4.72-3.28	2.99-3.77	-4.56-6.85	-6.1-8.08	-8.72-8.79	-7.89-8.83	-6.39-6.46
(H180)	-17.51-18.23	-19.13-18.87	-13.69-11.28	-10.39-8.84	-7.97-9.5	-8.87-9.79	-10.43-9.45	-6.69-6.23	-6.37-6.53	-6.23-12.52	-12.61-11.4	-16.16-16.09	-16.14-18.23	-15.89-16.45	-15.16-12.26	-10.43-9.22	-7.86-6.71	-5.87-4.69	-4.18-4.73	-4.50-5.67	-6.09-7.34	-7.84-8.39	-8.96-10.17	-11.17-14.56
FreeGain	5.359Pd	Phuket 4	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Gen	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	
(H1)	-13.2-12.16	-11.83-6.5	-8.371-8.2	-8.82-7.5	-7.37-7.76	-8.31-10.3	-12.89-14.06	-13.14-14.06	-12.82-17.72	-17.2-18.24	-18.67-19.39	-15.68-14.8	-12.81-11.42	-10.87-11.42	-8.51-8.22	-7.81-8.3	-7.24-8.42	-6.99-10.42	-11.02-12.18	-14.98-17.77	-18.26-19.7	-16.46-14.71	-14.54-13.74	
(H15)	-16.10-14.2	-14.02-13.12	-12.22-11.57	-10.95-9.7	-7.55-8.7	-7.687-8.4	-7.58-8.65	-11.88-14.2	-12.82-16.08	-18.09-19.68	-19.94-17.2	-19.77-11.41	-16.26-8.5	-8.79-8.4	-9.15-9.86	-8.94-8.4	-8.69-10.07	-13.13-10.89	-12.14-13.96	-17.12-16.85	-18.67-16.47	-18.84-18.48	-18.83-17.42	
(H16)	-18.1-14.95	-15.95-12.94	-10.21-12.26	-12.29-12.29	-7.72-8.76	-6.48-9.97	-6.69-9.43	-7.0-8.95	-10.94-10.98	-13.04-16.74	-16.36-15.72	-14.08-13.13	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	
(H22)	17.85-11.35	-12.26-13.35	-10.21-12.26	-12.29-12.29	-7.72-8.76	-6.48-9.97	-6.69-9.43	-7.0-8.95	-10.94-10.98	-13.04-16.74	-16.36-15.72	-14.08-13.13	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	-12.99-13.92	
(H25)	16.85-19.83	-8.571-9.56	-11.21-10.17	-12.79-10.5	3.44-9.02	5.4-3.3	7.91-9.08	8.93-8.7	7.82-8.3	11.34-11.65	-12.22-12.18	-12.71-17.3	-18.69-18.52	-15.51-14.35	-12.98-10.19	-10.89-12.12	-17.10-16.52	-11.17-17.88	-16.86-18.67	-15.2-18.92	-18.93-19.33	-17.271-16.96	-17.271-16.96	
(H37)	15.89-13.72	-11.47-13.87	-13.24-13.12	-13.01-12.87	-10.43-12.79	-18.66-11.48	-7.3-5.85	-5.95-7.35	-8.85-10.45	-12.02-16.41	-18.36-17.48	-16.89-17.66	-14.68-17.66	-11.81-10.14	-15.53-17.73	-19.84-17.37	-18.67-18.91	-18.69-18.48	-19.24-17.59	-15.69-11.25	-11.51-9.8	-2.29-12.7	-11.51-9.8	
(H45)	8.24-8.72	-7.74-8.3	-9.8-10.36	-16.31-10.11	-8.42-13.94	-18.81-19	-10.69-8.62	-10.16-11.57	-12.87-12.43	8.79-10.13	-12.04-9.64	-8.21-11.24	-12.71-13.35	-16.39-13.36	-15.47-17.1	-18.07-18.12	-17.57-18.39	-18.42-18.41	-18.36-18.86	-18.63-15.98	-14.00-10.96	-14.57-13.34	-10.51-10.5	
(H52)	15.89-15.65	-10.78-8.24	-8.63-8.82	-11.96-10	8.41-8.94	-12.13-13.32	-17.78-11.42	8.63-14.13	-18.15-15.25	-7.58-7.01	-8.07-8.01	-11.80-14.89	-18.687-18.2	-17.65-17.87	-18.19-17.78	-19.02-18.23	-17.60-12.99	-12.26-18.85	-17.56-18.75	-17.47-14.1	-15.84-14.5	-12.72-12.51	-11.81-15	-14.84-18.12
(H60)	-18.24-17.51	-14.07-18.31	-10.86-10.22	-10.18-10.86	-7.1-11.4	-12.67-8.61	-11.71-17.4	-18.16-18.95	-15.64-13.83	-8.11-10.35	-7.86-7.28	-12.28-19	-17.22-16.96	-18.12-19.09	-18.36-15.67	-11.89-15.67	-18.19-18.25	-18.19-18.25	-18.19-18.25	-18.19-18.25	-18.19-18.25	-18.19-18.25	-18.19-18.25	-18.19-18.25
(H75)	-16.89-17.63	-11.95-10.67	-9.76-15.56	-16.56-10.37	-12.02-12.09	8.48-8.84	-12.28-18.83	-16.71-14.63	-15.18-13.56	-13.53-10.44	-14.51-12.09	-12.0-18.41	-18.73-15.3	-18.61-10.3	-7.86-8.66	-7.44-8.07	-13.43-12.5	-14.81-18	-19.05-17.48	-18.88-19.18	-18.10-18.27	-18.67-17.1	-17.17-17.48	-18.88-18.35
(H82)	-15.68-15.61	-18.03-19.36	-18.55-18.04	-16.58-19.14	-11.81-14.91	-15.21-11.33	-11.26-11.66	-16.17-12.83	-16.33-17.6	-17.78-12.63	-8.78-19.18	-12.19-11.44	-10.86-15.22	-18.85-10.69	-8.37-8.68	-8.62-11.76	-19.04-19.25	-17.83-16.03	-18.56-15.32	-18.24-14.42	-11.74-9.38	-8.92-11.82	-12.26-12.16	-11.87-10.81
(H82.5)	-17.10-9.68	-12.42-11.71	-17.85-18.96	-17.03-15.73	-18.88-16.85	-19.02-15.97	-13.36-10.66	-13.26-12.43	-14.80-19.28	-16.80-18.77	-18.05-18.41	-16.52-14.83	-11.19-12.13	-12.32-11.67	-11.87-10.5	-15.92-15.21	-18.02-18.01	-17.32-15	-10.82-10.14	-13.24-13.1	-12.41-12.22	-10.29-9.67	7.47-10.21	-13.17-10.78
(H90)	-8.76-12.12	-14.18-11.92	-14.86-18.51	-18.08-19.3	-17.64-17.86	-10.12-10.33	-18.46-19.23	-18.25-13.2	-12.85-17.61	-15.37-18.69	-15.37-18.69	-16.17-17.88	-16.12-12.9	-15.88-17.78	-17.46-13.81	-16.65-17.1	-18.02-15.42	-17.42-12.86	-11.91-17.54	-12.40-12.9	-10.33-11.76	-12.38-6.65	-6.37-10.17	-7.41-11.1
(H95)	4.5-8.83	-14.18-18.36	-18.10-17.42	-12.36-14.64	-17.85-15.12	-15.14-14.19	-17.13-12.55	-13.81-17.48	-17.55-13.86	-18.31-18.49	-12.09-13.92	-14.99-11.68	-13.26-18.05	-17.53-15.62	-9.91-13.02	-13.75-14.64	-18.19-19.38	-13.64-13.76	-11.42-15.23	-12.93-10.35	-17.53-14.71	-11.19-43	-1.86-8.01	-6.95-9.29
(H107)	-15.70-10.48	-12.16-18.36	-18.58-17.95	-18.53-17.91	-18.41-17.91	-14.78-17.15	-18.18-17.71	-18.71-12.48	-18.21-14.68	-18.71-12.38	-15.53-14.3	-16.78-8.41	-8.4-14.52	-16.47-14.85	-18.51-15.77	-14.07-15.68	-12.12-16.17	-11.29-15.67	-15.12-14.1	-17.18-15.81	-18.12-10.23	-7.85-8.71	8.97-10.15	-13.82-8.62
(H112.5)	-13.59-9.42	-8.26-18.98	-15.85-13.83	-10.11-14.15	-11.19-18.99	-10.54-9.85	-14.84-18.29	-14.86-19.55	-17.68-19.34	-17.78-14.87	-17.42-13.13	-13.91-18.61	-18.06-12.33	-17.34-15.64	-9.91-14.02	-8.42-13.68	-18.37-10.15	-11.28-15.53	-16.61-18.38	-17.62-18.91	-17.42-12.67	-11.52-15.15	-11.78-10.27	-13.32-8.62
(H122.5)	-15.72-13.9	-5.97-8.42	-19.01-12.84	-13.12-8.67	-13.81-12.83	-16.91-12.28	-14.99-13.43	-18.60-19.12	-18.60-19.12	-14.36-16.27	-18.54-13.83	-12.92-14.19	-17.77-18.36	-13.94-15.48	-13.94-15.48	-15.98-16.83	-15.98-16.83	-15.98-16.83	-15.98-16.83	-15.98-16.83	-15.98-16.83	-15.98-16.83	-15.98-16.83	-15.98-16.83
(H127.5)	7.82-9.89	-16.47-10.7	-7.61-12.62	-16.20-17.86	-14.46-10.7	-7.23-13.5	-15.95-12.4	-12.41-9.88	-10.80-18.51	-16.78-12.52	-14.51-10.47	-17.11-9.36	5.27-14.4	-11.05-8.05	-4.31-5.69	-12.12-12.72	-12.75-18.18	-11.78-18.17	-16.39-14.74	-17.91-17.72	-12.06-12.15	-14.56-14.97	-14.08-19	-11.57-10.48
(H132.5)	-12.68-9.37	-13.28-16.8	-12.77-10.9	-14.01-9.89	-19.18-14.19	-7.29-13.63	-4.65-12.37	-18.32-12.6	-11.76-8.57	-17.36-10.67	-12.74-17.97	-12.23-14.49	-18.26-18.73	-15.49-18.33	-15.49-18.33	-15.56-17.65	-12.14-16.6	-18.46-14.15	-10.88-11.14	-11.51-16.83	-17.85-15.52	-11.24-8.64	-11.24-8.64	-11.24-8.64
(H142.5)	6.79-6.33	-3.50-3.47	-7.03-13.84	-13.38-12.58	-17.21-10.07	7.73-7.39	-8.82-11.23	-8.98-8.96	-13.16-14.98	-18.69-18.83	-14.8-15.51	-16.01-12.24	-12.12-10.3	-8.77-8.64	-10.32-15.15	-14.85-18	-14.5-10.71	-8.72-14.32	-17.36-18.44	-15.19-13.99	-13.33-14.99	-16.49-16.81	-15.1-12.77	-13.87-12.91
(H152.5)	10.87-8.19	7.4-5.33	-4.89-8.83	-4.07-10.38	-14.271-10.67	-18.62-18.62	-18.46-18.46	-15.59-11.73	-15.59-15.73	-11.80-17.44	-13.47-13.91	-17.89-19.68	-11.66-9.28	-7.98-7.78	-8.91-9.03	-16.27-12.24	-11.78-17.28	-7.54-13.48	-19.89-17.72	-17.36-19.48	-18.61-19.36	-18.69-18.67	-18.64-17.51	-17.79-8.63
(H157.5)	4.4-3.72	-6.7-10.7	-10.10-10.88	-11.64-17.7	5.88-6.2	8.83-9.38	-10.71-10.91	10.09-12.97	8.83-9.38	-10.71-10.91	10.09-12.97	8.83-9.38	-10.71-10.91	10.09-12.97	8.83-9.38	-10.71-10.91	10.09-12.97	8.83-9.38	-10.71-10.91	10.09-12.97	8.83-9.38	-10.71-10.91	10.09-12.97	8.83-9.38
(H160)	11.169-12.1	-12.821-13.5	-7.02-5.44	-4.91-4.80	5.16-6.37	9.41-12.53	-13.06-10.56	-17.33-17.78	-16.25-17.67	-15.18-12.12	-12.59-12.33	-10.63-10.99	-10.68-47	7.42-6.46	-5.59-6.97	7.17-12.58	-10.42-13.29	-4.50-17.89	-17.22-18.23	-17.59-19.1	-19.37-19.63	-18.99-14.88	-15.77-18.16	-15.77-19.63
(H172.5)	10.88-9.41	-8.46-7.42	-6.48-5.83	-6.00-6.57	-11.671-13.88	-18.68-18.37	-19.04-19.46	-18.13-19.46	-16.27-17.81	-15.37-16.47	-18.47-18.35	-17.93-17.13	-11.94-11.21	-8.91-11.38	-18.02-18.73	-7.56-7.47	-7.38-7.46	-8.43-11.38	-18.62-17.87	-18.17-18.69	-17.47-19.18	-16.08-18.96	-15.73-12.81	-15.73-12.81
FreeGain	2.773-3.2	5.55-8.2	-7.84-10.85	-16.02-14.57	-13.57-12.89	-12.62-13.34	-16.13-18.49	-18.18-18.37	-18.71-14.29	-15.21-16.78	-11.17-10.48	-9.41-7.81	-7.04-6.47	8.13-6.19	5.9-5.07	4.96-6.46	5.53-5.54	4.1-7.84	9.43-11.79	-13.35-13.7	-15.96-14.56	-14.16-14.98	-12.38-10.5	-11.51-10.18
Gen	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	0107(907.5)	
(H1)	-15.25-10.59	-16.38-13.17	-10.86-15.91	-17.75-18.15	-18.41-18.61	-13.81-12.79	-12.88-9.27	7.83-8.99	-9.38-18.7	7.67-9.84	8.49-9.34	8.17-10.15	-15.84-11.6	-12.77-14.85	-18.86-18.93	-18.19-19.7	-17.73-15.24	-11.88-13.68	-10.97-8.7	-11.91-9.3	-8.83-8.95	-10.44-7.3	-7.23-8.65	
(H15)	-10.16-9.89	-12.02-8.82	-12.28-13.14	-12.28-14.11	-11.22-8.48	-17.71-17.28	-14.89-12.37	-16.38-12.67	-17.87-17.46	-15.91-17.81	-7.99-8.4	-8.49-9.34	-10.73-10.68	-11.02-10.57	-13.58-16.24	-18.21-18.62	-18.21-17.37	-17.55-14.24	-12.42-11.69	-16.53-16.82	-12.91-9.8	-10.45-10.43	-8.96-10.13	-11.52-8.49
(H16)	-18.84-18.41	-14.27-13.6	-11.62-12.12	-1																				



Radiated Composite Gain of 2.4GHz and 5GHz UNII 1~3

Appendix A

	φ(75°)	φ(80°)	φ(85°)	φ(90°)	φ(95°)	φ(100°)	φ(105°)	φ(110°)	φ(115°)	φ(120°)	φ(125°)	φ(130°)	φ(135°)	φ(140°)	φ(145°)	φ(150°)	φ(155°)	φ(160°)	φ(165°)	φ(170°)	φ(175°)	φ(180°)		
Gain	-18.80/-18.58	-18.07/-18.14	-12.27/-14.19	-17.58/-11.09	9.12/-6.78	-7.98/-1.47	-7.16/-1.1	-7.72/-9.49	-6.67/-8.31	-10.30/-10.47	-18.16/-16.82	-18.13/-18.47	-18.29/-16.96	-13.60/-15.71	-13.81/-11.58	-12.26/-12.01	-12.79/-12.74	-12.35/-12.34	-13.79/-12.78	-10.10/-11.3	-12.41/-11.16	-10.11/-11.1	-10.24/-14.39	-18.07/-12.77
φ(15°)	-10.77/-10.37	-13.93/-13.89	-14.37/-12.78	-17.27/-19.05	-13.46/-10.35	-6.54/-1.82	-7.16/-4.78	-6.71/-7.11	-8.41/-10.54	-12.77/-12.29	-14.91/-15.77	-16.29/-17.96	-18.41/-18.93	-18.67/-17.71	-14.51/-12.5	-12.79/-12.93	-12.01/-12.32	-13.88/-14.82	-16.78/-16.48	-16.16/-16.22	-14.13/-13.17	-13.62/-10.48	-12.31/-10.94	-10.84/-13.86
φ(22.5°)	-14.53/-11.21	-13.24/-13.62	-13.64/-12.52	-13.76/-12.9	-10.27/-9.74	-6.49/-6.91	-6.29/-6.33	-8.37/-8.96	-9.39/-13.58	-17.58/-16.64	-18.42/-17.86	-18.53/-18.81	-17.82/-17.43	-18.11/-18.91	-17.15/-15.02	-15.93/-13.82	-13.48/-14.54	-16.43/-17.41	-19.74/-17.92	-19.92/-18.14	-18.17/-18.75	-18.68/-15.54	-19.72/-19.05	-16.18/-17.52
φ(30°)	-17.98/-16.4	-19.54/-18.11	-18.48/-17.68	-17.19/-16.38	-14.11/-12.6	-13.28/-10.87	-9.69/-9.39	-8.19/-6.2	-7.97/-11.6	-11.86/-15.24	-16.95/-17.33	-18.73/-18.82	-14.53/-15.85	-15.36/-14.59	-12.36/-12.13	-13.79/-14.58	-15.02/-18.99	-18.77/-18.4	-17.47/-18.49	-19.06/-18.64	-15.07/-17.28	-18.48/-18.7	-18.51/-18.66	-16.38/-18.73
φ(37.5°)	-16.38/-15.73	-12.41/-14.78	-17.45/-18.6	-17.38/-13.17	-14.58/-13.22	-12.33/-14.09	-11.08/-10.03	-9.89/-8.02	-8.41/-9.28	-11.77/-17.39	-11.14/-9.19	-12.21/-19.23	-15.85/-18.61	-18.96/-16.5	-17.83/-18.22	-18.92/-18.05	-17.13/-19.43	-18.99/-19.02	-19.21/-19.01	-18.35/-18.39	-18.06/-18.93	-14.79/-12.8	-12.89/-13.96	-12.83/-13.07
φ(45°)	-15.47/-15.69	-15.38/-17.36	-17.64/-18.47	-17.61/-12.32	-10.71/-10.45	-13.06/-14.98	-18.84/-15.46	-8.61/-6.16	-7.12/-7.48	-8.77/-10.24	-9.75/-9.52	-16.09/-17.93	-9.86/-11.95	-15.36/-15.29	-18.14/-18.43	-13.72/-18.4	-18.76/-19.79	-17.61/-17.51	-18.17/-18.34	-17.76/-18.49	-19.07/-18.04	-15.79/-13.41	-14.17/-14.64	-12.27/-12.85
φ(52.5°)	-16.29/-16.44	-18.91/-18.82	-19.28/-14.94	-12.65/-12.49	-12.0-8.8	-9.54/-14.67	-18.35/-11.24	-10.75/-9.19	-10.18/-11.93	-17.85/-11.1	-13.93/-15.08	-17.31/-18.49	-17.97/-17.61	-17.93/-19.03	-15.44/-13.36	-12.69/-15.92	-14.91/-15.08	-15.03/-17.43	-16.29/-18.21	-15.61/-12.15	-12.44/-9.68	-12.01/-15.39	-14.49/-17.59	-16.34/-18.1
φ(60°)	-17.78/-17.95	-18.71/-17.7	-15.74/-18.57	-16.42/-15.03	-18.32/-12.17	-10.78/-11.88	-11.48/-15.4	-19.29/-15.55	-18.03/-19.16	-11.39/-8.83	-8.49/-8.88	-9.76/-15.62	-18.75/-18.99	-14.44/-9.87	-12.89/-18.88	-14.49/-11.98	-12.34/-16.19	-19.21/-12.77	-18.65/-18.68	-17.86/-16.48	-19.21/-19.1	-18.11/-11.5	-13.75/-17.27	-15.88/-17.76
φ(67.5°)	-18.88/-18.37	-18.35/-18.58	-18.68/-17.89	-18.96/-18.54	-17.79/-17.45	-15.16/-14.75	-15.48/-10.85	-15.71/-18.11	-12.31/-11.79	-18.9-8.24	-12.27/-15.39	-17.47/-18.18	-19.39/-9.96	-9.34/-10.17	-8.83/-5.52	-8.71/-10.74	-14.79/-14.62	-18.79/-17.88	-18.54/-18.87	-15.21/-14.25	-13.11/-11.82	-18.98/-13.65	-13.35/-14.37	-16.18/-18.94
φ(75°)	-13.93/-13.82	-14.42/-14.52	-19.36/-18.09	-18.29/-18.83	-10.77/-17.7	-18.18/-19.13	-13.34/-13.84	-12.95/-17.51	-18.97/-16.82	-11.28/-14.16	-8.93/-8.33	-10.83/-14.97	-18.74/-10.01	-8.91/-8.68	-8.03/-7.96	-8.43/-12.28	-17.48/-18.98	-16.11/-17.29	-16.36/-13.86	-13.19/-16.15	-10.44/-14.28	-11.59/-12.29	-12.14/-10.89	-8.12/-7.63
φ(82.5°)	-8.53/-8.3	-12.16/-12.79	-17.03/-18.84	-16.36/-18.17	-14.89/-19.07	-18.49/-18.91	-12.32/-10.89	-13.75/-9.38	-10.53/-15.01	-12.89/-19.98	-12.87/-18.23	-14.03/-11.34	-13.57/-16.06	-13.02/-11.32	-12.81/-12.72	-18.99/-17.74	-18.10/-19.38	-16.71/-9.68	-14.14/-16.32	-16.79/-16.05	-11.59/-15.22	-7.95/-9.88	-7.37/-10.23	-11.47/-7.86
φ(90°)	-11.99/-14.4	-15.59/-15.98	-18.08/-18.85	-18.07/-18.99	-18.27/-19.25	-18.31/-19.75	-19.48/-19.13	-19.31/-18.72	-18.21/-17.85	-18.74/-18.13	-18.95/-18.27	-17.68/-14.42	-15.68/-14.05	-13.81/-14.79	-18.98/-16.16	-16.44/-16.3	-15.97/-14.93	-15.55/-16.32	-17.98/-16.63	-19.39/-15.73	-12.78/-9.55	-8.4/-5.5	-7.8/-9	
φ(97.5°)	-13.16/-11.07	-10.42/-12.34	-17.08/-15.51	-14.22/-17.95	-17.11/-14.94	-18.42/-18.1	-18.29/-19.19	-18.18/-18.22	-13.26/-15.45	-19.17/-17.26	-16.97/-10.78	-12.98/-15.12	-18.74/-10.4	-14.19/-16.71	-12.39/-8.62	-17.92/-12.61	-16.37/-18.41	-12.96/-10.88	-15.41/-18.79	-16.37/-19.2	-18.54/-19.15	-18.74/-18.86	-18.93/-14.22	-13.74/-12.98
φ(105°)	-9.95/-9.59	-9.34/-10.07	-8.18/-14.63	-15.71/-12.1	-15.53/-18.87	-17.54/-18.04	-19.18/-18.1	-14.19/-10.93	-17.77/-19.2	-11.57/-12.82	-8.23/-11.45	-14.09/-8.61	-8.47/-12.8	-9.24/-17.53	-15.26/-11.37	-11.08/-16.8	-14.89/-17.13	-13.59/-16.38	-18.14/-17.77	-17.87/-18.57	-19.15/-14.38	-17.24/-19.63	-18.61/-17.41	-12.67/-10.53
φ(112.5°)	-19.84/-10.83	-9.54/-7.79	-10.31/-12.21	-18.82/-16.59	-12.19/-18	-15.48/-13.59	-11.23/-14.84	-12.26/-18.11	-17.71/-18.87	-18.12/-18.16	-18.15/-18.05	-37.11/-14	-11.26/-17.7	-17.77/-17.84	-18.31/-15.36	-17.26/-17.79	-15.78/-17.33	-18.76/-97	-17.48/-19.07	-18.98/-15.91	-12.98/-13.96	-15.84/-13.4	-10.75/-17.88	-18.38/-13.81
φ(120°)	-16.46/-13.79	-8.87/-8.16	-8.52/-9.41	-12.41/-16.17	-19.08/-16.82	-18.36/-12.77	-11.57/-11.59	-13.02/-9.62	-6.47/-10.85	-11.36/-17.27	-19.03/-10.51	-9.92/-9.3	-11.97/-10.84	-14.14/-12.14	-6.18/-13.03	-8.29/-10.32	-17.39/-17.72	-18.35/-18.87	-18.91/-17.86	-18.61/-15.32	-8.14/-9.49	-18.83/-7.17	-4.83/-8.86	-10.07/-10.57
φ(127.5°)	-13.24/-15.65	-14.22/-8.86	-10.56/-11.49	-10.79/-13.47	-17.93/-19.43	-15.79/-13.69	-13.12/-13.59	-17.48/-19.48	-18.04/-16.5	-10.63/-9.79	-14.26/-17.97	-18.84/-12.18	-11.87/-9.27	-8.91/-3.77	-14.89/-6.43	-11.99/-13.86	-18.16/-18.29	-18.82/-16.15	-18.92/-18.67	-18.88/-16.22	-10.52/-8.96	-10.95/-18.48	-9.85/-18.72	-7.12/-12
φ(135°)	-14.91/-15.09	-13.36/-18.84	-14.94/-8.75	-8.44/-11.7	-13.38/-18.24	-13.81/-9.79	-4.45/-6.58	-8.67/-8.39	-8.69/-11.84	-8.99/-12.4	-17.13/-14	-8.03/-13.18	-16.37/-8.31	-4.21/-22	-9.61/-18.3	-18.21/-19.06	-19.12/-13.05	-14.17/-12.22	-18.51/-18.65	-17.84/-18.15	-15.82/-14.22	-14.74/-14.02	-18.54/-18.92	-18.62/-12.29
φ(142.5°)	-13.86/-18.34	-15.15/-15.04	-18.63/-10.36	-6.54/-7.15	-8.53/-7.68	-9.08/-11.07	-11.06/-13.62	-10.24/-9.44	-13.65/-10	-7.75/-10.25	-10.91/-17.49	-19.32/-17.43	-13.43/-4.85	-10.51/-12.86	-14.46/-17.38	-16.16/-10.04	-10.54/-14.57	-13.41/-18.14	-14.22/-14.98	-17.84/-18.15	-18.82/-10.59	-8.82/-6.53	-8.74/-8.1	-8.62/-11.4
φ(150°)	-6.73/-6.08	-9.65/-14.44	-9.75/-6.96	-8.61/-13.54	-12.93/-9.98	-6.35/-6.65	-6.21/-6.95	-6.89/-9.37	-11.59/-9.35	-10.78/-15.73	-17.85/-16.61	-15.89/-12.53	-8.06/-7.26	-8.08/-11.74	-17.87/-17.26	-18.29/-11.75	-10.42/-11.88	-17.28/-17.1	-18.19/-15.1	-15.89/-14.18	-15.02/-14.22	-14.25/-7.73	-4.46/-6.15	-4.89/-4.34
φ(157.5°)	-8.43/-11.26	-9.86/-11.63	-13.51/-18.43	-19.07/-13.01	-10.49/-6.89	-4.34/-5	-6.72/-9.91	-14.39/-17.17	-15.17/-13.85	-16.58/-14.25	-11.51/-10.25	-8.33/-7.41	-6.87/-4.22	-7.54/-10.02	-11.23/-14.64	-14.15/-11.19	-10.31/-13.47	-18.58/-19.23	-17.61/-18.37	-17.81/-17.9	-16.49/-17.99	-18.44/-17.9	-15.07/-10.07	-7.61/-6.26
φ(165°)	-15.78/-16.65	-13.38/-13.92	-17.71/-17.11	-16.92/-15.33	-11.24/-8.54	-8.21/-10.11	-14.14/-17.09	-18.91/-18.51	-19.61/-17.77	-13.79/-15.94	-17.81/-16.48	-17.91/-13.7	-13.89/-13.42	-12.12/-12.18	-6.26/-7.68	-7.91/-8.63	-10.82/-14.62	-16.74/-18.67	-19.05/-13.83	-12.11/-14.76	-14.07/-12.73	-14.17/-13.77	-13.47/-18.9	-18.13/-18
φ(172.5°)	-17.81/-16.99	-18.35/-18.6	-18.05/-18.31	-18.81/-17.42	-15.91/-13.77	-12.92/-14.27	-18.73/-18.11	-18.88/-17.49	-19.21/-17.57	-18.27/-17.52	-14.96/-17.25	-17.53/-14.35	-14.69/-13.42	-12.12/-12.8	-11.08/-11.21	-11.06/-11.4	-13.49/-17.76	-18.67/-19.53	-16.27/-12.64	-10.91/-10.09	-10.58/-9.89	-8.01/-10.98	-11.89/-13.83	-15.83/-15.06
φ(180°)	-18.93/-19.13	-17.06/-15.02	-15.72/-17.04	-18.65/-16.48	-16.92/-18.56	-18.08/-17.35	-16.69/-16.05	-18.29/-16.96	-13.92/-14.77	-15.47/-13.63	-12.15/-11.56	-12.16/-10.46	-10.48/-12.67	-13.26/-14.74	-17.67/-19.07	-18.57/-18.31	-18.13/-16.5	-14.34/-12.59	-11.43/-11.78	-11.57/-10.48	-10.48/-11.72	-11.41/-11.64	-11.47/-12.79	-14.21/-16.25
Freq(Hz)	5.785GHz	Theta/Vol	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
Gain	φ(75°/φ(22.5°)	φ(80°/φ(37.5°)	φ(85°/φ(52.5°)	φ(90°/φ(67.5°)	φ(95°/φ(82.5°)	φ(100°/φ(97.5°)	φ(105°/φ(112.5°)	φ(110°/φ(127.5°)	φ(115°/φ(142.5°)	φ(120°/φ(157.5°)	φ(125°/φ(172.5°)	φ(130°/φ(180°)	φ(135°/φ(180°)	φ(140°/φ(180°)	φ(145°/φ(180°)	φ(150°/φ(180°)	φ(155°/φ(180°)	φ(160°/φ(180°)	φ(165°/φ(180°)	φ(170°/φ(180°)	φ(175°/φ(180°)	φ(180°/φ(180°)	φ(180°/φ(180°)	
φ(75°)	-7.28/-6.71	-8.98/-8.41	-8.58/-8.82	-10.79/-14.27	-17.51/-16.84	-17.91/-16.94	-16.48/-18.71	-17.86/-19.23	-18.95/-18.74	-17.82/-15.4	-13.45/-12.03	-10.71/-9.96	-10.27/-9.64	-9.82/-9.51	-9.79/-9.96	-10.89/-12.33	-12.98/-13.12	-15.01/-17.82	-18.86/-18.03	-18.31/-17.98	-18.43/-15.19	-13.25/-10.88	-10.82/-8.84	-8.67/-7.56
φ(82.5°)	-10.44/-9.74	-9.84/-10.37	-10.71/-9.14	-10.88/-14.49	-15.09/-13.88	-15.84/-16.53	-18.59/-17.56	-17.39/-19.24	-13.11/-10.98	-10.92/-9.48	-9.22/-8.57	-7.46/-7.07	-7.64/-6.65	-9.39/-9.98	-11.51/-11.28	-11.95/-12.98	-13.09/-13.57	-15.15/-15.04	-17.31/-19.23	-19.53/-19.82	-17.36/-16	-16.95/-14.87	-15.19/-13.27	-13.22/-11.03
φ(90°)	-18.44/-18.71	-18.49/-18.07	-18.76/-15.09	-17.31/-15.53	-18.21/-16.38	-18.22/-17.72	-15.25/-14.07	-14.35/-12.22	-11.45/-10.81	-10.43/-10.12	-9.54/-10.36	-11.23/-12.04	-11.68/-11.15	-10.65/-9.23	-9.26/-8.4	-9.04/-10.11	-11.49/-11.72	-8.92/-11.02	-11.31/-11.24	-11.73/-10.93	-11.01/-12.24	-12.07/-11.13	-12.42/-12.86	-10.66/-12.65
φ(97.5°)	-12.24/-10.88	-14.23/-10.88	-13.16/-18.7	-15.18/-17.65	-15.09/-17.85	-18.61/-18.56	-11.88/-10.11	-7.48/-4.77	-8.48/-10.96	-10.34/-10.36	-10.51/-10.95	-10.78/-10.38	-10.18/-8.58	-8.45/-9.1	-9.29/-9.01	-9.04/-10.59	-13.92/-10.72	-8.22/-8.65	-7.78/-9.21	-9.98/-9.03	-8.51/-7.84	-8.11/-8.66	-8.56/-8.17	-10.66/-12.28
φ(105°)	-10.28/-9.21	-10.28/-9.21	-11.89/-9.27	-8.37/-12.81	-15.14/-14.29	-10.85/-8.58	-5.91/-8.28	-8.78/-7.87	-8.24/-8.8	-12.25/-12.08	-12.43/-12.09	-11.59/-11.21	-8.13/-6.59	-6.41/-5.36	-7.41/-12.8	-13.73/-13.13	-12.23/-12.45	-9.49/-7.07	-8.85/-11.99	-9.11/-11.1	-9.17/-9.3	-9.92/-8.43	-8.46/-8.78	-6.58/-7.53
φ(112.5°)	-4.16/-3.51	-3.93/-3.59	-6.28/-4.74	-3.74/-7.35	-1.49/-4.83	-11.41/-7.53	-7.99/-8.81	-6.98/-6.45	-7.17/-5	-11.21/-8.23	-10.91/-8.1	-11.89/-9.31	-6.											



Radiated Composite Gain of 6GHz

Appendix B

Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	3.78	3.12	3.87	3.87
Ant. 2 Max Gain (dBi)	2.13	2.61	4.1	4.3
Ant. 3 Max Gain (dBi)	2	2.27	2.94	4.77
Ant. 4 Max Gain (dBi)	3.1	2.54	3.75	3.85
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/75/180	Phi/82.5/187.5	Phi/82.5/187.5	Phi/75/187.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/105/292.5	Phi/97.5/277.5	Phi/105/277.5	Phi/112.5/285
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Phi/90/75	Phi/82.5/90	Phi/97.5/90	Phi/90/82.5
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/90/345	Theta/112.5/322.5	Theta/112.5/300	Theta/97.5/337.5
Max Gain (dBi)	3.78	3.12	4.1	4.77
DG [1SS] (dBi)	4.6	4.1	5.71	5.16
DG [2SS] (dBi)	3.78	3.12	4.1	4.77
DG [4SS] (dBi)	3.78	3.12	4.1	4.77

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Radiated Composite Gain of 6GHz

Appendix B

θ(22.5°)	0.820±0.64	0.921±0.49	1.21±0.22	1.130±0.41	0.99±0.07	-0.09±0.66	-1.26±2.23	-1.57±0.35	0.610±0.9	1.151±17	0.950±55	0.40±0.4	0.810±71	-0.13±0.49	-0.230±0.47	0.710±0.94	1.131±12	1.050±03	0.790±0.36	0.920±5	0.12±0.47	-0.83±1.13	-0.21±0.48	-1.77±1.41
θ(30°)	0.451±0.06	-0.06±1.33	-0.720±0.44	1.39±1.69	1.2±0.2	-0.25±0.34	-1.16±0.82	-0.310±57	0.920±0.36	0.821±2	1.290±0.5	-0.27±1.64	-2.35±1.47	-0.290±31	0.550±0.38	1.15±1	2.53±0.38	2.51±72	0.821±0.5	1.961±0.5	0.79±0.58	-1.48±1.44	-0.5±0.4	0.680±0.43
θ(37.5°)	2.1±0.46	-2.16±0.22	-0.080±0.06	0.91±0.79	1.430±1.71	0.4±1.71	-1.83±2.22	-0.59±0.49	-0.010±23	-1.17±0.63	-0.78±0.31	-1.18±3.25	-3.42±2.06	-1.33±0.64	0.690±91	0.231±16	1.56±0.42	2.330±0.5	-0.88±0.16	0.530±0.08	-1.37±2.01	-0.91±0.61	-2.29±2.88	-3.08±2.25
θ(45°)	4.47±1.31	-0.59±0.49	-0.57±0.15	0.49±0.32	0.66±0.02	-1.31±1.21	-1.56±1.01	0.95±1.11	1.040±23	-0.04±0.03	-0.17±0.2	-1.61±2.09	-1.16±0.04	1.171±0.5	0.99±0.82	-0.420±2	1.98±0.45	3.82±0.56	0.70±0.38	1.440±76	-1.82±1.59	-4.13±0.57	6.13±0.91	-4.56±0.33
θ(52.5°)	-4.24±0.02	-3.16±0.29	0.520±21	0.180±23	1.29±1.98	0.1±2.02	0.59±0.51	0.29±0.53	0.5±0.68	0.8±1.4	4.88±0.15	-2.97±1.95	-1.53±0.46	0.98±1.56	2.72±0.28	1.311±13	3.80±0.34	4.350±0.53	2.02±0.46	1.40±0.6	-0.81±1.94	-2.04±0.56	-6.64±0.33	-5.51±0.22
θ(60°)	-3.39±0.87	-2.89±0.88	-0.21±0.28	2.95±0.4	2.35±0.47	3.71±72	2.82±1.35	-1.06±0.91	1.15±1.08	0.13±0.27	-1.85±0.87	-0.50±0.08	-0.34±0.3	0.590±0.7	1.31±2	1.46±2.52	1.90±0.79	2.71±0.44	1.47±0.82	2.361±73	-0.36±1.85	-1.01±3.98	-5.86±0.47	-8.41±0.76
θ(67.5°)	-5.15±1.45	-2.14±1.81	0.29±0.52	1.43±2.8	3.85±1.9	22±16	2.89±1.1	1.21±27	2.470±9	1.12±1.36	0.63±1	1.09±0.74	1.17±1.21	0.91±4	-0.05±0.7	0.51±0.27	1.96±0.79	1.361±64	0.63±0.56	0.01±0.19	-0.04±1.98	-2.9±3.58	-1.38±3.89	-6.13±0.67
θ(75°)	-4.71±0.87	0.26±0.47	1.37±0.96	2.22±0.21	3.94±1	2.87±2.36	3.19±2.99	2.06±2	1.49±1.3	2.62±0.34	2.22±0.84	3.32±0.14	1.91±15	-0.15±0.96	0.73±0.47	-0.2±0.17	10±01	1.05±1.79	1.310±0.8	0.980±34	-0.87±1.12	-4.1±0.33	-4.86±3.97	-4.65±0.35
θ(82.5°)	-5.9±0.41	-1.71±0.05	-1.55±0.79	2.32±0.6	3.63±0.76	3.67±0.74	2.48±1.9	1.81±2.88	2.88±0.64	2.75±1.32	1.48±2.73	2.84±1.9	0.17±0.86	0.42±0.22	0.58±1.2	0.5±0.24	0.05±0.05	1.55±2.13	1.540±29	0.28±0.54	-1.29±0.16	-0.3±0.27	-3.75±0.59	
θ(90°)	-2.33±0.85	-1.58±1.8	-0.04±0.35	1.99±0.42	3.73±19	1.95±1.04	3.59±0.45	4.88±0.64	1.92±1.08	1.76±1.57	2.37±0.85	0.9±0.8	0.53±0.2	-0.35±0.48	-0.97±0.68	0.27±0.69	1.48±0.08	2.85±0.3	2.76±1.87	-0.02±0.46	1.02±1.16	-1.13±0.2	-1.88±0.58	
θ(97.5°)	0.359±0.61	-2.44±0.44	-2.21±1.38	0.79±0.01	2.96±2.29	3.21±0.72	2.86±1.78	1.73±1.14	1.91±1.9	2.19±1.07	0.25±0.59	0.83±1.53	0.81±2	0.95±0.39	-1.26±1.29	-0.70±0.32	0.23±0.75	2.04±1.24	4.58±0.36	3.33±0.8	1.411±0.85	1.27±0.32	1.6±0.35	-3.29±0.47
θ(105°)	4.52±0.47	4.88±0.43	3.73±0.41	0.71±0.36	1.26±0.53	1.20±0.37	0.67±0.12	1.28±0.53	0.39±0.34	0.14±0.59	0.28±0.21	0.98±0.26	1.08±1.5	-2.74±0.36	-1.61±0.38	1.09±1.39	2.37±0.4	5.12±0.7	4.42±0.31	3.73±0.25	0.61±0.67	0.84±0.31	-6.98±0.81	
θ(112.5°)	3.78±0.43	4.18±0.45	4.47±0.61	-4.36±0.7	0.11±1.2	-1.59±1.94	-0.89±0.89	2.53±0.82	3.31±2.29	0.95±0.77	0.14±0.26	0.391±0.36	-1.04±0.21	0.81±0.17	2.1±0.7	-1.09±2	-1.72±1.86	1.36±0.82	2.84±4	1.65±77	0.81±0.96	-1.69±0.49	-2.3±0.47	-0.51±0.63
θ(120°)	5.5±0.56	5.93±0.51	0.03±0.57	0.3±0.3	0.2±0.05	-1.92±0.26	-3.24±0.84	-3.77±0.34	5.21±0.34	5.9±0.24	-4.03±0.65	-0.4±0.4	3.18±0.43	2.21±1.23	-3.76±0.78	-1.96±0.91	-2.59±0.27	-2.09±0.27	-1.45±0.22	-1.59±0.09	-0.01±2.39	-4.05±0.79	-3.77±1.4	-0.31±0.32
θ(127.5°)	6.96±0.61	-9.9±0.77	-8.45±0.15	-5.58±1.7	-1.43±0.38	0.09±0.13	-2.71±0.39	-3.95±0.47	-4.76±2.94	-3.65±0.94	-0.01±0.15	-8.45±0.82	-0.53±0.41	-3.97±0.74	-10.21±0.57	-2.73±0.29	-1.67±0.53	-0.26±2.95	-0.380±0.08	-2.210±0.51	-0.59±3.77	-5.89±0.47	-5.15±0.58	-4.3±0.48
θ(135°)	0.47±1.71	-5.36±7.21	-8.25±0.68	-2.54±0.92	-0.26±1.23	-2.21±0.83	-3.86±0.4	-6.89±0.55	-5.37±7.32	-4.74±0.65	-6.54±2.85	-2.89±0.91	-1.45±0.94	-4.71±0.59	-1.50±0.12	-1.34±0.83	0.07±0.47	0.25±1.63	-0.41±1.33	-0.87±3.37	-3.71±2.38	-3.31±0.68	-8.67±0.78	
θ(142.5°)	0.48±0.47	-4.06±0.4	-0.47±0.83	-0.49±0.11	-7.61±0.97	0.03±0.07	-1.83±0.39	-3.14±0.71	-6.9±0.36	-8.87±7.2	-8.33±7.02	-5.21±0.34	-3.89±1.98	-1.14±0.55	-3.18±0.78	0.75±0.48	-2.16±7.8	-0.66±1.86	0.63±2.06	0.41±1.67	-2.24±0.51	-4.32±0.39	-8.65±0.48	-5.15±0.47
θ(150°)	0.58±0.32	-7.95±7.73	-0.77±0.36	-5.03±0.65	-8.93±0.1	-15.15±0.4	-8.16±0.4	-5.73±0.52	-3.18±0.16	-4.74±0.38	-3.69±2.94	-4.18±0.24	0.63±1.8	0.85±1.26	-3.04±0.52	-3.24±0.43	-1±0.28	-5.64±1.33	-3.07±0.68	-0.19±1.08	-2.4±0.27	-4.89±3.77	-7.52±0.21	-3.25±0.48
θ(157.5°)	0.67±0.82	-8.01±0.31	-5.82±0.47	-7.77±0.62	-3.87±0.19	-2.3±0.57	-0.61±0.8	-7.84±0.53	-4.45±0.74	-5.51±0.33	-1.45±1.48	-2.9±0.8	0.63±0.43	0.33±1.79	-3.23±0.53	-4.98±0.43	-1.98±0.27	-3.67±1.46	-3.84±2.71	-1.82±1.38	-1.96±0.12	-5.07±0.13	-2.56±0.49	-0.55±0.48
θ(165°)	-4.88±0.55	-5.95±0.61	-4.43±0.87	-3.98±2.69	-5.62±0.43	-7.53±7.31	-6.13±0.94	-6.44±0.69	-6.89±0.66	-7.65±0.15	-4.51±1.32	-1.76±1.38	1.34±1.15	1.56±1.44	1.19±1.01	0.95±0.58	-0.41±1.32	-0.64±0.22	-1.88±1.51	-0.76±0.29	-0.41±0.04	-2.99±0.29	-3.99±0.64	
θ(172.5°)	0.38±0.56	-4.79±1.43	-3.03±0.24	-2.14±0.23	-4.43±7.9	-7.56±0.64	-4.75±0.45	-2.95±2.41	-2.07±1.75	-1.01±0.16	-0.75±0.14	-2.97±0.57	-3.8±0.45	1.66±0.6	1.76±0.28	2.10±2.15	1.73±1.51	1.08±0.74	-0.04±0.68	-0.77±0.91	-0.96±1.27	-1.77±2.83	-2.63±0.31	-3.64±0.78
θ(180°)	-3.23±1.76	-0.85±0.14	0.61±0.87	0.87±0.32	-0.43±0.82	-0.38±0.63	-1.76±2.51	-0.20±0.69	0.26±0.38	0.43±0.16	0.19±1	0.33±0.47	0.78±0.23	1.86±0.11	2.55±0.27	2.76±0.2	2.44±0.98	1.39±0.73	0.12±0.42	-0.59±0.78	-0.87±0.27	-0.22±0.06	-1.28±0.21	-2.49±0.36
Freq(6)	0.6950±0.04	Thetal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
θ(90°)	θ(75°)	θ(60°)	θ(45°)	θ(30°)	θ(15°)	θ(0°)	θ(15°)	θ(30°)	θ(45°)	θ(60°)	θ(75°)	θ(90°)	θ(105°)	θ(120°)	θ(135°)	θ(150°)	θ(165°)	θ(180°)	θ(195°)	θ(210°)	θ(225°)	θ(240°)	θ(255°)	θ(270°)
θ(1)	1.02±0.73	0.88±0.32	-0.52±0.68	-1.41±1.48	-1.41±1.29	-1.79±2.45	-2.7±2.28	2.26±1.11	-0.26±0.02	0.26±0.5	0.83±0.58	0.86±0.7	1.24±0.3	-0.11±0.61	-1.26±1.3	-1.23±1.48	-1.24±0.98	-1.41±1.32	-0.93±0.75	-0.67±0.81	-0.47±0.13	0.35±0.69	0.84±1.37	1.18±0.85
θ(2)	0.51±0.15	0.07±0.31	-0.2±0.68	-0.59±0.61	-0.62±1.09	-1.42±1.19	-1.42±1.11	-0.55±0.91	-0.49±0.92	1.18±1.04	1.89±1.55	1.51±0.8	0.77±0.34	0.25±0.28	-0.60±0.65	-1.25±1.38	-2.25±2.78	-2.91±2.43	-1.84±1.08	-0.16±0.41	0.93±1	0.95±0.69	0.67±0.62	
θ(3)	0.63±0.43	-0.21±1.34	-0.92±0.42	-0.15±0.68	0.51±0.65	0.19±0.38	1.28±1.78	1.59±0.33	0.58±1.03	1.21±1.29	1.71±0.9	0.86±1.3	1.49±1.33	1.15±0.8	0.31±0.67	0.96±0.86	3.07±0.46	3.07±0.46	0.98±1.35	1.34±0.83	1.79±1.45	1.1±0.85		
θ(4)	-1.2±0.13	-1.14±0.14	0.14±0.47	0.23±0.79	0.94±0.05	0.06±0.3	-0.38±0.42	-1.65±0.83	-2.68±1.16	-0.01±0.06	0.02±0.3	0.81±0.12	1.75±1.82	1.85±1.82	1.99±1.86	1.89±1.68	0.42±0.93	-1.12±0.28	0.51±0.68	0.88±0.82	0.36±0.96	0.42±0.13	-1.07±0.17	
θ(5)	0.38±0.41	0.02±1.4	1.39±0.25	1.88±0.5	0.13±0.03	0.43±0.57	1.23±1.37	0.51±1.25	-0.05±0.81	0.91±0.45	0.03±0.36	0.81±0.63	0.63±0.62	0.32±0.23	3.12±0.33	1.79±1.04	0.38±0.47	-1.53±0.31	-1.49±0.33	-0.89±0.78	1.57±0.02	0.49±0.44	0.94±0.33	
θ(6)	0.24±0.23	-0.76±0.04	0.97±1.49	0.97±0.93	0.26±0.27	0.88±0.99	1.27±1.38	0.16±1.73	2.41±1.76	-1.01±0.48	-0.96±0.04	-0.05±0.4	0.16±0.08	0.76±1.37	2.07±1.88	0.94±1.78	0.14±1.5	-1.51±2.27	-2.26±1.27	0.85±0.5	0.14±0.31	1.34±0.26	2.34±0.94	2.34±0.94
θ(7)	1.38±1.05	1.10±0.89	1.10±0.86	0.11±0.07	0.04±0.14	0.53±0.33	0.42±0.63	0.46±1.98	-1.47±0.72	-0.38±0.01	-0.98±0.92	1.92±2.11	1.61±1.47	0.8±0.87	0.85±0.45	0.10±0.15	-0.02±2.08	-2.49±0.28	-1.93±0.2	1.47±0.72	1.57±0.71	2.47±0.8	1.67±0.04	2.31±0.48
θ(8)	0.02±0.91	1.39±1.28	0.3±0.15	-0.84±0.81	-1.21±0.21	-2.87±0.27	-1.64±0.74	2.42±1.75	-0.14±0.53	-1.42±0.78	1.57±1.47	2.47±1.78	0.95±0.94	0.47±0.14	-2.87±0.05	-0.76±2.81	-3.77±0.65	-4.05±0.32	-1.71±0.25	0.51±0.46	1.39±0.56	2.31±0.69	1.13±1.97	2.83±0.51
θ(9)	3.44±0.02	1.74±0.07	0.11±0.51	-0.06±1.85	-2.14±0.31	-3.05±0.23	-2.82±1.38	-1.88±1.19	-0.11±0.79	-1.62±1.92	0.88±1.24	1.19±0.53	0.28±0.52	0.27±0.24	-2.72±0.79	-1.68±0.44	-4.14±0.8	-1.61±0.13	-1.24±0.07	-1.34±0.71	1.92±0.82	2.02±0.19	1.95±0.1	3.85±0.13
θ(10)	2.57±0.04	1.98±1.27	0.18±0.11	-0.59±1.23	-0.29±0.4	-0.68±0.22	-0.44±0.63	0.29±0.56	-1.72±0.45	-0.91±0.47	-3.11±0.36	-3.97±4	-4.83±0.57	-6.63±0.49	-3.89±0.78	-1.69±0.33	-5.33±0.42	-5.12±0.25	-2.25±0.83	-1.61±0.37	-1.25±0.45	0.91±0.45	2.98±0.76	3.15±0.18
θ(11)	1.63±1.74	1.84±0.24	0.21±0.09	-3.59±1.26	-2.57±0.44	-4.24±0.58	-3.68±0.24	-4.18±0.43	-4.29±1.23	-4.98±0.67	-4.97±0.91	-6.03±0.43	-6.11±0.47	-6.38±1.49	-2.03±0.41	-5.69±0.65	-1.69±2.85	-3.14±0.31	-2.28±0.72	-0.51±0.15	-0.64±0.59	0.22±0.28	0.82±0.36	
θ(12)	0.83±0.04	1.24±1.86	0.26±1.68	-2.21±1.82	-1.69±0.39	-5.46±0.31	-4.89±0.61	-6.9±0.61	-8.73±0.65	-6.96±0.27	-4.36±0.19	-6.26±0.43	-5.26±0.75	-0.97±0.02	-0.16±0.87	-2.63±0.53	-4.14±0.53	-1.69±0.06	-0.81±0.06	-0.37±0.13	-0.04±1.08	-1.14±1	1.45±0.22	4.42±0.03
θ(13)	1.83±0.2	2.17±0.59	-1.23±1.07	-2.09±0.38	-1.87±0.42	-4.53±0.51	-8.42±0.16	-4.07±0.26	-4.75±0.26	-8.13±0.49	-8.9±0.52	-7.17±1.69	-1.73±1.43	-3.75±0.47	-3.01±1.16	-0.04±2.08	-3.46±0.1							



Radiated Composite Gain of 6GHz

Appendix B

(H(25))	0.650474	1.76175	0.34+0.49	-1.51+2.55	0.93+0.23	-9.3+13.48	-15.41+18.5	-10.17+6.32	5.75+5.92	4.3+3.57	-1.6+0.41	0.09064	1.21153	1.17089	0.46037	-0.17+0.78	-1.83+5.27	-7.68+8.17	6.12+11.4	-10.14+9.88	-10.94+11.98	-8.31+5.88	-4.48+3.23	-1.85+0.88
(H(26))	0.81117	0.25+1.37	-0.96+1.01	-1.42+1.83	2.44+5	6.2+10.94	-16.27+11.2	6.33+7.07	7.42+8.89	-4.51+8.82	-1.1+10.96	2.71+3.52	2.88+1.65	0.87+1.6	0.7769	0.92078	0.14+1.08	-4.92+7.85	-14.86+17.34	-11.82+12.64	-15+13.86	-7.01+5.83	0.82+0.18	0.37+0.46
(H(27))	-1.35+2	-0.25+1.44	-1.75+2.72	-1.68+2.11	-3.03+5	-7.87+18.43	-16.50+17.75	6.5+11.07	-10.38+15	-15.12+22.26	-7.08+5.33	5.84+6.43	-7.71+5.83	-3.93+1.9	-2.82+1.6	-1.35+2	-2.46+1.83	-3.81+1.73	-15.06+17.94	-17.53+17.05	-19.05+16	-4.91+2.22	-1.03+0.57	-1.3+0.87
(H(28))	2.71+2.08	2.5+3.03	-4.9+2.8	6.63+7.1	-11.82+7.2	-10.09+18.1	-19.19+12.96	-12.35+6.57	5.3+5.91	9.18+0.1	-9.91+0.9	8.36+3.5	5.53+1.2	2.48+2.42	-2.56+1.9	-2.23+0.87	0.88+2.07	2.17+7.7	6.41+11.3	-8.82+11.4	-17.89+5.77	-5.57+3.64	-4.35+0.82	-5.93+2.47
(H(29))	5.88+1.78	0.66+5.23	5.2+6.16	9.87+8.68	-7.57+10.3	8.86+17.79	-11.99+10.88	9.98+9.88	6.86+7.13	6.96+7.1	9.96+5.5	2.36+1.12	-1.17+2.31	-2.38+3.07	-33.2+28	2.84+3.85	-4.19+1.58	-1.44+2.24	-10.08+15	-16.98+8.88	-18.19+12	-17.2+7.81	-8.88+5.28	-5.42+5.56
(H(30))	6.22+9.27	9.17+6.74	9.66+5.54	-1.75+3.8	0.69+3.92	-4.94+7.61	6.83+13.77	-17.94+8.08	-10.28+5.55	-3.34+1.3	6.5+3.2	0.15+0.46	0.150+38	0.4+1.15	2.74+2.8	-1.91+1.27	-3.88+2.63	-3.27+3.5	9.39+7.85	-4.66+9.74	-15.45+11.57	8.28+12.31	-11.93+11.89	-10.96+11.3
(H(31))	5.89+3.72	5.77+5.31	-13.28+0.64	8.26+7.48	-7.63+7.65	9.12+10.99	8.22+16.19	-5.66+4.58	5.74+2.41	-0.96+2.35	-4.01+3.88	-1.22+0.28	1.24+0.84	0.9+2.5	-1.65+1.66	-3.28+2.17	2.71+1.65	-4.33+4.89	-5.36+8.77	-7.54+16.81	-17.43+18.28	-13.46+18.29	-15.44+18.05	-18.34+13
(H(32))	-11.87+75	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61	4.37+6.61
(H(33))	-8.88+18.08	-11.13+2.68	-15.85+5	2.57+1.41	5.02+2.02	3.14+2.71	5.63+1.34	6.93+7.54	4.71+8.7	3.57+1.5	6.23+6.3	2.14+27	1.88+37	2.71+96	0.41+0.3	0.76+2.68	3.24+4.6	5.46+1.36	5.88+1.4	7.78+12.3	-13.94+6.88	-12.77+7.5	6.32+10.13	-7.94+9.48
(H(34))	6.91+2.64	-11.59+8.21	-10.98+8.42	7.93+9.71	3.04+3.18	5.68+1.8	-6.48+18.63	-11.16+8.73	-3.83+2.01	-3.52+1.78	-2.48+1.35	-0.32+0.71	2.89+2.75	2.81+78	0.27+0.5	-3.77+3.12	-4.44+2.23	-4.21+1.04	-2.28+1.38	-7.54+8.88	-10.6+8.84	6.89+7.58	5.87+6.28	-2.84+7.1
(H(35))	5.99+14.81	6.2+5.51	-15.98+10.32	8.91+5.88	3.93+3.97	2.58+4.48	0.4+2.2	-12.35+5.68	5.48+2.46	-1.44+1.5	6.01+2.24	0.88+0.72	0.78+1.95	2.34+1.95	0.23+0.25	4.77+7.2	8.71+3.89	3.94+1.64	1.63+1.5	7.07+10.3	-14.58+12.87	2.70+5.95	4.21+2.74	4.53+0.45
(H(36))	16.35+12.54	8.55+10.2	10.68+12.41	6.12+11.54	9.21+10.5	-11.95+11.4	8.99+17.78	6.9+8.83	4.41+3.68	4.78+25	2.27+3.25	7.82+4	3.34+6.85	1.75+2.55	6.84+1.61	7.23+3.18	-10.56+7.1	4.29+2.83	1.48+3.1	-2.78+10.32	-12.74+13	8.86+4.02	-1.77+18.45	-1.96+18.57
(H(37))	12.36+16.51	-19.17+8.93	8.68+17.44	-16.01+8.79	12.78+12.96	-11.18+10.96	-12.78+10.96	12.21+10.31	8.46+3.57	2.33+3.4	-1.49+2.19	4.09+7.68	3.19+1.38	1.17+3.34	3.6+5.74	0.89+11.73	8.95+11.88	3.54+1.59	5.85+1.58	-13.5+15.1	-12.38+12.37	8.51+13.97	8.21+15.7	-15.52+8.75
(H(38))	6.85+2.48	4.16+18.75	-17.58+18.37	-13.27+5.94	7.21+6.45	9.12+9.8	-11.86+18.1	-11.36+11.78	9.89+7.45	6.19+2.65	5.3+0.63	-10.1+10.1	-15.12+4.5	5.04+4.5	6.19+3.58	9.13+10.89	8.45+10.51	-11.12+4.3	-15.16+10.95	-10.52+10.43	-15.18+13.2	-15.18+14.28	-10.93+10.9	-15.18+14.28
(H(39))	-13.28+8.02	-11.68+16.78	-16.41+10.11	-10.64+15.7	8.21+18.67	5.25+7.45	-14.88+18.55	-13.12+14.05	8.07+4.21	6.25+4.2	-3.56+5.61	5.89+4.31	-17.71+14.71	-10.05+13.14	-17.8+12.24	-11.89+8.44	-4.81+6.85	7.74+14.73	-9.33+12.27	-18.46+8.68	-13.02+13.94	-13.9+8.62	5.76+8.45	-5.32+4.41
(H(40))	-18.25+18.47	-7.81+10.26	-15.87+6.42	-4.34+6.88	-10.44+14.68	6.07+8.71	-7.1+14.04	-18.49+13.42	-10.56+16.87	-0.96+6.87	7.15+4	5.38+2.71	2.69+3	-17.10+14.2	-19.24+8.31	-19.24+8.31	-6.38+7.73	7.16+7.3	-10.03+13.43	-16.15+9.38	6.42+8.1	-11.31+8.49	6.35+6.65	-12.51+9.47
(H(41))	-11.26+8.83	-8.43+13.7	-15.22+10.34	-10.35+13.77	-19.13+6.02	-0.56+0.69	-8.48+17.1	-15.4+8.32	-13.65+16.69	-14.04+6.87	-7.52+14.75	-7.81+7.48	-8.03+7.58	4.68+6.25	4.62+1.77	-7.39+7.55	-10.88+9.13	-18.06+13.38	-10.3+13.82	-14.14+10.96	-8.46+3.24	-7.38+7.44	-14.32+3.41	-4.31+0.01
(H(42))	-9.27+9.9	-1.84+16.8	-16.5+13.24	-11.88+13.15	-13.12+14.68	-1.54+11.55	-16.26+23	-4.73+7.48	4.33+3.87	4.33+3.87	4.33+3.87	4.33+3.87	4.33+3.87	4.33+3.87	4.33+3.87	4.33+3.87	4.33+3.87	4.33+3.87	4.33+3.87	4.33+3.87	4.33+3.87	4.33+3.87	4.33+3.87	4.33+3.87
(H(43))	-10.77+18.91	-18.48+11.92	-10.47+10.87	-13.59+11.77	7.17+3.43	5.47+6.99	-12.29+17.57	6.07+6.47	6.83+7.82	-4.31+1	-3.96+1.08	-1.26+0.76	2.47+0.27	0.01+3.36	4.77+7.53	-9.48+9.91	-7.55+7.86	-10.78+18.7	-13.71+7.74	4.51+2.9	-2.91+5.18	-13.78+4.43	4.11+1.13	-1.75+3.32
(H(44))	-11.69+15.8	-10.41+10.14	-13.55+18.47	-10.35+10.36	9.26+10.5	-11.65+14.22	-14.71+10.55	6.45+11.41	3.41+4.44	-1.16+2.99	1.74+16.68	0.02+1.05	1.14+3.45	-1.44+3.68	4.07+7.48	-8.93+6.44	-11.09+12.54	-12.72+8.08	-6.07+7.48	6.87+8.14	-6.78+10.43	4.31+11.04	-2.21+6.44	-1.75+3.32
(H(45))	-7.06+9.81	6.82+5.75	6.4+6.48	4.77+6.75	16.78+12.77	-14.88+17.94	-7.61+5.15	-2.88+1.34	1.93+0.47	-1.21+2.25	-2.07+3.71	-1.14+3.46	-3.38+2.65	-2.01+2.46	-1.78+1.31	-4.19+6.61	7.31+7.84	8.82+12.43	-11.67+13.07	-18.16+13.21	-18.15+15.24	-12.96+7.93	-8.85+8.58	-1.75+3.32
(H(46))	-1.150+93	3.76+0.84	0.72+0.68	0.24+1.81	3.41+1.54	-4.87+1.64	-7.07+7.12	-5.57+3.33	0.79+0.72	0.110+8.1	1.38+2	2.76+0.38	3.36+3.51	3.62+3.63	3.22+3.07	2.47+1.56	2.19+2.13	-4.25+2.77	-11.75+13.81	-12.97+12	-13.21+15.71	6.4+0.09	0.26+2.48	-1.75+3.32
Freq(Hz)	6.9592GHz	Thetazet.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gain	(H(25))	(H(26))	(H(27))	(H(28))	(H(29))	(H(30))	(H(31))	(H(32))	(H(33))	(H(34))	(H(35))	(H(36))	(H(37))	(H(38))	(H(39))	(H(40))	(H(41))	(H(42))	(H(43))	(H(44))	(H(45))	(H(46))	(H(47))	(H(48))
(H(47))	4.48+5.15	4.57+1.74	6.54+11.3	-10.88+9.39	7.58+5.91	4.84+1	-2.96+2.16	-1.37+1.62	0.34+3.52	6.71+11.1	-1.62+3.35	-3.89+4.38	5.58+6.91	-19.78+13.8	-17.42+13.23	-9.86+3.87	5.84+3.87	3.07+2.25	6.84+6.05	4.2+2.21	5.32	0.05+5.88	6.88+17.7	2.46+3.31
(H(48))	-1.49+13.67	-17.48+17.22	-13.71+12.42	-10.07+5.64	4.28+3.33	2.58+0.3	-1.88+1.54	-0.68+0.39	2.28+0.98	4.17+10.1	3.29+3.35	4.45+5.39	4.59+5.39	4.67+7.35	-8.16+5.87	6.98+7.72	1.68+0.45	3.15+1.98	-1.19+0.88	4.32+7.11	5.55+1.2	1.58+0.32	-4.62+3.72	-1.75+3.32
(H(49))	2.41+3.9	-11.51+16.28	-11.02+9.68	6.89+3.31	1.46+0.45	3.27+3.1	0.93+4	0.37+0.97	1.13+2.75	4.24+0.63	1.78+1.53	6.73+10.32	1.37+0.18	0.58+0.41	1.35+0.28	0.26+0.18	0.44+0.37	2.39+1.16	-0.35+0.44	0.88+0.7	0.74+1.15	1.26+1.97	3.78+6.63	-1.75+3.32
(H(50))	-19.01+19.14	-12.09+7.95	-7.08+5.19	4.45+2.67	1.51+0.48	0.31+1.22	0.87+0.27	0.72+0.48	2.92+1.21	1.58+0.61	-0.98+0.64	0.57+1.33	-12.29+4.62	4.79+5.53	2.33+0.69	1.01+1.1	1.78+0.79	0.02+0.04	0.95+0.13	-0.43+1.38	-1.79+2.02	3.28+1.43	-11.85+8.47	-1.75+3.32
(H(51))	-14.02+19.17	-11.04+7.83	-17.07+5.06	-3.33+9.31	2.89+1.46	-0.75+1.63	2.1+1.38	6.28+1.48	4.89+6.83	6.78+6.46	0.17+1.27	-15.13+10.26	-12.52+10.08	1.24+2.47	1.56+0.38	-1.94+2.77	-1.26+1.3	1.48+2.1	0.45+0.43	0.95+0.55	-3.88+1.85	2.12+2.34	5.37+0.87	-1.75+3.32
(H(52))	8.97+14.94	-13.47+11.71	-14.77+15.25	-2.73+7.37	4.24+2.1	2.25+1.15	0.81+0.36	-1.02+0.22	4.27+4.3	-7.76+7.97	6.58+7.19	2.76+3.01	-13.45+17.2	-13.72+12.27	8.4+8.42	4.3+3.06	6.5+0.03	-1.79+1.66	-0.33+0.07	2.34+2.25	2.45+1.64	1.96+3.54	5.71+3.38	-1.75+3.32
(H(53))	-15.38+14.93	-10.41+11.27	-10.36+9.02	8.24+7.41	6.81+4.28	-2.2+1.3	-0.72+0.6	-0.32+1.77	4.29+2.17	-4.63+5.43	5.82+4.66	5.84+5.65	-9.48+11.31	-13.20+16.38	-14.12+10.27	-10.27+7.77	5.07+5	3.74+2.29	-1.35+0.7	-1.22+21	-2.39+1.91	-1.63+3.9	4.91+5.76	-1.75+3.32
(H(54))	8.44+9.75	-13.99+13.54	-16.74+17.97	-17.94+19.44	-1.35+9.17	-7.64+5.1	-2.46+1.12	2.28+3.36	-2.88+2.79	-6.18+7.44	-5.97+0.1	-7.86+7.3	8.91+13.4	-16.87+16.85	-15.39+16.75	-15.73+16.6	5.53+0.39	2.16+4	-2.23+2.72	6.12+4.4	6.31+6.88	3.94+4.67	3.87+7.8	-1.75+3.32
(H(55))	-4.88+13.93	-13.73+12.14	-10.77+10.38	-18.93+12.91	-10.27+16.89	9.37+1.2	3.71+0.5	-0.26+3.37	-2.78+3.38	-1.69+0.45	-5.91+0.41	-14.29+7.16	-17.19+8.42	-14.48+16.04	-17.87+10.88	-14.89+7.9	-7.77+11.98	-6.86+16.56	-7.47+7.46	9.9+16.25	1.76+14.7	0.86+1.74	0.86+1.74	-1.75+3.32
(H(56))	-14.56+18.54	-14.56+18.54	-14.16+11.73	-11.48+18.31	-15.81+16	-14.21+8.68	-5.29+3.68	-3.95+11	-7.8+4.3	-11.73+10.14	-11.81+13.38	-10.59+17.78	-16.02+15.2	-17.98+17.73	-16.85+11.47	-13.77+17.37	-11.45+18.09	-13.41+18.02	-14.86+13.32	-15.99+8.08	-11.18+15.24	5.78+0.64	-1.75+3.32	-1.75+3.32
(H(57))	-5.86+12.13	-10.28+10.4	-13.84+13.34	-14.50+18.95	-10.87+19.05	-14.48+19.05	-8.3+3.2	-7.23+0.41	-14.09+9.99	-10.12+4.1	-10.41+12.07	-15.67+15.9	-18.32+19.9	-18.14+18.73	-16.72+12.78	-15.48+11.03	-13.86+19.03	-18.28+14.07	-15.19+8.6	-11.98+18.28	-15.19+8.6	3.55+4.48	-1.75+3.32	-1.75+3.32
(H(58))	-1.54+16.16	-17.38+15.36	-11.71+8.93	8.74+14.38	-16.05+19.32	-17.98+13.5																		



Radiated Composite Gain of 6GHz

Appendix B

(H757)	-17.51-13.14	-7.47-4.14	-2.31-0.44	0.59-0.1	-1.53-1.3	0.691-37	-0.44-0.5	0.84-1.81	-4.93-4.24	-3.12-0.57	-6.11-11.64	-15.79-12.98	-8.12-6.58	6.27-1.78	-4.43-4.45	-3.89-0.44	0.34-2.85	-3.48-0.32	0.12-1.5	-1.31-1.09	-0.64-1.13	-2.41-1.23	-1.77-1.95	-10.47-18.95
(H758)	-1.54-0.68	-7.79-3.97	-2.66-1.12	-1.59-0.71	-3.53-0.84	0.90-37	-1.53-1.8	-0.86-4.3	-5.71-3.31	-3.45-4.57	-6.9-9.43	-10.84-14.7	-18.60-13.8	-12.4-17	-6.36-4.82	-4.39-1.84	-0.12-1.55	-1.23-2.36	0.11-0.32	-0.76-1.34	-2.96-1.58	-1.67-1.39	-3.51-4.7	-9.37-18.84
(H825)	-8.72-6.49	-7.44-4.63	-2.06-0.75	-1.46-0.48	-5.71-0.38	0.2-37	-0.10-0.8	-2.4-10.28	-10.26-6.4	-2.15-7.31	-0.29-15.9	-18.07-15.22	-10.58-14.24	-6.39-12.7	-4.41-3.4	-3.06-1.99	-8.2-2.01	-1.02-1.01	-1.53-1.04	-0.64-0.84	-1.71-0.68	-2.94-1.59	-2.94-1.59	-11.61-22.02
(H874)	-7.44-6.32	-4.46-4.46	-4.27-2.73	-3.57-0.63	-8.73-3.98	-1.07-1.32	-1.34-1.57	-2.11-7.18	-12.52-6.25	-5.06-18.6	-10.69-13.68	-11.11-19.38	-14.44-12.92	-10.1-12.8	-16.22-14.74	-6.37-12.1	-1.61-10.8	-16.2-10.35	-11.91	-0.66-0.9	-8.89-1.41	-4.4-6.15	-7.39-12.19	-18.32-12.7
(H875)	-4.48-4.49	-4.26-3.74	-2.96-3.06	-6.71-1.18	-7.55-1.42	-4.95-0.47	-4.49-8.34	-7.22-7.81	-8.22-5.56	-6.78-12.21	-12.26-8.86	-6.19-6.06	-7.72-9.72	-4.41-3.4	-3.06-1.99	-8.2-2.01	-1.02-1.01	-1.53-1.04	-0.64-0.84	-1.71-0.68	-2.94-1.59	-2.94-1.59	-11.61-22.02	
(H105)	-10.62-5.57	-6.18-7.01	-11.26-6.53	-12.15-13.28	-6.59-5.82	-6.13-4.56	-3.52-8.1	-6.02-11.7	-16.99-11.4	-10.78-17.88	-10.56-8.82	-7.12-9.92	-7.53-4.41	-3.87-8.42	-5.7-6.1	-8.03-3.82	-0.47-6.57	-4.05-1.24	-0.28-0.77	1.16-2.13	1.07-0.6	-2.53-1.67	-4.69-5.13	-11.37-17.84
(H1125)	-11.85-10.57	-6.66-5.54	-15.13-15.97	-15.15-15.6	-11.18-9.7	-5.02-6.18	-6.69-6.28	-9.96-12.58	-13.33-11.5	-10.78-12.29	-9.98-9.84	-6.32-7.24	-11.38-7.84	-8.83-5.79	-6.75-6.61	-5.61-6.49	-4.53-3.08	-6.05-3.07	-2.0-3	-0.05-1.47	0.17-1.24	-4.81-6.61	-6.11-19.28	-11.67-10.87
(H120)	-11.47-12.43	-10.16-9.44	-15.78-12.9	-11.13-10.45	-8.69-12.84	-8.05-6	-7.62-6.83	-18.17-17.68	-14.26-9.98	-12.47-16.38	-10.76-16.5	-6.65-10.4	-11.78-6.16	-3.44-6.65	-7.3-3.49	-5.24-11.48	-5.71-0.41	-4.37-2.94	-0.83-0.44	-2.68-1.54	-0.91-6.63	-11.44-14.08	-15.44-17.2	-2.72-1.97
(H1275)	-12.56-13.76	-10.52-15.76	-15.75-16.15	-12.43-9.4	-7.86-10.71	-12.84-8.31	-16.61-11.34	-14.26-11.17	-19.05-14.02	-17.31-13.13	-14.21-7.95	-8.62-13.44	-14.59-7.99	-4.59-6.88	-6.18-7.87	-8.45-9.21	-8.82-12.65	-5.91-7.25	-2.78-1.85	-5.65-4.43	-4.51-7.79	-8.99-15.25	-14.19-18.38	-12.78-10.97
(H1375)	-7.53-6.52	-16.94-16.82	-14.78-15.82	-10.11-11.31	-10.91-16	-8.9-8.65	-10.23-11.5	-10.78-8.88	-12.34-14.88	-12.89-18.08	-13.94-15.87	-7.5-8.83	-10.24-15.6	-6.82-4.43	-8.83-5.29	-16.18-6.1	-8.41-6.82	-4.91-13.97	-3.88-6.87	-16.96-11.93	-5.22-6.45	-8.71-5.84	-5.29-10.7	-17.35-12.52
(H1425)	-7.66-15.03	-16.94-19.37	-17.78-17.26	-10.2-6.4	-12.32-12.62	-10.2-6.4	-10.24-16.5	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96	-16.33-15.96
(H1575)	-12.96-6.42	-7.49-4.77	-13.43-16.98	-18.49-17.37	-3.18-14.87	-16.22-16.38	-18.24-19.33	-12.43-11.17	-17.37-15.57	-12.52-15.19	-16.49-13.18	-17.89-13.98	-8.94-7.59	-9.7-7.8	-5.98-8.62	-8.4-7.37	-6.79-13.37	-2.26-17.98	-3.23-6.42	-6.38-11.36	-17.24-17.2	-7.02-12.47	-3.78-15.2	-8-12.63
(H165)	-15.70-18.81	-15.93-15.83	-12.59-11.15	-11.49-12.47	-15.58-15.68	-15.65-16.06	-16.31-17.86	-16.18-18.09	-16.32-18.01	-15.19-15.13	-14.14-16.08	-16.58-18.54	-17.01-17.31	-17.4-17.01	-22.9-18.2	-13.2-13.82	-7.86-17.3	-1.23-6.73	-7.86-17.3	-1.23-6.73	-7.86-17.3	-1.23-6.73	-7.86-17.3	-1.23-6.73
(H1725)	-9.86-17.71	-6.82-11.2	-13.18-12.15	-11.47-12.61	-12.71-11.15	-3.97-4.79	-6.38-5.53	-6.9-4.7	-6.02-7.78	-6.55-6.08	-11.34-16.2	-18.59-17.74	-14.46-18.08	-8.86-8.57	-6.91-6.55	-8.87-8.42	-7.89-6.99	-8.97-7.74	-8.64-7.1	-5.48-5.43	-3.59-2.49	-1.74-2.1	-3.87-4.1	-15.51-13.3
(H1875)	-7.87-17.17	-14.18-18.49	-8.73-8.49	-7.67-8.67	-9.64-5.55	-7.53-6.8	-4.96-4.49	-4.33-4.31	-3.82-3.92	-4.89-4.88	-6.53-7.11	-8.74-11.25	-10.93-16.82	-16.85-18.13	-16.81-17.53	-16.81-17.53	-16.81-17.53	-16.81-17.53	-16.81-17.53	-16.81-17.53	-16.81-17.53	-16.81-17.53	-16.81-17.53	-16.81-17.53
Freq(Hz)	6.1750(GHz)	Thetazad. 2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	0.07(907.57)	
(H757)	-0.78-0.31	-0.14-0.6	-1.06-1.67	-2.63-2.39	-4.41-5.85	-7.67-10.58	-13.96-18.18	-18.41-17.22	-8.25-8.59	-4.08-4.79	-1.96-9.99	-0.32-0.16	0.55-0.67	0.45-0.06	-0.77-1.82	-2.56-1.32	-2.49-6.11	0.18-13.98	-16.02-17.89	-16.25-17.12	-8.72-16.18	-4.35-7.28	-1.79-1.51	-0.87-0.8
(H758)	-0.44-0.66	-0.41-0.12	-0.11-10.99	-2.56-3.66	-4.71-6.15	-8.71-12.31	-15.68-19.98	-15.68-12.29	-6.35-7.28	-6.89-12.94	-3.76-9.89	-2.37-12	-1.74-15.3	-1.16-11.7	-3.59-4.05	-5.14-6.86	-8.02-11.53	-16.02-11.53	-16.02-11.53	-16.02-11.53	-16.02-11.53	-16.02-11.53	-16.02-11.53	-16.02-11.53
(H759)	-0.94-1.79	-1.07-1.34	-2.03-2.88	-4.46-6.26	-7.72-9.18	-12.05-17.55	-18.54-19.44	-17.86-15.81	-12.56-10.49	-8.72-9.11	-6.7-11	-5.99-6.61	-4.71-10.4	-3.88-13.3	-1.49-18.7	-15.15-15	-5.84-6.91	-8.71-14.3	-16.58-16.14	-17.33-11.53	-8.71-15.02	-4.34-3.26	-2.03-1.12	-1.13-1.06
(H225)	-1.68-1.71	-1.28-0.09	-1.38-0.25	-3.37-4.51	-6.74-9.66	-13.88-18.89	-18.54-19.06	-17.58-14.71	-12.59-15.99	-11.47-12.74	-4.82-5.15	-1.56-1.57	-2.41-3.67	-5.18-10.9	-5.23-6.64	-6.49-7.17	-8.11-13.68	-17.67-17.93	-14.84-10.74	-17.67-17.93	-14.84-10.74	-17.67-17.93	-14.84-10.74	-17.67-17.93
(H375)	-3.21-2.84	-1.94-1.31	-1.16-1.72	-2.17-2.88	-4.36-6.25	-16.16-17.77	-18.36-18.94	-15.53-17.7	-3.96-1.25	0.21-1.39	1.87-1.43	0.58-0.28	0.13-0.5	-1.14-1.08	-2.96-1.51	-6.83-7.33	-7.79-8.96	-13.51-17.78	-16.42-15.17	-10.9-6.69	-2.4-6.6	-0.01-1.27	-2.84-3.27	-1.97-1.87
(H375)	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	-0.11-1	
(H375)	0.85-0.7	1.34-0.24	2.3-5.4	-7.27-11.7	-6.71-8.14	-11.09-11.84	-14.24-17.13	-14.69-13.06	-8.73-4.46	-3.51-2.54	-2.01-1.3	-0.27-0.16	0.06-1.05	-0.43-1.83	-3.25-2.66	-1.88-2.9	-6.19-6.85	-10.39-9.28	-10.46-16.48	-18.19-16.06	-5.74-6.41	-5.52-5.34	-3.41-2.4	-1.02-0.37
(H375)	0.01-0.42	0.36-0.49	0.31-0.69	-0.88-10.38	-6.71-8.14	-12.52-12.91	-14.27-15.4	-13.99-11.64	-8.93-4.77	-3.89-4.25	-2.43-1.3	-0.26-0.17	0.02-0.16	0.02-0.16	0.02-0.16	0.02-0.16	0.02-0.16	0.02-0.16	0.02-0.16	0.02-0.16	0.02-0.16	0.02-0.16	0.02-0.16	
(H375)	2.32-0.23	0.27-0.76	4.9-9.91	7.48-11.95	-11.66-8.62	-10.26-10.68	-18.19-19.87	-7.23-9.37	5.58-6.42	-0.52-0.26	-1.61-1.67	-3.29-11.1	-1.71-1.05	-1.49-2.07	-3.25-0.16	-6.49-19.39	-6.89-10.67	-11.89-12.97	-10.24-10.37	-7.59-9.16	-6.89-10.67	-7.59-9.16	-6.89-10.67	
(H375)	0.03-0.17	2.82-0.47	4.26-7.46	6.98-14.3	16.01-17.2	6.11-14.06	-17.59-13.93	-10.19-11.7	1.84-11.95	1.46-4.9	4.58-6.13	6.5-5.17	5.44-3.45	3.71-1.27	3.67-1.4	4.25-1.3	9.66-19.8	11.03-16.1	13.59-14	8.41-11.39	17.06-12.39	7.14-8.8	4.47-6.28	
(H375)	-1.49-7.07	-5.4-7.9	-5.95-10.95	-14.52-19.09	-13.93-10.44	-9.59-18.61	-19.19-19.98	-16.27-15.65	-7.27-15.52	-16.95-15.91	-10.98-6.43	-6.86-11.3	-8.94-10.29	-9.27-7.77	-7.64-7.84	-8.36-7.76	-7.07-15.7	-12.31-11.09	-9.97-11.3	-13.89-10.73	-12.76-12.69	-12.71-15.63	-10.41-10.39	
(H375)	-12.52-16.4	5.12-5.54	-0.76-16.55	16.36-12.92	8.65-6.28	8.12-14.51	-18.29-15.44	-16.57-15.8	-16.39-13.12	-13.05-11.43	-15.16-18.93	-14.19-16.1	-7.81-9.42	-10.93-11.03	-9.49-9.88	-9.44-9.87	-11.11-12.13	-12.76-13.32	-10.59-13.94	-12.17-15.5	-18.73-4.65	11.55-12.72	9.68-10.86	
(H375)	-17.32-12.82	-16.06-17.53	-14.07-16.83	-8.67-8.1	-7.47-7.74	-5.86-7.77	-17.47-17.13	-14.88-11.36	-14.13-18.29	-16.04-16.81	-15.26-10.65	-7.02-7.17	7.18-8.8	-15.57-10.75	-10.67-10.37	-8.37-10.25	-10.58-14.78	-14.24-13.78	-10.39-10.26	-9.89-10.48	-10.40-10.26	-10.74-8.81	-10.74-8.81	
(H375)	-5.49-13.38	-6.88-12.2	-4.52-13.3	-6.59-7.99	7.09-8.74	-16.24-14.65	-10.37-10.77	-11.88-17.57	-10.35-16.21	-17.85-18.27	-15.21-18.8	-8.21-9.47	-7.51-8.61	-7.29-1.1	-13.37-15.6	-11.11-10.25	-14.35-14.39	-13.12-12.77	-10.96-10.94	-10.36-10.38	-8.99-9.44	-8.89-9.44	-7.2-8.87	
(H375)	-1.91-13.35	-6.98-12.24	-5.26-7.25	-6.48-10.38	-8.23-14.1	-14.82-11.1	-10.99-13.67	-11.71-11.21	-10.44-10.17	-14.62-17.81	-16.42-17.86	-12.9-17.6	-8.25-8.17	-2.08-4.42	-14.18-15.73	-12.0-12.65	-14.18-12.81	-11.67-12.81	-11.67-12.81	-11.67-12.81	-11.67-12.81	-11.67-12.81	-11.67-12.81	
(H1125)	-3.96-12.97	-16.46-17.2	-7.37-8.66	-14.54-18.13	-17.07-18.67	-14.55-16.38	-9.03-11.65	-12.37-15.6	-16.84-15.2	-16.19-16.37	-15.41-19.59	-8.76-10.94	-14.77-10.22	-10.64-14.51	-11.79-10.77	-12.14-14.86	-13.19-14.86	-16.87-13.11	-11.41-8.42	-14.72-10.15	-5.39-7.65	-15.37-16.18	-16.95-10.62	
(H120)	-5.21-4.16	-16.51-17.8	-14.23-15.14	-15.56-18.03	-10.26-18.67	-12.51-16.88	-10.46-14.88	-10.06-17.92	-11.19-12.73	-8.49-12.98	-17.11-12.7	-10.11-12.3	-8.23-11.38	-16.85-15.18	-14.72-17.8	-18.46-17.33	-19.47-16.87	-16.87-14.11	-15.64-10.38	-16.11-15.25	-16.86-12.48	-12.48-12.65	-8.84-14.67	
(H1275)	-5.24-19.14	-17.73-17.83	-15.83-14.12	-17.31-14.68	-10.22-13.06	-15.14-17.98	-18.41-16.88	-12.15-13.63	-18.41-16.88	-18.89-18.28	-18.25-12.59	-10.29-12.7	-6.41-14.81	-8.24-12.51	-17.49-16.16	-15.41-18.27	-16.84-18.08							



Radiated Composite Gain of 6GHz

Appendix B

(h120)	4.44E+15	-11.84E-8	-14.52E+36	-14.32E+10	-12.61E-31	-4.96E+24	-9.41E+78	-12.91E+29	-11.98E+49	-8.65E+82	-8.75E+98	-10.91E+108	-6.47E+22	-3.51E+47	-8.84E+109	-11.21E+43	-6.84E+33	-7.42E+78	-2.61E+74	-3.24E+35	-2.32E+43	-5.92E+56	-4.16E+187	-12.25E+87	
(h127)	8.11E+173	-18.83E+243	-14.81E+36	5.91E+67	-18.81E+78	-3.22E+15	-8.46E+63	-10.84E+42	-13.88E+76	-6.24E+784	-6.89E+13	-15.35E+35	-8.69E+147	-6.91E+96	-18.74E+103	-817E+51	-3.27E+51	-8.47E+73	-2.16E+04	-4.05E+18	-1.96E+35	-11.61E+154	-18.61E+37	-6.39E+68	
(h130)	-15.12E+78	-14.61E+77	-14.85E+78	-8.69E+53	-8.12E+63	-12.34E+19	-6.59E+151	-9.43E+140	-11.72E+11	-8.55E+519	-16.08E+1183	-9.16E+507	-4.48E+81	-16.54E+215	-5.76E+143	-4.79E+1146	-7.93E+43	-2.09E+62	-3.91E+269	-5.51E+59	-7.13E+25	-6.51E+102	-17.01E+332		
(h142)	-7.2E+1284	-18.05E+181	-18.66E+12	-11.87E+181	-18.52E+15	-6.97E+84	-6.02E+66	9.95E+105	8.71E+1041	-14.71E+1432	-18.79E+1389	-11.32E+151	-11.05E+932	8.07E+184	-17.91E+106	-2.36E+187	-6.58E+488	-5.94E+571	-0.44E+49	-0.39E+78	-6.26E+506	-12.54E+1185	-7.73E+13	-8.99E+78	
(h150)	-18.95E+184	-13.84E+1239	-13.96E+1832	-8.74E+71	-8.32E+1223	-16.41E+1333	-17.81E+1214	-19.22E+954	-5.83E+6	-14.08E+154	-7.72E+1033	-14.19E+1584	-18.79E+1156	-8.8E+11	-15.53E+12	-6.47E+608	-17.71E+1048	-18.53E+1438	-6.38E+285	-4.92E+1024	-18.96E+1377	-16.51E+1787	-18.79E+1984	-14.14E+1575	
(h157)	-7.81E+1098	-11.41E+116	-14.71E+187	-18.62E+1569	-11.83E+149	-16.47E+1791	-17.62E+1759	-18.83E+1101	-13.83E+1819	-15.14E+1238	-8.53E+82	-8.54E+121	-10.32E+1027	-7.48E+527	-5.02E+15	-8.26E+1546	-17.96E+1753	-12.17E+702	-6.07E+522	-6.62E+18	-12.23E+184	-14.87E+177	-8.63E+22	-5.71E+11	
(h162)	-14.44E+1171	-18.51E+1036	-17.26E+1384	-12.75E+1484	-11.58E+146	-14.16E+1247	-17.71E+151	-17.59E+1344	-11.52E+1396	-16.87E+1766	-18.69E+148	-11.67E+951	-8.73E+44	-8.13E+648	-6.9E+641	-6.59E+678	-6.19E+648	-6.94E+62	-5.64E+589	-4.52E+132	-3.35E+385	-4.07E+75	-5.99E+21		
(h172)	-12.19E+1024	-8.86E+15	-7.16E+75	-6.68E+23	-7.53E+801	-10.84E+1336	-18.14E+1731	-17.93E+1809	-18.83E+172	-14.88E+1472	-12.65E+1322	-12.34E+139	-14.91E+449	-13.95E+180	-8.11E+44	-6.58	-5.88E+487	-4.24E+435	-3.74E+297	-2.51E+6	-1.26E+138	-1.44E+29	-3.41E+58	-8.91E+27	
(h180)	-16.3E+1851	-5.29E+1372	-10.67E+7	-6.29E+136	-1.73E+271	-2.64E+285	-3.73E+472	-5.95E+62	-5.48E+172	-6.84E+772	-9.01E+62	-10.71E+115	-10.71E+115	-10.71E+115	-10.71E+115	-8.6E+89	-5.92E+526	-2.59E+136	-1.88E+27	-1.58E+76	-1.84E+169	-2.51E+42	-7.18E+107	-10.63E+18	
Free(h)	6.65E9Pb1	Free(h)	6.65E9Pb2	Free(h)	6.65E9Pb3	Free(h)	6.65E9Pb4	Free(h)	6.65E9Pb5	Free(h)	6.65E9Pb6	Free(h)	6.65E9Pb7	Free(h)	6.65E9Pb8	Free(h)	6.65E9Pb9	Free(h)	6.65E9Pb10	Free(h)	6.65E9Pb11	Free(h)	6.65E9Pb12	Free(h)	6.65E9Pb13
Gain	3.96E+376	4.01E+19	4.44E+504	-7.2E+47	7.45E+08	-11.15E+1034	-19.02E+178	8.75E+477	5.41E+12	-3.22E+42	-1.91E+139	-6.68E+87	1.52E+221	2.86E+377	4.73E+55	-6.05E+754	-10.3E+1274	-15.34E+165	-14.88E+1925	-12.73E+1181	-8.64E+75	-5.03E+375	-3.29E+88		
(h17)	0.820E+87	-7.73E+124	-2.52E+36	-4.55E+55	-6.68E+702	-3.84E+131	-17.18E+165	-17.82E+1863	-13.04E+11	-5.28E+277	-6.01E+51	-5.00E+244	-3.73E+27	-4.21E+61	-4.88E+04	-6.19E+84	-7.26E+87	-1.25E+1618	-18.75E+1278	-15.81E+121	-7.79E+249	-3.98E+635	-1.85E+16	-1.21E+05	
(h18)	-0.00E+38	-1.35E+248	-2.84E+41	-5.37E+49	-5.22E+12	-7.67E+87	-16.59E+169	-17.93E+1839	-11.74E+1158	-7.78E+623	-3.14E+181	-6.90E+508	-4.68E+52	-1.03E+137	-1.94E+306	-4.88E+582	-7.28E+868	-1.07E+1641	-18.73E+1272	-12.04E+835	-5.91E+427	-2.04E+154	-1.18E+118	-6.41E+03	
(h22)	2.74E+257	-2.82E+306	-3.08E+137	-3.36E+06	-7.59E+338	-9.88E+111	-11.35E+1645	-18.65E+163	-11.84E+745	-4.23E+51	-1.38E+806	-1.07E+143	-0.03E+39	-6.68E+122	-1.61E+198	-2.80E+446	-14.6E+108	-18.67E+182	-19.21E+141	-10.26E+84	-5.04E+359	-2.44E+205	-2.65E+271	-2.12E+59	
(h30)	-2.54E+17	-0.42E+205	0.41E+07	-0.99E+273	-3.98E+17	-8.26E+47	-8.21E+09	-11.44E+167	-12.09E+49	-6.31E+183	-1.62E+182	-1.27E+049	-0.07E+106	-0.06E+138	-1.62E+448	-3.69E+486	-5.83E+46	-14.26E+1887	-18.45E+468	-6.93E+94	-5.12E+548	-4.4E+603	-7.81E+18	-4.52E+72	
(h37)	5.95E+355	-2.55E+74	0.09E+08	-0.12E+17	-4.51E+48	-4.81E+46	-7.99E+36	-10.65E+1481	-8.14E+27	-3.33E+15	-2.58E+21	-0.32E+32	0.38E+52	0.830E+9	0.83E+44	-2.85E+11	-8.63E+134	-16.22E+1857	-18.21E+119	-8.61E+56	-1.02E+985	-6.43E+388	-2.44E+384	-6.03E+76	
(h40)	-1.03E+456	-0.28E+14	-1.87E+17	0.64E+179	-4.29E+58	-4.87E+241	-9.75E+75	-5.75E+571	-0.03E+46	-3.96E+237	-0.68E+023	-0.67E+068	-1.14E+3	-0.87E+41	-0.51E+87	-2.72E+445	-1.85E+1271	-14.84E+1665	-17.67E+778	-4.67E+84	-8.26E+623	-5.27E+478	-14.13E+04	-6.59E+16	
(h52)	0.490E+23	0.65E+75	-0.66E+163	-0.43E+75	-4.03E+75	-6.68E+69	-13.51E+185	-18.15E+116	-6.5E+16	-4.36E+54	-1.78E+62	-0.33E+701	-2.42E+72	-3.03E+288	-2.14E+141	-6.19E+146	-17.55E+185	-16.57E+82	-7.43E+141	-4.27E+544	-3.27E+166	-1.69E+118	-6.22E+85		
(h62)	7.71E+18	-0.05E+03	-2.81E+32	-6.87E+122	-18.75E+149	-14.12E+106	-13.75E+149	-11.42E+106	-6.5E+169	-4.74E+577	-3.66E+277	-3.01E+57	-6.84E+885	-18.05E+1701	-10.13E+1207	-9.31E+396	-4.83E+743	-2.34E+316	-3.74E+127	-1.74E+1207	-1.74E+1207	-1.74E+1207	-1.74E+1207	-1.74E+1207	
(h67)	2.23E+403	-0.34E+07	-1.36E+294	-5.15E+781	-6.88E+147	-10.08E+135	-15.52E+166	-9.66E+1167	-10.4E+319	-4.09E+374	-2.74E+73	-6.02E+94	-8.52E+38	-10.58E+1133	-4.24E+21	-3.42E+739	-8.78E+94	-18.31E+1646	-10.27E+929	-6.01E+67	-5.56E+38	-2.84E+35	-4.83E+32		
(h72)	-7.74E+485	-5.49E+35	-3.49E+554	-7.99E+103	-11.76E+112	-10.44E+127	-11.52E+931	-17.13E+162	-17.13E+162	-4.49E+773	-4.49E+773	-4.49E+773	-4.49E+773	-11.11E+151	-11.79E+92	-4.68E+61	-10.03E+1843	-18.12E+1222	-13.75E+1286	-7.23E+21	-6.70E+1035	-12.72E+62	-5.41E+58	-8.91E+27	
(h82)	-7.39E+45	-6.95E+39	-10.37E+151	-12.18E+67	-11.12E+67	-8.61E+68	-6.66E+145	-15.71E+133	-14.78E+1106	-12.08E+337	-6.46E+125	-17.14E+172	-1.6E+45	-3.21E+158	-19.52E+1476	-9.63E+607	-6.3E+102	-18.4E+84	-11.75E+37	-6.13E+62	-12.32E+1621	-11.04E+107	-9.98E+121	-8.94E+22	
(h90)	-6.59E+358	-7.12E+139	-14.71E+337	-17.26E+139	-7.14E+74	-8.81E+173	-15.27E+103	-14.37E+1104	-9.1E+69	-1.35E+183	-8.64E+108	-12.91E+59	-6.4E+37	-5.55E+83	-10.65E+152	-6.75E+1039	-9.18E+57	-10.67E+1188	-6.47E+77	-6.52E+77	-13.05E+14	-9.24E+155	-16.75E+78	-7.56E+49	
(h97)	4.67E+527	-5.62E+88	-11.38E+78	-6.55E+71	-4.41E+63	-7.97E+168	-14.96E+64	-11.6E+1021	-7.93E+2	-17.72E+87	-8.47E+1224	-12.66E+624	-4.1E+138	-5.17E+123	-18.84E+135	-8.41E+62	-4.63E+458	-9E+49	-5.67E+443	-4.33E+87	-10.27E+533	-8.55E+133	-8.71E+9	-7.49E+88	
(h107)	5.69E+641	-4.37E+74	-9.87E+61	-4.59E+54	-4.21E+60	-6.89E+53	-18.62E+452	-11.27E+84	-4.44E+1398	-14.79E+179	-5.42E+38	-8.64E+1225	-7.69E+362	-4.94E+42	-10.84E+1607	-10.11E+107	-8.19E+734	-4.58E+52	-8.36E+14	-7.35E+167	-4.72E+34	-2.88E+65	-16.1E+1382	-8.92E+27	
(h110)	5.61E+18	-5.22E+61	-6.23E+47	8.79E+75	-3.70E+138	-12.50E+1772	-18.73E+33	-8.36E+67	-4.8E+74	-13.39E+1430	-15.29E+75	-8.3E+108	-7.13E+84	-16.14E+1928	-15.14E+1237	-12.91E+87	-8.11E+1037	-13.52E+133	-7.64E+143	-11.28E+37	-6.48E+1257	-16.89E+184	-18.99E+151		
(h120)	-3.20E+1331	-9.07E+182	-11.31E+532	-11.07E+651	-13.12E+1464	-12.75E+116	-7.12E+7	-10.20E+130	-4.95E+79	-13.75E+1927	-10.29E+104	-16.35E+1259	-11.4E+1582	-17.59E+1859	-10.99E+182	-18.24E+119	-8.83E+73	-12.89E+181	-14.42E+184	-17.91E+571	-4.53E+527	-10.61E+79	-11.67E+129	-18.43E+57	
(h127)	-1.96E+88	-1.66E+105	-1.47E+107	-17.82E+73	-10.10E+136	-12.91E+121	-6.64E+78	-12.57E+939	-8.97E+79	-16.05E+184	-1.62E+146	-16.15E+138	-19.11E+131	-13.29E+126	-14.31E+174	-19.06E+164	-11.31E+42	-11.67E+178	-18.51E+152	-10.76E+126	-18.74E+1026	-10.83E+107	-15.47E+65		
(h130)	-0.98E+1307	-10.17E+182	-11.81E+103	-18.39E+1178	-6.53E+76	-9.68E+28	-13.6E+6	-7.93E+61	-11.54E+105	-5.52E+153	-12.21E+193	-19.6E+86	-4.59E+44	-8.15E+18	-10.28E+132	-13.86E+1474	-11.07E+89	-16.59E+162	-15.44E+137	-17.77E+1456	-10.71E+61	-17.54E+125	-8.07E+13	-11.34E+1798	
(h142)	-5.36E+338	-6.27E+43	-11.72E+234	-5.57E+117	-14.82E+48	-9.78E+107	-11.49E+102	-14.06E+1737	-14.26E+737	-14.26E+737	-14.26E+737	-11.17E+1073	-8.97E+64	-4.59E+1828	-16.11E+107	-10.03E+75	-13.68E+1027	-11.25E+1397	-17.16E+105	-8.41E+153	-17.96E+441	-10.97E+1226	-14.17E+137	-11.65E+82	
(h150)	2.21E+16	-1.45E+1	-4.59E+56	-1.07E+1786	-13.75E+1279	-11.53E+801	-7.83E+261	-18.12E+1309	-8.67E+43	-0.03E+36	-10.26E+24	-3.81E+47	-6.13E+25	-11.88E+153	-15.74E+187	-19.94E+107	-16.78E+1794	-19.13E+1791	-16.93E+163	-18.18E+83	-8.1E+16	-14.02E+921	-5.36E+45		
(h157)	-0.06E+38	-1.49E+36	-9.63E+46	-9.81E+133	-6.24E+168	-17.95E+757	-18.01E+1747	-18.52E+1642	-12.29E+1033	-7.12E+467	-2.79E+524	-2.79E+524	-2.79E+524	-2.79E+524	-2.79E+524	-2.79E+524	-2.79E+524	-2.79E+524	-2.79E+524	-2.79E+524	-2.79E+524	-2.79E+524	-2.79E+524		
(h162)	5.19E+485	-6.83E+88	-4.89E+35	-7.58E+78	-10.65E+152	-17.95E+162	-15.73E+119	-14.91E+185	-13.93E+188	-18.73E+1227	-7.57E+387	-1.51E+26	-5.65E+24	-3.32E+41	-4.59E+128	-7.15E+47	-10.31E+1	-13.51E+182	-19.07E+1779	-14.2E+133	-11.07E+71	-5.54E+77	-1.94E+235	-1.92E+31	
(h172)	5.05E+48	-6.17E+106	-10.38E+182	-15.4E+186	-16.38E+1765	-13.41E+157	-15.78E+178	-17.91E+187	-14.91E+103	-4.94E+369	-2.62E+28	-3.06E+1384	-4.88E+1184	-12.86E+185	-13.21E+135	-7.86E+434	-1.97E+12	-3.63E+385	-4.99E+51						
(h180)	-1.83E+222	-3.29E+36	-8.25E+83	-7.16E+73	-4.44E+154	-14.22E+347	-14.01E+1439	-13.05E+113	-9.56E+66	-7.91E+15	-6.6E+13	-6.06E+64	-5.53E+53	-5.57E+72	-6.49E+69	-4.7E+39	-8.43E+1097	-11.63E+1235	-13.56E+1421	-13.22E+85	-6.61E+452	-2.61E+22	-3.82E+27	-6.69E+45	
Free(h)	6.95E9Pb1	Free(h)	6.95E9Pb2	Free(h)	6.95E9Pb3	Free(h)	6.95E9Pb4	Free(h)	6.95E9Pb5	Free(h)	6.95E9Pb6	Free(h)	6.95E9Pb7	Free(h)	6.95E9Pb8	Free(h)	6.95E9Pb9	Free(h)	6.95E9Pb10	Free(h)	6.9				



Radiated Composite Gain of 6GHz

Appendix B

01602)	8.471-10.08	-12.201-11.18	-8.8-8.23	9.481-11.47	-15.051-16.58	-11.411-10.33	-13.251-18.82	-18.401-15.27	-14.331-13.95	-15.801-16.53	-17.211-16.74	-14.881-11.92	-10.211-11.2	-15.131-14.09	-10.251-4.65	-8.811-5.79	6.301-4.44	8.831-7.87	6.421-6.91	6.581-6.39	-5.571-4.98	-5.031-5.85	-5.491-4.48	-5.861-4.78
011702)	5.531-7.05	-7.714-8.51	-8.291-8.3	-10.091-11.45	-13.081-10.66	-17.091-12.26	-10.331-4.66	-7.281-7.65	-7.371-8.55	-10.51-7.76	-8.861-17	-9.111	11.661-11.84	6.981-7.4	7.491-7	8.111-11.44	-14.971-11.48	-17.161-14.88	-12.921-8.7	-6.381-2.55	-4.231-3.77	3.011-2.61	2.611-3.22	-3.571-4.04
011801)	-13.861-14.85	-14.561-14.29	-14.381-15.17	-17.411-16.97	-18.161-16.6	-17.971-17.95	-14.071-15.3	-11.021-11.38	-11.691-12.42	-14.161-13.7	-16.911-15.21	-16.791-19.27	-16.151	-15.551-15.07	-14.841-13.38	-12.081-11.95	-11.421-10.92	-8.321-8.02	-6.441-5.85	-7.531-7.04	-4.481-4.68	-4.911-5.16	-4.681-4.96	
FreqHz	6.17550Pz	ThetaRef. 3																						
Gain	01671907.57)	01517002.25)	01301703.57)	01451706.25)	01671907.57)	01757002.25)	01891709.57)	01105711.25)	01137012.25)	01137014.25)	01150715.57)	01165717.25)	01187018.57)	01195720.25)	01210721.57)	01225723.25)	01240724.57)	01255726.25)	01270727.57)	01285729.25)	01300730.57)	01315732.25)	01330733.57)	01345735.25)
017)	2.931-3.31	3.411-3.54	3.831-4.3	5.171-5.58	6.551-7.88	-10.211-11.8	-13.31-15.41	-17.751-15.48	-13.131-9.76	-7.481-6.99	-5.941-5.03	3.691-5.3	3.351-3.59	3.851-4.22	4.481-4.88	5.651-6.02	8.191-10.28	-12.451-13.88	-15.241-15.79	-15.81-14.21	-12.031-10.77	-7.851-7.6	-4.421-3.89	-3.121-2.39
0175)	2.641-2.71	3.221-4.19	-3.781-4.33	6.411-5.98	4.771-5.62	-10.831-12.5	-13.931-15.29	-17.811-13.51	-10.861-9.68	-6.291-5.28	-5.841-4.47	-3.421-2.72	-2.441-2.55	3.011-4.21	-5.021-5.43	-7.681-6.94	-10.781-12.21	-13.021-15.43	-16.461-15.16	-13.791-10.55	-8.261-6.88	-4.891-4.43	-3.851-2.94	
01752)	1.671-2.02	2.381-2.08	1.631-1.65	2.561-4.16	7.961-10.6	-12.561-14.01	-15.191-16.3	-10.491-9.74	4.221-5.78	4.531-4.44	-3.971-4.38	1.081-1.3	1.751-2.25	3.961-5.98	1.321-1.91	2.111-2.26	3.361-2.77	4.891-11.35	-12.891-15.34	-17.841-14.71	-16.461-15.25	-13.291-10.22	-4.621-3.52	-4.681-3.2
01753)	1.871-2.09	3.511-2.26	6.441-5.09	6.441-5.36	7.151-8.13	-10.121-13.7	-13.071-16.36	-15.241-12.3	8.981-9.18	1.511-10.71	-10.991-10.68	-12.571-8.5	7.471-6.91	3.371-2.91	3.271-3.53	3.211-3.43	4.141-7	4.491-9.24	-15.171-14	-18.741-16.6	-15.911-13.3	9.471-6.49	4.481-3.38	2.121-1.99
01757)	2.311-3.64	3.021-4.2	4.381-5.07	4.991-4.86	5.331-6.83	-8.551-10.51	-11.571-10.98	-8.881-17.7	4.091-7.06	7.511-8.7	5.21-3	9.171-5.1	5.441-7.35	7.311-7.37	5.541-3.28	2.161-3.1	5.711-6.03	4.261-7.04	-15.051-19.48	-18.321-10.02	-15.091-10.2	-7.511-5.38	2.921-2.29	2.91-3.2
01758)	0.0101-8.84	0.021-9.93	4.211-4.74	4.171-4.34	3.721-5.4	-7.761-11.16	-11.441-12.22	-8.911-5.79	5.421-5.69	8.191-11.16	4.711-4.15	3.591-4.29	3.201-3.48	3.481-2.26	7.941-6.06	4.711-4.81	5.471-6.08	-10.181-10.82	-18.361-17.97	-17.831-13.7	-10.631-4.4	-7.021-6.48	4.241-3.52	2.251-2.77
01822)	0.281-0.36	-1.781-5.6	-13.791-17.16	8.951-4.87	6.491-8.38	-7.521-6.07	-10.791-13.2	5.51-4.14	4.911-3.77	-15.151-8.87	-6.831-5.44	2.721-4.1	2.31-8	6.821-2.68	-4.691-10.2	8.711-4.55	6.851-10.48	-11.291-13.43	-17.841-16.08	-18.841-14.5	-13.311-8.81	4.551-3.88	-1.711-3.1	0.331-0.85
01801)	1.111-1.28	-3.581-4.76	-11.551-14.4	-11.791-9.3	-6.691-9.62	8.711-0.77	-8.571-12.47	-3.861-5.23	-7.531-11.75	-14.811-13.33	-10.671-3.1	-4.631-3.1	2.121-2.39	4.411-4.62	4.851-6.6	-12.911-12.73	-17.341-13.44	-18.171-17.1	-18.191-13.2	-17.031-14.73	-4.951-3.48	-2.141-0.33	1.871-0.9	
01871)	5.111-5.11	-4.641-8.72	-8.271-11.3	-15.421-7.93	-8.21-17	-8.881-13.62	-10.991-6.85	8.131-12.04	-14.781-13.5	8.971-6.48	7.711-4	-4.591-2.63	-1.141-8	3.551-8.83	8.661-6.3	7.371-13.3	8.241-15.89	-18.571-17.6	-18.471-15.7	-18.641-12.05	-7.721-2.6	-6.971-2.22	-3.561-1.8	1.811-0.6
0179)	2.181-3.04	3.561-7.89	-7.071-8.95	-16.711-4.87	-12.191-6.53	-10.711-8.4	-16.691-9.51	-10.051-16	-14.741-9.08	-11.541-11.21	-11.481-11.19	-8.451-6.65	-3.671-3.31	3.331-3.68	8.911-13.7	-10.641-12.48	-16.661-18.82	-13.981-11.2	-12.811-8.62	-8.011-11.77	-18.271-17.1	4.541-2.43	2.711-2.06	
01825)	3.591-4.49	-5.761-8.84	-5.71-8.84	-18.771-11.67	-17.441-12.9	-15.311-14.8	-16.141-16.86	8.291-10.99	-18.131-13.1	-16.651-18.53	-16.11-19.5	-10.81-12.4	-7.771-9.83	7.891-8.42	-10.511-14.24	-11.551-15.41	-17.481-15.89	-19.291-17.81	-15.141-16.95	-16.261-14.5	-13.241-18.81	-16.981-8.07	4.671-4.88	3.321-3
01801)	6.881-7.46	4.461-5.9	-3.551-9.34	-13.881-13.84	-1.1261-7.88	-16.881-10.71	-12.191-12.51	-10.151-18.15	-11.811-14.42	-16.311-13.5	-14.461-19.15	-14.711-12.69	8.071-10.41	-16.881-10.41	-12.321-12.96	-12.11-18.84	-18.991-18.68	-16.651-17.43	9.051-12.63	-15.131-10.9	-16.181-17.92	-14.231-11.73	7.711-10.26	4.711-17
01871)	-1.4551-4.67	-5.361-7.8	-8.861-17.37	-11.221-11.87	-12.261-13.8	-13.171-17.12	-13.171-17.12	-13.171-17.12	-11.661-18.39	-13.611-12.9	-12.611-13.65	-18.311-19.5	-16.911-13.92	-9.721-11	1.041-13.37	-13.051-18.35	-7.281-10.95	-12.511-19.7	-15.811-14.24	-16.341-17.6	-18.981-17.81	-16.981-8.07	4.671-4.88	3.321-3
01181)	-10.471-15.58	-11.631-15.65	-14.371-17.17	-16.621-17.99	-13.121-16.84	8.211-10.77	-16.311-12.23	-10.421-11.74	8.961-11.78	-18.121-15.9	-13.961-16.78	-18.491-13.3	-12.191-13.2	-9.561-11.4	7.251-17.7	5.831-6.79	5.731-13.67	-18.341-17.6	-12.591-17.2	-10.881-9.99	-7.791-11.81	-16.741-10.8	-10.741-9.33	
011122)	-1.241-10.21	-13.431-15.51	-16.291-14.77	-19.961-16.72	-17.821-16.13	-16.141-11.16	-14.011-10.28	7.611-17.08	4.041-18.34	-10.711-8.41	-10.011-10.28	-19.221-15.01	-13.511-12.1	8.131-13.7	7.941-4	4.71-5.24	6.591-4.11	9.491-9.31	-7.061-12.39	-15.541-17.6	-10.361-6.9	-6.321-7.39	-7.881-11.48	-10.741-9.33
018021)	-8.021-13.37	-17.651-17.85	-18.761-17.85	-18.191-16.65	8.991-8.74	-10.881-12.37	-10.881-12.37	8.331-17.53	19.11-18	-10.961-8.69	-10.011-13.1	-17.771-12.81	-14.841-10.94	6.131-13.31	-13.271-11.58	-3.841-16	8.841-25	7.781-10.78	4.221-12.52	-17.281-9.77	-11.011-11.72	-17.111-10.5	-10.761-10.08	-11.161-10.33
011272)	-8.391-16.97	9.161-15.88	-17.981-16.55	-15.511-11.53	5.271-13	-15.131-18.85	-15.961-16.94	-16.121-17.99	9.061-11	-14.831-18.79	-14.781-13.3	-11.211-9.75	8.171-128	11.031-8.83	8.291-6.7	7.881-17.52	8.851-4.37	6.231-12.35	-12.691-8.57	-14.841-7.5	-12.521-7.79	-13.711-15.17	-14.191-14.4	
01181)	-6.231-10.95	-15.511-16.32	-13.981-10.91	8.831-4.79	4.511-6.12	-10.921-16.83	-12.051-13.19	-11.121-18.42	-10.241-10.37	-16.461-17.97	-8.061-14.98	7.451-14.44	-11.111-13.3	-11.161-17.4	8.061-14.4	-10.271-5.1	7.831-11.1	3.991-4.77	-10.961-17.89	-12.611-14.7	7.251-8	-10.371-12.35	-15.561-14.9	
011422)	-18.441-6.7	8.951-16.88	-15.561-17.35	3.661-3.88	4.581-6.35	6.191-8.58	-8.711-12.48	-11.771-12.62	-10.241-12.28	-10.391-11.8	-10.421-14.87	-18.951-6.49	4.841-9.24	-17.871-14.83	-11.541-13.1	-16.71-8.4	4.891-6.68	5.061-2.77	-12.431-8.65	-16.891-19.2	8.641-11.66	7.891-7.58	4.691-12.38	-10.461-16.88
011321)	-13.361-14.78	-11.541-13.69	-16.791-15.31	8.991-8.7	-10.131-11.03	-15.661-16.44	-13.211-11.03	-14.521-12.68	-10.151-16.19	-11.4561-11	-11.4561-11	6.791-9.3	-12.961-13.27	-18.041-14.9	-18.111-16.48	7.891-6.91	4.941-4.77	-17.371-16.79	-12.141-16.33	-17.881-17.49	8.691-8.34	7.271-6.68	4.721-6.68	-10.411-16.95
011972)	11.111-9.28	8.11-3	-11.551-15.75	-16.871-17.08	12.361-10.71	-12.361-13.7	-11.441-13.2	8.31-8.4	9.881-15.3	-18.881-16.8	-19.111-18.2	-16.161-16.91	-11.861-10.5	10.941-12.62	-14.911-12.18	-10.821-15.86	-18.481-19.17	-14.861-12.96	-10.821-14.98	-15.791-17.87	18.971-12.48	9.941-8.02	-10.311-13.88	
01181)	4.931-4.31	4.441-4.97	5.471-5.98	10.361-10.17	9.711-9.44	5.171-5.77	-12.591-14.43	-14.641-16.59	-15.941-16.59	-15.941-16.59	-15.941-16.59	-15.941-16.59	-15.941-16.59	-15.941-16.59	-15.941-16.59	-15.941-16.59	-15.941-16.59	-15.941-16.59	-15.941-16.59	-15.941-16.59				



Radiated Composite Gain of 6GHz

Appendix B

(H15)	-4.53/-3	2.83/2.88	-3.26/-3.22	-2.64/-3.67	4.25/-4.68	-5.53/-6.83	6/-6.13	-6.23/-6.98	8.39/-6.85	-5.68/-6.54	-5.36/-4.34	-2.61/-3.34	-2.92/-1.69	-1.14/-1.33	2.63/-25	-0.01/-15	-6.58/-4.06	0.05/-10.23	-11.03/-11.31	8.9/-8.96	-8.82/-9.11	-8.63/-7.42	6.91/-7.08	6.99/-6.94
(H22)	2.65/-2.1	-3.83/-3.4	-2.47/-3.09	-3.94/-4.4	7.46/-7.3	6.64/-6.2	-6.27/-7.08	-7.91/-8.2	8.71/-7.1	7.69/-8.27	-7.27/-6.38	-4.06/-2.67	-1.48/-2.5	-1.06/-1.69	-2.77/-3.4	4/-4.04	-4.96/-7.41	-11.04/-14.19	-12.82/-8.83	-7.94/-8.94	-10.29/-10.55	-9.71/-8	-5.46/-7.43	-4.81/-9.7
(H30)	3.83/-3.24	-2.68/-3.1	-3.71/-4.65	-4.19/-6.57	6.24/-6.14	-5.51/-5.36	-6.09/-6.81	-8.45/-9.19	-1.71/-7.64	-6.31/-5.54	-5.51/-5.61	-5.21/-5.06	-4.44/-2.65	-1.52/-1.08	-3.39/-2.22	-3.48/-4.04	-11.68/-16.54	-16.65/-9.78	-7.07/-8.87	-10.27/-10.74	-4.62/-3.69	-6.15/-6.91	-5.34/-6.56	
(H37)	3.54/-4.7	-5.66/-6.6	-4.64/-3.8	-5.79/-5.4	7.13/-7.4	-4.95/-3.7	-5.59/-4.25	-4.36/-7.3	8.69/-7.9	9.15/-8.13	-9.79/-11.2	-10.31/-12.8	-10.88/-8.81	6.75/-4.78	-3.57/-4.4	-1.01/-1.68	-3.34/-3.99	-12.07/-17.56	-10.24/-6.3	-9.52/-12.42	-8.44/-9.53	-5.27/-4.15	-3.81/-1.38	-3.55/-3.49
(H45)	-8.95/-1.34	-5.56/-9.15	-6.16/-9.26	-12.46/-14.22	-10.07/-16.3	6.47/-6.98	-6.61/-4.31	-5.99/-7.16	-5.46/-5.73	6.42/-6.17	-7.25/-6	-6.34/-4	-3.97/-6.3	1.27/-1.3	4.14/-3.21	-4.16/-4.87	-5.81/-6.32	-8.14/-12.15	-10.62/-6.3	-9.67/-10.34	-5.89/-4.95	-4.84/-5.34	-3.26/-3.37	-3.89/-1.6
(H52)	6.8/-11.83	-14.07/-12.24	9.96/-8.26	-7.61/-3.7	7.22/-7.61	8.67/-9.36	8.17/-6.25	-7.21/-7.4	5.89/-4.62	7.19/-6.37	-4.76/-4.17	-3.56/-3.68	-1.97/-1.69	2.59/-5.2	9.38/-3.73	-4.55/-6.84	-8.95/-8.64	-11.37/-18.45	-10.67/-7.23	-10.17/-29	-4.66/-2.96	-3.49/-5.74	-8.88/-7.15	6.37/-6.9
(H60)	2.81/-5.16	-7.55/-10.76	-14.53/-10.99	-9.65/-6.55	6.58/-6.79	-8.17/-6.78	-6.97/-7.5	-9.79/-6.85	5.11/-4.33	-5.96/-6.98	-4.44/-3.28	-2.41/-4.65	-3.81/-3.71	4.14/-3.33	-5.14/-10.33	-7.45/-6.85	-9.45/-9.42	-11.33/-10.35	-11.87/-17.51	-5.89/-4.29	-5.55/-7.19	-4.53/-2.95	-1.02/-1.17	
(H67)	3.64/-6.5	8.73/-3.8	-15.47/-12.83	-12.54/-7.49	-6.52/-11.49	-10.75/-11.46	-11.12/-10.4	-13.88/-8.23	6.06/-7.3	-14.15/-137	-10.82/-11.39	-10.73/-6.79	7.08/-7.09	6.55/-6.59	6.34/-10.52	-8.49/-11.69	-18.08/-14.59	-13.92/-10.55	-17.89/-14.66	-15.3/-13.37	-8.89/-6.47	-7.86/-7.16	-3.36/-2.13	-1.71/-2.29
(H75)	8.12/-9.31	5.44/-24	-12.37/-16.14	-11.07/-17.45	-4.77/-12.32	-13.33/-14.2	-12.71/-15.39	-16.48/-17.38	-18.5/-18.64	-11.08/-10.65	-6.23/-6.4	-9.96/-11.26	-11.01/-14.25	-18.76/-16.15	-17.24/-18.08	8.62/-17.44	-17.82/-16.2	-18.15/-16.6	-7.41/-6.62	-6.68/-7.6	4.13/-3.27	-4.13/-3.27		
(H82)	8.99/-6.85	4.71/-45	8.98/-16.8	-18.23/-6.85	-13.35/-13.58	-19.34/-16.2	-17.59/-15.25	-18.71/-18.41	-14.31/-9.67	-13.79/-16.59	-13.16/-16.89	-12.58/-13.31	-10.89/-14.92	-10.89/-14.92	-13.45/-13.73	-18.91/-18.17	-15.24/-17.64	-15.99/-13.68	-15.99/-13.68	-13.48/-12.92	-8.51/-10.36	-8.97/-10.81	-4.69/-3.3	-4.19/-6.85
(H90)	11.62/-5.24	3.82/-3.26	-12.57/-11.86	-15.91/-11.27	-15.15/-11.76	-13.25/-12.79	-16.85/-15.49	-14.54/-14.16	-15.99/-17.86	-14.53/-18.16	-12.35/-16.89	-11.06/-16.33	-10.69/-13.36	-10.59/-14.4	-12.51/-14.35	-10.84/-17.7	-18.17/-19.83	-12.46/-13.29	-10.87/-11.67	-12.23/-16.8	-13.21/-10.18	-1.55/-2.36	-11.31/-3.22	
(H97)	7.48/-9.1	-4.23/-7.4	-15.12/-10.35	-10.54/-9.63	8.86/-13.1	-12.64/-10.33	-10.54/-10.65	-16.15/-14.5	18.4/-18.67	-10.97/-17.21	-12.93/-12.91	-12.96/-14.4	12.91/-6.84	-7.36/-14.86	-6.96/-17.3	-10.82/-18.55	7.59/-15.84	-15.37/-17.14	-14.35/-17.42	-12.55/-15.37	-8.89/-3	-11.46/-14.57	-16.16/-13.3	
(H105)	8.57/-8.66	-10.56/-15.76	-18.81/-16.99	8.89/-13.68	9.15/-16.96	-14.83/-6.87	9.02/-12.5	-14.18/-17.2	7.88/-11.14	-13.52/-14.66	-17.89/-19.27	-8.57/-8.44	11.32/-15.25	-14.45/-8.74	-8.86/-17.04	8.25/-14.37	-9.76/-8.44	-10.3/-13	-15.71/-16.18	-15.32/-16.8	-5.23/-5.53	-8.96/-7.88	-11.49/-16.78	-18.94/-14.9
(H112)	-16.19/-15.31	-18.67/-18.05	-13.76/-11.31	-17.84/-8.87	4.18/-14.24	-12.17/-65	9.37/-14.6	-5.99/-11.6	-19.69/-9.18	-11.42/-6.85	8.37/-13.2	9.28/-9.31	5.36/-11.49	-18.11/-10.28	-8.56/-14.2	4.3/-14	-8.79/-8.65	-12.27/-9.86	-18.91/-19.6	-19.54/-19.4	9.02/-11.46	-2.71/-6.98	-2.71/-6.98	
(H120)	8.88/-16.8	-13.73/-18.32	-14.19/-17.39	-14.84/-6.14	7.73/-16.05	-7.36/-7.53	6.44/-6.46	6.35/-10.24	-13.68/-16.79	-18.81/-9.16	-11.81/-17.74	-18.43/-15.97	-10.34/-10.97	-17.86/-17.69	-18.14/-17.9	-10.91/-8.76	-6.52/-5.63	6.01/-7.42	8.75/-6.9	-8.33/-9.43	-7.28/-5.66	-5.16/-6.68	-3.75/-3.75	-6.42/-10.43
(H127)	-14.68/-11.7	-12.61/-8.6	-10.44/-9.59	-5.89/-6.52	-11.19/-12.1	-8.63/-7.21	-10.13/-4.74	-13.89/-12.49	-17.37/-13.85	-6.03/-14.77	-18.53/-12.65	-18.24/-18.51	-19.09/-13.34	-18.76/-14.14	-18.57/-15.31	-4.22/-7.03	-5.48/-3.79	6.13/-11.87	8.19/-7.3	-7.12/-5.34	-7.69/-6.46	-6.11/-6.8	-4.86/-5.01	-6.82/-9.13
(H135)	-16.62/-14.58	-10.15/-9.69	-17.56/-11.66	-8.4/-14.48	-4.43/-9.81	-13.67/-6.69	4.48/-4	6.34/-10.32	-13.72/-11.86	-14.19/-14.48	-7.3/-10.42	-12.37/-6.83	-11.53/-16.4	-18.81/-13.18	-14.87/-4.63	-6.23/-10.61	-7.38/-2.07	-2.11/-6.88	-4.75/-12.03	-5.66/-6.05	5.14/-5.2	-2.8/-4.8	-6.82/-6.69	-14.68/-12.79
(H142)	-5.65/-17.78	-12.29/-10.1	-11.76/-7.39	-4.6/-14.46	-6.72/-14.68	-14.53/-7.69	-7.25/-5.55	-6.98/-12.46	-14.31/-17.82	-14.84/-8.02	-4.16/-18.36	-11.71/-17.1	-3.33/-6.78	-15.74/-15	-16.95/-12.48	-19.14/-6.5	-7.78/-23	-5.49/-4.68	-15.16/-18.58	-5.93/-17.92	-4.12/-12.74	-5.57/-9.79	-7.22/-6.04	
(H150)	-11.52/-10.69	-10.49/-13.07	-13.14/-16.69	-12.6/-6.34	-7.11/-16.11	-10.91/-6.66	-7.25/-4.7	-7.76/-12.25	-13.12/-11.15	-16.17/-17.38	-12.44/-16.72	-8.96/-2.77	-2.47/-5.73	-12.17/-12.57	-16.75/-16.83	-19.26/-12.33	-5.19/-2.57	-7.94/-12.62	-5.99/-3.49	-5.36/-7.49	-17.72/-12.51	-11.34/-8.68	-6.32/-8.68	-6.07/-10.3
(H157)	-7.71/-12.16	-10.91/-10.71	-16.85/-16.83	-18.96/-18.66	-11.06/-17.71	-2.04/-6.81	-7.64/-5.83	4.25/-6.42	-3.88/-13	-13.85/-14.12	-12.67/-13.38	-10.79/-6.01	-6.96/-12.2	-13.17/-13.17	-13.88/-13.9	8.19/-6	7.86/-10.51	-10.74/-10.24	-13.61/-13.83	-13.71/-13.06	-10.81/-10.62	-2.99/-3.38	-8.31/-5.75	
(H165)	2.79/-17.3	5.64/-7.2	8.22/-12.36	-11.55/-14.8	-13.74/-12.57	-17.21/-16.86	-16.48/-16.68	-11.52/-19.17	-15.19/-19	-8.32/-6.68	-6.61/-6.17	-7.06/-6.64	-4.57/-10.7	-3.57/-3.77	4.07/-6.6	-9.62/-12.46	-15.39/-15.19	-18.82/-17.97	-10.69/-6.45	-5.54/-6.03	-6.66/-6.68	-8.86/-6.45	-5.73/-5.4	-5.71/-7.24
(H172)	5.99/-2.89	-5.77/-10.85	-18.27/-18.02	-18.29/-19.37	-17.94/-12.58	-10.38/-10.07	-11.76/-15.79	-18.26/-18.69	-14.64/-16.78	-7.13/-14.46	-4.69/-2.41	-3.36/-3.44	-3.63/-4.68	3.06/-4.1	8.94/-6.37	-11.33/-11.29	-11.36/-11.36	9.84/-8.37	-8.72/-8.29	-13.28/-13.71	-11.70/-12.1	-8.26/-12.3	-3.51/-6.2	
(H180)	-17.71/-13.87	-10.44/-10.33	-11.87/-13.31	-13.73/-12.09	-11.44/-10.78	-10.12/-14.7	-11.5/-10.61	9.93/-11.01	-10.86/-11.42	-13.67/-13.93	-11.93/-11.9	-14.96/-14.41	-11.55/-12.25	-12.83/-13.48	-18.04/-19.24	-18.36/-18.39	-17.84/-15.92	-13.67/-12.32	-12.43/-13.11	9.02/-7.14	-5.39/-3.62	-3.123/-3.84	-4.53/-3.36	-5.46/-6.85
Freq(Hz)	6.995GHz	Pinetx1_3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	(H15)(H22)	(H30)(H37)	(H45)(H52)	(H60)(H67)	(H75)(H82)	(H90)(H97)	(H105)(H112)	(H120)(H127)	(H135)(H142)	(H150)(H157)	(H165)(H172)	(H180)(H187)	(H195)(H202)	(H210)(H217)	(H225)(H232)	(H240)(H247)	(H255)(H262)	(H270)(H277)	(H285)(H292)	(H300)(H307)	(H315)(H322)	(H330)(H337)	(H345)(H352)	
(H15)	4.76/-5.66	5.69/-5.27	6.36/-6.72	5.78/-4.91	4.96/-4.76	4.74/-5.33	4.248/-7.1	7.42/-7.97	7.15/-6.97	7.11/-7.26	7.25/-7.37	3.18/-4.9	3.60/-2.71	7.45/-6.58	8.27/-8.2	6.02/-7.77	6.95/-7.25	2.07/-1.52	-1.26/-1.34	-1.47/-1.33	-1.51/-1.52	3.57/-4.4		
(H22)	4.95/-7.74	8.49/-6.99	11.116/-9.7	7.67/-6.61	5.32/-4.47	3.92/-3.65	2.07/-1.41	1.86/-1.53	1.87/-1.24	1.89/-1.59	2.29/-2.91	3.23/-3.9	4.42/-4.83	3.29/-4.97	4.41/-7.2	6.86/-6.88	4.88/-3.9	3.20/-2.71	2.27/-1.87	1.81/-1.56	1.46/-1.32	2.43/-3.04	5.71/-6.86	
(H30)	5.85/-15.18	-19.27/-18.1	-14.34/-6.42	2.71/-5.77	5.66/-4.44	3.49/-2.72	3.05/-4.42	3.87/-3.84	3.81/-4.09	3.72/-4.01	5.62/-6.83	4.05/-7.81	12.52/-10.55	-14.03/-10.86	-7.59/-5.26	4.42/-4.2	4.28/-4.09	3.35/-2.59	1.73/-1.08	-1.76/-4.79	-1.06/-1.41	2.01/-2.72	3.94/-5.11	-7.96/-11.3
(H37)	8.32/-4.5	3.82/-4.5	7.99/-6.83	4.85/-4.63	4.38/-4.27	3.75/-3.32	3.423/-3.81	3.98/-4.68	5.51/-5.02	7.24/-6.25	2.74/-2.85	2.86/-2.89	3.36/-4.85	3.37	5.44/-5.48	3.423/-6.8	3.09/-3.46	3.37	3.37	3.37	3.37	3.37	3.37	
(H45)	5.96/-6.82	5.38/-4.93	5.23/-4.36	3.29/-3.47	1.96/-1.58	2.44/-4	4.252/-6.84	4.54/-4.74	6.87/-6.74	2.032/-8.08	2.943/-3.62	5.46/-4.7	6.44/-6.29	8.56/-10.27	17.94/-13.67	4.262/-6.83	2.052/-1.36	2.793/-4.36	3.19/-2.44	2.88/-4.16	4.13/-3.92	5.86/-4.69	8.36/-6.48	16.16/-7.8
(H52)	3.33/-3.01	-1.77/-1.95	-1.57/-2.09	-3.94/-1.61	5.94/-3.6	3.38/-4.2	3.87/-4.05	4.82/-2.28	1.66/-2.75	3.62/-8.1	3.88/-4.38	3.38/-4.46	4.59/-3.25	4.38/-3.62	3.87/-6.81	3.71/-6.34	3.13/-3.94	2.27/-1.64	3.4/-3.02	4.59/-4.35	4.21/-3.48	4.17/-3.92	1.74/-3.02	1.14/-4.13
(H60)	4.58/-3.95	3.64/-2.53	3.36/-2.32	2.39/-2.77	9.25/-4.1	2.13/-4.46	16.91/-15.61	10.46/-6.33	6.74/-9.81	4.79/-3	5.97/-6.02	3.98/-3.34	2.17/-1.44	2.18/-1.42	1.81/-3.6	1.57/-10.66	3.56/-6.87	1.13/-1.73	4.58/-4.69	4.99/-4.72	5.98/-7.27	8.57/-7.47	6.23/-6.11	6.88/-8.32
(H67)	-11.05/-7.16	-4.03/-6.46	-4.36/-3.09	-2.70/-5.62	2.70/-5.62	4.86/-10.89	-10.87/-10.64	7.6/-6.66	-10.45/-8.72	4.42/-6.55	-5.86/-6.65	6.41/-7.48	4.16/-9.23	1.18/-1.46	-1.57/-6.75	-5.52/-4.48	-3.89/-1.16	3.16/-1.25	2.77/-6.09	3.992/-4.14	3.57/-6.72	10.07/-14.91	4.06/-6.36	-10.36/-10.74
(H75)	6.43/-5.18	2.64/-6.7	4.24/-3.67	4.31/-5.1	4.82/-6.84	4.023/-6.4	4.63/-6.66	6.4/-6.31	7.73/-7.37	5.19/-5.68	6.85/-4.74	6.52/-13.43	12.55/-11.63	6.713/-8.8	2.04/-1.67	3.18/-6.36	1.51/-3.85	2.08/-1.22	5.57/-1.87	4.21/-3.25	6.53/-7.06	6.95/-11.4	-12.91/-16.2	
(H82)	5.56/-4.34	-4.86/-4.55	-3.98/-2.08	-1.49/-2.78	1.27/-6.36	1.130/-2.6	-1.16/-1.33	3.22/-5.68	4.44/-5.59	6.59/-4.31	-5.56/-4.04	3.52/-6.69	-12.97/-14.17	6.06/-6.62	8.17/-3.1	4.44/-4.97	5.82/-6.45	1.73/-9.58	3.05/-4.52	6.44/-2.43	4.31/-3.75	6.41/-7.28	6.71/-18.46	-13.91/-16.2
(H90)	4.16/-6.2	2.67/-3.67	3.71/-3.13	2.02/-2.11	1.122/-3.74	3.482/-6.4	1.011/-7.99	6.66/-4.1	6.77/-1.43															



Radiated Composite Gain of 6GHz

Appendix B

(H002)	2.54(-2.53)	-3.27(+4.26)	-2.94(+3.4)	3.35(+4.8)	4.15(+4.7)	-12.67(+3)	-10.3(-12.78)	-10.4(-11.5)	-12.69(-18.6)	-15.71(+14.82)	-10.46(+12)	-8.77(+11.06)	9.14(+10.99)	-16.88(-122)	-17.20(+14)	-11.50(+31)	-11.44(-49.88)	9.26(+4.2)	3.44(+31)	4.08(+35)	-3.94(+17)	-2.92(+33)	5.04(+32)	-2.79(+3.48)
(H075)	-1.06(+0.8)	-0.76(+0.68)	-0.48(+0.24)	-3.79(+3.7)	6.13(+4.68)	-10.28(+79)	9.72(+10.88)	-10.58(+10.8)	-17.75(+19.9)	-11.51(+18.7)	-18.04(+11.6)	-12.02(+13.6)	-12.22(+19.4)	-16.89(-141)	-15.58(+12.62)	-7.16(+7.43)	6.54(+75)	5.08(+35)	2.7(+36)	-2.82(+38)	-2.08(+1.18)	0.8(+0.64)	-1.15(+0.55)	-0.95(+1.8)
(H076)	2.23(+0.7)	1.63(+0.74)	0.84(+0.1)	-1.16(+0.32)	-4.64(+1.69)	4.61(+0.7)	-8.19(+3.6)	-13.32(+10.5)	-13.76(+16.3)	-13.91(+18.6)	-15.56(+17.97)	-14.43(+11)	-10.89(+19.6)	-18.16(+15.9)	-11.86(+5.75)	-5.37(+1.7)	-6.46(+4.89)	-1.99(+1.6)	-1.04(+1.25)	-2.03(+1.05)	-0.01(+0.44)	1.19(+1.82)	0.28(+1.16)	0.31(+0.9)
(H825)	2.03(+1.5)	2.23(+3)	0.08(+0.2)	0.48(+1.2)	3.33(+3.1)	-3.67(+47)	8.65(+11.2)	-12.17(+8.36)	-14.81(+18.6)	-19.71(+18.2)	-14.71(+17.84)	-16.59(+11.6)	6.97(+4.2)	-12.75(+18.9)	-4.97(+1.28)	-3.97(+3.27)	-4.26(+1.4)	0.57(+0.36)	0.04(+0.06)	-0.63(+1.74)	-0.60(+1.19)	2.54(+2.35)	0.44(+1.95)	2.46(+2.07)
(H826)	2.35(+1.28)	1.63(+0.74)	0.84(+0.1)	-1.16(+0.32)	-4.64(+1.69)	4.61(+0.7)	-8.19(+3.6)	-13.32(+10.5)	-13.76(+16.3)	-13.91(+18.6)	-15.56(+17.97)	-14.43(+11)	-10.89(+19.6)	-18.16(+15.9)	-11.86(+5.75)	-5.37(+1.7)	-6.46(+4.89)	-1.99(+1.6)	-1.04(+1.25)	-2.03(+1.05)	-0.01(+0.44)	1.19(+1.82)	0.28(+1.16)	0.31(+0.9)
(H875)	0.94(+0.9)	0.63(+0.3)	2.13(+0.5)	-2.77(+2.1)	4.71(+7.2)	-3.85(+6)	9.57(+8.43)	-7.31(+9.26)	-15.19(+11.26)	4.63(+11.3)	-10.71(+14.3)	-10.21(+13.81)	6.31(+11.97)	-12.32(+18.6)	-8.19(+1.7)	6.56(+42)	3.66(+47)	3.64(+0.2)	-1.17(+1.03)	-1.67(+0.23)	0.1(+1.9)	1.23(+1.2)	1.88(+2.9)	2.54(+0.9)
(H1025)	0.14(+0.29)	0.42(+0.38)	-0.59(+0.09)	-2.19(+3.4)	-4.32(+8.27)	-4.37(+16.3)	9.23(+10.7)	-11.27(+11.75)	-18.33(+16.22)	-14.86(+13.71)	-11.73(+14.16)	-10.37(+4.35)	6.22(+7.1)	-8.96(+43)	-7.62(+2.74)	-1.51(+3.37)	-2.04(+1.74)	-2.23(+0.34)	-0.99(+1.12)	0.82(+1.35)	0.18(+1.17)	1.81(+2.1)	1.81(+2.1)	1.81(+2.1)
(H1125)	1.68(+1)	0.31(+0.67)	-0.31(+1.15)	-1.50(+2.46)	-4.89(+32)	-11.46(+29)	9.26(+10.86)	-15.13(+13.31)	9.29(+13.4)	-10.21(+18.16)	9.99(+12.52)	8.69(+36)	3.45(+38)	-6.83(+18.9)	-10.7(+73)	6.68(+4.88)	5.91(+4.23)	3.62(+1.94)	2.67(+1.74)	4.86(+12)	0.84(+0.87)	0.32(+2.36)	1.15(+1.6)	2.53(+1.3)
(H120)	-5.12	0.60	1.62	-1.02	-1.18	-3.29	1.51	4.88	6.07	-11.06	-11.71	-18.17	5.15	-11.89	-16.16	-13.71	3.49	8.02	-14.15	9.83	6.07	0.01	0.01	0.01
(H1275)	0.08(+0.68)	0.29(+1.23)	0.2(+1.3)	-1.08(+1)	4.26(+5.97)	-7.75(+13.6)	-12.59(+12.76)	-10.38(+16.89)	-16.71(+17.05)	-17.87(+19.6)	-19.54(+16.93)	-19.41(+13.6)	-14.83(+19.18)	-17.58(+167)	-19.18(+25.5)	-3.56(+16.3)	-15.46(+11.5)	5.81(+13.6)	2.12(+4.67)	-12.24(+19)	1.58(+1.75)	0.36(+1.72)	1.88(+1.6)	4.86(+0.8)
(H130)	2.48(+0.7)	0.20(+0.44)	0.28(+0.14)	2.19(+4.08)	4.51(+7.1)	7.54(+17.9)	9.02(+11.89)	-17.41(+16.92)	-19.11(+15.74)	-15.73(+16.97)	-15.59(+15.2)	-16.45(+14.82)	-17.49(+16.9)	8.51(+387)	-19.71(+6.6)	4.95(+4.9)	18.4(+12.38)	7.88(+2.85)	2.24(+4.57)	11.84(+40)	1.11(+2.5)	1.74(+2.9)	3.90(+1.8)	0.22(+0.6)
(H1425)	1.76(+0.9)	2.29(+1.5)	4.08(+3.3)	1.02(+0.67)	4.79(+3.9)	6.50(+17.2)	-16.57(+16.1)	-16.83(+14.52)	-18.77(+16.19)	-17.74(+13.3)	-18.17(+13.4)	-18.09(+13.9)	-13.61(+16.6)	17.91(+462)	-14.15(+16.8)	9.59(+15.36)	17.07(+11.74)	4.74(+16)	6.72(+16)	13.19(+3.6)	0.71(+3.4)	1.81(+2.4)	3.90(+1.8)	1.73(+1.4)
(H150)	6.29(+3.9)	2.57(+1.87)	0.1(+1.7)	4.46(+132)	5.26(+84)	1.91(+130)	-19.51(+11.7)	-16.22(+18.65)	-19.95(+17.88)	-18.90(+16.9)	-17.32(+16.31)	-16.77(+17.17)	-18.44(+14.3)	-13.44(+15.47)	-13.01(+7)	-13.82(+1.68)	18.34(+16.82)	-13.84(+13.88)	-12.87(+13.58)	-16.34(+16.35)	-3.81(+1.34)	-1.61(+2.0)	3.19(+1.62)	0.54(+0.63)
(H1575)	-1.77(+3.3)	-3.27(+3.87)	-3.27(+3.87)	-4.52(+11.29)	-10.73(+4.83)	-11.21(+7.12)	-12.79(+12.7)	-12.79(+12.7)	-16.94(+15.87)	-15.26(+14.2)	-15.91(+16.91)	-13.52(+18.75)	-16.37(+19.34)	-13.82(+10.64)	-10.19(+12.71)	-1.29(+8.16)	4.59(+1.7)	6.95(+1.9)	4.73(+1.9)	4.59(+1.7)	4.73(+1.9)	4.59(+1.7)	4.73(+1.9)	4.59(+1.7)
(H160)	5.34(+0.8)	-7.02(+13)	-8.47(+11.09)	-15.17(+12.6)	7.71(+15.14)	-16.51(+14.83)	-13.46(+12.85)	-12.93(+14.81)	-15.21(+11.98)	-10.52(+7.4)	-5.95(+8.67)	4.71(+6.82)	4.58(+8.42)	6.58(+12.9)	-7.02(+13)	-7.69(+15.4)	-13.59(+16.86)	-16.42(+18.73)	-17.22(+12.12)	-10.23(+8.6)	8.77(+9.22)	8.47(+7.4)	6.88(+6.58)	-5.52(+23)
(H1725)	0.33(+0.58)	-0.26(+0.68)	-7.31(+16.6)	-6.49(+6.5)	-14.96(+19.9)	-17.32(+19.97)	-17.62(+18.85)	-19.01(+15.99)	-12.59(+11.4)	4.27(+14.2)	6.3(+13.7)	3.12(+3.06)	3.17(+3.67)	-4.59(+3.5)	4.84(+12)	-12.59(+17.59)	-18.55(+12.58)	-6.89(+17.8)	7.53(+17.7)	6.34(+16.3)	6.74(+16.2)	6.52(+16.8)	6.74(+16.2)	6.52(+16.8)
(H180)	-2.85(+3.4)	3.23(+4.5)	-5.44(+8.85)	-13.62(+14.02)	-12.37(+11.41)	-13.62(+19.13)	-17.97(+14.83)	-11.71(+10.36)	-7.28(+6.67)	-5.69(+4.09)	-3.27(+2.2)	-2.07(+1.86)	-1.85(+1.82)	-1.75(+1.92)	-2.74(+3.63)	-4.81(+5.59)	-7.79(+11.62)	-17.30(+19.15)	-18.44(+13.2)	-10.74(+8.7)	-6.62(+16.4)	-5.08(+4.4)	-0.69(+3.1)	-3.25(+2.3)
FreeQ0	6.4750GHz	TestRef 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gain	(H075)(90°)	(H1575)(90°)	(H3075)(90°)	(H4575)(90°)	(H6075)(90°)	(H7575)(90°)	(H9075)(90°)	(H10575)(90°)	(H12075)(90°)	(H13575)(90°)	(H15075)(90°)	(H16575)(90°)	(H18075)(90°)	(H19575)(90°)	(H21075)(90°)	(H22575)(90°)	(H24075)(90°)	(H25575)(90°)	(H27075)(90°)	(H28575)(90°)	(H30075)(90°)	(H31575)(90°)	(H33075)(90°)	(H34575)(90°)
(H75)	-1.74(-1.77)	-1.85(-1.79)	-1.77(-1.72)	-1.82(-1.79)	-1.83(-1.78)	-1.84(-1.78)	-1.85(-1.78)	-1.86(-1.78)	-1.87(-1.78)	-1.88(-1.78)	-1.89(-1.78)	-1.90(-1.78)	-1.91(-1.78)	-1.92(-1.78)	-1.93(-1.78)	-1.94(-1.78)	-1.95(-1.78)	-1.96(-1.78)	-1.97(-1.78)	-1.98(-1.78)	-1.99(-1.78)	-2.00(-1.78)	-2.01(-1.78)	-2.02(-1.78)
(H75)	-1.89(-1.94)	-1.91(-1.97)	-1.92(-1.95)	-1.93(-1.96)	-1.94(-1.98)	-1.95(-1.99)	-1.96(-2.00)	-1.97(-2.01)	-1.98(-2.02)	-1.99(-2.03)	-2.00(-2.04)	-2.01(-2.05)	-2.02(-2.06)	-2.03(-2.07)	-2.04(-2.08)	-2.05(-2.09)	-2.06(-2.10)	-2.07(-2.11)	-2.08(-2.12)	-2.09(-2.13)	-2.10(-2.14)	-2.11(-2.15)	-2.12(-2.16)	-2.13(-2.17)
(H1025)	-0.35(-1.14)	-1.19(-1.84)	-1.88(-1.98)	-1.51(-1.32)	-1.25(-1.17)	-1.52(-1.12)	-0.79(-1.35)	-0.84(-1.49)	-1.68(-1.84)	-1.99(-1.83)	-1.78(-1.63)	-1.61(-1.37)	-1.43(-1.13)	-1.26(-1.03)	-1.09(-0.77)	-0.92(-0.55)	-0.75(-0.38)	-0.58(-0.21)	-0.41(+0.02)	-0.24(+0.35)	-0.07(+0.64)	0.10(+1.15)	0.27(+1.52)	0.44(+1.83)
(H1125)	-0.46(-1.85)	-1.29(-10.6)	-12.74(-16.78)	-12.49(-8.62)	-11.88(-15.63)	-14.98(-14.06)	-11.31(-19.3)	-11.57(-12.7)	-11.36(-14.02)	-12.35(-12.12)	-16.18(-15.63)	-11.77(-16.8)	-11.81(+18.7)	-18.55(-10.57)	-17.51(+7.74)	-16.15(-18)	-14.49(-12.58)	-13.01(-10.86)	-11.81(-11)	-11.31(-10.88)	-10.45(-10.9)	-10.59(-18)	-11.37(-16)	-10.71(-18)
(H120)	-1.73(-15.61)	-1.77(-16.47)	-1.78(-13.07)	-1.61(+11.65)	-1.60(-13.77)	-1.37(-17.87)	-1.18(-16.88)	-1.67(-13.53)	-1.36(-13.88)	-1.72(-19.16)	-1.84(-16.36)	-1.57(-17.8)	-1.74(-19.16)	-1.27(-18.53)	-1.62(-12.46)	-1.73(-12.5)	-1.70(-19.86)	-1.41(-13.1)	-1.41(-13.1)	-1.46(-13.1)	-1.46(-13.1)	-1.46(-13.1)	-1.46(-13.1)	-1.46(-13.1)
(H1375)	-1.79(-17.4)	-1.52(-18.61)	-1.62(-14.53)	-1.78(-16.92)	-1.11(-13.58)	-1.62(-18.16)	-1.54(-16.18)	-1.74(-16.58)	-1.83(-16.99)	-1.54(-18.03)	-1.27(-18.33)	-1.61(-17.22)	-1.41(-15.35)	-1.83(-17.7)	-1.36(-16.85)	-1.62(-19.18)	-1.61(-18.16)	-1.23(-13.59)	-1.59(-13.54)	-1.58(-17.4)	-1.72(-16.32)	-1.19(-18.79)	-1.78(-19.1)	-1.75(-16.45)
(H1375)	-1.92(-17.72)	-1.69(-17.51)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)	-1.68(-16.77)
(H150)	-1.38(-19.6)	-1.62(-17.18)	-1.16(-16.48)	-1.76(-14.08)	-1.73(-13.12)	-1.47(-17.78)	-1.22(-19.18)	-1.63(-13.82)	1.74(-18.41)	-1.58(-19.1)	-1.67(-18.54)	-1.84(-17.36)	-1.51(-14.49)	-1.32(-16.34)	-1.67(-19.18)	-1.47(-14.34)	-1.35(-16.34)	-1.67(-19.18)	-1.47(-14.34)	-1.35(-16.34)	-1.67(-19.18)	-1.47(-14.34)	-1.35(-16.34)	-1.67(-19.18)
(H1575)	-1.79(-16.72)	-1.42(-16.73)	-1.39(-16.9)	-1.37(-16.9)	-1.10(-17.68)	-1.25(-19.13)	-1.66(-16.45)	-18.43(-13.7)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)
(H160)	-1.74(-16.72)	-1.42(-16.73)	-1.39(-16.9)	-1.37(-16.9)	-1.10(-17.68)	-1.25(-19.13)	-1.66(-16.45)	-18.43(-13.7)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)
(H160)	-1.74(-16.72)	-1.42(-16.73)	-1.39(-16.9)	-1.37(-16.9)	-1.10(-17.68)	-1.25(-19.13)	-1.66(-16.45)	-18.43(-13.7)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)	-1.15(-19.1)
(H1725)	-1.41(-16.61)	-1.68(-19.28)	-19.13(-79)	8.91(+10.7)	8.91(+10.7)	-13.68(-19.12)	-10.37(+13.11)	-11.44(+17.18)	-16.32(-16.8)	-12.76(+16.08)	-10.95(-16.57)	-11.65(-11)	-14.44(+13.27)	-14.29(+16.57)	-15.02(+15.43)	-11.12(+19.7)	-17.71(+16)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)
(H1125)	-1.41(-16.61)	-1.68(-19.28)	-19.13(-79)	8.91(+10.7)	8.91(+10.7)	-13.68(-19.12)	-10.37(+13.11)	-11.44(+17.18)	-16.32(-16.8)	-12.76(+16.08)	-10.95(-16.57)	-11.65(-11)	-14.44(+13.27)	-14.29(+16.57)	-15.02(+15.43)	-11.12(+19.7)	-17.71(+16)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)
(H1125)	-1.41(-16.61)	-1.68(-19.28)	-19.13(-79)	8.91(+10.7)	8.91(+10.7)	-13.68(-19.12)	-10.37(+13.11)	-11.44(+17.18)	-16.32(-16.8)	-12.76(+16.08)	-10.95(-16.57)	-11.65(-11)	-14.44(+13.27)	-14.29(+16.57)	-15.02(+15.43)	-11.12(+19.7)	-17.71(+16)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)
(H1125)	-1.41(-16.61)	-1.68(-19.28)	-19.13(-79)	8.91(+10.7)	8.91(+10.7)	-13.68(-19.12)	-10.37(+13.11)	-11.44(+17.18)	-16.32(-16.8)	-12.76(+16.08)	-10.95(-16.57)	-11.65(-11)	-14.44(+13.27)	-14.29(+16.57)	-15.02(+15.43)	-11.12(+19.7)	-17.71(+16)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)	-11.27(+15.14)
(H120)	-1.46(-16.52)	-1.76(-17.71)	-1.68(-16.58)	-6.89(+10.5)	-15.07(-12.12)	-15.82(-14.98)	-14.06(+13.28)	-17.45(+17.33)	-1.87(-17.33)	-1.67(-18.33)	-1.99(-16.64)	-19.13(+14.3)	8.76(+13.3)	-17.97(+11)	-12.04(-19.9)	-11.36(+14.3)	-14.51(+11.37)	6.34(+11.8)	-10.74(-10.72)	-13.89(-10.2)	-7.62(-11.78)	6.9(-16.48)	-18.25(-19.08)	-16.51(-16.58)
(H1275)</																								



Radiated Composite Gain of 6GHz

Appendix B

0(97.5)	3.282.55	2.960.25	-0.371.35	-2.024.25	-7.259.15.04	-7.818.05	-10.9412.64	-17.90-13.93	8.920.14.47	-18.7611.34	-10.2916.78	-10.784.08	4.971.15.51	-14.0515.73	-5.4913.72	-5.574.18	-5.502.46	0.241.15	2.361.19	-0.701.11	1.881.57	2.443.26	1.833.06	2.733.5
0(105)	2.361.72	1.490.32	-2.380.53	-3.491.37	6.420.58.68	-13.3610.02	-8.9215	-16.5119.14	-12.1811.47	-18.9149	-11.8614.73	-14.5310.76	4.471.33	9.241.95	6.6516	-5.652.18	-5.024.19	-2.371.32	-3.741.56	-1.371.71	2.351.47	2.5712	0.762.47	2.912.33
0(112.5)	1.820.44	1.614.73	-0.741.04.68	-3.212.69	-7.171.63	-8.0617.14	-15.1914.6	-11.371.78	-16.5111.71	-9.312.77	-10.971.68	-5.591.61	2.261.55	6.8514.33	-1114.26	-6.742.05	-13.5910.7	-0.780.14	-1.141.25	-2.380.5	3.751.23	1.883.11	0.232.35	2.072
0(120)	0.550.41	-0.631.24	-2.551.36	-3.791.44	-7.771.84	-9.621.57	-9.671.82	-14.2918.87	-18.9010.29	-12.3318.42	-11.921.97	-9.121.73	4.351.79	9.0915.08	13.615	-5.991.66	-13.891.8	0.981.18	-2.081.45	-4.581.93	2.532.1	1.621.48	-0.041.02	1.760.29
0(127.5)	-1.991.91	0.191.24	2.681.25.8	-2.891.54	6.491.8.56	-8.671.85	-15.5310.68	-18.1216.32	-17.6617.82	-16.4118.26	-17.8118.82	-10.6312.07	-17.3419.12	-18.5215.19	3.381.48	-11.841.751	-2.512.8	-1.921.56	-10.221.12	1.140.36	-3.160.43	1.621.43.9	-4.770.15	
0(135)	0.1812.44	0.1410.17	-1.7413	-3.212.96	6.331.6.95	8.581.47	8.9513.63	-18.0119.01	-18.6718.28	-14.9517.75	-15.6314.54	-19.0617.62	-18.4411.57	8.5918.26	-14.761.65	6.501.39	-14.7911.36	4.331.39	-2.221.57	-18.5113.44	1.491.17	-2.521.4.95	1.705.05	-2.110.38
0(142.5)	0.071.179	-3.331.83	-1.591.30.9	-5.121.555	6.791.5.61	-4.021.17	-12.3114.83	-18.9719.32	-12.8917.88	-15.6918.84	-26.015.37	-17.0118.24	-14.9916.78	-18.1214.67	-13.0412.03	-10.311.61	-16.6316.89	8.231.759	-5.971.07	-19.881.02	-0.410.37	-0.881.4.62	-1.731.144	-6.471.62.9
0(150)	3.051.101	1.451.15	-5.131.38	3.511.45	6.631.82	9.231.37	-12.1513.81	-18.3517.42	-17.5918.87	-19.1619.53	-18.8918.38	-13.014.66	-10.7012.02	-15.3618.05	-14.7411.38	9.5713.33	-17.381.943	-12.3810.48	-11.111.75	-7.151.65	-5.941.3.85	4.291.43	0.590.19	-0.391.46
0(157.5)	1.151.137	-6.891.29	2.261.541	6.41.621	9.391.32	-12.371.99	-18.361.55	-11.2311.17	-18.711.54	-17.911.437	-15.881.91	8.891.27	-17.791.49	-10.41.78	-12.761.89	-11.411.95	9.631.975	-3.231.68	6.941.54	6.11.81	5.613.76	1.021.05	0.681.78	
0(165)	6.5261.53	6.511.07	4.821.746	-12.3613.83	-13.7115.82	-16.711.26	-14.2816.72	-15.4814.73	-17.2112.88	-10.41.28	-5.611.85	-5.571.33	6.541.805	4.891.67	6.3115.06	-5.951.7.99	-11.5314.57	-16.7219.07	-14.8612.73	-10.9813.94	-12.861.9.86	-7.761.67	-17.011.26	-7.121.61
0(172.5)	5.651.938	7.231.26	8.231.76	7.01111	-18.211.001	-14.521.14.9	-13.151.36	-16.3611.14	7.971.22	6.941.8.04	-7.731.21	7.361.7	7.691.75	8.591.927	-11.2213.63	-16.391.58	-14.5813.58	-18.7519.31	-10.451.91	6.41.61	-6.671.4.36	6.7761.57	6.871.62	
0(180)	4.421.42	-4.961.42	-6.381.4.97	-13.5617.85	-14.611.454	-17.4218.32	-18.8814.96	-10.361.4	6.671.97	6.491.4.88	-3.913.54	3.431.49	-4.021.45	9.011.64	-6.691.42	9.8913.68	-18.2719.89	-17.971.53.8	-11.4519.32	7.261.41	4.814.45	3.371.334	3.941.93	-4.191.87
FreqHz	6.95929Hz	7.061.4	7.161.4	7.261.4	7.361.4	7.461.4	7.561.4	7.661.4	7.761.4	7.861.4	7.961.4	8.061.4	8.161.4	8.261.4	8.361.4	8.461.4	8.561.4	8.661.4	8.761.4	8.861.4	8.961.4	9.061.4	9.161.4	9.261.4
Gain	0(197.5)	0(157.022.5)	0(307.037.5)	0(457.062.5)	0(607.087.5)	0(757.012.5)	0(907.037.5)	0(1057.062.5)	0(1207.087.5)	0(1357.012.5)	0(1507.037.5)	0(1657.062.5)	0(1807.087.5)	0(1957.012.5)	0(2107.037.5)	0(2257.062.5)	0(2407.087.5)	0(2557.012.5)	0(2707.037.5)	0(2857.062.5)	0(3007.087.5)	0(3157.012.5)	0(3307.037.5)	0(3457.062.5)
0(97.5)	-19.2514.91	-17.6414.97	-14.6515.28	-14.9112.66	-11.421.131	-15.3318.36	-15.7313.18	-17.1819.35	-17.2416.85	-18.2517.98	-18.9319.11	-17.2719.06	-18.1619.34	-16.4317.03	-16.8416.67	-16.5618.2	-18.3619.25	-18.0915.55	-18.0616	-16.1416.33	-17.8118.82	-18.5318.79	-15.5516.78	-15.6217.12
0(127.5)	-15.1516.09	-14.3115.75	-18.2615.34	-18.8118	-18.0818.74	-18.4717.72	-17.3615.13	-11.1613.06	-14.6111.41	-14.2714.11	-14.9415.1	-15.5215.68	-14.8315.72	-15.2315.2	-14.6515.58	-14.9615.48	-15.0216.74	-15.3817.28	-19.1115.08	-15.4615.57	-15.1916.08	-19.0918.81	-18.6518.28	-15.2713.54
0(157.5)	-16.6215.65	-16.8815.57	-13.6415.61	-10.2612.69	-17.9517.77	-17.0118.04	-17.8717.75	-13.1813.13	-11.5911.97	-12.4414.11	-15.5317.96	-18.6818.98	-19.0217.39	-19.3117.85	-18.0717.81	-18.8719.01	-15.7115.88	-16.3216.83	-17.3415.81	-13.8615.73	-19.1117.79	-17.9617.02	-17.7815.89	-16.8118.62
0(227.5)	-14.9115.58	-13.8115.82	-17.7118.2	-12.0214.83	-18.7115.06	-14.1212.38	-14.2516.05	-12.9819.95	-13.8816.18	-17.9417.85	-18.4219.49	-18.9619.08	-18.0518.14	-18.0219.41	-16.6418.09	-19.3315.15	-11.4311.33	-13.6416.07	-17.7818.99	-18.0617.1	-18.3718.73	-17.7318.57	-17.4417.97	-17.6417.97
0(307.5)	-17.3818.18	-18.8215.64	-19.0814.36	-13.5618.18	-18.5131	-12.5315.75	-18.0717.46	-18.0818.43	-18.4117.89	-17.8618.28	-15.0218.27	-17.8618.98	-17.8618.18	-17.6818.18	-16.7511.74	-15.0315.01	-12.7811.66	-12.9116.66	-13.8715.14	-17.9717.24	-16.8218.11	-18.8917.74	-17.4817.37	-16.4415.85
0(377.5)	-18.8115.78	-18.151.56	-18.7718.38	-19.1118.84	-17.6118.22	-18.132	-11.9814.19	-16.5418.36	-18.5117.87	-18.4317.76	-18.3118.65	-18.0218.88	-18.0215.06	-18.0718.59	-16.7219.17	-13.9118.65	-14.5811.26	-14.2116.74	-13.8118.74	-12.9611.48	-16.9118.47	-18.2118.72	-17.3315.48	-16.2818.78
0(447.5)	-18.4519.15	-17.1718.38	-8.3510.16	-13.2510.24	-11.8112.38	-14.5218.29	-12.7114.89	-13.5714.18	-12.5318.36	-18.4918.49	-17.1115.7	-18.1218.92	-18.9819.25	-18.5415.17	-12.9818.55	9.5612.55	-17.6214.63	-19.0418.34	-18.3113.85	-11.7118.28	-18.6116.3	-15.5318.14	-19.1118.84	-17.8218.78
0(527.5)	-12.9313.76	-10.9218.29	-12.6918.39	-7.4511.4	6.3813.35	-7.0914.3	-15.1315.63	-16.2413.28	-18.5118.97	-19.3118.77	-18.3418.31	-1212.92	-18.8918.69	-18.8813.23	-17.3617.18	-18.6818.21	-18.6918.68	-18.6818.68	-18.6818.68	-18.6818.68	-18.6818.68	-18.6818.68	-18.6818.68	-18.6818.68
0(607.5)	-17.6916.16	-14.8614.06	-11.4214.15	8.9510.97	-13.7510.62	9.4716.96	-7.8111.47	-11.9512.11	-12.5813.01	-15.0718.83	-18.9518.56	-17.5718.08	-18.4417.17	-11.4218.125	-17.8817.61	-18.8214.47	-11.9317.47	-19.3417.96	-19.1914.13	-17.3614.91	-15.7418.88	-14.3711.95	-13.8112.47	-12.3115.78
0(687.5)	-18.9014.49	-18.3717.17	-16.071.51	-14.3915.94	-14.8918.87	-11.9819.9	-8.8915.45	-12.0215.92	-18.4518.9	-10.721.95	-17.1515.14	-13.701.867	-14.3517.18	-10.5914.93	-13.9618.57	8.9619.25	-19.2915.55	-16.7818.05	-12.818.74	-19.4918.6	-12.0416.65	-10.8213.71	-9.1312.03	
0(767.5)	-18.7913.1	-17.9918.32	-15.8413.29	-13.2110.58	-12.9110.88	9.8217.97	-13.1212.34	-13.8614.47	-11.9412.58	-14.8614.72	-14.9418.04	-18.1315.34	-11.971.63	9.5617.17	-18.2110.91	-17.1112.74	-18.3917.88	-14.9413.21	-13.1716.53	-17.7115.4	-18.751.76	-19.0818.68	-12.8718.46	-13.3212.06
0(827.5)	-16.1210.95	-16.8418.13	-19.151.55	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13	-11.9811.13
0(907.5)	-12.2916.2	-14.1916.68	-16.8919.38	-11.9112.5	-12.8813.18	-17.9218.77	-14.4218.69	-11.6910.79	-11.9217.79	-11.9217.79	-11.9217.79	-11.9217.79	-11.9217.79	-11.9217.79	-11.9217.79	-11.9217.79	-11.9217.79	-11.9217.79	-11.9217.79	-11.9217.79	-11.9217.79	-11.9217.79	-11.9217.79	-11.9217.79
0(987.5)	6.84116.35	-17.371.65	-11.9818.59	-15.4918.7	-11.411.39	-15.591.83	-17.4117.74	-18.3414.32	14.541.69	-14.941.93	-16.8317.78	-14.571.15	-17.261.91	-11.971.47	-18.1818.59	-17.7114.18	8.441.32	-15.4418.85	-18.3617.36	-16.8618.76	-18.6718.16	-17.3618.23	-8.5815.19	
0(1067.5)	8.4114.14	-14.091.67	-16.9618.52	-16.8916.47	-16.3111.08	-17.351.59	-11.2617.72	-14.1313.59	-14.9813.59	-14.241.68	-10.5913.23	-13.7217.92	-16.911.928	-16.3618.68	8.9519.18	-16.3416.46	-12.912	-10.2214.75	-19.0817.73	-12.971.98	-16.4119.4	-14.0213.7	-17.8318.63	-17.4712.04
0(1147.5)	-13.1611.98	-18.5119.08	-18.771.21	-18.7117.72	-18.0815.68	-16.3219.37	-14.4316.46	-17.5119.01	-17.7516.25	-18.6819.01	-16.9119.14	-12.3717.17	-17.3319.04	-19.0417.94	-15.5419.16	-10.7217.94	-15.7518.52	-12.1617.22	-12.8918.99	-15.4919.37	-12.9315.82	-13.4119.28	-17.9918.41	-14.2213.93
0(1227.5)	-13.9119.57	-16.5218.62	-17.5118.65	-17.1218.05	-17.6413.71	-10.3618.2	-19.2718.84	-17.7818.36	-14.0212.51	-18.7119.22	-16.4619.32	-18.9115.44	-13.5217.13	-11.0819.37	-16.1312.07	-15.8917.12	-13.3618.81	-11.8919.34	-10.8416.46	9.4119.15	-11.011.06	-11.2611.96	-17.2118.67	-12.1619.36
0(1307.5)	-15.1613.21	-17.3119.06	-15.4313.14	-19.2413.1	-17.1412.71	-18.7913.13	-16.2418.65	-11.5817.97	-18.6117.74	-15.0517.08	-13.3113.13	-18.8218.104	6.5818.49	-18.471.84	-16.0213.38	9.9813.75	-14.5819.68	7.3117.45	-9.7215.18	-12.511.01	9.4611.92	-11.1318.37	-11.3218.56	-15.8712.51
0(1387.5)	-15.3119.33	-13.7217.38	-18.4911.6	-13.1819.29	-10.3218.46	-15.6514.44	-11.2217.63	-15.7118.5	-16.9816.13	-15.0513.94	-16.6919.01	-15.4111.19	-12.3814.25	-16.7110.23	-16.051.68	4.2813.67	9.98110.54	6.8617.35	-16.711.85	-15.9618.2	-10.9118.67	-12.0718.93	-18.1174.15	-14.3813.38
0(1467.5)	-14.9418.87	-16.931.44	-14.8118.14	6.3118.49	-19.221.79	-7.8512.03	-18.7112.44	8.9918.07	-16.9818.67	-14.4717.78	-18.4818.84	-16.1413.48	13.981.927	6.311.87	-13.741.68	-3.361.91	-10.891.67	7.6319.54	6.92114.4	-13.7418.96	-14.461.15	-13.6618.78	-18.6718.15	-14.4218.71
0(1547.5)	-1																							





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

Appendix C

(H25.2)	2.28(-5.02)	-7.58(+9.30)	-6.65(-7.80)	-6.84(+6.52)	-7.37(+0.00)	-10.85(+0.00)	-8.25(-12.61)	-15.47(-12.61)	-9.78(+4.82)	-6.65(+9.11)	-8.57(+9.21)	-11.87(-12.09)	-12.38(-12.02)	-11.07(-10.99)	-12.93(-11.84)	-13.69(-12.88)	-12.19(-7.75)	-8.41(+9.97)	-6.80(+3.31)	-6.62(+7.84)	-8.44(-5.71)	-4.54(+5.23)	-5.15(+6.33)	-4.13(+6.23)
(H27.1)	-1.82(-1.71)	-1.86(-1.11)	-1.61(-0.44)	-6.57(+8.87)	-5.53(+6.63)	-12.12(-12.76)	-15.41(-15.84)	-8.66(+5.62)	-6.12(+8.20)	-10.65(+13.25)	-11.85(-11.84)	-10.71(+9.54)	-10.40(+9.54)	-6.48(+8.99)	-6.14(+12.73)	-8.54(+13.36)	-11.93(-10.05)	-8.83(+3.31)	-7.74(+8.38)	-7.35(+7.79)	-4.70(+9.38)	-3.02(+7.87)	-3.21(+8.37)	-4.30(+7.42)
(H27.2)	-5.74(+1.49)	-3.15(-0.64)	-2.91(+2.79)	-6.44(-12.06)	-7.49(-7.32)	-11.40(-13.76)	-15.56(+9.15)	-4.84(-3.29)	-5.13(+9.71)	-7.27(+6.78)	-6.87(+6.26)	-12.14(-12.37)	-11.47(-11.25)	-10.74(+8.80)	-8.17(+12.32)	-9.56(+14.81)	-16.10(-10.66)	-6.83(+5.67)	-8.55(+9.02)	-7.70(+6.69)	-5.92(+5.26)	-4.10(+6.64)	-4.67(+4.21)	
(H27.3)	-5.52(+1.45)	-4.14(+6.85)	-8.94(+10.83)	-8.40(-11.96)	-8.99(+7.23)	-11.73(+11.13)	-14.60(-12.62)	-3.82(+1.41)	-4.29(+1.49)	-3.34(+3.07)	-4.21(+1.76)	-3.22(+2.79)	-3.86(+1.47)	-6.45(+12.74)	-15.16(+12.83)	-12.02(-11.91)	-8.96(+7.58)	-13.74(+15.39)	-9.93(+9.69)	-10.70(+11.36)	-11.19(+10.79)	-9.57(+11.34)	-10.08(+5.14)	-3.86(+6.00)
(H27.5)	-7.50(+7.46)	-7.82(+5.51)	-6.00(+6.96)	-10.63(-13.69)	-6.73(+10.01)	-9.38(+5.53)	-8.10(+4.83)	-3.98(+1.72)	-3.98(+1.66)	-4.11(+2.02)	-1.07(+0.84)	-0.86(+1.35)	-2.77(+1.00)	-4.17(+10.49)	-4.25(+12.75)	-12.73(-13.02)	-11.04(+5.54)	-7.70(+14.54)	-9.94(+5.15)	-10.45(-11.41)	-14.50(+9.80)	-6.49(+9.32)	-12.32(-11.81)	-11.03(+9.76)
(H27.6)	-5.15(+9.58)	-12.30(-11.83)	-12.43(-11.62)	-10.35(-9.68)	-2.25(+2.39)	-10.91(+9.54)	-3.53(+4.10)	-4.55(+3.76)	-2.80(+1.11)	-0.55(+3.30)	-1.87(+0.85)	-0.11(+0.97)	-2.45(+3.04)	-1.19(+9.15)	-5.79(+3.22)	-2.78(+7.43)	-4.75(+7.70)	-3.87(+4.94)	-7.90(+2.22)	-4.10(+4.21)	-13.30(+6.05)	-5.88(+9.36)	-10.87(+8.48)	-8.18(+9.38)
(H27.7)	-8.91(+7.61)	-11.70(-11.21)	-11.90(-12.55)	-10.87(-10.86)	-2.21(+1.70)	-8.23(+0.47)	-0.34(+5.49)	-4.36(+3.07)	-2.38(+0.78)	-0.25(+3.43)	-0.35(+1.33)	-1.60(+2.43)	-2.45(+3.01)	-1.76(+2.65)	-4.78(+3.80)	-6.49(+2.22)	-3.26(+5.51)	-3.05(+2.15)	-6.67(+1.56)	-2.65(+3.40)	-5.13(+5.46)	-3.79(+5.63)	-12.53(+7.13)	-5.94(+8.00)
(H27.8)	-5.90(+7.57)	-11.17(-12.25)	-11.11(+9.51)	-7.34(+6.07)	-6.76(+6.20)	-6.41(+5.59)	-3.54(+6.42)	-5.69(+7.23)	-2.90(+0.38)	-2.65(+2.61)	-0.44(+1.59)	-3.82(+1.82)	-1.32(+2.65)	-1.79(+2.15)	-2.78(+2.67)	-0.78(+0.19)	-6.43(+9.65)	-1.38(+3.31)	-2.14(+1.71)	-1.75(+0.22)	-2.33(+1.10)	-1.23(+1.66)	-4.74(+7.07)	-9.86(+7.10)
(H27.9)	-4.48(+3.06)	-10.60(+9.28)	-4.75(+3.25)	-7.24(+7.89)	-5.26(+4.62)	-5.46(+5.07)	-2.41(+6.97)	-4.80(+5.50)	-2.02(+1.74)	-0.25(+1.56)	-0.44(+1.10)	-1.67(+1.63)	-1.75(+2.53)	-1.30(+2.20)	-1.85(+2.77)	-0.06(+0.59)	-0.53(+0.63)	-3.01(+1.56)	-1.48(+2.67)	-2.07(+1.17)	-0.36(+0.49)	-0.54(+1.78)	-1.08(+4.14)	-9.79(+3.31)
(H27.10)	-2.28(+1.69)	-4.27(+6.19)	-8.25(+5.17)	-5.99(+5.76)	-10.05(+9.19)	-4.27(+4.75)	-6.22(+5.96)	-5.69(+5.78)	-3.59(+4.75)	-5.60(+5.29)	-6.19(+0.11)	-4.64(+0.44)	-1.89(+0.26)	-0.69(+0.62)	-6.41(+1.57)	-1.52(+1.51)	-0.71(+0.29)	-0.25(+0.68)	-0.22(+0.82)	-2.25(+1.95)	-4.32(+1.18)	-2.33(+0.77)	-6.82(+8.88)	-6.98(+1.98)
(H27.11)	-1.41(+1.58)	-3.33(+1.75)	-7.47(+10.88)	-4.11(+9.57)	-1.55(+6.34)	-6.84(+1.74)	-8.02(+5.91)	-6.19(+5.38)	-3.54(+2.22)	-4.56(+1.70)	-1.25(+2.77)	-0.70(+0.48)	-0.84(+1.41)	-2.33(+2.40)	-0.95(+1.48)	-0.12(+0.56)	-0.01(+0.46)	-0.53(+0.56)	-0.50(+0.75)	-1.07(+0.78)	-0.23(+0.33)	-1.90(+1.23)	-1.49(+1.19)	-10.02(+9.69)
(H27.12)	-0.18(+0.81)	-12.85(+8.91)	-7.70(+10.20)	-6.76(+11.98)	-7.31(+6.52)	-8.34(+15.19)	-6.15(+9.88)	-8.26(+5.20)	-7.19(+11.51)	-4.06(+1.53)	-2.44(+2.07)	-1.08(+0.84)	-0.87(+0.30)	-2.72(+2.08)	-1.02(+0.95)	-1.99(+1.06)	-1.26(+0.98)	-0.07(+0.16)	-0.21(+0.88)	-0.07(+0.16)	-1.26(+1.70)	-2.37(+1.32)	-2.39(+1.34)	
(H27.13)	-2.12(+0.34)	-7.81(+9.10)	-4.77(+1.32)	-3.80(+4.40)	-3.51(+5.73)	-8.74(+12.47)	-4.75(+9.87)	-8.60(+4.62)	-8.91(+9.21)	-4.86(+5.30)	-2.72(+4.43)	-3.50(+7.70)	-1.65(+1.53)	-1.49(+1.76)	-0.86(+2.44)	-0.03(+2.29)	-3.51(+3.90)	-0.92(+0.33)	-2.49(+2.34)	-3.89(+3.44)	-6.50(+0.02)	-2.77(+0.73)	-4.13(+0.66)	
(H27.14)	-2.81(+0.83)	-3.49(+0.47)	-7.29(+7.88)	-12.50(-10.79)	-4.35(+3.38)	-11.40(-10.70)	-6.73(+10.43)	-4.26(+3.19)	-10.50(+7.69)	-4.85(+8.36)	-2.52(+4.07)	-4.07(+0.87)	-1.13(+0.44)	-1.42(+0.17)	-2.49(+1.95)	-5.29(+4.10)	-4.24(+3.18)	-0.44(+3.36)	-2.59(+2.45)	-1.79(+0.66)	-1.01(+0.97)	-8.71(+0.97)	-8.71(+0.97)	
(H27.15)	-2.28(+1.35)	-5.33(+5.47)	-10.01(-12.85)	-10.09(+9.23)	-12.01(+14.50)	-14.63(+11.88)	-6.20(+3.37)	-7.43(+7.83)	-8.11(+9.31)	-4.57(+4.56)	-4.19(+8.83)	-1.34(+3.65)	-2.76(+0.86)	-3.11(+2.14)	-2.54(+3.26)	-0.89(+2.30)	-0.89(+1.95)	-4.70(+2.23)	-1.55(+0.87)	-0.89(+0.68)	-0.59(+2.27)	-0.10(+0.48)	-3.27(+0.46)	-1.63(+0.24)
(H27.16)	-2.32(+1.18)	-10.02(+9.28)	-8.02(+14.57)	-10.29(-4.88)	-7.10(+11.18)	-12.22(+10.68)	-8.43(+11.40)	-11.51(+14.21)	-7.01(+4.69)	-6.00(+2.32)	-3.52(+0.23)	-3.70(+0.84)	-0.51(+2.02)	-0.98(+1.15)	-1.53(+3.67)	-2.52(+2.78)	-0.59(+2.54)	-10.30(+2.94)	-1.77(+0.36)	-1.79(+3.35)	-8.50(+4.41)	-0.84(+0.30)	-0.59(+0.53)	-12.52(+4.46)
(H27.17)	-1.71(+1.49)	-8.73(+0.04)	-6.14(+5.88)	-14.00(-10.07)	-12.98(+9.84)	-10.09(+8.46)	-7.90(+7.83)	-9.70(+14.35)	-5.90(+2.77)	-4.06(+8.40)	-7.06(+4.35)	-1.79(+1.41)	-3.50(+4.69)	-1.95(+1.60)	-4.62(+1.99)	-2.52(+1.24)	-4.80(+5.63)	-0.01(+0.62)	-0.34(+1.48)	-1.93(+1.19)	-6.70(+9.76)	-4.20(+1.97)	-1.09(+0.69)	-6.73(+0.88)
(H27.18)	-9.91(+8.17)	-7.51(+10.77)	-11.90(-12.89)	-14.14(-15.60)	-10.97(+14.77)	-11.94(+14.05)	-6.70(+12.13)	-13.17(+10.51)	-5.62(+4.92)	-5.53(+4.49)	-6.05(+5.55)	-3.80(+4.69)	-3.44(+0.74)	-0.02(+0.76)	-2.15(+3.39)	-3.51(+3.01)	-4.80(+10.04)	-0.51(+0.32)	-0.38(+0.48)	-10.40(+8.91)	-8.77(+6.79)	-7.70(+3.47)	-3.69(+3.43)	
(H27.19)	-4.84(+7.67)	-13.01(+10.64)	-10.73(-12.14)	-12.28(+11.58)	-12.27(+11.81)	-8.27(+5.87)	-8.90(+9.63)	-11.84(+15.35)	-11.85(+5.65)	-4.51(+5.78)	-0.86(+8.50)	-5.82(+2.42)	-2.90(+2.19)	-3.27(+4.82)	-4.13(+2.89)	-3.09(+3.43)	-3.02(+5.68)	-8.91(+10.89)	-7.38(+4.39)	-2.86(+3.41)	-5.29(+10.36)	-14.79(+14.41)	-10.57(+5.32)	-4.82(+0.63)
(H27.20)	-8.39(+8.67)	-7.70(+10.85)	-8.51(+8.58)	-7.53(+7.76)	-5.77(+3.49)	-5.55(+4.86)	-8.25(+9.67)	-8.29(+9.60)	-10.08(+7.84)	-8.90(+5.43)	-7.91(+9.84)	-10.34(+14.40)	-14.63(+14.02)	-10.50(+12.48)	-8.50(+7.24)	-7.76(+5.55)	-8.20(+9.83)	-3.90(+5.72)	-8.31(+11.20)	-12.71(+15.75)	-10.17(+15.93)	-12.59(+12.88)	-6.87(+0.45)	
(H27.21)	-5.59(+4.87)	-6.25(+6.66)	-6.96(+7.88)	-6.39(+7.81)	-8.11(+4.66)	-8.76(+8.40)	-7.02(+14.13)	-6.93(+8.22)	-4.83(+7.85)	-8.26(+4.55)	-8.72(+9.27)	-8.24(+9.35)	-10.74(+11.83)	-10.21(+10.14)	-11.47(+14.06)	-10.80(+12.63)	-8.92(+6.32)	-6.44(+0.68)	-6.73(+6.76)	-6.50(+5.60)	-5.66(+7.08)	-7.86(+9.38)	-5.87(+0.45)	
(H27.22)	-6.83(+5.52)	-6.53(+5.04)	-6.70(+6.70)	-5.17(+6.71)	-8.89(+7.42)	-7.06(+7.32)	-6.74(+6.48)	-7.20(+7.83)	-7.56(+7.47)	-7.30(+7.16)	-4.77(+8.44)	-7.74(+8.23)	-8.31(+7.83)	-7.75(+7.49)	-7.16(+9.45)	-6.50(+8.30)	-5.89(+6.40)	-8.11(+10.08)	-7.74(+7.08)	-7.73(+7.85)	-8.00(+9.81)	-11.07(+7.57)	-5.68(+0.65)	
Frequency	2.450GHz	Table 2.1	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz	2.450GHz
Gain	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)	0°(H27.05°)
(H27.1)	0.51(+0.58)	-0.78(+1.03)	-1.22(-1.37)	-1.50(-1.57)	-1.67(-1.80)	-2.15(-2.40)	-2.52(-2.68)	-2.70(-2.37)	-1.83(-1.44)	-1.12(+0.80)	-0.76(-0.82)	-0.58(-0.59)	0.57(+0.48)	-0.38(+0.36)	-0.46(+0.49)	-1.02(-1.38)	-1.68(-1.88)	-2.17(+2.28)	-2.85(+2.79)	-2.50(+2.13)	-1.72(-1.37)	-1.11(+0.99)	-0.83(+0.62)	-0.48(+0.45)
(H27.2)	-1.03(-1.11)	-1.32(-1.64)	-1.50(-2.22)	-2.44(-2.52)	-2.43(-2.43)	-2.93(-2.45)	-2.41(-2.42)	-2.33(-1.85)	-1.44(-1.54)	-0.25(+0.06)	0.22(+0.31)	0.20(+0.14)	0.20(+0.28)	0.33(+0.24)	0.02(+0.24)	-0.50(+0.86)	-1.06(-1.16)	-1.47(+1.84)	-2.10(+2.19)	-2.06(+1.78)	-1.30(-0.94)	-0.76(+0.76)	-0.70(+0.80)	-0.68(+0.60)
(H27.3)	-0.81(+0.00)	-1.40(-1.80)	-2.44(-2.79)	-3.28(-3.47)	-3.39(-1.15)	-2.88(+2.76)	-2.61(+2.42)	-2.21(+1.75)	-1.04(+0.32)	-0.40(+0.98)	1.36(+1.53)	1.53(+1.45)	1.41(+1.44)	1.38(+1.18)	0.88(+0.55)	0.20(+0.23)	-0.53(+0.88)	-1.25(+1.62)	-1.90(+1.68)	-2.06(+1.68)	-1.19(+0.63)	-0.41(+0.43)	-0.51(+0.56)	-0.66(+0.76)
(H27.5)	-0.25(+0.65)	-1.17(-1.74)	-2.19(-2.93)	-3.83(-4.08)	-4.19(-4.09)	-3.90(+3.65)	-3.60(-3.39)	-3.12(+2.57)	-1.66(+0.51)	0.67(+0.98)	2.90(+1.73)	2.92(+1.83)	2.90(+2.83)	2.83(+2.27)	1.81(+1.25)	0.62(+0.07)	-0.47(+0.88)	-1.55(+1.97)	-2.36(+2.43)	-2.11(+1.54)	-0.82(+0.23)	-0.15(+0.16)	0.19(+0.16)	0.94(+0.69)
(H27.6)	-0.06(+0.58)	-1.08(+1.53)	-2.14(-2.88)	-3.52(+1.40)	-4.43(+1.52)	-5.57(+5.54)	-5.90(+4.48)	-3.99(+3.44)	-2.44(+1.16)	0.22(+1.33)	2.57(+3.1)	3.47(+3.89)	3.96(+3.95)	4.13(+3.53)	3.02(+3.26)	1.99(+0.88)	0.08(+0.65)	-1.40(+2.00)	-2.34(+2.10)	-1.42(+0.58)	0.21(+0.81)	1.11(+1.19)	1.19(+1.02)	0.61(+0.25)
(H27.7)	-0.57(+0.65)	-0.79(+1.06)	-1.50(-1.95)	-2.45(+1.36)	-3.02(+0.48)	-5.22(+1.75)	-5.40(+2.48)	-3.99(+3.40)	-2.92(+2.99)	-0.80(+0.43)	-0.74(+1.27)	-0.89(+0.43)	0.69(+0.89)	-1.10(+1.35)	0.54(+0.95)	-0.56(+0.53)	-0.95(+0.33)	-1.39(+1.68)	-1.66(+1.46)	-1.66(+1.46)	-1.66(+1.46)	-1.66(+1.46)	-1.66(+1.46)	-1.66(+1.46)
(H27.8)	-0.24(+1.03)	-0.03(+0.29)	-0.50(+0.78)	-1.22(+0.33)	-2.88(+1.36)	-4.02(+3.35)	-6.07(+3.18)	-4.30(+3.18)	-0.44(+0.48)	0.65(+0.96)	1.25(+1.42)	1.61(+1.90)	2.12(+2.37)	2.85(+2.90)	2.89(+2.84)	2.21(+2.72)	1.17(+0.68)	0.21(+0.14)	-0.09(+0.19)	0.53(+0.77)	0.75(+0.48)	0.07(+0.33)	0.77(+1.16)	-1.06(+0.76)
(H27.9)	-0.77(+0.23)	-0.61(+1.21)	-1.56(-1.90)	-2.43(+3.30)	-4.55(+3.56)	-6.68(+7.17)	-6.07(+3.18)	-4.26(+3.08)	-0.80(+0.87)	0.67(+1.11)	1.34(+1.74)	0.72(+0.18)	0.34(+0.59)	-0.43(+0.55)	0.50(+0.92)	-1.30(+1.47)	-1.38(+1.57)	-1.91(+2.01)	-1.61(+1.99)	-0.61(+0.99)	-0.33(+0.28)	-0.33(+0.28)	-0.33(+0.28)	-0.33(+0.28)
(H27.10)	-1.29(+1.42)	-3.32(+3.39)	-3.29(+3.39)	-3.82(+4.52)	-5.57(+4.63)	-7.50(+7.92)	-7.29(+5.66)	-3.83(+1.98)	-0.89(+0.55)	-0.49(+2.32)	-0.04(+0.35)	0.74(+0.1)	1.01(+0.67)	-0.02(+0.36)	-1.88(+1.60)	-0.84(+0.00)	0.45(+0.33)	0.35(+1.25)	-1.96(+2.18)	-1.31(+0.14)	-0.35(+0.44)	0.98(+1.22)	1.26(+1.13)	0.75(+0.99)
(H27.11)	-0.88(+1.49)	-0.46(+1.01)	-0.70(+1.57)	-1.17(+1.34)	-1.83(+1.54)	-5.83(+5.16)	-4.94(+2.65)	-0.75(+0.65)	0.97(+0.32)	-0.85(+2.37)	-0.47(+0.54)	-0.34(+0.23)	-0.43(+0.23)	-0.52(+0.75)	-1.26(+1.70)	-1.62(+1.13)	-0.83(+0.92)	-1.38(+1.73)	-1.68(+1.13)	-1.27(+0.65)	-0.86(+0.57)	-0.73(+0.38)	-1.17(+2.84)	-3.47(+3.48)
(H27.12)	-1.26(+0.42)	-0.72(+0.52)	-0.37(+1.14)	-0.85(+1.70)	-2.75(+3.97)	-5.65(+7.42)	-5.67(+3.41)	-2.48(+1.19)	-0.89(+1.32)	-3.34(+5.42)	-4.69(+4.42)	-4.44(+4.49)	-3.52(+3.90)	-3.78(+3.33)	-2.79(+2.75)	-3.41(+4.86)	-5.75(+7.85)	-4.58(+10.36)</						



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

Appendix C

θ(°)	1.330-2.1	-1.460-3.01	-1.460-2.0	1.250-0.6	3.60-2.34	-4.97-6.55	-3.79-2.41	-0.69-0.30	1.70-7.37	-12.46-6.28	-2.05-0.42	0.21-1.37	-2.65-2.14	0.96-1.22	-2.29-2.79	-5.07-4.32	-4.18-4.86	-3.18-1.58	0.71-0.49	-1.96-2.49	-1.76-4.32	-7.49-5.55	2.45-0.44	0.32-0.58
φ(°)	0.44-0.62	0.06-0.31	-0.07-1.3	1.40-0.07	0.65-1.12	-3.87-5.22	-5.40-5.97	-1.29-0.91	5.09-0.83	-12.23-8.75	-1.84-0.41	0.58-1.51	-1.99-1.79	2.67-2.27	-2.51-2.03	-3.99-5.44	-4.67-5.38	5.09-2.52	3.45-0.22	-6.02-4.13	-3.02-4.98	-8.43-6.49	0.98-1.50	1.53-0.96
φ(82°)	0.61-0.42	0.37-0.62	0.60-0.75	0.37-1.57	-1.75-0.84	-2.08-4.87	-6.73-4.91	-2.18-2.53	-3.67-5.66	-8.81-6.40	-0.64-0.41	-0.65-1.27	-1.09-2.39	-2.99-4.77	-5.61-2.21	-2.69-3.77	-4.62-3.57	-3.14-2.15	-0.13-1.52	-3.28-3.07	-2.33-0.45	-5.78-3.96	0.34-1.14	1.90-0.92
φ(80°)	2.38-1.49	-3.60-2.21	-0.97-0.90	0.99-2.43	-1.86-1.69	-3.28-3.08	-7.02-8.77	-5.33-2.38	2.25-1.37	-5.88-6.59	-0.96-1.77	-3.56-3.42	-3.67-6.24	-3.80-6.07	-6.45-2.92	-3.89-3.81	-3.28-3.82	2.29-1.01	2.71-3.78	-1.74-0.49	-0.75-0.87	-6.22-2.71	0.74-0.30	0.33-1.70
φ(85°)	-4.54-1.58	-2.14-1.70	2.43-4.84	-1.94-3.91	-2.57-3.27	6.11-6.45	6.16-5.58	-4.37-2.15	-3.97-7.19	6.78-9.53	-3.50-7.81	8.23-1.98	-1.39-2.43	-6.65-10.66	4.80-4.07	-4.61-1.86	-4.51-1.79	0.72-0.03	2.12-2.70	-1.05-0.15	-1.44-0.47	-6.09-2.09	-2.72-2.51	-2.47-3.32
φ(90°)	-3.72-2.45	-0.95-2.60	-4.26-7.68	-0.60-7.36	-2.74-5.51	-3.33-9.37	5.64-7.06	8.92-2.30	-1.88-1.02	-2.78-4.77	-2.03-6.11	8.31-3.56	-1.65-1.81	-2.87-4.03	-7.88-6.80	-3.60-3.14	-3.33-0.79	2.80-1.28	0.88-0.05	0.85-1.43	0.52-0.60	8.41-5.45	-2.81-0.64	-5.64-0.30
φ(112.5°)	-1.19-0.58	-0.50-0.40	8.63-6.16	-4.89-1.45	-2.22-2.70	-2.84-3.66	-3.71-4.46	6.88-10.19	-1.79-1.30	-5.94-3.75	-5.32-10.18	-12.39-3.46	-1.67-1.56	-1.87-0.88	-15.31-11.84	-7.07-5.85	-3.86-1.65	1.77-1.59	-0.92-0.61	0.88-2.24	-4.84-4.54	-8.06-8.13	6.53-7.15	-5.91-4.40
φ(120°)	7.99-3.03	-1.67-3.51	5.14-6.08	5.52-4.23	-5.16-6.54	9.28-5.4	9.07-4.24	4.81-3.14	-10.19-14.47	6.43-14.35	-3.63-7.59	-7.74-0.49	4.15-3.15	-4.71-7.59	6.82-10.07	9.68-5.34	5.96-3.25	0.14-0.78	-1.17-1.17	0.21-2.36	-4.29-4.31	5.46-0.94	6.08-11.41	8.74-9.20
φ(127°)	4.62-3.40	2.39-3.31	4.19-3.38	-1.39-2.65	-3.89-2.65	4.55-6.45	-12.86-6.44	-3.89-1.54	8.27-5.77	6.50-7.56	-12.57-7.08	-4.86-11.23	4.16-7.85	8.12-6.95	12.63-9.36	-4.69-4.24	-1.35-3.66	4.12-3.81	5.56-5.06	5.13-3.46	-0.11-4.50	-4.62-6.62	8.83-6.82	8.50-8.62
φ(135°)	5.79-7.67	5.41-3.76	4.29-4.25	-3.02-1.39	-6.26-1.91	-2.31-1.58	-2.93-8.11	-13.77-9.59	5.63-3.73	8.83-1.13	-4.72-3.99	6.81-11.33	-10.89-6.58	-15.70-7.17	-4.29-3.85	-2.10-6.83	-7.16-3.31	-3.29-7.11	-7.84-6.96	8.77-7.97	4.93-2.43	6.02-6.48	-7.08-4.54	-2.80-4.02
φ(142.5°)	6.83-6.94	7.39-6.65	8.11-5.34	4.40-2.25	5.55-1.99	0.86-1.21	3.07-6.11	7.97-6.37	2.90-2.54	5.26-1.30	6.61-6.11	1.86-6.23	3.53-3.78	-10.89-9.75	5.91-6.02	-1.27-6.11	3.60-0.77	5.99-2.28	4.86-8.83	6.23-4.24	7.25-4.75	-15.15-9.78	7.82-6.07	7.82-6.07
φ(150°)	6.32-5.38	6.33-5.38	6.83-1.18	10.65-10.38	4.98-6.38	5.64-1.60	5.44-7.27	8.69-6.56	4.54-7.27	8.69-6.56	4.54-7.27	8.69-6.56	4.54-7.27	8.69-6.56	4.54-7.27	8.69-6.56	4.54-7.27	8.69-6.56	4.54-7.27	8.69-6.56	4.54-7.27	8.69-6.56	4.54-7.27	8.69-6.56
φ(157.5°)	5.15-5.95	5.59-5.13	5.18-2.77	3.80-4.30	3.40-4.32	-1.64-1.32	2.15-2.27	4.18-4.62	6.00-6.23	-1.61-1.28	-12.36-13.40	-8.89-9.33	-1.14-1.29	3.83-4.60	-4.96-5.44	4.54-2.27	2.73-3.28	4.49-6.98	5.71-5.52	3.93-6.05	7.37-10.36	15.11-11.86	9.88-16.18	-14.79-9.37
φ(165°)	5.76-6.40	4.95-6.48	5.10-4.71	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90	4.13-3.90
φ(172.5°)	1.84-2.08	2.31-2.50	2.74-2.33	-1.62-1.73	3.18-2.86	-3.97-6.38	-7.94-9.88	-1.78-12.30	-1.75-11.18	-10.44-8.68	-6.91-4.44	-2.70-1.76	-1.31-1.12	0.96-0.92	-0.59-0.16	0.04-0.03	-0.16-0.43	0.74-0.53	0.91-1.41	-1.67-1.58	-1.71-1.83	-1.96-1.91	3.23-3.31	4.80-4.78
φ(180°)	4.64-6.52	-5.96-6.78	6.20-6.91	-10.01-11.56	-11.59-8.43	-7.25-6.49	4.19-6.37	-4.12-6.14	-3.38-5.42	-3.96-5.32	-3.96-5.32	-3.96-5.32	-3.96-5.32	-3.96-5.32	-3.96-5.32	-3.96-5.32	-3.96-5.32	-3.96-5.32	-3.96-5.32	-3.96-5.32	-3.96-5.32	-3.96-5.32	-3.96-5.32	-3.96-5.32
FreeHD	5.7650Psi	Totalset. 2	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)
Gen	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)	φ(°)
φ(°)	-7.02-6.69	-7.03-6.49	-6.64-6.70	-7.14-10.42	4.31-6.50	-7.27-7.52	6.26-5.28	-5.26-6.57	6.36-5.37	-5.00-4.55	-4.70-4.88	-4.83-4.64	-4.38-4.45	-4.21-3.90	-3.89-3.94	-4.02-4.85	-4.60-4.62	4.38-4.79	5.23-5.61	-5.64-5.47	-5.43-5.25	-5.94-6.78	7.46-6.15	-7.36-7.22
φ(75°)	-3.66-2.49	-2.86-3.17	-3.36-3.31	-3.58-2.68	-3.12-3.60	-4.55-5.09	-4.91-4.97	-4.83-6.01	-7.07-7.06	-6.64-6.45	-7.64-6.94	-7.36-7.61	-7.47-7.09	-6.89-6.42	-6.34-6.34	-6.06-4.16	-6.28-6.41	-5.85-5.59	-6.71-6.34	-3.71-4.64	-3.41-3.63	-4.73-4.85	1.39-1.76	1.39-1.76
φ(80°)	0.69-0.76	0.60-0.31	0.03-0.61	0.21-0.20	-0.13-0.89	-1.51-1.09	-2.71-2.37	-2.17-1.63	6.54-5.69	-3.36-5.57	-5.33-5.49	-5.33-5.49	-4.90-4.72	-4.52-4.65	-4.50-4.16	-3.39-3.89	-3.88-4.13	4.50-4.50	-4.15-4.05	-4.22-4.01	-3.30-3.28	-1.86-1.76	-1.85-1.58	-0.65-0.19
φ(82.5°)	0.31-0.09	0.73-0.82	0.80-0.61	0.93-0.87	0.74-0.37	-0.13-1.00	2.17-1.16	4.23-4.50	4.23-4.50	0.00-0.01	-0.57-0.76	-1.10-1.18	-1.38-1.50	-1.38-1.50	-1.38-1.50	-1.38-1.50	-1.38-1.50	-1.38-1.50	-1.38-1.50	-1.38-1.50	-1.38-1.50	-1.38-1.50	-1.38-1.50	-1.38-1.50
φ(85°)	0.79-0.76	0.90-0.06	0.41-0.68	-1.12-1.04	-1.54-1.35	-0.34-0.11	-1.19-1.25	-2.63-2.31	2.48-3.35	-3.22-2.48	-0.69-0.06	0.24-0.15	0.02-0.12	1.81-2.24	1.60-0.72	0.69-0.85	-1.21-0.45	0.79-0.88	-0.29-0.20	-0.26-0.12	0.07-0.16	0.00-0.02	0.57-0.57	0.51-0.71
φ(87.5°)	2.30-1.91	2.32-2.38	-3.50-3.34	-3.38-3.55	-4.12-3.68	-2.37-2.07	-3.63-5.71	-5.80-5.61	-5.38-4.22	-2.92-2.48	-3.16-3.38	-3.20-3.63	-3.20-3.63	-3.20-3.63	-3.20-3.63	-3.20-3.63	-3.20-3.63	-3.20-3.63	-3.20-3.63	-3.20-3.63	-3.20-3.63	-3.20-3.63	-3.20-3.63	-3.20-3.63
φ(90°)	1.75-1.35	-6.44-6.29	-8.60-7.35	-7.14-7.49	4.20-4.47	2.38-1.55	2.32-2.68	-3.23-4.31	2.01-2.51	0.24-0.61	-0.65-0.42	-1.85-1.40	-0.95-1.65	-2.08-1.56	0.88-1.51	0.98-0.15	0.71-1.30	-0.51-0.57	2.28-2.31	5.98-1.24	0.91-1.27	2.79-1.19	0.10-0.67	0.48-0.12
φ(92.5°)	-3.58-3.34	5.50-7.81	-7.79-6.88	-6.31-5.94	-5.51-5.78	-7.71-7.25	4.93-6.71	-1.51-1.13	8.88-1.44	-5.85-6.52	-4.47-4.30	-2.76-3.05	1.20-1.39	1.20-1.39	1.20-1.39	1.20-1.39	1.20-1.39	1.20-1.39	1.20-1.39	1.20-1.39	1.20-1.39	1.20-1.39	1.20-1.39	1.20-1.39
φ(95°)	2.28-0.32	0.82-0.63	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74	2.50-1.74
φ(97.5°)	1.18-0.49	0.54-0.53	0.60-0.60	0.77-0.69	0.38-1.51	-0.77-1.42	2.25-1.63	3.69-1.54	1.78-1.36	0.95-0.98	0.95-0.98	0.95-0.98	0.95-0.98	0.95-0.98	0.95-0.98	0.95-0.98	0.95-0.98	0.95-0.98	0.95-0.98	0.95-0.98	0.95-0.98	0.95-0.98	0.95-0.98	0.95-0.98
φ(100°)	0.72-1.36	2.55-0.27	0.61-0.05	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73	0.78-0.73
φ(102.5°)	4.28-0.24	0.07-0.80	0.04-0.25	0.77-1.20	1.00-1.49	-1.59-3.20	2.55-2.49	-1.17-0.23	4.17-1.10	-10.91-5.54	-0.30-0.69	0.21-0.85	4.61-3.34	5.30-5.97	3.13-0.22	3.13-0.19	-7.28-6.87	4.56-5.59	3.68-1.64	-1.36-2.08	-2.89-2.83	-7.83-6.84	2.89-0.66	-2.19-0.09
φ(105°)	6.96-1.66	3.36-1.93	1.58-1.17	-1.28-1.06	2.29-0.62	2.59-0.64	3.51-4.03	-3.80-3.03	4.44-7.98	0.61-0.22	3.23-5.62	4.02-3.20	2.43-0.80	4.46-4.01	-1.80-1.06	-3.37-5.81	7.52-7.57	4.91-4.44	-5.04-3.06	3.74-2.27	5.73-6.24	1.72-0.52	1.39-1.72	-1.39-1.72
φ(107.5°)	1.72-1.57	-2.10-1.63	-2.78-2.09	-1.57-0.58	-7.30-3.71	-4.87-4.26	-2.40-2.42	-2.14-2.81	6.15-9.48	5.88-5.50	-3.87-5.64	-5.64-3.34	-3.56-4.73	-4.07-7.84	-5.57-2.23	0.19-1.13	-3.23-3.46	6.01-4.66	2.75-2.77	-2.80-2.36	-1.78-1.31	4.13-2.57	-3.38-2.67	-3.38-2.67
φ(110°)	-4.80-3.23	-2.28-1.72	-2.35-2.27	-3.58-4.46	-4.61-5.69	-4.93-4.69	-6.15-6.12	-4.44-1.68	-6.05-5.31	-2.03-2.74	-8.06-5.68	-2.07-2.13	-1.52-1.18	-0.26-0.78	-1.99-0.81	-1.97-2.91	0.64-0.97	-1.08-0.36	-0.99-0.08	-0.52-0.33	-0.68-0.58	5.52-6.16	4.41-5.05	4.41-5.05
φ(112.5°)	3.73-3.47	-1.53-2.62	-4.61-4.44	-4.60-4.32	4.41-5.11	-3.21-2.49	-4.00-6.61	-5.70-6.26	-6.30-2.47	-4.23-4.74	-3.68-7.12	-10.30-7.75	-3.07-6.88	-8.83-9.19	-10.26-8.54	-7.21-7.34	-4.65-2.77	0.76-1.30	2.02-1.09	1.97-0.49	-1.69-0.53	-10.48-8.52	8.15-6.58	8.15-6.58
φ(115°)	0.60-1.39	-1.55-0.22	4.61-4.74	5.42-5.34	-3.23-6.65	6.90-5.94	-3.24-3.12	-3.20-1.01	6.51-6.45	-1.86-4.16	-5.86-4.79	-1.44-1.51	7.20-1.90	-7.20-1.92	-5.86-4.27	-5.86-4.27	-5.86-4.27	-5.86-4.27	-5.86-4.27	-5.86-4.27	-5.86-4.27	-5.86-4.27	-5.86-4.27	-5.86-4.27
φ(117.5°)	0.65-1.70	2.89-3.82	4.19-3.82	-1.80-1.42	-4.89-2.05	0.87-1.48	-6.49-2.65	-2.74-2.33	-4.81-3.75	-7.74-7.45	-5.25-5.65	-0.90-0.61	-4.17-											



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

Appendix C

(H122.5)	-11.50/-14.28	-13.50/-6.75	-4.77/-5.36	-3.30/-0.81	-3.17/-0.23	0.04/-1.76	-4.27/-6.34	-4.19/-4.09	-4.81/-11.42	-8.03/-10.07	-7.34/-10.81	-15.64/-9.13	-8.07/-8.28	-10.73/-6.28	-5.21/-4.23	-2.96/-3.52	0.10/-0.76	0.23/-0.50	1.94/-2.35	0.88/-1.73	-1.97/-3.28	-5.79/-5.60	-5.78/-0.10	-12.24/-12.17
(H120)	-10.40/-10.65	-8.80/-43	-4.88/-3.19	-3.71/-1.32	-3.90/-1.68	-1.82/-2.15	-4.71/-5.05	-6.69/-7.4	-9.31/-7.20	-6.79/-7.4	-10.43/-12.11	-11.80/-13.58	-10.76/-8.28	-11.14/-10.16	-7.33/-4.83	-11.33/-5.58	-4.97/-3.26	-5.88/-2.4	0.80/-0.55	0.37/-3.21	-5.09/-4.28	-4.26/-4.57	-5.76/-0.82	-7.42/-8.02
(H118)	-8.94/-10.45	-7.16/-16.15	-4.71/-22.23	-2.14/-4.84	-2.48/-0.03	-1.68/-3.89	-4.07/-4.63	-4.50/-8.81	-10.05/-12.63	-6.56/-6.76	-12.74/-12.45	-10.40/-5.24	-7.09/-10.02	-8.07/-10.00	-6.66/-4.83	-3.87/-7.12	-6.24/-3.09	-2.29/-2.49	-1.01/-1.51	-1.98/-2.24	-6.92/-6.90	-5.91/-4.54	-5.51/-4.25	-4.57/-7.52
(H116)	-5.06/-16.15	-8.18/-4.47	-4.72/-25.35	-3.44/-3.32	-2.96/-3.45	-3.46/-4.55	-6.73/-4.28	-4.84/-4.75	-6.42/-5.29	-6.38/-7.79	-7.51/-10.86	-12.90/-7.39	-5.89/-8.08	-10.46/-7.67	-6.29/-3.27	-4.95/-5.94	-7.62/-6.65	-2.94/-4.80	-2.07/-3.95	-2.30/-4.45	-6.16/-6.09	-2.32/-1.20	-3.69/-3.78	-6.10/-3.61
(H114)	-5.67/-16.15	-7.41/-8.44	-3.53/-5.94	-6.94/-4.22	-2.20/-2.57	-5.61/-8.2	-6.17/-6.55	-7.70/-8.99	-7.88/-3.7	-12.74/-12.45	-12.89/-15.58	-10.24/-10.05	-5.23/-3.19	-4.19/-5.95	-2.95/-4.85	-1.88/-3.81	-5.86/-2.89	-6.61/-8.7	-0.80/-2.4	-1.19/-2.35	-6.64/-7.53	-3.96/-1.50	-5.58/-4.25	-6.29/-8.46
(H112)	-3.59/-11.1	-2.74/-16	-6.41/-5.20	-3.40/-3.75	-7.80/-11.40	-6.09/-6.46	-6.36/-6.83	-5.91/-7.32	-8.82/-8.91	-8.41/-9.30	-14.44/-9.42	-5.57/-3.95	-5.26/-5.63	-7.51/-3.3	-4.42/-8.23	-5.51/-5.54	-10.64/-13.56	-11.18/-5.12	-3.04/-3.39	-2.19/-3.06	-1.45/-2.89	-5.85/-6.25	-4.25/-4.68	-6.99/-3.7
(H110)	-1.52/-16.14	-10.80/-8.60	-5.89/-3.15	-2.44/-3.5	-5.10/-4.48	-12.02/-10.56	-8.80/-7.77	-8.84/-10.73	-11.74/-10.69	-7.96/-5.56	-5.54/-7.36	-8.49/-9.60	-8.82/-7.4	-4.16/-6.02	-6.27/-1.9	-7.65/-6.87	-5.76/-5.37	-5.80/-7.65	-7.70/-4.88	-3.34/-3.70	-4.19/-3.56	-2.97/-2.41	-1.37/-2.04	-4.33/-2.76
(H108)	-3.97/-16	-6.22/-145	-3.34/-5.08	-7.72/-10.33	-12.03/-11.73	-8.73/-7.66	-7.81/-6.64	-5.69/-5.35	-4.43/-3.15	-2.33/-2.41	-2.44/-2.24	-2.63/-3.16	-3.15/-3.77	-4.28/-4.18	-4.33/-4.45	-4.08/-3.32	-2.63/-2.54	-2.84/-2.82	-2.68/-2.50	-2.02/-1.66	-1.30/-1.40	-1.59/-1.69	-2.55/-1.83	-0.88/-3.4
(H106)	-2.74/-3.44	-5.18/-5.85	-6.89/-6.81	-5.29/-4.27	-4.44/-3.23	-6.37/-8.7	-9.35/-7.87	-5.21/-3.84	-3.08/-2.75	-2.32/-2.19	-2.26/-2.20	-1.76/-1.28	-1.72/-1.2	-1.88/-1.59	-1.84/-2.25	-2.42/-2.28	-2.24/-2.13	-1.62/-1.61	-1.86/-1.72	-1.14/-0.87	-1.17/-0.85	-6.12/-0.68	-6.26/-5.7	-6.01/-3.7
FreeData	5.629Pa	TableRef. 3	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	
Gain	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	0.0797(dB2.5)	
(H7.5)	0.233/-0.34	-0.47/-0.39	-0.176/-1.3	-2.41/-1.05	-1.54/-1.72	-1.14/-0.51	-0.73/-4.39	-0.91/-0.47	-3.20/-3.73	-3.82/-0.02	-2.23/-0.16	0.07/-0.18	0.01/-0.18	1.19/-0.3	0.68/-0.34	0.95/-0.51	0.95/-0.92	0.85/-0.68	0.47/-0.06	-0.03/-0.74	0.55/-0.20	0.17/-0.32	0.17/-0.16	-0.25/-0.38
(H7.3)	0.373/-0.38	0.076/-0.36	0.086/-1.1	-0.03/-0.53	-0.61/-0.15	0.03/-0.26	0.19/-0.27	0.43/-0.17	-0.11/-0.49	-0.02/-0.93	-0.07/-1.08	-1.16/-1.27	-1.45/-1.69	-1.32/-0.91	-1.32/-0.91	-2.69/-0.44	-0.41/-0.58	-0.63/-0.15	-0.32/-0.71	-0.77/-0.40	-0.54/-0.48	-0.04/-0.39	-0.80/-0.28	
(H7.1)	0.696/-1.0	0.080/-0.9	0.060/-0.25	-1.02/-1.62	0.95/-0.17	-0.20/-0.50	-0.51/-0.48	-0.68/-0.80	-1.45/-1.88	-1.43/-1.28	-1.56/-1.51	-1.63/-1.74	-2.48/-3.29	-3.67/-3.65	-4.30/-4.39	-3.32/-3.51	-1.77/-0.65	0.17/-0.48	0.32/-0.03	-0.07/-0.43	0.14/-0.38	0.29/-0.15	0.05/-0.41	0.35/-0.81
(H22.5)	0.84/-1.04	-0.31/-1.15	-1.58/-3.09	-2.81/-1.80	-1.05/-0.70	-0.87/-0.91	-1.42/-0.80	-3.62/-0.43	-4.85/-4.57	-3.57/-4.21	-2.76/-3.17	-3.74/-4.00	-3.53/-2.96	-2.14/-1.59	-1.14/-1.23	-1.85/-1.58	-0.63/-0.26	0.38/-0.03	0.00/-0.22	0.88/-0.26	0.56/-0.71	0.65/-0.66	0.60/-0.61	
(H20)	-2.86/-1.51	-2.32/-2.41	-1.82/-2.16	-1.67/-2.20	-1.86/-1.28	-1.77/-2.05	-3.29/-4.12	-5.71/-6.75	-5.24/-6.57	-4.61/-4.41	-3.19/-4.38	-3.64/-2.75	-1.30/-1.00	-1.83/-2.51	-3.72/-3.09	-2.98/-3.15	-2.68/-1.41	-1.16/-1.55	-1.37/-1.37	-1.06/-0.79	-0.94/-0.70	-0.52/-0.58	-0.15/-1.05	
(H17)	-3.11/-1.18	-2.86/-3.15	-1.26/-1.53	-2.25/-3.09	-2.71/-2.83	-1.17/-1.91	-2.00/-4.21	-7.70/-6.78	-6.57/-10.06	-4.71/-5.38	-1.61/-4.31	-1.27/-0.23	-1.00/-1.00	-1.45/-1.65	-2.44/-3.38	-3.80/-2.36	-1.76/-1.67	-0.60/-0.57	-1.16/-1.52	-0.96/-0.57	-1.16/-1.52	-0.21/-0.23		
(H15)	-2.02/-1.54	-3.00/-4.22	-4.00/-7.04	-3.51/-2.00	-1.20/-1.76	-3.36/-2.50	-2.61/-4.04	-3.90/-3.00	-3.41/-4.91	-5.81/-6.20	-3.64/-4.13	-6.83/-6.61	-4.19/-2.54	-1.05/-0.17	0.66/-0.63	0.04/-0.29	-0.21/-0.68	-0.04/-0.78	-2.10/-0.95	0.21/-1.19	-3.02/-1.84	-2.10/-1.28	-1.86/-0.50	-1.28/-2.94
(H13)	-3.22/-4.64	-6.33/-1.1	-7.10/-9.41	-3.54/-3.21	-3.52/-1.56	-0.52/-0.38	-2.96/-3.1	-4.59/-4.15	-3.10/-3.90	-3.88/-1.68	-3.66/-1.86	-3.56/-1.59	-3.55/-2.79	-4.59/-0.96	1.60/-1.44	1.23/-1.60	0.84/-0.23	0.78/-0.16	-1.18/-1.21	-1.49/-1.49	-3.02/-1.74	-3.02/-1.74	-1.86/-0.50	-1.28/-2.94
(H11)	-7.35/-6.69	-6.56/-6.89	-6.91/-6.24	-2.80/-1.48	-3.24/-2.94	-0.68/-0.57	-0.09/-3.20	-4.66/-3.61	-4.29/-4.35	-1.78/-2.12	-1.19/-1.78	0.88/-0.72	0.78/-1.59	-1.35/-1.08	-0.15/-1.35	1.64/-0.40	-0.44/-0.21	0.21/-0.21	0.98/-0.35	-0.81/-0.25	-0.69/-1.80	-1.93/-2.23	-4.65/-4.19	-4.48/-4.91
(H9.5)	-4.86/-4.29	-4.40/-4.69	-2.22/-2.92	-4.96/-1.47	-4.86/-1.47	-1.97/-1.43	-2.36/-2.55	-7.99/-7.67	-6.96/-7.71	-1.94/-1.17	-0.09/-1.66	-3.87/-3.63	-2.50/-2.85	-0.55/-1.26	-0.57/-0.33	-0.44/-0.51	-1.25/-0.08	0.74/-0.40	-1.38/-1.96	-1.29/-2.07	-1.47/-2.89	-3.99/-3.89	-5.51/-6.87	
(H9)	-6.59/-6.31	-6.77/-5.99	-4.84/-4.22	-5.34/-4.89	-1.62/-2.19	-2.53/-0.66	-3.37/-2.75	-9.35/-7.27	-3.99/-3.07	-5.20/-5.65	-2.75/-2.52	-2.30/-4.00	-4.12/-4.06	-7.25/-4.16	-2.48/-1.24	-2.90/-2.61	-0.79/-0.35	0.28/-0.10	1.04/-1.31	-1.18/-1.31	-1.99/-2.64	-2.02/-1.31	-3.22/-4.01	-5.02/-5.12
(H8.5)	-8.83/-8.23	-6.13/-7.22	-6.62/-5.74	-5.69/-4.59	-2.85/-1.70	-3.62/-3.17	-3.78/-2.79	-3.28/-3.23	-4.23/-4.33	-2.63/-2.41	-5.96/-5.64	-3.18/-3.20	-3.18/-3.20	-4.51/-3.61	-3.68/-3.1	-0.10/-0.76	0.16/-0.76	1.26/-1.34	0.76/-2.24	-2.30/-2.83	-3.49/-2.96	-5.84/-4.98	-4.72/-1.1	
(H8)	-11.50/-11.12	-11.55/-9.69	-7.73/-8.82	-7.82/-3.31	-4.67/-3.29	-4.38/-3.06	-6.28/-4.25	-4.38/-1.84	-3.70/-1.62	-4.22/-3.62	-2.19/-3.36	-4.21/-2.56	-4.88/-4.38	-4.23/-3.64	1.15/-0.40	0.39/-0.63	0.23/-0.12	1.24/-0.33	0.28/-1.50	-2.94/-4.38	-4.21/-4.67	-5.23/-4.39	-6.62/-7.87	
(H7.5)	-10.71/-11.1	-16.34/-14.98	-6.48/-7.13	-4.42/-7.17	-3.93/-3.01	-3.72/-3.08	-7.01/-4.29	-4.49/-4.38	-3.50/-3.73	-4.26/-3.19	-7.27/-10.52	-8.89/-1.54	-6.55/-3.98	-5.59/-5.92	-3.82/-1.11	2.34/-0.58	1.27/-0.98	1.61/-0.60	1.79/-4.42	-4.71/-5.24	-2.98/-4.16	-6.70/-6.69	-4.99/-2.5	
(H7.3)	-15.90/-14.2	-12.75/-10.1	-7.98/-6.51	-3.84/-2.43	-3.89/-4.23	-1.78/-1.19	-1.38/-3.24	-3.90/-1.89	-2.29/-4.57	-8.52/-4.19	-12.55/-6.07	-2.51/-2.64	-5.03/-5.19	-3.01/-3.19	-3.71/-0.09	-3.39/-3.19	0.07/-0.58	0.04/-0.19	0.26/-0.38	-3.83/-3.74	-5.49/-4.19	-1.59/-1.49	-1.59/-1.49	
(H7.1)	-10.94/-12.0	-12.85/-9.37	-6.59/-3.60	-4.41/-3.70	-1.59/-4.42	-2.74/-1.70	-1.52/-4.02	-3.59/-4.45	-3.64/-6.63	-10.95/-15.21	-9.01/-10.43	-10.97/-12.1	-11.29/-7.00	-10.67/-4.30	-4.16/-3.01	-0.53/-1.37	-0.05/-0.67	0.33/-0.51	0.07/-0.73	-0.99/-1.59	-3.27/-4.76	-4.64/-5.38	-12.23/-15.94	
(H22.5)	-10.71/-12.4	-12.94/-10.7	-4.68/-4.48	-3.95/-4.40	-1.73/-0.94	-1.73/-0.94	-4.49/-4.77	-4.59/-5.84	-6.51/-6.32	-12.38/-4.68	-7.15/-9.68	-13.74/-14.83	-7.36/-6.65	-11.29/-6.82	-12.48/-7.67	-4.39/-6.43	-2.96/-1.80	-2.19/-1.80	-1.18/-1.18	-3.25/-4.61	-3.90/-2.30	-7.68/-7.10	-17.12/-12.8	-11.88/-8.49
(H20)	-8.63/-10.7	-8.49/-5.15	-3.14/-3.02	-3.37/-5.79	-3.02/-1.01	0.28/-3.63	-7.29/-4.74	-2.74/-4.19	-8.42/-8.68	-10.44/-10.16	-5.36/-5.17	-11.67/-10.9	-14.82/-10.94	-8.53/-6.58	-6.01/-6.64	-6.68/-4.14	-5.69/-4.18	-5.07/-3.36	-2.61/-3.88	-6.40/-6.28	-8.86/-7.81	-6.53/-6.01	-3.25/-6.80	-11.02/-10.38
(H17)	-4.20/-3.21	-3.69/-3.92	-3.58/-3.30	-1.51/-3.88	-3.02/-1.97	-1.52/-3.61	-5.16/-5.87	-6.71/-6.77	-8.27/-8.67	-9.67/-11.59	-10.57/-10.25	-7.53/-6.42	-7.92/-8.41	-6.81/-6.45	-7.35/-6.43	-6.69/-5.95	-5.66/-5.86	-4.22/-4.29	-3.49/-3.55	-3.63/-4.62	-5.88/-5.69	-5.28/-5.62	-6.01/-6.32	
(H15)	-5.49/-6.08	-4.07/-3.86	-3.42/-3.46	-5.28/-4.39	-1.91/-1.79	-4.25/-3.10	-8.79/-5.98	-4.89/-3.22	-3.31/-4.69	-8.19/-12.12	-11.54/-10.28	-7.34/-6.94	-5.40/-3.55	-5.64/-6.17	-6.75/-6.34	-1.84/-4.44	-6.74/-6.29	-5.37/-4.57	-1.33/-1.43	-3.77/-4.64	-6.84/-6.54	-1.90/-2.64	-1.70/-5.61	-8.47/-8.70
(H13)	-3.26/-2.57	-3.17/-3.27	-3.07/-3.78	-4.53/-4.62	-4.68/-3.68	-11.40/-10.12	-4.20/-2.20	-4.69/-7.36	-4.83/-6.68	-10.95/-14.53	-12.11/-7.87	-5.80/-7.35	-7.22/-5.06	-6.50/-6.11	-5.60/-6.11	-5.89/-5.86	-3.50/-1.98	0.29/-0.22	-0.88/-0.38	-0.96/-0.74	-3.30/-1.32	-0.02/-0.61		
(H11)	-4.85/-3.27	-2.33/-3.96	-8.22/-15.35	-5.24/-6.07	-6.17/-5.11	-4.95/-6.68	-7.69/-6.00	-7.21/-6.07	-11.00/-11.78	-10.28/-9.76	-9.61/-11.36	-10.69/-5.36	-2.49/-2.57	-6.61/-6.54	-11.55/-11.38	-10.87/-9.46	-4.80/-4.34	-4.87/-3.36	-2.79/-2.71	-4.64/-6.85	-6.45/-6.55	-5.53/-2.67	-7.79/-7.78	-3.45/-4.42
(H9.5)	-1.52/-15.68	-1.41/-10.79	-5.71/-26.15	-1.74/-12.34	-5.94/-10.29	-9.24/-10.69	-7.96/-9.07	-9.57/-10.29	-17.75/-9.86	-7.69/-6.03	-3.95/-4.11	-5.21/-6.69	-5.78/-5.74	-6.51/-6.11	-5.98/-5.69	-7.69/-7.37	-6.37/-6.47	-3.96/-3.51	-1.20/-3.16	-2.91/-3.02	-2.00/-1.93	-1.20/-3.16	-3.04/-2.60	
(H9)	-2.07/-2.05	-1.62/-2.02	-2.62/-2.91	-4.87/-4.03	-11.07/-11.36	-6.45/-6.16	-7.06/-6.31	-5.98/-4.74	-3.38/-2.48	-1.53/-1.10	-0.58/-0.48	-0.45/-0.53	-1.12/-1.56	-1.65/-2.22	-3.12/-0.86	-3.77/-3.67	-3.69/-3.34	-3.90/-3.58	-3.15/-3.18	-2.96/-3.28	-2.91/-3.36	-4.72/-4.15	-4.42/-5.01	-3.18/-4.21
(H8.5)	-0.55/-0.26	-0.51/-0.23	-2.67/-3.42	-4.26/-4.37	-4.25/-4.39	-4.99/-4.39	-7.24/-6.94	-4.46/-4.34	-2.73/-3.13	-3.54/-4.26	-2.02/-2.13	-1.76/-1.37	-1.02/-1.17	-1.82/-1.62	-1.29/-0.91	-0.81/-0.84	-0.51/-0.14	0.02/-0.35	0.14/-0.7	0.96/-1.3	1.29/-1.30			



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

Appendix C

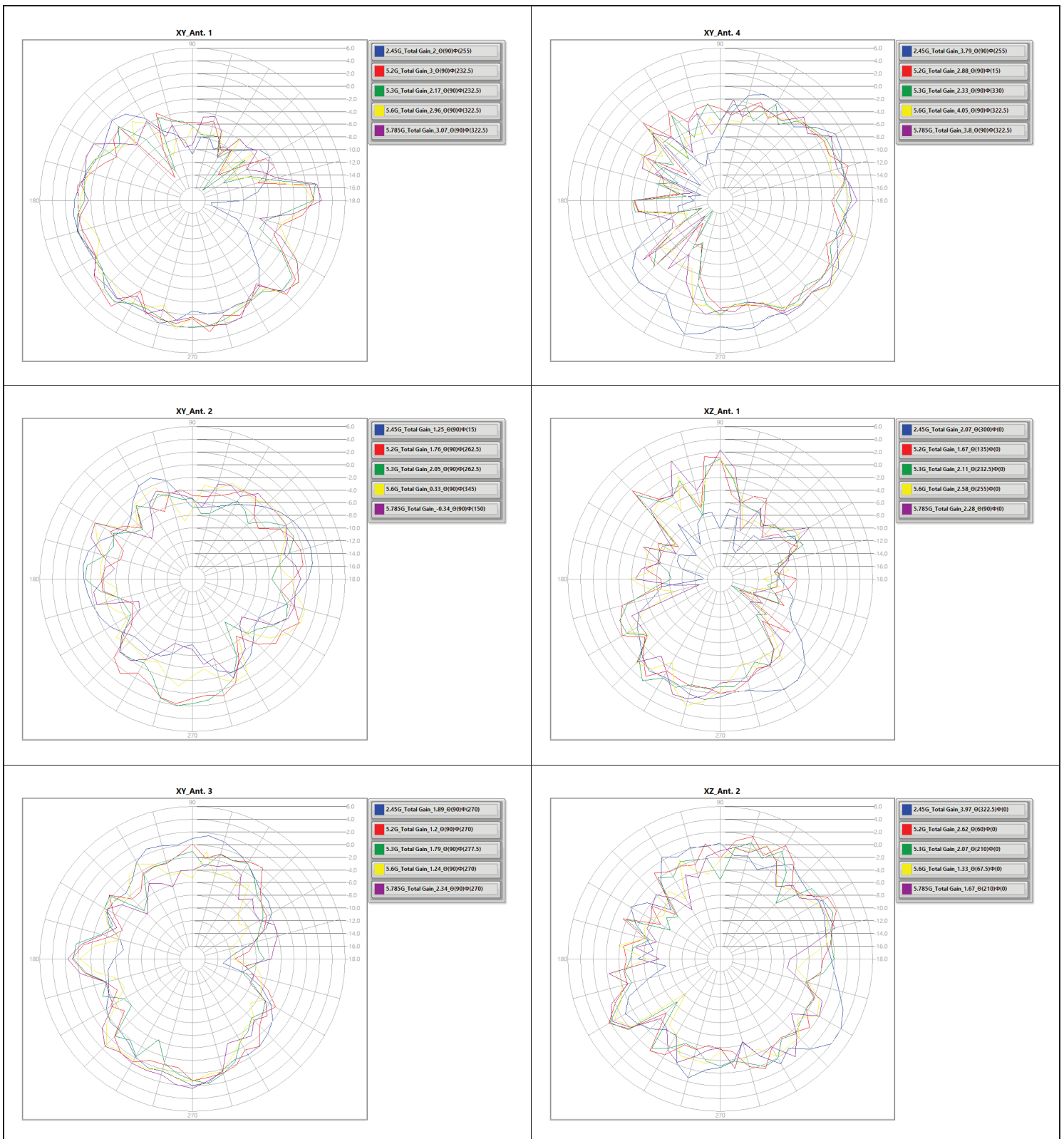
φ(165°)	-7.85(-6.59)	-5.40(-3.91)	-3.39(-3.18)	-3.51(-4.49)	-4.91(-4.91)	-5.37(-6.18)	-7.81(-10.83)	-13.91(-14.70)	-14.71(-11.31)	-8.60(-9.41)	-8.53(-7.97)	-7.30(-4.11)	-8.59(-7.54)	-6.49(-6.08)	-5.30(-4.37)	-4.11(-5.37)	-6.88(-7.28)	-6.08(-4.67)	-4.94(-6.94)	-9.26(-10.27)	-9.23(-8.21)	-7.76(-7.47)	-10.54(-8.61)	-8.21(-10.53)
φ(172.5°)	-4.63(-5.20)	-4.36(-3.87)	-4.10(-5.89)	-4.84(-7.02)	-7.16(-7.42)	-8.21(-8.54)	-9.70(-10.58)	-10.74(-8.45)	-7.48(-7.29)	-9.36(-11.62)	-12.15(-15.10)	-13.27(-13.48)	-14.98(-13.08)	-12.00(-11.33)	-10.79(-11.3)	-7.29(-5.96)	-4.91(-4.00)	-3.21(-2.58)	-2.82(-3.61)	-4.78(-6.18)	-8.04(-7.28)	-7.49(-7.42)	-6.34(-8.67)	-7.16(-6.20)
φ(180°)	-3.71(-5.67)	-4.77(-5.31)	-6.69(-6.66)	-7.21(-7.44)	-7.46(-7.58)	-8.43(-9.15)	-9.79(-9.89)	-6.49(-4.76)	-5.70(-7.66)	-6.86(-7.2)	-7.26(-5.72)	-6.09(-4.68)	-4.71(-4.23)	-4.13(-4.28)	-4.02(-3.87)	-3.79(-3.45)	-3.21(-3.47)	-3.52(-3.26)	-3.37(-4.13)	-4.26(-4.36)	-4.99(-5.16)	-5.32(-4.72)	-4.97(-4.74)	-4.47(-4.97)
Frequency	5.35GPa	TotalGain 4	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	φ(170°/90.75°)	φ(15°/90.22.5°)	φ(30°/90.67.5°)	φ(45°/90.52.5°)	φ(60°/90.67.5°)	φ(75°/90.62.5°)	φ(90°/90.67.5°)	φ(105°/90.112.5°)	φ(120°/90.127.5°)	φ(135°/90.142.5°)	φ(150°/90.157.5°)	φ(165°/90.172.5°)	φ(180°/90.187.5°)	φ(195°/90.202.5°)	φ(210°/90.217.5°)	φ(225°/90.232.5°)	φ(240°/90.247.5°)	φ(255°/90.262.5°)	φ(270°/90.277.5°)	φ(285°/90.292.5°)	φ(300°/90.307.5°)	φ(315°/90.322.5°)	φ(330°/90.337.5°)	φ(345°/90.352.5°)
φ(1°)	8.47(-8.32)	7.30(-8.87)	-10.30(-8.61)	-7.87(-6.45)	-6.53(-6.85)	-7.00(-7.26)	7.23(-8.38)	-8.91(-8.34)	-5.56(-5.35)	-8.80(-7.44)	-9.64(-8.35)	-8.05(-8.89)	-8.29(-8.87)	-8.52(-8.55)	-8.40(-8.38)	-8.03(-8.77)	-7.41(-7.34)	-6.87(-7.60)	-7.21(-7.27)	-7.90(-7.76)	-8.11(-8.72)	-8.36(-8.56)	-7.89(-8.64)	-6.49(-7.48)
φ(15°)	8.84(-8.46)	8.78(-8.22)	-8.99(-8.27)	-6.72(-6.80)	-7.27(-7.19)	-7.16(-7.25)	-6.89(-6.78)	-6.69(-6.80)	-8.63(-8.46)	-7.49(-8.13)	-8.22(-8.29)	-8.21(-8.78)	-8.24(-8.54)	-7.29(-7.74)	-7.39(-8.46)	-7.59(-8.84)	-6.60(-6.78)	-6.05(-6.17)	-5.98(-6.28)	-6.14(-6.26)	-6.82(-6.85)	-6.82(-6.86)	-6.86(-6.88)	-6.78(-6.84)
φ(30°)	16.44(-10.33)	-11.59(-10.25)	7.59(-7.00)	7.29(-6.75)	8.41(-6.00)	5.69(-5.02)	5.61(-5.73)	5.00(-5.32)	8.29(-5.95)	-6.99(-6.28)	-8.80(-7.38)	-8.24(-8.28)	-7.52(-8.74)	-5.99(-5.96)	-6.47(-7.37)	-7.50(-8.47)	-8.93(-11.48)	-13.31(-14.27)	-11.29(-11.73)	-14.51(-15.42)	-14.99(-15.59)	-15.10(-15.16)	-15.16(-15.26)	-15.14(-14.88)
φ(45°)	11.07(-9.52)	9.85(-9.77)	10.26(-11.24)	9.72(-8.44)	8.59(-8.26)	5.52(-4.76)	4.20(-4.52)	4.96(-5.27)	7.94(-10.08)	-11.80(-9.76)	-10.18(-10.58)	-10.27(-10.28)	-7.52(-8.76)	-5.99(-5.96)	-6.47(-7.37)	-7.50(-8.47)	-8.93(-11.48)	-13.31(-14.27)	-11.29(-11.73)	-14.51(-15.42)	-14.99(-15.59)	-15.10(-15.16)	-15.16(-15.26)	-15.14(-14.88)
φ(60°)	8.91(-7.97)	4.53(-5.92)	7.38(-7.80)	9.70(-9.09)	7.99(-7.81)	8.98(-7.22)	6.20(-5.88)	6.02(-6.58)	6.47(-7.67)	5.91(-5.93)	-7.78(-6.53)	-8.69(-6.48)	-8.99(-6.48)	-8.99(-6.48)	-4.56(-6.19)	-8.31(-9.03)	-10.09(-9.87)	-8.99(-7.78)	7.75(-5.70)	-4.53(-5.33)	-5.07(-5.04)	-4.84(-4.64)	-5.19(-5.58)	-5.29(-5.14)
φ(75°)	5.90(-3.51)	-3.71(-4.08)	-4.08(-6.17)	-4.37(-6.84)	-6.14(-6.24)	-13.02(-8.62)	-5.34(-3.35)	-3.61(-5.72)	7.54(-8.29)	-6.42(-6.30)	-7.50(-9.54)	-11.40(-10.40)	-7.94(-6.85)	-6.42(-6.80)	-10.36(-7.80)	-7.77(-6.28)	-7.62(-6.07)	-5.36(-3.94)	-3.02(-3.39)	-3.39(-2.29)	-2.80(-3.20)	-2.80(-3.20)	-2.80(-3.20)	-2.80(-3.20)
φ(90°)	-1.48(-0.68)	-7.19(-1.42)	-1.28(-1.32)	-2.71(-2.31)	-2.89(-0.98)	-9.76(-7.68)	-7.26(-5.06)	-4.16(-5.81)	-6.26(-11.10)	-10.05(-9.36)	-10.36(-9.34)	-8.70(-8.50)	-5.76(-9.16)	-8.19(-10.43)	-10.76(-11.05)	-14.03(-12.22)	-9.25(-7.98)	-5.81(-4.46)	-8.30(-10.49)	-10.39(-7.96)	-6.80(-3.95)	-2.35(-3.45)	-4.42(-3.25)	-1.81(-1.75)
φ(92.5°)	-1.55(-1.63)	-1.01(-0.88)	-0.95(-0.47)	-0.83(-0.28)	-0.74(-0.36)	-4.70(-5.84)	-4.90(-5.97)	-3.05(-5.65)	-11.05(-10.34)	-6.83(-5.05)	-4.21(-5.07)	-5.90(-4.29)	-4.85(-5.35)	-14.87(-15.24)	-15.18(-16.88)	-9.00(-9.10)	-4.49(-3.74)	-2.15(-3.82)	-4.47(-5.61)	-1.32(-2.48)	-5.70(-6.18)	-2.70(-3.14)	-4.43(-3.24)	-3.21(-3.94)
φ(98°)	-1.59(-1.28)	-0.92(-0.65)	-0.91(-0.08)	-0.91(-0.10)	-1.05(-0.62)	-2.04(-2.41)	-3.36(-6.19)	-3.78(-7.68)	-5.75(-6.26)	-5.74(-6.26)	-11.71(-5.97)	-6.77(-10.23)	-10.05(-14.48)	-10.32(-5.51)	-4.77(-8.82)	-4.96(-5.83)	-3.12(-2.92)	-6.81(-7.18)	-0.48(-1.41)	-0.81(-1.32)	-0.24(-0.15)	-1.59(-2.31)	-1.35(-1.11)	-1.35(-1.11)
φ(107.5°)	-2.35(-1.02)	-1.68(-0.46)	-2.59(-0.05)	-3.50(-0.24)	-0.66(-0.77)	-0.34(-1.17)	-3.19(-5.39)	-4.22(-4.27)	-5.16(-12.35)	-8.02(-6.77)	-10.13(-9.81)	-14.06(-14.1)	-12.69(-9.48)	-7.37(-4.43)	-3.62(-3.41)	-4.30(-5.11)	-4.10(-2.18)	-1.50(-1.71)	-0.71(-0.33)	-1.54(-0.22)	-1.59(-1.73)	-0.06(-1.3)	0.32(-1.15)	-0.26(-0.21)
φ(115°)	-3.48(-1.03)	0.16(-1.13)	-2.16(-0.59)	-3.97(-0.80)	-1.04(-2.11)	-0.32(-0.99)	-1.44(-3.89)	-0.91(-6.11)	-12.16(-11.35)	-12.38(-11.79)	-8.22(-6.67)	-6.39(-3.00)	-5.14(-11.25)	-4.13(-3.94)	-2.76(-4.75)	-0.99(-6.30)	-3.58(-2.18)	-0.80(-1.74)	-1.96(-2.24)	-4.95(-2.28)	-1.35(-0.49)	-5.64(-0.80)	-0.50(-0.68)	0.28(-0.74)
φ(120.5°)	0.84(-1.68)	1.30(-1.22)	-0.42(-0.45)	-2.27(-1.95)	-1.93(-2.69)	-0.87(-3.21)	-4.54(-4.03)	-7.49(-7.12)	-5.99(-9.14)	-5.40(-11.89)	-8.06(-10.25)	-8.62(-8.74)	-5.00(-6.02)	-5.54(-6.02)	-6.50(-7.66)	-3.69(-7.89)	-4.57(-4.04)	-5.05(-4.08)	-3.93(-3.27)	-3.48(-1.45)	-0.10(-1.13)	-1.07(-0.55)	0.22(-1.11)	0.87(-1.70)
φ(130°)	0.17(-1.74)	1.97(-1.38)	1.28(-0.44)	-0.21(-2.94)	-0.53(-0.45)	-2.53(-2.82)	-5.36(-2.64)	-4.86(-7.26)	-2.49(-9.79)	-1.86(-9.78)	-7.57(-12.64)	-4.15(-14.50)	-11.06(-12.48)	-11.06(-12.48)	-11.06(-12.48)	-3.21(-10.88)	-4.40(-1.50)	-4.40(-1.50)	-4.40(-1.50)	-4.40(-1.50)	-4.40(-1.50)	-4.40(-1.50)	-4.40(-1.50)	-4.40(-1.50)
φ(135°)	0.94(-1.49)	1.53(-0.66)	1.61(-0.45)	0.74(-1.62)	-0.07(-2.30)	-2.53(-1.72)	-6.40(-5.85)	-5.99(-14.57)	-10.93(-7.01)	-6.46(-7.32)	-0.68(-6.78)	-7.57(-11.41)	-1.15(-14.99)	-7.39(-6.68)	-2.34(-3.04)	-10.13(-6.50)	-5.51(-6.41)	-0.68(-6.07)	1.40(-1.47)	-3.61(-1.70)	2.13(-1.77)	1.86(-2.74)	2.52(-1.36)	2.72(-1.14)
φ(140°)	-0.07(-1.76)	-0.47(-1.36)	-0.52(-1.70)	0.86(-1.16)	-0.32(-3.15)	-3.28(-1.86)	-6.80(-12.15)	-10.14(-10.88)	-9.24(-5.87)	-8.02(-10.17)	-6.00(-10.03)	-3.60(-10.22)	-8.87(-10.22)	-2.45(-5.28)	-1.89(-1.55)	-0.27(-1.11)	1.10(-2.36)	-4.07(-1.74)	1.24(-2.07)	1.67(-1.48)	2.89(-1.37)	0.23(-1.29)	0.23(-1.29)	0.23(-1.29)
φ(142.5°)	1.31(-0.76)	1.30(-1.37)	-1.52(-1.12)	-1.13(-1.74)	-3.80(-2.91)	-1.38(-1.09)	-4.40(-5.49)	-5.63(-9.05)	-8.79(-5.68)	-7.38(-9.07)	-10.59(-11.33)	-8.47(-9.32)	-12.87(-11.45)	-4.29(-11.92)	-1.84(-2.07)	-0.90(-4.72)	-6.48(-3.00)	-2.19(-2.93)	-1.06(-2.62)	-3.74(-5.57)	1.86(-2.41)	0.57(-1.51)	3.38(-0.93)	-4.15(-2.22)
φ(145°)	1.83(-0.73)	1.04(-1.23)	-3.38(-4.26)	-1.98(-1.86)	-2.88(-2.66)	-4.12(-4.70)	-3.29(-7.62)	-8.81(-11.01)	-11.71(-13.4)	-7.64(-16.16)	-11.20(-9.34)	-6.13(-9.14)	-6.43(-5.28)	-6.22(-1.45)	-5.13(-4.68)	-9.78(-9.36)	-2.00(-2.48)	-0.77(-3.30)	-0.94(-2.22)	19.93(-9.98)	4.27(-1.63)	1.63(-1.71)	1.63(-1.71)	1.63(-1.71)
φ(147.5°)	2.26(-1.3)	-1.38(-0.51)	0.49(-1.13)	-1.57(-1.70)	-4.07(-3.31)	-3.49(-1.2)	-7.71(-13.71)	-8.91(-9.31)	-12.47(-8.5)	-6.87(-8.96)	-6.07(-9.50)	-9.79(-9.31)	-3.45(-3.73)	-5.18(-6.49)	-3.31(-4.91)	-3.68(-4.99)	-10.91(-7.15)	-2.12(-3.56)	-0.25(-2.99)	-5.70(-11.27)	1.27(-1.57)	3.04(-1.4)	0.82(-1.6)	0.29(-0.69)
φ(150°)	0.60(-0.34)	0.73(-0.24)	0.48(-0.46)	-1.35(-1.29)	-4.44(-2.36)	-3.83(-2.1)	-2.45(-5.85)	-12.08(-10.08)	-7.65(-6.11)	-5.82(-10.13)	-11.53(-10.13)	-11.18(-15.09)	-8.97(-8.84)	-11.68(-11.11)	-9.34(-3.75)	-9.92(-6.68)	-1.60(-5.46)	-0.93(-1.28)	-1.01(-1.74)	-3.87(-4.72)	0.51(-1.85)	2.28(-1.34)	0.86(-1.5)	0.80(-1.6)
φ(162.5°)	0.38(-0.58)	0.53(-0.20)	-1.59(-2.51)	-1.57(-3.30)	-6.42(-6.13)	-2.89(-2.65)	-6.47(-7.14)	-7.27(-7.83)	-4.10(-5.45)	-14.48(-15.59)	-11.89(-11.85)	-12.98(-11.20)	-6.35(-7.34)	-3.58(-3.59)	-5.44(-5.38)	-8.71(-13.33)	-8.81(-5.76)	-2.79(-2.40)	-3.88(-4.98)	-5.34(-4.06)	-3.22(-3.78)	0.13(-0.54)	0.37(-0.60)	0.78(-0.61)
φ(170°)	2.48(-2.27)	-2.78(-1.51)	-1.27(-1.27)	-4.90(-7.35)	-8.79(-7.72)	-6.29(-10.04)	-10.02(-10.52)	-4.99(-7.72)	9.37(-12.97)	-10.50(-9.73)	-11.80(-12.41)	-15.10(-12.99)	-7.29(-8.43)	-9.19(-10.43)	-9.19(-10.43)	-9.46(-10.84)	-8.98(-4.78)	-3.13(-3.49)	-5.86(-7.45)	-7.38(-6.51)	-5.37(-4.39)	-4.01(-4.45)	-5.96(-4.62)	-5.27(-5.38)
φ(172.5°)	4.44(-4.45)	-4.19(-5.84)	5.65(-5.19)	4.37(-4.70)	-3.31(-4.48)	-8.22(-9.75)	8.46(-8.65)	4.53(-6.71)	11.56(-16.08)	15.34(-14.49)	15.21(-12.94)	8.02(-11.34)	8.19(-9.42)	8.19(-9.42)	8.19(-9.42)	8.19(-9.42)	8.19(-9.42)	8.19(-9.42)	8.19(-9.42)	8.19(-9.42)	8.19(-9.42)	8.19(-9.42)	8.19(-9.42)	8.19(-9.42)
φ(180°)	8.63(-9.3)	-7.53(-5.18)	-3.73(-3.28)	-3.74(-3.42)	-4.87(-4.14)	-3.84(-3.86)	-10.71(-11.58)	-12.20(-15.37)	-14.75(-11.01)	-15.60(-14.27)	-11.15(-10.56)	-9.89(-10.33)	-9.20(-9.31)	-7.29(-5.35)	-5.94(-7.46)	-4.32(-5.33)	-5.35(-6.37)	-5.02(-7.19)	8.66(-10.18)	-10.75(-9.46)	-8.80(-9.50)	-10.52(-10.88)	-11.82(-14.41)	-11.68(-10.99)
φ(182.5°)	5.52(-4.98)	-5.98(-5.58)	-5.43(-5.25)	-5.36(-4.96)	-7.86(-10.08)	-10.71(-10.18)	-10.37(-11.45)	-12.20(-15.37)	-14.75(-11.01)	-15.60(-14.27)	-11.15(-10.56)	-9.89(-10.33)	-9.20(-9.31)	-7.29(-5.35)	-5.94(-7.46)	-4.32(-5.33)	-5.35(-6.37)	-5.02(-7.19)	8.66(-10.18)	-10.75(-9.46)	-8.80(-9.50)	-10.52(-10.88)	-11.82(-14.41)	-11.68(-10.99)
φ(185°)	8.66(-9.3)	8.67(-7.7)	8.62(-7.7)	8.47(-6.57)	8.81(-6.32)	-10.22(-12.3)	-10.89(-8.88)	-7.38(-6.95)	7.03(-6.98)	5.99(-5.96)	-7.33(-9.0)	-6.00(-5.76)	-6.05(-6.47)	-6.47(-6.68)	-5.43(-4.69)	-4.42(-4.80)	-4.28(-3.80)	3.86(-4.10)	4.28(-4.13)	-1.94(-6.53)	-8.73(-8.36)	-6.64(-6.58)	-8.76(-6.57)	-7.34(-7.52)
Frequency	5.85GPa	TotalGain 4	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gain	φ(170°/90.75°)	φ(15°/90.22.5°)	φ(30°/90.67.5°)	φ(45°/90.52.5°)	φ(60°/90.67.5°)	φ(75°/90.62.5°)	φ(90°/90.67.5°)	φ(105°/90.112.5°)	φ(120°/90.127.5°)	φ(135°/90.142.5°)	φ(150°/90.157.5°)	φ(165°/90.172.5°)	φ(180°/90.187.5°)	φ(195°/90.202.5°)	φ(210°/90.217.5°)	φ(225°/90.232.5°)	φ(240°/90.247.5°)	φ(255°/90.262.5°)	φ(270°/90.277.5°)	φ(285°/90.292.5°)	φ(300°/90.307.5°)	φ(315°/90.322.5°)	φ(330°/90.337.5°)	φ(345°/90.352.5°)
φ(1°)	8.86(-8.63)	6.96(-5.92)	5.96(-5.44)	4.37(-4.70)	4.88(-5.31)	5.86(-5.31)	6.71(-7.05)	7.54(-7.26)	7.59(-7.83)	7.52(-9.47)	8.60(-8.64)	8.00(-7.61)	7.36(-7.71)	7.61(-7.27)	7.61(-7.27)	7.42(-7.43)	6.90(-6.54)	7.19(-6.62)	6.71(-6.16)	6.42(-6.32)	6.51(-6.45)	6.74(-6.41)	6.02(-6.64)	5.47(-6.74)
φ(15°)	8.81(-8.67)	-8.22(-8.42)	-7.91(-7.56)	-7.00(-7.41)	-6.57(-6.17)	-5.25(-4.30)	-3.90(-4.89)	-6.06(-4.47)	-4.29(-6.28)	-5.24(-8.49)	-5.05(-5.66)	-6.74(-7.62)	-6.86(-6.54)	-6.24(-7.22)	-7.05(-7.06)	-7.00(-7.38)	-6.70(-7.12)	-6.14(-7.85)	-6.62(-6.90)	-8.53(-9.04)	-11.10(-11.85)	-11.11(-10.12)	-12.55(-10.31)	-8.90(-8.61)
φ(30°)	-8.61(-9.13)	-8.98(-9.32)	-9.06(-12.42)	-8.68(-7.04)	-8.90(-6.28)	-7.52(-5.42)	-4.50(-4.21)	-6.42(-5.36)	-6.07(-6.03)	-5.24(-8.43)	-8.16(-8.49)	-7.75(-7.62)	-7.64(-8.14)	-6.20(-7.80)										

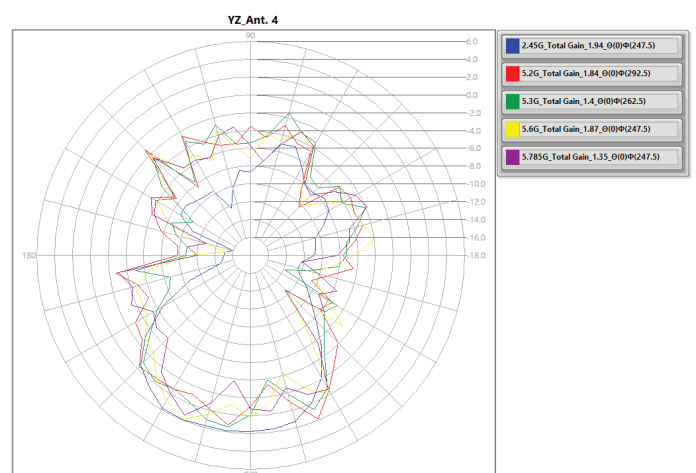
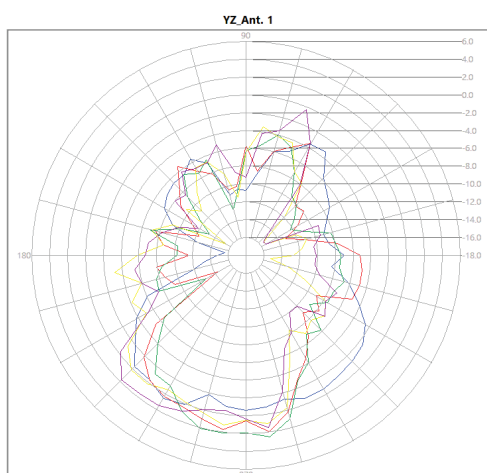
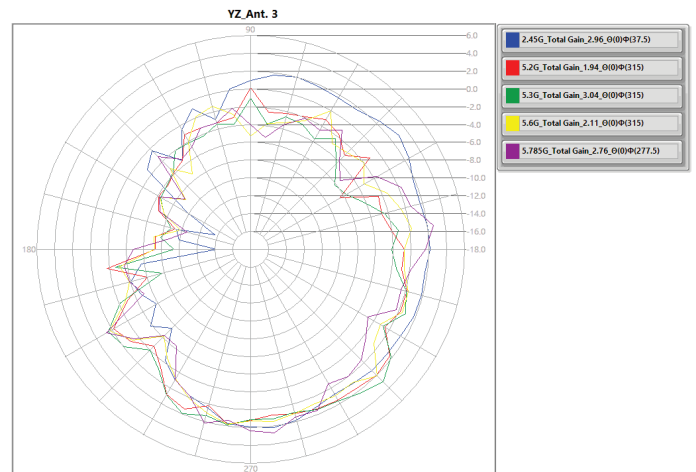
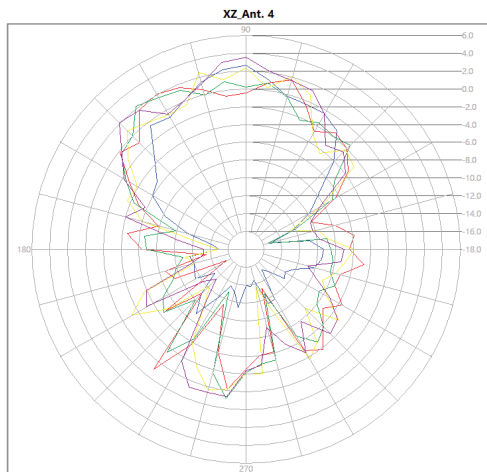
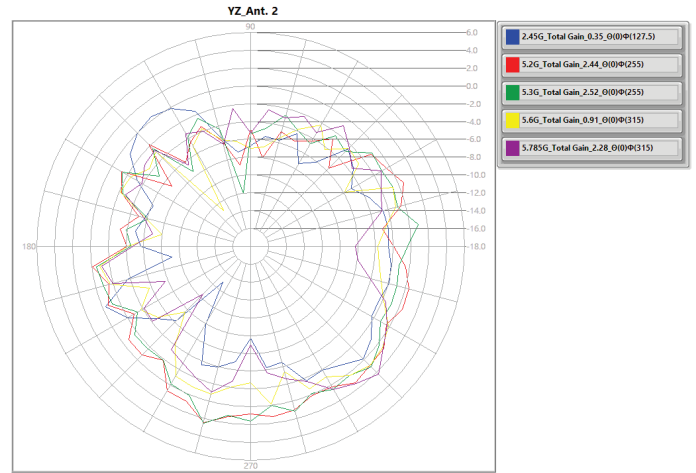
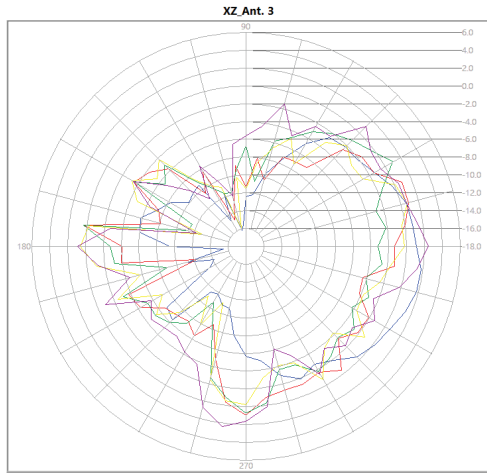


Antenna Pattern of 2.4GHz and 5GHz UNII 1~3

Appendix C

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





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Antenna Pattern of 6GHz

Appendix D

	0.0000	0.0176	0.0352	0.0528	0.0704	0.0880	0.1056	0.1232	0.1408	0.1584	0.1760	0.1936	0.2112	0.2288	0.2464	0.2640	0.2816	0.2992	0.3168	0.3344	0.3520	0.3696	0.3872	0.4048	0.4224	0.4400	0.4576	0.4752	0.4928	0.5104	0.5280	0.5456	0.5632	0.5808	0.5984	0.6160	0.6336	0.6512	0.6688	0.6864	0.7040	0.7216	0.7392	0.7568	0.7744	0.7920	0.8096	0.8272	0.8448	0.8624	0.8800	0.8976	0.9152	0.9328	0.9504	0.9680	0.9856	1.0032	1.0208	1.0384	1.0560	1.0736	1.0912	1.1088	1.1264	1.1440	1.1616	1.1792	1.1968	1.2144	1.2320	1.2496	1.2672	1.2848	1.3024	1.3200	1.3376	1.3552	1.3728	1.3904	1.4080	1.4256	1.4432	1.4608	1.4784	1.4960	1.5136	1.5312	1.5488	1.5664	1.5840	1.6016	1.6192	1.6368	1.6544	1.6720	1.6896	1.7072	1.7248	1.7424	1.7600	1.7776	1.7952	1.8128	1.8304	1.8480	1.8656	1.8832	1.9008	1.9184	1.9360	1.9536	1.9712	1.9888	2.0064	2.0240	2.0416	2.0592	2.0768	2.0944	2.1120	2.1296	2.1472	2.1648	2.1824	2.2000	2.2176	2.2352	2.2528	2.2704	2.2880	2.3056	2.3232	2.3408	2.3584	2.3760	2.3936	2.4112	2.4288	2.4464	2.4640	2.4816	2.4992	2.5168	2.5344	2.5520	2.5696	2.5872	2.6048	2.6224	2.6400	2.6576	2.6752	2.6928	2.7104	2.7280	2.7456	2.7632	2.7808	2.7984	2.8160	2.8336	2.8512	2.8688	2.8864	2.9040	2.9216	2.9392	2.9568	2.9744	2.9920	3.0096	3.0272	3.0448	3.0624	3.0800	3.0976	3.1152	3.1328	3.1504	3.1680	3.1856	3.2032	3.2208	3.2384	3.2560	3.2736	3.2912	3.3088	3.3264	3.3440	3.3616	3.3792	3.3968	3.4144	3.4320	3.4496	3.4672	3.4848	3.5024	3.5200	3.5376	3.5552	3.5728	3.5904	3.6080	3.6256	3.6432	3.6608	3.6784	3.6960	3.7136	3.7312	3.7488	3.7664	3.7840	3.8016	3.8192	3.8368	3.8544	3.8720	3.8896	3.9072	3.9248	3.9424	3.9600	3.9776	3.9952	4.0128	4.0304	4.0480	4.0656	4.0832	4.1008	4.1184	4.1360	4.1536	4.1712	4.1888	4.2064	4.2240	4.2416	4.2592	4.2768	4.2944	4.3120	4.3296	4.3472	4.3648	4.3824	4.4000	4.4176	4.4352	4.4528	4.4704	4.4880	4.5056	4.5232	4.5408	4.5584	4.5760	4.5936	4.6112	4.6288	4.6464	4.6640	4.6816	4.6992	4.7168	4.7344	4.7520	4.7696	4.7872	4.8048	4.8224	4.8400	4.8576	4.8752	4.8928	4.9104	4.9280	4.9456	4.9632	4.9808	4.9984	5.0160	5.0336	5.0512	5.0688	5.0864	5.1040	5.1216	5.1392	5.1568	5.1744	5.1920	5.2096	5.2272	5.2448	5.2624	5.2800	5.2976	5.3152	5.3328	5.3504	5.3680	5.3856	5.4032	5.4208	5.4384	5.4560	5.4736	5.4912	5.5088	5.5264	5.5440	5.5616	5.5792	5.5968	5.6144	5.6320	5.6496	5.6672	5.6848	5.7024	5.7200	5.7376	5.7552	5.7728	5.7904	5.8080	5.8256	5.8432	5.8608	5.8784	5.8960	5.9136	5.9312	5.9488	5.9664	5.9840	6.0016	6.0192	6.0368	6.0544	6.0720	6.0896	6.1072	6.1248	6.1424	6.1600	6.1776	6.1952	6.2128	6.2304	6.2480	6.2656	6.2832	6.3008	6.3184	6.3360	6.3536	6.3712	6.3888	6.4064	6.4240	6.4416	6.4592	6.4768	6.4944	6.5120	6.5296	6.5472	6.5648	6.5824	6.6000	6.6176	6.6352	6.6528	6.6704	6.6880	6.7056	6.7232	6.7408	6.7584	6.7760	6.7936	6.8112	6.8288	6.8464	6.8640	6.8816	6.8992	6.9168	6.9344	6.9520	6.9696	6.9872	7.0048	7.0224	7.0400	7.0576	7.0752	7.0928	7.1104	7.1280	7.1456	7.1632	7.1808	7.1984	7.2160	7.2336	7.2512	7.2688	7.2864	7.3040	7.3216	7.3392	7.3568	7.3744	7.3920	7.4096	7.4272	7.4448	7.4624	7.4800	7.4976	7.5152	7.5328	7.5504	7.5680	7.5856	7.6032	7.6208	7.6384	7.6560	7.6736	7.6912	7.7088	7.7264	7.7440	7.7616	7.7792	7.7968	7.8144	7.8320	7.8496	7.8672	7.8848	7.9024	7.9200	7.9376	7.9552	7.9728	7.9904	8.0080	8.0256	8.0432	8.0608	8.0784	8.0960	8.1136	8.1312	8.1488	8.1664	8.1840	8.2016	8.2192	8.2368	8.2544	8.2720	8.2896	8.3072	8.3248	8.3424	8.3600	8.3776	8.3952	8.4128	8.4304	8.4480	8.4656	8.4832	8.5008	8.5184	8.5360	8.5536	8.5712	8.5888	8.6064	8.6240	8.6416	8.6592	8.6768	8.6944	8.7120	8.7296	8.7472	8.7648	8.7824	8.8000	8.8176	8.8352	8.8528	8.8704	8.8880	8.9056	8.9232	8.9408	8.9584	8.9760	8.9936	9.0112	9.0288	9.0464	9.0640	9.0816	9.0992	9.1168	9.1344	9.1520	9.1696	9.1872	9.2048	9.2224	9.2400	9.2576	9.2752	9.2928	9.3104	9.3280	9.3456	9.3632	9.3808	9.3984	9.4160	9.4336	9.4512	9.4688	9.4864	9.5040	9.5216	9.5392	9.5568	9.5744	9.5920	9.6096	9.6272	9.6448	9.6624	9.6800	9.6976	9.7152	9.7328	9.7504	9.7680	9.7856	9.8032	9.8208	9.8384	9.8560	9.8736	9.8912	9.9088	9.9264	9.9440	9.9616	9.9792	9.9968	10.0144	10.0320	10.0496	10.0672	10.0848	10.1024	10.1200	10.1376	10.1552	10.1728	10.1904	10.2080	10.2256	10.2432	10.2608	10.2784	10.2960	10.3136	10.3312	10.3488	10.3664	10.3840	10.4016	10.4192	10.4368	10.4544	10.4720	10.4896	10.5072	10.5248	10.5424	10.5600	10.5776	10.5952	10.6128	10.6304	10.6480	10.6656	10.6832	10.7008	10.7184	10.7360	10.7536	10.7712	10.7888	10.8064	10.8240	10.8416	10.8592	10.8768	10.8944	10.9120	10.9296	10.9472	10.9648	10.9824	10.9999	11.0175	11.0350	11.0525	11.0700	11.0875	11.1050	11.1225	11.1400	11.1575	11.1750	11.1925	11.2100	11.2275	11.2450	11.2625	11.2800	11.2975	11.3150	11.3325	11.3500	11.3675	11.3850	11.4025	11.4200	11.4375	11.4550	11.4725	11.4900	11.5075	11.5250	11.5425	11.5600	11.5775	11.5950	11.6125	11.6300	11.6475	11.6650	11.6825	11.7000	11.7175	11.7350	11.7525	11.7700	11.7875	11.8050	11.8225	11.8400	11.8575	11.8750	11.8925	11.9100	11.9275	11.9450	11.9625	11.9800	11.9975	12.0150	12.0325	12.0500	12.0675	12.0850	12.1025	12.1200	12.1375	12.1550	12.1725	12.1900	12.2075	12.2250	12.2425	12.2600	12.2775	12.2950	12.3125	12.3300	12.3475	12.3650	12.3825	12.4000	12.4175	12.4350	12.4525	12.4700	12.4875	12.5050	12.5225	12.5400	12.5575	12.5750	12.5925	12.6100	12.6275	12.6450	12.6625	12.6800	12.6975	12.7150	12.7325	12.7500	12.7675	12.7850	12.8025	12.8200	12.8375	12.8550	12.8725	12.8900	12.9075	12.9250	12.9425	12.9600	12.9775	12.9950	13.0125	13.0300	13.0475	13.0650	13.0825	13.1000	13.1175	13.1350	13.1525	13.1700	13.1875	13.2050	13.2225	13.2400	13.2575	13.2750	13.2925	13.3100	13.3275	13.3450	13.3625	13.3800	13.3975	13.4150	13.4325	13.4500	13.4675	13.4850	13.5025	13.5200	13.5375	13.5550	13.5725	13.5900	13.6075	13.6250	13.6425	13.6600	13.6775	13.6950	13.7125	13.7300	13.7475	13.7650	13.7825	13.8000	13.8175	13.8350	13.8525	13.8700	13.8875	13.9050	13.9225	13.9400	13.9575	13.9750	13.9925	14.0100	14.0275	14.0450	14.0625	14.0800	14.0975	14.1150	14.1325	14.1500	14.1675	14.1850	14.2025	14.2200	14.2375	14.2550	14.2725	14.2900	14.3075	14.3250	14.3425	14.3600	14.3775	14.3950	14.4125	14.4300	14.4475	14.4650	14.4825	14.5000	14.5175	14.5350	14.5525	14.5700	14.5875	14.6050	14.6225	14.6400	14.6575	14.6750	14.6925	14.7100	14.7275	14.7450	14.7625	14.7800	14.7975	14.8150	14.8325	14.8500	14.8675	14.8850	14.9025	14.9200	14.9375	14.9550	14.9725	14.9900	15.0075	15.0250	15.0425	15.0600	15.0775	15.0950	15.1125	15.1300	15.1475	15.1650	15.1825	15.2000	15.2175	15.2350	15.2525	15.2700	15.2875	15.3050	15.3225	15.3400	15.3575	15.3750	15.3925	15.4100	15.4275	15.4450	15.4625	15.4800	15.4975	15.5150	15.5325	15.5500	15.5675	15.5850	15.6025	15.6200	15.6375	15.6550	15.6725	15.6900	15.7075	15.7250	15.7425	15.7600	15.7775	15.7950	15.8125	15.8300	15.8475	15.8650	15.8825	15.9000	15.9175	15.9350	15.9525	15.9700	15.9875	16.0050	16.0225	16.0400	16.0575	16.0750	16.0925	16.1100	16.1275	16.1450	16.1625	16.1800	16.1975	16.2150	16.2325	16.2500	16.2675	16.2850	16.3025	16.3200	16.3375	16.3550	16.3725	16.3900	16.4075	16.4250	16.4425	16.4600	16.4775	16.4950	16.5125	16.5300	16.5475	16.5650	16.5825	16.6000	16.6175	16.6350	16.6525	16.6700	16.6875	16.7050	16.7225	16.7400	16.7575	16.7750	16.7925	16.8100	16.8275	16.8450	16.8625	16.8800	16.8975	16.9150	16.9325	16.9500	16.9675	16.9850	16.9999	17.0175	17.0350	17.0525	17.0700	17.0875	17.1050	17.1225	17.1400	17.1575	17.1750	17.1925	17.2100	17.2275	17.2450	17.2625	17.2800	17.2975	17.3150	17.3325	17.3500	17.3675	17.3850	17.4025	17.4200	17.4375	17.4550	17.4725	17.4900	17.5075	17.5250	17.5425	17.5600	17.5775	17.5950	17.6125	17.6300	17.6475	17.6650	17.6825	17.7000	17.7175	17.7350	17.7525	17.7700	17.7875	17.8050	17.8225	17.8400	17.8575	17.8750	17.8925	17.9100	17.9275	17.9450	17.9625	17.9800	17.9975	18.0150	18.0325	18.0500	18.0675	18.0850	18.1025	18.1200	18.1375	18.1550	18.1725	18.1900	18.2075	18.2250	18.2425	18.2600	18.2775	18.2950	18.3125	18.3300	18.3475	18.3650	18.3825	18.4000	18.4175	18.4350	18.4525	18.4700	18.4875	18.5050	18.5225	18.5400	18.5575	18.5750	18.5925	18.6100	18.6275	18.6450	18.6625	18.6800	18.6975	18.7150
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Antenna Pattern of 6GHz

Appendix D

(H25.2)	0.720/79	-0.051/30	-3.19/-374	2.48/-127	-1.59/-201	-0.79/03	0.88/-026	-0.29/-058	-1.63/-358	6.30/-689	-3.41/-202	-1.97/-220	-2.07/04	0.76/001	-0.84/-343	-4.24/-385	-3.82/-491	-4.35/-136	-1.43/-135	-1.29/-293	-1.98/-005	0.06/-015	0.19/035	0.68/037	
(H25.1)	2.06/-02	-0.36/004	-2.09/-256	-0.69/-10	0.54/048	0.76/-18	2.04/058	1.63/-100	3.07/-143	4.29/-190	-1.29/-234	-2.37/-194	-1.95/-207	2.94/-272	-1.55/-325	-5.99/-454	6.14/-640	8.40/-387	-3.71/-232	-3.38/-480	-2.01/-068	0.27/-069	0.04/073	0.74/-184	
(H27.5)	-0.65/-103	0.62/000	-1.86/-169	-0.89/-10	0.81/015	0.82/008	1.86/072	1.50/-059	0.52/-175	-0.79/-246	-0.60/-061	0.37/009	0.94/-121	-2.97/-683	-4.05/-30	-5.96/-820	-8.65/-387	-3.70/-423	-3.29/-533	-2.64/-199	-3.39/-027	-3.92/-026	-1.42/068	-1.52/053	
(H27.4)	1.80/-108	0.80/064	-0.62/-272	-1.85/023	-1.63/-034	0.81/-16	2.05/070	0.28/-11	0.71/-076	0.24/-186	-3.59/-147	-0.86/-176	3.33/-288	-1.83/-275	-7.33/-447	-6.90/-880	6.14/-1164	-10.15/-1160	5.43/-487	-2.90/-287	-3.12/-283	5.95/-259	0.95/-050	-1.96/-139	
(H27.3)	-2.98/-184	-1.32/-140	0.27/-281	-2.92/-044	-0.89/-126	0.80/088	0.94/-112	1.48/086	0.88/023	-1.37/-074	-3.17/-185	-2.43/-261	-6.59/-650	-3.00/-221	4.56/-1274	8.59/-1008	8.79/-1052	8.79/-1052	8.79/-1052	5.53/-087	-1.74/-143	5.69/-323	2.70/-390	-0.33/-027	-1.52/-236
(H27.2)	6.30/-533	-2.64/-14	0.70/-245	-3.21/-035	-3.38/-128	2.04/-03	1.17/073	-0.71/-035	0.27/-026	0.20/-421	-4.12/-304	-7.21/-153	5.04/-302	-4.14/-457	-5.51/-681	-10.29/-867	8.71/-516	4.96/-125	0.86/-146	4.75/-350	-3.12/-266	-3.25/-182	0.40/-145	-3.81/-457	
(H27.1)	-13.23/071	-4.74/-689	-4.89/-673	-2.90/-173	2.25/017	-0.36/-040	-1.30/-167	-2.24/-042	-0.24/-157	-2.78/-685	-3.84/-842	-9.20/-898	2.08/-255	-3.51/-065	-5.18/-652	-3.29/-382	-1.87/-277	0.77/-092	-1.52/-228	-0.99/-261	-3.74/-283	-1.13/-177	-4.52/-041	-0.87/-107	
(H25.5)	-14.13/-185	-10.82/94	6.39/-782	5.47/-132	-2.68/-068	-1.24/-015	-1.29/-010	-1.69/-080	2.71/-282	-3.47/-650	-3.37/-672	-14.79/-878	2.74/-294	-6.63/-839	-8.89/-275	-4.78/-478	-2.08/-045	0.78/-032	0.10/036	-1.60/-167	-1.17/047	-3.47/-444	0.36/-073	-5.78/-190	
(H25.4)	5.38/-649	-11.19/-1401	-13.78/-841	4.84/-452	2.16/-251	-2.13/-123	-2.91/-129	-2.89/-340	5.20/-459	3.74/-646	-6.61/-840	-15.59/-842	4.05/-587	-7.89/-864	-7.50/-746	-4.03/-448	2.54/-154	0.13/-035	-2.47/-168	-1.86/-136	-1.59/-200	4.85/-681	3.61/-330	-4.82/-597	
(H25.3)	5.01/-638	-11.58/-1670	-14.23/987	6.94/-647	4.00/-195	-3.13/-338	-2.99/-336	-3.73/-425	7.79/-575	-5.26/-825	-7.39/-1038	-12.64/-880	-4.49/-488	-7.89/-771	-10.49/-862	-2.89/-538	6.22/034	6.53/-154	4.76/-104	-2.23/-235	-1.89/-684	4.19/-883	6.02/-608	-8.25/-127	
(H25.2)	6.89/-938	-13.86/-1118	-13.86/-1118	5.22/-172	1.96/-306	-5.99/-145	8.19/-778	6.93/-637	7.57/-728	-10.15/-1222	-10.69/-880	9.46/-846	5.12/881	-10.01/-888	-7.39/-891	5.59/-937	5.59/-937	5.59/-937	5.59/-937	5.59/-937	5.59/-937	5.59/-937	5.59/-937	5.59/-937	
(H25.1)	7.73/-870	-10.26/-1142	-10.26/-1142	4.89/-159	0.77/-155	-3.12/-356	3.36/-651	3.78/-441	4.75/-623	-14.12/-155	-1.47/-147	8.63/-479	7.86/-1295	7.77/-832	-4.89/-149	6.01/-810	5.49/-136	4.29/-791	3.98/-047	-1.27/-043	0.79/-193	6.86/-836	6.86/-836	6.86/-836	
(H24.5)	10.10/-928	9.29/-158	-11.13/-63	2.80/-138	5.14/-351	-3.63/-700	-9.27/-274	8.89/-732	8.23/-148	8.47/-880	9.76/-177	-12.74/-489	2.76/-690	11.98/-910	7.49/-1144	-12.77/-97	2.47/-080	4.94/-088	3.98/-078	0.48/-272	-5.39/-915	6.19/-644	7.79/-119	8.39/-189	
(H24.4)	-15.40/-200	-8.91/-748	8.91/-748	4.38/-663	5.91/-167	-10.37/-1051	-10.12/-1075	-12.74/-841	7.19/-948	-3.78/-951	0.38/-136	-10.45/-512	-4.48/-675	8.79/-1225	-10.58/-915	-3.79/-438	4.01/-440	4.43/-133	-3.14/-078	-7.79/-491	8.69/-795	5.45/-648	8.51/-245	-1.52/-236	
(H24.3)	9.64/-544	-5.76/-357	-12.58/-1374	-15.38/-1354	-11.56/-1020	-11.37/-1000	-9.77/-1167	4.76/-647	6.97/-866	-12.81/-1332	-11.26/-1301	-11.82/-1187	10.79/-177	1.94/-998	-12.84/-1116	-8.67/-839	-7.82/-974	5.90/-1148	-11.88/-870	9.02/-1050	-11.74/-836	6.57/-681	6.38/-677	6.07/-123	
(H24.2)	5.82/-475	-3.79/-370	-3.77/-558	4.87/-773	4.37/-782	-6.84/-703	8.92/-1308	-11.33/-1351	-12.79/-1210	-10.68/-1352	-12.66/-1318	6.28/-647	3.76/-416	1.05/-478	-1.98/-478	4.97/-426	4.19/-451	4.25/-633	1.16/-650	-5.89/-655	4.32/-628	2.59/-629	2.59/-629	-3.75/-630	
(H24.1)	5.91/-103	2.91/-443	-6.48/-673	8.89/-643	-8.67/-647	8.66/-784	-8.34/-777	-4.77/-846	6.23/-678	8.55/-636	-4.79/-445	-11.41/-440	-4.26/-533	4.31/-683	-5.61/-674	-6.68/-822	-10.86/-1243	-14.59/-1368	-11.70/-834	6.11/-495	-3.86/-331	-1.90/-693	0.14/013	0.84/075	
(H23.5)	-10.01/-1217	-10.01/-895	-9.86/-1130	-10.86/-1594	-14.83/-1541	-15.23/-1559	-12.97/-1080	-10.25/-1062	-10.03/-980	-8.77/-988	-9.40/-858	8.91/-864	-10.43/-1300	-9.54/-885	-8.36/-744	-7.71/-665	5.86/-533	-5.27/-445	-3.52/-279	2.44/-245	3.04/-248	4.42/-287			
FreeHq	6.47/0509	TotalSet 3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Gain	0*(H7)(H67.5)	0*(H7)(H62.5)	0*(H7)(H57.5)	0*(H7)(H52.5)	0*(H7)(H47.5)	0*(H7)(H42.5)	0*(H7)(H37.5)	0*(H7)(H32.5)	0*(H7)(H27.5)	0*(H7)(H22.5)	0*(H7)(H17.5)	0*(H7)(H12.5)	0*(H7)(H7.5)	0*(H7)(H2.5)	0*(H7)(H-2.5)	0*(H7)(H-7.5)	0*(H7)(H-12.5)	0*(H7)(H-17.5)	0*(H7)(H-22.5)	0*(H7)(H-27.5)	0*(H7)(H-32.5)	0*(H7)(H-37.5)	0*(H7)(H-42.5)	0*(H7)(H-47.5)	
(H7.5)	2.72/-125	-1.65/-191	-1.81/-179	-1.83/-156	-1.08/-120	-1.21/-130	-1.29/-111	-1.43/-137	1.12/-140	-1.16/-207	-1.88/-153	-1.21/-150	-1.84/-203	2.16/-189	-1.71/-185	-1.60/-179	2.17/-126	2.00/-171	-1.84/-223	-2.43/-235	2.39/-232	2.07/-244	2.48/-248		
(H7.4)	2.26/-180	-1.56/-192	-1.56/-192	-1.25/-241	-1.11/-169	-1.59/-227	-2.44/-251	-2.66/-258	-2.35/-236	-1.89/-240	-2.39/-242	-1.70/-217	-1.77/-167	-1.42/-191	-1.03/-134	-1.44/-123	-1.55/-115	1.76/-193	-1.40/-191	-1.76/-193	-1.40/-191	-1.76/-193	-1.40/-191		
(H7.3)	2.88/-334	-3.61/-443	-4.64/-487	4.43/-442	-3.26/-138	-3.48/-400	-4.09/-438	-2.65/-272	2.71/-280	-1.78/-196	-1.89/-151	-1.97/-162	-1.96/-234	-2.07/-226	-2.08/-211	-1.79/-132	-1.25/-147	-1.63/-180	-1.97/-171	-1.54/-149	-1.63/-143	-1.56/-119	0.80/-125	-1.21/-241	
(H7.2)	2.26/-159	-2.03/-259	-3.97/-451	4.89/-570	-2.98/-305	-3.16/-312	-3.14/-312	-2.04/-223	2.00/-228	-1.74/-134	-1.86/-154	-1.00/-161	-1.00/-161	-1.00/-161	-2.02/-242	-2.46/-284	-3.74/-324	1.26/-249	2.34/-245	2.34/-245	2.34/-245	2.34/-245	2.34/-245		
(H7.1)	2.86/-235	-3.42/-284	-3.59/-283	3.16/-352	-3.46/-357	-3.97/-437	-3.96/-427	-2.51/-295	3.52/-378	-2.67/-346	-6.61/-377	-1.08/-504	-1.78/-123	-1.28/-134	-1.51/-181	-1.43/-143	-1.08/-605	6.76/-681	-1.28/-123	-1.83/-121	-1.14/-141	-1.71/-125	2.67/-337	4.00/-410	
(H6.5)	2.77/-123	-2.69/-248	-3.72/-436	3.96/-373	4.87/-559	5.30/-414	-2.91/-236	3.21/-415	3.20/-318	-2.22/-452	-3.26/-236	-2.34/-198	1.82/-101	-1.62/-174	-1.77/-188	-3.86/-431	2.78/-154	-0.88/-126	-2.73/-298	-2.88/-316	3.62/-378	3.62/-378	3.62/-378		
(H6.4)	2.68/-264	-4.61/-534	-4.70/-537	5.31/-527	6.42/-551	5.89/-531	5.24/-547	6.28/-520	5.27/-512	6.20/-516	6.20/-516	6.20/-516	6.20/-516	6.20/-516	6.20/-516	6.20/-516	6.20/-516	6.20/-516	6.20/-516	6.20/-516	6.20/-516	6.20/-516	6.20/-516		
(H6.3)	2.04/-158	2.16/-152	3.89/-170	4.40/-229	5.41/-294	3.98/-241	3.98/-241	4.48/-332	5.98/-113	4.98/-164	6.28/-230	1.97/-246	6.28/-230	6.28/-230	6.28/-230	6.28/-230	6.28/-230	6.28/-230	6.28/-230	6.28/-230	6.28/-230	6.28/-230	6.28/-230		
(H6.2)	1.67/-113	-2.38/-246	4.20/-449	6.29/-620	1.91/-122	2.57/-123	-1.46/-235	3.91/-120	1.13/-130	6.03/-123	1.43/-176	2.99/-207	6.03/-123	6.03/-123	6.03/-123	6.03/-123	6.03/-123	6.03/-123	6.03/-123	6.03/-123	6.03/-123	6.03/-123	6.03/-123		
(H6.1)	1.19/-137	0.29/063	0.42/-197	2.86/-075	1.38/-139	0.69/-130	0.25/022	0.07/-046	1.18/-249	-1.93/-388	-0.95/-387	-0.89/-141	-1.32/-422	2.99/-440	-4.18/-744	8.78/-863	9.49/-681	5.94/-427	4.39/-381	2.99/-321	2.59/-427	4.29/-297	2.19/-132	-1.59/-108	
(H5.5)	2.56/-153	-1.14/-121	-1.44/-124	0.23/-132	1.26/-173	1.36/-155	0.99/-045	0.25/022	0.07/-046	1.18/-249	-1.93/-388	-0.95/-387	-0.89/-141	-1.32/-422	2.99/-440	-4.18/-744	8.78/-863	9.49/-681	5.94/-427	4.39/-381	2.99/-321	2.59/-427	4.29/-297	2.19/-132	
(H5.4)	4.33/-14	-0.84/001	-1.17/074	3.30/-185	1.66/-137	2.20/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141	2.30/-141		
(H5.3)	5.72/-274	-2.58/-250	-2.58/-250	4.38/-141	0.26/-40	1.19/066	0.40/-206	1.55/-184	1.55/-184	1.55/-184	1.55/-184	1.55/-184	1.55/-184	1.55/-184	1.55/-184	1.55/-184	1.55/-184	1.55/-184	1.55/-184	1.55/-184	1.55/-184	1.55/-184	1.55/-184		
(H5.2)	5.99/-422	-3.83/-441	-8.23/-494	3.30/-216	4.96/-258	1.07/030	1.73/034	0.57/044	1.27/063	0.30/-045	-2.48/-047	-8.85/-14	-7.29/-096	-3.93/-068	-5.57/-141	-6.98/-349	-6.92/-141	-6.94/-789	4.19/-658	4.00/-607	0.99/-361	-1.50/-168	3.41/-650	8.14/-122	
(H5.1)	-7.48/-1277	-10.50/-1474	-12.57/-123	4.90/-126	-1.97/013	-1.08/-134	-1.60/021	0.01/-142	3.04/-048	-7.75/-301	-11.83/-682	-1.12/-194	-1.51/-889	8.78/-616	-3.79/-535	-3.11/-429	2.14/-325	3.06/-799	1.60/-437	1.60/-437	1.60/-437	1.60/-437	1.60/-437	1.60/-437	
(H4.5)	-11.70/-155	-13.01/-133	-9.28/-127	4.30/-127	-1.08/-064	-1.32/-065	-4.39/-175	8.94/-237	6.13/-405	-4.50/-146	-9.17/-1207	-12.15/-440	-2.71/-288	7.88/-1043	8.59/-1146	3.86/-360	-3.27/-231	4.30/-385	-3.16/-451	-1.22/072	-1.93/-385	6.50/-675	11.10/-262	6.40/-771	
(H4.4)	-0.94/-103	-1.45/-155	-1.56/-155	3.07/-106	-1.06/-034	-3.49/-231	-2.79/-447	5.54/-435	5.59/-435	-1.00/-448	-1.00/-448	-1.00/-448	-1.00/-448	-1.00/-448	-1.00/-448	-1.00/-448	-1.00/-448	-1.00/-448	-1.00/-448	-1.00/-448	-1.00/-448	-1.00/-448	-1.00/-448		
(H4.3)	8.88/-898	-12.60/-145	-12.60/-129	6.77/-170	-1.59/-136	6.51/-197	-2.09/-306	6.43/-631	-1.67/-134	-7.25/-146	-15.43/-144	-13.58/-122	6.92/-148	-16.35/-118	-10.73/-137	-5.08/-862	7.19/-168	3.57/-854	3.82/-826	-0.70/-156	-4.00/-651	4.63/-685	7.63/-697	-10.49/-888	
(H4.2)	-1																								



Antenna Pattern of 6GHz

Appendix D

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

