



Radiated Composite Gain Data Radio 3 & Radio 4

Appendix C

| Theta (°) | 0.07/0.39 | -1.19/5.83 | -9.55/8.26 | -10.48/7.24 | -2.25/4.52 | -7.58/6.09 | -6.86/3.63 | -1.34/0.52 | 0.99/0.63 | -1.55/0.84 | -0.74/4.28 | -4.63/2.01 | 0.84/2.98 | -1.98/0.9 | -1.36/2.62 | -1.5/0.48 | -3.06/2.34 | 1.09/2.97 | -3.43/6.71 | -18.78/10.46 | -12.16/14.39 | -16.98/9.01 | -5.75/4.73 | -0.42/0.51 |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Theta (60°) | -2.33/4.94 | -1.75/6.58 | -17.88/8.84 | -5.07/1.41 | 0.54/1.14 | -4.13/3.62 | -4.44/3.95 | -4.39/0.19 | 3.11/1.64 | -0.56/0.62 | -0.74/6.49 | -4.89/1.39 | 0.64/1.49 | -4.42/2.1 | 0.19/2.9 | -2.64/1.9 | -2.64/1.9 | -0.6/2.17 | -5.58/3.69 | -7.42/4.84 | -4.06/5.44 | -7.87/9.06 | -8.7/8.08 | -3.01/2.29 |
| Theta (75°) | -5.84/4.51 | -3.49/5.5 | -10.33/10.67 | -3.03/0.54 | 0.05/0.49 | -0.75/1.65 | -2.83/2.06 | -3.58/1.7 | 2.69/2.69 | 0.03/0.03 | -1.63/8.65 | -2.99/3.88 | -3.25/0.85 | -2.87/2.54 | 1.43/1.33 | -2.87/0.69 | -0.76/3.78 | -0.38/0.97 | -4.29/4.99 | -4.28/1.78 | -2/3.45 | -8.87/11.34 | -8.79/8.85 | -7.15/6.12 |
| Theta (90°) | -4.41/4.78 | -5.74/4.49 | -6.8/6.58 | -2.85/0.1 | -0.43/0.65 | 0.15/1.73 | -3.01/2.12 | -2.73/4.35 | 1.28/2.11 | 0.52/2.11 | -1.54/1.99 | -3.62/4 | -4.37/0.27 | -1.59/2.41 | 0.16/0.03 | -0.39/1.14 | 1.55/3.16 | -0.23/0.01 | 0.43/0.1 | 0.41/0.88 | -2.98/2.92 | -6.49/9.07 | -6.06/7.91 | 9.22/6.39 |
| Theta (105°) | -4.21/4.8 | -7.59/4.79 | -4.86/3.28 | -3.75/0.76 | -0.46/0.16 | 0.31/2.44 | -4.24/4.27 | -3.49/5.31 | -0.36/0.59 | -1.39/1.8 | -2.24/7.9 | -3.66/2.56 | -2.95/0.86 | -2.57/1.52 | -1.35/0.49 | 0.05/1.66 | 2.69/3.66 | 1.06/0.94 | 1.84/1.5 | 0.01/0.89 | 4.73/3.69 | -6.07/6.78 | -4.83/8.74 | -7.57/6.84 |
| Theta (120°) | -7.26/7.08 | -10.61/5.3 | -4.49/3.99 | -5.77/1.26 | -2/1.19 | 0.52/3.57 | -4.77/5.66 | -5.18/8.14 | -2.98/1 | -1.44/0.5 | -4.04/4.84 | -5.16/3.02 | -2.78/2 | -4.01/2.52 | -3.99/0.98 | 0.07/1.17 | 0.9/4.62 | -2.75/0.18 | 1.21/0.14 | 0.88/2.45 | -6.84/3.92 | -7.07/8.66 | -5.37/10.57 | -7.56/7.67 |
| Theta (135°) | -9.76/7.31 | -13.81/6.81 | -6.28/5.08 | -7.03/1.73 | -2.14/2.7 | -2.47/5.61 | -6.07/7.9 | -7.86/10.64 | -5/3.55 | -5.03/1.16 | -5.32/10.94 | -7.88/3.87 | -2.31/4.91 | -5.97/2.77 | -4.39/3.72 | -2.61/2.31 | -2.6/7.67 | -5.83/3.2 | -1.13/3.35 | -2.67/4.94 | -8.18/4.52 | -8.94/9.06 | -6.22/15.12 | -8.98/8.24 |
| Theta (150°) | -9.46/9.47 | -15.38/11.11 | -7.15/7.26 | -8.57/9.74 | -4.06/3.64 | -3.66/7.27 | -9.37/14.34 | -13.43/15.89 | 9/5.53 | -7.03/2.27 | -6.34/11.83 | -8.42/5.87 | -3.11/5.06 | 9.99/4.8 | -5.39/5.4 | -7.57/5.18 | 9.7/12.44 | -8.99/9.2 | -4.82/6.57 | -5.38/6.36 | -8.62/6.69 | -8.66/11.97 | -8.66/11.97 | 8.67/8.44 |
| Theta (165°) | -12.37/7.8 | -13.56/12.62 | -7.87/9.14 | -7.77/7.54 | -8.58/5.61 | -5.85/9.2 | -9.05/13.69 | -17.42/15.07 | -9.15/5.58 | -9.03/5.5 | -10.02/18.59 | -15.06/8.64 | -5.91/7.62 | -14.19/17.37 | -7.28/5.56 | -8.46/5.45 | -8.58/13.28 | -8.4/12.51 | -8.57/7.23 | -6.29/9.92 | -11.66/7.32 | -15.77/12.91 | -13.64/14.13 | -13.76/9.89 |
| Theta (180°) | -11.25/10.53 | -14.19/16.03 | 9.83/12.69 | -12.83/10.99 | -11.02/10.07 | 9.66/11.23 | 8.91/11.48 | -15.26/14.8 | 9.57/6.77 | 12.06/5.94 | 8.58/14.59 | -18.83/10.12 | -12.96/10.41 | -18.81/7.5 | -12.88/5.5 | -8.91/7.81 | 4.94/14.65 | -8.08/8 | -9.55/4.62 | -10.11/13.57 | 9.51/9.74 | -18.93/16.23 | -15.73/10.77 | -13.47/11.17 |
| Theta (210°) | -12.18/8.3 | -13.38/14.46 | -14.86/15.65 | -16.84/18.67 | -10.93/13.36 | -9.86/12.25 | -17.34/18.42 | -15.11/17.39 | -12.89/11.9 | -18.71/7.61 | -7.68/9.82 | -19.24/17.95 | -8.26/18.26 | -17.88/6.12 | -11.6/8.92 | -12.38/17.18 | -8.84/10.61 | -7.48/9.87 | -10.17/7.69 | -13.07/14.17 | -12.06/14.91 | -18.6/19.11 | -18.86/12.89 | -16.09/10.58 |
| Theta (225°) | -11.05/10.06 | -12.45/14.33 | -16.43/15.14 | -12.92/19.04 | -19.39/15.26 | -11.71/3.6 | -14.52/13.32 | -13.82/19.16 | -11.88/10.83 | -19.05/15.81 | -16.02/12.48 | -17.15/19.05 | -18.13/19.31 | -18.38/9.26 | -13.53/14.96 | -17.88/15.77 | -11.94/10.71 | 9.22/16.41 | -13.51/10.55 | -19.06/18.84 | -17.88/11.46 | -15.66/7.97 | -14.77/17.91 | -14.76/11.87 |
| Theta (240°) | -10.63/13.37 | -10.32/13.04 | -14.54/13.9 | -13.41/15.93 | -14.18/14.42 | -18.81/18.28 | -18.97/18.16 | -16.29/18.36 | -13.58/11.29 | -18.41/16.99 | -14.46/13.03 | -15.72/14.99 | -18.08/11.32 | 12.92/12.25 | -11.76/17.21 | -18.23/14.79 | -10.7/14.44 | -19.22/15.91 | -15.42/10.17 | -12.14/16.09 | -18.9/13.62 | -11.33/11.76 | -15.62/12.06 | -14.67/13.46 |
| Theta (255°) | -11.21/12.94 | -14.16/10.85 | -10.4/12.81 | -15.44/13.52 | -9.83/8.53 | -8.54/9.97 | -12.92/16.1 | -18.96/17.72 | -14.05/12.98 | -14.51/11.88 | -11.96/18.14 | -17.72/18.38 | -18.08/17.3 | -16.96/17.44 | -18.69/18.36 | -16.91/16.22 | -17.54/17.01 | -19.02/19.05 | -15.23/15.47 | -17.55/18.86 | -18.39/17.22 | -15.54/12.98 | -16.04/13.63 | -12.92/13.21 |
| Theta (270°) | -15.72/12.79 | -12.11/12.73 | -14.75/14.31 | -12.76/12.21 | -11.31/10.35 | -10.92/13.15 | -15.06/14.25 | -13.52/15.28 | -17.71/16.81 | -19.21/14.96 | -15.19/19.56 | -18.02/17.82 | -17.21/18.01 | -17.33/19.39 | -17.81/16.46 | -16.39/15.71 | -15.34/17.01 | -17.33/17.92 | -18.08/16.56 | -14.11/14.29 | -15.65/13.11 | -15.54/18.22 | -14.48/17.76 | -18.48/19.94 |
| Theta (285°) | -17.11/14.28 | -15.02/16.14 | -16.52/17.82 | -18.8/16.42 | -14.95/15.4 | -15.14/15.8 | -18.2/19.09 | -19.28/18.8 | -18.44/18.88 | -17/15.9 | -16.87/18.71 | -18.62/17.53 | -18.23/18.31 | -18.28/17.79 | -19.44/19.03 | -18.02/19.13 | -18.52/18.12 | -18.57/18.29 | -18.25/17.85 | -18.29/16.44 | -18.5/17.81 | -17.61/19.39 | -17.58/17.55 | -15.31/16.24 |
| Theta (300°) | -15.19/18.61 | -17.2/18.33 | -18.78/18.19 | -19.25/17.56 | -16.88/15.93 | -16.61/18.23 | -18.65/18.89 | -18.41/18.99 | -19.04/18.98 | -17.74/19.91 | -18.08/18.67 | -16.86/16.43 | -16.06/16.31 | -16.22/15.34 | -14.81/16.77 | -18.31/18.2 | -15.64/14.83 | -15.03/16.61 | -16.8/19.12 | -18.93/19.08 | -18.37/19.08 | -18.53/18.93 | -17.62/19.12 | -14.6/14.18 |
| Theta (315°) | -18.42/18.96 | -18.73/18.68 | -18.79/18.84 | -18.28/17.79 | -17.72/17.28 | -17.58/17.88 | -17.37/17.65 | -18.75/19.05 | -19.07/18.9 | -17.73/17.68 | -18.02/17.78 | -17.76/17.96 | -18.89/18.87 | -17.82/19.1 | -17.63/17.85 | -17.57/17.43 | -17.59/18.69 | -18.04/18.35 | -19.09/19.28 | -18.84/18.52 | -19.04/18.44 | -17.54/19.09 | -18.26/18.55 | |
| Theta (330°) | -14.15/4.17 | -4.35/3.84 | -4.22/5.24 | -5.65/4.52 | -5.94/6.63 | -7.32/4.79 | -7.01/7.56 | -7.71/7.62 | -7.45/7.64 | -7.26/6.87 | -6.78/6.53 | -5.44/4.83 | 4.07/4.12 | 4.59/4.16 | 4.11/4.68 | -4.38/4.33 | 4.95/6.6 | 6.93/7 | 6.67/6.53 | 6.9/6.87 | 7.05/7.67 | 6.35/4.52 | 4.86/4.67 | 4.13/4.32 |
| Theta (345°) | -6.28/5.6 | -4.93/4.29 | -3.83/3.83 | -3.98/4.06 | -4.29/4.75 | -5.94/7.18 | -7.88/9.03 | -10.46/11.01 | -12.33/12.49 | -12.31/11.57 | -10.88/8.69 | -8.72/7.81 | -8.38/8.87 | -7.62/8.65 | -6.63/6.06 | -5.67/5.65 | -5.48/5.88 | -6.85/7.32 | -7.95/8.11 | -7.72/7.24 | -7.59/7.29 | -6.62/6.88 | | |
| Theta (360°) | -6.53/6.73 | -5.11/4.19 | -4.17/5.15 | -6.04/6.9 | 8/8.57 | -7.7/6.25 | -5.63/5.85 | -7.46/9.12 | -10.56/15.29 | -11.9/13.96 | -11.9/9.52 | -7.05/4.9 | -4.29/4.59 | -4.75/5.05 | -4.63/5.53 | -4.71/7.36 | -6.38/4.69 | -3.94/3.95 | -4.51/6.04 | -4.66/4.68 | -4.77/5.32 | -4.64/4.68 | -4.93/5.87 | |
| Theta (375°) | -4.98/5.68 | -5.61/5.5 | -6.03/8.45 | -11.58/13.66 | -12.43/9.26 | -7.33/4.49 | -4.09/3.96 | -5.27/7.02 | 8.7/9.08 | 8.14/8.84 | 9.68/9.52 | 8/6.32 | -4.87/3.44 | -3.98/6.62 | -6.55/4.57 | -3.23/2.1 | -2.02/2.21 | -2.79/3.19 | -3.75/4.85 | 6.42/7.2 | 6.68/6.74 | 4.82/4.07 | 2.2/3.4 | |
| Theta (390°) | -6.28/9.14 | -8.38/5.56 | 4.8/7.81 | -12.49/18.9 | -18.75/15.64 | 9.21/5.19 | 4.76/5.93 | -5.14/4.91 | -7.75/8.8 | -7.06/7.67 | -11.43/14.02 | -15.97/10.86 | -5.79/3.02 | -1.94/2.59 | -5.81/6.74 | -3.65/2.03 | -2.79/7.6 | 6.63/4.3 | -6.31/10.63 | -12.71/9.68 | -8.15/6.98 | -4.84/3.71 | -3.71/4.21 | |
| Theta (405°) | -5.18/8.75 | -7.49/4.87 | -4.05/5.79 | -10.17/29 | -18.48/18.48 | -17.84/11.82 | -8.77/10.13 | -5.14/6.4 | -10.85/10.83 | -7.46/7.49 | -2.71/4.64 | -2.66/6.92 | -4.58/3.46 | -5.77/5.7 | -6.89/6.09 | -4.28/2.09 | -7.27/6.76 | -6.38/10.87 | -6.78/11.05 | -8.83/6.18 | -4.68/8.15 | -5.55/3.69 | -2.43/2.26 | |
| Theta (420°) | -5.03/4.54 | -3.68/4.08 | -4.83/7.39 | -14.27/10.81 | -18.84/19.04 | -17.78/18.14 | -18.75/13.69 | 6.68/6.19 | -7.12/12.18 | -18.71/9.91 | -4.33/7.7 | -11.79/9.79 | -5.4/2.1 | -4.29/10.96 | -12.64/6.64 | 6.63/5.4 | -6.74/11.6 | -9.32/8.63 | -7.59/3.81 | -7.26/6.05 | -3.87/4.52 | -5.77/7.46 | 8.09/4.65 | -2.49/2.79 |
| Theta (435°) | -6.01/6.57 | -4.08/3.44 | -5.23/7.34 | -13.92/10.77 | -13.65/18.73 | -19.28/12.95 | -13.34/17.24 | -4.78/9.97 | -14.75/17.12 | -4.52/4.59 | -2.82/2.77 | -15.25/13.37 | -5.49/5.33 | -6.41/3.28 | -3.03/11.29 | -7.61/11.17 | -12.83/6.73 | -4.56/5.81 | -6.39/4.88 | -4.45/5.25 | -4.87/7.64 | -8.01/6.57 | -2.85/3.31 | |
| Theta (450°) | -6.78/7.89 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 | -6.66/5.34 |
| Theta (465°) | -6.61/6.1 | 8.79/7.85 | -6.31/4.68 | 4.94/7.28 | 8.47/12.33 | -10.72/16.83 | -11.2/18.34 | -16.18/15.63 | 5.84/5.66 | 12.91/10.94 | 6.53/7.5 | -10.26/6.11 | 9.85/7.43 | 4.85/5.24 | 18.63/19.7 | 12.02/9.92 | 18.53/16.83 | 4.25/7.25 | 6.08/12.17 | 18.56/18.88 | 10.74/16.62 | 11.67/15.43 | 13.95/6.63 | 2.94/4.92 |
| Theta (480°) | -6.9/4.4 | -8.62/9.61 | -5.55/4.85 | -5.28/4.75 | -11.07/10.57 | -7.32/8.86 | -9.84/14.82 | -12.58/18.9 | -8.59/7.28 | -13.45/9.57 | -2.36/3.98 | -4.58/3.72 | -7.48/7.91 | 4.09/3.89 | -18.45/9.4 | -11.71/14.94 | -17.48/8.68 | -3.45/10.4 | -11.26/17.64 | -16.75/18.08 | -12.48/13.62 | -18.06/18.37 | -18.21/10.69 | -4.12/6.99 |
| Theta (495°) | -9.18/4.57 | -9.61/10.48 | -5.49/5.71 | -6.8/8.33 | -13.87/11.36 | -7.82/6.33 | -8.78/14.94 | -10.89/18.33 | -12.41/8.75 | -3.82/3.34 | -2.57/4.77 | -4.94/2.3 | -7.83/10.01 | -18.47/6.51 | -8.17/17.23 | -16.33/5.49 | -5.05/14.46 | -19.32/16.22 | -13.16/13.23 | -9.22/10.12 | -18.82/18.37 | -19.37/15.47 | -6.6/8.78 | |
| Theta (510°) | -10.68/4.58 | 9.3/13.14 | -5.78/6.77 | 8.9/10.4 | -15.3/11.89 | -8.39/6.2 | 8.75/10.43 | 9.28/15.15 | -17.46/12.92 | -12.41/12.59 | 5.1/5.98 | -8.78/2.9 | -8.36/11.69 | 5.35/5.38 | -19.11/8.19 | -7.44/13.89 | -15.08/6.27 | 8.11/18.74 | -17.33/11.28 | -10.11/11.25 | -7.38/8.68 | -15.33/18.55 | -13.64/17.62 | -7.91/10.04 |
| Theta (525°) | -12.39/6.67 | -10.54/15.06 | -7.05/7.43 | -10.23/10.35 | -14.76/15.23 | 8.99/7.13 | | | | | | | | | | | | | | | | | | |



Antenna Pattern_Radio 1

Appendix D

| Theta (°) | Phi (°) | 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°) |
|-----------|---------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 105 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 135 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 165 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 195 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 225 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 240 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 255 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 270 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 315 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 345 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Antenna Pattern_Radio 1

Appendix D

| Theta (°) | Phi (°) | Gain | Phi(0°) | Phi(15°) | Phi(30°) | Phi(45°) | Phi(60°) | Phi(75°) | Phi(90°) | Phi(105°) | Phi(120°) | Phi(135°) | Phi(150°) | Phi(165°) | Phi(180°) | Phi(195°) | Phi(210°) | Phi(225°) | Phi(240°) | Phi(255°) | Phi(270°) | Phi(285°) | Phi(300°) | Phi(315°) | Phi(330°) | Phi(345°) |
|-----------|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------|
| 0 | 0 | 0.96/1.85 | 0.840/42 | 0.63/1.26 | 1.422/47 | 0.50/0.25 | 0.190/67 | -1.69/4.46 | -2.76/4.22 | 0.391/04 | 1.58/1.84 | -0.450/99 | -0.261/08 | 0.820/14 | 0.130/53 | 0.811/63 | -0.04/0.83 | 0.49/2.45 | -2.95/14.55 | -6.63/3.86 | -2.01/1.44 | -2.340/21 | 3.180/11 | -1.77/0.79 | -4.73/3.22 | |
| 0 | 75 | -1.530/69 | -0.630/95 | 2.190/26 | 1.012/29 | 1.64/0.05 | -2.33/1.46 | -2.58/1.70 | 4.07/2.22 | -3.580/22 | -1.47/2.58 | -3.210/16 | -2.40/1.82 | 0.440/65 | 1.260/61 | -0.20/0.57 | -0.64/1.99 | -6.28/4.54 | -5.92/1.54 | -8.820/14 | -8.820/14 | -2.46/1.10 | 1.010/25 | -4.22/1.38 | -5.45/2.39 | |
| 0 | 150 | -2.68/1.01 | -2.220/85 | 2.30/3.07 | 0.882/32 | 1.22/0.55 | -4.34/3.06 | -2.32/9.30 | 4.99/1.45 | -6.07/2.03 | -3.17/4.82 | -2.640/95 | 1.55/1.82 | -2.03/2.84 | -0.67/1.77 | 0.77/0.32 | 0.040/83 | 1.00/0.30 | -4.290/19 | -1.81/3.38 | 0.02/0.46 | -1.50/1.20 | -1.44/0.96 | -5.58/2.28 | -6.79/3.02 | |
| 0 | 225 | -5.08/3.47 | -3.44/0.01 | 1.78/1.37 | -3.45/1.37 | 0.03/1.17 | -4.24/5.03 | -1.44/13.83 | 4.40/1.93 | -6.59/3.71 | -5.83/4.07 | -3.02/0.78 | 1.262/13 | -1.83/1.78 | -2.75/5.18 | -1.07/1.24 | 0.420/78 | 0.330/20 | -4.310/62 | -1.01/3.15 | -1.41/1.14 | -2.19/1.92 | -3.41/1.89 | -8.18/3.20 | -7.12/4.40 | |
| 0 | 300 | -5.71/3.80 | -4.05/1.78 | 0.08/4.27 | -3.210/25 | -2.42/1.53 | -5.27/4.73 | -2.38/12.22 | 5.60/2.24 | -6.65/6.20 | -5.39/4.91 | -3.82/3.43 | -0.970/66 | -2.34/3.16 | -3.20/8.96 | -2.37/3.20 | -1.990/21 | -2.83/2.32 | -7.01/0.44 | -4.860/75 | -3.99/5.64 | -1.84/3.89 | -3.67/2.83 | -10.52/3.51 | -8.50/5.65 | |
| 0 | 375 | -1.47/6.26 | -5.53/4.13 | -1.41/5.20 | -2.52/1.13 | -4.11/2.27 | -5.50/5.16 | -3.39/10.09 | -4.83/3.54 | -4.99/1.87 | -4.13/6.60 | -5.08/7.23 | -3.38/2.51 | -3.83/5.05 | -3.45/7.28 | -3.88/4.65 | -4.30/2.70 | -7.98/11.21 | -11.05/2.85 | -9.86/2.13 | -9.07/4.25 | -3.02/4.43 | -2.83/6.31 | -11.45/6.36 | -8.73/6.29 | |
| 15 | 0 | -9.77/8.44 | -7.55/7.23 | -7.18/4.51 | -2.85/3.50 | -4.80/2.83 | -7.85/4.36 | -4.88/7.50 | -6.15/2.74 | -4.88/6.74 | -6.13/0.51 | -7.27/15.17 | -7.89/8.20 | -7.18/8.20 | -5.87/6.21 | -4.19/7.42 | -7.74/3.33 | -5.97/10.01 | -15.91/4.38 | -14.07/4.46 | -11.92/6.88 | -7.39/3.89 | -4.39/6.57 | -14.21/8.80 | -9.94/9.19 | |
| 15 | 75 | -11.85/12.52 | -10.35/10.91 | -6.62/3.44 | -3.31/5.72 | -6.85/6.26 | -12.97/5.97 | -5.63/10.32 | 5.12/3.74 | -4.74/5.41 | -7.24/5.65 | -6.56/8.00 | -15.28/14.74 | -12.86/13.48 | -6.88/5.29 | -6.55/6.33 | -10.69/6.85 | -3.53/7.41 | -15.79/6.26 | -9.04/5.69 | -9.44/6.21 | -4.49/4.83 | -3.84/8.27 | -10.86/12.88 | -9.77/11.26 | |
| 15 | 150 | -10.59/9.31 | -7.74/6.96 | -5.91/4.75 | -5.51/6.07 | -8.13/12.40 | -10.59/5.29 | -5.91/11.87 | -3.20/3.82 | -6.09/5.68 | -10.85/9.92 | -7.52/17.10 | -9.60/7.74 | -11.55/8.85 | -6.69/6.59 | -7.53/5.24 | -5.75/9.41 | -6.63/11.18 | -11.18/8.71 | -5.93/6.21 | -7.35/7.06 | -2.26/2.39 | -8.09/4.68 | -9.42/10.82 | -11.83/10.90 | |
| 15 | 225 | -11.68/7.26 | -11.03/11.38 | -6.40/7.11 | -8.81/7.18 | -9.73/11.65 | -11.42/8.47 | -7.63/15.42 | 5.94/6.90 | -9.19/9.08 | -7.50/9.99 | -9.45/6.80 | -7.61/9.01 | -10.39/10.75 | -13.19/5.87 | -8.01/7.55 | -8.66/10.25 | 6.07/14.37 | -8.85/6.74 | -4.32/4.34 | 5.04/6.82 | 5.84/6.90 | -8.15/4.68 | -12.62/8.03 | -10.64/7.47 | |
| 15 | 300 | -10.29/12.33 | -7.03/8.30 | -6.21/5.29 | -7.24/14.65 | -14.29/9.41 | -7.42/10.55 | -13.68/14.43 | -8.20/6.74 | -10.53/11.12 | -6.86/7.61 | -11.08/11.95 | -15.21/15.49 | -15.23/13.38 | -8.54/8.37 | -9.06/5.87 | -12.59/15.28 | -9.74/14.00 | -14.61/11.36 | -8.16/9.60 | -9.11/7.53 | -14.75/9.37 | -7.10/8.12 | -8.40/10.88 | -11.20/11.97 | |
| 15 | 375 | -11.06/11.44 | -10.41/8.98 | -11.11/10.88 | -9.12/9.28 | -9.00/9.55 | -12.74/12.79 | -14.60/15.21 | -10.48/10.06 | -10.81/12.56 | -11.02/10.20 | -8.74/9.82 | -12.74/12.79 | -12.74/12.79 | -7.53/14.97 | -7.87/1.79 | -10.61/9.62 | -11.17/11.20 | -11.23/13.89 | -14.27/13.63 | -8.88/11.39 | -12.38/9.13 | -10.00/8.54 | -11.70/11.21 | -10.25/12.02 | |
| 30 | 0 | -15.07/12.18 | -12.84/13.82 | -12.46/14.21 | -12.80/6.64 | -5.21/7.00 | -7.80/9.70 | -9.63/13.33 | -13.32/10.06 | -9.53/12.07 | -15.38/15.07 | -12.66/14.92 | -15.13/12.89 | -12.79/15.95 | -13.46/11.33 | -10.65/14.39 | -12.90/10.51 | -13.40/13.98 | -12.89/12.60 | -15.95/13.94 | -12.62/15.34 | 15.40/11.00 | -10.85/10.67 | -14.32/15.39 | -15.64/14.60 | |
| 30 | 75 | -15.14/15.70 | -14.05/10.02 | -9.28/9.53 | -7.22/8.78 | -11.33/8.45 | -8.93/7.30 | -7.90/9.49 | -9.22/10.07 | -10.48/9.52 | -11.74/14.56 | -14.59/15.02 | -15.24/15.35 | -14.62/16.04 | -10.56/15.48 | -14.39/15.36 | -14.95/15.33 | -14.30/13.29 | -15.63/14.79 | -15.85/15.45 | -15.57/15.39 | -14.01/12.52 | -13.07/14.65 | -11.20/11.97 | -10.71/14.65 | |
| 30 | 150 | -13.23/14.54 | -13.20/11.73 | -12.90/11.97 | -11.69/12.48 | -11.43/10.79 | -9.74/9.14 | -9.38/9.45 | -9.65/11.05 | -11.55/12.64 | -15.26/14.30 | -13.64/13.89 | -14.14/15.85 | -15.16/12.99 | -12.60/12.44 | -11.73/10.98 | -11.02/11.00 | -10.08/10.69 | -10.86/9.92 | -9.58/10.44 | -11.69/13.04 | -14.58/14.10 | -12.21/10.33 | -9.57/10.40 | -12.12/12.97 | |
| 30 | 225 | -11.33/12.76 | -11.02/9.28 | -10.52/8.94 | -8.95/8.94 | -7.77/8.46 | -7.97/8.49 | -8.50/9.75 | -10.59/10.45 | -9.11/10.23 | -11.85/11.82 | -11.10/11.92 | -12.90/11.71 | -11.38/11.30 | -11.67/13.71 | -12.81/13.96 | -14.01/12.86 | -11.53/10.70 | -11.11/9.77 | -11.82/12.33 | -12.58/12.93 | -11.67/11.75 | -11.94/11.90 | -10.85/12.83 | -13.10/12.82 | |
| 30 | 300 | 5.785/CPol | TotalAnt. 2 | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 375 | Gain | Phi(0°) | Phi(15°) | Phi(30°) | Phi(45°) | Phi(60°) | Phi(75°) | Phi(90°) | Phi(105°) | Phi(120°) | Phi(135°) | Phi(150°) | Phi(165°) | Phi(180°) | Phi(195°) | Phi(210°) | Phi(225°) | Phi(240°) | Phi(255°) | Phi(270°) | Phi(285°) | Phi(300°) | Phi(315°) | Phi(330°) | Phi(345°) |
| 45 | 0 | -4.70/6.10 | -6.58/6.54 | -5.62/6.23 | -6.02/6.17 | -5.86/5.78 | -5.48/5.59 | -5.62/6.07 | -4.99/4.93 | -4.86/5.14 | -5.36/5.56 | -5.87/5.87 | -5.58/5.46 | -4.84/5.11 | -5.45/5.05 | -5.26/5.07 | -5.53/5.56 | -6.01/4.82 | -5.70/5.55 | -6.23/5.25 | -5.58/6.18 | -5.90/5.64 | -6.47/6.25 | -6.30/6.82 | -6.37/6.67 | |
| 45 | 75 | -9.01/7.56 | -8.09/8.23 | -6.96/6.35 | -6.88/8.54 | -5.16/5.91 | -5.52/9.42 | -5.74/5.86 | -5.59/5.19 | -4.28/5.06 | -5.35/5.40 | -5.65/5.69 | -5.74/6.40 | -6.34/6.69 | -7.81/7.20 | -6.73/7.17 | -6.36/5.82 | -5.82/5.77 | -4.16/5.66 | -4.27/4.52 | -3.97/4.91 | -4.83/4.35 | -5.30/5.32 | -6.01/6.84 | -7.78/6.80 | |
| 45 | 150 | -11.93/10.31 | -8.77/8.49 | -7.16/7.00 | -8.66/6.94 | -7.11/8.45 | -8.65/7.95 | -6.18/6.08 | -6.15/5.98 | -6.99/6.63 | -6.85/6.21 | -4.62/4.82 | -5.35/6.34 | -6.44/5.80 | -4.41/3.52 | -2.60/3.30 | -3.55/4.37 | -4.67/5.55 | -4.98/4.03 | -3.69/2.90 | -4.21/6.79 | -7.96/8.38 | -5.17/4.78 | -8.03/9.52 | -11.62/11.88 | |
| 45 | 225 | -3.87/5.17 | -6.38/7.97 | -8.97/8.11 | -7.55/5.81 | -3.58/3.15 | -4.48/3.37 | -3.05/1.60 | -2.53/2.78 | -3.87/7.06 | -7.40/6.06 | -6.22/6.53 | -5.36/4.21 | -3.26/3.53 | -4.19/4.20 | -3.82/3.07 | -2.16/3.00 | 0.240/35 | -0.65/1.54 | -3.16/4.22 | -3.70/2.71 | -2.95/5.39 | -6.87/5.97 | -4.47/2.68 | -1.64/1.92 | |
| 45 | 300 | -4.11/4.83 | -5.97/4.40 | -3.06/2.56 | -1.92/2.43 | -2.45/1.95 | -5.18/4.47 | -1.69/1.27 | -4.78/5.51 | -3.15/3.99 | -3.97/3.43 | -4.48/6.16 | -7.84/3.51 | -2.99/3.68 | -1.94/0.40 | -0.51/0.21 | 0.250/30 | -0.280/37 | -1.37/0.42 | -0.95/0.80 | -1.61/2.27 | -2.18/1.28 | -2.24/2.28 | -2.18/2.28 | -2.54/3.08 | |
| 45 | 375 | 1.23/1.01 | 2.51/1.48 | -4.22/1.86 | -1.42/2.64 | -1.93/0.04 | -0.53/0.56 | 1.34/1.31 | -1.20/1.27 | 0.70/3.40 | -3.76/6.94 | -3.27/2.24 | -4.84/2.14 | -4.87/3.15 | -2.70/3.14 | -1.65/1.04 | 2.69/1.47 | 2.34/1.44 | 1.700/3.14 | 1.36/1.19 | 0.89/3.23 | -1.46/1.55 | 0.58/1.01 | -1.900/46 | 1.87/1.55 | |
| 60 | 0 | 0.52/0.99 | -1.77/1.19 | -1.37/0.78 | 0.900/85 | -0.27/0.28 | -1.09/2.43 | 0.73/0.86 | -2.170/15 | -0.97/1.82 | -0.33/1.04 | 1.600/49 | 0.87/0.27 | -0.44/1.53 | 0.26/1.49 | -1.180/89 | 2.05/1.64 | 1.83/1.93 | 0.240/56 | -0.08/0.19 | -0.61/3.09 | -0.07/3.44 | -0.59/1.82 | 3.76/3.19 | 2.51/6.69 | |
| 60 | 75 | -0.80/0.05 | 0.90/0.10 | -3.25/3.16 | -0.43/1.17 | 0.42/1.66 | 2.90/3.39 | 1.69/0.77 | -1.18/1.49 | -1.650/49 | -1.69/1.27 | -4.78/5.51 | -3.15/3.99 | -3.97/3.43 | -4.48/6.16 | -7.84/3.51 | -2.99/3.68 | -1.94/0.40 | -0.51/0.21 | 0.250/30 | -0.280/37 | -1.37/0.42 | -0.95/0.80 | -1.61/2.27 | -2.18/1.28 | |
| 60 | 150 | 0.432/11 | 1.070/09 | 0.372/22 | 3.240/97 | 2.370/28 | 0.71/3.42 | -1.15/1.71 | -2.62/2.02 | 2.00/1.75 | 1.732/50 | 3.01/8.88 | 2.160/27 | -1.92/3.88 | -0.12/1.92 | 0.883/27 | 2.430/89 | -0.81/3.86 | -3.05/0.29 | -3.14/0.47 | -1.222/20 | 3.27/2.02 | 3.27/2.02 | 1.19/1.07 | -1.05/0.17 | |
| 60 | 225 | -0.770/65 | -0.580/105 | 0.270/64 | -1.662/82 | 4.21/4.45 | 0.63/1.89 | 0.045/2.3 | -1.26/2.34 | -2.94/2.86 | 0.93/1.49 | 1.46/1.73 | -0.032/0.3 | 0.42/1.99 | 1.92/3.82 | 0.232/0.5 | 0.800/11 | 1.315/18 | -4.51/13.23 | -9.63/6.16 | -3.92/1.70 | -3.42/4.34 | 2.47/0.44 | -2.52/1.31 | -2.45/1.37 | |
| 60 | 300 | -2.17/1.41 | -2.27/0.37 | 1.04/0.53 | -3.59/0.75 | 3.41/0.08 | 0.20/1.55 | 0.103/0.27 | -0.70/4.23 | -1.75/1.77 | -2.79/0.69 | 0.055/1.7 | -0.850/93 | -1.340/93 | 0.272/53 | 0.912/79 | 0.95/0.70 | 0.213/42 | -0.805/93 | 6.26/1.10 | -1.21/3.03 | -2.130/98 | -0.070/99 | 6.26/1.17 | -3.60/3.95 | |
| 60 | 375 | 4.153/3.56 | -3.16/0.56 | -1.00/1.98 | -2.840/10 | 1.63/1.60 | 0.04/1.07 | 0.47/1.243 | -0.72/4.92 | -1.320/23 | -4.29/3.19 | -1.51/1.96 | 1.59/1.48 | 0.110/20 | 0.031/00 | 0.11/1.46 | 0.790/65 | 1.79/0.80 | -5.90/2.83 | -0.650/24 | 0.02/3.12 | -1.490/28 | -1.370/0.3 | -8.41/1.22 | 5.06/5.93 | |
| 75 | 0 | -5.85/5.42 | -4.72/3.04 | -2.18/2.24 | -3.97/0.85 | -0.22/3.47 | -0.77/0.84 | -0.49/2.59 | -2.66/4.93 | -1.88/2.20 | -5.83/4.07 | -2.57/2.44 | 1.74/1.24 | 0.71/1.01 | -1.50/1.37 | -1.50/0.27 | 0.330/95 | 0.89/0.29 | -7.87/2.48 | -0.870/62 | -0.49/4.34 | -2.05/1.14 | -2.805/1.33 | -10.57/2.78 | -6.11/6.33 | |
| 75 | 75 | -6.24/8.20 | -6.67/4.18 | -3.25/3.01 | -4.37/3.02 | -0.98/3.77 | -1.86/1.75 | -1.44/3.68 | -4.17/6.36 | -2.21/3.89 | -7.61/6.34 | -2.84/4.02 | 0.74/0.14 | -0.32/2.78 | -2.03/3.83 | -4.16/3.47 | -3.08/9.22 | -0.93/2.62 | -6.96/2.01 | -3.72/2.71 | -3.44/1.12 | -2.29/4.27 | -2.10/2.82 | -11.39/3.27 | -6.64/6.51 | |
| 75 | 150 | -7.39/9.52 | -8.64/6.20 | -3.67/4.25 | -5.64/1.30 | -1.18/4.47 | -3.43/4.73 | -3.25/7.84 | -4.94/6.62 | -3.11/5.15 | -8.79/7.39 | -5.24/6.60 | -2.79/4.35 | -2.64/5.46 | -4.43/3.89 | -4.77/2.90 | -4.11/3.01 | -7.76/12.90 | -14.01/3.62 | -11.72/4.96 | -8.99/6.97 | -3.37/5.96 | -2.78/3.75 | -10.81/3.82 | -7.18/6.68 | |
| 75 | 225 | -8.77/13.11 | -9.59/6.37 | -6.44/7.57 | -5.59/1.13 | -3.56/3.87 | -5.28/5.94 | -5.19/8.01 | -5.58/5.68 | -3.58/6.93 | -10.69/7.67 | -8.55/11.39 | -7.43/7.62 | -8.86/9.74 | -6.30/4.50 | -6.27/6.73 | -6.34/1.77 | -6.06/11.71 | -14.02/6.21 | -10.44/7.46 | -14.02/6.21 | -1 | | | | |