



Radiated Composite Gain Data Radio 1 (4TX)

Appendix A.1

Theta	18.66/18.96	18.66/18.23	18.39/17.33	18.12/17.59	17.92/18.12	18.88/18.46	17.98/18.68	18.25/17.99	17.52/18.05	18.69/18.23	16.42/18	18.66/17.94	18.64/17.9	18.18/17.76	18.63/17.57	17.92/16.51	14.25/13.58	15.95/14.93	17.57/16.79	15.49/14	13.74/15.88	17.76/18.01	18.93/18.61	17.37/17.47	
Phi	17.92/17.73	17.88/17.92	17.05/17.33	14.83/14.03	14.12/15.26	18.12/19.27	16.31/14.78	14.99/16.43	16.84/18.83	18.37/17.6	18.06/18.69	16.44/16.05	15.78/14.07	15.09/16.42	15.67/15.97	18.01/18.33	17.86/17.61	18.83/17.8	18.6/17.13	18.38/18.49	18.66/19.14	18.38/18.49	17.83/14.54	15.78/16.83	
Freq	18.84/18	18.59/18.03	19.45/18.15	17.21/18.08	17.41/18.88	18.21/18.22	18.24/18.39	16.77/16.62	17.58/17.92	17.29/17.09	17.08/18.39	16.64/18.8	16.86/17.35	17.41/16.91	16.35/15	15.01/16.55	17.86/19.36	18.74/16.66	16.27/17.04	18.04/18.56	18.04/17.58	18.12/18.11	18.97/17.36	16.82/18.12	
Gain	0(0°)	0(7.5°)	0(15°)	0(22.5°)	0(30°)	0(37.5°)	0(45°)	0(52.5°)	0(60°)	0(67.5°)	0(75°)	0(82.5°)	0(90°)	0(97.5°)	0(105°)	0(112.5°)	0(120°)	0(127.5°)	0(135°)	0(142.5°)	0(150°)	0(157.5°)	0(165°)	0(172.5°)	0(180°)
Theta	18.66/18.96	18.66/18.23	18.39/17.33	18.12/17.59	17.92/18.12	18.88/18.46	17.98/18.68	18.25/17.99	17.52/18.05	18.69/18.23	16.42/18	18.66/17.94	18.64/17.9	18.18/17.76	18.63/17.57	17.92/16.51	14.25/13.58	15.95/14.93	17.57/16.79	15.49/14	13.74/15.88	17.76/18.01	18.93/18.61	17.37/17.47	
Gain	0(0°)	0(7.5°)	0(15°)	0(22.5°)	0(30°)	0(37.5°)	0(45°)	0(52.5°)	0(60°)	0(67.5°)	0(75°)	0(82.5°)	0(90°)	0(97.5°)	0(105°)	0(112.5°)	0(120°)	0(127.5°)	0(135°)	0(142.5°)	0(150°)	0(157.5°)	0(165°)	0(172.5°)	0(180°)
Phi	17.92/17.73	17.88/17.92	17.05/17.33	14.83/14.03	14.12/15.26	18.12/19.27	16.31/14.78	14.99/16.43	16.84/18.83	18.37/17.6	18.06/18.69	16.44/16.05	15.78/14.07	15.09/16.42	15.67/15.97	18.01/18.33	17.86/17.61	18.83/17.8	18.6/17.13	18.38/18.49	18.66/19.14	18.38/18.49	17.83/14.54	15.78/16.83	
Freq	18.84/18	18.59/18.03	19.45/18.15	17.21/18.08	17.41/18.88	18.21/18.22	18.24/18.39	16.77/16.62	17.58/17.92	17.29/17.09	17.08/18.39	16.64/18.8	16.86/17.35	17.41/16.91	16.35/15	15.01/16.55	17.86/19.36	18.74/16.66	16.27/17.04	18.04/18.56	18.04/17.58	18.12/18.11	18.97/17.36	16.82/18.12	
Gain	0(0°)	0(7.5°)	0(15°)	0(22.5°)	0(30°)	0(37.5°)	0(45°)	0(52.5°)	0(60°)	0(67.5°)	0(75°)	0(82.5°)	0(90°)	0(97.5°)	0(105°)	0(112.5°)	0(120°)	0(127.5°)	0(135°)	0(142.5°)	0(150°)	0(157.5°)	0(165°)	0(172.5°)	0(180°)
Phi	17.92/17.73	17.88/17.92	17.05/17.33	14.83/14.03	14.12/15.26	18.12/19.27	16.31/14.78	14.99/16.43	16.84/18.83	18.37/17.6	18.06/18.69	16.44/16.05	15.78/14.07	15.09/16.42	15.67/15.97	18.01/18.33	17.86/17.61	18.83/17.8	18.6/17.13	18.38/18.49	18.66/19.14	18.38/18.49	17.83/14.54	15.78/16.83	
Freq	18.84/18	18.59/18.03	19.45/18.15	17.21/18.08	17.41/18.88	18.21/18.22	18.24/18.39	16.77/16.62	17.58/17.92	17.29/17.09	17.08/18.39	16.64/18.8	16.86/17.35	17.41/16.91	16.35/15	15.01/16.55	17.86/19.36	18.74/16.66	16.27/17.04	18.04/18.56	18.04/17.58	18.12/18.11	18.97/17.36	16.82/18.12	



Freq(Hz)	2.45G
Ant. 2 Max Gain (dBi)	3.28
Ant. 3 Max Gain (dBi)	3.95
Ant. 2 Polarization/ θ (°)/ Φ (°)	Theta/52.5/7.5
Ant. 3 Polarization/ θ (°)/ Φ (°)	Theta/60/0
Max Gain (dBi)	3.95
DG [1SS] (dBi)	6.28
DG [2SS] (dBi)	3.95



Freq(Hz)	5.2G	5.3G	5.6G	5.785G
Ant. 1 Max Gain (dBi)	1.39	1.71	3.09	3.45
Ant. 4 Max Gain (dBi)	1.47	1.36	2.39	2.26
Ant. 1 Polarization/ θ (°)/ Φ (°)	Theta/52.5/60	Theta/67.5/45	Theta/60/45	Theta/60/45
Ant. 4 Polarization/ θ (°)/ Φ (°)	Theta/82.5/45	Theta/82.5/255	Theta/82.5/247.5	Theta/52.5/345
Max Gain (dBi)	1.47	1.71	3.09	3.45
DG [1SS] (dBi)	2.85	2.93	5.09	5.42
DG [2SS] (dBi)	1.47	1.71	3.09	3.45



Radiated Composite Gain Data Radio 1 (2TX)

Appendix A.3

DG 1SS Result

Freq(Hz)	5.2GHz Pol	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta	Phi	Theta				
DG(DB)	Phi(7.5)	Phi(15)	Phi(30)	Phi(45)	Phi(60)	Phi(75)	Phi(90)	Phi(105)	Phi(120)	Phi(135)	Phi(150)	Phi(165)	Phi(180)	Phi(195)	Phi(210)	Phi(225)	Phi(240)	Phi(255)	Phi(270)	Phi(285)	Phi(300)	Phi(315)	Phi(330)	Phi(345)	Phi(7.5)	Phi(15)	Phi(30)	Phi(45)	Phi(60)	Phi(75)	Phi(90)	Phi(105)	Phi(120)	Phi(135)	Phi(150)	Phi(165)	Phi(180)	Phi(195)	Phi(210)	Phi(225)	Phi(240)	Phi(255)	Phi(270)	Phi(285)	Phi(300)	Phi(315)	Phi(330)	Phi(345)			
5.2GHz Pol	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta		
5.2GHz Pol	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta	Theta



Radiated Composite Gain Data Radio 1 (2TX)

Appendix A.3

Gain Result

Freq(Hz)	5.2GHz Pol	PhiAnt. 1	Phi(0°)Phi(7.5°)	Phi(15°)Phi(22.5°)	Phi(30°)Phi(37.5°)	Phi(45°)Phi(52.5°)	Phi(60°)Phi(67.5°)	Phi(75°)Phi(82.5°)	Phi(90°)Phi(97.5°)	Phi(105°)Phi(112.5°)	Phi(120°)Phi(127.5°)	Phi(135°)Phi(142.5°)	Phi(150°)Phi(157.5°)	Phi(165°)Phi(172.5°)	Phi(180°)Phi(187.5°)	Phi(195°)Phi(202.5°)	Phi(210°)Phi(217.5°)	Phi(225°)Phi(232.5°)	Phi(240°)Phi(247.5°)	Phi(255°)Phi(262.5°)	Phi(270°)Phi(277.5°)	Phi(285°)Phi(292.5°)	Phi(300°)Phi(307.5°)	Phi(315°)Phi(322.5°)	Phi(330°)Phi(337.5°)	Phi(345°)Phi(352.5°)																						
Gain	Phi(0°)Phi(7.5°)	Phi(15°)Phi(22.5°)	Phi(30°)Phi(37.5°)	Phi(45°)Phi(52.5°)	Phi(60°)Phi(67.5°)	Phi(75°)Phi(82.5°)	Phi(90°)Phi(97.5°)	Phi(105°)Phi(112.5°)	Phi(120°)Phi(127.5°)	Phi(135°)Phi(142.5°)	Phi(150°)Phi(157.5°)	Phi(165°)Phi(172.5°)	Phi(180°)Phi(187.5°)	Phi(195°)Phi(202.5°)	Phi(210°)Phi(217.5°)	Phi(225°)Phi(232.5°)	Phi(240°)Phi(247.5°)	Phi(255°)Phi(262.5°)	Phi(270°)Phi(277.5°)	Phi(285°)Phi(292.5°)	Phi(300°)Phi(307.5°)	Phi(315°)Phi(322.5°)	Phi(330°)Phi(337.5°)	Phi(345°)Phi(352.5°)																								
Theta(°)	0	7.5	15	22.5	30	37.5	45	52.5	60	67.5	75	82.5	90	97.5	105	112.5	120	127.5	135	142.5	150	157.5	165	172.5	180	187.5	195	202.5	210	217.5	225	232.5	240	247.5	255	262.5	270	277.5	285	292.5	300	307.5	315	322.5	330	337.5	345	352.5
Gain	Phi(0°)Phi(7.5°)	Phi(15°)Phi(22.5°)	Phi(30°)Phi(37.5°)	Phi(45°)Phi(52.5°)	Phi(60°)Phi(67.5°)	Phi(75°)Phi(82.5°)	Phi(90°)Phi(97.5°)	Phi(105°)Phi(112.5°)	Phi(120°)Phi(127.5°)	Phi(135°)Phi(142.5°)	Phi(150°)Phi(157.5°)	Phi(165°)Phi(172.5°)	Phi(180°)Phi(187.5°)	Phi(195°)Phi(202.5°)	Phi(210°)Phi(217.5°)	Phi(225°)Phi(232.5°)	Phi(240°)Phi(247.5°)	Phi(255°)Phi(262.5°)	Phi(270°)Phi(277.5°)	Phi(285°)Phi(292.5°)	Phi(300°)Phi(307.5°)	Phi(315°)Phi(322.5°)	Phi(330°)Phi(337.5°)	Phi(345°)Phi(352.5°)																								
Theta(°)	0	7.5	15	22.5	30	37.5	45	52.5	60	67.5	75	82.5	90	97.5	105	112.5	120	127.5	135	142.5	150	157.5	165	172.5	180	187.5	195	202.5	210	217.5	225	232.5	240	247.5	255	262.5	270	277.5	285	292.5	300	307.5	315	322.5	330	337.5	345	352.5



Freq(Hz)	6.175G	6.475G	6.695G	6.995G
Ant. 1 Max Gain (dBi)	3.66	2.95	5.16	5.06
Ant. 2 Max Gain (dBi)	3.38	4	5.81	4.76
Ant. 3 Max Gain (dBi)	3.54	2.54	3.51	3.97
Ant. 4 Max Gain (dBi)	4.27	3.5	5.5	5.22
Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/75/90	Theta/75/120	Theta/60/82.5	Theta/75/127.5
Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/67.5/0	Theta/67.5/157.5	Theta/67.5/97.5	Theta/75/97.5
Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/82.5/307.5	Theta/75/135	Theta/82.5/270	Theta/82.5/300
Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$	Theta/75/82.5	Theta/67.5/82.5	Theta/75/262.5	Theta/75/262.5
Max Gain (dBi)	4.27	4	5.81	5.22
DG [1SS] (dBi)	8.35	8.3	8.63	8.73
DG [2SS] (dBi)	5.35	5.3	5.81	5.73
DG [4SS] (dBi)	4.27	4	5.81	5.22

