



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

Appendix D

| Theta | Phi | Gain | Phi(0°) | Phi(15°) | Phi(30°) | Phi(45°) | Phi(60°) | Phi(75°) | Phi(90°) | Phi(105°) | Phi(120°) | Phi(135°) | Phi(150°) | Phi(165°) | Phi(180°) | Phi(195°) | Phi(210°) | Phi(225°) | Phi(240°) | Phi(255°) | Phi(270°) | Phi(285°) | Phi(300°) | Phi(315°) | Phi(330°) | Phi(345°) | | | |
|--------------|---------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------|------------|------------|--|--|
| Theta(22.5) | -12.74/-11.69 | -10.47/8.98 | -8.27/-7.41 | -8.06/9.63 | -10.93/-10.42 | -9.18/8.05 | -7.45/-7.75 | -7.67/-7.00 | -6.85/8.22 | -10.10/9.80 | -8.46/8.37 | -9.45/9.91 | -9.18/8.80 | -9.56/10.80 | -11.15/10.44 | -9.49/8.62 | -7.69/6.58 | -5.47/4.63 | -4.30/4.20 | -4.32/4.29 | -4.26/4.78 | -6.13/7.00 | -8.18/10.25 | -12.17/13.60 | | | | | |
| Theta(30) | -14.78/-10.36 | -7.85/-6.39 | -5.91/-7.22 | -9.33/8.29 | -7.19/-6.51 | -5.98/5.78 | -6.21/-6.39 | -6.14/-5.86 | -6.49/8.78 | -9.95/8.66 | -7.71/-7.77 | -8.87/8.33 | -6.01/4.94 | -5.27/5.55 | -7.96/9.06 | -10.44/10.20 | -10.36/9.58 | -9.05/8.75 | -7.09/5.43 | -4.23/3.72 | -3.51/3.04 | -3.48/3.90 | -4.26/4.19 | -4.26/4.19 | -4.26/4.19 | -4.26/4.19 | -4.26/4.19 | | |
| Theta(37.5) | -17.12/-7.59 | -7.05/-5.68 | -6.68/8.21 | -7.48/8.61 | -6.23/6.04 | -3.89/5.73 | -6.59/7.79 | -10.60/13.99 | -15.14/15.08 | -12.58/9.49 | -8.56/7.97 | -7.45/7.80 | -5.95/5.19 | -5.21/5.53 | -7.29/9.39 | -9.84/11.28 | -13.25/13.24 | -9.16/7.43 | -6.52/4.57 | -3.25/3.33 | -4.23/4.43 | -3.62/4.19 | -4.26/4.19 | -4.26/4.19 | -4.26/4.19 | -4.26/4.19 | -4.26/4.19 | | |
| Theta(45) | -5.13/6.73 | -7.68/-7.69 | -8.01/7.10 | -6.11/4.77 | -4.36/5.30 | -6.96/7.70 | -8.38/9.80 | -11.36/12.64 | -12.67/12.69 | -12.69/12.26 | -8.81/7.20 | -7.71/11.20 | -9.28/5.16 | -4.04/3.76 | -4.24/5.82 | -8.22/9.07 | -10.10/11.37 | -8.65/7.34 | -4.12/3.39 | -3.15/1.69 | -1.38/2.59 | -5.91/6.09 | -4.43/4.22 | -5.08/4.82 | | | | | |
| Theta(52.5) | -3.28/5.05 | -5.95/-6.85 | -6.23/6.51 | -6.81/4.72 | -6.73/5.99 | -6.75/7.66 | -9.12/10.67 | -11.87/9.58 | -8.40/8.02 | -7.84/8.67 | -9.53/8.53 | -7.52/8.24 | -9.19/6.22 | -5.44/5.49 | -6.51/7.23 | -9.99/10.40 | -14.16/12.59 | -9.75/8.29 | -7.62/5.93 | -3.56/2.77 | -3.10/2.63 | -3.47/4.91 | -8.15/4.08 | -2.99/3.87 | | | | | |
| Theta(60) | -2.51/3.27 | -3.90/4.57 | -3.61/2.94 | -4.84/5.94 | -6.21/7.27 | -9.55/13.33 | -10.44/8.38 | -7.97/6.90 | -7.14/7.84 | -6.64/7.16 | -8.19/8.15 | -7.49/7.96 | -5.02/4.13 | -4.48/3.42 | -6.42/12.08 | -12.01/15.54 | -9.49/6.95 | -5.32/3.69 | -4.65/3.33 | -6.07/4.18 | -3.17/5.19 | -11.50/6.19 | -1.03/3.13 | | | | | | |
| Theta(67.5) | -1.29/2.41 | -3.07/2.56 | -1.28/0.87 | -2.55/2.70 | -2.71/4.42 | -8.01/15.29 | -15.20/10.48 | -8.33/7.77 | -8.47/10.30 | -7.82/7.26 | -9.92/9.92 | -6.80/7.51 | -10.00/4.91 | -3.22/3.63 | -3.47/2.43 | -4.07/6.59 | -9.50/13.20 | -9.17/8.07 | -9.89/6.90 | -5.56/6.61 | -9.56/9.29 | -7.35/4.50 | -7.54/8.25 | -3.14/0.31 | | | | | |
| Theta(75) | 0.31/-1.63 | -2.72/0.48 | -0.30/0.69 | -1.03/1.70 | -1.64/2.90 | -6.85/11.62 | -10.70/10.06 | -11.02/10.67 | -10.55/11.36 | -12.46/8.77 | -8.36/9.38 | -5.37/4.07 | -3.79/4.52 | -3.42/4.90 | -1.94/0.88 | -1.59/2.29 | -4.49/6.17 | -11.12/9.13 | -7.69/7.33 | -10.31/11.39 | -14.08/11.02 | -5.46/7.46 | -8.61/2.73 | -1.01/0.51 | | | | | |
| Theta(82.5) | 0.53/0.40 | -1.22/0.16 | 0.25/-1.28 | -0.76/1.00 | -0.83/2.20 | -3.79/5.80 | -7.47/10.17 | -11.84/12.17 | -8.13/8.10 | -12.27/6.27 | -6.02/4.93 | -3.12/3.55 | -3.16/1.49 | -1.82/4.65 | -2.81/1.22 | -0.77/3.28 | -6.15/4.46 | -3.19/6.76 | -6.08/7.25 | -9.69/10.81 | -6.94/4.39 | -4.17/3.03 | -3.63/2.91 | -0.26/0.84 | | | | | |
| Theta(90) | -1.91/1.55 | -1.42/1.84 | -1.35/1.83 | 0.61/1.15 | -0.43/2.85 | -4.07/6.38 | -8.53/8.46 | -7.75/7.28 | -6.77/6.07 | -5.48/5.62 | -5.27/3.59 | -1.95/1.76 | -0.97/0.15 | 0.76/2.15 | -4.76/3.89 | -3.35/2.30 | -4.99/5.99 | -5.98/10.35 | -14.96/12.09 | -10.46/10.56 | -4.50/4.85 | -7.37/3.87 | -3.23/3.07 | -3.75/0.39 | | | | | |
| Theta(97.5) | -6.42/4.87 | -3.70/4.05 | -2.33/3.36 | 1.50/8.00 | -0.93/2.23 | -4.42/5.63 | -6.67/6.46 | -7.37/5.49 | -7.01/6.38 | -5.48/3.37 | -3.99/3.46 | -1.48/1.06 | -0.23/0.58 | -0.04/0.20 | -1.94/0.85 | -3.41/5.34 | -2.60/9.82 | -15.06/8.20 | -13.60/9.92 | -12.36/15.00 | -8.27/8.79 | -5.36/4.86 | -2.46/4.73 | -7.37/3.46 | | | | | |
| Theta(105) | -10.50/7.02 | -5.16/3.52 | -1.04/0.57 | 0.34/0.20 | -1.06/1.25 | -2.24/2.61 | -3.82/5.63 | -7.90/8.74 | -10.16/4.66 | -10.43/4.66 | -3.70/2.49 | -2.96/1.50 | 0.21/0.18 | 0.01/1.18 | 2.42/2.42 | 0.66/0.05 | -1.11/6.74 | -4.70/4.26 | -11.89/4.98 | -8.66/7.37 | -8.46/6.61 | -9.99/9.37 | -4.33/7.09 | -6.52/6.41 | | | | | |
| Theta(112.5) | -9.18/6.68 | -6.90/2.13 | -1.20/0.57 | -1.37/1.66 | -0.90/0.47 | -1.02/2.03 | -3.65/7.58 | -9.93/10.63 | -9.72/5.25 | -1.83/0.36 | -1.51/1.33 | 0.66/1.52 | 1.40/1.11 | 0.73/0.65 | 0.62/1.11 | -2.18/9.55 | -5.35/5.02 | -10.18/13.62 | -12.33/8.45 | -8.16/11.15 | -15.61/3.06 | -1.68/3.90 | -7.55/10.15 | -7.25/12.99 | | | | | |
| Theta(120) | -2.99/4.23 | -5.44/-1.89 | 0.64/0.52 | -1.16/2.46 | -2.32/1.04 | -0.37/1.41 | -3.48/5.64 | -9.23/10.92 | -7.29/4.28 | -1.96/1.74 | -1.25/0.32 | 1.16/1.18 | 0.64/0.23 | -0.28/2.61 | -1.93/3.04 | -9.17/10.60 | -9.81/7.46 | -6.90/15.04 | -10.63/10.14 | -8.61/7.82 | -10.11/7.07 | -6.17/5.15 | -8.13/12.34 | -12.94/8.08 | | | | | |
| Theta(127.5) | -1.52/2.12 | -3.45/2.03 | -1.04/1.18 | -1.98/3.33 | -2.63/0.59 | -0.29/0.86 | -2.22/3.73 | -4.85/5.23 | -5.16/3.70 | -3.30/3.41 | -2.96/2.20 | -2.12/1.40 | -1.20/1.70 | -2.95/4.65 | -5.82/5.10 | -4.82/9.10 | -9.66/15.01 | -9.65/13.02 | -15.09/8.40 | -12.86/6.50 | -10.09/7.61 | -4.94/3.57 | -10.69/12.98 | -9.20/4.52 | | | | | |
| Theta(135) | -2.22/3.09 | -3.08/2.07 | -2.26/3.45 | -3.36/2.66 | -2.14/1.19 | -0.77/1.70 | -2.94/3.43 | -2.89/3.06 | -3.23/2.49 | -3.29/4.52 | -4.26/4.01 | -4.50/5.50 | -5.47/6.72 | -6.51/4.46 | -5.20/9.08 | -5.50/7.64 | -3.39/12.12 | -5.89/9.57 | -8.33/6.16 | -4.98/11.68 | -7.99/6.07 | -4.76/4.76 | -9.33/12.03 | -8.02/3.66 | | | | | |
| Theta(142.5) | -3.87/3.56 | -3.60/3.91 | -5.12/5.86 | -4.23/2.58 | -2.49/3.39 | -3.76/3.36 | -2.49/0.97 | -0.47/1.23 | -1.93/1.73 | -1.57/1.67 | -1.72/2.87 | -6.02/8.27 | -7.15/1.76 | -6.38/3.32 | -3.24/2.62 | -3.32/4.21 | -3.85/9.67 | -9.28/8.36 | -5.79/9.27 | -7.06/7.50 | -5.10/4.84 | -9.63/13.06 | -9.61/6.60 | -5.84/4.26 | | | | | |
| Theta(150) | -4.25/5.86 | -9.04/11.68 | -11.09/10.34 | -9.70/9.89 | -3.71/3.13 | -3.67/4.12 | -4.24/4.88 | -5.48/4.25 | -2.35/1.76 | -1.24/1.44 | -1.95/3.68 | -4.82/4.59 | -4.66/3.46 | -3.33/4.01 | -0.74/4.42 | -8.35/11.22 | -11.47/11.97 | -11.84/11.79 | -15.23/10.69 | -8.34/7.36 | -8.66/7.92 | -5.45/5.06 | -4.82/4.15 | | | | | | |
| Theta(157.5) | -6.44/10.02 | -11.64/10.48 | -9.42/9.43 | -10.56/11.79 | -9.50/8.53 | -8.77/8.77 | -7.72/6.88 | -6.51/4.98 | -3.41/2.84 | -2.37/1.36 | -0.61/1.00 | -1.77/2.99 | -4.30/5.33 | -7.77/10.18 | -9.74/10.14 | -11.67/9.75 | -9.92/14.14 | -15.47/13.11 | -12.42/14.89 | -15.27/14.56 | -12.42/8.84 | -8.05/6.58 | -4.17/3.31 | -3.47/4.26 | | | | | |
| Theta(165) | -9.06/4.49 | -8.56/7.40 | -6.14/6.14 | -6.46/6.96 | -7.32/7.00 | -6.50/6.36 | -7.35/8.04 | -7.48/6.13 | -5.69/6.29 | -6.04/4.74 | -3.72/3.40 | -3.92/3.56 | -7.35/6.66 | -12.42/14.81 | -14.45/14.79 | -13.58/11.03 | -10.31/9.50 | -9.81/7.46 | -6.90/15.04 | -10.63/10.14 | -15.43/15.57 | -14.76/15.51 | -9.71/9.99 | -10.29/9.29 | -8.19/8.57 | | | | |
| Theta(172.5) | -13.67/11.60 | -10.32/9.93 | -9.49/8.74 | -8.48/8.40 | -7.67/7.16 | -7.19/7.04 | -6.74/6.85 | -7.92/8.83 | -9.43/8.96 | -8.25/7.90 | -7.09/6.46 | -6.45/6.84 | -7.38/8.19 | -9.71/12.30 | -15.50/14.17 | -15.56/14.92 | -13.47/14.26 | -15.50/14.42 | -13.75/14.02 | -12.23/14.27 | -16.05/16.00 | -15.06/15.67 | -15.22/13.81 | | | | | | |
| Theta(180) | -15.23/14.68 | -15.20/15.18 | -15.25/14.78 | -15.75/15.79 | -14.11/13.59 | -13.64/12.82 | -11.84/11.38 | -11.20/10.87 | -10.23/9.59 | -9.45/9.14 | -9.32/10.28 | -12.09/14.17 | -13.87/14.20 | -14.44/15.60 | -15.04/13.67 | -13.39/11.92 | -11.57/12.12 | -13.28/14.74 | -14.44/15.32 | -15.80/14.77 | -15.37/15.23 | -14.70/15.58 | -15.67/14.56 | -14.84/15.07 | | | | | |
| Freq(Hz) | 2.450GHz | TotalAnt. 2 | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | | |
| 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°) | Phi(360°) | | | | |
| Theta(0) | -7.92/7.35 | -6.68/6.14 | -5.94/6.13 | -6.54/6.92 | -7.22/7.51 | -7.48/7.45 | -7.69/7.97 | -8.14/8.36 | -8.80/9.07 | -9.20/9.42 | -9.70/9.95 | -9.93/9.83 | -9.97/9.37 | -8.97/8.13 | -7.20/6.95 | -7.51/7.98 | -8.03/8.16 | -8.96/8.78 | -7.69/7.18 | -7.35/7.57 | -7.77/8.02 | -8.27/8.63 | -8.59/8.47 | -8.29/8.20 | | | | | |
| Theta(7.5) | -10.02/9.34 | -8.39/7.51 | -7.11/7.10 | -7.15/6.93 | -6.73/6.74 | -6.61/6.36 | -6.39/6.66 | -6.82/6.95 | -7.20/7.36 | -7.42/7.58 | -7.86/8.08 | -8.23/8.05 | -7.79/7.42 | -6.85/6.11 | -5.48/5.41 | -5.91/6.58 | -7.07/6.69 | -8.03/9.77 | -8.90/8.09 | -8.06/8.36 | -8.81/9.27 | -9.56/9.99 | -10.29/9.98 | -10.09/10.19 | | | | | |
| Theta(15) | -11.92/11.29 | -10.00/8.70 | -7.78/7.29 | -6.78/6.94 | -5.39/5.40 | -5.38/5.17 | -5.11/5.37 | -5.59/5.53 | -5.67/5.75 | -5.88/6.07 | -6.34/6.62 | -6.62/6.44 | -6.15/5.71 | -5.08/4.39 | -3.93/3.93 | -4.37/5.11 | -5.89/4.88 | -8.30/9.69 | -9.63/9.23 | -9.36/9.85 | -10.23/10.88 | -11.09/11.36 | -11.80/11.78 | -11.77/11.89 | | | | | |
| Theta(22.5) | -13.18/12.69 | -11.23/9.61 | -8.25/7.30 | -6.33/5.32 | -4.79/4.91 | -5.03/4.96 | -4.98/5.18 | -5.29/5.19 | -5.00/4.95 | -5.01/5.21 | -5.53/5.75 | -5.72/5.40 | -4.95/4.49 | -3.84/3.25 | -3.15/3.28 | -3.81/4.57 | -5.50/5.62 | -7.75/8.80 | -9.38/9.93 | -10.09/10.16 | -10.94/11.55 | -12.14/12.15 | -12.40/12.72 | -12.92/12.90 | | | | | |
| Theta(30) | -12.27/12.47 | -11.79/10.44 | -8.95/7.82 | -6.85/6.01 | -5.61/5.99 | -6.27/6.17 | -6.07/6.03 | -6.11/5.29 | -6.45/6.09 | -6.31/3.98 | -6.38/4.94 | -5.30/5.31 | -4.95/4.45 | -3.88/3.33 | -3.02/2.98 | -3.28/3.88 | -4.72/5.85 | -7.16/8.02 | -8.14/8.35 | -8.67/8.70 | -9.82/8.99 | -8.89/8.99 | -9.47/10.29 | -11.12/11.75 | | | | | |
| Theta(37.5) | -12.56/13.00 | -12.97/11.74 | -10.06/8.95 | -8.38/7.65 | -7.59/8.35 | -8.39/7.60 | -7.15/6.95 | -6.49/5.41 | -4.43/4.35 | -2.82/2.64 | -2.97/3.59 | -4.29/4.57 | -4.45/4.09 | -3.56/2.94 | -2.66/2.42 | -2.50/2.89 | -3.53/4.31 | -5.20/5.78 | -5.75/6.56 | -5.95/6.32 | -6.66/6.65 | -6.55/6. | | | | | | | |



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

Appendix D

| θ (7.5°) | -3.01/8.68 | -6.89/6.94 | -9.44/4.92 | -4.79/6.07 | -6.20/5.51 | -3.67/2.13 | -1.73/4.11 | -5.68/4.14 | -2.61/3.71 | -5.63/4.30 | -3.17/1.32 | -0.40/3.82 | -4.95/2.87 | -3.52/3.94 | -4.89/4.38 | -4.34/6.39 | -7.52/6.84 | -8.55/3.75 | -5.99/6.75 | 8.09/5.58 | -3.32/3.43 | -2.57/1.23 | -2.46/3.19 | -1.25/0.71 |
|------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| θ (7.5°) | -0.90/-7.34 | -5.06/-8.03 | -12.36/-4.88 | -6.69/-6.68 | -9.03/-5.43 | -3.68/-1.72 | -2.45/-6.35 | -8.71/-4.95 | -1.76/-2.31 | -5.19/-3.03 | -0.68/-1.04 | -1.16/-2.53 | -4.01/-3.67 | -3.39/-3.74 | -6.42/-5.36 | -5.87/-7.29 | -8.55/-12.82 | -14.89/-7.99 | -6.77/-6.51 | -5.61/-2.72 | -2.00/-2.08 | -1.67/-1.07 | -0.80/-0.95 | -0.54/0.71 |
| θ (82.5°) | -1.18/-4.68 | -2.91/-6.61 | -6.71/-8.86 | -8.72/-9.75 | -10.78/-4.5 | -6.01/-2.68 | -2.56/-5.36 | -7.88/-4.73 | -3.09/-2.78 | -3.45/-2.40 | -0.81/-0.90 | -2.25/-2.56 | -3.37/-3.37 | -2.12/-2.51 | -4.87/-3.68 | -6.04/-8.99 | -10.74/-13.69 | -11.15/-8.97 | -6.68/-6.61 | -1.47/-2.90 | -1.26/-0.17 | -0.76/-1.46 | -1.01/-0.91 | -0.51/-0.26 |
| θ (90°) | -2.85/-2.84 | -2.17/-6.85 | -7.19/-6.88 | -6.51/-8.53 | -9.40/-8.56 | -7.14/-4.62 | -6.44/-7.47 | -8.20/-5.53 | -4.89/-4.76 | -3.71/-1.62 | -0.77/-2.12 | -1.77/-2.24 | -1.86/-1.73 | -0.42/-2.72 | -3.50/-3.50 | -3.73/-5.13 | -10.05/-8.74 | -12.07/-5.35 | -11.47/-1.44 | -1.99/-2.62 | -0.027/4.9 | 1.17/2.86 | 5.11/10.20 | 1.15/0.49 |
| θ (97.5°) | -1.77/-9.43 | -3.46/-8.49 | -10.19/-8.33 | -10.38/-11.06 | -10.06/-11.62 | -11.84/-10.83 | -11.08/-15.11 | -11.83/-8.84 | -7.75/-5.41 | -2.04/-0.66 | -1.84/-1.59 | 0.45/-2.37 | -1.66/-0.02 | -0.05/-2.99 | -3.10/-5.83 | -5.00/-5.33 | -3.84/-13.43 | -7.76/-6.03 | -5.41/0.47 | -3.85/-3.76 | 1.66/2.66 | 2.87/1.58 | -10.37/-5.42 | 1.09/0.04 |
| θ (105°) | -1.77/-9.48 | -2.94/-5.49 | -7.19/-9.15 | -15.70/-14.86 | -11.75/-11.42 | -12.90/-13.93 | -13.62/-11.81 | -12.41/-7.29 | -5.48/-2.10 | -1.50/-0.18 | -0.16/-0.19 | 0.11/0.29 | 1.64/-0.32 | 1.51/0.76 | -1.32/-5.71 | -1.83/-4.17 | -2.16/-12.88 | -2.80/-1.47 | -3.60/-8.5 | -5.59/-4.27 | 1.070/7.3 | 1.662/6.6 | 6.31/4.29 | 0.14/0.02 |
| θ (112.5°) | -9.05/-11.06 | -8.03/-8.41 | -8.21/-8.02 | -9.78/-12.18 | -11.42/-8.70 | -12.50/-12.37 | -12.89/-9.77 | -7.18/-4.81 | -2.35/-1.26 | -2.51/-1.24 | 0.330/0.60 | 0.571/1.81 | 1.83/-1.38 | 1.66/-2.62 | -3.70/-15.55 | -0.95/-7.36 | -0.82/-10.79 | -2.26/-7.53 | -0.59/2.80 | -4.20/-3.06 | 1.67/1.03 | 1.000/7.6 | -7.48/-6.05 | -1.58/-0.85 |
| θ (120°) | -5.08/-9.39 | -12.87/-8.98 | -11.47/-11.87 | -8.77/-8.99 | -15.66/-13.47 | -8.61/-7.19 | -8.17/-8.07 | 5.47/-1.45 | -4.07/-3.89 | -2.70/0.93 | -1.95/-2.01 | -0.920/50 | -1.92/-0.98 | 0.81/-1.8 | -7.27/-8.12 | -2.31/-5.04 | -1.64/-7.45 | -2.22/-3.96 | -0.90/2.70 | -4.12/-5.61 | 0.19/2.70 | -3.09/-1.93 | -9.67/-8.12 | -2.80/-2.20 |
| θ (127.5°) | -5.52/8.30 | -7.70/8.07 | -9.06/-14.65 | -9.45/-6.12 | -9.92/-15.00 | -13.65/-8.75 | -6.85/-9.55 | -10.11/-8.19 | -6.78/-5.06 | -3.57/-3.63 | -2.97/-1.19 | -1.62/-2.25 | -2.72/-1.45 | -1.05/-2.57 | -6.71/-5.43 | -4.33/-1.34 | -2.83/-3.93 | -3.44/-4.32 | -2.18/2.25 | -3.72/7.68 | -2.82/2.67 | -7.66/-4.85 | -5.66/-5.66 | -2.89/-4.19 |
| θ (135°) | -7.90/-11.78 | -10.72/-6.95 | 9.05/-14.33 | -16.22/-14.31 | -10.98/-11.86 | -14.63/-14.75 | 9.17/0.07 | -10.70/-10.47 | -7.69/-3.89 | -2.04/-2.35 | -1.97/-0.80 | -0.79/-2.93 | -4.30/-2.02 | 0.48/-1.08 | -1.51/-2.95 | -3.20/0.76 | -4.27/-2.54 | -2.11/-5.99 | -3.80/0.12 | -3.76/-12.78 | -11.11/-2.86 | -2.92/5.71 | -5.86/-5.93 | -5.07/6.38 |
| θ (142.5°) | -11.67/-10.96 | -9.07/-7.16 | -8.04/-11.22 | -13.03/-14.32 | -13.84/-16.07 | -11.54/-7.73 | -8.12/-10.44 | -12.32/-12.17 | -1.11/-0.67 | -1.19/-1.67 | -1.30/-1.57 | -2.33/-2.49 | -2.26/-1.29 | -0.89/-2.95 | -1.34/-2.86 | -10.17/-7.56 | -3.99/-5.26 | -5.21/-1.11 | -1.30/-7.67 | -9.14/-13.46 | -7.41/-4.53 | -2.98/-2.41 | -3.65/-7.40 | |
| θ (150°) | -12.51/-12.89 | -9.95/-7.41 | -6.76/8.88 | -11.77/-14.34 | -15.59/-15.22 | -13.06/9.41 | -8.93/10.04 | -10.52/-8.45 | -5.49/-3.87 | -2.62/-1.83 | -1.67/-1.80 | -1.40/-1.26 | -2.36/-3.36 | -2.18/-0.91 | -1.21/2.25 | -3.28/-7.38 | -10.57/-7.31 | -4.86/-3.90 | -6.18/-6.45 | -4.01/-4.23 | -6.38/-7.83 | -7.99/-8.03 | -8.04/-7.40 | -5.57/-7.46 |
| θ (157.5°) | -12.61/-14.96 | -11.44/-9.22 | 9.92/-14.73 | -14.94/-12.55 | -10.20/-10.44 | -12.36/-12.32 | -12.63/-14.56 | -13.74/-11.16 | -8.85/-8.32 | -7.94/-6.74 | 5.34/-4.30 | -4.13/-5.65 | -7.48/-7.49 | -6.12/-5.75 | -5.81/-6.68 | -8.97/-11.78 | -8.69/-6.89 | -6.47/-7.11 | -8.43/-6.52 | -3.33/-2.15 | -3.03/-5.12 | -7.84/-8.98 | -6.95/-7.00 | -6.93/-8.90 |
| θ (165°) | -15.72/-15.61 | -15.87/-14.18 | -13.73/-13.84 | -12.46/-13.90 | -15.08/-14.72 | -15.43/-15.46 | -14.30/-13.95 | -15.08/-14.26 | -14.25/-15.37 | -14.78/-15.11 | -15.28/-12.09 | -10.16/-9.50 | -8.87/-7.72 | -6.76/-5.46 | -5.08/-5.28 | -5.62/-5.32 | -5.06/-5.42 | -7.20/-8.96 | -11.67/-10.41 | -8.66/-6.82 | -5.78/-5.97 | -6.66/-8.25 | -9.41/-11.70 | -14.01/-14.66 |
| θ (172.5°) | -12.28/-13.40 | -13.78/-13.65 | -13.83/-13.72 | -15.04/-15.65 | -15.59/-12.90 | -10.99/-10.74 | -9.55/-9.43 | -10.63/-10.79 | -11.23/-11.49 | -11.24/-11.61 | -12.59/-13.18 | -12.18/-10.56 | -8.80/-7.62 | -6.85/-6.49 | -6.65/-7.10 | -4.71/-7.15 | -7.33/-7.70 | -8.48/-9.24 | -10.55/-12.72 | -12.78/-12.64 | -13.74/-15.02 | -15.83/-15.45 | -15.77/-15.73 | -14.88/-13.44 |
| θ (180°) | -9.07/-9.55 | -11.44/-13.93 | -14.65/-15.13 | -13.85/-14.17 | -14.00/-11.47 | -11.24/-12.30 | -12.67/-12.91 | -13.75/-14.80 | -16.13/-15.50 | -14.83/-14.21 | -13.82/-13.78 | -14.11/-13.63 | -14.19/-13.98 | -14.61/-15.35 | -15.11/-15.99 | -16.00/-15.13 | -16.02/-15.77 | -15.27/-15.66 | -15.78/-15.24 | -15.57/-15.07 | -15.30/-13.33 | -13.23/-12.61 | -11.57/-10.79 | -10.26/-10.56 |
| Freq(Hz) | 5.785GPol. | TotalAnt. 2 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| Gain | Φ(0°)Φ(7.5°) | Φ(15°)Φ(22.5°) | Φ(30°)Φ(37.5°) | Φ(45°)Φ(52.5°) | Φ(60°)Φ(67.5°) | Φ(75°)Φ(82.5°) | Φ(90°)Φ(97.5°) | Φ(105°)Φ(112.5°) | Φ(120°)Φ(127.5°) | Φ(135°)Φ(142.5°) | Φ(150°)Φ(157.5°) | Φ(165°)Φ(172.5°) | Φ(180°)Φ(187.5°) | Φ(195°)Φ(202.5°) | Φ(210°)Φ(217.5°) | Φ(225°)Φ(232.5°) | Φ(240°)Φ(247.5°) | Φ(255°)Φ(262.5°) | Φ(270°)Φ(277.5°) | Φ(285°)Φ(292.5°) | Φ(300°)Φ(307.5°) | Φ(315°)Φ(322.5°) | Φ(330°)Φ(337.5°) | Φ(345°)Φ(352.5°) |
| θ (0°) | -5.08/5.80 | -6.83/6.95 | -7.64/7.74 | -7.30/6.74 | -7.19/6.90 | -6.50/7.74 | -7.83/7.25 | -6.47/6.05 | -6.27/6.72 | -7.04/6.97 | -6.81/6.65 | -6.76/6.83 | -6.80/7.70 | -7.10/7.23 | -7.09/7.44 | -7.89/8.02 | -8.41/8.39 | -8.07/7.93 | -7.51/7.85 | -8.07/8.37 | -8.23/8.42 | -7.95/7.08 | -6.08/6.18 | -6.49/5.97 |
| θ (7.5°) | -4.84/6.08 | -6.36/6.94 | -7.12/7.46 | -7.99/7.64 | -8.07/7.92 | -7.40/8.80 | -8.50/8.39 | -7.63/7.39 | -7.36/7.83 | -7.39/7.14 | -7.01/6.90 | -7.14/7.47 | -7.07/6.58 | -6.37/6.31 | -6.81/7.88 | -6.29/7.63 | -7.06/6.51 | -6.94/7.41 | -6.59/6.21 | -6.61/7.13 | -7.23/7.24 | -6.64/5.89 | -5.39/5.14 | -6.07/5.23 |
| θ (15°) | -4.00/4.81 | -5.15/6.57 | -7.62/8.95 | -10.66/10.59 | -9.35/8.42 | -8.67/8.52 | -7.83/8.11 | -8.85/9.75 | -10.03/10.29 | -10.03/9.78 | -9.38/9.26 | -10.05/9.93 | -9.48/9.16 | -9.48/10.29 | -11.33/10.32 | -8.42/7.37 | -6.80/6.44 | -5.98/4.57 | -5.09/4.77 | -4.87/5.50 | -6.00/6.27 | -5.68/4.71 | -4.03/3.97 | -4.10/3.97 |
| θ (22.5°) | -2.88/4.08 | -6.05/8.12 | -11.62/9.51 | -6.20/3.99 | -2.60/2.17 | -2.23/2.83 | -3.03/3.46 | -3.65/4.23 | -4.67/5.42 | -5.91/7.38 | -8.29/7.86 | -9.61/11.21 | -12.37/12.16 | -11.18/8.31 | -5.75/4.27 | -3.38/2.69 | -2.04/1.51 | -1.53/1.91 | -2.42/2.31 | -2.14/2.33 | -2.63/3.48 | -3.88/3.77 | -3.27/4.27 | -2.06/1.97 |
| θ (30°) | -1.70/2.77 | -5.26/9.00 | -7.82/4.80 | -3.46/3.38 | -3.28/4.09 | -4.84/4.89 | -4.83/4.82 | -4.66/4.79 | -5.32/5.94 | -6.73/8.40 | -8.80/7.50 | -7.55/8.79 | -6.05/8.30 | -6.88/6.19 | -4.44/4.06 | -3.73/3.26 | -3.05/2.57 | -2.42/2.58 | -3.50/4.63 | -4.48/3.25 | -2.55/1.76 | -1.55/1.96 | -1.49/1.35 | |
| θ (37.5°) | -1.81/4.75 | -8.12/9.52 | -6.78/5.31 | -6.05/6.35 | -6.24/5.04 | -4.11/3.30 | -2.58/3.03 | -3.92/4.65 | -5.29/6.46 | -8.12/8.86 | -7.94/6.42 | -6.63/7.08 | -6.72/5.48 | -3.70/2.62 | -3.43/6.67 | -6.43/7.32 | -8.10/6.41 | -4.74/4.44 | -3.84/3.18 | -3.64/4.84 | -5.90/6.49 | -5.86/4.87 | -3.86/3.55 | -2.68/1.22 |
| θ (45°) | -3.51/4.20 | -10.69/10.43 | -6.64/6.23 | -6.61/5.06 | -3.82/1.65 | -0.42/0.98 | -1.87/2.14 | -1.80/2.73 | -4.44/5.53 | -6.68/5.87 | -7.64/5.63 | -5.25/5.19 | -5.75/5.04 | -3.93/2.94 | -3.46/5.51 | -6.38/6.65 | -6.65/6.34 | -7.51/6.98 | -6.52/4.71 | -3.04/2.61 | -3.42/4.30 | -4.44/4.79 | -5.64/5.21 | -4.49/3.15 |
| θ (52.5°) | -3.53/6.19 | -7.21/7.57 | -9.19/9.42 | -9.45/7.60 | -5.65/4.04 | -2.42/2.98 | -2.64/4.14 | -4.81/4.56 | -5.25/6.52 | -6.74/7.79 | -6.04/4.86 | -4.95/7.45 | -4.65/3.74 | -2.93/3.88 | -4.85/7.28 | -6.18/6.47 | -7.91/8.98 | -6.71/4.91 | -4.30/5.43 | -7.18/5.57 | -4.00/4.52 | -4.58/4.09 | -7.89/6.25 | -8.20/4.15 |
| θ (60°) | -2.80/5.94 | -5.50/10.27 | -10.55/7.90 | -7.98/8.48 | -7.00/4.38 | -1.98/1.53 | -1.32/2.48 | -3.90/3.30 | -1.81/3.25 | -6.03/5.54 | -4.21/2.67 | -1.74/5.17 | -1.50/3.61 | -2.16/3.69 | -4.72/7.48 | -7.39/5.91 | -5.71/5.29 | -5.18/7.05 | -5.64/8.43 | -7.28/9.90 | -7.18/4.79 | -3.47/5.36 | -7.99/6.83 | -2.74/0.34 |
| θ (67.5°) | -1.17/5.43 | -4.53/9.68 | -7.46/4.07 | -5.01/5.67 | -5.33/3.59 | -2.75/1.12 | -1.19/3.31 | -4.16/2.50 | -1.32/2.53 | -4.89/3.44 | -1.65/1.12 | -1.35/3.79 | -4.70/3.43 | -3.62/3.67 | -5.26/7.09 | -8.26/7.72 | -9.60/5.48 | -6.78/6.22 | -5.97/4.73 | -6.61/3.76 | -2.82/2.81 | -2.87/2.26 | -3.32/6.85 | -3.22/0.19 |
| θ (75°) | -0.17/6.02 | -3.38/6.28 | -3.90/8.54 | -7.36/8.50 | -9.60/5.18 | -3.40/2.76 | -3.67/3.76 | -4.69/3.13 | -2.79/4.03 | -3.55/1.91 | 0.08/0.66 | -1.95/2.91 | -3.83/4.27 | -2.05/1.52 | -5.94/7.95 | -6.13/7.97 | -10.51/9.06 | -9.48/6.39 | -4.70/5.85 | -5.05/3.82 | -1.94/1.40 | -1.88/2.65 | -1.57/0.92 | -2.03/0.06 |
| θ (82.5°) | -1.94/4.55 | -1.82/6.98 | -8.22/3.23 | -6.89/5.81 | -7.54/6.79 | -4.04/2.64 | -3.50/5.78 | 6.72/6.15 | -4.42/3.82 | -3.79/1.99 | -0.37/1.77 | -2.48/2.72 | -4.28/3.44 | -3.16/5.24 | -9.94/6.56 | -9.87/9.92 | -7.18/6.29 | -8.83/7.89 | -8.43/5.21 | -2.85/2.41 | -1.05/0.75 | -0.87/4.53 | -3.64/0.66 | 0.28/0.06 |
| θ (90°) | -3.51/2.25 | -0.89/5.60 | -6.47/9.13 | -7.54/8.06 | -9.35/6.58 | -4.99/4.58 | -6.75/7.59 | -12.25/6.25 | -5.57/4.30 | -2.52/1.22 | -1.04/3.24 | -1.43/4.24 | -4.03/1.44 | -1.68/3.65 | -11.06/6.52 | -10.38/6.69 | -6.17/9.52 | -9.76/5.22 | -10.81/1.26 | -2.55/1.13 | -0.73/2.02 | 2.76/5.01 | -4.33/0.51 | 1.35/0.34 |
| θ (97.5°) | -4.59/4.00 | -2.73/6.34 | -7.88/5.92 | -12.40/9.02 | -7.12/10.35 | -10.18/9.10 | -9.73/12.77 | -11.20/9.92 | -6.00/2.97 | -4.07/1.24 | -1.95/2.26 | -1.34/1.11 | -0.22/0.34 | -0.04/2.36 | -7.54/8.08 | -8.39/3.15 | -4.53/11.73 | -10.51/6.29 | -5.48/0.64 | -0.69/0.88 | 2.87/1.22 | -3.22/4.18 | 0.62/0.31 | |
| θ (105°) | -4.44/6.02 | -6.02/6.44 | -5.04/5.05 | -12.32/11.21 | -7.67/8.93 | -10.04/12.36 | -15.71/14.90 | -12.15/8.08 | -4.14/1.54 | 0.14/0.78 | -1.65/0.10 | 2.02/1.39 | 1.98/1.41 | 2.10/1.03 | -4.45/3.95 | -3.43/3.20 | -4.02/15.63 | -2.34/4.31 | -4.37/1.88 | -4.12/4.27 | 1.81/0.66 | 0.61/0.00 | -5.43/4.78 | 0.01/0.20 |
| θ (112.5°) | -6.15/5.02 | -9.60/9.58 | -6.92/7.56 | -8.52/10.75 | -11.60/11.37 | -9.74/10.78 | -10.30/8.29 | -7.54/3.62 | -1.38/0.87 | -0.67/0.97 | 1.96/2.18 | 2.81/2.25 | 3.04/2.22 | 0.56/1.75 | -4.23/4.32 | -0.11/3.54 | -2.10/13.32 | -1.68/3.73 | -0.95/3.42 | -4.53/2.58 | 2.90/5.55 | 1.50/0.83 | -8.09/7.52 | -2.78/0.22 |
| θ (120°) | -5.03/6.51 | -7.91/11.30 | | | | | | | | | | | | | | | | | | | | | | |



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

Appendix D

| Theta (°) | Phi (°) | Gain | Phi(0°) | Phi(15°) | Phi(30°) | Phi(45°) | Phi(60°) | Phi(75°) | Phi(90°) | Phi(105°) | Phi(120°) | Phi(135°) | Phi(150°) | Phi(165°) | Phi(180°) | Phi(195°) | Phi(210°) | Phi(225°) | Phi(240°) | Phi(255°) | Phi(270°) | Phi(285°) | Phi(300°) | Phi(315°) | Phi(330°) | Phi(345°) | |
|----------------|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------|--|
| Theta (112.5°) | Phi(0°) | -5.79/5.92 | -6.05/8.70 | -9.50/7.71 | -9.14/6.76 | -5.04/4.13 | -2.75/2.23 | -2.37/2.49 | -2.65/3.00 | -2.85/1.53 | 0.23/0.53 | -0.08/0.82 | -0.96/0.25 | -0.76/1.49 | -2.34/2.58 | -4.13/4.91 | -6.10/6.92 | -7.07/8.05 | -7.33/6.47 | -7.37/4.61 | -5.19/2.57 | -1.38/2.46 | -4.07/8.03 | -7.61/5.02 | -6.99/8.00 | | |
| Theta (120°) | Phi(0°) | -4.76/5.57 | -7.19/10.71 | -11.78/9.53 | -9.17/7.94 | -6.77/4.97 | -4.03/3.33 | -4.09/5.66 | -7.23/6.35 | -4.35/2.90 | -1.93/1.60 | -0.62/0.37 | -0.61/1.66 | -1.26/1.45 | -2.16/2.29 | -3.45/7.57 | -6.64/6.43 | -5.37/6.19 | -10.57/8.98 | -6.71/8.66 | -6.19/4.45 | -4.00/4.23 | -6.22/8.84 | -5.83/5.95 | -7.29/8.15 | | |
| Theta (127.5°) | Phi(0°) | -4.49/6.54 | -8.09/11.78 | -11.89/10.06 | -11.61/14.45 | -13.14/10.85 | -9.40/9.38 | -9.01/9.84 | -10.84/9.59 | -6.47/3.81 | -3.09/1.59 | -0.57/0.24 | -0.85/2.50 | -2.99/3.82 | -2.28/2.43 | -5.82/7.30 | -8.65/5.23 | -9.19/5.57 | -9.52/9.28 | -9.58/8.95 | -9.19/5.57 | -4.32/4.08 | -4.35/7.28 | -10.27/5.85 | -12.44/9.09 | | |
| Theta (135°) | Phi(0°) | -6.71/7.21 | -10.62/13.44 | -14.44/13.04 | -12.02/12.04 | -14.34/13.57 | -13.07/11.60 | -13.86/15.29 | -14.40/9.69 | -7.44/6.65 | -5.46/5.34 | -4.81/2.72 | -2.88/3.61 | -5.05/6.31 | -4.98/4.29 | -7.04/12.68 | -8.32/7.70 | -6.01/4.79 | -8.21/7.01 | -7.01/8.44 | -8.49/5.74 | -5.98/3.85 | -5.60/14.59 | -7.77/8.72 | -8.54/9.87 | | |
| Theta (142.5°) | Phi(0°) | -6.29/6.77 | -9.39/9.72 | -9.75/10.15 | -11.02/12.42 | -14.00/14.18 | -15.29/15.08 | -14.74/11.86 | -10.44/10.74 | -11.23/10.05 | -9.05/7.30 | -5.39/6.38 | -7.78/10.07 | -8.61/7.72 | -10.96/8.39 | -8.40/8.62 | -8.40/6.92 | -6.19/9.91 | -14.27/9.70 | -9.27/8.64 | -8.15/6.32 | -9.16/8.99 | -6.42/10.23 | -8.98/10.98 | -13.21/8.94 | | |
| Theta (150°) | Phi(0°) | -7.37/7.27 | -9.35/11.56 | -13.14/13.32 | -12.74/12.31 | -13.71/15.30 | -15.60/16.16 | -14.92/14.82 | -10.30/13.77 | -11.25/15.32 | -12.87/8.94 | -7.52/7.65 | -8.25/11.77 | -14.14/11.61 | -9.23/8.83 | -8.34/8.46 | -8.24/6.60 | -7.29/13.16 | -15.77/15.78 | -14.17/10.34 | -9.58/8.62 | -9.58/12.52 | -11.35/12.63 | -14.42/15.58 | -12.44/9.99 | | |
| Theta (157.5°) | Phi(0°) | -10.04/7.43 | -6.42/8.04 | -11.14/14.20 | -15.54/14.04 | -12.21/11.61 | -11.77/12.36 | -14.03/14.97 | -14.57/15.16 | -14.85/12.95 | -9.76/8.63 | -9.13/10.14 | -10.73/10.89 | -10.05/9.09 | -8.39/7.93 | -7.44/7.88 | -9.72/12.00 | -13.76/14.95 | -13.76/14.49 | -14.76/11.46 | -9.15/8.70 | -10.44/12.54 | -14.24/14.60 | -13.60/11.98 | -11.25/10.05 | | |
| Theta (165°) | Phi(0°) | -9.95/9.88 | -10.52/12.04 | -14.47/15.35 | -14.61/15.90 | -15.67/15.25 | -15.76/15.04 | -15.07/14.96 | -16.26/16.19 | -16.02/12.95 | -10.07/8.32 | -7.53/7.64 | -8.34/9.28 | -9.79/9.08 | -7.87/7.04 | -6.80/7.55 | -9.00/10.21 | -10.47/9.93 | -9.47/9.49 | -9.61/9.86 | -9.76/10.04 | -10.26/10.91 | -11.95/13.55 | -14.98/15.17 | -15.71/13.44 | | |
| Theta (172.5°) | Phi(0°) | -15.33/14.01 | -14.11/13.75 | -13.45/15.23 | -15.00/16.00 | -15.60/15.82 | -15.16/14.58 | -15.03/15.37 | -15.46/15.17 | -13.30/11.63 | -10.25/9.46 | -8.95/8.93 | -8.94/9.28 | -9.88/10.30 | -10.40/10.31 | -10.27/10.39 | -10.88/11.17 | -11.52/11.75 | -11.76/11.22 | -11.11/10.48 | -10.82/12.37 | -13.94/16.14 | -15.96/15.73 | -15.59/15.41 | -15.39/14.09 | | |
| Theta (180°) | Phi(0°) | -10.12/9.50 | -9.95/10.63 | -11.58/12.48 | -13.58/13.79 | -13.50/13.12 | -13.23/13.14 | -14.07/13.67 | -14.49/15.68 | -15.69/15.69 | -15.17/14.57 | -14.90/15.44 | -14.81/13.79 | -13.87/14.34 | -14.91/15.42 | -14.77/15.41 | -15.40/14.90 | -15.83/15.15 | -14.65/15.32 | -15.84/15.92 | -15.95/15.47 | -14.69/12.98 | -12.12/11.56 | -11.40/11.42 | -11.44/11.37 | | |
| Gain | Phi(0°) | 5.60Pol. | TotalAnt. 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| Theta (0°) | Phi(0°) | 6.72/6.91 | 7.24/6.91 | 6.97/7.42 | 7.44/7.38 | 7.28/7.18 | 6.97/6.94 | 6.75/6.61 | 6.75/6.76 | 6.80/6.75 | 6.91/6.93 | 6.90/6.81 | 6.74/6.66 | 6.82/6.99 | 7.16/7.37 | 7.43/7.49 | 7.57/7.83 | 8.26/8.29 | 8.51/8.28 | 7.76/7.89 | 7.63/7.31 | 7.43/7.66 | 7.97/7.98 | 7.88/8.08 | 7.68/7.13 | | |
| Theta (7.5°) | Phi(0°) | -6.00/4.44 | -6.75/6.63 | -6.83/7.22 | -7.22/7.11 | -7.82/7.73 | -7.68/7.60 | -7.70/7.70 | -7.91/7.69 | -7.72/7.43 | -7.49/7.47 | -7.54/7.42 | -7.26/7.11 | -6.99/6.87 | -6.91/6.90 | -7.33/6.73 | -7.72/7.78 | -7.58/7.40 | -7.03/6.58 | -6.50/6.63 | -6.51/6.70 | -7.20/7.11 | -6.90/6.80 | -6.54/6.20 | -6.54/6.20 | | |
| Theta (15°) | Phi(0°) | -5.00/5.10 | -5.35/5.61 | -5.70/6.05 | -5.97/5.98 | -5.85/5.65 | -5.47/5.42 | -5.33/5.44 | -5.31/5.12 | -5.10/5.13 | -5.27/5.34 | -5.72/5.60 | -5.92/6.04 | -5.95/5.91 | -5.90/5.96 | -6.05/6.14 | -6.24/6.51 | -6.85/6.88 | -6.40/5.94 | -5.33/5.82 | -6.18/5.88 | -5.17/6.65 | -4.78/6.40 | | | | |
| Theta (22.5°) | Phi(0°) | -3.63/4.01 | -5.00/5.47 | -5.93/5.84 | -5.33/4.59 | -4.03/3.32 | -2.75/2.43 | -2.24/2.23 | -2.43/2.72 | -3.10/3.29 | -3.49/3.66 | -4.05/4.20 | -4.23/4.24 | -4.35/4.74 | -5.21/5.57 | -5.45/5.05 | -4.69/4.63 | -4.47/4.34 | -3.98/3.63 | -3.39/3.27 | -3.32/3.68 | -3.81/4.05 | -4.19/4.23 | -4.14/3.69 | -3.46/3.42 | | |
| Theta (30°) | Phi(0°) | -3.34/4.00 | -5.27/7.20 | -7.60/6.38 | -5.11/4.48 | -4.07/3.60 | -3.18/3.08 | -2.66/2.72 | -1.71/1.42 | -1.36/1.44 | -1.61/1.96 | -2.46/2.61 | -2.51/2.65 | -3.09/3.45 | -3.35/3.30 | -3.15/3.04 | -3.04/3.09 | -3.14/2.91 | -2.65/2.39 | -1.77/1.04 | -0.83/1.32 | -1.86/2.14 | -2.27/2.46 | -2.88/3.30 | -3.87/3.52 | | |
| Theta (37.5°) | Phi(0°) | -5.94/6.39 | -8.00/8.85 | -10.35/8.05 | -6.74/6.09 | -4.71/4.68 | -4.49/3.82 | -2.94/2.21 | -1.63/1.29 | -1.07/0.95 | -1.41/1.85 | -2.49/3.16 | -3.61/3.68 | -4.08/4.21 | -4.71/1.08 | -4.02/0.08 | -0.42/0.28 | -0.33/0.33 | -2.91/2.28 | -2.87/2.41 | -1.77/1.88 | -3.02/3.03 | | | | | |
| Theta (45°) | Phi(0°) | -8.35/8.80 | -8.43/8.26 | -7.83/6.48 | -6.84/8.76 | -9.03/9.36 | -8.74/6.59 | -5.36/4.46 | -3.48/2.52 | -1.80/1.28 | -1.18/1.59 | -1.87/1.48 | -1.05/0.60 | -0.31/0.68 | -1.57/1.97 | -2.19/1.96 | -1.57/1.97 | -1.99/1.81 | -1.48/0.62 | 0.12/0.60 | 0.40/0.47 | -1.31/2.23 | -2.52/2.94 | -3.78/4.37 | -5.09/7.55 | | |
| Theta (52.5°) | Phi(0°) | -8.26/7.84 | -6.34/5.21 | -5.08/3.56 | -7.02/8.99 | -10.47/12.02 | -11.51/8.95 | -6.16/3.88 | -2.37/1.85 | -2.02/1.99 | -2.03/1.86 | -1.26/0.73 | -0.21/0.24 | 0.30/0.15 | -1.47/1.72 | -2.86/2.96 | -3.59/4.28 | -4.03/3.13 | -1.94/1.10 | -0.85/0.96 | -0.99/1.36 | -2.14/2.13 | -2.37/1.35 | -5.04/7.70 | -9.18/8.45 | | |
| Theta (60°) | Phi(0°) | -11.41/6.01 | -5.36/3.99 | -3.27/3.68 | -5.89/6.65 | -6.32/6.25 | -6.19/6.20 | -5.29/3.97 | -2.68/1.41 | -0.39/0.13 | -0.17/1.20 | -2.29/2.55 | -2.28/1.86 | -1.13/0.97 | -1.47/2.77 | -3.29/4.23 | -4.51/3.80 | -2.73/1.99 | -1.95/2.29 | -0.43/0.33 | -2.79/2.28 | -2.68/3.92 | -4.59/4.75 | -5.03/4.21 | | | |
| Theta (67.5°) | Phi(0°) | -3.98/5.14 | -5.35/5.10 | -5.47/7.80 | -9.25/7.29 | -5.43/4.00 | -3.56/3.65 | -3.68/3.85 | -2.97/1.37 | 0.16/0.22 | -0.02/0.72 | -1.62/2.00 | -2.26/1.47 | 0.65/0.29 | -0.41/1.73 | -2.73/4.43 | -5.55/6.57 | -6.80/5.78 | -5.53/5.63 | -6.23/6.93 | -7.18/5.04 | -3.21/2.90 | -3.31/3.53 | -2.97/2.90 | -3.27/4.18 | | |
| Theta (75°) | Phi(0°) | -4.45/6.91 | -8.88/10.10 | -11.76/13.93 | -11.43/8.16 | -6.07/4.08 | -2.50/1.34 | -0.92/1.47 | -2.59/2.84 | -1.34/0.10 | 0.39/0.02 | 0.34/0.36 | -0.82/1.58 | -1.60/1.18 | -1.69/3.31 | -4.15/5.99 | -6.65/7.61 | -9.45/10.43 | -9.10/10.12 | -8.89/7.32 | -5.09/2.30 | -1.50/1.25 | -1.43/2.36 | -3.25/3.22 | -2.92/3.59 | | |
| Theta (82.5°) | Phi(0°) | -10.33/14.80 | -15.06/15.03 | -14.52/12.63 | -11.24/9.86 | -7.58/5.03 | -2.35/0.66 | -0.08/0.46 | -0.32/2.23 | -2.19/1.20 | -0.21/0.08 | 0.27/0.85 | 0.80/0.20 | -0.48/0.42 | -0.79/2.03 | -3.00/5.80 | -6.74/8.68 | -11.11/10.39 | -10.33/9.60 | -9.18/7.52 | -0.05/0.29 | -2.18/4.57 | -3.66/3.20 | -4.91/8.97 | | | |
| Theta (90°) | Phi(0°) | -11.71/10.60 | -13.77/15.95 | -12.72/10.86 | -11.42/12.20 | -7.94/4.65 | -1.63/0.82 | 1.69/2.41 | 0.35/1.15 | -1.58/0.82 | -0.54/0.76 | -0.28/0.65 | 0.99/0.85 | 0.54/0.12 | -0.16/1.41 | -3.16/5.15 | -6.77/10.53 | -8.94/10.34 | -11.38/13.40 | -8.31/6.14 | -2.49/0.49 | -0.08/1.21 | -3.35/5.78 | -5.29/4.56 | -7.79/12.74 | | |
| Theta (97.5°) | Phi(0°) | -8.65/8.14 | -12.37/12.90 | -11.86/8.95 | -11.05/14.30 | -7.42/3.51 | -1.61/0.11 | 1.06/1.41 | 0.69/0.12 | -0.40/0.28 | -0.15/0.52 | 0.51/0.76 | 0.56/0.27 | 0.50/0.26 | -4.13/3.16 | -7.02/7.83 | -10.66/11.43 | -11.76/10.07 | -5.49/3.76 | -3.10/1.19 | -1.13/2.46 | -5.70/6.72 | -7.35/6.59 | -7.35/8.71 | | | |
| Theta (105°) | Phi(0°) | -7.15/8.22 | -9.39/12.45 | -14.57/12.83 | -11.82/13.90 | -7.37/2.84 | -1.48/0.05 | 0.40/0.08 | -0.45/0.99 | -1.67/0.64 | -0.32/0.38 | -0.83/0.52 | 0.64/0.32 | -0.93/0.71 | -1.19/2.16 | -2.92/4.50 | -5.05/6.74 | -4.44/4.32 | -1.96/4.08 | -5.65/6.09 | -6.79/5.28 | -6.67/8.92 | | | | | |
| Theta (112.5°) | Phi(0°) | -6.68/6.10 | -8.40/13.28 | -13.84/11.38 | -8.17/11.44 | -10.37/4.19 | -2.29/1.56 | -1.65/2.34 | -3.18/4.00 | -2.19/0.61 | -0.94/1.49 | -1.90/0.60 | -1.35/1.68 | -1.93/1.22 | -1.66/3.18 | -4.33/5.41 | -7.17/7.03 | -7.79/10.91 | -10.05/9.70 | -7.28/5.43 | -5.96/4.82 | -4.54/5.94 | -6.21/7.91 | -6.19/6.63 | -7.86/7.98 | | |
| Theta (120°) | Phi(0°) | -6.86/7.72 | -6.77/9.68 | -12.22/12.00 | -13.36/12.25 | -9.95/7.78 | -5.06/4.39 | -4.15/5.31 | -8.71/8.49 | -5.43/4.31 | -2.07/2.09 | -1.60/0.91 | -0.85/1.61 | -3.03/3.30 | -3.47/3.67 | -6.30/6.58 | -5.94/7.22 | -6.84/9.51 | -6.08/5.03 | -8.61/5.78 | -5.98/5.26 | -6.78/7.72 | -8.45/9.09 | -13.13/9.26 | | | |
| Theta (127.5°) | Phi(0°) | -8.24/7.65 | -7.57/13.52 | -13.36/9.49 | -9.33/12.54 | -11.44/8.47 | -7.85/7.23 | -8.11/11.01 | -13.53/11.91 | -8.09/5.18 | -4.24/3.63 | -1.92/1.41 | -1.24/3.61 | -3.81/4.74 | -3.87/2.25 | -3.57/1.77 | -9.16/0.77 | -5.84/4.88 | -6.71/8.39 | -5.36/6.41 | -10.34/6.24 | -5.22/6.62 | -7.49/11.95 | -12.67/10.03 | -13.82/9.34 | | |
| Theta (135°) | Phi(0°) | -7.98/8.11 | -8.29/9.30 | -11.11/9.30 | -6.87/7.02 | -10.04/13.88 | -13.64/11.78 | -9.89/9.09 | -11.17/13.19 | -8.85/6.80 | -6.88/6.46 | -6.81/5.24 | -4.21/3.88 | -5.99/8.37 | -4.97/4.42 | -6.32/11.84 | -10.59/9.39 | -7.26/6.99 | -10.44/9.92 | -7.28/6.10 | -7.92/15.16 | -9.36/8.98 | -12.98/14.91 | -10.05/12.25 | -10.34 | | |

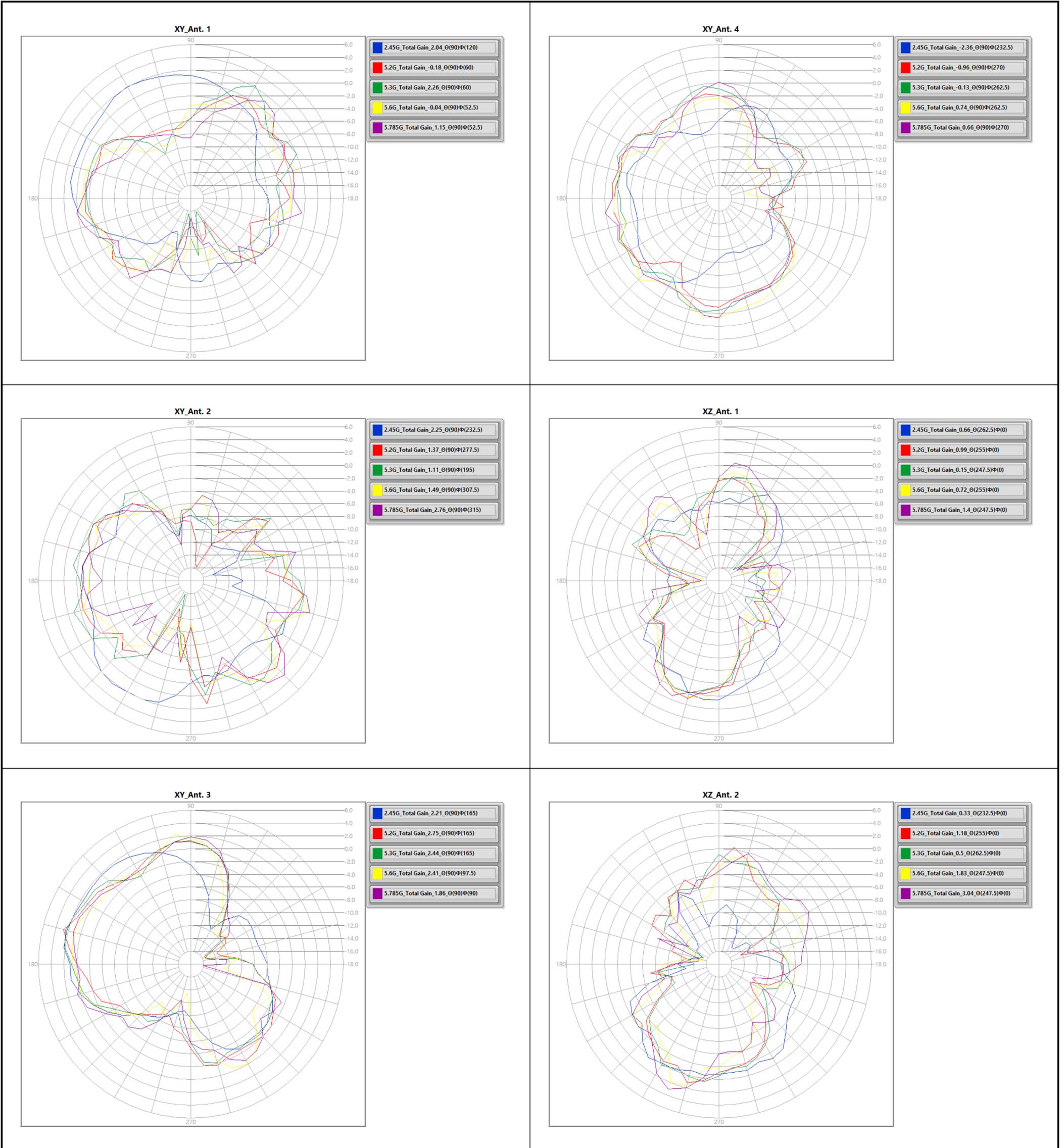


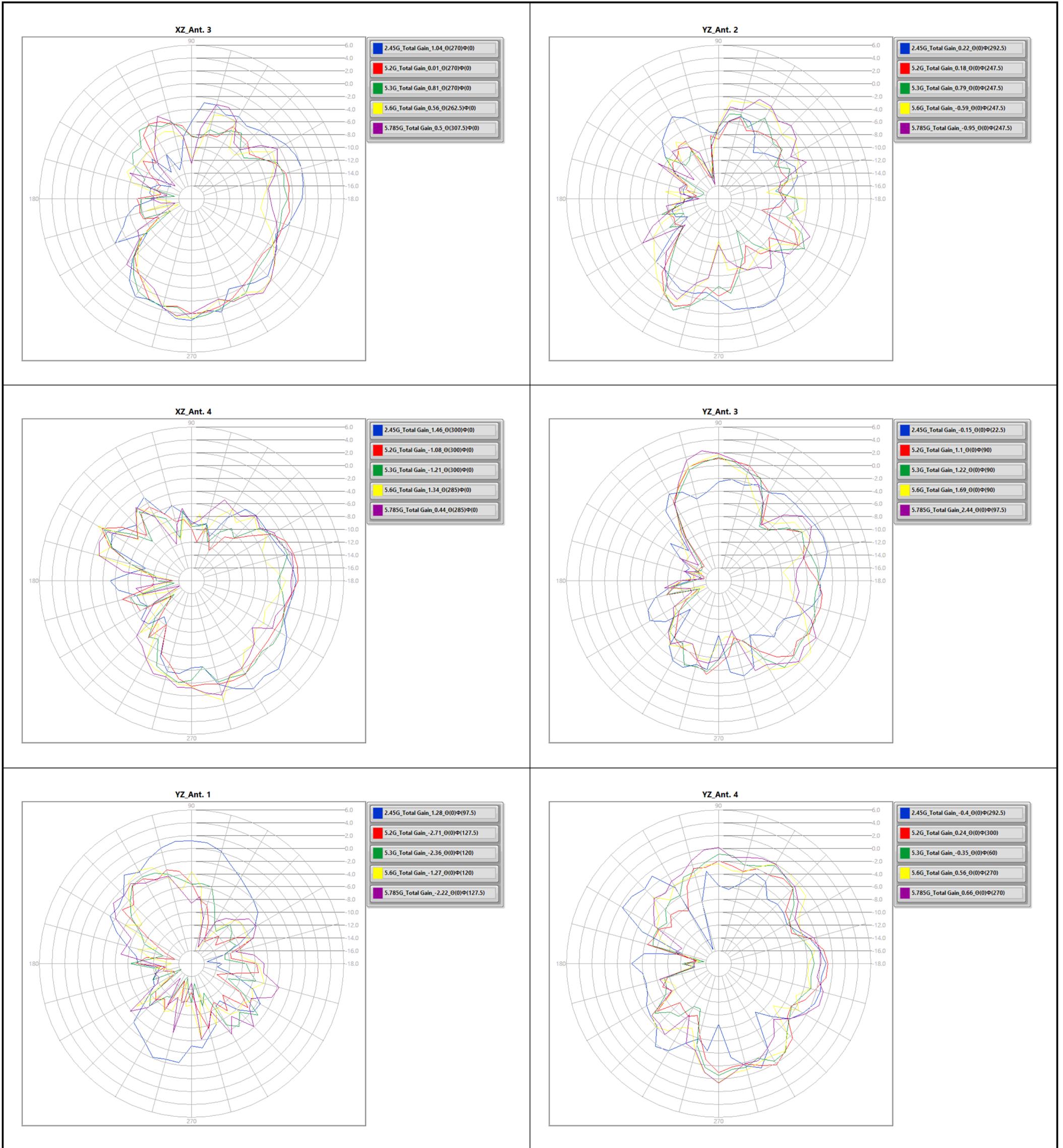
Antenna Pattern of 2.4GHz and 5GHz UNII 1~3

Appendix D

| Theta | 8.04/9.08 | -10.00/10.17 | -9.67/8.21 | -7.13/6.46 | -5.90/5.35 | -5.29/5.64 | -6.41/7.48 | -8.27/8.84 | -9.50/10.90 | -11.37/11.51 | -11.25/10.35 | -8.43/7.01 | -6.70/6.85 | -7.47/8.97 | -11.21/12.99 | -12.40/10.09 | -8.63/8.04 | -8.41/8.90 | -9.71/11.14 | -12.50/11.45 | -9.64/8.47 | -8.97/10.18 | -10.31/9.45 | -9.19/8.55 |
|--------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Theta | 11.54/10.84 | -10.53/11.18 | -11.38/11.41 | -12.14/13.86 | -14.86/15.38 | -14.60/14.42 | -14.56/15.15 | -15.78/14.87 | -15.55/15.58 | -15.51/14.94 | -14.65/15.16 | -14.96/12.85 | -11.75/11.94 | -12.79/15.47 | -15.60/15.58 | -14.64/15.04 | -13.69/13.12 | -12.63/13.46 | -14.07/14.24 | -13.77/13.29 | -12.84/12.52 | -12.45/12.72 | -13.89/15.53 | -15.14/14.71 |
| Theta | 12.04/12.33 | -12.92/13.34 | -13.59/14.71 | -13.55/12.11 | -11.25/11.07 | -11.43/11.98 | -12.57/13.29 | -13.81/14.47 | -15.00/14.99 | -15.20/14.42 | -14.59/15.05 | -15.44/15.77 | -15.38/16.21 | -15.15/14.99 | -14.58/13.85 | -13.80/13.73 | -13.70/13.73 | -13.87/14.35 | -14.50/14.09 | -15.05/15.27 | -15.73/14.63 | -15.15/13.81 | -13.37/13.50 | -13.15/12.59 |
| Freq(Hz) | 5.3GPol. | TotalAnt.4 | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | - |
| 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) | 4.43/4.09 | -4.05/3.90 | -3.65/3.20 | -2.96/2.74 | -2.78/2.86 | -2.83/2.77 | -2.92/2.99 | -2.95/3.17 | -3.33/3.42 | -3.50/3.52 | -3.52/3.52 | -3.33/3.11 | -2.89/2.66 | -2.67/2.78 | -3.02/3.09 | -3.15/3.27 | -3.37/3.51 | -3.48/3.49 | -3.50/3.75 | -3.79/4.13 | -4.28/4.26 | -4.25/4.28 | -4.42/4.68 | -4.61/4.62 |
| Theta(7.5) | -3.49/3.13 | -3.20/3.42 | -3.34/3.23 | -3.35/3.29 | -3.24/3.07 | -2.93/2.97 | -3.26/3.38 | -3.36/3.53 | -3.99/4.16 | -4.29/4.25 | -4.41/4.35 | -4.14/3.92 | -3.57/3.15 | -3.01/2.87 | -2.75/2.76 | -2.73/3.05 | -3.18/3.25 | -3.27/3.16 | -3.30/3.52 | -3.57/3.53 | -3.52/3.48 | -3.48/3.64 | -3.69/3.77 | -3.47/3.68 |
| Theta(15) | -2.27/2.28 | -2.60/2.83 | -2.90/3.03 | -3.49/3.39 | -3.71/3.96 | -4.23/4.15 | -4.18/4.05 | -3.73/3.52 | -3.50/3.40 | -3.40/3.61 | -3.84/4.06 | -4.01/3.56 | -2.85/2.35 | -2.12/1.92 | -1.84/2.00 | -2.41/2.95 | -3.39/3.53 | -3.46/3.14 | -2.95/2.88 | -2.66/2.41 | -2.17/1.96 | -1.79/1.72 | -1.64/1.73 | -1.85/2.23 |
| Theta(22.5) | -2.64/3.19 | -3.40/3.60 | -4.09/4.94 | -5.95/5.59 | -5.32/5.38 | -5.05/5.00 | -5.09/5.25 | -4.99/5.12 | -4.95/4.65 | -4.14/4.01 | -4.08/4.02 | -3.42/2.69 | -2.32/2.28 | -2.44/2.77 | -4.51/4.83 | -5.02/4.81 | -4.31/4.06 | -4.06/4.00 | -3.73/3.50 | -3.28/3.05 | -2.72/2.54 | -2.27/2.25 | -2.25/2.70 | -2.52/2.70 |
| Theta(30) | -3.38/4.60 | -5.68/6.61 | -8.18/9.98 | -10.27/7.66 | -6.52/5.85 | -5.46/5.62 | -5.25/5.30 | -5.02/4.71 | -4.36/4.02 | -3.77/3.53 | -3.62/3.60 | -3.04/2.25 | -1.86/1.79 | -2.09/2.56 | -2.88/3.04 | -3.48/3.73 | -3.24/2.72 | -2.86/3.69 | -4.66/4.95 | -4.19/3.35 | -3.00/2.98 | -2.81/2.41 | -2.26/2.37 | -2.60/3.01 |
| Theta(37.5) | -4.58/5.98 | -7.91/9.84 | -10.89/10.89 | -10.54/9.38 | -8.36/6.42 | -5.09/3.83 | -3.03/2.82 | -2.91/2.64 | -2.20/1.90 | -1.75/1.68 | -1.92/2.45 | -2.66/2.09 | -1.78/1.90 | -1.78/1.40 | -1.20/1.99 | -3.23/3.77 | -4.85/6.88 | -7.51/5.55 | -3.94/4.09 | -4.91/4.75 | -3.40/2.28 | -1.91/1.77 | -2.01/2.71 | -3.57/4.43 |
| Theta(45) | -5.71/10.98 | -12.32/11.58 | -9.11/6.49 | -4.84/4.01 | -3.43/2.83 | -2.23/1.56 | -1.38/1.06 | -0.88/0.94 | -1.17/0.87 | -0.63/0.30 | 0.14/0.45 | -1.05/1.43 | -2.30/2.36 | -1.32/0.84 | -0.93/1.05 | -1.27/2.15 | -2.66/1.34 | -1.00/1.85 | -2.72/2.89 | -2.74/2.85 | -3.34/3.51 | -3.34/3.06 | -3.34/3.06 | -5.59/7.15 |
| Theta(52.5) | -7.67/8.92 | -9.88/8.98 | -7.08/5.42 | -5.12/4.43 | -3.62/2.90 | -2.62/1.57 | -0.84/0.74 | -0.85/0.94 | -1.27/1.42 | -0.95/0.51 | 0.35/0.34 | 0.19/0.92 | -1.66/1.36 | -1.06/0.39 | 0.27/0.65 | -2.04/2.10 | -2.01/2.03 | -1.21/0.64 | -0.61/1.01 | -2.02/3.10 | -3.16/3.36 | -4.12/5.01 | -5.85/6.45 | -6.47/10.70 |
| Theta(60) | -9.23/10.79 | -10.33/8.66 | -7.38/6.31 | -5.96/5.47 | -4.56/3.34 | -2.16/1.07 | -0.35/0.11 | 0.28/0.07 | -0.86/1.94 | -1.40/0.62 | 0.57/1.08 | 1.27/0.43 | -1.21/1.50 | -2.32/0.58 | 0.18/0.39 | 0.14/1.02 | -1.26/0.90 | -0.60/0.16 | -0.40/1.59 | -2.62/4.12 | -6.15/7.04 | -7.42/7.73 | -8.92/8.46 | -8.28/8.19 |
| Theta(67.5) | -11.48/12.39 | -12.45/11.06 | -9.01/8.14 | -7.75/6.77 | -6.47/5.22 | -3.55/2.23 | -1.52/1.23 | -1.51/2.22 | -3.14/4.67 | -3.28/1.11 | 0.24/0.66 | 0.32/0.18 | -1.70/1.40 | -1.61/0.98 | 1.62/2.28 | 0.67/0.15 | -1.31/1.37 | -1.67/2.01 | -1.98/2.91 | -4.06/5.20 | -5.79/7.26 | -9.43/12.61 | -13.36/11.51 | -13.36/11.51 |
| Theta(75) | -8.82/13.08 | -13.55/9.60 | -6.66/6.47 | -8.93/9.12 | -8.23/6.24 | -4.77/3.32 | -2.11/1.63 | -1.86/2.57 | -2.83/3.13 | -2.49/1.10 | -0.47/0.21 | -0.93/0.13 | -1.62/1.19 | -2.74/0.14 | 0.47/1.14 | 0.42/1.14 | -1.89/1.54 | -1.21/1.15 | -1.24/1.53 | -3.34/4.53 | -5.18/6.77 | -6.22/6.82 | -8.41/8.44 | -5.96/7.33 |
| Theta(82.5) | -9.37/12.83 | -9.98/6.14 | -4.71/5.45 | -5.36/5.30 | -5.26/4.87 | -3.33/1.46 | -1.01/1.26 | -2.03/3.21 | -4.01/3.42 | -2.67/0.62 | -0.50/1.11 | -3.33/3.07 | -4.42/2.75 | -1.51/1.05 | 3.10/0.57 | -0.70/2.54 | -2.20/0.82 | 0.66/0.40 | -1.38/4.01 | -4.83/4.26 | -4.40/3.93 | -4.62/5.29 | -5.89/5.40 | -4.98/8.02 |
| Theta(90) | -9.56/7.26 | -6.17/3.53 | -3.05/4.10 | -4.80/6.23 | -5.76/3.75 | -2.45/1.57 | -0.88/0.41 | -1.02/1.96 | -3.18/3.19 | -3.81/1.87 | -1.26/0.66 | -1.95/1.78 | -2.49/2.42 | -2.94/1.30 | -1.43/1.00 | -1.71/3.33 | -3.63/1.22 | -0.37/0.13 | -0.56/1.09 | -2.19/2.31 | -1.93/2.10 | -2.95/3.84 | -5.40/7.08 | -9.05/9.48 |
| Theta(97.5) | -7.01/6.12 | -4.93/3.16 | -3.88/5.56 | -6.98/7.75 | -7.84/6.62 | -5.39/2.81 | -2.05/2.22 | -2.42/2.40 | -3.40/3.15 | -4.03/2.70 | -3.29/4.46 | -4.30/4.22 | -1.96/3.21 | -3.57/2.63 | -2.51/2.68 | -2.85/3.86 | -5.31/3.00 | -1.89/0.45 | -1.68/0.67 | -1.44/1.43 | -2.04/1.66 | -3.06/5.05 | -8.95/12.59 | -8.28/8.80 |
| Theta(105) | -11.04/9.37 | -5.96/2.69 | -2.23/3.88 | -6.19/7.02 | -7.80/6.25 | -5.67/4.05 | -3.14/3.10 | -4.41/4.22 | -5.49/4.19 | -3.22/2.77 | -3.28/2.91 | -2.85/1.47 | -2.29/2.98 | -3.71/3.96 | -6.35/6.49 | -9.74/5.51 | -5.45/3.53 | -4.81/5.67 | -4.81/5.67 | -5.41/3.59 | -2.84/2.54 | -4.99/6.76 | -7.13/10.37 | -9.29/8.71 |
| Theta(112.5) | -7.58/6.30 | -3.87/1.80 | -2.80/4.40 | -8.76/6.63 | -6.18/4.99 | -4.50/3.94 | -3.43/3.57 | -3.77/4.63 | -5.71/5.27 | -6.19/4.91 | -4.56/6.01 | -5.35/5.86 | -4.57/4.18 | -6.60/5.85 | -5.86/6.83 | -8.41/5.45 | -5.25/2.75 | -7.82/9.22 | -10.57/12.99 | -10.47/13.59 | -10.57/12.99 | -10.57/12.99 | -10.57/12.99 | -10.57/12.99 |
| Theta(120) | -6.37/5.09 | -3.40/4.05 | -4.62/9.45 | -9.45/8.51 | -6.46/5.34 | -4.49/4.98 | -5.74/5.26 | -5.20/6.50 | -6.33/7.55 | -6.57/5.87 | -3.92/4.57 | -5.07/5.67 | -7.46/6.21 | -8.25/4.83 | -3.75/4.24 | -8.31/5.70 | -5.34/3.57 | -9.54/10.57 | -10.25/10.18 | -4.36/3.14 | -2.72/5.57 | -10.39/4.87 | -2.74/5.11 | -5.29/4.24 |
| Theta(127.5) | -4.42/3.94 | -3.77/3.31 | -3.58/3.70 | -5.34/6.94 | -8.23/8.29 | -8.83/6.41 | -5.56/4.93 | -6.23/5.19 | -6.53/7.31 | -9.02/6.89 | -6.45/6.83 | -6.94/5.71 | -7.72/4.94 | -5.63/3.39 | -5.71/6.65 | -3.11/3.61 | -5.38/0.02 | -7.61/7.30 | -3.34/3.72 | -1.32/3.23 | -9.86/8.39 | -3.77/6.26 | -4.80/4.17 | -4.80/4.17 |
| Theta(135) | -9.30/5.37 | -4.77/4.41 | -3.25/3.32 | -4.06/5.80 | -7.98/9.83 | -9.72/7.28 | -6.14/4.37 | -4.54/5.03 | -4.11/4.87 | -7.31/11.20 | -10.79/9.40 | -8.51/6.59 | -9.97/9.39 | -9.49/9.95 | -9.12/7.80 | -6.12/6.99 | -3.14/5.41 | -5.67/7.21 | -7.28/7.00 | -4.71/6.28 | -5.40/4.98 | -6.39/4.44 | -5.85/10.26 | -10.22/7.60 |
| Theta(142.5) | -6.08/10.09 | -7.58/8.10 | -7.36/6.23 | -5.59/5.59 | -5.65/5.67 | -7.44/8.00 | -7.66/7.17 | -5.20/3.59 | -3.58/4.57 | -6.17/8.95 | -9.51/10.93 | -9.17/11.17 | -14.52/13.71 | -15.73/10.91 | -5.93/6.85 | -9.41/8.60 | -9.37/8.01 | -3.80/4.24 | -5.32/4.40 | -2.94/5.48 | -11.21/9.04 | -7.91/6.04 | -5.41/4.38 | -4.23/4.56 |
| Theta(150) | -2.14/3.37 | -8.12/8.67 | -10.95/10.53 | -7.57/6.46 | -3.75/3.71 | -3.96/5.14 | -7.00/8.20 | -8.89/8.89 | -8.75/8.39 | -8.83/9.36 | -11.01/10.53 | -9.66/9.91 | -9.92/8.61 | -8.50/9.67 | -9.95/9.87 | -8.59/11.87 | -14.74/9.34 | -7.82/8.47 | -8.43/8.45 | -9.38/11.56 | -15.32/12.08 | -8.17/5.26 | -3.37/2.65 | -1.99/1.83 |
| Theta(157.5) | -4.51/7.18 | -10.57/10.89 | -10.77/10.86 | -12.18/11.46 | -6.88/6.92 | -6.19/5.90 | -6.87/8.64 | -6.19/5.90 | -15.20/13.90 | -10.97/10.53 | -11.03/9.95 | -6.87/6.61 | -7.71/7.44 | -7.26/8.45 | -11.68/13.83 | -6.65/9.96 | -5.60/7.22 | -9.00/10.50 | -10.53/8.74 | -6.05/5.02 | -15.71/9.44 | -5.90/4.43 | -3.50/3.44 | -3.50/3.44 |
| Theta(165) | -8.15/9.05 | -9.88/10.70 | -10.37/9.34 | -8.30/7.73 | -7.16/6.47 | -6.49/6.81 | -7.33/7.93 | -8.59/8.98 | -9.84/11.13 | -13.05/12.48 | -11.24/10.55 | -9.45/8.49 | -8.05/8.15 | -8.59/9.85 | -12.33/14.67 | -13.89/10.55 | -8.29/7.44 | -7.52/8.28 | -9.16/10.32 | -10.46/8.74 | -7.27/6.69 | -7.72/9.61 | -9.66/8.51 | -7.93/8.00 |
| Theta(172.5) | -12.23/11.67 | -12.16/12.77 | -14.44/10.56 | -15.90/15.21 | -15.64/15.12 | -15.41/15.08 | -15.66/15.89 | -15.85/15.31 | -15.87/14.96 | -13.34/13.28 | -14.22/16.02 | -15.79/15.40 | -15.21/13.25 | -13.23/13.98 | -14.91/14.73 | -13.78/13.79 | -13.23/13.15 | -13.51/14.27 | -14.29/15.34 | -14.69/13.87 | -13.39/14.15 | -14.91/15.64 | -14.86/15.56 | -15.62/14.74 |
| Theta(180) | -12.47/11.74 | -11.54/12.12 | -13.59/14.59 | -14.36/12.61 | -12.46/12.45 | -11.94/12.15 | -12.09/11.97 | -12.28/12.43 | -12.37/12.55 | -12.67/15.13 | -15.52/15.59 | -15.98/15.18 | -15.20/15.28 | -15.46/14.66 | -14.38/14.29 | -12.95/13.10 | -13.10/14.20 | -14.83/15.67 | -15.13/15.60 | -15.15/15.05 | -15.89/16.13 | -15.16/15.53 | -14.08/13.68 | -14.08/13.68 |
| Freq(Hz) | 5.6GPol. | TotalAnt.4 | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | - | + | - |
| 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) | 3.12/3.12 | -3.25/3.44 | -3.31/3.39 | -3.62/3.71 | -3.71/3.81 | - | | | | | | | | | | | | | | | | | | |

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





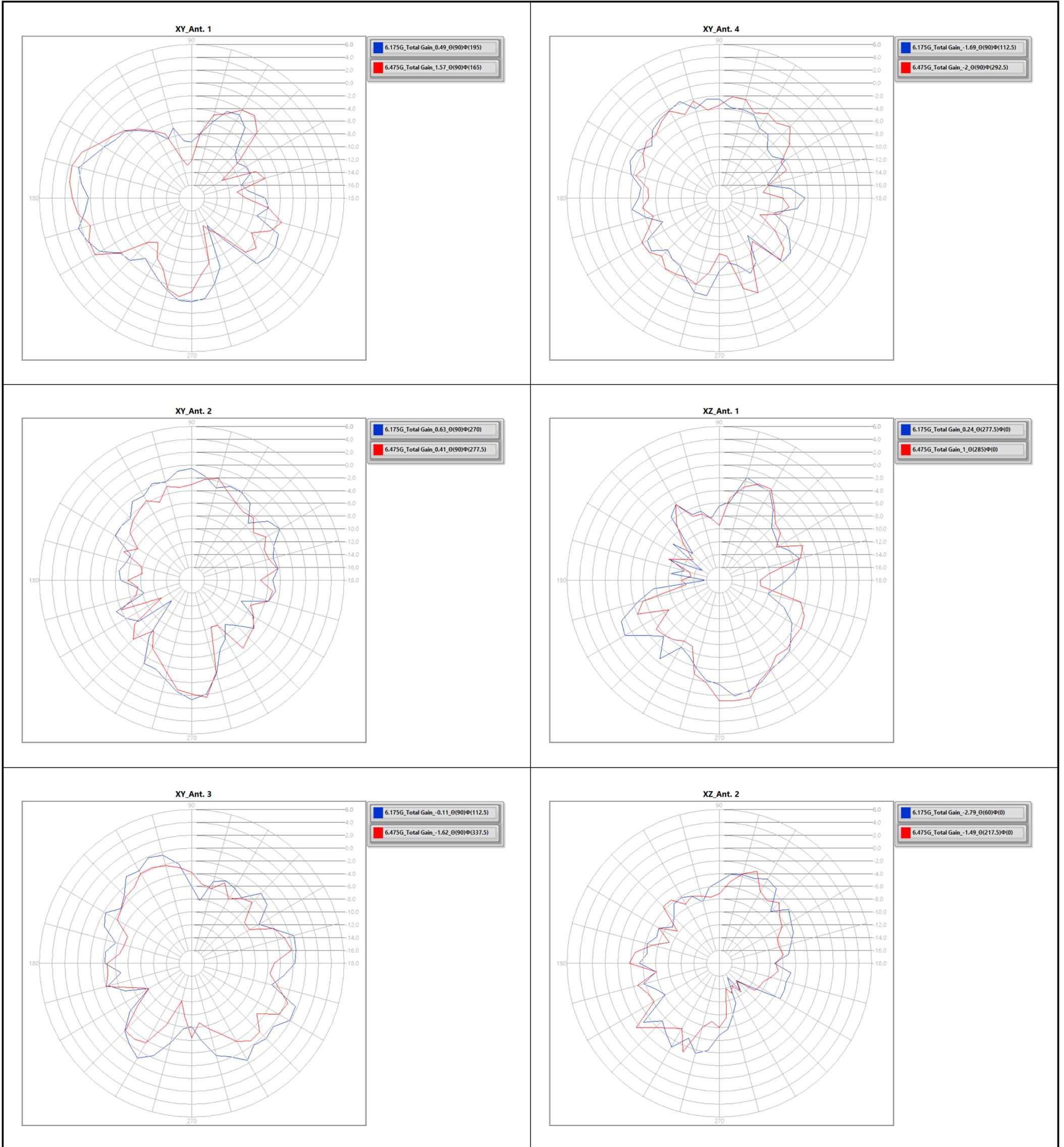


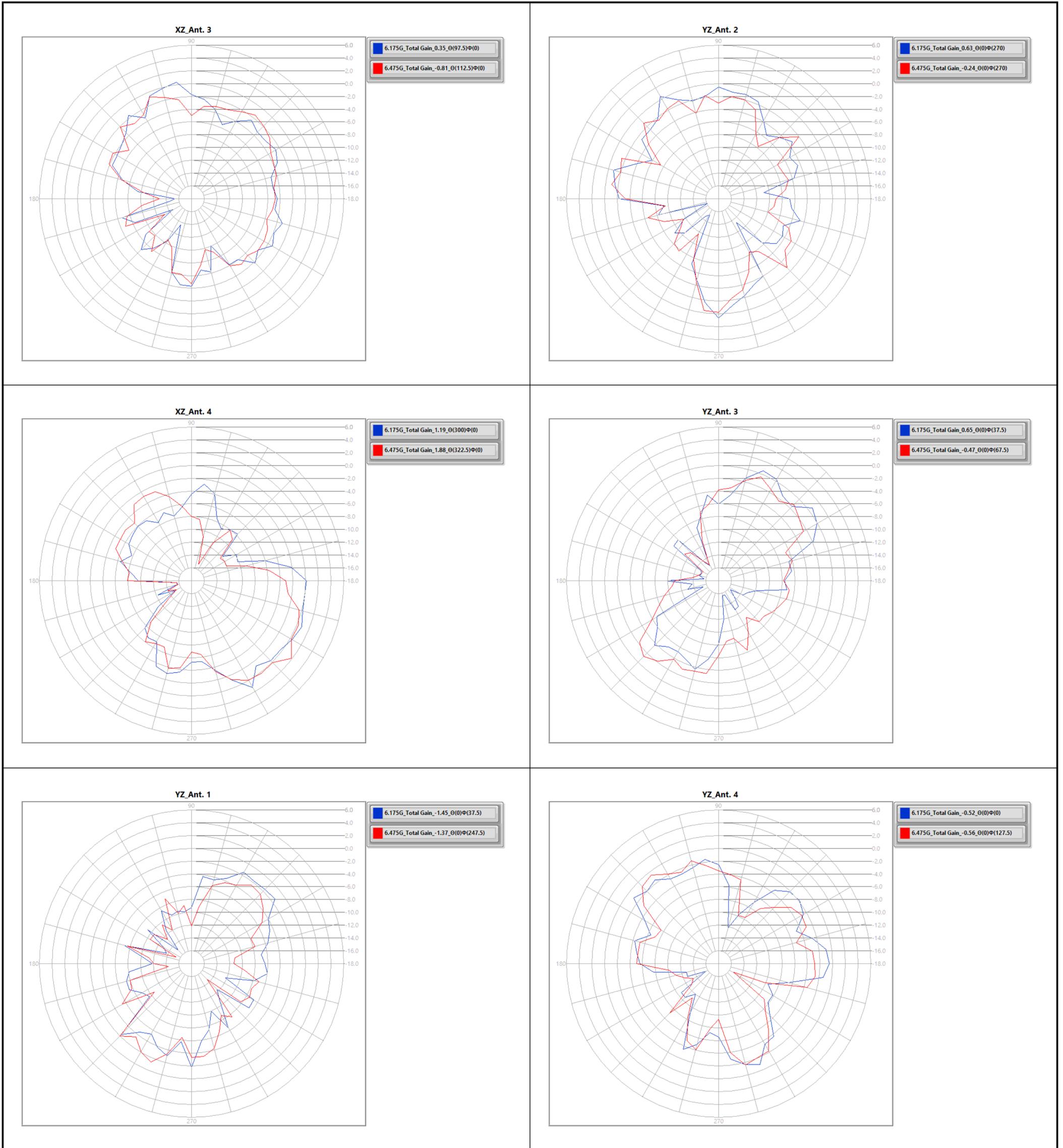
Antenna Pattern of 6GHz UNII 5~6

Appendix E

| Theta | Phi | Phi(75°) | Phi(90°) | Phi(105°) | Phi(120°) | Phi(135°) | Phi(150°) | Phi(165°) | Phi(180°) | Phi(195°) | Phi(210°) | Phi(225°) | Phi(240°) | Phi(255°) | Phi(270°) | Phi(285°) | Phi(300°) | Phi(315°) | Phi(330°) | Phi(345°) | | | | | | |
|-------------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--|
| Theta(15°) | Phi(75°) | -5.02/4.56 | -4.36/4.23 | -4.89/4.95 | -5.52/5.90 | -5.88/6.19 | -6.24/6.59 | -6.55/6.21 | -6.15/6.42 | -5.71/5.54 | -5.69/5.63 | -5.25/4.48 | -3.84/3.39 | -3.16/3.05 | -3.02/3.01 | -3.29/3.84 | -4.59/5.60 | -6.45/7.40 | -8.68/9.95 | -11.85/13.06 | -14.73/13.95 | -11.45/9.72 | -7.86/7.08 | -6.68/6.54 | -5.95/5.12 | |
| Theta(20°) | Phi(75°) | -3.33/3.96 | -4.17/5.24 | -5.17/5.43 | -5.21/4.30 | -4.16/4.01 | -3.01/2.21 | -1.80/1.72 | -1.72/2.49 | -3.32/3.86 | -4.16/3.93 | -3.72/3.64 | -3.52/3.82 | -3.93/3.67 | -3.32/3.99 | -2.87/3.37 | -4.09/4.95 | -6.33/8.18 | -10.39/12.08 | -13.12/15.26 | -15.50/14.77 | -12.19/9.72 | -7.18/5.79 | -4.00/3.68 | -2.88/2.84 | |
| Theta(25°) | Phi(75°) | -2.68/3.20 | -4.53/6.12 | -6.48/7.48 | -6.95/1.89 | -1.16/0.52 | -0.20/0.06 | -0.08/0.19 | -0.67/1.43 | -2.06/2.56 | -2.65/2.65 | -3.26/3.58 | -3.69/3.43 | -3.26/3.36 | -3.11/3.19 | -2.92/3.38 | -3.67/5.31 | -7.77/10.44 | -12.20/12.45 | -13.52/14.32 | -12.62/10.66 | -9.12/7.90 | -6.84/5.95 | -4.00/2.85 | -2.32/2.54 | |
| Theta(30°) | Phi(75°) | -2.21/4.00 | -4.86/5.31 | -4.17/3.05 | -2.02/1.25 | -0.98/0.83 | -0.19/0.27 | 0.65/0.37 | -0.21/1.26 | -2.83/4.00 | -4.29/4.03 | -3.39/3.19 | -4.08/4.79 | -4.77/4.60 | -4.01/3.56 | -3.94/5.48 | -8.09/11.13 | -12.08/12.17 | -13.29/15.45 | -15.68/14.57 | -14.39/10.78 | -7.89/6.37 | -5.88/4.91 | -3.13/1.76 | -1.56/1.99 | |
| Theta(35°) | Phi(75°) | -3.32/4.69 | -5.68/4.24 | -3.26/1.80 | -0.93/1.27 | -1.53/1.39 | -1.16/1.14 | -1.62/2.08 | -2.76/4.08 | -6.38/3.83 | -8.67/6.70 | -4.24/2.88 | -2.25/3.08 | -3.79/5.36 | -5.55/6.31 | -8.19/9.90 | -11.56/11.96 | -12.21/15.56 | -15.04/15.22 | -14.53/12.16 | -11.42/9.38 | -8.18/5.99 | -4.65/3.94 | -3.11/2.15 | -1.31/1.47 | |
| Theta(40°) | Phi(75°) | -2.51/5.22 | -4.98/2.95 | -2.17/1.70 | -1.20/1.28 | -2.67/4.04 | -3.29/1.79 | -1.34/1.99 | -3.17/4.49 | -5.82/6.18 | -6.36/6.35 | -5.52/3.25 | -3.00/3.64 | -6.03/7.87 | -6.66/7.64 | -8.71/10.18 | -9.60/10.10 | -12.29/14.31 | -14.25/12.07 | -12.90/12.98 | -10.29/9.26 | -6.28/3.98 | -2.25/0.60 | -0.61/0.61 | | |
| Theta(45°) | Phi(75°) | -3.98/4.57 | -1.08/0.10 | -0.57/0.20 | 0.95/1.45 | -1.92/4.12 | -1.27/0.20 | 0.24/0.10 | -0.65/1.65 | -2.19/2.10 | -2.09/2.17 | -3.76/4.77 | -3.31/4.02 | -6.04/8.57 | -7.09/5.23 | -7.61/10.33 | -8.89/10.10 | -10.20/10.60 | -12.36/14.85 | -12.79/13.76 | -13.20/10.44 | -10.79/11.20 | -7.35/2.84 | -1.09/0.83 | -0.26/1.14 | |
| Theta(50°) | Phi(75°) | -5.47/3.28 | -0.50/0.93 | -3.02/2.27 | -2.09/5.75 | -5.76/2.42 | -0.84/0.21 | 0.54/0.85 | 0.62/0.32 | -1.22/1.31 | -1.30/1.35 | -2.62/4.84 | -6.37/7.04 | -10.03/13.36 | -10.04/9.38 | -7.86/2.63 | -9.03/9.59 | -10.46/13.08 | -14.33/15.20 | -15.57/15.56 | -14.78/13.04 | -13.68/9.88 | -6.77/2.82 | -1.47/1.03 | -1.97/3.61 | |
| Theta(55°) | Phi(75°) | -3.57/1.53 | 0.35/0.50 | -4.64/3.65 | -2.93/4.50 | -3.84/1.24 | -0.70/1.51 | -1.36/1.22 | -0.70/1.18 | -1.88/2.72 | -2.97/2.31 | -3.44/6.17 | -7.59/6.43 | -6.16/9.89 | -8.86/10.04 | -9.45/6.51 | -7.37/6.86 | -7.63/8.36 | -13.74/16.04 | -15.63/12.71 | -12.11/10.35 | -16.01/7.19 | -5.10/3.62 | -2.70/3.39 | -2.89/3.29 | |
| Theta(60°) | Phi(75°) | -2.36/0.17 | 0.45/1.78 | -4.16/3.92 | 4.07/4.71 | -3.37/2.46 | -3.49/5.71 | 4.57/1.88 | 0.88/1.00 | -2.75/2.55 | -3.32/3.51 | 4.95/5.81 | -7.45/7.06 | -6.73/9.95 | 7.43/9.18 | -10.16/9.90 | 5.52/6.13 | 5.29/6.94 | 9.23/11.63 | -11.91/8.50 | 7.88/5.96 | 5.97/5.65 | -4.24/3.62 | -1.31/1.86 | 5.18/2.67 | |
| Theta(65°) | Phi(75°) | -1.74/1.46 | -1.29/4.04 | -5.74/3.01 | -2.57/5.04 | -4.44/4.07 | -4.74/8.12 | -6.03/2.41 | -0.50/0.11 | -1.38/0.99 | -2.98/3.99 | -2.31/3.10 | -5.65/4.32 | -4.35/6.75 | 4.41/6.70 | -10.15/5.70 | -3.10/1.94 | 0.89/2.36 | 5.26/6.76 | -8.10/5.82 | -3.06/2.23 | -0.53/1.86 | -1.37/1.80 | -0.17/0.33 | 4.94/3.37 | |
| Theta(70°) | Phi(75°) | -0.35/2.62 | -2.03/5.59 | -2.64/2.54 | -3.33/5.56 | -4.38/5.45 | -8.04/11.24 | -4.53/1.68 | -0.15/0.80 | -1.77/2.98 | -4.98/3.72 | -1.91/2.25 | 4.09/3.31 | -4.44/7.11 | -4.94/6.06 | -7.09/3.48 | -2.30/4.06 | -0.58/1.01 | -5.30/6.18 | -5.66/3.64 | -2.66/0.62 | -1.09/0.87 | -2.49/2.82 | -3.52/1.28 | -2.51/2.98 | |
| Theta(75°) | Phi(75°) | 0.13/2.77 | -3.02/3.72 | -3.13/4.57 | -5.39/8.35 | -7.32/8.33 | -9.78/13.76 | -7.32/3.85 | -1.87/1.93 | -2.24/5.13 | -6.37/4.77 | -3.08/4.64 | -5.27/4.59 | -6.05/10.16 | -6.66/5.63 | -13.24/10.19 | -4.02/1.35 | -1.90/0.49 | -3.44/2.16 | -3.71/3.83 | -1.72/0.19 | -0.89/1.49 | -2.83/3.72 | -1.47/1.81 | -0.81/1.00 | |
| Theta(80°) | Phi(75°) | -0.64/3.63 | -3.16/2.40 | -2.99/5.44 | -7.77/5.56 | -5.65/7.71 | -12.95/14.51 | 9.04/5.98 | -4.97/6.05 | -7.18/11.71 | -12.58/7.78 | -4.93/7.73 | -8.32/7.80 | -13.59/13.64 | -11.57/13.11 | -10.88/8.53 | -2.76/4.01 | -2.98/4.87 | -5.25/0.59 | -4.67/4.91 | -3.59/1.14 | -2.59/3.86 | -10.05/7.56 | -4.43/0.84 | 0.43/0.88 | |
| Theta(85°) | Phi(75°) | -1.34/3.86 | -4.69/1.89 | -3.56/5.32 | -9.56/9.93 | -10.08/8.01 | -10.32/14.06 | -15.22/11.26 | -10.89/7.51 | -7.88/9.33 | -5.15/5.60 | -10.27/15.24 | -10.77/10.80 | -13.30/11.32 | -5.08/2.56 | -1.54/4.09 | 4.04/0.19 | -5.22/5.95 | -2.19/1.60 | -4.28/2.67 | -6.01/2.55 | -4.24/3.30 | -1.85/2.58 | -0.02/0.17 | -1.81/1.17 | |
| Theta(90°) | Phi(75°) | -1.60/1.56 | -1.19/1.26 | -1.62/5.08 | -6.70/10.72 | -10.65/11.87 | -12.34/15.40 | -14.43/14.74 | -13.89/10.87 | -12.65/14.92 | -10.25/6.71 | -5.02/5.82 | -5.07/8.07 | -8.29/10.10 | -12.55/11.60 | -5.40/7.34 | -3.82/3.89 | -1.14/7.74 | -2.76/2.32 | -4.98/8.77 | -1.16/4.40 | -0.76/6.22 | -4.92/3.25 | 1.44/0.34 | -1.61/0.98 | |
| Theta(95°) | Phi(75°) | -3.37/3.21 | -1.15/2.92 | -6.88/4.15 | -2.99/5.44 | -5.65/7.71 | -12.95/14.51 | 9.04/5.98 | -4.97/6.05 | -7.18/11.71 | -12.58/7.78 | -4.93/7.73 | -8.32/7.80 | -13.59/13.64 | -11.57/13.11 | -10.88/8.53 | -2.76/4.01 | -2.98/4.87 | -5.25/0.59 | -4.67/4.91 | -3.59/1.14 | -2.59/3.86 | -10.05/7.56 | -4.43/0.84 | 0.43/0.88 | |
| Theta(100°) | Phi(75°) | -4.12/5.25 | -4.71/4.50 | -5.01/5.51 | -9.97/12.35 | -15.78/9.60 | -6.93/7.68 | -9.69/9.52 | -11.47/14.66 | -15.12/11.26 | -10.77/9.23 | -7.17/8.22 | -11.46/7.73 | -8.87/13.57 | -12.08/7.40 | -8.22/11.17 | -4.17/2.53 | -7.38/11.53 | -1.72/0.60 | -4.28/2.67 | -6.01/2.55 | -4.24/3.30 | -1.85/2.58 | -0.02/0.17 | -1.81/1.17 | |
| Theta(105°) | Phi(75°) | -4.44/3.38 | -4.23/5.50 | -7.05/7.10 | -8.16/14.17 | -14.13/11.84 | -11.31/13.45 | -14.77/15.00 | -12.72/14.95 | -15.22/13.03 | -10.89/9.15 | -8.32/9.12 | -11.00/14.77 | -14.61/8.60 | -6.28/7.41 | -10.33/8.26 | -10.63/11.32 | -8.77/8.40 | -5.33/3.88 | -6.80/12.75 | -12.35/8.87 | -6.04/5.57 | -3.48/4.84 | -7.16/7.06 | -5.72/5.02 | |
| Theta(110°) | Phi(75°) | -4.46/3.97 | -3.89/3.99 | -4.09/6.78 | -9.25/11.19 | -13.44/15.30 | -15.73/15.22 | -15.09/16.50 | -13.79/10.86 | -9.91/10.57 | -14.01/13.34 | -14.29/14.98 | -14.11/10.52 | -8.34/6.65 | -6.82/11.18 | -15.08/12.43 | -11.47/8.12 | -7.25/6.40 | -5.18/4.78 | -15.38/14.82 | -14.96/10.25 | -6.24/6.65 | -8.24/8.88 | -7.03/5.75 | -4.80/3.75 | |
| Theta(115°) | Phi(75°) | -6.80/6.68 | -6.66/7.16 | -9.20/10.67 | -12.11/13.44 | -14.76/15.71 | -15.51/15.14 | -14.87/15.53 | -15.83/16.11 | -15.35/14.82 | -13.11/10.23 | -8.88/8.01 | -7.35/7.08 | -6.63/5.99 | -5.50/6.33 | -8.98/11.71 | -9.44/6.81 | -5.88/6.41 | -7.84/10.51 | -12.96/14.32 | -14.42/12.78 | -11.78/10.78 | -9.79/9.62 | -9.59/8.71 | -9.38/8.91 | |
| Theta(120°) | Phi(75°) | -9.47/10.11 | -11.79/13.73 | -14.43/14.36 | -15.05/14.68 | -13.56/13.74 | -15.70/15.72 | -15.69/15.54 | -15.33/15.34 | -15.67/14.73 | -15.52/15.21 | -15.82/15.75 | -14.98/15.64 | -14.42/12.55 | -10.63/9.97 | -10.15/10.21 | -9.53/8.87 | -8.39/8.66 | -10.06/12.16 | -13.84/14.46 | -15.48/14.39 | -14.06/13.66 | -12.67/10.77 | -9.79/9.99 | -9.51/9.84 | |
| Theta(125°) | Phi(75°) | -15.41/15.38 | -12.46/12.59 | -12.89/13.64 | -14.11/15.32 | -13.39/12.55 | -11.11/11.11 | 9.70/9.23 | 9.93/10.10 | 9.68/9.11 | 9.24/9.22 | 9.69/10.06 | -10.60/11.44 | -11.76/11.52 | -11.54/11.99 | -11.89/12.34 | -13.35/13.77 | -15.15/15.42 | -15.18/14.20 | -13.00/12.80 | -12.57/12.55 | -12.79/13.67 | -13.97/14.98 | -13.94/12.70 | -13.08/12.97 | |
| Theta(130°) | Phi(75°) | -4.47/5.04 | -4.71/5.24 | -5.01/5.51 | -9.97/12.35 | -15.78/9.60 | -6.93/7.68 | -9.69/9.52 | -11.47/14.66 | -15.12/11.26 | -10.77/9.23 | -7.17/8.22 | -11.46/7.73 | -8.87/13.57 | -12.08/7.40 | -8.22/11.17 | -4.17/2.53 | -7.38/11.53 | -1.72/0.60 | -4.28/2.67 | -6.01/2.55 | -4.24/3.30 | -1.85/2.58 | -0.02/0.17 | -1.81/1.17 | |
| Theta(135°) | Phi(75°) | -4.44/3.38 | -4.23/5.50 | -7.05/7.10 | -8.16/14.17 | -14.13/11.84 | -11.31/13.45 | -14.77/15.00 | -12.72/14.95 | -15.22/13.03 | -10.89/9.15 | -8.32/9.12 | -11.00/14.77 | -14.61/8.60 | -6.28/7.41 | -10.33/8.26 | -10.63/11.32 | -8.77/8.40 | -5.33/3.88 | -6.80/12.75 | -12.35/8.87 | -6.04/5.57 | -3.48/4.84 | -7.16/7.06 | -5.72/5.02 | |
| Theta(140°) | Phi(75°) | -4.46/3.97 | -3.89/3.99 | -4.09/6.78 | -9.25/11.19 | -13.44/15.30 | -15.73/15.22 | -15.09/16.50 | -13.79/10.86 | -9.91/10.57 | -14.01/13.34 | -14.29/14.98 | -14.11/10.52 | -8.34/6.65 | -6.82/11.18 | -15.08/12.43 | -11.47/8.12 | -7.25/6.40 | -5.18/4.78 | -15.38/14.82 | -14.96/10.25 | -6.24/6.65 | -8.24/8.88 | -7.03/5.75 | -4.80/3.75 | |
| Theta(145°) | Phi(75°) | -6.80/6.68 | -6.66/7.16 | -9.20/10.67 | -12.11/13.44 | -14.76/15.71 | -15.51/15.14 | -14.87/15.53 | -15.83/16.11 | -15.35/14.82 | -13.11/10.23 | -8.88/8.01 | -7.35/7.08 | -6.63/5.99 | -5.50/6.33 | -8.98/11.71 | -9.44/6.81 | -5.88/6.41 | -7.84/10.51 | -12.96/14.32 | -14.42/12.78 | -11.78/10.78 | -9.79/9.62 | -9.59/8.71 | -9.38/8.91 | |
| Theta(150°) | Phi(75°) | -9.47/10.11 | -11.79/13.73 | -14.43/14.36 | -15.05/14.68 | -13.56/13.74 | -15.70/15.72 | -15.69/15.54 | -15.33/15.34 | -15.67/14.73 | -15.52/15.21 | -15.82/15.75 | -14.98/15.64 | -14.42/12.55 | -10.63/9.97 | -10.15/10.21 | -9.53/8.87 | -8.39/8.66 | -10.06/12.16 | -13.84/14.46 | -15.48/14.39 | -14.06/13.66 | -12.67/10.77 | -9.79/9.99 | -9.51/9.84 | |
| Theta(155°) | Phi(75°) | -15.41/15.38 | -12.46/12.59 | -12.89/13.64 | -14.11/15.32 | -13.39/12.55 | -11.11/11.11 | 9.70/9.23 | 9.93/10.10 | 9.68/9.11 | 9.24/9.22 | 9.69/10.06 | -10.60/11.44 | -11.76/11.52 | -11.54/11.99 | -11.89/12.34 | -13.35/13.77 | -15.15/15.42 | -15.18/14.20 | -13.00/12.80 | -12.57/12.55 | -12.79/13.67 | -13.97/14.98 | -13.94/12.70 | -13.08/12.97 | |
| Theta(160°) | Phi(75°) | -4.47/5.04 | -4.71/5.24 | -5.01/5.51 | -9.97/12.35 | -15.78/9.60 | -6.93/7.68 | -9.69/9.52 | -11.47/14.66 | -15.12/11.26 | -10.77/9.23 | -7.17/8.22 | -11.46/7.73 | -8.87/13.57 | -12. | | | | | | | | | | | |

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







Antenna Pattern of 6GHz UNII 7~8

Appendix F

Total Gain Data

| Freq(Hz) | 6.695GPol | TotalAnt.1 | 0 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | 165 | 180 | 195 | 210 | 225 | 240 | 255 | 270 | 285 | 300 | 315 | 330 | 345 |
|-----------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------|
| Gain | Φ(0°)Φ(7.5°) | Φ(15°)Φ(22.5°) | Φ(30°)Φ(37.5°) | Φ(45°)Φ(52.5°) | Φ(60°)Φ(67.5°) | Φ(75°)Φ(82.5°) | Φ(90°)Φ(97.5°) | Φ(105°)Φ(112.5°) | Φ(120°)Φ(127.5°) | Φ(135°)Φ(142.5°) | Φ(150°)Φ(157.5°) | Φ(165°)Φ(172.5°) | Φ(180°)Φ(187.5°) | Φ(195°)Φ(202.5°) | Φ(210°)Φ(217.5°) | Φ(225°)Φ(232.5°) | Φ(240°)Φ(247.5°) | Φ(255°)Φ(262.5°) | Φ(270°)Φ(277.5°) | Φ(285°)Φ(292.5°) | Φ(300°)Φ(307.5°) | Φ(315°)Φ(322.5°) | Φ(330°)Φ(337.5°) | Φ(345°)Φ(352.5°) | |
| Θ(0°) | -7.69-7.12 | -7.93-8.61 | -7.80-7.69 | -8.70-9.92 | -11.20-12.77 | -13.42-13.25 | -12.45-12.25 | -12.83-13.16 | -13.33-13.79 | -14.82-15.11 | -14.43-12.72 | -11.44-11.07 | -10.97-10.53 | -9.22-9.18 | -8.17-8.32 | -8.26-8.05 | -7.49-7.39 | -6.80-6.07 | -6.34-6.48 | -7.25-8.34 | -8.81-8.19 | -7.90-7.42 | -6.52-7.50 | -6.51-7.60 | |
| Θ(7.5°) | -9.76-8.51 | -8.16-7.08 | -6.61-6.66 | -6.44-6.49 | -6.44-6.87 | -6.89-6.15 | -5.76-5.94 | -6.48-6.26 | -5.99-6.04 | -6.66-6.55 | -6.49-6.55 | -6.51-6.46 | -6.72-7.36 | -8.26-9.13 | -10.48-11.29 | -11.96-13.43 | -14.70-14.48 | -14.30-13.74 | -13.94-12.79 | -12.68-13.17 | -14.44-15.75 | -14.90-15.71 | -16.05-11.36 | -10.86-10.63 | |
| Θ(15°) | -7.95-6.20 | -7.03-6.87 | -7.47-7.59 | -7.64-7.73 | -7.71-7.21 | -7.02-6.59 | -6.30-6.39 | -5.76-5.27 | -4.76-4.29 | -3.74-3.37 | -3.18-3.06 | -2.87-2.47 | -2.40-2.96 | -4.05-5.90 | -8.49-11.15 | -14.38-11.72 | -8.70-7.24 | -5.91-5.71 | -5.84-6.09 | -6.09-5.62 | -4.53-3.78 | -3.36-3.87 | -5.72-6.96 | -8.29-8.74 | |
| Θ(22.5°) | -6.54-7.55 | -8.35-7.51 | -7.54-7.15 | -6.41-5.72 | -5.77-5.40 | -5.06-4.60 | -4.51-5.11 | -5.20-5.32 | -5.79-5.97 | -5.09-3.81 | -2.46-1.54 | -0.88-0.66 | -0.86-1.98 | -4.28-7.35 | -8.78-8.81 | -8.57-7.48 | -6.22-5.57 | -6.07-6.59 | -7.67-8.20 | -7.67-8.20 | -6.00-4.34 | -4.08-3.17 | -5.33-5.11 | | |
| Θ(30°) | -3.13-5.68 | -8.15-7.30 | -6.45-6.03 | -5.41-5.67 | -5.39-3.74 | -3.03-2.93 | -3.01-3.44 | -4.20-4.48 | -4.79-5.36 | -5.07-3.55 | -2.36-2.21 | -1.34-0.58 | -0.59-0.53 | -1.30-3.33 | -4.90-5.71 | -6.82-6.03 | -5.54-4.54 | -3.78-3.72 | -5.17-6.86 | -8.74-9.75 | -11.74-13.98 | -11.07-10.22 | -9.49-7.25 | -5.53-5.10 | |
| Θ(37.5°) | -7.62-11.81 | -11.11-10.27 | -7.27-4.24 | -2.33-1.92 | -1.96-2.18 | -2.46-2.20 | -2.69-3.56 | -4.70-6.00 | -6.55-5.72 | -4.33-3.43 | -2.96-2.19 | -0.70-0.51 | 0.08-0.99 | -2.44-3.34 | -4.58-5.14 | -4.44-3.63 | -3.65-4.39 | -5.27-5.78 | -5.82-6.95 | -9.36-10.93 | -10.56-8.96 | -7.49-4.84 | -5.24-4.90 | -5.08-5.52 | |
| Θ(45°) | -2.92-6.02 | -12.69-15.25 | -13.79-6.28 | -1.88-0.83 | -1.11-1.85 | -1.83-2.09 | -2.57-3.18 | -3.48-2.98 | -1.76-0.62 | -0.33-1.30 | -1.61-1.32 | -1.40-1.87 | -1.87-1.98 | -1.45-1.59 | -2.44-3.87 | -4.04-5.00 | -6.41-6.64 | -6.47-9.39 | -15.47-11.86 | -8.28-10.69 | -11.10-11.70 | -4.98-6.23 | -5.28-5.03 | -3.49-3.23 | |
| Θ(52.5°) | -2.24-4.83 | -9.59-12.36 | -11.05-5.89 | -1.340-3.1 | 0.30-2.08 | -0.26-0.82 | -1.94-3.09 | -3.80-3.44 | -2.26-0.62 | -0.56-2.00 | -3.22-2.64 | -1.53-0.99 | -1.15-2.35 | -1.50-0.85 | -1.25-2.33 | -4.74-10.68 | -11.21-11.37 | -8.62-5.51 | -4.78-3.92 | -9.42-8.37 | -9.77-7.49 | -4.58-3.62 | -4.99-5.82 | -2.34-1.82 | |
| Θ(60°) | -0.45-4.17 | -7.97-9.03 | -12.84-7.01 | -3.04-0.91 | -0.90-1.31 | -2.08-2.77 | -4.01-0.95 | -5.18-4.06 | -2.71-0.96 | -0.79-1.24 | -2.97-1.64 | -0.44-0.50 | -0.05-0.15 | -0.79-0.25 | -5.17-3.79 | -5.01-6.60 | -9.26-7.42 | -8.99-8.30 | -7.52-9.56 | -7.26-7.18 | -4.18-3.39 | -3.10-2.78 | -4.17-1.07 | | |
| Θ(67.5°) | 0.24-1.10 | -4.23-8.01 | -7.77-5.44 | -4.61-3.54 | -3.08-2.18 | -2.07-3.20 | -4.86-6.08 | -5.16-2.87 | -2.49-1.33 | -2.34-3.08 | -4.27-3.61 | -0.09-1.98 | 1.74-1.10 | 1.54-1.85 | -2.95-4.37 | -1.80-1.07 | -1.23-4.22 | -7.33-5.00 | -9.65-12.97 | -14.84-14.66 | -16.31-9.26 | -8.16-4.95 | -6.55-5.51 | -2.49-0.71 | |
| Θ(75°) | -2.89-1.40 | -2.52-6.06 | -7.97-5.53 | -4.09-2.34 | -2.87-3.42 | -2.33-4.77 | -6.71-8.44 | -6.69-3.35 | -2.67-0.47 | -1.46-2.45 | -1.86-0.58 | 0.20-2.26 | 3.04-2.62 | 2.48-1.71 | 0.69-1.86 | 3.88-3.94 | 9.34-12.24 | 9.06-6.19 | 3.98-5.10 | 5.31-8.08 | -11.34-9.38 | -4.71-5.40 | -2.70-3.53 | 4.44-4.96 | |
| Θ(82.5°) | -5.72-3.03 | -4.09-7.25 | -8.36-5.78 | -3.07-2.53 | -2.62-2.39 | -4.29-7.05 | -9.52-10.53 | -8.29-3.39 | -2.54-0.92 | -2.68-3.61 | -0.94-1.83 | 2.46-1.62 | 1.66-0.91 | 0.61-1.21 | 0.93-0.15 | -4.61-5.84 | -2.51-3.17 | -4.59-1.84 | -1.27-0.41 | -1.45-5.22 | -1.50-10.99 | -11.47-7.35 | -7.23-2.95 | -4.32-5.77 | |
| Θ(90°) | -6.40-5.41 | -2.94-8.20 | -9.75-9.59 | -2.69-3.20 | -2.17-1.77 | -4.87-5.89 | -6.62-12.17 | -13.99-9.47 | -4.79-2.26 | -2.48-2.48 | 0.47-2.27 | 2.94-2.55 | 0.95-2.08 | 0.49-0.19 | 1.44-4.54 | -2.75-10.77 | -10.76-12.13 | -6.81-4.04 | -3.88-6.63 | -7.68-14.92 | -10.65-10.98 | -10.86-11.59 | -5.38-3.83 | -4.54-3.73 | |
| Θ(97.5°) | -5.90-5.47 | -9.19-9.56 | -8.85-7.01 | -3.82-2.58 | -3.37-1.96 | -4.77-6.72 | -8.89-9.09 | -8.44-5.69 | -2.62-1.83 | -1.11-0.22 | 1.14-2.94 | 2.66-2.24 | -1.30-2.24 | -1.54-0.11 | 0.97-2.28 | -6.37-10.50 | -10.18-8.34 | -11.31-7.49 | -2.67-1.90 | -8.57-7.00 | -10.92-6.43 | -10.70-12.68 | -9.79-5.07 | -2.36-5.39 | |
| Θ(105°) | -6.74-7.34 | -9.70-10.21 | -7.17-8.88 | -6.76-6.90 | -4.51-3.87 | -4.72-6.89 | -8.49-11.86 | -10.49-8.59 | -9.45-4.35 | -3.40-0.96 | 0.91-1.90 | 2.10-1.29 | -2.38-4.55 | -1.49-0.49 | 0.40-2.86 | -2.35-2.38 | -2.95-2.02 | -4.53-2.65 | -8.27-1.52 | -4.86-6.25 | -12.60-11.13 | -9.68-15.38 | -10.03-5.03 | -4.85-6.22 | |
| Θ(112.5°) | -9.61-6.67 | -7.76-7.85 | -7.56-7.10 | -6.35-7.75 | -6.12-5.82 | -5.17-6.10 | -7.11-9.61 | -7.60-10.95 | -7.20-8.09 | -3.05-1.25 | 0.61-0.18 | -1.24-1.44 | -4.42-9.10 | -3.55-0.11 | 0.81-2.82 | 2.63-3.18 | -3.97-4.88 | -4.79-3.20 | 0.22-0.83 | -2.40-1.12 | -7.58-7.61 | -7.88-15.33 | -11.63-9.54 | -3.49-6.75 | |
| Θ(120°) | -6.73-9.23 | -6.66-9.90 | -9.36-9.21 | -8.06-9.47 | -10.02-8.06 | -7.29-9.83 | -11.62-9.21 | -15.93-10.82 | -11.09-5.21 | -1.77-0.35 | -0.67-1.87 | -2.75-3.14 | -6.75-6.62 | -1.16-0.27 | 1.47-2.15 | -1.60-1.99 | -4.60-1.71 | -4.60-14.95 | -6.40-11.72 | -3.48-6.97 | -6.07-10.60 | -6.13-9.12 | -9.14-6.46 | -4.98-4.32 | |
| Θ(127.5°) | -9.87-11.80 | -10.25-9.81 | -10.25-9.79 | -9.26-7.14 | -10.86-12.87 | -11.51-10.23 | -12.88-15.30 | -14.73-10.67 | -11.57-10.33 | -4.73-2.07 | -1.71-3.30 | -3.54-8.23 | -4.88-5.62 | -2.05-0.04 | -0.36-0.34 | -0.66-0.27 | -1.39-4.18 | -7.17-2.27 | -3.90-7.51 | -2.09-5.60 | -6.27-1.04 | -10.07-8.02 | -6.10-5.76 | -4.42-6.77 | |
| Θ(135°) | -8.63-10.50 | -9.13-8.58 | -7.27-7.54 | -8.94-5.75 | -6.59-8.76 | -9.61-8.17 | -8.61-10.61 | -10.76-8.62 | -6.75-5.09 | -2.92-3.07 | -3.54-3.48 | -5.55-5.91 | -8.34-7.05 | -7.16-3.44 | -2.34-1.12 | 1.10-0.64 | -0.52-1.65 | 4.26-0.83 | 2.20-5.98 | 1.61-1.01 | -6.15-3.50 | -4.66-6.76 | -15.83-11.23 | -5.38-6.07 | |
| Θ(142.5°) | -8.16-10.45 | -10.25-9.65 | -8.38-9.94 | -6.58-9.81 | -8.14-7.01 | -7.28-7.65 | -9.26-10.51 | -10.81-11.23 | -8.22-5.35 | -5.02-4.38 | -4.63-4.50 | -6.41-8.06 | -10.60-6.93 | -4.14-2.53 | -3.01-1.99 | -2.09-2.66 | -2.67-3.12 | -4.27-4.42 | -5.61-2.67 | 0.51-2.44 | -8.35-6.96 | -5.83-3.00 | -6.26-16.56 | -9.35-6.87 | |
| Θ(150°) | -1.29-8.89 | -9.12-12.79 | -7.71-8.55 | -11.91-12.03 | -10.54-9.16 | -8.66-9.31 | -9.59-9.79 | -6.56-7.35 | -6.93-6.68 | -4.57-1.18 | -8.48-9.59 | -9.71-9.75 | -6.07-2.84 | -0.89-0.06 | 0.60-1.87 | -3.41-1.29 | -3.66-3.40 | -5.11-5.98 | -9.37-1.46 | -2.93-9.40 | -11.44-7.14 | -5.92-11.09 | -9.52-12.76 | | |
| Θ(157.5°) | -8.55-12.30 | -15.35-15.84 | -13.46-13.25 | -12.56-12.46 | -11.33-10.47 | -10.94-12.63 | -13.73-11.91 | -10.39-10.03 | -7.95-5.46 | -3.81-3.28 | -4.25-5.53 | -5.90-6.14 | -5.68-4.15 | -2.16-0.59 | 0.13-0.92 | -1.79-1.35 | -2.14-3.95 | -3.50-3.80 | -5.66-8.03 | -7.40-6.40 | -5.88-13.82 | -9.76-8.30 | -7.30-5.14 | -4.71-6.60 | |
| Θ(165°) | -9.57-10.40 | -9.37-9.40 | -9.85-6.88 | -8.96-8.38 | -8.51-8.81 | -8.48-8.81 | -9.96-11.19 | -12.54-14.29 | -15.76-13.44 | -12.08-12.79 | -15.44-14.72 | -10.43-7.51 | -6.12-5.74 | -5.69-5.42 | -4.10-3.01 | -2.68-4.55 | -7.41-6.04 | -4.93-4.04 | -2.68-4.55 | -7.39-7.91 | -5.75-6.08 | -3.93-5.71 | -8.71-10.84 | -7.99-6.61 | -6.17-9.73 |
| Θ(172.5°) | -9.23-8.47 | -8.64-8.96 | -8.45-9.13 | -11.58-10.88 | -8.22-8.42 | -8.55-9.66 | -11.04-14.76 | -14.53-15.25 | -10.20-14.72 | -15.44-12.12 | -14.52-12.75 | -11.97-11.02 | -9.27-8.86 | -9.60-10.30 | -10.95-11.52 | -10.96-10.69 | -9.00-9.04 | -9.80-12.35 | -13.71-15.14 | -12.03-10.22 | -8.40-7.66 | -8.64-10.59 | -10.20-8.77 | -8.70-13.72 | |
| Θ(180°) | -14.26-12.85 | -12.19-12.23 | -13.25-12.96 | -12.88-12.46 | -12.23-12.34 | -12.29-12.47 | -12.00-13.28 | -14.22-14.52 | -14.61-14.00 | -13.12-12.76 | -11.40-10.84 | -10.71-10.39 | -9.94-10.34 | -9.93-10.33 | -10.34-10.65 | -9.85-10.42 | -10.56-10.99 | -12.17-13.71 | -13.58-12.42 | -13.70-13.02 | -10.92-9.67 | -9.26-10.47 | -12.10-12.05 | -13.83-14.32 | |
| Freq(Hz) | 6.695GPol | TotalAnt.2 | 0 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | 165 | 180 | 195 | 210 | 225 | 240 | 255 | 270 | 285 | 300 | 315 | 330 | 345 |
| Gain | Φ(0°)Φ(7.5°) | Φ(15°)Φ(22.5°) | Φ(30°)Φ(37.5°) | Φ(45°)Φ(52.5°) | Φ(60°)Φ(67.5°) | Φ(75°)Φ(82.5°) | Φ(90°)Φ(97.5°) | Φ(105°)Φ(112.5°) | Φ(120°)Φ(127.5°) | Φ(135°)Φ(142.5°) | Φ(150°)Φ(157.5°) | Φ(165°)Φ(172.5°) | Φ(180°)Φ(187.5°) | Φ(195°)Φ(202.5°) | Φ(210°)Φ(217.5°) | Φ(225°)Φ(232.5°) | Φ(240°)Φ(247.5°) | Φ(255°)Φ(262.5°) | Φ(270°)Φ(277.5°) | Φ(285°)Φ(292.5°) | Φ(300°)Φ(307.5°) | Φ(315°)Φ(322.5°) | Φ(330°)Φ(337.5°) | Φ(345°)Φ(352.5°) | |
| Θ(0°) | -3.04-2.97 | -3.02-3.11 | -3.10-3.93 | -4.37-4.86 | -4.89-4.90 | -5.09-5.15 | -5.24-4.91 | -5.11-5.03 | -4.93-4.69 | -4.74-4.83 | -4.81-4.93 | -4.90-5.10 | -5.06-4.99 | -5.27-5.55 | -5.43-5.33 | -5.19-4.71 | -5.08-4.70 | -5.14-5.36 | -5.45-4.59 | -4.88-4.26 | -3.54-3.17 | -3.17-3.68 | -3.56-3.68 | -2.08-2.11 | |
| Θ(7.5°) | -6.47-6.10 | -6.33-5.98 | -6.31-6.66 | -6.70-6.46 | -6.20-5.95 | -5.71-5.59 | -4.59-4.21 | -3.98-3.83 | -3.51-3.20 | -2.86-2.67 | -2.65-2.69 | -2.70-2.44 | -2.26-2.47 | -2.81-3.07 | -3.17-3.25 | -4.30-4.85 | -5.25-5.79 | -6.72-7.08 | -7.22-7.37 | -7.47-7.24 | -6.69-6.14 | -5.96-5.76 | -5.69-6.76 | -5.45-5.76 | |
| Θ(15°) | -7.60-8.33 | -7.65-6.51 | -6.97-6.51 | -5.92-6.16 | -6.43-6.94 | -6.98-7.24 | -6.68-6.58 | -6.44-6.69 | -6.49-5.92 | -4.47-3.34 | -2.49-1.83 | -1.27-0.77 | -0.61-0.74 | -0.85-1.18 | -2.52-3.44 | -5.17-7.45 | | | | | | | | | |



Antenna Pattern of 6GHz UNII 7~8

Appendix F

| Theta (°) | Phi (°) | Gain (dBi) | 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 | 2.95/4.14 | -4.45/4.25 | -4.17/1.18 | -4.13/3.88 | -3.37/3.30 | -3.44/3.38 | -3.71/3.83 | -4.54/5.34 | -5.44/5.12 | -4.77/4.76 | -5.48/6.10 | -6.13/5.78 | -5.14/5.12 | -5.26/5.90 | -6.46/6.77 | -6.82/7.14 | -6.98/6.80 | -6.38/5.65 | -4.91/4.06 | -3.40/3.12 | -3.33/3.03 | -2.73/2.50 | -2.87/3.40 | -2.78/2.81 | | | | | |
| 0 | 30 | -4.12/4.06 | -4.19/3.44 | -3.45/4.29 | -4.06/3.49 | -3.17/3.15 | -2.60/2.49 | -2.43/3.09 | -3.37/3.84 | -4.77/5.30 | -5.15/4.92 | -5.11/5.68 | -6.46/5.60 | -5.28/4.27 | -4.19/4.85 | -6.12/6.14 | -6.99/7.55 | -8.83/9.20 | -7.98/9.53 | -8.32/7.41 | -6.19/5.52 | -4.32/3.99 | -3.54/3.37 | -3.04/3.52 | -3.08/3.17 | | | | | |
| 0 | 45 | -3.81/3.85 | -4.27/5.31 | -4.73/5.41 | -5.28/5.82 | -1.94/1.00 | -1.00/1.24 | -1.28/0.79 | -0.32/0.34 | -0.97/1.73 | -3.27/4.76 | -5.45/5.73 | -6.30/5.76 | -5.25/4.57 | -4.97/6.89 | -6.82/7.12 | -8.13/9.07 | -10.66/11.66 | -10.70/10.34 | -9.70/8.58 | -7.30/6.28 | -5.63/4.96 | -4.21/4.21 | -3.74/3.35 | | | | | | |
| 0 | 60 | -2.11/2.55 | -3.44/3.51 | -4.23/5.41 | -4.41/2.66 | -1.81/1.84 | -2.02/2.53 | -2.20/1.71 | -1.19/0.42 | -0.34/1.16 | -2.80/4.64 | -3.98/4.15 | -4.04/4.34 | -5.15/5.44 | -4.11/2.50 | -3.12/3.46 | -4.13/5.86 | -7.34/11.36 | -14.99/14.67 | -13.59/10.46 | -9.22/6.92 | -5.56/4.11 | -3.57/4.34 | -3.99/3.04 | -1.67/1.04 | | | | | |
| 0 | 75 | -1.32/2.12 | -2.39/3.12 | -2.36/3.14 | -3.21/1.79 | -1.38/2.57 | -3.41/3.71 | -3.45/2.54 | -1.55/1.30 | -2.08/3.74 | -5.18/6.02 | -3.90/3.25 | -2.42/4.98 | -5.81/5.98 | -8.28/7.51 | -4.95/4.79 | -6.97/8.86 | -11.70/15.30 | -16.09/13.74 | -15.99/14.07 | -8.83/7.29 | -5.77/4.70 | -4.80/4.46 | -3.65/2.10 | -1.01/0.87 | | | | | |
| 0 | 90 | -1.29/3.20 | -4.05/2.16 | -1.93/2.57 | -3.73/2.90 | -3.52/6.14 | -5.09/2.35 | -1.01/0.89 | -1.60/2.75 | -4.62/6.04 | -4.84/3.09 | -1.66/1.62 | -1.50/4.44 | -4.97/5.22 | -10.39/14.97 | -12.12/7.45 | -10.72/9.16 | -13.57/13.71 | -12.34/10.13 | -8.91/8.91 | -8.25/7.36 | -4.63/4.37 | -3.06/6.23 | -5.09/3.78 | -1.82/2.20 | | | | | |
| 0 | 105 | -1.99/2.94 | -1.78/0.64 | -2.17/5.04 | -4.54/4.11 | -5.13/3.86 | -1.26/0.71 | -0.10/0.03 | -0.52/1.50 | -3.16/3.12 | -1.68/0.99 | -1.08/1.46 | -1.70/3.55 | -5.69/7.94 | -8.22/10.30 | -8.37/9.32 | -7.52/10.98 | -10.13/11.24 | -7.73/6.90 | -6.31/6.57 | -7.52/7.01 | -5.79/5.92 | -4.84/4.18 | -3.51/3.37 | -2.46/1.13 | | | | | |
| 0 | 120 | -1.93/1.71 | -0.71/0.22 | -2.23/6.95 | -4.95/4.61 | -5.06/2.57 | -0.73/1.11 | -1.70/0.67 | 0.14/0.35 | -1.00/1.76 | -1.99/2.09 | -2.38/3.78 | -2.23/5.46 | -7.49/9.79 | -7.86/8.67 | -6.64/8.68 | -8.79/5.99 | -7.27/10.12 | -9.84/9.62 | -5.81/6.22 | -5.19/5.41 | -4.59/4.42 | -3.55/4.49 | -3.23/3.13 | -1.73/1.73 | | | | | |
| 0 | 135 | -1.82/2.02 | -1.89/2.47 | -4.40/9.49 | -4.71/4.26 | -3.40/1.23 | -2.51/4.35 | -3.05/1.48 | -0.10/0.43 | -0.09/3.50 | -3.42/3.85 | -4.60/9.64 | -6.08/8.15 | -8.26/7.94 | -9.06/6.59 | -4.54/7.20 | -6.56/5.29 | -7.72/8.11 | -9.91/10.58 | -7.29/5.18 | -5.41/3.75 | -3.68/4.75 | -4.04/2.88 | -2.95/3.28 | | | | | | |
| 0 | 150 | -3.97/2.03 | -2.68/3.62 | -6.70/8.60 | -4.92/4.57 | -3.79/3.41 | -6.20/7.36 | -4.02/1.62 | 0.25/0.10 | 1.04/1.89 | -1.51/2.74 | -4.05/7.63 | -9.57/8.21 | -6.05/7.17 | -6.84/6.03 | -5.11/4.37 | -0.94/2.70 | -3.36/10.22 | -13.20/7.82 | -5.96/6.47 | -6.59/3.69 | -4.51/4.37 | -3.31/5.73 | -5.63/1.90 | -3.60/3.05 | | | | | |
| 0 | 165 | -2.69/0.51 | -2.76/4.25 | -5.44/4.85 | -4.39/5.47 | -6.37/5.16 | -7.75/7.06 | -4.68/2.15 | -0.57/0.02 | 0.53/1.78 | -1.69/2.40 | -1.33/4.84 | -4.99/4.58 | -4.40/6.49 | -5.37/8.85 | -10.91/7.42 | -6.60/6.0 | -1.82/8.08 | -4.27/9.41 | -1.44/4.54 | -2.29/4.42 | -1.50/3.35 | -2.53/3.16 | -0.92/0.11 | -2.17/2.66 | | | | | |
| 0 | 180 | -1.20/3.54 | -1.78/4.61 | -3.98/4.24 | -3.75/4.65 | -8.00/7.05 | -8.72/11.97 | -6.79/4.88 | -2.64/1.34 | -2.96/6.68 | -8.74/6.29 | -1.90/4.19 | -5.46/6.92 | -5.38/6.65 | -3.79/4.54 | -13.55/13.88 | -3.63/4.00 | -0.73/4.59 | -4.40/5.22 | -3.41/6.19 | -6.13/3.48 | -3.37/1.28 | -1.73/1.60 | -1.36/1.04 | -2.21/2.66 | | | | | |
| 0 | 200 | -1.77/2.08 | -0.51/4.44 | -2.95/2.67 | -4.00/9.00 | -9.61/7.43 | -6.57/11.09 | -10.48/6.57 | -5.07/4.46 | -8.87/10.36 | -11.28/8.16 | -5.48/6.39 | -7.22/8.19 | -6.76/14.50 | -14.46/14.46 | -14.78/13.81 | -7.47/0.06 | -3.02/4.01 | -4.97/2.75 | -1.68/3.38 | -6.06/1.00 | -1.35/3.74 | -2.89/2.22 | 0.20/1.89 | -2.21/3.67 | | | | | |
| 0 | 225 | -2.92/2.59 | -0.92/3.55 | -4.41/5.24 | -3.93/6.26 | -7.29/8.60 | -11.01/13.37 | -12.62/14.99 | -13.79/11.18 | -8.75/9.94 | -12.04/14.99 | -11.30/8.19 | -6.91/7.18 | -7.71/7.00 | -11.43/6.22 | -9.94/8.58 | -7.41/4.73 | -1.57/6.95 | -8.77/0.82 | -7.24/8.09 | -4.66/0.66 | -1.20/1.89 | -6.06/4.84 | -0.95/3.17 | -1.12/4.32 | | | | | |
| 0 | 240 | -2.33/1.02 | -0.20/0.41 | -3.17/2.60 | -8.79/9.51 | -9.39/11.00 | -10.06/14.04 | -15.44/13.97 | -13.17/11.44 | -11.99/13.51 | -13.19/12.62 | -9.29/5.76 | -4.92/5.78 | -10.69/5.55 | -8.19/5.67 | -13.08/6.74 | -3.48/6.27 | -0.05/4.45 | -3.993.00 | -6.27/5.63 | -1.39/1.71 | -1.38/4.10 | -1.13/4.17 | -0.33/0.39 | -3.68/1.17 | | | | | |
| 0 | 255 | -2.42/0.47 | -0.86/1.38 | -2.34/4.78 | -4.25/6.69 | -9.94/15.38 | -13.97/11.42 | -11.28/11.71 | -12.05/11.39 | -10.27/10.09 | -9.37/9.52 | -7.66/7.59 | -8.52/6.46 | -7.51/10.90 | -8.56/12.00 | -10.25/4.63 | -4.49/3.85 | -0.62/6.02 | 4.293.76 | -4.15/5.73 | -2.52/8.04 | -0.58/9.76 | -3.81/6.03 | 0.03/1.88 | -3.34/2.19 | | | | | |
| 0 | 270 | -1.15/4.85 | -2.54/2.22 | -3.46/7.84 | -6.28/5.42 | -6.61/10.01 | -8.89/8.69 | -9.06/10.83 | -15.84/14.77 | -15.38/13.65 | -10.79/13.16 | -9.44/6.39 | -7.57/13.08 | -13.80/12.65 | -9.96/4.24 | -8.40/10.22 | -5.03/16.31 | -2.00/1.99 | -4.03/8.04 | -1.98/2.88 | -5.34/5.62 | -9.36/4.91 | -1.72/1.90 | -5.29/4.21 | | | | | | |
| 0 | 285 | -4.22/3.13 | -4.54/7.77 | -7.56/10.48 | -13.34/14.39 | -14.10/13.24 | -11.97/14.39 | -15.23/14.72 | -10.04/16.67 | -13.70/12.82 | -11.49/11.55 | -12.03/14.54 | -16.01/14.93 | -13.29/12.13 | -14.63/15.47 | -6.57/3.63 | -7.00/12.75 | -13.44/7.79 | -3.60/2.07 | -4.43/12.44 | -4.43/5.72 | -7.16/5.45 | -2.30/3.88 | -3.93/5.72 | -8.94/8.28 | | | | | |
| 0 | 300 | -1.69/0.21 | -1.31/3.08 | -4.55/5.03 | -7.13/10.81 | -12.61/13.42 | -12.26/11.61 | -14.61/15.62 | -13.33/13.40 | -14.20/13.43 | -14.01/15.28 | -15.66/12.33 | -9.72/8.09 | -6.65/5.86 | -7.49/8.23 | -5.60/5.54 | -9.16/11.03 | -6.87/2.48 | -0.98/3.76 | -13.65/12.87 | -14.80/10.85 | -8.57/10.00 | -7.83/8.47 | -9.84/8.67 | -6.17/4.39 | | | | | |
| 0 | 315 | -6.11/5.04 | -4.83/5.59 | -7.30/10.38 | -11.38/13.50 | -14.66/14.79 | -13.94/15.12 | -14.16/12.26 | -11.62/14.53 | -15.61/16.31 | -15.47/12.36 | -10.23/8.93 | -8.84/8.51 | -7.96/7.72 | -8.13/10.44 | -12.72/7.99 | -4.86/3.98 | -3.35/2.79 | -2.95/4.40 | -7.47/8.90 | -10.60/10.49 | -10.27/9.80 | -7.51/6.67 | -7.08/8.02 | -8.60/8.72 | | | | | |
| 0 | 330 | -1.175/11.36 | -11.25/12.32 | -14.53/13.19 | -14.83/15.21 | -13.12/13.66 | -15.54/15.32 | -15.21/14.37 | -15.03/15.96 | -15.09/14.87 | -12.51/11.87 | -11.55/11.20 | -10.67/9.90 | -9.46/9.30 | -9.04/8.20 | -7.05/4.92 | -3.90/3.41 | -6.74/4.46 | -5.96/7.53 | -9.68/10.71 | -10.17/9.41 | -8.63/7.76 | -6.12/4.92 | -5.92/7.69 | -10.90/11.25 | | | | | |
| 0 | 345 | -14.85/13.88 | -15.27/12.79 | -13.05/14.25 | -15.20/15.28 | -14.84/13.11 | -11.29/11.24 | -9.90/10.20 | -10.61/11.24 | -11.17/11.02 | -10.54/10.32 | -10.67/10.78 | -11.69/11.73 | -11.29/11.10 | -10.45/10.40 | -10.53/11.34 | -12.12/11.57 | -10.89/10.59 | -10.48/10.18 | -10.18/10.71 | -11.48/10.91 | -10.74/10.79 | -10.35/9.86 | -9.71/10.13 | -9.78/12.18 | | | | | |
| 0 | 360 | 6.95/6.95 | Total/Ant. 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 0 | 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 | 30 | -5.72/6.33 | -6.90/6.74 | -6.29/7.80 | -7.86/7.72 | -7.89/7.74 | -7.31/7.10 | -6.48/6.18 | -6.01/6.38 | -6.95/6.91 | -6.60/6.45 | -6.54/6.70 | -6.28/6.36 | -6.12/6.15 | -6.18/6.28 | -5.82/6.36 | -6.10/6.76 | -6.87/7.01 | -6.92/7.15 | -7.45/7.65 | -7.70/7.30 | -6.82/6.52 | -6.55/7.40 | -7.40/7.39 | -6.11/6.64 | | | | | |
| 0 | 45 | -5.42/6.08 | -7.29/5.41 | -5.81/7.42 | -6.52/6.47 | -6.42/6.39 | -6.84/2.73 | -7.35/7.27 | -7.05/6.86 | -6.42/6.67 | -6.60/6.88 | -7.23/6.82 | -6.82/6.52 | -6.50/7.73 | -7.15/6.92 | -6.96/7.03 | -7.02/7.07 | -7.02/6.99 | -7.07/6.94 | -6.71/6.97 | -7.01/6.63 | -6.63/6.91 | -7.64/8.31 | -8.34/7.18 | -5.80/5.64 | | | | | |
| 0 | 60 | -3.84/4.35 | -4.88/3.37 | -4.13/4.33 | -4.82/5.34 | -5.75/6.03 | -6.72/6.59 | -6.12/6.60 | -4.25/4.71 | -3.94/4.06 | -4.73/5.88 | -7.25/6.47 | -5.84/6.01 | -7.05/6.62 | -6.37/6.39 | -6.76/7.13 | -7.85/8.21 | -8.14/8.04 | -7.71/7.47 | -6.54/6.06 | -6.37/7.01 | -7.01/7.30 | -6.30/5.35 | -4.33/4.22 | | | | | | |
| 0 | 75 | -3.16/3.63 | -3.14/3.18 | -3.20/4.57 | -5.16/5.80 | -6.37/6.17 | -5.33/4.28 | -3.58/3.07 | -2.72/2.78 | -3.03/3.04 | -3.19/3.22 | -3.42/3.61 | -3.84/4.55 | -5.79/7.36 | -7.46/7.04 | -6.85/8.18 | -9.24/10.06 | -9.38/10.10 | -10.23/9.86 | -9.70/8.44 | -7.44/6.82 | -6.51/6.42 | -6.71/6.89 | -5.73/5.67 | -4.31/3.41 | | | | | |
| 0 | 90 | -4.90/5.14 | -5.77/5.69 | -5.98/6.11 | -6.63/6.12 | -9.13/6.99 | -4.91/3.78 | -3.62/3.86 | -3.85/3.75 | -3.97/4.44 | -4.77/5.51 | -4.23/4.30 | -4.68/4.52 | -5.07/6.78 | -8.45/9.52 | -10.52/10.69 | -10.48/9.26 | -10.66/12.64 | -11.71/11.04 | -10.13/8.65 | -7.51/5.59 | -5.23/6.10 | -5.81/6.49 | -5.81/6.49 | | | | | | |
| 0 | 105 | -4.40/4.51 | -4.68/5.23 | -5.50/6.95 | -7.95/8.09 | -5.44/2.42 | -0.46/0.03 | 0.35/1.03 | -1.89/2.27 | -2.12/2.66 | -3.47/4.58 | -5.64/6.15 | -6.12/6.42 | -5.72/6.20 | -6.72/9.43 | -10.85/10.56 | -10.67/12.57 | -13.01/12.54 | -13.31/15.52 | -13.82/13.79 | -13.17/10.94 | -8.77/6.45 | -4.53/ | | | | | | | |

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

